

FACE GROOVING AND TURNING



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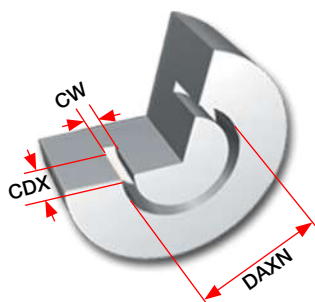
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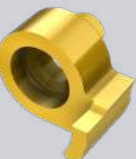
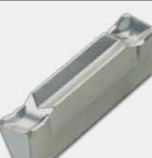
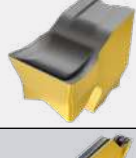
Selection Guide

HELIFACE

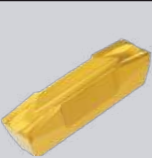
A Variety of Inserts for
Face Machining Applications



Face Grooving DAXN 6–40 mm

		DAXN	DAXX	CWN	CWX	CDX	Page
Picco		6	-	1	3	30	592-597
MIFR/MEFL		8	-	1.5	3.5	15	602
GFQR		12	19	1	2.5	3	600
HGPL		12	∞	3	6	∞	580
GRIP		12	∞	3	6.35	∞	579
DGN		21	∞	4	6	∞	486
HFPR/L		12	∞	3	6	∞	578
TNF		30	700	3	6	∞	587
HFBN		27	130	2	2	14	577

Face Grooving DAXN 24–80 mm

		DAXN	DAXX	CWN	CWX	CDX	Page
PENTA 34F		22	∞	2.39	4	5	591-592
GDMY/N		50	∞	8	8	27	290, 584
GIF		80	∞	8	10	27	583
GIFG 8		50	∞	8	8	25	583
GIMM 8CC		80	∞	8	8	∞	585
GDMC CC		50	∞	7	8	∞	585
GIA-K		80	∞	8	8	25	583
GFF		25	55	2.1	6	35	591

Small Diameter Face Machining Systems



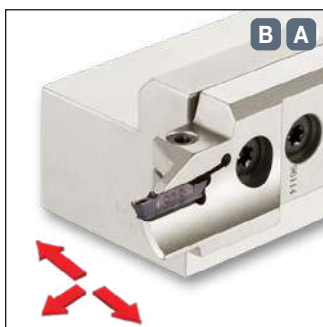
Tool: HGHR/L see page 560
Insert: GRIP... / HGPL...

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.



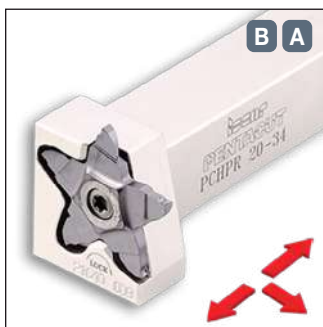
Tool: HGAER/L... (adapter) see page 567
Tool: HFAER/L... (adapter) see pages 567-568
Insert: HFPR/L...

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 592
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.



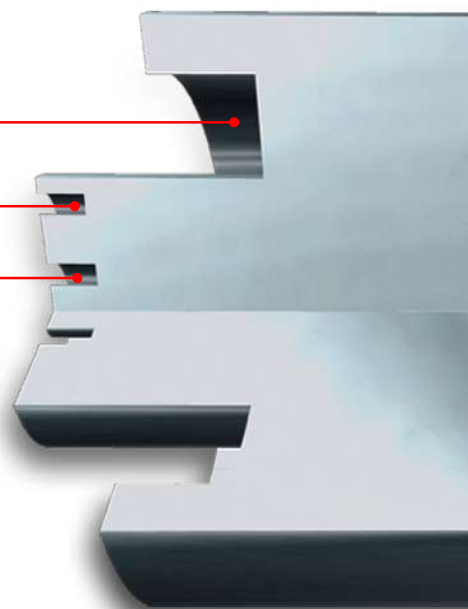
Tool: PICCO R010 see pages 594-595

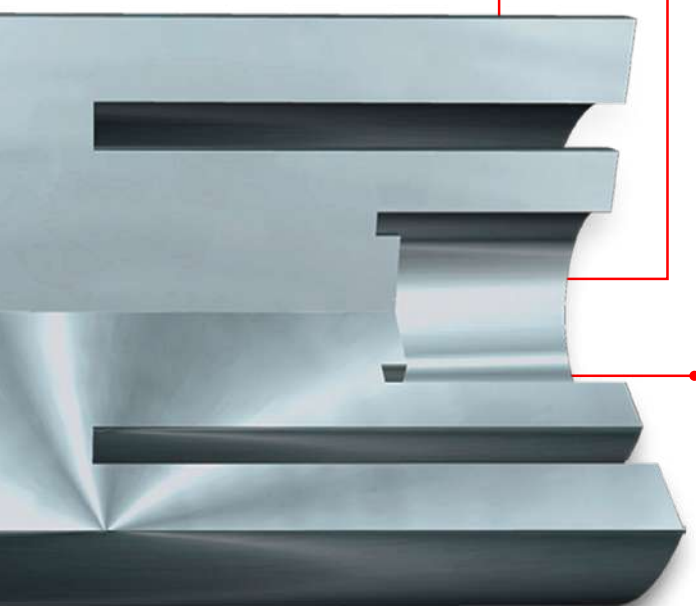
CW = 1-5 mm

CDX = 6 mm

DAXN = 6 mm

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





Tool: PICCO R015 see page 599

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 600
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 600
Insert: GFQR...

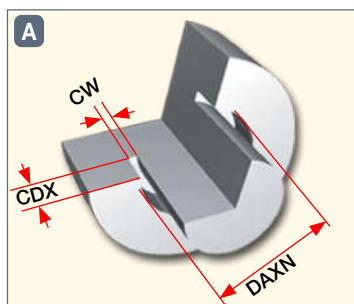
CW = 1-2.5 mm

CDX = 3 mm

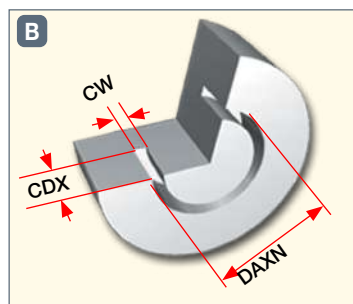
DAXN = 12 mm

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

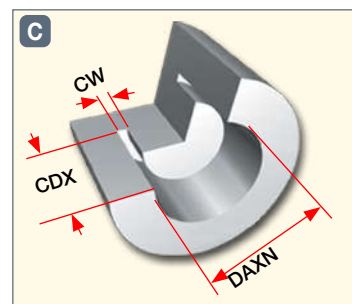
Main Applications



Grooving Next to a Shaft

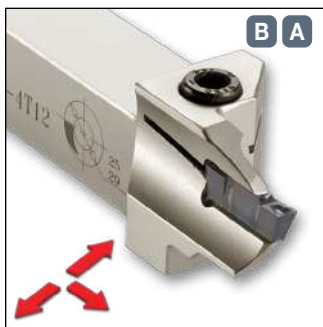


External Grooving



Internal Grooving

Medium Diameter Face Machining Systems



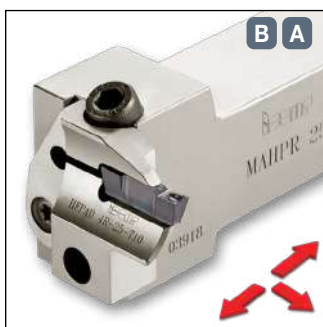
Tool: HFHR/L... see pages 560-563
Insert: HFPR/L...

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.



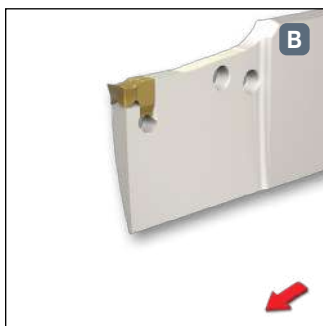
Tool: HFPAD... (adapter) see pages 564-566
Insert: HFPR/L...

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.



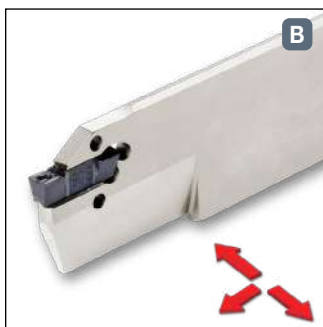
Tool: TNFFH see page 585
Insert: TNF 3-6C...

CW = 3-6 mm

CDX = 35 mm

DAXN = 30 mm

Adapter and blade toolholders carrying TNF 3-6C inserts. For deep face grooving.



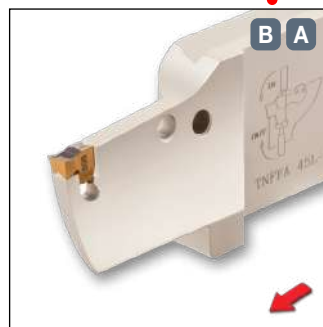
Tool: HFFR/L... see page 566
Insert: HFPR/L...

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.



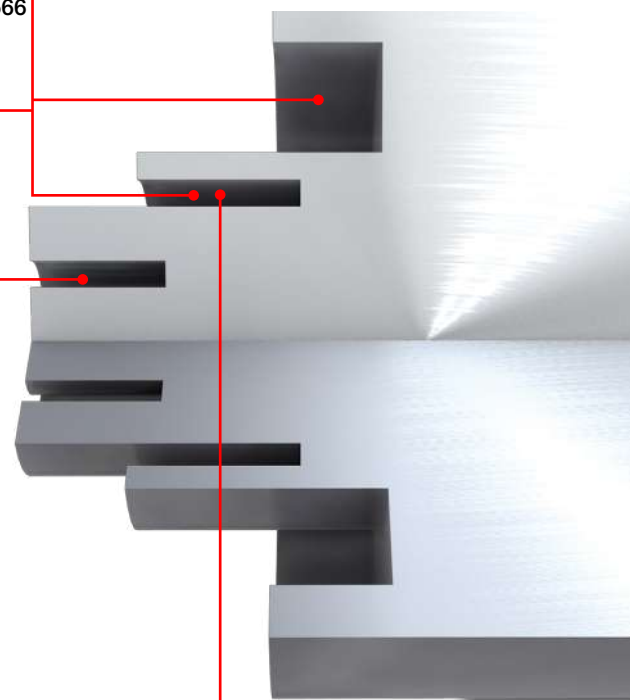
Tool: TNFFA see page 586
Insert: TNF 3-6C...

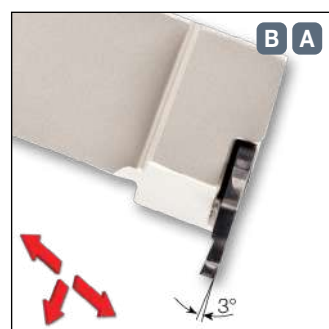
CW = 3-6 mm

CDX = 35 mm

DAXN = 30 mm

Reinforced blades carrying TNF 3-6C inserts. Recommended for face grooving only. Can machine along a shaft. Excellent chip evacuation.





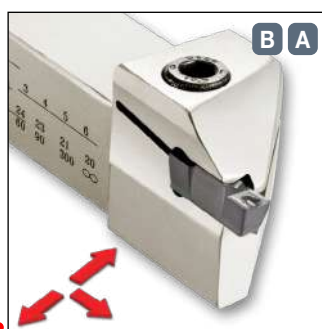
Tool: PCHPRS/LS see page 592
Insert: PENTA 34F-RS/LS...

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.



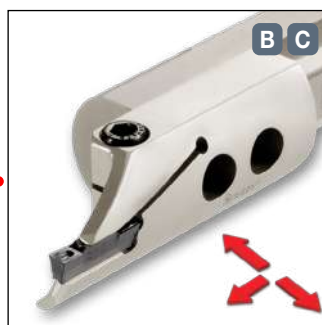
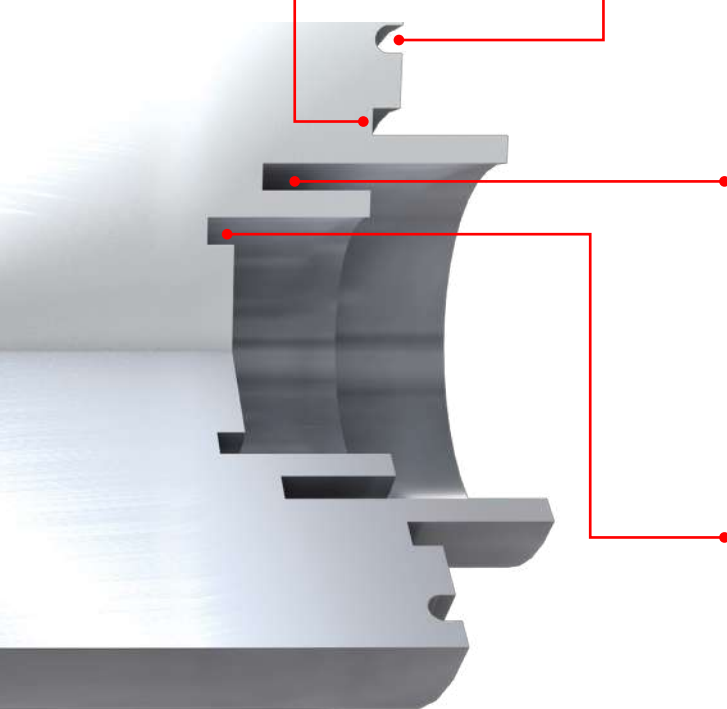
Tool: HFHR/L...-M see page 568
Insert: HFPR/L...

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.



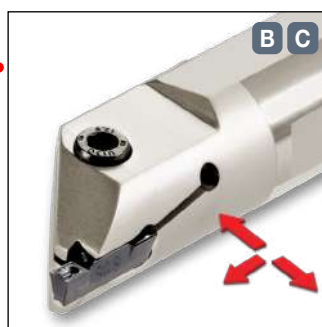
Tool: HFAIR/L...& HGAIIR/L (adapter) see pages 574, 570
Insert: HFPR/L...

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 576
Insert: HFPR/L...

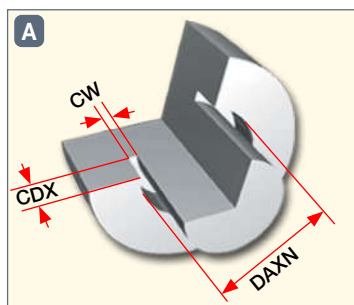
CW = 3-6 mm

CDX = 5 mm

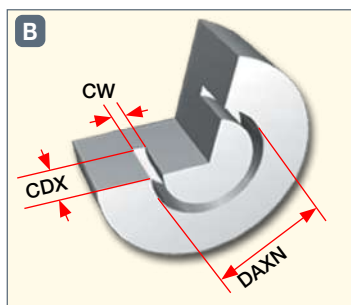
DAXN = 20 mm

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.

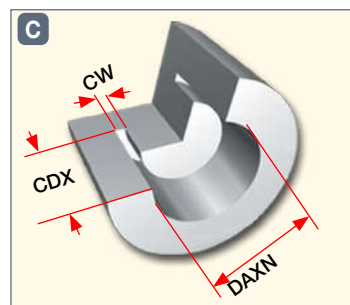
Main Applications



Grooving Next to a Shaft

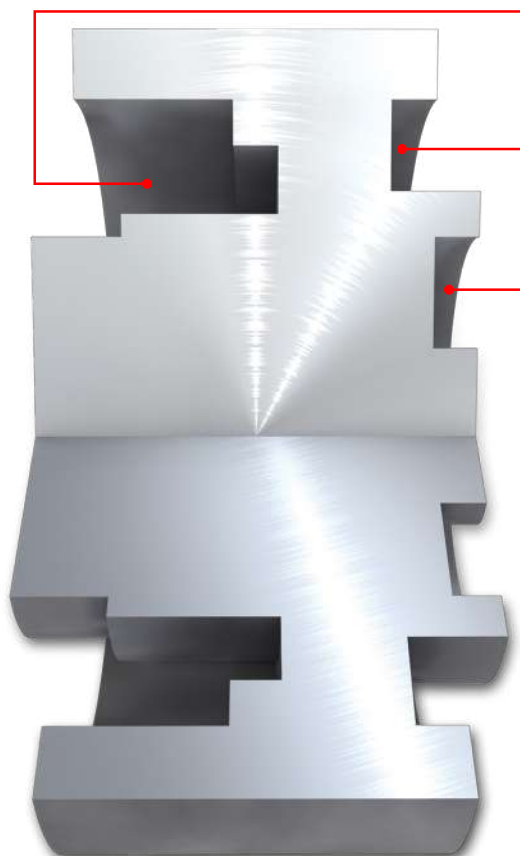


External Grooving



Internal Grooving

Large Diameter Face Machining Systems



Tool: CGFG 51...R/L-P8
see page 582
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.



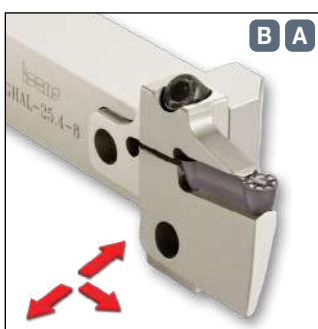
Tool: GHFG ..R/L-8 see page 581
Insert: GDMY 8..

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 582
Insert: GDMM 8CC

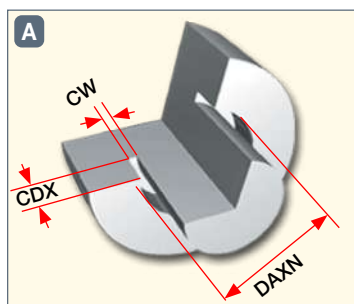
CW = 8 mm

CDX = 25 mm

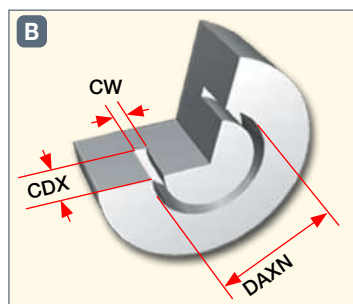
DAXN = 80 mm

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.

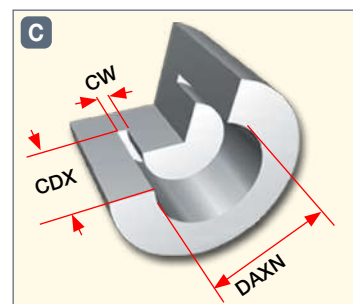
Main Applications



Grooving Next to a Shaft



External Grooving

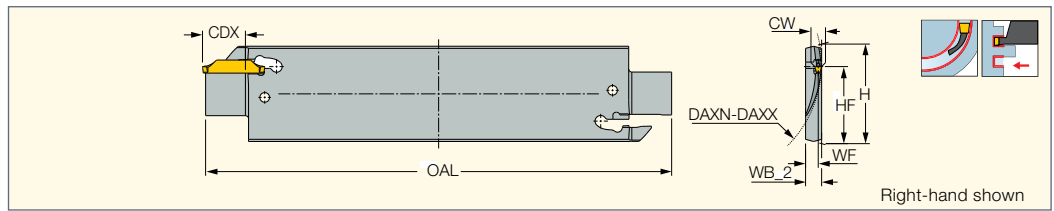


Internal Grooving

HELI-FACE and HELI-GRIP

HELI-FACE

HFFH
Face Grooving Blades



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	EDG 33B*
HFFH 45R/L-2	45.0	60.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00	EDG 33B*
HFFH 60R/L-2	60.0	80.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00	EDG 33B*
HFFH 80R/L-2	80.0	100.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00	EDG 33B*
HFFH 100R/L-2	100.0	130.0	2.00	14.00	4.40	5.2	24.8	32.0	150.00	EDG 33B*

• H dimension links blades and blocks

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter * Optional, should be ordered separately

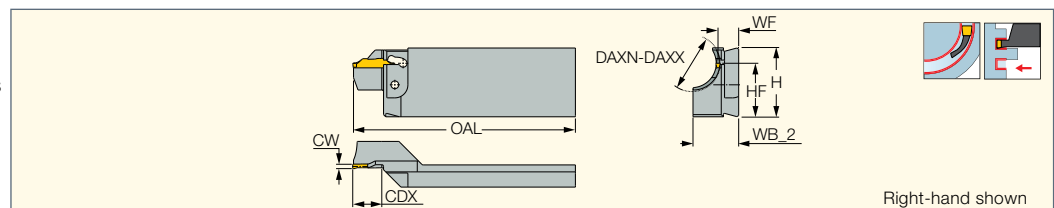
Inserts: HFPN

Holders: C#-TBK-R/L • HSK A-WH-TBK-R/L • SGTBF • SGTBK • SGTBU/SGTBN • UBHCR/L



HELI-FACE

HFFA
Reinforced Face Grooving Blades



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	EDG 33B*
HFFA 29R/L-2	2.00	29.0	33.0	14.00	32.0	9.50	24.8	102.00	18.5	EDG 33B*
HFFA 33R/L-2	2.00	33.0	38.0	14.00	32.0	9.50	24.8	102.00	17.5	EDG 33B*
HFFA 38R/L-2	2.00	38.0	46.0	14.00	32.0	9.50	24.8	102.00	13.5	EDG 33B*
HFFA 46R/L-2	2.00	46.0	60.0	14.00	32.0	9.50	24.8	102.00	13.5	EDG 33B*
HFFA 60R/L-2	2.00	60.0	80.0	14.00	32.0	9.50	24.8	102.00	14.0	EDG 33B*
HFFA 80R/L-2	2.00	80.0	105.0	14.00	32.0	9.50	24.8	102.00	16.1	EDG 33B*

• For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

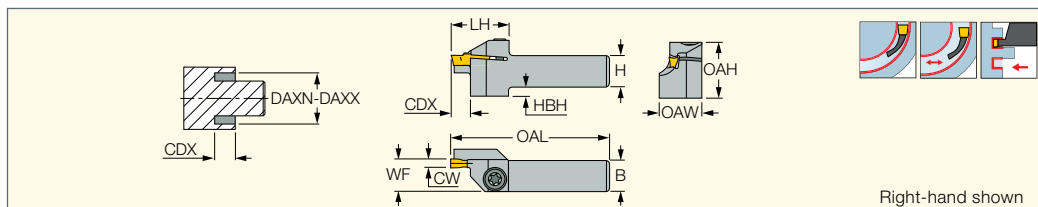
* Optional, should be ordered separately

Inserts: HFPN

Holders: SGTBU/SGTBN • UBHCR/L

HELIFACE**HGHR/L-3**

Integral Holders for Face Grooving and Turning



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 604-615

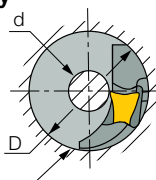
⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

Inserts: GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

No limitation for widening groove toward or away from center, except for the following tools:

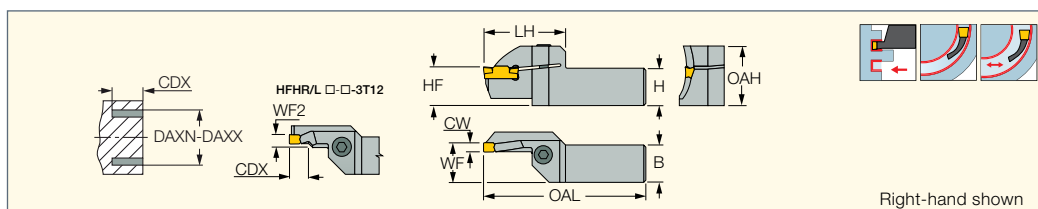
Limitation of widening toward center depends on the major diameter (D) as per chart.

**HGHR/L....-12-3T6**

D	d
12.0	4.0
13.0	1.0
13.5	0

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 604-615

⁽¹⁾ For deep face grooving only.

⁽²⁾ Minimum penetration diameter

⁽³⁾ Maximum penetration diameter

Inserts: HFPR/L • HFPR/L (full radius)

No limitation for widening groove toward or away from center, except for the following tools:

HFHR/L-:-25-3T12

D	d
25	5
26	2
≥27	0

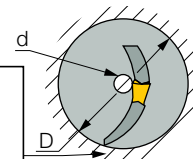
HFHR/L-:-25-4T12

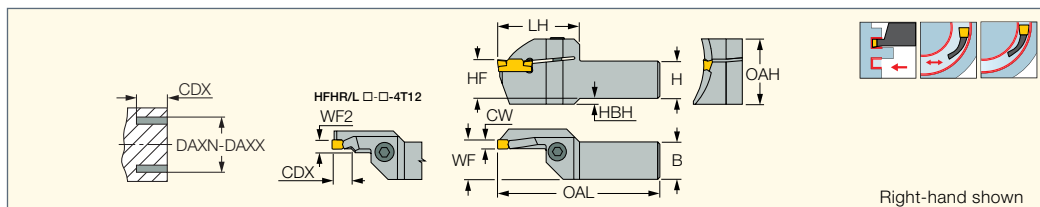
D	d
25	1
≥26	0

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.





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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

Penetration Range

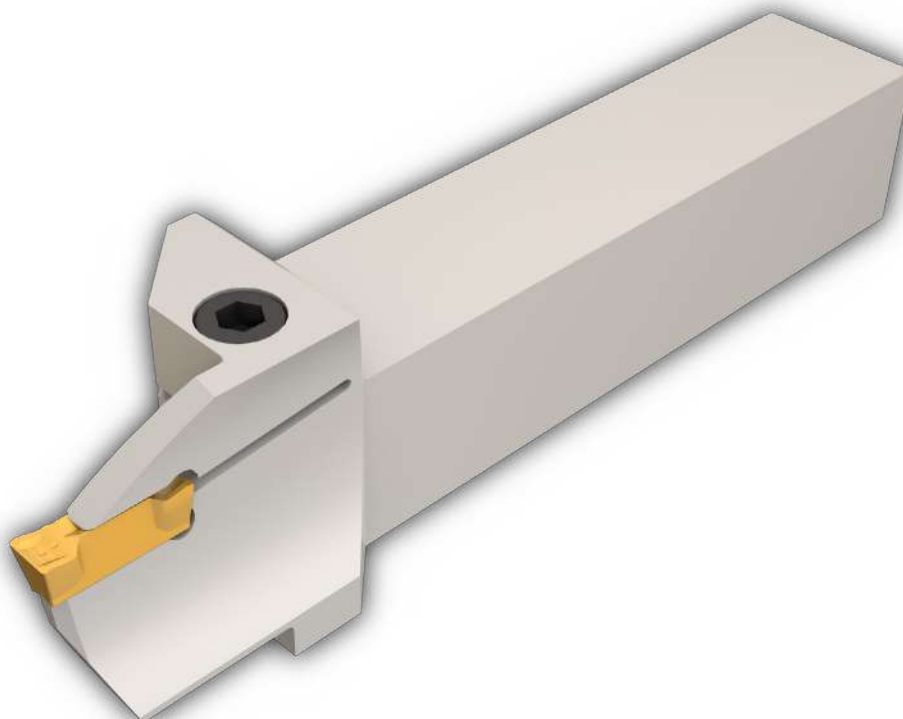
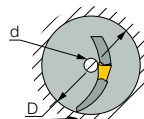
HFHR/L-25-4T12

D	d
25	1
≥26	0

HFHR/L-29-4T12

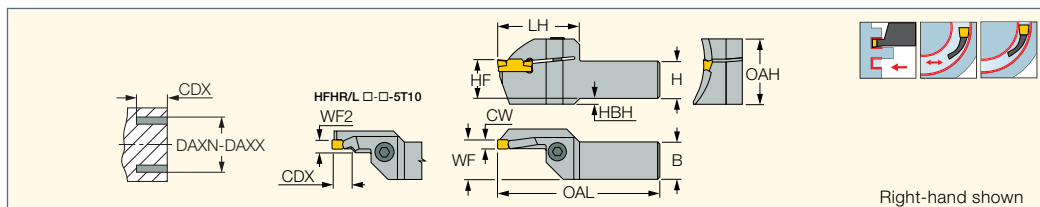
D	d
29	1
≥46	0

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



HFHR/L-5T

Integral Holders for Facing



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	-		
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	-		
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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

Inserts: HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

No limitation for widening groove toward or away from center, except for the following tools:

HFHR/L-□-31-5T15

D	d
31	15
32	10
33	7
34	4
35	2
≥36	0

HFHR/L-□-30-6T10

D	d
30	7
31	4
32	1
≥33	0

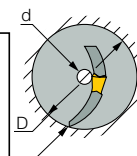
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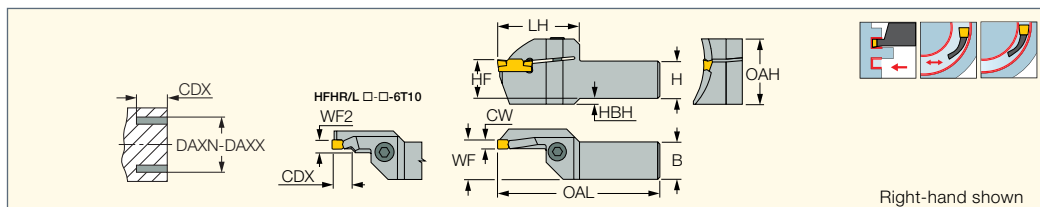
D	d
25	4
26	1
≥27	0

HFHR/L-□-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





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 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

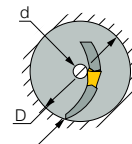
Inserts: HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

No limitation for widening groove toward or away from center, except for the following tools:

HFHR/L- □ -30-6T10

D	d
30	7
31	4
32	1
≥33	0

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

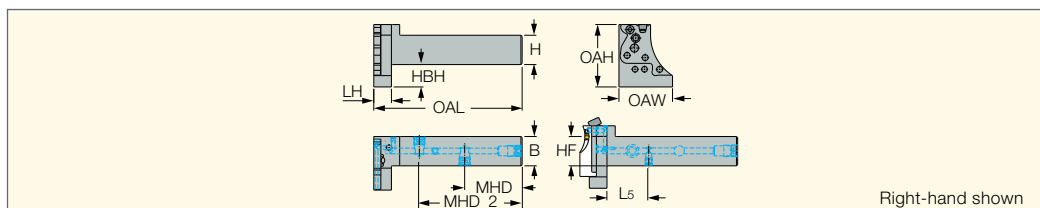


MODULAR-GRIP

JETCUT

MAHPR/L-XL-JHP

Holders with High Pressure Coolant Channels for MODULAR-GRIP Perpendicularly Mounted Adapters



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

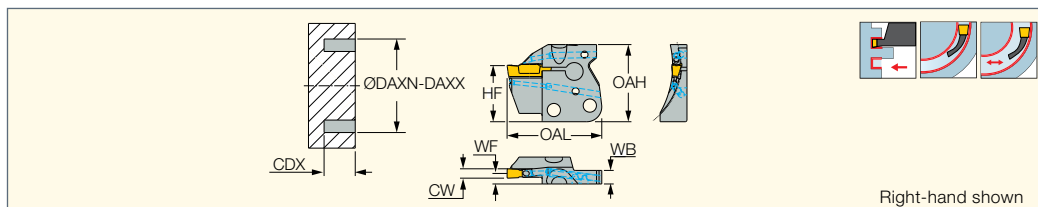
Tools: DGPAD-XL-JHP • HFPAD-JHP • TAGPAD-XL-JHP • TAGPAD-Y-JHP • TNFPAD-XL-JHP

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**HFPAD-JHP**

Adapters for Face Machining



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

• 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 604-615

⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Maximum axial grooving diameter

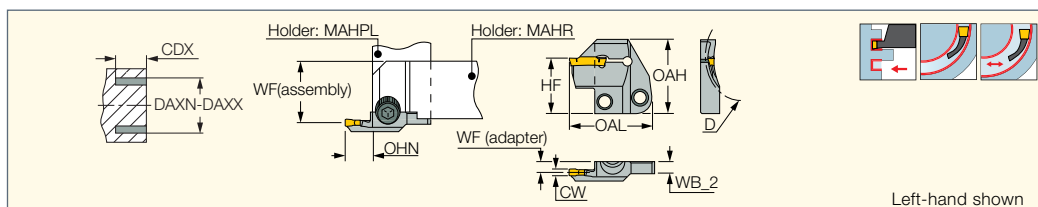
Inserts: DGN-MF • DGN-W • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius)

• HGN-C • HGN-J • HGN-UT • HGPL

Holders: C#-MAHD-JHP • C#-MAHPD-JHP • MAHPR/L-JHP • MAHPR/L-XL-JHP • MAHR/L-JHP • MAHR/L-JHP-MC

MODULAR-GRIP**HFPAD-3**

Adapters for Face Machining



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

• 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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

⁽³⁾ Minimum overhang

⁽⁴⁾ WF(adapter)

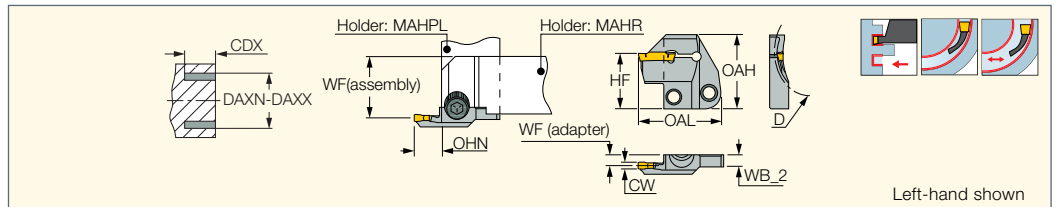
Inserts: GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

Holders: C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD

• C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

HFPAD-4

Adapters for Face Machining



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

• 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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

⁽³⁾ Minimum overhang

⁽⁴⁾ WF(adapter)

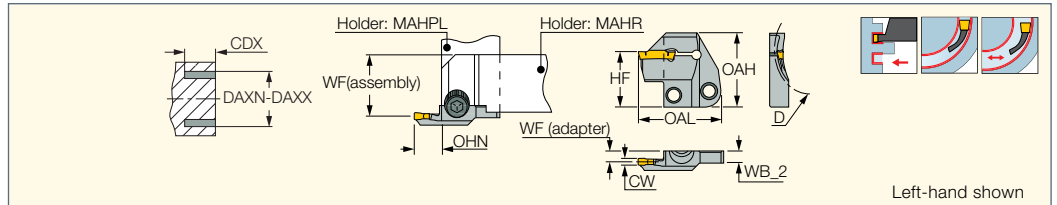
Inserts: DGN-MF • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius) • HGPL

Holders: C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD

• C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

MODULARGRIP
HFPAD-5

Adapters for Face Machining



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

• 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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

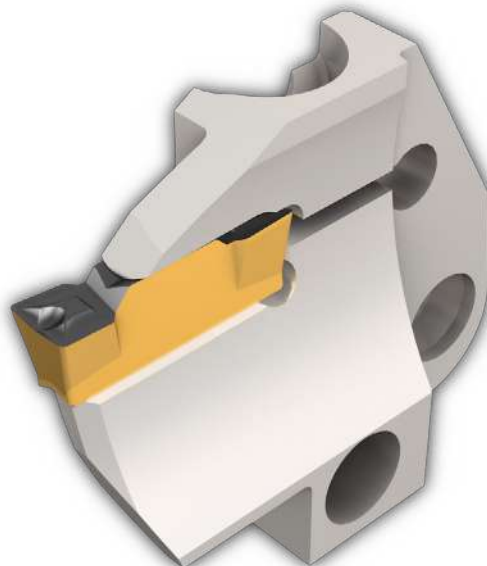
⁽³⁾ Minimum overhang

⁽⁴⁾ WF(adapter)

Inserts: HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

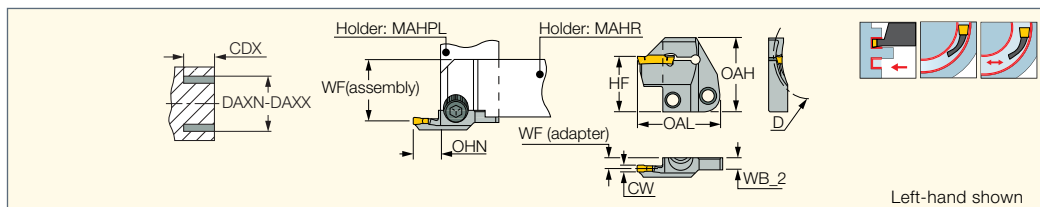
Holders: C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD

• C#-MAHDOR • C#-MAHPD • C#-MAHDR-45 • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD



MODULARGRIP**HFPAD-6**

Adapters for Face Machining



Left-hand shown

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	300.0	6.00	20.00	21.0	4.50	7.1	45.50	24.0	32.0

• 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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

⁽³⁾ Minimum overhang

⁽⁴⁾ WF(adapter)

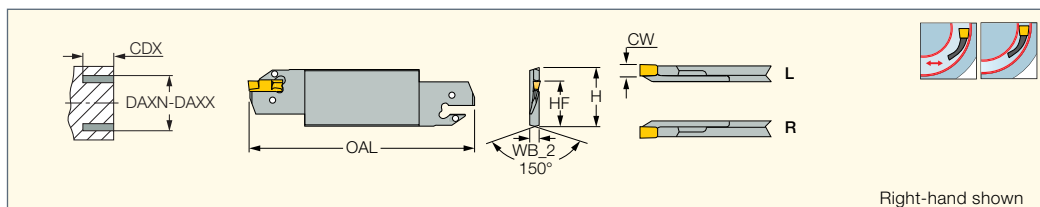
Inserts: HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

Holders: C#-MAHD-JHP • C#-MAHPD-JHP • IH-HFPAD • MAHR/L-JHP-MC • MAHPR/L-JHP • MAHR/L-JHP • MAHR/L • MAHPR/L • C#-MAHD

• C#-MAHPD • C#-MAHDR-45 • C#-MAHDOR • HSK A63WH-MAHUR/L • HSK A63WH-MAHDR-45 • HSK A63WH-MAHDOR • IM-MAHD • IM-MAHPD

HELIFACE**HFPR/L-T**

Blades for Face Machining



Right-hand shown

Designation	CW	DAXN ⁽²⁾	DAXX ⁽³⁾	CDX	OAL	HF	H	WB_2	
HFPR/L 48-4T25 ⁽¹⁾	4.00	48.0	60.0	25.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 60-4T25	4.00	60.0	75.0	25.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 75-4T30	4.00	75.0	140.0	30.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 140-4T30	4.00	140.0	1500.0	30.00	150.00	24.8	32.0	3.2	EDG 33B*
HFPR/L 70-5T32	5.00	70.0	95.0	32.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 95-5T35	5.00	95.0	130.0	35.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 130-5T38	5.00	130.0	180.0	38.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 180-5T38	5.00	180.0	1500.0	38.00	150.00	24.8	32.0	4.0	EDG 33B*
HFPR/L 90-6T32	6.00	90.0	180.0	32.00	150.00	24.8	32.0	5.2	EDG 33B*
HFPR/L 180-6T38	6.00	180.0	400.0	38.00	150.00	24.8	32.0	5.2	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 604-615

⁽¹⁾ HGPL 4...Y with LH blade

⁽²⁾ Minimum penetration diameter

⁽³⁾ Maximum penetration diameter

* Optional, should be ordered separately

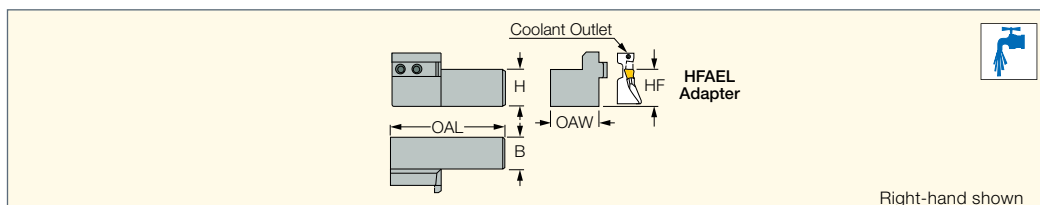
Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

• HGPL

Holders: SGTBF • SGTBU/SGTBN • UBHCR/L

HELIFACE**HAR/L**

Face Machining Adapter Holders



Right-hand shown

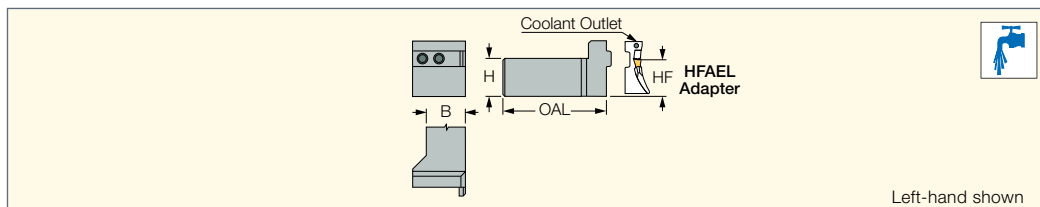
Designation	OAL	B	H	HF	OAW		
HAR/L 25C	110.00	25.0	25.0	25.0	39.00	SR 14-519	T-20/3
HAR/L 32C	130.00	32.0	32.0	32.0	46.00	SR 14-519	T-20/3

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

Tools: HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

HAPR/L

Face Machining Perpendicular
Holders for Adapters



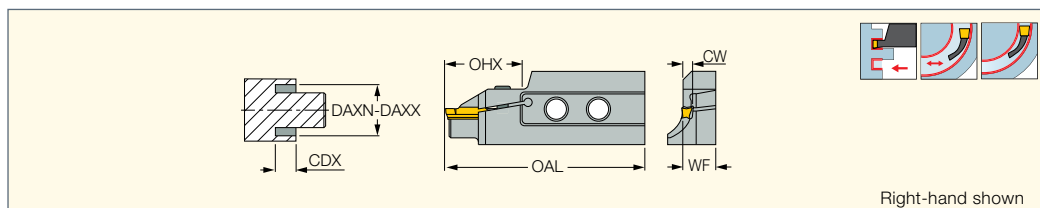
Designation	OAL	H	HF	B		
HAPR/L 25C	124.00	25.0	25.0	25.0	SR 14-519	T-20/3
HAPR/L 32C	139.00	32.0	32.0	32.0	SR 14-519	T-20/3

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

Tools: HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HGAER/L-3 • HGAIR/L-3

HELIFACE
HGAER/L-3

Adapters for External
Facing Along Shafts



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

• GRIP 3... inserts can be used with right-hand adapters only, HGPL 3 with left-hand adapters • For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

⁽³⁾ Maximum overhang

Inserts: GRIP • GRIP (full radius) • HGPL

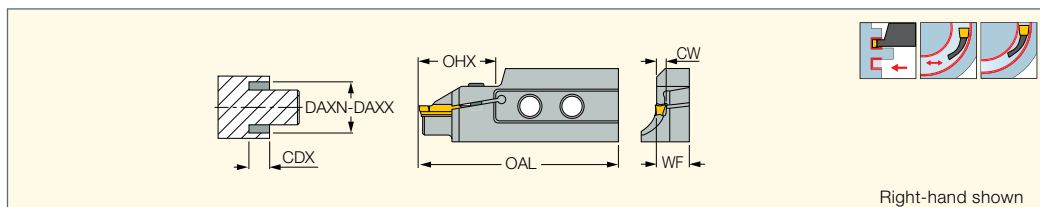
Holders: C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

Spare Parts

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

HELIFACE
HFAER/L-4

Adapters for External
Facing Along Shafts



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

• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

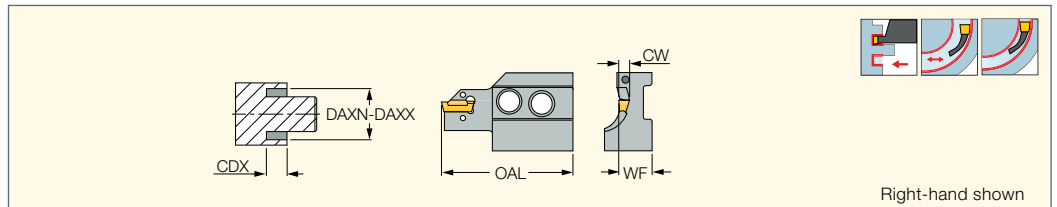
⁽³⁾ Maximum overhang

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

Holders: C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

HELIFACE**HFAER/L-5T, 6T**

Adapters for External Facing Along Shafts



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*

• 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 604-615

⁽¹⁾ Minimum penetration diameter

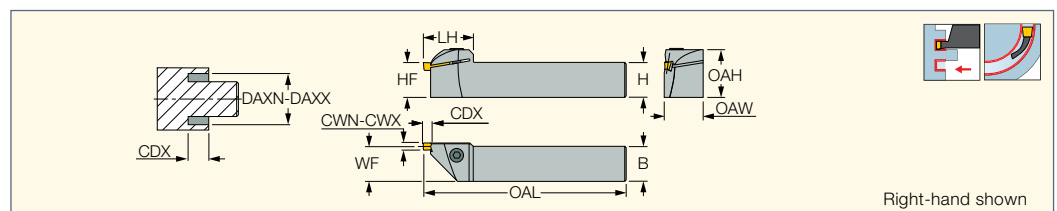
⁽²⁾ Maximum penetration diameter * Optional, should be ordered separately

Inserts: HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W • HGPL

Holders: C#-HAD • C#-HAPR/L • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

HELIFACE**HFHR/L-M**

Toolholders for Shallow Face Grooving



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 604-615

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Minimum penetration diameter

⁽⁴⁾ Maximum penetration diameter

Inserts: HFPR/L • HFPR/L (full radius)

HFHR/L- □ M & HFHR/L- □ M

Integral Toolholders

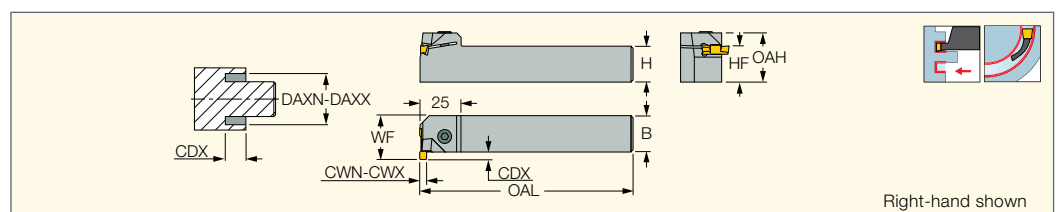
For shallow machining up to max. 5 mm depth of groove. One toolholder can be mounted with inserts in 3-6 mm widths. The initial major diameter groove is limited by the insert's geometry of each size.

After the initial groove, face recessing outward or toward the center is not limited by the insert's geometry.

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

HELIFACE**HFHPR/L-M**

Perpendicular Toolholders for Shallow Face Grooving



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 604-615

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ Minimum penetration diameter

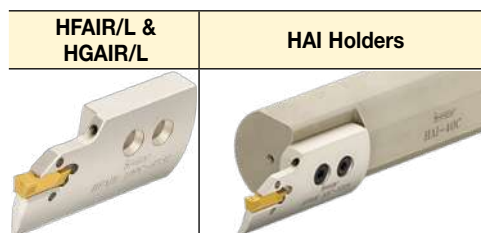
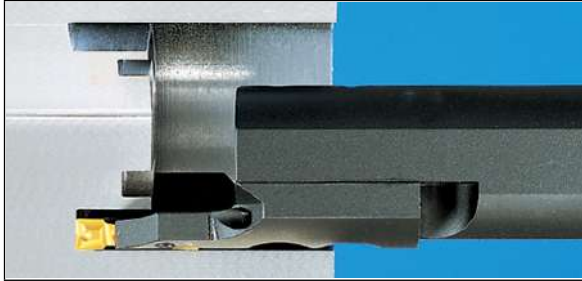
⁽⁴⁾ Maximum penetration diameter

Inserts: HFPR/L • HFPR/L (full radius)

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.

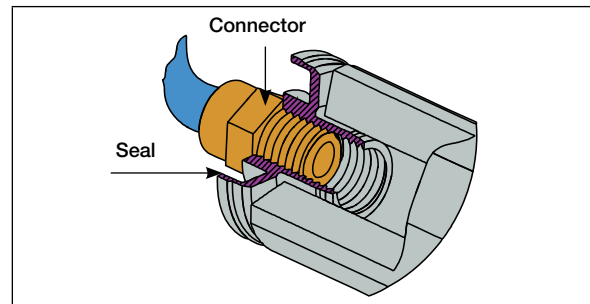
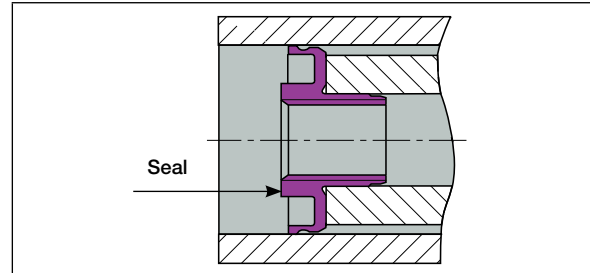
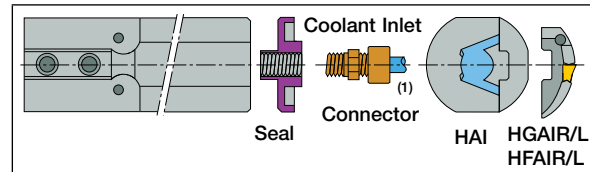


Exchangeable adapters, see pages 574, 570

For adapters, see page 574

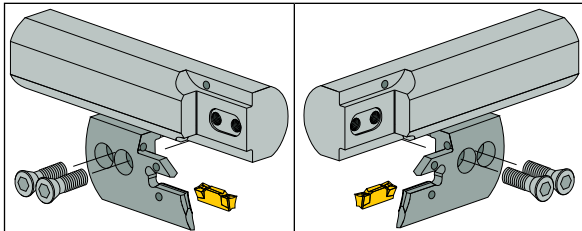
HFAIR/L HGAIR/L	- □	C	- □	T - □
HELIFACE Internal adapters right or left	Min. initial groove diameter	Internal coolant	Insert width	Max. depth of groove

Coolant System



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

HAI Holder System Assembly



HFAIR & HGAIR
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.

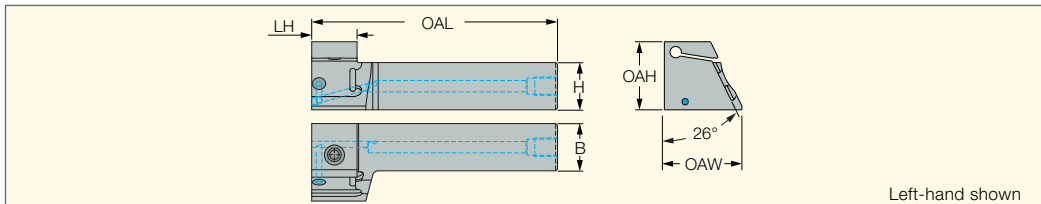


NEOFACE

FACE GROOVING

BHSR/L-JHP

Holders for Double-Sided Face Grooving Blades with Inclined Clamping Position and JHP Cooling Hole

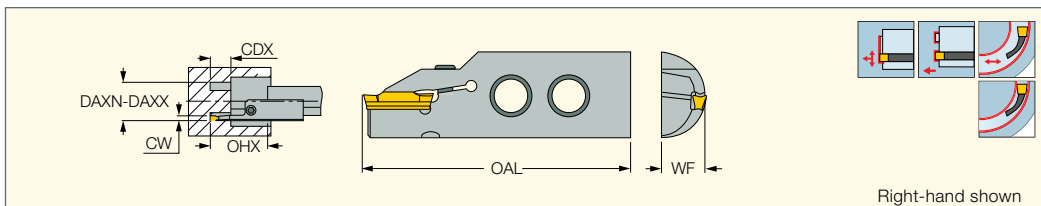


Designation	H	B	OAL	LH	OAH	OAW				
BHSL 25-26-B1-JHP	25.0	25.0	130.00	24.0	36.00	41.00	SR M6X18 DIN912	HW 5.0	OR 5X1N	SR M4X3 DIN913

HELIFACE

HGAIR/L-3

Adapters for Internal Face Grooving and Turning



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

• HGN & GRIP 3.. inserts can be used only with right-hand adapters, HGPL 3.. inserts with left-hand adapters • For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

⁽³⁾ Maximum overhang

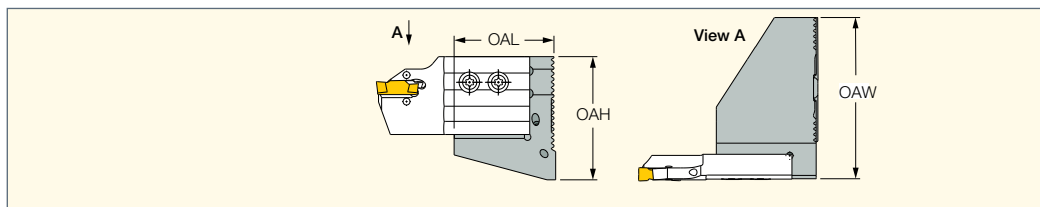
Inserts: GRIP • GRIP (full radius) • HGN-C • HGN-J • HGN-UT • HGPL

Holders: C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IH-HFAIR • IM-HAD • IM-HAPR/L



IH-HFAIR

Intermediate Serrated
Cartridge for Standard
HELIFACE HFAIR Adapters.

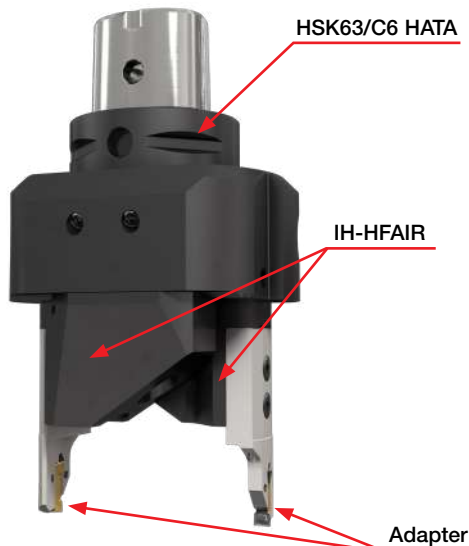
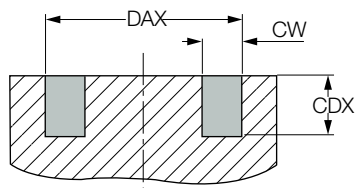


Designation	OAH	OAW	OAL
IH-HFAIR	55.40	72.50	44.90

Tools: HFAIR/L-DG • HGAIR/L-3

HSK63 HATA+IH-HFAIR

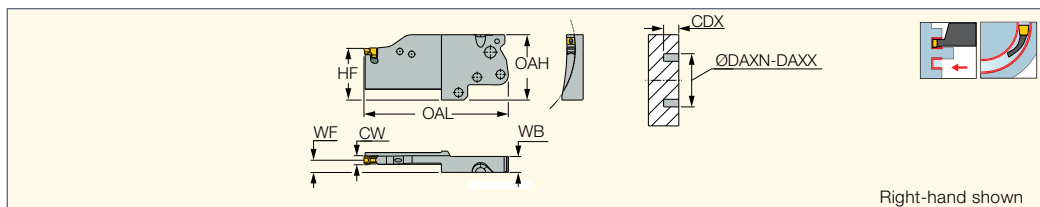
C6 HATA+IH-HFAIR


Spare Parts

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

TNFPAD-XL-JHP

Adapters for Face Machining



Right-hand shown

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

• 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 604-615

⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Maximum axial grooving diameter

Inserts: TNF GN-IQ • TNF-M-IQ • TNF-P-IQ

Holders: ABC MAHDR-#-XL-JHP • IH-TNFPAD • MAHPR/L-XL-JHP • MAHR/L-MG-XL-JHP • MAHR/L-MG-XL-JHP-MC • V## MAHD#-#-XL-##-JHP

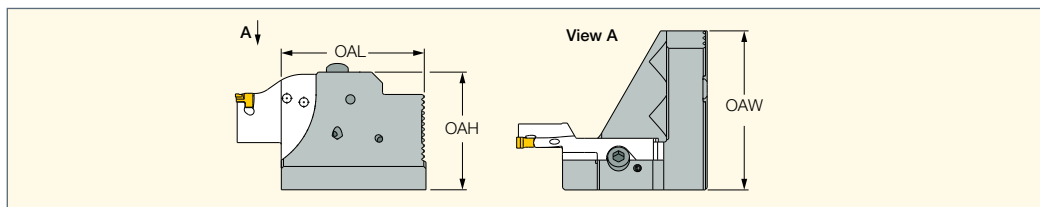
• V## MAHD-XL-JHP

Spare Parts

Designation	
TNFPAD-XL-JHP	ETF 3-6

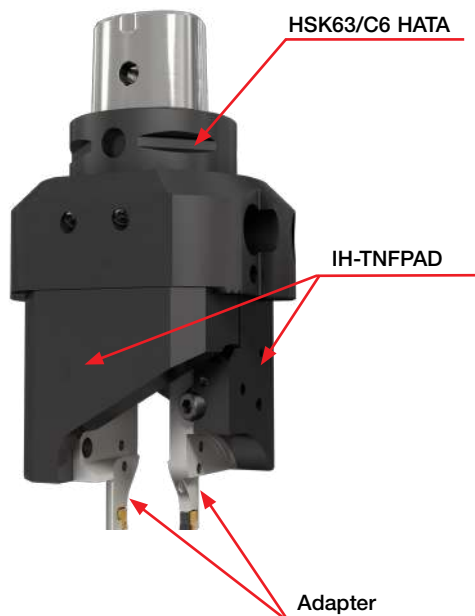
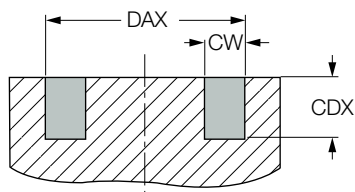
HELIFACE
TANGGRIP
 FACE MACHINING LINE

IH-TNFPAD

 Intermediate Serrated Cartridge
 for standard TANG-FACE
 TNFPAD-XL R Adapters


Designation	OAH	OAW	OAL
IH-TNFPAD	54.00	73.00	65.70

Tools: TNFPAD-XL-JHP

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


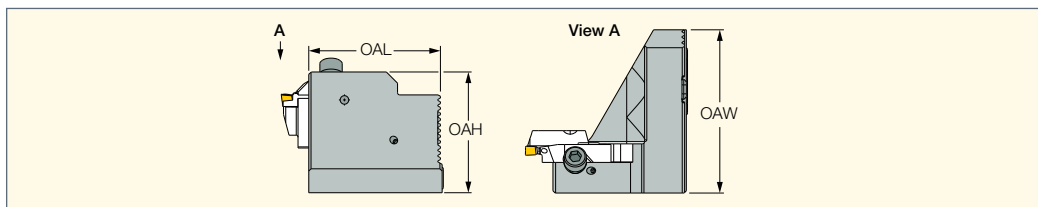
Designation	CW (min)	CW (max)	CDX	DAX (min)	DAX (max)
TNFPAD-XL 4L-35T20-JHP	4.00	6.90	20.00	35.0	53.0
TNFPAD-XL 4L-45T20-JHP	4.00	6.90	20.00	45.0	68.0
TNFPAD-XL 4R/L-35T35-JHP	4.00	6.90	35.00	35.0	53.0
TNFPAD-XL 4R/L-45T35-JHP	4.00	6.90	35.00	45.0	68.0
TNFPAD-XL 5L-60T20-JHP	5.00	8.90	20.00	60.0	90.0
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	OR 5X1N

IH-HFPAD

Intermediate Serrated Cartridge
For standard HFPAD R Adapters

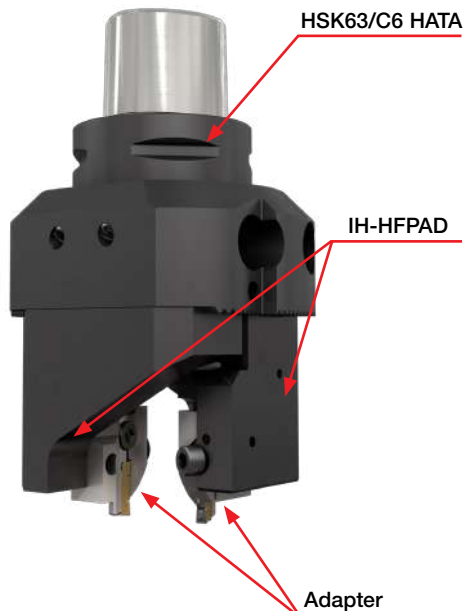
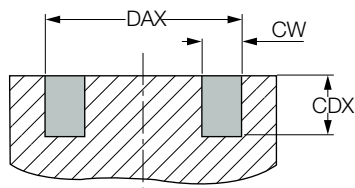


Designation	OAH	OAW	OAL
IH-HFPAD	54.00	73.00	58.90

Tools: HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6

HSK63 HATA+IH-HFPAD

C6 HATA+IH-HFPAD



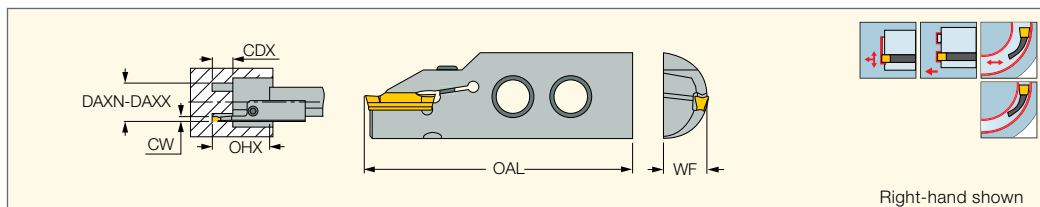
Adapters	CW (min)	CW (max)	CDX	DAX (min)	DAX (max)
HFPAD 3R-25-T10	3	5.1	10	25	30
HFPAD 3R-30-T10	3	5.1	10	30	40
HFPAD 3R-40-T10	3	5.1	10	40	65
HFPAD 3R-65-T18	3	5.1	18	65	99.2
HFPAD 4R-25-T10	4	6.9	10	25	31
HFPAD 4R-31-T10	4	6.9	10	31	44
HFPAD 4R-44-T14	4	6.9	14	44	58
HFPAD 4R-58-T14	4	6.9	14	58	88
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



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

• DGN & GRIP inserts can be used only with right-hand adapters, HGPL inserts with left-hand blades • For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

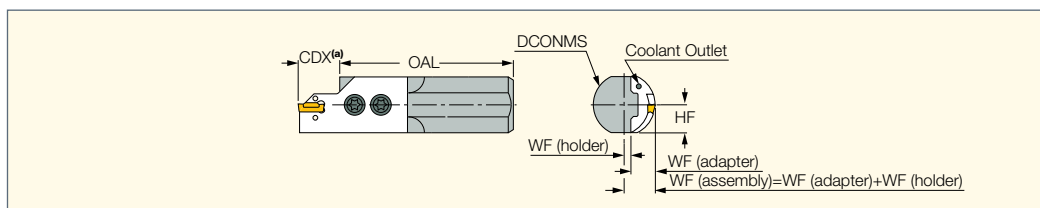
⁽³⁾ Maximum overhang

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • HGPL

Holders: C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IM-HAD • IM-HAPR/L

HELIFACE**HAI-C**

Boring Bars with Coolant
Holes for Internal Grooving
and Turning Adapters



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

• The HAI boring bars can be used with right and left-hand adapters • (a) CDX - see corresponding adapters

⁽¹⁾ Holder

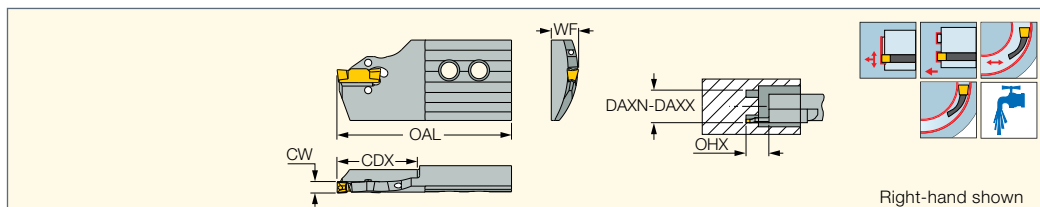
⁽²⁾ 0 - Without coolant supply, 1 - With coolant supply

Tools: HFAIR/L-4 • HFAIR/L-DG • HGAIR/L-3



HFAIR/L-DG

Adapters for Internal Face Grooving and Turning



Right-hand shown

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*

• 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

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

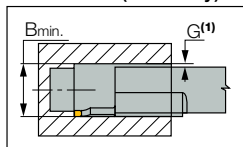
• HGPL

Holders: C#-HAD • C#-HAPR/L • HAI-C • HAPR/L • HAR/L • IH-HFAIR • IM-HAD • IM-HAPR/L

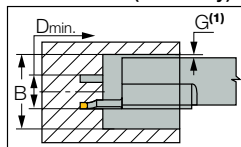
Adapters can be used for internal machining along bore. Adapters can be mounted on standard HAI boring bars for internal machining, and on HAR/L, HAPR/L holders for external machining.

Boring, Face Grooving and Face Recessing Capacity
Boring

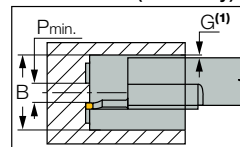
B Min. = WF (assembly) + G + DCONMS/2


Face Grooving

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


Face Recessing

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

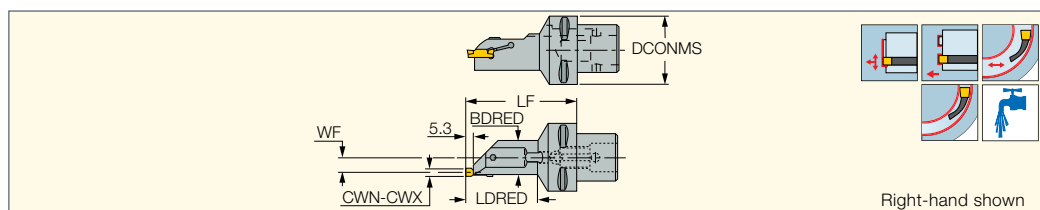


⁽¹⁾ The minimum recommended value for clearance (G) is 0.5 mm

* WF (assembly) = WF(adapter) + WF(holder)

CAMFIX
C#-HFIR/L-MC

Boring Bars for Internal Grooving and Turning with CAMFIX Exchangeable Shanks



Right-hand shown

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 604-615

⁽¹⁾ Minimum cutting width

⁽²⁾ Maximum cutting width

⁽³⁾ 1 - Hole for data chip, 0 - Without hole for data chip

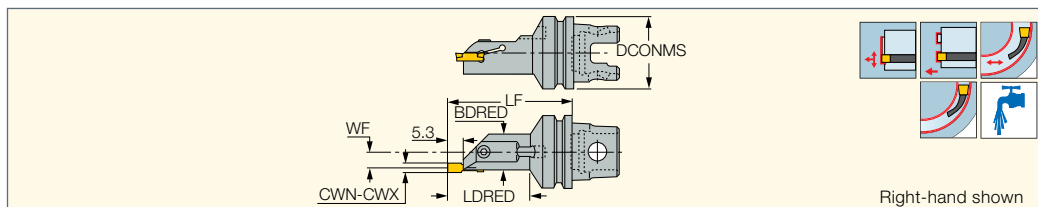
Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

• HGPL

Holders: HSK-C#

ISO 26622-1 XMZ**HELIFACE****IM-HFIR-MC**

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



Right-hand shown

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 604-615

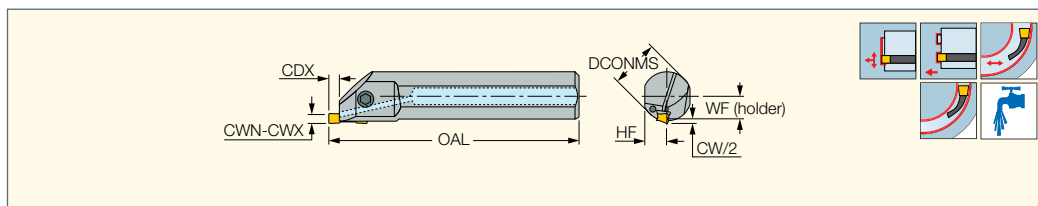
(1) Minimum cutting width

(2) Maximum cutting width

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

HELIFACE**HFIR/L-MC**

Boring Bars for Internal Grooving and Turning



Designation	DCONMS	CWN ⁽¹⁾	CWX ⁽²⁾	CDX	OAL	WF	HF			
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 604-615

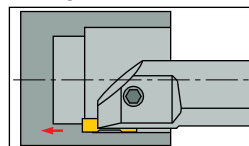
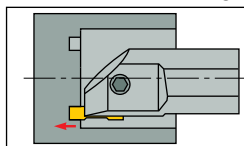
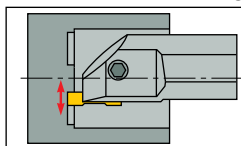
(1) Minimum cutting width

(2) Maximum cutting width

Inserts: DGN-MF • DGN-W • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • GRIP • GRIP (full radius) • HFPR/L • HFPR/L (full radius)

• HGPL

Holders: DT30/2 #L70WN • DT30/2 ADR-##-20-55

Boring**Internal Face Grooving****Internal Face Recessing****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.

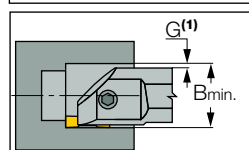
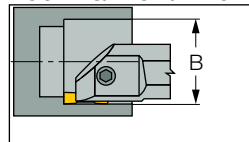
The initial major diameter groove is limited by the insert's geometry of each size. After the initial groove, face recessing outward or toward center is not limited by the insert's geometry.

Insert Initial
Face Grooving Range

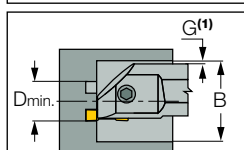
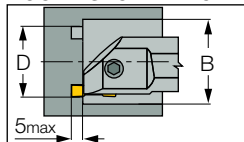
D		
CW	Min.	Max.
4	23	90
5	21	300
6	20	∞

Boring, Face Grooving & Face Recessing Capacity**Boring**

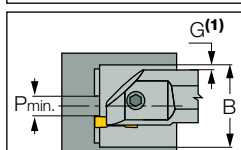
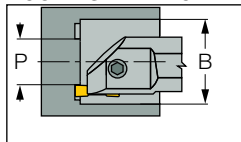
B Min. = WF(holder) +
DCONMS/2 + CW/2 + 2G

**Face Grooving**

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

**Face Recessing**

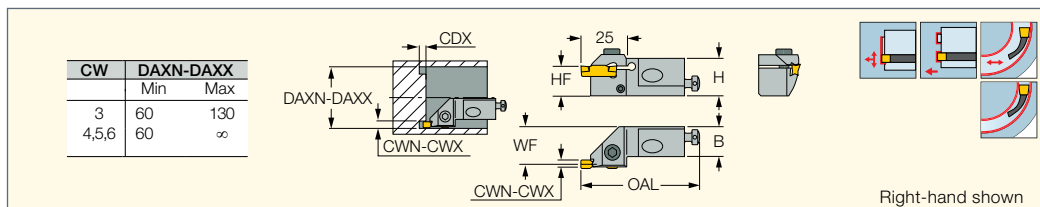
P Min. = 2WF (holder) +
DCONMS - W - B + 2G



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

CR HFIR-M

Cartridges for Face Grooving and Turning



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

Inserts: DGN-MF • HFPR/L • HFPR/L (full radius) • GRIP • GRIP (full radius) • DGN/DGNC/DGNM-C • DGN/DGNM-J/JS/JT • DGN-W

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⁺¹

⁽²⁾ F adjustment $+0.3$

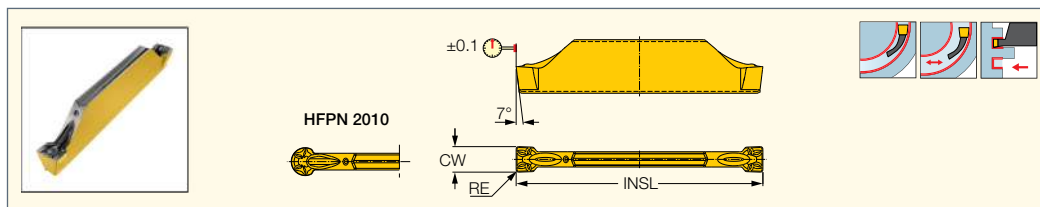
⁽³⁾ Assembly screws ISO 7380 are recommended

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

HFPN

Utility Double-Ended Face Machining Inserts



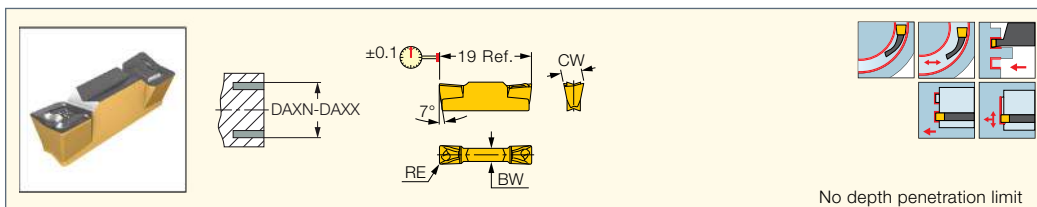
Designation	Dimensions					IC808	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	INSL		
HFPN 2002	2.00	0.20	0.04	0.030	19.40	•	f groove (mm/rev)
HFPN 2010	2.00	1.00	0.04	0.030	19.40	•	0.03-0.10

• For cutting speed recommendations and user guide, see pages 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

Tools: HFFA • HFFH

HELIFACE**HFPR/L**Utility Double-Ended Face
Machining Inserts

Designation	Dimensions							Tough ↔ Hard								Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	DAXN ⁽³⁾	DAXX ⁽⁴⁾	IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

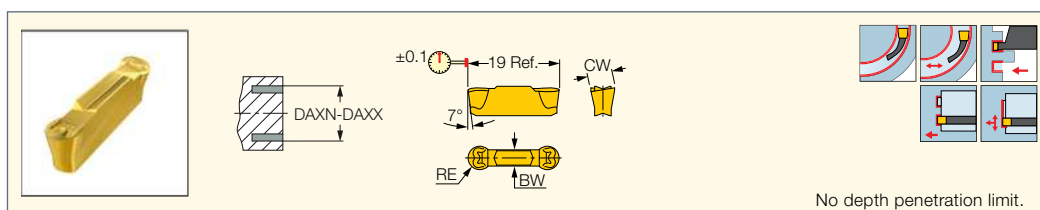
⁽²⁾ Corner radius tolerance (+/-)

⁽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.

Tools: C#-HFIR/L-MC • CR HFIR-M • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHPR/L-M • HFHR/L-3T

• HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFHR/L-M • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • IM-HFIR-MC

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

Designation	Dimensions							Tough ↔ Hard								Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	DAXN ⁽³⁾	DAXX ⁽⁴⁾	IC830	IC354	IC8250	IC808	IC9015	IC20	IC5010	IC806	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 604-615

⁽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.

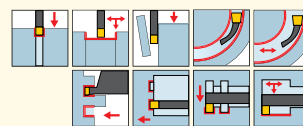
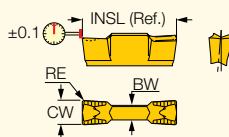
⁽⁴⁾ Maximum axial grooving diameter-applies to type M tools only. For other tools, apply the diameter limitations that are recorded on each tool.

Tools: C#-HFIR/L-MC • CR HFIR-M • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHPR/L-M • HFHR/L-3T

• HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFHR/L-M • HFIR/L-MC • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • IM-HFIR-MC

GRIP

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


HG-Y


No depth penetration limit

Designation	Dimensions						Tough ↔ Hard								Recommended Machining Data						
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	INSL	BW	IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	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	0.20	0.05	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	0.30	0.05	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	0.40	0.05	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	0.20	0.05	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	0.40	0.05	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	0.80	0.05	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	0.50	0.05	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	0.80	0.05	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	0.50	0.05	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	0.80	0.05	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	0.80	0.05	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 604-615

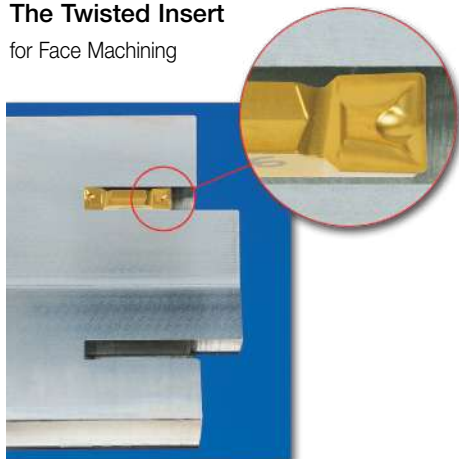
⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

Tools: C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIIR/L
• HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFIR/L-MC • HFPAD-3
• HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFH • HGHR/L-3 • HGPAD • HGPAD-JHP • IM-HFIR-MC

The Twisted Insert

for Face Machining



The double-ended, twisted insert body makes it possible to machine deeper than the insert's length.

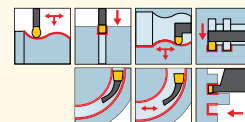
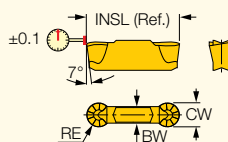
A unique chipformer for controlled chip flow in axial and radial directions.

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.



HELIGRIP**GRIP (full radius)**

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



No depth penetration limit

Designation	Dimensions						Tough ↔ Hard									Recommended Machining Data					
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	INSL	BW	IC830	IC8250	IC08	IC808	IC908	IC418	IC5010	IC806	IC807	IC804	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

Tools: C#-HELIR/L • C#-HFIR/L-MC • CR HFIR-M • D/HGAD RE/LE-JHP • DGAD/HGAD • DGFH • DGFH-JHP • DGFS • DGTR/L • HELIR/L

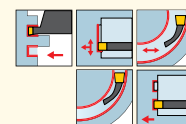
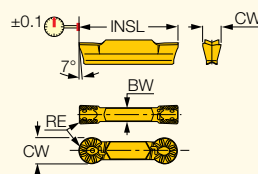
• HELIR/L • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T • HFIR/L-MC

• HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGFR • HGHR/L-3 • HGPAD • HGPAD-JHP

• IM-HFIR-MC

HELIGRIP**HGPL**

Utility Double-Ended Inserts
for Face Machining



Designation	Dimensions						Tough ↔ Hard						Recommended Machining Data		
	CW	BW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	INSL	IC328	IC354	IC08	IC808	IC908	IC806	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

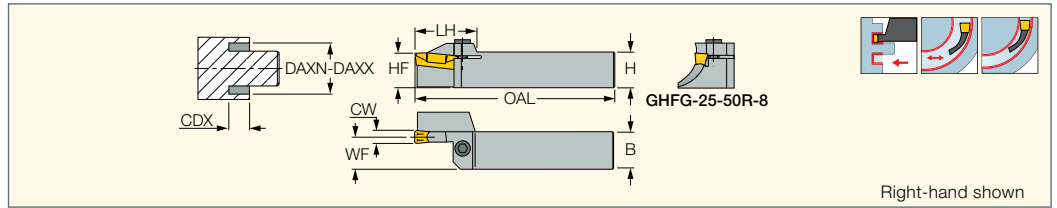
Tools: C#-HFIR/L-MC • HFAER/L-4 • HFAER/L-5T, 6T • HFAIR/L-4 • HFAIR/L-DG • HFFR/L-T • HFHR/L-4T • HFHR/L-5T • HFHR/L-6T

• HFIR/L-MC • HFPAD-3 • HFPAD-4 • HFPAD-5 • HFPAD-6 • HFPAD-JHP • HGAER/L-3 • HGAIR/L-3 • HGHR/L-3

CUTGRIP

GHFG-R/L-8

Holders for Face Grooving
and Turning Along Shafts



Designation	CDX	DAXN ⁽¹⁾	DAXX ⁽²⁾	H	HF	B	OAL	LH	WF		
GHFG 25-50R/L-8	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	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	25.00	63.0	82.0	32.0	32.0	32.0	170.00	41.0	30.00	SR M6X20 DIN912	HW 5.0

• For user guide, see pages 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

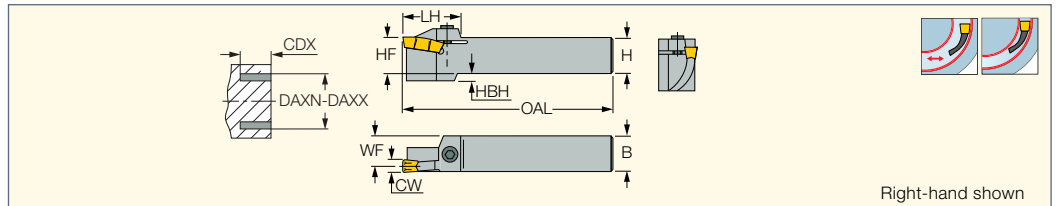
Inserts: GDMF • GDM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket)

• GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIFG-E (W=8)

CUTGRIP

GHFGR/L-8

Holders for Face Grooving
and Turning



Designation	CDX	DAXN ⁽¹⁾	DAXX ⁽²⁾	H	HF	B	OAL	LH	WF	HBH		
GHFGR/L 25-80-8	23.00	80.0	115.0	25.0	25.0	25.0	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	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	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	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	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	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 604-615

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

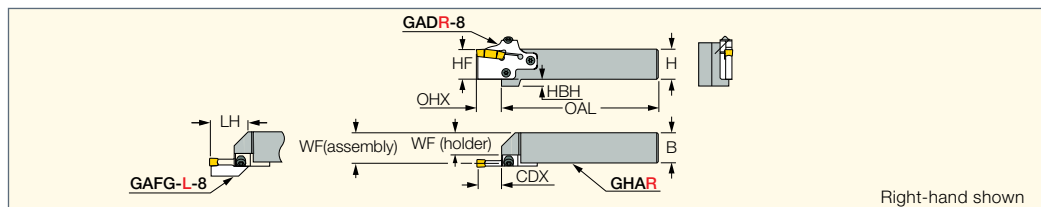
Inserts: GDMF • GDM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket)

• GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIFG-E (W=8) • GIPA/GIDA 8 (full radius)

CDX for GHFGR/L (25/32)-80-8							
D	GIF 8...	GIFG 8...	GDMY 8...	GIPA 8...	GIDA 8...	GIA 8...	GDM 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...	GDM 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...	GDM 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**GHAR/L-8**

External Holders for Grooving
and Turning Adapters



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

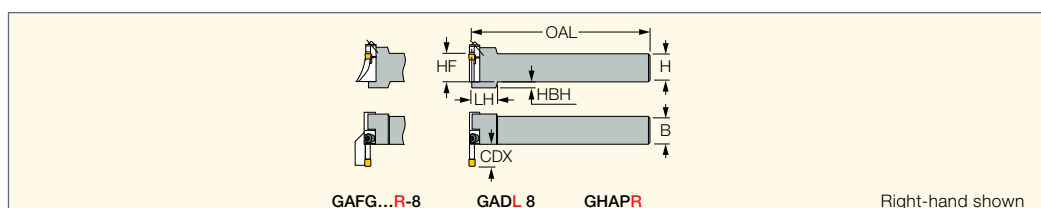
(4) See specific adapter dimensions

(5) Adapter for Face Grooving

Tools: GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP**GHAPR/L-8**

External Holders for Grooving
and Turning Perpendicularly
Oriented Adapters



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

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

(1) Adapter for Turning & Grooving

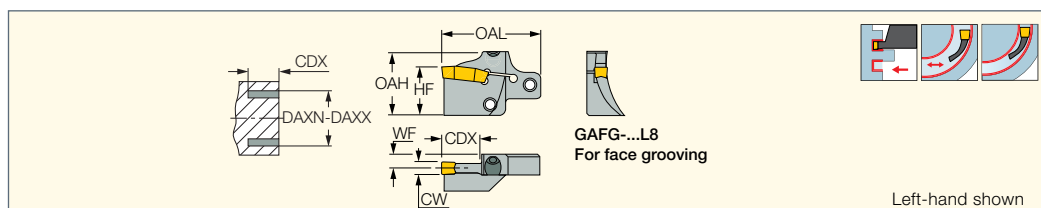
(2) See specific adapter dimensions

(3) Adapter for Face Grooving

Tools: GADR/L-8 • GAFG-R/L-8 • PCADR/L 34N-RE

CUTGRIP**GAFG-R/L-8**

Adapters for Face Machining



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

• No limitation for widening the groove either way after initial grooving • For user guide, see pages 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

(3) For GIGF-8 & GDMY-8 CDX=25 mm for DAX range

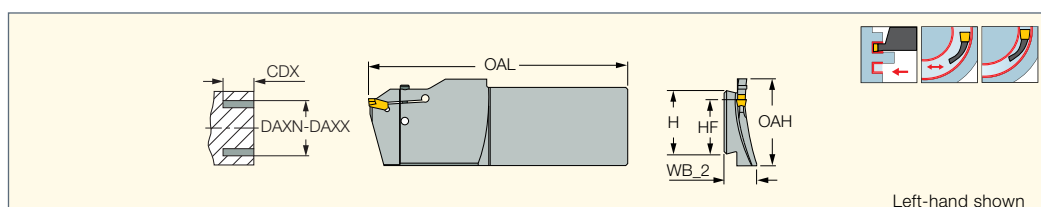
Inserts: GDMA • GDMF • GDMM-CC • GDMN • GDMU • GDMY • GDMY (full radius) • GDMY-F • GIA-K (long pocket) • GIF (long pocket)

• GIF-E (W=8,10 full radius) • GIF-E (W=8,10) • GIGF-E (W=8) • GIPA/GIDA 8 (full radius)

Holders: C#-GHAD-8 • C#-GHAPR/L-8 • GHAPR/L-8 • GHAR/L-8 • IM-GHAD-8

CUTGRIP**CGFG 51-P8**

Blades for Face Machining
Carrying 8 mm Inserts



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 604-615

(1) Minimum penetration diameter

(2) Maximum penetration diameter

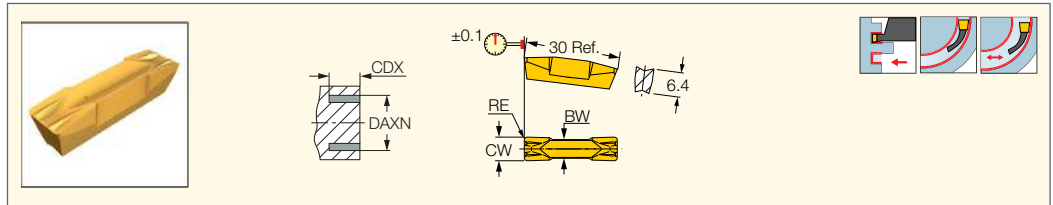
Inserts: GIMF • GIMM 8CC • GIMY • GIMY (full radius) • GIMY-F • GIPY

Holders: SGTBK • SGTBU/SGTBN

CUTGRIP

GIFG-E (W=8)

Inserts for Deep Face Grooving and Turning



Designation	Dimensions							Tough ↔ Hard		Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	DAXN ⁽³⁾	CDX ⁽⁴⁾	BW	IC635	IC20	
GIFG 8.00E-0.80	8.00	0.80	0.02	0.050	50.0	25.00	6.00	•	•	f face-groove (mm/rev) 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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

⁽³⁾ Minimum axial grooving diameter

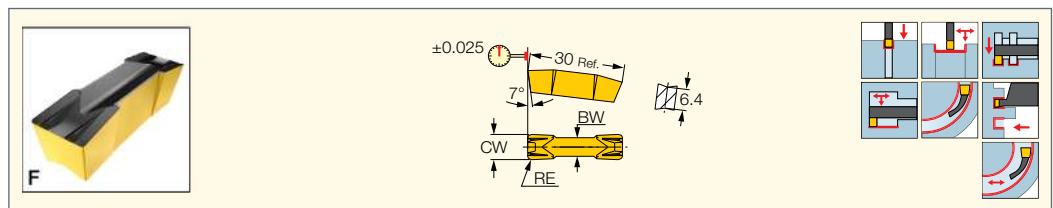
⁽⁴⁾ Cutting depth maximum

Tools: GAFG-R/L-8 • GHFG-R/L-8 • GHFGR/L-8

CUTGRIP

GIF-E (W=8,10)

Precision Double-Ended Inserts for Grooving and Turning



Designation	Dimensions						Tough ↔ Hard								Recommended Machining Data			
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	CDX ⁽³⁾	IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	IC807	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

⁽³⁾ Cutting depth maximum

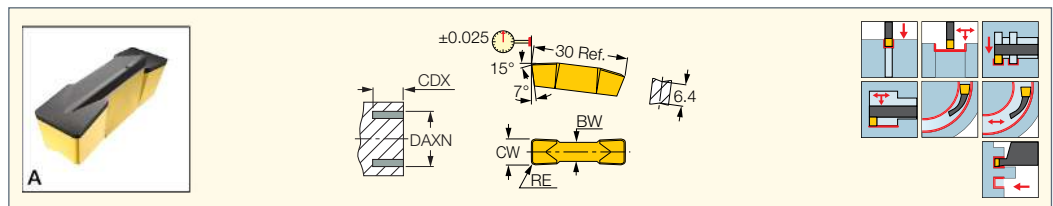
Tools: C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)

• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

CUTGRIP

GIA-K (long pocket)

Flat Top Precision Double-Ended Inserts with T-Land for Machining Cast Iron



Designation	Dimensions							Tough ↔ Hard		Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	CDX ⁽³⁾	DAXN ⁽⁴⁾	IC5010	IC428	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

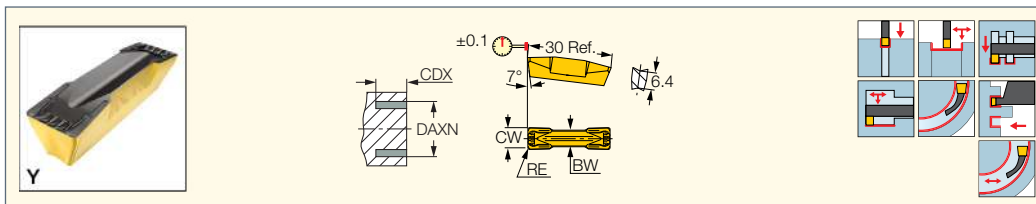
⁽²⁾ Corner radius tolerance (+/-)

⁽³⁾ Cutting depth maximum

⁽⁴⁾ Minimum axial grooving diameter

Tools: C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)

• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

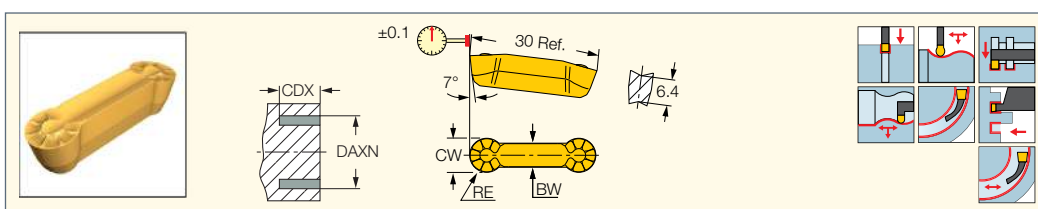
CUTGRIP**GDMY**Utility Double-Ended Inserts
for Grooving and Turning

Designation	Dimensions							Tough ↔ Hard							Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	DAXN ⁽³⁾	CDX ⁽⁴⁾	IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)⁽²⁾ Corner radius tolerance (+/-)⁽³⁾ Minimum axial grooving diameter⁽⁴⁾ Cutting depth maximum**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)

• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

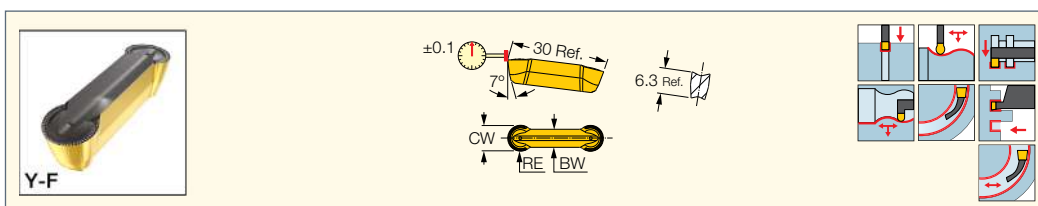
CUTGRIP**GDMY (full radius)**Utility Double-Ended Full Radius
Inserts for Grooving and Profiling

Designation	Dimensions							Tough ↔ Hard								Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	DAXN ⁽³⁾	CDX	IC830	IC8250	IC808	IC908	IC20	IC5010	IC428	IC806	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)⁽²⁾ Corner radius tolerance (+/-)⁽³⁾ Minimum axial grooving diameter**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDKR/L • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)

• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

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

Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data		
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	CDX ⁽³⁾	IC808	IC908	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 604-615

⁽¹⁾ Cutting width tolerance (+/-)⁽²⁾ Corner radius tolerance (+/-)⁽³⁾ Cutting depth maximum**Tools:** C#-GHDR/L • CGHN-8-10D • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket)

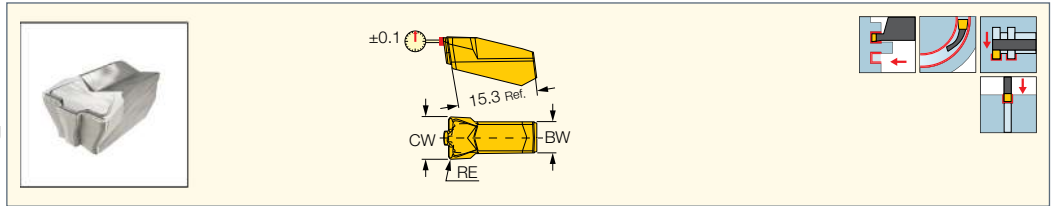
• GHFG-R/L-8 • GHFGR/L-8 • GHIR/L (W=7.0-8.3)

TANG-GRIP

CUTGRIP

GIMM 8CC

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



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

• For cutting speed recommendations, see pages 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

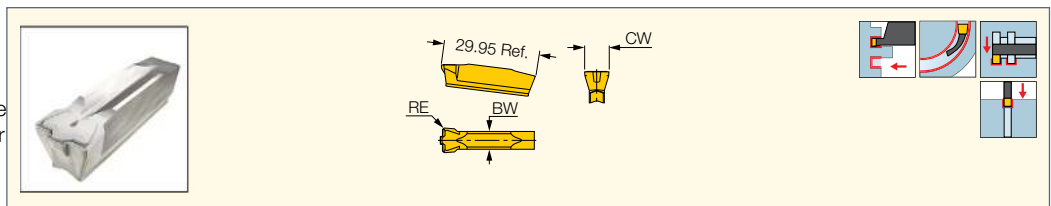
Tools: Anti-Vibration Blades • CGFG 51-P8 • CGHN-P8 • CGHR/L-P8DG • CGPAD • GHDR/L (short pocket) • GHDR/L-JHP (short pocket)

• GHDR/L-JHP-MC (short pocket) • GHGR/L

CUTGRIP

GDMM-CC

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



Designation	Dimensions					Tough ↔ Hard				Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	BW	IC830	IC354	IC808	IC907	
GDMM 7CC	7.00	0.80	0.05	0.050	6.00	●	●	●	●	f face-groove (mm/rev) 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 604-615

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

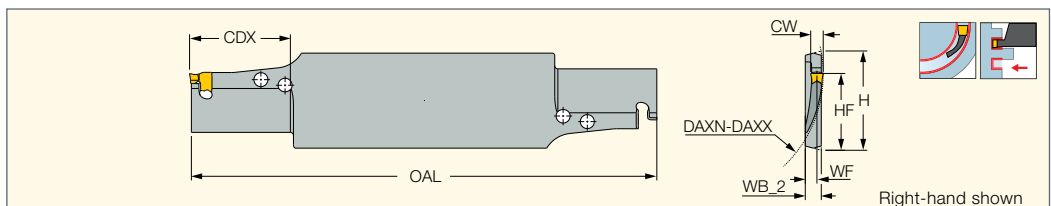
Tools: C#-GHDR/L • GADR/L-8 • GADR/L-JHP • GAFG-R/L-8 • GHDR/L (long pocket) • GHDR/L-JHP (long pocket) • GHFG-R/L-8

• GHFGR/L-8 • GHIR/L (W=7.0-8.3)

TANGGRIP

TNFFH-IQ

Face Grooving Blades



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*

• H dimension links blades and blocks

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

* Optional, should be ordered separately

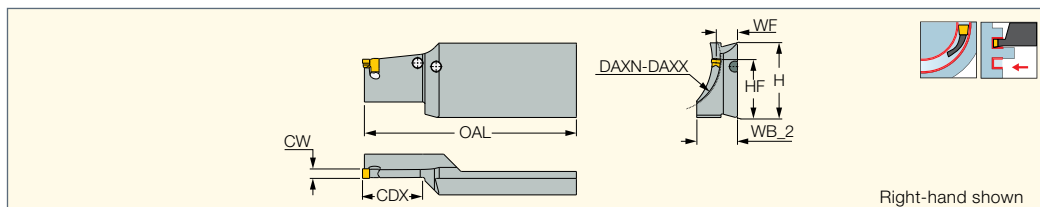
Inserts: TNF GN-IQ • TNF-M-IQ • TNF-P-IQ



ETF 3-6 extractor (to be ordered separately)

TNFFA-IQ

Reinforced Face Grooving Blades



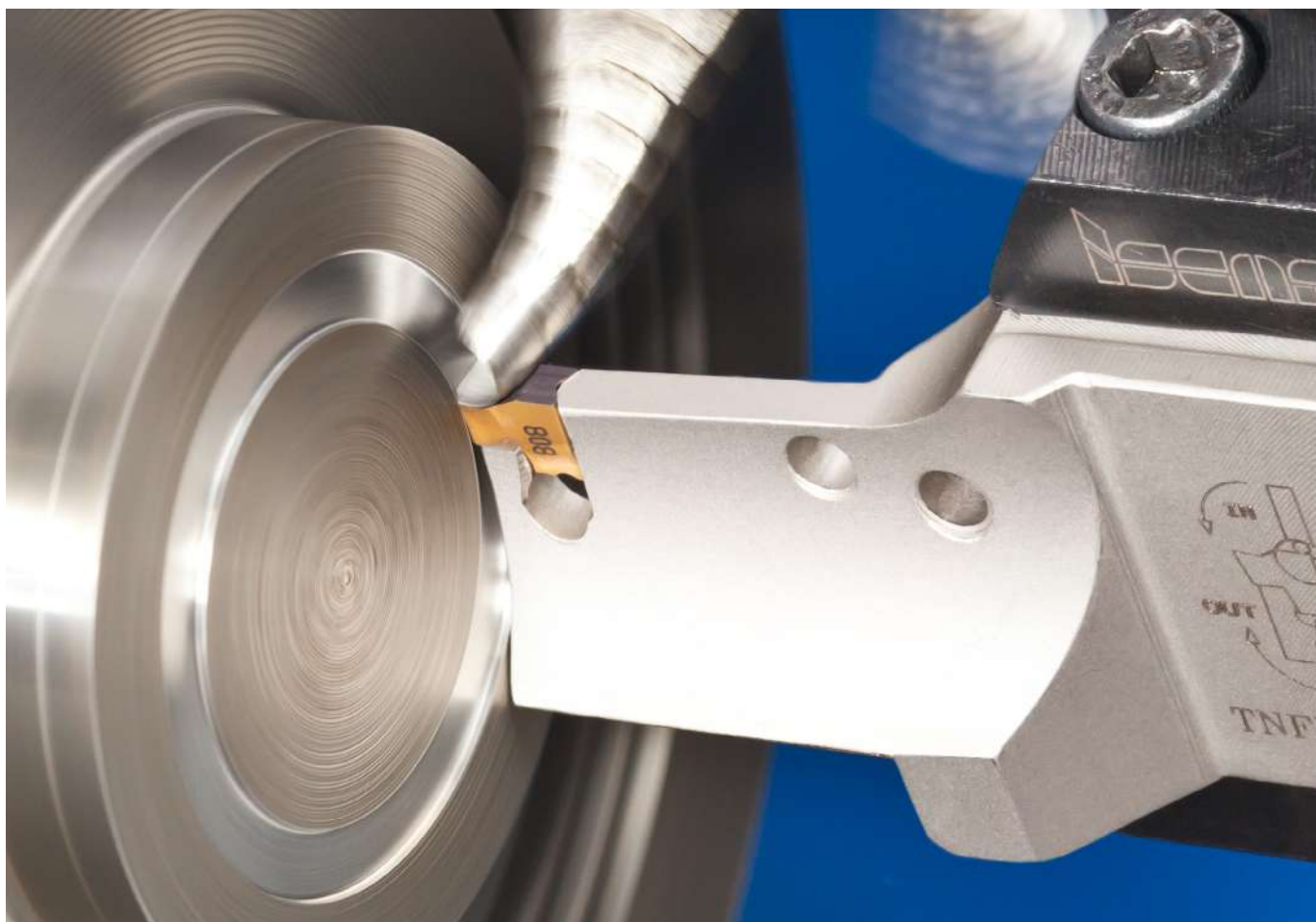
Designation	CW	DAXN ⁽¹⁾	DAXX ⁽²⁾	CDX	H	WF	HF	OAL	WB_2	Insert
TNFFA 30R/L-3IQ	3.00	30.0	35.0	19.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 35R/L-3IQ	3.00	35.0	40.0	19.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 40R/L-3IQ	3.00	40.0	46.0	23.00	32.0	9.50	24.8	90.00	18.5	TNF 3...
TNFFA 46R/L-3IQ	3.00	46.0	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...

• For user guide, see pages 604-615

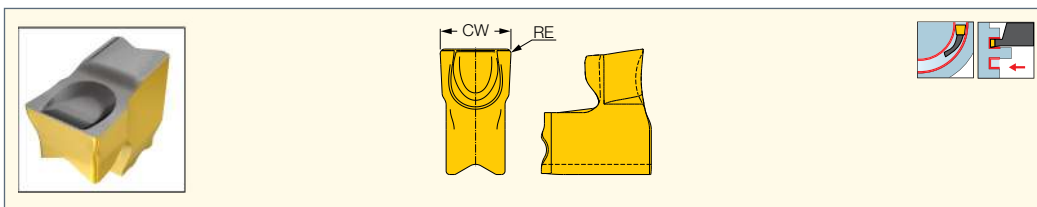
⁽¹⁾ Minimum penetration diameter⁽²⁾ Maximum penetration diameter**Inserts:** TNF GN-IQ • TNF-M-IQ • TNF-P-IQ**Spare Parts**

Designation	
TNFFA-IQ	ETF 3-6*

* Optional, should be ordered separately



TNF-P-IQ

 Face Grooving Single-Ended
 Inserts for Machining Steel


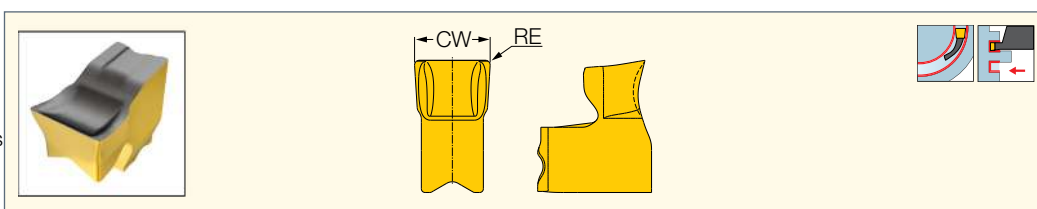
Designation	Dimensions			IC808	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾		f face-groove (mm/rev)
TNF 3P-IQ	3.00	0.30	0.05	●	0.10-0.15
TNF 4P-IQ	4.00	0.25	0.05	●	0.10-0.15
TNF 5P-IQ	5.00	0.35	0.05	●	0.12-0.20
TNF 6P-IQ	6.00	0.35	0.05	●	0.12-0.20

• For user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

Tools: TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

TNF-M-IQ

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


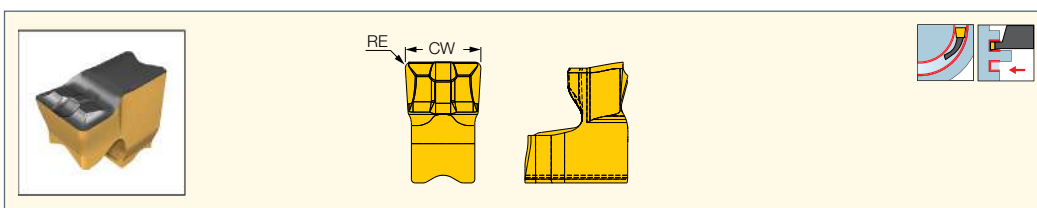
Designation	Dimensions			IC808	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾		f face-groove (mm/rev)
TNF 3M-IQ	3.00	0.30	0.05	●	0.08-0.10
TNF 4M-IQ	4.00	0.25	0.05	●	0.08-0.12
TNF 5M-IQ	5.00	0.35	0.05	●	0.12-0.20
TNF 6M-IQ	6.00	0.35	0.05	●	0.12-0.20

• For user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

Tools: TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

TNF GN-IQ

 Face Grooving Single-Ended
 Inserts for Machining Steel


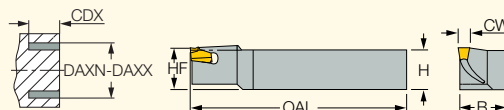
Designation	Dimensions			IC808	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾		f face-groove (mm/rev)
TNF 3GN-IQ	3.00	0.30	0.05	●	0.06-0.10
TNF 4GN-IQ	4.00	0.25	0.05	●	0.06-0.12
TNF 5GN-IQ	5.00	0.35	0.05	●	0.08-0.16
TNF 6GN-IQ	6.00	0.35	0.05	●	0.08-0.20

• For user guide, see pages 604-615

(1) Cutting width tolerance (+/-)

Tools: TNFFA-IQ • TNFFH-IQ • TNFPAD-XL-JHP

SELF-GRIP

SELF-GRIP**SGFFR/L**Face Grooving Integral
Shank Tools

Left-hand shown

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	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

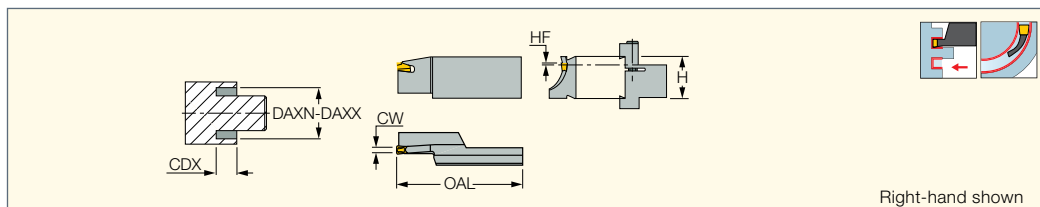
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

Inserts: GFF-N • GFF-R/L

SGFFA

 Reinforced Face Grooving Blades
for Standard Tool Blocks


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	ESG 0.5
SGFFA 30-L-2	2.10	14.00	29.0	36.0	32.0	0.0	80.00	ESG 0.5
SGFFA 35-L-2	2.10	16.00	35.0	46.0	32.0	0.8	80.00	ESG 0.5
SGFFA 45-L-2	2.10	20.00	45.0	61.0	32.0	0.8	80.00	ESG 0.5
SGFFA 60-L-2	2.10	20.00	60.0	80.0	32.0	0.8	80.00	ESG 0.5
SGFFA 80-L-2	2.10	20.00	79.0	102.0	32.0	0.8	80.00	ESG 0.5
SGFFA 35-L-3	3.00	20.00	34.4	40.6	32.0	0.0	90.00	SET ESG 1
SGFFA 40-L-3	3.00	22.00	40.0	47.0	32.0	0.0	90.00	SET ESG 1
SGFFA 46-L-3	3.00	24.00	46.0	55.0	32.0	0.0	90.00	SET ESG 1
SGFFA 55-L-3	3.00	25.00	54.0	65.0	32.0	1.2	90.00	SET ESG 1
SGFFA 65-L-3	3.00	26.00	64.0	80.0	32.0	1.0	90.00	SET ESG 1
SGFFA 80-L-3	3.00	28.00	79.0	100.0	32.0	0.7	95.00	SET ESG 1
SGFFA 35-L-4	4.00	25.00	35.0	45.0	32.0	0.0	90.00	SET ESG 1
SGFFA 45-R/L-4	4.00	25.00	44.0	58.0	32.0	0.0	90.00	SET ESG 1
SGFFA 40-R/L-5	5.00	25.00	40.0	52.0	32.0	0.0	90.00	SET ESG 1
SGFFA 50-R/L-5	5.00	28.00	50.0	71.0	32.0	0.0	95.00	SET ESG 1
SGFFA 70-L-5	5.00	30.00	69.0	102.0	32.0	0.0	95.00	SET ESG 1
SGFFA 100-L-5	5.00	35.00	100.0	180.0	32.0	0.0	100.00	SET ESG 1
SGFFA 45-R/L-6	6.00	25.00	44.0	58.0	32.0	0.0	90.00	SET ESG 1
SGFFA 60-L-6	6.00	30.00	57.0	77.0	32.0	0.0	95.00	SET ESG 1
SGFFA 75-R/L-6	6.00	35.00	75.0	102.0	32.0	0.0	100.00	SET ESG 1

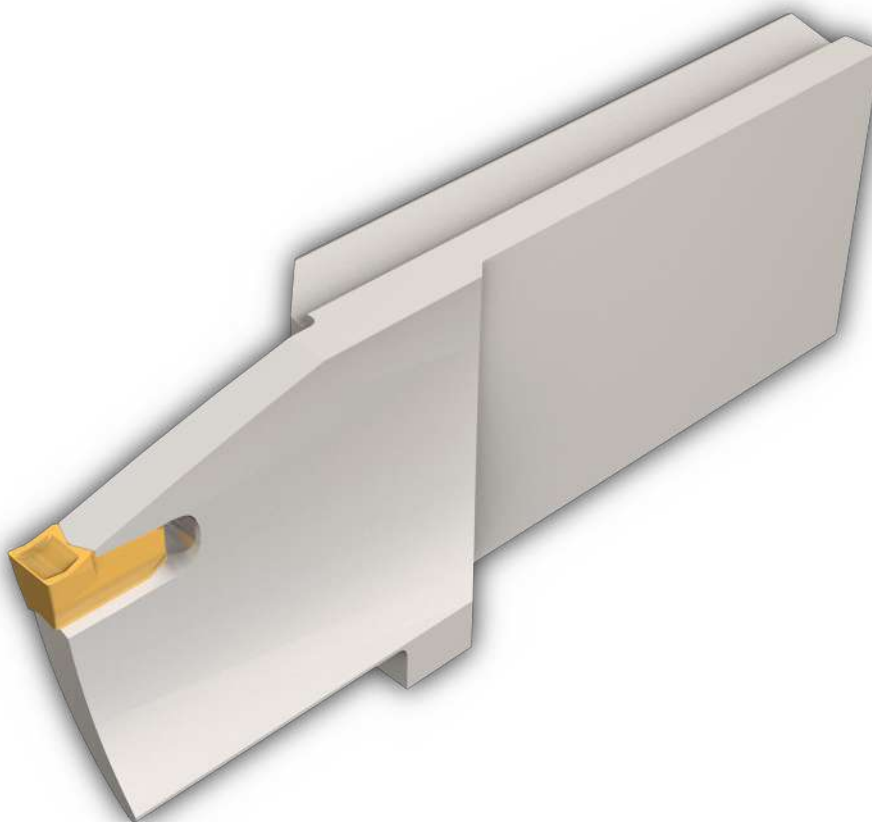
• Important: Apply R.H. insert on R.H. tool and L.H. insert on L.H. tool. Neutral insert only as indicated • H dimension links blades and blocks

⁽¹⁾ Minimum penetration diameter

⁽²⁾ Maximum penetration diameter

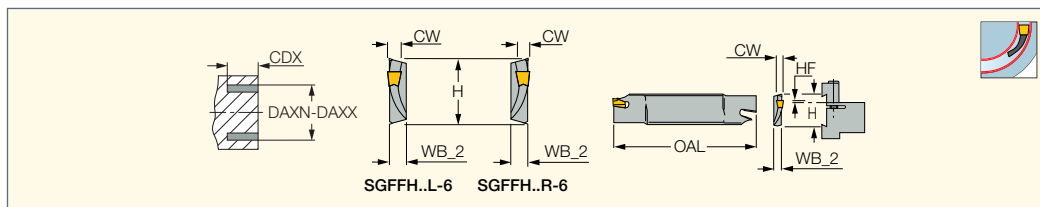
Inserts: GFF-N • GFF-R/L

Holders: SGTBF • SGTBU/SGTBN • UBHCR/L



SELFGRIP**SGFFH**

Face Grooving Blades



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

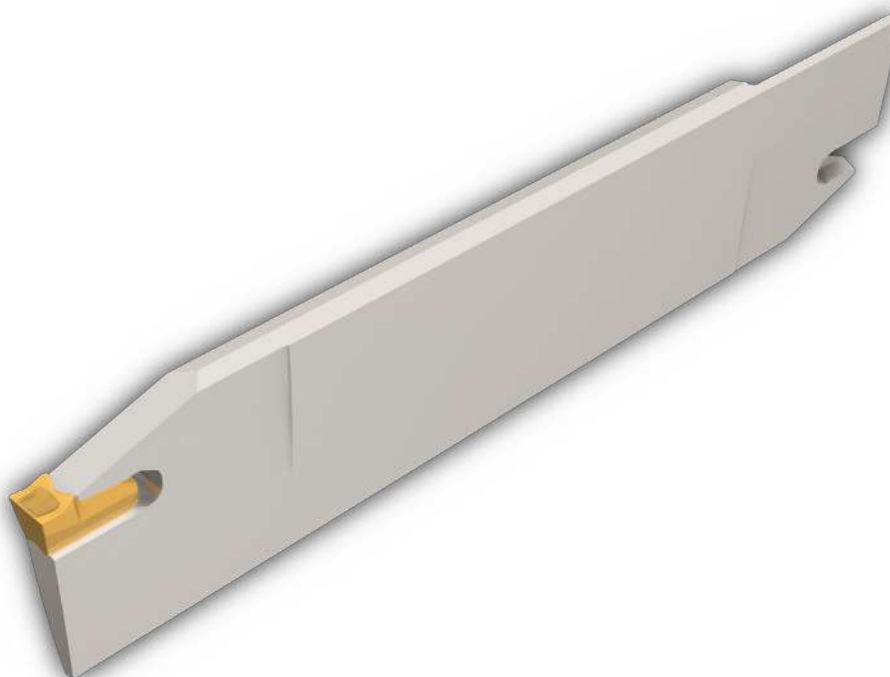
⁽²⁾ Maximum penetration diameter

Inserts: GFF-N

Holders: SGTBF • SGTBK • SGTBU/SGTBN • UBHCR/L

Spare Parts

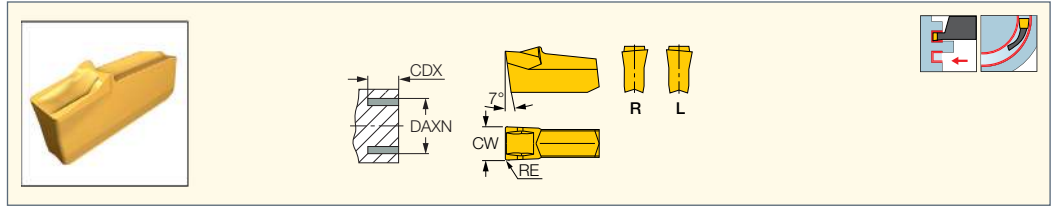
Designation	
SGFFH 35-L-2	SET ESG 0.5
SGFFH 35-R-2	ESG 0.5
SGFFH 45-L-2	SET ESG 0.5
SGFFH 45-R-2	ESG 0.5
SGFFH 60-R-2	ESG 0.5
SGFFH 80-R/L-2	ESG 0.5
SGFFH 100-R/L-2	ESG 0.5
SGFFH 75-R/L-3	SET ESG 1
SGFFH 90-R/L-3	SET ESG 1
SGFFH 120-R/L-3	SET ESG 1
SGFFH 80-R/L-4	SET ESG 1
SGFFH 150-R/L-4	SET ESG 1
SGFFH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



SELFGRIP

GFF-R/L

Face Grooving Inserts



Designation	Dimensions						Tough ↔ Hard		Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	DAXN ⁽³⁾	DAXX ⁽⁴⁾	IC354	IC20	
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

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

⁽³⁾ Minimum axial grooving diameter

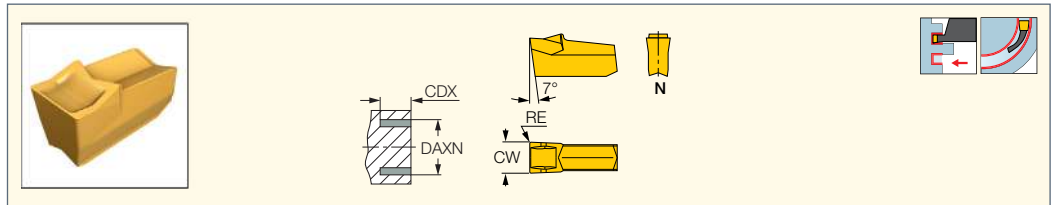
⁽⁴⁾ Maximum axial grooving diameter

Tools: SGFFA • SGFFR/L

SELFGRIP

GFF-N

Face Grooving Inserts



Designation	Dimensions					Tough ↔ Hard		Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	DAXN ⁽³⁾	IC354	IC20	
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

• Grooving depth is limited only by the tool being used

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

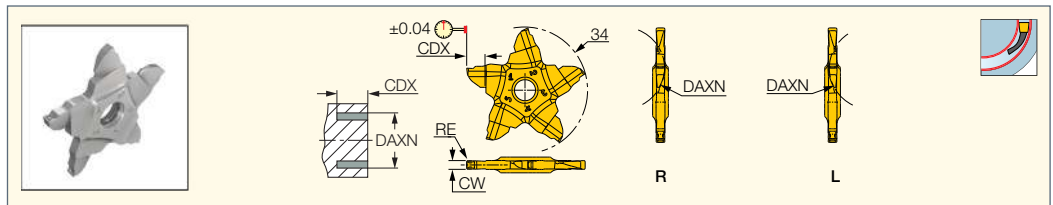
⁽³⁾ Minimum axial grooving diameter

Tools: SGFFA • SGFFH • SGFFR/L

PENTACUT

PENTA 34F-R/L

Pentagonal Inserts for Face Grooving and Recessing



Designation	Dimensions					IC908	Recommended Machining Data
	CW	RE	RETOL ⁽¹⁾	CDX	DAXN ⁽²⁾		
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 604-615

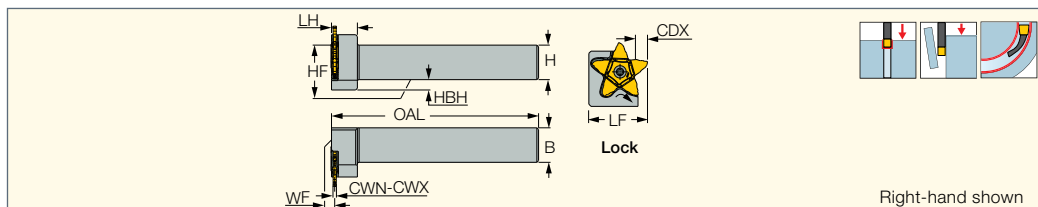
⁽¹⁾ Corner radius tolerance (+/-)

⁽²⁾ Minimum axial grooving diameter

Tools: PCADR/L • PCADR/L 34N-RE • PCADR/L-JHP • PCHBR/L • PCHPR/L • PCHR/L-34 • PCHR/L-34-JHP

PCHPR/L

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



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

Inserts: PENTA 24-BSPT • PENTA 24-ISO • PENTA 24-MT • PENTA 24-NPT • PENTA 24-UN • PENTA 24-W • PENTA 24-WT • PENTA 24N-C

• PENTA 24N-C (full radius) • PENTA 24N-J • PENTA 24N-J (full radius) • PENTA 24N-PF (full radius) • PENTA 24N-PF/P

• PENTA 24N-Z • PENTA 24R-C • PENTA 24R-P • PENTA 24R/L-J • PENTA 24R/L-Z • PENTA 34F-R/L • PENTA 34N-C • PENTA 34N-J

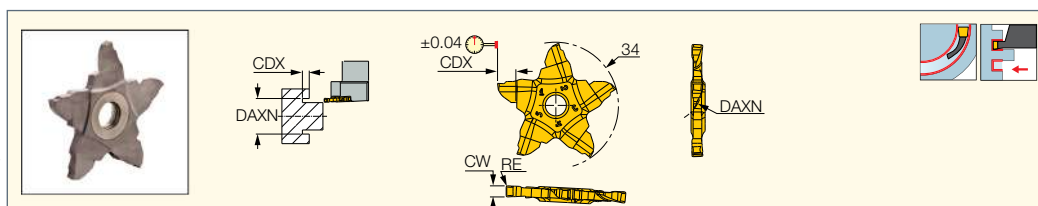
• PENTA 34N-PB • PENTA 34R/L-C • PENTA 34R/L-J • PENTA 34R/L-PB

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

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



Designation	Dimensions				IC908	Recommended Machining Data
	CW	RE	CDX	DAXN ⁽¹⁾		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

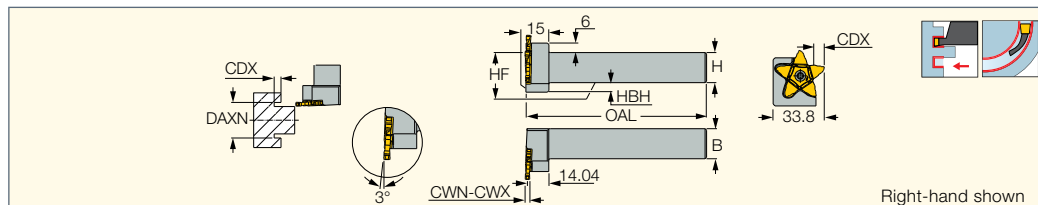
• For cutting speed recommendations, see pages 604-615

⁽¹⁾ Minimum axial grooving diameter

Tools: PCHPRS/LS

PCHPRS/LS

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



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

Inserts: PENTA 34F-RS/LS

FACE TOOLS FOR MINIATURE PARTS

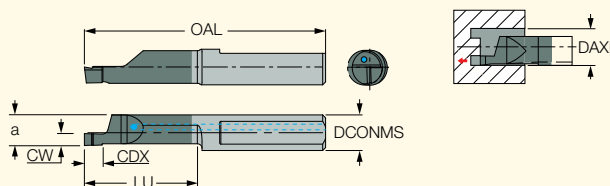


Tools for Miniature Parts

PICCO-CUT

JETCUT PICCOCUT**PICCO-010/610-N****(Face Grooving)**

Inserts with Internal Coolant
Channel for Face Grooving

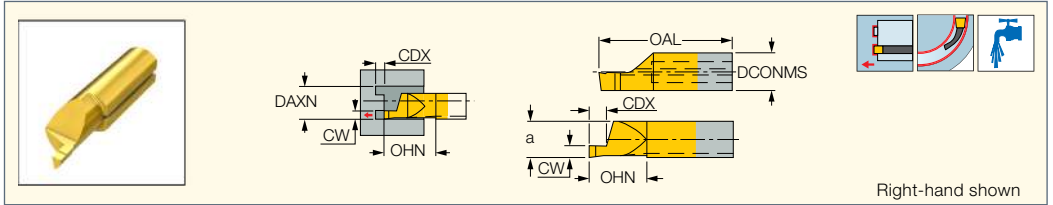


Designation	Dimensions							IC908	Recommended Machining Data f face-groove (mm/rev)
	DAXN ⁽¹⁾	CW	CDX	DCONMS	a	LU	OAL		
PICCO R 010.1006-10N	6.0	1.00	1.50	6.05	5.20	9.0	32.00	●	0.01-0.04
PICCO R 010.1506-10N	6.0	1.50	2.00	6.05	5.20	9.0	32.00	●	0.01-0.04
PICCO R 010.1008-10N	8.0	1.00	1.50	7.05	5.90	9.0	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 page 604

⁽¹⁾ Minimum axial grooving diameter





Designation	Dimensions							IC228	Recommended Machining Data f face-groove (mm/rev)
	DAXN ⁽¹⁾	CW	CDX	DCONMS	a	OHN ⁽²⁾	OAL		
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 page 604

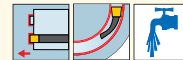
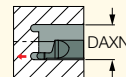
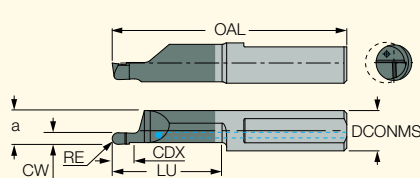
⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Minimum overhang



JETCUT PICCOCUT**PICCO-010-N (Full Radius for Face Grooving)**

Inserts with Internal
Coolant Channel for Round
Profile Face Grooving



Designation	Dimensions								IC908	Recommended Machining Data
	DAXN ⁽¹⁾	CW	RE	CDX	DCONMS	a	LU	OAL		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

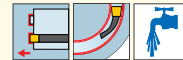
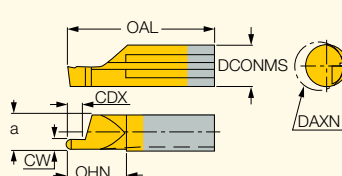
• Only right-hand inserts are available as standard, left-hand inserts on request • Solid tools are suitable for PICCO-N / PICCO ACE-N type holders only

• For detailed cutting data, see page 604

⁽¹⁾ Minimum axial grooving diameter

**PICCOCUT****PICCO-010 (Round Face Groove)**

Inserts for Round Profile
Face Grooving



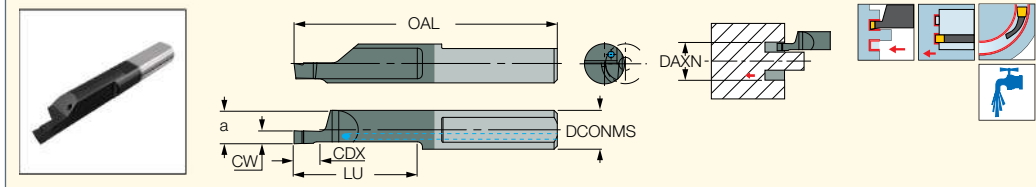
Right-hand shown

Designation	Dimensions								IC1008	Recommended Machining Data
	DAXN ⁽¹⁾	CW	RE	CDX	DCONMS	a	OHN ⁽²⁾	OAL		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

• Only right-hand inserts are available as standard, left-hand inserts on request • For detailed cutting data, see page 604

⁽¹⁾ Minimum axial grooving diameter

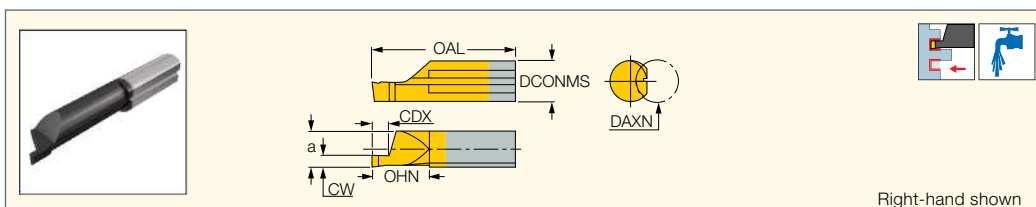
⁽²⁾ Minimum overhang

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


Designation	Dimensions							IC908	Recommended Machining Data
	DAXN ⁽¹⁾	CW	CDX	DCONMS	a	LU	OAL		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 page 604

⁽¹⁾ Minimum axial grooving diameter


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


Designation	Dimensions							IC1008	Recommended Machining Data
	DAXN ⁽¹⁾	CW	CDX	DCONMS	a	OHN ⁽²⁾	OAL		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

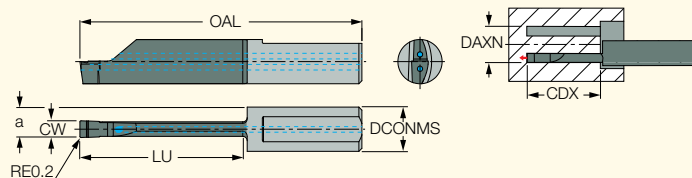
- Only right-hand inserts are available as standard, left-hand inserts on request
- All carbide inserts are with sharp corners
- For detailed cutting data, see page 604

⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Minimum overhang

PICCO CUT JET CUT**PICCO-016/020-N****(Face Grooving)**

Inserts with Internal Coolant
Channel for Deep Face Grooving



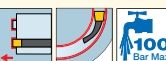
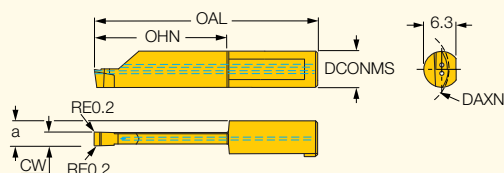
Designation	Dimensions							IC908	Recommended Machining Data
	DAXN ⁽¹⁾	CW	LU	CDX	DCONMS	a	OAL		
PICCO R016.0300-10N	16.0	3.00	9.00	9.00	8.00	5.50	32.00	●	0.01-0.05
PICCO R016.0300-20N	16.0	3.00	19.00	19.00	8.00	5.50	41.00	●	0.01-0.05
PICCO R016.0400-20N	16.0	4.00	19.00	19.00	8.00	6.00	41.00	●	0.01-0.05
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 page 604

⁽¹⁾ Minimum axial grooving diameter

**PICCO CUT****PICCO-016/020****(Face Grooving)**

Inserts with Coolant Holes
for Deep Face Grooving



Right-hand shown

Designation	Dimensions						IC1008	Recommended Machining Data
	DAXN ⁽¹⁾	CW	OHN ⁽²⁾	DCONMS	a	OAL		
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 page 604

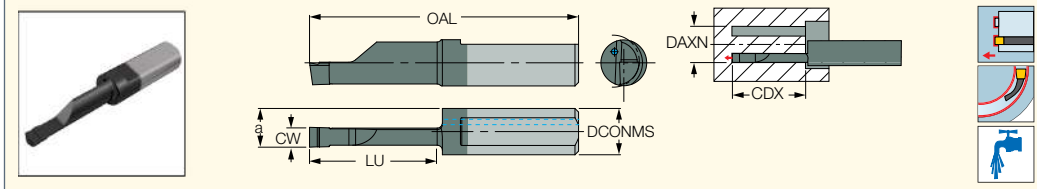
⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Minimum overhang

PICCO-015-N

(Face Grooving)

Inserts with Internal Coolant
Channel for Deep Face Grooving



Designation	Dimensions						IC908	Recommended Machining Data f face-groove (mm/rev)
	DAXN ⁽¹⁾	CW	LU	DCONMS	a	OAL		
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

- 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 page 604

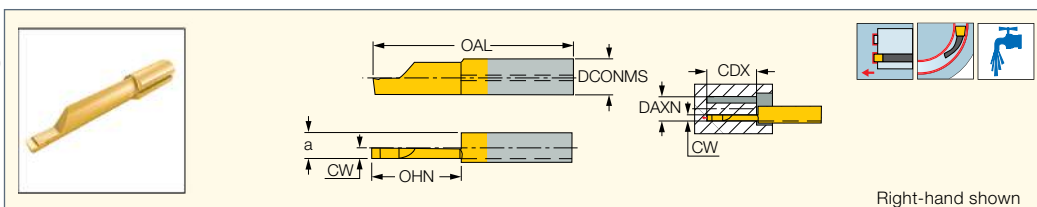
⁽¹⁾ Minimum axial grooving diameter



PICCOCUT

PICCO-015 (Face Grooving)

Inserts for Deep Face Grooving



Designation	Dimensions							IC228	Recommended Machining Data f face-groove (mm/rev)
	DAXN ⁽¹⁾	CW	OHN ⁽²⁾	DCONMS	a	OAL	CDX		
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

- Only right-hand inserts are available as standard, left-hand inserts on request
- All inserts are with sharp corners
- For detailed cutting data, see page 604

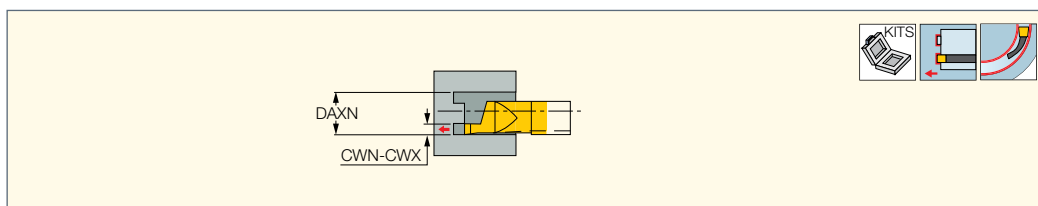
⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Minimum overhang

PICCOCUT

KIT PICCO Face

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



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

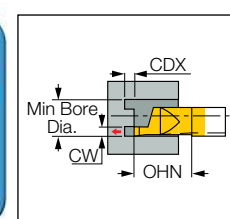
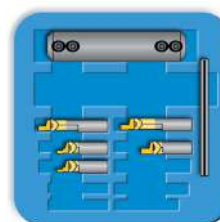
⁽³⁾ Maximum cutting width

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

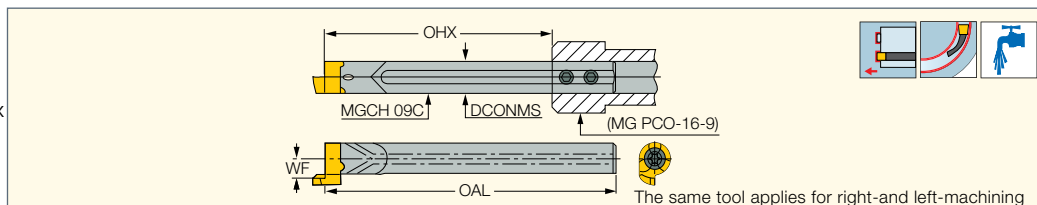
Available grade: IC228



CHAMGROOVE

CHAMGROOVE**MGCH-C (face)**

Face Machining Tools Carrying
GFQR Inserts for Dmin 12 - Dmax
19 mm Penetration Range



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

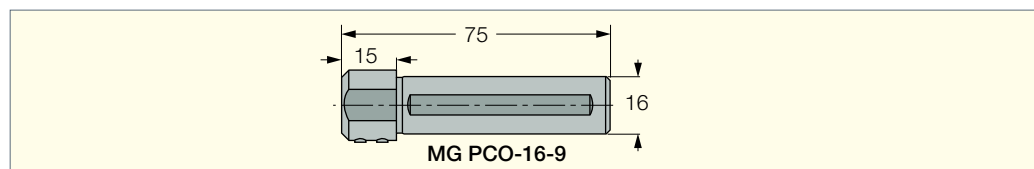
⁽¹⁾ Maximum overhang

Inserts: GFQR

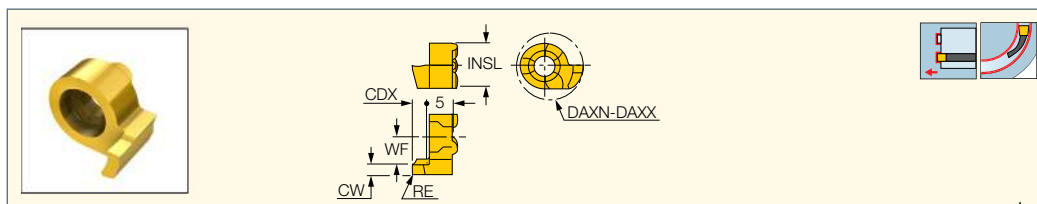
Holders: PICCO/MG PCO (Holder)

MG PCO

Holder Bar for Adjustable Shank

**CHAMGROOVE****GFQR**

Face Grooving Inserts



Designation	Dimensions							IC528	Recommended Machining Data
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	CDX	DAXN ⁽³⁾	DAXX ⁽⁴⁾		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 page 604

⁽¹⁾ Cutting width tolerance (+/-)

⁽²⁾ Corner radius tolerance (+/-)

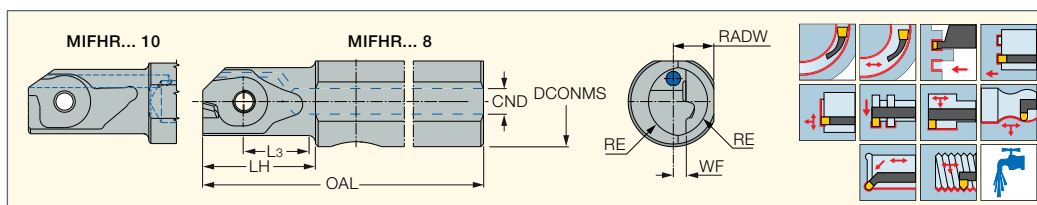
⁽³⁾ Minimum penetration diameter

⁽⁴⁾ Maximum penetration diameter

MINCUT

MINCUT**MIFHR**

Bars for Face and Internal
Grooving, Undercutting
and Threading Inserts



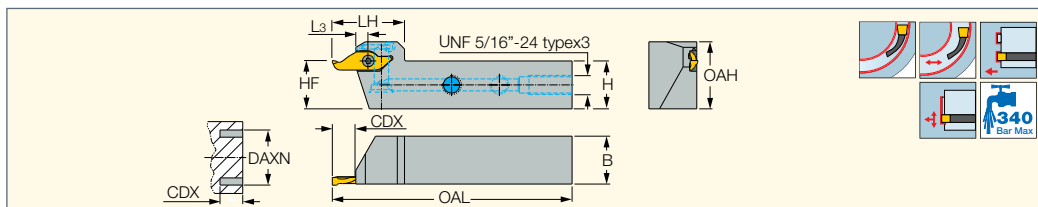
Designation	DCONMS	CND	WF	RADW	OAL	L3	LH	RE	Insert			
MIFHR 8SC-8-SRK⁽¹⁾	8.00	1.2	1.4	3.70	75.00	7.40	11.7	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 10C-8	10.00	5.0	1.4	4.50	102.50	7.40	12.5	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 12C-8	12.00	5.0	1.4	5.50	102.50	7.40	12.5	3.80	MI.R 8	SR 14-297	T-8/5	
MIFHR 12C-10⁽²⁾	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

Inserts: MEFL • MIFR • MIGR 8 • MITR 8-MT • MIUR 8

Holders: PICCO/MG PCO (Holder)



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	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	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	T-9/5	SR 5/16UNF TL360

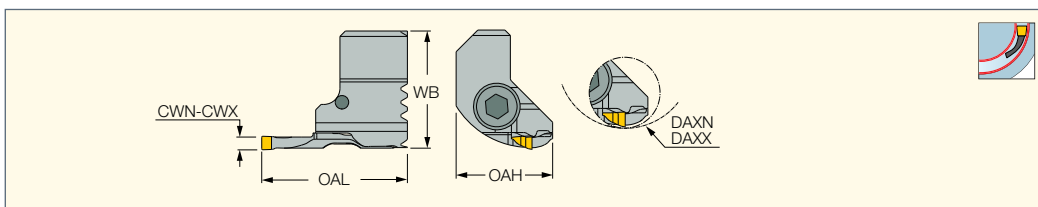
• For DAXN, refer to insert data • For user guide and accessories, see pages 604-615

⁽¹⁾ Minimum axial grooving diameter

Inserts: MEFL • MIFR

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



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	T-9/5

⁽¹⁾ Minimum axial grooving diameter

⁽²⁾ Maximum axial grooving diameter

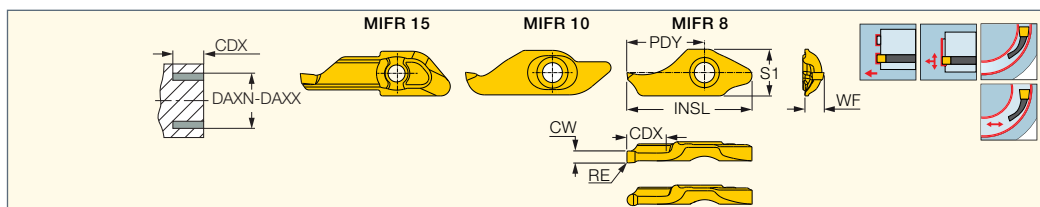
⁽³⁾ Minimum cutting width

⁽⁴⁾ Maximum cutting width

Inserts: MIFR

MIFR

Screw-Clamped Inserts for Internal Face Grooving and Turning



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

• Recommended cutting speeds and feeds can be increased by 20-30% for aluminum, and reduced by 20-30% for titanium and Inconel

• For cutting speed recommendations, see page 606

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

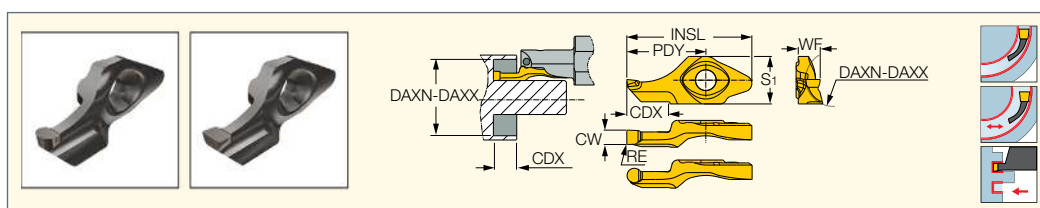
(3) Minimum axial grooving diameter

(4) Maximum axial grooving diameter

Tools: IHSR-MIFR • MFHR-JHP • MIFHR

MEFL

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



Designation	Dimensions											IC908	Recommended Machining Data	
	CW	RE	CWTOL ⁽¹⁾	RETOL ⁽²⁾	WF	S1	CDX	PDY	INSL	DAXN ⁽³⁾	DAXX ⁽⁴⁾		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

• For cutting speed recommendations, see pages 606

(1) Cutting width tolerance (+/-)

(2) Corner radius tolerance (+/-)

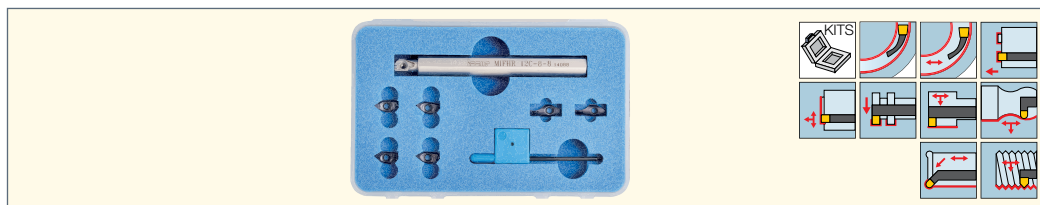
(3) Minimum axial grooving diameter

(4) Maximum axial grooving diameter

Tools: MFHR-JHP • MIFHR

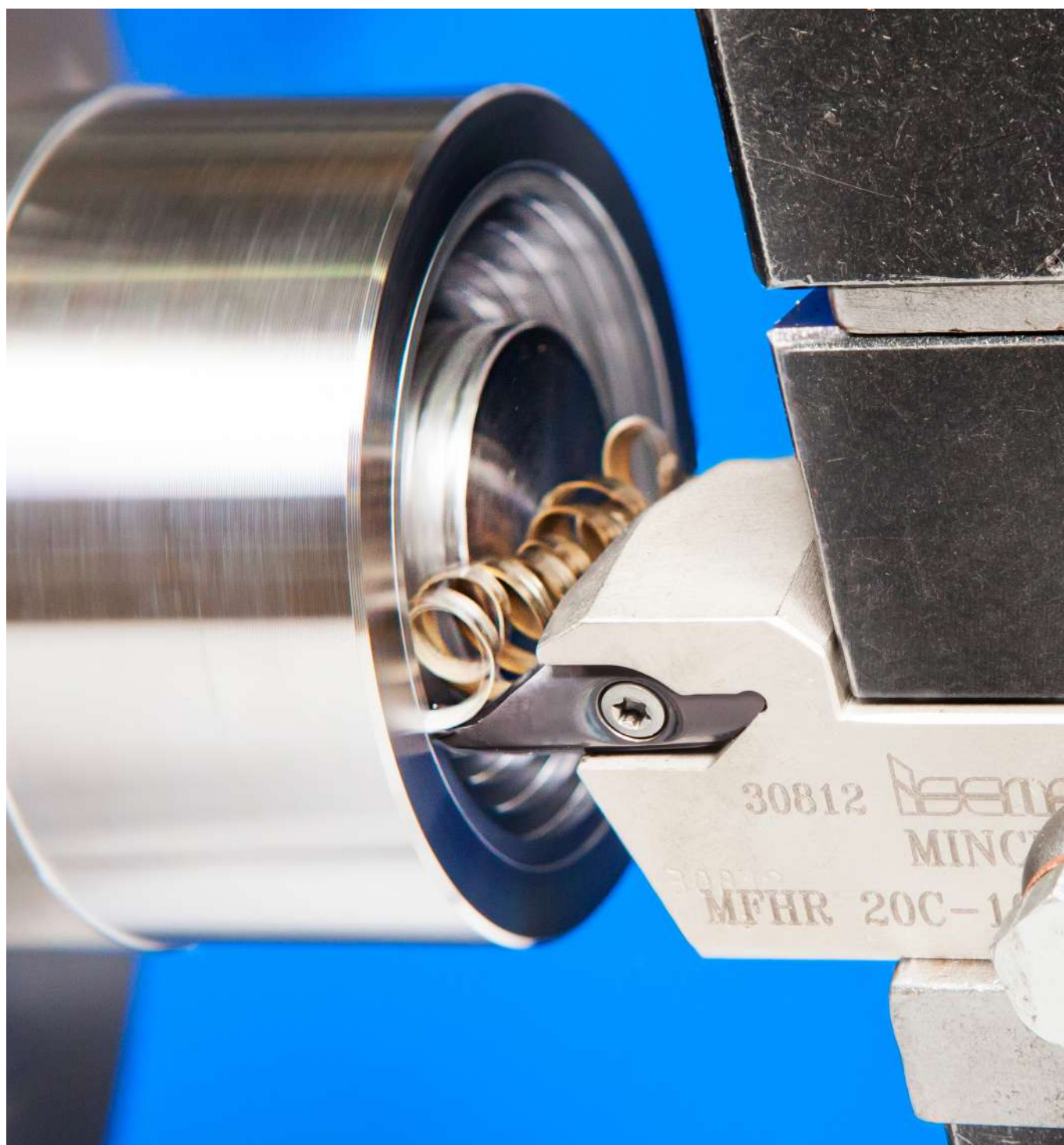
MINCUT KIT

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



Designation	Qty
KIT MINCUT	7

Catalog No	Designation	Quantity
2801523	MIFHR 12C-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



Cutting Speed Recommendations

HELIFACE**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
	Low alloy steel and cast steel (less than 5% of alloying elements)	Quenched and tempered	1000	300	5
		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
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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	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				

CHAMGROOVE PICCOCUT**Machining Data for Face Machining**

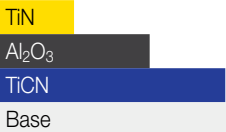
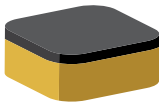
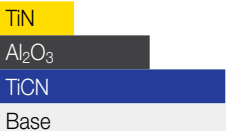
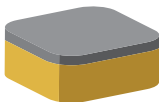
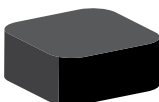
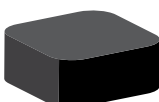
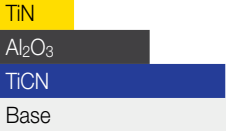
ISO	Material	Condition	Tensile Strength [N/mm ²]	Hardness HB	Material No.	Cutting Speed (m/min)	GFQR IC528 Feed (mm/rev)	PICCO IC228 Feed (mm/rev)	MIFR/ MEFL 8 IC908 Feed (mm/rev)	MIFR 10 IC908 Feed (mm/rev)	MIFR 15 IC908 Feed (mm/rev)
P	Non-alloy steel and cast steel, free cutting steel	< 0.25 %C Annealed	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	0.015-0.05	0.02-0.10	0.05-0.15	0.05-0.12
		Cured		100	22	100-250	0.02-0.08	0.015-0.05			
	Aluminum-cast-alloys	<=12% Si Not cureable		75	23	150-300	0.02-0.08	0.015-0.05			
		Cured		90	24	150-300	0.02-0.08	0.015-0.05			
		>12% Si High temperature		130	25	100-150	0.02-0.08	0.015-0.05			
		>1% Pb Free cutting		110	26	80-230	0.02-0.08	0.015-0.05			
	Copper alloys	Brass		90	27	70-200	0.02-0.08	0.015-0.05			
		Electrolytic copper		100	28	50-180	0.02-0.08	0.015-0.05			
	Non-metallic	Duroplastics, fiber plastics			29						
		Hard rubber			30						
S	High temp. alloys Ni or Co based	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			
		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 Grooving Grades Chart

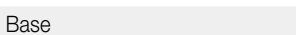
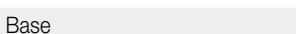
	Grade	ISO	Grade Description	Coating Layers	Coating Color*
PVD COATED	IC354	P20-P40	A tough substrate with PVD coating, suitable for general use on a wide range of carbon steels, alloy steels and stainless steel at moderate speeds and feeds.		
		M20-M30			
	IC806	M05-M15	A hard submicron grain size substrate 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.		
		S10-S20			
	IC807	P10-P20	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.		
		M05-M15			
		K15-K30			
		S10-S20			
		H05-H15			
	IC808	P15-P30	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.		
		M20-M30			
		K20-K40			
		S15-S30			
		H20-H30			
	IC830	P30-P45	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.		
		M25-M40			
		S20-S30			
	IC908	P15-P30	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.		
		M20-M30			
		K20-K40			
		S15-S30			
		H20-H30			

* For coated grades

ISCAR Face Grooving Grades Chart

	Grade	ISO	Grade Description	Coating Layers	Coating Color*
CVD COATED	IC5010		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.		
		K10-K20			
	IC8250	P15-P35	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.		
		M15-M25			
	IC418		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.		
		K10-K25			
	IC428		A hard substrate with multilayer CVD coating. Recommended for machining gray and nodular cast iron at moderate to high cutting speeds.		
		K05-K20			
	IC9015		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.		
		P10-P25			
		K10-K15			

* For coated grades

	Grade	ISO	Grade Description	Coating Layers	Uncoated
UNCOATED	IC08		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.		
		M15-M30			
		N10-N25			
		S20-S30			
	IC20		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.		
		K10-K20			
		N05-N25			
		S10-S20			
		H10-H20			

Clamping the Insert

Clamping an insert correctly into the holder is necessary for stable machining.

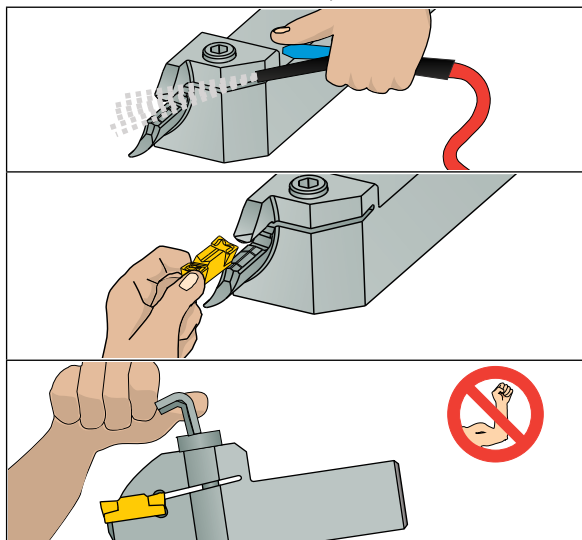
- Be sure that the seat is clean of dirt and swarf.
- In the first stage of clamping, ease the insert gently into place. Make sure that the prismatic surfaces match.

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.



HELIFACE HFPR/L & HGPL Type



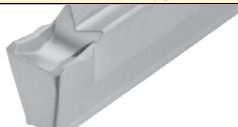
For general use in turning & grooving on all types of materials. Use for deep grooving in low-to-medium feeds 0.04-0.15 mm/rev. Min grooving dia. 12 mm.

HELIFACE GRIP...Y Type



The "all in one" insert for parting, external grooving and turning, internal grooving and turning, face grooving and turning.

DO-GRIP DGN...C Type



For grooving operations only. Strong cutting edge for hard materials and tough applications in feeds 0.1-0.2 mm/rev.

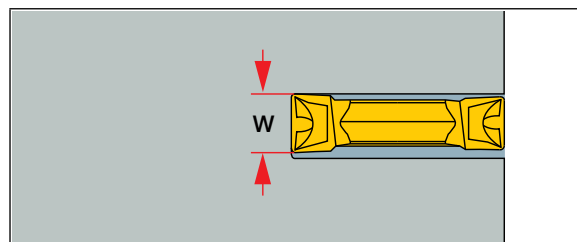
DO-GRIP DGN...J Type



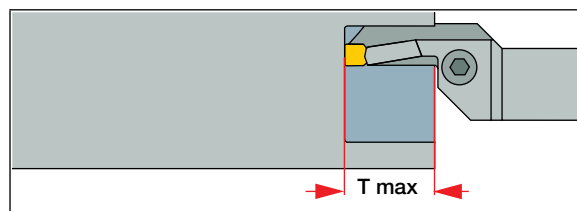
For grooving operations only. Positive rake, for soft materials in low-to-medium feeds 0.05-0.15 mm/rev.

Face Machining Guide

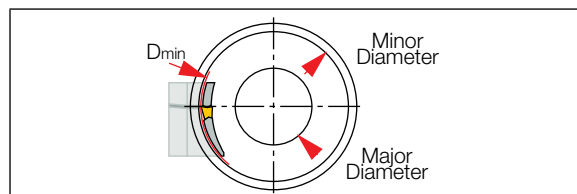
Tool Selection - Follow these recommendations to choose the right tool for high performance.



Choose the widest possible insert and tool, according to the cutting width and geometry to be machined.



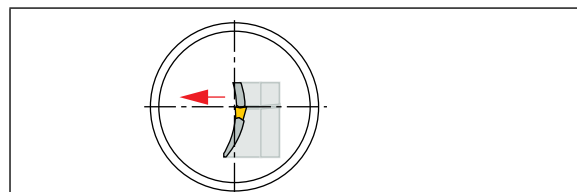
Choose the shortest tool blade overhang, according to the maximum depth required.



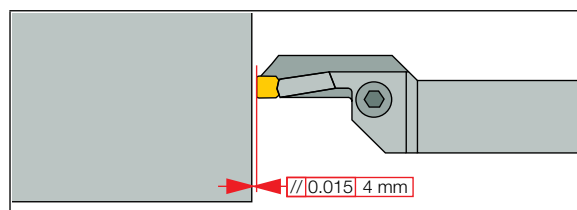
Choose the tool range with the largest diameter, depending on the initial grooving diameter required in the application.

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.



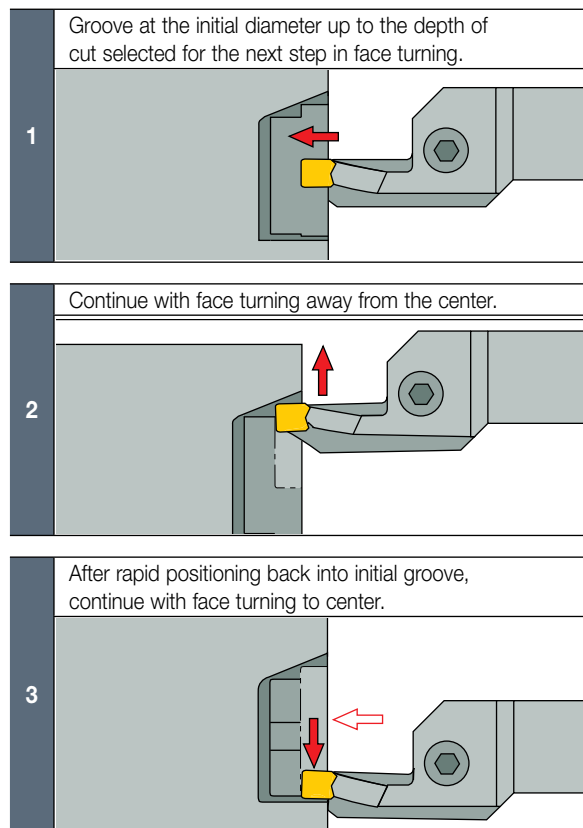
Check the cutting edge height at center line, machine in light turning down to center and check for burr.



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

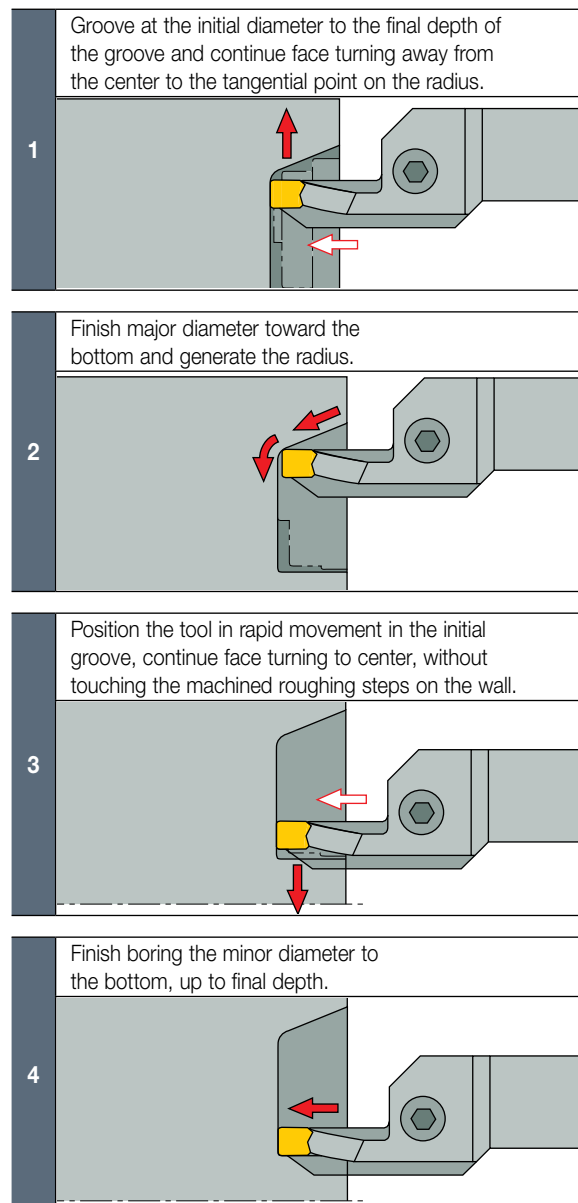
Recommended machining sequence in roughing operation using multifunction HELI-FACE tools.



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.

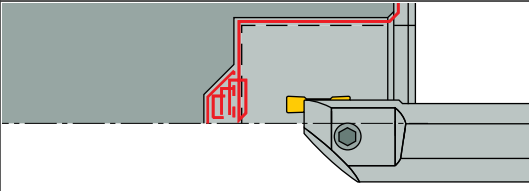


Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

The Multifunction Advantage

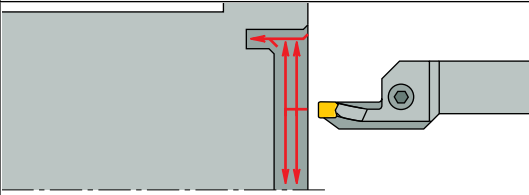
The **HELI-FACE** internal boring bar HFIR/L MC typewith internal coolant can replace the three different ISO tools and shorten machining time by 20%.

1



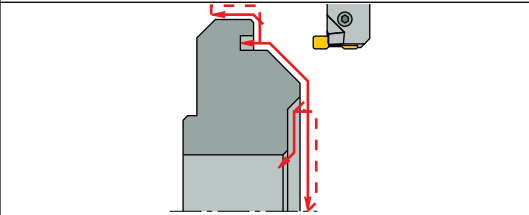
2

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%.



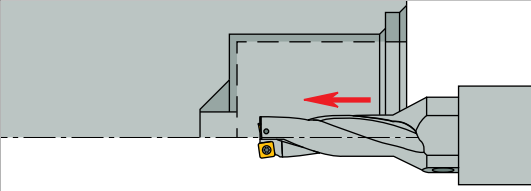
Note: When face grooving, reduce the speed by 40% in relation to that used in face turning.

The Multifunction Advantage

This workpiece was machined using three different conventional tools.

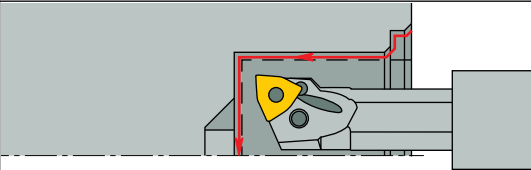
1

An indexable drill for bottom drilling.



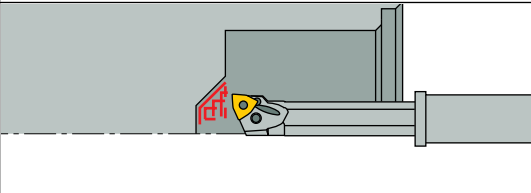
2

A standard internal boring bar with a trigon insert for roughing and finishing.



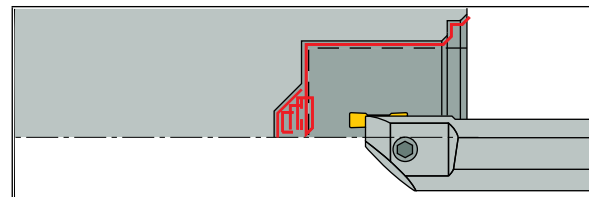
3

A standard internal boring bar with a trigon insert for bottom machining. This operation requires a small diameter shank and long overhang.



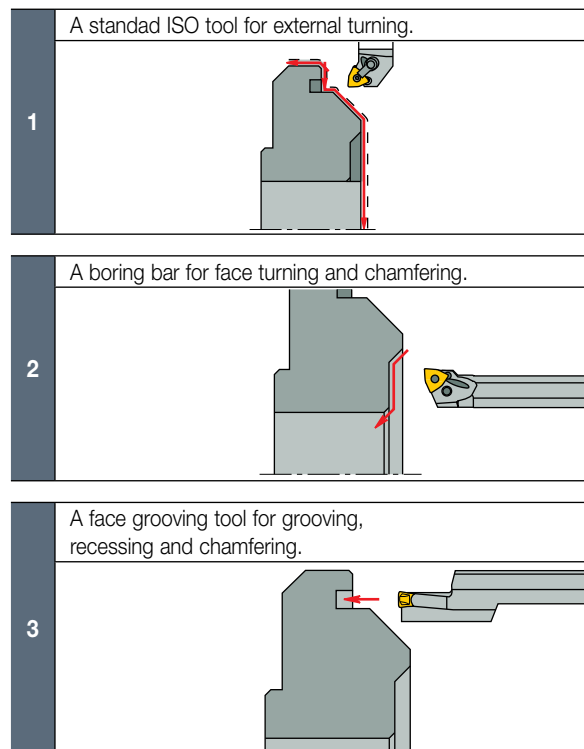
The HELI-FACE Solution

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%.



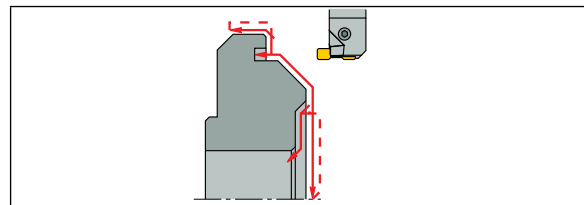
The Multifunction Advantage

This part was machined using three different conventional tools.

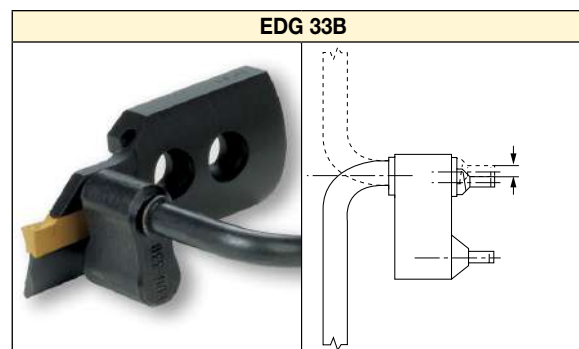


The HELI-FACE Solution

A single integral **HELI-FACE** tool HFHPL-M replaces three ISO tools and reduces machining time by 50%.



Insert Replacement



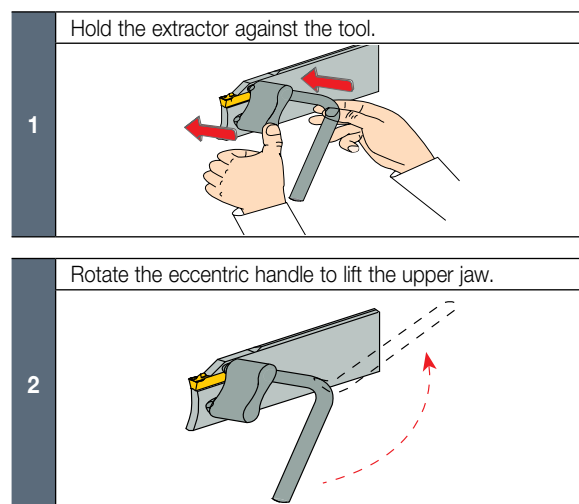
Eccentric Extractor

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.

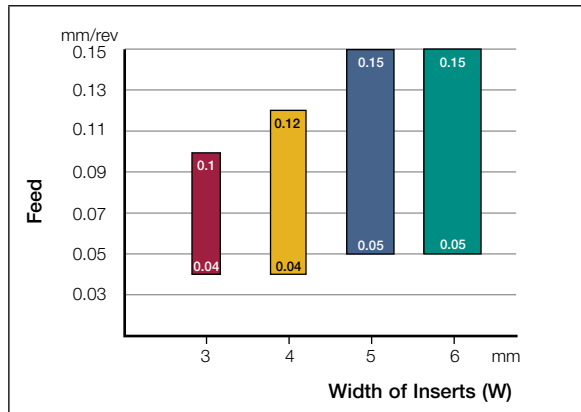
Indexing

Place the EDG extractor in the holes

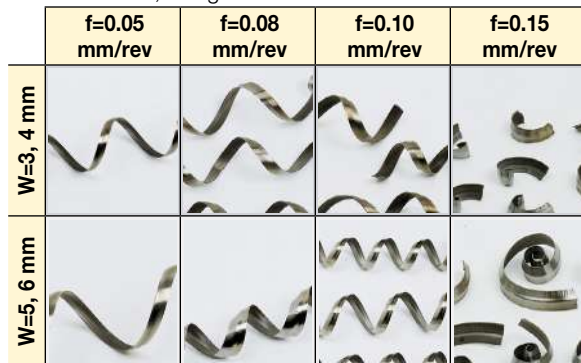


Machining Conditions in Face Grooving

Recommended feed range for grooving with **HFPR/L** inserts in various widths.

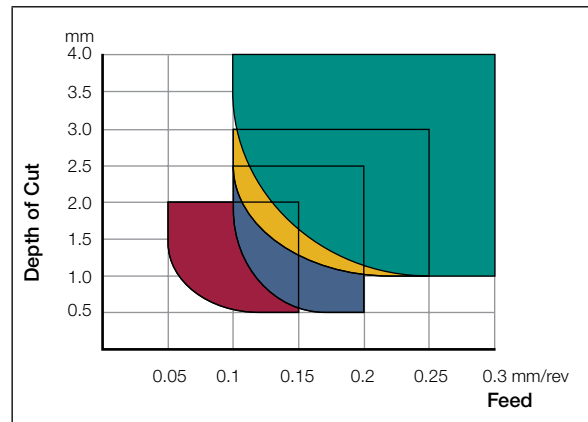


Chip shapes for grooving, according to width of insert and feed, using **HFHR/L** toolholders.

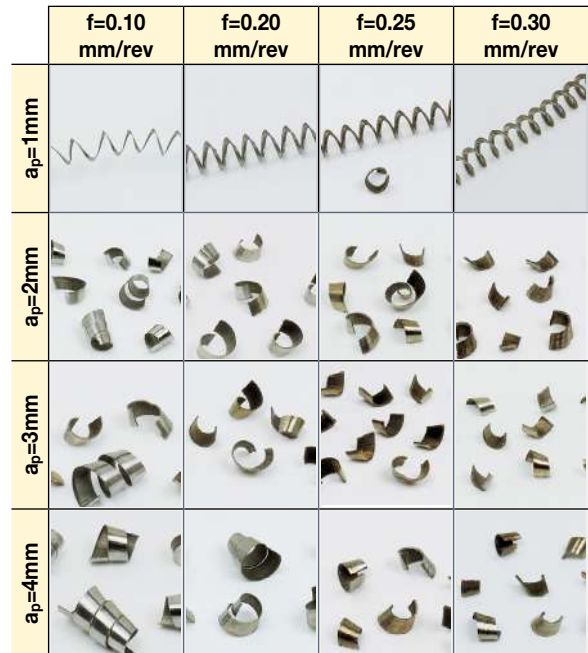


Note: In face grooving, narrowed and deformed chips are preferred. Curled and long chips can flow out more easily from deep grooves.

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.



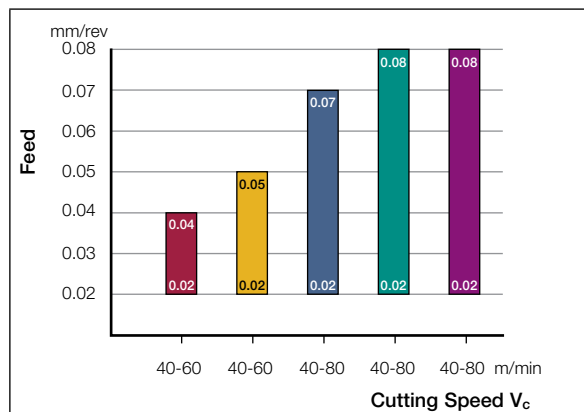
Note: In roughing, increase feed at small depth of cut and reduce feed at large depth of cut.

-  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

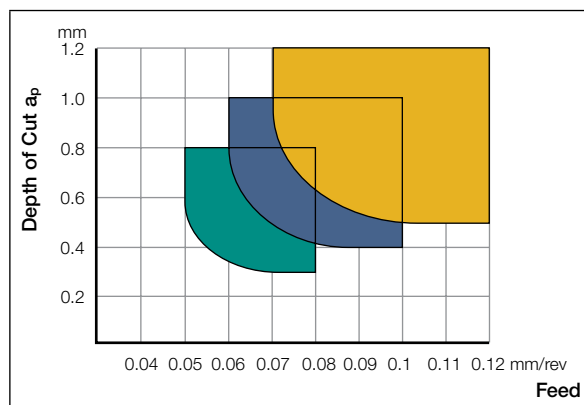
Using Adapters for 3 mm Inserts

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.

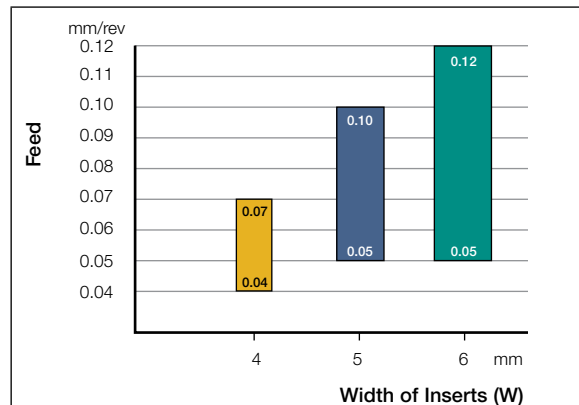


- HGAIR/L 21-3T9
HGAER/L 21-3T9
HGAIR/L 25-3T9
- HGAIR/L 14-3T7
HGAER/L 14-3T7
HGAIR/L 17-3T8
HGAER/L 17-3T8
- HGAIR/L 12-3T6
HGAER/L 12-3T6

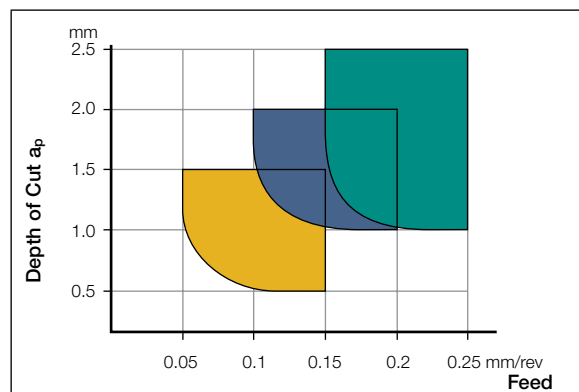
Note: In roughing, increase feed at small depth of cut, and reduce feed at large depth of cut.

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.



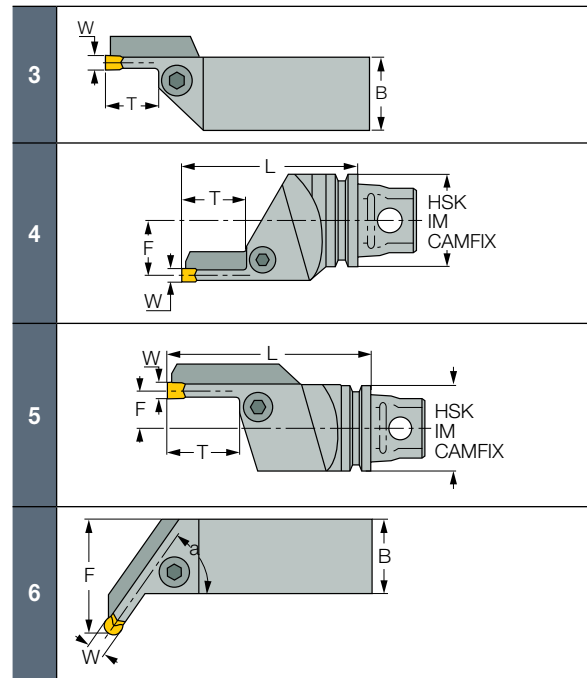
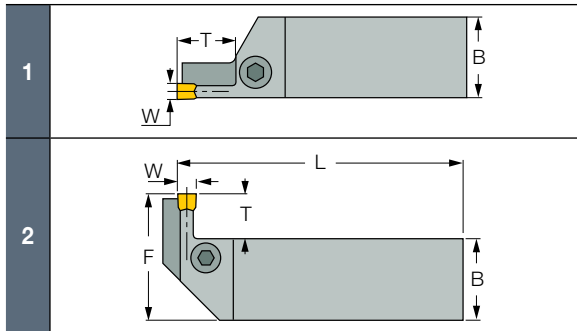
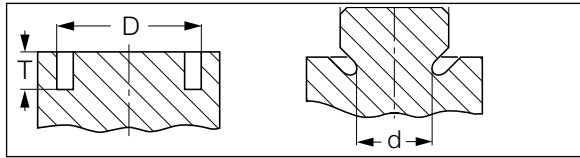
- HFAIR/L- ...4
HFAER/L- ...4
- HFAIR/L- ...5
HFAER/L- ...5
- HFAIR/L- ...6
HFAER/L- ...6

Note: In roughing, reduce feed when depth of cut is increased, and 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

		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
Material groups	Harder	IC808	IC808	IC808	IC5010			IC808
		IC8250	IC8250	IC8250		IC20	IC20	
	Tougher	IC830	IC830		IC428	IC08	IC808	IC908

■ First choice

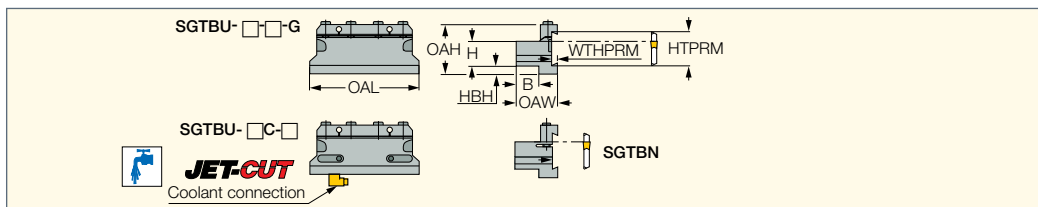


TOOL BLOCKS



TOOL BLOCKS**SGTBU/SGTBN**

Blocks for Various Parting
and Grooving Blades



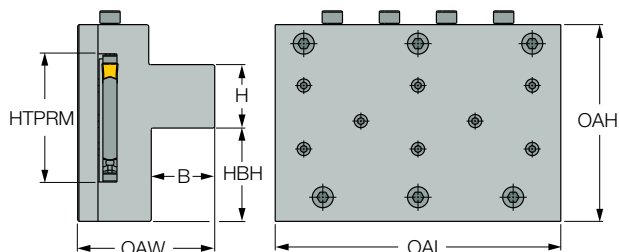
Designation	H	B	HTPRM	OAW	OAH	HBH	WTHPRM	OAL
SGTBN 16-2	16.0	16.0	19.0	26.00	30.0	4.0	2.00	76.00
SGTBU 16-5G	16.0	17.0	26.0	34.00	43.0	13.0	4.10	86.00
SGTBU 20-5G	20.0	21.0	26.0	38.00	43.0	9.0	4.10	86.00
SGTBU 20-6G	20.0	19.1	32.0	38.20	50.0	12.9	5.30	100.00
SGTBU 25-5G	25.0	26.1	26.0	43.10	45.0	5.0	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

Tools: Anti-Vibration Blades • CGFG 51-P8 • CGHN-8-10D • CGHN-D • CGHN-DG • CGHN-P8
 • CGHR/L-12-14D • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFA • HFFH • HFFR/L-T • HGFH
 • PCHBR/L • SGFFA • SGFFH • TGFH/R/L • TGFHL-TR • TGFHR/L • TGHN-D • TNFFA-IQ • TNFFH-IQ

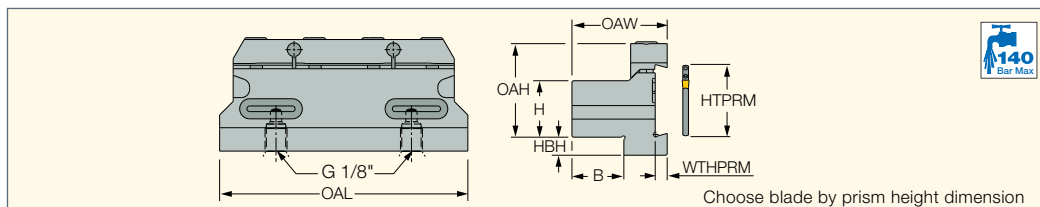
SGTBU 100/150-9-12**Spare Parts**

Designation										
SGTBN 16-2		SR M5X20 DIN912		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 M8X25 DIN912		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 M8X25 DIN912		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

TGTBU-JHP

Tool Blocks for Parting and Grooving Blades for High Pressure Coolant

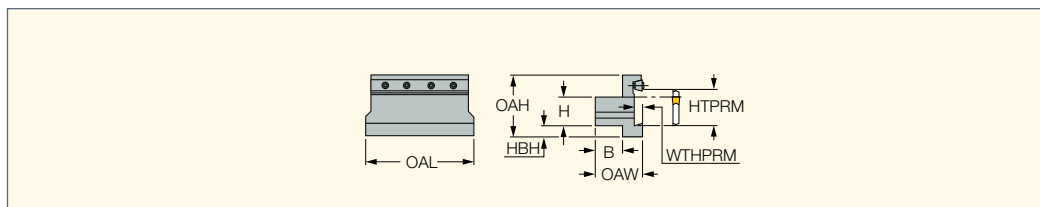


Designation	H	B	HTPRM	OAW	OAH	HBH	WTHPRM	OAL				
TGTBU 16-5G-JHP	16.0	16.9	26.0	35.60	29.9	13.1	4.10	86.00	BKU 86	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 20-5G-JHP	20.0	20.9	26.0	39.60	33.9	9.1	4.10	86.00	BKU 86	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 20-35-JHP	20.0	19.0	35.0	38.00	32.3	23.7	6.00	110.00	BKU 210	SR M6X20 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 20-6G-JHP	20.0	19.0	32.0	39.20	36.4	15.0	5.30	100.00	BKU 100	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 25-5G-JHP	25.0	26.1	26.0	44.10	39.0	5.5	4.10	110.00	BKU 105	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 25-6G-JHP	25.0	23.0	32.0	43.20	41.4	8.0	5.30	110.00	BKU 110	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 25-35-JHP	25.0	23.0	35.0	42.00	37.3	18.7	6.00	110.00	BKU 210	SR M6X20 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 32-6G-JHP	32.0	29.0	32.0	49.20	48.4	5.0	5.30	110.00	BKU 110	SR M6X16 DIN912	HW 5.0	OR 14X2.5N N
TGTBU 32-35-JHP	32.0	29.0	35.0	48.00	44.3	11.7	6.00	110.00	BKU 210	SR M6X20 DIN912	HW 5.0	OR 14X2.5N N

Tools: DGFH-JHP • DGFHR/L-BC-JHP • TGFH-JHP • TGFHR/L-JHP

TOOL BLOCKS
SGTBK

Blocks for Heavy Duty Parting and Grooving Blades



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	

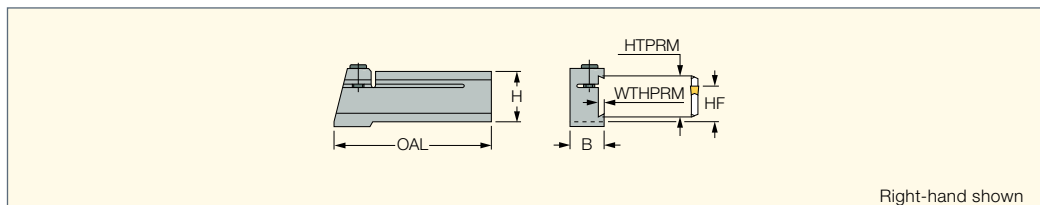
• Choose blade by HTPRM dimension

Tools: Anti-Vibration Blades • CGFG 51-P8 • CGHN-8-10D • CGHN-P8 • CGHR/L-12-14D

• CGHR/L-P8DG • DGFH • HFFH • PCHBR/L • SGFFH • TGFH/R/L • TGFHR/L • TNFFH-IQ

TOOL BLOCKS
SGTBR/L

Blocks for Parting and Grooving Blades for Conventional Lathes



Designation	H	HF	HTPRM	B	OAL	WTHPRM		
SGTBR 19-2	25.0	19.0	19.0	19.0	100.00	2.00	SR M6X25 DIN912	HW 5.0
SGTBL 25-6	32.0	25.0	26.0	20.0	121.50	5.00	SR M6X25 DIN912	HW 5.0
SGTBR 25-6	32.0	25.0	26.0	20.0	120.00	5.00	SR M6X30 DIN912	HW 5.0

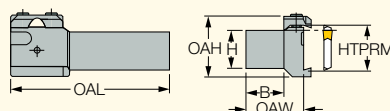
• Choose blade by HTPRM dimension

Tools: DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HGFH • PCHBR/L • TGFH/R/L • TGFHL-TR • TGFHR/L

TOOL BLOCKS

UBHCR/L

Holders for Grooving, Turning and Parting Blades



Right-hand shown

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

• Choose blade by HTPRM dimension

Tools: CGHN-D • CGHN-DG • CGHN-S • CGHR/L-P8DG • DGFH • DGFHR/L • DGFHR/L-B-D..(R/L)

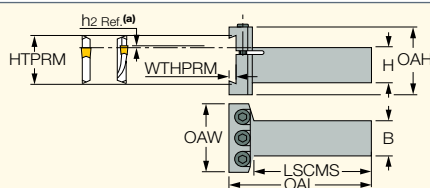
• HFFA • HFFH • HFFR/L-T • HGFH • SGFFA • SGFFH • TGFH/R/L • TGFHL-TR • TGFHR/L • TGHN-D

• TGHN-S • TNFFA-IQ • TNFFH-IQ

TOOL BLOCKS

SGTBF

Perpendicular Blocks for Parting and Grooving Blades

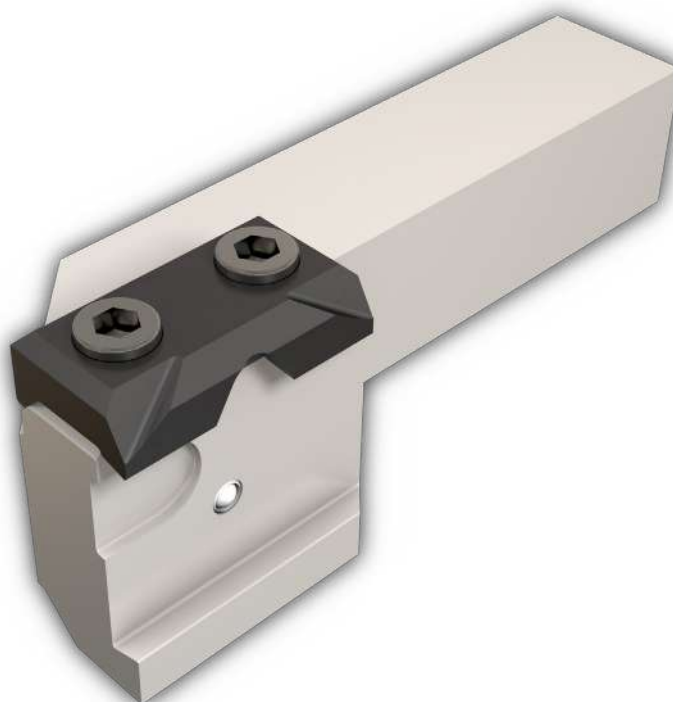


Designation	H	B	HTPRM	OAL	LSCMS	OAW	OAH	WTHPRM		
SGTBF 25-A	25.0	25.0	32.0	102.00	80.00	48.00	48.0	5.50	SR M6X40 DIN912	HW 5.0
SGTBF 32-A	32.0	32.0	32.0	116.00	100.00	48.00	48.0	5.50	SR M6X40 DIN912	HW 5.0

• (a) h2 Ref. as defined for SELF-GRIP face grooving blades • Choose blade by HTPRM dimension

Tools: DGFH • DGFHR/L • DGFHR/L-B-D..(R/L) • HFFH • HFFR/L-T • HGFH • SGFFA • SGFFH

• TGFH/R/L • TGFHR/L • TNFFA-IQ • TNFFH-IQ



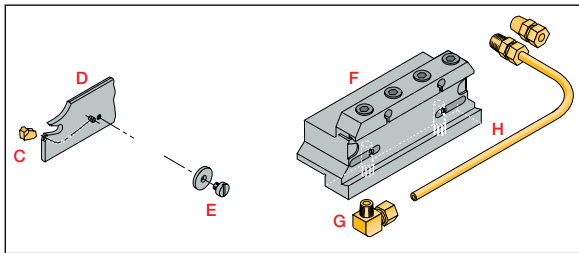
JETCUT Assembly

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**-□

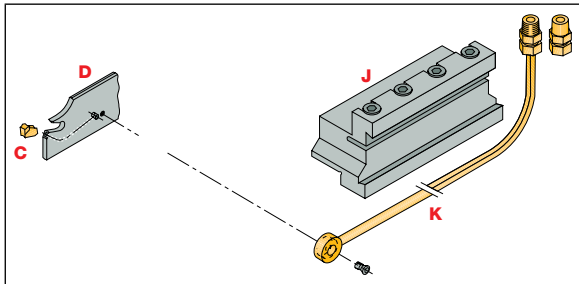
Option 1:

Coolant supplied through the tool block.



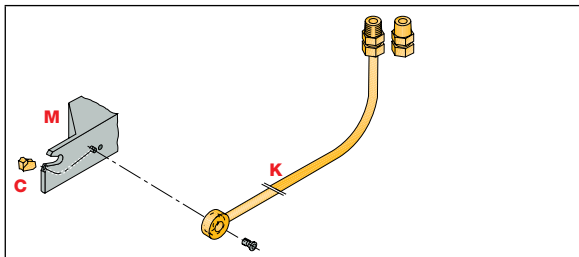
Option 2:

Coolant supplied directly to the blade.



Option 3:

Coolant supplied directly to the integral shank tool.



DO-GRIP
500 STRAIGHT LINE

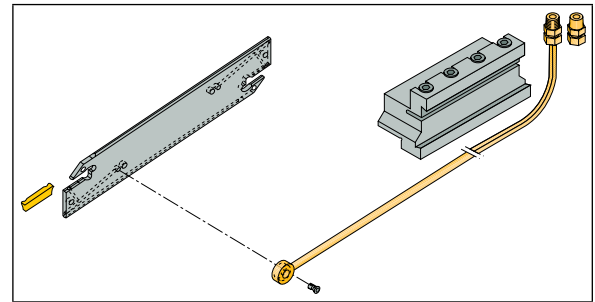
The coolant supply tube can be used with the following options:

- 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:

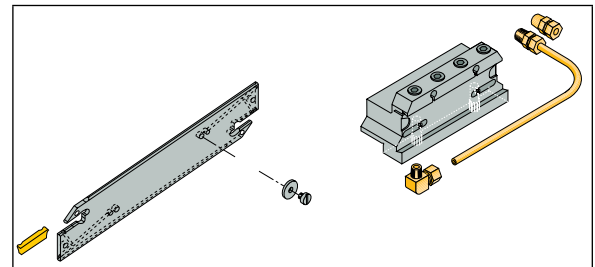
CGM 343 (G1/8 external thread)

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

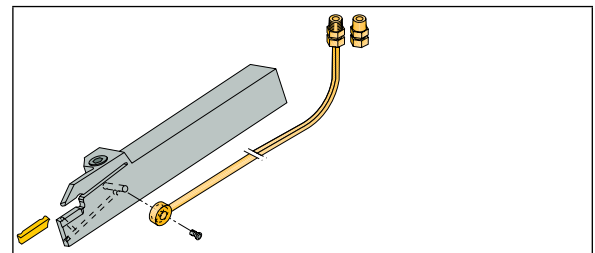
3/16" copper tube (length 250 mm)

(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)