MPLUS

SUPPLEMENTARY PRODUCT LINE FOR SPECIFIC APPLICATIONS

Mplus...

NEW

MITSUBISHI MATERIALS

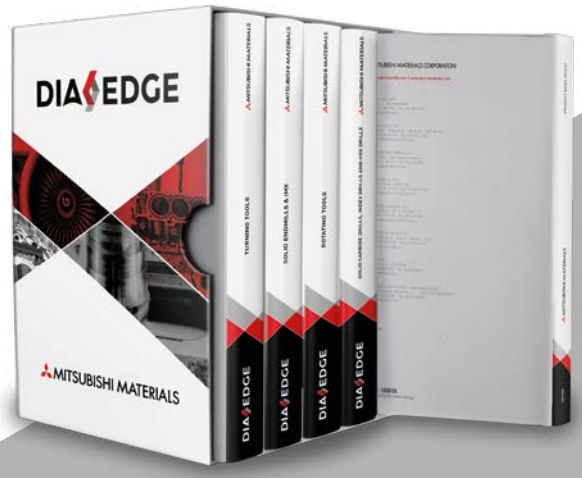
INTRODUCING THE NEW GENERAL CATALOGUE C009 – 2022/2023

TARGETED, COMPACT, HANDY.

Mitsubishi Materials' wide product portfolio is now shown in catalogues that represent individual application areas, offering users fast and easy access to targeted product information.

There is now a set of catalogues in small, practical sizes that comprise the following five volumes:

- **TURNING TOOLS**
- **DRILLING TOOLS**
- **SOLID MILLING TOOLS**
- **INDEXABLE MILLING TOOLS**
- **MPLUS**



NEW DESIGN

EASY HANDLING

HIGHER FLEXIBILITY

INDIVIDUAL APPLICATION AREAS

The slipcase provided enables easy storage and offers the required space for all future catalogues, including the product news brochures that will be published within the 2-year life cycle of the catalogue. Each new product news brochure published within the 2-year cycle will completely replace the previous version. Therefore, please dispose of old versions when new ones are supplied to ensure that the collection is up to date.

NOTES:

- With this publication, all previous general catalogues and product news brochures lose their validity.
- The product news catalogues are released twice a year, in April and October.
- The new general catalogue can be ordered only as a set of five. **Order number: C009E**

DIGITAL VERSION

For the digital version of the catalogue, please scan the QR code or visit us at www.mhg-mediastore.net

MPLUS

COOPERATION – OVERCOMING BOUNDARIES

MPlus is a complementary product line that enriches the existing product range.

A wide range of supplementary tools in cooperation with partners across Europe that meet specific customer needs.

Outstanding tools and sophisticated tooling solutions for the metalworking industry.

Mplus...

MPLUS TOOLING

SUPPLEMENTARY PRODUCT LINE FOR SPECIFIC APPLICATIONS

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MINI-EY-SERIES

PRECISION GROOVING SYSTEM

Mplus...

MINI-EY-IC

WITH INTERNAL COOLANT

The new advanced Mini-EY-IC series with internal coolant supply provides a positive step in usability. The improved coolant supply reduces heat generation as well as enabling longer tool life. Optimised chip control and higher cutting parameters, plus increased wear resistance means greater efficiencies can be achieved.

PRODUCT RANGE

- Insert width: 2 mm and 3 mm
- Holder size: 12 x 12, 16 x 16, 20 x 20
- Hand: R/L
- Max. cut off diameter: Ø 25 mm, 32 mm, 42 mm

APPLICATION

- External grooving and cut off

FEATURES

- Higher cutting parameters
- Cost effective double sided inserts
- Sizes 12 & 16 with clamping screw axis tilted at 115º for easy, on machine access
- Internal coolant supply

LONGER TOOL LIFE

EXCELLENT SURFACES

IMPROVED CHIP CONTROL

INCREASED WEAR RESISTANCE

WITH INTERNAL COOLANT

MINI-EY

WITH EXTERNAL COOLANT

The Mini-EY is designed for swiss-type lathes as a precision grooving system. A range of suitable insert grades and chipbreakers makes it usable for steels, stainless steels, cast irons and difficult-to-cut materials. Complete with economical double sided inserts.

PRODUCT RANGE

- Insert width: 1.5 mm – 3.0 mm
- Holder size: 10 x 10, 12 x 12, 16 x 16
- Hand: R/L
- Max. cut off diameter: Ø 25 mm, 32 mm

APPLICATION

- External grooving and cut off

FEATURES

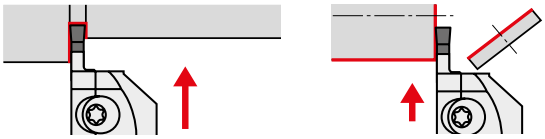
- Cost effective double sided Inserts
- Designed for swiss-type lathes

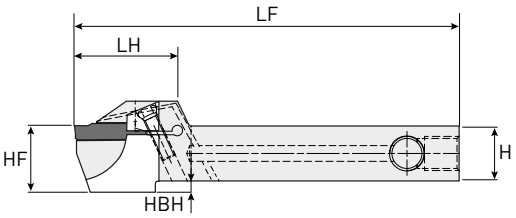
MINI-EY-IC

WITH INTERNAL COOLANT SUPPLY

00° type mono block holder

Insert	GY2M○○○○○○○○○	-GS -GM	Insert	GY2M○○○○○○○○○	-GS -GM
Insert	GY2M○○○○○○○○○	-GU	Insert	GY2M○○○○○○○○○	-GU
Insert	GY2G○○○○○○○○○	-MF	Insert	GY2M○○○○○R/L○○	-GM





Right hand tool holder shown.

Order number	Stock	Seat size	CW	Hand	CDX	CUTDIA	H	B	LF	LH	HF	HBH
EYHL1212D125-IC	●	D	2.0	L	12.5	25	12	12	110	30	16	4
EYHR1212D125-IC	●			R	12.5	25	12	12	110	30	16	4
EYHL1212F125-IC	●	F	3.0	L	12.5	25	12	12	110	30	16	4
EYHR1212F125-IC	●			R	12.5	25	12	12	110	30	16	4
EYHL1616D160-IC	●	D	2.0	L	16.0	32	16	16	110	33.5	16	—
EYHR1616D160-IC	●			R	16.0	32	16	16	110	33.5	16	—
EYHL1616F160-IC	●	F	3.0	L	16.0	32	16	16	110	33.5	16	—
EYHR1616F160-IC	●			R	16.0	32	16	16	110	33.5	16	—
EYHL2020F210-IC	●			L	21.0	42	20	20	125	37	20	—
EYHR2020F210-IC	●			R	21.0	42	20	20	125	37	20	—

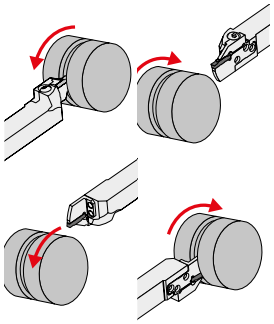
1. When using insert widths 2.39 mm and 2.50 mm with E type seat sizes, in F type holders, the centre height will differ.
2. Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and HF values may vary.
3. Size 12 holder without socket.
4. Sizes 12 & 16 with clamping screw axis tilted at 115° for easy on machine access.

14 Vc

● : Inventory maintained. □ : Produced to order only

MINI-EY-IC

CUTTING MODE AND INSERTS

Holder number	Cutting mode (Right hand holder shown)	Insert Geometry / Insert number	
EYH○1212D125-IC		GY2M0300F030N-GU	
EYH○1212F125-IC		GY2M0200D020N-GU GY2M0200D020N-GS	
EYH○1616D160-IC		GY2M0300F020N-GS GY2M0200D020N-GM	
EYH○1616F160-IC		GY2M0300F030N-GM GY2M0200D020R05-GM	
EYH○2020F210-IC		GY2M0200D020L05-GM GY2M0300F030R05-GM GY2M0300030L05-GM	(Gauge insert) 

1. ○ = R/L

SPARE PARTS

Holder number				
	Clamp screw	**Wrench**	**Plug**	**Adaptor**
EYH○1212D125-IC	TS406 (Clamp Torque: 3.5 Nm)	TKY15R	Plug-M08-100-05	—
EYH○1212F125-IC				
EYH○1616D160-IC			Plug-G1/8-05	Socket-G1/8
EYH○1616F160-IC				
EYH○2020F210-IC				

1. Wrench : z : Clamp screw
2. ○ = R/L

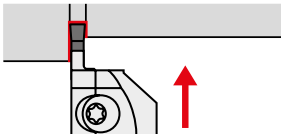
● : Inventory maintained. □ : Produced to order only

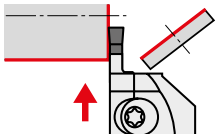
MINI-EY

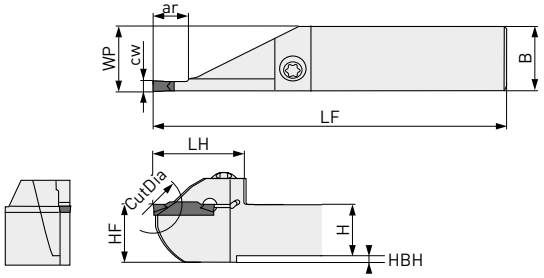
WITH EXTERNAL COOLANT SUPPLY

00° type mono block holder

Insert	GY2M○○○○○○○○○	-GS -GM	Insert	GY2M○○○○○○○○○	-GS -GM
Insert	GY2M○○○○○○○○○	-GU	Insert	GY2M○○○○○○○○○	-GU
Insert	GY2G○○○○○○○○○	-MF	Insert	GY2M○○○○○R/L○○	-GM







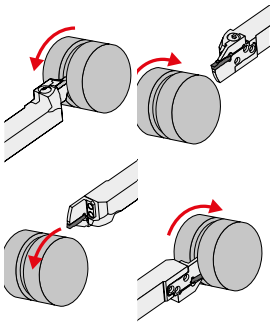
Right hand tool holder shown.

Order number	Stock	Seat size	CW	Hand	CDX	CUTDIA	H	B	LF	LH	HF	HBH
EYHR1212C125	●	C	1.5	L	12.5	25	12	12	110	20	16	4
EYHL1212C125	●			R	12.5	25	12	12	110	20	16	4
EYHR1010D125	●	D	2.0	L	12.5	25	10	10	110	20	14	4
EYHL1010D125	●			R	12.5	25	10	10	110	20	14	4
EYHR1212D125	●			L	12.5	25	12	12	110	20	16	4
EYHL1212D125	●			R	12.5	25	12	12	110	20	16	4
EYHR1212F125	●	F	3.0	L	12.5	25	12	12	110	20	16	4
EYHL1212F125	●			R	12.5	25	12	12	110	20	16	4
EYHR1616C135	●	C	1.5	L	13.5	27	16	16	110	22	16	—
EYHL1616C135	●			R	13.5	27	16	16	110	22	16	—
EYHR1616D160	●	D	2.0	L	16	32	16	16	110	22	16	—
EYHL1616D160	●			R	16	32	16	16	110	22	16	—
EYHR1616F160	●	F	3.0	L	16	32	16	16	110	22	16	—
EYHL1616F160	●			R	16	32	16	16	110	22	16	—

1. When using insert widths 2.39 mm and 2.50 mm with E type seat sizes, in F type holders, the centre height will differ.
2. Dimensions shown are when the gauge insert is used. If other insert geometries are used then LF, LH and HF values may vary.

MINI-EY

CUTTING MODE AND INSERTS

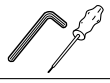
Holder number	Cutting mode (Right hand holder shown)	Insert Geometry / Insert number
EYH○1212C125		GY2M0300F030N-GU GY2M0200D020N-GU GY2M0200D020N-GS GY2M0300F020N-GS GY2M0200D020N-GM GY2M0300F030N-GM GY2M0200D020R05-GM GY2M0200D020L05-GM GY2M0300F030R05-GM GY2M0300F030L05-GM
EYH○1616C135		
EYH○1010D125		
EYH○1212D125		
EYH○1616D160		
EYH○1212F125		
EYH○1616F160		




(Gauge insert)


1. ○ = R/L

SPARE PARTS

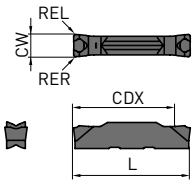
Holder number	 Clamp screw	 Wrench
EYH○1212C125	TS406 (Clamp Torque: 3.5 Nm)	TKY15R
EYH○1616C135		
EYH○1010D125		
EYH○1212D125		
EYH○1616D160		
EYH○1212F125		
EYH○1616F160		

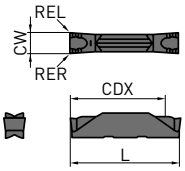
1. Wrench : z : Clamp screw
2. ○ = R/L

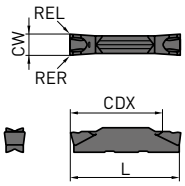
● : Inventory maintained. □ : Produced to order only

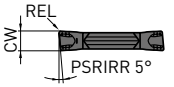
GY INSERTS

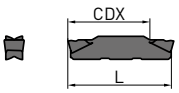
Order number	VP10RT	VP20RT	MY5015	MP9015	MP9025	NX2525	Seat size	Grooving width	Tolerance	RE	CDX	L	Geometry
FOR GROOVING / CUTTING OFF													
GY2M0200D020N-GU	●	●				●	D	2.00	±0.03	0.2	19.7	20.70	GU Breaker (For gummy steel)
GY2M0239E020N-GU	●	●				●	E	2.39	±0.03	0.2	19.8	20.70	
GY2M0250E020N-GU	●	●				●	E	2.50	±0.03	0.2	19.5	20.70	
GY2M0300F030N-GU	●	●				●	F	3.00	±0.03	0.3	19.3	20.70	
GY2M0318F030N-GU	●	●				●	F	3.18	±0.03	0.3	19.3	20.70	
GY2M0150C010N-GS	●	●				●	C	1.50	±0.03	0.1	13.4	14.70	GS Breaker (Low feeds)
GY2M0200D020N-GS	●	●				●	D	2.00	±0.03	0.2	18.7	20.70	
GY2M0239E020N-GS	●	●				●	E	2.39	±0.03	0.2	18.5	20.70	
GY2M0250E020N-GS	●	●				●	E	2.50	±0.03	0.2	18.5	20.70	
GY2M0300F020N-GS	●	●				●	F	3.00	±0.03	0.2	18.5	20.70	
GY2M0318F020N-GS	●	●				●	F	3.18	±0.03	0.2	18.5	20.70	
GY2M0150C020N-GM	●	●		●	●	●	C	1.50	±0.03	0.2	13.9	14.70	GM Breaker (Medium feeds)
GY2M0200D020N-GM	●	●	●	●	●	●	D	2.00	±0.03	0.2	19.4	20.70	
GY2M0239E020N-GM	●	●	●	●	●	●	E	2.39	±0.03	0.2	19.4	20.70	
GY2M0250E020N-GM	●	●	●	●	●	●	E	2.50	±0.03	0.2	19.4	20.70	
GY2M0300F030N-GM	●	●	●	●	●	●	F	3.00	±0.03	0.3	19.4	20.70	
GY2M0318F030N-GM	●	●	●	●	●	●	F	3.18	±0.03	0.3	19.4	20.70	
FOR CUTTING OFF													
GY2M0200D020R05-GM	●	●					D	2.00	±0.03	0.2	19.5	20.80	R/L05-GM Breaker
GY2M0200D020L05-GM	●	●					D	2.00	±0.03	0.2	19.5	20.80	
GY2M0250E020R05-GM	●	●					E	2.50	±0.03	0.2	19.5	20.825	
GY2M0250E020L05-GM	●	●					E	2.50	±0.03	0.2	19.5	20.825	
GY2M0300F030R05-GM	●	●					F	3.00	±0.03	0.3	19.5	20.85	
GY2M0300F030L05-GM	●	●					F	3.00	±0.03	0.3	19.5	20.85	











Right hand insert shown.

1. When using insert widths 2.39 mm and 2.50 mm with E type seat sizes, in F type holders, the centre height will differ.

MINI-EY

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Grade	Vc
P	Mild steel	<160 HB	VP20RT	165 (100–220)
			VP10RT	170 (110–230)
			MY5015	220 (140–300)
			NX2525	150 (90–210)
	Carbon steel Alloy steel	160-280 HB	VP20RT	130 (80–180)
			VP10RT	140 (90–190)
			MY5015	180 (110–250)
			NX2525	120 (70–170)
		>280 HB	VP20RT	100 (60–140)
			VP10RT	110 (70–150)
			MY5015	100 (90–210)
			NX2525	95 (55–135)
M	Stainless steel	<270 HB	VP20RT	100 (60–140)
			VP10RT	110 (70–150)
K	Gray cast iron	Tensile Strength <300 MPa	VP20RT	130 (80–180)
			VP10RT	280 (90–190)
			MY5015	220 (140–300)
	Ductile cast iron	Tensile Strength <800 MPa	VP20RT	100 (60–140)
			VP10RT	110 (70–150)
			MY5015	100 (90–210)
S	Heat resistant alloy Titanium alloy		VP20RT	45 (30– 60)
			VP10RT	55 (40– 70)
			MP9015	70 (40–100)
			MP9025	60 (30– 90)

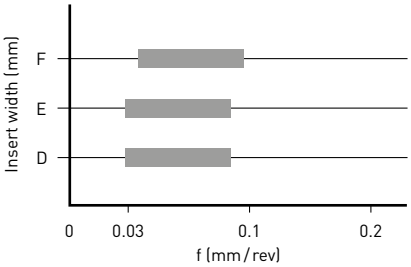
1. VP20RT is the first recommended grade for materials other than hardened steel.
2. For VP10RT, VP20RT and MY5015, wet cutting is recommended.

MINI-EY

RECOMMENDED CUTTING CONDITIONS

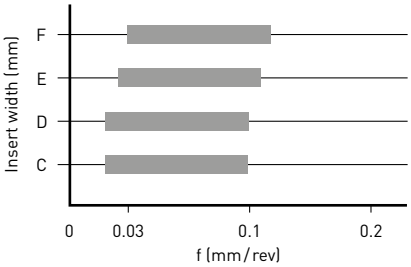
GU Breaker

Grooving, Cutting off



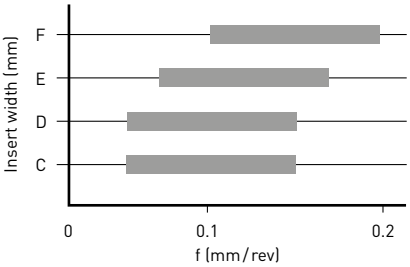
GS Breaker

Grooving, Cutting off



GM Breaker

Grooving, Cutting off

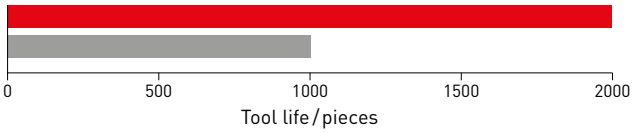


: 1st recommended area

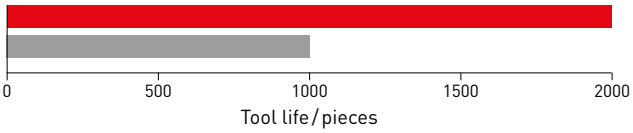
Seat size	C	D	E	F
Insert width (mm)	1.50	2.00	2.39	3.00
	—	2.24	2.50	3.18
	—	—	2.74	3.24

APPLICATION EXAMPLE

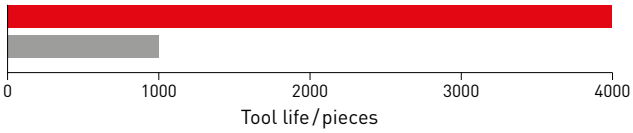
Material	1.4021
Tool	GY2G0300F020N-MF VP20RT
Vc (m/min)	160
f (mm/rev)	0.22
Cutting mode	Semi finishing
Coolant	Internal coolant
Machine	Multi spindle machine MS32
Results	Tool life was doubled compared to the conventional tool.



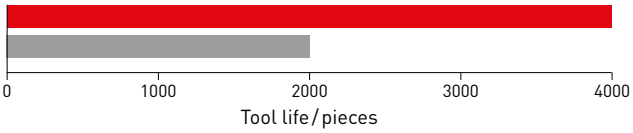
Material	1.4305
Tool	GY2M0200D020N-GM VP20RT
Vc (m/min)	160
f (mm/rev)	0.08 / 0.04
Cutting mode	Cutting off
Coolant	Internal coolant
Machine	Swiss Type Machine
Results	Tool life was doubled compared to the conventional tool.



Material	1.4021
Tool	GY2G0300F020N-MF VP20RT
Vc (m/min)	160
f (mm/rev)	0.18 / 0.07
Cutting mode	Finish cutting
Coolant	Internal coolant
Machine	Multi spindle machine MS32
Results	Tool life was 4 times longer than the conventional tool.



Material	1.4305
Tool	GY2M0200D020N-GM VP20RT
Vc (m/min)	120
f (mm/rev)	0.08 / 0.04
Cutting mode	Cutting off
Coolant	Internal coolant
Machine	Swiss type machine
Results	Tool life was doubled compared to the conventional tool.



■ : Mini-EY-IC ■ : Conventional Tool

ARM

MULTI-FUNCTIONAL HIGH FEED CUTTER FOR MOULD & DIE MACHINING

Mplus...

ARM

MULTI-FUNCTIONAL HIGH FEED CUTTER FOR MOULD & DIE MACHINING

ARM is a multifunctional high-performance cutter that provides process stability even at high feed rates. Its individual design as well as the advanced technical features promise high material removal rates combined with effective chip control.

P M K H

PRODUCT RANGE

ARM07:

• Arbor type:	DC Ø	40 mm
• Shank type:	DC Ø	16 – 32 mm
• Weldon type:	DC Ø	16 – 32 mm
• Screw in type:	DC Ø	16 – 42 mm

ARM09:

• Arbor type:	DC Ø	40 – 66 mm
• Shank type:	DC Ø	25 – 35 mm
• Weldon type:	DC Ø	25 – 32 mm
• Screw in type:	DC Ø	25 – 42 mm

ARM11:

• Arbor type:	DC Ø	50 – 80 mm
• Shank type:	DC Ø	32 mm
• Screw in type:	DC Ø	32 – 35 mm

APPLICATION

- Mould & die machining
- Roughing
- High feed cutting
- Face milling
- Copying
- Helical milling
- Pocketing

IDEAL FOR DEEP CAVITIES
- Internal coolant holes for air blow increases reliability due to effective chip disposal
- Ideal for high volume machining

HIGH PRODUCTIVITY FOR ROUGHING APPLICATIONS
- Time saving when machining high hardness plastic injection moulds and forging dies
- Ideal for high feed machining path strategies

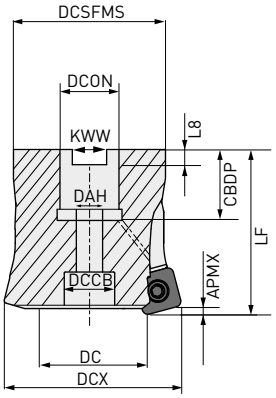
COST EFFICIENT SOLUTION
- Economical 4 cutting edges
- Reinforced cutting edge geometry
- Versatile VP15TF grade for varied applications
- The micro-grain substrate and Miracle coating provide excellent welding resistance

BENEFITS
- High metal removal rates
- Near nett shape material remaining
- Porcess stability and security
- High rigidity for high feed rates
- Long tool life in both soft and hard materials
- Economic cost/performance ratio due to 4 cutting edges
- For high volume roughing
- Proven performance for machining of plastic injection moulds
- Versatile range of cutters available

ARM

HIGH FEED MILLING CUTTER FOR MOULD & DIE

P M K H



Right hand tool holder only.

ARBOR TYPE

Order number	Stock	CICT	DCX	DC	LF	DCON	CBDP	DAH	DCSFMS	KWW	L8	APMX	DCCB	Inserts
ARM07-040A07R	●	7	40	27.9	40	16	18	9	38.5	8.4	5.6	1.2	12	SPMX073505
ARM09-040A05R	●	5	40	22.9	40	16	18	9	38.5	8.4	5.6	1.4	12	
ARM09-042A05R	●	5	42	24.9	40	16	18	9	38.5	8.4	5.6	1.4	12	
ARM09-050A06R	●	6	50	33	40	22	20	11	49	10.4	6.3	1.4	17	SPMX094506
ARM09-052A07R	●	7	52	35	40	22	20	11	49	10.4	6.3	1.4	17	
ARM09-066A08R	●	8	66	48.9	50	27	22	13	60	12.4	7	1.4	19	
ARM11-050A05R	●	5	50	29.4	40	22	20	11	49	10.4	6.3	1.8	17	
ARM11-052A05R	●	5	52	31.4	40	22	20	11	49	10.4	6.3	1.8	17	
ARM11-063A06R	●	6	63	42.4	50	27	22	13	60	12.4	7	1.8	19	SPMX115506
ARM11-066A07R	●	7	66	45.4	50	27	22	13	60	12.4	7	1.8	19	
ARM11-080A08R	●	8	80	59.3	50	27	22	13	64	12.4	7	1.8	19	

25 Vc

SET BOLT

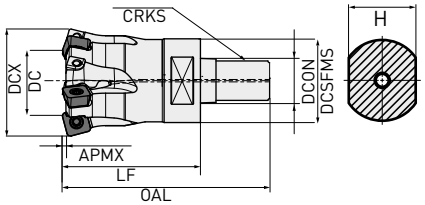
DCX	Set bolt	Geometry
Ø 40–42	M8-C	
Ø 50–52	M10-C	
Ø 63–80	M12-C	

● : Inventory maintained. □ : Produced to order only

ARM

HIGH FEED MILLING CUTTER FOR MOULD & DIE

P M K H



Right hand tool holder only.

SCREW-IN TYPE

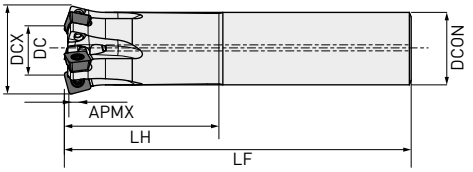
Order number	Stock	CICT	DCX	DC	LF	DCON	DCSFMS	OAL	H	CRKS	APMX	Inserts
ARM07R162AM08	●	2	16	4	23	8.5	14	40	12	M8	0.6	SPMX073505
ARM07R203AM10	●	3	20	7.5	30	10.5	18	48	15	M10	1.2	
ARM07R254AM12	●	4	25	12.5	35	12.5	21	56	19	M12	1.2	
ARM07R325AM16	●	5	32	19.5	43	17	29	66	22	M16	1.2	
ARM07R356AM16	●	6	35	22.9	43	17	29	66	22	M16	1.2	
ARM07R427AM16	●	7	42	29.9	43	17	29	66	22	M16	1.2	
ARM09R252AM12	●	2	25	8	35	12.5	21	56	19	M12	1.4	SPMX094506
ARM09R324AM16	●	4	32	15	43	17	29	66	22	M16	1.4	
ARM09R354AM16	●	4	35	17.9	43	17	29	66	22	M16	1.4	
ARM09R425AM16	●	5	42	24.9	43	17	29	66	22	M16	1.4	
ARM11R323AM16	●	3	32	11.7	43	17	29	66	22	M16	1.8	SPMX115506
ARM11R353AM16	●	3	35	14.6	43	17	29	66	22	M16	1.8	

25 Vc

ARM

HIGH FEED MILLING CUTTER FOR MOULD & DIE

P M K H



CYLINDRICAL SHANK

Order number	Stock	CICT	DCX	DCON	DC	LF	LH	APMX	Inserts
ARM07R162SA16S	●	2	16	16	4	85	25	0.6	
ARM07R162SA20S	●	2	16	20	4	130	30	0.6	
ARM07R203SA20S	●	3	20	20	7.5	130	30	1.2	SPMX073505
ARM07R254SA25S	●	4	25	25	12.5	140	40	1.2	
ARM07R325SA32S	●	5	32	32	19.5	150	50	1.2	
ARM09R252SA25S	●	2	25	25	8	140	40	1.4	
ARM09R252SA25L	●	2	25	25	8	200	40	1.4	
ARM09R324SA32S	●	4	32	32	15	150	50	1.4	SPMX094506
ARM09R324SA32L	●	4	32	32	15	200	50	1.4	
ARM09R354SA32S	●	4	35	32	17.9	150	50	1.4	
ARM11R323SA32S	●	3	32	32	11.7	150	50	1.8	SPMX115506

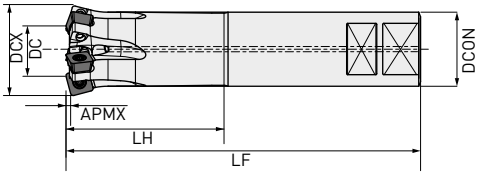
25 Vc

● : Inventory maintained. □ : Produced to order only

ARM

HIGH FEED MILLING CUTTER FOR MOULD & DIE

P M K H

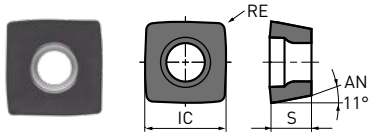


WELDON SHANK

Order number	Stock	CICT	DCX	DCON	DC	LF	LH	APMX	Inserts
ARM07R162WA16S	●	2	16	16	4	85	25	0.6	SPMX073505
ARM07R162WA20S	●	2	16	16	4	130	30	0.6	
ARM07R203WA20S	●	3	20	20	7.5	130	30	1.2	
ARM07R254WA25S	●	4	25	25	12.5	140	40	1.2	
ARM07R325WA32S	●	5	32	32	19.5	150	50	1.2	
ARM09R252WA25S	●	2	25	25	8	140	40	1.4	SPMX094506
ARM09R324WA32S	●	4	32	32	15	150	50	1.4	

25 Vc

INSERTS

Order number	Class	Honing*	VP15TF	VP10H	IC	S	RE	Shape
SPMX073505ZNEN-FT	M	E	●	●	7.0	3.5	0.5	
SPMX073505ZNSN-FT	M	S	●	●	7.0	3.5	0.5	
SPMX094506ZNEN-FT	M	E	●	●	9.7	4.4	0.6	
SPMX094506ZNSN-FT	M	S	●	●	9.7	4.4	0.6	
SPMX115506ZNEN-FT	M	E	●	●	11.6	5.4	0.6	
SPMX115506ZNSN-FT	M	S	●	●	11.6	5.4	0.6	

* Honing:
E: Round,
S: Chamfer + Hone

SPARE PARTS

Insert type		
	Clamp screw	Wrench
SPMX073505	TPS3	TIP10W
SPMX094506	TPS4C	TIP15W -C
SPMX115506	TPS43C	TIP15W -C

● : Inventory maintained. □ : Produced to order only

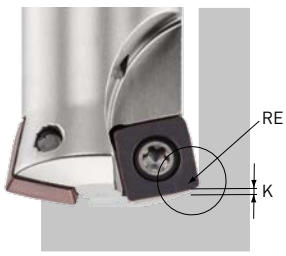
ARM

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Insert	Grade	Standard milling				High feed milling			
					Vc	fz	ap	ae	Vc	fz	ap	ae
P	Mild steel	<180HB	SPMX073505	VP15TF	170 (120-220)	1.0	0.3/0.8	100%/DC	200	1.0	0.4	100%/DC
			SPMX094506			1.2	0.5/1	100%/DC		1.4	0.5	100%/DC
			SPMX115506			1.5	0.8/1.5	100%/DC		1.4	0.8	100%/DC
	Carbon steel, Alloy steel	180-280HB	SPMX073505			0.9	0.3/0.5	100%/DC				100%/DC
			SPMX094506	VP15TF	150 (100-200)	1	0.5/0.7	100%/DC	200	1.2	0.5	100%/DC
			SPMX115506			1.2	0.6/1.5	100%/DC		1.2	0.8	100%/DC
		280-350HB	SPMX073505			0.9	0.3/0.5	100%/DC		0.9	0.3	100%/DC
			SPMX094506	VP15TF	120 (80-150)	1	0.5/0.7	100%/DC	180	1.2	0.4	100%/DC
			SPMX115506			1.2	0.5/1	100%/DC		1.2	0.6	100%/DC
	Alloy tool steel	<350HB	SPMX073505			0.75	0.3/0.5	100%/DC		0.75	0.3	100%/DC
			SPMX094506	VP15TF	120 (80-140)	1	0.5/0.7	100%/DC	180	0.8	0.4	100%/DC
			SPMX115506			1	0.5/1	100%/DC		0.8	0.6	100%/DC
	Pre-hardened steel	35-45HRC	SPMX073505			0.75	0.25/0.4	100%/DC		0.75	0.3	100%/DC
			SPMX094506	VP15TF	100 (70-130)	0.8	0.4/0.6	100%/DC	150	0.8	0.4	100%/DC
			SPMX115506			0.8	0.4/0.8	100%/DC		0.8	0.5	100%/DC
			SPMX073505			0.75	0.25/0.4	100%/DC		0.75	0.3	100%/DC
			SPMX094506	VP10H	120 (90-150)	0.8	0.4/0.6	100%/DC	150	0.8	0.4	100%/DC
			SPMX115506			0.8	0.4/0.8	100%/DC		0.8	0.5	100%/DC
M	Stainless steel	<200HB	SPMX073505			0.3	0.4/0.8	100%/DC		—	—	—
			SPMX094506	VP15TF	100 (60-120)	0.4	0.5/1	100%/DC	—	—	—	—
			SPMX115506			0.4	0.6/1.5	100%/DC		—	—	—
	PH, Duplex	>200HB	SPMX073505			0.3	0.25/0.4	100%/DC		—	—	—
			SPMX094506	VP15TF	70 (50- 90)	0.4	0.3/0.5	100%/DC	—	—	—	—
			SPMX115506			0.4	0.4/0.8	100%/DC		—	—	—
K	Gray cast iron	<200HB	SPMX073505			1.0	0.3/0.6	100%/DC		—	—	—
			SPMX094506	VP15TF	150 (100-200)	1.2	0.5/0.8	100%/DC	—	—	—	—
			SPMX115506			1.2	0.6/1.5	100%/DC		—	—	—
	Ductile cast iron	<450MPa	SPMX073505			0.8	0.25/0.5	100%/DC		—	—	—
			SPMX094506	VP15TF	120 (80-160)	1	0.4/0.6	100%/DC	—	—	—	—
			SPMX115506			1	0.5/0.8	100%/DC		—	—	—
H	Hardened steel	40-55HRC	SPMX073505			0.5	0.25/0.4	100%/DC		0.5	0.25	100%/DC
			SPMX094506	VP15TF	70 (50- 90)	0.6	0.3/0.5	100%/DC	120	0.6	0.3	100%/DC
			SPMX115506			0.6	0.3/0.6	100%/DC		0.6	0.4	100%/DC
			SPMX073505			0.5	0.25/0.4	100%/DC		0.5	0.25	100%/DC
			SPMX094506	VP10H	90 (70-120)	0.6	0.3/0.5	100%/DC	120	0.6	0.3	100%/DC
			SPMX115506			0.6	0.3/0.6	100%/DC		0.6	0.4	100%/DC

NOTE FOR PROGRAMMING

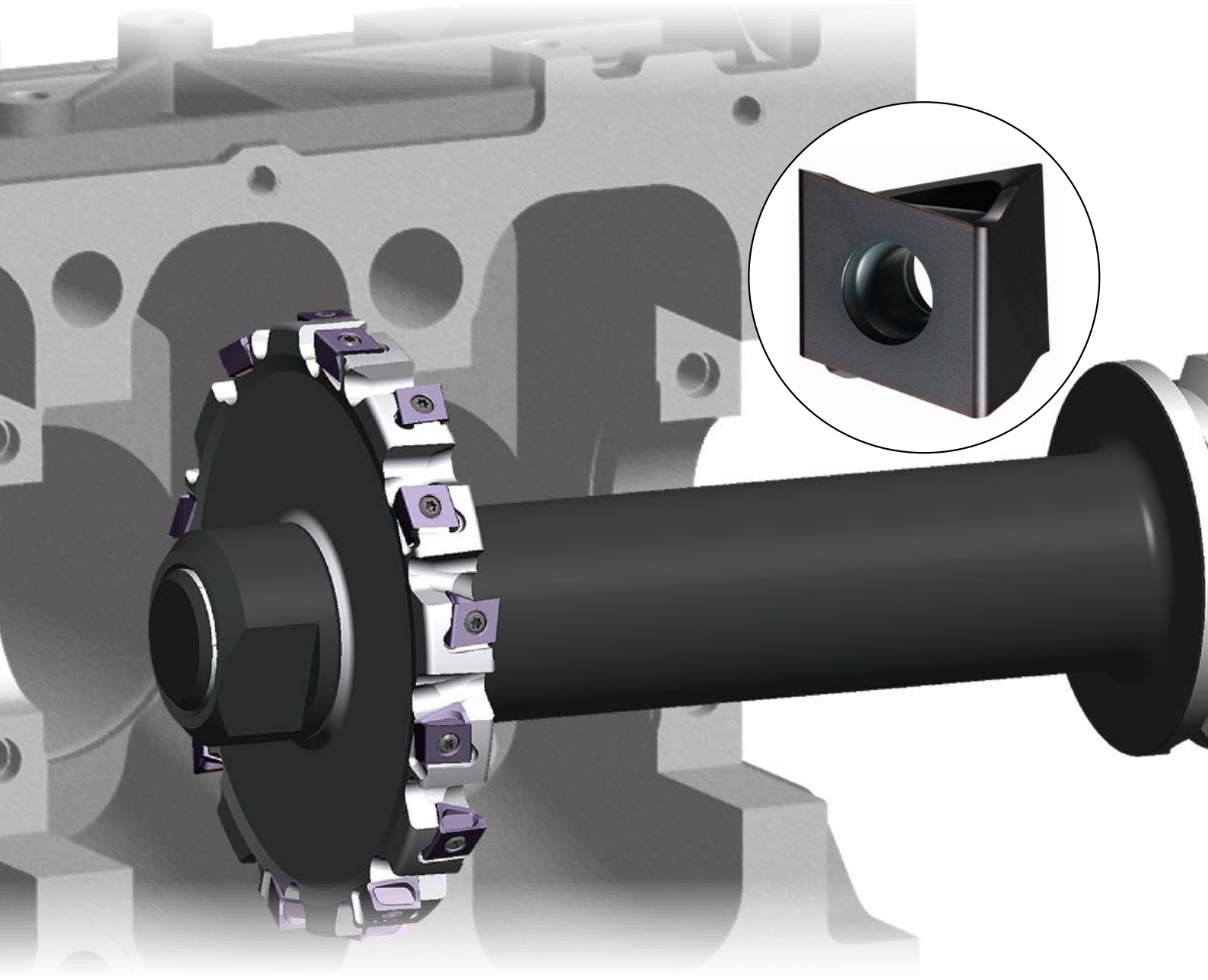
When using ARM cutters, please program as an RE radius cutter.
The approximate uncut portions for the program are as follows:



Insert size	RE	K
07	1.7	0.82
09	2.3	1.6
11	2.695	2.1

SIDE AND FACE MILLING CUTTER SERIES

SIDE AND FACE MACHINING WITH LOW CUTTING RESISTANCE VERTICAL MOUNT DOUBLE-SIDED INSERTS FOR DCV SERIES

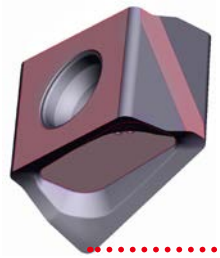


DCV3 / DCV4 / DCV5

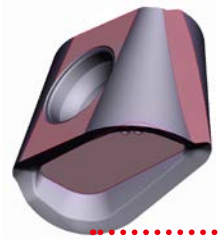
EXCHANGEABLE INSERTS

ECONOMICAL INSERT DESIGN
Tangential type insert with 4 cutting edges.

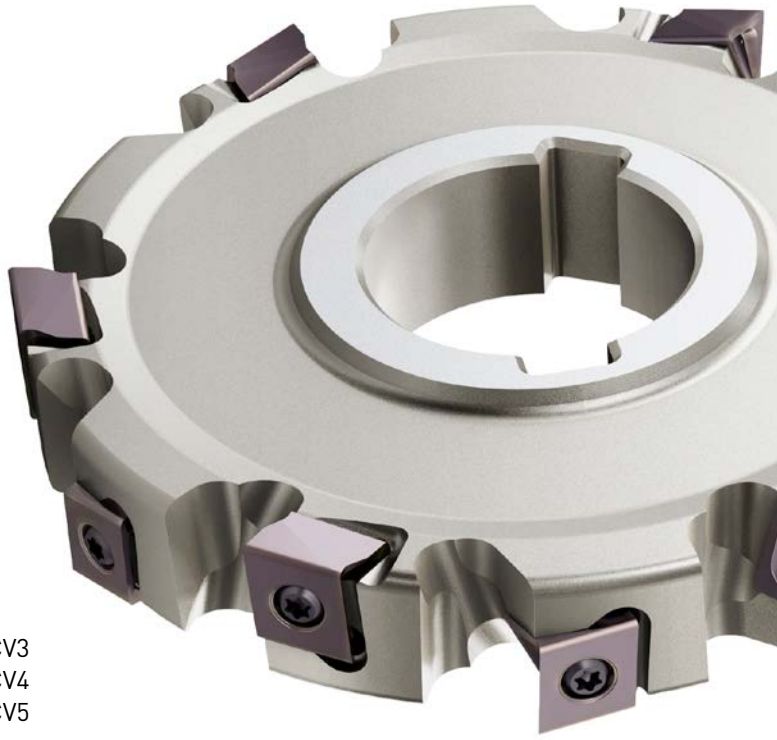
SECURE CLAMPING
Special seating surfaces enusre all different insert radius sizes are securely clamped.



Corner radius R 0.4 mm

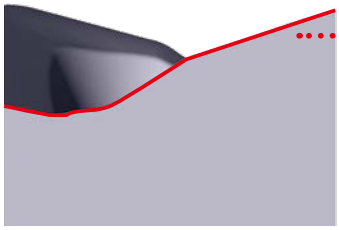


NEW Corner radius R 4.0 mm for DCV3
Corner radius R 5.0 mm for DCV4
Corner radius R 7.0 mm for DCV5

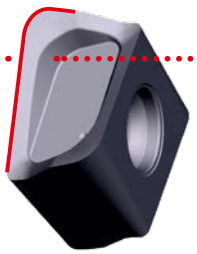


Cutter body with inserts : GAMF : + 8° GAMP : + 3°

LOW CUTTING RESISTANCE INSERT → PREFERRED SHARPNESS



Tough cutting edge
(Convex curve)

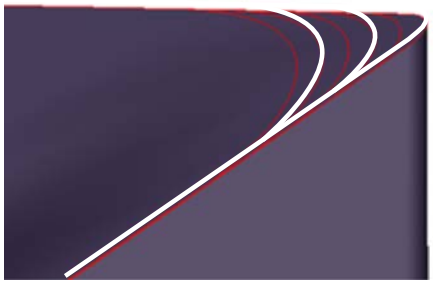


Double-phased helical
rake angles

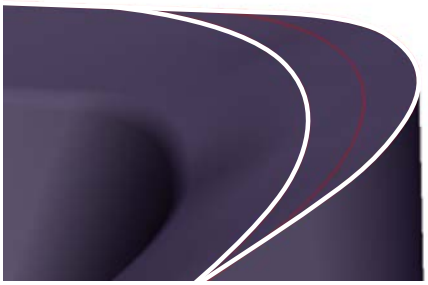
HIGH PRECISION CORNER RADIUS

PRECISION INSERTS FOR FORMING ACCURATE CORNER RADII IN THE WORKPIECE.

R 0.4 – R 3.0 mm

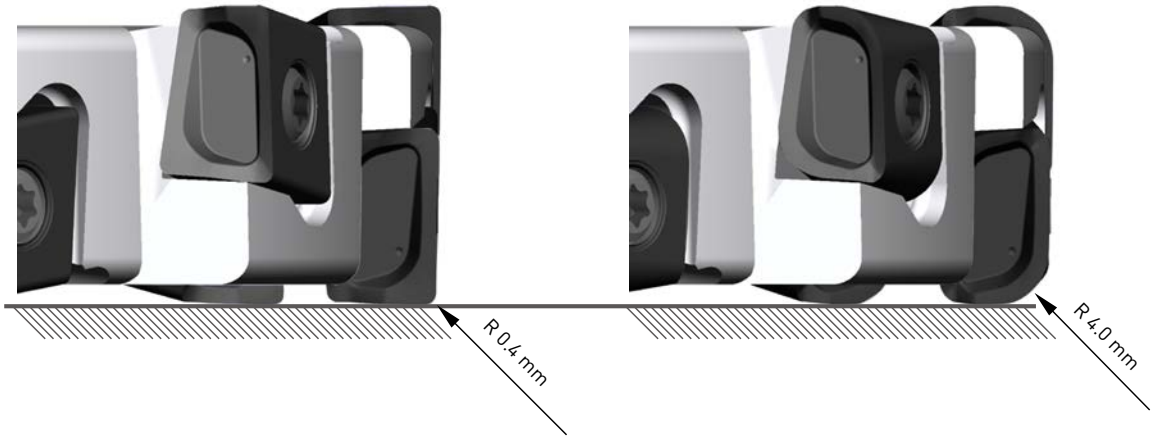


R 3.0 – R 7.0 mm



CONSISTENT GEOMETRY

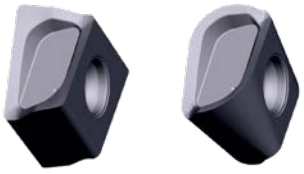
Cutting width and diameter do not change even when different corner radius inserts are used.



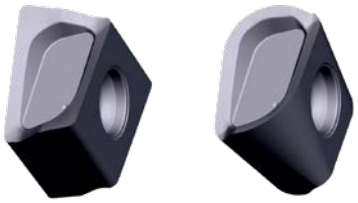
LARGE VARIETY OF CORNER RADII AVAILABLE

NEW

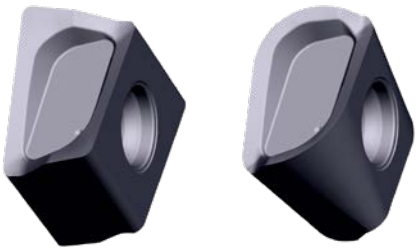
DCV3 = R 0.4 – R 4.0 mm



DCV4 = R 0.4 – R 5.0 mm



DCV5 = R 0.4 – R 7.0 mm



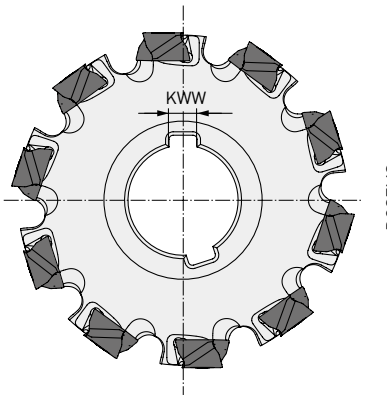
NEW

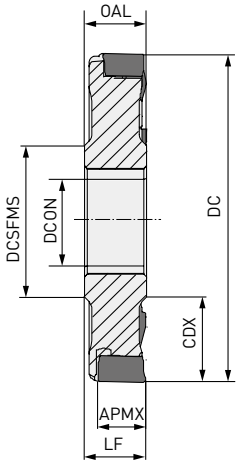
Mplus...

DCV3

90° KAPR

P K



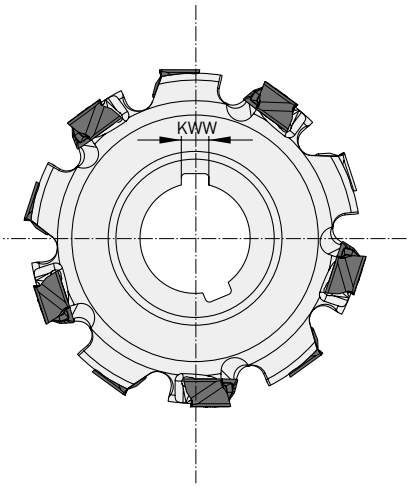


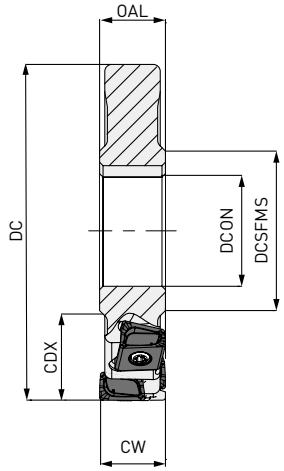
Max. APMX: 8.6 mm

HALF SIDE

DC	ZNF	LF = OAL	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8	≥12	20.0	27	40	7	LNGU09
100 – 124.9	10		27.0	32	46	8	
125 – 160.0	12		35.0	40	55	10	

40 Vc





Largest width CW: 17.2 mm

FULL SIDE

DC	ZNF	ZNP	LF = OAL	CW	CDX	DCON	DCSFMS	KWW	
80 – 99.9	4	8	≥12	12-17.2	20.0	27	40	7	LNGU09
100 – 124.9	5	10		12-17.2	27.0	32	46	8	
125 – 160.0	6	12		12-17.2	35.0	40	55	10	

1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

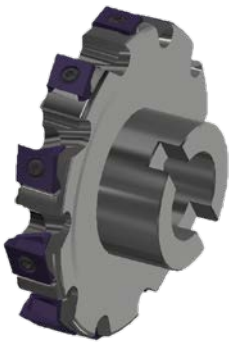
40 Vc

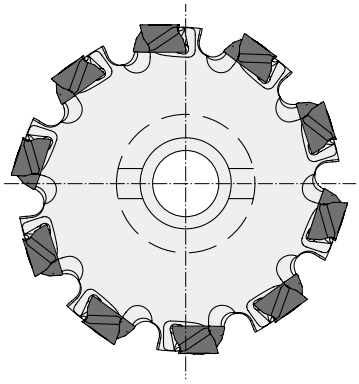
NEW

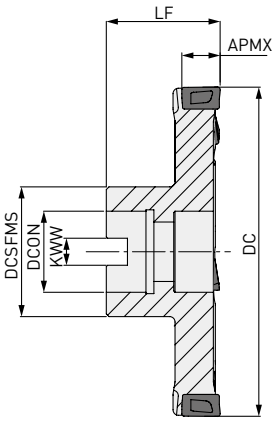
DCV3

90° KAPR | R | PF

P K





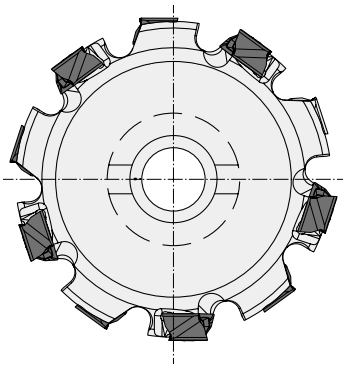


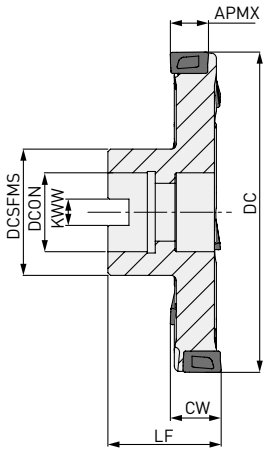
Max. APMX: 8.6 mm

HALF SIDE ARBOR

DC	ZEFP	LF	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8	50	20.0	27	40	12.4	LNGU09
100 – 124.9	10	60	27.0	32	46	14.4	
125 – 160.0	12	60	35.0	40	55	16.4	

40 Vc





FULL SIDE ARBOR

Largest width CW: 17.2 mm

DC	ZEFP	LF	CW	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8	50	12-17.2	20.0	27	40	12.4	LNGU09
100 – 124.9	10	60	12-17.2	27.0	32	46	14.4	
125 – 160.0	12	60	12-17.2	35.0	40	55	16.4	

1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

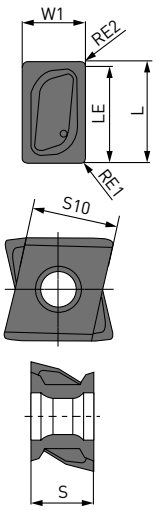
40 Vc

DCV3

SPARE PARTS

Tool holder type		TQ (Nm)		
	Clamp screw	Clamp torque	Wrench	Anti-seize lubricant
DCV3 LNGU0906○○PNE○M	TS304	1.5	TKY08W	MK1KS

INSERT

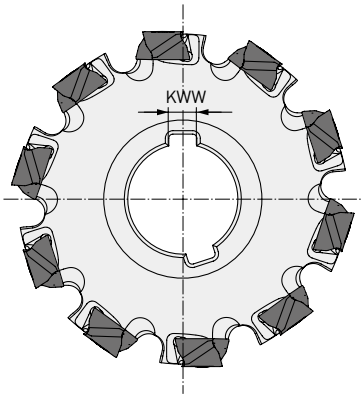
	Order number	VP15TF	Hand	Class	Honing	L	LE	S	S10	RE1	W1	Shape	Geometry
NEW	LNGU090604PNER-M	●	R	G	E	9	8.6	6	8.5	0.4	6		
NEW	LNGU090608PNER-M	●	R	G	E	9	8.6	6	8.5	0.8	6		
NEW	LNGU090612PNER-M	●	R	G	E	9	8.6	6	8.5	1.2	6		
NEW	LNGU090616PNER-M	●	R	G	E	9	8.6	6	8.5	1.6	6		
NEW	LNGU090620PNER-M	●	R	G	E	9	8.6	6	8.5	2	6		
NEW	LNGU090624PNER-M	●	R	G	E	9	8.6	6	8.5	2.4	6		
NEW	LNGU090630PNER-M	●	R	G	E	9	8.6	6	8.5	3	6		
NEW	LNGU090640PNER-M	●	R	G	E	9	8.6	6	8.5	4	6		
NEW	LNGU090604PNEL-M	●	L	G	E	9	8.6	6	8.5	0.4	6		
NEW	LNGU090608PNEL-M	●	L	G	E	9	8.6	6	8.5	0.8	6		
NEW	LNGU090612PNEL-M	●	L	G	E	9	8.6	6	8.5	1.2	6		
NEW	LNGU090616PNEL-M	●	L	G	E	9	8.6	6	8.5	1.6	6		
NEW	LNGU090620PNEL-M	●	L	G	E	9	8.6	6	8.5	2	6		
NEW	LNGU090624PNEL-M	●	L	G	E	9	8.6	6	8.5	2.4	6		
NEW	LNGU090630PNEL-M	●	L	G	E	9	8.6	6	8.5	3	6		
NEW	LNGU090640PNEL-M	●	L	G	E	9	8.6	6	8.5	4	6		

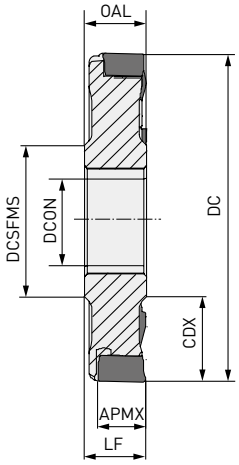
(10 inserts in one case)

● : Inventory maintained. □ : Produced to order only

DCV4

P K



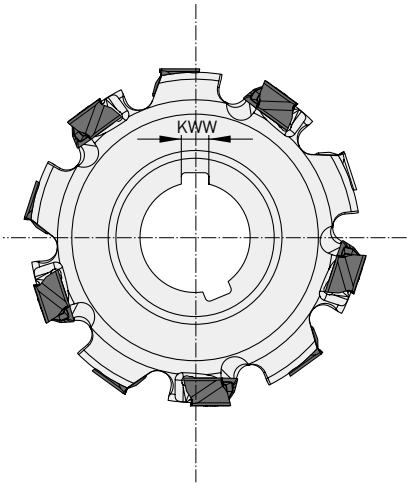


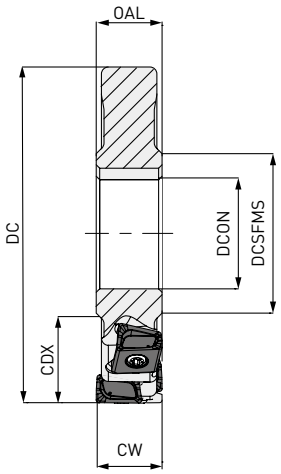
Max. APMX: RE1 < 3.0 mm 12.2 mm
RE1 > 3.0 mm 11.4 mm

HALF SIDE

DC	ZEFP	LF = OAL	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8	18	20.0	27	40	7	LNGU13
100 – 124.9	10		27.0	32	46	8	
125 – 159.9	12		35.0	40	55	10	
160 – 200	14		52.5	40	55	10	

40 Vc





Largest width CW: 24 mm

FULL SIDE

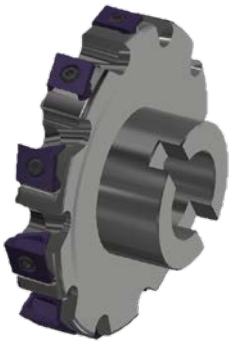
DC	ZEFP	CW	CDX	DCON	DCSFMS	KWW	
80 – 99.9	4	18–24	20.0	27	40	7	LNGU13
100 – 124.9	5	18–24	27.0	32	46	8	
125 – 159.9	6	18–24	35.0	40	55	10	
160 – 200	7	18–24	52.5	40	55	10	

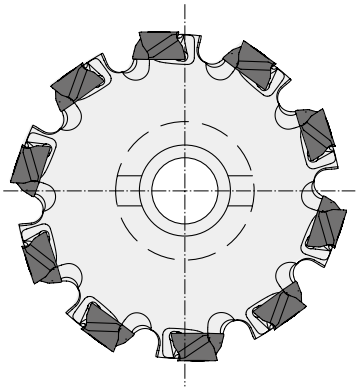
1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

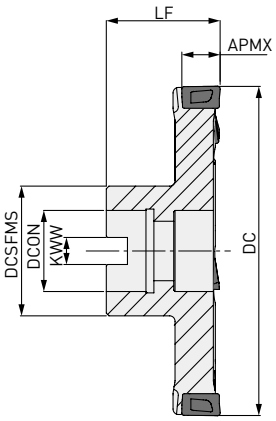
40 Vc

DCV4

P K





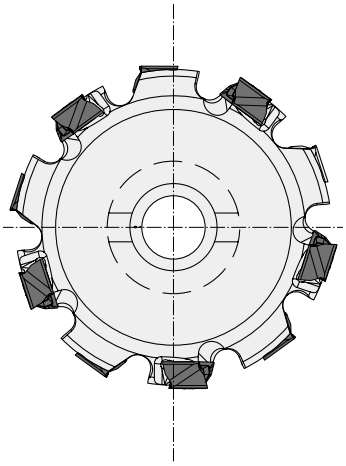


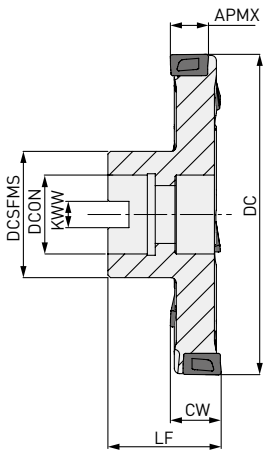
Max. APMX: RE1 < 3.0 mm 12.2 mm
RE1 > 3.0 mm 11.4 mm

HALF SIDE ARBOR

DC	ZEFP	LF	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8 – 10	50	20	27	40	12.4	LNGU13
100 – 124.9	10 – 12	60	27	32	46	14.4	
125 – 159.9	12 – 14	60	35	40	55	16.4	
160 – 200	14 – 20	70	52.5	40	55	16.4	

40 Vc





Largest width CW: 24 mm

FULL SIDE ARBOR

DC	ZEFP	LF	CW	CDX	DCON	DCSFMS	KWW	
80 – 99.9	8 – 10	50	18–24	20	27	40	12.4	LNGU13
100 – 124.9	10 – 12	60	18–24	27	32	46	14.4	
125 – 159.9	12 – 14	60	18–24	35	40	55	16.4	
160 – 200	14 – 20	70	18–24	52.5	40	55	16.4	

1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

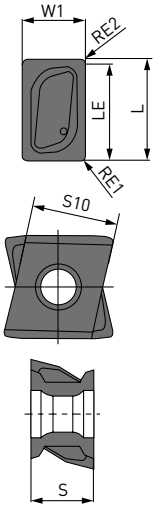
40 Vc

DCV4

SPARE PARTS

Tool holder type		TQ (Nm)		
	Clamp screw	Clamp torque	Wrench	Anti-seize lubricant
DCV4 LNGU1308○○PNE○-○	TS406	3.5	TKY15T	MK1KS

INSERT

Order number	MP6120	VP15TF	Hand	Class	Honing	L	LE	S	S10	RE1	RE2	W1	Shape	Geometry
LNGU130804PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	0.4	0.8	8.0		
LNGU130804PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	0.4	0.8	8.0		
LNGU130808PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	0.8	0.8	8.0		
LNGU130808PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	0.8	0.8	8.0		
LNGU130812PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	1.2	0.8	8.0		
LNGU130812PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	1.2	0.8	8.0		
LNGU130816PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	1.6	0.8	8.0		
LNGU130816PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	1.6	0.8	8.0		
LNGU130820PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	2.0	0.8	8.0		
LNGU130820PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	2.0	0.8	8.0		
LNGU130824PNER-M		●	R	G	E	13.0	12.2	8.0	11.0	2.4	0.8	8.0		
LNGU130824PNEL-M		●	L	G	E	13.0	12.2	8.0	11.0	2.4	0.8	8.0		
LNGU130830PNER-M		●	R	G	E	13.0	11.4	8.0	11.0	3.0	1.6	8.0		
LNGU130830PNEL-M		●	L	G	E	13.0	11.4	8.0	11.0	3.0	1.6	8.0		
LNGU130840PNER-M		●	R	G	E	13.0	11.4	8.0	11.0	4.0	1.6	8.0		
LNGU130840PNEL-M		●	L	G	E	13.0	11.4	8.0	11.0	4.0	1.6	8.0		
LNGU130850PNER-M		●	R	G	E	13.0	11.4	8.0	11.0	5.0	1.6	8.0		
LNGU130850PNEL-M		●	L	G	E	13.0	11.4	8.0	11.0	5.0	1.6	8.0		
LNGU130804PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	0.4	0.8	8.0		
LNGU130804PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	0.4	0.8	8.0		
LNGU130808PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	0.8	0.8	8.0		
LNGU130808PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	0.8	0.8	8.0		
LNGU130812PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	1.2	0.8	8.0		
LNGU130812PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	1.2	0.8	8.0		
LNGU130816PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	1.6	0.8	8.0		
LNGU130816PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	1.6	0.8	8.0		
LNGU130820PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	2.0	0.8	8.0		
LNGU130820PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	2.0	0.8	8.0		
LNGU130824PNER-R	●	●	R	G	E	13.0	12.2	8.0	11.0	2.4	0.8	8.0		
LNGU130824PNEL-R	●	●	L	G	E	13.0	12.2	8.0	11.0	2.4	0.8	8.0		
LNGU130830PNER-R	●	●	R	G	E	13.0	11.4	8.0	11.0	3.0	1.6	8.0		
LNGU130830PNEL-R	●	●	L	G	E	13.0	11.4	8.0	11.0	3.0	1.6	8.0		
LNGU130840PNER-R	●	●	R	G	E	13.0	11.4	8.0	11.0	4.0	1.6	8.0		
LNGU130840PNEL-R	●	●	L	G	E	13.0	11.4	8.0	11.0	4.0	1.6	8.0		
LNGU130850PNER-R	●	●	R	G	E	13.0	11.4	8.0	11.0	5.0	1.6	8.0		
LNGU130850PNEL-R	●	●	L	G	E	13.0	11.4	8.0	11.0	5.0	1.6	8.0		

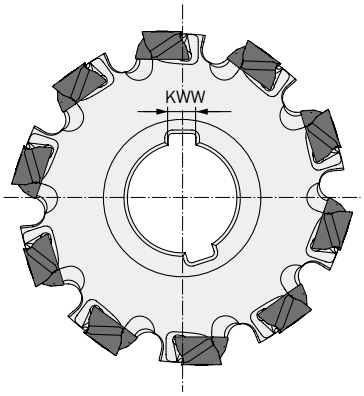
(10 inserts in one case)

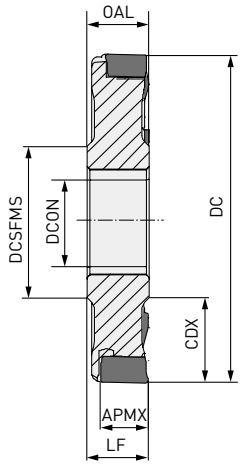
● : Inventory maintained. □ : Produced to order only

DCV5

90° KAPR | R | PF

P K



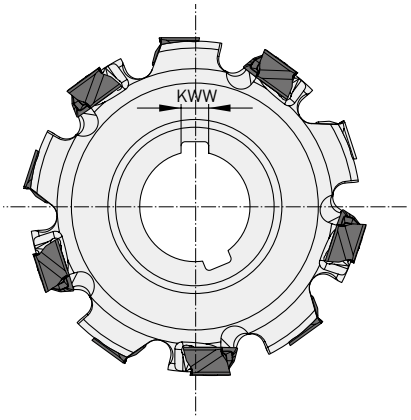


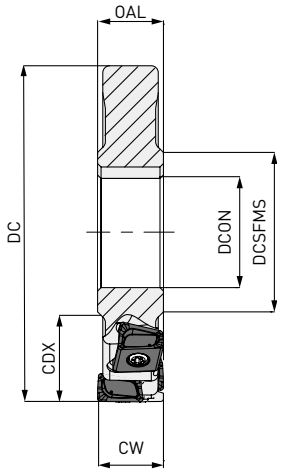
Max. APMX: RE1 < 3.0 mm 16.2 mm
RE1 > 3.0 mm 15.4 mm

HALF SIDE

DC	ZEFP	LF = OAL	CDX	DCON	DCSFMS	KWW	
100 – 124.9	8	23	27.0	32	46	8	LNGU17
125 – 159.9	10		35.0	40	55	10	
160 – 199.9	12		52.5	40	55	10	
200 – 250	16		65.0	50	70	12	

40 Vc





Largest width CW: 32 mm

FULL SIDE

DC	ZEFP	CW	CDX	DCON	DCSFMS	KWW	
100 – 124.9	8	23–32	27.0	32	46	8	LNGU17
125 – 159.9	10		35.0	40	55	10	
160 – 199.9	12		52.5	40	55	10	
200 – 250	16		65.0	50	70	12	

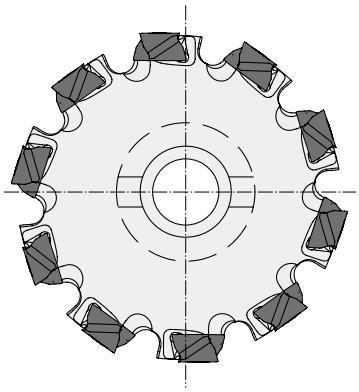
1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

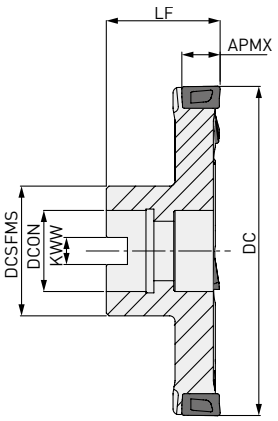
40 Vc

DCV5

90° KAPR

P K

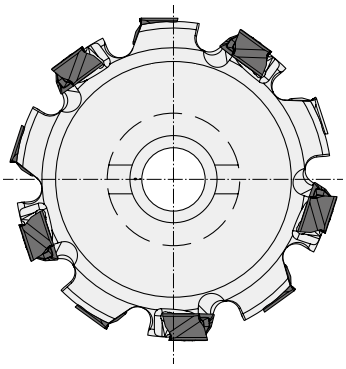


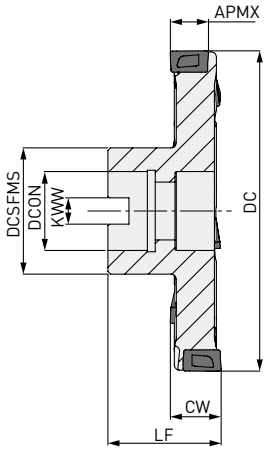


Max. APMX: RE1 < 3.0 mm 16.2 mm
RE1 > 3.0 mm 15.4 mm

HALF SIDE ARBOR

DC	ZEFP	LF	CDX	DCON	DCSFMS	KWW	
100 – 124.9	8 – 10	50	27	32	46	14.4	LNGU17
125 – 159.9	10 – 12	60	35	40	55	16.4	
160 – 199.9	12 – 14	60	52.5	40	55	16.4	
200 – 250	14 – 20	70	65	40	70	16.4	





Largest width CW: 32 mm

FULL SIDE ARBOR

DC	ZEFP	LF	CW	CDX	DCON	DCSFMS	KWW	
100 – 124.9	8 – 10	60	23–32	27	32	46	14.4	LNGU17
125 – 159.9	10 – 12	60		35	40	55	16.4	
160 – 199.9	12 – 14	70		52.5	40	55	16.4	
200 – 250.0	14 – 20	70		65	40	70	16.4	

1. Multi level designs available for each size. Please contact our technical department (MMC Hartmetall GmbH - special@mmchg.de) for details of any geometry not shown.

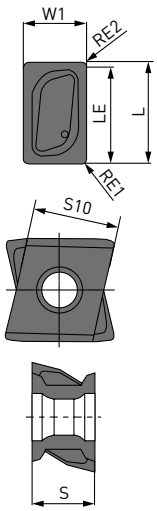
40 Vc

DCV5

SPARE PARTS

Tool holder type		TQ (Nm)		
	Clamp screw	Clamp torque	Wrench	Anti-seize lubricant
DCV5 LNGU1710○○PNE○R	TS53	7.5	TKY25T	MK1KS

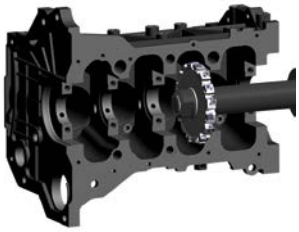
INSERT

Order number	MP6120	VP15TF	Hand	Class	Honing	L	LE	S	S10	RE1	RE2	W1	D1	Shape	Geometry
LNGU171004PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	0.4	0.8	10.0	5.5		
LNGU171004PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	0.4	0.8	10.0	5.5		
LNGU171008PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	0.8	0.8	10.0	5.5		
LNGU171008PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	0.8	0.8	10.0	5.5		
LNGU171012PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	1.2	0.8	10.0	5.5		
LNGU171012PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	1.2	0.8	10.0	5.5		
LNGU171016PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	1.6	0.8	10.0	5.5		
LNGU171016PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	1.6	0.8	10.0	5.5		
LNGU171020PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	2.0	0.8	10.0	5.5		
LNGU171020PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	2.0	0.8	10.0	5.5		
LNGU171024PNER-R	●	●	R	G	E	17.0	16.2	10.0	13.0	2.4	0.8	10.0	5.5		
LNGU171024PNEL-R	●	●	L	G	E	17.0	16.2	10.0	13.0	2.4	0.8	10.0	5.5		
LNGU171030PNER-R	●	●	R	G	E	17.0	15.4	10.0	13.0	3.0	1.6	10.0	5.5		
LNGU171030PNEL-R	●	●	L	G	E	17.0	15.4	10.0	13.0	3.0	1.6	10.0	5.5		
LNGU171040PNER-R	●	●	R	G	E	17.0	15.4	10.0	13.0	4.0	1.6	10.0	5.5		
LNGU171040PNEL-R	●	●	L	G	E	17.0	15.4	10.0	13.0	4.0	1.6	10.0	5.5		
LNGU171050PNER-R	●	●	R	G	E	17.0	15.4	10.0	13.0	5.0	1.6	10.0	5.5		
LNGU171050PNEL-R	●	●	L	G	E	17.0	15.4	10.0	13.0	5.0	1.6	10.0	5.5		
LNGU171060PNER-R	●	●	R	G	E	17.0	15.4	10.0	13.0	6.0	1.6	10.0	5.5		
LNGU171060PNEL-R	●	●	L	G	E	17.0	15.4	10.0	13.0	6.0	1.6	10.0	5.5		
LNGU171070PNER-R	●	●	R	G	E	17.0	15.4	10.0	13.0	7.0	1.6	10.0	5.5		
LNGU171070PNEL-R	●	●	L	G	E	17.0	15.4	10.0	13.0	7.0	1.6	10.0	5.5		

(10 inserts in one case)

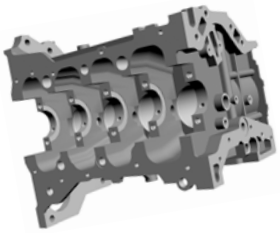
● : Inventory maintained. □ : Produced to order only

APPLICATION EXAMPLES

Tool	DCV4 Ø 300 mm	DCV4 Ø 160 mm
Insert (Grade)	LNGU130804PNER-M (VP15TF)	LNGU130804PNER-M (VP15TF)
Workpiece	Brake caliper (DIN GGG40.3) 	Cylinder block (DIN GG25) 
n (min^{-1})	120	500
Vc (m/min)	113	201
fz (mm/t.)	0.09–0.24	0.14
Vf (mm/min)	150–400	500
ap (mm)	1.0–2.0	1.0
Cutting Mode	Dry cutting	Dry cutting
Machine	Machining centre	Horizontal
Results	Approximately 2 x longer tool life than conventional products. Excellent dimensional accuracy and surface finish. Improved machining efficiency gave a 30 % reduction in tooling costs.	1.5 x better machining efficiency than conventional products. Approximately double tool life. Stable cutting with minimal sound and provided a good surface finish. Improved machining efficiency and longer tool life.

1. The above application examples are customer's application examples, and can differ from the recommended conditions.

UNIQUE SIDE CUTTER SERIES

Taking advantage of the latest technology, materials and cutter geometry.

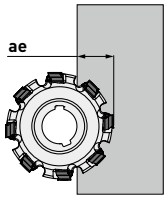
CLASSIFIED

	DCV3	DCV4	DCV5
Material	P K	P K	P K
Low cutting resistance	◎	◎	◎
Toughness	◎	◎	◎
Insert shape		Vertical	Vertical
ZNF		Double sided insert	Double sided insert
ZNP	4	4	4
Half side Max. depth of cut APMX	RE ≤ 4.0 mm 8.6 mm	RE ≤ 3.0 mm 12.2 mm	RE ≤ 3.0 mm 16.2 mm
	RE ≥ 3.0mm 11.4 mm	RE ≥ 3.0mm 11.4 mm	RE ≥ 3.0 mm 15.4 mm
Full side Max. cutting dia DC	Ø 300 mm	Ø 400 mm	Ø 660 mm

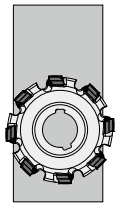
DCV3 / DCV4 / DCV5

RECOMMENDED CUTTING CONDITIONS

SHOULDER MILLING

	Material	Hardness	Grade	Vc	ap	ae	fz	Cutting mode
P	Steel	≤180HB	MP6120 VP15TF	150 (130–180)	≤APMX	<10% <30% ≤50%	0.10 (0.08–0.15)	
P	Carbon steel/ Alloy steel	180–280HB	MP6120 VP15TF	150 (130–180)	≤2.0	≤50%	0.12 (0.08–0.20)	
					≤4.0	<10%	0.12 (0.08–0.20)	
					≤4.0	≤50%	0.10 (0.08–0.15)	
					≤APMX	<10%	0.10 (0.08–0.15)	
					≤APMX	≤50%	0.10 (0.08–0.12)	
K	Cast iron	Tensile strength ≤ 350MPa	VP15TF	150 (130–180)	≤2.0	≤50%	0.12 (0.08–0.20)	
					≤4.0	<10%	0.12 (0.08–0.20)	
					≤4.0	≤50%	0.10 (0.08–0.15)	
					≤APMX	<10%	0.10 (0.08–0.15)	
					≤APMX	≤50%	0.10 (0.08–0.12)	
K	Gray cast iron	Tensile strength ≤ 450MPa	VP15TF	130 (110–160)	≤2.0	≤50%	0.12 (0.08–0.20)	
					≤4.0	<10%	0.12 (0.08–0.20)	
					≤4.0	≤50%	0.10 (0.08–0.15)	
					≤APMX	<10%	0.10 (0.08–0.15)	
					≤APMX	≤50%	0.10 (0.08–0.12)	
	Ductile cast iron	Tensile strength ≤ 800MPa	VP15TF	130 (110–160)	≤2.0	≤50%	0.12 (0.08–0.20)	
					≤4.0	<10%	0.12 (0.08–0.20)	
					≤4.0	≤50%	0.10 (0.08–0.15)	
					≤APMX	<10%	0.10 (0.08–0.15)	
					≤APMX	≤50%	0.10 (0.08–0.12)	

FACE MILLING

	Material	Hardness	Grade	Vc	ap	fz	Cutting mode
P	Steel	≤180HB	MP6120 VP15TF	150 (130–180)	≤APMX	0.10 (0.08–0.15)	
P	Carbon steel/ Alloy steel	180–280HB	MP6120 VP15TF	150 (130–180)	≤2.0	0.12 (0.08–0.20)	
					≤4.0	0.10 (0.08–0.15)	
					≤APMX	0.10 (0.08–0.12)	
K	Cast iron	Tensile strength ≤ 350MPa	VP15TF	150 (130–180)	≤2.0	0.12 (0.08–0.20)	
					≤4.0	0.10 (0.08–0.15)	
					≤APMX	0.10 (0.08–0.12)	
K	Gray cast iron	Tensile strength ≤ 450MPa	VP15TF	150 (130–180)	≤2.0	0.12 (0.08–0.20)	
					≤4.0	0.10 (0.08–0.15)	
					≤APMX	0.10 (0.08–0.12)	
	Ductile cast iron	Tensile strength ≤ 800MPa	VP15TF	130 (110–160)	≤2.0	0.12 (0.08–0.20)	
					≤4.0	0.10 (0.08–0.15)	
					≤APMX	0.10 (0.08–0.12)	

LSE445/NSE300/400

GENERAL FACE MILLING SERIES WITH 20° POSITIVE INSERTS FOR RELIABLE AND EFFICIENT MACHINING

Mplus...

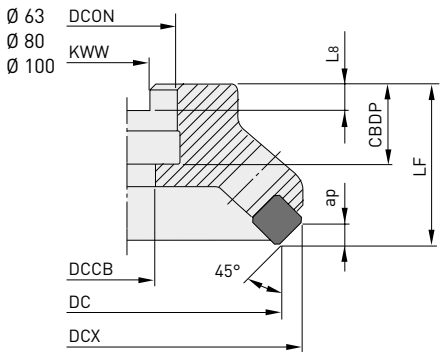
LSE445

45° FACE MILLING GENERAL CUTTING

P M K N

C H:45°
A.R:+19° T:+13°
RR:-2° I :+15°

1



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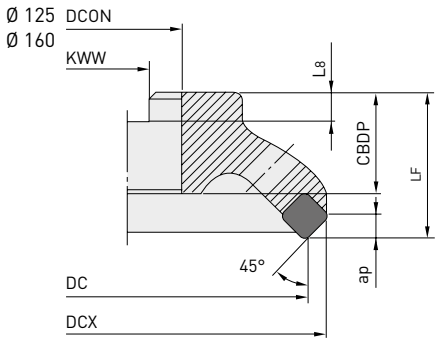


ARBOR TYPE

Order number	Stock R	Stock L	ZEFP	DC	DCX	LF	DCON	CBDP	DCCB	KWW	L8	WT	APMX	Type
LSE445-063A05R/L-E	●	□	5	63	76.5	40	22	20	11	10.4	6.4	0.8	5.5	1
LSE445-080A06R/L-E	●	□	6	80	93.5	50	27	22	13.5	12.4	7.0	1.0	5.5	1
LSE445-100A07R/L-E	●	□	7	100	113.5	50	32	25	17.5	14.4	8.0	1.4	5.5	1
LSE445-125B09R/L-E	□	□	9	125	138.5	50	40	32	—	16.4	9.0	2.0	5.5	2
LSE445-160B11R/L-E	□	□	11	160	173.5	50	40	32	—	16.4	9.0	3.0	5.5	2

44 Vc

SPARE PARTS

Tool holder number	Shim *1	Shim screw	Wedge	Clamp screw	Wrench	Wrench
LSE445 -063A05R/L-E	STBE445NF	CS300890T	CWSE445TR	LS10T	TKY25T	TKY08F
LSE445 -080A04R/L-E						
LSE445-100A07R/L-E				LS15T		
LSE445-125B09R/L-E						
LSE445 -160B11R/L-E						

*1 Clamp Torque (N • m) : LS10T=8.5. LS15T=8.5. CS300890T=1.0

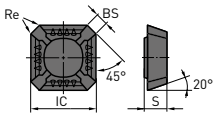
● : Inventory maintained. □ : Produced to order only

INSERTS

		F7010	F7030	MC5020	VP15TF	NX2525	NX4545	UTi20T	HTi10
P	Steel	●	◐		◐	●	◐	◐	
M	Stainless steel	◐	◐		◐	◐	◐	◐	
K	Cast iron			◐	✠	●		✠	◐
N	Non-ferrous metal								◐

Cutting conditions:
●:Stable cutting ◐:General cutting ✠:Unstable cutting

Honing:
E:Round F:Sharp S:Chamfer + Hone T:Chamfer Z:Strong

Order number	Class	Honing	F7010	F7030	MC5020	VP15TF	NX2525	NX4545	UTi20T	HTi10	IC	S	BS	RE	Shape
SECN1203AFTN1	C	T						★			12.7	3.18	1.4	1.0	
SEEN1203AFFN1	E	F								●	12.7	3.18	1.4	1.0	
SEEN1203AFEN1	E	E				●					12.7	3.18	1.4	1.0	
SEEN1203AFTN1	E	T	●				●	●	●		12.7	3.18	1.4	1.0	
SEEN1203AFTN3	E	T	●					●	★		12.7	3.18	1.4	—	
SEEN1203AFSN1	E	S		●	●						12.7	3.18	1.4	1.0	
SEEN1203AFSN3	E	S		●							12.7	3.18	1.4	—	
SEEN1203AFZN1	E	Z					●				12.7	3.18	1.4	1.0	
Inserts with breaker															
SEER1203AFEN-JS	E	E	●	●	●	●					12.7	3.18	1.4	1.0	
SEER1204AFEN-JS	E	E	●								12.7	3.18	1.4	1.0	
Wiper inserts															
WEC42AFTR5C	C	T					●				—	3.18	5	1.0	

● : Inventory maintained. □ : Produced to order only

LSE445

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Grade	Vc	fz
P	Mild steel	<180HB	F7030	300 (200–360)	0.2 (0.1–0.3)
			NX4545		
			UTi20T	240 (170–300)	
			UP20M		
	Carbon steel Alloy steel	180–280HB	F7030	250 (170–300)	0.2 (0.1–0.3)
			NX4545		
			UTi20T	200 (140–240)	
			UP20M		
		280–350HB	UTi20T	140 (100–170)	0.15 (0.1–0.2)
M	Stainless steel	<200HB	UP20M	200 (140–240)	0.2 (0.1–0.3)
			UTi20T		
K	Cast iron	Tensile Strength <450MPa	MC5020	200 (130–240)	0.2 (0.1–0.3)
			F5010		
			F5020		
			HTi10	160 (110–190)	
			UTi20T		
N	Aluminium alloy	—	MD220	1000 (200–1500)	0.15 (0.05–0.25)
			HTi10	1000 (700–1200)	0.12 (0.05–0.2)

1. Revolution (min^{-1}) = (1000×Cutting speed)÷(3.14×ØD1)
2. Table feed (mm/min) = Feed per tooth×Number of teeth×Cutter revolution

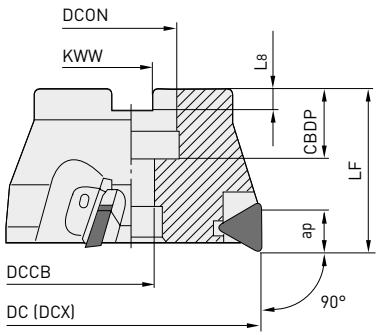
NSE300/400

90° FACE MILLING GENERAL CUTTING

P M K N

C H:0°
A.R:+16°
R.R:+5°–+8°
T:+5°–+8°
I :+16°

1



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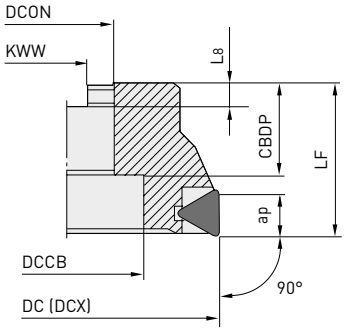

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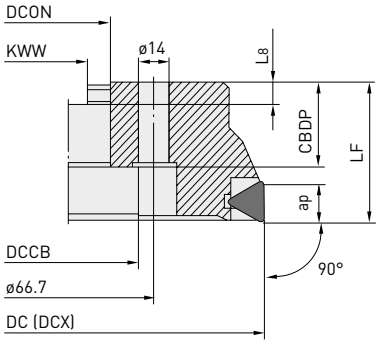


Right hand tool holder shown.

ARBOR TYPE

Order number	Stock	ZEFP	DC	DCX	LF	DCON	CBDP	DCCB	KWW	L8	WT	APMX	Type
NSE300-050A04R-E	●	4	50	50	40	22	20	11	10.4	6.3	0.3	12.5	1
NSE300-063A05R-E	●	5	63	63	40	22	20	11	10.4	6.3	0.5	12.5	1
NSE300-080A06R-E	●	6	80	80	50	27	22	13.5	12.4	7	1.1	12.5	1
NSE300-100A08R-E	●	8	100	100	50	32	25	17.5	14.4	8	2.1	12.5	1
NSE300-125B10R-E	●	10	125	125	63	40	32	56	16.4	9	3.2	12.5	2
NSE300-160C12R-E	□	12	160	160	63	40	29	56	16.4	9	5.4	12.5	3
NSE400-080A06R-E	□	6	80	80	50	27	22	13.5	12.4	7	1.1	17	1
NSE400-100A07R-E	□	7	100	100	50	32	25	17.5	14.4	8	2.1	17	1
NSE400-125B08R-E	□	8	125	125	63	40	32	56	16.4	9	3.2	17	2
NSE400-160C10R-E	□	10	160	160	63	40	29	56	16.4	9	5.4	17	3

47 Vc

SPARE PARTS

Tool holder number	Locator	Wedge-T	Locator	Wedge-T	Clamp screw *	Locator screw *	Wrench (Clamp screw)	Wrench (Sold separately)
NSE300-050A04R-E	SPTSE300R	CWTSE300TR	—	—	LS19T	TS32	TKY15T	TKY08F
NSE300-063A05R-E								
NSE300-080A06R-E		CWNSE300TR			LS10T		TKY25T	
NSE300-160C12R-E								
NSE400-E	—	—	SPTSE400R	CWSE300TR	LS10TS			

* Clamp Torque (N • m) : LS10T=8.5. LS10TS=8.5. LS19T=5.0. TS32=1.0

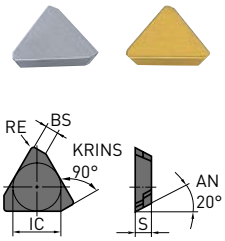
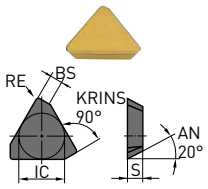
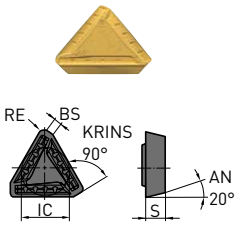
● : Inventory maintained. □ : Produced to order only

INSERTS

		F7030	MC5020	VP15TF	UP20M	NX2525	NX4545	UTi20T	HTi10
P	Steel	◕		◕	◕	●	◕	◕	
M	Stainless steel	◕		◕	◕	●	◕	◕	
K	Cast iron		◕	✤		●		✤	◕
N	Non-ferrous metal								◕

Cutting conditions :
●:Stable cutting ◕:General cutting ✤:Unstable cutting

Honing:
E:Round F:Sharp S:Chamfer + Hone T:Chamfer Z:Strong

Order number	Class	Honing	F7030	MC5020	VP15TF	UP20M	NX2525	NX4545	UTi20T	HTi10	IC	S	BS	RE	Shape
TECN1603PEFR1W	C	F								★	9.525	3.175	1.4	0.4	
TECN1603PEER1W	C	E								★	9.525	3.175	1.4	0.4	
TECN1603PETR1W	C	T					★	★	★		9.525	3.175	1.4	0.4	
TEEN1603PEFR1	E	F								●	9.525	3.175	1.4	0.4	
TEEN1603PEER1	E	E								●	9.525	3.175	1.4	0.4	
TEEN1603PETR1	E	T				●	●	●	●		9.525	3.175	1.4	0.4	
TEEN1603PESR1	E	S	●	●							9.525	3.175	1.4	0.4	
TEEN1603PEZR1	E	Z					●				9.525	3.175	1.4	0.4	
TECN2204PEFR1	C	F								★	12.7	4.76	1.4	1.0	
TECN2204PETR1	C	T							★		12.7	4.76	1.4	1.0	
TEEN2204PEFR1	E	F								●	12.7	4.76	1.4	1.0	
TEEN2204PEER1	E	E			★					●	12.7	4.76	1.4	1.0	
TEEN2204PETR1	E	T				●	★	●	●		12.7	4.76	1.4	1.0	
TEEN2204PESR1	E	S	●	●							12.7	4.76	1.4	1.0	
Inserts with breaker															
TEER1603PEER-JS	E	E	●						●		9.525	3.175	1.4	0.4	
TEER2204PEER-JS	E	E	●						★		12.7	4.76	1.4	1.0	

● : Inventory maintained. □ : Produced to order only

NSE300/400

RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Grade	Vc	fz
P	Mild steel	<180HB	F7030	240 (160–290)	0.2 (0.1–0.3)
			NX4545		
			UTi20T	190 (125–230)	
			UP20M		
	Carbon steel Alloy steel	180–280HB	F7030	200 (135–240)	0.2 (0.1–0.3)
			NX4545		
			UTi20T	160 (110–190)	
			UP20M		
		280–350HB	UTi20T	110 (80–135)	0.15 (0.1–0.2)
M	Stainless steel	<200HB	UP20M	160 (125–200)	0.2 (0.1–0.3)
			UTi20T		
K	Cast iron	Tensile strength <450MPa	MC5020	200 (130–240)	0.2 (0.1–0.3)
			F5010		
			F5020		
			HTi10	160 (110–190)	
			UTi20T		
N	Aluminium alloy	—	MD220	1000 (200–1500)	0.15 (0.05–0.25)
			HTi10	800 (560–960)	0.12 (0.05–0.2)

1. Revolution (min^{-1}) = (1000×Cutting speed)÷(3.14×ØD1)
2. Table feed (mm/min) = Feed per tooth×Number of teeth×Cutter revolution

RRD

ROUND INSERT TYPE CUTTERS
VERSATILE PERFORMANCE AND LONG TOOL LIFE

Mplus...

RRD

PRODUCT FEATURES

- Round insert type cutter for mould & die machining
- Versatile range of insert grades for machining up to 60 HRC
- Large range of cutters available, arbor, screw-in, shank and Weldon types
- Wide range of insert sizes, R2.5, 3.5, 5.0, 6.0 and 8.0

RRD

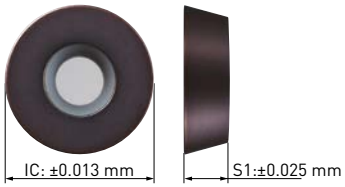
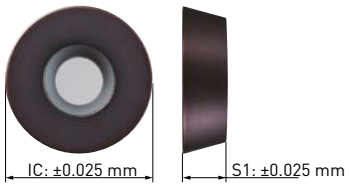
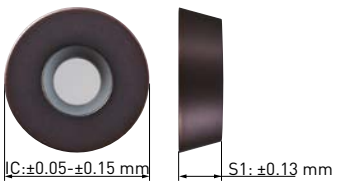
ROUND INSERT TYPE CUTTERS

RRD CUTTERS

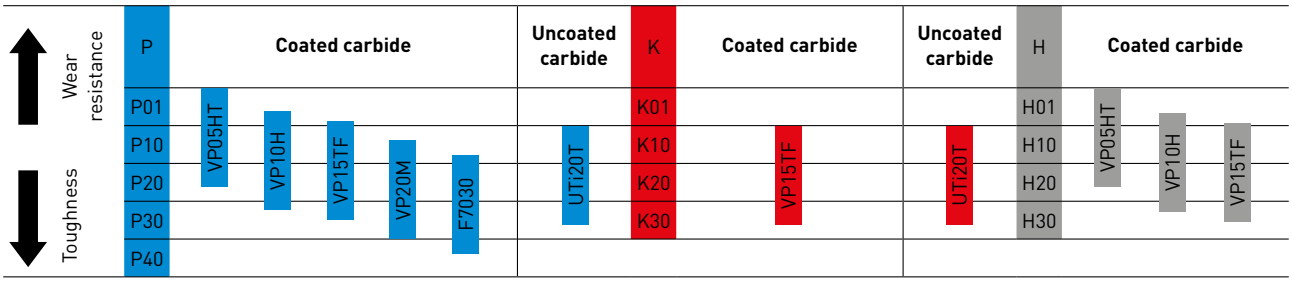
STRAIGHT SHANK	WELDON SHANK	SCREW-IN	ARBOR
			

FEATURES

Inserts are available in 3 different tolerances to suit all applications.

RDHX	RDZX	RDMX
• Ground (H Tolerance) • For high precision • For semi-finishing and finishing	• Precision sintered (E Tolerance) • For universal use • Economical insert with long tool life	• Sintered (M Tolerance) • For universal use • For roughing and semi-finishing
		

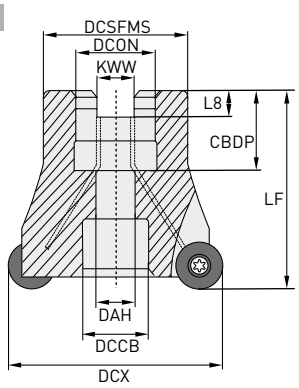
GRADE OVERVIEW



RRD N

P K H

1



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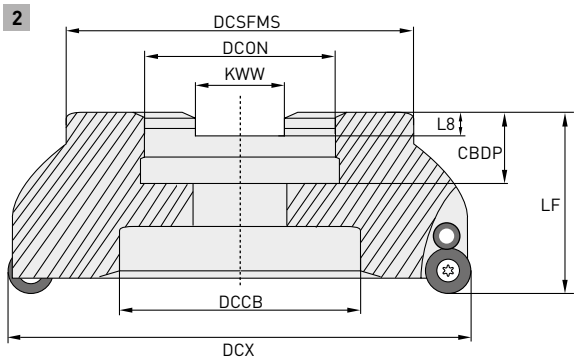

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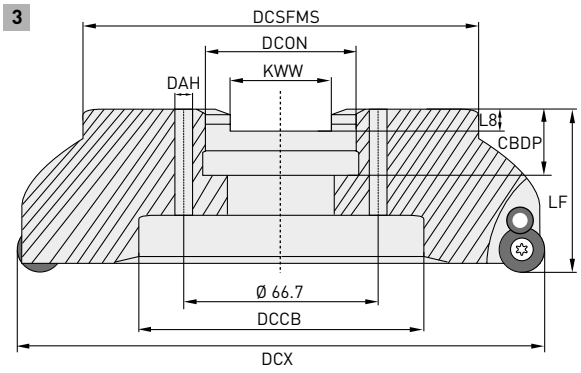


Right hand tool holder only.

ARBOR TYPE (Neutral)

Order number	Stock	APMX	DCX	DC	LF	DCON	CBDP	DAH	DCSFMS	KWW	L8	DCCB	ZEFP			
RRD050N-042A06R	●	5	42	32	44	16	18	9	33	8.4	5.7	15	6	○	1	RDH/M/Z 1003M0◌
RRD050N-052A07R	●	5	52	42	50	22	20	11	44	10.4	6.3	18	7	○	1	
RRD060N-042A05R	●	6	42	30	42	16	18	9	33	8.4	5.7	15	5	○	1	
RRD060N-050A05R	●	6	50	38	50	22	20	11	44	10.4	6.3	18	5	○	1	RDH/M/Z 12T3M0◌
RRD060N-052A05R	●	6	52	40	50	22	20	11	44	10.4	6.3	18	5	○	1	
RRD060N-063A06R	●	6	63	51	50	22	20	11	44	10.4	6.3	18	6	○	1	
RRD080N-050A04R	●	8	50	34	50	22	20	11	44	10.4	6.3	18	4	○	1	
RRD080N-052A04R	●	8	52	36	50	22	20	11	4	10.4	6.3	18	4	○	1	
RRD080N-052A05R	●	8	52	36	50	22	20	11	4	10.4	6.3	18	5	○	1	
RRD080N-063A05R	●	8	63	47	50	22	20	11	4	10.4	6.3	18	5	○	1	
RRD080N-066A05R	●	8	66	50	50	27	22	13.5	53	12.4	7.2	20	5	○	1	RDH/M/Z 1604M0◌
RRD080N-080A06R	●	8	80	64	52	27	22	13.5	64	12.4	7.2	20	6	○	1	
RRD080N-100A07R	●	8	100	84	52	32	29	—	72	14.4	8	46	7	—	2	
RRD080N-125B08R	●	8	125	109	52	40	30	—	82	16.4	9	58	8	—	2	
RRD080N-160C09R	□	8	160	144	52	40	29	14	90	16.4	9	92	9	—	3	

1. ○ = With through coolant holes

62 Vc

● : Inventory maintained. □ : Produced to order only

RRD N

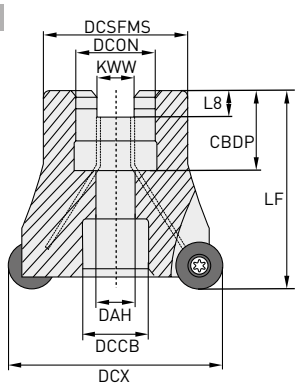
SPARE PARTS

Order number		RE					
			Shim	**Shim screw**	**Clamp screw**	**Insert clamp screw**	**Wrench**
RRD050N-	042A06R	5	—	—	B-TS35	—	TKY15F
	052A07R						
RRD060N-	042A05R	6				TS1001	
	050A05R						
	052A05R						
	063A06R						
RRD080N-	050A04R	8	KS-12	B-TS45	214	—	TKY20F
	052A04R						
	052A05R						
	063A05R						
	066A05R						
	080A06R						
	100A07R						
	125B08R						
	160C09R						

RRD P

P K H

1



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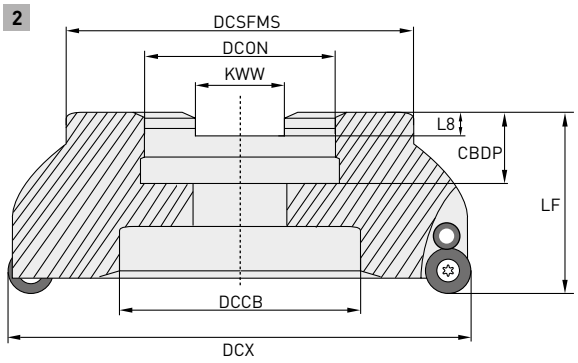

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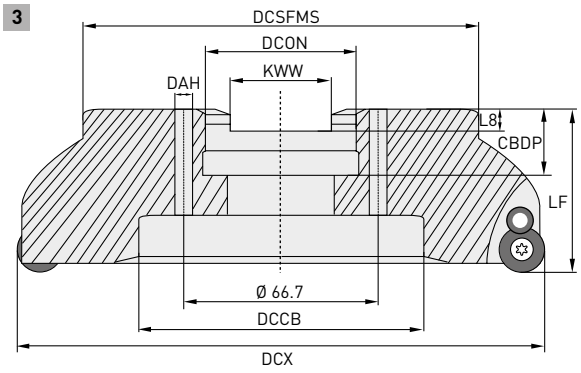


Right hand tool holder only.

ARBOR TYPE (Positive)

Order number	Stock	APMX	DCX	DC	LF	DCON	CBDP	DAH	DCSFMS	KWW	L8	DCCB	ZEFP		Typ	
RRD060P-050A05R	●	6	50	38	50	22	20	11	44	10.4	6.3	18	5	○	1	
RRD060P-052A05R	●	6	52	40	50	22	20	11	44	10.4	6.3	18	5	○	1	
RRD060P-063A06R	●	6	63	51	50	22	20	11	44	10.4	6.3	18	6	○	1	RDH/M/Z 12T3M0E
RRD060P-066A06R	●	6	66	54	52	27	22	13.5	53	12.4	7.2	20	6	○	1	
RRD060P-080A07R	●	6	80	68	50	27	22	13.5	64	12.4	7.2	20	7	○	1	
RRD080P-050A04R	●	8	50	34	50	22	20	11	44	10.4	6.3	18	4	○	1	
RRD080P-063A05R	●	8	63	47	50	22	20	11	44	10.4	6.3	18	5	○	1	
RRD080P-066A05R	●	8	66	50	50	27	22	13.5	53	12.4	7.2	20	5	○	1	
RRD080P-080A06R	●	8	80	64	52	27	22	13.5	64	12.4	7.2	20	6	○	1	RDH/M/Z 1604M0◌
RRD080P-100A07R	●	8	100	84	52	32	29	—	72	14.4	8	46	7	—	2	
RRD080P-125B08R	●	8	125	109	52	40	30	—	82	16.4	9	58	8	—	2	
RRD080P-160C09R	●	8	160	144	52	40	29	14	90	16.4	9	92	9	—	3	

1. ○ = With through coolant holes

62 Vc

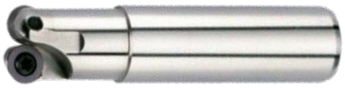
RRD P

SPARE PARTS

Order number		RE					
			Shim	**Shim screw**	**Clamp screw**	**Insert clamp screw**	**Wrench**
RRD060P-	050A05R	6	—	—	B-TS35	TS1001	TKY15F
	052A05R						
	063A06R						
	066A06R						
	080A07R						
RRD080P-	050A04R	8	KS-12	B-TS45	214	—	TKY20F
	063A05R						
	066A05R						
	080A06R						
	100A07R						
	125B08R						
	160C09R						

RRD

P K H



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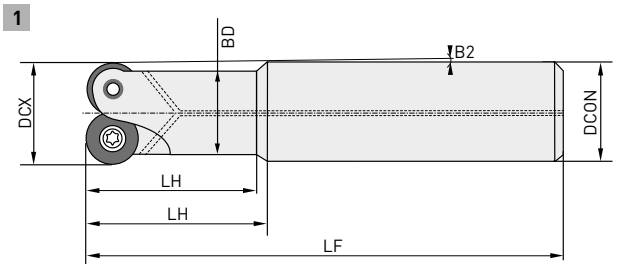

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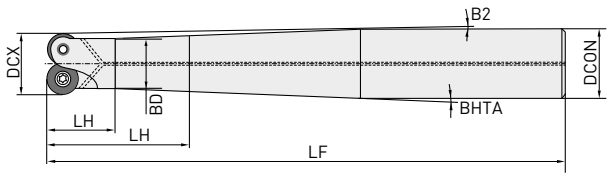

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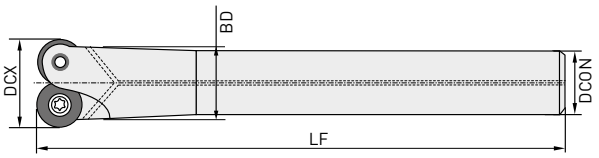

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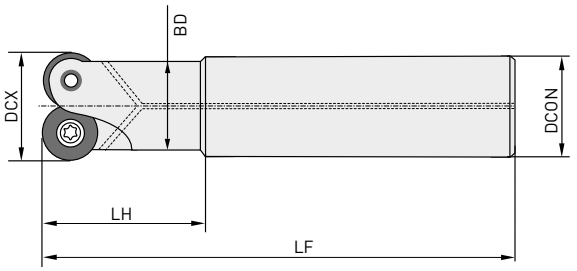


Right hand tool holder only.

STRAIGHT SHANK TYPE

Order number	Stock	APMX	DCX	DCON	LF	LU	LH	BD	B2	BHTA	ZEFP	Typ	
RRD025R102S10Z	●	2.5	10	10	75	—	23	—	—	0.89	2	4	RDH/Z 0501M0
RRD025R123S12Z	●	2.5	12	12	75	—	23	11	—	—	3	4	
RRD025R154S16Z	●	2.5	15	16	80	22	22.5	14	1.4	45	4	1	
RRD035R122S10Z	●	3.5	12	10	75	23	—	11	—	—	2	3	RDH/M/Z 07T1M0○
RRD035R122S12Z	●	3.5	12	12	75	—	23	11	—	—	2	4	
RRD035R122S16Z	□	3.5	12	16	88	15	18.4	11	4	8.37	2	2	
RRD035R122S16ZL	●	3.5	12	16	128	15	22.4	11	2.36	3.87	2	2	
RRD035R122S16ZM	●	3.5	12	16	109	15	22.4	11	2.36	3.87	2	2	
RRD035R152S16Z	□	3.5	15	16	88	18	27.6	14	1	6.52	2	2	RDH/M/Z 0702M0○
RRD035R152S16ZM	●	3.5	15	16	108	18	41.4	14	0.59	2.69	2	2	
RRD035R152S20Z	●	3.5	15	20	130	20	35.6	14	2.12	4.04	2	2	
RRD035R152S20ZM	●	3.5	15	20	150	20	41.7	14	1.64	2.9	2	2	
RRD035R152S25Z	□	3.5	15	25	176	20	36.8	14	2.64	3.8	2	2	
RRD035R153S12Z	□	3.5	15	12	75	17	—	12.8	—	—	3	3	RDH/M/Z 07T1M0○
RRD035R153S16Z	□	3.5	15	16	78	29.5	30	14	1.08	45	3	1	
RRD050R202S20Z	●	5	20	20	90	—	31	18	—	—	2	4	RDH/M/Z 1003M0○
RRD050R202S20ZM	●	5	20	20	110	—	51	18	—	—	2	4	
RRD050R202S25Z	●	5	20	25	136	68.5	69.5	18	2.13	45	2	1	
RRD050R202S25ZL	●	5	20	25	176	108.5	109.5	18	1.34	45	2	1	
RRD050R202S25ZM	●	5	20	25	156	88.5	89.5	18	1.64	45	2	1	

● : Inventory maintained. □ : Produced to order only

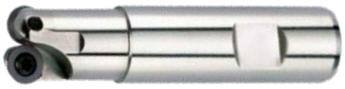
RRD

SPARE PARTS

Order number		RE					
			Shim	**Shim screw**	**Clamp screw**	**Insert clamp screw**	**Wrench**
RRD025R-	102S10Z	2.5	—	—	B-TS20	—	TKY06F
	123S12Z						
	54S16Z						
RRD035R-	122S10Z	3.5	—	—	B-TS253	—	TKY07F
	122S12Z						
	122S16Z						
	122S16ZL						
	122S16ZM						
	152S16Z		—	—	TS25	—	TKY08F
	152S16ZM						
	152S20Z						
	152S20ZM						
	152S25Z						
	153S12Z		—	—	TS253	—	TKY08F
	153S16Z						
RRD050R-	202S20Z	5	—	—	B-TS35	—	TKY15F
	202S20ZM						
	202S25Z						
	202S25ZL						
	202S25ZM						

RRD

P K H



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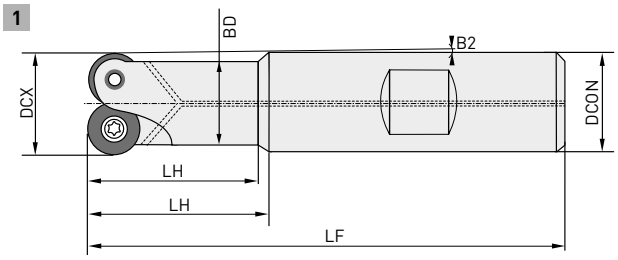

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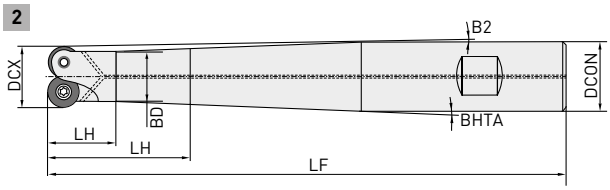

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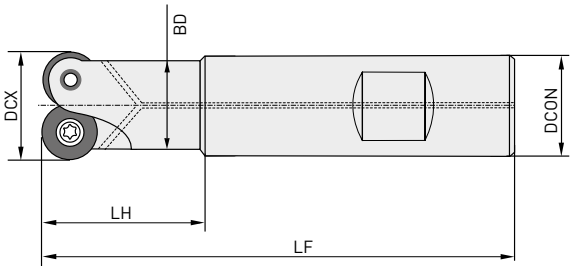


Right hand tool holder only.

WELDON SHANK TYPE

Order number	Stock	APMX	DCX	DCON	LF	LU	LH	BD	B2	BHTA	ZEFP	Typ	
RRD035R122S16W	●	3.5	12	16	88	15	18.4	11	4	8.37	2	2	RDH/M/Z 07T1M0○
RRD035R122S16WL	●	3.5	12	16	128	15	22.4	11	2.36	3.87	2	2	
RRD035R122S16WM	□	3.5	12	16	108	15	22.4	11	2	3.87	2	2	
RRD035R152S16W	□	3.5	15	16	88	18	27.6	12.8	1	6.52	2	2	RDH/M/Z 0702M0○
RRD035R152S16WM	□	3.5	15	16	108	18	41.38	12.8	0.59	2.69	2	2	
RRD035R152S20W	□	3.5	15	20	130	20	35.58	12.8	2.12	4.04	2	2	
RRD035R152S20WM	□	3.5	15	20	150	20	41.7	12.8	1.64	2.9	2	2	
RRD035R152S25W	□	3.5	15	25	176	20	36.8	12.8	3.8	2.65	2	2	
RRD035R153S16W	□	3.5	15	16	78	28.4	29.5	12.8	1.08	45	3	1	RDH/M/Z 07T1M0○
RRD050R202S20W	●	5	20	20	90	—	31	18	—	—	2	4	RDH/M/Z 1003M0○
RRD050R202S20WM	●	5	20	20	110	—	51	18	—	—	2	4	
RRD050R202S25W	●	5	20	25	136	23	37	18	2.13	4.09	2	2	
RRD050R202S25WL	□	5	20	25	176	47.6	23	18	1.34	2.25	2	2	
RRD050R202S25WM	□	5	20	25	156	42.7	23	18	1.64	2.9	2	2	

62

● : Inventory maintained. □ : Produced to order only

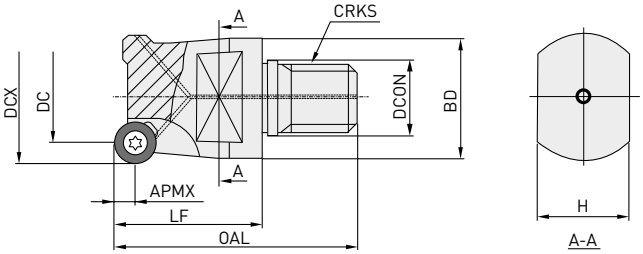
RRD

SPARE PARTS

Order number		RE					
			Shim	**Shim screw**	**Clamp screw**	**Insert clamp screw**	**Wrench**
RRD035R-	122S16W	3.5	—	—	B-TS253	—	TKY07F
	122S16WL						
	122S16WM						
	152S16W		—	—	TS25	—	TKY08F
	152S16WM						
	152S20W						
	152S20WM						
	152S25W						
	153S16W				TS253		
RRD050R-	202S20W	5	—	—	B-TS35	—	TKY15F
	202S20WM						
	202S25W						
	202S25WL						
	202S25WM						

RRD

P K H



Right hand tool holder only.

SCREW-IN TYPE

Order number	Stock	APMX	DCX	DC	OAL	LF	DCON	DCSFMS	CRKS	H	ZEFP	
RRD025R102M5	□	2.5	10	5	35	20	5.5	9.9	M5	6	2	
RRD025R123M8	●	2.5	12	7	38	20	8.5	13.5	M8	9	3	RDH/Z 0501M0○
RRD025R154M8	●	2.5	15	10	38	20	8.5	13.5	M8	10	4	
RRD025R205M10	●	2.5	20	15	44	25	10.5	18	M10	15	5	
RRD035R122M8	●	3.5	12	5	46	28	8.5	13.5	M8	9	2	
RRD035R153M8	●	3.5	15	8	46	28	8.5	13.5	M8	10	3	
RRD035R204M10	●	3.5	20	13	47	28	10.5	18	M10	15	4	RDH/M/Z 07T1M0○
RRD035R255M12	●	3.5	25	18	50	28	12.5	21	M12	17	5	
RRD035R306M16	●	3.5	30	23	51	28	17	29	M16	22	6	
RRD035R357M16	●	3.5	35	28	51	28	17	29	M16	22	7	
RRD035R152M8	●	3.5	15	8	46	28	8.5	13.5	M8	10	2	RDH/M/Z 0702M0○
RRD035R153M8X	●	3.5	15	8	43	28	8.5	13.5	M8	10	3	
RRD050R202M10	●	5	20	10	47	28	10.5	18	M10	15	2	
RRD050R252M12	●	5	25	15	54	32	12.5	21	M12	17	2	
RRD050R253M12	●	5	25	15	54	32	12.5	21	M12	17	3	
RRD050R304M12	●	5	30	20	54	32	12.5	21	M12	17	4	RDH/M/Z 1003M0○
RRD050R304M16	●	5	30	20	55	32	17	29	M16	22	4	
RRD050R355M16	●	5	35	25	65	42	17	29	M16	22	5	
RRD050R426M16	●	5	42	32	65	42	17	29	M16	22	6	
RRD060R242M12	●	6	24	12	54	32	12.5	21	M12	17	2	
RRD060R353M16	●	6	35	23	65	42	17	29	M16	22	3	
RRD060R354M16	●	6	35	23	65	42	17	29	M16	22	4	RDH/M/Z 12T3M0○
RRD060R424M16	●	6	42	30	55	32	17	29	M16	24	4	
RRD060R425M16	●	6	42	30	65	42	17	29	M16	22	5	
RRD080R322M16	●	8	32	16	65	42	17	29	M16	22	2	RDH/M/Z 1604M0○

62 Vc

● : Inventory maintained. □ : Produced to order only

SPARE PARTS

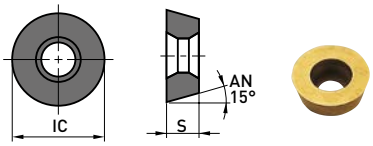
Order number		RE					
			Shim	**Shim screw**	**Clamp screw**	**Insert clamp screw**	**Wrench**
RRD025R-	102M5	2.5	—	—	B-TS20	—	TKY06F
	123M8						
	154M8						
	205M10						
RRD035R-	122M8	3.5	—	—	B-TS253	—	TKY07F
	153M8				TS253	—	TKY08F
	204M10						
	255M12						
	306M16						
	357M16						
	152M8				TS25	—	TKY08F
	153M8X						
RRD050R-	202M10	5	—	—	B-TS35	—	TKY15F
	252M12						
	253M12						
	304M12						
	304M16						
	355M16						
	426M16						
RRD060R-	242M12	6	—	—	B-TS35	—	TKY15F
	353M16						
	354M16					TS1001	
	424M16						
	425M16						
RRD080R-	322M16	8	—	—	214	-	TKY20F

INSERTS

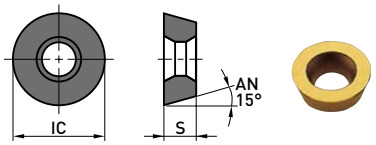
P	Steel	◔	◔	◔	●	●	◔
K	Cast iron		✣	✣	◔	●	✣
H	Hardened materials		◔		●	●	

Cutting conditions:
●: Stable cutting ◔: General cutting ✣: Unstable cutting

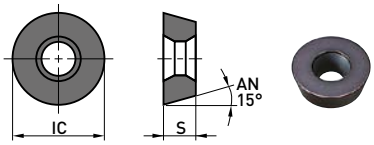
Order number	Class	Honing	F7030	VP15TF	VP20M	VP10H	VP05HT	UTi20T	IC	S	Geometry
RDHX0501M0E	H	E	●	●		●	●		5	1.5	
RDHX0501M0S	H	S	●	●		●			5	1.5	
RDHX07T1M0E	H	E	●	●		●	●		7	1.98	
RDHX07T1M0S	H	S	●	●		●	●		7	1.98	
RDHX0702M0E	H	E	●	●		●	●		7	2.38	
RDHX0702M0S	H	S	●	●		●			7	2.38	
RDHX1003M0E	H	E	●	●		●	●		10	3.18	
RDHX1003M0S	H	S	●	●		●	●		10	3.18	
RDHX12T3M0E	H	E	●	●		●	●		12	3.97	
RDHX12T3M0S	H	S	●	●		●			12	3.97	
RDHX1604M0E	H	E	●	●		●	●		16	4.76	
RDHX1604M0S	H	S	●	●		●			16	4.76	
RDMX07T1M0E	M	E					●		7	1.98	
RDMX07T1M0T	M	T	●		●	●			7	1.98	
RDMX0702M0E	M	E					●		7	2.38	
RDMX0702M0T	M	T	●		●	●		□	7	2.38	
RDMX1003M0E	M	E					●		10	3.18	
RDMX1003M0S	M	S		●		●			10	3.18	
RDMX1003M0T	M	T	●		●	●		●	10	3.18	
RDMX12T3M0E	M	E					●		12	3.97	
RDMX12T3M0S	M	S		●		●			12	3.97	
RDMX12T3M0T	M	T	●		●	●		●	12	3.97	
RDMX1604M0E	M	E					●		16	4.76	
RDMX1604M0S	M	S		●		●			16	4.76	
RDMX1604M0T	M	T	●		●	●		●	16	4.76	
RDZX0501M0E	Z	E		●					5	1.50	
RDZX07T1M0E	Z	E		●					7	1.98	
RDZX0702M0E	Z	E		●					7	2.38	
RDZX1003M0E	Z	E		●					10	3.18	
RDZX1003M0S	Z	S	●	●					10	3.18	
RDZX12T3M0E	Z	E		●					12	3.97	
RDZX12T3M0S	Z	S	●	●					12	3.97	
RDZX1604M0E	Z	E		●					16	4.76	
RDZX1604M0S	Z	S	●	●					16	4.76	



IC: ±0.013 mm S: ±0.025 mm

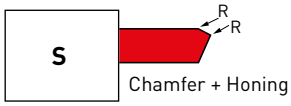


IC: ±0.05-±0.15 mm S: ±0.15 mm



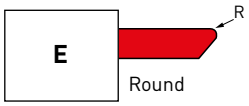
IC: ±0.025 mm S: ±0.025 mm

CUTTING EDGE PREPARATION



Chamfer + Honing

Chamfer



Round

For roughing

For roughing and finishing

For finishing

● : Inventory maintained. □ : Produced to order only

RRD

RECOMMENDED CUTTING CONDITIONS

CUTTING CONDITIONS FOR ROUGHING (ae = 50 % of Ø)

	Material	Hardness	Grade	Vc	Ø 10–15 mm		Ø 20 mm		Ø 24–25 mm		Ø 30–42 mm		Ø 50–80 mm		Ø 100–160 mm	
					ap	fz	ap	fz	ap	fz	ap	fz	ap	fz	ap	fz
P	Mild steel	<180HB	F7030 VP15TF	(250–320)	–0.2	0.25	–0.5	0.45	–1.0	0.35	–1.0	0.40	–1.0	0.50	–1.5	0.60
				(240–300)	0.2–0.3	0.20	0.5–1.0	0.25	1.0–2.0	0.30	1.5–2.0	0.32	1.0–1.5	0.40	1.5–2.5	0.45
				(200–280)	0.3–0.5	0.12	1.0–1.5	0.15	2.0–2.5	0.20	2.0–3.0	0.25	1.5–3.0	0.35	2.5–5.0	0.35
	Carbon steel Alloy steel	180–350HB	F7030 VP15TF	(220–300)	–0.2	0.20	–0.5	0.40	–1.0	0.30	–1.0	0.40	–1.0	0.50	–1.5	0.55
				(200–290)	0.2–0.3	0.15	0.5–1.0	0.20	1.0–1.5	0.25	1.5–2.0	0.30	1.0–1.5	0.38	1.5–2.5	0.40
				(160–250)	0.3–0.5	0.10	1.0–1.5	0.10	1.5–2.0	0.22	2.0–3.0	0.22	1.5–3.0	0.30	2.5–4.5	0.32
K	Cast iron	Tensile Strength <450MPa	VP15TF VP20M VP10H	(200–250)	–0.1	0.15	–0.5	0.18	–1.0	0.20	–1.0	0.25	–1.0	0.30	–1.5	0.35
				(180–230)	0.1–0.2	0.10	0.5–1.0	0.10	1.0–1.5	0.15	1.5–2.0	0.18	1.0–1.5	0.25	1.5–2.5	0.22
				(160–200)	0.2–0.25	0.10	1.0–1.5	0.10	1.5–2.0	0.12	2.0–3.0	0.15	1.5–3.0	0.18	2.5–4.5	0.20
H	Hardened steel	–52HRC –58HRC –60HRC	VP15TF VP10H VP05HT	(140–200)	–0.1	0.12	–0.1	0.14	–0.1	0.15	–0.1	0.18	–0.1	0.18	–0.1	0.20
				(110–180)	0.1–0.15	0.10	0.1–0.20	0.12	0.1–0.30	0.12	0.1–0.30	0.14	0.1–0.30	0.14	0.1–0.30	0.15
				(100–170)	0.1–0.15	0.10	0.1–0.20	0.10	0.1–0.30	0.10	0.1–0.30	0.12	0.1–0.30	0.12	0.1–0.30	0.12

1. When using a full width of cut please reduce the cutting conditions by 20 %.
2. When using a long overhang please reduce the feed rate by 20 %.

CUTTING CONDITIONS FOR FINISHING (ae = 20 % of Ø)

	Material	Hardness	Grade	Vc	Ø 10–15 mm		Ø 20 mm		Ø 24–25 mm		Ø 30–42 mm		Ø 50–80 mm		Ø 100–160 mm	
					ap	fz	ap	fz	ap	fz	ap	fz	ap	fz	ap	fz
P	Mild steel	<180HB	F7030 VP15TF	(260–360)	–0.1	0.15	–0.15	0.20	–0.15	0.25	–0.15	0.30	–0.15	0.32	–0.3	0.35
				(240–320)	0.1–0.2	0.15	0.1–0.2	0.15	0.1–0.2	0.18	0.1–0.3	0.20	0.1–0.3	0.22	0.2–0.3	0.25
				(220–280)	0.2–0.24	0.10	0.1–0.30	0.15	0.1–0.30	0.18	0.1–0.30	0.20	0.2–0.30	0.20	0.3–0.40	0.20
	Carbon steel Alloy steel	180–350HB	F7030 VP15TF	(250–350)	–0.1	0.12	–0.1	0.15	–0.1	0.18	–0.1	0.25	–0.1	0.28	–0.15	0.30
				(230–310)	0.1–0.15	0.12	0.1–0.30	0.15	0.1–0.30	0.15	0.1–0.30	0.20	0.1–0.3	0.22	0.15–0.3	0.25
				(210–270)	0.15–0.2	0.10	0.15–0.30	0.12	0.15–0.30	0.15	0.15–0.30	0.15	0.2–0.3	0.18	0.2–0.3	0.18
K	Cast iron	Tensile Strength <450MPa	VP15TF VP20M VP10H	(200–300)	–0.1	0.15	–0.1	0.18	–0.1	0.20	–0.1	0.22	–0.1	0.25	–0.15	0.30
				(200–280)	0.1–0.2	0.10	0.1–0.30	0.10	0.1–0.3	0.15	0.1–0.3	0.15	0.1–0.3	0.20	0.15–0.3	0.22
				(180–240)	0.2–0.25	0.10	0.2–0.40	0.10	0.2–0.4	0.12	0.2–0.4	0.12	0.2–0.4	0.15	0.2–0.4	0.18
H	Hardened steel	–52HRC –58HRC –60HRC	VP15TF VP10H VP05HT	(150–200)	–0.1	0.15	–0.1	0.14	–0.1	0.15	–0.1	0.18	–0.1	0.18	–0.1	0.20
				(120–180)	0.1–0.15	0.10	0.1–0.20	0.12	0.1–0.30	0.12	0.1–0.30	0.14	0.1–0.30	0.14	0.1–0.30	0.15
				(100–180)	0.1–0.15	0.10	0.1–0.20	0.10	0.1–0.30	0.10	0.1–0.30	0.12	0.1–0.30	0.12	0.1–0.30	0.12

1. When using a full width of cut please reduce the cutting conditions by 20 %.
2. When using a long overhang please reduce the feed rate by 20 %.

TAFS,TAFM,TAFL

INDEXABLE INSERT DRILL
LOW DRILLING NOISE AND TOUGH BODY

Mplus...

TAFS,TAFM,TAFL

INDEXABLE INSERT DRILL

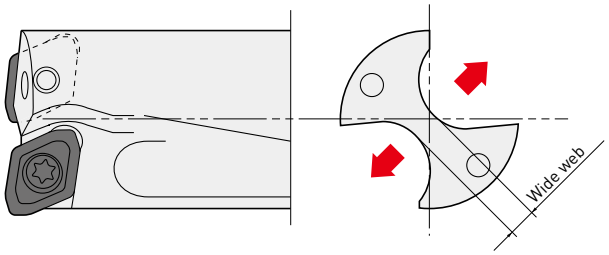
FEATURES

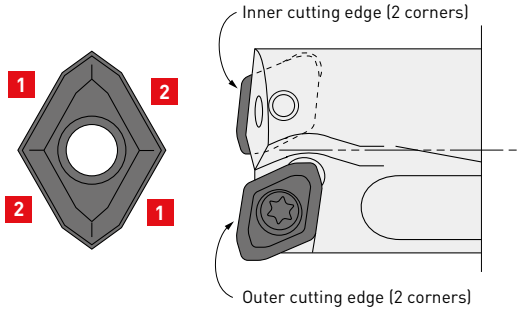
Tough body

- The wide web design reduces chattering.
- Lower cutting noise.
- High insert seat rigidity for reliable insert location

Economical insert

- Economical four corner use





1 Inner edge

2 Outer edge

TAFS,TAFM,TAFL

CUTTING PERFORMANCE

CHIP GEOMETRY

U1 Breaker

Material	Mild steel
Drill diameter (mm)	Ø 25
Vc (m/min)	200
f (mm/rev)	0.10

U2 Breaker

Material	DIN X5CrNi189
Drill diameter (mm)	Ø 25
Vc (m/min)	150
f (mm/rev)	0.10

U3 Breaker

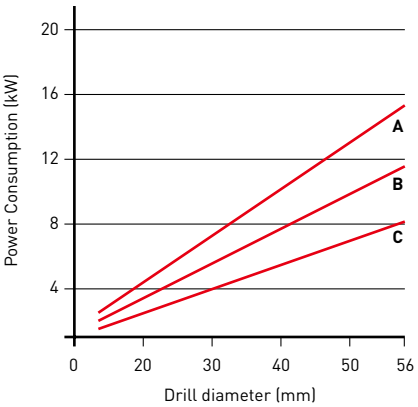
Material	DIN Ck45
Drill diameter (mm)	Ø 25
Vc (m/min)	150
f (mm/rev)	0.14

U3 Breaker

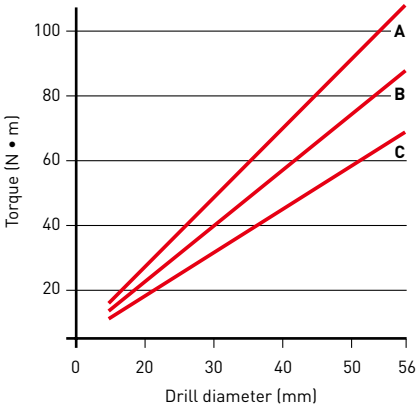
Material	DIN 42CrMo4
Drill diameter (mm)	Ø 25
Vc (m/min)	150
f (mm/rev)	0.12

CUTTING RESISTANCE

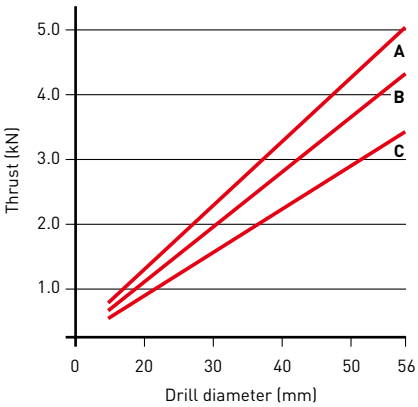
POWER CONSUMPTION



TORQUE



THRUST

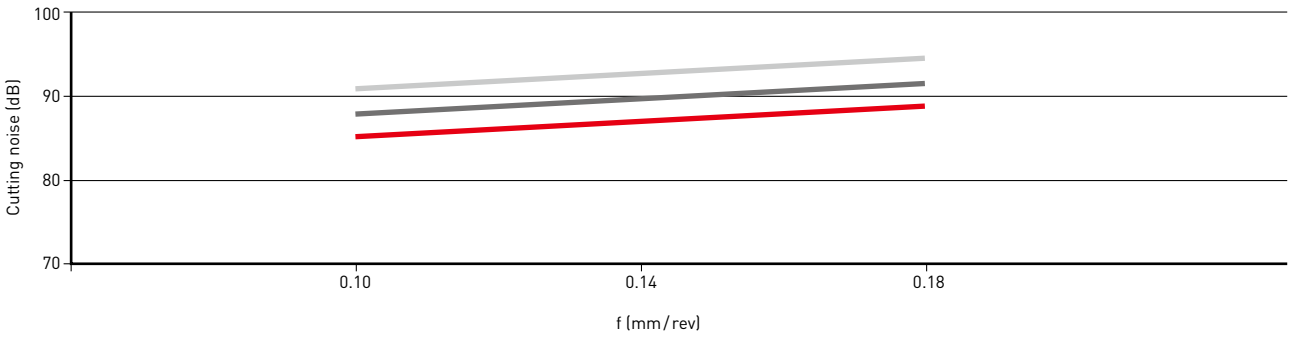


1. Workpiece: DIN X5CrNi189 (220HB) Cutting speed: 150 m/min Insert: U2 Breaker

A: f = 0.15 mm/rev **B**: f = 0.1 mm/rev **C**: f = 0.06 mm/rev

TAFS,TAFM,TAFL

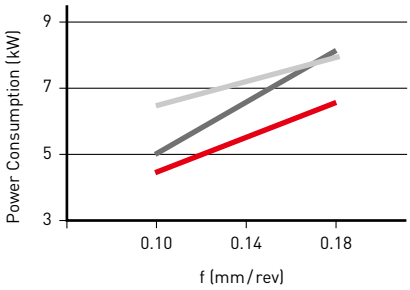
CUTTING NOISE



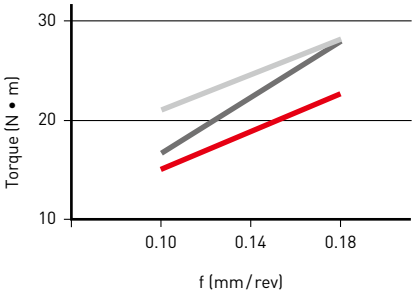
1. Workpiece: DIN 42CrMo4 (200-220 HB) Drill diameter (mm): Ø 25 Cutting speed: 150 m/min Insert: U2 Breaker

CUTTING RESISTANCE

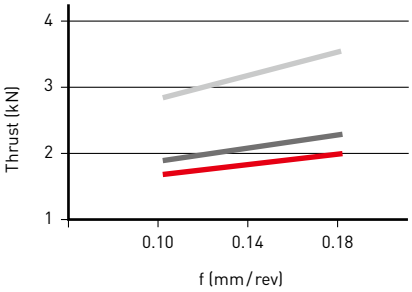
POWER CONSUMPTION



TORQUE

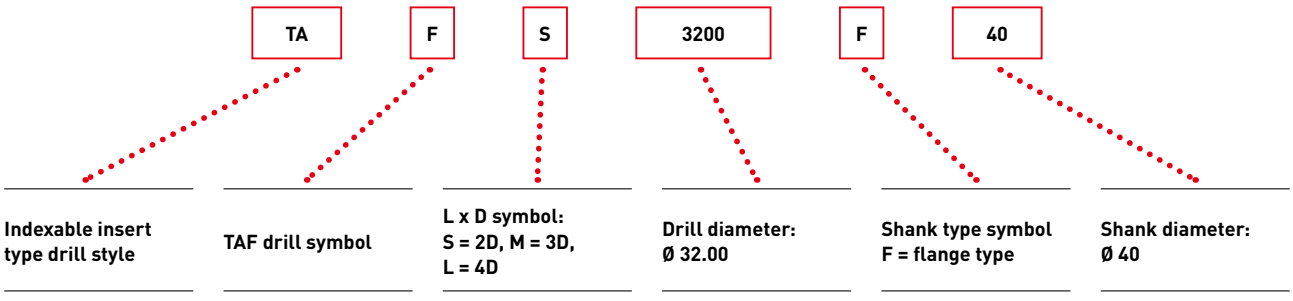


THRUST



1. Workpiece: DIN 42CrMo4 (200-220 HB) Drill diameter (mm): Ø 25 Cutting speed: 150 m/min Insert: U3 Breaker

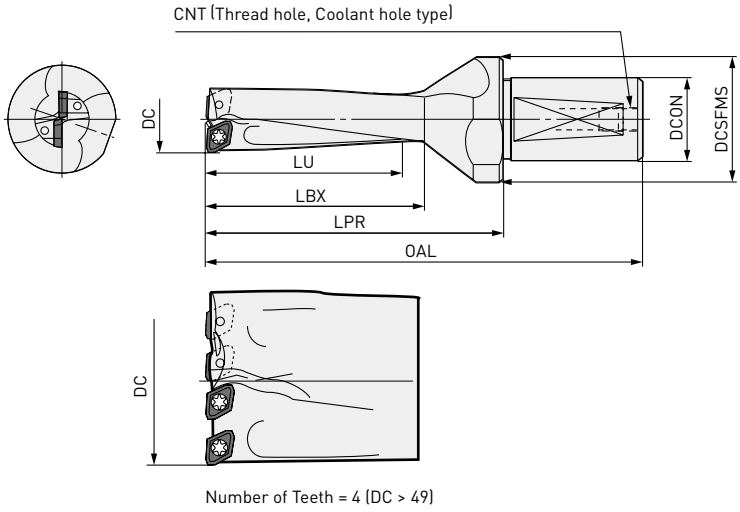
IDENTIFICATION



■ : TAF ■ A ■ B : Conventional

TAFS,TAFM,TAFL

P M K



Number of Teeth = 4 (DC > 49)

Order number	Stock	DC	L/D	ZNF	LU	LBX	LPR	OAL	DCON	DCSFMX	CNT	Insert
TAFS1200F20	●		2		24	29	39	82	20	25	PT1/8	
TAFM1200F20	●	12.0	3	2	36	41	51	94	20	25	PT1/8	GCMT040204-UO
TAFL1200F20	●		4		48	53	63	106	20	25	PT1/8	
TAFS1250F20	●		2		25	29	39	82	20	25	PT1/8	
TAFM1250F20	●	12.5	3	2	37.5	41	51	94	20	25	PT1/8	GCMT040204-UO
TAFL1250F20	●		4		50	53	63	106	20	25	PT1/8	
TAFS1300F20	●		2		26	31	41	84	20	25	PT1/8	
TAFM1300F20	●	13.0	3	2	39	44	54	97	20	25	PT1/8	GCMT040204-UO
TAFL1300F20	●		4		52	57	67	110	20	25	PT1/8	
TAFS1350F20	●		2		27	31	41	84	20	25	PT1/8	
TAFM1350F20	●	13.5	3	2	40.5	44	54	97	20	25	PT1/8	GCMT040204-UO
TAFL1350F20	●		4		54	57	67	110	20	25	PT1/8	
TAFS1400F20	●		2		28	33	43	86	20	25	PT1/8	
TAFM1400F20	●	14.0	3	2	42	47	57	100	20	25	PT1/8	GCMT040204-UO
TAFL1400F20	●		4		56	61	71	114	20	25	PT1/8	
TAFS1450F20	●		2		29	33	43	86	20	25	PT1/8	
TAFM1450F20	●	14.5	3	2	43.5	47	57	100	20	25	PT1/8	GCMT040204-UO
TAFL1450F20	●		4		58	61	71	114	20	25	PT1/8	
TAFS1500F20	●		2		30	35	45	88	20	25	PT1/8	
TAFM1500F20	●	15.0	3	2	45	50	60	103	20	25	PT1/8	GPMT060204-UO
TAFL1500F20	●		4		60	65	75	118	20	25	PT1/8	
TAFS1550F20	●		2		31	35	45	88	20	25	PT1/8	
TAFM1550F20	●	15.5	3	2	46.5	50	60	103	20	25	PT1/8	GPMT060204-UO
TAFL1550F20	●		4		62	65	75	118	20	25	PT1/8	
TAFS1600F25	●		2		32	38	57	107	25	35	PT1/8	
TAFM1600F25	●	16.0	3	2	48	54	73	123	25	35	PT1/8	GPMT060204-UO
TAFL1600F25	●		4		64	70	89	139	25	35	PT1/8	
TAFS1650F25	●	16.5	2	2	33	38	57	107	25	35	PT1/8	GPMT060204-UO
TAFM1650F25	●		3		49.5	54	73	123	25	35	PT1/8	

● : Inventory maintained. □ : Produced to order only

TAFS,TAFM,TAFL

Order number	Stock	DC	L/D	ZNF	LU	LBX	LPR	OAL	DCON	DCSFMX	CNT	Insert
TAFS1700F25	●	17.0	2	2	34	41	59	109	25	35	PT1/8	GPMT060204-UO
TAFM1700F25	●		3		51	58	76	126	25	35	PT1/8	
TAFL1700F25	●		4		68	75	93	143	25	35	PT1/8	
TAFS1750F25	●	17.5	2	2	35	41	59	109	25	35	PT1/8	GPMT060204-UO
TAFM1750F25	●		3		52.5	58	76	126	25	35	PT1/8	
TAFL1750F25	●		4		70	75	93	143	25	35	PT1/8	
TAFS1800F25	●	18.0	2	2	36	43	61	111	25	35	PT1/8	GPMT070204-UO
TAFM1800F25	●		3		54	61	79	129	25	35	PT1/8	
TAFL1800F25	●		4		72	79	97	147	25	35	PT1/8	
TAFS1850F25	●	18.5	2	2	37	43	61	111	25	35	PT1/8	GPMT070204-UO
TAFM1850F25	●		3		55.5	61	79	129	25	35	PT1/8	
TAFS1900F25	●	19.0	2	2	38	46	63	113	25	35	PT1/8	GPMT070204-UO
TAFM1900F25	●		3		57	65	82	132	25	35	PT1/8	
TAFL1900F25	●		4		76	84	101	151	25	35	PT1/8	
TAFS1950F25	●	19.5	2	2	39	46	63	113	25	35	PT1/8	GPMT070204-UO
TAFM1950F25	●		3		58.5	65	82	132	25	35	PT1/8	
TAFS2000F25	●	20.0	2	2	40	48	65	115	25	35	PT1/8	GPMT070204-UO
TAFM2000F25	●		3		60	68	85	135	25	35	PT1/8	
TAFL2000F25	●		4		80	88	105	155	25	35	PT1/8	
TAFS2050F25	●	20.5	2	2	41	48	65	115	25	35	PT1/8	GPMT070204-UO
TAFM2050F25	●		3		61.5	68	85	135	25	35	PT1/8	
TAFS2100F25	●	21.0	2	2	42	50	67	117	25	35	PT1/8	GPMT070204-UO
TAFM2100F25	●		3		63	71	88	138	25	35	PT1/8	
TAFL2100F25	●		4		84	92	109	159	25	35	PT1/8	
TAFS2150F25	●	21.5	2	2	43	50	67	117	25	35	PT1/8	GPMT070204-UO
TAFM2150F25	●		3		64.5	71	88	138	25	35	PT1/8	
TAFS2200F25	●	22.0	2	2	44	53	69	119	25	35	PT1/8	GPMT070204-UO
TAFM2200F25	●		3		66	75	91	141	25	35	PT1/8	
TAFL2200F25	●		4		88	97	113	163	25	35	PT1/8	
TAFS2250F25	●	22.5	2	2	45	53	69	119	25	35	PT1/8	GPMT070204-UO
TAFM2250F25	●		3		67.5	75	91	141	25	35	PT1/8	
TAFS2300F25	●	23.0	2	2	46	55	71	121	25	35	PT1/8	GPMT090304-UO
TAFM2300F25	●		3		69	78	94	144	25	35	PT1/8	
TAFL2300F25	●		4		92	101	117	167	25	35	PT1/8	
TAFS2350F25	●	23.5	2	2	47	55	71	121	25	35	PT1/8	GPMT090304-UO
TAFM2350F25	●		3		70.5	78	94	144	25	35	PT1/8	
TAFL2350F25	●		4		94	101	117	167	25	35	PT1/8	
TAFS2400F25	●	24.0	2	2	48	58	73	123	25	35	PT1/8	GPMT090304-UO
TAFM2400F25	●		3		72	82	97	147	25	35	PT1/8	
TAFL2400F25	●		4		96	106	121	171	25	35	PT1/8	
TAFS2450F25	●	24.5	2	2	49	58	73	123	25	35	PT1/8	GPMT090304-UO
TAFM2450F25	●		3		73.5	82	97	147	25	35	PT1/8	
TAFS2500F32	●	25.0	2	2	50	60	75	130	32	42	PT1/8	GPMT090304-UO
TAFM2500F32	●		3		75	85	100	155	32	42	PT1/8	
TAFL2500F25	●		4		100	110	125	180	25	35	PT1/8	
TAFL2500F32	●		4		100	110	125	180	32	42	PT1/8	
TAFS2550F32	●	25.5	2	2	51	60	75	130	32	42	PT1/8	GPMT090304-UO
TAFM2550F32	●		3		76.5	85	100	155	32	42	PT1/8	
TAFS2600F32	●	26.0	2	2	52	62	77	132	32	42	PT1/8	GPMT090304-UO
TAFM2600F32	●		3		78	88	103	158	32	42	PT1/8	
TAFL2600F32	●		4		104	114	129	184	32	42	PT1/8	

TAFS,TAFM,TAFL

Order number	Stock	DC	L/D	ZNF	LU	LBX	LPR	OAL	DCON	DCSFMX	CNT	Insert
TAFS2650F32	●	26.5	2	2	53	62	77	132	32	42	PT1/8	GPMT090304-U○
TAFM2650F32	●		3		79.5	88	103	158	32	42	PT1/8	
TAFL2650F32	●		4		106	114	129	184	32	42	PT1/8	
TAFS2700F32	●	27.0	2	2	54	65	79	134	32	42	PT1/8	GPMT090304-U○
TAFM2700F32	●		3		81	92	106	161	32	42	PT1/8	
TAFL2700F32	●		4		108	119	133	188	32	42	PT1/8	
TAFS2750F32	●	27.5	2	2	55	65	79	134	32	42	PT1/8	GPMT090304-U○
TAFM2750F32	●		3		82.5	92	106	161	32	42	PT1/8	
TAFS2800F32	●	28.0	2	2	56	67	81	136	32	42	PT1/8	GPMT11T308-U○
TAFM2800F32	●		3		84	95	109	164	32	42	PT1/8	
TAFL2800F32	●		4		112	123	137	192	32	42	PT1/8	
TAFS2850F32	●	28.5	2	2	57	67	81	136	32	42	PT1/8	GPMT11T308-U○
TAFM2850F32	●		3		85.5	95	109	164	32	42	PT1/8	
TAFL2850F40	●		4		114	123	137	202	40	50	PT1/8	
TAFS2900F32	●	29.0	2	2	58	70	83	138	32	42	PT1/8	GPMT11T308-U○
TAFM2900F32	●		3		87	99	112	167	32	42	PT1/8	
TAFL2900F32	●		4		116	128	141	196	32	42	PT1/8	
TAFS2950F32	●	29.5	2	2	59	70	83	138	32	42	PT1/8	GPMT11T308-U○
TAFM2950F32	●		3		88.5	99	112	167	32	42	PT1/8	
TAFS3000F32	●	30.0	2	2	60	72	90	145	32	50	PT1/8	GPMT11T308-U○
TAFS3000F40	●		2		60	72	90	155	40	50	PT1/4	
TAFM3000F32	●		3		90	102	120	175	32	50	PT1/8	
TAFM3000F40	●		3		90	102	120	185	40	50	PT1/4	
TAFL3000F32	●		4		120	132	150	205	32	42	PT1/8	
TAFL3000F40	●		4		120	132	150	215	40	50	PT1/4	
TAFS3050F40	●	30.5	2	2	61	72	90	155	40	50	PT1/4	GPMT11T308-U○
TAFM3050F40	●		3		91.5	102	120	185	40	50	PT1/4	
TAFS3100F32	●	31.0	2	2	62	74	92	147	32	50	PT1/8	GPMT11T308-U○
TAFS3100F40	●		2		62	74	92	157	40	50	PT1/4	
TAFM3100F32	●		3		93	105	123	178	32	50	PT1/8	
TAFM3100F40	●		3		93	105	123	188	40	50	PT1/4	
TAFL3100F32	●		4		124	135	154	209	32	42	PT1/8	
TAFL3100F40	●		4		124	136	154	219	40	50	PT1/4	
TAFS3200F32	●	32.0	2	2	64	77	94	149	32	50	PT1/8	GPMT11T308-U○
TAFS3200F40	●		2		64	77	94	159	40	50	PT1/4	
TAFM3200F32	●		3		96	109	126	181	32	50	PT1/8	
TAFM3200F40	●		3		96	109	126	191	40	50	PT1/4	
TAFL3200F32	●		4		128	141	158	213	32	42	PT1/8	
TAFL3200F40	●		4		128	141	158	223	40	50	PT1/4	
TAFS3300F32	●	33.0	2	2	66	79	96	151	32	50	PT1/8	GPMT11T308-U○
TAFS3300F40	●		2		66	79	96	161	40	50	PT1/4	
TAFM3300F32	●		3		99	112	129	184	32	50	PT1/8	
TAFM3300F40	●		3		99	112	129	194	40	50	PT1/4	
TAFL3300F32	●		4		132	145	162	217	32	42	PT1/8	
TAFL3300F40	●		4		132	145	162	227	40	50	PT1/4	
TAFS3400F32	●	34.0	2	2	68	82	98	153	32	50	PT1/8	GPMT11T308-U○
TAFS3400F40	●		2		68	82	98	163	40	50	PT1/4	
TAFM3400F32	●		3		102	116	132	187	32	50	PT1/8	
TAFM3400F40	●		3		102	116	132	197	40	50	PT1/4	
TAFL3400F32	●		4		136	150	166	231	32	42	PT1/8	
TAFL3400F40	●		4		136	150	166	231	40	50	PT1/4	

● : Inventory maintained. □ : Produced to order only

TAFS,TAFM,TAFL

Order number	Stock	DC	L/D	ZNF	LU	LBX	LPR	OAL	DCON	DCSFMX	CNT	Insert
TAFS3500F32	●	35.0	2	2	70	84	100	155	32	50	PT1/8	GPMT140408-U○
TAFS3500F40	●		2		70	84	100	165	40	50	PT1/4	
TAFM3500F32	●		3		105	119	135	190	32	50	PT1/8	
TAFM3500F40	●		3		105	119	135	200	40	50	PT1/4	
TAFL3500F32	●		4		140	154	170	235	32	42	PT1/8	
TAFL3500F40	●		4		140	154	170	235	40	50	PT1/4	
TAFS3600F32	□	36.0	2	2	72	86	102	157	32	50	PT1/8	GPMT140408-U○
TAFS3600F40	□		2		72	86	102	167	40	50	PT1/4	
TAFM3600F32	□		3		108	122	138	193	32	50	PT1/8	
TAFM3600F40	□		3		108	122	138	203	40	50	PT1/4	
TAFL3600F32	□		4		144	158	174	229	32	42	PT1/8	
TAFL3600F40	□		4		144	158	174	239	40	50	PT1/4	
TAFS3700F32	□	37.0	2	2	74	89	104	159	32	50	PT1/8	GPMT140408-U○
TAFS3700F40	□		2		74	89	104	169	40	50	PT1/4	
TAFM3700F32	□		3		111	126	141	196	32	50	PT1/8	
TAFM3700F40	□		3		111	126	141	206	40	50	PT1/4	
TAFL3700F32	□		4		148	163	178	233	32	42	PT1/8	
TAFL3700F40	□		4		148	163	178	243	40	50	PT1/4	
TAFS3750F32	□	37.5	2	2	75	89	104	159	32	50	PT1/8	GPMT140408-U○
TAFS3750F40	□		2		75	89	104	169	40	50	PT1/4	
TAFM3750F32	□		3		112.5	126	141	196	32	50	PT1/8	
TAFM3750F40	□		3		112.5	126	141	206	40	50	PT1/4	
TAFL3750F32	□		4		150	163	178	233	32	42	PT1/8	
TAFL3750F40	□		4		150	163	178	243	40	50	PT1/4	
TAFS3800F32	□	38.0	2	2	76	91	106	161	32	50	PT1/8	GPMT140408-U○
TAFS3800F40	□		2		76	91	106	171	40	50	PT1/4	
TAFM3800F32	□		3		114	129	144	199	32	50	PT1/8	
TAFM3800F40	□		3		114	129	144	209	40	50	PT1/4	
TAFL3800F32	□		4		152	167	182	247	32	42	PT1/8	
TAFL3800F40	□		4		152	167	182	247	40	50	PT1/4	
TAFS3900F32	□	39.0	2	2	78	94	108	163	32	50	PT1/8	GPMT140408-U○
TAFS3900F40	□		2		78	94	108	173	40	50	PT1/4	
TAFM3900F32	□		3		117	133	147	202	32	50	PT1/8	
TAFM3900F40	□		3		117	133	147	212	40	50	PT1/4	
TAFL3900F32	□		4		156	172	186	251	32	42	PT1/8	
TAFL3900F40	□		4		156	172	186	251	40	50	PT1/4	
TAFS4000F32	□	40.0	2	2	80	96	110	165	32	50	PT1/8	GPMT140408-U○
TAFS4000F40	□		2		80	96	110	175	40	50	PT1/4	
TAFM4000F32	□		3		120	136	150	205	32	50	PT1/8	
TAFM4000F40	□		3		120	136	150	215	40	50	PT1/4	
TAFL4000F32	□		4		160	176	190	245	32	42	PT1/8	
TAFL4000F40	□		4		160	176	190	255	40	50	PT1/4	
TAFS4100F40	□	41.0	2	2	82	98	112	177	40	50	PT1/4	GPMT140408-U○
TAFM4100F40	□		3		123	139	153	218	40	50	PT1/4	
TAFL4100F40	□		4		164	180	194	259	40	50	PT1/4	
TAFS4200F40	□	42.0	2	2	84	101	114	179	40	50	PT1/4	GPMT140408-U○
TAFM4200F40	□		3		126	143	156	221	40	50	PT1/4	
TAFL4200F40	□		4		168	185	198	263	40	50	PT1/4	
TAFS4300F40	□	43.0	2	2	86	103	116	181	40	50	PT1/4	GPMT140408-U○
TAFM4300F40	□		3		129	146	159	224	40	50	PT1/4	
TAFL4300F40	□		4		172	189	202	267	40	50	PT1/4	

TAFS,TAFM,TAFL

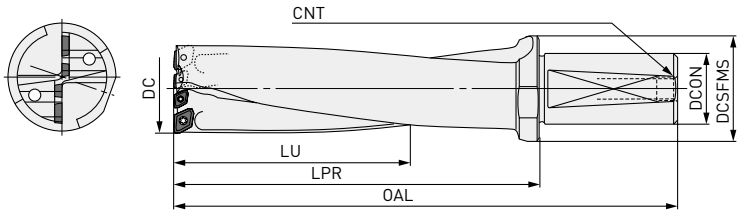
Order number	Stock	DC	L/D	ZNF	LU	LBX	LPR	OAL	DCON	DCSFMX	CNT	Insert
TAFS4400F40	□		2		88	106	118	183	40	50	PT1/4	
TAFM4400F40	□	44.0	3	2	132	150	162	227	40	50	PT1/4	GPMT140408-U○
TAFL4400F40	□		4		176	194	206	271	40	50	PT1/4	
TAFS4500F40	□		2		90	108	120	185	40	54	PT1/4	
TAFM4500F40	□	45.0	3	2	135	153	165	230	40	54	PT1/4	GPMT140408-U○
TAFL4500F40	□		4		180	198	210	275	40	54	PT1/4	
TAFS4600F40	□		2		92	110	122	187	40	54	PT1/4	
TAFM4600F40	□	46.0	3	2	138	156	168	233	40	54	PT1/4	GPMT140408-U○
TAFL4600F40	□		4		184	202	214	279	40	54	PT1/4	
TAFS4700F40	□		2		94	113	124	189	40	54	PT1/4	
TAFM4700F40	□	47.0	3	2	141	160	171	236	40	54	PT1/4	GPMT140408-U○
TAFL4700F40	□		4		188	207	218	283	40	54	PT1/4	
TAFS4800F40	□		2		96	115	126	191	40	54	PT1/4	
TAFM4800F40	□	48.0	3	2	144	163	174	239	40	54	PT1/4	GPMT140408-U○
TAFL4800F40	□		4		192	211	222	287	40	54	PT1/4	
TAFS4900F40	□		2		98	118	133	198	40	58	PT1/4	
TAFM4900F40	□	49.0	3	4	147	167	182	247	40	58	PT1/4	GPMT090304-U○
TAFL4900F40	□		4		196	216	231	296	40	58	PT1/4	
TAFS5000F40	□		2		100	120	135	200	40	58	PT1/4	
TAFM5000F40	□	50.0	3	4	150	170	185	250	40	58	PT1/4	GPMT090304-U○
TAFL5000F40	□		4		200	220	235	300	40	58	PT1/4	
TAFS5100F40	□		2		102	122	137	202	40	58	PT1/4	
TAFM5100F40	□	51.0	3	4	153	173	188	253	40	58	PT1/4	GPMT090304-U○
TAFL5100F40	□		4		204	224	239	304	40	58	PT1/4	
TAFS5200F40	□		2		104	125	139	204	40	58	PT1/4	
TAFM5200F40	□	52.0	3	4	156	177	191	256	40	58	PT1/4	GPMT090304-U○
TAFL5200F40	□		4		208	229	243	308	40	58	PT1/4	
TAFS5300F40	□		2		106	127	141	206	40	63	PT1/4	
TAFM5300F40	□	53.0	3	4	159	180	194	259	40	63	PT1/4	GPMT090304-U○
TAFL5300F40	□		4		212	233	247	312	40	63	PT1/4	
TAFS5400F40	□		2		108	128	143	208	40	63	PT1/4	
TAFM5400F40	□	54.0	3	4	162	182	197	262	40	63	PT1/4	GPMT090304-U○
TAFL5400F40	□		4		216	236	251	316	40	63	PT1/4	
TAFS5500F40	□		2		110	130	145	210	40	63	PT1/4	
TAFM5500F40	□	55.0	3	4	165	185	200	265	40	63	PT1/4	GPMT090304-U○
TAFL5500F40	□		4		220	240	255	320	40	63	PT1/4	
TAFS5600F40	□		2		112	132	147	212	40	63	PT1/4	
TAFM5600F40	□	56.0	3	4	168	188	203	268	40	63	PT1/4	GPMT090304-U○
TAFL5600F40	□		4		224	244	259	324	40	63	PT1/4	

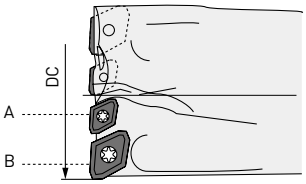
75 Vc

TAFS,TAFM,TAFL

INCREASED RIGIDITY TYPE DESIGN

P M K

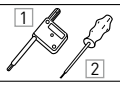




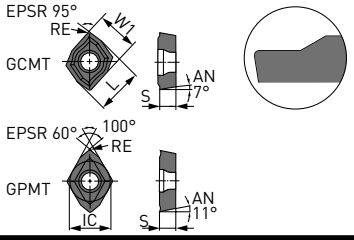
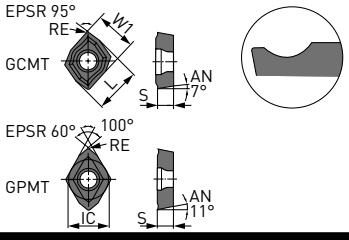
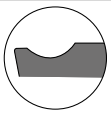
Order number	Stock	DC	L/D	ZNF	DCON	DCSFMS	CNT	OAL	LPR	LU	Inner/ Outer type	Insert
TAFS5000F40-E	□	50.0	2	4	40	58	PT1/4	200	135	120	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFM5000F40-E	□		3	4	40	58	PT1/4	250	185	170	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFL5000F40-E	□		4	4	40	58	PT1/4	300	235	220	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFS5100F40-E	□	51.0	2	4	40	58	PT1/4	202	137	122	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFM5100F40-E	□		3	4	40	58	PT1/4	253	188	173	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFL5100F40-E	□		4	4	40	58	PT1/4	304	239	224	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFS5200F40-E	□	52.0	2	4	40	58	PT1/4	204	139	125	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFM5200F40-E	□		3	4	40	58	PT1/4	256	191	177	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFL5200F40-E	□		4	4	40	58	PT1/4	308	243	229	A	GPMT090304-U○
											B	GPMT11T308-U○
TAFS5300F40-E	□	53.0	2	4	40	63	PT1/4	206	141	127	A	GPMT11T308-U○
TAFM5300F40-E	□		3	4	40	63	PT1/4	259	194	180		
TAFL5300F40-E	□		4	4	40	63	PT1/4	312	247	233		
TAFS5400F40-E	□	54.0	2	4	40	63	PT1/4	208	134	128	A	GPMT11T308-U○
TAFM5400F40-E	□		3	4	40	63	PT1/4	262	197	182		
TAFL5400F40-E	□		4	4	40	63	PT1/4	316	251	236		
TAFS5500F40-E	□	55.0	2	4	40	63	PT1/4	210	145	130	A	GPMT11T308-U○
TAFM5500F40-E	□		3	4	40	63	PT1/4	265	200	185		
TAFL5500F40-E	□		4	4	40	63	PT1/4	320	255	240		
TAFS5600F40-E	□	56.0	2	4	40	63	PT1/4	212	147	132	A	GPMT11T308-U○
TAFM5600F40-E	□		3	4	40	63	PT1/4	268	203	188		
TAFL5600F40-E	□		4	4	40	63	PT1/4	324	259	244		

TAFS,TAFM,TAFL

SPARE PARTS

Tool holder type		
	Clamp screw	Wrench
GCMT040204-U○	TS2	1 TKY06F
GPMT060204-U○	TS2	1 TKY06F
GPMT070204-U○	TS25	1 TKY08F
GPMT090304-U○	TS3	1 TKY08F
GPMT11T308-U○	TS4	2 TKY15D
GPMT140408-U○	TS5	2 TKY25D
GPMT090304-U○	TS3	1 TKY08F

INSERTS

Order number	VP15TF	UP20M	GP20M	UE6020	US735	L	W1	IC	S	RE	Drill diameter	Shape
U1												
GCMT040204-U1		●				5.0	4.7	—	2.38	0.4	Ø 12 – 14.5	
GPMT060204-U1		●		●	●	—	—	5.56	2.38	0.4	Ø 15 – 17.5	
GPMT070204-U1		●		●	●	—	—	6.35	2.38	0.4	Ø 18 – 22.5	
GPMT090304-U1		●		●	●	—	—	7.94	3.18	0.4	Ø 23 – 27.5	
GPMT090304-U1		●		●	●	—	—	7.94	3.18	0.4	Ø 49 – 56	
GPMT11T308-U1		●		●	●	—	—	9.525	3.97	0.8	Ø 28 – 34	
GPMT140408-U1		●		●	●	—	—	12.70	4.76	0.8	Ø 35 – 48	
U2												
GCMT040204-U2	●		●			5.0	4.7	—	2.38	0.4	Ø 12 – 14.5	
GPMT060204-U2	●	●		●	●	—	—	5.56	2.38	0.4	Ø 15 – 17.5	
GPMT070204-U2	●	●		●	●	—	—	6.35	2.38	0.4	Ø 18 – 22.5	
GPMT090304-U2	●	●		●	●	—	—	7.94	3.18	0.4	Ø 23 – 27.5	
GPMT090304-U2	●	●		●	●	—	—	7.94	3.18	0.4	Ø 49 – 56	
GPMT11T308-U2	●	●		●	●	—	—	9.525	3.97	0.8	Ø 28 – 34	
GPMT140408-U2	●	●		●	●	—	—	12.70	4.76	0.8	Ø 35 – 48	
U3												
GPMT060204-U3		●		●	●	—	—	5.56	2.38	0.4	Ø 15 – 17.5	
GPMT070204-U3		●		●	●	—	—	6.35	2.38	0.4	Ø 18 – 22.5	
GPMT090304-U3		●		●	●	—	—	7.94	3.18	0.4	Ø 23 – 27.5	
GPMT090304-U3		●		●	●	—	—	7.94	3.18	0.4	Ø 49 – 56	
GPMT11T308-U3		●		●	●	—	—	9.525	3.97	0.8	Ø 28 – 34	
GPMT140408-U3		●		●	●	—	—	12.70	4.76	0.8	Ø 35 – 48	

● : Inventory maintained. □ : Produced to order only

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INSERT RECOMMENDATION

CHIPBREAKER RECOMMENDATION

	Material	1st recommendation		2nd recommendation	
		GCMT	GPMT	GCMT	GPMT
P	Mild steel	U1	U1		
				U2	U2
					U3
	Carbon steel Alloy steel Alloy tool steel			U1	U1
		U2	U2		U2
					U3
M	Stainless steel			U1	U1
		U2	U2		
					U3
K	Gray cast iron Ductile cast iron			U1	U1
		U2	U3		U2

INSERT GRADE RECOMMENDATION

	Material	Grade			
		1st recommendation		2nd recommendation	
		GCMT	GPMT	GCMT	GPMT
P	Mild steel			VP15TF	VP15TF
		UP20M	UP20M		
				GP20M	
					UE6020
					US735
	Carbon steel Alloy steel Alloy tool steel	VP15TF	VP15TF		
				UP20M	UP20M
		GP20M	UE6020	GP20M	VP15TF
					US735
M	Stainless steel	VP15TF	VP15TF		
				UP20M	UP20M
		GP20M	US735	GP20M	
					UE6020
K	Gray cast iron Ductile cast iron	VP15TF			
				UP20M	UP20M
		GP20M			UE6020
					US735
					VP15TF

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RECOMMENDED CUTTING CONDITIONS

	Material	Hardness	Vc L/D = 2, 3 Ø 12 – Ø 14.5	Vc L/D = 2, 3 Ø 15 –	Vc L/D = 4 Ø 16 –		Vc Drill diameter Ø 12 – Ø 14.5	Ø 15 – Ø 22.5	Ø 23 – Ø 34	Ø 35 – Ø 48	Ø 49 – Ø 56
P	Mild steel	≤180HB	150 (100–200)	200 (150–300)	140 (100–200)	U1	0.06 (0.04–0.10)	0.07 (0.04–0.10)	0.08 (0.04–0.10)	0.10 (0.04–0.12)	0.08 (0.04–0.10)
						U2	0.06 (0.04–0.10)	0.08 (0.04–0.12)	0.10 (0.04–0.12)	0.12 (0.04–0.14)	0.10 (0.04–0.12)
						U3	—	0.08 (0.04–0.12)	0.10 (0.04–0.12)	0.12 (0.04–0.14)	0.10 (0.04–0.12)
	Carbon steel	180–280 HB	120 (80–160)	150 (120–180)	100 (80–120)	U1	0.06 (0.04–0.10)	0.09 (0.06–0.12)	0.12 (0.08–0.14)	0.15 (0.08–0.18)	0.12 (0.08–0.14)
						U2	0.06 (0.04–0.10)	0.12 (0.06–0.14)	0.14 (0.08–0.18)	0.17 (0.08–0.20)	0.14 (0.08–0.18)
						U3	—	0.12 (0.06–0.14)	0.14 (0.08–0.18)	0.17 (0.08–0.20)	0.14 (0.08–0.18)
	Alloy steel	180–280 HB	120 (80–160)	150 (120–180)	100 (80–120)	U1	0.06 (0.04–0.10)	0.08 (0.06–0.10)	0.09 (0.06–0.12)	0.11 (0.06–0.14)	0.09 (0.06–0.12)
						U2	0.06 (0.04–0.10)	0.10 (0.06–0.12)	0.12 (0.08–0.16)	0.14 (0.08–0.18)	0.12 (0.08–0.16)
						U3	—	0.10 (0.06–0.12)	0.12 (0.08–0.16)	0.14 (0.08–0.18)	0.12 (0.08–0.16)
M	Stainless steel	≤200HB	100 (80–120)	150 (120–200)	110 (80–140)	U1	0.07 (0.04–0.10)	0.07 (0.04–0.10)	0.08 (0.04–0.10)	0.10 (0.04–0.12)	0.08 (0.04–0.10)
						U2	0.07 (0.04–0.10)	0.08 (0.04–0.12)	0.10 (0.04–0.14)	0.12 (0.04–0.16)	0.10 (0.04–0.14)
						U3	—	0.08 (0.04–0.12)	0.10 (0.04–0.14)	0.12 (0.04–0.16)	0.10 (0.04–0.14)
K	Cast iron	Tensile strength ≤350MPa	120 (80–160)	150 (120–180)	140 (110–160)	U1	0.07 (0.06–0.10)	0.07 (0.06–0.10)	0.10 (0.04–0.14)	0.10 (0.06–0.14)	0.10 (0.06–0.14)
						U2	0.07 (0.06–0.10)	0.15 (0.10–0.18)	0.20 (0.10–0.25)	0.20 (0.10–0.25)	0.20 (0.10–0.25)
						U3	—	0.15 (0.10–0.18)	0.20 (0.10–0.25)	0.20 (0.10–0.25)	0.20 (0.10–0.25)
	Ductile cast iron	Tensile strength ≤450MPa	120 (80–150)	150 (120–180)	100 (80–120)	U1	0.06 (0.04–0.10)	0.07 (0.06–0.10)	0.10 (0.06–0.14)	0.10 (0.06–0.14)	0.10 (0.06–0.14)
						U2	0.06 (0.04–0.10)	0.12 (0.08–0.14)	0.15 (0.08–0.20)	0.18 (0.08–0.20)	0.15 (0.08–0.20)
						U3	—	0.12 (0.08–0.14)	0.15 (0.08–0.20)	0.18 (0.08–0.20)	0.15 (0.08–0.20)

1. When using drills for l/d= 4, the feed should be reduced to 80 % of the above recommendations.

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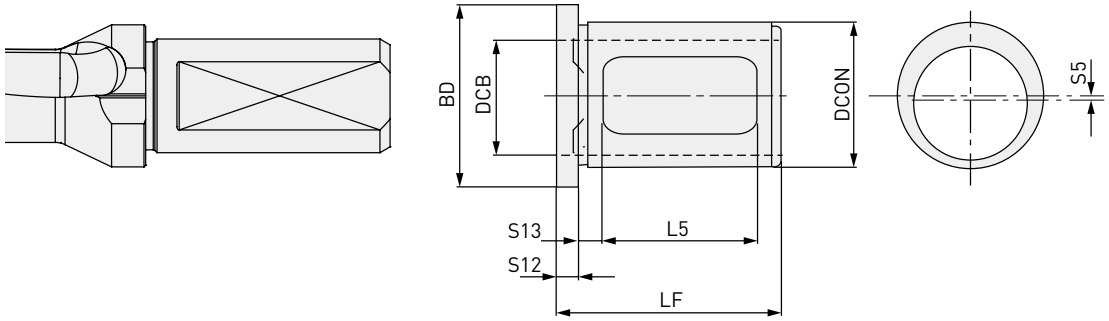
JUST FIT SLEEVE [JFS]

A sleeve for the shank of the drill to allow the cutting diameter to be increased.



Order number	Set order number	Stock	DCB	DCON	BD	LF	L5	* Increase (S5×2)	Suitable TAF type drill
JFS2520-10	JFS-1	●	20	25	33	43	30	0.1	TAFS/M/L1200F20 – TAFS/M/L1550F20
JFS2520-20		●	20	25	33	43	30	0.2	
JFS2520-30		●	20	25	33	43	30	0.3	
JFS2520-40		●	20	25	33	43	30	0.4	
JFS2520-50		●	20	25	33	43	30	0.5	
JFS3225-10	JFS-2	●	25	32	40	50	34	0.1	TAFS/M/L1600F25 - TAFS/M/L2450F25
JFS3225-20		●	25	32	40	50	34	0.2	
JFS3225-30		●	25	32	40	50	34	0.3	
JFS3225-40		●	25	32	40	50	34	0.4	
JFS3225-50		●	25	32	40	50	34	0.5	
JFS4032-10	JFS-3	●	32	40	48	55	40	0.1	TAFS/M/L2500F32 - TAFS/M/L2950F32
JFS4032-20		●	32	40	48	55	40	0.2	
JFS4032-30		●	32	40	48	55	40	0.3	
JFS4032-40		●	32	40	48	55	40	0.4	
JFS4032-50		●	32	40	48	55	40	0.5	
JFS5040-10	JFS-4	●	40	50	68	65	50	0.1	AFS/M/L2850F40 - TAFS/M/L5600F40 TAFS/M/L5○00F40-E
JFS5040-20		●	40	50	68	65	50	0.2	
JFS5040-30		●	40	50	68	65	50	0.3	
JFS5040-40		●	40	50	68	65	50	0.4	
JFS5040-50		●	40	50	68	65	50	0.5	

* Increase: Size of the increased cutting diameter.

● : Inventory maintained. □ : Produced to order only

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GUIDELINE FOR SELECTING A JUST FIT SLEEVE

Desired = (Drill Ø + Increase of JFS) + 0.1 mm
(Eg.) Desired diameter is 20.3 mm (oversize is taken as 0.1 mm).

Ø 20.3=(TAFS/M/L2000F25+JFS3225-20)+0.1

- TAFS/M/L2000F25: 20 mm Drill
- JFS3225-20: Using JFS an increase of 0.2 mm
- +0.1: Oversize

Tool selected
Drill: TAFM2000F25
Just Fit Sleeve [JFS]: JFS3225-20

1. Oversize can vary due to the cutting conditions used, please use the above as a guideline.

ORDERING THE JUST FIT SLEEVE

PURCHASING METHOD 1

Oversize can vary due to the cutting conditions used. Therefore it is recommended to purchase as a set. When placing an order, please use the Set order number. (5 sleeves/set)

PURCHASING METHOD 2

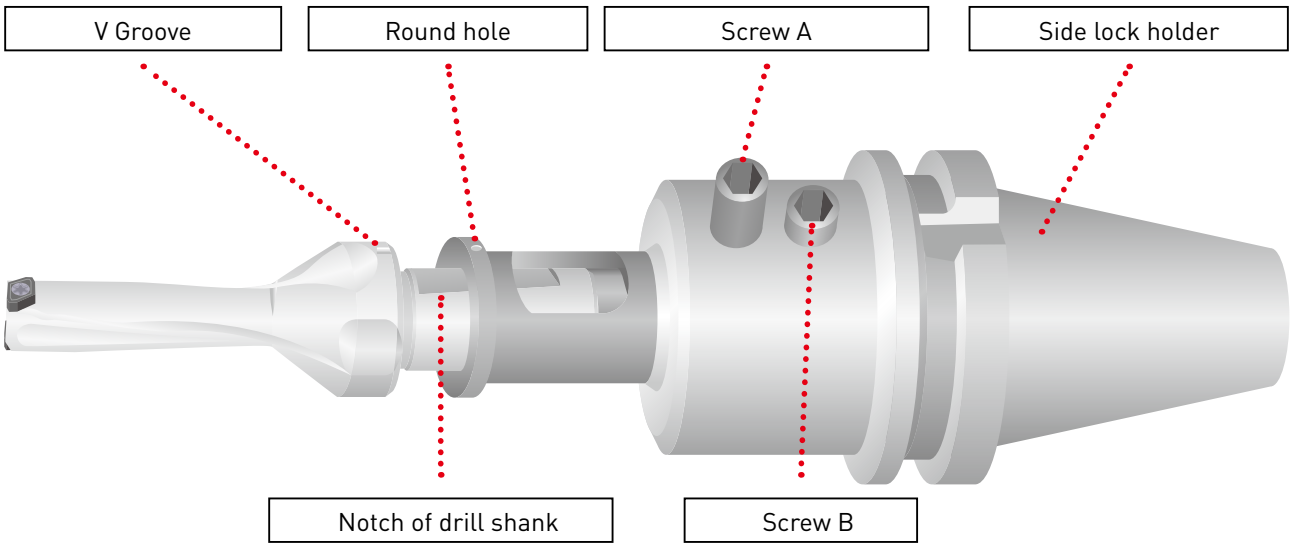
It is possible to order individually. When placing an order, please use the individual order number.

APPLICATION OF JUST FIT SLEEVE

When inserting the drill into the side lock holder, align the V groove on the outer peripheral edge of the drill flange, as well as the round holes of the outer peripheral edge of the sleeve flange and the screws of the side lock holder for fixing the drill. (If the drill does not have a V groove, align the notch of the drill shank with the round holes of the sleeve.)

Insert screws A of the side lock holder directly to the open window of the sleeve and fix the drill.
Tighten screw B to a degree so as not to damage the sleeve.

- Fine adjustments cannot be made for the diameter of the sleeve.
- Cannot be used with collect chuck type holders.



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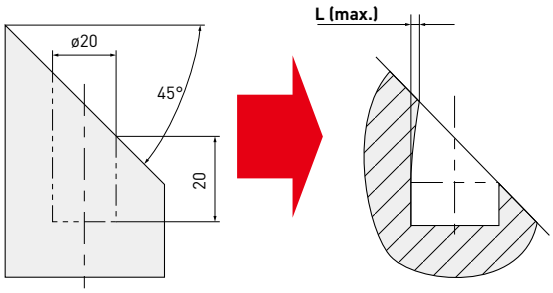
APPLICATION EXAMPLES

ANGLED FACE DRILLING

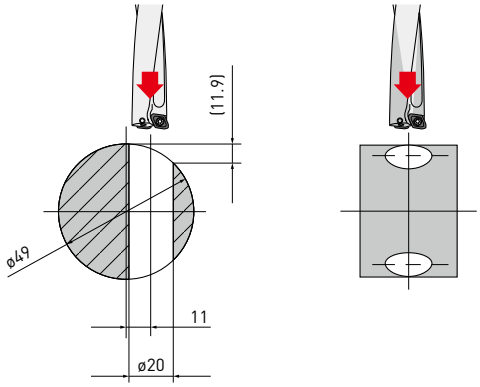
Material	DIN 42CrMo4 (180 – 280 HB)
Tool	Ø 20 (3 x D)
Vc (m/min)	80
f (mm/rev)	0.08

Tool	L (mm)	L (max.)
TAF	0.11	Good
Conventional A	0.17	Good
Conventional B	0.13	Inner and outer cutting edge fractures



ROUND WORKPIECE DRILLING

Material	DIN Ck50 (120 HB – 180 HB)
Tool	Ø 20 (3 x D)
Vc (m/min)	50, 80, 100
f (mm/rev)	0.08 Initial cutting 0.05

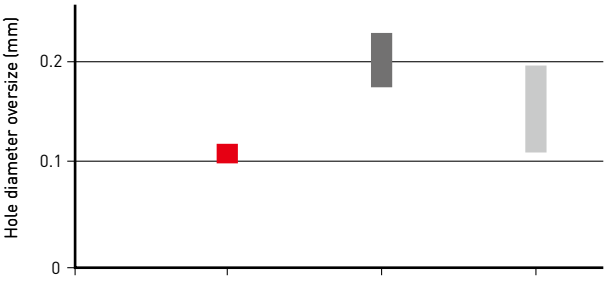


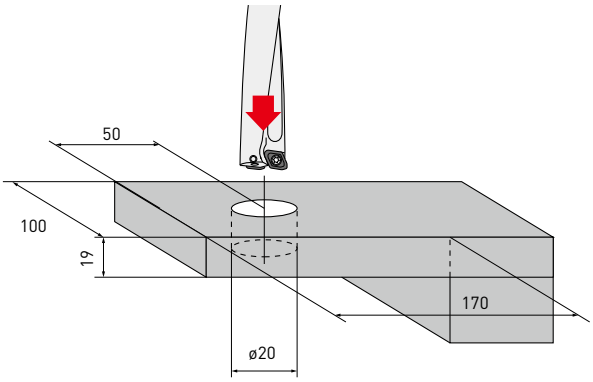
1. The inner cutting edge of a competitors drill fractured.

THROUGHOLE DRILLING

Material	DIN Ck50 (120 – 180 HB)
Tool	Ø 20 (3 x D)
Vc (m/min)	80
f (mm/rev)	0.08

Drill oversize (to measured drill diameter)





: TAF A B : Conventional

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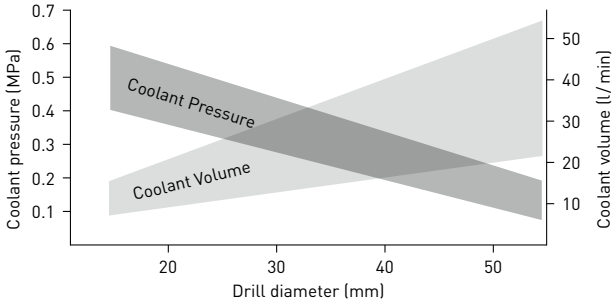
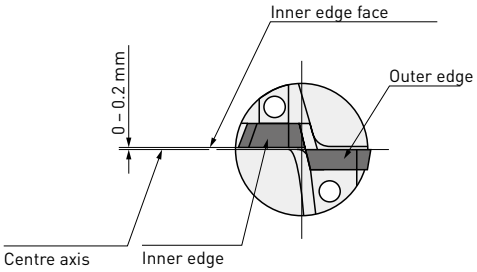
APPLICATIONS

- Please ensure the highest rigidity possible exists in both machine set up and workholding.
- Refer to the following graph on the right for coolant pressure and volume. Coolant is an important factor in the efficient use of these drills.
- Cannot be used for stack drilling.
  In common with many indexable insert drills, these drills produce a round disc on exit which unless evacuated may cause the drill to fracture.



USE ON A LATHE

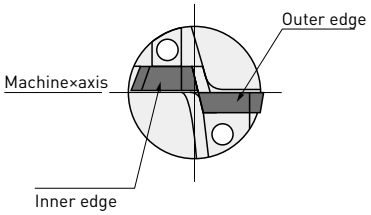
The inner cutting edge must be positioned between 0–0.2 mm over center.

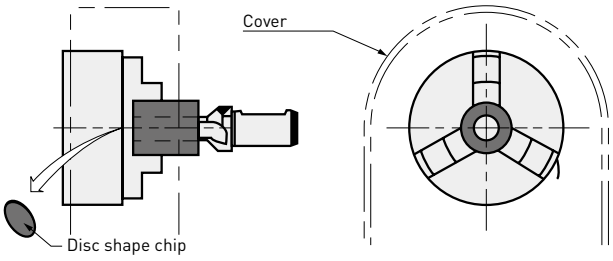


To adjust the hole diameter by off-setting the drill, the outer cutting edge and machine axis must be set parallel.

When producing an oversize hole.
The drill offset should be no more than 2 % of the diameter. It is not possible to produce an undersized hole.

When through hole drilling on a lathe the disc produced by the drill exiting the workpiece may be expelled at high velocity. To reduce the danger of injury or damage a cover guard is highly recommended.





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