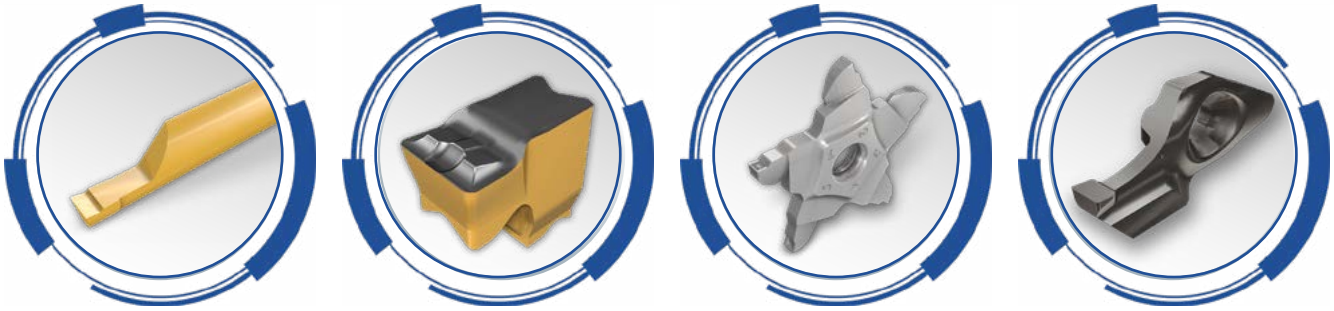
ISCAR FACE GROOVING LINES

Metric and Inch Catalog

GROOVING INDUSTRY4.0 INTELLIGENTLY



PICCO | CHAMGROOVE | MINCUT | HELIFACE | DO-GRIP | CUT-GRIP | TANG-FACE | SELF-GRIP | PENTACUT

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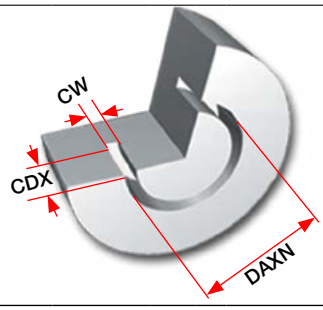
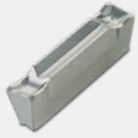
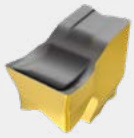
HELIFACE

A Variety of Inserts for Face Machining Applications



Face Grooving DAXN 6–40 mm

		DAXN	DAXX	CWN	CWX	CDX	Page
PICCO		6	-	1	5	40	10
MIFR/MEFL		8	-	1.5	3.5	15	34-35
GFQR		12	19	1	2.5	3	30
HGPL		12	∞	3	6	∞	75
GRIP		12	∞	3	6.35	∞	70
DGN		21	∞	4	6	∞	79-82
HFPR/L		12	∞	3	6	∞	68
TNF		30	700	3	6	∞	111-112
HFPN		27	130	2	2	14	67

Face Grooving DAXN 24–80 mm

		DAXN	DAXX	CWN	CWX	CDX	Page
PENTA 34F		12	∞	2.39	4	5	122
GDMY/N		50	∞	8	8	27	95, 98
GIF		80	∞	8	10	27	90-92
GIFG 8		50	∞	8	8	25	89
GIMM 8CC		80	∞	8	8	∞	107
GDMM CC		50	∞	7	8	∞	108
GIA-K		80	∞	8	8	25	93
GFF		25	55	2.1	6	35	121

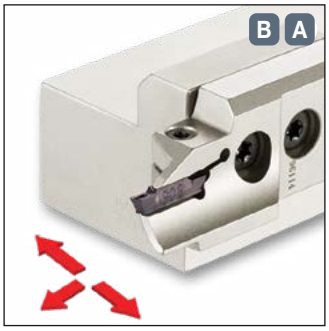
HELIFACE

Small Diameter Face Machining Systems

Tool: HGHR/L see page 39
Insert: GRIP... / HGPL...

CW = 3-6.35 mm
CDX = 6 mm
DAXN = 12 mm

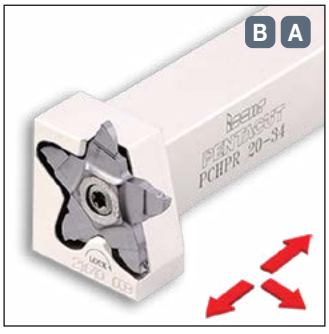
Integral shank toolholder with double-ended inserts.
Used for face grooving and face turning of small parts for 12 mm minimum groove diameter.



Tool: HGAER/L... (adapter) see page 52
Tool: HFAER/L... (adapter) see page 53
Insert: HFPR/L...

CW = 3-6 mm
CDX = 32 mm
DAXN = 12 mm

Exchangeable external adapters.
Used with **HELIFACE** and GRIP inserts for deep face machining.



Tool: PCHPR/L see page 127
Insert: PENTA 34F...

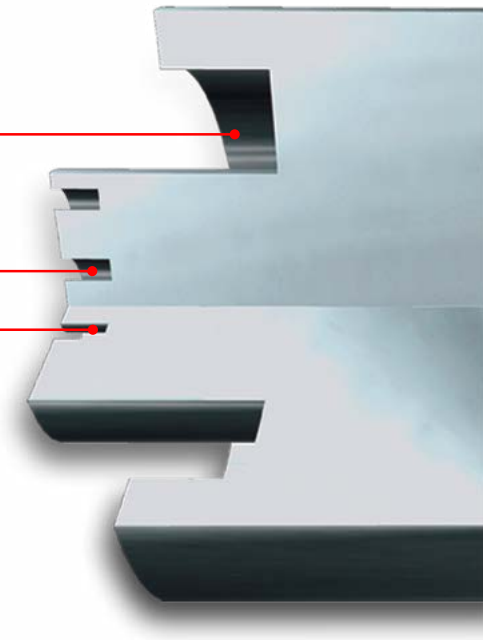
CW = 2.39-4 mm
CDX = 5 mm
DAXN = 22 mm

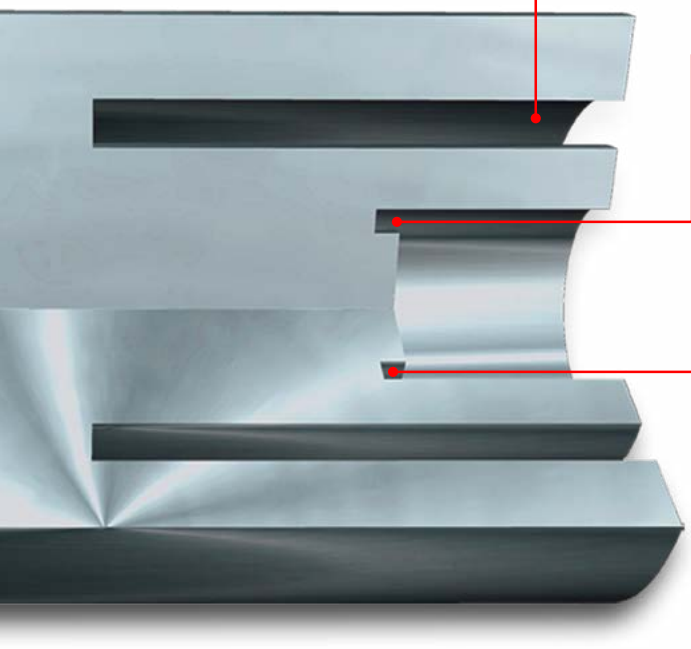
Pentagonal insert for face grooving and recessing up to 5 mm depth of cut at a minimum of 22 mm diameter.

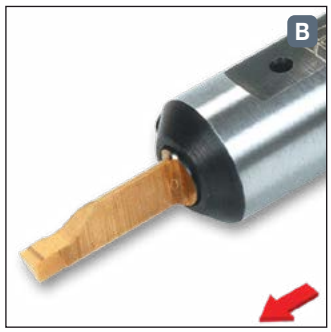
Tool: PICCO R010 see pages 10-15

CW = 1-5 mm
CDX = 6 mm
DAXN = 6 mm

Small solid carbide bars for machining shallow grooves from 6 mm minimum diameter.







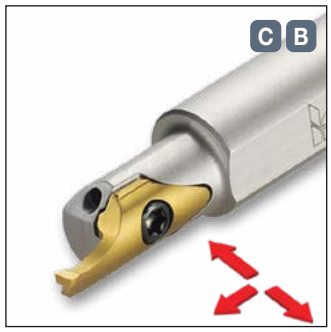
Tool: PICCO R015 see pages 21-22

CW = 2.5-3 mm

CDX = 30 mm

DAXN = 8 mm

Small solid carbide bars for machining deep face grooves of up to 30 and 8 mm minimum diameter.



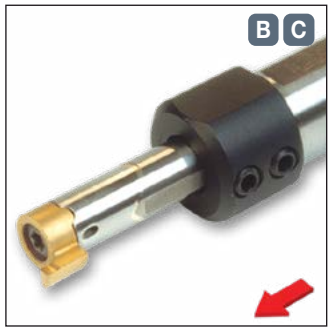
Tool: MIFHR ... see page 31
Insert: MIFR ...

CW = 1.5-3.5 mm

CDX = 5.5 mm

DAXN = 8 mm

MINCUT-A family of internal face grooving and face turning tools for machining small diameters ranging from 8-60 mm. Strong and stable tangential pocket with internal coolant.



Tool: MGCH 09C see page 29
Insert: GFQR...

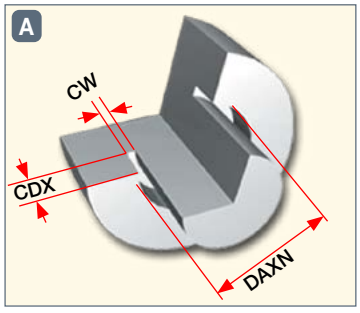
CW = 1-2.5 mm

CDX = 3 mm

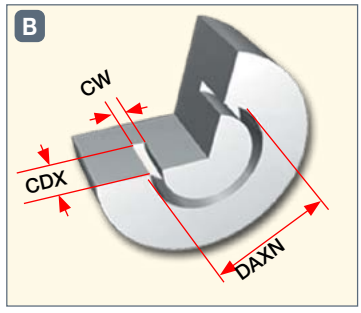
DAXN = 12 mm

A screw-clamped insert on an internal coolant solid carbide bar. Used for machining shallow grooves from 12 mm minimum diameter.

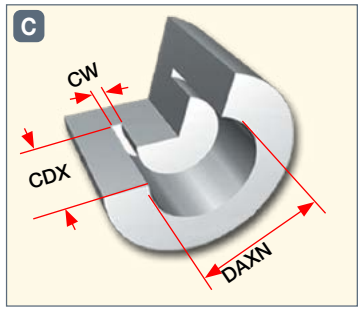
Main Applications



Grooving Next to a Shaft



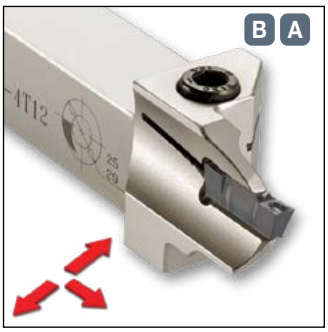
External Grooving



Internal Grooving

HELIFACE

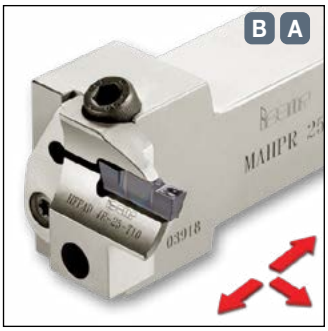
Medium Diameter Face Machining Systems



Tool: HFHR/L... see pages 40-46
Insert: HFPR/L...

CW = 3-6 mm
CDX = 32 mm
DAXN = 25 mm

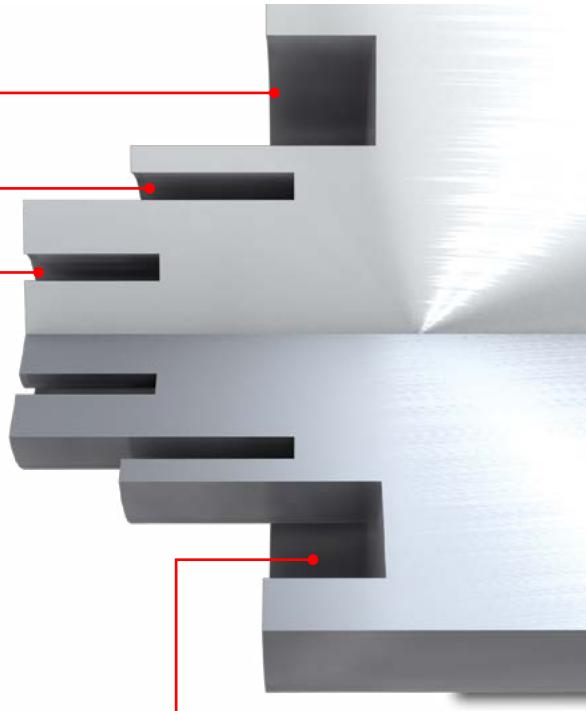
Integral shank toolholders carrying **HELIFACE** and GRIP inserts. For deep face grooving and side face turning.

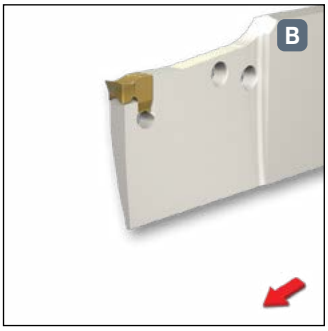


Tool: HFPAD... (adapter) see pages 48-50
Insert: HFPR/L...

CW = 3-6 mm
CDX = 20 mm
DAXN = 25 mm

Slanted, screw-clamped adapter carrying **HELIFACE** and GRIP inserts. A part of the **MODULAR-GRIP** system. Very rigid, for tough face operations.

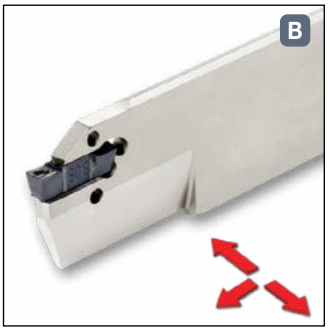




Tool: TNFFH see page 109
Insert: TNF 3-6C...

CW = 3-6 mm
CDX = 35 mm
DAXN = 30 mm

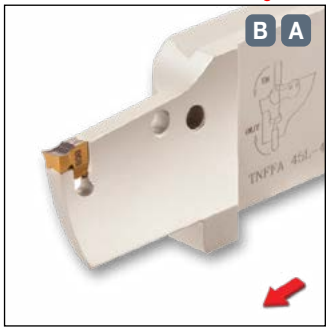
Adapter and blade toolholders carrying TNF GN/M/P-IQ inserts. For deep face grooving.



Tool: HFFR/L... see page 51
Insert: HFPR/L...

CW = 4-6 mm
CDX = 38 mm
DAXN = 48 mm

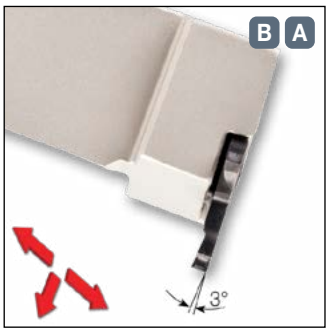
Economical, double-ended blades carrying **HELIFACE** and GRIP inserts. Recommended for deep face grooving and face turning to a maximum depth of 38 mm.



Tool: TNFFA see page 110
Insert: TNF GN/M/P-IQ...

CW = 3-6 mm
CDX = 35 mm
DAXN = 30 mm

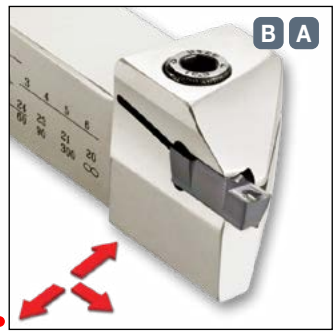
Reinforced blades carrying TNF GN/M/P-IQ inserts. Recommended for face grooving only. Can machine along a shaft. Excellent chip evacuation.



Tool: PCHPRS/LS see page 130
Insert: PENTA 34F-RS/LS...

CW = 2.39-4 mm
CDX = 5 mm
DAXN = 22 mm

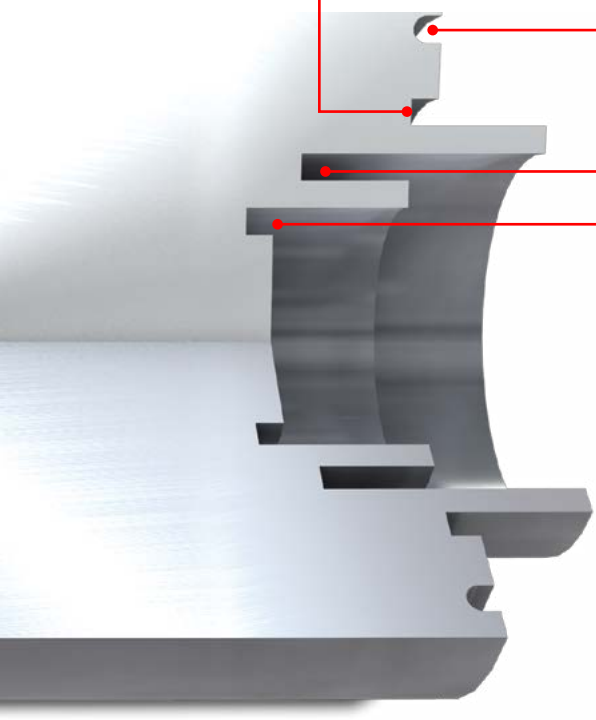
Pentagonal insert for face grooving and recessing next to shoulders up to 5 mm depth of cut at a minimum of 22 mm diameter.

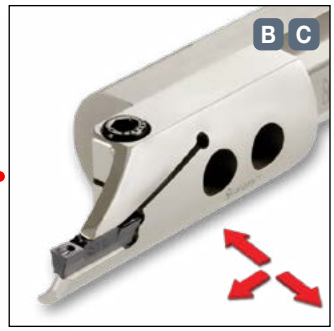


Tool: HFHR/L..-M see page 54
Insert: HFPR/L...

CW = 3-6 mm
CDX = 5.3 mm
DAXN = 20 mm

Integral toolholders carrying **HELIFACE** and GRIP inserts. For machining up to 5.3 mm depth of cut. 3-6 mm wide inserts can be mounted in the same pocket.

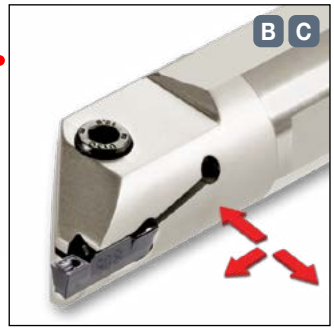




Tool: HFAIR/L...& HGAIR/L (adapter) see pages 57, 60
Insert: HFPR/L...

CW = 3-6 mm
CDX = 12 mm
DAXN = 32 mm

Exchangeable, internal coolant adapters carrying **HELIFACE** and GRIP inserts. Recommended for deep internal face machining.

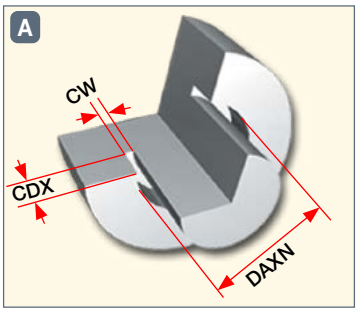


Tool: HFIR/L..-MC see page 63
Insert: HFPR/L...

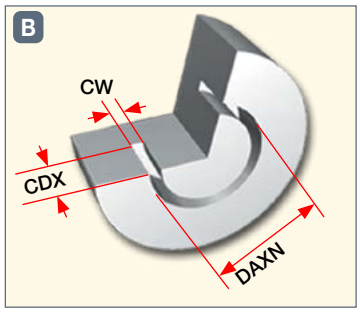
CW = 3-6 mm
CDX = 5 mm
DAXN = 20 mm

Boring bars for shallow face machining of up to 5 mm depth carrying **HELIFACE** and GRIP inserts. Internal coolant. 3-6 mm width inserts can be mounted in the same pocket.

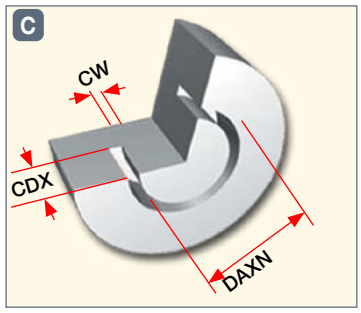
Main Applications



Grooving Next to a Shaft



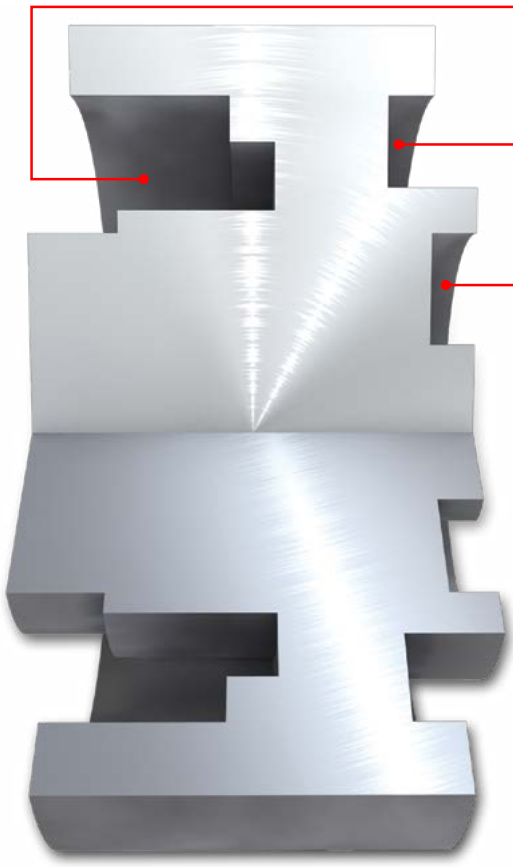
External Grooving

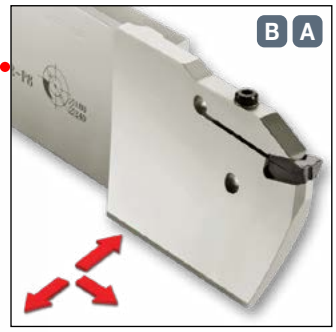


Internal Grooving

HELIFACE

Large Diameter Face Machining Systems

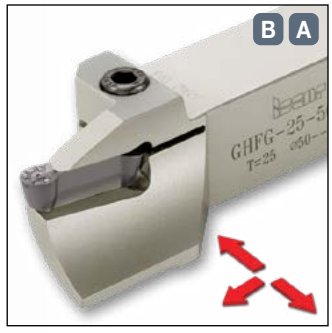




Tool: CGFG 51-..R/L-P8
see page 88
Insert: GIMY 8...

CW = 8 mm
CDX = 120 mm
DAXN = 180 mm

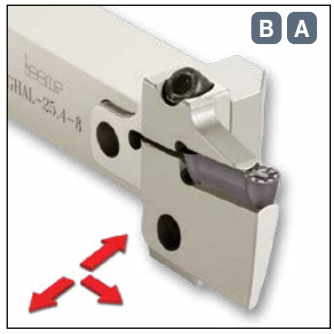
Blades carrying 8 mm single-ended **CUT-GRIP** inserts. Can machine up to 120 mm depth next to a shaft. Used for large diameters.



Tool: GHFG ..R/L-8 **see page 83**
Insert: GDMY 8..

CW = 8 mm
CDX = 25 mm
DAXN = 50 mm

Integral toolholders carrying 8 mm **CUT-GRIP** inserts. For heavy machining of medium and large parts. Can machine next to a shaft of up to 25 mm depth.

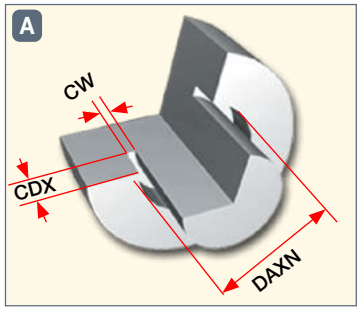


Tool: GAFG ..R/L-8 (adapter) **see page 87**
Insert: GDMM 8CC

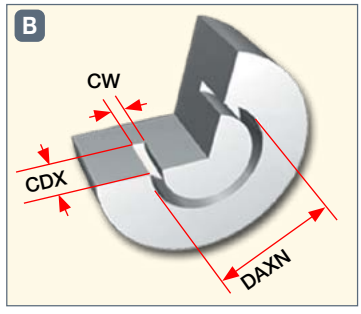
CW = 8 mm
CDX = 25 mm
DAXN = 80 mm

Exchangeable adapters carrying 8 mm **CUT-GRIP** inserts. Can machine up to 25 mm depth next to a shaft. For heavy machining of medium and large parts.

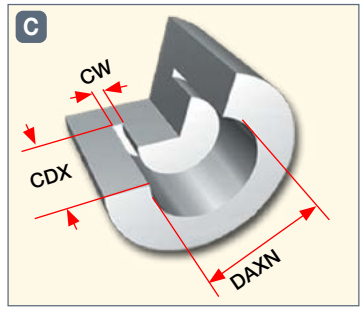
Main Applications



Grooving Next to a Shaft

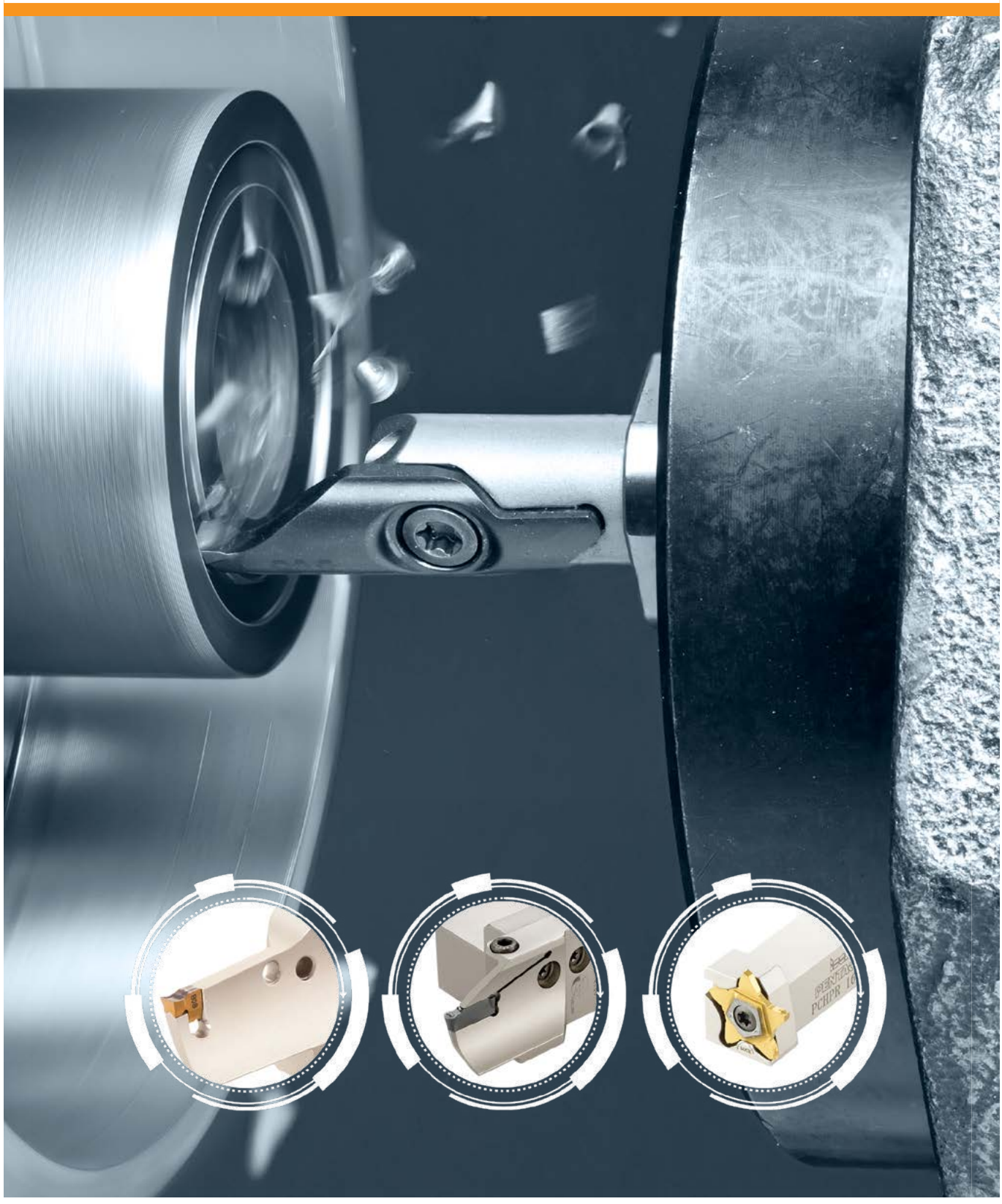


External Grooving



Internal Grooving

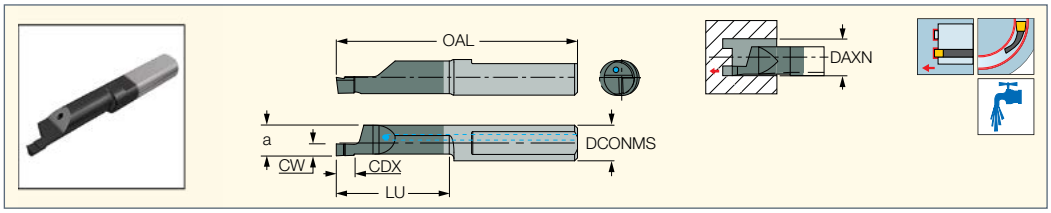
TOOLS AND INSERTS



PICCO

JETCUT PICCOCUT

PICCO-010/610-N
(Face Grooving)
Inserts with Internal Coolant Channel for Face Grooving



M E T R I C

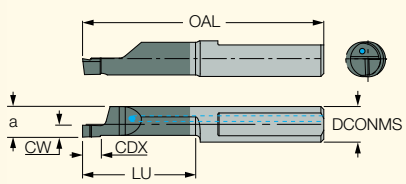
Designation	Dimensions DAXN(1)	CW	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (mm/rev)
PICCO R 010.1006-10N	6.0	1.00	1.50	6.05	5.20	9.0	32.00	•	0.01-0.04
PICCO R 010.1506-10N	6.0	1.50	2.00	6.05	5.20	9.0	32.00	•	0.01-0.04
PICCO R 010.1008-10N	8.0	1.00	1.50	7.05	5.90	9.0	32.00	•	0.01-0.04
PICCO R 010.1008-20N	8.0	1.00	1.50	7.05	5.90	19.0	41.00	•	0.01-0.04
PICCO R 010.1008-30N	8.0	1.00	1.50	7.05	5.90	29.0	51.00	•	0.01-0.04
PICCO R 610.1008-10N	8.0	1.00	1.50	6.05	5.20	9.0	32.00	•	0.01-0.04
PICCO R/L 010.1508-20N	8.0	1.50	2.50	7.05	5.90	19.0	41.00	•	0.01-0.04
PICCO R 010.1508-10N	8.0	1.50	2.50	7.05	5.90	9.0	32.00	•	0.01-0.04
PICCO R 010.1508-30N	8.0	1.50	2.50	7.05	5.90	29.0	51.00	•	0.01-0.04
PICCO R 610.1508-10N	8.0	1.50	2.50	6.05	5.20	9.0	32.00	•	0.01-0.04
PICCO R 610.1508-20N	8.0	1.50	2.50	6.05	5.20	19.0	41.00	•	0.01-0.04
PICCO R/L 010.2008-30N	8.0	2.00	3.00	7.05	5.90	29.0	51.00	•	0.02-0.05
PICCO R 010.2008-10N	8.0	2.00	3.00	7.05	5.90	9.0	32.00	•	0.02-0.05
PICCO R 010.2008-20N	8.0	2.00	3.00	7.05	5.90	19.0	41.00	•	0.02-0.05
PICCO R 610.2008-10N	8.0	2.00	3.00	6.05	5.20	9.0	32.00	•	0.02-0.05
PICCO R 610.2008-20N	8.0	2.00	3.00	6.05	5.20	19.0	41.00	•	0.02-0.05
PICCO R 010.2508-10N	8.0	2.50	3.50	7.05	5.90	9.0	32.00	•	0.02-0.05
PICCO R 010.2508-20N	8.0	2.50	3.50	7.05	5.90	19.0	41.00	•	0.02-0.05
PICCO R 610.2508-10N	8.0	2.50	3.50	6.05	5.20	9.0	32.00	•	0.02-0.05
PICCO R 010.3008-10N	8.0	3.00	3.50	7.05	5.90	9.0	32.00	•	0.02-0.06
PICCO R 010.3008-20N	8.0	3.00	3.50	7.05	5.90	19.0	41.00	•	0.02-0.06
PICCO R 010.3008-30N	8.0	3.00	3.50	7.05	5.90	29.0	51.00	•	0.02-0.06
PICCO R 610.3008-10N	8.0	3.00	3.50	6.05	5.20	9.0	32.00	•	0.02-0.06
PICCO R 610.3008-20N	8.0	3.00	3.50	6.05	5.20	19.0	41.00	•	0.02-0.06

- Only right-hand inserts are available as standard
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

JETCUT PICCOCUT

PICCO-010/610-N
(Face Grooving)
Inserts with Internal Coolant Channel for Face Grooving

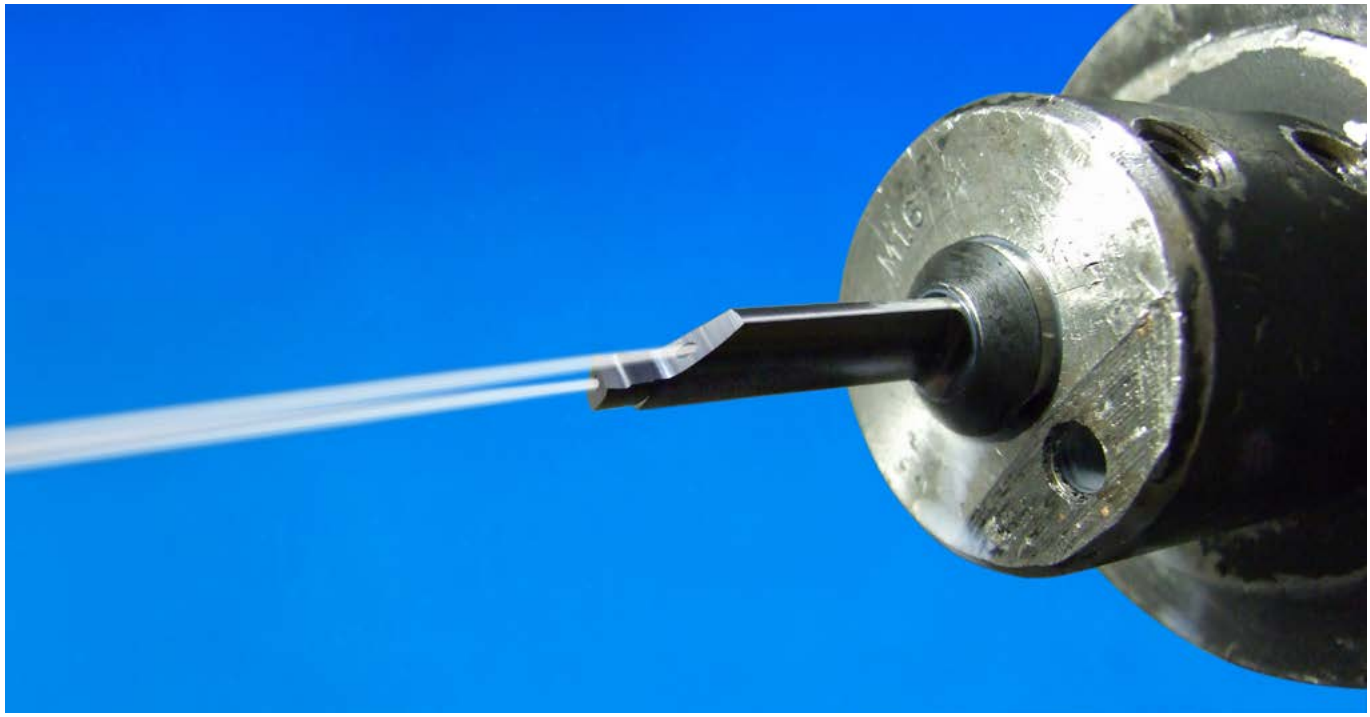


I N C H

Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (IPR)
PICCO R 010.1006-10N	.24	.039	.059	.238	.205	.354	1.260	●	.0004-.0016
PICCO R 010.1506-10N	.24	.059	.079	.238	.205	.354	1.260	●	.0004-.0016
PICCO R 010.1008-10N	.31	.039	.059	.278	.232	.354	1.260	●	.0004-.0016
PICCO R 010.1008-20N	.31	.039	.059	.278	.232	.748	1.614	●	.0004-.0016
PICCO R 010.1008-30N	.31	.039	.059	.278	.232	1.142	2.008	●	.0004-.0016
PICCO R 610.1008-10N	.31	.039	.059	.238	.205	.354	1.260	●	.0004-.0016
PICCO R/L 010.1508-20N	.31	.059	.098	.278	.232	.748	1.614	●	.0004-.0016
PICCO R 010.1508-10N	.31	.059	.098	.278	.232	.354	1.260	●	.0004-.0016
PICCO R 010.1508-30N	.31	.059	.098	.278	.232	1.142	2.008	●	.0004-.0016
PICCO R 610.1508-10N	.31	.059	.098	.238	.205	.354	1.260	●	.0004-.0016
PICCO R 610.1508-20N	.31	.059	.098	.238	.205	.748	1.614	●	.0004-.0016
PICCO R/L 010.2008-30N	.31	.079	.118	.278	.232	1.142	2.008	●	.0008-.0020
PICCO R 010.2008-10N	.31	.079	.118	.278	.232	.354	1.260	●	.0008-.0020
PICCO R 010.2008-20N	.31	.079	.118	.278	.232	.748	1.614	●	.0008-.0020
PICCO R 610.2008-10N	.31	.079	.118	.238	.205	.354	1.260	●	.0008-.0020
PICCO R 610.2008-20N	.31	.079	.118	.238	.205	.748	1.614	●	.0008-.0020
PICCO R 010.2508-10N	.31	.098	.138	.278	.232	.354	1.260	●	.0008-.0020
PICCO R 010.2508-20N	.31	.098	.138	.278	.232	.748	1.614	●	.0008-.0020
PICCO R 610.2508-10N	.31	.098	.138	.238	.205	.354	1.260	●	.0008-.0020
PICCO R 010.3008-10N	.31	.118	.138	.278	.232	.354	1.260	●	.0008-.0024
PICCO R 010.3008-20N	.31	.118	.138	.278	.232	.748	1.614	●	.0008-.0024
PICCO R 010.3008-30N	.31	.118	.138	.278	.232	1.142	2.008	●	.0008-.0024
PICCO R 610.3008-10N	.31	.118	.138	.238	.205	.354	1.260	●	.0008-.0024
PICCO R 610.3008-20N	.31	.118	.138	.238	.205	.748	1.614	●	.0008-.0024

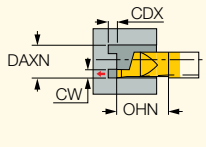
- Only right-hand inserts are available as standard
- All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see pages 162-164

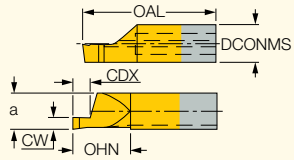
[1] Minimum axial grooving diameter

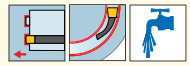


PICCOCUT

PICCO-010/610
(Face Grooving)
Inserts for Face Grooving







Right-hand shown

M E T R I C

Designation	Dimensions DAXN(1)	CW	CDX	DCONMS	a	OHN(2)	OAL	IC228	Recommended Machining Data f face-groove (mm/rev)
PICCO R 010.1006-10	6.0	1.00	1.50	6.00	5.20	11.0	26.00	•	0.01-0.04
PICCO R 010.1506-10	6.0	1.50	2.00	6.00	5.20	11.0	26.00	•	0.01-0.04
PICCO R 010.1008-10	8.0	1.00	1.50	7.00	5.90	11.0	26.00	•	0.01-0.04
PICCO R 010.1008-20	8.0	1.00	1.50	7.00	5.90	21.0	35.00	•	0.01-0.04
PICCO R 010.1008-30	8.0	1.00	1.50	7.00	5.90	30.0	45.00	•	0.01-0.04
PICCO R 610.1008-10	8.0	1.00	1.50	6.00	5.20	11.0	26.00	•	0.01-0.04
PICCO R 610.1008-20	8.0	1.00	1.50	6.00	5.20	20.0	35.00	•	0.01-0.04
PICCO R/L 010.1508-20	8.0	1.50	2.50	7.00	5.90	21.0	35.00	•	0.01-0.04
PICCO R/L 010.1508-30	8.0	1.50	2.50	7.00	5.90	30.0	45.00	•	0.01-0.04
PICCO R 010.1508-10	8.0	1.50	2.50	7.00	5.90	11.0	26.00	•	0.01-0.04
PICCO R 610.1508-10	8.0	1.50	2.50	6.00	5.20	11.0	26.00	•	0.01-0.04
PICCO R 610.1508-20	8.0	1.50	2.50	6.00	5.20	20.0	35.00	•	0.01-0.04
PICCO R/L 010.2008-30	8.0	2.00	3.00	7.00	5.90	30.0	45.00	•	0.02-0.05
PICCO R 010.2008-10	8.0	2.00	3.00	7.00	5.90	11.0	26.00	•	0.02-0.05
PICCO R 010.2008-20	8.0	2.00	3.00	7.00	5.90	21.0	35.00	•	0.02-0.05
PICCO R 610.2008-10	8.0	2.00	3.00	6.00	5.20	11.0	26.00	•	0.02-0.05
PICCO R 610.2008-20	8.0	2.00	3.00	6.00	5.20	20.0	35.00	•	0.02-0.05
PICCO R 010.2508-10	8.0	2.50	3.50	7.00	5.90	11.0	26.00	•	0.02-0.05
PICCO R 010.2508-20	8.0	2.50	3.50	7.00	5.90	21.0	35.00	•	0.02-0.05
PICCO R 010.2508-30	8.0	2.50	3.50	7.00	5.90	30.0	45.00	•	0.02-0.05
PICCO R 610.2508-10	8.0	2.50	3.50	6.00	5.20	11.0	26.00	•	0.02-0.05
PICCO R 610.2508-20	8.0	2.50	3.50	6.00	5.20	20.0	35.00	•	0.02-0.05
PICCO R 010.3008-10	8.0	3.00	3.50	7.00	5.90	11.0	26.00	•	0.02-0.06
PICCO R 010.3008-20	8.0	3.00	3.50	7.00	5.90	21.0	35.00	•	0.02-0.06
PICCO R 010.3008-30	8.0	3.00	3.50	7.00	5.90	30.0	45.00	•	0.02-0.06
PICCO R 610.3008-10	8.0	3.00	3.50	6.00	5.20	11.0	26.00	•	0.02-0.06
PICCO R 610.3008-20	8.0	3.00	3.50	6.00	5.20	20.0	35.00	•	0.02-0.06

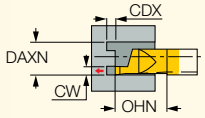
• Only right-hand inserts are available as standard • All inserts are with sharp corners • For detailed cutting data, see pages 162-164

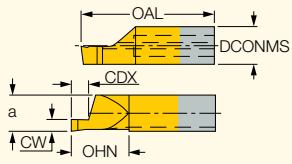
(1) Minimum axial grooving diameter

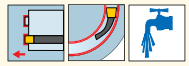
(2) Minimum overhang

PICCOCUT

PICCO-010/610
(Face Grooving)
Inserts for Face Grooving







Right-hand shown

I N C H

Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	OHN[2]	OAL	IC228	Recommended Machining Data f face-groove (IPR)
PICCO R 010.1006-10	.24	.039	.059	.236	.205	.433	1.024	●	.0004-.0016
PICCO R 010.1506-10	.24	.059	.079	.236	.205	.433	1.024	●	.0004-.0016
PICCO R 010.1008-10	.31	.039	.059	.276	.232	.433	1.024	●	.0004-.0016
PICCO R 010.1008-20	.31	.039	.059	.276	.232	.827	1.378	●	.0004-.0016
PICCO R 010.1008-30	.31	.039	.059	.276	.232	1.181	1.772	●	.0004-.0016
PICCO R 610.1008-10	.31	.039	.059	.236	.205	.433	1.024	●	.0004-.0016
PICCO R 610.1008-20	.31	.039	.059	.236	.205	.787	1.378	●	.0004-.0016
PICCO R/L 010.1508-20	.31	.059	.098	.276	.232	.827	1.378	●	.0004-.0016
PICCO R/L 010.1508-30	.31	.059	.098	.276	.232	1.181	1.772	●	.0004-.0016
PICCO R 010.1508-10	.31	.059	.098	.276	.232	.433	1.024	●	.0004-.0016
PICCO R 610.1508-10	.31	.059	.098	.236	.205	.433	1.024	●	.0004-.0016
PICCO R 610.1508-20	.31	.059	.098	.236	.205	.787	1.378	●	.0004-.0016
PICCO R/L 010.2008-30	.31	.079	.118	.276	.232	1.181	1.772	●	.0008-.0020
PICCO R 010.2008-10	.31	.079	.118	.276	.232	.433	1.024	●	.0008-.0020
PICCO R 010.2008-20	.31	.079	.118	.276	.232	.827	1.378	●	.0008-.0020
PICCO R 610.2008-10	.31	.079	.118	.236	.205	.433	1.024	●	.0008-.0020
PICCO R 610.2008-20	.31	.079	.118	.236	.205	.787	1.378	●	.0008-.0020
PICCO R 010.2508-10	.31	.098	.138	.276	.232	.433	1.024	●	.0008-.0020
PICCO R 010.2508-20	.31	.098	.138	.276	.232	.827	1.378	●	.0008-.0020
PICCO R 010.2508-30	.31	.098	.138	.276	.232	1.181	1.772	●	.0008-.0020
PICCO R 610.2508-10	.31	.098	.138	.236	.205	.433	1.024	●	.0008-.0020
PICCO R 610.2508-20	.31	.098	.138	.236	.205	.787	1.378	●	.0008-.0020
PICCO R 010.3008-10	.31	.118	.138	.276	.232	.433	1.024	●	.0008-.0024
PICCO R 010.3008-20	.31	.118	.138	.276	.232	.827	1.378	●	.0008-.0024
PICCO R 010.3008-30	.31	.118	.138	.276	.232	1.181	1.772	●	.0008-.0024
PICCO R 610.3008-10	.31	.118	.138	.236	.205	.433	1.024	●	.0008-.0024
PICCO R 610.3008-20	.31	.118	.138	.236	.205	.787	1.378	●	.0008-.0024

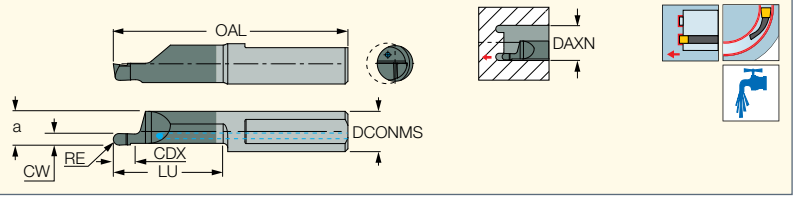
• Only right-hand inserts are available as standard • All inserts are with sharp corners • For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

PICCO-010-N
(Full Radius for Face Grooving)
Inserts with Internal Coolant Channel for Round Profile Face Grooving



M E T R I C

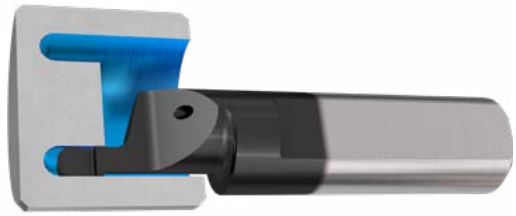
Designation	Dimensions DAXN[1]	CW	RE	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (mm/rev)
PICCO R 010.1005-10N	8.0	1.00	0.50	2.00	7.05	5.90	9.0	32.00	●	0.01-0.04
PICCO R 010.1005-20N	8.0	1.00	0.50	2.00	7.05	5.90	19.0	41.00	●	0.01-0.04
PICCO R 010.1608-10N	8.0	1.60	0.80	3.00	7.05	5.90	9.0	32.00	●	0.01-0.05
PICCO R 010.1608-20N	8.0	1.60	0.80	3.00	7.05	5.90	19.0	41.00	●	0.01-0.05
PICCO R 010.2010-10N	8.0	2.00	1.00	4.00	7.05	5.90	9.0	32.00	●	0.02-0.05
PICCO R 010.2010-20N	8.0	2.00	1.00	4.00	7.05	5.90	19.0	41.00	●	0.02-0.05
PICCO R 010.2512-10N	8.0	2.50	1.25	5.00	7.05	5.90	9.0	32.00	●	0.02-0.05
PICCO R 010.3015-10N	8.0	3.00	1.50	6.00	7.05	5.90	9.0	32.00	●	0.02-0.05
PICCO R 010.3015-20N	8.0	3.00	1.50	6.00	7.05	5.90	19.0	41.00	●	0.02-0.05

I N C H

Designation	Dimensions DAXN[1]	CW	RE	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (IPR)
PICCO R 010.1005-10N	.31	.039	.0197	.079	.278	.232	.354	1.260	●	.0004-.0016
PICCO R 010.1005-20N	.31	.039	.0197	.079	.278	.232	.748	1.614	●	.0004-.0016
PICCO R 010.1608-10N	.31	.063	.0315	.118	.278	.232	.354	1.260	●	.0004-.0020
PICCO R 010.1608-20N	.31	.063	.0315	.118	.278	.232	.748	1.614	●	.0004-.0020
PICCO R 010.2010-10N	.31	.079	.0394	.157	.278	.232	.354	1.260	●	.0008-.0020
PICCO R 010.2010-20N	.31	.079	.0394	.157	.278	.232	.748	1.614	●	.0008-.0020
PICCO R 010.2512-10N	.31	.098	.0492	.197	.278	.232	.354	1.260	●	.0008-.0020
PICCO R 010.3015-10N	.31	.118	.0590	.236	.278	.232	.354	1.260	●	.0008-.0020
PICCO R 010.3015-20N	.31	.118	.0590	.236	.278	.232	.748	1.614	●	.0008-.0020

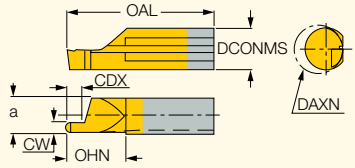
- Only right-hand inserts are available as standard, left-hand inserts on request
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see pages 162-164

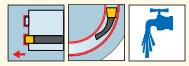
[1] Minimum axial grooving diameter



PICCOCUT

PICCO-010
(Round Face Groove)
Inserts for Round Profile
Face Grooving





Right-hand shown

M E T R I C

Designation	Dimensions DAXN(1)	CW	RE	CDX	DCONMS	a	OHN(2)	OAL	IC1008	Recommended Machining Data f face-groove (mm/rev)
PICCO R 010.1005-10	8.0	1.00	0.50	2.00	7.00	5.90	11.0	26.00	●	0.01-0.04
PICCO R 010.1005-20	8.0	1.00	0.50	2.00	7.00	5.90	20.0	35.00	●	0.01-0.04
PICCO R 010.1608-10	8.0	1.60	0.80	3.00	7.00	5.90	11.0	26.00	●	0.01-0.05
PICCO R 010.1608-20	8.0	1.60	0.80	3.00	7.00	5.90	20.0	35.00	●	0.01-0.05
PICCO R 010.2010-10	8.0	2.00	1.00	4.00	7.00	5.90	11.0	26.00	●	0.02-0.05
PICCO R 010.2010-20	8.0	2.00	1.00	4.00	7.00	5.90	20.0	35.00	●	0.02-0.05
PICCO R 010.2512-10	8.0	2.50	1.25	5.00	7.00	5.90	11.0	26.00	●	0.02-0.05
PICCO R 010.2512-20	8.0	2.50	1.25	5.00	7.00	5.90	20.0	35.00	●	0.02-0.05
PICCO R 010.3015-10	8.0	3.00	1.50	6.00	7.00	5.90	11.0	26.00	●	0.02-0.05
PICCO R 010.3015-20	8.0	3.00	1.50	6.00	7.00	5.90	20.0	35.00	●	0.02-0.05

I N C H

Designation	Dimensions DAXN(1)	CW	RE	CDX	DCONMS	a	OHN(2)	OAL	IC1008	Recommended Machining Data f face-groove (IPR)
PICCO R 010.1005-10	.31	.039	.0197	.079	.276	.232	.433	1.024	●	.0004-.0016
PICCO R 010.1005-20	.31	.039	.0197	.079	.276	.232	.787	1.378	●	.0004-.0016
PICCO R 010.1608-10	.31	.063	.0315	.118	.276	.232	.433	1.024	●	.0004-.0020
PICCO R 010.1608-20	.31	.063	.0315	.118	.276	.232	.787	1.378	●	.0004-.0020
PICCO R 010.2010-10	.31	.079	.0394	.157	.276	.232	.433	1.024	●	.0008-.0020
PICCO R 010.2010-20	.31	.079	.0394	.157	.276	.232	.787	1.378	●	.0008-.0020
PICCO R 010.2512-10	.31	.098	.0492	.197	.276	.232	.433	1.024	●	.0008-.0020
PICCO R 010.2512-20	.31	.098	.0492	.197	.276	.232	.787	1.378	●	.0008-.0020
PICCO R 010.3015-10	.31	.118	.0590	.236	.276	.232	.433	1.024	●	.0008-.0020
PICCO R 010.3015-20	.31	.118	.0590	.236	.276	.232	.787	1.378	●	.0008-.0020

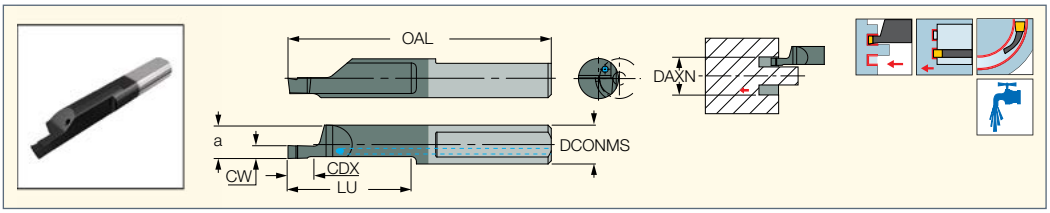
• Only right-hand inserts are available as standard, left-hand inserts on request • For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

PICCO-620-N
(Face Grooving Along Shaft)
Inserts with Internal Coolant Channel for Grooving Along Shaft Dmin 6 mm



M E T R I C

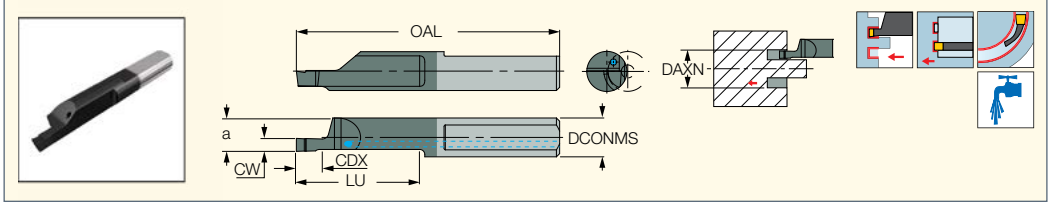
Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (mm/rev)
PICCO R 620.1006-20N	6.0	1.00	2.00	6.05	5.20	19.0	41.00	●	0.01-0.04
PICCO R 620.1506-20N	6.0	1.50	3.00	6.05	5.20	19.0	41.00	●	0.01-0.05
PICCO R 620.2006-20N	6.0	2.00	4.00	6.05	5.20	19.0	41.00	●	0.02-0.06
PICCO R 620.2506-20N	6.0	2.50	5.00	6.05	5.20	19.0	41.00	●	0.02-0.06
PICCO R 620.3006-20N	6.0	3.00	6.00	6.05	5.20	19.0	41.00	●	0.02-0.06

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data,see pages 162-164

(1) Minimum axial grooving diameter

JETCUT PICCOCUT

PICCO-620-N
(Face Grooving Along Shaft)
Inserts with Internal Coolant Channel for Grooving Along Shaft Dmin .236"



I N C H

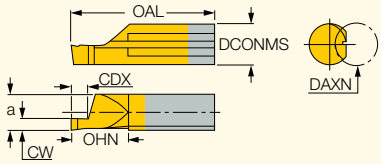
Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	LU	OAL	IC908	Recommended Machining Data f face-groove (IPR)
PICCO R 620.1006-20N	.24	.039	.079	.238	.205	.748	1.614	●	.0004-.0016
PICCO R 620.1506-20N	.24	.059	.118	.238	.205	.748	1.614	●	.0004-.0020
PICCO R 620.2006-20N	.24	.079	.157	.238	.205	.748	1.614	●	.0008-.0024
PICCO R 620.2506-20N	.24	.098	.197	.238	.205	.748	1.614	●	.0008-.0024
PICCO R 620.3006-20N	.24	.118	.236	.238	.205	.748	1.614	●	.0008-.0024

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data,see pages 162-164

(1) Minimum axial grooving diameter

PICCOCUT

PICCO-620
(Groove Along Shaft)
Inserts for Grooving Along a Shaft Dmin 6 mm



Right-hand shown

M E T R I C

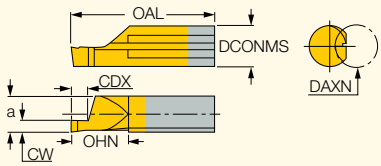
Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	OHN[2]	OAL	IC1008	Recommended Machining Data f face-groove (mm/rev)
PICCO R 620.1006-20	6.0	1.00	2.00	6.00	5.20	20.0	35.00	●	0.01-0.04
PICCO R 620.1506-20	6.0	1.50	3.00	6.00	5.20	20.0	35.00	●	0.01-0.05
PICCO R 620.2006-20	6.0	2.00	4.00	6.00	5.20	20.0	35.00	●	0.02-0.06
PICCO R 620.2506-20	6.0	2.50	5.00	6.00	5.20	20.0	35.00	●	0.02-0.06
PICCO R 620.3006-20	6.0	3.00	6.00	6.00	5.20	20.0	35.00	●	0.02-0.06

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter
(2) Minimum overhang

PICCOCUT

PICCO-620
(Groove Along Shaft)
Inserts for Grooving Along a Shaft Dmin .236"



Right-hand shown

I N C H

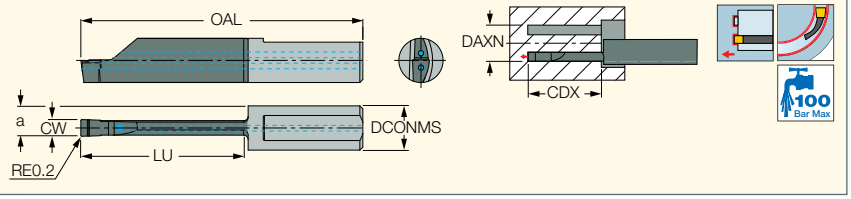
Designation	Dimensions DAXN[1]	CW	CDX	DCONMS	a	OHN[2]	OAL	IC1008	Recommended Machining Data f face-groove (IPR)
PICCO R 620.1006-20	.24	.039	.079	.236	.205	.787	1.378	●	.0004-.0016
PICCO R 620.1506-20	.24	.059	.118	.236	.205	.787	1.378	●	.0004-.0020
PICCO R 620.2006-20	.24	.079	.157	.236	.205	.787	1.378	●	.0008-.0024
PICCO R 620.2506-20	.24	.098	.197	.236	.205	.787	1.378	●	.0008-.0024
PICCO R 620.3006-20	.24	.118	.236	.236	.205	.787	1.378	●	.0008-.0024

- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter
(2) Minimum overhang

PICCOCUT JETCUT

PICCO-016/020-N
(Face Grooving)
Inserts with Internal Coolant
Channel for Deep Face Grooving

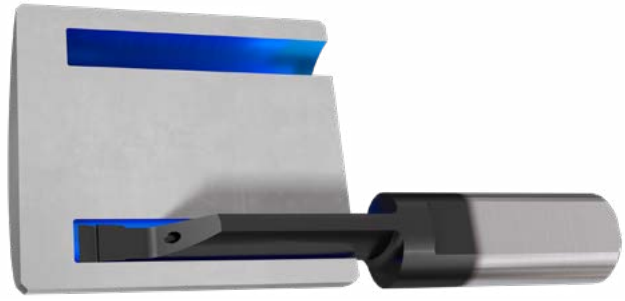


M E T R I C

Designation	Dimensions DAXN(1)	CW	LU	CDX	DCONMS	a	OAL	IC908	Recommended Machining Data f face-groove (mm/rev)
PICCO R016.0300-10N	16.0	3.00	9.00	9.00	8.00	5.50	32.00	●	0.01-0.05
PICCO R016.0300-20N	16.0	3.00	19.00	19.00	8.00	5.50	41.00	●	0.01-0.05
PICCO R016.0400-20N	16.0	4.00	19.00	19.00	8.00	6.00	41.00	●	0.01-0.05
PICCO R020.0300-25N	20.0	3.00	24.00	24.00	8.00	5.50	46.00	●	0.01-0.05
PICCO R020.0300-30N	20.0	3.00	29.00	29.00	8.00	5.50	51.00	●	0.01-0.04
PICCO R020.0300-40N	20.0	3.00	39.00	39.00	8.00	5.50	61.00	●	0.01-0.04
PICCO R020.0400-25N	20.0	4.00	24.00	24.00	8.00	6.00	46.00	●	0.01-0.06
PICCO R020.0400-30N	20.0	4.00	29.00	29.00	8.00	6.00	51.00	●	0.01-0.06
PICCO R020.0400-40N	20.0	4.00	39.00	39.00	8.00	6.00	61.00	●	0.01-0.05
PICCO R020.0500-25N	20.0	5.00	24.00	24.00	8.00	6.50	46.00	●	0.02-0.06
PICCO R020.0500-30N	20.0	5.00	29.00	29.00	8.00	6.50	51.00	●	0.02-0.06
PICCO R020.0500-35N	20.0	5.00	34.00	34.00	8.00	6.50	56.00	●	0.02-0.05
PICCO R020.0500-40N	20.0	5.00	39.00	39.00	8.00	6.50	61.00	●	0.02-0.05

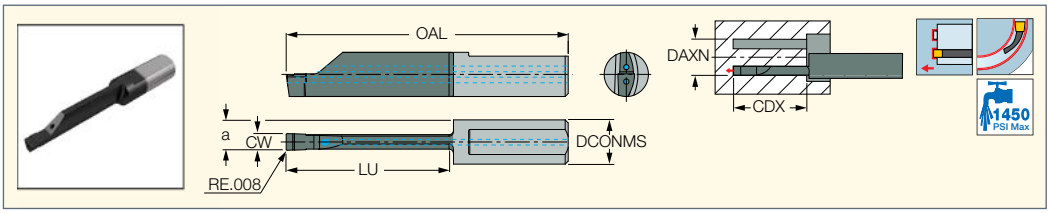
- All inserts have two coolant holes which may be used with coolant pressure up to 100 bars
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter



PICCOCUT JETCUT

PICCO-016/020-N
(Face Grooving)
Inserts with Internal Coolant Channel for Deep Face Grooving

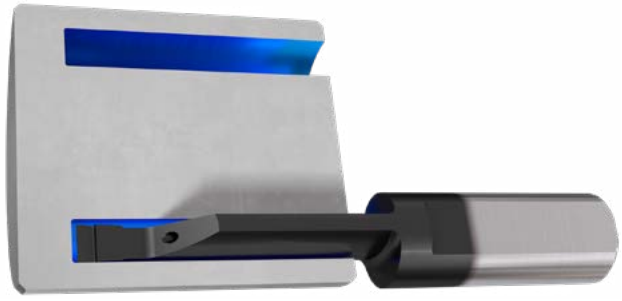


I N C H

Designation	Dimensions DAXN(1)	CW	LU	CDX	DCONMS	a	OAL	IC908	Recommended Machining Data f face-groove (IPR)
PICCO R016.0300-10N	.63	.118	.354	.354	.315	.217	1.260	●	.0004-.0020
PICCO R016.0300-20N	.63	.118	.748	.748	.315	.217	1.614	●	.0004-.0020
PICCO R016.0400-20N	.63	.157	.748	.748	.315	.236	1.614	●	.0004-.0020
PICCO R020.0300-25N	.79	.118	.945	.945	.315	.217	1.811	●	.0004-.0020
PICCO R020.0300-30N	.79	.118	1.142	1.142	.315	.217	2.008	●	.0004-.0016
PICCO R020.0300-40N	.79	.118	1.535	1.535	.315	.217	2.402	●	.0004-.0016
PICCO R020.0400-25N	.79	.157	.945	.945	.315	.236	1.811	●	.0004-.0024
PICCO R020.0400-30N	.79	.157	1.142	1.142	.315	.236	2.008	●	.0004-.0024
PICCO R020.0400-40N	.79	.157	1.535	1.535	.315	.236	2.402	●	.0004-.0020
PICCO R020.0500-25N	.79	.197	.945	.945	.315	.256	1.811	●	.0008-.0024
PICCO R020.0500-30N	.79	.197	1.142	1.142	.315	.256	2.008	●	.0008-.0024
PICCO R020.0500-35N	.79	.197	1.339	1.339	.315	.256	2.205	●	.0008-.0020
PICCO R020.0500-40N	.79	.197	1.535	1.535	.315	.256	2.402	●	.0008-.0020

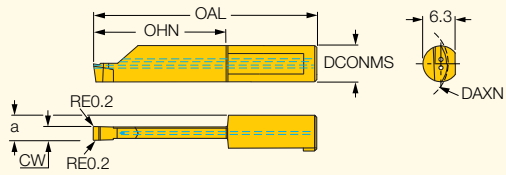
- All inserts have two coolant holes which may be used with coolant pressure up to 1450 PSI
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter



PICCOCUT

PICCO-016/020
(Face Grooving)
Inserts with Coolant Holes
for Deep Face Grooving



Right-hand shown

M E T R I C

Designation	Dimensions DAXN(1)	CW	OHN(2)	DCONMS	a	OAL	IC1008	Recommended Machining Data f face-groove (mm/rev)
PICCO R 016.0300-10	16.0	3.00	10.00	8.00	5.50	30.00	•	0.01-0.05
PICCO R 016.0300-20	16.0	3.00	20.00	8.00	5.50	40.00	•	0.01-0.05
PICCO R 016.0400-10	16.0	4.00	10.00	8.00	6.00	30.00	•	0.01-0.05
PICCO R 016.0400-20	16.0	4.00	20.00	8.00	6.00	40.00	•	0.01-0.05
PICCO R 020.0300-25	20.0	3.00	25.00	8.00	5.50	45.00	•	0.01-0.05
PICCO R 020.0300-30	20.0	3.00	30.00	8.00	5.50	50.00	•	0.01-0.04
PICCO R 020.0300-35	20.0	3.00	35.00	8.00	5.50	55.00	•	0.01-0.04
PICCO R 020.0300-40	20.0	3.00	40.00	8.00	5.50	60.00	•	0.01-0.04
PICCO R 020.0400-25	20.0	4.00	25.00	8.00	6.00	45.00	•	0.01-0.06
PICCO R 020.0400-30	20.0	4.00	30.00	8.00	6.00	50.00	•	0.01-0.06
PICCO R 020.0400-35	20.0	4.00	35.00	8.00	6.00	55.00	•	0.01-0.05
PICCO R 020.0400-40	20.0	4.00	40.00	8.00	6.00	60.00	•	0.01-0.05
PICCO R 020.0500-20	20.0	5.00	20.00	8.00	6.50	40.00	•	0.02-0.06
PICCO R 020.0500-25	20.0	5.00	25.00	8.00	6.50	45.00	•	0.02-0.06
PICCO R 020.0500-30	20.0	5.00	30.00	8.00	6.50	50.00	•	0.02-0.06
PICCO R 020.0500-35	20.0	5.00	35.00	8.00	6.50	55.00	•	0.02-0.05
PICCO R 020.0500-40	20.0	5.00	40.00	8.00	6.50	60.00	•	0.02-0.05

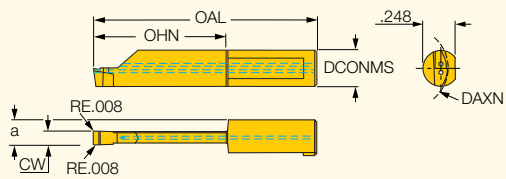
• All inserts have two coolant holes which may be used with coolant pressure up to 100 bars • For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

(2) Minimum overhang

PICCOCUT

PICCO-016/020
(Face Grooving)
Inserts with Coolant Holes
for Deep Face Grooving



Right-hand shown

I N C H

Designation	Dimensions DAXN(1)	CW	OHN(2)	DCONMS	a	OAL	IC1008	Recommended Machining Data f face-groove (IPR)
PICCO R 016.0300-10	.63	.118	.394	.315	.217	1.181	•	.0004-.0020
PICCO R 016.0300-20	.63	.118	.787	.315	.217	1.575	•	.0004-.0020
PICCO R 016.0400-10	.63	.157	.394	.315	.236	1.181	•	.0004-.0020
PICCO R 016.0400-20	.63	.157	.787	.315	.236	1.575	•	.0004-.0020
PICCO R 020.0300-25	.79	.118	.984	.315	.217	1.772	•	.0004-.0020
PICCO R 020.0300-30	.79	.118	1.181	.315	.217	1.969	•	.0004-.0020
PICCO R 020.0300-35	.79	.118	1.378	.315	.217	2.165	•	.0004-.0020
PICCO R 020.0300-40	.79	.118	1.575	.315	.217	2.362	•	.0004-.0020
PICCO R 020.0400-25	.79	.157	.984	.315	.236	1.772	•	.0004-.0024
PICCO R 020.0400-30	.79	.157	1.181	.315	.236	1.969	•	.0004-.0024
PICCO R 020.0400-35	.79	.157	1.378	.315	.236	2.165	•	.0004-.0020
PICCO R 020.0400-40	.79	.157	1.575	.315	.236	2.362	•	.0004-.0020
PICCO R 020.0500-20	.79	.197	.787	.315	.256	1.575	•	.0010-.0024
PICCO R 020.0500-25	.79	.197	.984	.315	.256	1.772	•	.0010-.0024
PICCO R 020.0500-30	.79	.197	1.181	.315	.256	1.969	•	.0010-.0024
PICCO R 020.0500-35	.79	.197	1.378	.315	.256	2.165	•	.0010-.0020
PICCO R 020.0500-40	.79	.197	1.575	.315	.256	2.362	•	.0010-.0020

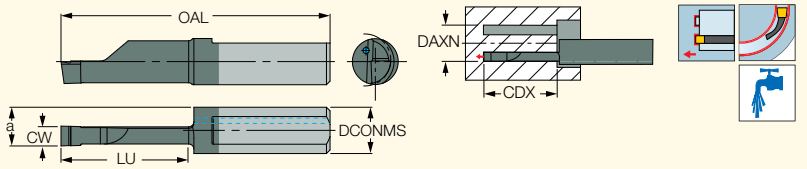
• All inserts have two coolant holes which may be used with coolant pressure up to 1450 PSI • For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

(2) Minimum overhang

JETCUT PICCOCUT

PICCO-015-N
(Face Grooving)
Inserts with Internal Coolant Channel for Deep Face Grooving



M E T R I C

Designation	Dimensions DAXN(1)	CW	LU	DCONMS	a	OAL	IC908	Recommended Machining Data f face-groove (mm/rev)
PICCO R 015.2515-20N	8.0	2.50	19.00	7.05	5.90	41.00	●	0.01-0.04
PICCO R 015.3015-20N	8.0	3.00	19.00	7.05	5.90	41.00	●	0.02-0.05
PICCO R 015.3015-30N	8.0	3.00	29.00	7.05	5.90	51.00	●	0.01-0.04

I N C H

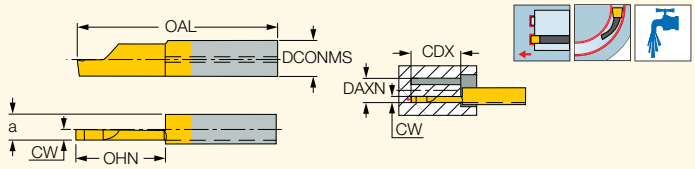
Designation	Dimensions DAXN(1)	CW	LU	DCONMS	a	OAL	IC908	Recommended Machining Data f face-groove (IPR)
PICCO R 015.2515-20N	.31	.098	.7480	.278	.232	1.614	●	.0004-.0016
PICCO R 015.3015-20N	.31	.118	.7480	.278	.232	1.614	●	.0008-.0020
PICCO R 015.3015-30N	.31	.118	1.1417	.278	.232	2.008	●	.0004-.0016

- Only right-hand inserts are available as standard, left-hand inserts on request • All inserts are with sharp corners
- Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only • For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter

PICCOCUT

PICCO-015 (Face Grooving)
Inserts for Deep Face Grooving



Right-hand shown

M E T R I C

Designation	Dimensions DAXN(1)	CW	OHN(2)	DCONMS	a	OAL	CDX	IC228	Recommended Machining Data f face-groove (mm/rev)
PICCO R 015.2515-20	8.0	2.50	20.00	7.00	5.90	35.00	20.00	•	0.01-0.04
PICCO R/L 015.3015-20	8.0	3.00	20.00	7.00	5.90	35.00	20.00	•	0.02-0.05
PICCO R 015.3015-30	8.0	3.00	30.00	7.00	5.90	45.00	30.00	•	0.01-0.04

I N C H

Designation	Dimensions DAXN(1)	CW	OHN(2)	DCONMS	a	OAL	CDX	IC228	Recommended Machining Data f face-groove (IPR)
PICCO R 015.2515-20	.31	.098	.787	.276	.232	1.378	.787	•	.0004-.0016
PICCO R/L 015.3015-20	.31	.118	.787	.276	.232	1.378	.787	•	.0008-.0020
PICCO R 015.3015-30	.31	.118	1.181	.276	.232	1.772	1.181	•	.0004-.0016

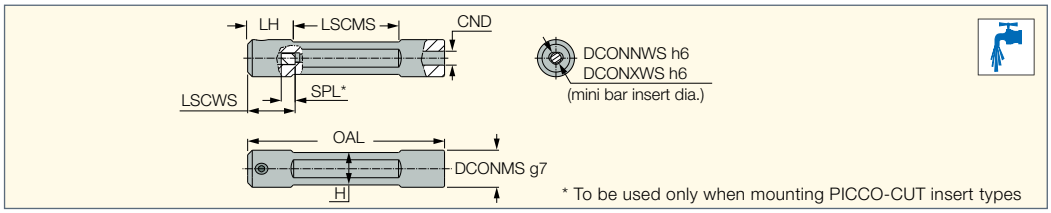
- Only right-hand inserts are available as standard, left-hand inserts on request
- All inserts are with sharp corners
- For detailed cutting data, see pages 162-164

(1) Minimum axial grooving diameter
(2) Minimum overhang

NEOPASS
PICCO LINES HOLDER

PICMU

Holders with Improved Cooling Supply Suitable for Mounting PICCO-CUT, PICCO-JET Inserts and PICCO-INDEX Tools.



* To be used only when mounting PICCO-CUT insert types

METRIC										
Designation	**DCONMS**	**DCONNWS(1)**	**DCONXWS(2)**	**OAL**	**LH**	**LSCMS**	**H**	**LSCWS**	**CND**	**SPL(3)**
PICMU 12-4	12.00	4.00	4.05	85.00	19.7	45.60	11.0	19.00	5.00	6.00
PICMU 12-5	12.00	5.00	5.05	85.00	19.7	45.60	11.0	20.50	6.00	6.00
PICMU 16-4	16.00	4.00	4.05	85.00	19.7	45.60	14.0	19.00	5.00	6.00
PICMU 16-5	16.00	5.00	5.05	85.00	19.7	45.60	14.0	20.50	6.00	6.00
PICMU 16-6	16.00	6.00	6.05	85.00	19.7	45.60	14.0	20.50	6.00	6.00
PICMU 16-7	16.00	7.00	7.05	85.00	19.7	45.60	14.0	20.80	8.00	7.00
PICMU 20-4	20.00	4.00	4.05	85.00	19.7	45.60	18.0	19.00	5.00	6.00
PICMU 20-5	20.00	5.00	5.05	85.00	19.7	45.60	18.0	20.50	6.00	6.00
PICMU 20-6	20.00	6.00	6.05	85.00	19.7	45.60	18.0	20.50	6.00	6.00
PICMU 20-7	20.00	7.00	7.05	85.00	19.7	45.60	18.0	20.80	8.00	7.00
PICMU 20-8	20.00	8.00	8.00	85.00	19.7	45.60	18.0	20.00	8.00	-
PICMU 22-4	22.00	4.00	4.05	85.00	19.7	45.60	20.0	19.00	5.00	6.00
PICMU 22-5	22.00	5.00	5.05	85.00	19.7	45.60	20.0	20.50	6.00	6.00
PICMU 22-6	22.00	6.00	6.05	85.00	19.7	45.60	20.0	20.50	6.00	6.00
PICMU 22-7	22.00	7.00	7.05	85.00	19.7	45.60	20.0	20.80	8.00	7.00

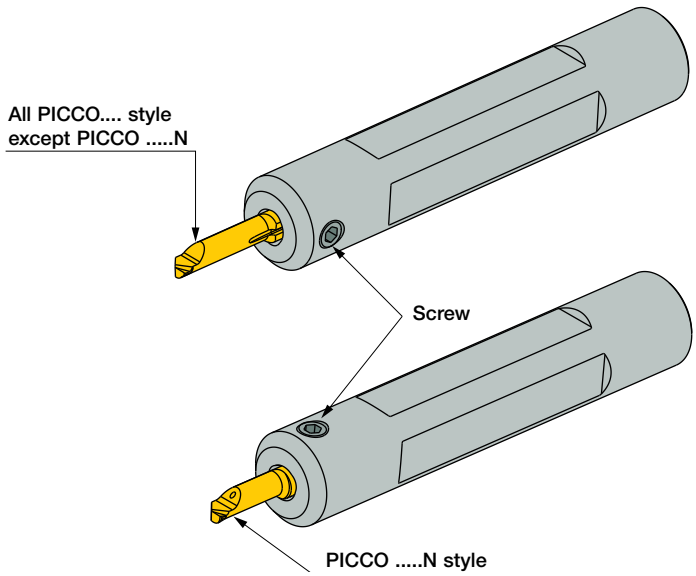
INCH										
Designation	**DCONMS**	**DCONNWS(1)**	**DCONXWS(2)**	**OAL**	**LH**	**LSCMS**	**H**	**LSCWS**	**CND**	**SPL(3)**
PICMU 12.7-4	.500	.158	.160	3.346	.776	1.795	.433	.7480	.197	.2363
PICMU 12.7-5	.500	.197	.199	3.346	.776	1.795	.433	.8070	.236	.2363
PICMU 15.9-4	.625	.158	.160	3.346	.776	1.795	.551	.7480	.197	.2363
PICMU 15.9-5	.625	.197	.199	3.346	.776	1.795	.551	.8070	.236	.2363
PICMU 15.9-6	.625	.236	.238	3.346	.776	1.795	.551	.8070	.236	.2363
PICMU 15.9-7	.625	.276	.278	3.346	.776	1.795	.551	.8190	.315	.2756
PICMU 19-4	.750	.158	.160	3.346	.776	1.795	.709	.7480	.197	.2363
PICMU 19-5	.750	.197	.199	3.346	.776	1.795	.709	.8070	.236	.2363
PICMU 19-6	.750	.236	.238	3.346	.776	1.795	.709	.8070	.236	.2363
PICMU 19-7	.750	.276	.278	3.346	.776	1.795	.709	.8190	.315	.2756
PICMU 25.4-4	1.000	.158	.160	3.346	.776	1.795	.787	.7480	.197	.2363
PICMU 25.4-5	1.000	.197	.199	3.346	.776	1.795	.787	.8070	.236	.2363
PICMU 25.4-6	1.000	.236	.238	3.346	.776	1.795	.787	.8070	.236	.2363
PICMU 25.4-7	1.000	.276	.278	3.346	.776	1.795	.787	.8190	.315	.2756

- Holders are suitable for right- and left-hand inserts, and boring bars

(1) Minimum diameter
(2) Maximum diameter
(3) Spacer length

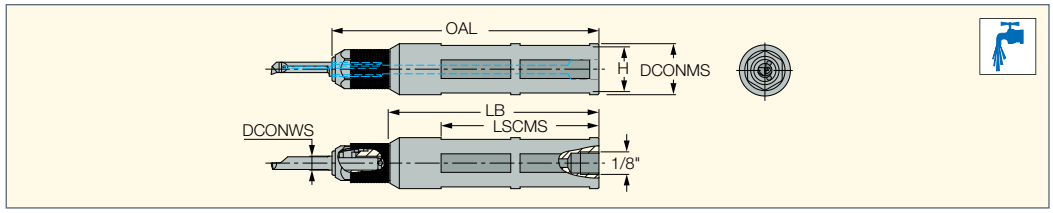
Spare Parts

Designation				
PICMU 12-4	SPACER D3.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 12-5	SPACER D4.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 16-4	SPACER D3.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 16-5	SPACER D4.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 16-6	SPACER D5.7X6	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5
PICMU 16-7	SPACER D6.7X7	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5
PICMU 20-4	SPACER D3.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 20-5	SPACER D4.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 20-6	SPACER D5.7X6	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5
PICMU 20-7	SPACER D6.7X7	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5
PICMU 20-8		SR M8X0.5X6.5-PF	HW 4.0	PL 16 M6-D5
PICMU 22-4	SPACER D3.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 22-5	SPACER D4.7X6	SR M5X0.5X6-PF	HW 2.5	PL 16 M6-D5
PICMU 22-6	SPACER D5.7X6	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5
PICMU 22-7	SPACER D6.7X7	SR M6X0.5X6 PF	HW 3.0	PL 16 M6-D5



ACEJET JETPICCO HOLDER

PICCO ACE-N
Holders for PICCO-JET Inserts
with Internal Coolant Channels



M E T R I C						
Designation	**DCONMS**	**DCONWS**	**OAL**	**LSCMS**	**LB**	**H**
PICCO ACE 16-4N	16.00	4.05	115.00	68.00	90.00	14.0
PICCO ACE 16-5N	16.00	5.05	115.00	68.00	90.00	14.0
PICCO ACE 16-6N	16.00	6.05	115.00	68.00	90.00	14.0
PICCO ACE 16-7N	16.00	7.05	115.00	68.00	90.00	14.0
PICCO ACE 20-4N	20.00	4.05	115.00	68.00	90.00	18.0
PICCO ACE 20-5N	20.00	5.05	115.00	68.00	90.00	18.0
PICCO ACE 20-6N	20.00	6.05	115.00	68.00	90.00	18.0
PICCO ACE 20-7N	20.00	7.05	115.00	68.00	90.00	18.0
PICCO ACE 22-4N	22.00	4.05	115.00	68.00	90.00	20.0
PICCO ACE 22-6N	22.00	6.05	115.00	68.00	90.00	20.0
PICCO ACE 25-4N	25.00	4.05	115.00	68.00	90.00	23.0
PICCO ACE 25-5N	25.00	5.05	115.00	68.00	90.00	23.0
PICCO ACE 25-6N	25.00	6.05	115.00	68.00	90.00	23.0
PICCO ACE 25-7N	25.00	7.05	115.00	68.00	90.00	23.0

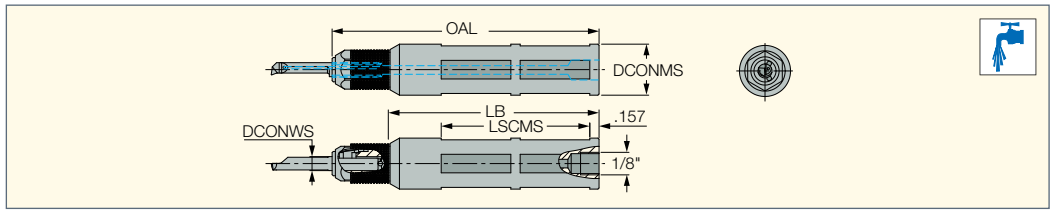
- Holders are suitable for right and left-hand PICCO...-N type solid tools only

Spare Parts

Designation			
PICCO ACE 16-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 16-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 16-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 16-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 20-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 20-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 20-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 20-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 22-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 22-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 25-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 25-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 25-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 25-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6

ACEJET JETPICCO HOLDER

PICCO ACE-N
Holders for PICCO-JET Inserts
with Internal Coolant Channels



I N C H					
Designation	**DCONMS**	**DCONWS**	**OAL**	**LSCMS**	**LB**
PICCO ACE 15.9-7N	.625	.278	4.528	2.520	3.543
PICCO ACE 19-4N	.750	.159	4.528	2.520	3.543
PICCO ACE 19-5N	.750	.199	4.528	2.520	3.543
PICCO ACE 19-6N	.750	.238	4.528	2.520	3.543
PICCO ACE 19-7N	.750	.278	4.528	2.520	3.543
PICCO ACE 25.4-6N	1.000	.238	4.528	2.520	3.543
PICCO ACE 25.4-7N	1.000	.278	4.528	2.520	3.543

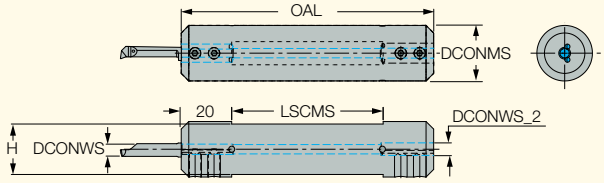
- Holders are suitable for right and left-hand PICCO...-N type solid tools only

Spare Parts

Designation			
PICCO ACE 15.9-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 19-4N	UM600H.K	UM600H.M4	PIN 2X10 DIN6325
PICCO ACE 19-5N	UM600H.K	UM600H.M5	PIN 2X10 DIN6325
PICCO ACE 19-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 19-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6
PICCO ACE 25.4-6N	UM600H.K	UM600H.M6	ZAD 2X12 DIN 6325 m6
PICCO ACE 25.4-7N	UM600H.K	UM600H.M7	ZAD 2X12 DIN 6325 m6

PASSJET JETPICCO HOLDER

PICCO-N (Holder)
Holders for PICCO-JET Inserts
with Internal Coolant Channels



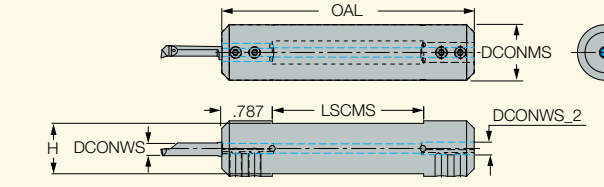
M E T R I C

Designation	DCONMS	DCONWS	DCONWS_2	OAL	LSCMS	H	
PICCO 16-4-5N	16.00	4.05	5.05	85.00	45.00	14.0	SR M5X0.5X6 T10
PICCO 20-4-5N	20.00	4.05	5.05	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 22-4-5N	22.00	4.05	5.05	100.00	60.00	20.0	SR M5X0.5X8 T10
PICCO 16-6-7N	16.00	6.05	7.05	85.00	45.00	14.0	SR M5X0.5X6 T10
PICCO 16-6-8N	16.00	6.05	8.00	85.00	45.00	14.0	SR M5X0.5X6 T10
PICCO 20-6-7N	20.00	6.05	7.05	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 20-6-8N	20.00	6.05	8.00	100.00	60.00	18.0	SR M5X0.5X8 T10
PICCO 22-6-7N	22.00	6.05	7.05	100.00	60.00	20.0	SR M5X0.5X8 T10

- Holders are suitable for right- and left-hand inserts, and boring bars

PASSJET JETPICCO HOLDER

PICCO-N (Holder)
Holders for PICCO-JET Inserts
with Internal Coolant Channels



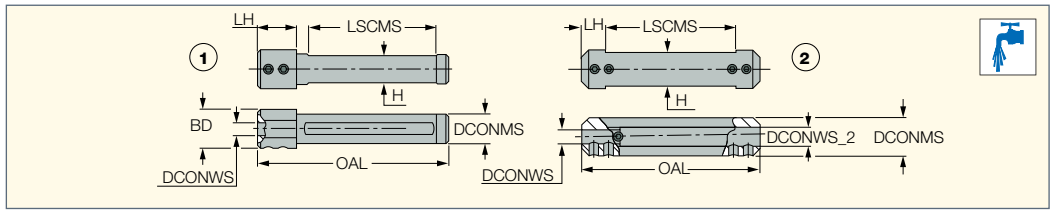
I N C H

Designation	DCONMS	DCONWS	DCONWS_2	OAL	LSCMS	H	
PICCO 19-4-5N	.750	.159	.199	3.937	2.362	.677	SR M5X0.5X6 T10
PICCO 25.4-4-5N	1.000	.159	.199	4.134	2.559	.921	SR M5X0.5X10 T10
PICCO 16-6-8N	.630	.238	.315	3.346	1.772	.551	SR M5X0.5X6 T10
PICCO 19-6-7N	.750	.238	.278	3.937	2.362	.677	SR M5X0.5X6 T10
PICCO 20-6-8N	.787	.238	.315	3.937	2.362	.709	SR M5X0.5X8 T10
PICCO 25.4-6-7N	1.000	.238	.278	4.134	2.559	.921	SR M5X0.5X10 T10

- Holders are suitable for left- and right-hand inserts, and boring bars

PASSCUT PICCOCUT HOLDER

PICCO/MG PCO (Holder)
Holders for PICCO-CUT Inserts
and Small Diameter Boring Bars

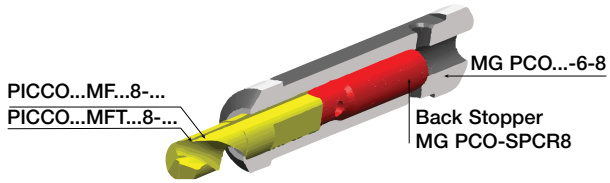


M E T R I C													
Designation	DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	H	BD	Fig.				
PICCO 12-4-5	12.00	4.00	5.00	75.00	10.00	55.00	10.3	-	2	SR M5X4-PF	HW 2.5		
PICCO 16-4-5	16.00	4.00	5.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 20-4-5	20.00	4.00	5.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 22-4-5 (1)	22.00	4.00	5.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 16-6-7	16.00	6.00	7.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 20-6-7	20.00	6.00	7.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		
PICCO 22-6-7 (1)	22.00	6.00	7.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		
MG PCO-12-6	12.00	6.00	-	75.00	15.00	50.80	11.0	18.00	1	SR M5X6-PF	HW 2.5		
MG PCO-16-6-8	16.00	6.00	8.00	75.00	10.00	55.00	14.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-20-6-8	20.00	6.00	8.00	90.00	10.00	70.00	18.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-22-6-8 (1)	22.00	6.00	8.00	90.00	10.00	70.00	20.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-25-6-8	25.00	6.00	8.00	90.00	10.00	70.00	23.0	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-16-9	16.00	9.00	-	75.00	15.00	53.00	15.0	20.00	1	SR M5X6-PF	HW 2.5	PL 16	

I N C H													
Designation	DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	H	BD	Fig.				
PICCO 12.7-4-5	.500	.157	.197	2.950	.394	2.170	.410	-	2	SR M5X4-PF	HW 2.5		
PICCO 15.9-4-5	.625	.157	.197	2.950	.394	2.170	.550	-	2	SR M5X6-PF	HW 2.5		
PICCO 19-4-5	.750	.157	.197	3.540	.394	2.760	.710	-	2	SR M5X6-PF	HW 2.5		
PICCO 25.4-4-5 (1)	1.000	.157	.197	3.543	.394	2.756	.921	-	2	SR M5X6-PF	HW 2.5		
PICCO 15.9-6-7	.625	.236	.276	2.950	.394	2.170	.550	-	2	SR M5X6-PF	HW 2.5		
PICCO 19-6-7	.750	.236	.276	3.540	.394	2.760	.710	-	2	SR M5X6-PF	HW 2.5		
PICCO 25.4-6-7 (1)	1.000	.236	.276	3.543	.394	2.756	.921	-	2	SR M5X6-PF	HW 2.5		
MG PCO-12.7-6	.500	.236	-	3.000	.590	2.090	.460	.709	1	SR M5X6-PF	HW 2.5		
MG PCO-15.9-6-8	.625	.236	.315	3.000	.390	2.170	.551	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-19-6-8	.750	.236	.315	3.500	.390	2.760	.709	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-25.4-6-8 (1)	1.000	.236	.315	3.543	.394	2.756	.921	-	2	SR M5X6-PF	HW 2.5		MG PCO-SPCR8
MG PCO-16-9	.630	.354	-	2.953	.591	2.087	.591	.787	1	SR M5X6-PF	HW 2.5	PL 16	

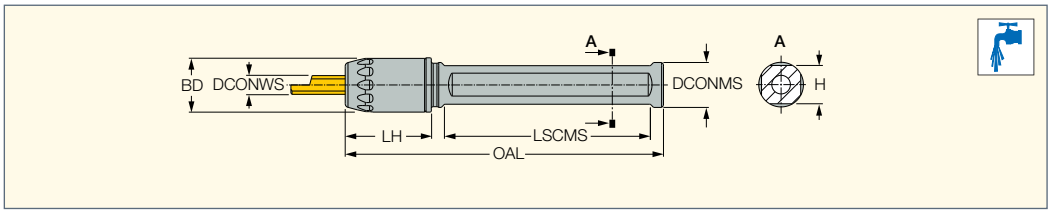
- Holders are suitable for right- and left-hand inserts, and boring bars

(1) Tools for Swiss-type CNC



ACECUT PICCOCUT HOLDER

PICCO ACE
Holders for PICCO-CUT Inserts



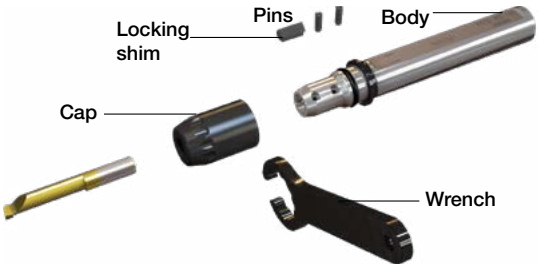
M E T R I C

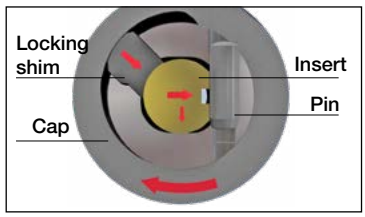
Designation	DCONMS	DCONWS	BD	OAL	LH	LSCMS	H		
PICCO ACE 12-4	12.00	4.00	14.50	85.00	23.00	53.00	10.3	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 12-5	12.00	5.00	14.50	85.00	23.00	53.00	10.3	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-4	16.00	4.00	14.50	85.00	21.50	53.50	14.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-5	16.00	5.00	14.50	85.00	21.50	53.00	14.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 16-6	16.00	6.00	19.90	85.00	23.00	53.50	14.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 16-7	16.00	7.00	19.90	85.00	23.00	53.50	14.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 20-4	20.00	4.00	14.50	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 20-5	20.00	5.00	14.50	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 20-6	20.00	6.00	19.90	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 20-7	20.00	7.00	19.90	150.00	21.50	118.00	18.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 22-4	22.00	4.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 22-5	22.00	5.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 22-6	22.00	6.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 22-7	22.00	7.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25-4	25.00	4.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25-5	25.00	5.00	14.50	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25-6	25.00	6.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25-7	25.00	7.00	19.90	150.00	21.50	118.00	20.0	PL 16 M6-D5	WRENCH ACE 6-7

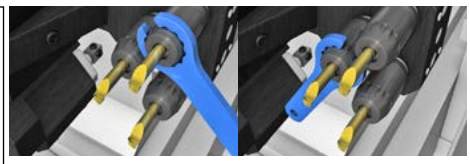
I N C H

Designation	DCONMS	DCONWS	BD	OAL	LH	LSCMS	H		
PICCO ACE 12.7-4	.500	.157	.571	3.346	.906	2.087	.457	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 12.7-5	.500	.197	.571	3.346	.906	2.087	.457	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 15.9-4	.625	.157	.571	3.346	.846	2.087	.551	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 15.9-5	.625	.197	.571	3.346	.846	2.087	.551	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 15.9-6	.625	.236	.783	3.346	.906	2.087	.551	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 15.9-7	.625	.276	.783	3.346	.906	2.087	.551	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 19-4	.750	.157	.571	5.906	.846	4.646	.677	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 19-5	.750	.197	.571	5.906	.846	4.646	.677	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 19-6	.750	.236	.783	5.906	.906	4.646	.677	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 19-7	.750	.276	.783	5.906	.906	4.646	.677	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25.4-4	1.000	.157	.571	5.906	.846	4.646	.905	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25.4-5	1.000	.197	.571	5.906	.846	4.646	.905	PL 16 M6-D5	WRENCH ACE 4-5
PICCO ACE 25.4-6	1.000	.236	.783	5.906	.846	4.646	.905	PL 16 M6-D5	WRENCH ACE 6-7
PICCO ACE 25.4-7	1.000	.276	.783	5.906	.846	4.646	.905	PL 16 M6-D5	WRENCH ACE 6-7

- Holders are suitable for right- and left-hand PICCO inserts

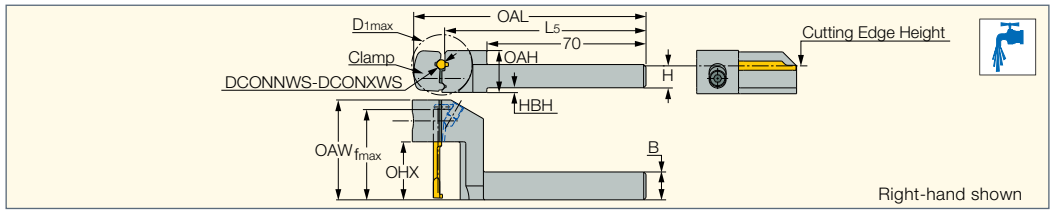






PICCOCUT

GHPCOR
Perpendicular Square-Shank Tools for Use on Cross Slide Units of Swiss-Type and Automatic Machines

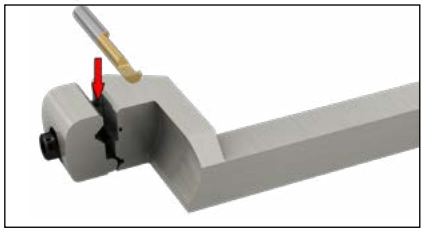


	M E T R I C											
Designation	**H**	**B**	**OAL**	**L5**	**HBH**	**OAH**	**OAW**	**D1 max**	**OHX(1)**	**fmax**	**DCONNWS(2)**	**DCONXWS(3)**
GHPCOR 08-16-4-5	8.0	8.0	102.00	88.00	4.0	15.0	34.00	26.0	16.00	30.0	4.00	5.00
GHPCOR 10-16-4-5	10.0	10.0	102.00	88.00	2.0	18.0	34.00	26.0	16.00	30.0	4.00	5.00
GHPCOR 12-16-4-6	12.0	12.0	102.00	88.00	-	18.0	34.00	26.0	16.00	30.0	4.00	6.00
GHPCOR 12-25-4-6	12.0	12.0	102.00	88.00	-	18.0	43.00	26.0	25.00	39.0	4.00	6.00
GHPCOR 16-16-4-6	16.0	16.0	112.00	98.00	-	22.0	35.00	36.0	16.00	31.0	4.00	6.00
GHPCOR 16-25-4-6	16.0	16.0	112.00	98.00	-	22.0	44.00	36.0	25.00	40.0	4.00	6.00
GHPCOR 16-30-7-8	16.0	16.0	116.00	98.00	-	22.0	49.00	36.0	30.00	45.0	7.00	8.00

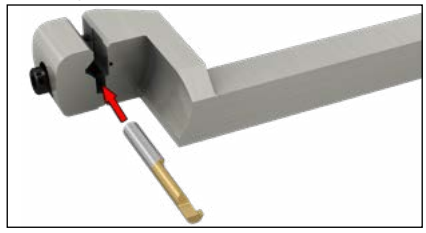
• PICCOCUT insert should not exceed OAW • Left-hand holders are available upon request • Coolant tube adapter: KQ2L06-M5 (for 6 mm coolant tube)

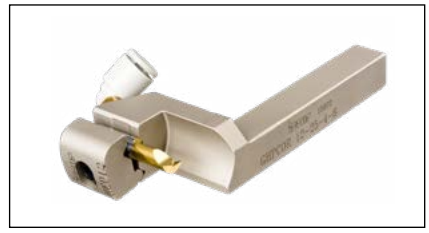
(1) Maximum overhang
(2) Minimum diameter
(3) Maximum diameter

Indexing from the top



Indexing from the front



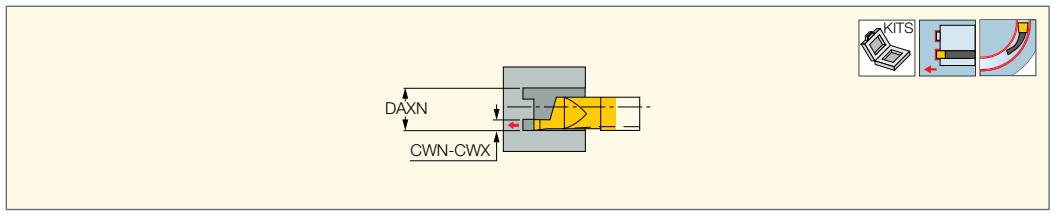


Spare Parts

Designation				
GHPCOR 08-16-4-5	HED 08	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 10-16-4-5	HED 10	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 12-16-4-6	HED 12	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 12-25-4-6	HED 12	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 16-16-4-6	HED 16-4-6	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 16-25-4-6	HED 16-4-6	SR M4X14 DIN912	HW 3.0	KQ2L06-M5
GHPCOR 16-30-7-8	HED 16-7-8	SR M4X14 DIN912	HW 3.0	

PICCOCUT

KIT PICCO Face
Contains One Toolholder and a Set of Solid Carbide Miniature Face Turning and Grooving Boring Bars



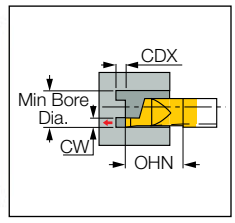
	M E T R I C		
Designation	**DAXN(1)**	**CWN(2)**	**CWX(3)**
KIT PICCO SET-4R	8.0	1.00	3.00

(1) Minimum axial grooving diameter
(2) Minimum cutting width
(3) Maximum cutting width

PICCO
Face Grooving PICCO Mini-Bar Tool Set - 4R

Designation	Mini Bore Dia.	OHN	CDX	CW	Pcs.	Designation
PICCO 16.D6					1x	Holder
PICCO R/L 010.1008-10	8.0	11	1.5	1.0	1x	Mini Carbide Bar
PICCO R/L 010.1508-10	8.0	11	2.5	1.5	1x	Mini Carbide Bar
PICCO R/L 010.2008-10	8.0	11	3.0	2.0	1x	Mini Carbide Bar
PICCO R/L 010.2508-20	8.0	21	3.5	2.5	1x	Mini Carbide Bar
PICCO R/L 010.3008-20	8.0	21	3.5	3.0	1x	Mini Carbide Bar

Available grade: IC228

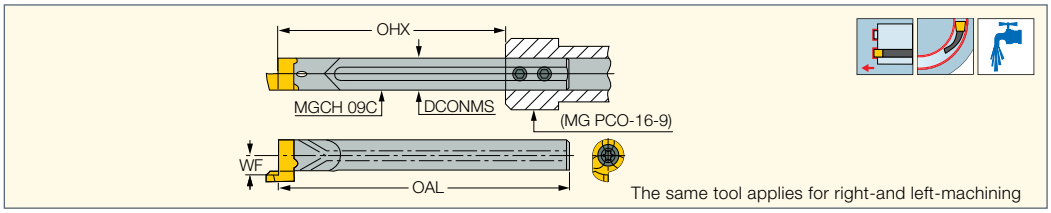


ISCAR

CHAMGROOVE

CHAMGROOVE

MGCH-C (face)
Face Machining Tools Carrying GFQR Inserts for Dmin 12 - Dmax 19 mm Penetration Range



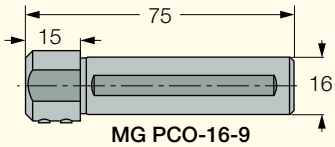
M E T R I C

Designation	DCONMS	OAL	OHX(1)	WF		
MGCH 09C	9.00	83.50	65.0	5.50	SR 76-2145	T-15/5

(1) Maximum overhang
For inserts, see pages: GFQR (30)
For holders, see pages: PICCO/MG PCO (Holder) (26)

MG PCO

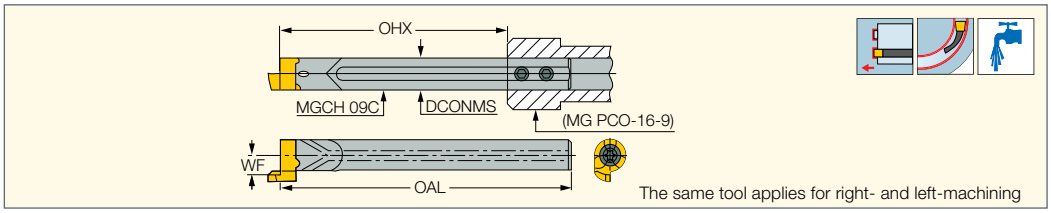
Holder Bar for Adjustable Shank



MG PCO-16-9

CHAMGROOVE

MGCH-C (face)
Face Machining Tools Carrying GFQR Inserts for Dmin .472 - Dmax .748" Penetration Range



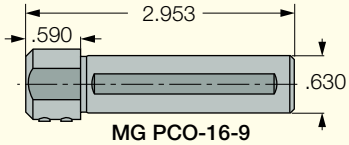
I N C H

Designation	DCONMS	OAL	OHX(1)	WF		
MGCH 09C	.354	3.287	2.559	.217	SR 76-2145	T-15/5

(1) Maximum overhang
For inserts, see pages: GFQR (30)
For holders, see pages: PICCO/MG PCO (Holder) (26)

MG PCO

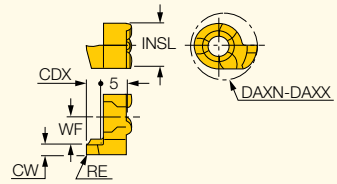
Holder Bar for Adjustable Shank

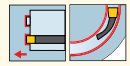


MG PCO-16-9

CHAMGROOVE

GFQR
Face Grooving Inserts





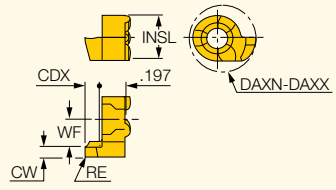
M E T R I C

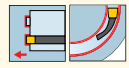
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	CDX	DAXN(3)	DAXX(4)	IC528	Recommended Machining Data f face-groove (mm/rev)
GFQR 12-1.00-0.05	1.00	0.05	0.02	0.030	1.50	12.0	16.0	●	0.01-0.04
GFQR 12-1.50-0.20	1.50	0.20	0.02	0.030	2.50	12.0	17.0	●	0.01-0.04
GFQR 12-2.00-0.20	2.00	0.20	0.02	0.030	3.00	12.4	18.0	●	0.02-0.05
GFQR 12-2.50-0.20	2.50	0.20	0.02	0.030	3.00	13.0	19.0	●	0.02-0.05

• For detailed cutting data, see pages 162-164
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum penetration diameter
(4) Maximum penetration diameter

CHAMGROOVE

GFQR
Face Grooving Inserts





I N C H

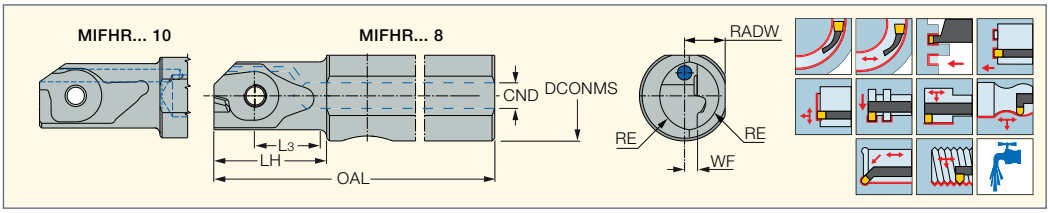
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	CDX	DAXN(3)	DAXX(4)	IC528	Recommended Machining Data f face-groove (IPR)
GFQR 12-1.00-0.05	.039	.0020	.0008	.0012	.059	.47	.63	●	.0004-.0016
GFQR 12-1.50-0.20	.059	.0079	.0008	.0012	.098	.47	.67	●	.0004-.0016
GFQR 12-2.00-0.20	.079	.0079	.0008	.0012	.118	.49	.71	●	.0008-.0020
GFQR 12-2.50-0.20	.098	.0079	.0008	.0012	.118	.51	.75	●	.0008-.0020

• For detailed cutting data, see pages 162-164
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum penetration diameter
(4) Maximum penetration diameter

MINCUT

MINCUT MINI FACE LINE

MIFHR
Bars for Face and Internal Grooving, Undercutting and Threading Inserts



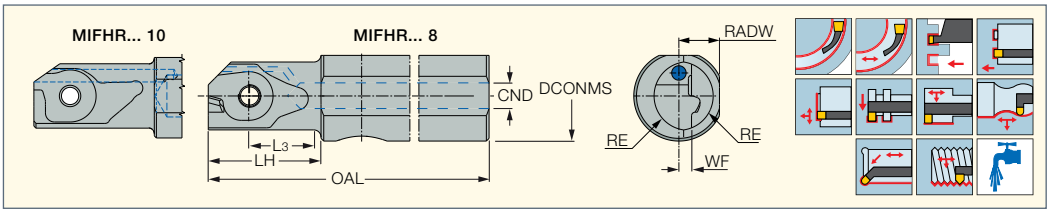
M E T R I C

Designation	DCONMS	CND	WF	RADW	OAL	L3	LH	RE	Insert			
MIFHR 8SC-8-SRK (1)	8.00	1.2	1.4	3.70	75.00	7.40	11.7	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 10C-8	10.00	5.0	1.4	4.50	102.50	7.40	12.5	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 12C-8	12.00	5.0	1.4	5.50	102.50	7.40	12.5	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 12C-10 (2)	12.00	6.0	2.4	5.50	90.00	11.20	17.2	4.60	MI.R 10	SR 34-506 M3X0.5	T-9/5	
MIFHR 16C-10 (2)	16.00	6.0	2.4	7.50	90.00	11.20	17.2	4.60	MI.R 10	SR 34-506 M3X0.5	T-9/5	
MIFHR 16C-15	16.00	8.0	2.7	7.50	100.00	12.50	19.0	10.30	MI.R 15	SR 34-506/L	T-9/5	PL 16
MIFHR 20C-15	20.00	8.5	4.7	9.00	100.00	12.50	19.0	11.30	MI.R 15	SR 34-506/L	T-9/5	PL 20

(1) Solid carbide shank
(2) Only face grooving inserts are available for this tool
For inserts, see pages: MEFL (35) • MIFR (34)
For holders, see pages: PICCO/MG PCO (Holder) (26)

MINCUT MINI FACE LINE

MIFHR
Bars for Face and Internal Grooving, Undercutting and Threading Inserts



I N C H

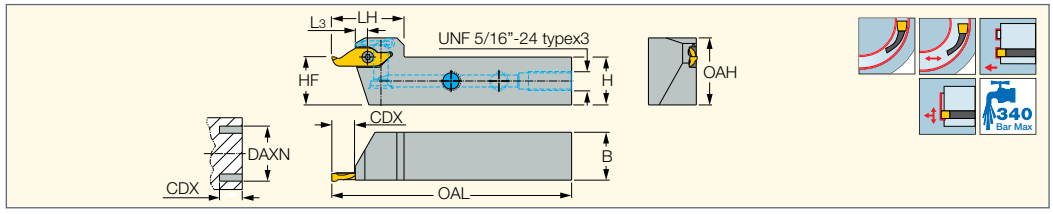
Designation	DCONMS	CND	WF	RADW	OAL	L3	LH	RE	Insert			
MIFHR 9.5C-8	.375	.196	.055	.169	4.030	.291	.492	.1490	MI.R 8	SR 14-297	T-8/5	
MIFHR 12.7C-8	.500	.196	.055	.230	4.030	.291	.492	.1490	MI.R 8	SR 14-297	T-8/5	
MIFHR 12.7C-10 (1)	.500	.236	.094	.230	3.543	.440	.677	.1810	MI.R 10	SR 34-506 M3X0.5	T-9/5	
MIFHR 15.9C-10 (1)	.625	.236	.094	.287	3.543	.440	.677	.1810	MI.R 10	SR 34-506 M3X0.5	T-9/5	
MIFHR 15.9C-15	.625	.315	.105	.295	3.937	.441	.748	.4010	MI.R 15	SR 34-506/L	T-9/5	PL 062
MIFHR 19C-15	.750	.335	.183	.354	3.937	.492	.748	.4450	MI.R 15	SR 34-506/L	T-9/5	PL 075

(1) Only face grooving inserts are available for this tool
For inserts, see pages: MEFL (35) • MIFR (34)

MINCUT MINI FACE LINE

MFHR-JHP

Square Shank Tools for MIFR 10 Face Grooving Inserts



M E T R I C												
Designation	H	B	OAL	LH	L3	CDX	DAXN(1)	OAH	HF	Insert			
MFHR 12C-10-JHP	12.0	12.0	100.00	27.0	5.20	9.00	10.0	20.0	12.0	MI.R 10	SR 34-506 M3X0.5	T-9/5	SR 5/16UNF TL360
MFHR 16C-10-JHP	16.0	16.0	100.00	27.0	5.20	9.00	10.0	24.0	16.0	MI.R 10	SR 34-506 M3X0.5	T-9/5	SR 5/16UNF TL360
MFHR 20C-10-JHP	20.0	20.0	100.00	30.0	5.20	9.00	10.0	28.0	20.0	MI.R 10	SR 34-506 M3X0.5	T-9/5	SR 5/16UNF TL360

• For DAXN, refer to insert data • For user guide and accessories, see pages 162-173

(1) Minimum axial grooving diameter

For inserts, see pages: MEFL (35) • MIFR (34)

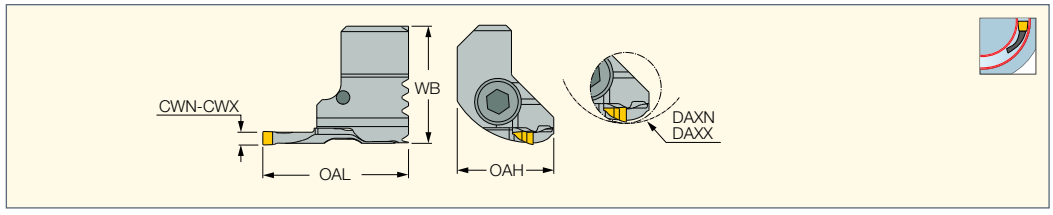
Flow Rate vs. Pressure

Designation	70 Bar Flow Rate (liters/min)	100 Bar Flow Rate (liters/min)	140 Bar Flow Rate (liters/min)
MFHR 12C-10-JHP	3	5-9	9-11
MFHR 16C-10-JHP	3	7-9	9-11

MINCUT MINI FACE LINE

IHSR-MIFR

Trepanning Cartridges Carrying MINCUT Inserts Mounted on the BHR MB32-32X63 Boring Head



M E T R I C										
Designation	DAXN(1)	DAXX(2)	CWN(3)	CWX(4)	OAL	WB	OAH	Insert		
IHSR 8-21 MIFR8	8.0	21.0	1.50	2.20	32.00	23.00	17.50	MI.R 8	SR 14-297	T-8/5
IHSR 19-34 MIFR10	19.0	34.0	2.00	3.00	27.00	22.00	17.80	MI.R 10	SR 34-506 M3X0.5	T-9/5

I N C H										
Designation	DAXN(1)	DAXX(2)	CWN(3)	CWX(4)	OAL	WB	OAH	Insert		
IHSR 8-21 MIFR8	.31	.83	.059	.087	1.260	.906	.690	MI.R 8	SR 14-297	T-8/5
IHSR 19-34 MIFR10	.75	1.34	.079	.118	1.063	.866	.700	MI.R 10	SR 34-506 M3X0.5	T-9/5

(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Minimum cutting width
(4) Maximum cutting width

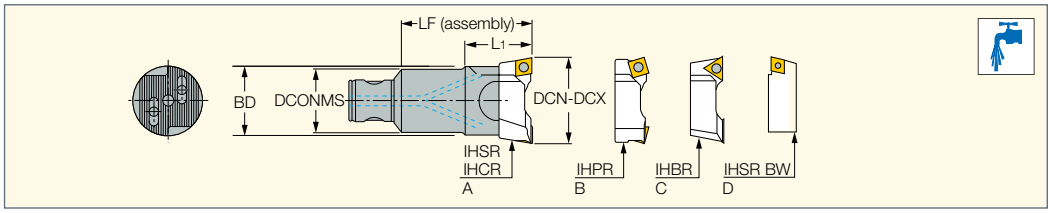
For inserts, see pages: MIFR (34)

For holders, see pages: BHR MB (33)

ITSBORE

BHR MB

Rough Boring Heads for
Diameter Range 18-200 mm



M E T R I C

Designation	BD	DCONMS	LF	DCN(1)	DCX(2)	L1	IH(3)	RPMX(4)	kg
BHR MB32-32X63	32.00	32.00	63.00	35.5	50.0	-	IH...36-50	10000	0.36

- Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

(1) Cutting diameter minimum
(2) Cutting diameter maximum
(3) Insert holders
(4) Maximum RPM

Spare Parts

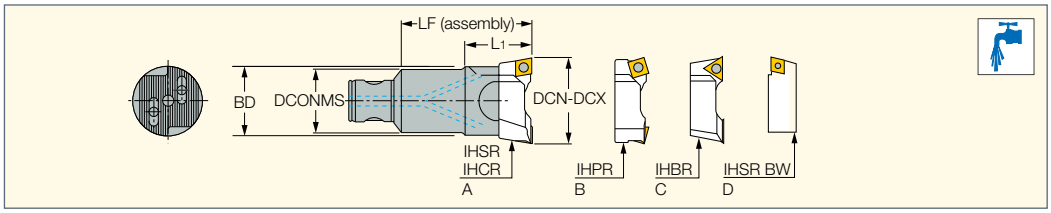
Designation				
BHR MB32-32X63	BH NUT BHR MB32	PLT 32*	SR M5X25DIN912	SR M4X12 DIN913

* Optional, should be ordered separately

ITSBORE

BHR MB

Rough Boring Heads for
Diameter Range .709-7.874"



I N C H

Designation	BD	DCONMS	LF	DCN(1)	DCX(2)	L1	IH(3)	RPMX(4)	Lbs
BHR MB32-32X63	1.260	1.260	2.480	1.398	1.968	-	IH...36-50	10000	.79

- Verify that the weight of the entire tool assembly does not exceed the machine spindle's carrying capability.

(1) Cutting diameter minimum
(2) Cutting diameter maximum
(3) Insert holders
(4) Maximum RPM

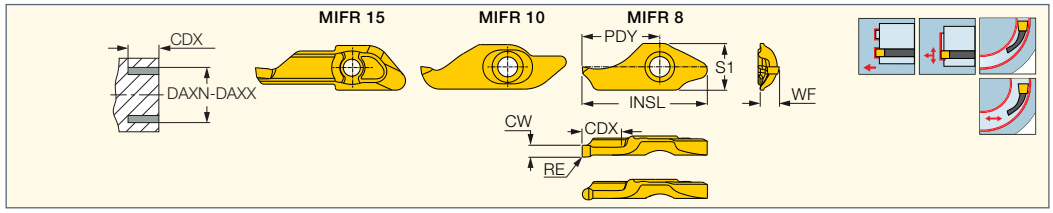
Spare Parts

Designation				
BHR MB32-32X63	BH NUT BHR MB32	PLT 32*	SR M5X25DIN912	SR M4X12 DIN913

MIN CUT MINI FACE LINE

MIFR

Screw-Clamped Inserts for Internal Face Grooving and Turning



M E T R I C

Designation	Dimensions											IC908	Recommended Machining Data	
	INSL	CW	CWTOL(1)	RE	RETOL(2)	WF	S1	DAXN(3)	DAXX(4)	CDX	PDY		f face-groove (mm/rev)	f face-turn (mm/rev)
MIFR 8-1.50-0.20	17.70	1.50	0.02	0.20	0.020	2.60	6.5	8.0	11.5	5.50	11.00	●	0.02-0.10	0.02-0.06
MIFR 8-1.60-0.80	17.70	1.60	0.02	0.80	0.020	2.60	6.5	8.0	12.1	5.50	11.00	●	0.02-0.10	0.02-0.06
MIFR 8-2.00-0.20	17.70	2.00	0.02	0.20	0.020	2.80	6.5	8.0	16.0	5.50	11.00	●	0.02-0.10	0.02-0.06
MIFR 8-2.20-0.20	17.70	2.20	0.02	0.20	0.020	2.90	6.5	8.0	21.0	5.50	11.00	●	0.02-0.10	0.02-0.06
MIFR 10-2.00-0.20	25.10	2.00	0.02	0.20	0.020	3.00	7.6	10.0	-	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 10-2.00-1.00	25.10	2.00	0.02	1.00	0.020	3.00	7.6	10.0	-	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 10-2.50-0.20	25.10	2.50	0.02	0.20	0.020	3.10	7.6	10.0	30.0	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 10-2.50-1.25	25.10	2.50	0.02	1.25	0.020	3.30	7.6	10.0	-	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 10-3.00-0.20	25.10	3.00	0.02	0.20	0.020	3.40	7.6	10.0	30.0	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 10-3.00-1.50	25.10	3.00	0.02	1.50	0.020	3.30	7.6	10.0	34.0	9.00	14.80	●	0.02-0.10	0.02-0.06
MIFR 15-2.50-0.20	30.00	2.50	0.02	0.20	0.020	5.55	9.0	15.0	60.0	15.00	19.30	●	0.03-0.05	0.03-0.04
MIFR 15-2.50-1.25	30.00	2.50	0.02	1.25	0.020	5.55	9.0	12.0	47.0	15.00	19.30	●	0.03-0.05	0.03-0.04
MIFR 15-3.00-0.20	30.00	3.00	0.02	0.20	0.020	5.85	9.0	15.0	60.0	15.00	19.30	●	0.03-0.05	0.03-0.04
MIFR 15-3.00-1.50	30.00	3.00	0.02	1.50	0.020	5.85	9.0	10.0	-	15.00	19.30	●	0.03-0.05	0.03-0.04
MIFR 15-3.50-0.20	30.00	3.50	0.02	0.20	0.020	6.00	9.0	10.0	-	15.00	19.30	●	0.03-0.05	0.03-0.04

I N C H

Designation	Dimensions											IC908	Recommended Machining Data	
	INSL	CW	CWTOL(1)	RE	RETOL(2)	WF	S1	DAXN(3)	DAXX(4)	CDX	PDY		f face-groove (IPR)	f face-turn (IPR)
MIFR 8-1.50-0.20	.697	.059	.0008	.0079	.0008	.102	.256	.31	.45	.217	.433	●	.0008-.0039	.0008-.0024
MIFR 8-1.60-0.80	.697	.063	.0008	.0315	.0008	.102	.256	.31	.48	.217	.433	●	.0008-.0039	.0008-.0024
MIFR 8-2.00-0.20	.697	.079	.0008	.0079	.0008	.110	.256	.31	.63	.217	.433	●	.0008-.0039	.0008-.0024
MIFR 8-2.20-0.20	.697	.087	.0008	.0079	.0008	.114	.256	.31	.83	.217	.433	●	.0008-.0039	.0008-.0024
MIFR 10-2.00-0.20	.988	.079	.0008	.0079	.0008	.118	.299	.39	-	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 10-2.00-1.00	.988	.079	.0008	.0394	.0008	.118	.299	.39	-	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 10-2.50-0.20	.988	.098	.0008	.0079	.0008	.122	.299	.39	1.18	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 10-2.50-1.25	.988	.098	.0008	.0492	.0008	.130	.299	.39	-	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 10-3.00-0.20	.988	.118	.0008	.0079	.0008	.134	.299	.39	1.18	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 10-3.00-1.50	.988	.118	.0008	.0590	.0008	.130	.299	.39	1.34	.354	.583	●	.0008-.0039	.0008-.0024
MIFR 15-2.50-0.20	1.181	.098	.0008	.0079	.0008	.219	.354	.59	2.36	.591	.760	●	.0012-.0020	.0012-.0016
MIFR 15-2.50-1.25	1.181	.098	.0008	.0492	.0008	.219	.354	.47	1.85	.591	.760	●	.0012-.0020	.0012-.0016
MIFR 15-3.00-0.20	1.181	.118	.0008	.0079	.0008	.230	.354	.59	2.36	.591	.760	●	.0012-.0020	.0012-.0016
MIFR 15-3.00-1.50	1.181	.118	.0008	.0590	.0008	.230	.354	.39	-	.591	.760	●	.0012-.0020	.0012-.0016
MIFR 15-3.50-0.20	1.181	.138	.0008	.0079	.0008	.236	.354	.39	-	.591	.760	●	.0012-.0020	.0012-.0016

- Recommended cutting speeds and feeds can increased by 20-30% for aluminum, and reduced by 20-30% for titanium and Inconel
- For cutting speed recommendations, see pages 162-164

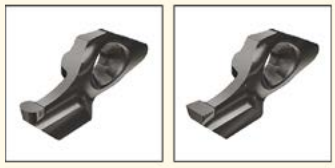
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

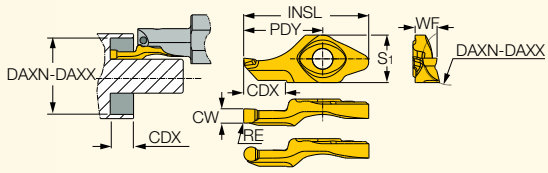
For tools, see pages: IHSR-MIFR (32) • MFHR-JHP (32) • MIFHR (31)

MIN CUT
MINI FACE LINE

MEFL

Screw-Clamped Inserts for External Face Grooving and Turning Next to Shafts





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	WF	S1	CDX	PDY	INSL	DAXN(3)	DAXX(4)	IC908	Recommended Machining Data f face-groove (mm/rev)	f face-turn (mm/rev)
MEFL 8-1.50-0.20	1.50	0.20	0.02	0.020	2.60	6.6	5.50	11.00	17.40	8.0	15.0	●	0.02-0.10	0.02-0.06
MEFL 8-1.60-0.80	1.60	0.80	0.02	0.020	2.70	6.6	5.50	11.00	17.40	7.0	12.1	●	0.02-0.10	0.02-0.06
MEFL 8-2.00-0.20	2.00	0.20	0.02	0.020	3.10	6.6	5.50	11.00	17.40	7.0	20.0	●	0.02-0.10	0.02-0.06
MEFL 8-2.00-1.00	2.00	1.00	0.02	0.020	2.90	6.6	5.50	11.00	17.40	7.0	14.0	●	0.02-0.10	0.02-0.06
MEFL 8-2.20-0.20	2.20	0.20	0.02	0.020	3.10	6.6	5.50	11.00	17.40	7.0	20.0	●	0.02-0.10	0.02-0.06
MEFL 10-2.50-0.20	2.50	0.20	0.02	0.020	3.15	7.6	9.00	14.85	24.50	10.0	45.0	●	0.02-0.06	0.02-0.05
MEFL 10-2.50-1.25	2.50	1.25	0.02	0.020	3.15	7.6	9.00	14.85	24.50	10.0	45.0	●	0.02-0.06	0.02-0.05
MEFL 10-3.00-0.20	3.00	0.20	0.02	0.020	3.60	7.6	9.00	14.85	24.50	10.0	100.0	●	0.02-0.06	0.02-0.05
MEFL 10-3.00-1.50	3.00	1.50	0.02	0.020	3.40	7.6	9.00	14.85	24.50	10.0	100.0	●	0.02-0.06	0.02-0.05

I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	WF	S1	CDX	PDY	INSL	DAXN(3)	DAXX(4)	IC908	Recommended Machining Data f face-groove (IPR)	f face-turn (IPR)
MEFL 8-1.50-0.20	.059	.0079	.0008	.0008	.102	.260	.217	.433	.685	.31	.59	●	.0008-.0039	.0008-.0024
MEFL 8-1.60-0.80	.063	.0315	.0008	.0008	.106	.260	.217	.433	.685	.28	.48	●	.0008-.0039	.0008-.0024
MEFL 8-2.00-0.20	.079	.0079	.0008	.0008	.122	.260	.217	.433	.685	.28	.79	●	.0008-.0039	.0008-.0024
MEFL 8-2.00-1.00	.079	.0394	.0008	.0008	.114	.260	.217	.433	.685	.28	.55	●	.0008-.0039	.0008-.0024
MEFL 8-2.20-0.20	.087	.0079	.0008	.0008	.122	.260	.217	.433	.685	.28	.79	●	.0008-.0039	.0008-.0024
MEFL 10-2.50-0.20	.098	.0079	.0008	.0008	.124	.299	.354	.585	.965	.39	1.77	●	.0008-.0024	.0008-.0020
MEFL 10-2.50-1.25	.098	.0492	.0008	.0008	.124	.299	.354	.585	.965	.39	1.77	●	.0008-.0024	.0008-.0020
MEFL 10-3.00-0.20	.118	.0079	.0008	.0008	.142	.299	.354	.585	.965	.39	3.94	●	.0008-.0024	.0008-.0020
MEFL 10-3.00-1.50	.118	.0590	.0008	.0008	.134	.299	.354	.585	.965	.39	3.94	●	.0008-.0024	.0008-.0020

• For cutting speed recommendations, see pages 162-164

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

(3) Minimum axial grooving diameter

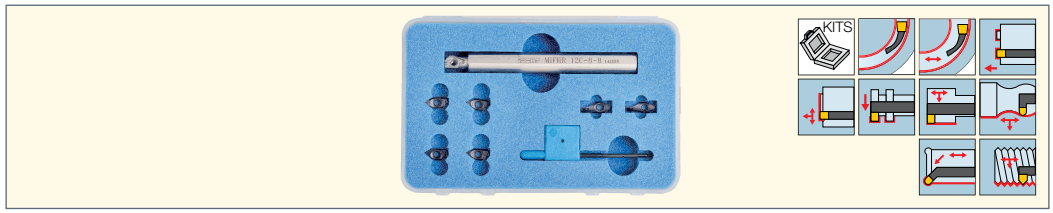
(4) Maximum axial grooving diameter

For tools, see pages: MFHR-JHP (32) • MIFHR (31)

MINCUT MINI FACE LINE

MINCUT KIT

Contains One Toolholder and a Set of 6 Different Inserts for Internal Face Grooving and Turning Applications



M E T R I C

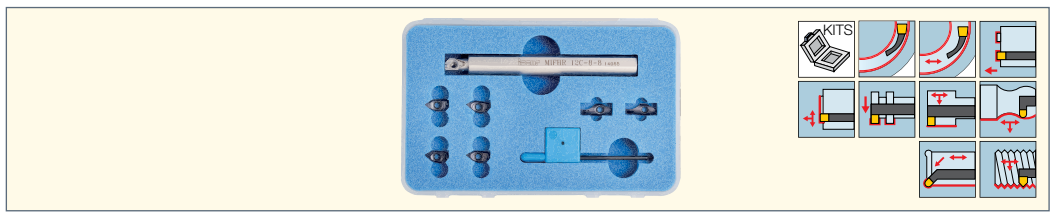
Designation	Qty
KIT MINCUT	7

Catalog No	Designation	Quantity
2801631	MIFHR 12.7C-8	1
6404029	MIGR 8-1.60-0.80	1
6404045	MIFR 8-2.20-0.20	1
6404049	MIFR 8-1.60-0.80	1
6405165	MITR 8-MT1-0.05	1
6405188	MIUR 8-1.00-0.50	1
6405194	MIGR 8-2.00-0.10	1

MINCUT MINI FACE LINE

MINCUT KIT

Contains One Toolholder and a Set of 6 Different Inserts for Internal Face Grooving and Turning Applications



I N C H

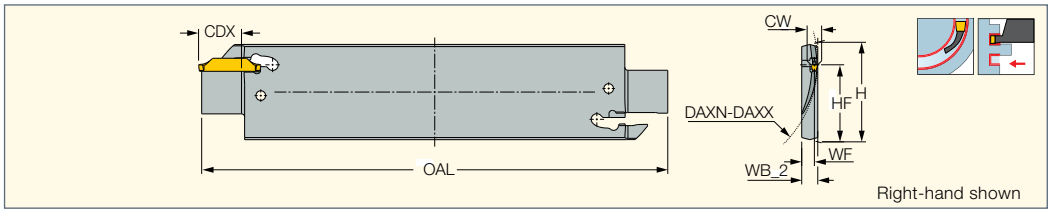
Designation	Qty
KIT MINCUT INCH	7

Catalog No	Designation	Quantity
2801631	MIFHR 12.7C-8	1
6404029	MIGR 8-1.60-0.80	1
6404045	MIFR 8-2.20-0.20	1
6404049	MIFR 8-1.60-0.80	1
6405165	MITR 8-MT1-0.05	1
6405188	MIUR 8-1.00-0.50	1
6405194	MIGR 8-2.00-0.10	1

HELIFACE

HELIFACE

HFFH
Face Grooving Blades



M E T R I C									
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**WF**	**WB_2**	**HF**	**H**	**OAL**
HFFH 38R/L-2	38.0	45.0	2.00	14.00	4.50	5.2	24.8	32.0	150.00
HFFH 45R/L-2	45.0	60.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00
HFFH 60R/L-2	60.0	80.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00
HFFH 80R/L-2	80.0	100.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00
HFFH 100R/L-2	100.0	130.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00

I N C H									
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**WF**	**WB_2**	**HF**	**H**	**OAL**
HFFH 38R/L-2	1.50	1.77	.079	.551	.177	.205	.976	1.260	5.906
HFFH 45R/L-2	1.77	2.36	.079	.551	.173	.205	.976	1.260	5.906
HFFH 60R/L-2	2.36	3.15	.079	.551	.173	.205	.976	1.260	5.906
HFFH 80R/L-2	3.15	3.94	.079	.551	.173	.205	.976	1.260	5.906
HFFH 100R/L-2	3.94	5.12	.079	.551	.173	.205	.976	1.260	5.906

- H dimension links blades and blocks

(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: HFPN (67)

For holders, see pages: C#-TBK-R/L (138) • HSK A-WH-TBK-R/L (148) • SGTBF (136) • SGTBK (135) • SGTBU/SGTBN (133) • UBHCR/L (135)

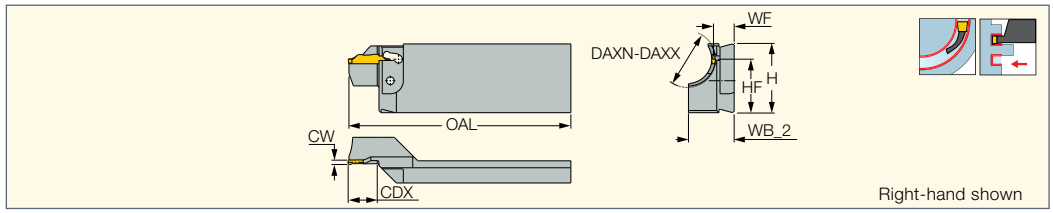
Spare Parts

Designation	
HFFH	EDG 33B*

* Optional, should be ordered separately

HELIFACE

HFFA
Reinforced Face Grooving Blades



M E T R I C									
Designation	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX**	**H**	**WF**	**HF**	**OAL**	**WB_2**
HFFA 27R/L-2	2.00	27.0	29.0	14.00	32.0	9.50	24.8	102.00	21.0
HFFA 29R/L-2	2.00	29.0	33.0	14.00	32.0	9.50	24.8	102.00	18.5
HFFA 33R/L-2	2.00	33.0	38.0	14.00	32.0	9.50	24.8	102.00	17.5
HFFA 38R/L-2	2.00	38.0	46.0	14.00	32.0	9.50	24.8	102.00	13.5
HFFA 46R/L-2	2.00	46.0	60.0	14.00	32.0	9.50	24.8	102.00	13.5
HFFA 60R/L-2	2.00	60.0	80.0	14.00	32.0	9.50	24.8	102.00	14.0
HFFA 80R/L-2	2.00	80.0	105.0	14.00	32.0	9.50	24.8	102.00	16.1

I N C H									
Designation	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX**	**H**	**WF**	**HF**	**OAL**	**WB_2**
HFFA 27R/L-2	.079	1.06	1.14	.551	1.260	.374	.976	4.016	.827
HFFA 29R/L-2	.079	1.14	1.30	.551	1.260	.374	.976	4.016	.728
HFFA 33R/L-2	.079	1.30	1.50	.551	1.260	.374	.976	4.016	.689
HFFA 38R/L-2	.079	1.50	1.81	.551	1.260	.374	.976	4.016	.531
HFFA 46R/L-2	.079	1.81	2.36	.551	1.260	.374	.976	4.016	.531
HFFA 60R/L-2	.079	2.36	3.15	.551	1.260	.374	.976	4.016	.551
HFFA 80R/L-2	.079	3.15	4.13	.551	1.260	.374	.976	4.016	.634

• For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: HFPN (67)
For holders, see pages: SGTBF (136) • SGTBU/SGTBN (133) • UBHCR/L (135)

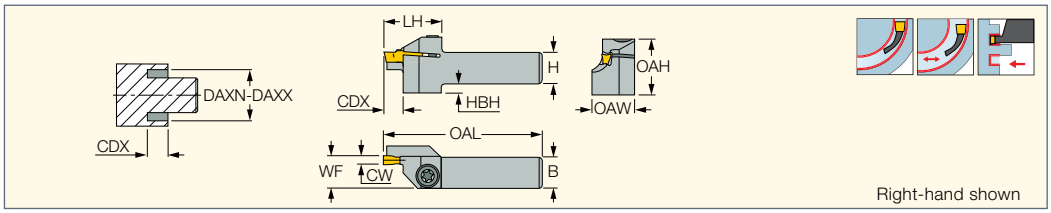
Spare Parts

Designation	
HFFA	EDG 33B*

* Optional, should be ordered separately

HELIFACE

HGHR/L-3
Integral Holders for Face Grooving and Turning



M E T R I C

Designation	H	B	CW	CDX	HBH	WF	DAXN(1)	DAXX(2)	OAL	LH	OAH	OAW		
HGHR 1010-12-3T6	10.0	10.0	3.00	6.00	2.0	9.50	12.0	16.0	120.00	19.0	19.0	13.70	SR 76-1400	T-20/3
HGHR 1010-16-3T6	10.0	10.0	3.00	6.00	2.0	9.50	16.0	25.0	120.00	19.0	19.0	12.80	SR 76-1400	T-20/3
HGHR/L 1212-12-3T6	12.0	12.0	3.00	6.00	-	11.00	12.0	16.0	120.00	19.0	19.0	15.70	SR 76-1400	T-20/3
HGHR 1212-16-3T6	12.0	12.0	3.00	6.00	-	11.00	16.0	25.0	120.00	19.0	19.0	14.80	SR 76-1400	T-20/3
HGHR/L 1616-12-3T6	16.0	16.0	3.00	6.00	-	15.00	12.0	16.0	120.00	19.0	21.0	19.70	SR 76-1400	T-20/3
HGHR/L 1616-16-3T6	16.0	16.0	3.00	6.00	-	15.00	16.0	25.0	120.00	19.0	21.0	18.80	SR 76-1400	T-20/3
HGHR/L 2020-12-3T6	20.0	20.0	3.00	6.00	-	20.00	12.0	16.0	120.00	19.0	25.0	24.00	SR 76-1400	T-20/3
HGHR/L 2020-16-3T6	20.0	20.0	3.00	6.00	-	20.00	16.0	25.0	120.00	19.0	25.0	24.00	SR 76-1400	T-20/3
HGHR/L 2525-12-3T6	25.0	25.0	3.00	6.00	-	25.00	12.0	16.0	120.00	19.0	30.0	29.00	SR 76-1400	T-20/3
HGHR/L 2525-16-3T6	25.0	25.0	3.00	6.00	-	25.00	16.0	25.0	120.00	19.0	30.0	29.00	SR 76-1400	T-20/3

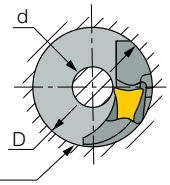
• HGN & GRIP inserts can be used only with right-hand toolholders, HGPL inserts only with left-hand toolholders • For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GRIP (70) • GRIP (full radius) (72) • HGN-C (76) • HGN-J (77) • HGN-UT (78) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

HGHR/L...-12-3T6

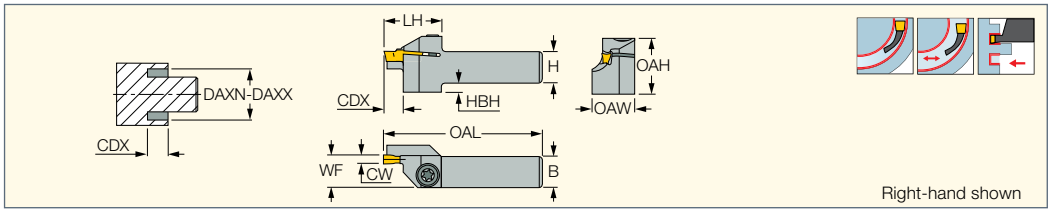
D	d
12.0	4.0
13.0	1.0
13.5	0

Limitation of widening toward center depends on the major diameter (D) as per chart.



HELIFACE

HGHR/L-3
Integral Holders for Face Grooving and Turning



I N C H

Designation	CW	CDX	H	B	HBH	DAXN(1)	DAXX(2)	WF	OAH	OAW	OAL	LH		
HGHL 9.5-12-3T6	.118	.236	.375	.375	.12	.47	.63	.370	.67	.559	5.000	.750	SR 76-1400	T-20/3
HGHL 12.7-12-3T6	.118	.236	.500	.500	.12	.47	.63	.460	.70	.646	5.000	.750	SR 76-1400	T-20/3
HGHL 12.7-16-3T6	.118	.236	.500	.500	.12	.63	.98	.460	.70	.619	5.000	.750	SR 76-1400	T-20/3
HGHR/L 15.9-12-3T6	.118	.236	.625	.625	.12	.47	.63	.590	.82	.771	5.000	.750	SR 76-1400	T-20/3
HGHR/L 19-12-3T6	.118	.236	.750	.750	-	.47	.63	.750	.95	.907	5.000	.750	SR 76-1400	T-20/3
HGHR/L 19-16-3T6	.118	.236	.750	.750	-	.63	.98	.750	.95	.907	5.000	.750	SR 76-1400	T-20/3
HGHR/L 25.4-12-3T6	.118	.236	1.000	1.000	-	.47	.63	1.000	1.20	1.157	5.000	.750	SR 76-1400	T-20/3
HGHR/L 25.4-16-3T6	.118	.236	1.000	1.000	-	.63	.98	1.000	1.20	1.157	5.000	.750	SR 76-1400	T-20/3
HGHR 9.5-16-3T6	.118	.236	.375	.375	.12	.63	.98	.370	.67	.524	5.000	.750	SR 76-1400	T-20/3
HGHR 15.9-16-3T6	.118	.236	.625	.625	.12	.63	.98	.590	.82	.735	5.000	.750	SR 76-1400	T-20/3

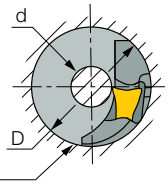
• HGN & GRIP inserts can be used only with right-hand toolholders, HGPL inserts only with left-hand toolholders • For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GRIP (70) • GRIP (full radius) (72) • HGN-C (76) • HGN-J (77) • HGN-UT (78) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

HGHR/L...-12-3T6

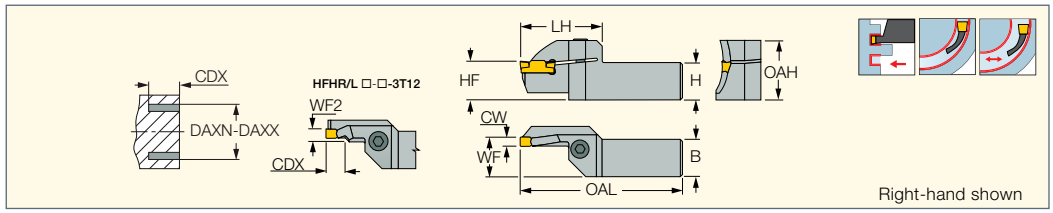
D	d
.472	.157
.512	.039
.513	0

Limitation of widening toward center depends on the major diameter (D) as per chart



HELIFACE

HFHR/L-3T
Integral Holders for Facing



Designation	CW	CDX	H	HF	B	OAL	WF	WF2	DAXN(2)	DAXX(3)	LH	OAH		
HFHR/L 20-25-3T12	3.00	12.00	20.0	20.0	20.0	140.00	20.50	5.3	25.0	30.0	38.0	28.0	SR M6X16 DIN912	HW 5.0
HFHR/L 20-30-3T12	3.00	12.00	20.0	20.0	20.0	140.00	20.50	5.3	30.0	38.0	38.0	29.0	SR M6X16 DIN912	HW 5.0
HFHR/L 20-38-3T12	3.00	12.00	20.0	20.0	20.0	140.00	20.50	5.3	38.0	48.0	38.0	30.0	SR M6X16 DIN912	HW 5.0
HFHR/L 20-48-3T12	3.00	12.00	20.0	20.0	20.0	140.00	20.50	5.3	48.0	60.0	38.0	30.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-25-3T12	3.00	12.00	25.0	25.0	25.0	150.00	25.50	5.3	25.0	30.0	38.0	33.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-30-3T12	3.00	12.00	25.0	25.0	25.0	150.00	25.50	5.3	30.0	38.0	38.0	34.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-38-3T12	3.00	12.00	25.0	25.0	25.0	150.00	25.50	5.3	38.0	48.0	38.0	35.0	SR M6X16 DIN912	HW 5.0
HFHR/L 20-60-3T22 (1)	3.00	22.00	20.0	20.0	20.0	140.00	20.50	-	60.0	75.0	40.0	31.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-48-3T22 (1)	3.00	22.00	25.0	25.0	25.0	150.00	25.50	-	48.0	60.0	40.0	36.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-60-3T22 (1)	3.00	22.00	25.0	25.0	25.0	150.00	25.50	-	60.0	75.0	40.0	36.0	SR M6X16 DIN912	HW 5.0
HFHR/L 20-75-3T25 (1)	3.00	25.00	20.0	20.0	20.0	140.00	20.50	-	75.0	100.0	43.0	31.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-75-3T25 (1)	3.00	25.00	25.0	25.0	25.0	150.00	25.50	-	75.0	100.0	43.0	36.0	SR M6X16 DIN912	HW 5.0

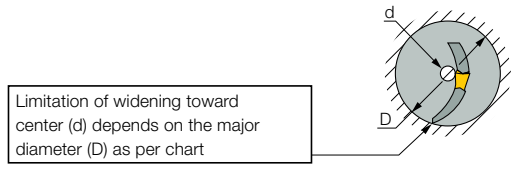
- For user guide, see pages 161-173

(1) For deep face grooving only.
(2) Minimum penetration diameter
(3) Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

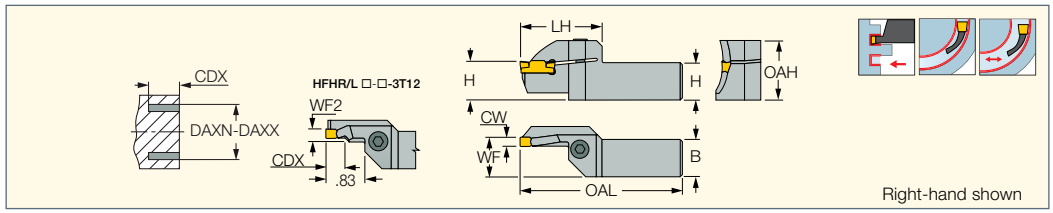
Groove can be widened with no limitation toward or away from the center except for the following tools:

HFHR/L-#-25-3T12	
D	d
25	5
26	2
≥27	0



HELIFACE

HFHR/L-3T
Integral Toolholders for External Facing



Designation	CW	CDX	H	B	OAL	WF	F1	DAXN(2)	DAXX(3)	LH	OAH		
HFHR/L 25.4-25-3T12	.118	.470	1.000	1.000	6.000	1.020	.21	.98	1.18	1.500	1.31	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-30-3T12	.118	.470	1.000	1.000	6.000	1.020	.21	1.18	1.50	1.500	1.35	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-38-3T12	.118	.470	1.000	1.000	6.000	1.020	.21	1.50	1.89	1.500	1.39	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-48-3T22 (1)	.118	.870	1.000	1.000	6.000	1.020	-	1.89	2.36	1.570	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-60-3T22 (1)	.118	.870	1.000	1.000	6.000	1.020	-	2.36	2.96	1.570	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-75-3T25 (1)	.118	.980	1.000	1.000	6.000	1.020	-	2.95	3.94	1.690	1.43	SR M6X16 DIN912	HW 5.0

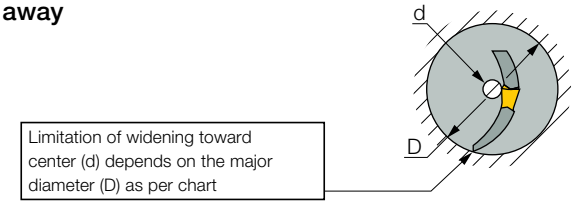
- For user guide, see pages 161-173

(1) For deep face grooving only.
(2) Minimum penetration diameter
(3) Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

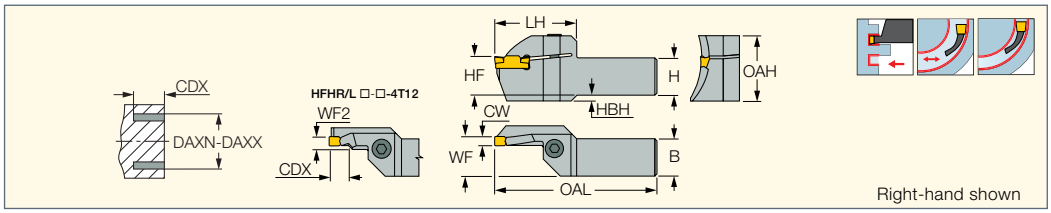
Groove can be widened with no limitation toward or away from the center except for the following tools:

HFHR/L-#-25-3T12	
D	d
.98	.20
1.02	.08
≥1.06	0



HELIFACE

HFHR/L-4T
Integral Holders for Facing



M E T R I C

Designation	CW	CDX	H	HF	B	OAL	WF	WF2	DAXN(1)	DAXX(2)	LH	OAH	HBH		
HFHR/L 20-25-4T12	4.00	12.00	20.0	20.0	20.0	140.00	20.60	6.2	25.0	29.0	39.0	29.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-29-4T12	4.00	12.00	20.0	20.0	20.0	140.00	20.60	6.2	29.0	34.0	39.0	30.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-25-4T12	4.00	12.00	25.0	25.0	25.0	150.00	25.60	6.2	25.0	29.0	39.0	34.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-29-4T12	4.00	12.00	25.0	25.0	25.0	150.00	25.60	6.2	29.0	34.0	39.0	35.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-34-4T20	4.00	20.00	20.0	20.0	20.0	140.00	20.60	-	34.0	40.0	39.0	30.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-34-4T20	4.00	20.00	25.0	25.0	25.0	150.00	25.60	-	34.0	40.0	39.0	35.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-40-4T25	4.00	25.00	20.0	20.0	20.0	140.00	20.60	-	40.0	48.0	44.0	31.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-48-4T25	4.00	25.00	20.0	20.0	20.0	140.00	20.60	-	48.0	60.0	44.0	32.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-60-4T25	4.00	25.00	20.0	20.0	20.0	140.00	20.60	-	60.0	75.0	44.0	32.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-75-4T25	4.00	25.00	20.0	20.0	20.0	140.00	20.60	-	75.0	100.0	44.0	34.0	2.0	SR M6X16 DIN912	HW 5.0
HFHL 25-100-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	100.0	140.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHL 25-140-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.74	-	140.0	240.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-240-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	240.0	800.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-40-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	40.0	48.0	44.0	36.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-48-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	48.0	60.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-60-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	60.0	75.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHL 25-75-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	75.0	100.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR 25-100-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.74	-	100.0	140.0	44.0	37.0	-		
HFHR 25-140-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.60	-	140.0	240.0	44.0	37.0	-		
HFHR 25-75-4T25	4.00	25.00	25.0	25.0	25.0	150.00	25.80	-	75.0	100.0	44.0	37.0	-		

• DGN & GRIP 4 mm inserts can be used only with right-hand tools, HGPL 4 mm with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

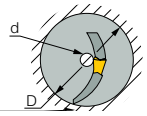
HFHR/L-#-25-4T12

D	d
25	1
≥26	0

HFHR/L-#-29-4T12

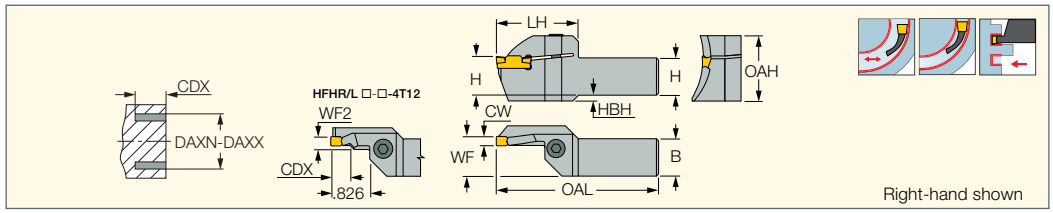
D	d
29	1
≥46	0

Limitation of widening toward center (d) depends on the major diameter (D) as per chart



HELIFACE

HFHR/L-4T
Integral Toolholders for External Facing



	INCH												
Designation	**CW**	**CDX**	**F1**	**H**	**B**	**OAL**	**WF**	**DAXN(1)**	**DAXX(2)**	**LH**	**OAH**		
HFHR 25.4-25-4T12	.157	.470	.24	1.000	1.000	6.000	1.020	.98	1.14	1.540	1.35	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-29-4T12	.157	.470	.24	1.000	1.000	6.000	1.020	1.14	1.34	1.540	1.39	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-34-4T20	.157	.790	.24	1.000	1.000	6.000	1.020	1.34	1.57	1.540	1.39	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-40-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	1.57	1.89	1.730	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-48-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	1.89	2.36	1.730	1.47	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-60-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	2.36	2.95	1.730	1.47	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-75-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	2.95	3.94	1.730	1.47	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-100-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	3.94	5.51	1.730	1.47	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-140-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	5.51	9.45	1.730	1.47	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-240-4T25	.157	.980	.24	1.000	1.000	6.000	1.020	9.45	31.50	1.730	1.47	SR M6X16 DIN912	HW 5.0

• DGN & GRIP 4.. inserts can be used only with right-hand tools, HGPL 4.. inserts with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: DGN-MF (80) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

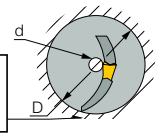
HFHR/L-#-25-4T12

D	d
.98	.04
≥1.02	0

HFHR/L-#-29-4T12

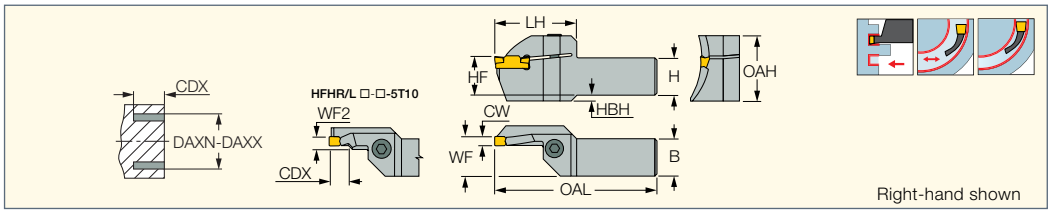
D	d
1.14	.04
≥1.8	0

Limitation of widening toward center (d) depends on the major diameter (D) as per chart



HELIFACE

HFHR/L-5T
Integral Toolholders for External Facing



M E T R I C															
Designation	**CW**	**CDX**	**H**	**HF**	**B**	**OAL**	**WF2**	**WF**	**DAXN(1)**	**DAXX(2)**	**LH**	**OAH**	**HBH**		
HFHR/L 20-25-5T10	5.00	10.00	20.0	20.0	20.0	140.00	7.1	21.00	25.0	30.0	38.0	28.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-25-5T10	5.00	10.00	25.0	25.0	25.0	150.00	7.1	26.00	25.0	30.0	38.0	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-110-5T14	5.00	14.00	25.0	25.0	25.0	150.00	-	23.50	110.0	200.0	32.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-52-5T14	5.00	14.00	25.0	25.0	25.0	150.00	-	23.50	52.0	75.0	32.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-75-5T14	5.00	14.00	25.0	25.0	25.0	150.00	-	23.50	75.0	110.0	32.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-28-5T15	5.00	17.00	20.0	20.0	20.0	140.00	-	21.00	28.0	31.0	34.0	30.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-31-5T15	5.00	17.00	20.0	20.0	20.0	140.00	-	21.00	31.0	35.0	34.0	30.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-28-5T15	5.00	17.00	25.0	25.0	25.0	150.00	-	26.00	28.0	31.0	34.0	35.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-31-5T15	5.00	17.00	25.0	25.0	25.0	150.00	-	26.00	31.0	35.0	34.0	35.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-35-5T20	5.00	20.00	20.0	20.0	20.0	140.00	-	21.00	35.0	40.0	39.0	31.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-40-5T20	5.00	20.00	20.0	20.0	20.0	140.00	-	21.00	40.0	45.0	39.0	31.0	-	SR M6X16 DIN912	HW 5.0
HFHL 25-200-5T20	5.00	20.00	25.0	25.0	25.0	150.00	-	23.50	200.0	800.0	32.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-35-5T20	5.00	20.00	25.0	25.0	25.0	150.00	-	26.00	35.0	40.0	39.0	36.0	-	SR M6X16 DIN912	HW 5.0
HFHL 25-40-5T20	5.00	20.00	25.0	25.0	25.0	140.00	-	26.00	40.0	45.0	39.0	36.0	-	SR M6X16 DIN912	HW 5.0
HFHR 25-200-5T20	5.00	20.00	25.0	25.0	25.0	150.00	-	26.00	200.0	800.0	32.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR 25-40-5T20	5.00	20.00	25.0	25.0	25.0	150.00	-	26.00	40.0	45.0	39.0	36.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-45-5T25	5.00	25.00	20.0	20.0	20.0	140.00	-	21.00	45.0	55.0	44.0	32.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-55-5T25	5.00	25.00	20.0	20.0	20.0	140.00	-	21.00	55.0	70.0	44.0	35.0	3.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-45-5T25	5.00	25.00	25.0	25.0	25.0	150.00	-	26.00	45.0	55.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-55-5T25	5.00	25.00	25.0	25.0	25.0	150.00	-	26.00	55.0	70.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-70-5T28	5.00	28.00	20.0	20.0	20.0	140.00	-	21.00	70.0	95.0	47.0	35.0	3.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-130-5T32	5.00	32.00	25.0	25.0	25.0	150.00	-	26.00	130.0	180.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-180-5T32	5.00	32.00	25.0	25.0	25.0	150.00	-	26.00	180.0	800.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-70-5T32	5.00	32.00	25.0	25.0	25.0	150.00	-	26.00	70.0	95.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-95-5T32	5.00	32.00	25.0	25.0	25.0	150.00	-	26.00	95.0	130.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0

• DGN & GRIP 5.. inserts can be used only with right-hand tools, HGPL 5.. inserts with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

HFHR/L- o -31-5T15

D	d
31	15
32	10
33	7
34	4
35	2
≥36	0

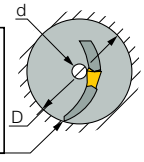
HFHR/L-o-25-5T10

D	d
25	4
26	1
≥27	0

HFHR/L- o -28-5T15

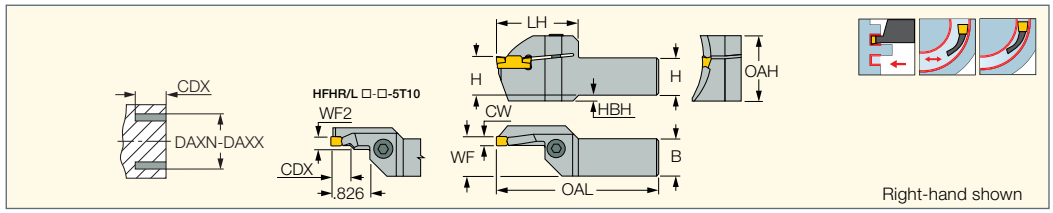
D	d
28	13
29	8
30	5
31	3
32	1
≥33	0

Limitation of widening toward center (d) depends on the major diameter (D) as per chart



HELIFACE

HFHR/L-5T
Integral Toolholders for External Facing



	INCH												
Designation	**CW**	**CDX**	**H**	**B**	**OAL**	**F1**	**WF**	**DAXN(1)**	**DAXX(2)**	**LH**	**OAH**		
HFHR/L 25.4-25-5T10	.197	.390	1.000	1.000	6.000	.28	1.040	.98	1.18	1.500	1.31	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-28-5T15	.197	.670	1.000	1.000	6.000	-	1.040	1.10	1.22	1.340	1.39	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-31-5T15	.197	.670	1.000	1.000	6.000	-	1.040	1.22	1.38	1.340	1.39	SR M6X16 DIN912	HW 5.0
HFHR 25.4-35-5T20	.197	.790	1.000	1.000	6.000	-	1.040	1.38	1.57	1.540	1.43	SR M6X16 DIN912	HW 5.0
HFHR 25.4-40-5T20	.197	.790	1.000	1.000	6.000	-	1.040	1.57	1.77	1.540	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-55-5T25	.197	.980	1.000	1.000	6.000	-	1.040	2.17	2.76	1.730	1.43	SR M6X16 DIN912	HW 5.0
HFHR 25.4-45-5T25	.197	.980	1.000	1.000	6.000	-	1.040	1.77	2.17	1.730	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-70-5T32	.197	1.260	1.000	1.000	6.000	-	1.040	2.76	3.74	2.000	1.43	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-95-5T32	.197	1.260	1.000	1.000	6.000	-	1.040	3.74	5.12	2.000	1.43	SR M6X16 DIN912	HW 5.0

• DGN & GRIP 5.. inserts can be used only with right-hand tools, HGPL 5.. inserts with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: DGN-W (81) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

HFHR/L-#-31-5T15

D	d
1.22	.59
1.26	.39
1.30	.28
1.34	.16
1.38	.08
≥1.42	0

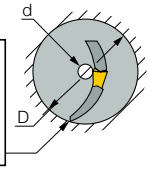
HFHR/L-#-28-5T15

D	d
1.10	.51
1.14	.31
1.18	.20
1.22	.12
1.29	.04
≥1.30	0

HFHR/L-#-25-5T10

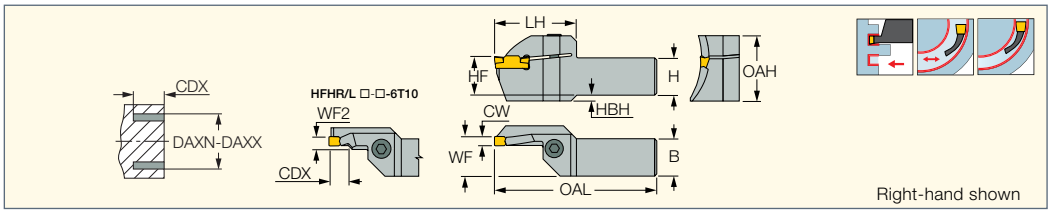
D	d
.98	.16
1.02	.04
≥1.06	0

Limitation of widening toward center (d) depends on the major diameter (D) as per chart



HELIFACE

HFHR/L-6T
Integral Toolholders for
External Facing



Designation	CW	CDX	H	HF	B	OAL	WF2	WF	DAXN(1)	DAXX(2)	LH	OAH	HBH		
HFHL 20-26-6T10	6.00	10.00	20.0	20.0	20.0	140.00	7.9	21.40	26.0	30.0	39.0	29.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-30-6T15	6.00	17.00	20.0	20.0	20.0	140.00	-	21.40	30.0	38.0	36.0	30.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-30-6T15	6.00	17.00	25.0	25.0	25.0	150.00	-	26.40	30.0	38.0	36.0	35.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-38-6T20	6.00	20.00	20.0	20.0	20.0	140.00	-	21.40	38.0	50.0	39.0	31.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-100-6T20	6.00	20.00	25.0	25.0	25.0	150.00	-	26.00	100.0	200.0	40.0	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-200-6T20	6.00	20.00	25.0	25.0	25.0	150.00	-	23.00	200.0	3000.0	37.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-38-6T20	6.00	20.00	25.0	25.0	25.0	150.00	-	26.40	38.0	50.0	39.0	36.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-50-6T20	6.00	20.00	25.0	25.0	25.0	150.00	-	23.00	50.0	65.0	37.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-65-6T20	6.00	20.00	25.0	25.0	25.0	150.00	-	23.00	65.0	100.0	37.5	33.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 20-50-6T25	6.00	25.00	20.0	20.0	20.0	140.00	-	21.40	50.0	70.0	44.0	32.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-50-6T25	6.00	25.00	25.0	25.0	25.0	150.00	-	26.40	50.0	70.0	44.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-100-6T32	6.00	32.00	25.0	25.0	25.0	150.00	-	26.40	100.0	180.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25-180-6T32	6.00	32.00	25.0	25.0	25.0	150.00	-	26.40	180.0	400.0	51.0	40.0	3.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-400-6T32	6.00	32.00	25.0	25.0	25.0	150.00	-	26.40	400.0	3000.0	51.0	40.0	3.0	SR M6X16 DIN912	HW 5.0
HFHR/L 25-70-6T32	6.00	32.00	25.0	25.0	25.0	150.00	-	26.40	70.0	100.0	51.0	37.0	-	SR M6X16 DIN912	HW 5.0

• DGN & GRIP 6.. inserts can be used only with right-hand tools, HGPL 6.. inserts with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

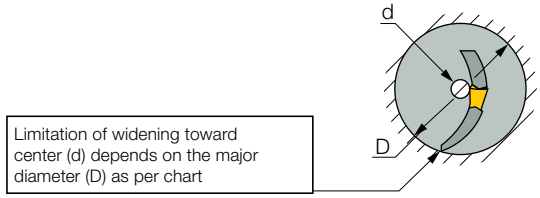
(2) Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

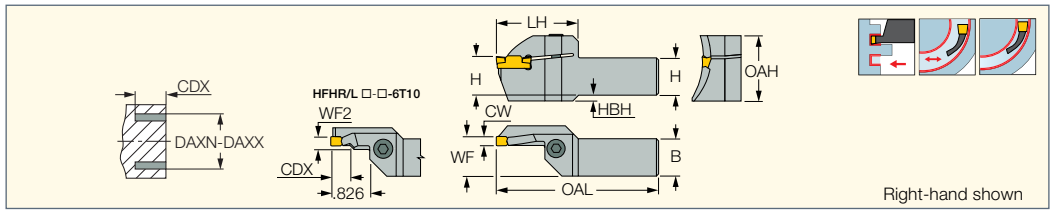
HFHR/L-#-30-6T10

D	d
30	7
31	4
32	1
≥33	0



HELIFACE

HFHR/L-6T
Integral Toolholders for External Facing



	I N C H												
Designation	**CW**	**CDX**	**H**	**B**	**OAL**	**WF**	**DAXN(1)**	**DAXX(2)**	**LH**	**OAH**	**HBH**		
HFHR/L 25.4-30-6T15	.236	.670	1.000	1.000	6.000	1.050	1.18	1.50	1.420	1.39	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-38-6T20	.236	.790	1.000	1.000	6.000	1.050	1.50	1.97	1.540	1.43	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-50-6T25	.236	.980	1.000	1.000	6.000	1.050	1.97	2.76	1.730	1.47	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-70-6T32	.236	1.260	1.000	1.000	6.000	1.050	2.76	3.94	2.000	1.47	-	SR M6X16 DIN912	HW 5.0
HFHR 25.4-100-6T20	.236	.790	1.000	1.000	6.000	1.050	3.94	7.09	2.000	1.47	-	SR M6X20 DIN912	HW 5.0
HFHR/L 25.4-100-6T32	.236	1.260	1.000	1.000	6.000	1.050	3.94	7.09	2.000	1.47	-	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4-180-6T32	.236	1.260	1.000	1.000	6.000	1.050	7.09	15.80	2.000	1.57	.10	SR M6X16 DIN912	HW 5.0

• DGN & GRIP 6.. inserts can be used only with right-hand tools, HGPL 6.. inserts with left-hand tools • For user guide, see pages 161-173

(1) Minimum penetration diameter

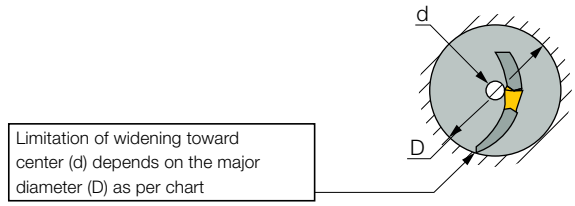
(2) Maximum penetration diameter

For inserts, see pages: DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)

Groove can be widened with no limitation toward or away from the center except for the following tools:

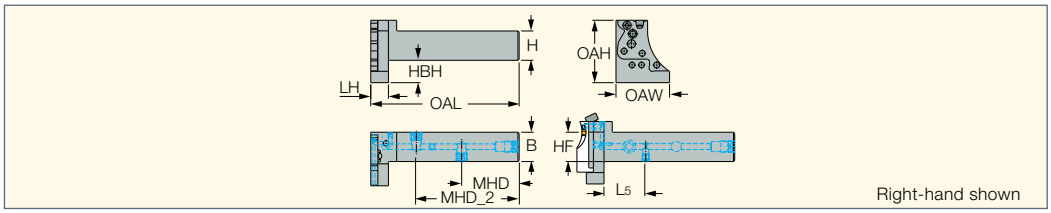
HFHR/L-#-30-6T15

D	d
1.18	.28
1.22	.16
1.26	.04
≥1.30	0



MODULAR-GRIP
JETCUT

MAHPR/L-XL-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



	M E T R I C										
Designation	**H**	**B**	**LH**	**OAL**	**HBH**	**OAH**	**OAW**	**HF**	**L5**	**MHD**	**MHD_2**
MAHPR/L-XL-20-JHP-MCG	20.0	20.0	23.0	120.00	24.0	53.00	45.00	20.0	29.00	50.00	85.00
MAHPR/L-XL-25-JHP-MCG	25.0	25.0	15.0	120.00	19.0	53.00	45.50	25.0	35.00	50.00	90.00

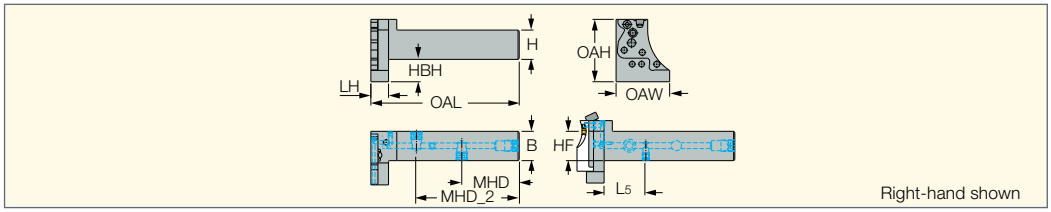
For tools, see pages: • HFPAD-JHP (48) • TNFPAD-XL-JHP (113)

Spare Parts

Designation									
MAHPR/L-XL-20-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-25-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377

MODULAR-GRIP
JETCUT

MAHPR/L-XL-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



	I N C H										
Designation	**H**	**B**	**LH**	**OAL**	**HBH**	**OAH**	**OAW**	**HF**	**L5**	**MHD**	**MHD_2**
MAHPR/L-XL-19-JHP-MCG	.750	.750	.591	4.724	1.000	2.087	1.772	.750	1.142	1.968	3.346
MAHPR/L-XL-25.4-JHP-MCG	1.000	1.000	.591	4.724	.748	2.087	1.791	1.000	1.378	1.968	3.543

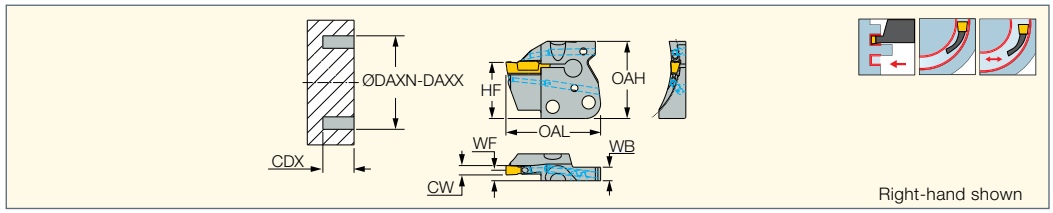
For tools, see pages: • HFPAD-JHP (48) • TNFPAD-XL-JHP (113)

Spare Parts

Designation									
MAHPR/L-XL-19-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X3 DIN913	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-25.4-JHP-MCG	SR M5-04451	T-20/5	SR M6X20 DIN912	HW 5.0	OR 5X1N	SR M4X3 DIN913	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377

MODULAR-GRIP

HFPAD-JHP
Adapters for Face Machining



M E T R I C									
Designation	**CW**	**CDX**	**WF**	**WB**	**OAL**	**HF**	**OAH**	**DAXN(1)**	**DAXX(2)**
HFPAD 3R/L-40-T10-JHP	3.00	10.00	4.80	5.80	39.50	24.0	33.00	40.0	65.0
HFPAD 3R/L-115-T18-JHP	3.00	18.00	4.80	5.80	43.50	24.0	33.00	115.0	400.0
HFPAD 3R/L-65-T18-JHP	3.00	18.00	4.80	5.80	43.50	24.0	33.00	65.0	115.0
HFPAD 4R/L-44-T14-JHP	4.00	14.00	4.80	5.80	40.50	24.0	33.00	44.0	58.0
HFPAD 4R/L-58-T14-JHP	4.00	14.00	4.80	5.80	40.50	24.0	33.00	58.0	88.0
HFPAD 4R/L-88-T14-JHP	4.00	14.00	4.50	5.80	40.50	24.0	33.00	88.0	175.0
HFPAD 4R/L-175-T20-JHP	4.00	20.00	4.80	6.50	45.50	24.0	33.00	175.0	800.0
HFPAD 5R/L-110-T14-JHP	5.00	14.00	4.50	6.30	45.50	24.0	33.00	110.0	200.0
HFPAD 5R/L-40-T14-JHP	5.00	14.00	4.50	6.30	40.50	24.0	33.00	40.0	50.0
HFPAD 5L-50-T14-JHP	5.00	14.00	4.50	6.30	40.50	24.0	33.00	50.0	75.0
HFPAD 5R/L-75-T14-JHP	5.00	14.00	4.50	6.30	40.50	24.0	33.00	75.0	110.0
HFPAD 5R/L-200-T20-JHP	5.00	20.00	4.50	6.60	45.50	24.0	33.00	200.0	800.0
HFPAD 6R/L-60-T14-JHP	6.00	14.00	4.50	6.80	40.50	24.0	33.00	60.0	100.0
HFPAD 6R/L-100-T20-JHP	6.00	20.00	4.50	6.80	45.50	24.0	33.00	100.0	200.0
HFPAD 6R/L-200-T20-JHP	6.00	20.00	4.50	7.10	45.50	24.0	33.00	200.0	3000.0

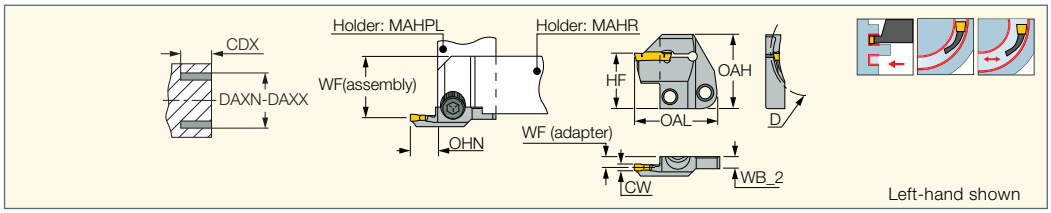
I N C H									
Designation	**CW**	**CDX**	**WF**	**WB**	**OAL**	**HF**	**OAH**	**DAXN(1)**	**DAXX(2)**
HFPAD 3R/L-40-T10-JHP	.118	.394	.189	.228	1.555	.945	1.299	1.57	2.56
HFPAD 3R/L-115-T18-JHP	.118	.709	.189	.228	1.713	.945	1.299	4.53	15.75
HFPAD 3R/L-65-T18-JHP	.118	.709	.189	.228	1.713	.945	1.299	2.56	4.53
HFPAD 4R/L-44-T14-JHP	.157	.551	.189	.228	1.594	.945	1.299	1.73	2.28
HFPAD 4R/L-58-T14-JHP	.157	.551	.189	.228	1.594	.945	1.299	2.28	3.46
HFPAD 4R/L-88-T14-JHP	.157	.551	.177	.228	1.594	.945	1.299	3.46	6.89
HFPAD 4R/L-175-T20-JHP	.157	.787	.189	.256	1.791	.945	1.299	6.89	31.50
HFPAD 5R/L-110-T14-JHP	.197	.551	.177	.248	1.791	.945	1.299	4.33	7.87
HFPAD 5R/L-40-T14-JHP	.197	.551	.177	.248	1.594	.945	1.299	1.57	1.97
HFPAD 5L-50-T14-JHP	.197	.551	.177	.248	1.594	.945	1.299	1.97	2.95
HFPAD 5R/L-75-T14-JHP	.197	.551	.177	.248	1.594	.945	1.299	2.95	4.33
HFPAD 5R/L-200-T20-JHP	.197	.787	.177	.260	1.791	.945	1.299	7.87	31.50
HFPAD 6R/L-60-T14-JHP	.236	.551	.177	.268	1.594	.945	1.299	2.36	3.94
HFPAD 6R/L-100-T20-JHP	.236	.787	.177	.268	1.791	.945	1.299	3.94	7.87
HFPAD 6R/L-200-T20-JHP	.236	.787	.177	.280	1.791	.945	1.299	7.87	118.11

• WF(assembly)=WF(shank) + WF(adapter) • HGN,GRIP,DGN inserts can be used only with right-hand adapters, HGPL inserts with left-hand adapters
• For user guide, see pages 161-173
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter

For inserts, see pages: DGN-MF (80) • DGN-W (81) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • HGN-C (76) • HGN-J (77) • HGN-UT (78) • HGPL (75)
For holders, see pages: C#-MAHD-JHP (140) • C#-MAHPD-JHP (141) • IH-HFPAD (59) • MAHPR/L-JHP (154) • MAHPR/L-XL-JHP (155) • MAHR/L-JHP (157) • MAHR/L-JHP-MC (158)

MODULAR-GRIP

HFPAD-3
Adapters for Face Machining



M E T R I C										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 3R/L-25-T10	25.0	30.0	3.00	10.00	15.0	4.80	5.8	39.50	24.0	32.0
HFPAD 3R/L-30-T10	30.0	40.0	3.00	10.00	15.0	4.80	5.8	39.50	24.0	32.0
HFPAD 3R/L-40-T10	40.0	65.0	3.00	10.00	15.0	4.80	5.8	39.50	24.0	32.0
HFPAD 3R/L-65-T18	65.0	115.0	3.00	18.00	19.0	4.80	5.8	43.50	24.0	32.0
HFPAD 3R/L-115-T18	115.0	400.0	3.00	18.00	19.0	4.80	5.8	43.50	24.0	32.0

I N C H										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 3R/L-25-T10	.98	1.18	.118	.394	.591	.189	.228	1.555	.945	1.260
HFPAD 3R/L-30-T10	1.18	1.57	.118	.394	.591	.189	.228	1.555	.945	1.260
HFPAD 3R/L-40-T10	1.57	2.56	.118	.394	.591	.189	.228	1.555	.945	1.260
HFPAD 3R/L-65-T18	2.56	4.53	.118	.709	.748	.189	.228	1.713	.945	1.260
HFPAD 3R/L-115-T18	4.53	15.75	.118	.709	.748	.189	.228	1.713	.945	1.260

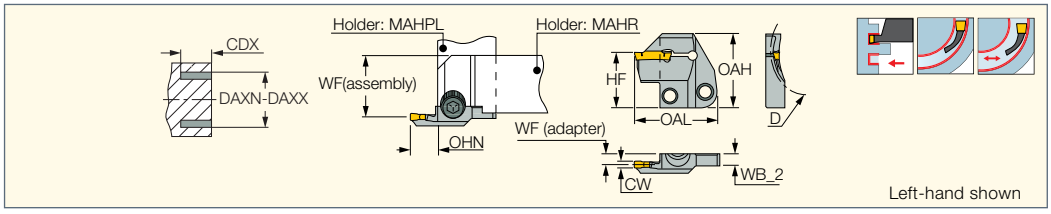
- WF(assembly)=WF(shank) + WF(adapter) • HGN & GRIP 3.. inserts can be used only with right-hand adapters, HGPL 3.. inserts with left-hand adapters
- For user guide, see pages 161-173

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

For inserts, see pages: GRIP (70) • GRIPA (73) • GRIPA (full radius) (74) • GRIP (full radius) (72) • HGN-C (76) • HGN-J (77) • HGN-UT (78) • HGPL (75)
For holders, see pages: C#-MAHD-JHP (140) • C#-MAHPD-JHP (141) • IH-HFPAD (59) • MAHR/L-JHP-MC (158) • MAHPR/L-JHP (154)
• MAHR/L-JHP (157) • MAHR/L (156) • MAHPR/L (153) • C#-MAHD (139) • C#-MAHPD (141) • C#-MAHDR-45 (138) • C#-MAHDOR (139)
• HSK A63WH-MAHUR/L (148) • HSK A63WH-MAHDR-45 (147) • HSK A63WH-MAHDOR (147) • IM-MAHD (150) • IM-MAHPD (151)

MODULAR-GRIP

HFPAD-4
Adapters for Face Machining



M E T R I C										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 4R/L-25-T10	25.0	31.0	4.00	10.00	16.0	4.50	5.8	40.50	24.0	32.0
HFPAD 4R/L-31-T10	31.0	44.0	4.00	10.00	16.0	4.50	5.8	40.50	24.0	32.0
HFPAD 4R/L-44-T14	44.0	58.0	4.00	14.00	16.0	4.50	5.8	40.50	24.0	32.0
HFPAD 4R/L-58-T14	58.0	88.0	4.00	14.00	16.0	4.50	5.8	40.50	24.0	32.0
HFPAD 4R/L-88-T14	88.0	175.0	4.00	14.00	16.0	4.50	5.8	40.50	24.0	32.0
HFPAD 4R/L-175-T20	175.0	800.0	4.00	20.00	21.0	4.50	6.5	45.50	24.0	32.0

I N C H										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 4R/L-25-T10	.98	1.22	.157	.394	.630	.177	.228	1.594	.945	1.260
HFPAD 4R/L-31-T10	1.22	1.73	.157	.394	.630	.177	.228	1.594	.945	1.260
HFPAD 4R/L-44-T14	1.73	2.28	.157	.551	.630	.177	.228	1.594	.945	1.260
HFPAD 4R/L-58-T14	2.28	3.46	.157	.551	.630	.177	.228	1.594	.945	1.260
HFPAD 4R/L-88-T14	3.46	6.89	.157	.551	.630	.177	.228	1.594	.945	1.260
HFPAD 4R/L-175-T20	6.89	31.50	.157	.787	.827	.177	.256	1.791	.945	1.260

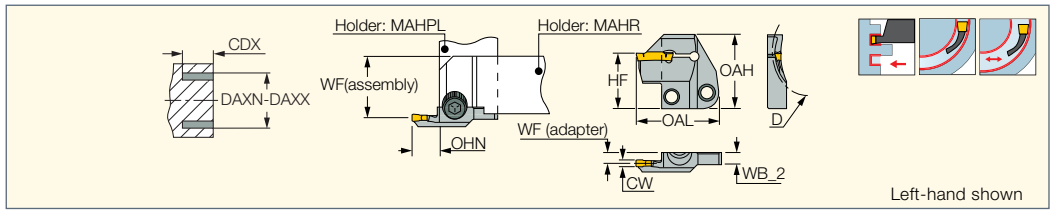
- WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 4.. inserts can be used only with right-hand adapters, HGPL 4.. inserts with left-hand adapters
- For user guide, see pages 161-173

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

For inserts, see pages: DGN-MF (80) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72)
• HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)
For holders, see pages: C#-MAHD-JHP (140) • C#-MAHPD-JHP (141) • IH-HFPAD (59) • MAHR/L-JHP-MC (158) • MAHPR/L-JHP (154)
• MAHR/L-JHP (157) • MAHR/L (156) • MAHPR/L (153) • C#-MAHD (139) • C#-MAHPD (141) • C#-MAHDR-45 (138) • C#-MAHDOR (139)
• HSK A63WH-MAHUR/L (148) • HSK A63WH-MAHDR-45 (147) • HSK A63WH-MAHDOR (147) • IM-MAHD (150) • IM-MAHPD (151)

MODULAR-GRIP

HFPAD-5
Adapters for Face Machining



M E T R I C										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 5R/L-40-T14	40.0	50.0	5.00	14.00	16.0	4.50	6.3	40.50	24.0	32.0
HFPAD 5R/L-50-T14	50.0	75.0	5.00	14.00	16.0	4.50	6.3	40.50	24.0	32.0
HFPAD 5R/L-75-T14	75.0	110.0	5.00	14.00	16.0	4.50	6.3	40.50	24.0	32.0
HFPAD 5R/L-110-T14	110.0	200.0	5.00	14.00	16.0	4.50	6.3	40.50	24.0	32.0
HFPAD 5R/L-200-T20	200.0	800.0	5.00	20.00	21.0	4.50	6.6	45.50	24.0	32.0

I N C H										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 5R/L-40-T14	1.57	1.97	.197	.551	.630	.177	.248	1.594	.945	1.260
HFPAD 5R/L-50-T14	1.97	2.95	.197	.551	.630	.177	.248	1.594	.945	1.260
HFPAD 5R/L-75-T14	2.95	4.33	.197	.551	.630	.177	.248	1.594	.945	1.260
HFPAD 5R/L-110-T14	4.33	7.87	.197	.551	.630	.177	.248	1.594	.945	1.260
HFPAD 5R/L-200-T20	7.87	31.50	.197	.787	.827	.177	.260	1.791	.945	1.260

- WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 5.. inserts can be used only with right-hand adapters, HGPL 5.. inserts with left-hand adapters
- For user guide, see pages 161-173

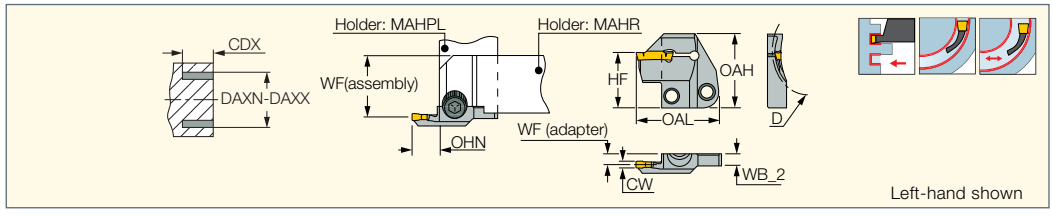
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

For inserts, see pages: GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)

For holders, see pages: C#-MAHD-JHP (140) • C#-MAHPD-JHP (141) • IH-HFPAD (59) • MAHR/L-JHP-MC (158) • MAHPR/L-JHP (154) • MAHR/L-JHP (157) • MAHR/L (156) • MAHPR/L (153) • C#-MAHD (139) • C#-MAHDOR (139) • C#-MAHPD (141) • C#-MAHDR-45 (138) • HSK A63WH-MAHUR/L (148) • HSK A63WH-MAHDR-45 (147) • HSK A63WH-MAHDOR (147) • IM-MAHD (150) • IM-MAHPD (151)

MODULAR-GRIP

HFPAD-6
Adapters for Face Machining



M E T R I C										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 6R/L-60-T14	60.0	100.0	6.00	14.00	16.0	4.50	6.8	40.50	24.0	32.0
HFPAD 6R/L-100-T20	100.0	200.0	6.00	20.00	21.0	4.50	6.8	45.50	24.0	32.0
HFPAD 6R/L-200-T20	200.0	3000.0	6.00	20.00	21.0	4.50	7.1	45.50	24.0	32.0

I N C H										
Designation	**DAXN(1)**	**DAXX(2)**	**CW**	**CDX**	**OHN(3)**	**WF(4)**	**WB_2**	**OAL**	**HF**	**OAH**
HFPAD 6R/L-60-T14	2.36	3.94	.236	.551	.630	.177	.268	1.594	.945	1.260
HFPAD 6R/L-100-T20	3.94	7.87	.236	.787	.827	.177	.268	1.791	.945	1.260
HFPAD 6R/L-200-T20	7.87	118.11	.236	.787	.827	.177	.280	1.791	.945	1.260

- WF(assembly)=WF(shank) + WF(adapter) • DGN & GRIP 6.. inserts can be used only with right-hand adapters, HGPL 6.. inserts with left-hand adapters
- For user guide, see pages 161-173

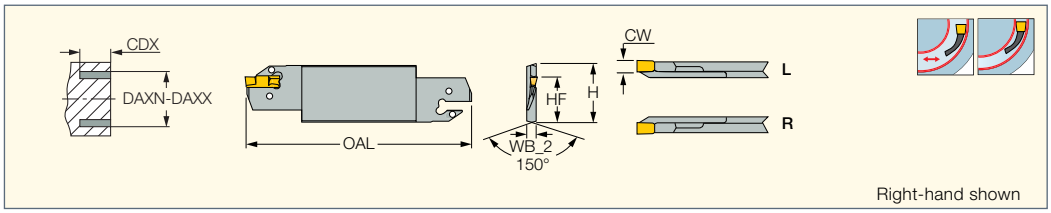
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Minimum overhang
(4) WF(adapter)

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • HGPL (75)

For holders, see pages: C#-MAHD-JHP (140) • C#-MAHPD-JHP (141) • IH-HFPAD (59) • MAHR/L-JHP-MC (158) • MAHPR/L-JHP (154) • MAHR/L-JHP (157) • MAHR/L (156) • MAHPR/L (153) • C#-MAHD (139) • C#-MAHPD (141) • C#-MAHDR-45 (138) • C#-MAHDOR (139) • HSK A63WH-MAHUR/L (148) • HSK A63WH-MAHDR-45 (147) • HSK A63WH-MAHDOR (147) • IM-MAHD (150) • IM-MAHPD (151)

HELIFACE

HFFR/L-T
Blades for Face Machining



M E T R I C

Designation	CW	DAXN(2)	DAXX(3)	CDX	OAL	HF	H	WB_2	
HFFR/L 48-4T25 (1)	4.00	48.0	60.0	25.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 60-4T25	4.00	60.0	75.0	25.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 75-4T30	4.00	75.0	140.0	30.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 140-4T30	4.00	140.0	1500.0	30.00	150.00	24.8	32.0	3.2	EDG 33B*
HFFR/L 70-5T32	5.00	70.0	95.0	32.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 95-5T35	5.00	95.0	130.0	35.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 130-5T38	5.00	130.0	180.0	38.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 180-5T38	5.00	180.0	1500.0	38.00	150.00	24.8	32.0	4.0	EDG 33B*
HFFR/L 90-6T32	6.00	90.0	180.0	32.00	150.00	24.8	32.0	5.2	EDG 33B*
HFFR/L 180-6T38	6.00	180.0	400.0	38.00	150.00	24.8	32.0	5.2	EDG 33B*

I N C H

Designation	CW	DAXN(2)	DAXX(3)	CDX	OAL	HF	H	WB_2	
HFFR/L 48-4T25 (1)	.157	1.89	2.36	.984	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 60-4T25	.157	2.36	2.95	.984	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 75-4T30	.157	2.95	5.51	1.181	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 140-4T30	.157	5.51	59.06	1.181	5.906	.976	1.260	.126	EDG 33B*
HFFR/L 70-5T32	.197	2.76	3.74	1.260	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 95-5T35	.197	3.74	5.12	1.378	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 130-5T38	.197	5.12	7.09	1.496	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 180-5T38	.197	7.09	59.06	1.496	5.906	.976	1.260	.157	EDG 33B*
HFFR/L 90-6T32	.236	3.54	7.09	1.260	5.906	.976	1.260	.205	EDG 33B*
HFFR/L 180-6T38	.236	7.09	15.75	1.496	5.906	.976	1.260	.205	EDG 33B*

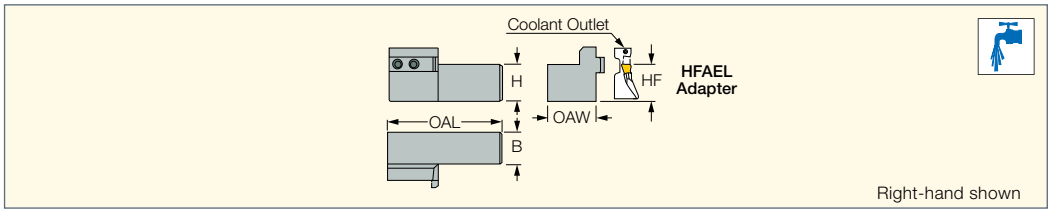
- After initial groove, no limitation to widening groove outward or toward center.
- DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades
- For user guide, see pages 161-173

(1) HGPL 4...Y with LH blade
(2) Minimum penetration diameter
(3) Maximum penetration diameter
* Optional, should be ordered separately

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)
For holders, see pages: SGTBF (136) • SGTBU/SGTBN (133) • UBHCR/L (135)

HELIFACE

HAR/L
Face Machining Adapter Holders



M E T R I C

Designation	OAL	B	H	HF	OAW		
HAR/L 25C	110.00	25.0	25.0	25.0	39.00	SR 14-519	T-20/3
HAR/L 32C	130.00	32.0	32.0	32.0	46.00	SR 14-519	T-20/3

I N C H

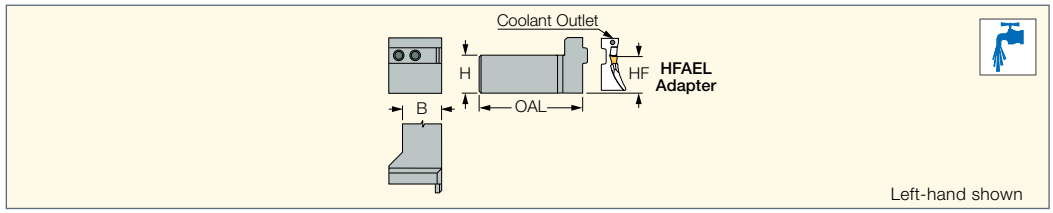
Designation	OAL	B	H	HF	OAW		
HAR/L 25.4C	5.500	1.000	1.000	1.000	1.550	SR 14-519	T-20/3
HAR/L 31.7C	6.300	1.250	1.250	1.250	1.800	SR 14-519	T-20/3

- Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

HELIFACE

HAPR/L
Face Machining Perpendicular Holders for Adapters



M E T R I C

Designation	OAL	H	HF	B		
HAPR/L 25C	124.00	25.0	25.0	25.0	SR 14-519	T-20/3
HAPR/L 32C	139.00	32.0	32.0	32.0	SR 14-519	T-20/3

I N C H

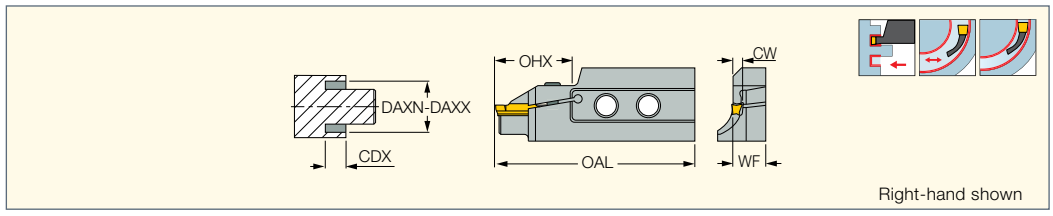
Designation	OAL	H	HF	B		
HAPR/L 25.4C	4.880	1.000	1.000	1.000	SR 14-519	T-20/3
HAPR/L 31.7C	5.670	1.250	1.250	1.250	SR 14-519	T-20/3

- Holders for adapters HFAER/L & HGAER/L, HFAIR/L & HGAIR/L.

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

HELIFACE

HGAER/L-3
Adapters for External Facing Along Shafts



M E T R I C

Designation	CDX	CW	DAXN(1)	DAXX(2)	OHX(3)	WF	OAL
HGAER/L 12-3M	2.00	3.00	12.0	500.0	21.0	10.2	55.00
HGAER/L 12-3T6	6.00	3.00	12.0	15.0	21.0	10.2	55.00
HGAER/L 14-3T7	7.00	3.00	14.0	17.0	21.0	10.2	55.00
HGAER/L 17-3T8	8.00	3.00	17.0	21.0	21.0	10.2	55.00
HGAER/L 21-3T9	9.00	3.00	21.0	25.0	21.0	10.2	55.00

I N C H

Designation	CDX	CW	DAXN(1)	DAXX(2)	OHX(3)	WF	OAL
HGAER/L 12-3M	.079	.118	.47	19.69	.827	.402	2.165
HGAER/L 12-3T6	.236	.118	.47	.59	.827	.402	2.165
HGAER/L 14-3T7	.276	.118	.55	.67	.827	.402	2.165
HGAER/L 17-3T8	.315	.118	.67	.83	.827	.402	2.165
HGAER/L 21-3T9	.354	.118	.83	.98	.827	.402	2.165

- GRIP 3... inserts can be used with right-hand adapters only, HGPL 3 with left-hand adapters • For user guide, see pages 161-173

(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang

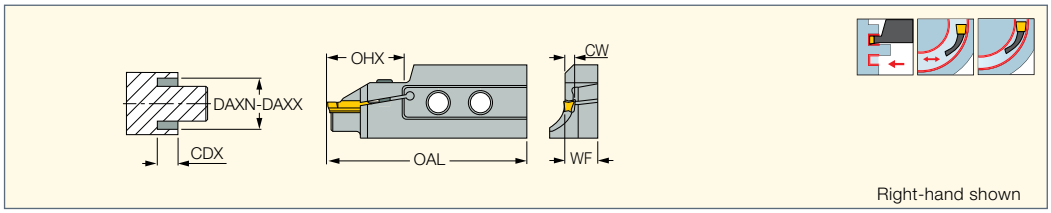
For inserts, see pages: GRIP (70) • GRIP (full radius) (72) • HGPL (75)
For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAPR/L (52) • HAR/L (51) • IM-HAD (152) • IM-HAPR/L (152)

Spare Parts

Designation		
HGAER/L-3	SR 16-236 P	T-15/3

HELIFACE

HFAER/L-4
Adapters for External
Facing Along Shafts



M E T R I C

Designation	CDX	CW	DAXN(1)	DAXX(2)	OAL	OHX(3)	WF		
HFAER/L 40-4T20	20.00	4.00	40.0	48.0	68.50	21.0	11.6	SR M5X16 DIN912	HW 4.0
HFAER/L 48-4T20	20.00	4.00	48.0	60.0	68.50	21.0	11.6	SR M5X16 DIN912	HW 4.0
HFAER/L 60-4T25	25.00	4.00	60.0	75.0	68.50	26.0	11.6	SR M5X16 DIN912	HW 4.0
HFAER/L 75-4T25	25.00	4.00	75.0	100.0	68.50	26.0	11.6	SR M5X16 DIN912	HW 4.0

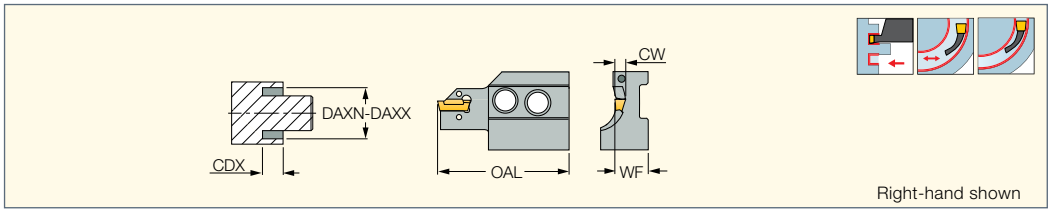
I N C H

Designation	CDX	CW	DAXN(1)	DAXX(2)	OAL	OHX(3)	WF		
HFAER/L 40-4T20	.787	.157	1.57	1.89	2.697	.827	.457	SR M5X16 DIN912	HW 4.0
HFAER/L 48-4T20	.787	.157	1.89	2.36	2.697	.827	.457	SR M5X16 DIN912	HW 4.0
HFAER/L 60-4T25	.984	.157	2.36	2.95	2.697	1.024	.457	SR M5X16 DIN912	HW 4.0
HFAER/L 75-4T25	.984	.157	2.95	3.94	2.697	1.024	.457	SR M5X16 DIN912	HW 4.0

• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang
For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • HGPL (75)
For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAPR/L (52) • HAR/L (51) • IM-HAD (152) • IM-HAPR/L (152)

HELIFACE

HFAER/L-5T, 6T
Adapters for External
Facing Along Shafts



M E T R I C

Designation	CW	CDX	DAXN(1)	DAXX(2)	OAL	WF	
HFAER/L 70C-5T25	5.00	25.00	70.0	95.0	66.00	12.2	EDG 33B*
HFAER/L 95C-5T25	5.00	25.00	95.0	130.0	66.00	12.2	EDG 33B*
HFAER/L 70C-6T28	6.00	28.00	70.0	100.0	69.00	12.3	EDG 33B*
HFAER/L 100C-6T32	6.00	32.00	100.0	180.0	73.00	12.3	EDG 33B*
HFAER/L 180C-6T32	6.00	32.00	180.0	400.0	73.00	12.3	EDG 33B*

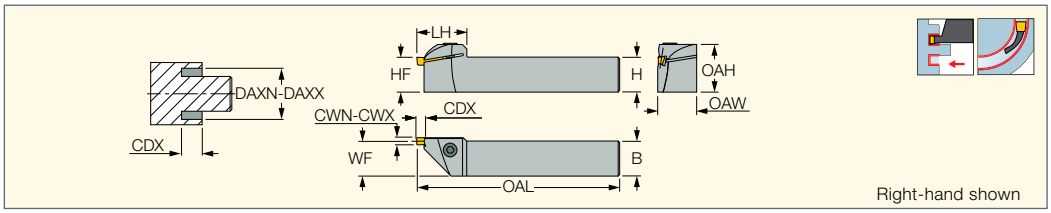
I N C H

Designation	CW	CDX	DAXN(1)	DAXX(2)	OAL	WF	
HFAER/L 70C-5T25	.197	.984	2.76	3.74	2.598	.480	EDG 33B*
HFAER/L 95C-5T25	.197	.984	3.74	5.12	2.598	.480	EDG 33B*
HFAER/L 70C-6T28	.236	1.102	2.76	3.94	2.717	.484	EDG 33B*
HFAER/L 100C-6T32	.236	1.260	3.94	7.09	2.874	.484	EDG 33B*
HFAER/L 180C-6T32	.236	1.260	7.09	15.75	2.874	.484	EDG 33B*

• After initial groove, no limitation to widening groove outward from or toward center • Adapters can be mounted on standard HAR/L, HAPR/L, HAI holders for external machining
• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
* Optional, should be ordered separately
For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)
For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAPR/L (52) • HAR/L (51) • IM-HAD (152) • IM-HAPR/L (152)

HELIFACE

HFHR/L-M
Toolholders for Shallow Face Grooving



M E T R I C

Designation	CWN(1)	CWX(2)	CDX	WF	H	HF	B	OAL	DAXN(3)	DAXX(4)	OAH	OAW		
HFHR/L 20M	3.00	6.00	5.30	20.00	20.0	20.0	20.0	130.00	20.0	2000.0	29.0	22.50	SR M6X16 DIN912	HW 5.0
HFHR/L 25M	3.00	6.00	5.30	25.00	25.0	25.0	25.0	150.00	20.0	2000.0	34.0	27.50	SR M6X16 DIN912	HW 5.0

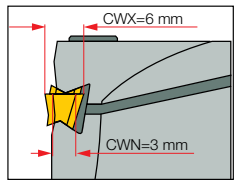
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 161-173

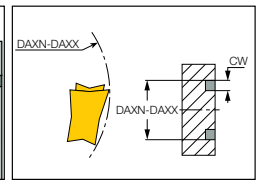
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

HFHR/L-☐M & HFHPR/L-☐M
Integral Toolholders

For shallow machining up to max. 5 mm depth of groove.
One toolholder can be mounted with inserts in 3-6 mm widths. The initial major diameter groove is limited by the insert's geometry of each size.
After the initial groove, face recessing outward or toward the center is not limited by the insert's geometry.



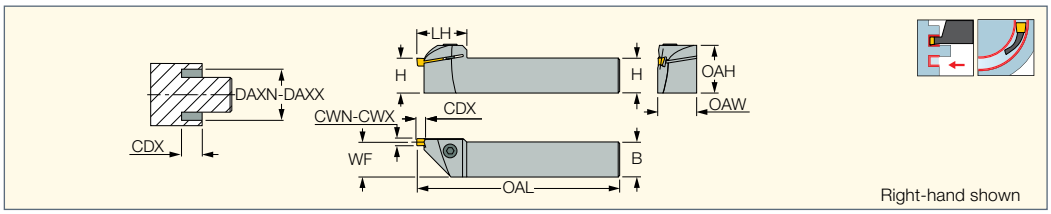


Insert initial face grooving range

DAXN-DAXX		
CW	DAXN	DAXX
3	25.6	51.5
4	24.1	73.7
5	22.1	170
6	20.8	∞

HELIFACE

HFHR/L-M
Toolholders for Shallow Face Grooving



I N C H

Designation	CWN(1)	CWX(2)	CDX	WF	H	B	OAL	LH	DAXN(3)	DAXX(4)	OAH	OAW		
HFHR 19M	.118	.236	.209	.750	.750	.750	5.000	1.420	.79	78.74	1.10	.850	SR M6X16 DIN912	HW 5.0
HFHR/L 25.4M	.118	.236	.209	1.000	1.000	1.000	6.000	1.420	.79	78.74	1.35	1.100	SR M6X16 DIN912	HW 5.0

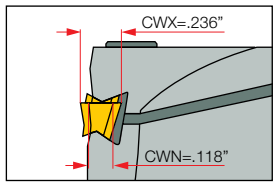
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 161-173

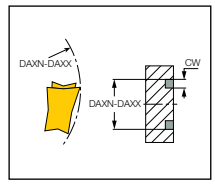
(1) Minimum cutting width
(2) Maximum cutting width
(3) Minimum penetration diameter
(4) Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

HFHR/L-☐M & HFHPR/L-☐M
Integral Toolholders

For shallow machining to max. .209″ depth of groove.
One toolholder can be mounted with inserts in .118-.236″ widths. The initial major diameter groove is limited by the insert geometry in each size.
After initial groove, face recessing outward or toward center is not limited by insert geometry.



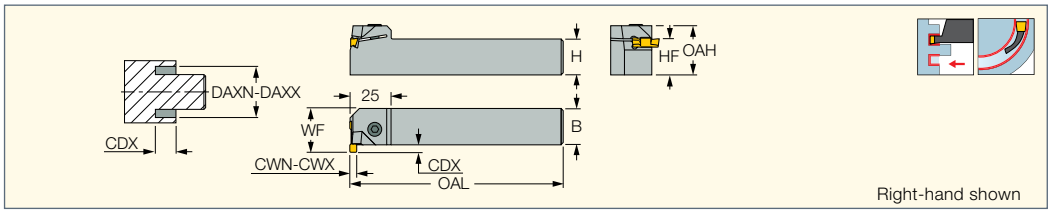


Insert initial face grooving range

DAXN-DAXX		
DAXX	DAXN	CW
2.362	.945	.117
3.543	.906	.157
11.811	.827	.197
∞	.787	.236

HELIFACE

HFHPR/L-M
Perpendicular Toolholders
for Shallow Face Grooving



M E T R I C

Designation	CWN[1]	CWX[2]	CDX	WF	H	B	OAL	DAXN[3]	DAXX[4]	OAH	HF		
HFHPR/L 20M	3.00	6.00	5.00	25.30	20.0	20.0	130.00	20.0	2000.0	29.0	20.0	SR M6X16 DIN912	HW 5.0
HFHPR/L 25M	3.00	6.00	5.00	30.30	25.0	25.0	150.00	20.0	2000.0	34.0	25.0	SR M6X16 DIN912	HW 5.0

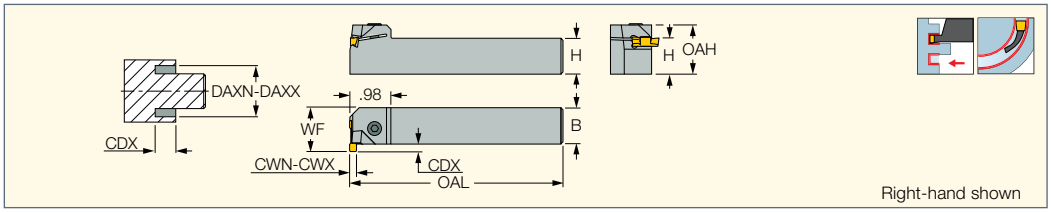
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 161-173

[1] Minimum cutting width
[2] Maximum cutting width
[3] Minimum penetration diameter
[4] Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

HELIFACE

HFHPR/L-M
Perpendicular Toolholders
for Shallow Face Grooving



I N C H

Designation	CWN[1]	CWX[2]	CDX	WF	H	B	OAL	DAXN[3]	DAXX[4]	OAH		
HFHPR/L 19M	.118	.236	.197	.960	.750	.750	5.000	.95	78.74	1.10	SR M6X16 DIN912	HW 5.0
HFHPR/L 25.4M	.118	.236	.197	1.220	1.000	1.000	6.000	.95	78.74	1.35	SR M6X16 DIN912	HW 5.0

- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 161-173

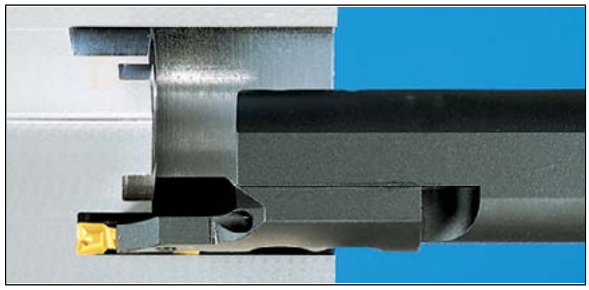
[1] Minimum cutting width
[2] Maximum cutting width
[3] Minimum penetration diameter
[4] Maximum penetration diameter

For inserts, see pages: HFPR/L (68) • HFPR/L (full radius) (69)

Boring Bars for Adapters

HGAIR/L & HFAIR/L Adapters and HAI Holders

Adapter clamped on HAI round shank holders can machine deep internal boring and grooving applications. The tool can bore down to the bottom, and is supplied with internal coolant for better performance.



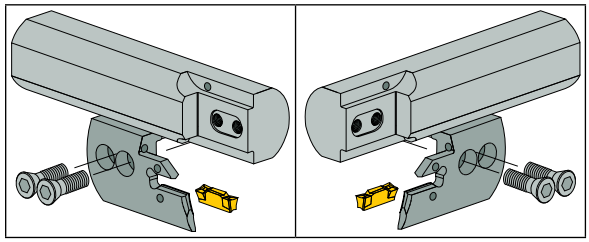
HFAIR/L & HGAIR/L	HAI Holders
	

Exchangeable adapters, see pages 57,60

for adapters, see page 60

HFAIR/L HGAIR/L	- ☐	C	- ☐	T - ☐
HELIFACE Internal adapters right or left	Min. initial groove diameter	Internal coolant	Insert width	Max. depth of groove

HAI Holder System Assembly

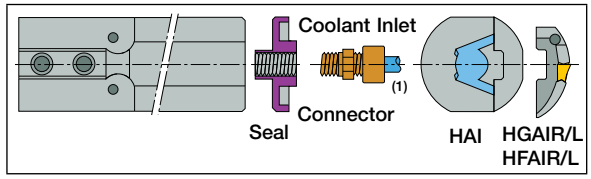


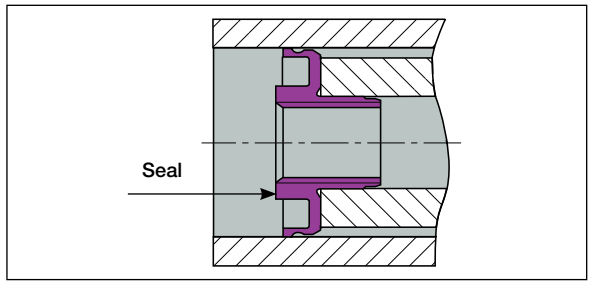
HFAIL & HGAIL
Left-hand Adapters

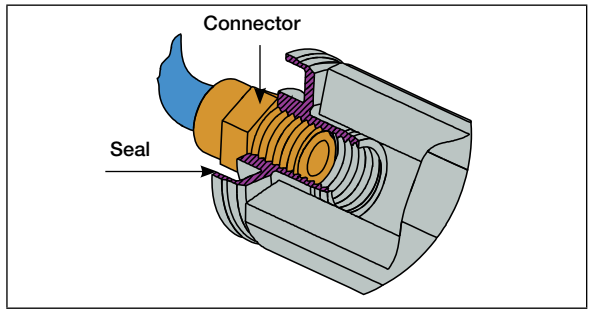
HFAIR & HGAIR
Right-hand Adapters

The same HAI boring bar can be used with right- and left-hand adapters in a wide range of face machining applications. The two screws and the central guiding slot on the adapter correspond to the key and holes on the holder ensuring strong, safe, and accurate clamping.

Coolant System



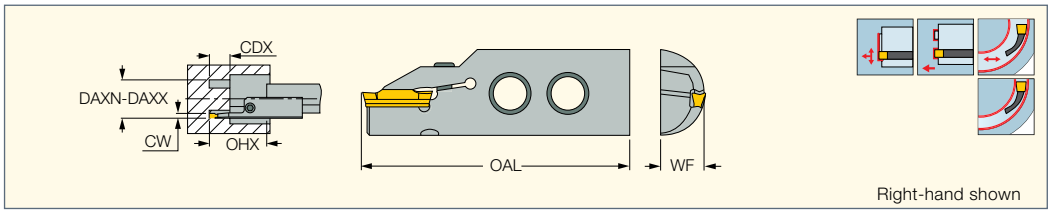




(1) Connector for coolant inlet BSP 1/8 thread. For PL-20, use M6 thread. Connector not supplied with tools.

HELIFACE

HGAIR/L-3
Adapters for Internal Face Grooving and Turning



M E T R I C

Designation	CDX	DAXN(1)	DAXX(2)	CW	OAL	WF	OHX(3)		
HGAIR/L 12-3M	2.00	12.0	500.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 12-3T6	6.00	12.0	15.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 14-3T7	7.00	14.0	17.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 17-3T8	8.00	17.0	21.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 21-3T9	9.00	21.0	25.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 25-3T9	9.00	25.0	34.0	3.00	55.00	10.2	21.0	SR 16-236 P	T-15/3
HGAIR/L 35-3T10	10.00	35.0	45.0	3.00	56.00	10.3	22.0	SR 16-236 P	T-15/3
HGAIR/L 45-3T10	10.00	45.0	65.0	3.00	56.00	10.3	22.0	SR 16-236 P	T-15/3
HGAIR/L 65-3T18	18.00	65.0	115.0	3.00	64.00	11.3	30.0	SR 16-236 P	T-15/3
HGAIR/L 115-3T18	18.00	115.0	400.0	3.00	64.00	11.3	30.0	SR 16-236 P	T-15/3

I N C H

Designation	CDX	DAXN(1)	DAXX(2)	CW	OAL	WF	OHX(3)		
HGAIR/L 12-3M	.079	.47	19.69	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 12-3T6	.236	.47	.59	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 14-3T7	.276	.55	.67	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 17-3T8	.315	.67	.83	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 21-3T9	.354	.83	.98	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 25-3T9	.354	.98	1.34	.118	2.165	.402	.827	SR 16-236 P	T-15/3
HGAIR/L 35-3T10	.394	1.38	1.77	.118	2.205	.406	.866	SR 16-236 P	T-15/3
HGAIR/L 45-3T10	.394	1.77	2.56	.118	2.205	.406	.866	SR 16-236 P	T-15/3
HGAIR/L 65-3T18	.709	2.56	4.53	.118	2.520	.445	1.181	SR 16-236 P	T-15/3
HGAIR/L 115-3T18	.709	4.53	15.75	.118	2.520	.445	1.181	SR 16-236 P	T-15/3

• HGN & GRIP 3.. inserts can be used only with right-hand adapters, HGPL 3.. inserts with left-hand adapters • For user guide, see pages 161-173

(1) Minimum penetration diameter

(2) Maximum penetration diameter

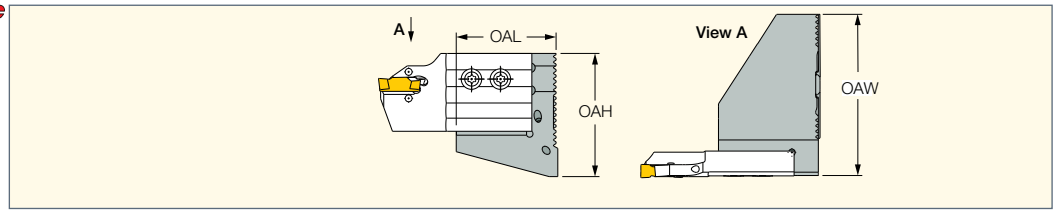
(3) Maximum overhang

For inserts, see pages: GRIPA (73) • GRIPA (full radius) (74) • GRIP (70) • GRIP (full radius) (72) • HGN-C (76) • HGN-J (77) • HGN-UT (78) • HGPL (75)

For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAI-C (60) • HAPR/L (52) • HAR/L (51) • IH-HFAIR (58) • IM-HAD (152) • IM-HAPR/L (152)

HELIFACE TANG-GRIP FACE MACHINING LINE

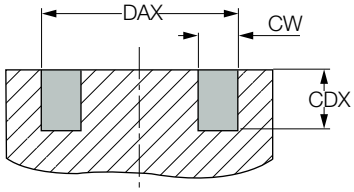
IH-HFAIR
Intermediate Serrated Cartridge for standard HELI-FACE HFAIR Adapters

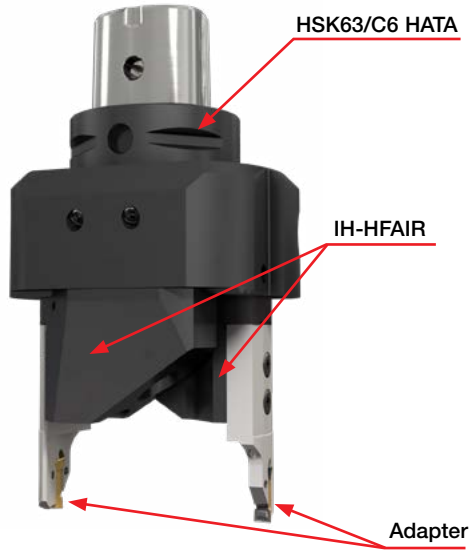


	M E T R I C		
Designation	**OAH**	**OAW**	**OAL**
IH-HFAIR	55.40	72.50	44.90

For tools, see pages: HFAIR/L-DG (61) • HGAIR/L-3 (57)

HSK63 HATA+IH-HFAIR
C6 HATA+IH-HFAIR





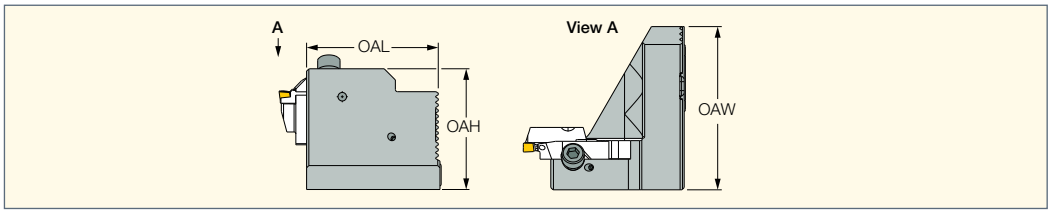
Adapters	**CW** (min)	**CW** (max)	**CDX**	**DAX** (min)	**DAX** (max)
HGAIR 12-3M	3	5.1	2	83.8	123.4
HGAIR 65-3T18	3	5.1	18	86	115
HGAIR 115-3T18	3	5.1	18	115	125.6
HFAIR 75C-4T30DG	4	6.9	30	85.2	124.8
HFAIR 70C-5T25DG	5	8.1	25	87.2	95
HFAIR 95C-5T35DG	5	8.1	35	95	126.8
HFAIR 70C-6T28DG	6	10.1	28	87.4	100
HFAIR 100C-6T32DG	6	10.1	32	100	127

Spare Parts

Designation				
IH-HFAIR	SR 14-519	T-20/3	O-RING 19X2 NBR	SR M6X20-XT

HELIFACE TANG-GRIP FACE MACHINING LINE

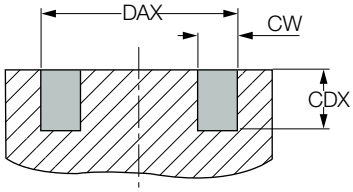
IH-HFPAD
Intermediate Serrated Cartridge
for Standard HFPAD R Adapters

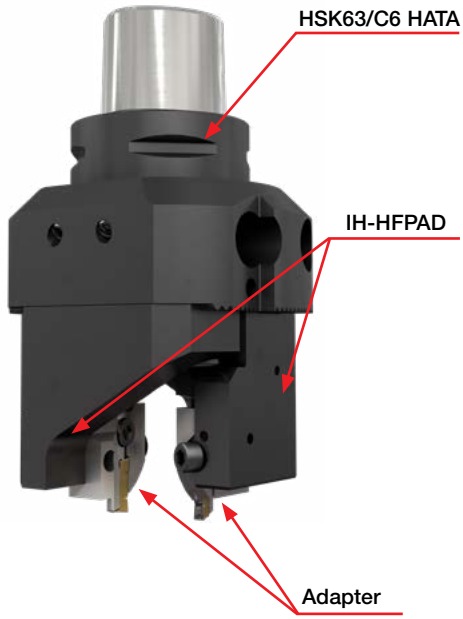


M E T R I C			
Designation	**OAH**	**OAW**	**OAL**
IH-HFPAD	54.00	73.00	58.90

For tools, see pages: HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48)

HSK63 HATA+IH-HFPAD
C6 HATA+IH-HFPAD





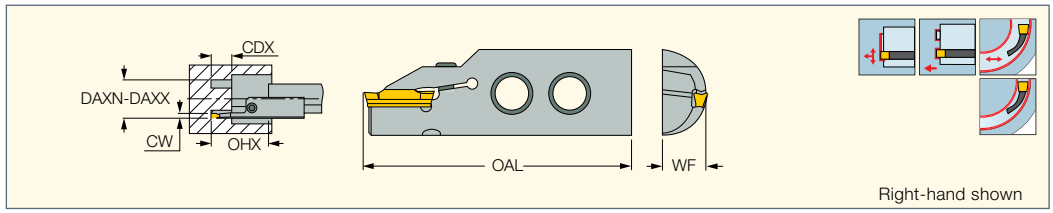
Adapters	CW (min)	CW (max)	CDX	DAX (min)	DAX (max)
HFPAD 3R-25-T10	3	5.1	10	25	30
HFPAD 3R-30-T10	3	5.1	10	30	40
HFPAD 3R-40-T10	3	5.1	10	40	65
HFPAD 3R-65-T18	3	5.1	18	65	99.2
HFPAD 4R-25-T10	4	6.9	10	25	31
HFPAD 4R-31-T10	4	6.9	10	31	44
HFPAD 4R-44-T14	4	6.9	14	44	58
HFPAD 4R-58-T14	4	6.9	14	58	88
HFPAD 4R-88-T14	4	6.9	14	88	100.8
HFPAD 5R-40-T14	5	8.1	14	40	50
HFPAD 5R-50-T14	5	8.1	14	50	75
HFPAD 5R-75-T14	5	8.1	14	75	101.8
HFPAD 6R-60-T14	6	10.1	14	60	100
HFPAD 6R-100-T20	6	10.1	20	100	102.8
HFPAD 3R-30-T10-JHP	3	5.1	10	30	40
HFPAD 3R-40-T10-JHP	3	5.1	10	40	65
HFPAD 3R-65-T18-JHP	3	5.1	18	65	99.2
HFPAD 4R-44-T14-JHP	4	6.9	14	44	58
HFPAD 4R-58-T14-JHP	4	6.9	14	58	88
HFPAD 4R-88-T14-JHP	4	6.9	14	88	100.8
HFPAD 5R-40-T14-JHP	5	8.1	14	40	50
HFPAD 5R-75-T14-JHP	5	8.1	14	75	101.8
HFPAD 6R-60-T14-JHP	6	10.1	14	60	100
HFPAD 6R-100-T20-JHP	6	10.1	20	100	102.8

Spare Parts

Designation									
IH-HFPAD	SR M6X20-XT	SR M5-04451	SR M6X12DIN6912	HW 5.0	T-20/5	O-RING 19X2 NBR	OR 5X1N	BLD T20/M7	SW6-SD

HELIFACE

HFAIR/L-4
Adapters for Internal Face Grooving and Turning



M E T R I C

Designation	CDX	CW	DAXN(1)	DAXX(2)	OAL	WF	OHX(3)		
HFAIR/L 34-4T18	18.00	4.00	34.0	40.0	67.00	15.3	33.0	SR M5X16 DIN912	HW 4.0
HFAIR/L 40-4T20	20.00	4.00	40.0	48.0	67.00	15.3	33.0	SR M5X16 DIN912	HW 4.0
HFAIR/L 48-4T20	20.00	4.00	48.0	60.0	67.00	15.3	33.0	SR M5X16 DIN912	HW 4.0
HFAIR/L 60-4T25	25.00	4.00	60.0	75.0	67.00	15.3	33.0	SR M5X16 DIN912	HW 4.0

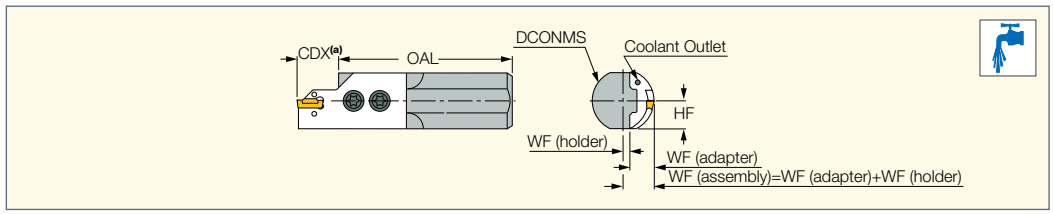
I N C H

Designation	CDX	CW	DAXN(1)	DAXX(2)	OAL	WF	OHX(3)		
HFAIR/L 34-4T18	.709	.157	1.34	1.57	2.638	.602	1.299	SR M5X16 DIN912	HW 4.0
HFAIR/L 40-4T20	.787	.157	1.57	1.89	2.638	.602	1.299	SR M5X16 DIN912	HW 4.0
HFAIR/L 48-4T20	.787	.157	1.89	2.36	2.638	.602	1.299	SR M5X16 DIN912	HW 4.0
HFAIR/L 60-4T25	.984	.157	2.36	2.95	2.638	.602	1.299	SR M5X16 DIN912	HW 4.0

• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang
For inserts, see pages: DGN-MF (80) • GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • HGPL (75)
For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAI-C (60) • HAPR/L (52) • HAR/L (51) • IM-HAD (152) • IM-HAPR/L (152)

HELIFACE

HAI-C
Boring Bars with Coolant Holes for Internal Grooving and Turning Adapters



M E T R I C

Designation	DCONMS	OAL	HF	WF(1)	CSP(2)			
HAI 20	20.00	130.00	9.0	0.50	0	SR 14-519	T-20/3	
HAI 25C	25.00	150.00	11.5	3.00	1	SR 14-519	T-20/3	PL 25
HAI 32C	32.00	200.00	14.5	6.50	1	SR 14-519	T-20/3	PL 32
HAI 40C	40.00	250.00	18.0	10.50	1	SR 14-519	T-20/3	PL 40

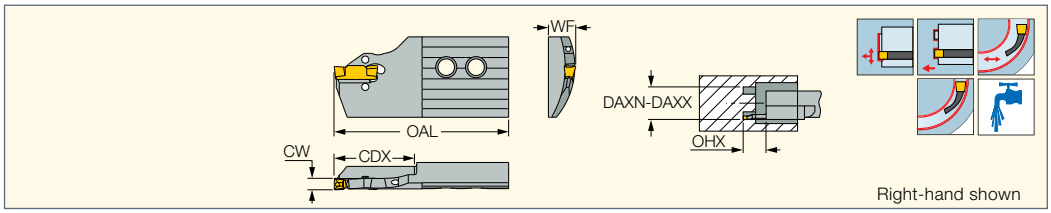
I N C H

Designation	DCONMS	OAL	HF	WF(1)	CSP(2)			
HAI 19	.750	5.120	.338	.005	1	SR 14-519	T-20/3	
HAI 25.4C	1.000	6.000	.460	.130	1	SR 14-519	T-20/3	PL 100
HAI 31.7C	1.250	7.874	.570	.255	1	SR 14-519	T-20/3	PL 125
HAI 38.1C	1.500	10.000	.670	.380	1	SR 14-519	T-20/3	PL 150

• The HAI boring bars can be used with right and left-hand adapters • (a) CDX - see corresponding adapters
(1) Holder
(2) 0 - Without coolant supply, 1 - With coolant supply
For tools, see pages: HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAIR/L-3 (57)

HELIFACE

HFAIR/L-DG
Adapters for Internal Face Grooving and Turning



M E T R I C

Designation	CW	DAXN(1)	DAXX(2)	CDX	WF	OHX(3)	OAL	
HFAIR/L 75C-4T30DG	4.00	75.0	140.0	30.00	10.9	34.5	68.50	EDG 33B*
HFAIR/L 140C-4T30DG	4.00	140.0	-	30.00	10.9	34.5	68.50	EDG 33B*
HFAIR/L 55C-5T25DG	5.00	55.0	70.0	25.00	11.9	32.0	66.00	EDG 33B*
HFAIR/L 70C-5T25DG	5.00	70.0	95.0	25.00	11.9	32.0	66.00	EDG 33B*
HFAIR/L 95C-5T35DG	5.00	95.0	130.0	35.00	11.9	39.5	73.50	EDG 33B*
HFAIR/L 130C-5T38DG	5.00	130.0	180.0	38.00	11.9	42.5	76.50	EDG 33B*
HFAIR/L 180C-5T38DG	5.00	180.0	-	38.00	11.9	42.5	76.50	EDG 33B*
HFAIR/L 70C-6T28DG	6.00	70.0	100.0	28.00	12.0	35.0	69.00	EDG 33B*
HFAIR/L 100C-6T32DG	6.00	100.0	180.0	32.00	12.0	39.0	73.00	EDG 33B*
HFAIR/L 180C-6T38DG	6.00	180.0	-	38.00	12.4	42.5	76.50	EDG 33B*

I N C H

Designation	CW	DAXN(1)	DAXX(2)	CDX	WF	OHX(3)	OAL	
HFAIR/L 75C-4T30DG	.157	2.95	5.51	1.181	.429	1.358	2.697	EDG 33B*
HFAIR/L 140C-4T30DG	.157	5.51	-	1.181	.429	1.358	2.697	EDG 33B*
HFAIR/L 55C-5T25DG	.197	2.17	2.76	.984	.469	1.260	2.598	EDG 33B*
HFAIR/L 70C-5T25DG	.197	2.76	3.74	.984	.469	1.260	2.598	EDG 33B*
HFAIR/L 95C-5T35DG	.197	3.74	5.12	1.378	.469	1.555	2.894	EDG 33B*
HFAIR/L 130C-5T38DG	.197	5.12	7.09	1.496	.469	1.673	3.012	EDG 33B*
HFAIR/L 180C-5T38DG	.197	7.09	-	1.496	.469	1.673	3.012	EDG 33B*
HFAIR/L 70C-6T28DG	.236	2.76	3.94	1.102	.472	1.378	2.717	EDG 33B*
HFAIR/L 100C-6T32DG	.236	3.94	7.09	1.260	.472	1.535	2.874	EDG 33B*
HFAIR/L 180C-6T38DG	.236	7.09	-	1.496	.488	1.673	3.012	EDG 33B*

- After initial groove, no limitation to widening groove outward or toward center
- DGN inserts can be used on right- and left-hand tools, GRIP inserts only on right-hand tools, HFPR/L right-hand inserts on right-hand tools (same for left-hand), and HGPL inserts only on left-hand tools.

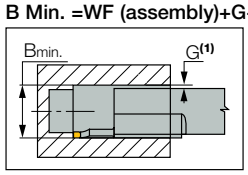
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) Maximum overhang
* Optional, should be ordered separately

For inserts, see pages: DGN-MF (80) • GRIPA (73) • GRIPA (full radius) (74) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)
For holders, see pages: C#-HAD (144) • C#-HAPR/L (144) • HAI-C (60) • HAPR/L (52) • HAR/L (51) • IH-HFAIR (58) • IM-HAD (152) • IM-HAPR/L (152)

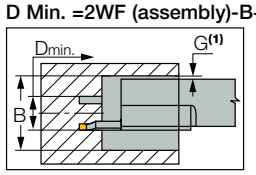
Adapters can be used for internal machining along bore, and can be mounted on standard HAI boring bars for internal machining and HAR/L, HAPR/L holders for external machining.

Boring, Face Grooving and Face Recessing Capacity

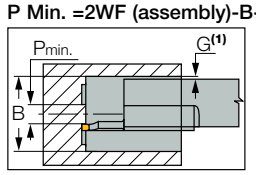
Boring
B Min. =WF (assembly)+G+DCONMS/2



Face Grooving
D Min. =2WF (assembly)-B+2G+DCONMS



Face Recessing
P Min. =2WF (assembly)-B-2CW+2G+DCONMS

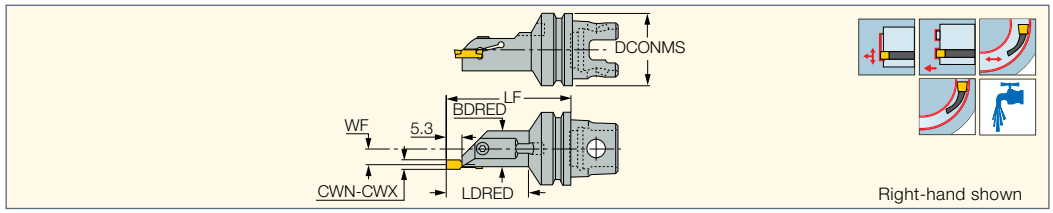


(1) The minimum recommended value for clearance (G) is 0.5 mm
* WF (assembly)=WF(adapter)+WF(holder)

ISO 26622-1 XMZ

HELIFACE

IM-HFIR-MC
Tools for Internal Grooving and Turning with ISO 26622-1(*) Tapered Shank



M E T R I C

Designation	DCONMS	LF	BDRED	WF	LDRED	CWN(1)	CWX(2)			
IM40 HFIR-MC	40.00	80.0	25.00	11.30	52.0	3.00	6.00	SR M5X16 DIN912	HW 4.0	EZ 83
IM50 HFIR-MC	50.00	80.0	25.00	11.30	52.0	3.00	6.00	SR M5X16 DIN912	HW 4.0	EZ 83

- (*) Tools with orientation holes in the flange groove can be supplied on request
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center • For user guide, see pages 161-173

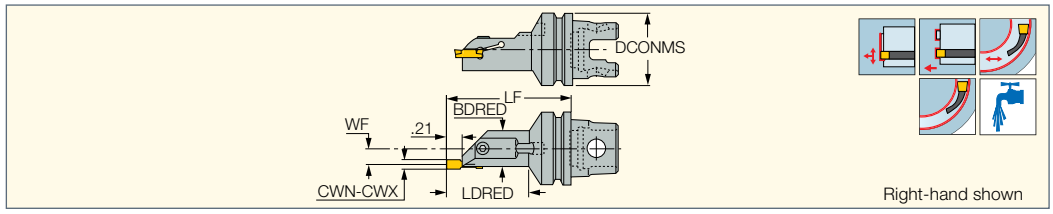
(1) Minimum cutting width
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81)

ISO 26622-1 XMZ

HELIFACE

IM-HFIR-MC
Tools for Internal Grooving and Turning with ISO 26622-1(*) Tapered Shank



I N C H

Designation	DCONMS	LF	BDRED	WF	LDRED	CWN(1)	CWX(2)			
IM40 HFIR-MC	1.575	3.15	.984	.445	2.05	.118	.236	SR M5X16 DIN912	HW 4.0	EZ 83
IM50 HFIR-MC	1.968	3.15	.984	.445	2.05	.118	.236	SR M5X16 DIN912	HW 4.0	EZ 83

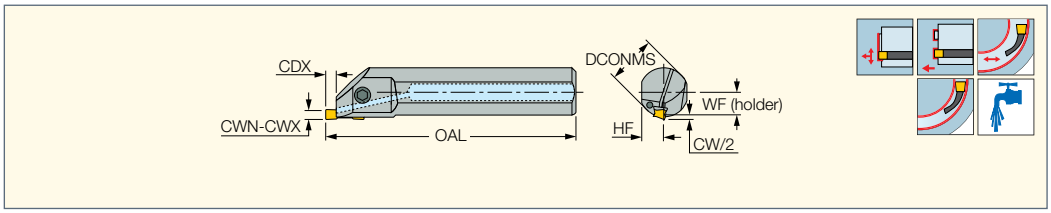
- (*) Tools with orientation holes in the flange groove can be supplied on request
- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center • For user guide, see pages 161-173

(1) Minimum cutting width
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81)

HELIFACE

HFIR/L-MC
Boring Bars for Internal Grooving and Turning



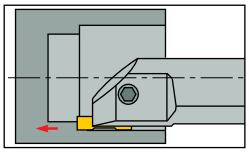
Designation	DCONMS	CWN(1)	CWX(2)	CDX	OAL	WF	HF			
M E T R I C										
HFIR/L 16MC	16.00	3.00	6.00	5.00	150.00	11.14	7.5	SR M5X16 DIN912	HW 4.0	PL 16
HFIR/L 20MC	20.00	3.00	6.00	5.00	170.00	11.14	9.0	SR M5X16 DIN912	HW 4.0	PL 20
HFIR/L 25MC	25.00	3.00	6.00	5.00	200.00	11.14	11.5	SR M5X16 DIN912	HW 4.0	PL 25
HFIR/L 32MC	32.00	3.00	6.00	5.00	250.00	14.68	14.5	SR M6X20 DIN912	HW 5.0	PL 32
HFIR/L 40MC	40.00	3.00	6.00	5.00	300.00	18.70	18.0	SR M6X20 DIN912	HW 5.0	PL 40

- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 56, 161-173

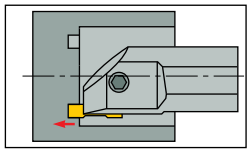
(1) Minimum cutting width
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • DGN-W (81) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)

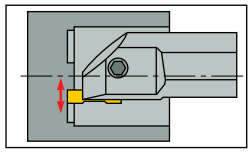
Boring



Internal Face Grooving

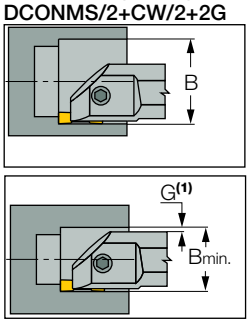


Internal Face Recessing

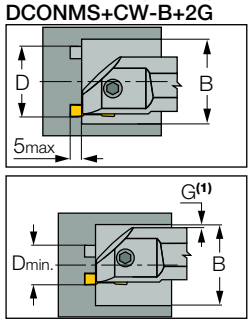


Boring, Face Grooving & Face Recessing Capacity

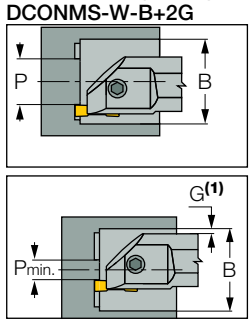
Boring
B Min. =WF(holder)+ DCONMS/2+CW/2+2G



Face Grooving
D Min. =2WF (holder)+ DCONMS+CW-B+2G



Face Recessing
P Min. =2WF (holder)+ DCONMS-W-B+2G



(1) The minimum recommended value for clearance (G) is 0.5 mm

HFIR/L- ☐ MC Integral Boring Bars

For shallow, internal face machining to max. 5 mm depth of groove. One boring bar can be mounted with inserts in 4-6 mm widths.

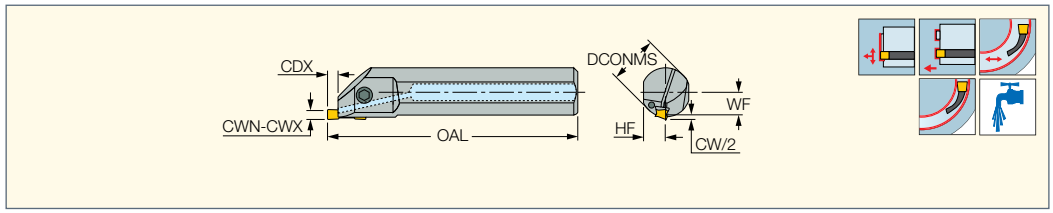
The initial major diameter groove is limited by the insert's geometry of each size. After the initial groove, face recessing outward or toward center is not limited by the insert's geometry.

Insert Initial Face Grooving Range

CW	D Min.	D Max.
4	23	90
5	21	300
6	20	∞

HELIFACE

HFIR/L-MC
Boring Bars for Internal Grooving and Turning



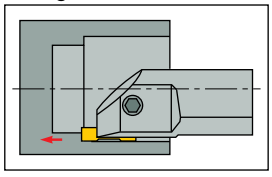
Designation	DCONMS	CWN(1)	CWX(2)	CDX	OAL	WF	HF			
	I N C H									
HFIR/L 15.9MC	.625	.118	.236	.197	5.906	.438	.295	SR M5X16 DIN912	HW 4.0	PL 062
HFIR/L 19.05MC	.750	.118	.236	.197	6.693	.438	.354	SR M5X16 DIN912	HW 4.0	PL 075
HFIR/L 25.4MC	1.000	.118	.236	.197	8.000	.450	.460	SR M5X16 DIN912	HW 4.0	PL 100
HFIR/L 31.7MC	1.250	.118	.236	.197	10.000	.570	.570	SR M6X20 DIN912	HW 5.0	PL 125
HFIR/L 38.1MC	1.500	.118	.236	.197	12.000	.700	.670	SR M6X20 DIN912	HW 5.0	PL 150

- DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools
- After initial groove, no limitation to widening groove outward or toward center
- For user guide, see pages 56, 161-173

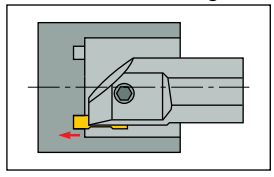
(1) Minimum cutting width
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • DGN-W (81) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • GRIP (70) • GRIP (full radius) (72) • HFPR/L (68) • HFPR/L (full radius) (69) • HGPL (75)

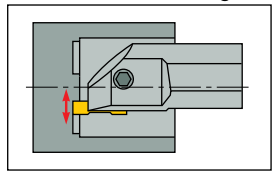
Boring



Internal Face Grooving



Internal Face Recessing



HFIR/L-: MC Integral Boring Bars

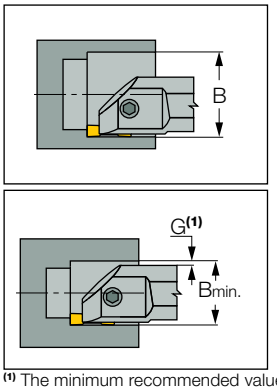
For shallow, internal face machining to max. .197″ depth of groove.
One boring bar can be mounted with inserts of .157-.236″ widths. The initial major diameter groove is limited by the insert geometry of each size.After initial groove, face recessing outward or toward center is not limited by insert geometry.

Insert Initial Face Grooving Range

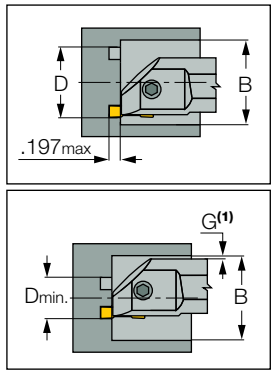
	D	
W	Min.	Max.
.157	.906	3.543
.197	.827	11.81
.236	.787	∞

Boring, Face Grooving & Face Recessing Capacity

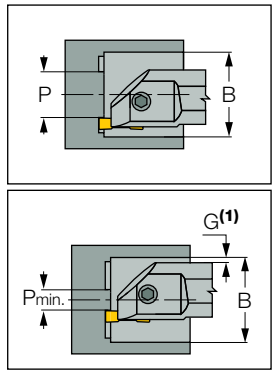
Boring
B Min.=F+d/2+W/2+2G



Face Grooving
D Min.=2F+d+W-B+2G



Face Recessing
P Min.=2F+d-W-B+2G



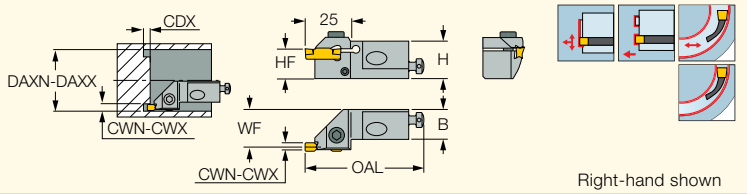
(1) The minimum recommended value for clearance (G) is .020".

HELIFACE

CR HFIR-M

Cartridges for Face Grooving and Turning

CW	DAXN-DAXX	
	Min	Max
3	60	130
4,5,6	60	∞



M E T R I C								
Designation	**CWN(1)**	**CWX(2)**	**HF**	**B**	**H**	**OAL**	**WF**	**CDX**
CR HFIR-16M	3.00	6.00	16.0	16.0	20.0	67.00	20.00	5.00
CR HFIR-20M	3.00	6.00	20.0	20.0	24.0	72.00	24.00	5.00

- Used for shallow internal face machining to max. 5 mm depth of groove
- Inserts in 3-6 mm widths can be mounted on the cartridges
- Only DGN & GRIP 4.. - 6.. inserts can be used with the right-hand tools

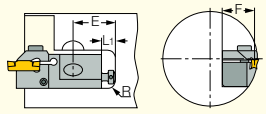
(1) Minimum cutting width

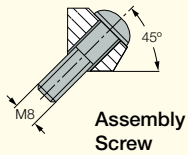
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81)

CR-HFIR/L-M

Assembly Dimensions





Designation	E	L1(1)	F(2)	Rmax.	Assembly Screw(3)
CR HFIR/L-16M	25	8	20	6	M8X30
CR HFIR/L-20M	30	10	24	6	M8X30

(1) L adjustment$^{\pm 1}$

(2) F adjustment $^{+0.3}_{-0}$

(3) Assembly screws ISO 7380 are recommended

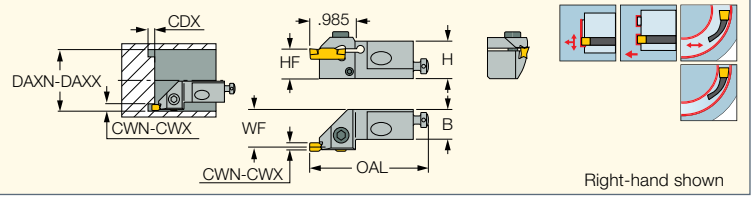
Spare Parts

Designation					
CR HFIR-16M	SR M5X20DIN912	HW 4.0	SR 76-1401	SR M4X10 DIN916	HW 2.0
CR HFIR-20M	SR M5X20DIN912	HW 4.0	SR 76-1401	SR M4X10 DIN913	HW 2.0

HELIFACE

CR HFIR-M
Cartridges for Face Grooving and Turning

CW	DAXN-DAXX	
	Min	Max
.118	2.362	5.118
.157 .197 .236	2.362	∞



Right-hand shown

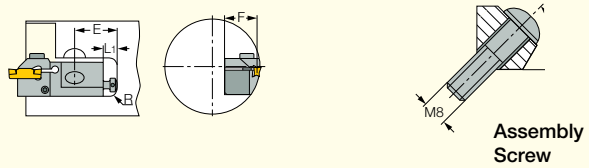
	INCH							
Designation	**CWN(1)**	**CWX(2)**	**HF**	**B**	**H**	**OAL**	**WF**	**CDX**
CR HFIR-16M	.118	.236	.630	.630	.787	2.638	.787	.197
CR HFIR-20M	.118	.236	.787	.787	.945	2.835	.945	.197

- Used for shallow internal face machining to max. .197" depth of groove
- Inserts in .118 - .236" widths can be mounted on the cartridges
- Only DGN and GRIP .157 - .236" inserts can be used with the right-hand tools

(1) Minimum cutting width
(2) Maximum cutting width

For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81)

CR HFIR/L-M
Assembly Dimensions



Designation	**E**	**L1(1)**	**F(2)**	**Rmax.**	**Assembly Screw(3)**
CR HFIR/L-16M	.984	.315	.787	.236	M8X30
CR HFIR/L-20M	1.181	.394	.945	.236	M8X30

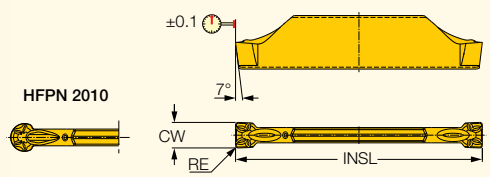
(1) L adjustment ± .04
(2) F adjustment $^{+.012}_{-0}$
(3) Assembly screws ISO 7380 are recommended.

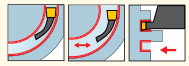
Spare Parts

Designation					
CR HFIR-16M	SR M5X20DIN912	HW 4.0	SR 76-1401	SR M4X10 DIN916	HW 2.0
CR HFIR-20M	SR M5X20DIN912	HW 4.0	SR 76-1401	SR M4X10 DIN913	HW 2.0

HELIFACE

HFPN
Utility Double-Ended Face Machining Inserts





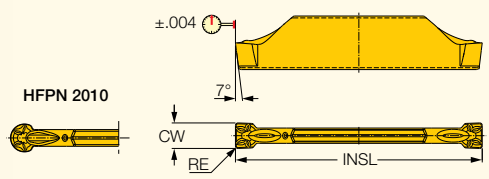
M E T R I C

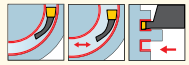
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	IC808	Recommended Machining Data f groove (mm/rev)
HFPN 2002	2.00	0.20	0.04	0.030	19.40	●	0.03-0.10
HFPN 2010	2.00	1.00	0.04	0.030	19.40	●	0.03-0.10

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: HFFA (38) • HFFH (37)

HELIFACE

HFPN
Utility Double-Ended Face Machining Inserts





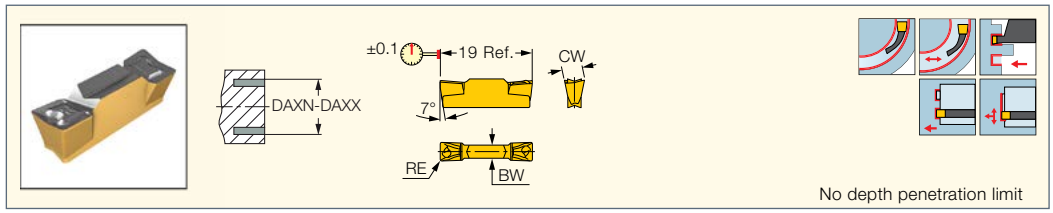
I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	IC808	Recommended Machining Data f groove (IPR)
HFPN 2002	.079	.0079	.0016	.0012	.764	●	.0012-.0039
HFPN 2010	.079	.0394	.0016	.0012	.764	●	.0012-.0039

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: HFFA (38) • HFFH (37)

HELIFACE

HFPR/L
Utility Double-Ended Face Machining Inserts



M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	DAXX(4)	Tough ↔ Hard IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	Recommended Machining Data a_p (mm)	f face-groove (mm/rev)	f face-turn (mm/rev)
HFPR/L 3003	3.00	0.30	0.05	0.050	2.10	25.6	51.5	●	●	●	●		●	●	●	0.30-1.50	0.08-0.20	0.10-0.20
HFPR/L 4004	4.00	0.40	0.05	0.050	2.80	24.1	73.7	●	●	●	●		●	●	●	0.40-2.00	0.10-0.24	0.15-0.25
HFPR/L 5004	5.00	0.40	0.05	0.050	3.40	22.1	170.0	●	●	●	●	●	●	●	●	0.50-2.50	0.12-0.24	0.15-0.35
HFPR/L 6004	6.00	0.40	0.05	0.050	4.00	20.8	-	●	●	●	●		●	●	●	0.40-3.00	0.12-0.28	0.15-0.40

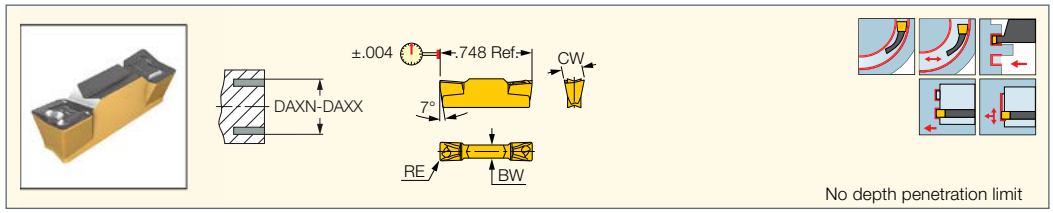
- For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.
(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

For tools, see pages: C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHPR/L-M (55) • HFHR/L-3T (40) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFHR/L-M (54) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

HELIFACE

HFPR/L
Utility Double-Ended Face Machining Inserts



I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	DAXX(4)	Tough ↔ Hard IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	Recommended Machining Data a_p (inch)	f face-groove (IPR)	f face-turn (IPR)
HFPR/L 3003	.118	.012	.0020	.0020	.083	1.01	2.03	●	●	●	●		●	●	●	.012-.059	.0031-.0079	.0039-.0079
HFPR/L 4004	.157	.016	.0020	.0020	.110	.95	2.90	●	●	●	●		●	●	●	.016-.079	.0039-.0094	.0059-.0098
HFPR/L 5004	.197	.016	.0020	.0020	.134	.87	6.69	●	●	●	●	●	●	●	●	.020-.098	.0047-.0094	.0059-.0138
HFPR/L 6004	.236	.016	.0020	.0020	.157	.82	-	●	●	●	●		●	●	●	.016-.118	.0047-.0110	.0059-.0157

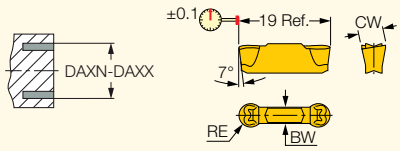
- For cutting speed recommendations and user guide, see pages 161-173

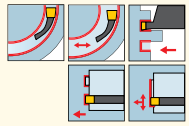
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.
(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

For tools, see pages: C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHPR/L-M (55) • HFHR/L-3T (40) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFHR/L-M (54) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

HELIFACE

HFPR/L (full radius)
Utility Double-Ended Full Radius
Face Machining Inserts





No depth penetration limit.

M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	DAXX(4)	Tough ↔ Hard IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	Recommended Machining Data a_p (mm)	f face-groove (mm/rev)	f face-turn (mm/rev)
HFPR/L 3015	3.00	1.50	0.05	0.050	2.10	25.6	51.5	●	●	●	●		●	●	●	0.00-1.50	0.08-0.20	0.12-0.20
HFPR/L 4020	4.00	2.00	0.05	0.050	2.80	24.1	73.7	●	●	●	●		●	●	●	0.00-2.00	0.10-0.24	0.15-0.25
HFPL 5025	5.00	2.50	0.05	0.050	3.40	22.1	170.0	●	●	●	●		●	●	●	0.00-2.50	0.12-0.24	0.15-0.35
HFPR 5025	5.00	2.50	0.05	0.050	3.40	22.1	170.0	●	●		●	●	●	●	●	0.00-2.50	0.12-0.24	0.15-0.35
HFPR/L 6030	6.00	3.00	0.05	0.050	4.00	20.8	-	●	●	●	●		●	●	●	0.00-3.00	0.12-0.28	0.20-0.40

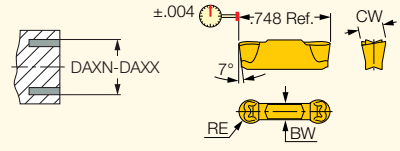
- For cutting speed recommendations and user guide, see pages 161-173

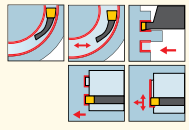
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.
(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

For tools, see pages: C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHPR/L-M (55) • HFHR/L-3T (40) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFHR/L-M (54) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

HELIFACE

HFPR/L (full radius)
Utility Double-Ended Full Radius
Face Machining Inserts





No depth penetration limit.

I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	DAXX(4)	Tough ↔ Hard IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	Recommended Machining Data a_p (inch)	f face-groove (IPR)	f face-turn (IPR)
HFPR/L 3015	.118	.059	.0020	.0020	.083	1.01	2.03	●	●	●	●		●	●	●	.000-.059	.0031-.0079	.0047-.0079
HFPR/L 4020	.157	.079	.0020	.0020	.110	.95	2.90	●	●	●	●		●	●	●	.000-.079	.0039-.0094	.0059-.0098
HFPL 5025	.197	.098	.0020	.0020	.134	.87	6.69	●	●	●	●		●	●	●	.000-.098	.0047-.0094	.0059-.0138
HFPR 5025	.197	.098	.0020	.0020	.134	.87	6.69	●	●		●	●	●	●	●	.000-.098	.0047-.0094	.0059-.0138
HFPR/L 6030	.236	.118	.0020	.0020	.157	.82	-	●	●	●	●		●	●	●	.000-.118	.0047-.0110	.0079-.0157

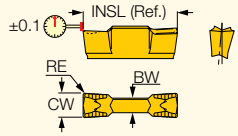
- For cutting speed recommendations and user guide, see pages 161-173

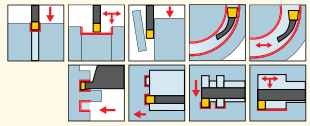
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.
(4) Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

For tools, see pages: C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHPR/L-M (55) • HFHR/L-3T (40) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFHR/L-M (54) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

HELI-GRIP

GRIP
Utility Double-Ended Inserts for External, Internal and Face Machining





No depth penetration limit

M E T R I C

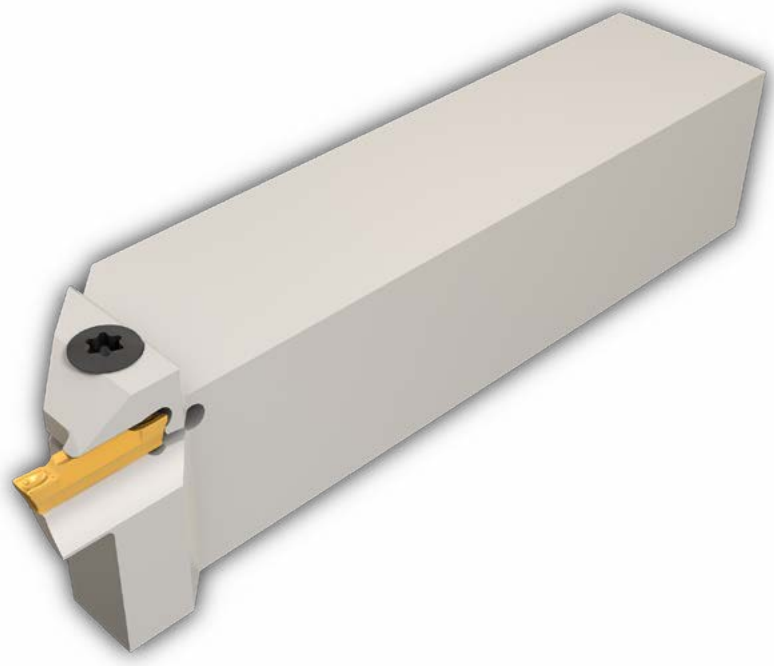
Designation	Dimensions CW	CWTOL(1)	RE	RETOL(2)	INSL	BW	Tough ↔ Hard IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)	f face-groove (mm/rev)	f face-turn (mm/rev)
GRIP 3002Y	3.00	0.050	0.20	0.050	15.80	2.30	●	●	●	●	●			●	●	●	0.25-1.80	0.14-0.18	0.07-0.11	0.08-0.20	0.10-0.20
GRIP 3003Y	3.00	0.050	0.30	0.050	15.80	2.30	●	●	●	●	●	●	●	●			0.40-1.80	0.15-0.19	0.07-0.11	0.08-0.20	0.10-0.20
GRIP 318-040Y	3.18	0.050	0.40	0.050	15.80	2.30	●			●	●	●		●			0.50-1.90	0.17-0.22	0.07-0.12	0.08-0.20	0.10-0.20
GRIP 4002Y	4.00	0.050	0.20	0.050	19.00	2.80	●	●	●	●	●			●	●		0.25-2.40	0.16-0.21	0.09-0.14	0.10-0.24	0.15-0.30
GRIP 4004Y	4.00	0.050	0.40	0.050	19.00	2.80	●	●	●	●	●	●	●	●	●	●	0.50-2.40	0.18-0.24	0.09-0.15	0.10-0.24	0.15-0.30
GRIP 476-080Y	4.76	0.050	0.80	0.050	19.00	3.10	●	●		●	●	●		●			1.00-2.80	0.21-0.33	0.10-0.20	0.10-0.24	0.15-0.30
GRIP 5005Y	5.00	0.050	0.50	0.050	19.00	3.30	●	●	●	●	●	●	●	●	●	●	0.60-3.00	0.20-0.30	0.11-0.20	0.12-0.24	0.15-0.35
GRIP 5008Y	5.00	0.050	0.80	0.050	19.00	3.40	●	●		●	●	●	●	●	●		1.00-3.00	0.23-0.35	0.11-0.21	0.12-0.24	0.15-0.35
GRIP 6005Y	6.00	0.050	0.50	0.050	19.00	4.20	●	●		●	●	●	●	●	●		0.60-3.60	0.22-0.36	0.13-0.23	0.12-0.28	0.15-0.40
GRIP 6008Y	6.00	0.050	0.80	0.050	19.00	4.20	●	●		●	●	●	●	●	●		1.00-3.60	0.24-0.42	0.13-0.25	0.12-0.28	0.15-0.40
GRIP 635-080Y	6.35	0.050	0.80	0.050	19.00	4.20		●		●	●	●		●			1.00-3.80	0.25-0.44	0.14-0.27	0.12-0.28	0.15-0.40

• For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

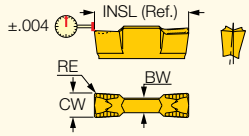
(2) Corner radius tolerance (+/-)

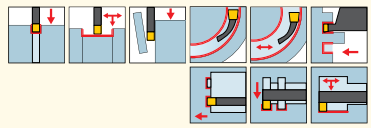
For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39) • IM-HFIR-MC (62)



HELI-GRIP

GRIP
Utility Double-Ended Inserts for External, Internal and Face Machining





No depth penetration limit

INCH

Designation	Dimensions CW	CWTOL[1]	RE	RETOL[2]	INSL	BW	Tough ↔ Hard IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)	f face-groove (IPR)	f face-turn (IPR)
GRIP 3002Y	.118	.00196	.0079	.0020	.622	.091	●	●	●	●	●			●	●	●	.010-.071	.0055-.0071	.0027-.0043	.0031-.0079	.0039-.0079
GRIP 3003Y	.118	.00196	.0118	.0020	.622	.091	●	●	●	●	●	●	●	●			.016-.071	.0059-.0075	.0027-.0043	.0031-.0079	.0039-.0079
GRIP 318-040Y	.125	.00196	.0157	.0020	.622	.091	●			●	●	●		●			.020-.075	.0067-.0087	.0027-.0047	.0031-.0079	.0039-.0079
GRIP 4002Y	.157	.00196	.0079	.0020	.748	.110	●	●	●	●	●			●	●		.010-.094	.0063-.0083	.0035-.0055	.0039-.0094	.0059-.0118
GRIP 4004Y	.157	.00196	.0157	.0020	.748	.110	●	●	●	●	●	●	●	●	●	●	.020-.094	.0071-.0094	.0035-.0059	.0039-.0094	.0059-.0118
GRIP 476-080Y	.187	.00196	.0315	.0020	.748	.122	●	●		●	●	●		●			.039-.110	.0083-.0130	.0039-.0079	.0039-.0094	.0059-.0118
GRIP 5005Y	.197	.00196	.0197	.0020	.748	.130	●	●	●	●	●	●	●	●	●	●	.024-.118	.0079-.0118	.0043-.0079	.0047-.0094	.0059-.0138
GRIP 5008Y	.197	.00196	.0315	.0020	.748	.134	●	●		●	●	●	●	●	●		.039-.118	.0091-.0138	.0043-.0083	.0047-.0094	.0059-.0138
GRIP 6005Y	.236	.00196	.0197	.0020	.748	.165	●	●		●	●	●	●	●	●		.024-.142	.0087-.0142	.0051-.0091	.0047-.0110	.0059-.0157
GRIP 6008Y	.236	.00196	.0315	.0020	.748	.165	●	●		●	●	●	●	●	●		.039-.142	.0094-.0165	.0051-.0098	.0047-.0110	.0059-.0157
GRIP 635-080Y	.250	.00196	.0315	.0020	.748	.165		●		●	●	●		●			.039-.150	.0098-.0173	.0055-.0106	.0047-.0110	.0059-.0157

• For cutting speed recommendations and user guide, see pages 161-173

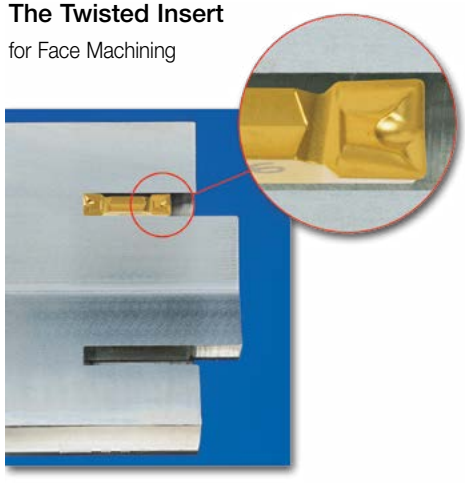
[1] Cutting width tolerance (+/-)

[2] Corner radius tolerance (+/-)

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39) • IM-HFIR-MC (62)

The Twisted Insert

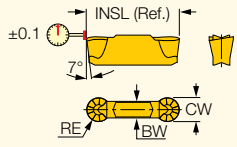
for Face Machining

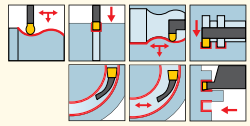


The double-ended, twisted insert body makes it possible to machine deeper than the inserts' length. A unique chipformer for controlled chip flow in axial and radial directions.
The rear angle is slanted in relation to the frontal edge so it does not come into contact with the machined groove surface as the tool penetrates deeply into the workpiece.

HELI-GRIP

GRIP (full radius)
Utility Double-Ended Full Radius Inserts for External, Internal and Face Machining





No depth penetration limit

M E T R I C

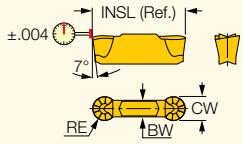
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	BW	Tough ↔ Hard IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)	f face-groove (mm/rev)	f face-turn (mm/rev)
GRIP 3015Y	3.00	1.50	0.05	0.050	15.80	2.10	●	●	●	●	●	●	●	●	●	●	0.00-1.50	0.18-0.26	0.07-0.13	0.08-0.20	0.10-0.20
GRIP 318-159Y	3.18	1.59	0.05	0.050	15.80	2.30				●	●			●			0.00-1.50	0.19-0.28	0.07-0.13	0.08-0.20	0.10-0.20
GRIP 4020Y	4.00	2.00	0.05	0.050	19.00	2.80	●	●	●	●	●	●	●	●	●	●	0.00-2.00	0.20-0.34	0.09-0.17	0.10-0.24	0.15-0.30
GRIP 476-238Y	4.76	2.38	0.05	0.050	19.00	3.20				●	●	●		●			0.00-2.30	0.21-0.40	0.10-0.20	0.10-0.24	0.15-0.30
GRIP 5025Y	5.00	2.50	0.05	0.050	19.00	3.40	●	●		●	●	●		●	●	●	0.00-2.50	0.23-0.42	0.11-0.21	0.12-0.24	0.15-0.35
GRIP 6030Y	6.00	3.00	0.05	0.050	19.00	4.20	●	●	●	●	●	●	●	●	●		0.00-3.00	0.24-0.50	0.13-0.25	0.12-0.28	0.15-0.40
GRIP 635-318Y	6.35	3.18	0.05	0.050	19.00	4.00				●	●			●			0.00-3.10	0.25-0.53	0.14-0.27	0.12-0.28	0.15-0.40

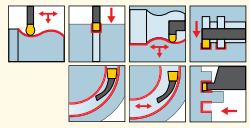
• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39) • IM-HFIR-MC (62)

HELI-GRIP

GRIP (full radius)
Utility Double-Ended Full Radius Inserts for External, Internal and Face Machining





No depth penetration limit

I N C H

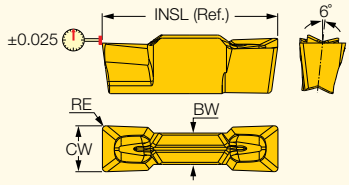
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	BW	Tough ↔ Hard IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)	f face-groove (IPR)	f face-turn (IPR)
GRIP 3015Y	.118	.059	.0020	.0020	.622	.083	●	●	●	●	●	●	●	●	●	●	.000-.059	.0071-.0102	.0027-.0051	.0031-.0079	.0039-.0079
GRIP 318-159Y	.125	.063	.0020	.0020	.622	.091				●	●			●			.000-.059	.0075-.0110	.0027-.0051	.0031-.0079	.0039-.0079
GRIP 4020Y	.157	.079	.0020	.0020	.748	.110	●	●	●	●	●	●	●	●	●	●	.000-.079	.0079-.0134	.0035-.0067	.0039-.0094	.0059-.0118
GRIP 476-238Y	.187	.094	.0020	.0020	.748	.126				●	●	●		●			.000-.091	.0083-.0157	.0039-.0079	.0039-.0094	.0059-.0118
GRIP 5025Y	.197	.098	.0020	.0020	.748	.134	●	●		●	●	●		●	●	●	.000-.098	.0091-.0165	.0043-.0083	.0047-.0094	.0059-.0138
GRIP 6030Y	.236	.118	.0020	.0020	.748	.165	●	●	●	●	●	●	●	●	●		.000-.118	.0094-.0197	.0051-.0098	.0047-.0110	.0059-.0157
GRIP 635-318Y	.250	.125	.0020	.0020	.748	.157				●	●			●			.000-.122	.0098-.0209	.0055-.0106	.0047-.0110	.0059-.0157

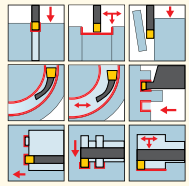
• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39) • IM-HFIR-MC (62)

HELI-GRIP

GRIPA
Ground Double-Ended
Inserts for External, Internal
and Face Machining





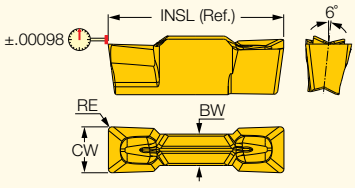
M E T R I C

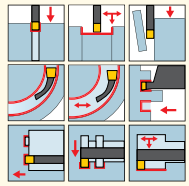
Designation	Dimensions CW	CWTOL(1)	RE	RETOL(2)	INSL	BW	IC07	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)	f face-groove (mm/rev)	f face-turn (mm/rev)
GRIPA 3.00-0.40	3.00	0.020	0.40	0.030	16.00	2.28	●	0.25-1.80	0.15-0.19	0.07-0.11	0.08-0.14	0.12-0.20
GRIPA 4.00-0.40	4.00	0.020	0.40	0.030	19.02	2.82	●	0.50-2.40	0.18-0.24	0.09-0.15	0.10-0.20	0.14-0.31
GRIPA 5.00-0.40	5.00	0.020	0.40	0.030	19.02	3.40	●	0.50-3.00	0.20-0.30	0.11-0.20	0.11-0.23	0.16-0.34
GRIPA 6.00-0.80	6.00	0.020	0.80	0.050	19.00	4.20	●	0.50-3.60	0.24-0.42	0.13-0.25	0.11-0.26	0.19-0.41

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFHR/L-5T (43) • HFPAD-3 (49) • HFPAD-5 (50) • HFPAD-JHP (48) • HGAIR/L-3 (57)

HELI-GRIP

GRIPA
Ground Double-Ended
Inserts for External, Internal
and Face Machining





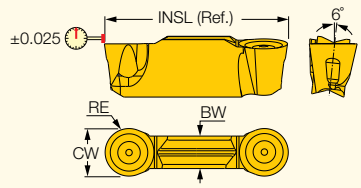
I N C H

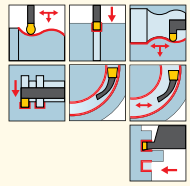
Designation	Dimensions CW	CWTOL(1)	RE	RETOL(2)	INSL	BW	IC07	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)	f face-groove (IPR)	f face-turn (IPR)
GRIPA 3.00-0.40	.118	.00079	.0158	.0012	.630	.090	●	.010-.071	.0059-.0075	.0028-.0043	.0032-.0055	.0047-.0079
GRIPA 4.00-0.40	.157	.00079	.0158	.0012	.749	.111	●	.020-.094	.0071-.0095	.0035-.0059	.0039-.0079	.0055-.0122
GRIPA 5.00-0.40	.197	.00079	.0158	.0012	.749	.134	●	.020-.118	.0079-.0118	.0043-.0079	.0043-.0091	.0063-.0134
GRIPA 6.00-0.80	.236	.00079	.0315	.0020	.748	.165	●	.020-.142	.0095-.0165	.0051-.0098	.0043-.0102	.0075-.0161

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFHR/L-5T (43) • HFPAD-3 (49) • HFPAD-5 (50) • HFPAD-JHP (48) • HGAIR/L-3 (57)

HELI-GRIP

GRIPA (full radius)
Ground Double-Ended Full Radius Inserts for External, Internal and Face Machining





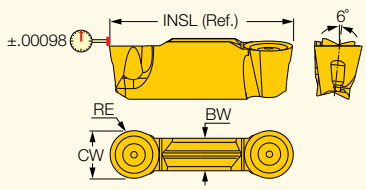
M E T R I C

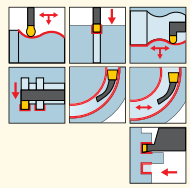
Designation	Dimensions CW	CWTOL(1)	RE	RETOL(2)	INSL	BW	IC07	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)	f face-groove (mm/rev)	f face-turn (mm/rev)
GRIPA 3.00-1.50	3.00	0.020	1.50	0.050	15.96	2.28	●	0.25-1.80	0.18-0.26	0.07-0.13	0.08-0.14	0.12-0.20
GRIPA 4.00-2.00	4.00	0.020	2.00	0.050	19.16	2.82	●	0.50-2.40	0.20-0.34	0.09-0.17	0.10-0.20	0.14-0.31
GRIPA 5.00-2.50	5.00	0.020	2.50	0.050	19.16	3.40	●	0.50-3.00	0.23-0.42	0.11-0.21	0.11-0.23	0.16-0.34
GRIPA 6.00-3.00	6.00	0.020	3.00	0.050	19.16	3.97	●	0.50-3.60	0.24-0.50	0.13-0.25	0.11-0.26	0.19-0.41

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFHR/L-5T (43) • HFPAD-3 (49) • HFPAD-5 (50) • HFPAD-JHP (48) • HGAIR/L-3 (57)

HELI-GRIP

GRIPA (full radius)
Ground Double-Ended Full Radius Inserts for External, Internal and Face Machining





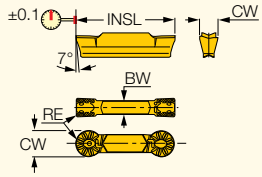
I N C H

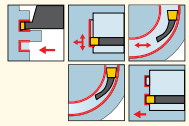
Designation	Dimensions CW	CWTOL(1)	RE	RETOL(2)	INSL	BW	IC07	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)	f face-groove (IPR)	f face-turn (IPR)
GRIPA 3.00-1.50	.118	.00079	.0591	.0020	.628	.090	●	.010-.071	.0071-.0102	.0028-.0051	.0032-.0055	.0047-.0079
GRIPA 4.00-2.00	.157	.00079	.0787	.0020	.754	.111	●	.020-.094	.0079-.0134	.0035-.0067	.0039-.0079	.0055-.0122
GRIPA 5.00-2.50	.197	.00079	.0984	.0020	.754	.134	●	.020-.118	.0091-.0165	.0043-.0083	.0043-.0091	.0063-.0134
GRIPA 6.00-3.00	.236	.00079	.1181	.0020	.754	.156	●	.020-.142	.0095-.0197	.0051-.0098	.0043-.0102	.0075-.0161

• For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFHR/L-5T (43) • HFPAD-3 (49) • HFPAD-5 (50) • HFPAD-JHP (48) • HGAIR/L-3 (57)

HELIGRIP

HGPL
Utility Double-Ended Inserts
for Face Machining





M E T R I C

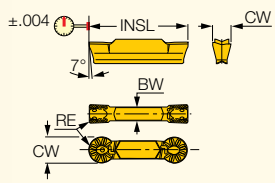
Designation	Dimensions CW	BW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC354	IC08	IC808	IC908	IC806	Recommended Machining Data a_p (mm)	f face-groove (mm/rev)	f face-turn (mm/rev)
HGPL 3015Y	3.00	2.10	1.50	0.03	0.050	16.00				●	●		0.00-1.50	0.08-0.20	0.12-0.23
HGPL 3002Y	3.00	2.30	0.20	0.03	0.050	16.00		●	●	●	●		0.24-1.80	0.08-0.20	0.12-0.23
HGPL 3003Y	3.00	2.30	0.30	0.03	0.050	16.00	●	●	●	●	●		0.36-1.80	0.08-0.20	0.12-0.23
HGPL 4002Y	4.00	2.80	0.20	0.03	0.050	19.00		●	●	●	●		0.24-2.40	0.10-0.24	0.16-0.30
HGPL 4004Y	4.00	2.80	0.40	0.03	0.050	19.00		●	●	●	●		0.48-2.40	0.10-0.24	0.16-0.30
HGPL 4020Y	4.00	2.80	2.00	0.03	0.050	19.00			●	●	●		0.00-2.00	0.10-0.24	0.16-0.30
HGPL 5005Y	5.00	3.30	0.50	0.03	0.050	19.00		●		●	●		0.60-3.00	0.12-0.24	0.20-0.38
HGPL 5025Y	5.00	3.30	2.50	0.03	0.050	19.00			●	●	●		0.00-2.50	0.12-0.24	0.20-0.38
HGPL 6005Y	6.00	4.20	0.50	0.03	0.050	19.00		●		●	●	●	0.60-3.60	0.12-0.28	0.24-0.45
HGPL 6030Y	6.00	4.20	3.00	0.03	0.050	19.00			●	●	●		0.00-3.00	0.12-0.28	0.24-0.45

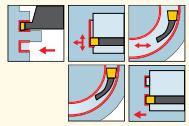
• No depth penetration limit • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

For tools, see pages: C#-HFIR/L-MC (145) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39)

HELIGRIP

HGPL
Utility Double-Ended Inserts
for Face Machining





I N C H

Designation	Dimensions CW	BW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC354	IC08	IC808	IC908	IC806	Recommended Machining Data a_p (inch)	f face-groove (IPR)	f face-turn (IPR)
HGPL 3015Y	.118	.083	.059	.0012	.0020	.630				●	●		.000-.059	.0031-.0079	.0047-.0091
HGPL 3002Y	.118	.091	.008	.0012	.0020	.630		●	●	●	●		.009-.071	.0031-.0079	.0047-.0091
HGPL 3003Y	.118	.091	.012	.0012	.0020	.630	●	●	●	●	●		.014-.071	.0031-.0079	.0047-.0091
HGPL 4002Y	.157	.110	.008	.0012	.0020	.748		●	●	●	●		.009-.094	.0039-.0094	.0063-.0118
HGPL 4004Y	.157	.110	.016	.0012	.0020	.748		●	●	●	●		.019-.094	.0039-.0094	.0063-.0118
HGPL 4020Y	.157	.110	.079	.0012	.0020	.748			●	●	●		.000-.079	.0039-.0094	.0063-.0118
HGPL 5005Y	.197	.130	.020	.0012	.0020	.748		●		●	●		.024-.118	.0047-.0094	.0079-.0150
HGPL 5025Y	.197	.130	.098	.0012	.0020	.748			●	●	●		.000-.098	.0047-.0094	.0079-.0150
HGPL 6005Y	.236	.165	.020	.0012	.0020	.748		●		●	●	●	.024-.142	.0047-.0110	.0094-.0177
HGPL 6030Y	.236	.165	.118	.0012	.0020	.748			●	●	●		.000-.118	.0047-.0110	.0094-.0177

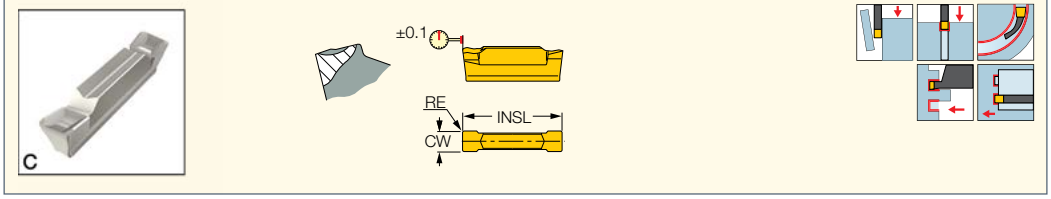
• No depth penetration limit • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)

For tools, see pages: C#-HFIR/L-MC (145) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • HGAER/L-3 (52) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP

DO-GRIP TWISTED 2-SIDED

HGN-C
Parting and Grooving Inserts
for Parting Bars, Hard Materials
and Tough Applications



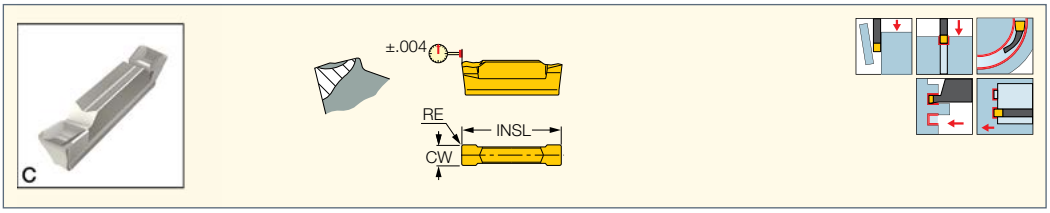
M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	INSL	Tough ↔ Hard IC328	IC830	IC354	IC308	IC908	Recommended Machining Data f groove (mm/rev)
HGN 3003C	3.00	0.30	0.05	15.80	●	●	●	●	●	0.08-0.20

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

HGN-C
Parting and Grooving Inserts
for Parting Bars, Hard Materials
and Tough Applications



I N C H

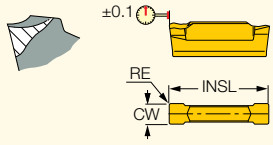
Designation	Dimensions CW	RE	CWTOL(1)	INSL	Tough ↔ Hard IC328	IC830	IC354	IC308	IC908	Recommended Machining Data f groove (IPR)
HGN 3003C	.118	.0118	.0020	.622	●	●	●	●	●	.0031-.0079

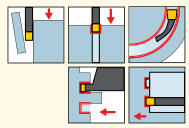
• No depth limit • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

HGN-J

Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC830	IC354	IC308	Recommended Machining Data f groove (mm/rev)
HGN 3002J	3.00	0.20	0.05	0.030	16.10	●	●	●	●	0.04-0.15

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

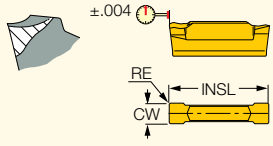
(2) Corner radius tolerance (+/-)

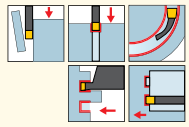
For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

HGN-J

Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts





I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC830	IC354	IC308	Recommended Machining Data f groove (IPR)
HGN 3002J	.118	.0079	.0020	.0012	.634	●	●	●	●	.0016-.0059

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

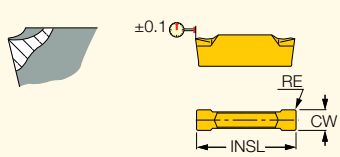
(2) Corner radius tolerance (+/-)

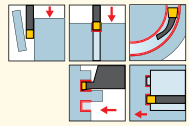
For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

HGN-UT

Double-Sided Inserts for Parting and Grooving Low Feeds on Cr-Ni Alloys and Low Carbon Steel





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC354	Recommended Machining Data f groove (mm/rev)
HGN 3003UT	3.00	0.30	0.05	0.030	15.80	●	●	0.04-0.13

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

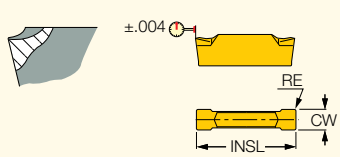
(2) Corner radius tolerance (+/-)

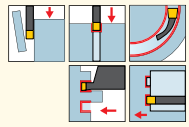
For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

HGN-UT

Double-Sided Inserts for Parting and Grooving Low Feeds on Cr-Ni Alloys and Low Carbon Steel





I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC354	Recommended Machining Data f groove (IPR)
HGN 3003UT	.118	.0118	.0020	.0012	.622	●	●	.0016-.0051

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

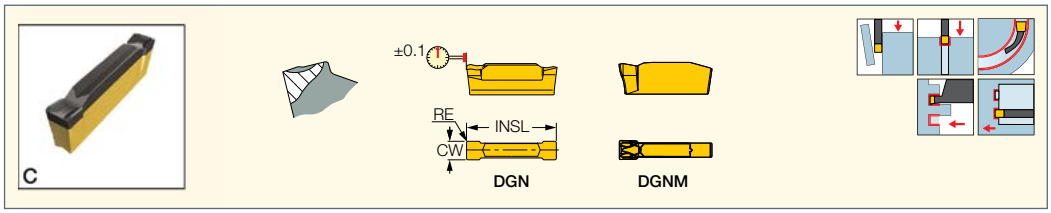
(2) Corner radius tolerance (+/-)

For tools, see pages: • HFPAD-3 (49) • HFPAD-JHP (48) • HGAIR/L-3 (57) • HGHR/L-3 (39)

DO-GRIP TWISTED 2-SIDED

DGN/DGNC/DGNM-C

Double-Sided Parting Inserts for Parting and Grooving Bars, Hard Materials and Tough Applications



M E T R I C

Designation	Dimensions CW	CWTOL[3]	RE	RETOL[4]	CDX[5]	INSL	Tough ↔ Hard IC328	IC830	IC928	IC1030	IC1028	IC354	IC5400	IC1010	IC308	IC808	IC908	IC30N	IC20	IC807	IC907	Recommended Machining Data f groove (mm/rev)
DGN 4003C	4.00	0.04	0.30	0.030	- [6]	18.80	●	●		●	●	●		●	●	●	●	●	●	●		0.10-0.30
DGNC 4003C [1]	4.00	0.04	0.30	0.030	- [6]	19.00										●	●					0.10-0.30
DGN 4803C	4.80	0.04	0.30	0.030	- [6]	19.90	●															0.12-0.35
DGN 5003C	5.00	0.04	0.30	0.030	- [6]	19.10	●	●		●	●	●		●		●	●	●	●			0.12-0.35
DGN 6303C	6.35	0.04	0.35	0.030	- [6]	19.10	●	●			●	●		●		●	●		●			0.15-0.40

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 161-173

[1] Inserts with coolant holes, recommended coolant pressure 10 bar minimum

[2] Single-ended insert

[3] Cutting width tolerance (+/-)

[4] Corner radius tolerance (+/-)

[5] Cutting depth maximum

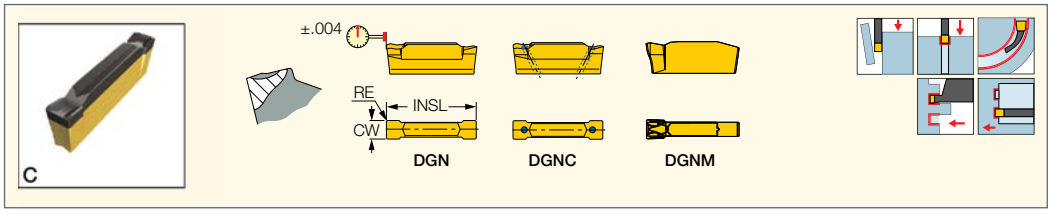
[6] No depth limit

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

DO-GRIP TWISTED 2-SIDED

DGN/DGNC/DGNM-C

Double-Sided Parting Inserts for Parting and Grooving Bars, Hard Materials and Tough Applications



I N C H

Designation	Dimensions CW	CWTOL[3]	RE	RETOL[4]	CDX[5]	INSL	Tough ↔ Hard IC328	IC830	IC928	IC1030	IC1028	IC354	IC5400	IC1010	IC308	IC808	IC908	IC30N	IC20	IC807	IC907	Recommended Machining Data f groove (IPR)
DGN 4003C	.157	.0016	.0118	.0012	- [6]	.740	●	●		●	●	●		●	●	●	●	●	●	●		.0039-.0118
DGNC 4003C [1]	.157	.0016	.0118	.0012	- [6]	.748										●	●					.0039-.0118
DGN 4803C	.189	.0016	.0118	.0012	- [6]	.783	●															.0047-.0138
DGN 5003C	.197	.0016	.0118	.0012	- [6]	.752	●	●		●	●	●		●		●	●	●	●			.0047-.0138
DGN 6303C	.250	.0016	.0138	.0012	- [6]	.752	●	●			●	●		●		●	●		●			.0059-.0158

• Feed values for grade IC20 should be decreased by 50% • For cutting speed recommendations and user guide, see pages 161-173

[1] Inserts with coolant holes, recommended coolant pressure 145PSI minimum

[2] Single-ended insert

[3] Cutting width tolerance (+/-)

[4] Corner radius tolerance (+/-)

[5] Cutting depth maximum

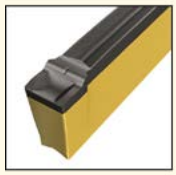
[6] No depth limit

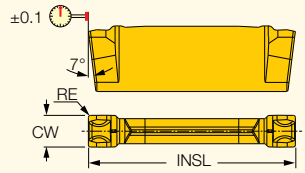
For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

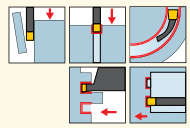
DO-GRIP TWISTED 2-SIDED

DGN-MF

Double-Sided Inserts for Parting and Grooving Soft and Hard Materials at Medium Feeds







M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	CDX(2)	INSL	Tough ↔ Hard IC830	IC1030	IC5400	IC1010	IC808	Recommended Machining Data f groove (mm/rev)
DGN 4003MF	4.00	0.30	0.04	- (3)	18.80	●				●	0.08-0.20

- For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

(2) Cutting depth maximum

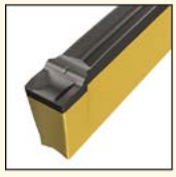
(3) No depth limit

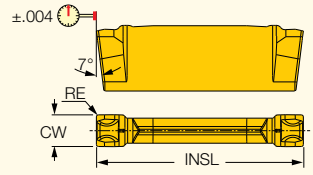
For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-JHP (48) • IM-HFIR-MC (62)

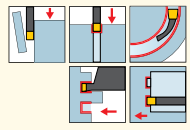
DO-GRIP TWISTED 2-SIDED

DGN-MF

Double-Sided Inserts for Parting and Grooving Soft and Hard Materials at Medium Feeds







I N C H

Designation	Dimensions CW	RE	CWTOL(1)	CDX(2)	INSL	Tough ↔ Hard IC830	IC1030	IC5400	IC1010	IC808	Recommended Machining Data f groove (IPR)
DGN 4003MF	.157	.0118	.0016	-	.740	●				●	.0032-.0079

- For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

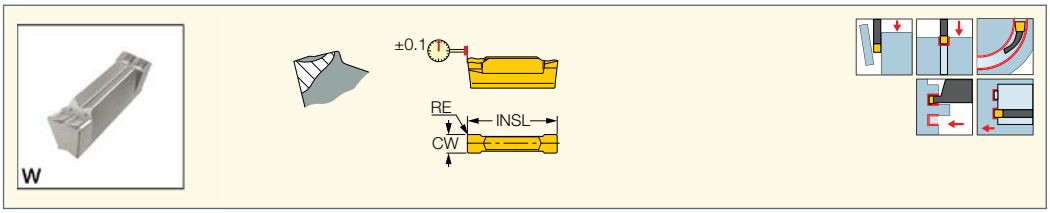
(2) Cutting depth maximum

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-JHP (48) • IM-HFIR-MC (62)

DO-GRIP TWISTED 2-SIDED

DGN-W

Double-Sided Inserts with Central Ridged Chipformer for Parting and Grooving Hard Materials and Interrupted Cuts



M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC1030	IC354	Recommended Machining Data f groove (mm/rev)
DGN 5003W	5.00	0.30	0.04	0.030	19.00	●	●	●	0.12-0.33

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

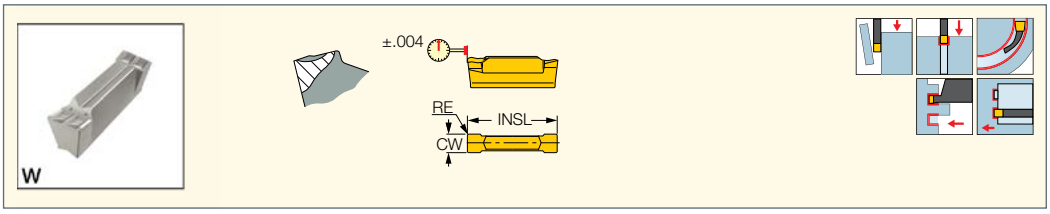
(2) Corner radius tolerance (+/-)

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-5T, 6T (53) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-5T (43) • HFIR/L-MC (63) • HFPAD-5 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

DO-GRIP TWISTED 2-SIDED

DGN-W

Double-Sided Inserts with Central Ridged Chipformer for Parting and Grooving Hard Materials and Interrupted Cuts



I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	INSL	Tough ↔ Hard IC328	IC1030	IC354	Recommended Machining Data f groove (IPR)
DGN 5003W	.197	.0118	.0016	.0012	.748	●	●	●	.0047-.0130

• No depth limit • For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)

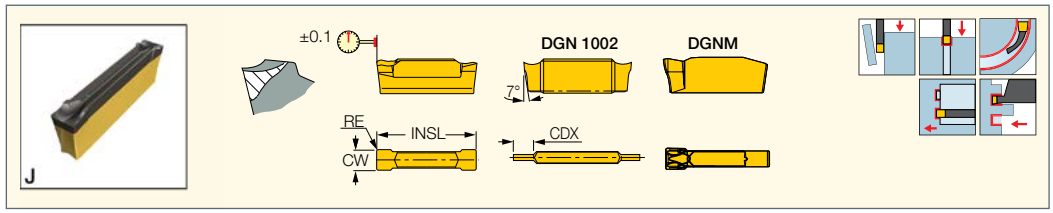
(2) Corner radius tolerance (+/-)

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-5T, 6T (53) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-5T (43) • HFIR/L-MC (63) • HFPAD-5 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

DO-GRIP TWISTED 2-SIDED

DGN/DGNM-J/JS/JT

Double-Sided Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts



M E T R I C

Designation	Dimensions CW	CWTOL(3)	RE	RETOL(4)	CDX(5)	INSL	Tough ↔ Hard IC328	IC830	IC928	IC1030	IC1028	IC354	IC5400	IC1010	IC308	IC808	IC908	IC20	IC807	Recommended Machining Data f groove (mm/rev)
DGN 4003J	4.00	0.04	0.30	0.030	- (6)	18.90	●	●		●	●	●		●	●	●	●	●	●	0.05-0.18
DGN 4003JT	4.00	0.04	0.30	0.030	- (6)	18.90		●												0.05-0.18
DGN 4803J	4.80	0.04	0.30	0.030	- (6)	20.40	●													0.05-0.20
DGN 5003J	5.00	0.04	0.30	0.030	- (6)	19.00	●	●		●	●	●		●		●	●	●		0.05-0.20
DGN 5003JT	5.00	0.04	0.30	0.030	- (6)	19.00			●								●			0.05-0.20
DGN 6303J	6.35	0.04	0.35	0.030	- (6)	19.10	●	●		●	●	●		●		●	●	●		0.05-0.25
DGN 6303JT	6.35	0.04	0.35	0.030	- (6)	19.10			●								●			0.05-0.25

- JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds
- For cutting speed recommendations and user guide, see pages 161-173

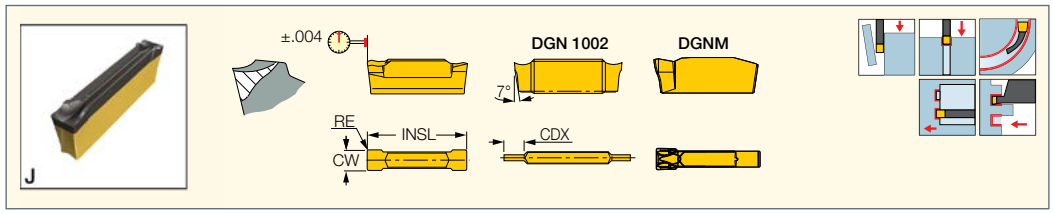
(1) Sharp corners
(2) Single-ended insert
(3) Cutting width tolerance (+/-)
(4) Corner radius tolerance (+/-)
(5) Cutting depth maximum
(6) No depth limit

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

DO-GRIP TWISTED 2-SIDED

DGN/DGNM-J/JS/JT

Double-Sided Inserts for Parting and Grooving Soft Materials, Parting Tubes, Small Diameters and Thin-Walled Parts



I N C H

Designation	Dimensions CW	CWTOL(3)	RE	RETOL(4)	CDX(5)	INSL	Tough ↔ Hard IC328	IC830	IC928	IC1030	IC1028	IC354	IC5400	IC1010	IC308	IC808	IC908	IC20	IC807	Recommended Machining Data f groove (IPR)
DGN 4003J	.157	.0016	.0118	.0012	- (6)	.744	●	●		●	●	●		●	●	●	●	●	●	.0020-.0071
DGN 4003JT	.157	.0016	.0118	.0012	- (6)	.744		●												.0020-.0071
DGN 4803J	.189	.0016	.0118	.0012	- (6)	.803	●													.0020-.0079
DGN 5003J	.197	.0016	.0118	.0012	- (6)	.748	●	●		●	●	●		●		●	●	●		.0020-.0079
DGN 5003JT	.197	.0016	.0118	.0012	- (6)	.748			●								●			.0020-.0079
DGN 6303J	.250	.0016	.0138	.0012	- (6)	.752	●	●		●	●	●		●		●	●	●		.0020-.0098
DGN 6303JT	.250	.0016	.0138	.0012	- (6)	.752			●								●			.0020-.0098

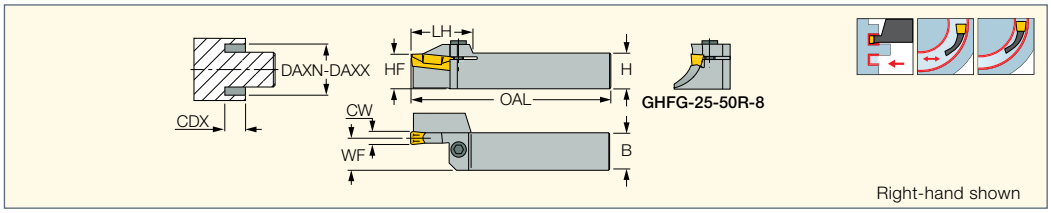
- JT chipformer has the basic positive configuration of the J-type and a reinforced negative frontal edge; most suitable for soft materials at low to medium feeds
- For cutting speed recommendations and user guide, see pages 161-173

(1) Sharp corners
(2) Single-ended insert
(3) Cutting width tolerance (+/-)
(4) Corner radius tolerance (+/-)
(5) Cutting depth maximum
(6) No depth limit

For tools, see pages: • C#-HFIR/L-MC (145) • CR HFIR-M (65) • HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HFFR/L-T (51) • HFHR/L-4T (41) • HFHR/L-5T (43) • HFHR/L-6T (45) • HFIR/L-MC (63) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48) • IM-HFIR-MC (62)

CUT-GRIP (long pocket)

GHFG-R/L-8
Holders for Face Grooving and Turning Along Shafts



M E T R I C

Designation	CW	CDX	DAXN(1)	DAXX(2)	H	HF	B	OAL	LH	WF		
GHFG 25-50R/L-8	8.00	25.00	50.0	64.0	25.0	25.0	25.0	150.00	41.0	22.00	SR M6X20 DIN912	HW 5.0
GHFG 25-63R/L-8	8.00	25.00	63.0	82.0	25.0	25.0	25.0	150.00	41.0	22.00	SR M6X20 DIN912	HW 5.0
GHFG 32-63R-8	8.00	25.00	63.0	82.0	32.0	32.0	32.0	170.00	41.0	30.00	SR M6X20 DIN912	HW 5.0

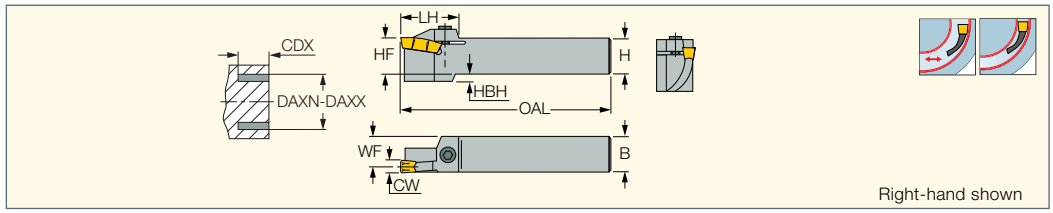
I N C H

Designation	CW	CDX	DAXN(1)	DAXX(2)	H	HF	B	OAL	LH	WF		
GHFG 25.4-50R/L-8	.315	1.000	1.97	2.52	1.000	1.000	1.000	6.000	1.600	.870	SR M6X20 DIN912	HW 5.0
GHFG 25.4-63R/L-8	.315	1.000	2.48	3.23	1.000	1.000	1.000	6.000	1.600	.870	SR M6X20 DIN912	HW 5.0

• For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GDMF (100) • GDMM-CC (108) • GDMN (98) • GDMU (99) • GDMY (95) • GDMY (full radius) (96) • GDMY-F (97) • GIA-K (long pocket) (93) • GIF (long pocket) (91) • GIF-E (W=8,10 full radius) (92) • GIF-E (W=8,10) (90) • GIFG-E (W=8) (89)

CUTGRIP

GHFGR/L-8
Holders for Face Grooving and Turning



M E T R I C													
Designation	CDX	DAXN(1)	DAXX(2)	H	HF	B	CW	OAL	LH	WF	HBH		
GHFGR/L 25-80-8	23.00	80.0	115.0	25.0	25.0	25.0	8.00	150.00	43.5	21.30	6.0	SR M6X20 DIN912	HW 5.0
GHFGR/L 32-80-8	23.00	80.0	115.0	32.0	32.0	32.0	8.00	170.00	43.5	28.30	-	SR M6X20 DIN912	HW 5.0
GHFGR/L 25-105-8	25.00	105.0	160.0	25.0	25.0	25.0	8.00	150.00	43.5	21.30	6.0	SR M6X20 DIN912	HW 5.0
GHFGR/L 32-105-8	25.00	105.0	160.0	32.0	32.0	32.0	8.00	170.00	43.5	28.30	-	SR M6X20 DIN912	HW 5.0
GHFGR/L 25-155-8	25.00	155.0	510.0	25.0	25.0	25.0	8.00	150.00	43.5	21.30	6.0	SR M6X20 DIN912	HW 5.0
GHFGR/L 32-155-8	25.00	155.0	510.0	32.0	32.0	32.0	8.00	170.00	43.5	28.30	-	SR M6X20 DIN912	HW 5.0

- No limitation to widening the groove either way after initial grooving • CDX depends on the penetration diameter and the insert
- For user guide, see pages 161-173

(1) Minimum penetration diameter

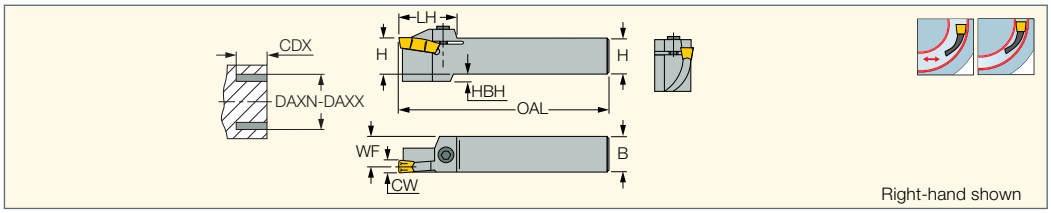
(2) Maximum penetration diameter

For inserts, see pages: GDMF (100) • GDMM-CC (108) • GDMN (98) • GDMU (99) • GDMY (95) • GDMY (full radius) (96) • GDMY-F (97) • GIA-K (long pocket) (93) • GIF (long pocket) (91) • GIF-E (W=8,10 full radius) (92) • GIF-E (W=8,10) (90) • GIFG-E (W=8) (89) • GIPA/GIDA 8 (full radius) (105)

CDX for GHFGR/L (25/32)-80-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
80	16	23	23	20	24	16	24
82	17	23	23	20	24	17	24
84	18	23	23	21	24	18	24
86	19	23	23	21	24	19	24
88	20	23	23	22	24	20	24
90	20	23	23	22	24	20	24
96	20	23	23	22	24	20	24
104	20	23	23	22	24	20	24
115	22	23	23	22	24	22	24
CDX for GHFGR/L (25/32)-105-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
105	21	23	23	23	24	21	24
114	22	23	23	23	24	22	24
126	23	23	24	23	24	23	24
140-160	24	24	24	23	24	24	24
CDX for GHFGR/L (25/32)-155-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
155	24	24	24	23	24	24	24
180	24	24	24	23	24	24	24
210-510	24	24	24	23	24	24	24

CUTGRIP

GHFGR/L-8
Holders for Face Turning and Grooving



	INCH											
Designation	CDX	DAXN(1)	DAXX(2)	H	B	CW	OAL	LH	WF	HBH		
GHFGR/L 25.4-80-8	.905	3.15	4.53	1.000	1.000	.315	6.000	1.710	.840	.30	SR M6X20 DIN912	HW 5.0
GHFGR 31.7-80-8	.905	3.15	4.53	1.250	1.250	.315	7.000	1.710	1.110	-	SR M6X25 DIN912	HW 5.0
GHFGR 25.4-105-8	.984	4.13	6.30	1.000	1.000	.315	6.000	1.710	.840	.24	SR M6X20 DIN912	HW 5.0
GHFGR 31.7-105-8	.984	4.13	6.30	1.250	1.250	.315	6.700	1.710	1.110	-	SR M6X20 DIN912	HW 5.0
GHFGR/L 25.4-155-8	.984	6.10	20.10	1.000	1.000	.315	6.000	1.710	.840	.24	SR M6X20 DIN912	HW 5.0
GHFGR/L 31.7-155-8	.984	6.10	20.10	1.250	1.250	.315	6.700	1.710	1.110	-	SR M6X20 DIN912	HW 5.0

- No limitation to widening the groove either way after initial grooving
- CDX depends on the penetration diameter and the insert
- For user guide, see pages 161-173

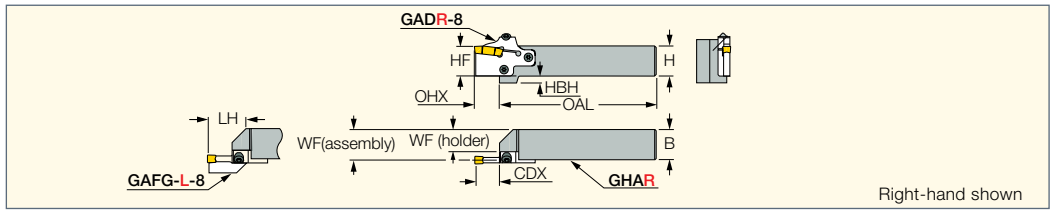
(1) Minimum penetration diameter
(2) Maximum penetration diameter

For inserts, see pages: GDMF (100) • GDMM-CC (108) • GDMN (98) • GDMU (99) • GDMY (95) • GDMY (full radius) (96) • GDMY-F (97) • GIA-K (long pocket) (93) • GIF (long pocket) (91) • GIF-E (W=.315,.394 full radius) (92) • GIF-E (W=.315,.394) (90) • GIFG-E (W=.315) (89) • GIPA/GIDA 8 (full radius) (105)

CDX for GHFGR/L (25.4/31.7)-80-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
3.150	.630	.906	.906	.787	.945	.630	.945
3.228	.669	.906	.906	.787	.945	.669	.945
3.307	.709	.906	.906	.827	.945	.709	.945
3.386	.748	.906	.906	.827	.945	.748	.945
3.465	.787	.906	.906	.866	.945	.787	.945
3.543	.787	.906	.906	.866	.945	.787	.945
3.780	.787	.906	.906	.866	.945	.787	.945
4.094	.787	.906	.906	.866	.945	.787	.945
4.528	.866	.906	.906	.866	.945	.866	.945
CDX for GHFGR/L (25.4/31.7)-105-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
4.134	.827	.906	.906	.906	.945	.827	.945
4.488	.866	.906	.906	.906	.945	.866	.945
4.961	.906	.906	.945	.906	.945	.906	.945
5.512-6.299	.945	.945	.945	.906	.945	.945	.945
CDX for GHFGR/L (25.4/31.7)-155-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDMM 8CC...
6.102	.945	.945	.945	.906	.945	.945	.945
7.087	.945	.945	.945	.906	.945	.945	.945
8.268-20.079	.945	.945	.945	.906	.945	.945	.945

CUTGRIP

GHAR/L-8
External Holders for Grooving and Turning Adapters



M E T R I C

Designation	H	HF	B	WF(1)	OAL	LH	OHX(2)	HBH	TGA(3)	CDX(4)	FG(5)				
GHAR/L 25-8	25.0	25.0	25.0	16.0	124.50	45.0	25.50	14.0	GADR/L 8	25.50	GAFG...R/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0
GHAR/L 32-8	32.0	32.0	32.0	23.0	144.50	45.0	25.50	7.0	GADR/L 8	25.50	GAFG...R/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0

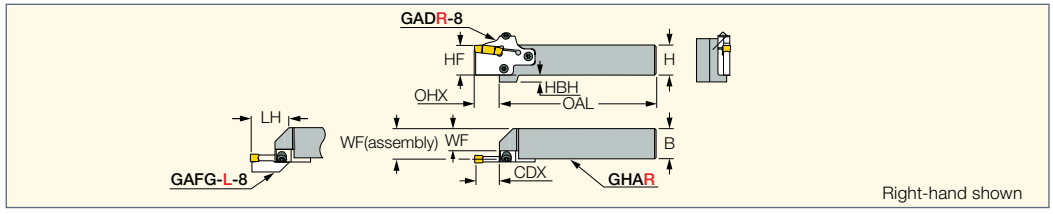
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

(1) WF(holder)
(2) Maximum overhang
(3) Adapter for Turning & Grooving
(4) See specific adapter dimensions
(5) Adapter for Face Grooving

For tools, see pages: • GAFG-R/L-8 (87)

CUTGRIP

GHAR/L-8
External Holders for Grooving and Turning Adapters



I N C H

Designation	H	HF	WF	B	OAL	LH	OHX(1)	HBH	TGA	CDX(2)	FG
GHAR/L 25.4-8	1.000	1.000	.646	1.000	5.000	1.770	1.000	.54	GADR/L 8	1.000	GAFG...R/L-8
GHAR/L 31.7-8	1.250	1.250	.896	1.250	6.000	1.770	1.000	.29	GADR/L 8	1.000	GAFG...R/L-8

- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving

(1) Maximum overhang
(2) See specific adapter dimensions

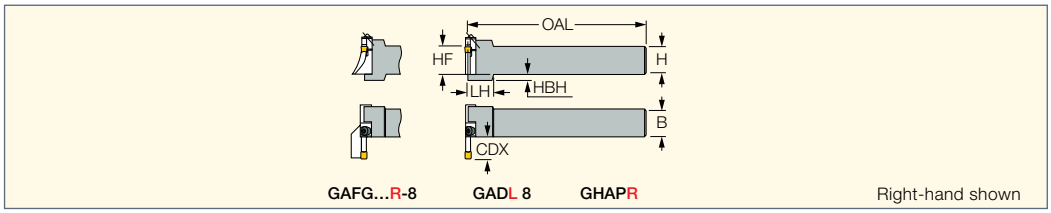
For tools, see pages: • GAFG-R/L-8 (87)

Spare Parts

Designation				
GHAR/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0

CUTGRIP

GHAPR/L-8
External Holders for Grooving and Turning Perpendicularly Oriented Adapters



M E T R I C

Designation	H	HF	B	OAL	LH	HBH	TGA(1)	CDX(2)	FG(3)				
GHAPR/L 32-8	32.0	32.0	32.0	155.00	30.0	7.0	GADR/L 8	25.50	GAFG...R/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0

I N C H

Designation	H	HF	B	OAL	LH	HBH	TGA(1)	CDX(2)	FG(3)				
GHAPR/L 31.7-8	1.250	1.250	1.250	6.100	1.180	.29	GADR/L 8	1.000	GAFG...R/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0

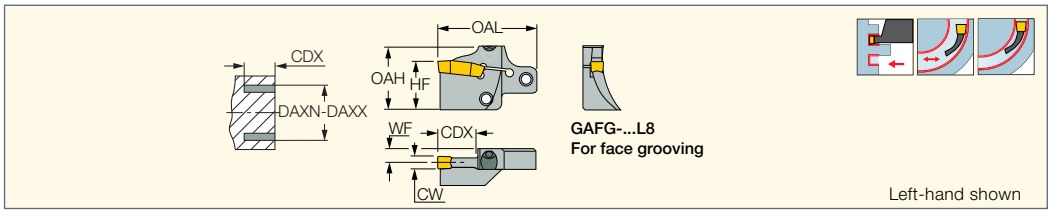
- Adapters GADR/L-8 for turning and grooving, GAFG-R/L-8 for face-grooving (to be ordered separately)

(1) Adapter for Turning & Grooving
(2) See specific adapter dimensions
(3) Adapter for Face Grooving

For tools, see pages: • GAFG-R/L-8 (87)

CUTGRIP

GAFG-R/L-8
Adapters for Face Machining



M E T R I C

Designation	CW	DAXN(1)	DAXX(2)	CDX(3)	WF	HF	OAH	OAL
GAFG 80R/L-8	8.00	80.0	115.0	23.00	9.00	32.0	42.0	63.50
GAFG 105R/L-8	8.00	105.0	160.0	25.00	9.00	32.0	42.0	63.50
GAFG 155R/L-8	8.00	155.0	510.0	25.00	9.00	32.0	42.0	63.50

I N C H

Designation	CW	DAXN(1)	DAXX(2)	CDX(3)	WF	HF	OAH	OAL
GAFG 80R/L-8	.315	3.15	4.53	.906	.354	1.260	1.654	2.500
GAFG 105R/L-8	.315	4.13	6.30	.984	.354	1.260	1.654	2.500
GAFG 155R/L-8	.315	6.10	20.08	.984	.354	1.260	1.654	2.500

- No limitation for widening the groove either way after initial grooving • For user guide, see pages 161-173

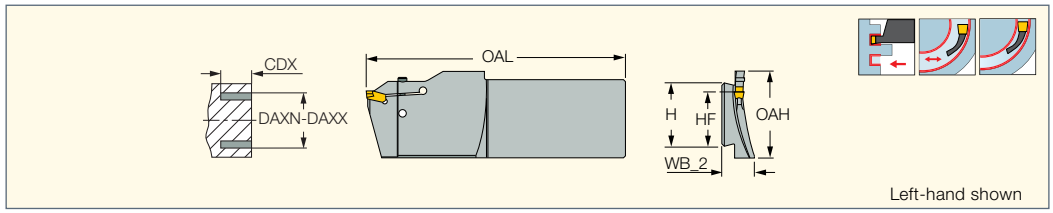
(1) Minimum penetration diameter
(2) Maximum penetration diameter
(3) For GIFG-8 & GDMY-8 CDX=25 mm for DAX range

For inserts, see pages: GDMA (94) • GDMF (100) • GDMM-CC (108) • GDMN (98) • GDMU (99) • GDMY (95) • GDMY (full radius) (96) • GDMY-F (97) • GIA-K (long pocket) (93) • GIF (long pocket) (91) • GIF-E (W=8,10 full radius) (92) • GIF-E (W=8,10) (90) • GIFG-E (W=8) (89) • GIPA/GIDA 8 (full radius) (105)

For holders, see pages: C#-GHAD-8 (142) • C#-GHAPR/L-8 (143) • GHAPR/L-8 (87) • GHAR/L-8 (86) • IM-GHAD-8 (151)

CUTGRIP

CGFG 51-P8
Blades for Face Machining
Carrying 8 mm Inserts



M E T R I C

Designation	CW	DAXN(1)	DAXX(2)	CDX	H	HF	OAL	OAH	WB_2		
CGFG 51-180R/L-P8	8.00	180.0	240.0	70.00	52.6	45.0	200.00	60.0	27.5	SR M4-2052	HW 3.0
CGFG 51-240R/L-P8	8.00	240.0	320.0	80.00	52.6	45.0	210.00	70.0	26.0	SR M4-2052	HW 3.0
CGFG 51-320R/L-P8	8.00	320.0	440.0	90.00	52.6	45.0	220.00	80.0	24.5	SR M4-2052	HW 3.0
CGFG 51-440R/L-P8	8.00	440.0	700.0	100.00	52.6	45.0	230.00	90.0	22.5	SR M4-2052	HW 3.0
CGFG 51-700R/L-P8	8.00	700.0	1500.0	120.00	52.6	45.0	250.00	100.0	20.0	SR M4-2052	HW 3.0

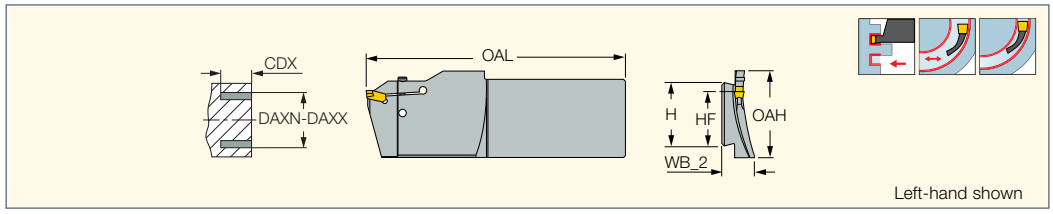
- For user guide, see pages 161-173

(1) Minimum penetration diameter
(2) Maximum penetration diameter

For inserts, see pages: GIMF (101) • GIMM 8CC (107) • GIMY (102) • GIMY (full radius) (104) • GIMY-F (103) • GIPY (106)
For holders, see pages: SGTBK (135) • SGTBU/SGTBN (133)

CUTGRIP

CGFG 51-P8
Blades for Face Machining
Carrying .315" Inserts



I N C H

Designation	CW	DAXN(1)	DAXX(2)	CDX	H	HF	OAL	OAH	WB_2		
CGFG 51-180R/L-P8	.315	7.09	9.45	2.756	2.071	1.772	7.874	2.36	1.083	SR M4-2052	HW 3.0
CGFG 51-240R/L-P8	.315	9.45	12.60	3.150	2.071	1.772	8.268	2.76	1.024	SR M4-2052	HW 3.0
CGFG 51-320R/L-P8	.315	12.60	17.32	3.543	2.071	1.772	8.661	3.15	.965	SR M4-2052	HW 3.0
CGFG 51-440R/L-P8	.315	17.32	27.56	3.937	2.071	1.772	9.055	3.54	.886	SR M4-2052	HW 3.0
CGFG 51-700R/L-P8	.315	27.56	59.06	4.724	2.071	1.772	9.843	3.94	.787	SR M4-2052	HW 3.0

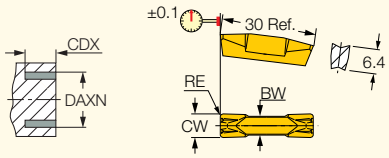
- For user guide, see pages 161-173

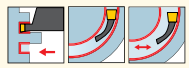
(1) Minimum penetration diameter
(2) Maximum penetration diameter

For inserts, see pages: GIMF (101) • GIMM 8CC (107) • GIMY (102) • GIMY (full radius) (104) • GIMY-F (103) • GIPY (106)
For holders, see pages: SGTBK (135) • SGTBU/SGTBN (133)

CUTGRIP

GIFG-E (W=8)
Inserts for Deep Face Grooving and Turning





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	CDX(4)	BW	Tough ↔ Hard IC635	IC20	Recommended Machining Data f face-groove (mm/rev)
GIFG 8.00E-0.80	8.00	0.80	0.02	0.050	50.0	25.00	6.00	●	●	0.15-0.25
GIFG 8.00E-1.20	8.00	1.20	0.02	0.050	50.0	25.00	6.00	●		0.15-0.25

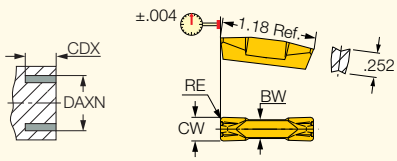
- For cutting speed recommendations, see pages 162-164

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum

For tools, see pages: GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIFG-E (W=.315)
Inserts for Deep Face Grooving and Turning



I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	CDX(4)	BW	Tough ↔ Hard IC635	IC20	Recommended Machining Data f face-groove (IPR)
GIFG 8.00E-0.80	.315	.031	.0008	.0020	1.97	.984	.236	●	●	.0059-.0098
GIFG 8.00E-1.20	.315	.047	.0008	.0020	1.97	.984	.236	●		.0059-.0098

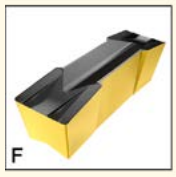
- For cutting speed recommendations, see pages 162-164

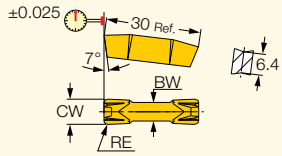
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum

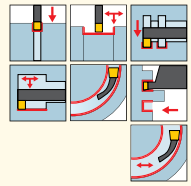
For tools, see pages: GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF-E (W=8,10)
Precision Double-Ended Inserts
for Grooving and Turning







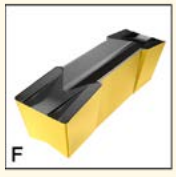
M E T R I C

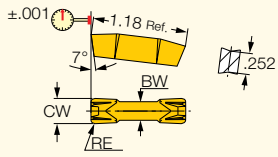
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	IC807	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIF 8.00E-0.40	8.00	0.40	0.02	0.030	6.00	27.00		•	•	•						0.50-4.80	0.29-0.48	0.18-0.31
GIF 8.00E-0.80	8.00	0.80	0.02	0.050	6.00	27.00	•	•	•	•	•	•	•	•	•	1.00-4.80	0.32-0.56	0.18-0.34
GIF 8.00E-1.20	8.00	1.20	0.02	0.050	6.00	27.00	•	•	•	•	•	•	•			1.45-4.80	0.32-0.62	0.18-0.34
GIF 10.00E-0.80	10.00	0.80	0.02	0.050	8.00	27.00	•	•	•	•	•	•	•		•	1.00-6.00	0.35-0.65	0.22-0.40
GIF 10.00E-1.20	10.00	1.20	0.02	0.050	8.00	27.00	•	•	•	•	•			•		1.45-6.00	0.35-0.72	0.22-0.40

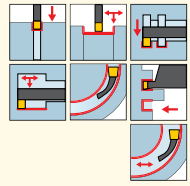
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF-E (W=.315,.394)
Precision Double-Ended Inserts
for Grooving and Turning







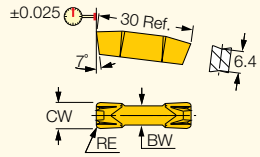
I N C H

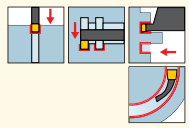
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	IC807	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIF 8.00E-0.40	.315	.0160	.0008	.0012	.236	1.063		•	•	•						.020-.189	.0114-.0189	.0071-.0122
GIF 8.00E-0.80	.315	.0315	.0008	.0020	.236	1.063	•	•	•	•	•	•	•	•	•	.039-.189	.0126-.0220	.0071-.0134
GIF 8.00E-1.20	.315	.0472	.0008	.0020	.236	1.063	•	•	•	•	•	•	•			.057-.189	.0126-.0244	.0071-.0134
GIF 10.00E-0.80	.394	.0315	.0008	.0020	.315	1.063	•	•	•	•	•	•	•		•	.039-.236	.0138-.0256	.0087-.0157
GIF 10.00E-1.20	.394	.0472	.0008	.0020	.315	1.063	•	•	•	•	•			•		.057-.236	.0138-.0283	.0087-.0157

• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF (long pocket)
Precision Double-Ended
Inserts for Grooving





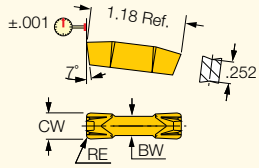
M E T R I C

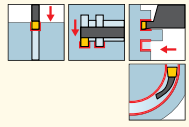
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC20	IC806	Recommended Machining Data f groove (mm/rev)	f face-groove (mm/rev)
GIF 8.00-0.40	8.00	0.40	0.02	0.030	6.00	27.00	●	●	0.18-0.31	0.14-0.23
GIF 8.00-0.80	8.00	0.80	0.02	0.050	6.00	27.00	●	●	0.18-0.34	0.14-0.25

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF (long pocket)
Precision Double-Ended
Inserts for Grooving





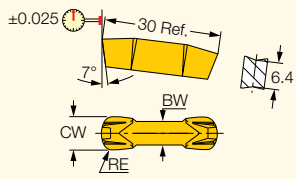
I N C H

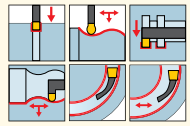
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC20	IC806	Recommended Machining Data f groove (IPR)	f face-groove (IPR)
GIF 8.00-0.40	.315	.0157	.0008	.0012	.236	1.063	●	●	.0071-.0122	.0055-.0091
GIF 8.00-0.80	.315	.0315	.0008	.0020	.236	1.063	●	●	.0071-.0134	.0055-.0098

• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF-E (W=8,10 full radius)
Precision Double-Ended
Full Radius Inserts for
Profiling and Grooving





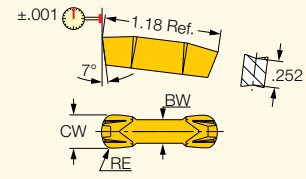
M E T R I C

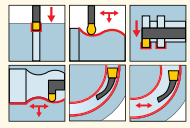
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIF 8.00E-4.00	8.00	4.00	0.02	0.050	6.00		•	0.00-4.00	0.32-0.67	0.18-0.34
GIF 10.00E-5.00	10.00	5.00	0.02	0.050	8.00	•	•	0.00-5.00	0.35-0.78	0.22-0.40

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIF-E
(W=.315,.394 full radius)
Precision Double-Ended
Full Radius Inserts for
Profiling and Grooving





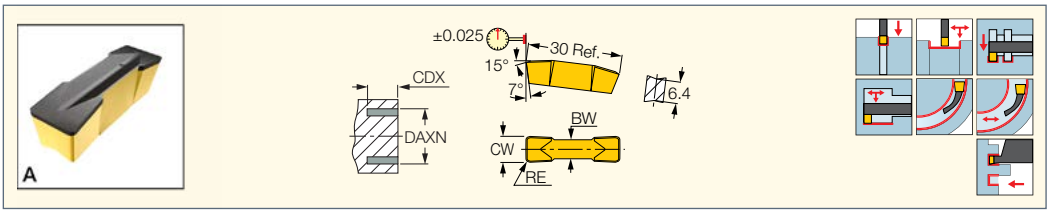
I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIF 8.00E-4.00	.315	.157	.0008	.0020	.236		•	.000-.157	.0126-.0264	.0071-.0134
GIF 10.00E-5.00	.394	.197	.0008	.0020	.315	•	•	.000-.197	.0138-.0307	.0087-.0157

• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIA-K (long pocket)
Flat Top Precision
Double-Ended Inserts with
T-Land for Machining Cast Iron



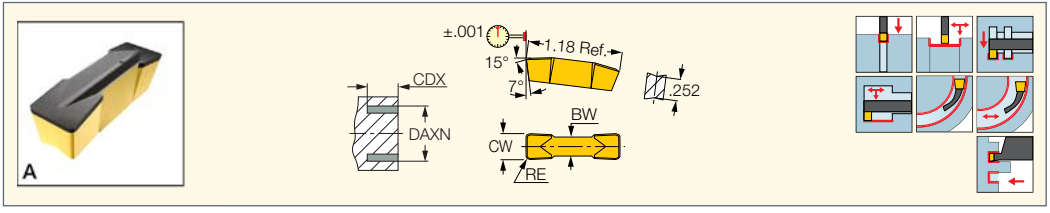
M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	DAXN(4)	Tough ↔ Hard IC5010	IC428	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIA 8.00K-0.80	8.00	0.80	0.02	0.050	6.00	25.00	160.0	●	●	1.00-4.80	0.36-0.64	0.18-0.38
GIA 8.00K-1.20	8.00	1.20	0.02	0.050	6.00	25.00	160.0	●	●	1.45-4.80	0.36-0.70	0.18-0.38

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
(4) Minimum axial grooving diameter
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIA-K (long pocket)
Flat Top Precision
Double-Ended Inserts with
T-Land for Machining Cast Iron



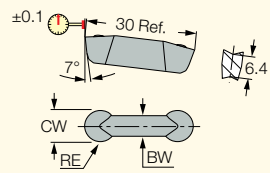
I N C H

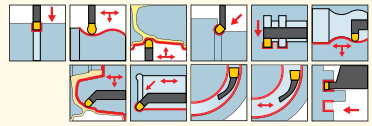
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	DAXN(4)	Tough ↔ Hard IC5010	IC428	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIA 8.00K-0.80	.315	.031	.0008	.0020	.236	.984	6.30	●	●	.039-.189	.0142-.0252	.0071-.0150
GIA 8.00K-1.20	.315	.047	.0008	.0020	.236	.984	6.30	●	●	.057-.189	.0142-.0276	.0071-.0150

• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
(4) Minimum axial grooving diameter
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMA
Utility Double-Ended Insert
for Machining Aluminum





Can cut arcs to 250°

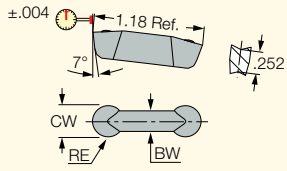
M E T R I C

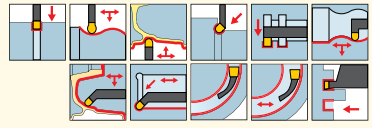
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC07	IC507	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMA 840	8.00	4.00	0.05	0.050	5.60	•	•	0.00-4.00	0.24-0.67	0.14-0.38

• For heavy-duty machining • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87)

CUTGRIP

GDMA
Utility Double-Ended Insert
for Machining Aluminum





Can cut arcs to 250°

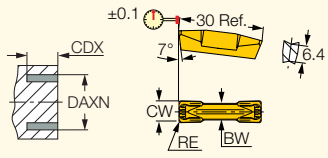
I N C H

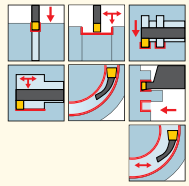
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC07	IC507	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GDMA 840	.315	.157	.0020	.0020	.220	•	•	.000-.157	.0094-.0264	.0055-.0150

• For heavy-duty machining • DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87)

CUTGRIP

GDMY
Utility Double-Ended Inserts
for Grooving and Turning





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	CDX(4)	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMY 808	8.00	0.80	0.05	0.050	6.00	50.0	27.00	●	●	●	●	●	●	●	1.00-4.80	0.32-0.56	0.18-0.34

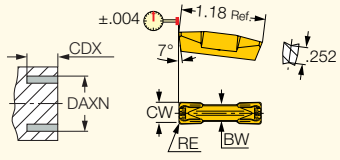
- DMIN for internal machining = 65 mm
- For cutting speed recommendations and user guide, see pages 161-173

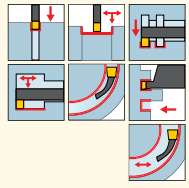
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum

For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMY
Utility Double-Ended Inserts
for Grooving and Turning





I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	CDX(4)	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GDMY 808	.315	.031	.0020	.0020	.236	1.97	1.063	●	●	●	●	●	●	●	.039-.189	.0126-.0220	.0071-.0134

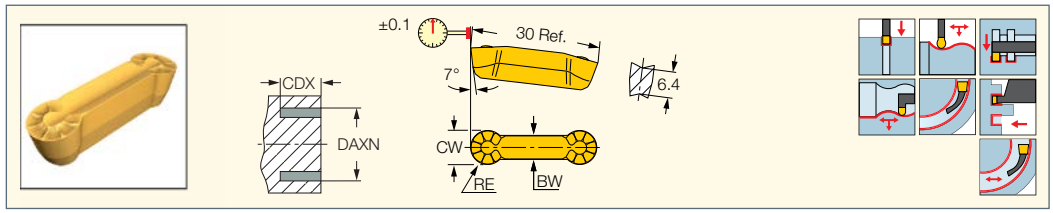
- DMIN for internal machining = 2.56"
- For cutting speed recommendations and user guide, see pages 161-173

(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Cutting depth maximum

For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMY (full radius)
Utility Double-Ended Full Radius
Inserts for Grooving and Profiling



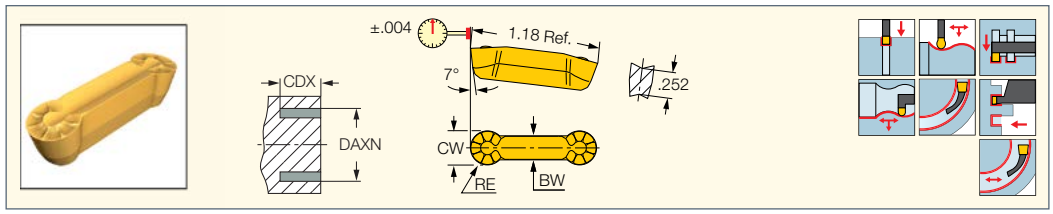
M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	CDX	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMY 840	8.00	4.00	0.05	0.050	5.60	50.0	25.00	●	●	●	●	●	●	●	●	0.00-4.00	0.32-0.67	0.18-0.34

• Can cut arcs to 250° • DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMY (full radius)
Utility Double-Ended Full Radius
Inserts for Grooving and Profiling



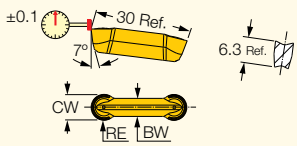
I N C H

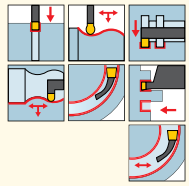
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	DAXN(3)	CDX	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GDMY 840	.315	.157	.0020	.0020	.220	1.97	.984	●	●	●	●	●	●	●	●	.000-.157	.0126-.0264	.0071-.0134

• Can cut arcs to 250° • DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMY-F
Utility Double-Ended Inserts
for Grooving and Profiling
Ductile Materials





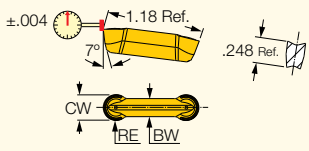
M E T R I C

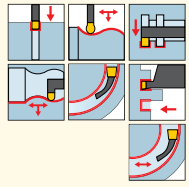
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC808	IC908	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMY 840F	8.00	4.00	0.05	0.050	5.60	25.00	•	•	0.00-4.00	0.32-0.67	0.18-0.34

• DMIN for internal applications = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMY-F
Utility Double-Ended Inserts
for Grooving and Profiling
Ductile Materials





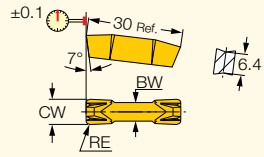
I N C H

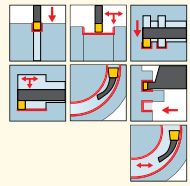
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	CDX(3)	Tough ↔ Hard IC808	IC908	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GDMY 840F	.315	.157	.0020	.0020	.220	.984	•	•	.000-.157	.0126-.0264	.0071-.0134

• DMIN for internal applications = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMN
Utility Double-Ended Inserts
for Grooving and Turning
Ductile Materials





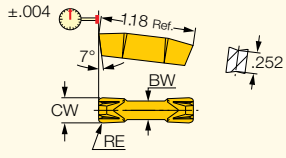
M E T R I C

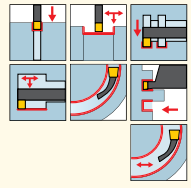
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	CDX(3)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC907	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMN 808	8.00	0.80	0.05	0.050	27.00	6.00	●	●	●	●	1.00-3.20	0.20-0.35	0.10-0.30

• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMN
Utility Double-Ended Inserts
for Grooving and Turning
Ductile Materials





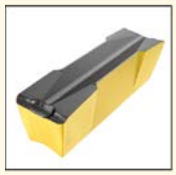
I N C H

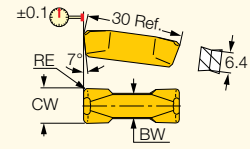
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	CDX(3)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC907	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GDMN 808	.315	.031	.0020	.0020	1.063	.236	●	●	●	●	.039-.126	.0079-.0138	.0039-.0118

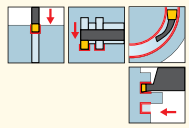
• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMU
Utility Inserts for Heavy
Grooving on Ductile Materials







M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	Recommended Machining Data f groove (mm/rev)
GDMU 808	8.00	0.80	0.05	0.050	6.00	●	●	0.10-0.24

- For cutting speed recommendations and user guide, see pages 161-173

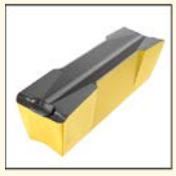
(1) Cutting width tolerance (+/-)

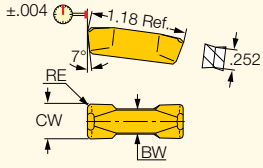
(2) Corner radius tolerance (+/-)

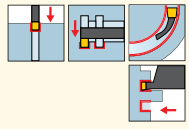
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMU
Utility Inserts for Heavy
Grooving on Ductile Materials







I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	Recommended Machining Data f groove (IPR)
GDMU 808	.315	.031	.0020	.0020	.236	●	●	.0039-.0094

- For cutting speed recommendations and user guide, see pages 161-173

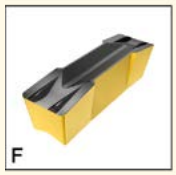
(1) Cutting width tolerance (+/-)

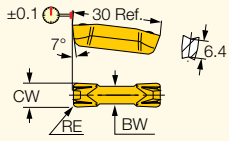
(2) Corner radius tolerance (+/-)

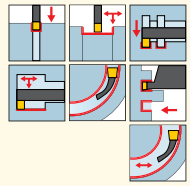
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMF
Utility Double-Ended Inserts
for Grooving and Turning







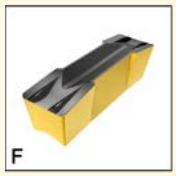
M E T R I C

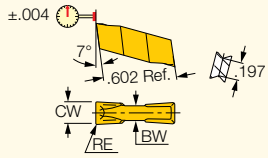
Designation	Dimensions						Tough ↔ Hard					Recommended Machining Data		
	CW	RE	CWTOL(1)	RETOL(2)	CDX(3)	BW	IC830	IC8250	IC808	IC5010	IC428	a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GDMF 808	8.00	0.80	0.05	0.050	27.00	6.00	●	●	●	●	●	1.00-4.80	0.32-0.56	0.18-0.34

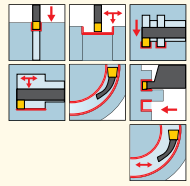
• DMIN for internal machining = 65 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMF
Utility Double-Ended Inserts
for Grooving and Turning







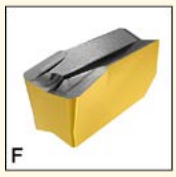
I N C H

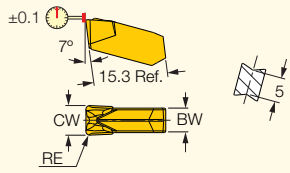
Designation	Dimensions						Tough ↔ Hard					Recommended Machining Data		
	CW	RE	CWTOL(1)	RETOL(2)	CDX(3)	BW	IC830	IC8250	IC808	IC5010	IC428	a_p (inch)	f turn (IPR)	f groove (IPR)
GDMF 808	.315	.031	.0020	.0020	1.063	.236	●	●	●	●	●	.039-.189	.0126-.0220	.0071-.0134

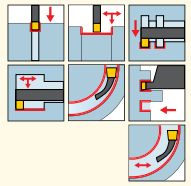
• DMIN for internal machining = 2.56" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Cutting depth maximum
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GIMF
Utility Single-Ended Inserts
for Grooving and Turning







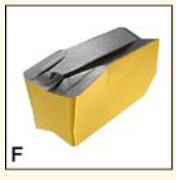
M E T R I C

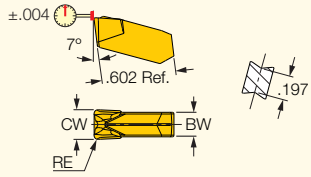
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	IC907	IC4	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIMF 406	4.00	0.60	0.05	0.050	3.40	•	•	•	•	•	•	•	•	•	•	•	0.75-2.40	0.19-0.25	0.09-0.16
GIMF 502	5.00	0.20	0.05	0.050	4.00		•			•							0.25-3.00	0.18-0.26	0.11-0.18
GIMF 508	5.00	0.80	0.05	0.050	4.00	•	•	•	•	•	•	•	•		•	•	1.00-3.00	0.23-0.35	0.11-0.21
GIMF 605	6.00	0.50	0.05	0.050	5.00	•		•									0.60-3.60	0.22-0.36	0.13-0.23
GIMF 608	6.00	0.80	0.05	0.050	5.00	•	•	•	•	•	•		•		•	•	1.00-3.60	0.24-0.42	0.13-0.25
GIMF 808	8.00	0.80	0.05	0.050	6.00	•	•	•									1.00-4.80	0.32-0.56	0.18-0.34

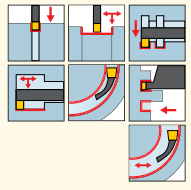
• DMIN for internal applications = 70 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMF
Utility Single-Ended Inserts
for Grooving and Turning







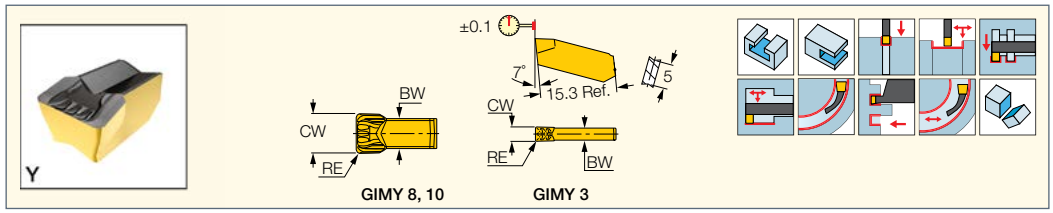
I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	IC907	IC4	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIMF 406	.157	.024	.0020	.0020	.134	•	•	•	•	•	•	•	•	•	•	•	.030-.094	.0075-.0098	.0035-.0063
GIMF 502	.197	.008	.0020	.0020	.157		•			•							.010-.118	.0071-.0102	.0043-.0071
GIMF 508	.197	.031	.0020	.0020	.157	•	•	•	•	•	•	•	•		•	•	.039-.118	.0091-.0138	.0043-.0083
GIMF 605	.236	.020	.0020	.0020	.197	•		•									.024-.142	.0087-.0142	.0051-.0091
GIMF 608	.236	.031	.0020	.0020	.197	•	•	•	•	•	•		•		•	•	.039-.142	.0094-.0165	.0051-.0098
GIMF 808	.315	.031	.0020	.0020	.236	•	•	•									.039-.189	.0126-.0220	.0071-.0134

• DMIN for internal applications = 2.76" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY
Utility Single-Ended Inserts
for Grooving and Turning



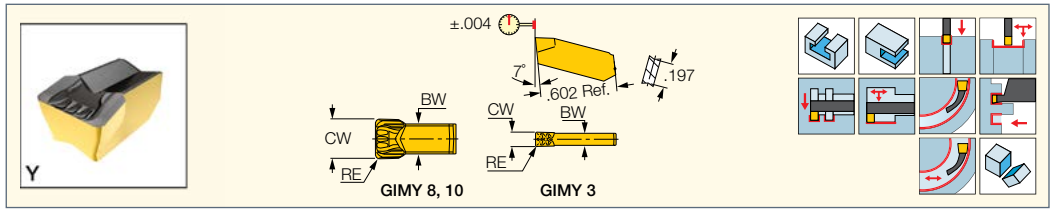
M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC806	IC4	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIMY 304	3.00	0.40	0.05	0.050	2.40	●	●			●	●	●	●	0.50-1.80	0.16-0.20	0.07-0.12
GIMY 808	8.00	0.80	0.05	0.050	6.00	●	●	●	●	●	●			1.00-4.80	0.32-0.56	0.18-0.34
GIMY 1008	10.00	0.80	0.05	0.050	8.00	●		●						1.00-6.00	0.35-0.65	0.22-0.40

• DMIN for internal applications =70 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY
Utility Single-Ended Inserts
for Grooving and Turning



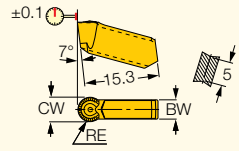
I N C H

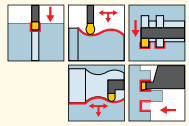
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC806	IC4	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIMY 304	.118	.016	.0020	.0020	.094	●	●			●	●	●	●	.020-.071	.0063-.0079	.0027-.0047
GIMY 808	.315	.031	.0020	.0020	.236	●	●	●	●	●	●			.039-.189	.0126-.0220	.0071-.0134
GIMY 1008	.394	.031	.0020	.0020	.315	●		●						.039-.236	.0138-.0256	.0087-.0157

• DMIN for internal applications = 2.76" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY-F
Utility Single-Ended Inserts
for Grooving and Profiling
Ductile Materials





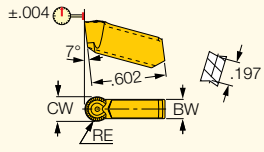
M E T R I C

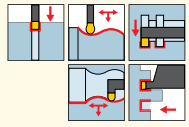
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC8250	IC808	IC908	IC806	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIMY 315F	3.00	1.50	0.05	0.050	2.40		●				0.00-1.50	0.18-0.26	0.07-0.13
GIMY 525F	5.00	2.50	0.05	0.050	3.90		●		●		0.00-2.50	0.23-0.42	0.11-0.21
GIMY 630F	6.00	3.00	0.05	0.050	5.00		●	●	●	●	0.00-3.00	0.24-0.50	0.13-0.25
GIMY 840F	8.00	4.00	0.05	0.050	5.60	●					0.00-4.00	0.32-0.67	0.18-0.34

• DMIN for internal applications =70 mm • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY-F
Utility Single-Ended Inserts
for Grooving and Profiling
Ductile Materials





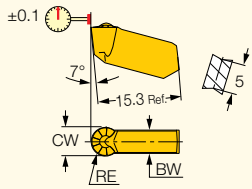
I N C H

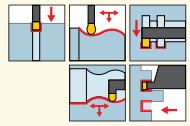
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC8250	IC808	IC908	IC806	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIMY 315F	.118	.059	.0020	.0020	.094		●				.000-.059	.0071-.0102	.0028-.0051
GIMY 525F	.197	.098	.0020	.0020	.154		●		●		.000-.098	.0091-.0165	.0043-.0083
GIMY 630F	.236	.118	.0020	.0020	.197		●	●	●	●	.000-.118	.0094-.0197	.0051-.0098
GIMY 840F	.315	.157	.0020	.0020	.220	●					.000-.157	.0126-.0264	.0071-.0134

• DMIN for internal applications = 2.76" • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY (full radius)
Utility Single-Ended Inserts
for Grooving and Profiling





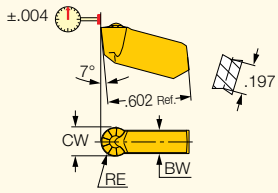
M E T R I C

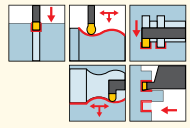
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC20N	IC806	IC804	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIMY 315	3.00	1.50	0.05	0.050	2.40	●	●	●	●	●	●	●	●	0.00-1.50	0.18-0.26	0.07-0.13
GIMY 420	4.00	2.00	0.05	0.050	3.20	●	●	●	●	●	●	●	●	0.00-2.00	0.20-0.28	0.09-0.17
GIMY 525	5.00	2.50	0.05	0.050	3.90	●	●	●	●	●	●	●	●	0.00-2.50	0.23-0.42	0.11-0.21
GIMY 630	6.00	3.00	0.05	0.050	5.00	●	●	●	●	●	●	●	●	0.00-3.00	0.24-0.50	0.13-0.25
GIMY 635-318	6.35	3.18	0.05	0.050	5.10	●	●	●		●				0.00-3.10	0.25-0.53	0.14-0.27
GIMY 840	8.00	4.00	0.05	0.050	5.60	●	●	●	●	●				0.00-4.00	0.32-0.67	0.18-0.34

• DMIN for internal application=70 mm • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMY (full radius)
Utility Single-Ended Inserts
for Grooving and Profiling





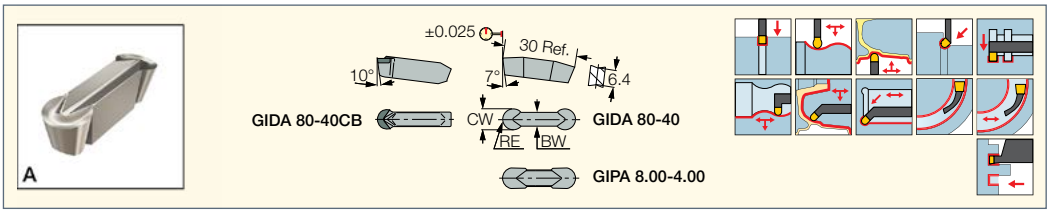
I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC8250	IC808	IC908	IC20	IC20N	IC806	IC804	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIMY 315	.118	.059	.0020	.0020	.094	●	●	●	●	●	●	●	●	.000-.059	.0071-.0102	.0027-.0051
GIMY 420	.157	.079	.0020	.0020	.126	●	●	●	●	●	●	●	●	.000-.079	.0079-.0110	.0035-.0067
GIMY 525	.197	.098	.0020	.0020	.154	●	●	●	●	●	●	●	●	.000-.098	.0091-.0165	.0043-.0083
GIMY 630	.236	.118	.0020	.0020	.197	●	●	●	●	●	●	●	●	.000-.118	.0094-.0197	.0051-.0098
GIMY 635-318	.250	.125	.0020	.0020	.201	●	●	●		●				.000-.122	.0098-.0209	.0055-.0106
GIMY 840	.315	.157	.0020	.0020	.220	●	●	●	●	●				.000-.157	.0126-.0264	.0071-.0134

• DMIN for internal application= 2.76" • Can cut arcs to 250° • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIPA/GIDA 8 (full radius)
Precision Double-Ended
Inserts with Polished Top Rake
for Machining Aluminum



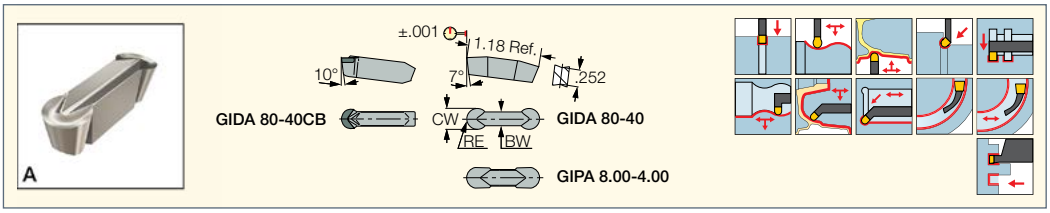
M E T R I C

Designation	Dimensions CW	RE	CWTOL[2]	RETOL[3]	BW	Tough ↔ Hard IC20	IC4	ID5	Recommended Machining Data a_p (mm)	f turn (mm/rev)	f groove (mm/rev)
GIDA 80-40	8.00	4.00	0.02	0.050	5.60	●	●		0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40-D	8.00	4.00	0.02	0.050	5.60			●	0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40CB-D [1]	8.00	4.00	0.02	0.050	5.60			●	0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40YZ	8.00	4.00	0.02	0.050	5.60	●	●		0.00-4.00	0.24-0.67	0.14-0.38
GIDA 80-40YZ-D	8.00	4.00	0.02	0.050	5.60			●	0.00-4.00	0.35-0.96	0.18-0.48
GIPA 8.00-4.00	8.00	4.00	0.02	0.050	6.00	●			0.00-4.00	0.24-0.67	0.14-0.38

• ID5 is a single-ended PCD tipped insert • For cutting speed recommendations and user guide, see pages 161-173
[1] Should not be clamped on tools with "A" suffix
[2] Cutting width tolerance (+/-)
[3] Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87) • GHFGR/L-8 (84)

CUTGRIP

GIPA/GIDA 8 (full radius)
Precision Double-Ended
Inserts with Polished Top Rake
for Machining Aluminum



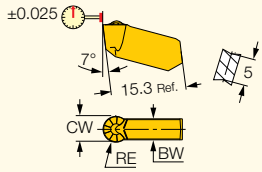
I N C H

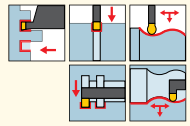
Designation	Dimensions CW	RE	CWTOL[2]	RETOL[3]	BW	Tough ↔ Hard IC20	IC4	ID5	Recommended Machining Data a_p (inch)	f turn (IPR)	f groove (IPR)
GIDA 80-40	.315	.1575	.0008	.0020	.220	●	●		.000-.157	.0094-.0264	.0055-.0150
GIDA 80-40-D	.315	.1575	.0008	.0020	.220			●	.000-.157	.0094-.0264	.0055-.0150
GIDA 80-40CB-D [1]	.315	.1575	.0008	.0020	.220			●	.000-.157	.0094-.0264	.0055-.0150
GIDA 80-40YZ	.315	.1575	.0008	.0020	.220	●	●		.000-.157	.0094-.0264	.0055-.0150
GIDA 80-40YZ-D	.315	.1575	.0008	.0020	.220			●	.000-.157	.0138-.0378	.0071-.0189
GIPA 8.00-4.00	.315	.1575	.0008	.0020	.236	●			.000-.157	.0094-.0264	.0055-.0150

• ID5 is a single-ended PCD tipped insert • For cutting speed recommendations and user guide, see pages 161-173
[1] Should not be clamped on tools with "A" suffix
[2] Cutting width tolerance (+/-)
[3] Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87)

CUTGRIP

GIPY
Single-Ended Full Radius Sharp Edged Precision Inserts for Profiling High Temperature Alloys





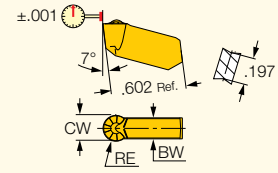
M E T R I C

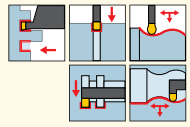
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC20	IC320	IC07	IC806	IC907	IC4	IC804	Recommended Machining Data f turn (mm/rev)	f groove (mm/rev)
GIPY 3.00-1.50	3.00	1.50	0.02	0.050	2.40	●	●		●	●	●	●	0.19-0.28	0.08-0.15
GIPY 4.00-2.00	4.00	2.00	0.02	0.050	3.20	●	●		●	●	●	●	0.22-0.37	0.10-0.20
GIPY 5.00-2.50	5.00	2.50	0.02	0.050	3.90	●	●		●	●	●	●	0.24-0.46	0.13-0.23
GIPY 6.00-3.00	6.00	3.00	0.02	0.050	5.00	●	●		●	●	●		0.26-0.55	0.15-0.27
GIPY 8.00-4.00	8.00	4.00	0.02	0.050	5.60	●	●	●	●	●			0.34-0.74	0.20-0.36

• Can cut arcs to 250° • DMIN for internal machining = 70 mm • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIPY
Single-Ended Full Radius Sharp Edged Precision Inserts for Profiling High Temperature Alloys





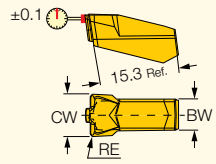
I N C H

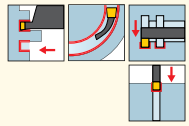
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC20	IC320	IC07	IC806	IC907	IC4	IC804	Recommended Machining Data f turn (IPR)	f groove (IPR)
GIPY 3.00-1.50	.118	.059	.0008	.0020	.094	●	●		●	●	●	●	.0075-.0110	.0031-.0059
GIPY 4.00-2.00	.157	.079	.0008	.0020	.126	●	●		●	●	●	●	.0087-.0146	.0039-.0079
GIPY 5.00-2.50	.197	.098	.0008	.0020	.154	●	●		●	●	●	●	.0094-.0181	.0051-.0091
GIPY 6.00-3.00	.236	.118	.0008	.0020	.197	●	●		●	●	●		.0102-.0216	.0059-.0106
GIPY 8.00-4.00	.315	.157	.0008	.0020	.220	●	●	●	●	●			.0134-.0291	.0079-.0142

• Can cut arcs to 250° • DMIN for internal machining = 2.76" • For cutting speed recommendations and user guide, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMM 8CC
Single-Ended Utility Insert with a Frontal Chip Splitter for External Rough Grooving and Side Turning





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC808	IC908	Recommended Machining Data f face-groove (mm/rev)
GIMM 8CC	8.00	0.80	0.05	0.050	5.80	•	•	0.30-0.45

- For cutting speed recommendations, see pages 161-173

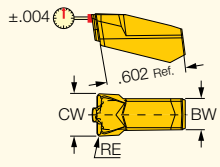
(1) Cutting width tolerance (+/-)

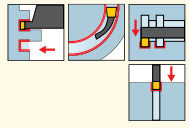
(2) Corner radius tolerance (+/-)

For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GIMM 8CC
Single-Ended Utility Insert with a Frontal Chip Splitter for External Rough Grooving and Side Turning





I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC808	IC908	Recommended Machining Data f face-groove (IPR)
GIMM 8CC	.315	.031	.0020	.0020	.228	•	•	.0118-.0177

- For cutting speed recommendations, see pages 161-173

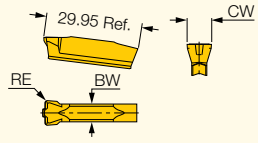
(1) Cutting width tolerance (+/-)

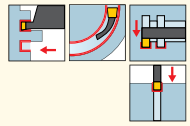
(2) Corner radius tolerance (+/-)

For tools, see pages: • CGFG 51-P8 (88)

CUTGRIP

GDMM-CC
Single-Ended Utility Insert for External Rough Grooving and Side Turning with a Frontal Chip Splitter





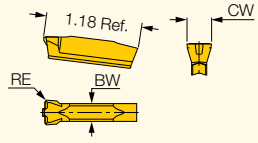
M E T R I C

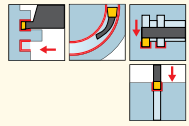
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC354	IC808	IC907	Recommended Machining Data f face-groove (mm/rev)
GDMM 7CC	7.00	0.80	0.05	0.050	6.00		•			0.30-0.45
GDMM 8CC	8.00	0.80	0.05	0.050	5.60	•		•	•	0.30-0.45

• For cutting speed recommendations, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

CUTGRIP

GDMM-CC
Single-Ended Utility Insert for External Rough Grooving and Side Turning with a Frontal Chip Splitter





I N C H

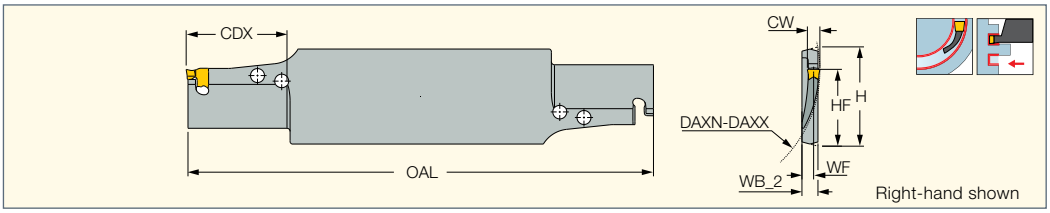
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	BW	Tough ↔ Hard IC830	IC354	IC808	IC907	Recommended Machining Data f face-groove (IPR)
GDMM 7CC	.276	.0315	.0020	.0020	.236		•			.0118-.0177
GDMM 8CC	.315	.0315	.0020	.0020	.220	•		•	•	.0118-.0177

• For cutting speed recommendations, see pages 161-173
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
For tools, see pages: • GAFG-R/L-8 (87) • GHFG-R/L-8 (83) • GHFGR/L-8 (84)

TANGFACE

TANG-GRIP FACE MACHINING LINE

TNFFH-IQ
Face Grooving Blades



M E T R I C

Designation	CW	DAXN(1)	DAXX(2)	CDX	HF	H	WF	WB_2	OAL	Insert	
TNFFH 65R/L-3IQ	3.00	65.0	90.0	18.00	24.8	32.0	4.10	5.2	150.00	TNF 3...	ETF 3-6*
TNFFH 90R/L-3IQ	3.00	90.0	120.0	18.00	24.8	32.0	4.10	5.2	150.00	TNF 3...	ETF 3-6*
TNFFH 120R/L-3IQ	3.00	120.0	160.0	24.00	24.8	32.0	4.10	5.2	150.00	TNF 3...	ETF 3-6*
TNFFH 80R/L-4IQ	4.00	80.0	150.0	32.00	24.8	32.0	3.80	5.2	150.00	TNF 4...	ETF 3-6*
TNFFH 150R/L-4IQ	4.00	150.0	500.0	32.00	24.8	32.0	3.80	5.2	150.00	TNF 4...	ETF 3-6*
TNFFH 80R/L-5IQ	5.00	80.0	150.0	30.00	24.8	32.0	3.50	5.2	150.00	TNF 5...	ETF 3-6*
TNFFH 150R/L-5IQ	5.00	150.0	500.0	35.00	24.8	32.0	3.50	5.2	150.00	TNF 5...	ETF 3-6*
TNFFH 80R/L-6IQ	6.00	80.0	150.0	30.00	24.8	32.0	3.30	5.2	150.00	TNF 6...	ETF 3-6*
TNFFH 150R/L-6IQ	6.00	150.0	700.0	35.00	24.8	32.0	3.30	5.2	150.00	TNF 6...	ETF 3-6*

I N C H

Designation	CW	DAXN(1)	DAXX(2)	CDX	HF	H	WF	WB_2	OAL	Insert	
TNFFH 65R/L-3IQ	.118	2.56	3.54	.709	.976	1.260	.161	.205	5.906	TNF 3...	ETF 3-6*
TNFFH 90R/L-3IQ	.118	3.54	4.72	.709	.976	1.260	.161	.205	5.906	TNF 3...	ETF 3-6*
TNFFH 120R/L-3IQ	.118	4.72	6.30	.945	.976	1.260	.161	.205	5.906	TNF 3...	ETF 3-6*
TNFFH 80R/L-4IQ	.157	3.15	5.91	1.260	.976	1.260	.150	.205	5.906	TNF 4...	ETF 3-6*
TNFFH 150R/L-4IQ	.157	5.91	19.69	1.260	.976	1.260	.150	.205	5.906	TNF 4...	ETF 3-6*
TNFFH 80R/L-5IQ	.197	3.15	5.91	1.181	.976	1.260	.140	.205	5.906	TNF 5...	ETF 3-6*
TNFFH 150R/L-5IQ	.197	5.91	19.69	1.378	.976	1.260	.140	.205	5.906	TNF 5...	ETF 3-6*
TNFFH 80R/L-6IQ	.236	3.15	5.91	1.181	.976	1.260	.130	.205	5.906	TNF 6...	ETF 3-6*
TNFFH 150R/L-6IQ	.236	5.91	27.56	1.378	.976	1.260	.130	.205	5.906	TNF 6...	ETF 3-6*

- H dimension links blades and blocks

(1) Minimum penetration diameter

(2) Maximum penetration diameter

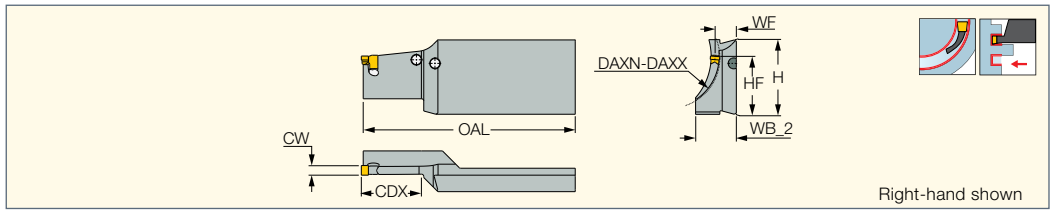
* Optional, should be ordered separately

For inserts, see pages: TNF GN-IQ (112) • TNF-M-IQ (111) • TNF-P-IQ (111)

ETF 3-6 extractor (to be ordered separately)

TANG-GRIP FACE MACHINING LINE

TNFFA-IQ
Reinforced Face Grooving Blades



M E T R I C										
Designation	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX**	**H**	**WF**	**HF**	**OAL**	**WB_2**	**Insert**
TNFFA 30R/L-3IQ	3.00	30.0	35.0	19.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 35R/L-3IQ	3.00	35.0	40.0	19.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 40R/L-3IQ	3.00	40.0	46.0	23.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 46R/L-3IQ	3.00	46.0	54.0	25.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 54R/L-3IQ	3.00	54.0	65.0	26.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 65R/L-3IQ	3.00	65.0	80.0	27.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 80R/L-3IQ	3.00	80.0	100.0	27.00	32.0	9.50	24.8	90.00	16.7	TNF 3...
TNFFA 35R/L-4IQ	4.00	35.0	45.0	25.00	32.0	9.00	24.8	90.00	18.1	TNF 4...
TNFFA 45R/L-4IQ	4.00	45.0	60.0	25.00	32.0	9.00	24.8	90.00	17.3	TNF 4...
TNFFA 60R/L-4IQ	4.00	60.0	80.0	27.00	32.0	9.00	24.8	90.00	18.0	TNF 4...
TNFFA 80R/L-4IQ	4.00	80.0	130.0	27.00	32.0	9.00	24.8	90.00	14.8	TNF 4...
TNFFA 40R/L-5IQ	5.00	40.0	50.0	25.00	32.0	9.70	24.8	90.00	18.0	TNF 5...
TNFFA 50R/L-5IQ	5.00	50.0	70.0	28.00	32.0	9.70	24.8	90.00	18.0	TNF 5...
TNFFA 70R/L-5IQ	5.00	70.0	100.0	30.00	32.0	9.70	24.8	90.00	18.0	TNF 5...
TNFFA 100R/L-5IQ	5.00	100.0	180.0	35.00	32.0	9.70	24.8	90.00	18.0	TNF 5...
TNFFA 45R/L-6IQ	6.00	45.0	60.0	25.00	32.0	10.20	24.8	90.00	18.0	TNF 6...
TNFFA 60R/L-6IQ	6.00	60.0	80.0	28.00	32.0	10.20	24.8	90.00	18.0	TNF 6...
TNFFA 80R/L-6IQ	6.00	80.0	110.0	30.00	32.0	10.20	24.8	90.00	18.0	TNF 6...
TNFFA 110R/L-6IQ	6.00	110.0	300.0	35.00	32.0	10.20	24.8	90.00	14.8	TNF 6...

I N C H										
Designation	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX**	**H**	**WF**	**HF**	**OAL**	**WB_2**	**Insert**
TNFFA 30R/L-3IQ	.118	1.18	1.38	.748	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 35R/L-3IQ	.118	1.38	1.57	.748	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 40R/L-3IQ	.118	1.57	1.81	.906	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 46R/L-3IQ	.118	1.81	2.13	.984	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 54R/L-3IQ	.118	2.13	2.56	1.024	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 65R/L-3IQ	.118	2.56	3.15	1.063	1.260	.374	.976	3.543	.728	TNF 3...
TNFFA 80R/L-3IQ	.118	3.15	3.94	1.063	1.260	.374	.976	3.543	.657	TNF 3...
TNFFA 35R/L-4IQ	.157	1.38	1.77	.984	1.260	.354	.976	3.543	.713	TNF 4...
TNFFA 45R/L-4IQ	.157	1.77	2.36	.984	1.260	.354	.976	3.543	.681	TNF 4...
TNFFA 60R/L-4IQ	.157	2.36	3.15	1.063	1.260	.354	.976	3.543	.709	TNF 4...
TNFFA 80R/L-4IQ	.157	3.15	5.12	1.063	1.260	.354	.976	3.543	.583	TNF 4...
TNFFA 40R/L-5IQ	.197	1.57	1.97	.984	1.260	.382	.976	3.543	.709	TNF 5...
TNFFA 50R/L-5IQ	.197	1.97	2.76	1.102	1.260	.382	.976	3.543	.709	TNF 5...
TNFFA 70R/L-5IQ	.197	2.76	3.94	1.181	1.260	.382	.976	3.543	.709	TNF 5...
TNFFA 100R/L-5IQ	.197	3.94	7.09	1.378	1.260	.382	.976	3.543	.709	TNF 5...
TNFFA 45R/L-6IQ	.236	1.77	2.36	.984	1.260	.402	.976	3.543	.709	TNF 6...
TNFFA 60R/L-6IQ	.236	2.36	3.15	1.102	1.260	.402	.976	3.543	.709	TNF 6...
TNFFA 80R/L-6IQ	.236	3.15	4.33	1.181	1.260	.402	.976	3.543	.709	TNF 6...
TNFFA 110R/L-6IQ	.236	4.33	11.81	1.378	1.260	.402	.976	3.543	.583	TNF 6...

• For user guide, see pages 161-173
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: TNF GN-IQ (112) • TNF-M-IQ (111) • TNF-P-IQ (111)

Spare Parts

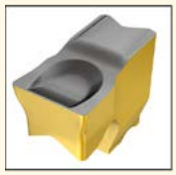
Designation	
TNFFA-IQ	ETF 3-6*

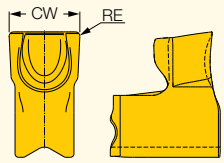
* Optional, should be ordered separately

TANG-GRIP FACE MACHINING LINE

TNF-P-IQ

Face Grooving Single-Ended Inserts for Machining Steel





M E T R I C

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (mm/rev)
TNF 3P-IQ	3.00	0.30	0.05	●	0.10-0.15
TNF 4P-IQ	4.00	0.25	0.05	●	0.10-0.15
TNF 5P-IQ	5.00	0.35	0.05	●	0.12-0.20
TNF 6P-IQ	6.00	0.35	0.05	●	0.12-0.20

I N C H

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (IPR)
TNF 3P-IQ	.118	.0118	.0020	●	.0039-.0059
TNF 4P-IQ	.157	.0098	.0020	●	.0039-.0059
TNF 5P-IQ	.197	.0138	.0020	●	.0047-.0079
TNF 6P-IQ	.236	.0138	.0020	●	.0047-.0079

• For user guide, see pages 161-173

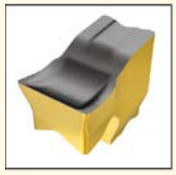
[1] Cutting width tolerance (+/-)

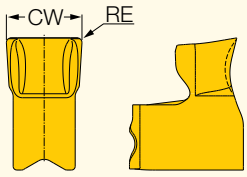
For tools, see pages: TNFFA-IQ (110) • TNFFH-IQ (109) • TNFPAD-XL-JHP (113)

TANG-GRIP FACE MACHINING LINE

TNF-M-IQ

Face Grooving Single-Ended Inserts for Machining Stainless Steel and High Temperature Alloys





M E T R I C

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (mm/rev)
TNF 3M-IQ	3.00	0.30	0.05	●	0.08-0.10
TNF 4M-IQ	4.00	0.25	0.05	●	0.08-0.12
TNF 5M-IQ	5.00	0.35	0.05	●	0.12-0.20
TNF 6M-IQ	6.00	0.35	0.05	●	0.12-0.20

I N C H

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (IPR)
TNF 3M-IQ	.118	.0118	.0020	●	.0031-.0039
TNF 4M-IQ	.157	.0098	.0020	●	.0031-.0047
TNF 5M-IQ	.197	.0138	.0020	●	.0047-.0079
TNF 6M-IQ	.236	.0138	.0020	●	.0047-.0079

• For user guide, see pages 161-173

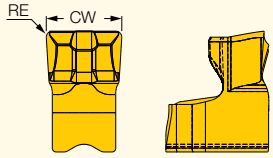
[1] Cutting width tolerance (+/-)

For tools, see pages: TNFFA-IQ (110) • TNFFH-IQ (109) • TNFPAD-XL-JHP (113)

TANG-GRIP FACE MACHINING LINE

TNF GN-IQ

Face Grooving Single-Ended Inserts for Machining Steel



M E T R I C

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (mm/rev)
TNF 3GN-IQ	3.00	0.30	0.05	•	0.06-0.10
TNF 4GN-IQ	4.00	0.40	0.05	•	0.06-0.12
TNF 5GN-IQ	5.00	0.40	0.05	•	0.08-0.16
TNF 6GN-IQ	6.00	0.40	0.05	•	0.08-0.20

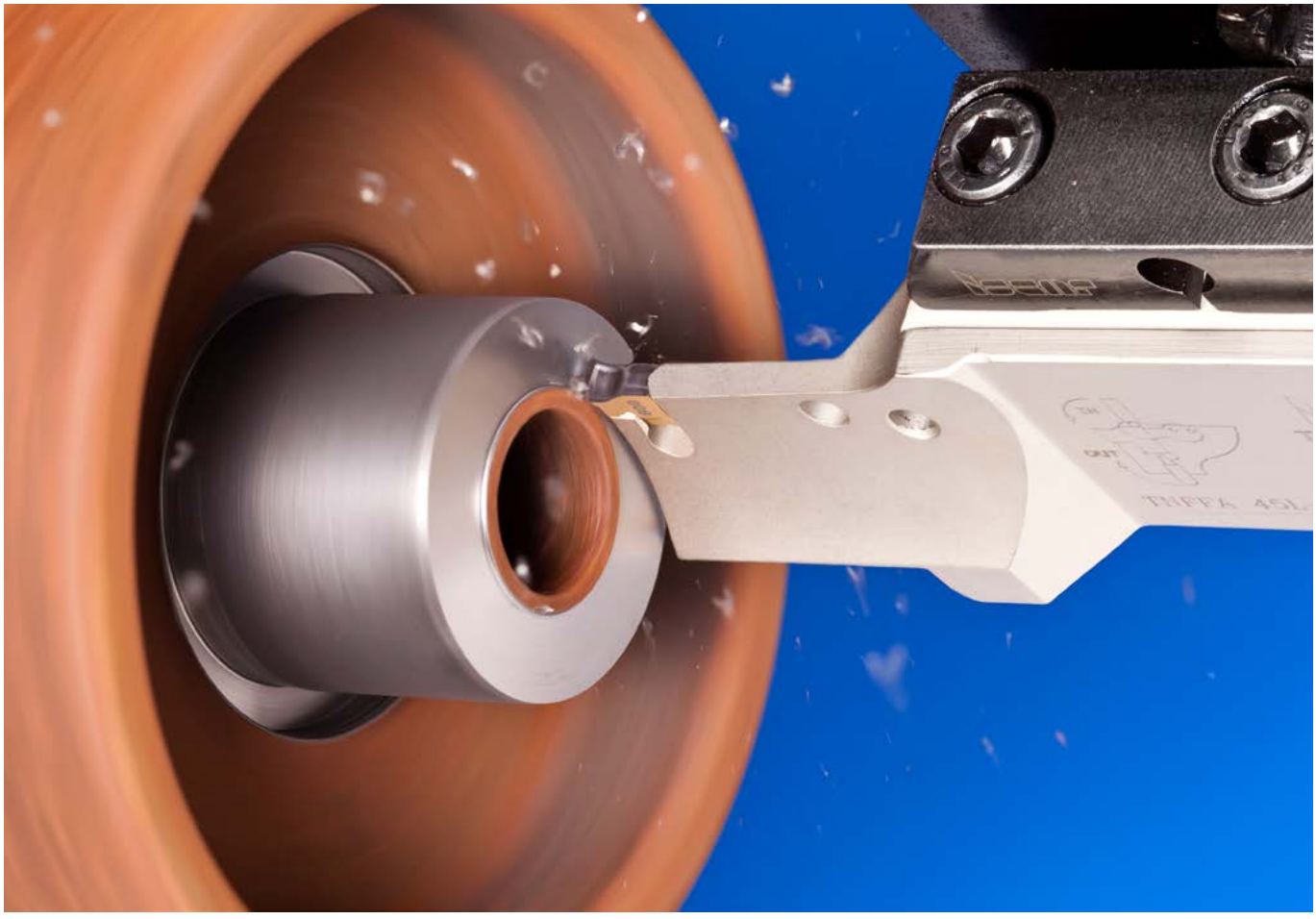
I N C H

Designation	Dimensions CW	RE	CWTOL[1]	IC808	Recommended Machining Data f face-groove (IPR)
TNF 3GN-IQ	.118	.0118	.0020	•	.0024-.0039
TNF 4GN-IQ	.157	.0157	.0020	•	.0024-.0047
TNF 5GN-IQ	.197	.0157	.0020	•	.0031-.0063
TNF 6GN-IQ	.236	.0157	.0020	•	.0031-.0079

• For user guide, see pages 161-173

[1] Cutting width tolerance (+/-)

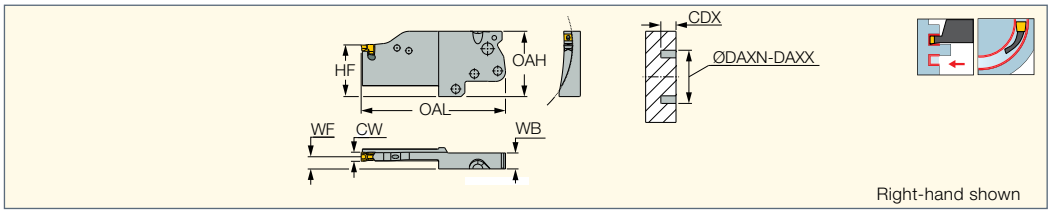
For tools, see pages: TNFFA-IQ (110) • TNFFH-IQ (109) • TNFPAD-XL-JHP (113)



TANG-GRIP FACE MACHINING LINE

MODULAR-GRIP

TNFPAD-XL-JHP
Adapters for Face Machining



M E T R I C									
Designation	**CW**	**CDX**	**WF**	**WB**	**OAL**	**HF**	**OAH**	**DAXN(1)**	**DAXX(2)**
TNFPAD-XL 4L-35T20-JHP	4.00	20.00	8.00	9.50	65.00	34.0	43.00	35.0	53.0
TNFPAD-XL 4L-45T20-JHP	4.00	20.00	8.00	9.50	65.00	34.0	43.00	45.0	68.0
TNFPAD-XL 4R/L-35T35-JHP	4.00	35.00	8.00	9.50	80.00	34.0	43.00	35.0	53.0
TNFPAD-XL 4R/L-45T35-JHP	4.00	35.00	8.00	9.50	80.00	34.0	43.00	45.0	68.0
TNFPAD-XL 5L-60T20-JHP	5.00	20.00	8.00	10.00	65.00	34.0	43.00	60.0	90.0
TNFPAD-XL 5R/L-60T40-JHP	5.00	40.00	8.00	10.00	85.00	34.0	43.00	60.0	90.0
TNFPAD-XL 6L-110T20-JHP	6.00	20.00	8.00	10.50	65.00	34.0	43.00	110.0	312.0
TNFPAD-XL 6L-80T20-JHP	6.00	20.00	8.00	10.50	65.00	34.0	43.00	80.0	122.0
TNFPAD-XL 6L-80T45-JHP	6.00	45.00	8.00	10.50	90.00	34.0	43.00	80.0	122.0
TNFPAD-XL 6R/L-110T50-JHP	6.00	50.00	8.00	10.50	95.00	34.0	43.00	110.0	312.0

I N C H									
Designation	**CW**	**CDX**	**WF**	**WB**	**OAL**	**HF**	**OAH**	**DAXN(1)**	**DAXX(2)**
TNFPAD-XL 4L-35T20-JHP	.157	.787	.315	.374	2.559	1.339	1.693	1.38	2.09
TNFPAD-XL 4L-45T20-JHP	.157	.787	.315	.374	2.559	1.339	1.693	1.77	2.68
TNFPAD-XL 4R/L-35T35-JHP	.157	1.378	.315	.374	3.150	1.339	1.693	1.38	2.09
TNFPAD-XL 4R/L-45T35-JHP	.157	1.378	.315	.374	3.150	1.339	1.693	1.77	2.68
TNFPAD-XL 5L-60T20-JHP	.197	.787	.315	.394	2.559	1.339	1.693	2.36	3.54
TNFPAD-XL 5R/L-60T40-JHP	.197	1.575	.315	.394	3.346	1.339	1.693	2.36	3.54
TNFPAD-XL 6L-110T20-JHP	.236	.787	.315	.413	2.559	1.339	1.693	4.33	12.28
TNFPAD-XL 6L-80T20-JHP	.236	.787	.315	.413	2.559	1.339	1.693	3.15	4.80
TNFPAD-XL 6L-80T45-JHP	.236	1.772	.315	.413	3.543	1.339	1.693	3.15	4.80
TNFPAD-XL 6R/L-110T50-JHP	.236	1.968	.315	.413	3.740	1.339	1.693	4.33	12.28

• WF(assembly)=WF(shank) + WF(adapter) • TNF 4..5..6 inserts can be used with left and right hand adapters. • For user guide, see pages 161-173

(1) Minimum axial grooving diameter

(2) Maximum axial grooving diameter

For inserts, see pages: TNF GN-IQ (112) • TNF-M-IQ (111) • TNF-P-IQ (111)

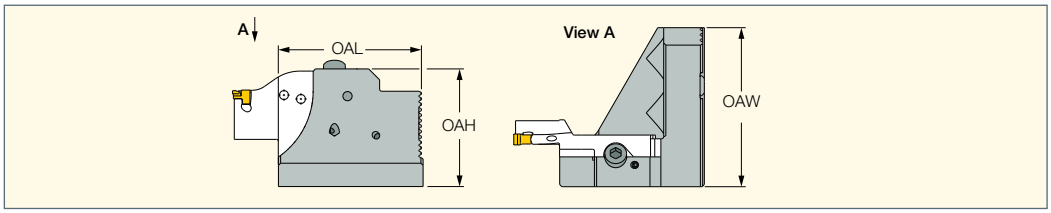
For holders, see pages: IH-TNFPAD (114) • MAHPR/L-XL-JHP (155) • MAHR/L-MG-XL-JHP (159) • MAHR/L-MG-XL-JHP-MC (160)

Spare Parts

Designation	
TNFPAD-XL-JHP	ETF 3-6

HELIFACE TANG-GRIP FACE MACHINING LINE

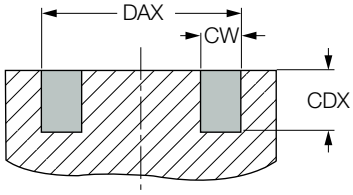
IH-TNFPAD
Intermediate Serrated Cartridge
for Standard TANG FACE
TNFPAD-XL R Adapters

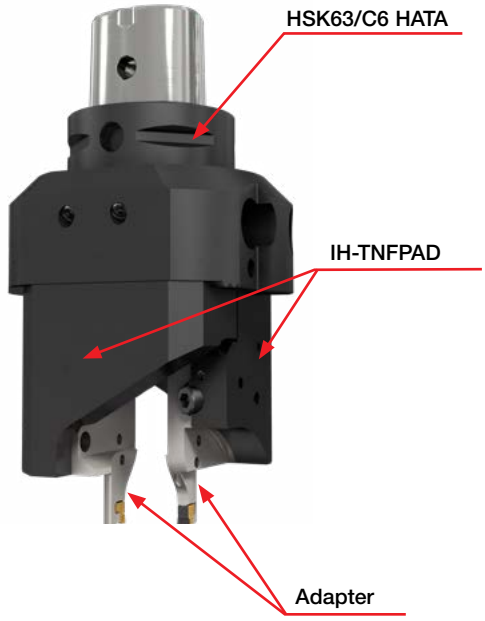


M E T R I C			
Designation	**OAH**	**OAW**	**OAL**
IH-TNFPAD	54.00	73.00	65.70

For tools, see pages: TNFPAD-XL-JHP (113)

HSK63 HATA + IH-TNFPAD
C6 HATA + IH-TNFPAD





Designation	CW (min)	CW (max)	CDX	DAX (min)	DAX (max)
TNFPAD-XL 4L-35T20-JHP	4.00	6.90	20.00	35.0	53.0
TNFPAD-XL 4L-45T20-JHP	4.00	6.90	20.00	45.0	68.0
TNFPAD-XL 4R/L-35T35-JHP	4.00	6.90	35.00	35.0	53.0
TNFPAD-XL 4R/L-45T35-JHP	4.00	6.90	35.00	45.0	68.0
TNFPAD-XL 5L-60T20-JHP	5.00	8.90	20.00	60.0	90.0
TNFPAD-XL 5R/L-60T40-JHP	5.00	8.90	40.00	60.0	90.0
TNFPAD-XL 6L-110T20-JHP	6.00	10.90	20.00	110.0	312.0
TNFPAD-XL 6L-80T20-JHP	6.00	10.90	20.00	80.0	122.0
TNFPAD-XL 6L-80T45-JHP	6.00	10.90	45.00	80.0	122.0
TNFPAD-XL 6R/L-110T50-JHP	6.00	10.90	50.00	110.0	312.0

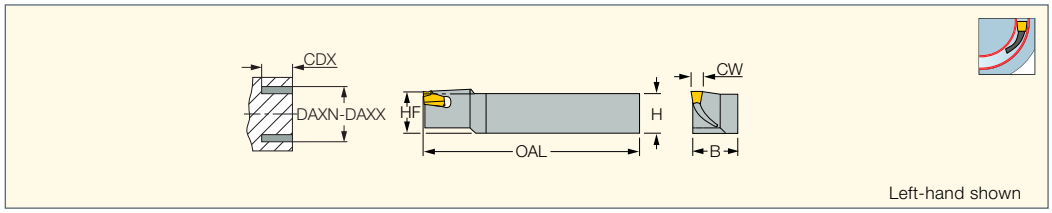
Spare Parts

Designation									
IH-TNFPAD	SR M6X14-XT DIN 912	BLD T20/M7	SW6-SD	SR M5-04451	SR M6X20-XT	O-RING 19X2 NBR	HW 5.0	OR 5X1N	T-20/5

SELF-GRIP

SELF-GRIP

SGFFR/L
Face Grooving Integral Shank Tools



M E T R I C

Designation	CW	H	B	CDX	DAXN(1)	DAXX(2)	HF	OAL	Insert	
SGFFR/L 20-25-2	2.10	20.0	20.0	13.00	25.0	30.0	20.0	120.00	GFF 2R/L	SET ESG 0.5
SGFFR/L 20-30-2	2.10	20.0	20.0	14.00	29.0	36.0	20.0	120.00	GFF 2R/L	ESG 0.5
SGFFR/L 20-35-2	2.10	20.0	20.0	16.00	35.0	46.0	20.8	120.00	GFF 2N	ESG 0.5
SGFFR/L 20-45-2	2.10	20.0	20.0	20.00	45.0	61.0	20.8	120.00	GFF 2N	ESG 0.5
SGFFR/L 20-60-2	2.10	20.0	20.0	20.00	60.0	80.0	20.8	120.00	GFF 2N	ESG 0.5
SGFFR/L 25-35-2	2.10	25.0	25.0	16.00	35.0	46.0	25.8	130.00	GFF 2N	ESG 0.5
SGFFR/L 25-45-2	2.10	25.0	25.0	20.00	45.0	61.0	25.8	130.00	GFF 2N	ESG 0.5
SGFFR/L 25-60-2	2.10	25.0	25.0	20.00	60.0	80.0	25.8	130.00	GFF 2N	ESG 0.5
SGFFR 25-25-2	2.10	25.0	25.0	13.00	25.0	30.0	25.0	130.00	GFF 2N	ESG 0.5
SGFFR 25-30-2	2.10	25.0	25.0	14.00	29.0	36.0	25.0	130.00	GFF 2N	ESG 0.5
SGFFR/L 20-30-3	3.00	20.0	20.0	16.00	30.0	35.0	20.0	120.00	GFF 3R/L	SET ESG 1
SGFFR 20-35-3	3.00	20.0	20.0	18.00	34.4	40.6	20.0	120.00	GFF 3R/L	SET ESG 1
SGFFR 20-40-3	3.00	20.0	20.0	20.00	40.0	47.0	20.0	120.00	GFF 3R/L	SET ESG 1
SGFFR 20-46-3	3.00	20.0	20.0	22.00	46.0	55.0	20.0	120.00	GFF 3R/L	SET ESG 1
SGFFR 20-55-3	3.00	20.0	20.0	22.00	54.0	65.0	21.2	120.00	GFF 3N	SET ESG 1
SGFFR 20-65-3	3.00	20.0	20.0	23.00	64.0	80.0	21.0	120.00	GFF 3N	SET ESG 1
SGFFR 20-80-3	3.00	20.0	20.0	24.00	79.0	100.0	20.7	120.00	GFF 3N	SET ESG 1
SGFFR/L 25-40-3	3.00	25.0	25.0	20.00	40.0	47.0	25.0	130.00	GFF 3R/L	SET ESG 1
SGFFR/L 25-55-3	3.00	25.0	25.0	24.00	54.0	65.0	26.2	130.00	GFF 3N	SET ESG 1
SGFFR 25-30-3	3.00	25.0	25.0	16.00	30.0	35.0	25.0	130.00	GFF 3R/L	SET ESG 1
SGFFR 25-35-3	3.00	25.0	25.0	18.00	34.4	40.6	25.0	130.00	GFF 3R/L	SET ESG 1
SGFFR 25-46-3	3.00	25.0	25.0	22.00	46.0	55.0	25.0	130.00	GFF 3R/L	SET ESG 1
SGFFR 25-65-3	3.00	25.0	25.0	25.00	64.0	80.0	26.0	130.00	GFF 3N	SET ESG 1
SGFFR 25-80-3	3.00	25.0	25.0	26.00	79.0	100.0	25.7	130.00	GFF 3N	SET ESG 1
SGFFR/L 20-35-4	4.00	20.0	20.0	20.00	35.0	45.0	20.0	120.00	GFF 4N	SET ESG 1
SGFFR 20-45-4	4.00	20.0	20.0	25.00	44.0	58.0	20.0	120.00	GFF 4N	SET ESG 1
SGFFR 20-60-4	4.00	20.0	20.0	25.00	57.0	80.0	20.0	120.00	GFF 4N	SET ESG 1
SGFFR 20-80-4	4.00	20.0	20.0	25.00	79.0	130.0	20.0	120.00	GFF 4N	SET ESG 1
SGFFR/L 25-45-4	4.00	25.0	25.0	25.00	44.0	58.0	25.0	150.00	GFF 4N	SET ESG 1
SGFFR/L 25-60-4	4.00	25.0	25.0	26.00	57.0	80.0	25.0	150.00	GFF 4N	SET ESG 1
SGFFR/L 25-80-4	4.00	25.0	25.0	26.00	79.0	130.0	25.0	150.00	GFF 4N	SET ESG 1
SGFFR 25-35-4	4.00	25.0	25.0	20.00	35.0	45.0	25.0	150.00	GFF 4N	SET ESG 1
SGFFR/L 20-50-5	5.00	20.0	20.0	25.00	50.0	75.0	20.0	120.00	GFF 5N	SET ESG 1
SGFFR 20-75-5	5.00	20.0	20.0	26.00	74.0	130.0	20.0	120.00	GFF 5N	SET ESG 1
SGFFR/L 25-100-5	5.00	25.0	25.0	30.00	100.0	180.0	25.0	150.00	GFF 5N	SET ESG 1
SGFFR 25-50-5	5.00	25.0	25.0	26.00	50.0	71.0	25.0	150.00	GFF 5N	SET ESG 1
SGFFR 25-70-5	5.00	25.0	25.0	28.00	69.0	102.0	25.0	150.00	GFF 5N	SET ESG 1
SGFFR 20-60-6	6.00	20.0	20.0	25.00	57.0	60.0	20.0	120.00	GFF 6N	SET ESG 1
SGFFR/L 25-100-6	6.00	25.0	25.0	30.00	100.0	180.0	25.0	150.00	GFF 6N	SET ESG 1
SGFFR/L 25-60-6	6.00	25.0	25.0	30.00	57.0	77.0	25.0	150.00	GFF 6N	SET ESG 1
SGFFR/L 25-75-6	6.00	25.0	25.0	30.00	75.0	102.0	25.0	150.00	GFF 6N	SET ESG 1

- Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated

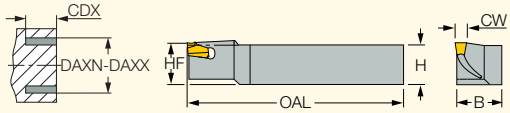
(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: GFF-N (121) • GFF-R/L (121)

SELF-GRIP

SGFFR/L
Face Grooving Integral Shank Tools



Left-hand shown

	I N C H									
Designation	**CW**	**H**	**B**	**CDX**	**DAXN(1)**	**DAXX(2)**	**HF**	**OAL**	**Insert**	
SGFFR/L 20-25-2	.083	.787	.787	.512	.98	1.18	.787	4.724	GFF 2R/L	SET ESG 0.5
SGFFR/L 20-30-2	.083	.787	.787	.551	1.14	1.42	.787	4.724	GFF 2R/L	ESG 0.5
SGFFR/L 20-35-2	.083	.787	.787	.630	1.38	1.81	.819	4.724	GFF 2N	ESG 0.5
SGFFR/L 20-45-2	.083	.787	.787	.787	1.77	2.40	.819	4.724	GFF 2N	ESG 0.5
SGFFR/L 20-60-2	.083	.787	.787	.787	2.36	3.15	.819	4.724	GFF 2N	ESG 0.5
SGFFR/L 25-35-2	.083	.984	.984	.630	1.38	1.81	1.016	5.118	GFF 2N	ESG 0.5
SGFFR/L 25-45-2	.083	.984	.984	.787	1.77	2.40	1.016	5.118	GFF 2N	ESG 0.5
SGFFR/L 25-60-2	.083	.984	.984	.787	2.36	3.15	1.016	5.118	GFF 2N	ESG 0.5
SGFFR 25-25-2	.083	.984	.984	.512	.98	1.18	.984	5.118	GFF 2N	ESG 0.5
SGFFR 25-30-2	.083	.984	.984	.551	1.14	1.42	.984	5.118	GFF 2N	ESG 0.5
SGFFR/L 20-30-3	.118	.787	.787	.630	1.18	1.38	.787	4.724	GFF 3R/L	SET ESG 1
SGFFR 20-35-3	.118	.787	.787	.709	1.35	1.60	.787	4.724	GFF 3R/L	SET ESG 1
SGFFR 20-40-3	.118	.787	.787	.787	1.57	1.85	.787	4.724	GFF 3R/L	SET ESG 1
SGFFR 20-46-3	.118	.787	.787	.866	1.81	2.17	.787	4.724	GFF 3R/L	SET ESG 1
SGFFR 20-55-3	.118	.787	.787	.866	2.13	2.56	.835	4.724	GFF 3N	SET ESG 1
SGFFR 20-65-3	.118	.787	.787	.906	2.52	3.15	.827	4.724	GFF 3N	SET ESG 1
SGFFR 20-80-3	.118	.787	.787	.945	3.11	3.94	.815	4.724	GFF 3N	SET ESG 1
SGFFR/L 25-40-3	.118	.984	.984	.787	1.57	1.85	.984	5.118	GFF 3R/L	SET ESG 1
SGFFR/L 25-55-3	.118	.984	.984	.945	2.13	2.56	1.031	5.118	GFF 3N	SET ESG 1
SGFFR 25-30-3	.118	.984	.984	.630	1.18	1.38	.984	5.118	GFF 3R/L	SET ESG 1
SGFFR 25-35-3	.118	.984	.984	.709	1.35	1.60	.984	5.118	GFF 3R/L	SET ESG 1
SGFFR 25-46-3	.118	.984	.984	.866	1.81	2.17	.984	5.118	GFF 3R/L	SET ESG 1
SGFFR 25-65-3	.118	.984	.984	.984	2.52	3.15	1.024	5.118	GFF 3N	SET ESG 1
SGFFR 25-80-3	.118	.984	.984	1.024	3.11	3.94	1.012	5.118	GFF 3N	SET ESG 1
SGFFR/L 20-35-4	.157	.787	.787	.787	1.38	1.77	.787	4.724	GFF 4N	SET ESG 1
SGFFR 20-45-4	.157	.787	.787	.984	1.73	2.28	.787	4.724	GFF 4N	SET ESG 1
SGFFR 20-60-4	.157	.787	.787	.984	2.24	3.15	.787	4.724	GFF 4N	SET ESG 1
SGFFR 20-80-4	.157	.787	.787	.984	3.11	5.12	.787	4.724	GFF 4N	SET ESG 1
SGFFR/L 25-45-4	.157	.984	.984	.984	1.73	2.28	.984	5.906	GFF 4N	SET ESG 1
SGFFR/L 25-60-4	.157	.984	.984	1.024	2.24	3.15	.984	5.906	GFF 4N	SET ESG 1
SGFFR/L 25-80-4	.157	.984	.984	1.024	3.11	5.12	.984	5.906	GFF 4N	SET ESG 1
SGFFR 25-35-4	.157	.984	.984	.787	1.38	1.77	.984	5.906	GFF 4N	SET ESG 1
SGFFR/L 20-50-5	.197	.787	.787	.984	1.97	2.95	.787	4.724	GFF 5N	SET ESG 1
SGFFR 20-75-5	.197	.787	.787	1.024	2.91	5.12	.787	4.724	GFF 5N	SET ESG 1
SGFFR/L 25-100-5	.197	.984	.984	1.181	3.94	7.09	.984	5.906	GFF 5N	SET ESG 1
SGFFR 25-50-5	.197	.984	.984	1.024	1.97	2.80	.984	5.906	GFF 5N	SET ESG 1
SGFFR 25-70-5	.197	.984	.984	1.102	2.72	4.02	.984	5.906	GFF 5N	SET ESG 1
SGFFR 20-60-6	.236	.787	.787	.984	2.24	2.36	.787	4.724	GFF 6N	SET ESG 1
SGFFR/L 25-100-6	.236	.984	.984	1.181	3.94	7.09	.984	5.906	GFF 6N	SET ESG 1
SGFFR/L 25-60-6	.236	.984	.984	1.181	2.24	3.03	.984	5.906	GFF 6N	SET ESG 1
SGFFR/L 25-75-6	.236	.984	.984	1.181	2.95	4.02	.984	5.906	GFF 6N	SET ESG 1

• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated

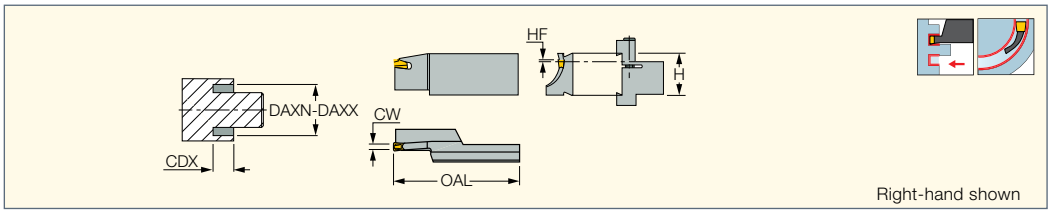
(1) Minimum penetration diameter

(2) Maximum penetration diameter

For inserts, see pages: GFF-N (121) • GFF-R/L (121)

SELF-GRIP

SGFFA
Reinforced Face Grooving Blades
for Standard Tool Blocks



	M E T R I C						
Designation	**CW**	**CDX**	**DAXN(1)**	**DAXX(2)**	**H**	**HF**	**OAL**
SGFFA 25-R/L-2	2.10	13.00	25.0	30.0	32.0	0.0	80.00
SGFFA 30-L-2	2.10	14.00	29.0	36.0	32.0	0.0	80.00
SGFFA 35-L-2	2.10	16.00	35.0	46.0	32.0	0.8	80.00
SGFFA 45-L-2	2.10	20.00	45.0	61.0	32.0	0.8	80.00
SGFFA 60-L-2	2.10	20.00	60.0	80.0	32.0	0.8	80.00
SGFFA 80-L-2	2.10	20.00	79.0	102.0	32.0	0.8	80.00
SGFFA 35-L-3	3.00	20.00	34.4	40.6	32.0	0.0	90.00
SGFFA 40-L-3	3.00	22.00	40.0	47.0	32.0	0.0	90.00
SGFFA 46-L-3	3.00	24.00	46.0	55.0	32.0	0.0	90.00
SGFFA 55-L-3	3.00	25.00	54.0	65.0	32.0	1.2	90.00
SGFFA 65-L-3	3.00	26.00	64.0	80.0	32.0	1.0	90.00
SGFFA 80-L-3	3.00	28.00	79.0	100.0	32.0	0.7	95.00
SGFFA 35-L-4	4.00	25.00	35.0	45.0	32.0	0.0	90.00
SGFFA 45-R/L-4	4.00	25.00	44.0	58.0	32.0	0.0	90.00
SGFFA 40-R/L-5	5.00	25.00	40.0	52.0	32.0	0.0	90.00
SGFFA 50-R/L-5	5.00	28.00	50.0	71.0	32.0	0.0	95.00
SGFFA 70-L-5	5.00	30.00	69.0	102.0	32.0	0.0	95.00
SGFFA 100-L-5	5.00	35.00	100.0	180.0	32.0	0.0	100.00
SGFFA 45-R/L-6	6.00	25.00	44.0	58.0	32.0	0.0	90.00
SGFFA 60-L-6	6.00	30.00	57.0	77.0	32.0	0.0	95.00
SGFFA 75-R/L-6	6.00	35.00	75.0	102.0	32.0	0.0	100.00

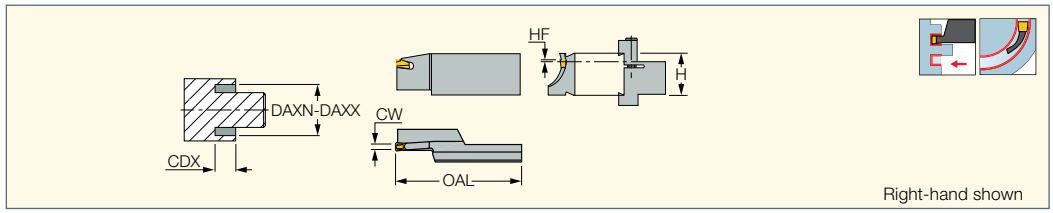
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GFF-N (121) • GFF-R/L (121)
For holders, see pages: SGTBF (136) • SGTBU/SGTBN (133) • UBHCR/L (135)

Spare Parts

Designation	
SGFFA 25-L-2	SET ESG 0.5
SGFFA 25-R-2	ESG 0.5
SGFFA 30-L-2	ESG 0.5
SGFFA 35-L-2	ESG 0.5
SGFFA 45-L-2	ESG 0.5
SGFFA 60-L-2	ESG 0.5
SGFFA 80-L-2	ESG 0.5
SGFFA 35-L-3	SET ESG 1
SGFFA 40-L-3	SET ESG 1
SGFFA 46-L-3	SET ESG 1
SGFFA 55-L-3	SET ESG 1
SGFFA 65-L-3	SET ESG 1
SGFFA 80-L-3	SET ESG 1
SGFFA 35-L-4	SET ESG 1
SGFFA 45-R/L-4	SET ESG 1
SGFFA 40-R/L-5	SET ESG 1
SGFFA 50-R/L-5	SET ESG 1
SGFFA 70-L-5	SET ESG 1
SGFFA 100-L-5	SET ESG 1
SGFFA 45-R/L-6	SET ESG 1
SGFFA 60-L-6	SET ESG 1
SGFFA 75-R/L-6	SET ESG 1

SELF-GRIP

SGFFA
Reinforced Face Grooving Blades
for Standard Tool Blocks



	INCH						
Designation	**CW**	**CDX**	**DAXN(1)**	**DAXX(2)**	**H**	**HF**	**OAL**
SGFFA 25-R/L-2	.083	.512	.98	1.18	1.260	.000	3.150
SGFFA 30-L-2	.083	.551	1.14	1.42	1.260	.000	3.150
SGFFA 35-L-2	.083	.630	1.38	1.81	1.260	.031	3.150
SGFFA 45-L-2	.083	.787	1.77	2.40	1.260	.031	3.150
SGFFA 60-L-2	.083	.787	2.36	3.15	1.260	.031	3.150
SGFFA 80-L-2	.083	.787	3.11	4.02	1.260	.031	3.150
SGFFA 35-L-3	.118	.787	1.35	1.60	1.260	.000	3.543
SGFFA 40-L-3	.118	.866	1.57	1.85	1.260	.000	3.543
SGFFA 46-L-3	.118	.945	1.81	2.17	1.260	.000	3.543
SGFFA 55-L-3	.118	.984	2.13	2.56	1.260	.047	3.543
SGFFA 65-L-3	.118	1.024	2.52	3.15	1.260	.039	3.543
SGFFA 80-L-3	.118	1.102	3.11	3.94	1.260	.028	3.740
SGFFA 35-L-4	.157	.984	1.38	1.77	1.260	.000	3.543
SGFFA 45-R/L-4	.157	.984	1.73	2.28	1.260	.000	3.543
SGFFA 40-R/L-5	.197	.984	1.57	2.05	1.260	.000	3.543
SGFFA 50-R/L-5	.197	1.102	1.97	2.80	1.260	.000	3.740
SGFFA 70-L-5	.197	1.181	2.72	4.02	1.260	.000	3.740
SGFFA 100-L-5	.197	1.378	3.94	7.09	1.260	.000	3.937
SGFFA 45-R/L-6	.236	.984	1.73	2.28	1.260	.000	3.543
SGFFA 60-L-6	.236	1.181	2.24	3.03	1.260	.000	3.740
SGFFA 75-R/L-6	.236	1.378	2.95	4.02	1.260	.000	3.937

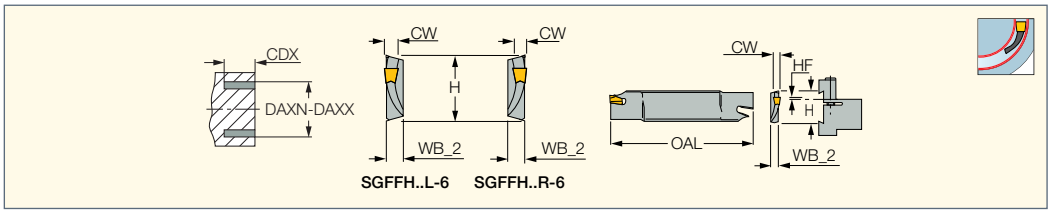
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GFF-N (121) • GFF-R/L (121)
For holders, see pages: SGTBF (136) • SGTBU/SGTBN (133) • UBHCR/L (135)

Spare Parts

Designation	
SGFFA 25-L-2	SET ESG 0.5
SGFFA 25-R-2	ESG 0.5
SGFFA 30-L-2	ESG 0.5
SGFFA 35-L-2	ESG 0.5
SGFFA 45-L-2	ESG 0.5
SGFFA 60-L-2	ESG 0.5
SGFFA 80-L-2	ESG 0.5
SGFFA 35-L-3	SET ESG 1
SGFFA 40-L-3	SET ESG 1
SGFFA 46-L-3	SET ESG 1
SGFFA 55-L-3	SET ESG 1
SGFFA 65-L-3	SET ESG 1
SGFFA 80-L-3	SET ESG 1
SGFFA 35-L-4	SET ESG 1
SGFFA 45-R/L-4	SET ESG 1
SGFFA 40-R/L-5	SET ESG 1
SGFFA 50-R/L-5	SET ESG 1
SGFFA 70-L-5	SET ESG 1
SGFFA 100-L-5	SET ESG 1
SGFFA 45-R/L-6	SET ESG 1
SGFFA 60-L-6	SET ESG 1
SGFFA 75-R/L-6	SET ESG 1

SELF-GRIP

SGFFH
Face Grooving Blades



	M E T R I C							
Designation	**CW**	**CDX**	**DAXN(1)**	**DAXX(2)**	**HF**	**H**	**WB_2**	**OAL**
SGFFH 35-R/L-2	2.10	20.00	35.0	46.0	0.8	32.0	5.2	150.00
SGFFH 45-R/L-2	2.10	20.00	45.0	61.0	0.8	32.0	5.2	150.00
SGFFH 60-R-2	2.10	20.00	60.0	80.0	0.8	32.0	5.2	150.00
SGFFH 80-R/L-2	2.10	20.00	79.0	102.0	0.8	32.0	4.0	150.00
SGFFH 100-R/L-2	2.10	20.00	101.0	132.0	0.0	32.0	4.0	150.00
SGFFH 75-R/L-3	3.00	20.00	65.0	92.0	1.0	32.0	5.2	150.00
SGFFH 90-R/L-3	3.00	20.00	90.0	122.0	0.2	32.0	5.2	150.00
SGFFH 120-R/L-3	3.00	25.00	120.0	160.0	0.0	32.0	5.2	150.00
SGFFH 80-R/L-4	4.00	30.00	80.0	155.0	2.5	32.0	5.2	150.00
SGFFH 150-R/L-4	4.00	30.00	150.0	500.0	2.5	32.0	5.2	150.00
SGFFH 80-R/L-5	5.00	32.00	80.0	162.0	0.0	32.0	5.2	150.00
SGFFH 150-R/L-5	5.00	35.00	150.0	600.0	0.0	32.0	5.2	150.00
SGFFH 90-R/L-6	6.00	32.00	90.0	150.0	0.0	32.0	8.0	150.00
SGFFH 150-R/L-6	6.00	35.00	148.0	700.0	0.0	32.0	5.2	150.00

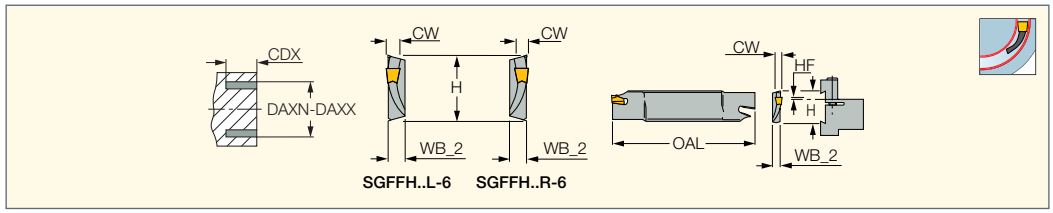
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GFF-N (121)
For holders, see pages: SGTBF (136) • SGTBK (135) • SGTBU/SGTBN (133) • UBHCR/L (135)

Spare Parts

Designation	
SGFFH 35-L-2	SET ESG 0.5
SGFFH 35-R-2	ESG 0.5
SGFFH 45-L-2	SET ESG 0.5
SGFFH 45-R-2	ESG 0.5
SGFFH 60-R-2	ESG 0.5
SGFFH 80-L-2	ESG 0.5
SGFFH 80-R-2	ESG 0.5
SGFFH 100-L-2	SET ESG 0.5
SGFFH 100-R-2	SET ESG 0.5
SGFFH 75-L-3	SET ESG 1
SGFFH 75-R-3	SET ESG 1
SGFFH 90-L-3	SET ESG 1
SGFFH 90-R-3	SET ESG 1
SGFFH 120-L-3	SET ESG 1
SGFFH 120-R-3	SET ESG 1
SGFFH 80-L-4	SET ESG 1
SGFFH 80-R-4	SET ESG 1
SGFFH 150-L-4	SET ESG 1
SGFFH 150-R-4	SET ESG 1
SGFFH 80-L-5	SET ESG 1
SGFFH 80-R-5	SET ESG 1
SGFFH 150-L-5	SET ESG 1
SGFFH 150-R-5	SET ESG 1
SGFFH 90-L-6	SET ESG 1
SGFFH 90-R-6	SET ESG 1
SGFFH 150-L-6	SET ESG 1
SGFFH 150-R-6	SET ESG 1

SELF-GRIP

SGFFH
Face Grooving Blades



	INCH							
Designation	**CW**	**CDX**	**DAXN(1)**	**DAXX(2)**	**HF**	**H**	**WB_2**	**OAL**
SGFFH 35-R/L-2	.083	.787	1.38	1.81	.031	1.260	.205	5.906
SGFFH 45-R/L-2	.083	.787	1.77	2.40	.031	1.260	.205	5.906
SGFFH 60-R-2	.083	.787	2.36	3.15	.031	1.260	.205	5.906
SGFFH 80-R/L-2	.083	.787	3.11	4.02	.031	1.260	.157	5.906
SGFFH 100-R/L-2	.083	.787	3.98	5.20	.000	1.260	.157	5.906
SGFFH 75-R/L-3	.118	.787	2.56	3.62	.039	1.260	.205	5.906
SGFFH 90-R/L-3	.118	.787	3.54	4.80	.008	1.260	.205	5.906
SGFFH 120-R/L-3	.118	.984	4.72	6.30	.000	1.260	.205	5.906
SGFFH 80-R/L-4	.157	1.181	3.15	6.10	.098	1.260	.205	5.906
SGFFH 150-R/L-4	.157	1.181	5.91	19.69	.098	1.260	.205	5.906
SGFFH 80-R/L-5	.197	1.260	3.15	6.38	.000	1.260	.205	5.906
SGFFH 150-R/L-5	.197	1.378	5.91	23.62	.000	1.260	.205	5.906
SGFFH 90-R/L-6	.236	1.260	3.54	5.91	.000	1.260	.315	5.906
SGFFH 150-R/L-6	.236	1.378	5.83	27.56	.000	1.260	.205	5.906

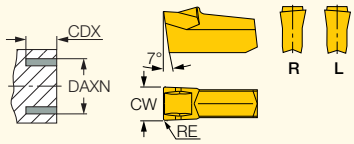
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks
(1) Minimum penetration diameter
(2) Maximum penetration diameter
For inserts, see pages: GFF-N (121)
For holders, see pages: SGTBF (136) • SGTBK (135) • SGTBU/SGTBN (133) • UBHCR/L (135)

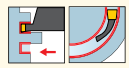
Spare Parts

Designation	
SGFFH 35-L-2	SET ESG 0.5
SGFFH 35-R-2	ESG 0.5
SGFFH 45-L-2	SET ESG 0.5
SGFFH 45-R-2	ESG 0.5
SGFFH 60-R-2	ESG 0.5
SGFFH 80-L-2	ESG 0.5
SGFFH 80-R-2	ESG 0.5
SGFFH 100-L-2	SET ESG 0.5
SGFFH 100-R-2	SET ESG 0.5
SGFFH 75-L-3	SET ESG 1
SGFFH 75-R-3	SET ESG 1
SGFFH 90-L-3	SET ESG 1
SGFFH 90-R-3	SET ESG 1
SGFFH 120-L-3	SET ESG 1
SGFFH 120-R-3	SET ESG 1
SGFFH 80-L-4	SET ESG 1
SGFFH 80-R-4	SET ESG 1
SGFFH 150-L-4	SET ESG 1
SGFFH 150-R-4	SET ESG 1
SGFFH 80-L-5	SET ESG 1
SGFFH 80-R-5	SET ESG 1
SGFFH 150-L-5	SET ESG 1
SGFFH 150-R-5	SET ESG 1
SGFFH 90-L-6	SET ESG 1
SGFFH 90-R-6	SET ESG 1
SGFFH 150-L-6	SET ESG 1
SGFFH 150-R-6	SET ESG 1

SELF-GRIP

GFF-R/L
Face Grooving Inserts





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	DAXX(4)	Tough ↔ Hard IC354	IC20	Recommended Machining Data f face-groove (mm/rev)
GFF 2R	2.10	0.20	0.10	0.050	25.0	36.0	●	●	0.03-0.13
GFF 3L	3.00	0.30	0.10	0.050	30.0	55.0		●	0.03-0.15
GFF 3R	3.00	0.30	0.10	0.050	30.0	55.0	●	●	0.03-0.15

I N C H

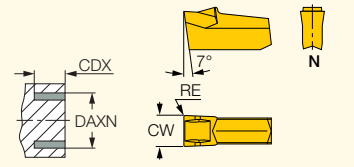
Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	DAXX(4)	Tough ↔ Hard IC354	IC20	Recommended Machining Data f face-groove (IPR)
GFF 2R	.083	.008	.0039	.0020	.98	1.42	●	●	.0012-.0051
GFF 3L	.118	.012	.0039	.0020	1.18	2.17		●	.0012-.0059
GFF 3R	.118	.012	.0039	.0020	1.18	2.17	●	●	.0012-.0059

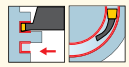
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter
(4) Maximum axial grooving diameter

For tools, see pages: SGFFA (117) • SGFFR/L (115)

SELF-GRIP

GFF-N
Face Grooving Inserts





M E T R I C

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	Tough ↔ Hard IC354	IC20	Recommended Machining Data f face-groove (mm/rev)
GFF 2N	2.10	0.20	0.10	0.050	35.0	●	●	0.03-0.13
GFF 3N	3.00	0.30	0.10	0.050	54.0	●	●	0.03-0.15
GFF 4N	4.00	0.25	0.10	0.050	35.0	●	●	0.04-0.18
GFF 5N	5.00	0.25	0.10	0.050	40.0	●	●	0.05-0.18
GFF 6N	6.00	0.25	0.10	0.050	44.0	●	●	0.05-0.20

I N C H

Designation	Dimensions CW	RE	CWTOL(1)	RETOL(2)	DAXN(3)	Tough ↔ Hard IC354	IC20	Recommended Machining Data f face-groove (IPR)
GFF 2N	.083	.008	.0039	.0020	1.38	●	●	.0012-.0051
GFF 3N	.118	.012	.0039	.0020	2.13	●	●	.0012-.0059
GFF 4N	.157	.010	.0039	.0020	1.38	●	●	.0016-.0071
GFF 5N	.197	.010	.0039	.0020	1.57	●	●	.0020-.0071
GFF 6N	.236	.010	.0039	.0020	1.73	●	●	.0020-.0079

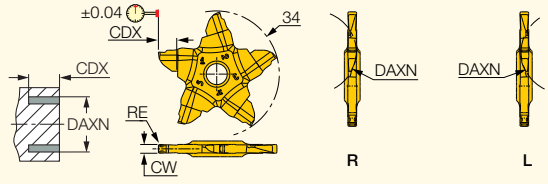
• Grooving depth is limited only by the tool being used
(1) Cutting width tolerance (+/-)
(2) Corner radius tolerance (+/-)
(3) Minimum axial grooving diameter

For tools, see pages: SGFFA (117) • SGFFH (119) • SGFFR/L (115)

PENTA-CUT

PENTACUT PARTING & GROOVING LINE

PENTA 34F-R/L
Pentagonal Inserts for Face Grooving and Recessing



M E T R I C

Designation	Dimensions CW	RE	RETOL(1)	CDX	DAXN(2)	IC908	Recommended Machining Data f face-groove (mm/rev)
PENTA 34F239-0.15-22R/L	2.39	0.15	0.020	5.00	22.0	●	0.08-0.12
PENTA 34F247-0.20-22R/L	2.47	0.20	0.020	5.00	22.0	●	0.08-0.12
PENTA 34F300-0.40-22R/L	3.00	0.40	0.020	5.00	22.0	●	0.08-0.15
PENTA 34F400-0.40-22R/L	4.00	0.40	0.020	5.00	22.0	●	0.08-0.15

- For cutting speed recommendations, see pages 162-164

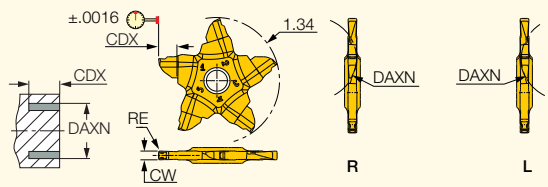
(1) Corner radius tolerance (+/-)

(2) Minimum axial grooving diameter

For tools, see pages: • PCHBR/L (125) • PCHPR/L (127) • PCHR/L-34 (123) • PCHR/L-34-JHP (124)

PENTACUT PARTING & GROOVING LINE

PENTA 34F-R/L
Pentagonal Inserts for Face Grooving and Recessing



I N C H

Designation	Dimensions CW	RE	RETOL(1)	CDX	DAXN(2)	IC908	Recommended Machining Data f face-groove (IPR)
PENTA 34F239-0.15-22R/L	.094	.0059	.0008	.197	.87	●	.0031-.0047
PENTA 34F247-0.20-22R/L	.097	.0079	.0008	.197	.87	●	.0031-.0047
PENTA 34F300-0.40-22R/L	.118	.0157	.0008	.197	.87	●	.0031-.0059
PENTA 34F400-0.40-22R/L	.157	.0157	.0008	.197	.87	●	.0031-.0059

- For cutting speed recommendations, see pages 162-164

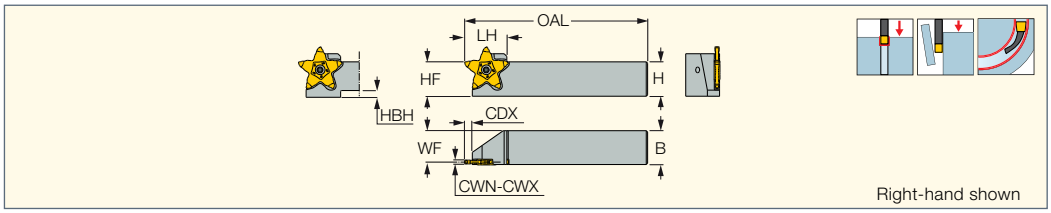
(1) Corner radius tolerance (+/-)

(2) Minimum axial grooving diameter

For tools, see pages: • PCHBR/L (125) • PCHPR/L (127) • PCHR/L-34 (123) • PCHR/L-34-JHP (124)

PENTACUT
PARTING & GROOVING LINE

PCHR/L-34
Grooving, Parting and Recessing Holders Carrying Inserts with 5 Cutting Edges



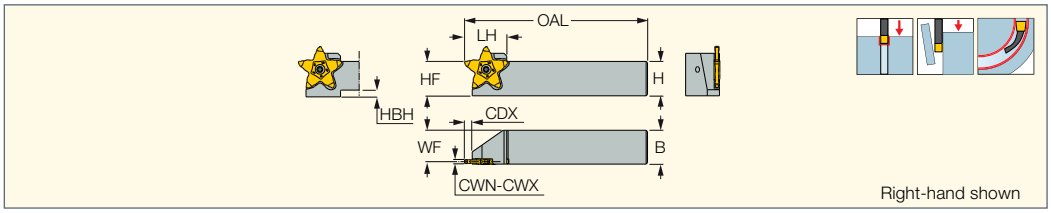
M E T R I C

Designation	H	HF	B	CWN(2)	CWX(3)	WF	CDX(4)	OAL	LH	HBH		
PCHR/L 16-34	16.0	16.0	16.0	1.50	4.00	14.20	10.00	120.00	31.0	9.0	SR 16-212-01397	
PCHR/L 20-34	20.0	20.0	20.0	1.50	4.00	18.20	10.00	120.00	31.0	6.0	SR 16-212-01397	
PCHR/L 25-34	25.0	25.0	25.0	1.50	4.00	23.20	10.00	135.00	31.0	-	SR 16-212-01397	
PCHR/L 25-34-8 (1)	25.0	25.0	25.0	3.19	8.20	22.50	10.00	135.00	31.0	-	SR PCHR-8-06642	T-15/5
PCHR/L 32-34	32.0	32.0	32.0	1.50	4.00	30.10	10.00	135.00	31.0	-	SR 16-212-01397	

(1) Used with special inserts only
(2) Minimum cutting width
(3) Maximum cutting width
(4) For specific information, refer to insert data
For inserts, see pages: PENTA 34F-R/L (122)

PENTACUT
PARTING & GROOVING LINE

PCHR/L-34
Grooving, Parting and Recessing Holders Carrying Inserts with 5 Cutting Edges



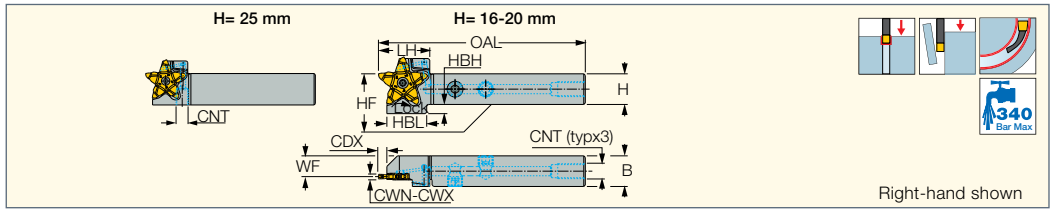
I N C H

Designation	H	HF	B	CWN(1)	CWX(2)	WF	CDX(3)	OAL	LH	HBH	
PCHR/L 16-34	.630	.630	.630	.059	.157	.559	.394	4.724	1.220	.35	SR 16-212-01397
PCHR/L 19-34	.750	.750	.750	.059	.157	.680	.394	5.000	1.200	.24	SR 16-212-01397
PCHR/L 25.4-34	1.000	1.000	1.000	.059	.157	.930	.394	5.500	1.200	-	SR 16-212-01397

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
For inserts, see pages: PENTA 34F-R/L (122)

PENTACUT JETCUT
PARTING & GROOVING LINE

PCHR/L-34-JHP
Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Channels for High-Pressure Coolant



M E T R I C												
Designation	**H**	**HF**	**B**	**CWN(1)**	**CWX(2)**	**CDX(3)**	**WF**	**OAL**	**LH**	**HBH**	**CNT**	**Insert**
PCHR/L 16-34-JHP	16.0	16.0	16.0	1.50	4.00	10.00	9.60	120.00	33.5	9.0	UNF 5/16-24	PENTA 34
PCHR/L 20-34-JHP	20.0	20.0	20.0	1.50	4.00	10.00	13.60	135.00	33.5	6.0	G1/8-28	PENTA 34
PCHR/L 25-34-JHP	25.0	25.0	25.0	1.50	4.00	10.00	18.60	135.00	33.5	-	G1/8-28	PENTA 34

- For user guide and accessories, see pages 161-173

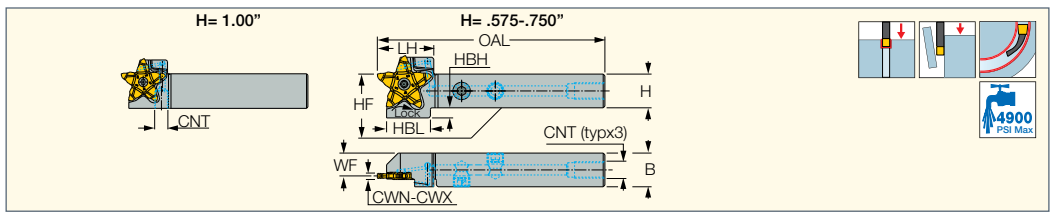
(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
For inserts, see pages: PENTA 34F-R/L (122)

Spare Parts

Designation			
PCHR/L 16-34-JHP	SR 16-212-01397	SR 5/16UNF TL360	HW 5/32"
PCHR/L 20-34-JHP	SR 16-212-01397	PLG G1/8 TL360	HW 5.0
PCHR/L 25-34-JHP	SR 16-212-01397		

PENTACUT JETCUT
PARTING & GROOVING LINE

PCHR/L-34-JHP
Grooving, Parting and Recessing Tools Carrying PENTA Inserts with Channels for High-Pressure Coolant



I N C H												
Designation	**H**	**HF**	**B**	**CWN(1)**	**CWX(2)**	**CDX(3)**	**WF**	**OAL**	**LH**	**HBH**	**CNT**	**Insert**
PCHR/L 16-34-JHP	.630	.630	.630	.059	.157	.394	.378	4.724	1.319	.35	UNF 5/16-24	PENTA 34
PCHR/L 19-34-JHP	.750	.750	.750	.059	.157	.394	.490	5.320	1.300	.24	G1/8-28	PENTA 34
PCHL 25.4-34-JHP	1.000	1.000	1.000	.059	.157	.394	.730	5.315	1.319	-	G1/8-28	PENTA 34
PCHR 25.4-34-JHP	1.000	1.000	1.000	.059	.157	.394	.730	5.320	1.300	-	G1/8-28	PENTA 34

- For user guide and accessories, see pages 161-173

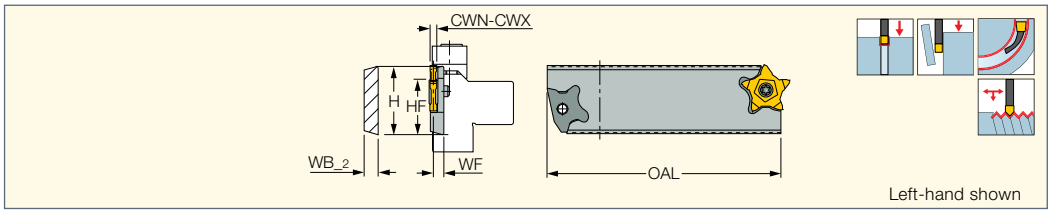
(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
For inserts, see pages: PENTA 34F-R/L (122)

Spare Parts

Designation			
PCHR/L 16-34-JHP	SR 16-212-01397	SR 5/16UNF TL360	HW 5/32"
PCHR/L 19-34-JHP	SR 16-212-01397	PLG G1/8 TL360	HW 5.0
PCHR/L 25.4-34-JHP	SR 16-212-01397		

PENTACUT
PARTING & GROOVING LINE

PCHBR/L
Double-Ended Parting and Grooving Blades for PENTACUT Inserts



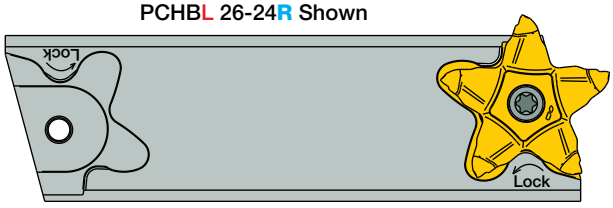
M E T R I C									
Designation	H	CWN(2)	CWX(3)	HF	WF(4)	OAL	WB_2	Insert	
PCHBL 26-24R	26.0	0.50	6.20	21.4	7.00	110.00	8.5	PENTA 24	SR 16-212-01397L
PCHBR 26-24L	26.0	0.50	6.20	21.4	7.00	110.00	8.5	PENTA 24	SR 16-212-01397
PCHBR 26-24R	26.0	0.50	6.20	21.4	1.50	110.00	8.5	PENTA 24	SR 16-212-01397L
PCHBL 32-24R	32.0	0.50	6.20	24.8	7.00	110.00	8.5	PENTA 24	SR 16-212-01397L
PCHBR 32-24L	32.0	0.50	6.20	24.8	7.00	110.00	8.5	PENTA 24	SR 16-212-01397
PCHBL 26-34R (1)	26.0	1.50	4.00	21.4	7.15	110.00	8.5	PENTA 34	SR 16-212-01397
PCHBR 26-34L (1)	26.0	1.50	4.00	21.4	7.15	110.00	8.5	PENTA 34	SR 16-212-01397
PCHBR 26-34R (1)	26.0	1.50	4.00	21.4	1.35	110.00	8.5	PENTA 34	
PCHBL 32-34R	32.0	1.50	4.00	24.8	7.15	110.00	8.5	PENTA 34	SR 16-212-01397
PCHBR 32-34L	32.0	1.50	4.00	24.8	7.15	110.00	8.5	PENTA 34	SR 16-212-01397

- For insert/blade orientation, see the following drawings

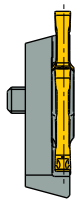
(1) Single pocket blade
(2) Minimum cutting width
(3) Maximum cutting width
(4) To the center of inserts up to 4.15 mm width

For inserts, see pages: PENTA 34F-R/L (122)

PCHBL 26-24R Shown

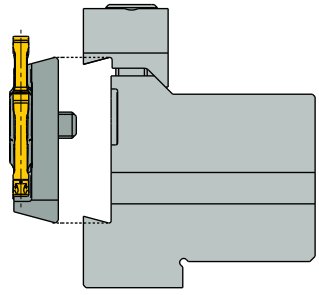


PCHBL 26-24L

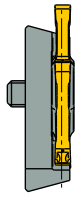


Left-hand blade

PCHBL 26-24R

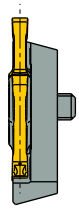


PCHBR 26-24L



Right-hand blade

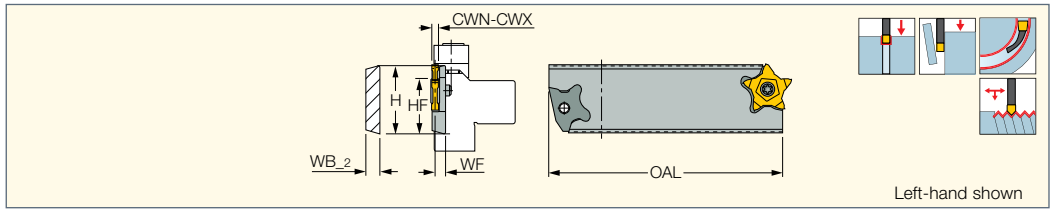
PCHBR 26-24R



Pocket location on the blade

PENTACUT
PARTING & GROOVING LINE

PCHBR/L
Double-Ended Parting and Grooving Blades for PENTACUT Inserts



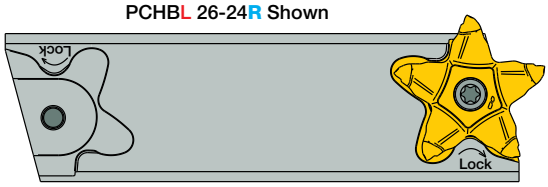
Designation	H	CWN[2]	CWX[3]	HF	WF[4]	OAL	WB_2	Insert	
	I N C H								
PCHBL 26-24R	1.024	.020	.244	.843	.276	4.331	.335	PENTA 24	SR 16-212-01397L
PCHBR 26-24L	1.024	.020	.244	.843	.276	4.331	.335	PENTA 24	SR 16-212-01397
PCHBR 26-24R	1.024	.020	.244	.843	.059	4.331	.335	PENTA 24	SR 16-212-01397L
PCHBL 32-24R	1.260	.020	.244	.976	.276	4.331	.335	PENTA 24	SR 16-212-01397L
PCHBR 32-24L	1.260	.020	.244	.976	.276	4.331	.335	PENTA 24	SR 16-212-01397
PCHBL 26-34R [1]	1.024	.059	.157	.843	.281	4.331	.335	PENTA 34	SR 16-212-01397
PCHBR 26-34L [1]	1.024	.059	.157	.843	.281	4.331	.335	PENTA 34	SR 16-212-01397
PCHBR 26-34R [1]	1.024	.059	.157	.843	.053	4.331	.335	PENTA 34	
PCHBL 32-34R	1.260	.059	.157	.976	.281	4.331	.335	PENTA 34	SR 16-212-01397
PCHBR 32-34L	1.260	.059	.157	.976	.281	4.331	.335	PENTA 34	SR 16-212-01397

- For insert/blade orientation, see the following drawings

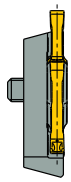
[1] Single pocket blade
[2] Minimum cutting width
[3] Maximum cutting width
[4] To the center of inserts up to .163" width

For inserts, see pages: PENTA 34F-R/L (122)

PCHBL 26-24R Shown

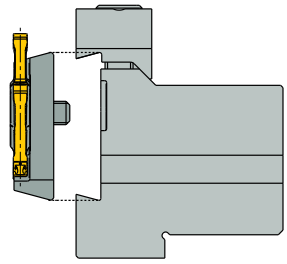


PCHBL 26-24L

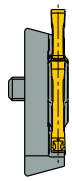


Left-hand blade

PCHBL 26-24R

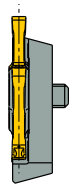


PCHBR 26-24L



Right-hand blade

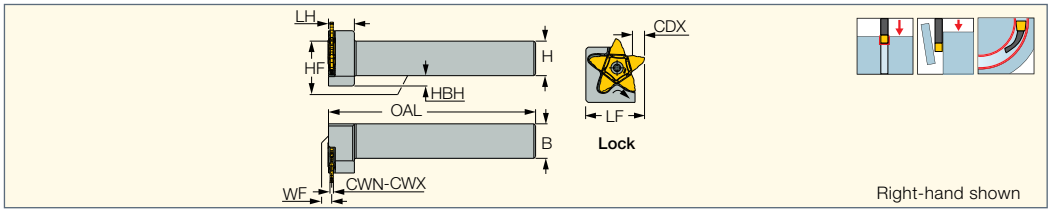
PCHBR 26-24R



Pocket location on the blade

PENTACUT
PARTING & GROOVING LINE

PCHPR/L
Perpendicular Holders Carrying Inserts with 5 Cutting Edges for Facing, Grooving, Parting and Recessing



M E T R I C											
Designation	**H**	**B**	**CWN(1)**	**CWX(2)**	**CDX(3)**	**HF**	**WF**	**LF**	**OAL**	**LH**	**HBH**
PCHPR/L 16-24	16.0	16.0	0.50	3.20 (4)	6.50	16.0	1.50 (5)	23.5	120.00	11.5	-
PCHPR/L 20-24	20.0	20.0	0.50	3.20 (4)	6.50	20.0	1.50 (5)	28.0	120.00	11.5	-
PCHPR/L 25-24	25.0	25.0	0.50	3.20 (4)	6.50	25.0	1.50 (5)	33.0	135.00	11.5	-
PCHPR/L 20-34	20.0	20.0	1.40	4.00	10.00	20.0	1.90	34.0	120.00	15.0	6.0
PCHPR/L 25-34	25.0	25.0	1.40	4.00	10.00	25.0	1.90	34.0	135.00	15.0	-

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
(4) Up to 6.2 mm width may be ordered on request
(5) Valid for inserts with CW<3.2 mm

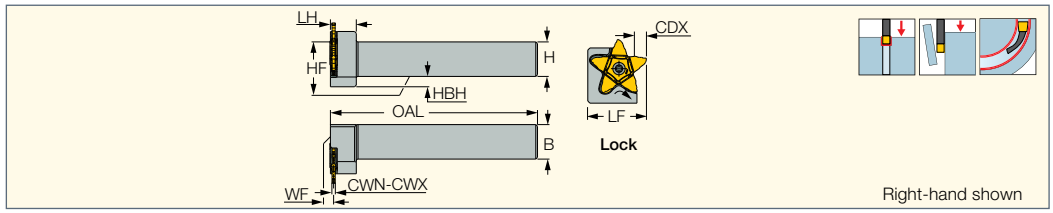
For inserts, see pages: PENTA 34F-R/L (122)

Spare Parts

Designation		
PCHPL 16-24	SR 16-212-01397	T-20/5
PCHPR 16-24	SR 16-212-01397L	T-20/5
PCHPL 20-24	SR 16-212-01397	T-20/5
PCHPR 20-24	SR 16-212-01397L	T-20/5
PCHPL 25-24	SR 16-212-01397	T-20/5
PCHPR 25-24	SR 16-212-01397L	T-20/5
PCHPR/L 20-34	SR 16-212-01397	T-20/5
PCHPR/L 25-34	SR 16-212-01397	T-20/5

PENTACUT
PARTING & GROOVING LINE

PCHPR/L
Perpendicular Holders Carrying Inserts with 5 Cutting Edges for Facing, Grooving, Parting and Recessing

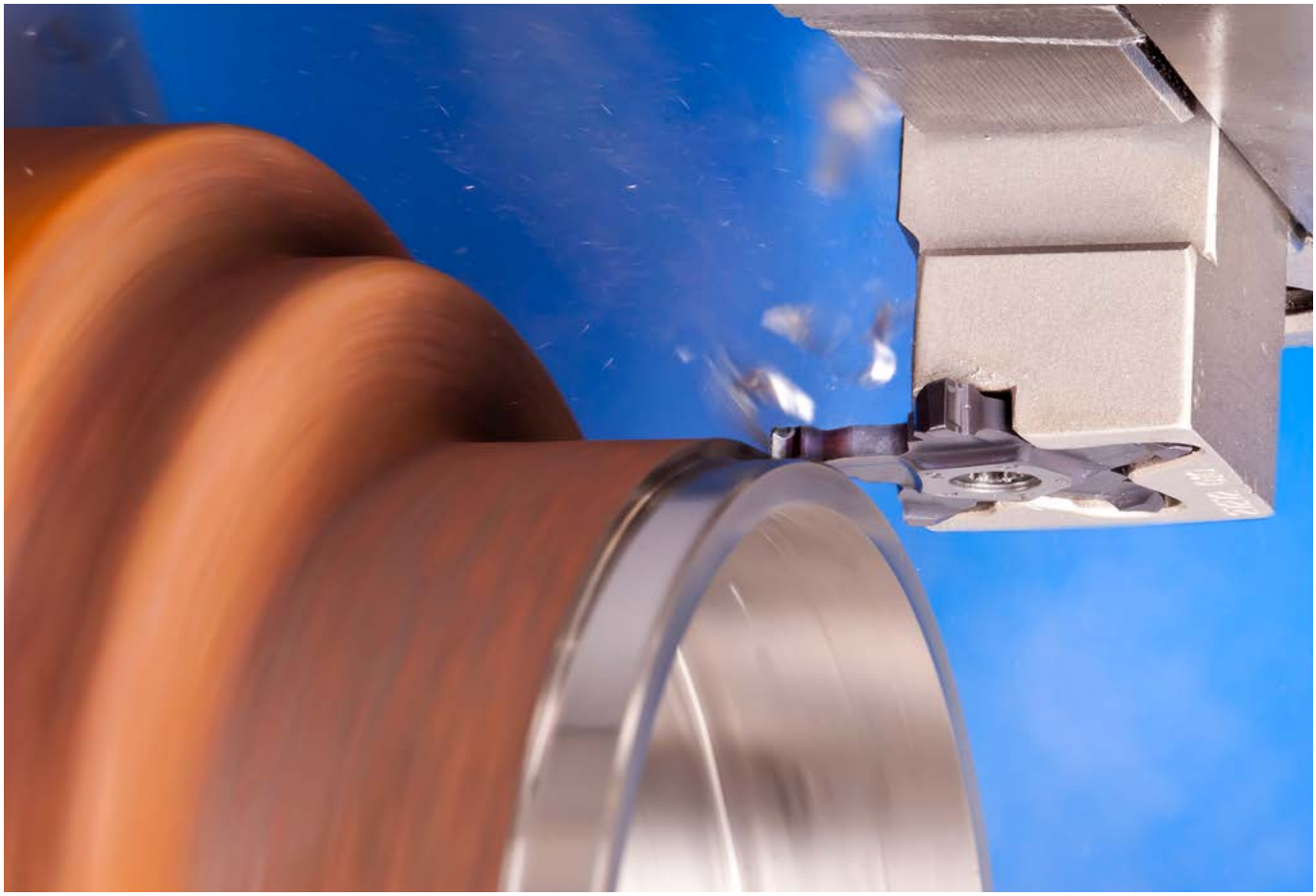


	INCH										
Designation	**H**	**B**	**CWN[1]**	**CWX[2]**	**CDX[3]**	**HF**	**WF**	**LF**	**OAL**	**LH**	**HBH**
PCHPR/L 16-24	.630	.630	.020	.126 [4]	.256	.630	.059 [5]	.93	4.724	.453	-
PCHPR/L 19-24	.750	.750	.020	.126 [4]	.256	.750	.060 [5]	1.10	5.000	.450	-
PCHPR/L 25.4-24	1.000	1.000	.020	.126 [4]	.256	1.000	.060 [5]	1.30	5.500	.450	-
PCHPR/L 19-34	.750	.750	.055	.157	.394	.750	.070	1.30	5.000	.590	.24
PCHPR/L 25.4-34	1.000	1.000	.055	.157	.394	1.000	.070	1.30	5.500	.590	-

(1) Minimum cutting width
(2) Maximum cutting width
(3) For specific information, refer to insert data
(4) Up to .244" width may be ordered on request.
(5) Valid for inserts with W<.126"
For inserts, see pages: PENTA 34F-R/L (122)

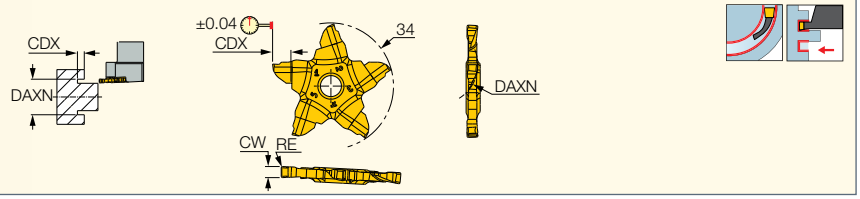
Spare Parts

Designation		
PCHPL 16-24	SR 16-212-01397	T-20/5
PCHPR 16-24	SR 16-212-01397L	T-20/5
PCHPL 19-24	SR 16-212-01397	T-20/5
PCHPR 19-24	SR 16-212-01397L	T-20/5
PCHPL 25.4-24	SR 16-212-01397	T-20/5
PCHPR 25.4-24	SR 16-212-01397L	T-20/5
PCHPR/L 19-34	SR 16-212-01397	T-20/5
PCHPR/L 25.4-34	SR 16-212-01397	T-20/5



PENTACUT
PARTING & GROOVING LINE

PENTA 34F-RS/LS
Pentagonal Inserts for Face Grooving and Recessing Along Shafts up to 5 mm Depth of Cut at a Minimum of 22 mm Diameter



M E T R I C

Designation	Dimensions CW	RE	CDX	DAXN(1)	IC908	Recommended Machining Data f face-groove (mm/rev)
PENTA 34F239-0.15-22R/LS	2.39	0.15	5.00	22.0	●	0.08-0.12
PENTA 34F247-0.20-22R/LS	2.47	0.20	5.00	22.0	●	0.08-0.12
PENTA 34F300-0.40-22R/LS	3.00	0.40	5.00	22.0	●	0.08-0.15
PENTA 34F400-0.40-22R/LS	4.00	0.40	5.00	22.0	●	0.08-0.15

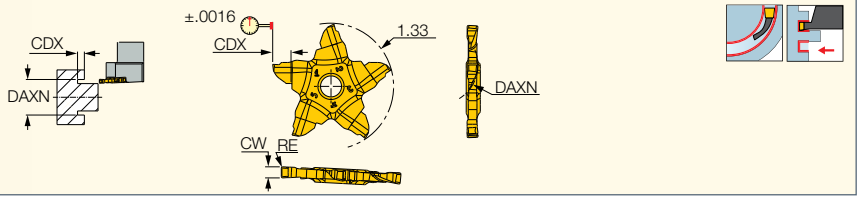
- For cutting speed recommendations, see pages 162-164

(1) Minimum axial grooving diameter

For tools, see pages: PCHPRS/LS (130)

PENTACUT
PARTING & GROOVING LINE

PENTA 34F-RS/LS
Pentagonal Inserts for Face Grooving and Recessing Along Shafts up to .197" Depth of Cut at a Minimum of .866" Diameter



I N C H

Designation	Dimensions CW	RE	CDX	DAXN(1)	IC908	Recommended Machining Data f face-groove (IPR)
PENTA 34F239-0.15-22R/LS	.094	.0059	.197	.87	●	.0031-.0047
PENTA 34F247-0.20-22R/LS	.097	.0079	.197	.87	●	.0031-.0047
PENTA 34F300-0.40-22R/LS	.118	.0157	.197	.87	●	.0031-.0059
PENTA 34F400-0.40-22R/LS	.157	.0157	.197	.87	●	.0031-.0059

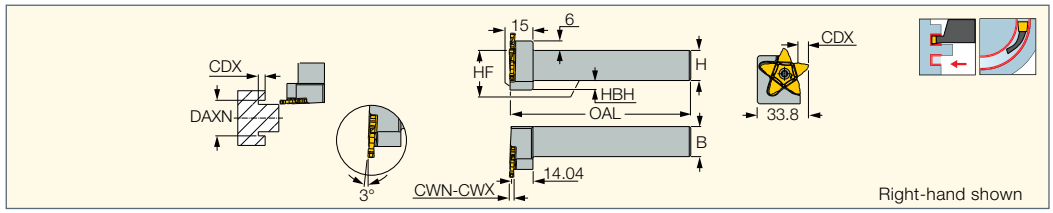
- For cutting speed recommendations, see pages 162-164

(1) Minimum axial grooving diameter

For tools, see pages: PCHPRS/LS (130)

PENTACUT PARTING & GROOVING LINE

PCHPRS/LS
Perpendicular Shank Tools Carrying Pentagonal Inserts for Machining Next to Long Central Shafts



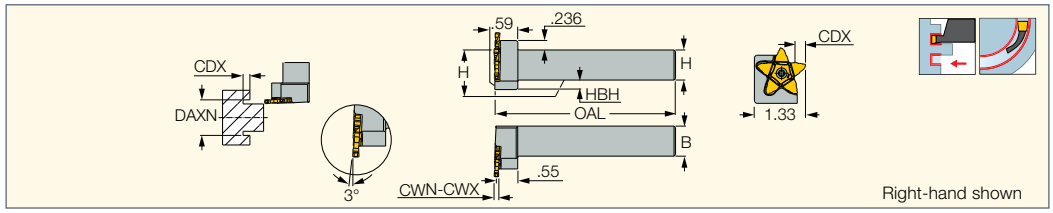
M E T R I C

Designation	H	B	CWN(1)	CWX(2)	OAL	HBH	CDX(3)	HF		
PCHPR/LS 20-34	20.0	20.0	2.39	4.00	120.00	6.0	5.00	20.0	SR 16-212-01397RS	T-20/5
PCHPR/LS 25-34	25.0	25.0	2.39	4.00	135.00	-	5.00	25.0	SR 16-212-01397RS	T-20/5

(1) Minimum cutting width
(2) Maximum cutting width
(3) Insert limit
For inserts, see pages: PENTA 34F-RS/LS (129)

PENTACUT PARTING & GROOVING LINE

PCHPRS/LS
Perpendicular Shank Tools Carrying Pentagonal Inserts for Machining Next to Long Central Shafts



I N C H

Designation	H	B	CWN(1)	CWX(2)	OAL	HBH	CDX(3)	DAXN(4)		
PCHPR/LS 19-34	.750	.750	.094	.157	5.000	.24	.197	.87	SR 16-212-01397RS	T-20/5
PCHPR/LS 25.4-34	1.000	1.000	.094	.157	5.500	-	.197	.87	SR 16-212-01397RS	T-20/5

(1) Minimum cutting width
(2) Maximum cutting width
(3) Insert limit
(4) Minimum axial grooving diameter
For inserts, see pages: PENTA 34F-RS/LS (129)

HOLDERS

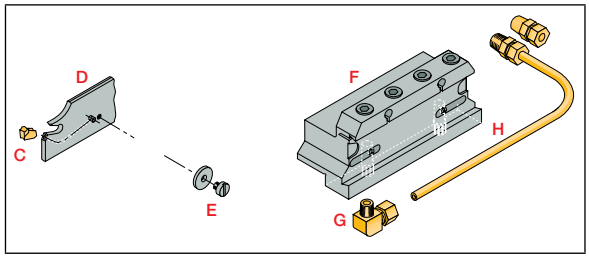
TOOL BLOCKS

JETCUT Assembly

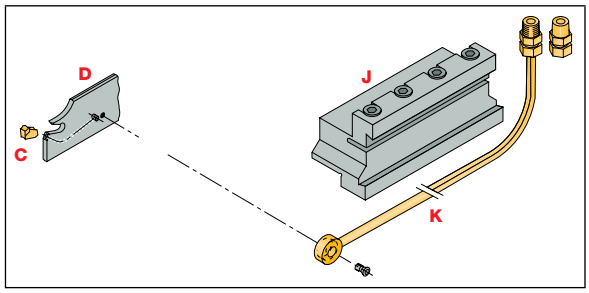
SELF-GRIP

- C Insert **GF☐**
- D Blade **SGFH☐K-☐**
- E Cap **SGC 340** supplied with a blade; to be used with Option 1 only.
- F Tool block **SGTBU☐C-☐**
- G Elbow-style connector unit supplied with each tool block
- H **SGCU-344 H 3/16”** copper Tube 343 (length 250 mm)
- J Standard current tool blocks **SGTBN, SGTBU, SGTBF**
- K Coolant connection unit **SGCU**-341
- M Integral shank holder **SGTFR/L☐K-☐**

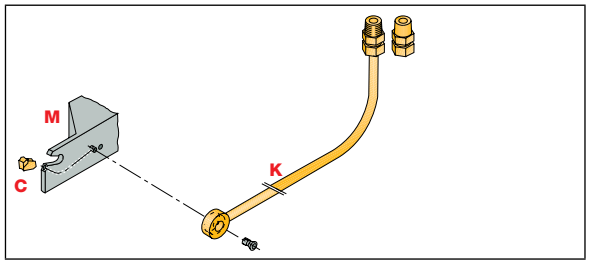
Option 1:
Coolant supplied through the tool block.



Option 2:
Coolant supplied directly to the blade.



Option 3:
Coolant supplied directly to the integral shank tool.



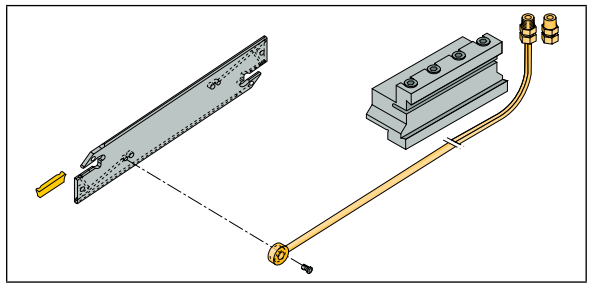
DO-GRIP 500 STRAIGHT LINE

The coolant supply tube can be used with the following options:

- DGTR...C integral tool
- DGFH-C blades used on regular blocks by connecting directly to the blade
- SGTBU-C blocks with coolant passages and connecting ports

The Right Connection for Your Application

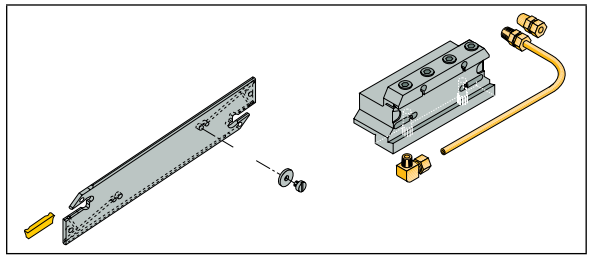
Option 1:
Coolant supplied directly to the blade.



SGCU 341 Coolant connection unit

Connectors:
CGM 343 (G1/8 external thread)
CGF 343 (G1/8 internal thread)
CF 343 (NPT1/8 internal thread)

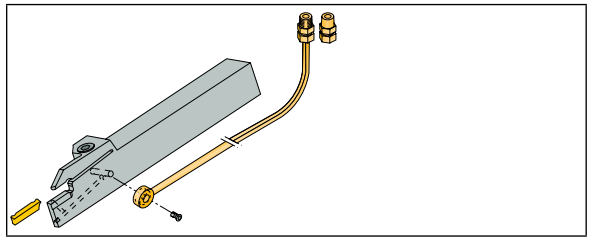
Option 2:
Coolant supplied through the tool block.



SGCU 344 Elbow connector

TUBE 343
3/16” copper tube (length 250 mm)
(G1/8 external thread) (G1/8 internal thread)
(NPT1/8 external thread) (NPT1/8 internal thread)

Option 3:
Coolant supplied directly to the tool.

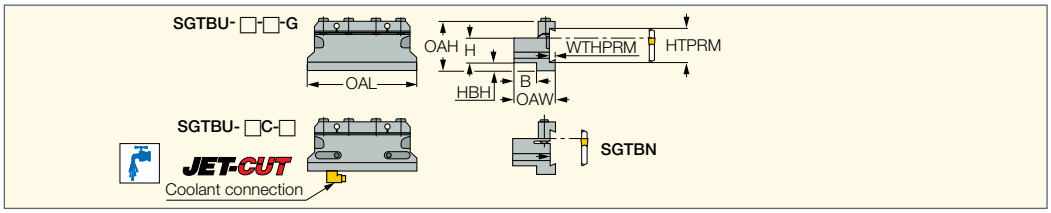


SGCU 341 Coolant connection unit

Connectors:
CGM 343 (G1/8 external thread)
CGF 343 (G1/8 internal thread)
CF 343 (NPT1/8 internal thread)

TOOL BLOCKS

SGTBU/SGTBN
Blocks for Various Parting and Grooving Blades



	M E T R I C							
Designation	**H**	**B**	**HTPRM**	**OAW**	**OAH**	**HBH**	**WTHPRM**	**OAL**
SGTBN 16-2	16.0	16.0	19.0	26.00	30.0	4.0	2.00	76.00
SGTBU 16-5G	16.0	17.0	26.0	34.00	43.0	13.0	4.10	86.00
SGTBU 20-5G	20.0	21.0	26.0	38.00	43.0	9.0	4.10	86.00
SGTBU 20-6G	20.0	19.1	32.0	38.20	50.0	12.9	5.30	100.00
SGTBU 25-5G	25.0	26.1	26.0	43.10	45.0	5.0	4.10	110.00
SGTBU 25-6G	25.0	23.0	32.0	42.20	50.0	7.8	5.30	110.00
SGTBU 25-8M	25.0	23.0	45.0	42.20	70.0	27.0	5.30	110.00
SGTBU 25C-6 (1)	25.0	23.0	32.0	42.20	50.0	7.8	5.30	110.00
SGTBU 32-25-6G	32.0	25.1	32.0	44.15	54.0	4.8	5.30	110.00
SGTBU 32-6G	32.0	29.1	32.0	28.20	54.0	4.8	5.30	110.00
SGTBU 32-8M	32.0	29.0	45.0	48.20	70.0	20.0	5.30	110.00
SGTBU 32C-14 (1)	32.0	28.0	52.6	63.00	99.8	41.7	12.60	140.00
SGTBU 40-6G	40.0	-	32.0	60.00	57.0	-	5.30	114.00
SGTBU 40-9	40.0	41.0	52.6	66.00	81.0	22.0	8.00	130.00
SGTBU 40C-14 (1)	40.0	28.0	52.6	63.00	99.8	33.8	12.60	140.00
SGTBU 50-9	50.0	41.0	52.6	66.00	83.0	14.0	8.00	135.00
SGTBU 50C-14 (1)	50.0	28.0	52.6	63.00	99.8	23.8	12.60	140.00
SGTBU 100-9-12 (2)	50.0	49.0	100.0	106.00	155.0	73.5	15.00	225.00
SGTBU 150-9-12 (2)	50.0	49.0	150.0	106.00	209.0	127.5	15.00	306.00

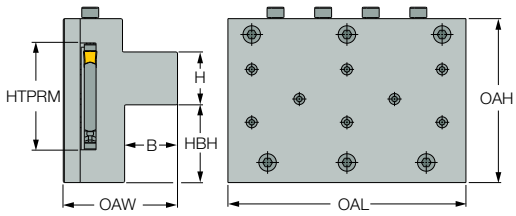
- Choose blade by HTPRM and WTHPRM dimensions

(1) Elbow-style connector unit supplied with each JET-CUT tool block

(2) See more detailed information below

For tools, see pages: • CGFG 51-P8 (88) • HFFA (38) • HFFH (37) • HFFR/L-T (51) • PCHBR/L (125) • SGFFA (117) • SGFFH (119) • TNFFA-IQ (110) • TNFFH-IQ (109)

SGTBU 100/150-9-12



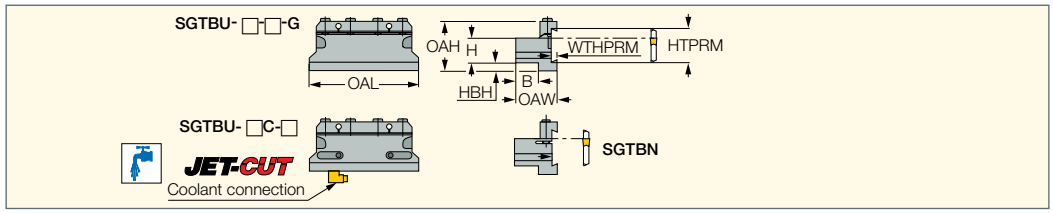
Spare Parts

Designation										
SGTBN 16-2		SR M5X20DIN912		HW 4.0						
SGTBU 16-5G	BKU 86	SR M6X16 DIN912		HW 5.0						
SGTBU 20-5G	BKU 86	SR M6X16 DIN912		HW 5.0						
SGTBU 20-6G	BKU 100	SR M6X16 DIN912		HW 5.0						
SGTBU 25-5G	BKU 105	SR M6X16 DIN912		HW 5.0						
SGTBU 25-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 25-8M	BKU 110	SR M6X16 DIN912	SR M6X30 DIN912	HW 5.0						
SGTBU 25C-6	BKU 110	SR M6X16 DIN912		HW 5.0			SGCU-344*	CF 343*	CGF 343*	CGM 343*
SGTBU 32-25-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 32-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 32-8M	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 32C-14	BKU 32-14	SR M10X30 DIN912		HW 8.0	JHP ELBOW 90-G1/8-7/16UNF	OR 34X2.5N				
SGTBU 40-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 40-9	BK 509	SR M8X25DIN912		HW 6.0						
SGTBU 40C-14	BKU 32-14	SR M10X30 DIN912		HW 8.0	JHP ELBOW 90-G1/8-7/16UNF	OR 34X2.5N				
SGTBU 50-9	BK 509	SR M8X25DIN912		HW 6.0						
SGTBU 50C-14	BKU 32-14	SR M10X30 DIN912		HW 8.0	JHP ELBOW 90-G1/8-7/16UNF	OR 34X2.5N				
SGTBU 100-9-12		SR M10X25 DIN912		HW 8.0						
SGTBU 150-9-12		SR M10X25 DIN912		HW 8.0						

* Optional, should be ordered separately

TOOL BLOCKS

SGTBU/SGTBN
Blocks for Various Parting and Grooving Blades



	I N C H							
Designation	H	B	HTPRM	OAW	OAH	HBH	WTHPRM	OAL
SGTBN 16-2	.630	.630	.748	1.024	1.18	.16	.079	2.992
SGTBU 16-5G	.630	.669	1.024	1.339	1.69	.51	.161	3.386
SGTBU 19-5G	.750	.790	1.024	1.450	1.70	.39	.160	3.400
SGTBU 19-6G	.750	.790	1.260	1.500	1.94	.55	.210	3.950
SGTBU 25.4-5G	1.000	1.030	1.024	1.700	1.75	.20	.160	4.330
SGTBU 25.4-6G	1.000	1.028	1.260	1.750	1.95	.30	.210	4.330
SGTBU 25.4-8M	1.000	.906	1.772	1.654	2.76	1.06	.209	4.331
SGTBU 25.4C-6 (1)	1.000	1.028	1.260	1.744	1.94	.30	.210	4.330
SGTBU 31.8-6G	1.250	1.140	1.260	1.900	2.10	.20	.210	4.330
SGTBU 31.8C-14	1.250	1.140	2.071	2.477	3.93	1.65	.498	5.512
SGTBU 38.1-6G	1.500	1.650	1.260	2.283	2.15	-	.210	4.500
SGTBU 38.1-9	1.500	1.540	2.071	2.520	3.20	.94	.310	5.120
SGTBU 38.1C-14 (1)	1.500	1.102	2.071	2.476	3.93	1.41	.498	5.512
SGTBU 100-9-12 (2)	1.968	1.929	3.937	4.173	6.10	2.89	.591	8.858
SGTBU 150-9-12 (2)	1.968	1.929	5.906	4.173	8.23	5.02	.591	12.047

- Choose blade by HTPRM and WTHPRM dimensions

(1) Elbow-style connector unit supplied with each JET-CUT tool block

(2) See more detailed information below

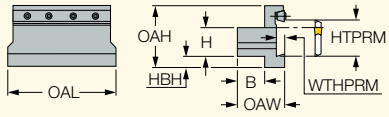
For tools, see pages: • CGFG 51-P8 (88) • HFFA (38) • HFFH (37) • HFFR/L-T (51) • PCHBR/L (125) • SGFFA (117) • SGFFH (119) • TNFFA-IQ (110) • TNFFH-IQ (109)

Spare Parts

Designation										
SGTBN 16-2		SR M5X20DIN912		HW 4.0						
SGTBU 16-5G	BKU 86	SR M6X16 DIN912		HW 5.0						
SGTBU 19-5G	BKU 86	SR M6X16 DIN912		HW 5.0						
SGTBU 19-6G	BKU 100	SR M6X16 DIN912		HW 5.0						
SGTBU 25.4-5G	BKU 105	SR M6X16 DIN912		HW 5.0						
SGTBU 25.4-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 25.4-8M	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 25.4C-6	BKU 110	SR M6X16 DIN912	SR M6X25 DIN912	HW 5.0			SGCU-344*	CF 343*	CGF 343*	CGM 343*
SGTBU 31.8-6G	BKU 110	SR M6X16 DIN912		HW 5.0						
SGTBU 31.8C-14	BKU 32-14	SR M10X30 DIN912		HW 8.0	JHP ELBOW 90-G1/8-7/16UNF	OR 34X2.5N				
SGTBU 38.1-6G	BKU 110	SR M6X25 DIN912		HW 5.0						
SGTBU 38.1-9	BK 509	SR M8X25DIN912		HW 6.0						
SGTBU 38.1C-14	BKU 32-14	SR M10X30 DIN912		HW 8.0	JHP ELBOW 90-G1/8-7/16UNF	OR 34X2.5N				
SGTBU 100-9-12		SR M10X25 DIN912		HW 8.0						
SGTBU 150-9-12		SR M10X25 DIN912		HW 8.0						

TOOL BLOCKS

SGTBK
Blocks for Heavy Duty Parting and Grooving Blades



METRIC

Designation	H	B	WTHPRM	HTPRM	OAW	OAH	HBH	OAL			
SGTBK 32-9	32.0	28.0	8.50	32.0	48.00	62.0	3.0	120.00	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0
SGTBK 38-9	38.0	35.0	8.50	52.6	60.00	90.0	25.0	135.00	BK 40-9	SR M6X20 DIN912	HW 5.0
SGTBK 40-9	40.0	35.0	8.50	52.6	60.00	90.0	23.0	135.00	BK 40-9	SR M6X20 DIN912	HW 5.0
SGTBK 50-9	50.0	40.0	8.50	52.6	65.00	90.0	15.0	135.00	BK 40-9	SR M6X20 DIN912	HW 5.0

INCH

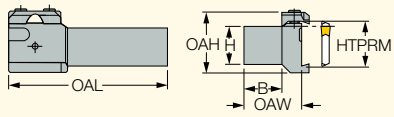
Designation	H	B	WTHPRM	HTPRM	OAW	OAH	HBH	OAL			
SGTBK 32-9	1.260	1.102	.335	1.260	1.890	2.44	.12	4.724	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0
SGTBK 38-9	1.496	1.378	.335	2.071	2.362	3.54	.98	5.315	BK 40-9	SR M6X20 DIN912	HW 5.0
SGTBK 40-9	1.575	1.378	.335	2.071	2.362	3.54	.91	5.315	BK 40-9	SR M6X20 DIN912	HW 5.0
SGTBK 50-9	1.968	1.575	.335	2.071	2.559	3.54	.59	5.315	BK 40-9	SR M6X20 DIN912	HW 5.0

- Choose blade by HTPRM dimension

For tools, see pages: • CGFG 51-P8 (88) • HFFH (37) • PCHBR/L (125) • SGFFH (119) • TNFFH-IQ (109)

TOOL BLOCKS

UBHCR/L
Holders for Grooving, Turning and Parting Blades



Right-hand shown

METRIC

Designation	H	HTPRM	B	OAH	OAW	OAL				
UBHCR/L 20-26	20.0	26.0	20.0	42.0	35.60	100.00	BKU 176 307	SR M6X16 DIN912	HW 5.0	SPRING PLUNGER M6X14X3.5
UBHCR/L 25-32	25.0	32.0	25.0	46.0	40.00	130.00	BKU 176 307	SR M6X16 DIN912	HW 5.0	SPRING PLUNGER M6X14X3.5
UBHCR/L 32-32	32.0	32.0	32.0	46.0	47.00	130.00	BKU 176 307	SR M6X16 DIN912	HW 5.0	SPRING PLUNGER M6X14X3.5

INCH

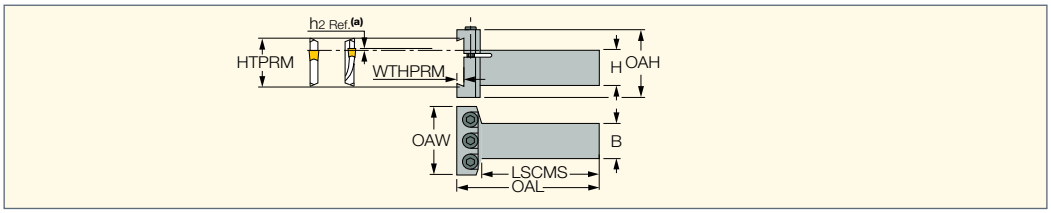
Designation	H	HTPRM	B	OAH	OAW	OAL				
UBHCR/L 19-26	.750	1.024	.750	1.42	1.400	3.937	BKU 176 307	SR M6X16 DIN912	HW 5.0	SPRING PLUNGER M6X14X3.5
UBHCR/L 25.4-32	1.000	1.260	1.000	1.81	1.600	5.118	BKU 176 307	SR M6X16 DIN912	HW 5.0	SPRING PLUNGER M6X14X3.5

- Choose blade by HTPRM dimension

For tools, see page: • HFFA (38) • HFFH (37) • HFFR/L-T (51) • SGFFA (117) • SGFFH (119) • TNFFA-IQ (110) • TNFFH-IQ (109)

TOOL BLOCKS

SGTBF
Perpendicular Blocks for
Parting and Grooving Blades



M E T R I C

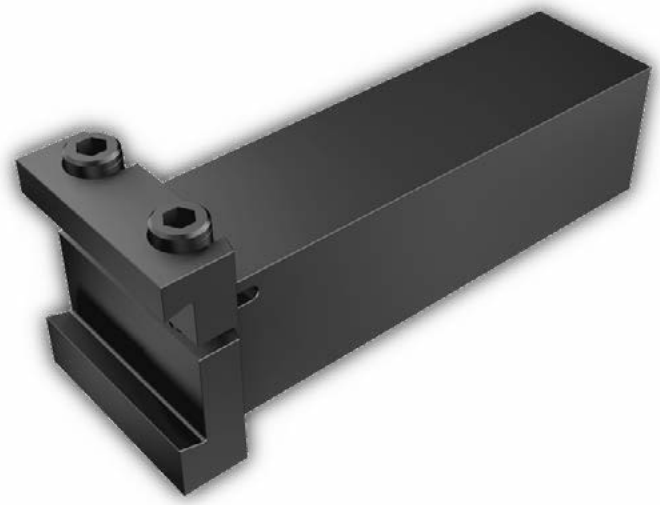
Designation	H	B	HTPRM	OAL	LSCMS	OAW	OAH	WTHPRM		
SGTBF 25-A	25.0	25.0	32.0	102.00	80.00	48.00	48.0	5.50	SR M6X40 DIN912	HW 5.0
SGTBF 32-A	32.0	32.0	32.0	116.00	100.00	48.00	48.0	5.50	SR M6X40 DIN912	HW 5.0

I N C H

Designation	H	B	HTPRM	OAL	LSCMS	OAW	OAH	WTHPRM		
SGTBF 25.4-A	1.000	1.000	1.260	5.000	4.380	1.750	1.90	.217	SR M6X40 DIN912	HW 5.0
SGTBF 31.7-A	1.250	1.250	1.260	5.000	4.390	1.750	1.90	.217	SR M6X40 DIN912	HW 5.0

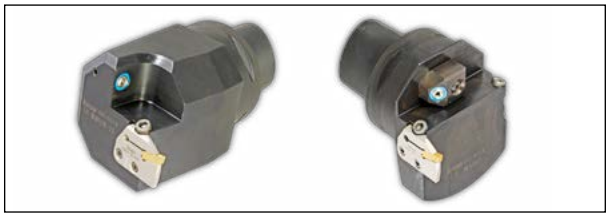
• (a) h2 Ref. as defined for SELF-GRIP face grooving blades • Choose blade by HTPRM dimension

For tools, see pages: • HFFA (38) • HFFH (37) • HFFR/L-T (51) • SGFFA (117) • SGFFH (119) • TNFFA-IQ (110) • TNFFH-IQ (109)



CAMFIX

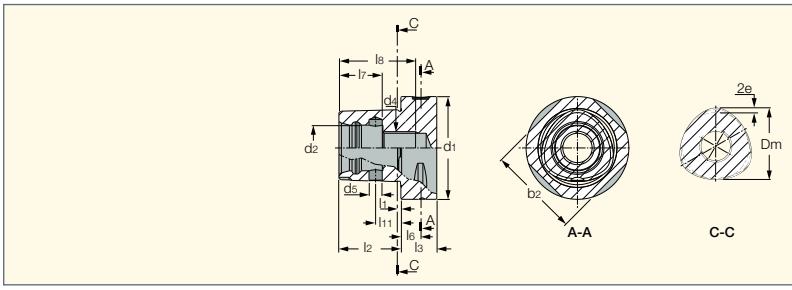
CAMFIX (ISO 266231)



Quick Change tools are expensive compared to standard shank tools. **ISCAR** offers economical solutions by using adapters, blades or regular tools and boring bars on the Quick Change adaptations.

CAMFIX

CAMFIX ISO 26623-1
Toolholder Standard



CAMFIX	b2	d1 ±0.1	d2	d4	d5 ±0.1	Dm	e	l1	l2 ±0.1	l3 min	l6 ±0.15	l7 ±0.15	l8 min	l11 ±0.1
C3	28,3	32	15	M12x1.5	3,6	22	0,7	2,5	19	15	6	13	25	8
C4	35,3	40	18	M14x1.5	4,6	28	0,9	2,5	24	20	8	15	30	11,5
C5	44,4	50	21	M16x1.5	6,1	35	1,12	3	30	20	10	20	37	14
C6	55,8	63	28	M20x2	8,1	44	1,4	3	38	22	12	27	47	15,5
C8	71,1	80	32	M20x2	9,1	55	2	3	48	30	12	28	48	25
C8X	88,7	100	32	M20x2	9,1	55	2	3	48	32	16	28	48	25
C10	88,3	100	43	M24x2	12	72	2,8	3	60	36	16	40	70	26,5

CAMFIX - ISO 26623-1 Standard Quick Change Shanks

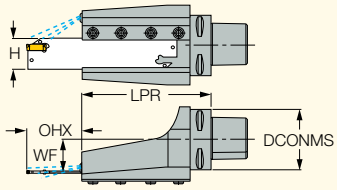
Features

- Symmetrical design: Due to the symmetrical design, the torque load is distributed on the polygon, providing a self-centering effect.
- Rigidity: The **CAMFIX** clamping mechanism is extremely rigid against bending forces.
- Accuracy: The taper and face contact ensure high repeatability within 2 microns when operated with an automatic tool changer.

TOOL BLOCKS

CAMFIX

C#-TBK-R/L
Blocks with CAMFIX
Exchangeable Shanks for
Parting and Grooving Blades



Right-hand shown
• OHX = See specific blade dimensions

M E T R I C											
Designation	DCONMS	WF	LPR	H	CP(1)	CDI(2)					
C6 TBK-32R/L	63.00	32.0	138.00	32.0	100	1	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0	EZ 125	SR M8X6 DIN913
C8 TBK-52R	80.00	40.5	161.00	52.0	100	1	BK 40-9	SR M6X16 DIN912	HW 5.0	EZ 125	SR M8X6 DIN913

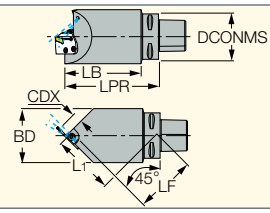
I N C H											
Designation	DCONMS	WF	LPR	H	CP(1)	CDI(2)					
C6 TBK-32R/L	2.480	1.260	5.433	1.260	1450	1	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0	EZ 125	SR M8X6 DIN913
C8 TBK-52R	3.150	1.594	6.339	2.047	1450	1	BK 40-9	SR M6X16 DIN912	HW 5.0	EZ 125	SR M8X6 DIN913

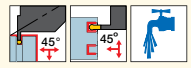
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFFH (37) • PCHBR/L (125) • TNFFH-IQ (109)

MODULAR-GRIP

CAMFIX

C#-MAHDR-45
Holders with CAMFIX
Exchangeable Shanks for
Parting, Grooving, Turning
and Facing Adapters





Right-hand shown
• CDX = See specific adapter dimensions

M E T R I C								
Designation	DCONMS	LPR	L1	LB	LF	BD	CP(1)	CDI(2)
C6 MAHDR-45	63.00	130.00	91.9	105.78	89.0	75.00	100	1
C8 MAHDR-45	80.00	130.00	91.9	-	89.0	80.00	100	1

I N C H								
Designation	DCONMS	LPR	L1	LB	LF	BD	CP(1)	CDI(2)
C6 MAHDR-45	2.480	5.118	3.618	4.165	3.504	2.953	1450	1
C8 MAHDR-45	3.150	5.118	3.618	-	3.504	3.150	1450	1

• For mill-turn machines
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)


DO-GRIP


PENTACUT


CUT-GRIP


HELI-GRIP

Spare Parts

Designation								
C6 MAHDR-45	SR M5-04451	T-20/5	SR 14-519(a)	SR M6X20DIN7984	HW 4.0	SR M6X6DIN551 14H/22H(c)	SR M5X4 DIN913	EZ 83
C8 MAHDR-45	SR M5-04451	T-20/5	SR 14-519(a)	SR M6X20-XT(b)	HW 5.0	SR M6X6DIN551 14H/22H(c)	SR M5X6 DIN913	EZ 83

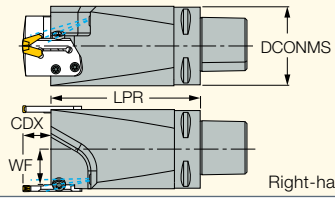
(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole

MODULAR GRIP

CAMFIX

C#-MAHDOR

Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters



Right-hand shown • CDX = See specific adapter dimensions

M E T R I C											
Designation	DCONMS	WF	LPR	CDI[1]							
C6 MAHDOR	63.00	29.0	130.00	1	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[b]	HW 5.0	SR M6X6DIN551 14H/22H[c]	EZ 125

I N C H											
Designation	DCONMS	WF	LPR	CDI[1]							
C6 MAHDOR	2.480	1.142	5.118	1	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[b]	HW 5.0	SR M6X6DIN551 14H/22H[c]	EZ 125

[1] 1 - Hole for data chip, 0 - Without hole for data chip

[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

[b] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

[c] Used to prevent chips from entering the upper locking screw hole

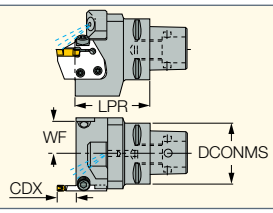
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

MODULAR GRIP

CAMFIX

C#-MAHD

Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters



Right-hand shown
• CDX = See specific adapter dimensions

M E T R I C					
Designation	DCONMS	LPR	WF	CP[1]	CDI[2]
C3 MAHD	32.00	50.00	18.5	100	0
C4 MAHD	40.00	46.50	22.1	100	1
C5 MAHD	50.00	47.00	23.0	100	1
C6 MAHD	63.00	50.00	29.0	100	1
C8 MAHD	80.00	60.00	37.5	100	1

I N C H					
Designation	DCONMS	LPR	WF	CP[1]	CDI[2]
C3 MAHD	1.260	1.968	.728	1450	0
C4 MAHD	1.575	1.831	.870	1450	1
C5 MAHD	1.968	1.850	.906	1450	1
C6 MAHD	2.480	1.968	1.142	1450	1
C8 MAHD	3.150	2.362	1.476	1450	1

[1] Coolant pressure (Bar)

[2] 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

Spare Parts

Designation									
C#-MAHD	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[b]	HW 5.0	SR M6X6DIN551 14H/22H[c]	EZ 125	EZA 125	SR 76-1022

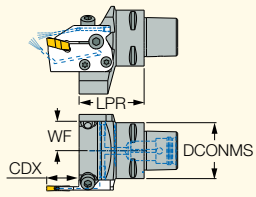
[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

[b] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

[c] Used to prevent chips from entering the upper locking screw hole

MODULAR-GRIP
JETCUT CAMFIX

C#-MAHD-JHP
Holders with CAMFIX Exchangeable Shanks and High Pressure Coolant Channels for MODULAR-GRIP Adapters



340 Bar Max

Right-hand shown
• CDX = See specific adapter dimensions
• WF=WF(shank)+WF(adapter)

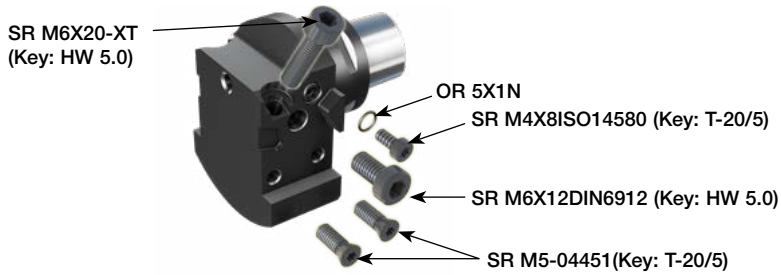
METRIC

Designation	DCONMS	LPR	WF	CDI[1]							
C3 MAHD-JHP	32.00	45.00	18.5	0	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C4 MAHD-JHP	40.00	46.50	21.0	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C5 MAHD-JHP	50.00	47.00	26.0	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C6 MAHD-JHP	63.00	50.00	32.5	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK

INCH

Designation	DCONMS	LPR	WF	CDI[1]							
C3 MAHD-JHP	1.260	1.772	.728	0	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C4 MAHD-JHP	1.575	1.831	.827	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C5 MAHD-JHP	1.968	1.850	1.024	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C6 MAHD-JHP	2.480	1.968	1.280	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK

• For user guide and accessories, see pages 137, 161-173
[1] 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48)

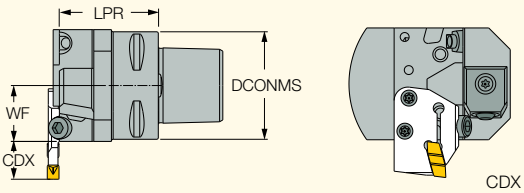


MODULAR-GRIP

CAMFIX

C#-MAHPD

Perpendicular Holders with CAMFIX Exchangeable Shanks Carrying Adapters for Parting, Grooving, Turning and Facing



CDX = See specific adapter dimensions

M E T R I C					
Designation	**DCONMS**	**LPR**	**WF**	**CP(1)**	**CDI(2)**
C4 MAHPD	40.00	46.00	25.00	100	1
C5 MAHPD	50.00	46.00	26.00	100	1
C6 MAHPD	63.00	47.00	33.00	100	1
C8 MAHPD	80.00	56.00	42.00	100	1

I N C H					
Designation	**DCONMS**	**LPR**	**WF**	**CP(1)**	**CDI(2)**
C4 MAHPD	1.575	1.811	.984	1450	1
C5 MAHPD	1.968	1.811	1.024	1450	1
C6 MAHPD	2.480	1.850	1.299	1450	1
C8 MAHPD	3.150	2.205	1.654	1450	1

(1) Coolant pressure (Bar)

(2) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

Spare Parts

Designation									
C#-MAHPD	SR M5-04451	T-20/5	SR 14-519(a)	SR M6X20-XT(b)	HW 5.0	SR M6X6DIN551 14H/22H(c)	EZ 125	SR 76-1022	EZA-21414

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag

(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

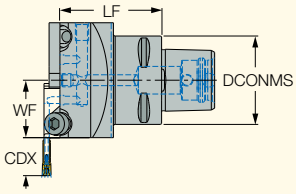
(c) Used to prevent chips from entering the upper locking screw hole

MODULAR-GRIP

JETCUT CAMFIX

C#-MAHPD-JHP

Perpendicular Holders with CAMFIX Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters



CDX= See specific adapter dimensions

M E T R I C											
Designation	**DCONMS**	**LF**	**WF**	**CDI(1)**							
C3 MAHPD-JHP	32.00	40.00	26.00	0	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C4 MAHPD-JHP	40.00	46.00	26.00	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C5 MAHPD-JHP	50.00	46.00	26.00	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C6 MAHPD-JHP	63.00	46.00	33.00	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK

I N C H											
Designation	**DCONMS**	**LF**	**WF**	**CDI(1)**							
C3 MAHPD-JHP	1.260	1.575	1.024	0	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C4 MAHPD-JHP	1.575	1.811	1.024	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C5 MAHPD-JHP	1.968	1.811	1.024	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK
C6 MAHPD-JHP	2.480	1.811	1.299	1	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	SR M4X8ISO14580 BLACK

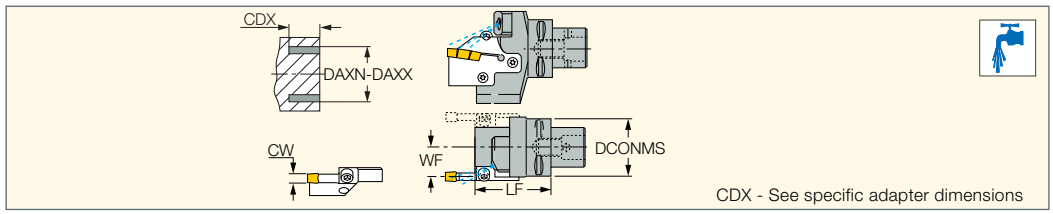
• For user guide and accessories, see pages 137, 161-173

(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50) • HFPAD-JHP (48)

CUTGRIP CAMFIX

C#-GHAD-8
Holders with CAMFIX Exchangeable Shanks for Grooving, Turning and Facing Adapters



M E T R I C									
Designation	**DCONMS**	**LF**	**WF**	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX(3)**	**CP(4)**	**CDI(5)**
C5 GHAD-8	50.00	65.00	26.00	8.00	80.0	510.0	25.00	100	1
C6 GHAD-8	63.00	65.00	32.50	8.00	80.0	510.0	25.00	100	1

I N C H									
Designation	**DCONMS**	**LF**	**WF**	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX(3)**	**CP(4)**	**CDI(5)**
C5 GHAD-8	1.968	2.559	1.024	.315	3.15	20.08	.984	1450	1
C6 GHAD-8	2.480	2.559	1.280	.315	3.15	20.08	.984	1450	1

- For user guide and accessories see pages 137, 161-173

(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) Coolant pressure (Bar)
(5) 1 - Hole for data chip, 0 - Without hole for data chip

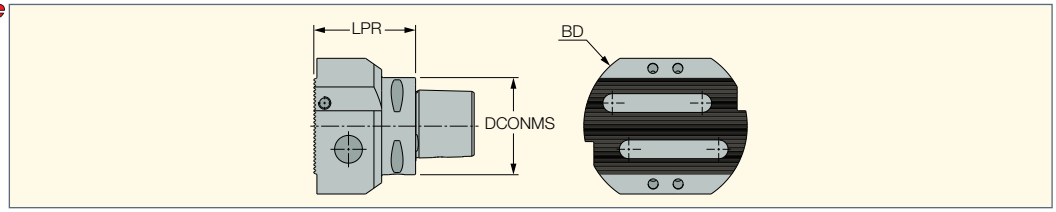
For tools, see pages: • GAFG-R/L-8 (87)

Spare Parts

Designation							
C#-GHAD-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	SR 76-1022	EZA 125	EZ 125

HELIFACE TANG-GRIP FACE MACHINING LINE

C#-HATA
CAMFIX Toolholder with a Serrated Connection Adaptation



M E T R I C				
Designation	**DCONMS**	**BD**	**LPR**	**CDI(1)**
C6 HATA	63.00	106.00	66.00	1

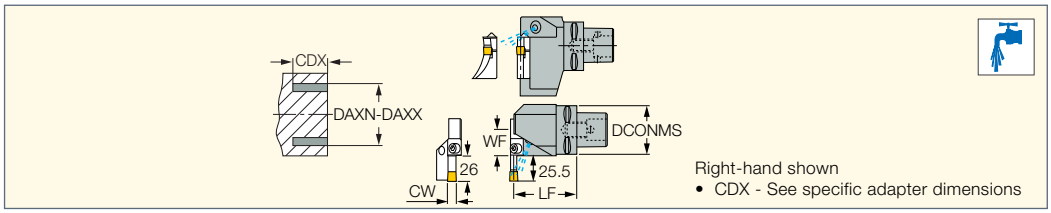
(1) 1 - Hole for data chip, 0 - Without hole for data chip

Spare Parts

Designation								
C6 HATA	SR M8X45 DIN 913	SR M8X25 DIN913	HW 4.0	SR M6X6 DIN913 TL360	HW 3.0	BH NUT BHR MB80	SR M12X35DIN912	HW 10.0

CAMFIX

C#-GHAPR/L-8
Perpendicular Holders with CAMFIX Exchangeable Shanks for Grooving, Turning and Facing Adapters



M E T R I C									
Designation	**DCONMS**	**LF**	**WF**	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX(3)**	**CP(4)**	**CDI(5)**
C5 GHAPR/L-8	50.00	64.00	26.00	8.00	80.0	510.0	25.00	100	1
C6 GHAPR/L-8	63.00	75.00	33.00	8.00	80.0	510.0	25.00	100	1

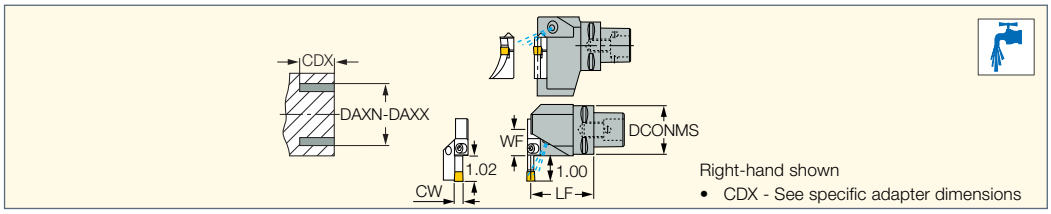
• For user guide and accessories see pages 137, 161-173
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) Coolant pressure (Bar)
(5) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • GAFG-R/L-8 (87)

Spare Parts

Designation					
C5 GHAPR/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	EZ 125
C6 GHAPR/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	

CAMFIX

C#-GHAPR/L-8
Perpendicular Holders with CAMFIX Exchangeable Shanks for Grooving, Turning and Facing Adapters



I N C H									
Designation	**DCONMS**	**LF**	**WF**	**CW**	**DAXN(1)**	**DAXX(2)**	**CDX(3)**	**CP(4)**	**CDI(5)**
C5 GHAPR/L-8	1.968	2.520	1.024	.315	3.15	20.08	.984	1450	1
C6 GHAPR/L-8	2.480	2.953	1.299	.315	3.15	20.08	.984	1450	1

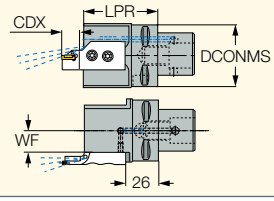
• For user guide and accessories see pages 137, 161-173
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) Coolant pressure (PSI)
(5) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • GAFG-R/L-8 (87)

Spare Parts

Designation					
C5 GHAPR/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	EZ 125
C6 GHAPR/L-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	

CAMFIX

C#-HAD
Holders with CAMFIX Exchangeable Tapered Shanks for Internal Facing Adapters



CDX - See specific adapter dimensions

M E T R I C

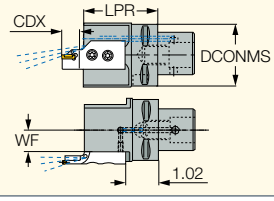
Designation	DCONMS	LPR	WF	CDI(1)				
C4 HAD	40.00	60.00	18.0	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0
C5 HAD	50.00	60.00	18.0	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0
C6 HAD	63.00	60.00	22.0	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0

(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

CAMFIX

C#-HAD
Holders with CAMFIX Exchangeable Tapered Shanks for Internal Facing Adapters



CDX - See specific adapter dimensions

I N C H

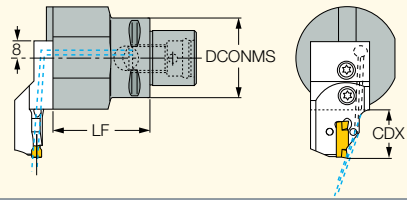
Designation	DCONMS	LPR	WF	CDI(1)				
C4 HAD	1.575	2.362	.709	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0
C5 HAD	1.968	2.362	.709	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0
C6 HAD	2.480	2.362	.866	1	SR 14-519	T-20/3	SR M4X6DIN912	HW 3.0

(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

CAMFIX

C#-HAPR/L
Perpendicular Holders with CAMFIX Exchangeable Shanks for Internal Facing Adapters



Right-hand shown
- CDX - See specific adapter dimensions

M E T R I C

Designation	DCONMS	LF	CDI(1)		
C4 HAPR/L	40.00	50.00	1	SR 14-519	T-20/3
C6 HAPR/L	63.00	50.00	1	SR 14-519	T-20/3

I N C H

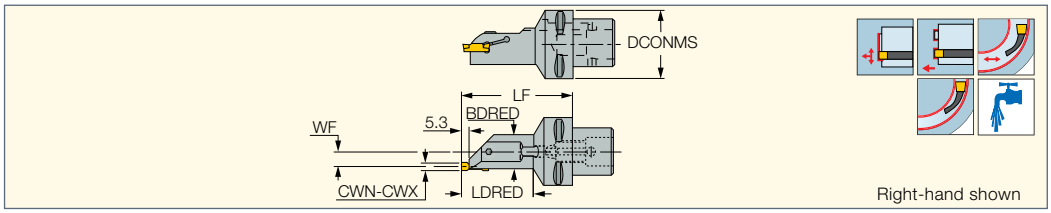
Designation	DCONMS	LF	CDI(1)		
C4 HAPR/L	1.575	1.968	1	SR 14-519	T-20/3
C6 HAPR/L	2.480	1.968	1	SR 14-519	T-20/3

(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

CAMFIX

C#-HFIR/L-MC
Boring Bars for Internal Grooving and Turning with CAMFIX Exchangeable Shanks



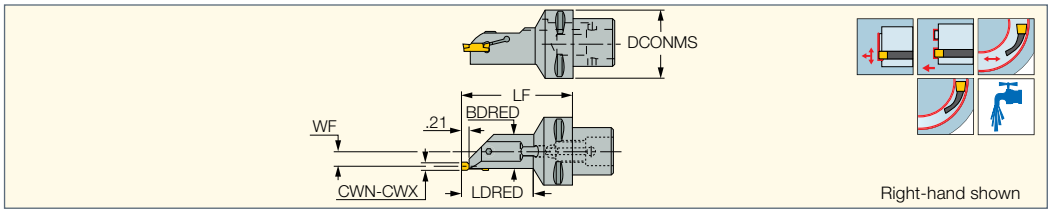
M E T R I C

Designation	CWN[1]	CWX[2]	DCONMS	WF	LDRED	LF	BDRED	CDI[3]			
C4 HFIR/L-MC	3.00	6.00	40.00	11.30	52.0	80.0	25.00	1	SR M5X16 DIN912	HW 4.0	EZ 83
C5 HFIR-MC	3.00	6.00	50.00	11.30	52.0	80.0	25.00	1	SR M5X16 DIN912	HW 4.0	EZ 83

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center
• For user guide, see pages 137, 161-173
[1] Minimum cutting width
[2] Maximum cutting width
[3] 1 - Hole for data chip, 0 - Without hole for data chip
For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)

CAMFIX

C#-HFIR/L-MC
Boring Bars for Internal Grooving and Turning with CAMFIX Exchangeable Shanks



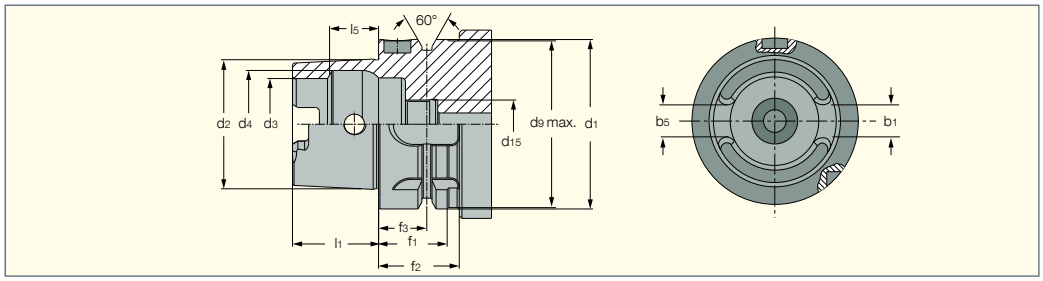
I N C H

Designation	CWN[1]	CWX[2]	DCONMS	WF	LDRED	LF	BDRED	CDI[3]			
C4 HFIR/L-MC	.118	.236	1.575	.445	2.05	3.15	.984	1	SR M5X16 DIN912	HW 4.0	EZ 83
C5 HFIR-MC	.118	.236	1.968	.445	2.05	3.15	.984	1	SR M5X16 DIN912	HW 4.0	EZ 83

• DGN & GRIP 4.. - 6.. inserts can be used only with right-hand tools, HGPL 4.. - 6.. inserts with left-hand tools • After initial groove, no limitation to widening groove outward or toward center
• For user guide, see pages 137, 161-173
[1] Minimum cutting width
[2] Maximum cutting width
[3] 1 - Hole for data chip, 0 - Without hole for data chip
For inserts, see pages: DGN-MF (80) • HFPR/L (68) • HFPR/L (full radius) (69) • GRIP (70) • GRIP (full radius) (72) • DGN/DGNC/DGNM-C (79) • DGN/DGNM-J/JS/JT (82) • DGN-W (81) • HGPL (75)

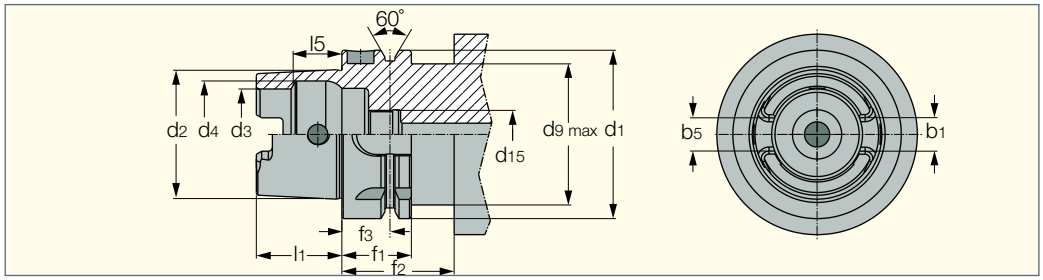
HSK

HSK A WH Complies with ICTM Standards (ISO 12164-3)



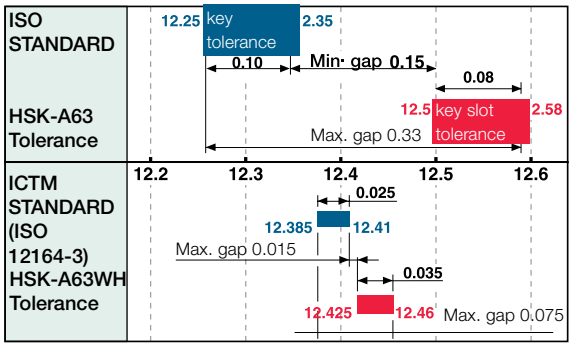
HSK-A WH	d1 h10	d2	d3 H10	d4 H11	d9 max	d15	l1-0.2	l5 Js10	b1 ±0.04	b5 ±0.035	f1 -0.1	f2 min	f3 ±0.1
63	63	48	34	40	62	M18X1	32	18.13	12.54	12.425	26	30	18
100	100	75	53	63	99	M24X1.5	50	28.56	20.02	19.91	29	34	20

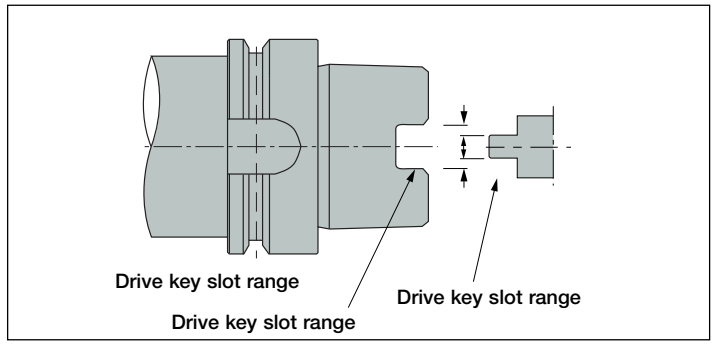
HSK A TM Suitable for all Multi-Tasking Machine Models



HSK A-TM	d1 h10	d2	d3 H10	d4 H11	d9 max	d15	l1-0.2	l5 JS10	b1 ±0.04	b5 ±0.035	f1-0.1	f2 min	f3 ±0.1
63	63	48	34	40	52.8	M18x1	32	18.13	12.54	12.425	26	42	18

HSK A vs. HSK A...WH Tolerance

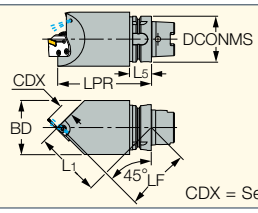


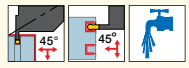


HSK-T (ISO 1264-3 T Type and ICTM Standard)

MODULAR-GRIP HSK

HSK A63WH-MAHDR-45
Holders with HSK Tapered Shanks for MODULAR-GRIP, Parting, Grooving and Facing Adapters





CDX = See specific adapter dimensions • Right-handshown

M E T R I C

Designation	DCONMS	LPR	L1	L5	LF	BD	CP[1]	CDI[2]
HSK A63WH MAHDR 45	63.00	130.00	91.9	30.00	89.0	75.00	100	1

I N C H

Designation	DCONMS	LPR	L1	L5	LF	BD	CP[1]	CDI[2]
HSK A63WH MAHDR 45	2.480	5.118	3.618	1.181	3.504	2.953	1450	1

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)
[1] Coolant pressure (Bar)
[2] 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)


DO-GRIP


PENTACUT


CUT-GRIP


HELI-GRIP

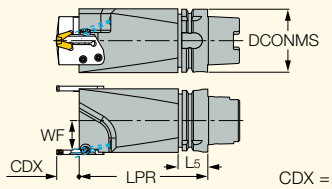
Spare Parts

Designation							
HSK A63WH MAHDR 45	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT	HW 5.0	SR M6X6DIN551 14H/22H[b]	SATZ-M8X1-M3

[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
[b] Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

MODULAR-GRIP HSK

HSK A63WH-MAHDOR
Holders with HSK Exchangeable Shanks for Parting, Grooving, Turning and Facing Adapters



CDX = See specific adapter dimensions • Right-hand shown

M E T R I C

Designation	DCONMS	WF	LPR	L5	CDI[1]							
HSK A63WH MAHDOR	63.00	29.0	130.00	30.00	1	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[b]	HW 5.0	SR M6X6DIN551 14H/22H[c]	EZ 125

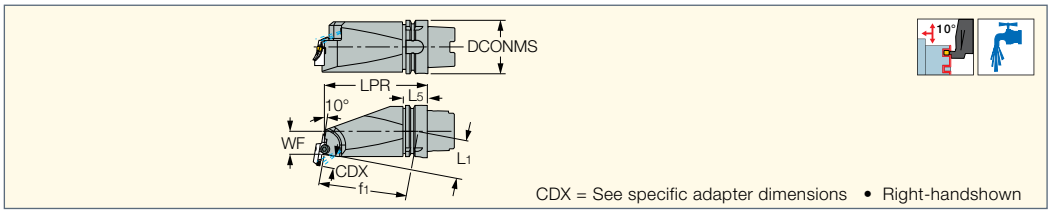
I N C H

Designation	DCONMS	WF	LPR	L5	CDI[1]							
HSK A63WH MAHDOR	2.480	1.142	5.118	1.181	1	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[b]	HW 5.0	SR M6X6DIN551 14H/22H[c]	EZ 125

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)
[1] 1 - Hole for data chip, 0 - Without hole for data chip
[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
[b] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
[c] Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

MODULAR-GRIP HSK

HSK A63WH-MAHUR/L
Holders with HSK-T Shanks for 10° Mounting on Mill-Turn Machines for Parting, Grooving, Turning and Facing Adapters



CDX = See specific adapter dimensions • Right-handshown

METRIC								
Designation	DCONMS	f1	WF	LPR	L1	L5	CP(1)	CDI(2)
HSK A63WH MAHUR/L 10	63.00	113.1	29.00	130.00	49.4	30.00	100	1

INCH								
Designation	DCONMS	f1	WF	LPR	L1	L5	CP(1)	CDI(2)
HSK A63WH MAHUR/L 10	2.480	4.453	1.142	5.118	1.945	1.181	1450	1

• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately) • Complies with ICTM standard (ISO 12164-3)
(1) Coolant pressure (Bar)
(2) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

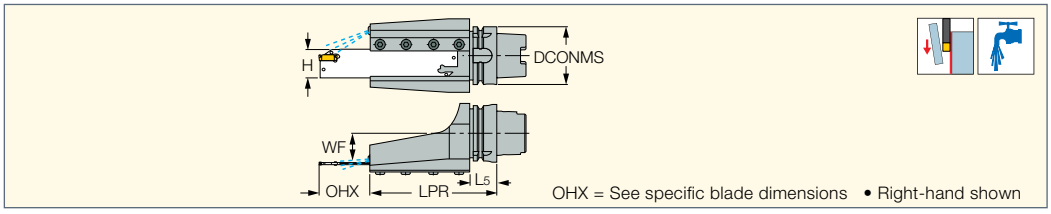
Spare Parts

Designation							
HSK A63WH MAHUR/L 10	SR M5-04451	T-20/5	SR 14-519(a)	SR M6X20-XT(b)	HW 5.0	SR M6X6DIN551 14H/22H(c)	EZ 125

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

TOOL BLOCKS HSK

HSK A-WH-TBK-R/L
Blocks with HSK Exchangeable Tapered Shanks for Parting and Grooving Blades



OHX = See specific blade dimensions • Right-hand shown

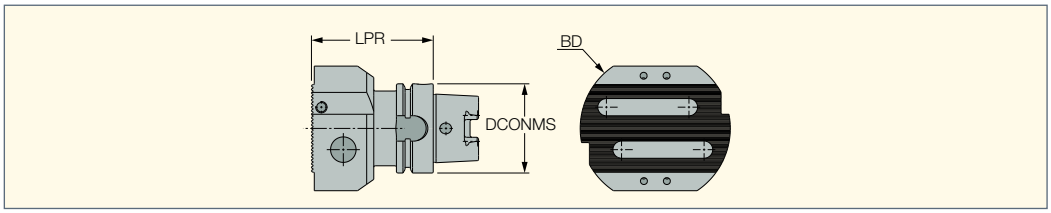
METRIC											
Designation	DCONMS	LPR	L5	WF	H(1)	CP(2)	CDI(3)				
HSK A63WH TBK 32R/L	63.00	138.00	30.00	32.0	32.0	100	1	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0	EZ 125

INCH											
Designation	DCONMS	LPR	L5	WF	H(1)	CP(2)	CDI(3)				
HSK A63WH TBK 32R/L	2.480	5.433	1.181	1.260	1.260	1450	1	BK 32-9 WEDG	SR M6X16 DIN912	HW 5.0	EZ 125

• Complies with ICTM standard (ISO 12164-3) • Not suitable for ATC for some Multi-Tasking Machine models, please consult your MTB
• A cooling tube must be used with all coolant through HSK spindles (should be ordered separately)
(1) Blade size H has to fit this dimension
(2) Coolant pressure (Bar)
(3) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFFH (37) • PCHBR/L (125) • TNFFH-IQ (109)

HELIFACE TANG-GRIP FACE MACHINING LINE

HSK 63 HATA
HSK Toolholder with a Serrated Connection Adaptation



	M E T R I C		
Designation	**DCONMS**	**BD**	**LPR**
HSK63 HATA	63.00	106.00	86.00

Spare Parts

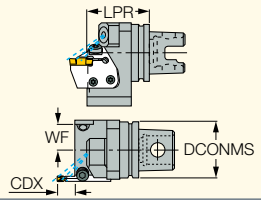
Designation									
HSK63 HATA	SR M6X6 DIN913	SR M8X25 DIN913	HW 4.0	SR M6X6 DIN913 TL360	HW 3.0	BH NUT BHR MB80	SR M12X35DIN912	HW 10.0	SR M8X45 DIN 913

IM

MODULAR-GRIP

ISO 26622-1 XMZ

IM-MAHD
Holders with an ISO 26622-1(*) Tapered Shank for Parting, Grooving, Turning and Facing Adapters



CDX = See specific adapter dimensions
• Right-handshown

M E T R I C				
Designation	**DCONMS**	**LPR**	**WF**	**CDI[1]**
IM40 MAHD	40.00	43.00	18.0	0
IM50 MAHD	50.00	47.00	23.0	0
IM63 MAHD	63.00	52.00	29.0	0

I N C H				
Designation	**DCONMS**	**LPR**	**WF**	**CDI[1]**
IM40 MAHD	1.575	1.693	.709	0
IM50 MAHD	1.968	1.850	.906	0
IM63 MAHD	2.480	2.047	1.142	0

• (*) Tools with orientation holes in the flange groove can be supplied on request
[1] 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

Spare Parts

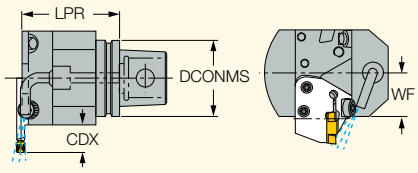
Designation									
IM-MAHD	SR M5-04451	T-20/5	SR 14-519[a]	SR M6X20-XT[c]	HW 5.0	SR M6X6DIN551 14H/22H[d]	SR 76-1022	EZA 125	EZ 125

[a] For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
[b] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
[c] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
[d] Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

MODULAR GRIP

ISO 26622-1 XMZ

IM-MAHPD
Perpendicular Holders with an ISO 26622-1(*) Tapered Shank for Parting, Grooving, Turning and Facing Adapters



CDX = See specific adapter dimensions
• Right-hand shown

METRIC				
Designation	DCONMS	LPR	WF	CDI(1)
IM40 MAHPD	40.00	44.00	25.00	0
IM50 MAHPD	50.00	45.00	26.00	0
IM63 MAHPD	63.00	45.00	33.00	0

INCH				
Designation	DCONMS	LPR	WF	CDI(1)
IM40 MAHPD	1.575	1.732	.984	0
IM50 MAHPD	1.968	1.772	1.024	0
IM63 MAHPD	2.480	1.772	1.299	0

• (*) Tools with orientation holes in the flange groove can be supplied on request
(1) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

Spare Parts

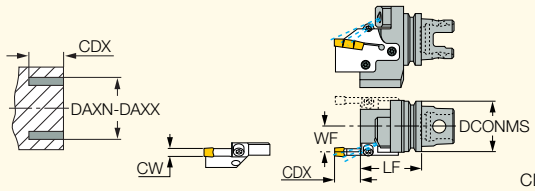
Designation								
IM-MAHPD	SR M5-04451	T-20/5	SR 14-519(a)	SR M6X20-XT(b)	HW 5.0	SR M6X6DIN551 14H/22H(c)	EZP 5	EZ 125

(a) For DGAD, HGAD and PCADR/L adapters; supplied in the attached plastic bag
(b) For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools
(c) Used to prevent chips from entering the upper locking screw hole when it is not used for the adaptation; supplied in the attached plastic bag

ISO 26622-1 XMZ

ISCAR GRIP

IM-GHAD-8
Holders with an ISO 26622-1(*) Tapered Shank for Grooving, Turning and Facing Adapters



CDX - See specific adapter dimensions

METRIC								
Designation	DCONMS	CW	LF	WF	DAXN(1)	DAXX(2)	CDX(3)	CDI(4)
IM50 GHAD-8	50.00	8.00	60.00	26.00	80.0	510.0	25.00	0
IM63 GHAD-8	63.00	8.00	65.00	32.50	80.0	510.0	25.00	0

INCH								
Designation	DCONMS	CW	LF	WF	DAXN(1)	DAXX(2)	CDX(3)	CDI(4)
IM50 GHAD-8	1.968	.315	2.362	1.024	3.15	20.08	.984	0
IM63 GHAD-8	2.480	.315	2.559	1.280	3.15	20.08	.984	0

• (*) Tools with orientation holes in the flange groove can be supplied on request
(1) Minimum axial grooving diameter
(2) Maximum axial grooving diameter
(3) Cutting depth maximum
(4) 1 - Hole for data chip, 0 - Without hole for data chip
For tools, see pages: • GAFG-R/L-8 (87)

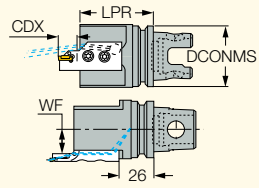
Spare Parts

Designation							
IM-GHAD-8	SR 14-519	T-20/5	SR M6X25 DIN912	HW 5.0	SR 76-1022	EZA 125	EZ 125

ISO 26622-1 XMZ

ISCAR GRIP

IM-HAD
Holders with an ISO 26622-1(*) Tapered Shank for Internal Facing Adapters



CDX - See specific adapter dimensions

M E T R I C

Designation	DCONMS	LPR	WF	CDI(1)				
IM40 HAD	40.00	60.00	18.0	0	SR 14-519	T-20/3	HW 3.0	SR M4X6DIN912
IM50 HAD	50.00	60.00	18.0	0	SR 14-519	T-20/3	HW 3.0	SR M4X6DIN912

I N C H

Designation	DCONMS	LPR	WF	CDI(1)				
IM40 HAD	1.575	2.362	.709	0	SR 14-519	T-20/3	HW 3.0	SR M4X6DIN912
IM50 HAD	1.968	2.362	.709	0	SR 14-519	T-20/3	HW 3.0	SR M4X6DIN912

- (*) Tools with orientation holes in the flange groove can be supplied on request

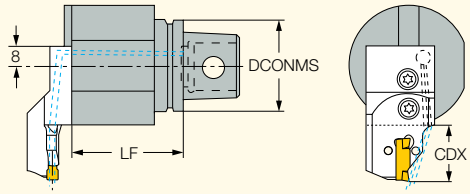
(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

ISO 26622-1 XMZ

ISCAR GRIP

IM-HAPR/L
Perpendicular Holders with an ISO 26622-1 (*) Tapered Shank for Internal Facing Adapters



CDX - See specific adapter dimensions
- Right-hand shown

M E T R I C

Designation	DCONMS	LF	CDI(1)		
IM40 HAPR/L	40.00	50.00	0	SR 14-519	T-20/3
IM50 HAPR	50.00	50.00	0	SR 14-519	T-20/3

I N C H

Designation	DCONMS	LF	CDI(1)		
IM40 HAPR/L	1.575	1.968	0	SR 14-519	T-20/3
IM50 HAPR	1.968	1.968	0	SR 14-519	T-20/3

- (*) Tools with orientation holes in the flange groove can be supplied on request

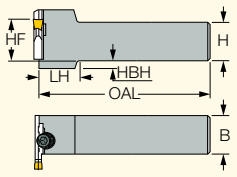
(1) 1 - Hole for data chip, 0 - Without hole for data chip

For tools, see pages: HFAER/L-4 (53) • HFAER/L-5T, 6T (53) • HFAIR/L-4 (60) • HFAIR/L-DG (61) • HGAER/L-3 (52) • HGAIR/L-3 (57)

SQUARE SHANK HOLDERS

MODULAR GRIP

MAHPR/L
Holders for Perpendicularly Mounted Adapters for all GRIP Systems



Right-hand shown

M E T R I C						
Designation	**H**	**B**	**HF**	**OAL**	**LH**	**HBH**
MAHPR/L 20	20.0	20.0	20.0	140.00	25.0	10.0
MAHPR/L 25	25.0	25.0	25.0	140.00	25.0	5.0
MAHPR/L 32	32.0	32.0	32.0	150.00	25.0	-

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

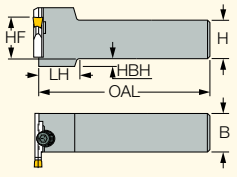
Spare Parts

Designation						
MAHPR/L	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H

[a] For CGPAD, HGPAD, TGPAD and HFPAD adapters. Supplied with the tools.

MODULAR GRIP

MAHPR/L
Holders for Perpendicularly Mounted Adapters for all GRIP Systems



Right-hand shown

I N C H						
Designation	**H**	**B**	**HF**	**OAL**	**LH**	**HBH**
MAHPR/L 19 [1]	.750	.750	.750	6.000	.980	.43
MAHPR/L 25.4	1.000	1.000	1.000	6.000	.980	.20
MAHPR/L 31.7	1.250	1.250	1.250	7.000	.980	-

[1] Supplied on request only.

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

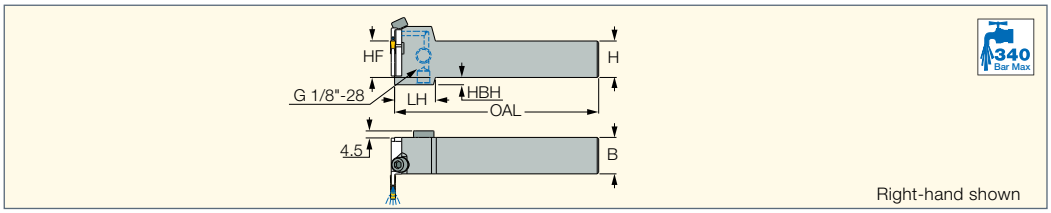
Spare Parts

Designation						
MAHPL 19		T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H
MAHPR 19	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H
MAHPR/L 25.4	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H
MAHPR/L 31.7	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H

[a] For CGPAD, HGPAD, TGPAD and HFPAD adapters. Supplied with the tools.

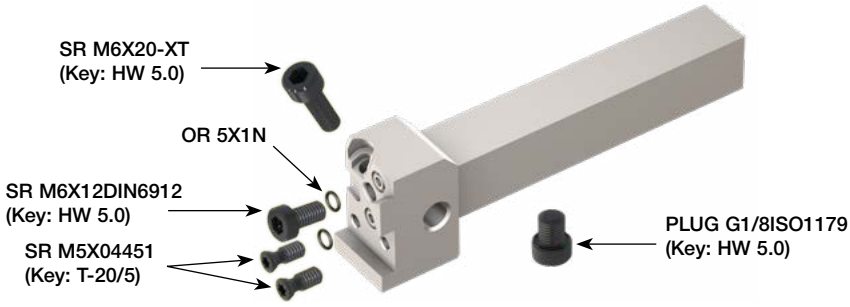
MODULAR-GRIP
JETCUT

MAHPR/L-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



M E T R I C						
Designation	**H**	**B**	**OAL**	**LH**	**HBH**	**HF**
MAHPR/L 20-JHP	20.0	20.0	140.00	28.0	10.0	20.0
MAHPR/L 25-JHP	25.0	25.0	140.00	28.0	5.0	25.0
MAHPR/L 32-JHP	32.0	32.0	150.00	-	-	32.0

• For user guide and accessories, see pages 161-173
For tools, see pages: • HFPAD-JHP (48) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

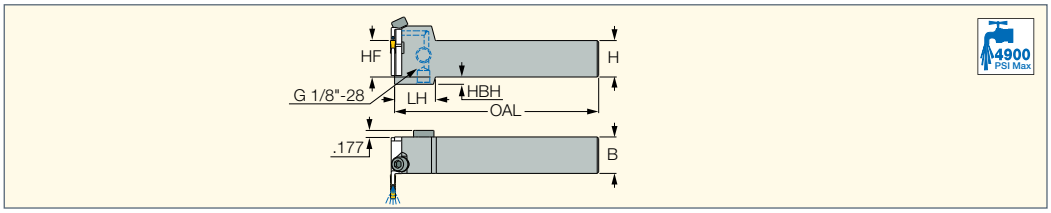


Spare Parts

Designation							
MAHPR/L-JHP	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	PLG 1/8ISO1179

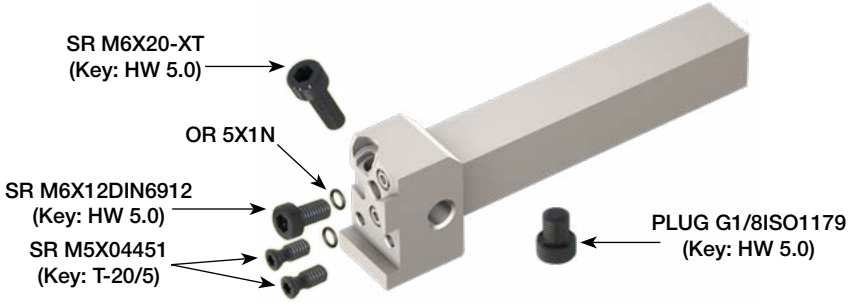
MODULAR-GRIP
JETCUT

MAHPR/L-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



I N C H						
Designation	**H**	**B**	**OAL**	**LH**	**HBH**	**HF**
MAHPR/L 19-JHP	.750	.750	5.500	1.100	.39	.750
MAHPR/L 25.4-JHP	1.000	1.000	5.500	1.100	.20	1.000
MAHPR/L 31.7-JHP	1.250	1.250	6.000	-	-	1.250

For tools, see pages: • HFPAD-JHP (48) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

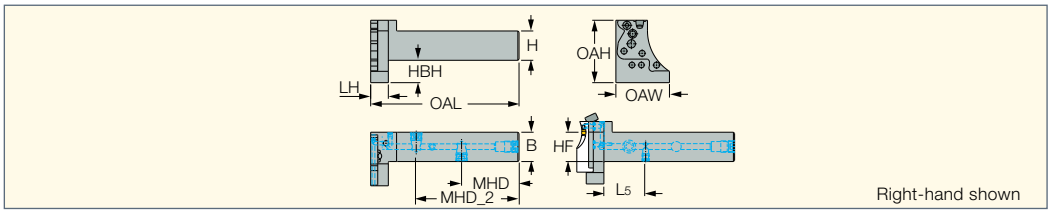


Spare Parts

Designation							
MAHPR/L-JHP	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	PLG 1/8ISO1179

MODULAR-GRIP
JETCUT

MAHPR/L-XL-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



	METRIC										
Designation	**H**	**B**	**LH**	**OAL**	**HBH**	**OAH**	**OAW**	**HF**	**L5**	**MHD**	**MHD_2**
MAHPR/L-XL-20-JHP-MCG	20.0	20.0	23.0	120.00	24.0	53.00	45.00	20.0	29.00	50.00	85.00
MAHPR/L-XL-25-JHP-MCG	25.0	25.0	15.0	120.00	19.0	53.00	45.50	25.0	35.00	50.00	90.00

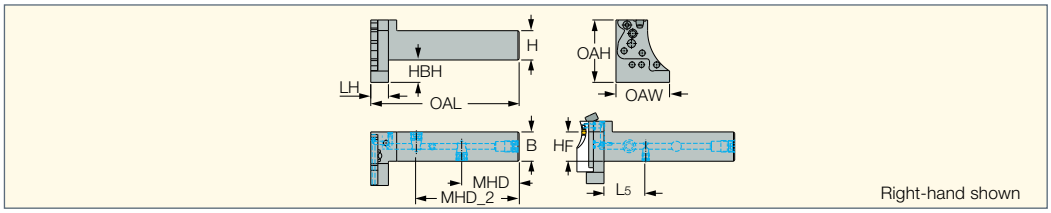
For tools, see pages: • HFPAD-JHP (48) • TNFPAD-XL-JHP (113)

Spare Parts

Designation									
MAHPR/L-XL-20-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-25-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377

MODULAR-GRIP
JETCUT

MAHPR/L-XL-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



	INCH										
Designation	**H**	**B**	**LH**	**OAL**	**HBH**	**OAH**	**OAW**	**HF**	**L5**	**MHD**	**MHD_2**
MAHPR/L-XL-19-JHP-MCG	.750	.750	.591	4.724	1.000	2.087	1.772	.750	1.142	1.968	3.346
MAHPR/L-XL-20-JHP-MCG	.787	.787	.906	4.724	.945	2.087	1.772	.787	1.142	1.968	3.346
MAHPR/L-XL-25-JHP-MCG	.984	.984	.591	4.724	.748	2.087	1.791	.984	1.378	1.968	3.543
MAHPR/L-XL-25.4-JHP-MCG	1.000	1.000	.591	4.724	.748	2.087	1.791	1.000	1.378	1.968	3.543

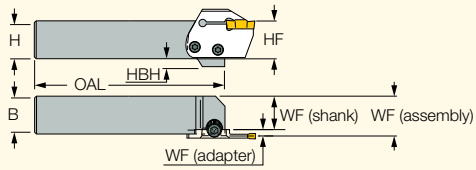
For tools, see pages: • HFPAD-JHP (48) • TNFPAD-XL-JHP (113)

Spare Parts

Designation									
MAHPR/L-XL-19-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X3 DIN913	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-20-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-25-JHP-MCG	SR M5-04451	T-20/5	SR M6X16 DIN912	HW 5.0	OR 5X1N	SR M4X4 DIN913 TL360	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377
MAHPR/L-XL-25.4-JHP-MCG	SR M5-04451	T-20/5	SR M6X20 DIN912	HW 5.0	OR 5X1N	SR M4X3 DIN913	SR M6X6 DIN913 TL360	PLG G1/8 TL360	SUPPORT MG-XL-5113377

MODULAR-GRIP

MAHR/L
Adapter Holders for
all GRIP Systems



Left-hand shown •
WF(assembly)=WF(shank)+WF(adapter)

M E T R I C						
Designation	**H**	**B**	**HF**	**OAL**	**HBH**	**WF[1]**
MAHR/L 20	20.0	20.0	20.0	130.00	10.0	17.1
MAHR/L 25	25.0	25.0	25.0	130.00	5.0	22.1
MAHR/L 32	32.0	32.0	32.0	140.00	-	29.1

[1] WF(shank)

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

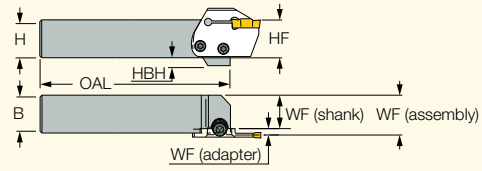
Spare Parts

Designation						
MAHR/L	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H

[a] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

MODULAR-GRIP

MAHR/L
Adapter Holders for
all GRIP Systems



Left-hand shown •
WF(assembly)=WF(shank)+WF(adapter)

I N C H						
Designation	**H**	**B**	**HF**	**OAL**	**HBH**	**WF[2]**
MAHR/L 19 [1]	.750	.750	.750	5.600	.43	.640
MAHR/L 25.4	1.000	1.000	1.000	5.600	.20	.890
MAHR/L 31.7	1.250	1.250	1.250	6.600	-	1.140
MAHR/L 38.1 [1]	1.500	1.500	1.500	6.600	-	1.390

[1] Supplied on request only.
[2] WF(shank)

For tools, see pages: • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

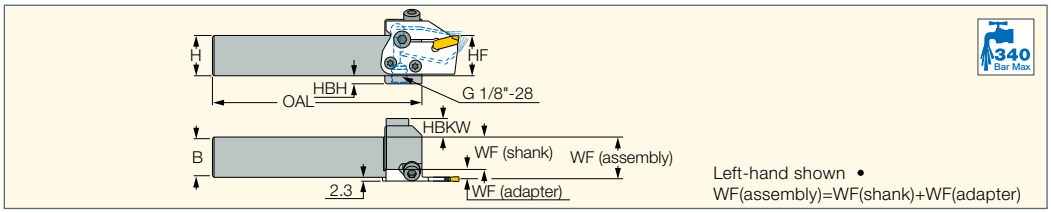
Spare Parts

Designation						
MAHR/L	SR M5-04451	T-20/5	SR 14-519	SR M6X20-XT[a]	HW 5.0	SR M6X6DIN551 14H/22H

[a] For CGPAD, HGPAD, TGPAD and HFPAD adapters; supplied with the tools

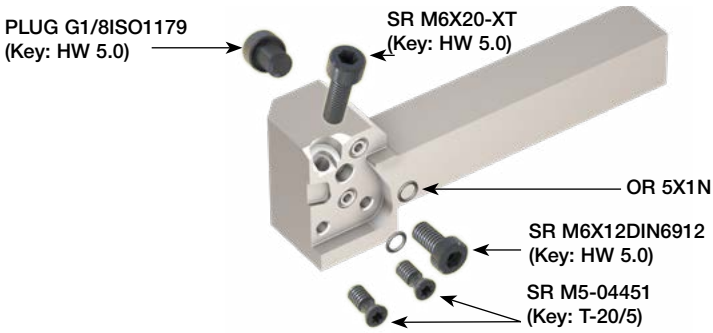
MODULAR-GRIP
JETCUT

MAHR/L-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Adapters



	M E T R I C						
Designation	**H**	**B**	**OAL**	**HBH**	**WF(1)**	**HBKW**	**HF**
MAHR/L 20-JHP	20.0	20.0	130.00	10.0	15.1	16.50	20.0
MAHR/L 25-JHP	25.0	25.0	130.00	5.0	20.1	11.50	25.0
MAHR/L 32-JHP	32.0	32.0	140.00	-	27.1	4.50	32.0

• For user guide and accessories, see pages 161-173
(1) WF(shank)
For tools, see pages: • HFPAD-JHP (48) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

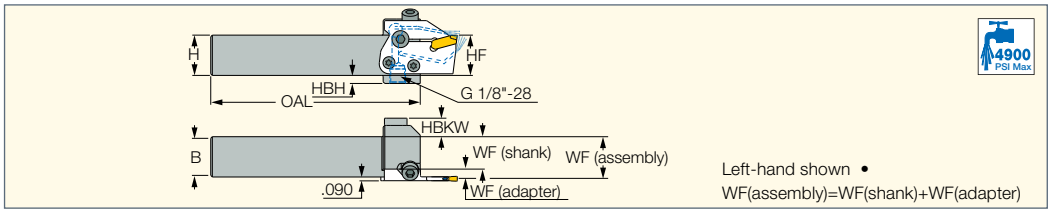


Spare Parts

Designation							
MAHR/L-JHP	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	PLG 1/8ISO1179

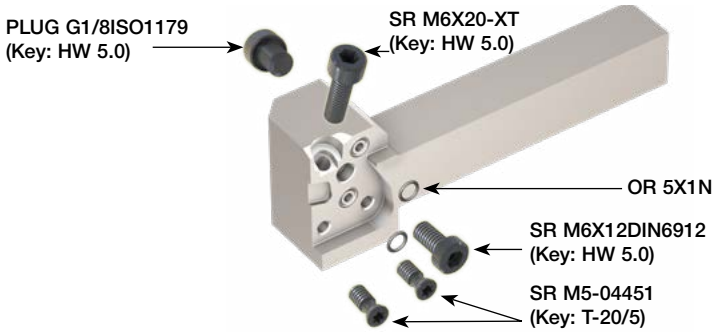
MODULAR-GRIP
JETCUT

MAHR/L-JHP
Holders with High-Pressure Coolant Channels for MODULAR-GRIP Adapters



	I N C H						
Designation	**H**	**B**	**OAL**	**HBH**	**WF(1)**	**HBKW**	**HF**
MAHR/L 19-JHP	.750	.750	5.000	.19	.560	.650	.750
MAHR/L 25.4-JHP	1.000	1.000	5.000	.20	.810	.453	1.000
MAHR/L 31.7-JHP	1.250	1.250	5.500	-	1.060	.177	1.250

(1) WF(shank)
For tools, see pages: • HFPAD-JHP (48) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

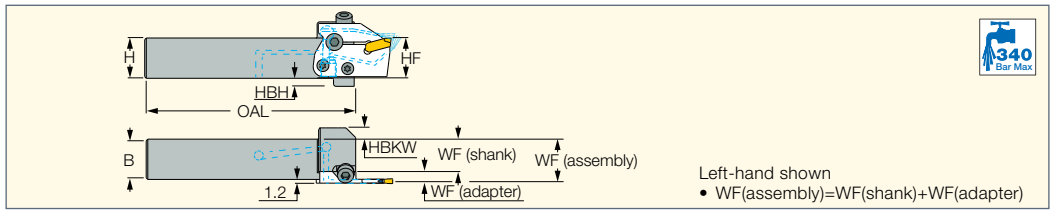


Spare Parts

Designation							
MAHR/L-JHP	SR M5-04451	T-20/5	SR M6X12DIN6912	SR M6X20-XT	HW 5.0	OR 5X1N	PLG 1/8ISO1179

MODULAR-GRIP
JETCUT

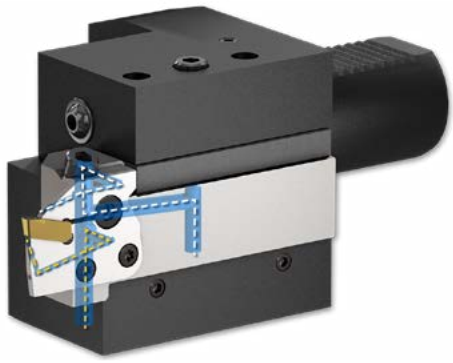
MAHR/L-JHP-MC
Holders with Bottom Inlets for High-Pressure Coolant Channels Carrying MODULAR-GRIP Grooving and Turning Adapters



Designation	H	B	OAL	HBH	WF[1]	HBKW	HF
MAHR/L 20-JHP-MC	20.0	20.0	98.00	10.0	14.0	6.00	20.0
MAHR/L 25-JHP-MC	25.0	25.0	98.00	5.0	19.0	-	25.0

• For CDX, refer to the adapters data.
[1] WF(shank)

For tools, see pages: HFPAD-JHP (48) • HFPAD-3 (49) • HFPAD-4 (49) • HFPAD-5 (50) • HFPAD-6 (50)

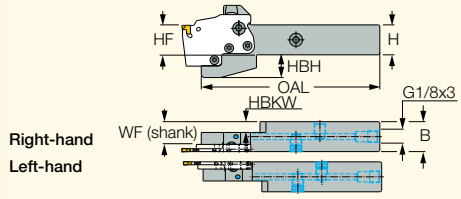


Spare Parts

Designation						
MAHR/L-JHP-MC	SR M6X20-XT	HW 5.0	SR M5-04451	T-20/5	SR M6X12DIN6912	OR 5X1N

JETCUT

MAHR/L-MG-XL-JHP
Holders with High-Pressure Coolant Channels for Interchangeable Adapters



140 Bar Max

WF(assembly)=WF(shank)+WF(adapter)

	M E T R I C					
Designation	**H**	**B**	**OAL**	**HBH**	**WF**	**HBKW**
MAHR/L 20-MG-XL-JHP	20.0	20.0	149.10	24.0	14.0	4.00
MAHR/L 25-MG-XL-JHP	25.0	25.0	149.10	19.0	19.0	9.00

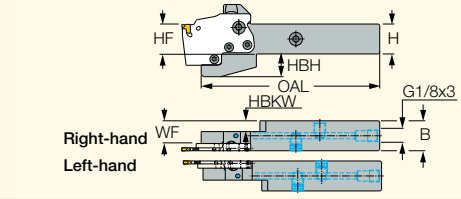
• For user guide and accessories, see pages 161-173
For tools, see pages: • TNFPAD-XL-JHP (113)

Spare Parts

Designation							
MAHR/L 20-MG-XL-JHP	SR M6X12DIN6912-P	HW 5.0	SR M5-04451	T-20/5	SR M6X14-XT DIN 912	OR 5X1N	PLG G1/8 TL360
MAHR/L 25-MG-XL-JHP	SR M6X12DIN6912-P	HW 5.0	SR M5-04451	T-20/5	SR M6X14-XT DIN 912	OR 5X1N	PLG G1/8 TL360

JETCUT

MAHR/L-MG-XL-JHP
Holders with High-Pressure Coolant Channels for Interchangeable Adapters



2000 PSI

WF(assembly)=WF(shank)+WF(adapter)

	I N C H					
Designation	**H**	**B**	**OAL**	**HBH**	**WF**	**HBKW**
MAHR/L 19-MG-XL-JHP	.750	.750	5.870	.98	.512	.118
MAHR/L 25.4-MG-XL-JHP	1.000	1.000	5.870	.73	.772	.370

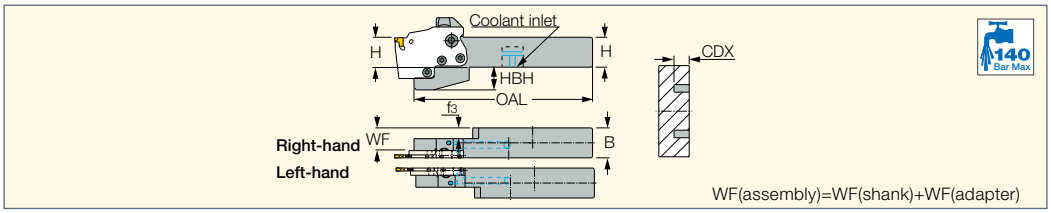
• For user guide and accessories, see pages 161-173
For tools, see pages: • TNFPAD-XL-JHP (113)

Spare Parts

Designation							
MAHL 19-MG-XL-JHP	SR M6X12DIN6912-P	HW 5.0	SR M5-04451	T-20/5	SR M6X14-XT DIN 912	OR 5X1N	PLG G1/8 TL360
MAHR 19-MG-XL-JHP	SR M6X12DIN6912	HW 5.0	SR M5-04451	T-20/5	SR M6X14-XT DIN 912	OR 5X1N	PLG G1/8 TL360
MAHR/L 25.4-MG-XL-JHP	SR M6X12DIN6912-P	HW 5.0	SR M5-04451	T-20/5	SR M6X14-XT DIN 912	OR 5X1N	PLG G1/8 TL360

JETCUT

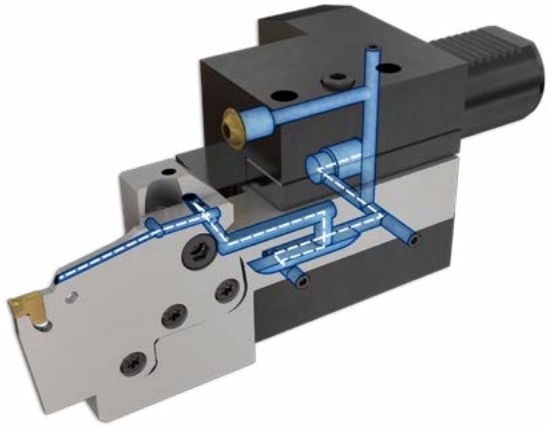
MAHR/L-MG-XL-JHP-MC
Holders with Bottom Inlets for High-Pressure Coolant Channels Carrying Parting and Grooving Adapters



M E T R I C						
Designation	**H**	**B**	**OAL**	**HBH**	**WF**	**HBKW**
MAHR/L 20-MG-XL-JHP-MC	20.0	20.0	116.10	10.0	14.0	4.00
MAHR/L 25-MG-XL-JHP-MC	25.0	25.0	114.00	10.0	19.0	9.00

• For CDX, refer to the adapters data

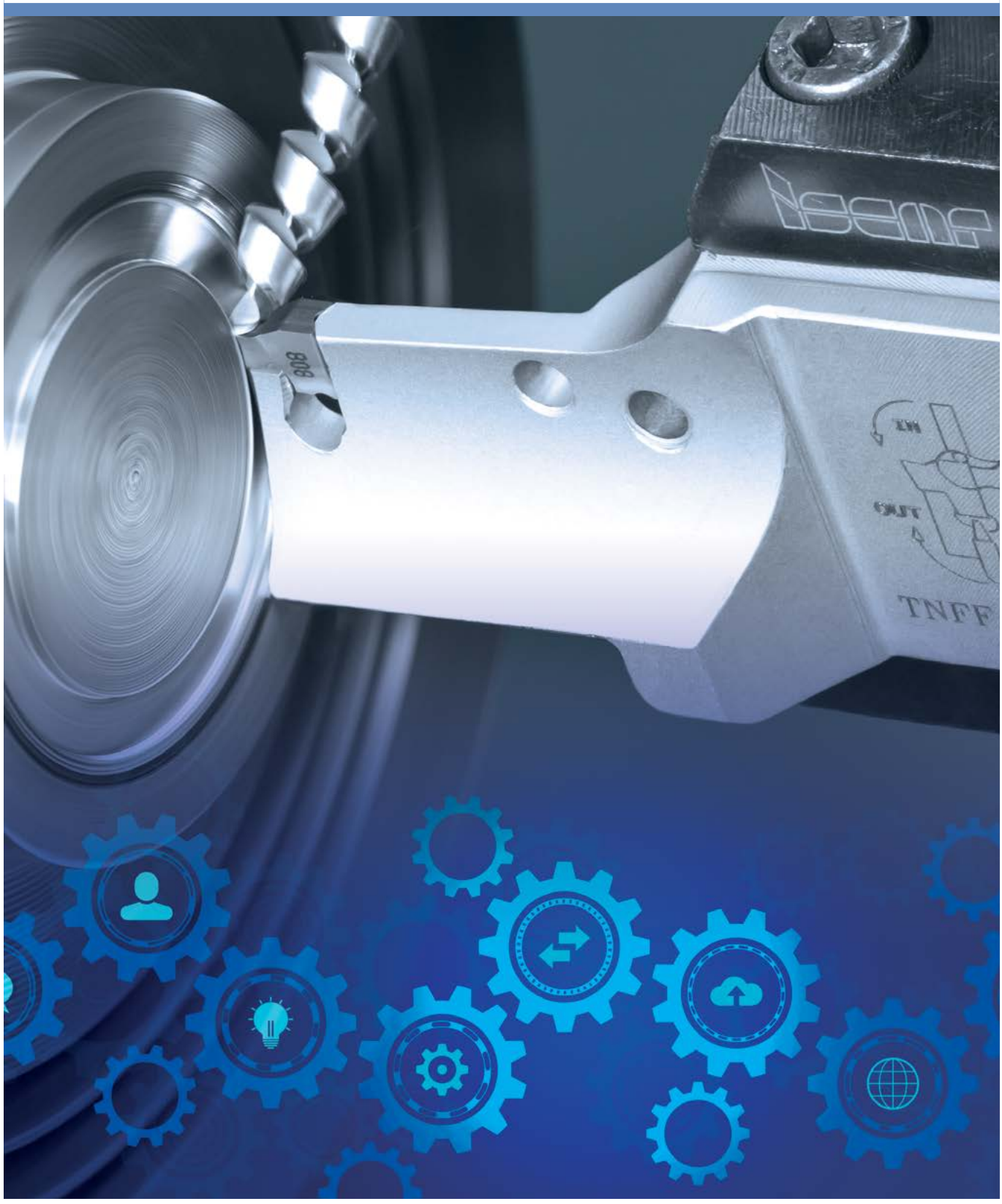
For tools, see pages: • TNFPAD-XL-JHP (113)



Spare Parts

Designation						
MAHR/L-MG-XL-JHP-MC	SR M6X14-XT DIN 912	HW 5.0	SR M5-04451	T-20/5	SR M6X12DIN6912-P	OR 5X1N

USER GUIDE



Machining Data for Face Machining

ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material Group No.
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1
		>= 0.25 %C	Annealed	650	190	2
		< 0.55 %C	Quenched and tempered	850	250	3
		>= 0.55 %C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)		Annealed	600	200	6
			Quenched and tempered	930	275	7
				1000	300	8
				1200	350	9
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10
			Quenched and tempered	1100	325	11
	Stainless steel and cast steel		Ferritic/martensitic	680	200	12
			Martensitic	820	240	13
M	Stainless steel and cast steel		Austenitic	600	180	14
K	Cast iron nodular (GG)		Ferritic/pearlitic		180	15
			Pearlitic/ Martensitic		260	16
	Grey cast iron (GGG)		Ferritic		160	17
			Pearlitic		250	18
	Malleable cast iron		Ferritic		130	19
			Pearlitic		230	20
N	Aluminum-wrought alloys		Not cureable		60	21
			Cured		100	22
	Aluminum-cast-alloys	<=12% Si	Not cureable		75	23
			Cured		90	24
		>12% Si	High temperature		130	25
	Copper alloys	>1% Pb	Free cutting		110	26
			Brass		90	27
			Electrolitic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			30
S	High temp. alloys	Fe based	Annealed		200	31
			Cured		280	32
		Ni or Co based	Annealed		250	33
			Cured		350	34
			Cast		320	35
	Titanium Ti alloys			RM 400		36
			Alpha+beta alloys cured	RM 1050		37
H	Hardened steel		Hardened		55 HRC	38
			Hardened		60 HRC	39
	Chilled cast iron		Cast		400	40
	Cast iron		Hardened		55 HRC	41

Material No.	IC228/528	IC830	IC354	IC908	IC808	IC8250
1	85 - 125	90 - 135	95 - 145	120 - 180	125 - 190	180 - 270
2	75 - 110	80 - 115	90 - 125	110 - 155	115 - 165	165 - 230
3	60 - 85	65 - 95	70 - 100	85 - 125	90 - 130	125 - 185
4	65 - 100	70 - 110	75 - 115	95 - 145	100 - 150	140 - 215
5	50 - 85	55 - 90	60 - 95	75 - 120	80 - 125	110 - 180
6	65 - 100	70 - 110	75 - 115	95 - 145	100 - 150	140 - 215
7	50 - 85	55 - 95	60 - 100	75 - 125	80 - 130	110 - 185
8	50 - 85	55 - 90	60 - 95	75 - 120	80 - 125	110 - 180
9	50 - 75	50 - 80	55 - 90	70 - 110	75 - 115	105 - 165
10	75 - 110	80 - 115	90 - 125	110 - 155	115 - 165	165 - 230
11	50 - 75	50 - 80	55 - 90	70 - 110	75 - 115	105 - 165

	IC806	IC808	IC354	IC830	IC20	
12	110 - 200	100 - 180	80 - 145	75 - 135	50 - 90	
13	100 - 185	90 - 170	70 - 135	65 - 125	45 - 85	

	IC806	IC808	IC354	IC830	IC20	
14	90 - 170	80 - 155	65 - 125	60 - 115	40 - 75	

	IC5010	IC428	IC8250	IC808	IC20	
15	135 - 255	125 - 230	110 - 205	85 - 160	60 - 115	
16	120 - 180	110 - 160	100 - 145	75 - 110	55 - 80	
17	130 - 215	120 - 195	110 - 175	85 - 135	60 - 95	
18	105 - 170	95 - 155	85 - 140	65 - 110	45 - 75	
19	160 - 265	145 - 240	130 - 215	100 - 170	70 - 120	
20	130 - 215	120 - 195	110 - 175	85 - 135	60 - 95	

	IC808	IC20				
21	330 - 990	300 - 900				
22	250 - 825	225 - 750				
23	250 - 825	225 - 750				
24	165 - 495	150 - 450				
25	165 - 330	150 - 300				
26	165 - 330	150 - 300				
27	120 - 250	110 - 225				
28	80 - 165	75 - 150				
29	40 - 165	35 - 150				
30						

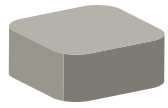
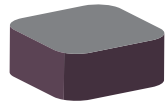
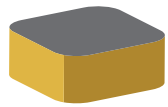
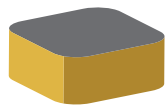
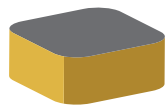
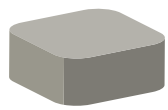
	IC806	IC908	IC808	IC830	IC20	
31	45 - 70	35 - 55	35 - 60	25 - 40	25 - 40	
32	30 - 50	25 - 40	25 - 40	20 - 30	15 - 30	
33	30 - 50	25 - 40	25 - 40	20 - 30	15 - 30	
34	25 - 45	20 - 35	20 - 35	15 - 25	15 - 25	
35	20 - 30	15 - 25	15 - 25	10 - 20	10 - 15	
36	105 - 180	85 - 145	90 - 150	65 - 110	60 - 100	
37	40 - 50	30 - 40	30 - 40	25 - 35	35 - 45	

	IC808	IC20				
38	25-30	20-30				
39	20-30	15-25				
40	30-45	30-40				
41	25-30	25-30				

Machining Data for Face Machining

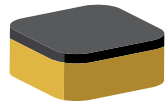
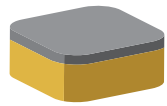
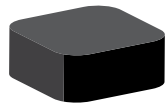
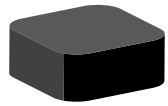
ISO	Material		Condition	Tensile Strength [N/mm²]	Hardness HB	Material No.	Cutting Speed (m/min)	GFQR IC528 Feed (mm/rev)	PICCO IC228 Feed (mm/rev)	MIFR/ MEFL 8 IC908 Feed (mm/rev)	MIFR 10 IC908 Feed (mm/rev)	MIFR 15 IC908 Feed (mm/rev)
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C	Annealed	420	125	1	80-180	0.02-0.08	0.015-0.05	0.015-0.08	0.03-0.10	0.03-0.08
		>= 0.25 %C	Annealed	650	190	2						
		< 0.55 %C	Quenched and tempered	850	250	3	80-130	0.02-0.06	0.015-0.04			
		>= 0.55 %C	Annealed	750	220	4						
			Quenched and tempered	1000	300	5	80-120	0.02-0.06	0.015-0.04			
	Low alloy and cast steel (less than 5% of alloying elements)		Annealed	600	200	6	80-140	0.02-0.08	0.015-0.04			
			Quenched and tempered	930	275	7	80-140	0.02-0.08	0.015-0.04			
				1000	300	8	80-120	0.02-0.06	0.015-0.03			
				1200	350	9	80-120	0.02-0.05	0.015-0.03			
	High alloyed steel, cast steel, and tool steel		Annealed	680	200	10	80-140	0.02-0.08	0.015-0.04			
			Quenched and tempered	1100	325	11	80-120	0.02-0.08	0.015-0.03			
	Stainless steel and cast steel		Ferritic/ martensitic	680	200	12	40-120	0.02-0.08	0.015-0.04	0.015-0.07	0.03-0.08	0.02-0.05
			Martensitic	820	240	13	40-120	0.02-0.07	0.015-0.04	0.015-0.07	0.03-0.08	0.02-0.05
M	Stainless steel and cast steel		Austenitic	600	180	14	40-100	0.02-0.06	0.015-0.03	0.015-0.07	0.03-0.08	0.02-0.05
K	Cast iron nodular (GG)		Ferritic/ pearlitic		180	15	80-140	0.02-0.08	0.015-0.05	0.02-0.10	0.05-0.12	0.04-0.10
			Pearlitic/ Martensitic		260	16	80-120	0.02-0.07	0.015-0.04			
	Grey cast iron (GGG)		Ferritic		160	17	80-140	0.02-0.08	0.015-0.04			
			Pearlitic		250	18	80-120	0.02-0.07	0.015-0.04			
	Malleable cast iron		Ferritic		130	19	80-140	0.02-0.06	0.015-0.04			
			Pearlitic		230	20	80-120	0.02-0.07	0.015-0.04			
N	Aluminum-wrought alloys		Not cureable		60	21	150-320	0.02-0.08	0.015-005	0.02-0.10	0.05-0.15	0.05-0.12
			Cured		100	22	100-250	0.02-0.08	0.015-005			
	Aluminum-cast-alloys	<=12% Si	Not cureable		75	23	150-300	0.02-0.08	0.015-005			
			Cured		90	24	150-300	0.02-0.08	0.015-005			
		>12% Si	High temperature		130	25	100-150	0.02-0.08	0.015-005			
	Copper alloys	>1% Pb	Free cutting		110	26	80-230	0.02-0.08	0.015-005			
			Brass		90	27	70-200	0.02-0.08	0.015-005			
			Electrolitic copper		100	28	50-180	0.02-0.08	0.015-005			
	Non-metallic		Duroplastics, fiber plastics			29						
			Hard rubber			30						
S	High temp. alloys	Fe based	Annealed		200	31	20-40	0.02-0.06	0.015-0.04	0.015-0.7	0.02-0.08	0.02-0.05
			Cured		280	32	15-30	0.02-0.06	0.015-0.04			
		Ni or Co based	Annealed		250	33	15-20	0.02-0.06	0.015-0.04			
			Cured		350	34	15-20	0.02-0.06	0.015-0.04			
			Cast		320	35	15-20	0.02-0.06	0.015-0.04			
	Titanium Ti alloys			RM 400		36	40-120	0.02-0.06	0.015-0.04			
			Alpha+beta alloys cured	RM 1050		37	20-50	0.02-0.06	0.015-0.04			
H	Hardened steel		Hardened		55 HRC	38						
			Hardened		60 HRC	39						
	Chilled cast iron		Cast		400	40						
	Cast iron		Hardened		55 HRC	41						

ISCAR Face Gooving Grades Chart

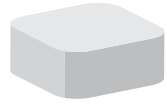
	Grade	ISO	Grade Description	Coating Layers	Coating Color*
PVD COATED	IC354	P20-P40 M20-M30	A tough substrate with PVD coating, suitable for general use on a wide range of carbon steels, alloy steels and stainless steel at moderate speeds and feeds.	TiCN Base	
	IC806	M05-M15 S10-S20	A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Excellent for machining high temperature alloys and Titanium alloys, at moderate to relatively high cutting speeds. Features high wear resistance and plastic deformation durability.	TiAlN AlTiN Base	
	IC807	P10-P20 M05-M15 K15-K30 S10-S20 H05-H15	A hard submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steels, alloy steels, austenitic stainless steel, high temperature alloys and hard steels at moderate to relatively high cutting speeds under stable conditions. Features high wear resistance and plastic deformation durability.	TiN TiAlN Base	
	IC808	P15-P30 M20-M30 K20-K40 S15-S30 H20-H30	A tough submicron grain size substrate with PVD coating and a special SUMOTEC surface treatment. Recommended for general use for a large variety of applications and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds and feeds. Features high wear resistance and chipping durability.	TiN TiAlN Base	
	IC830	P30-P45 M25-M40 S20-S30	A tough substrate with PVD coating and a special SUMOTEC surface treatment. Suitable for machining steel and stainless steel at low to medium cutting speeds and moderate to high feeds. The grade features high toughness and recommended for interrupted cuts and machining under unstable conditions. May be used on high temperature alloys at low cutting speeds.	TiN TiAlN Base	
	IC908	P15-P30 M20-M30 K20-K40 S15-S30 H20-H30	A tough submicron grain size substrate with PVD coating, recommended for general use in a large variety of operations and materials such as steels, alloy steels, austenitic stainless steel and high temperature alloys at moderate cutting speeds. Features high wear resistance and chipping durability.	TiAlN Base	

* For coated grades

ISCAR Face Gooving Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*
CVD COATED	IC5010	K10-K20	A hard substrate with MTCVD coating with a special SUMOTEC surface treatment. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds, provides very good resistance to chipping.	TiN Al_2O_3 TiCN Base	
	IC8250	P15-P35 M15-M25	A tough substrate with a cobalt enriched layer and MTCVD coating with a special SUMOTEC surface treatment. Recommended for general use machining of steels, alloy steels and martensitic stainless steel in a wide range of conditions. Features high toughness and good wear resistance.	TiN Al_2O_3 TiCN Base	
	IC418	K10-K25	A tough substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at medium to high cutting speeds. Can be used for interrupted cuts and under heavy machining conditions.	Al_2O_3 Tic Base	
	IC428	K05-K20 H15-H25	A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds.	Al_2O_3 Tic Base	
	IC9015	P10-P25 K10-K15	A hard substrate with a cobalt enriched layer and MTCVD coating. Recommended for high speed machining of steels, alloy steels and martensitic stainless steel with moderate feeds at stable conditions.	TiN Al_2O_3 TiCN Base	

* For coated grades

	Grade	ISO	Grade Description	Coating Layers	Uncoated
UNCOATED	IC08	M15-M30 N10-N25 S20-S30	A tough uncoated submicron carbide grade, suitable for steels, stainless steel and high temperature alloys at low cutting speeds. Good choice for non-ferrous materials.	Base	
	IC20	K10-K20 N05-N25 S10-S20 H10-H20	A hard-uncoated carbide grade for machining aluminum and other non-ferrous materials at medium to high cutting speeds. Can be used for cast iron at low cutting speeds. Suitable also for machining high temperature and Titanium alloys, at low cutting speeds.	Base	

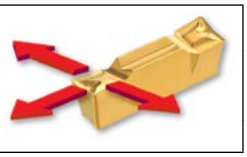
Clamping the Insert

Clamping an insert correctly into the holder is necessary for stable machining.

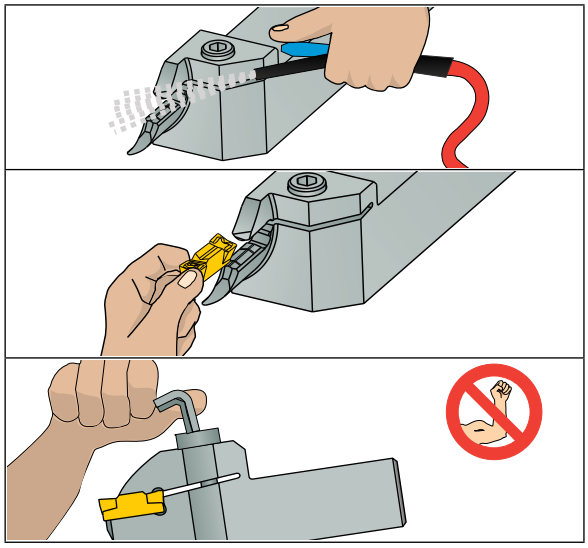
- Be sure that the seat is clean of dirt and swarf.
- In the first stage of clamping, ease the insert gently into place. Make sure that the prismatic surfaces match.

Screw Clamping Torque

Insert Width	Nxm
3	4-5
4	5-6
5	6-7
6/8	7-9
CGFG 51...	4-6



The unique chipformer is designed for deep grooving and face turning both toward and away from the center with excellent chip formation.

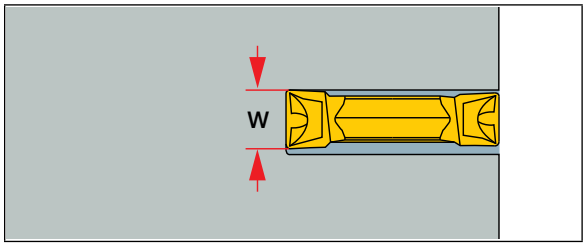


HELI-FACE HFPR/L & HGPL Type	HELI-GRIP GRIP...Y Type
	
For general use in turning & grooving on all types of materials. Use for deep grooving in low-to-medium feeds 0.04-0.15 mm/rev. Min grooving dia. 12 mm.	The "all in one" insert for parting, external grooving and turning, internal grooving and turning, face grooving and turning.

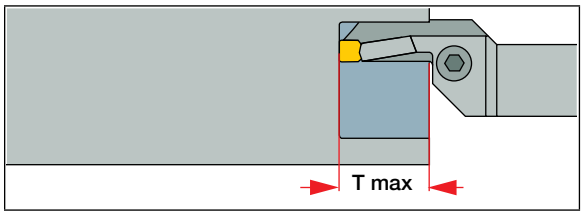
DO-GRIP DGN...C Type	DO-GRIP DGN...J Type
	
For grooving operations only. Strong cutting edge for hard materials and tough applications in feeds 0.1-0.2 mm/rev.	For grooving operations only. Positive rake, for soft materials in low-to-medium feeds 0.05-0.15 mm/rev.

Face Machining Guide

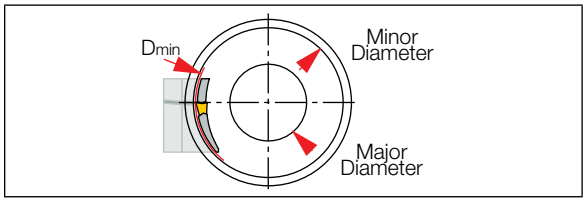
Tool Selection - Follow these recommendations to choose the right tool for high peformance.



Choose the widest possible insert and tool, according to the cutting width and geometry to be machined.



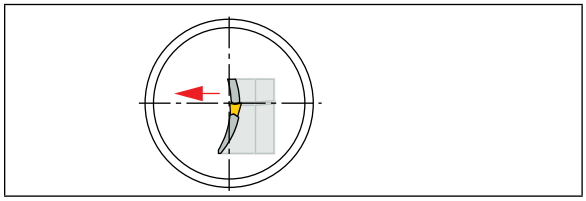
Choose the shortest tool blade overhang, according to the maximum depth required.



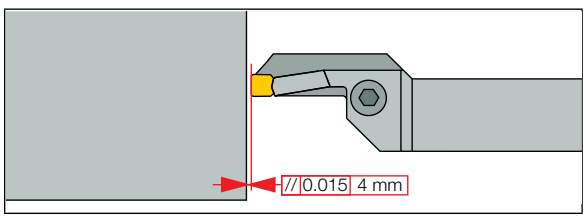
Choose the tool range with the largest diameter, depending on the initial grooving diameter required in the application.

Remark: On integral shank tools the given range refers to the holder capacity.

Tool Adjustment - Prior to machining, check and adjust the following tool positions.



Check the cutting edge height at center line, machine in light turning down to center and check for burr.

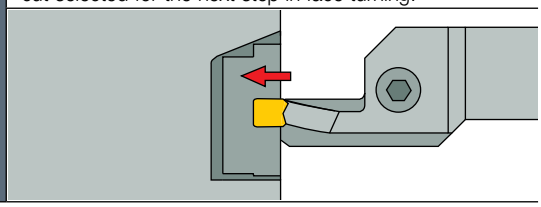


Check parallelism of the cutting edge and machined surface. Correct position can guarantee good surface quality when face turning in both directions.

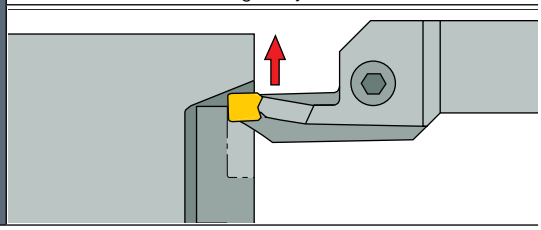
Face Machining Guide

Recommended machining sequence in roughing operation using multifunction HELI-FACE tools.

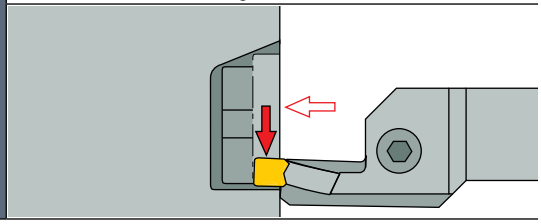
1 Groove at the initial diameter up to the depth of cut selected for the next step in face turning.



2 Continue with face turning away from the center.



3 After rapid positioning back into initial groove, continue with face turning to center.

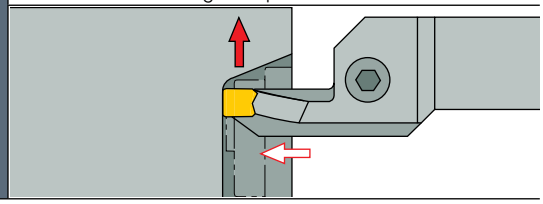


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

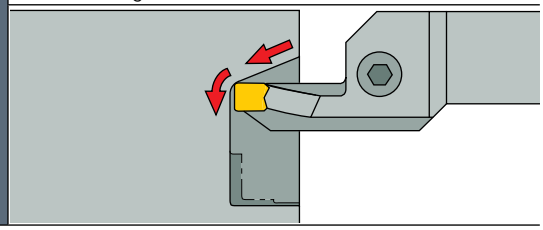
Optimizing the Machining Sequence

Recommended machining sequence using multifunction tools.

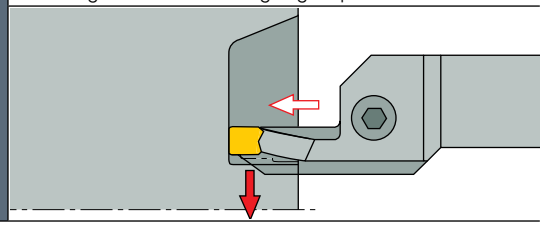
1 Groove at the initial diameter to the final depth of the groove and continue face turning away from the center to the tangential point on the radius.



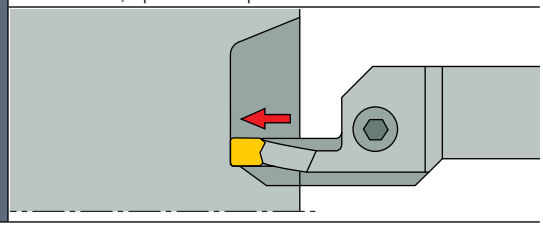
2 Finish major diameter toward the bottom and generate the radius.



3 Position the tool in rapid movement in the initial groove, continue face turning to center, without touching the machined roughing steps on the wall.



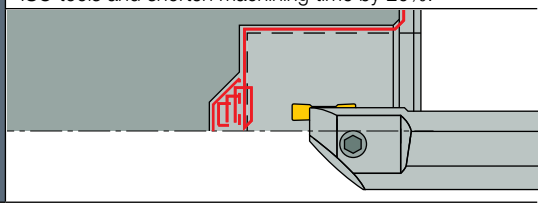
4 Finish boring the minor diameter to the bottom, up to final depth.



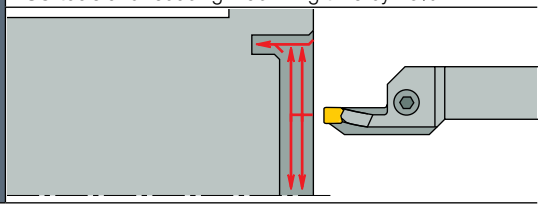
Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

The Multifunction Advantage

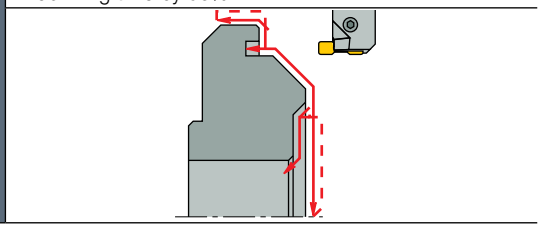
1 The **HELI-FACE** internal boring bar HFIR/L MC type with internal coolant can replace the three different ISO tools and shorten machining time by 20%.



2 A single multifunction tool machines the whole part: grooving, face turning and chamfering, replacing three ISO tools and reducing machining time by 40%.



3 A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.

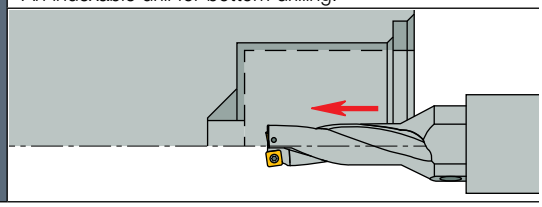


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

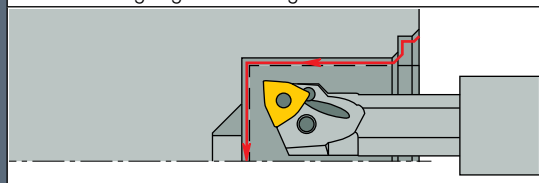
The Multifunction Advantage

This workpiece was machined using three different conventional tools.

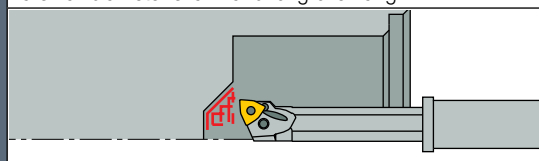
1 An indexable drill for bottom drilling.



2 A standard internal boring bar with a trigon insert for roughing and finishing.

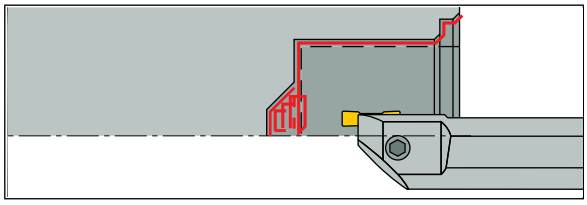


3 A standard internal boring bar with a trigon insert for bottom machining. This operation requires a small diameter shank and long overhang.



The HELI-FACE Solution

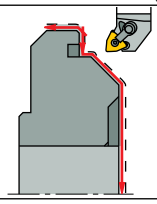
The **HELI-FACE** internal boring bar HFIR/L MC type with internal coolant can replace the three different ISO tools and shorten machining time by 20%.



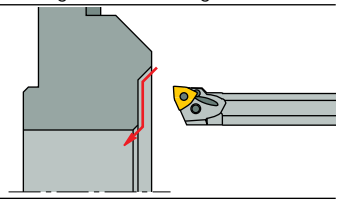
The Multifunction Advantage

This part was machined using three different conventional tools.

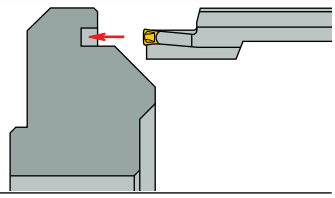
1 A standad ISO tool for external turning.



2 A boring bar for face turning and chamfering.

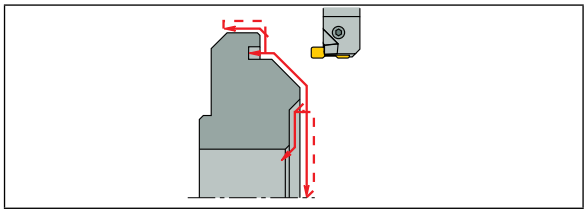


3 A face grooving tool for grooving, recessing and chamfering.



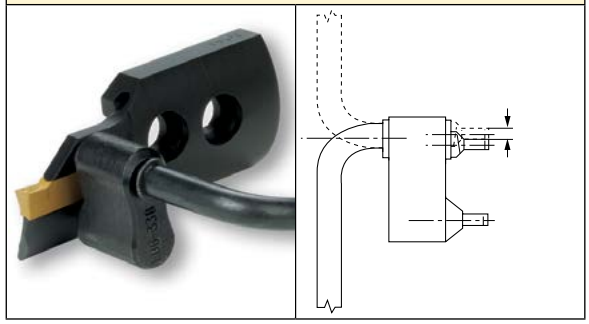
The HELI-FACE Solution

A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.



Insert Replacement

EDG 33B



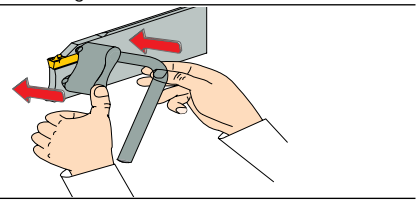
Eccentric Extractor

Simple to operate; controlled rotation requires low force; guarantees limited upper jaw movement and secures maximum load on blade.
Two extractor pins are placed in the two holes in the holder blades.

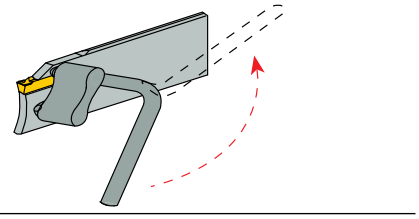
Indexing

Place the EDG extractor in the holes

1 Hold the extractor against the tool.

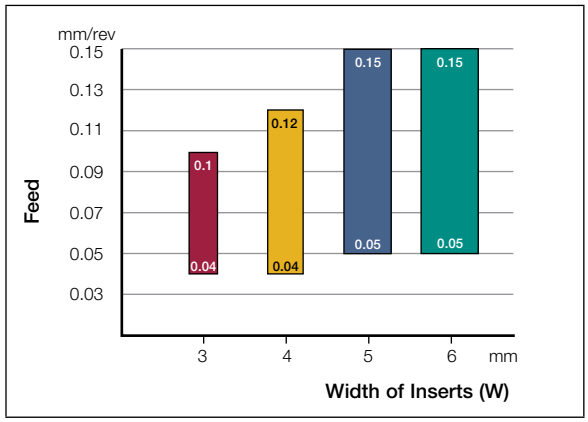


2 Rotate the eccentric handle to lift the upper jaw.

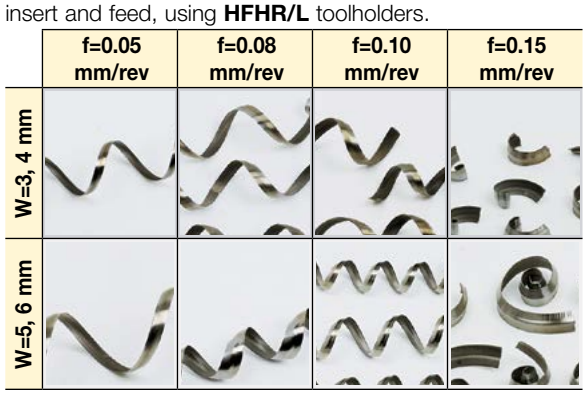


Machining Conditions in Face Grooving

Recommended feed range for grooving with **HFPR/L** inserts in various widths.

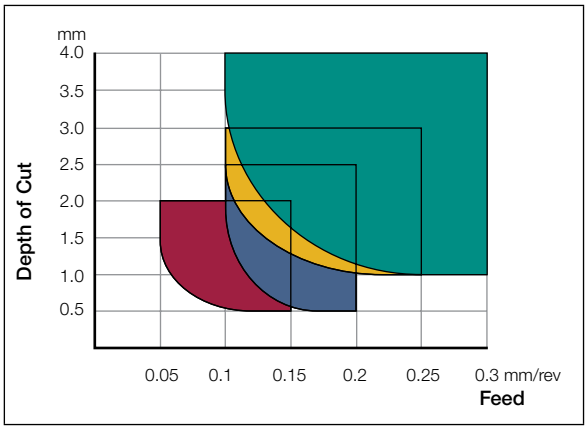


Chip shapes for grooving, according to width of insert and feed, using **HFHR/L** toolholders.

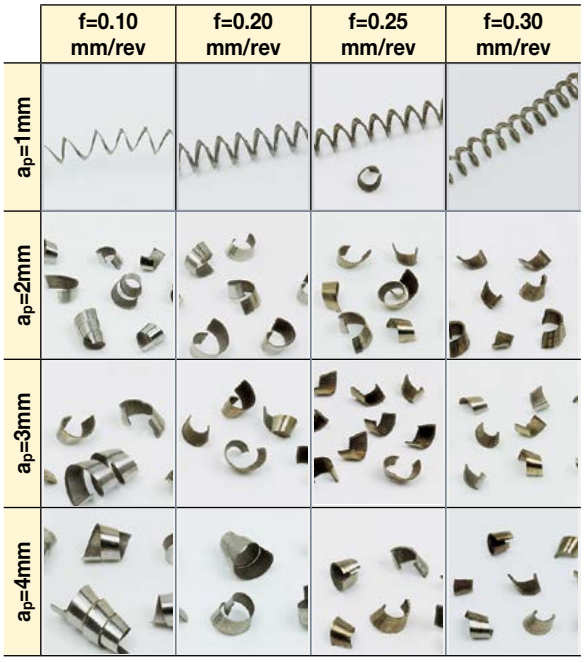


Note: In face grooving, narrowed and deformed chips are preferred. Curled and long chips can flow out more easily from deep grooves.

Recommended depth of cut and feed range for face turning using **HFHR/L** toolholders carrying **HFPR/L** inserts in various widths.



Chip shapes in face turning with inserts HFPR/L-5004 & **HFPR/L** 6004 and **HFHR/L** toolholders.



Note: In roughing, increase feed at small depth of cut and reduce feed at large depth of cut.

HFPR/L 3003
GRIP/HGPL 300Y

HFPR/L 4004
GRIP/HGPL 400Y

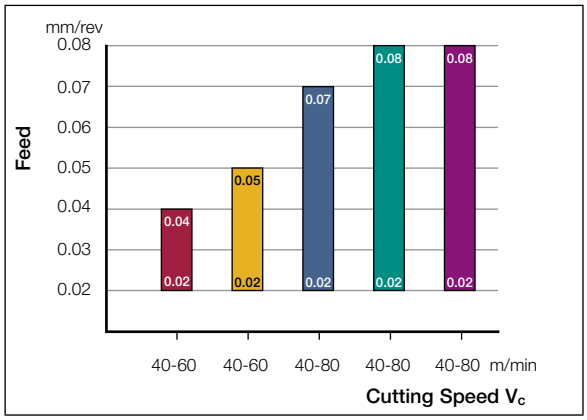
HFPR/L 5004
GRIP/HGPL 500Y

HFPR/L 6004
GRIP/HGPL 600Y

Face Grooving and Turning Recommendations

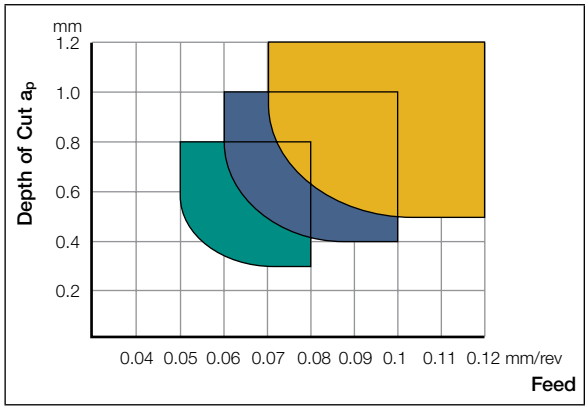
Using Adapters for 3 mm Inserts

Recommended feed range for grooving with Grip 3... and **HGPL 3...** inserts and **HGAIR/L** and **HGAER/L** adapters. Feed range changes according to adapter type.



- **HGAIR/L 12-3T6**
  HGAER/L 12-3T6
- **HGAIR/L 14-3T7**
  HGAER/L 14-3T7
- **HGAIR/L 17-3T8**
  HGAER/L 17-3T8
- **HGAIR/L 21-3T9**
  HGAER/L 21-3T9
- **HGAIR/L 25-3T9**

Recommended depth of cut and feed range for turning with **HGPL 3...** inserts with **HGAIR/L** and **HGAER/L** adapters. Feed range changes according to adapter type.

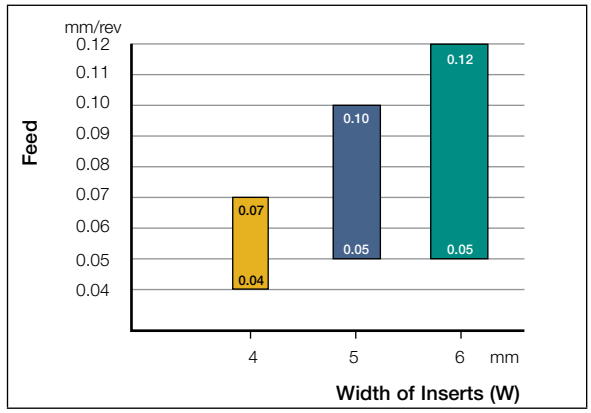


- **HGAIR/L 21-3T9**
  HGAER/L 21-3T9
  HGAIR/L 25-3T9
- **HGAIR/L 14-3T7**
  HGAER/L 14-3T7
  HGAIR/L 17-3T8
  HGAER/L 17-3T8
- **HGAIR/L 12-3T6**
  HGAER/L 12-3T6

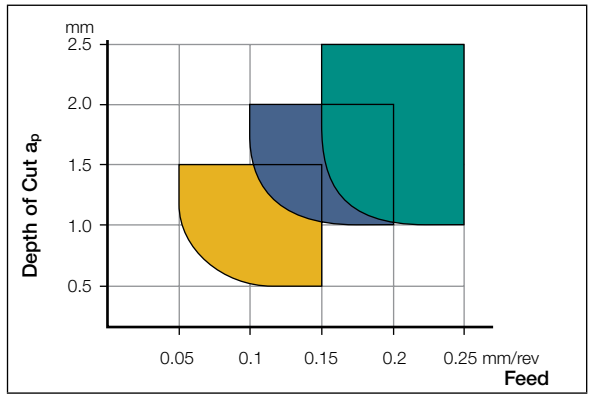
Note: In roughing, increase feed at small depth of cut, and reduce feed at large depth of cut.

Using Adapters for 4-6 mm Inserts

Recommended feed range in grooving with **HFPR/L** inserts and **HFAIR/L** & **HFAER/L** adapters.



Recommended depth of cut and feed range in turning with **HFPR/L** inserts and **HFAIR/L** & **HFAER/L** adapters. Feed range changes according to adapter type.



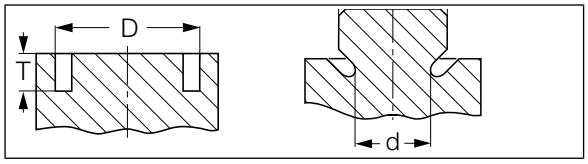
- **HFAIR/L- ...4**
  HFAER/L- ...4
- **HFAIR/L- ...5**
  HFAER/L- ...5
- **HFAIR/L- ...6**
  HFAER/L- ...6

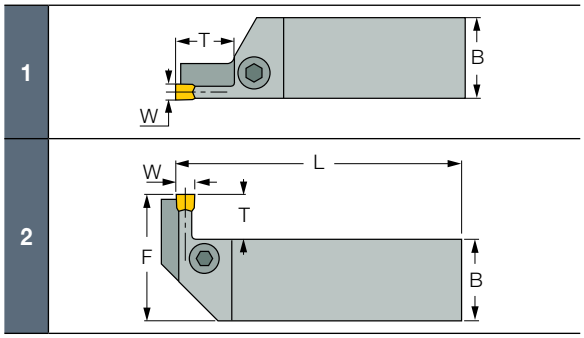
Note: In roughing, reduce feed when depth of cut is increased, ad increase feed at small depth of cut.

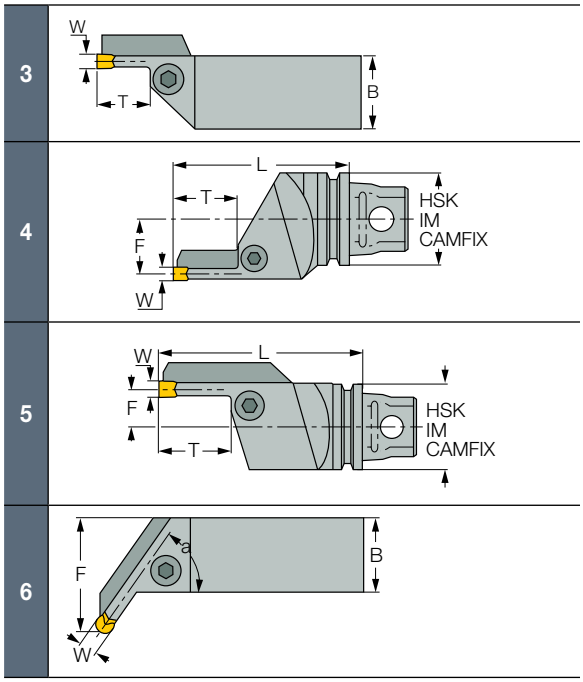
Specially Tailored

Semi-Standard Face Grooving and Undercutting Tools

The following drawings show typical semi-standard face grooving tools that can be ordered. Please specify all relevant dimensions and attach workpiece material geometric details.







Grade Selection for Facing Applications

Material groups		ISO P		ISO M	ISO K	ISO N	ISO S	ISO H
		1-11	12-13	14	15-20	21-28	31-37	38-41
		Steel	Stainless Steel Ferritic & Martensitic	Stainless Steel Austenitic & Duplex (Ferritic-Austenitic)	Cast Iron	Non-ferrous	High Temperature Alloys	Hard Steel & Cast Iron
FACING	Harder	IC808	IC808	IC808	IC5010			IC808
		IC8250	IC8250	IC8250		IC20	IC20	
		IC830	IC830			IC08		IC908
	Tougher				IC428		IC808	

■ First choice

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