

NEW

2026.10

B291E

MICRO-MINI PLUS SERIES

SOLID BARS FOR SMALL PARTS MACHINING



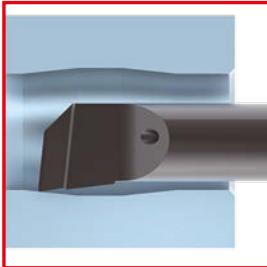
 **MITSUBISHI MATERIALS**

MICRO-MINI PLUS SERIES

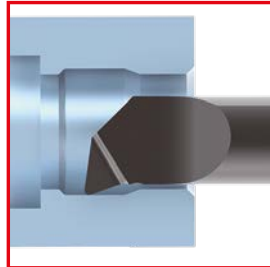
SOLID BARS FOR SMALL PARTS MACHINING

A wide range of solid bars and holders to meet diverse machining requirements.
Easy setup with a positioning mechanism.

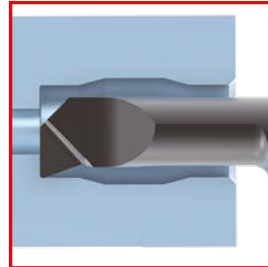
BORING AND PROFILING



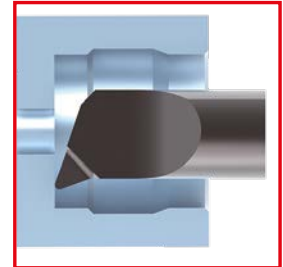
PBA



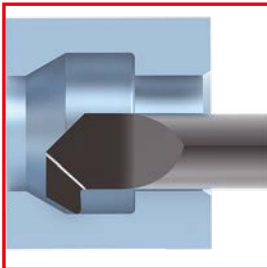
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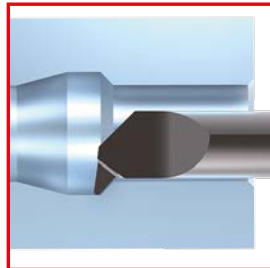
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PPD

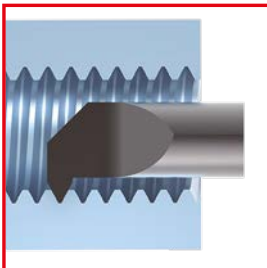


PBB

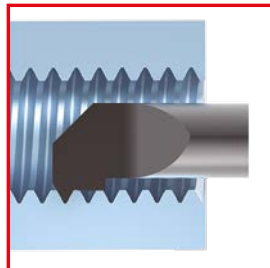


PPE

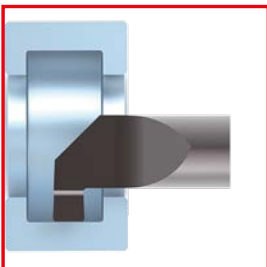
THREADING



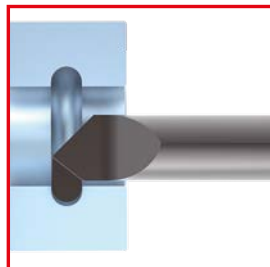
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PT
FULL FORM

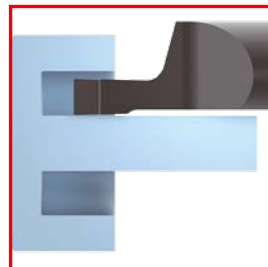
GROOVING



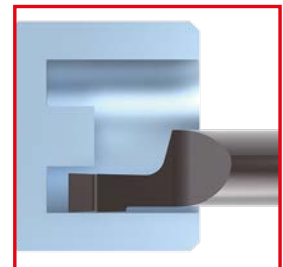
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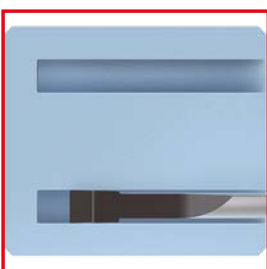
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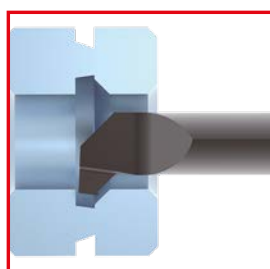
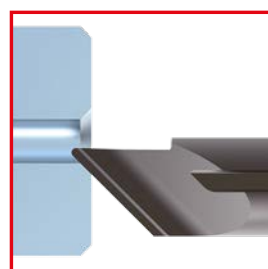
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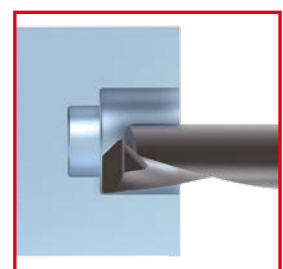
PF-L



PF-T

PX
CHAMFERING

PS

PM
MULTI-FUNCTION

MICRO-MINI PLUS SERIES – SOLID BARS FOR SMALL PARTS MACHINING

WEDGE-LOCK ROUND HOLDER		ROUND HOLDER WITH COOLANT HOLES	
			
DUAL-CLAMP ROUND HOLDER		MULTI-FUNCTION MACHINING HOLDER	
			
COLLET-TYPE ROUND HOLDER		FLANGE HOLDER	
			
SQUARE HOLDER FOR FRONT TOOL POST		SQUARE HOLDER FOR GANG TOOL POST	
			
ALL SOLID BARS FEATURE INTERNAL COOLANT SUPPLY			
WITH HOLE		WITH SLIT	
			

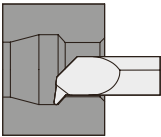
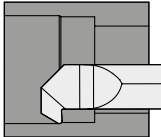
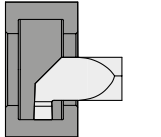
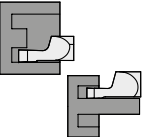
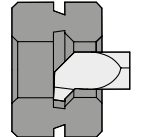
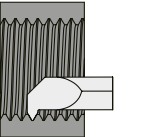
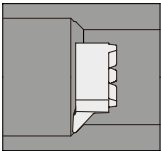
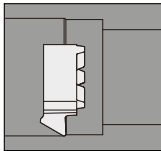
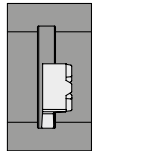
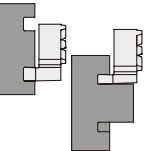
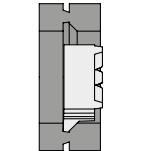
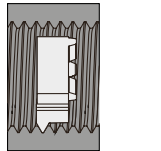
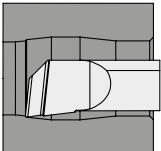
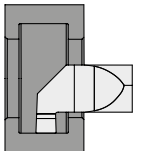
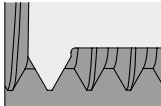
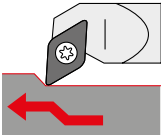
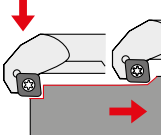
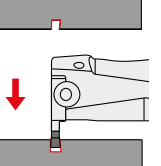
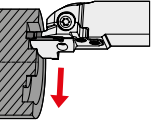
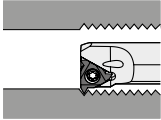


MICRO-MINI PLUS SERIES

CLASSIFICATION OF INTERNAL TURNING TOOLS

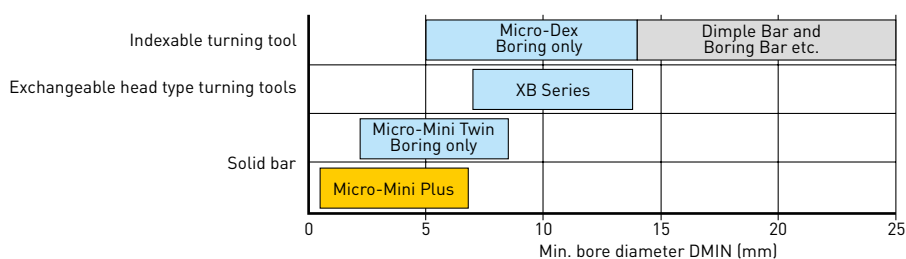
With the introduction of Micro-Mini Plus Series, the range of applicable machining operations has been expanded.

VERSATILE RANGE OF TOOLS FOR ALL APPLICATIONS

DMIN	Boring profiling	Back boring	Grooving	Face grooving	Pre-chamfering	Threading
MICRO-MINI PLUS						
≥ 0.5						
DC	0.5 – 6.8	3.0 – 7.0	2.0 – 6.8	5.0 – 20.0	4.0 – 6.0	0.7 – 7.0
XB SERIES						
≥ 7.0						
DC	7.0 – 13.8	7.8 – 13.8	7.8 – 20.0	E=12.0, 16.0 F=14.0, 18.0	8.0 – 14.0	7.0 – 14.0
MICRO-MINI TWIN						
≥ 2.2		—		—	—	
DC	2.2 – 8.8	—	3.0 – 7.0	—	—	3.0 – 7.0
BORING BAR						
≤ 50.0					—	
DC	Profiling ≥ 14.0	≥ 20.0	≥ 25.0	≥ 35.0	—	≥ 13.0

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BORING AND PROFILING

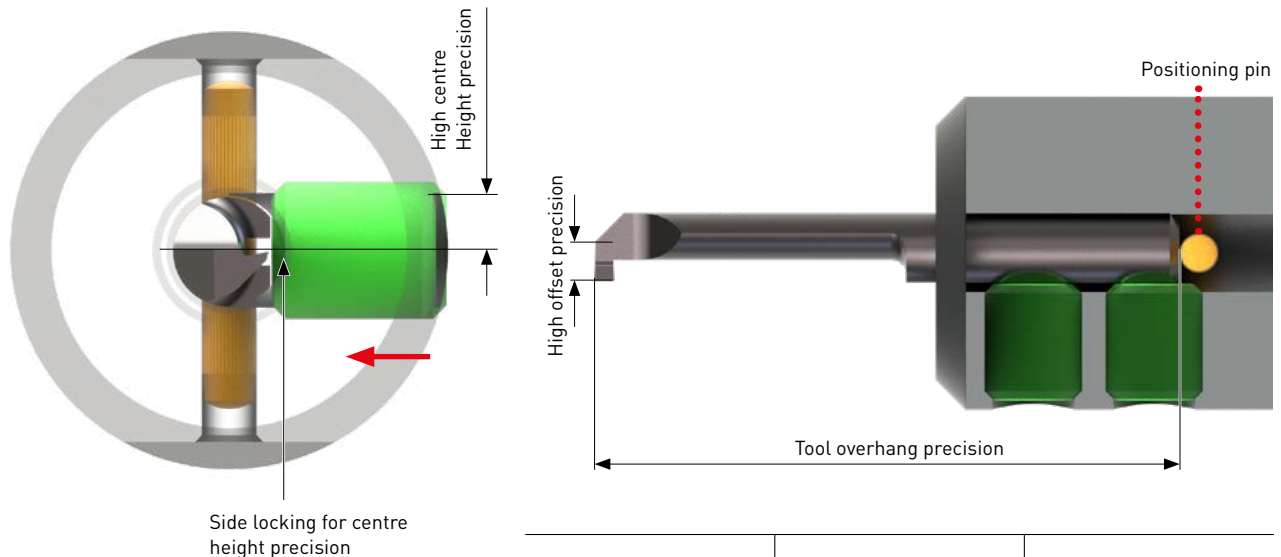


MICRO-MINI PLUS SERIES

FEATURES

EASY SETUP WITH POSITIONING MECHANISM

Easy positioning is achieved by pressing the shank bottom against the integrated positioning pin.

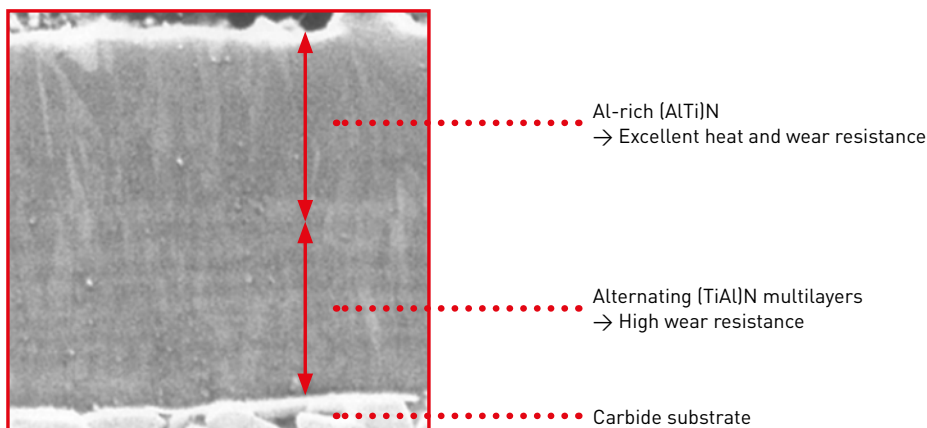


Tool overhang precision	High offset precision	High centre height precision
± 0.05	0 / -0.05	± 0.03

1. Centre height precision excludes boring type PBA.
2. Above precision values are based on the solid bar referenced to the positioning pin.

DEDICATED PVD-COATED GRADE

MPB115 uses a dedicated carbide substrate for high cutting-edge stability, together with a multilayer PVD coating that provides excellent heat and wear resistance, ensuring stable cutting and high wear resistance.



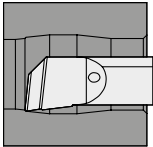
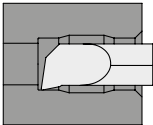
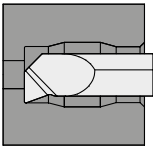
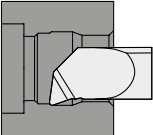
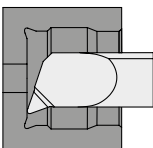
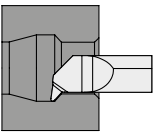
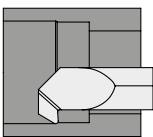
General purpose	For stainless steel	For Titanium and Heat-Resistant alloys	Heat-Resistant alloys and Hardened steel (Finishing)
MPB115	MPB715	MPB915	MPB905

1. MPB905 features a dedicated carbide substrate, providing excellent performance in finishing operations on heat-resistant alloys and hardened steels.

MICRO-MINI PLUS SERIES

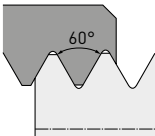
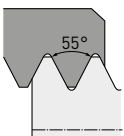
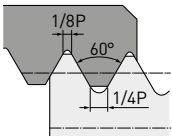
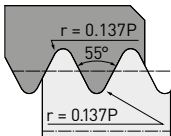
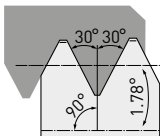
SOLID BARS FOR SMALL PART MACHINING

BORING & PROFILING

Series	Max. Taper angle	Features	DMIN (mm)	L/D
PBA				
 KAPR 96°	Boring	Parallel chipbreaker	1.0 – 7.0	3.7 – 4.8
PPA				
 KAPR 98°	9°	For micro diameters	0.5 – 2.0	2.2 – 6.5
PPB				
 KAPR 90°	18°	Back-face finishing	2.8 – 5.0	1.8 – 5.3
PPC				
 KAPR 98°	18°	General type, most items	2.0 – 6.8	1.8 – 7.8
PPD				
 KAPR 110°	18°	Back face machining & Relief	2.0 – 5.0	1.8 – 7.0
PPE				
 KAPR 98°	45°	Max. Inclination angle 45°	2.0 – 6.0	2.2 – 4.8
PBB				
 KAPR 93°	90°	Back boring	3.0 – 7.0	2.7 – 6.3

MICRO-MINI PLUS SERIES – SOLID BARS FOR SMALL PARTS MACHINING

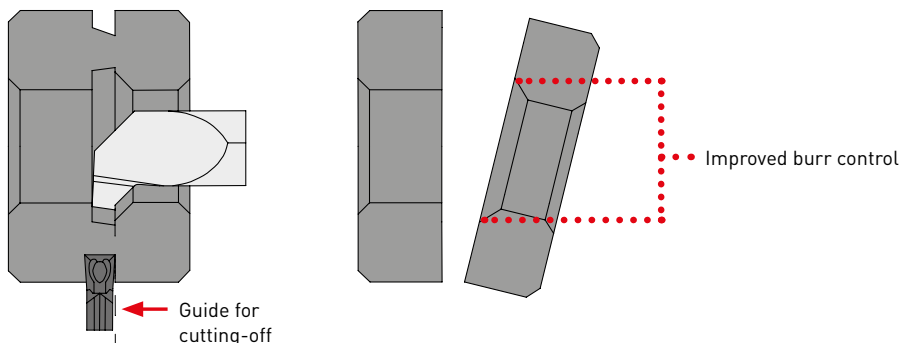
THREADING

	Partial profile 60°	Partial profile 55°	ISO Metric 60°	Whitworth 55°	American NPT 60°
Type					
Series	PT	PT	PT	PT	PT
DMIN (mm)	Partial form	Partial form	Full form	Full form	Partial form
	Pitch (mm)	Threads per inch (TPI)	Pitch (mm)	Threads per inch (TPI)	Threads per inch (TPI)
0.73	0.25 – 0.3	—	—	—	—
1.22	0.35 – 0.4	—	—	—	—
1.56	0.4 – 0.45	—	—	—	—
1.7	0.45 – 0.5	—	—	—	—
2.4	0.5 – 0.7	—	0.5	—	—
3.2	0.5 – 0.8	—	0.7	—	—
4	0.5 – 1	—	0.8	—	—
4.8	—	48 – 24	1.0	—	—
5	0.5 – 1.25	—	—	—	—
6	1 – 1.75	48 – 16	1.25, 1.5	28, 19	27 – 18
7	1.5 – 1.75	24 – 16	1.5	—	—

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PRE-CHAMFERING FOR CUTTING-OFF

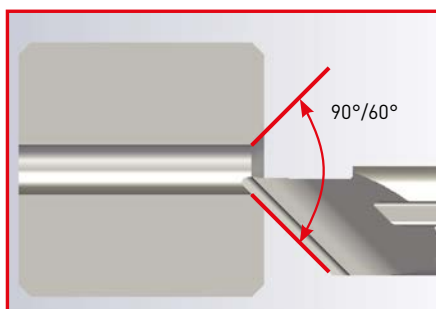
Pre-chamfering the inner diameter on the tool exit side to an obtuse angle before cutting-off reduces burr formation.



1. Machine so that the cutting-off tool aligns with the guide section.
2. When using a lead, offset the cutting-off tool toward the main spindle by 0.05 to 0.1 mm.

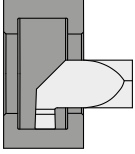
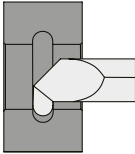
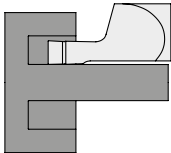
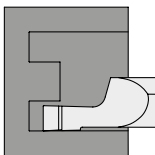
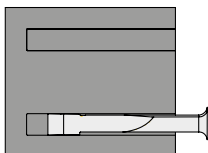
CHAMFERING

Capable of 60° and 90° chamfering.



MICRO-MINI PLUS SERIES – SOLID BARS FOR SMALL PARTS MACHINING

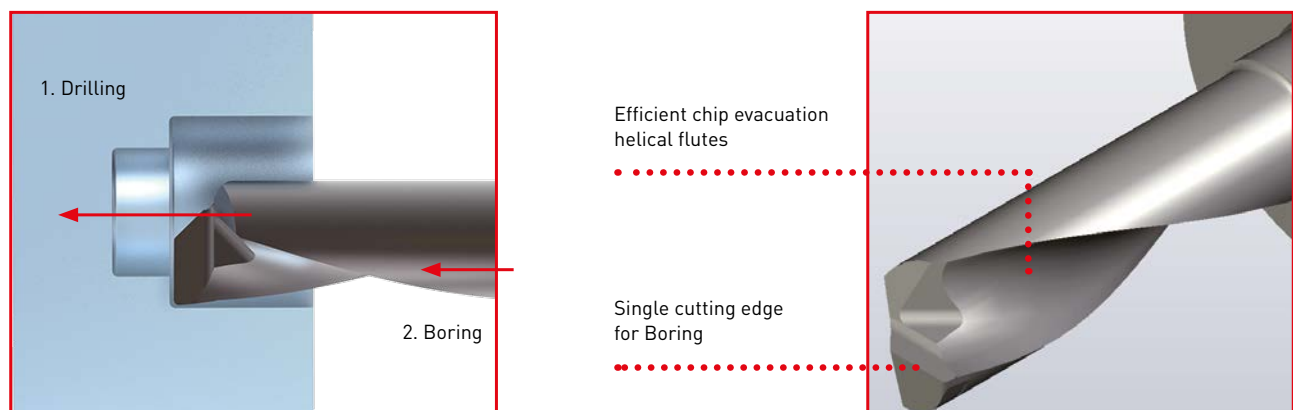
INTERNAL GROOVING & FACE GROOVING

Series	Application	Groove width CW (mm)	Max. groove depth (mm)	L/D (LU/Min. Ø (Mach.))
PG				
	Internal grooving	0.5 – 2.0	0.4 – 2.5	1.3 – 7.0
PR				
	Internal R grooving	1.0	0.8 – 2.5	3.7 – 4.2
PE				
	External face grooving	1.0 – 3.0	2.0 – 6.0	3.1
PF-L				
	Internal face grooving	1.0 – 3.0	2.0 – 6.0	1.2 – 4.8
PF-T				
	Internal face deep grooving	1.5 – 3.0	10 – 19	—

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MULTI-FUNCTION MACHINING

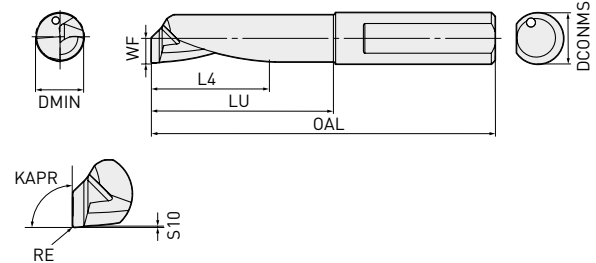
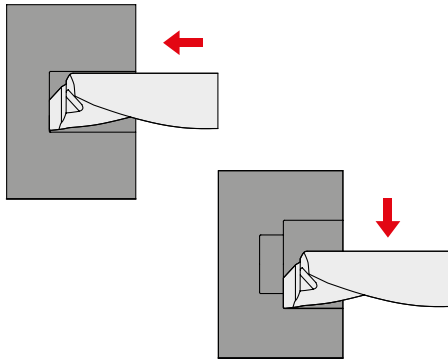
This multi-functional type enables both drilling and boring in a single operation.



PM



MULTI-FUNCTION MACHINING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

RE = 0.05	RE ≥ 0.1
±0.03	±0.05

Order number	MPB115	DMIN	RE	LU	L4	DCONMS	WF	S10	OAL
PM204L08R005AR	●	2.0	0.05	8.0	8.0	4	1.00	0.05	40
PM294L10R010AR	●	2.9	0.1	10.0	10.0	4	0.90	0.07	37
PM294L13R010AR	●	2.9	0.1	13.0	13.0	4	0.90	0.07	40
PM374L15R020AR	●	3.7	0.2	15.0	10.0	4	1.85	0.1	37
PM475L15R020AR	●	4.7	0.2	15.0	10.0	5	2.35	0.1	37
PM475L20R020AR	●	4.7	0.2	20.0	15.0	5	2.35	0.1	42
PM576L15R020AR	★	5.7	0.2	15.0	10.0	6	2.85	0.1	37
PM576L20R020AR	★	5.7	0.2	20.0	15.0	6	2.85	0.1	42
PM677L20R020AR	★	6.7	0.2	20.0	15.0	7	3.35	0.1	42
PM677L25R020AR	★	6.7	0.2	25.0	20.0	7	3.35	0.1	47

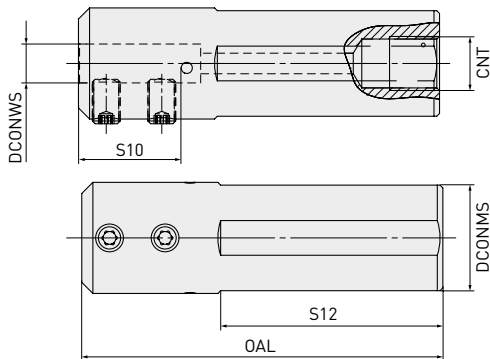
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[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.
2. Please use the PM-B holder dedicated to multi-function machining.
3. L4 : max. drilling length; LU : max. boring length.

PM-B

DEDICATED HOLDER FOR PM MULTI-FUNCTION SOLID BAR



Reinforced clamping mechanism adopted specifically for multi-function machining.

Order number	Stock	DCONWS	DCONMS	OAL	S10	S12	CNT
PM-B1200065S4N	●	4	12	65	18.5	40	M8x1
PM-B1600065S4N	●	4	16	65	18.5	40	G1/8
PM-B1905065S4N	●	4	19.05	65	18.5	40	G1/8
PM-B2000065S4N	●	4	20	65	18.5	40	G1/8
PM-B2200065S4N	●	4	22	65	18.5	40	G1/8
PM-B2500065S4N	●	4	25	65	18.5	40	G1/8
PM-B2540065S4N	●	4	25.4	65	18.5	40	G1/8
PM-B1200065S5N	●	5	12	65	18.5	40	M8x1
PM-B1600065S5N	●	5	16	65	18.5	40	G1/8
PM-B1905065S5N	●	5	19.05	65	18.5	40	G1/8
PM-B2000065S5N	●	5	20	65	18.5	40	G1/8
PM-B2200065S5N	●	5	22	65	18.5	40	G1/8
PM-B2500065S5N	●	5	25	65	18.5	40	G1/8
PM-B2540065S5N	●	5	25.4	65	18.5	40	G1/8
PM-B1200065S6N	★	6	12	65	18.5	37	M8x1
PM-B1600065S6N	★	6	16	65	18.5	40	G1/8
PM-B1905065S6N	★	6	19.05	65	18.5	40	G1/8
PM-B2000065S6N	★	6	20	65	18.5	40	G1/8
PM-B2200065S6N	★	6	22	65	18.5	40	G1/8
PM-B2500065S6N	★	6	25	65	18.5	40	G1/8
PM-B2540065S6N	★	6	25.4	65	18.5	40	G1/8

1/2

[Micro-Mini PLUS: 1 piece per pack.]

1. Other solid bars cannot be used due to different insertion lengths and clamp screw positions.

PM-B – DEDICATED HOLDER FOR PM MULTI-FUNCTION SOLID BAR

Order number	Stock	DCONWS	DCONMS	OAL	S10	S12	CNT
PM-B1200065S7N	★	7	12	65	18.5	37	M8x1
PM-B1600065S7N	★	7	16	65	18.5	40	G1/8
PM-B1905065S7N	★	7	19.05	65	18.5	40	G1/8
PM-B2000065S7N	★	7	20	65	18.5	40	G1/8
PM-B2200065S7N	★	7	22	65	18.5	40	G1/8
PM-B2500065S7N	★	7	25	65	18.5	40	G1/8
PM-B2540065S7N	★	7	25.4	65	18.5	40	G1/8
							2/2

[Micro-Mini PLUS: 1 piece per pack.]

1. Other solid bars cannot be used due to different insertion lengths and clamp screw positions.

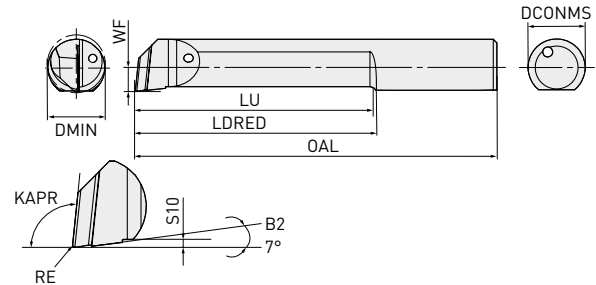
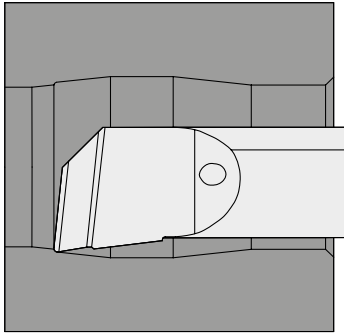
SPARE PARTS

Tool holder type	 Clamp screw	Clamp torque (N·m)	 Wrench
PM-B12	P-TSS01	1.2	HKY25R <i>(Sold separately)</i>
PM-B16, PM-B19	P-TSS02		
PM-B20, PM-B22	P-TSS03		
PM-B25	P-TSS04		

PBA



BORING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

RE = 0.05	RE ≥ 0.1
+ 0.02 0	+ 0.04 0

Order number	MPB715	DMIN	RE	LU	DCONMS	WF	S10	OAL	LDRED
PBA104L045R005ACR	●	1.0	0.05	4.5	4	0.45	0.03	20	5
PBA154L06R010ACR	●	1.5	0.1	6.5	4	0.65	0.05	21	7
PBA204L09R005ACR	●	2.0	0.05	9.0	4	0.90	0.10	24	10
PBA204L09R015ACR	●	2.0	0.15	9.0	4	0.90	0.10	24	10
PBA304L15R005ACR	●	3.0	0.05	15.0	4	0.70	0.15	30	16
PBA304L15R010ACR	●	3.0	0.1	15.0	4	0.70	0.15	30	16
PBA304L15R020ACR	●	3.0	0.2	15.0	4	0.70	0.15	30	16
PBA404L15R010ACR	●	4.0	0.1	15.0	4	1.60	0.20	30	16
PBA404L15R020ACR	●	4.0	0.2	15.0	4	1.60	0.20	30	16
PBA505L24R010ACR	●	5.0	0.1	24.0	5	2.10	0.30	40	25
PBA505L24R020ACR	●	5.0	0.2	24.0	5	2.10	0.30	40	25
PBA606L29R020ACR	★	6.0	0.2	29.0	6	2.50	0.40	45	30
PBA707L29R020ACR	★	7.0	0.2	29.0	7	3.00	0.50	45	30

1/1

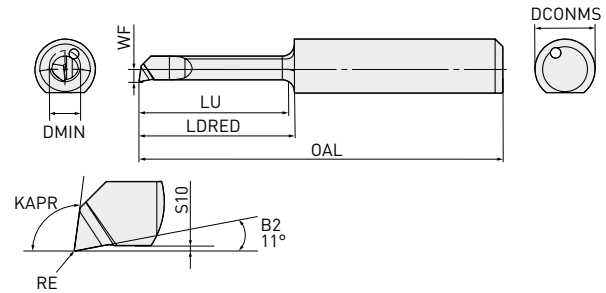
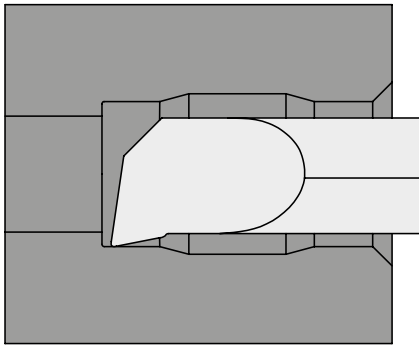
[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PPA



MICRO-DIAMETER PROFILING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

RE

+ 0.02
0

Order number	MPB915	DMIN	RE	LU	DCONMS	WF	S10	OAL	LDRED
PPA054L020R002AR	●	0.5	0.02	1.8	4	0.20	0.02	20	2
PPA084L040R002AR	●	0.8	0.02	3.8	4	0.35	0.03	20	4
PPA104L045R002AR	●	1.0	0.02	4.5	4	0.40	0.05	20	5
PPA104L065R002AR	●	1.0	0.02	6.5	4	0.40	0.05	22	7
PPA154L04R002AR	●	1.5	0.02	4.5	4	0.60	0.08	19	5
PPA154L09R002AR	●	1.5	0.02	9.0	4	0.60	0.08	24	10
PPA204L04R002AR	●	2.0	0.02	4.5	4	0.80	0.08	19	5
PPA204L09R002AR	●	2.0	0.02	9.0	4	0.80	0.08	24	10

1/1

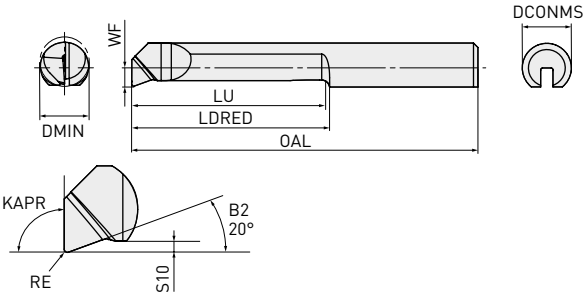
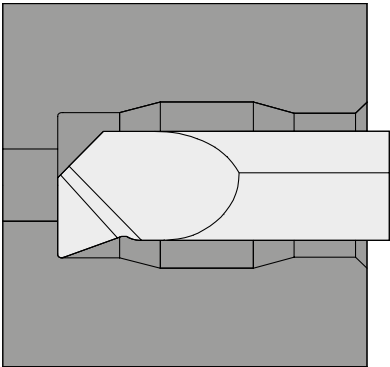
(Micro-Mini PLUS: 1 piece per pack.)

1. Available in right-hand version only.

PPB



BACK – FACE FINISHING AND PROFILING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE
RE
+ 0.05
0

Order number	MPB115	DMIN	RE	LU	DCONMS	WF	S10	OAL	LDRED
PPB284L09R010SR	●	2.8	0.10	9.0	4	0.6	0.20	24	10
PPB284L15R010SR	●	2.8	0.10	15.0	4	0.6	0.20	30	16
PPB404L09R010SR	●	4.0	0.10	9.0	4	1.5	0.30	24	10
PPB404L15R010SR	●	4.0	0.10	15.0	4	1.5	0.30	30	16
PPB505L09R015SR	●	5.0	0.15	9.0	5	1.9	0.50	25	10
PPB505L14R015SR	●	5.0	0.15	14.0	5	1.9	0.50	30	15
PPB505L19R015SR	●	5.0	0.15	19.0	5	1.9	0.50	35	20
									1/1

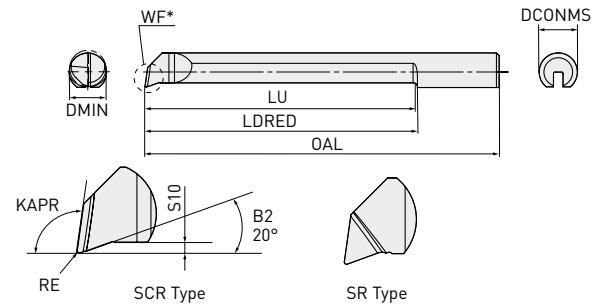
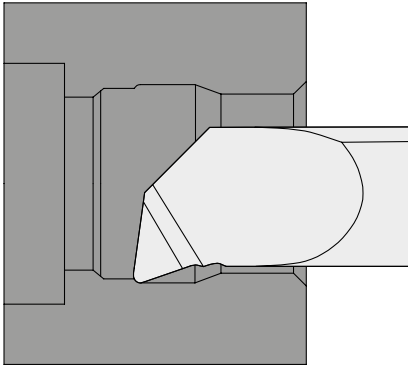
[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PPC



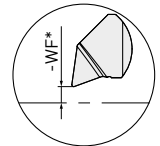
GENERAL – PURPOSE PROFILING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

RE = 0.05		RE ≥ 0.1
DMIN ≤ 2.5	DMIN ≥ 2.8	DMIN
+ 0.02 0	± 0.02	+ 0.05 0



Order number	MPB115	MPB905	DMIN	RE	LU	DCONMS	WF*	S10	OAL	LDRED
PPC204L04R005SR	●	●	2.0	0.05	4.5	4	-0.3	0.10	19	5
PPC204L09R005SCR	●		2.0	0.05	9.0	4	-0.3	0.10	24	10
PPC204L09R005SR	●	●	2.0	0.05	9.0	4	-0.3	0.10	24	10
PPC204L14R005SR	●	●	2.0	0.05	14.0	4	-0.3	0.10	29	15
PPC254L04R005SR	●		2.5	0.05	4.5	4	0.2	0.15	19	5
PPC254L09R005SR	●		2.5	0.05	9.0	4	0.2	0.15	24	10
PPC254L15R005SR	●		2.5	0.05	15.0	4	0.2	0.15	30	16
PPC284L09R005SR	●		2.8	0.05	9.0	4	0.6	0.20	24	10
PPC284L15R005SR	●		2.8	0.05	15.0	4	0.6	0.20	30	16
PPC284L19R005SR	●		2.8	0.05	19.0	4	0.6	0.20	34	20
PPC284L09R010SCR	●		2.8	0.10	9.0	4	0.6	0.20	24	10
PPC284L09R010SR	●	●	2.8	0.10	9.0	4	0.6	0.20	24	10
PPC284L15R010SCR	●		2.8	0.10	15.0	4	0.6	0.20	30	16
PPC284L15R010SR	●	●	2.8	0.10	15.0	4	0.6	0.20	30	16
PPC284L19R010SR	●	●	2.8	0.10	19.0	4	0.6	0.20	34	20
PPC354L09R010SR	●		3.5	0.10	9.0	4	1.1	0.25	24	10
PPC354L15R010SR	●		3.5	0.10	15.0	4	1.1	0.25	30	16
PPC354L19R010SR	●		3.5	0.10	19.0	4	1.1	0.25	34	20
PPC354L23R010SR	●		3.5	0.10	23.0	4	1.1	0.25	38	24

1/3

[Micro-Mini PLUS: 1 piece per pack.]

* A minus sign [-] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

2. Suffix of designation [Order number] : SR – lead-chipbreaker; SCR – parallel-chipbreaker.

PPC – GENERAL-PURPOSE PROFILING WITH COOLANT HOLE

Order number	MPB115 MPB905	DMIN	RE	LU	DCONMS	WF*	S10	OAL	LDRED
PPC404L09R005SR	●	4.0	0.05	9.0	4	1.5	0.30	24	10
PPC404L15R005SR	●	4.0	0.05	15.0	4	1.5	0.30	30	16
PPC404L19R005SR	●	4.0	0.05	19.0	4	1.5	0.30	34	20
PPC404L23R005SR	●	4.0	0.05	23.0	4	1.5	0.30	38	24
PPC404L27R005SR	●	4.0	0.05	27.0	4	1.5	0.30	42	28
PPC404L09R010SCR	●	4.0	0.10	9.0	4	1.5	0.30	24	10
PPC404L09R010SR	● ●	4.0	0.10	9.0	4	1.5	0.30	24	10
PPC404L15R010SCR	●	4.0	0.10	15.0	4	1.5	0.30	30	16
PPC404L15R010SR	● ●	4.0	0.10	15.0	4	1.5	0.30	30	16
PPC404L19R010SCR	●	4.0	0.10	19.0	4	1.5	0.30	34	20
PPC404L19R010SR	● ●	4.0	0.10	19.0	4	1.5	0.30	34	20
PPC404L23R010SCR	●	4.0	0.10	23.0	4	1.5	0.30	38	24
PPC404L23R010SR	● ●	4.0	0.10	23.0	4	1.5	0.30	38	24
PPC404L27R010SCR	●	4.0	0.10	27.0	4	1.5	0.30	42	28
PPC404L27R010SR	● ●	4.0	0.10	27.0	4	1.5	0.30	42	28
PPC505L09R005SR	●	5.0	0.05	9.0	5	1.9	0.50	25	10
PPC505L14R005SR	●	5.0	0.05	14.0	5	1.9	0.50	30	15
PPC505L19R005SR	●	5.0	0.05	19.0	5	1.9	0.50	35	20
PPC505L24R005SR	●	5.0	0.05	24.0	5	1.9	0.50	40	25
PPC505L29R005SR	●	5.0	0.05	29.0	5	1.9	0.50	45	30
PPC505L34R005SR	●	5.0	0.05	34.0	5	1.9	0.50	50	35
PPC505L09R015SCR	●	5.0	0.15	9.0	5	1.9	0.50	25	10
PPC505L09R015SR	● ●	5.0	0.15	9.0	5	1.9	0.50	25	10
PPC505L14R015SCR	●	5.0	0.15	14.0	5	1.9	0.50	30	15
PPC505L14R015SR	● ●	5.0	0.15	14.0	5	1.9	0.50	30	15
PPC505L19R015SCR	●	5.0	0.15	19.0	5	1.9	0.50	35	20
PPC505L19R015SR	● ●	5.0	0.15	19.0	5	1.9	0.50	35	20
PPC505L24R015SCR	●	5.0	0.15	24.0	5	1.9	0.50	40	25
PPC505L24R015SR	● ●	5.0	0.15	24.0	5	1.9	0.50	40	25
PPC505L29R015SCR	●	5.0	0.15	29.0	5	1.9	0.50	45	30
PPC505L29R015SR	●	5.0	0.15	29.0	5	1.9	0.50	45	30
PPC505L34R015SCR	●	5.0	0.15	34.0	5	1.9	0.50	50	35
PPC505L34R015SR	●	5.0	0.15	34.0	5	1.9	0.50	50	35
PPC505L39R015SR	●	5.0	0.15	39.0	5	1.9	0.50	55	40
PPC606L14R005SR	★	6.0	0.05	14.0	6	2.3	0.50	30	15
PPC606L21R005SR	★	6.0	0.05	21.0	6	2.3	0.50	37	22
PPC606L24R005SR	★	6.0	0.05	24.0	6	2.3	0.50	40	25
PPC606L29R005SR	★	6.0	0.05	29.0	6	2.3	0.50	45	30
PPC606L34R005SR	★	6.0	0.05	34.0	6	2.3	0.50	50	35
PPC606L41R005SR	★	6.0	0.05	41.0	6	2.3	0.50	57	42
PPC606L14R015SCR	★	6.0	0.15	14.0	6	2.3	0.50	30	15
PPC606L14R015SR	★ ★	6.0	0.15	14.0	6	2.3	0.50	30	15
PPC606L21R015SCR	★	6.0	0.15	21.0	6	2.3	0.50	37	22
PPC606L21R015SR	★ ★	6.0	0.15	21.0	6	2.3	0.50	37	22
PPC606L24R015SCR	★	6.0	0.15	24.0	6	2.3	0.50	40	25
PPC606L24R015SR	★ ★	6.0	0.15	24.0	6	2.3	0.50	40	25
PPC606L29R015SCR	★	6.0	0.15	29.0	6	2.3	0.50	45	30

2/3

(Micro-Mini PLUS: 1 piece per pack.)

* A minus sign [–] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

2. Suffix of designation (Order number) : SR – lead-chipbreaker; SCR – parallel-chipbreaker.

PPC – GENERAL-PURPOSE PROFILING WITH COOLANT HOLE

Order number	MPB115	MPB905	DMIN	RE	LU	DCONMS	WF*	S10	OAL	LDRED
PPC606L29R015SR	★	★	6.0	0.15	29.0	6	2.3	0.50	45	30
PPC606L34R015SCR	★		6.0	0.15	34.0	6	2.3	0.50	50	35
PPC606L34R015SR	★		6.0	0.15	34.0	6	2.3	0.50	50	35
PPC606L41R015SCR	★		6.0	0.15	41.0	6	2.3	0.50	57	42
PPC606L41R015SR	★		6.0	0.15	41.0	6	2.3	0.50	57	42
PPC687L19R015SCR	★		6.8	0.15	19.0	7	2.8	0.60	35	20
PPC687L19R015SR	★	★	6.8	0.15	19.0	7	2.8	0.60	35	20
PPC687L24R015SCR	★		6.8	0.15	24.0	7	2.8	0.60	40	25
PPC687L24R015SR	★	★	6.8	0.15	24.0	7	2.8	0.60	40	25
PPC687L29R015SCR	★		6.8	0.15	29.0	7	2.8	0.60	45	30
PPC687L29R015SR	★	★	6.8	0.15	29.0	7	2.8	0.60	45	30
PPC687L34R015SCR	★		6.8	0.15	34.0	7	2.8	0.60	50	35
PPC687L34R015SR	★	★	6.8	0.15	34.0	7	2.8	0.60	50	35
PPC687L39R015SCR	★		6.8	0.15	39.0	7	2.8	0.60	55	40
PPC687L39R015SR	★		6.8	0.15	39.0	7	2.8	0.60	55	40
PPC687L44R015SCR	★		6.8	0.15	44.0	7	2.8	0.60	60	45
PPC687L44R015SR	★		6.8	0.15	44.0	7	2.8	0.60	60	45
PPC687L49R015SCR	★		6.8	0.15	49.0	7	2.8	0.60	65	50
PPC687L49R015SR	★		6.8	0.15	49.0	7	2.8	0.60	65	50

3/3

(Micro-Mini PLUS: 1 piece per pack.)

* A minus sign [–] is indicated when the WF position is above the tool centre with the cutting edge facing down.

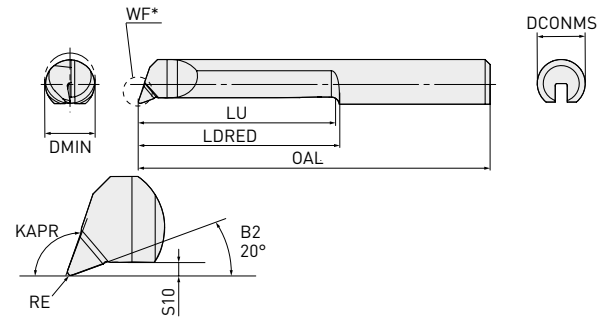
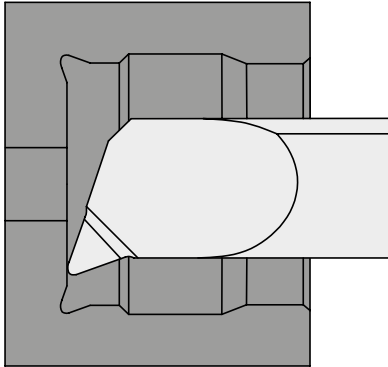
1. Available in right-hand version only.

2. Suffix of designation (Order number) : SR – lead-chipbreaker; SCR – parallel-chipbreaker.

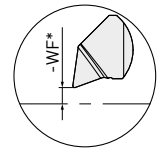
PPD



BACK – FACE MACHINING, RELIEF & PROFILING WITH COOLANT HOLE



Right hand tool holder shown.



TOLERANCE

RE
+ 0.05
0

Order number	MPB115	DMIN	RE	LU	DCONMS	WF*	S10	OAL	LDRED
PPD204L04R005SR	●	2.0	0.05	4.5	4	-0.3	0.10	19	5
PPD204L09R005SR	●	2.0	0.05	9.0	4	-0.3	0.10	24	10
PPD204L14R005SR	●	2.0	0.05	14.0	4	-0.3	0.10	29	15
PPD284L09R010SR	●	2.8	0.10	9.0	4	0.6	0.20	24	10
PPD284L15R010SR	●	2.8	0.10	15.0	4	0.6	0.20	30	16
PPD284L19R010SR	●	2.8	0.10	19.0	4	0.6	0.20	34	20
PPD404L09R010SR	●	4.0	0.10	9.0	4	1.5	0.30	24	10
PPD404L15R010SR	●	4.0	0.10	15.0	4	1.5	0.30	30	16
PPD404L19R010SR	●	4.0	0.10	19.0	4	1.5	0.30	34	20
PPD404L27R010SR	●	4.0	0.10	27.0	4	1.5	0.30	42	28
PPD505L09R015SR	●	5.0	0.15	9.0	5	1.9	0.50	25	10
PPD505L19R015SR	●	5.0	0.15	19.0	5	1.9	0.50	35	20
PPD505L34R015SR	●	5.0	0.15	34.0	5	1.9	0.50	50	35

1/1

[Micro-Mini PLUS: 1 piece per pack.]

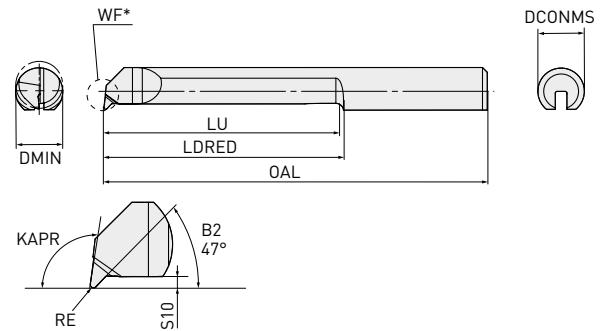
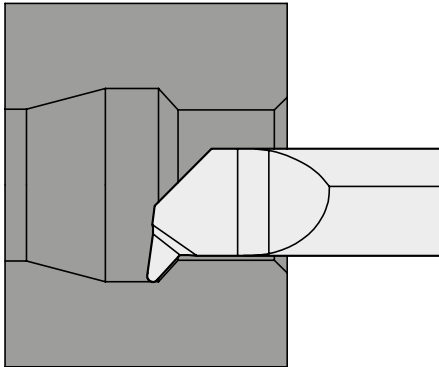
* A minus sign [-] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

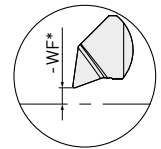
PPE



PROFILING FOR MAX. INCLINATION ANGLE 45° WITH COOLANT HOLE



Right hand tool holder shown.



TOLERANCE

RE
+ 0.05
0

Order number	MPB115	DMIN	RE	LU	DCONMS	WF*	S10	OAL	LDRED
PPE204L09R005SR	●	2.0	0.05	9.0	4	-0.3	0.40	24	10
PPE304L14R010SR	●	3.0	0.10	14.0	4	0.6	0.60	29	15
PPE404L09R010SR	●	4.0	0.10	9.0	4	1.5	0.60	24	10
PPE40403L19R010SR	●	4.0	0.10	19.0	4	1.5	0.30	34	20
PPE40406L19R010SR	●	4.0	0.10	19.0	4	1.5	0.60	34	20
PPE505L14R015SR	●	5.0	0.15	14.0	5	1.9	0.80	30	15
PPE50505L24R015SR	●	5.0	0.15	24.0	5	1.9	0.50	40	25
PPE50508L24R015SR	●	5.0	0.15	24.0	5	1.9	0.80	40	25
PPE606L21R015SR	★	6.0	0.15	21.0	6	2.3	1.80	37	22
PPE60605L29R015SR	★	6.0	0.15	29.0	6	2.3	0.50	45	30
PPE60618L29R015SR	★	6.0	0.15	29.0	6	2.3	1.80	45	30

1/1

[Micro-Mini PLUS: 1 piece per pack.]

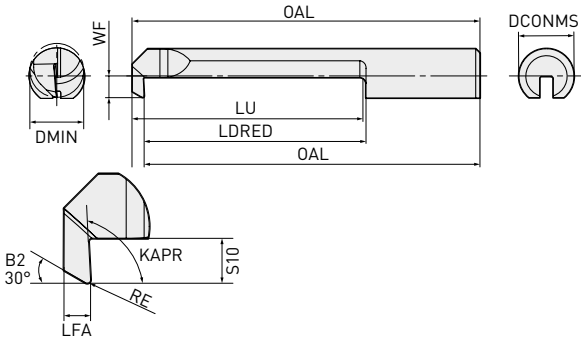
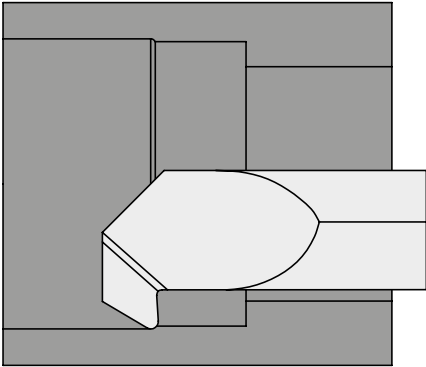
* A minus sign [-] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

PBB



BACK BORING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE	
RE	
+ 0.05	
0	

Order number	MPB115	DMIN	RE	LU	DCONMS	LFA	WF*	S10	OAL	LDRED
PBB304L14R010SR	●	3.0	0.10	14.0	4	1.5	0.6	0.50	30	13.5
PBB304L19R010SR	●	3.0	0.10	19.0	4	1.5	0.6	0.50	34	18.5
PBB404L14R015SR	●	4.0	0.15	14.0	4	1.5	1.5	0.80	30	13.5
PBB404L24R015SR	●	4.0	0.15	24.0	4	1.5	1.5	0.80	39	23.5
PBB505L19R020SR	●	5.0	0.20	19.0	5	1.5	1.9	1.00	35	18.5
PBB505L29R020SR	●	5.0	0.20	29.0	5	1.5	1.9	1.00	45	28.5
PBB606L19R020SR	★	6.0	0.20	19.0	6	1.5	2.3	1.80	35	18.5
PBB606L29R020SR	★	6.0	0.20	29.0	6	1.5	2.3	1.80	45	28.5
PBB707L19R020SR	★	7.0	0.20	19.0	7	1.5	2.8	2.50	35	18.5
PBB707L29R020SR	★	7.0	0.20	29.0	7	1.5	2.8	2.50	45	28.5

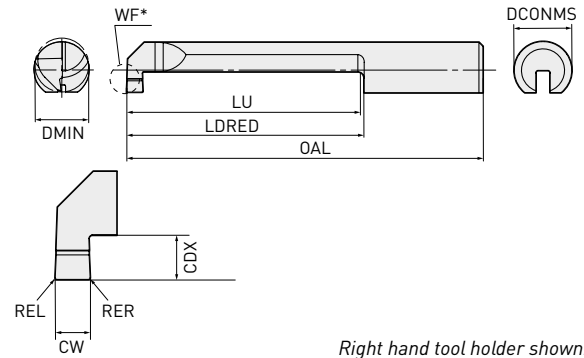
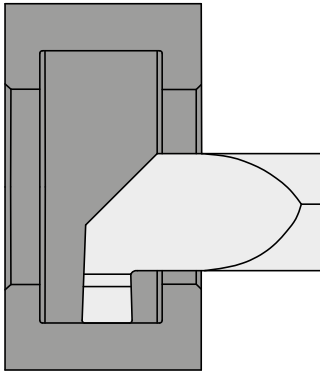
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[Micro-Mini PLUS: 1 piece per pack.]

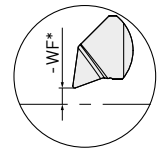
1. Available in right-hand version only.

PG

INTERNAL GROOVING WITH COOLANT HOLE



Right hand tool holder shown.



TOLERANCE

CW

+ 0.05
0

Order number	MPB115	DMIN	CW	CDX	LU	DCONMS	RER/L	WF*	OAL	LDRED
PG204050L04SR	●	2.0	0.50	0.4	4.5	4	—	-0.2	19	5
PG204050L09SR	●	2.0	0.50	0.4	9.0	4	—	-0.2	24	10
PG204050L14SR	●	2.0	0.50	0.4	14.0	4	—	-0.2	29	15
PG304070L04SR	●	3.0	0.70	0.6	4.5	4	—	0.7	19	5
PG304070L09SR	●	3.0	0.70	0.6	9.0	4	—	0.7	24	10
PG304070L15SR	●	3.0	0.70	0.6	15.0	4	—	0.7	30	16
PG404079L19R10SR	●	4.0	0.79	0.8	19.0	4	0.1	1.5	34	20
PG404100L09R10SR	●	4.0	1.00	0.8	9.0	4	0.1	1.5	24	10
PG404100L15R10SR	●	4.0	1.00	0.8	15.0	4	0.1	1.5	30	16
PG404100L19R10SR	●	4.0	1.00	0.8	19.0	4	0.1	1.5	34	20
PG505100L09R10SR	●	5.0	1.00	1.0	9.0	5	0.1	1.9	25	10
PG505100L14R10SR	●	5.0	1.00	1.0	14.0	5	0.1	1.9	30	15
PG505100L19R10SR	●	5.0	1.00	1.0	19.0	5	0.1	1.9	35	20
PG505100L24R10SR	●	5.0	1.00	1.0	24.0	5	0.1	1.9	40	25
PG505100L29R10SR	●	5.0	1.00	1.0	29.0	5	0.1	1.9	45	30
PG505150L09R10SR	●	5.0	1.50	1.0	9.0	5	0.1	1.9	25	10
PG505150L14R10SR	●	5.0	1.50	1.0	14.0	5	0.1	1.9	30	15
PG505150L19R10SR	●	5.0	1.50	1.0	19.0	5	0.1	1.9	35	20
PG505150L24R10SR	●	5.0	1.50	1.0	24.0	5	0.1	1.9	40	25
PG505150L29R10SR	●	5.0	1.50	1.0	29.0	5	0.1	1.9	45	30
PG505200L09R10SR	●	5.0	2.00	1.0	9.0	5	0.1	1.9	25	10
PG505200L14R10SR	●	5.0	2.00	1.0	14.0	5	0.1	1.9	30	15
PG505200L19R10SR	●	5.0	2.00	1.0	19.0	5	0.1	1.9	35	20
PG505200L24R10SR	●	5.0	2.00	1.0	24.0	5	0.1	1.9	40	25
PG505200L29R10SR	●	5.0	2.00	1.0	29.0	5	0.1	1.9	45	30

1/2

[Micro-Mini PLUS: 1 piece per pack.]

* A minus sign (–) is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

● : Inventory maintained. ★ : Inventory maintained in Japan.

PG – INTERNAL GROOVING WITH COOLANT HOLE

Order number	MPB115	DMIN	CW	CDX	LU	DCONMS	RER/L	WF*	OAL	LDRED
PG606079L14R10SR	★	6.0	0.79	1.8	14.0	6	0.1	2.3	30	15
PG606100L09R10SR	★	6.0	1.00	1.8	9.0	6	0.1	2.3	25	10
PG606100L14R10SR	★	6.0	1.00	1.8	14.0	6	0.1	2.3	30	15
PG606100L21R10SR	★	6.0	1.00	1.8	21.0	6	0.1	2.3	37	22
PG606100L24R10SR	★	6.0	1.00	1.8	24.0	6	0.1	2.3	40	25
PG606100L29R10SR	★	6.0	1.00	1.8	29.0	6	0.1	2.3	45	30
PG606150L09R10SR	★	6.0	1.50	1.8	9.0	6	0.1	2.3	25	10
PG606150L14R10SR	★	6.0	1.50	1.8	14.0	6	0.1	2.3	30	15
PG606150L21R10SR	★	6.0	1.50	1.8	21.0	6	0.1	2.3	37	22
PG606150L24R10SR	★	6.0	1.50	1.8	24.0	6	0.1	2.3	40	25
PG606150L29R10SR	★	6.0	1.50	1.8	29.0	6	0.1	2.3	45	30
PG606200L09R10SR	★	6.0	2.00	1.8	9.0	6	0.1	2.3	25	10
PG606200L14R10SR	★	6.0	2.00	1.8	14.0	6	0.1	2.3	30	15
PG606200L21R10SR	★	6.0	2.00	1.8	21.0	6	0.1	2.3	37	22
PG606200L24R10SR	★	6.0	2.00	1.8	24.0	6	0.1	2.3	40	25
PG606200L29R10SR	★	6.0	2.00	1.8	29.0	6	0.1	2.3	45	30
PG687100L09R10SR	★	6.8	1.00	2.5	9.0	7	0.1	2.8	25	10
PG687100L14R10SR	★	6.8	1.00	2.5	14.0	7	0.1	2.8	30	15
PG687100L21R10SR	★	6.8	1.00	2.5	21.0	7	0.1	2.8	37	22
PG687100L24R10SR	★	6.8	1.00	2.5	24.0	7	0.1	2.8	40	25
PG687100L29R10SR	★	6.8	1.00	2.5	29.0	7	0.1	2.8	45	30
PG687117L09R10SR	★	6.8	1.17	2.5	9.0	7	0.1	2.8	25	10
PG687117L21R10SR	★	6.8	1.17	2.5	21.0	7	0.1	2.8	37	22
PG687150L09R10SR	★	6.8	1.50	2.5	9.0	7	0.1	2.8	25	10
PG687150L14R10SR	★	6.8	1.50	2.5	14.0	7	0.1	2.8	30	15
PG687150L21R10SR	★	6.8	1.50	2.5	21.0	7	0.1	2.8	37	22
PG687150L24R10SR	★	6.8	1.50	2.5	24.0	7	0.1	2.8	40	25
PG687150L29R10SR	★	6.8	1.50	2.5	29.0	7	0.1	2.8	45	30
PG687200L09R10SR	★	6.8	2.00	2.5	9.0	7	0.1	2.8	25	10
PG687200L14R10SR	★	6.8	2.00	2.5	14.0	7	0.1	2.8	30	15
PG687200L21R10SR	★	6.8	2.00	2.5	21.0	7	0.1	2.8	37	22
PG687200L24R10SR	★	6.8	2.00	2.5	24.0	7	0.1	2.8	40	25
PG687200L29R10SR	★	6.8	2.00	2.5	29.0	7	0.1	2.8	45	30

2/2

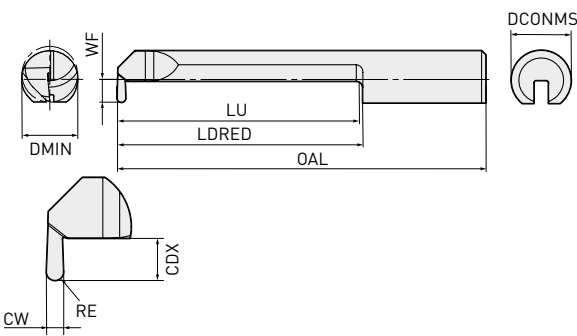
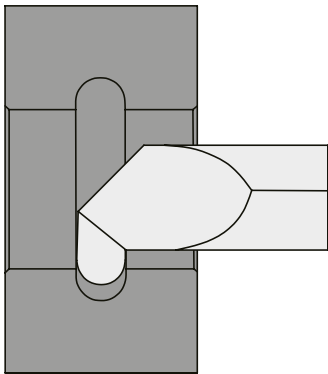
(Micro-Mini PLUS: 1 piece per pack.)

* A minus sign (–) is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

PR

INTERNAL R GROOVING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE
CW
+ 0.05
0

Order number	MPB115	DMIN	CW	CDX	LU	DCONMS	RE	OAL	WF	LDRED
PR404L15R050SR	●	4.0	1.00	0.8	15.0	4	0.5	30	1.5	16
PR505L19R050SR	●	5.0	1.00	1.0	19.0	5	0.5	35	1.9	20
PR606L24R050SR	★	6.0	1.00	1.8	24.0	6	0.5	40	2.3	25
PR687L29R050SR	★	6.8	1.00	2.5	29.0	7	0.5	45	2.8	30

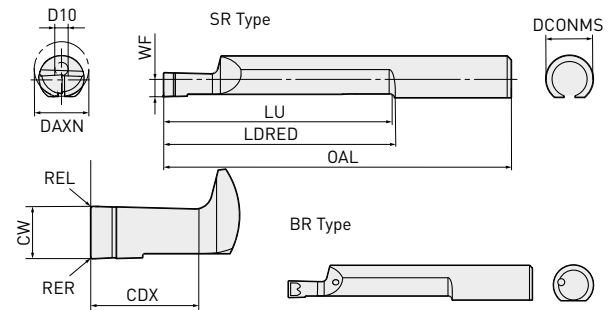
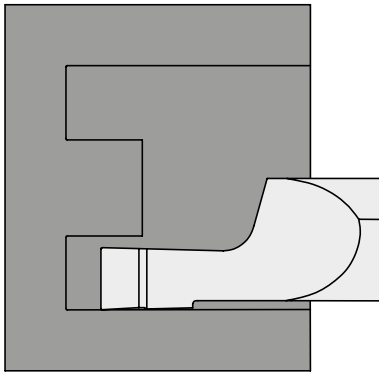
1/1

(Micro-Mini PLUS: 1 piece per pack.)

1. Available in right-hand version only.

PF-L

INTERNAL FACE GROOVING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

CW

+ 0.05
0

Order number	MPB115	DAXN	D10	CW	LU	DCONMS	RER/L	WF	CDX	OAL	LDRED
PF606100L10R10SR	●	6.0	4.00	1.00	10.0	6	0.1	2.2	2.0	26	11
PF606100L19R10SR	●	6.0	4.00	1.00	19.0	6	0.1	2.2	2.0	35	20
PF606100L29R10SR	●	6.0	4.00	1.00	29.0	6	0.1	2.2	2.0	45	30
PF606200L10R10SR	●	6.0	2.00	2.00	10.0	6	0.1	2.2	4.0	26	11
PF606200L19R10SR	●	6.0	2.00	2.00	19.0	6	0.1	2.2	4.0	35	20
PF606200L29R10SR	●	6.0	2.00	2.00	29.0	6	0.1	2.2	4.0	45	30
PF606300L10R10SR	●	6.0	0.00	3.00	10.0	6	0.1	2.2	6.0	26	11
PF606300L19R10SR	●	6.0	0.00	3.00	19.0	6	0.1	2.2	6.0	35	20
PF606300L29R10SR	●	6.0	0.00	3.00	29.0	6	0.1	2.2	6.0	45	30
PF807100L19R10SR	★	8.0	6.00	1.00	19.0	7	0.1	2.4	2.0	35	20
PF807100L29R10SR	★	8.0	6.00	1.00	29.0	7	0.1	2.4	2.0	45	30
PF807157L10R10SR	★	8.0	4.86	1.57	10.0	7	0.1	2.4	3.0	26	11
PF807200L19R10SR	★	8.0	4.00	2.00	19.0	7	0.1	2.4	4.0	35	20
PF807200L19R10BR	★	8.0	4.00	2.00	19.0	7	0.1	2.4	4.0	35	20
PF807200L29R10SR	★	8.0	4.00	2.00	29.0	7	0.1	2.4	4.0	45	30
PF807200L29R10BR	★	8.0	4.00	2.00	29.0	7	0.1	2.4	4.0	45	30
PF807238L19R10SR	★	8.0	3.24	2.38	19.0	7	0.1	2.4	5.0	35	20
PF807300L19R10SR	★	8.0	2.00	3.00	19.0	7	0.1	2.4	6.0	35	20
PF807300L19R10BR	★	8.0	2.00	3.00	19.0	7	0.1	2.4	6.0	35	20
PF807300L29R10SR	★	8.0	2.00	3.00	29.0	7	0.1	2.4	6.0	45	30
PF807300L29R10BR	★	8.0	2.00	3.00	29.0	7	0.1	2.4	6.0	45	30

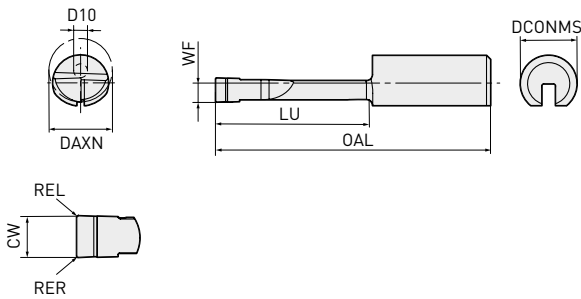
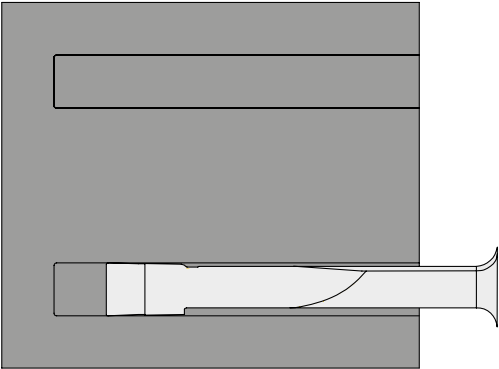
1/1

[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.
2. Suffix of designation (Order number) : SR – slit-type coolant; BR – hole-type coolant.

PF-T

INTERNAL DEEP FACE GROOVING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE

CW
+ 0.05
0

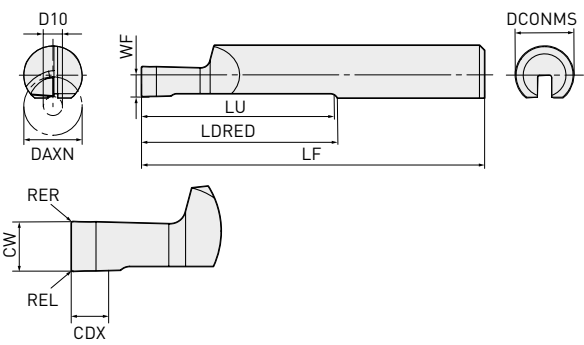
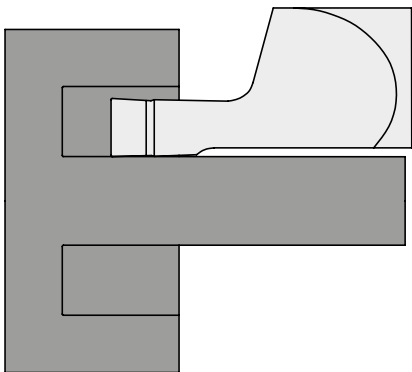
Order number	MPB115	DAXN	D10	CW	LU	DCONMS	RER/L	WF	OAL
PF807150T10R10SR	★	8.0	5.00	1.50	10.0	7	0.1	2.4	26
PF807200T14R10SR	★	8.0	4.00	2.00	14.0	7	0.1	2.4	30
PF807250T19R10SR	★	8.0	3.00	2.50	19.0	7	0.1	2.4	35
PF807300T19R10SR	★	8.0	2.00	3.00	19.0	7	0.1	2.4	35

1/1

(Micro-Mini PLUS: 1 piece per pack.)
1. Available in right-hand version only.

PE

EXTERNAL FACE GROOVING WITH COOLANT HOLE



Right hand tool holder shown.

TOLERANCE
CW
+ 0.05
0

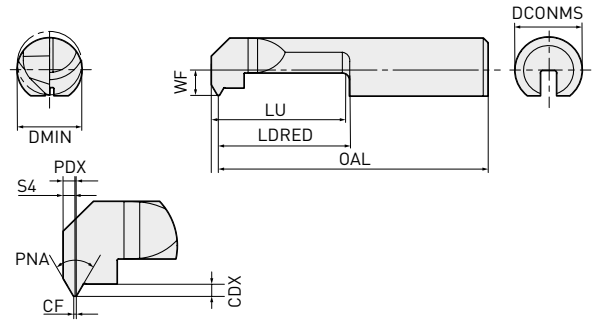
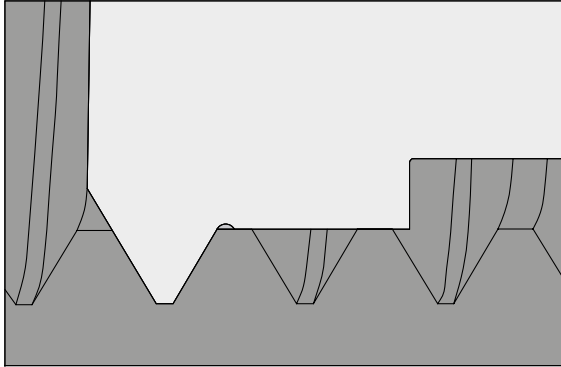
Order number	MPB115	DAXN	D10	CW	LU	DCONMS	RER/L	WF	CDX	OAL	LDRED
PE606100L19R10SR	●	6.0	4.00	1.00	19.0	6	0.1	2.2	2.0	35	20
PE606200L19R10SR	●	6.0	2.00	2.00	19.0	6	0.1	2.2	4.0	35	20
PE606300L19R10SR	●	6.0	0.00	3.00	19.0	6	0.1	2.2	6.0	35	20
											1/1

[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PT-ISO

ISO THREADING WITH FULL FORM AND COOLANT HOLE



Right hand tool holder shown.

ISO METRIC 60° THREAD

Order number	MPB115	DMIN	TP (Pitch)	LU	DCONMS	CF	S4	WF	CDX	OAL	Thread size
PT244050ISOL09SR	●	2.4	0.50	9.0	4	0.06	0.24	0.2	0.27	25	M3
PT244050ISOL14SR	●	2.4	0.50	14.0	4	0.06	0.24	0.2	0.27	30	M3
PT324070ISOL14SR	●	3.2	0.70	14.0	4	0.09	0.32	0.9	0.38	30	M4
PT324070ISOL19SR	●	3.2	0.70	19.0	4	0.09	0.32	0.9	0.38	35	M4
PT404080ISOL14SR	●	4.0	0.80	14.0	4	0.10	0.50	1.5	0.43	30	M5
PT404080ISOL24SR	●	4.0	0.80	24.0	4	0.10	0.50	1.5	0.43	40	M5
PT485100ISOL14SR	●	4.8	1.00	14.0	5	0.12	0.55	1.9	0.54	30	M6
PT485100ISOL19SR	●	4.8	1.00	19.0	5	0.12	0.55	1.9	0.54	35	M6
PT485100ISOL29SR	●	4.8	1.00	29.0	5	0.12	0.55	1.9	0.54	45	M6
PT606125ISOL14SR	★	6.0	1.25	14.0	6	0.15	0.65	2.3	0.67	30	M8
PT606125ISOL19SR	★	6.0	1.25	19.0	6	0.15	0.65	2.3	0.67	35	M8
PT606125ISOL29SR	★	6.0	1.25	29.0	6	0.15	0.65	2.3	0.67	45	M8
PT606150ISOL14SR	★	6.0	1.50	14.0	6	0.18	0.75	2.3	0.81	30	M10
PT707150ISOL14SR	★	7.0	1.50	14.0	7	0.18	0.75	2.8	0.81	30	M10

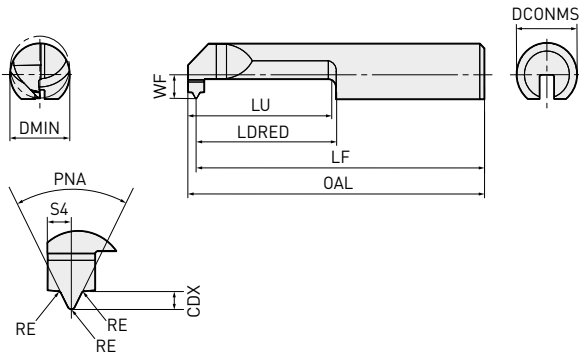
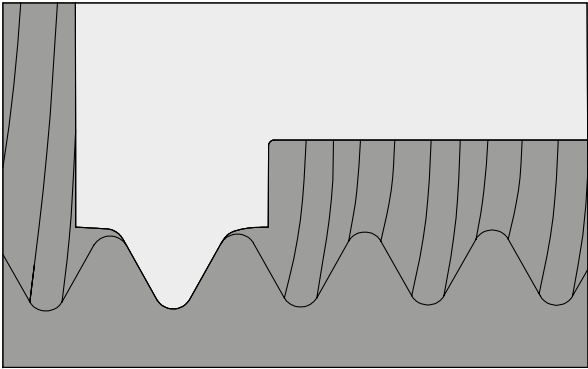
1/1

[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PT-W

WHITWORTH THREADING WITH FULL FORM AND COOLANT HOLE



Right hand tool holder shown.

WHITWORTH 55° THREAD

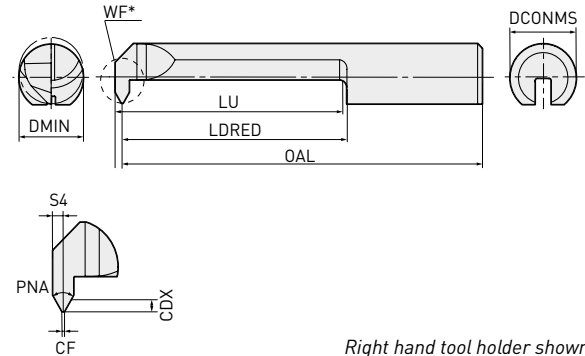
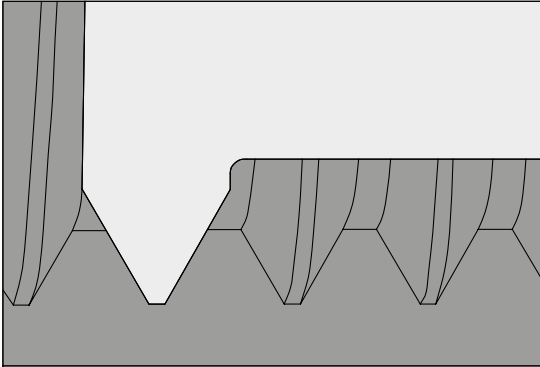
Order number	MPB115	DMIN	TPI (thread / inch)	LU	DCONMS	RE	S4	WF	CDX	OAL
PT606019WL14SR	★	6.0	19	14.0	6	0.18	1.00	2.3	0.86	30
PT606022WL14SR	★	6.0	22	14.0	6	0.16	1.00	2.3	0.74	30
PT606028WL14SR	★	6.0	28	14.0	6	0.12	0.80	2.3	0.58	30
										1/1

[Micro-Mini PLUS: 1 piece per pack.]

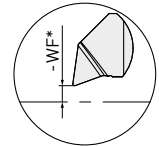
1. Available in right-hand version only.

PT

THREADING WITH PARTIAL FORM AND COOLANT HOLE



Right hand tool holder shown.



GENERAL PURPOSE 60° THREAD

Order number	MPB115	DMIN	TP (Pitch)	LU	DCONMS	CF	S4	WF*	CDX	OAL	Thread size
PT07402560L025SR	●	0.73	0.25 – 0.3	2.5	4	0.03	0.14	-0.10	0.135	20	≥M1
PT12403560L04SR	●	1.22	0.35 – 0.4	4.0	4	0.04	0.18	0.35	0.189	20	≥M1.6
PT15404060L04SR	●	1.56	0.4 – 0.45	4.5	4	0.05	0.20	-0.60	0.220	20	≥M2
PT17404560L05SR	●	1.70	0.45 – 0.5	6.0	4	0.06	0.22	-0.55	0.240	22	≥M2.5
PT24405060L07SR	●	2.40	0.5 – 0.7	7.5	4	0.04	0.33	0.30	0.270	22	≥M3
PT32405060L11SR	●	3.20	0.5 – 0.75	11.0	4	0.06	0.35	1.00	0.270	26	—
PT32407060L09SR	●	3.20	0.7 – 0.8	9.0	4	0.09	0.32	0.90	0.380	24	≥M4
PT40405060L14SR	●	4.00	0.5 – 0.75	14.0	4	0.06	0.35	1.50	0.270	30	—
PT40408060L14SR	●	4.00	0.8 – 1.0	14.0	4	0.10	0.45	1.50	0.430	30	—
PT50505060L14SR	●	5.00	0.5 – 0.75	14.0	5	0.06	0.35	1.90	0.270	30	—
PT50505060L24SR	●	5.00	0.5 – 0.75	24.0	5	0.06	0.35	1.90	0.270	40	—
PT50507560L14SR	●	5.00	0.75 – 1.0	14.0	5	0.09	0.45	1.90	0.400	30	—
PT50507560L19SR	●	5.00	0.75 – 1.0	19.0	5	0.09	0.45	1.90	0.400	35	—
PT50510060L14SR	●	5.00	1.0 – 1.25	14.0	5	0.12	0.55	1.90	0.550	30	≥M6
PT50510060L24SR	●	5.00	1.0 – 1.25	24.0	5	0.12	0.55	1.90	0.550	40	≥M6
PT60610060L14SR	★	6.00	1.0 – 1.25	14.0	6	0.12	0.55	2.30	0.550	30	≥M6
PT60610060L21SR	★	6.00	1.0 – 1.25	21.0	6	0.12	0.55	2.30	0.550	37	—
PT60612560L14SR	★	6.00	1.25 – 1.5	14.0	6	0.15	0.65	2.30	0.680	30	≥M8
PT60612560L29SR	★	6.00	1.25 – 1.5	29.0	6	0.15	0.65	2.30	0.680	45	≥M8
PT60615060L14SR	★	6.00	1.5 – 1.75	14.0	6	0.18	0.75	2.30	0.810	30	≥M10
PT60615060L21SR	★	6.00	1.5 – 1.75	21.0	6	0.18	0.75	2.30	0.810	37	≥M10
PT70715060L14SR	★	7.00	1.5 – 1.75	14.0	7	0.18	0.75	2.80	0.810	30	≥M10
PT70715060L24SR	★	7.00	1.5 – 1.75	24.0	7	0.18	0.75	2.80	0.810	40	≥M10

1/1

[Micro-Mini PLUS: 1 piece per pack.]

* A minus sign [-] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

● : Inventory maintained. ★ : Inventory maintained in Japan.

PT – THREADING WITH PARTIAL FORM AND COOLANT HOLE

GENERAL PURPOSE 55° THREAD

Order number	MPB115	DMIN	TP (Pitch)	TPI (thread / inch)	LU	DCONMS	CF	S4	WF	CDX	OAL
PT48504855L14SR	●	4.80	0.529 – 1.058	48 – 24	14.0	5	0.06	0.45	1.90	0.40	30
PT60602455L14SR	★	6.00	1.058 – 1.588	24 – 16	14.0	6	0.12	0.75	2.30	0.81	30
PT60604855L14SR	★	6.00	0.529 – 1.058	48 – 24	14.0	6	0.06	0.45	2.30	0.40	30
PT70702455L14SR	★	7.00	1.058 – 1.588	24 – 16	14.0	7	0.12	0.75	2.80	0.81	30
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[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

AMERICAN NPT 60° THREAD

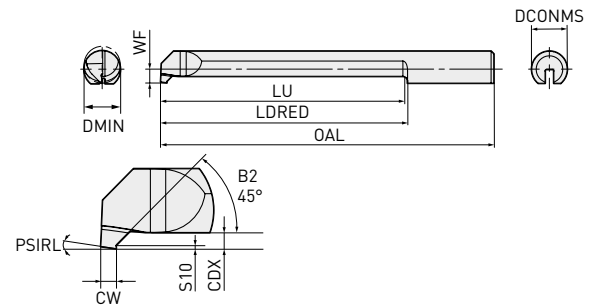
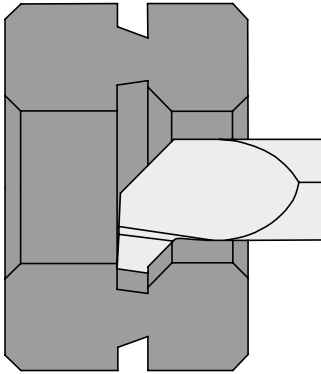
Order number	MPB115	DMIN	TP (Pitch)	TPI (thread / inch)	LU	DCONMS	CF	S4	WF	CDX	OAL
PT606018NPTL14SR	★	6.00	1.411	18	14.0	6	0.09	1.00	2.30	1.35	30
PT606018NPTL21SR	★	6.00	1.411	18	21.0	6	0.09	1.00	2.30	1.35	37
PT606027NPTL14SR	★	6.00	0.94	27	14.0	6	0.06	0.80	2.30	1.00	30
PT606027NPTL21SR	★	6.00	0.94	27	21.0	6	0.06	0.80	2.30	1.00	37
											1/1

[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PX

INTERNAL PRE-CHAMFERING FOR CUTTING-OFF WITH COOLANT HOLE



Right hand tool holder shown.

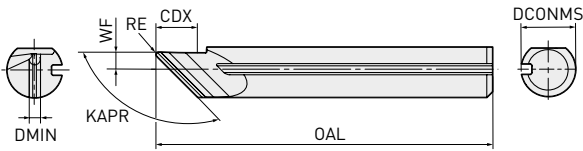
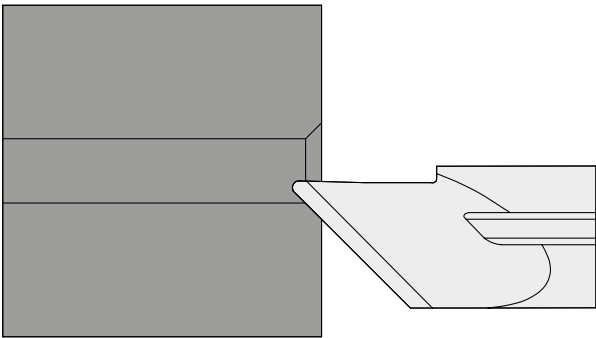
Order number	MPB115	DMIN	LU	DCONMS	CW	PSIRL	WF	CDX	S10	OAL	LDRED
PX4040845L09SR	●	4.00	9.0	4	1.00	8	1.50	0.80	0.2	25	10
PX4040845L15SR	●	4.00	15.0	4	1.00	8	1.50	0.80	0.2	30	16
PX5050845L14SR	●	5.00	14.0	5	1.00	8	1.90	1.00	0.2	30	15
PX5050845L19SR	●	5.00	19.0	5	1.00	8	1.90	1.00	0.2	35	20
PX5050845L29SR	●	5.00	29.0	5	1.00	8	1.90	1.00	0.2	45	30
PX6060845L29SR	★	6.00	29.0	6	1.00	8	2.30	1.00	0.2	45	30
PX6060845L41SR	★	6.00	41.0	6	1.00	8	2.30	1.00	0.2	57	42
											1/1

[Micro-Mini PLUS: 1 piece per pack.]

1. Available in right-hand version only.

PS

CHAMFERING WITH COOLANT HOLE



Right hand tool holder shown.

Order number	MPB115	DMIN	KAPR	DCONMS	RE	WF*	CDX	OAL
PS10545SR	●	1.00	135°	5	0.2	-1.50	3.50	30
PS10560SR	●	1.00	150°	5	0.2	-1.50	4.00	30

1/1

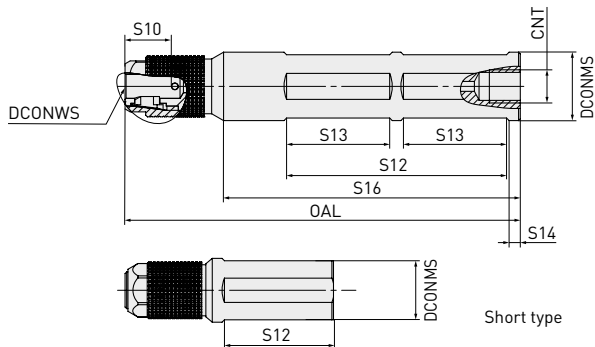
[Micro-Mini PLUS: 1 piece per pack.]

* A minus sign [-] is indicated when the WF position is above the tool centre with the cutting edge facing down.

1. Available in right-hand version only.

P-D

WEDGE – LOCK ROUND HOLDER HOSE – DIRECT TYPE



Easy solid bar replacement by simply turning the lock nut.

Order number	Stock	DCONWS	DCONMS	OAL	S10	S12	S13	S14	S16	S20	CNT
P-D1200115S4N	★	4	12	115	12.5	64	30	3.4	80	15	G1/8
P-D1600065S4N	★	4	16	65	12.5	34.8	—	—	39.3	15	G1/8
P-D1600115S4N	★	4	16	115	12.5	64	30	3.25	89.3	15	G1/8
P-D1905115S4N	★	4	19.05	115	12.5	64	30	3.225	84.6	15	G1/8
P-D2000065S4N	★	4	20	65	12.5	32	—	—	35.8	15	G1/8
P-D2000115S4N	★	4	20	115	12.5	64	30	3.25	83.7	15	G1/8
P-D2200115S4N	★	4	22	115	12.5	64	30	3	85.8	15	G1/8
P-D2500115S4N	★	4	25	115	12.5	64	30	3	85.8	15	G1/8
P-D2540115S4N	★	4	25.4	115	12.5	64	30	3	85.8	15	G1/8
P-D1200115S5N	★	5	12	115	13.5	64	30	3.4	80	15	G1/8
P-D1600065S5N	★	5	16	65	13.5	34.8	—	—	39.3	15	G1/8
P-D1600115S5N	★	5	16	115	13.5	64	30	3.25	89.3	15	G1/8
P-D1905115S5N	★	5	19.05	115	13.5	64	30	3.225	85.4	15	G1/8
P-D2000065S5N	★	5	20	65	13.5	33	—	—	36.8	15	G1/8
P-D2000115S5N	★	5	20	115	13.5	64	30	3.25	84.6	15	G1/8
P-D2200115S5N	★	5	22	115	13.5	64	30	3	85.8	15	G1/8
P-D2500115S5N	★	5	25	115	13.5	64	30	3	85.8	15	G1/8
P-D2540115S5N	★	5	25.4	115	13.5	64	30	3	85.8	15	G1/8
P-D1200115S6N	★	6	12	115	13.5	64	30	3.4	80	15	G1/8
P-D1600065S6N	★	6	16	65	13.5	35	—	—	39.3	15	G1/8
P-D1600115S6N	★	6	16	115	13.5	64	30	3.25	89.3	15	G1/8
P-D1905115S6N	★	6	19.05	115	13.5	64	30	3.225	86.3	15	G1/8
P-D2000065S6N	★	6	20	65	13.5	34	—	—	37.8	15	G1/8
P-D2000115S6N	★	6	20	115	13.5	64	30	3.25	85.5	15	G1/8
P-D2200115S6N	★	6	22	115	13.5	64	30	3	85.8	15	G1/8
P-D2500115S6N	★	6	25	115	13.5	64	30	3	85.8	15	G1/8
P-D2540115S6N	★	6	25.4	115	13.5	64	30	3	85.8	15	G1/8

1/2

1. Items with an OAL of 65 mm are short-type.

● : Inventory maintained. ★ : Inventory maintained in Japan.

P-D – WEDGE – LOCK ROUND HOLDER HOSE – DIRECT TYPE

Order number	Stock	DCONWS	DCONMS	OAL	S10	S12	S13	S14	S16	S20	CNT
P-D1200115S7N	★	7	12	115	13.5	64	30	3.4	80	15	G1/8
P-D1600065S7N	★	7	16	65	13.5	37.5	—	—	41.1	15	G1/8
P-D1600115S7N	★	7	16	115	13.5	64	30	3.25	91	15	G1/8
P-D1905115S7N	★	7	19.05	115	13.5	64	30	3.225	87.2	15	G1/8
P-D2000065S7N	★	7	20	65	13.5	34	—	—	37.8	15	G1/8
P-D2000115S7N	★	7	20	115	13.5	64	30	3.25	86.3	15	G1/8
P-D2200115S7N	★	7	22	115	13.5	64	30	3	85.8	15	G1/8
P-D2500115S7N	★	7	25	115	13.5	64	30	3	85.8	15	G1/8
P-D2540115S7N	★	7	25.4	115	13.5	64	30	3	85.8	15	G1/8
											2/2

1. Items with an OAL of 65 mm are short-type.

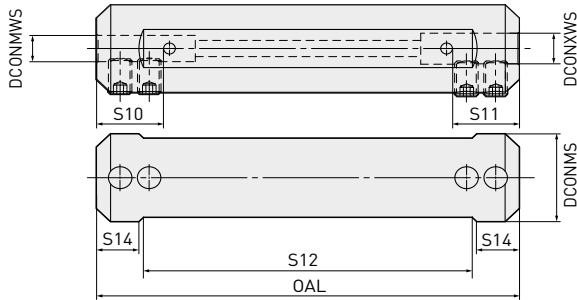
SPARE PARTS

Tool holder type	Lock nut	Clamp torque (N·m)	 Wrench*	Key
P-D-S4N	P-D04	2.0	P-DWR	P-DK
P-D-S5N	P-D05	2.0	P-DWR	P-DK
P-D-S6N	P-D06	2.0	P-DWR	P-DK
P-D-S7N	P-D07	2.0	P-DWR	P-DK

* Wrench width: 15 mm

P-A

DUAL – CLAMP ROUND HOLDER



Two sizes of solid bars can be mounted on the front and rear faces.

Order number	Stock	DCONWS	DCONXWS	DCONMS	OAL	S10	S11	S12	S14
P-A1200075S4S5N	●	4	5	12	75	12.5	13.5	55	9.2
P-A1600075S4S5N	●	4	5	16	75	12.5	13.5	55	9.0
P-A1905090S4S5N	●	4	5	19.05	90	12.5	13.5	70	9.1
P-A2000090S4S5N	●	4	5	20	90	12.5	13.5	70	9.0
P-A2200090S4S5N	●	4	5	22	90	12.5	13.5	70	9.0
P-A2500095S4S5N	●	4	5	25	95	12.5	13.5	75	9.0
P-A2540095S4S5N	●	4	5	25.4	95	12.5	13.5	75	9.0
P-A1600075S6S7N	●	6	7	16	75	14.5	14.5	55	9.0
P-A1905090S6S7N	●	6	7	19.05	90	14.5	14.5	70	9.1
P-A2000090S6S7N	●	6	7	20	90	14.5	14.5	70	9.0
P-A2200090S6S7N	●	6	7	22	90	14.5	14.5	70	9.0
P-A2500095S6S7N	●	6	7	25	95	14.5	14.5	75	9.0
P-A2540095S6S7N	●	6	7	25.4	95	14.5	14.5	75	9.0

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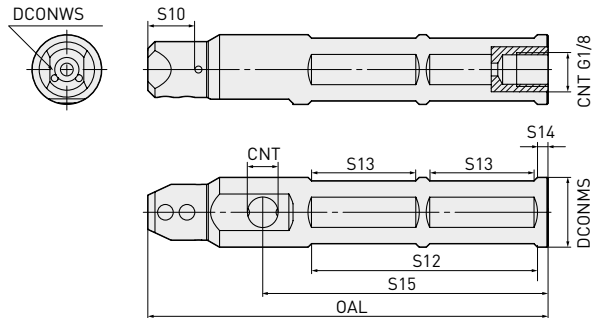
SPARE PARTS

Tool holder type	 Clamp screw	Clamp torque (N·m)
P-A12	P-HSS02	1.2
P-A16, P-A19	P-HSS03	1.2
P-A20, P-A22, P-A25	P-HSS04	1.2

 Wrench (Sold separately)
HKY25R

P-B

ROUND HOLDER HOSE – DIRECT TYPE



Hose-direct coolant holes are provided on the side face and rear end face.
High-volume coolant discharge from the side of the solid bar is possible.

Order number	Stock	DCONWS	DCONMS	OAL	S10	S12	S13	S14	S15	CNT
P-B1600115S4A	●	4	16	115	12.5	64	30	3	82	G1/8
P-B1905115S4A	●	4	19.05	115	12.5	64	30	3	82	G1/8
P-B2000115S4A	●	4	20	115	12.5	64	30	3	82	G1/8
P-B2200115S4A	●	4	22	115	12.5	64	30	3	82	G1/8
P-B2540115S4A	●	4	25.4	115	12.5	64	30	3	82	G1/8
P-B1600115S5A	●	5	16	115	13.5	64	30	3	82	G1/8
P-B1905115S5A	●	5	19.05	115	13.5	64	30	3	82	G1/8
P-B2000115S5A	●	5	20	115	13.5	64	30	3	82	G1/8
P-B2200115S5A	●	5	22	115	13.5	64	30	3	82	G1/8
P-B2540115S5A	●	5	25.4	115	13.5	64	30	3	82	G1/8
P-B1600115S6A	●	6	16	115	13.5	64	30	3	82	G1/8
P-B1905115S6A	●	6	19.05	115	13.5	64	30	3	82	G1/8
P-B2000115S6A	●	6	20	115	13.5	64	30	3	82	G1/8
P-B2200115S6A	●	6	22	115	13.5	64	30	3	82	G1/8
P-B2540115S6A	●	6	25.4	115	13.5	64	30	3	82	G1/8
P-B1600115S7A	★	7	16	115	13.5	64	30	3	82	G1/8
P-B1905115S7A	★	7	19.05	115	13.5	64	30	3	82	G1/8
P-B2000115S7A	★	7	20	115	13.5	64	30	3	82	G1/8
P-B2200115S7A	★	7	22	115	13.5	64	30	3	82	G1/8
P-B2540115S7A	★	7	25.4	115	13.5	64	30	3	82	G1/8

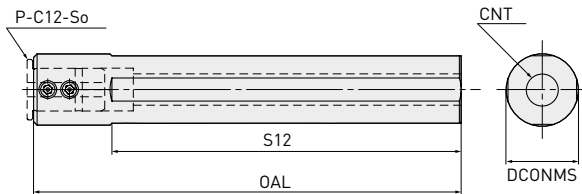
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SPARE PARTS

Tool holder type	 Clamp screw	Clamp torque (N·m)	Coolant plug screw	Clamping Wrench (Sold separately)	Plug Wrench (Sold separately)
P-B	P-TSS02	1.2	P-HSSG1	TKY10R	HKY50R

P-C

COLLET – TYPE ROUND HOLDER HOSE – DIRECT TYPE



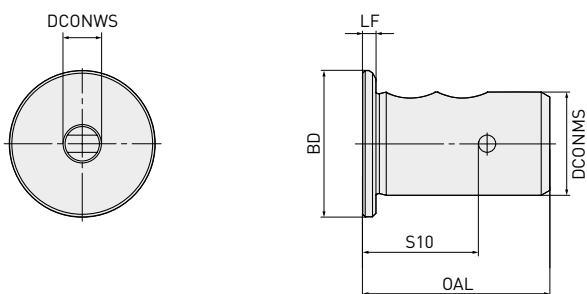
Compatible with various shank diameters by changing the collet.

Order number	Stock	DCONMS	OAL	S12	CNT
P-C1600121C12N	★	16	120	88	G1/8
P-C190561C12N	★	19.05	60	38	G1/8
P-C1905121C12N	★	19.05	120	98	G1/8
P-C200061C12N	★	20	60	38	G1/8
P-C2000121C12N	★	20	120	98	G1/8
P-C2000151C12N	★	20	150	128	G1/8
P-C220061C12N	★	22	60	38	G1/8
P-C2200121C12N	★	22	120	98	G1/8
P-C2200151C12N	★	22	150	128	G1/8
P-C250061C12N	★	25	60	38	G1/8
P-C2500121C12N	★	25	120	98	G1/8
P-C2500151C12N	★	25	150	128	G1/8
P-C254061C12N	★	25.4	60	38	G1/8
P-C2540121C12N	★	25.4	120	98	G1/8

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P-C – COLLET – TYPE ROUND HOLDER HOSE – DIRECT TYPE**SPARE PARTS**

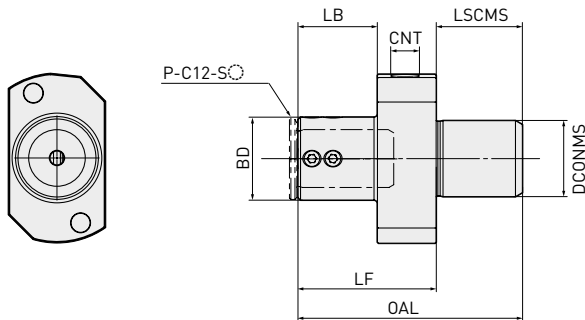
Tool holder type	 Clamp screw	Clamp torque (N·m)	 Wrench (Sold separately)
P-C	P-TSS03	1.2	TKY10R

COLLET (SOLD SEPARATELY)

Order number	DCONWS	DCONMS	OAL	LF	S10	BD
P-C12-S4	4	12	21.8	1.5	13.5	17
P-C12-S5	5	12	21.8	1.8	13.5	17
P-C12-S6	6	12	21.8	1.8	14.5	17
P-C12-S7	7	12	21.8	1.8	14.5	17

P-J

MACHINE-SPECIFIC AUTOMATIC LATHE COLLET-TYPE FLANGE HOLDER, HOSE-DIRECT TYPE



Suffix "SR" indicates compatibility with Star Seimitsu Co., Ltd. SR20R I/II/III and SB20 machines, while "SW" is for Star Seimitsu Co., Ltd. SW20 and SR20R IV machines.

Order number	Stock	DCONMS	LF	OAL	LB	BD	LSCMS	CNT
P-J2200418C12N-SR	●	22	40	65	23	24	25	M8
P-J2200418C12N-SW	●	22	40	65	23	24	25	M8

1/1

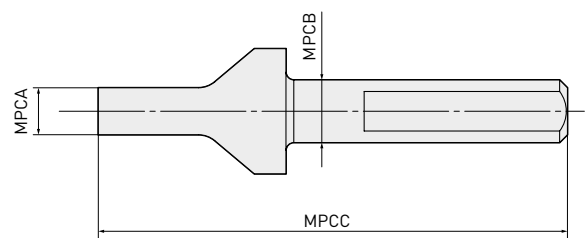
SPARE PARTS

Tool holder type	 Clamp screw	Coolant plug screw	Mounting screw	Clamp torque (N·m)
P-J2200418C12N-SR	P-TSS03	P-HSSM1	P-HSC-SR	1.2
P-J2200418C12N-SW	P-TSS03	P-HSSM1	P-HSC-SW	1.2

Clamping wrench (Sold separately)	Plug wrench (Sold separately)	Mounting wrench (Sold separately)
TKY10R	HKY40R	HKY30R

PJ

SOLID BAR FOR TOOL SETUP



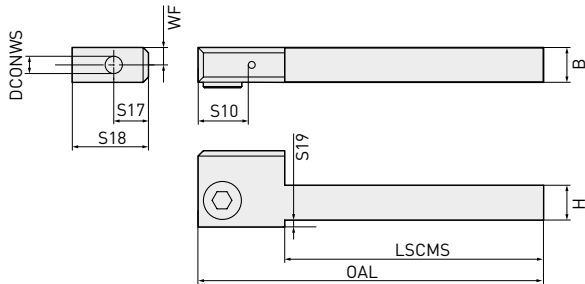
Solid bar for tool and workpiece positioning before machining.

Order number	Stock	MPCC	MPCA	MPCB
PJ04	●	30	3	4
PJ05	●	30	3	5
PJ06	●	30	3	6
PJ07	●	30	3	7

1/1

P-E

FRONT TURRET SQUARE TOOL HOLDER



Order number	Stock	DCONWS	H	B	OAL	WF	LSCMS	S10	S17	S18	S19
P-E1010100S4N	●	4	10	10	100	5	75	13.5	12	22	2
P-E1212100S4N	●	4	12	12	100	6	75	13.5	12	22	—
P-E1010100S5N	●	5	10	10	100	5	75	14.5	12	22	2
P-E1212100S5N	●	5	12	12	100	6	75	14.5	12	22	—
P-E1212100S6N	●	6	12	12	100	6	75	14.5	15	25	—

1/1

1. Solid bar is installed and removed by side clamping with a wrench.

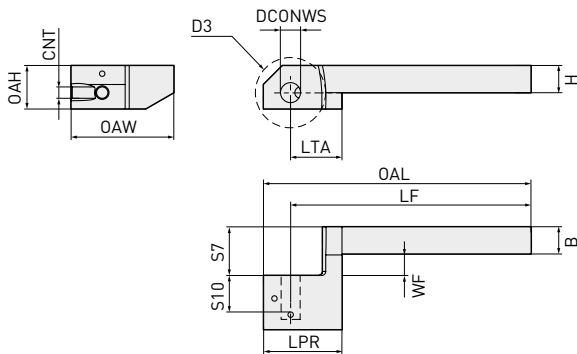
SPARE PARTS

Tool holder type	 Clamp screw	Clamp torque (N·m)
P-E-S4N, P-E-S5N	P-EFG12	2.0
P-E-S6N	P-EFG16	2.0

 Wrench (Sold separately)
HKY50R

P-G

SQUARE TOOL HOLDER FOR GANG TOOL POST WITH DIRECT HOSE CONNECTION



Order number	Stock	DCONWS	H	B	LF	OAL	WF	S7	S10	OAH	OAW	D3	LTA	CNT
P-G1010099S4NR	●	4	10	10	89	99	8	18	12.5	16	38	26	19	M5
P-G1212099S4NR	●	4	12	12	89	99	6	18	12.5	18	38	26	19	M5
P-G1010099S5NR	●	5	10	10	89	99	8	18	13.5	16	38	26	19	M5
P-G1212099S5NR	●	5	12	12	89	99	6	18	13.5	18	38	26	19	M5
P-G1010099S6NR	●	6	10	10	89	99	8	18	13.5	16	38	26	19	M5
P-G1212099S6NR	●	6	12	12	89	99	6	18	13.5	18	38	26	19	M5
P-G1010099S7NR	★	7	10	10	89	99	8	18	13.5	16	38	26	19	M5
P-G1212099S7NR	★	7	12	12	89	99	6	18	13.5	18	38	26	19	M5

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SPARE PARTS

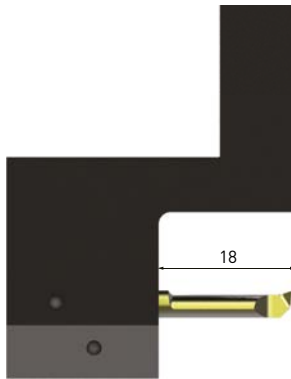
Tool holder type	 Clamp screw	Clamp torque (N·m)	 Wrench (Sold separately)
P-G	P-HSS04	1.2	HKY25R

P-G

LIST OF COMPATIBLE SOLID BARS

SQUARE TOOL HOLDER FOR GANG TOOL POST WITH DIRECT HOSE CONNECTION

The P-G square tool for gang-type tool holders has a restriction on allowable solid bar length. Please check compatible solid bars.



Application	Solid bar type	Length restriction S7 (mm)	P-G Tool holder type			
			P-G 099S4NR	P-G 099S5NR	P-G 099S6NR	P-G 099S7NR
			DCONWS = 4	DCONWS = 5	DCONWS = 6	DCONWS = 7
Multi-function machining	PM	18	Not applicable	Not applicable	Not applicable	Not applicable
Boring	PBA	18	Not applicable	Not applicable	Not applicable	Not applicable
Profiling	PP	18	PPC204L09R005SR	PPC505L09R015SR	PPC606L14R015SR	Not applicable
Profiling	PP	18	PPC204L14R005SR	PPC505L14R015SR	—	—
Profiling	PP	18	PPC204L04R005SR	PPE505L14R015SR	—	—
Profiling	PP	18	PPC254L09R005SR	—	—	—
Profiling	PP	18	PPC254L15R005SR	—	—	—
Profiling	PP	18	PPC254L04R005SR	—	—	—
Profiling	PP	18	PPC284L09R010SR	—	—	—
Profiling	PP	18	PPC284L15R010SR	—	—	—
Profiling	PP	18	PPC354L09R010SR	—	—	—
Profiling	PP	18	PPC354L15R010SR	—	—	—
Profiling	PP	18	PPC404L09R010SR	—	—	—
Profiling	PP	18	PPC404L15R010SR	—	—	—
Profiling	PP	18	PPC204L09R005SR	—	—	—
Profiling	PP	18	PPC204L14R005SR	—	—	—
Profiling	PP	18	PPC204L04R005SR	—	—	—
Profiling	PP	18	PPC284L09R010SR	—	—	—
Profiling	PP	18	PPC284L15R010SR	—	—	—
Profiling	PP	18	PPC404L09R010SR	—	—	—
Profiling	PP	18	PPC404L15R010SR	—	—	—
Profiling	PP	18	PPE204L09R005SR	—	—	—
Profiling	PP	18	PPE304L14R010SR	—	—	—
Profiling	PP	18	PPE404L09R010SR	—	—	—
Back Boring	PBB	18	PBB304L14R010SR	Not applicable	Not applicable	Not applicable
Back Boring	PBB	18	PBB404L14R015SR	—	—	—

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P - G - LIST OF COMPATIBLE SOLID BARS

Application	Solid bar type	Length restriction S7 (mm)	P-G Tool holder type			
			P-G 09954NR	P-G 09955NR	P-G 09956NR	P-G 09957NR
			DCONWS = 4	DCONWS = 5	DCONWS = 6	DCONWS = 7
Internal grooving	PG	18	PG204050L09SR	PG505100L09R10SR	PG606079L14R10SR	PG687100L09R10SR
Internal grooving	PG	18	PG204050L14SR	PG505100L14R10SR	PG606100L09R10SR	PG687100L14R10SR
Internal grooving	PG	18	PG204050L04SR	PG505150L09R10SR	PG606100L14R10SR	PG687150L09R10SR
Internal grooving	PG	18	PG304070L09SR	PG505150L14R10SR	PG606150L09R10SR	PG687150L14R10SR
Internal grooving	PG	18	PG304070L15SR	PG505200L09R10SR	PG606150L14R10SR	PG687200L09R10SR
Internal grooving	PG	18	PG304070L04SR	PG505200L14R10SR	PG606200L09R10SR	PG687200L14R10SR
Internal grooving	PG	18	PG404100L09R10SR	—	PG606200L14R10SR	PG687117L09R10SR
Internal grooving	PG	18	PG404100L15R10SR	—	—	—
Internal R Grooving	PR	18	PR404L15R050SR	Not applicable	Not applicable	Not applicable
Internal face grooving	PF	18	Not applicable	Not applicable	PF606100L10R10SR	PF807157L10R10SR
Internal face grooving	PF	18	—	—	PF606200L10R10SR	—
Internal face grooving	PF	18	—	—	PF606300L10R10SR	—
Internal face grooving	PF	18	Not applicable	Not applicable	Not applicable	PF807150T10R10SR
Internal face grooving	PF	18	—	—	—	PF807200T14R10SR
Internal face grooving	PE	18	Not applicable	Not applicable	Not applicable	Not applicable
Threading	PT-ISO	18	PT244050ISOL09SR	PT485100ISOL14SR	PT606125ISOL14SR	PT707150ISOL14SR
Threading	PT-ISO	18	PT244050ISOL14SR	—	PT606150ISOL14SR	—
Threading	PT-ISO	18	PT324070ISOL14SR	—	—	—
Threading	PT-ISO	18	PT404080ISOL14SR	—	—	—
Threading	PT-W	18	Not applicable	Not applicable	PT606019WL14SR	Not applicable
Threading	PT-W	18	—	—	PT606022WL14SR	—
Threading	PT-W	18	—	—	PT606028WL14SR	—
Threading	PT	18	PT07402560L025SR	PT50505060L14SR	PT60610060L14SR	PT70715060L14SR
Threading	PT	18	PT12403560L04SR	PT50507560L14SR	PT60612560L14SR	PT70702455L14SR
Threading	PT	18	PT15404060L04SR	PT50510060L14SR	PT60615060L14SR	—
Threading	PT	18	PT17404560L05SR	PT48504855L14SR	PT606018NPTL14SR	—
Threading	PT	18	PT24405060L07SR	—	PT606027NPTL14SR	—
Threading	PT	18	PT32405060L11SR	—	PT60602455L14SR	—
Threading	PT	18	PT40405060L14SR	—	PT60604855L14SR	—
Threading	PT	18	PT32407060L09SR	—	—	—
Threading	PT	18	PT40408060L14SR	—	—	—
Internal Pre-Chamfering	PX	18	PX4040845L09SR	PX5050845L14SR	Not applicable	Not applicable
Internal Pre-Chamfering	PX	18	PX4040845L15SR	—	—	—
Chamfering	PS	18	Not applicable	PS10545SR	Not applicable	Not applicable
Chamfering	PS	18	—	PS10560SR	—	—

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MICRO-MINI PLUS SERIES

RECOMMENDED CUTTING CONDITIONS

CUTTING SPEED V_c (m/min)

Material	For Multi-function machining (PM)		General machining	
	Boring	Drilling	Boring / Grooving / Chamfer	Threading
P Pure iron, Free-cutting steel, Electromagnetic soft iron	100 (50 – 150)	80 (70 – 90)	100 (50 – 150)	120 (70 – 170)
Carbon steel, Alloy steel	70 (40 – 140)	60 (50 – 70)	80 (30 – 130)	100 (50 – 150)
M Stainless steel	70 (40 – 140)	50 (40 – 60)	60 (20 – 120)	90 (40 – 140)
K Cast iron	100 (50 – 150)	80 (70 – 90)	100 (50 – 150)	120 (70 – 170)
Ductile cast iron	80 (30 – 130)	60 (50 – 70)	80 (30 – 130)	100 (50 – 150)
N Non-Ferrous metal	100 (50 – 150)	80 (70 – 90)	100 (50 – 150)	120 (70 – 170)
S Titanium alloys, Heat resistant alloys	30 (20 – 60)	20 (20 – 30)	30 (10 – 60)	70 (30 – 100)
H Hardened steel	30 (20 – 60)	—	30 (10 – 60)	70 (30 – 100)

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DEPTH OF CUT AND FEED RATE BORING & PROFILING (GENERAL MACHINING)

Material	$DMIN < 2 \text{ mm}$		$DMIN \geq 2 \text{ mm}$	
	f	ap	f	ap
P Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.3
M Stainless steel	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.3
K Cast iron, Ductile cast iron	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.3
N Non-Ferrous metal	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.5
S Titanium alloys, Heat resistant alloys	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.3
H Hardened steel	0.03 (0.01 – 0.05)	0.01 – 0.05	0.05 (0.02 – 0.1)	0.1 – 0.3

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MICRO-MINI PLUS SERIES

BORING (FOR MULTI-FUNCTION MACHINING)

Order number	ap							
	0.2	0.5	1	1.5	2	2.5	3	3.5
	f							
PM204L08R005AR	0.01 – 0.04	0.01 – 0.02						
PM294L10R010AR	0.02 – 0.07	0.02 – 0.07	0.02 – 0.05	0.005 – 0.01				
PM294L13R010AR	0.02 – 0.05	0.02 – 0.05	0.005 – 0.03	0.005 – 0.01				
PM374L15R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.07	0.01 – 0.05			
PM475L15R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.08	0.02 – 0.06	0.01 – 0.04		
PM475L20R020AR	0.04 – 0.10	0.04 – 0.10	0.03 – 0.09	0.02 – 0.06	0.01 – 0.04	0.005 – 0.025		
PM576L15R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.08	0.02 – 0.06	0.01 – 0.04	
PM576L20R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.08	0.02 – 0.06	0.01 – 0.04	
PM677L20R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.08	0.02 – 0.06	0.01 – 0.04
PM677L25R020AR	0.04 – 0.10	0.04 – 0.10	0.04 – 0.10	0.03 – 0.08	0.02 – 0.06	0.01 – 0.04	0.01 – 0.03	0.01 – 0.02

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1. For multi-function machining, the feed rate varies depending on the depth of cut corresponding to the designation.

DRILLING (FOR MULTI-FUNCTION MACHINING)

Order number	L/D	Hole diameter	f
PM204L08R005AR	2	2.0	0.0020 – 0.0080
PM294L10R010AR	2	2.9 – 3.0	0.0025 – 0.0125
PM294L13R010AR	3	2.9 – 3.0	0.0025 – 0.0100
PM374L15R020AR	2	3.7 – 4.0	0.005 – 0.015
PM475L15R020AR	2	4.7 – 5.0	0.005 – 0.040
PM475L20R020AR	3	4.7 – 5.0	0.005 – 0.030
PM576L15R020AR	2	5.7 – 6.0	0.005 – 0.030
PM576L20R020AR	3	5.7 – 6.0	0.005 – 0.030
PM677L20R020AR	2	6.7 – 7.0	0.005 – 0.035
PM677L25R020AR	3	6.7 – 7.0	0.005 – 0.035

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MICRO-MINI PLUS SERIES**INTERNAL GROOVING & PRE-CHAMFERING**

Material		f
P	Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel	0.02 (0.01 – 0.03)
M	Stainless steel	0.02 (0.01 – 0.03)
K	Cast iron, Ductile cast iron	0.02 (0.01 – 0.03)
N	Non-Ferrous metal	0.02 (0.01 – 0.03)
S	Titanium alloys, Heat resistant alloys	0.02 (0.01 – 0.03)
H	Hardened steel	0.02 (0.01 – 0.03)
		1/1

FACE GROOVING AND CHAMFERING

Material		f
P	Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel	0.04 (0.02 – 0.06)
M	Stainless steel	0.04 (0.02 – 0.06)
K	Cast iron, Ductile cast iron	0.04 (0.02 – 0.06)
N	Non-Ferrous metal	0.04 (0.02 – 0.06)
S	Titanium alloys, Heat resistant alloys	0.04 (0.02 – 0.06)
H	Hardened steel	0.04 (0.02 – 0.06)
		1/1

MICRO-MINI PLUS SERIES – THREADING DEPTH OF CUT REFERENCE

ISO METRIC

Material

P	Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel
K	Cast iron, Ductile cast iron
N	Non-Ferrous metal

Pitch (mm)	Total cutting depth (mm)	Number of passes											
		1	2	3	4	5	6	7	8	9	10	11	12
0.25	0.135	0.052	0.043	0.040									
0.35	0.189	0.060	0.049	0.045	0.035								
0.40	0.220	0.060	0.050	0.050	0.030	0.030							
0.45	0.240	0.070	0.050	0.050	0.040	0.030							
0.50	0.270	0.070	0.060	0.060	0.040	0.040							
0.70	0.380	0.090	0.080	0.070	0.050	0.050	0.040						
0.80	0.430	0.105	0.087	0.080	0.061	0.052	0.045						
1.00	0.540	0.120	0.100	0.090	0.070	0.060	0.050	0.050					
1.25	0.680	0.140	0.120	0.110	0.080	0.070	0.060	0.050	0.050				
1.50	0.810	0.150	0.120	0.110	0.090	0.070	0.060	0.060	0.050	0.050	0.050		
1.75	0.950	0.157	0.130	0.119	0.091	0.077	0.068	0.061	0.056	0.052	0.049	0.046	0.044
													1/1

Material

M	Stainless steel
S	Titanium alloys, Heat resistant alloys
H	Hardened steel

Pitch (mm)	Total cutting depth (mm)	Number of passes													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
0.25	0.135	0.043	0.035	0.032	0.025										
0.35	0.189	0.052	0.043	0.039	0.030	0.025									
0.40	0.220	0.054	0.044	0.041	0.031	0.026	0.023								
0.45	0.240	0.054	0.044	0.041	0.031	0.026	0.023	0.021							
0.50	0.270	0.056	0.046	0.042	0.032	0.027	0.024	0.022	0.020						
0.70	0.380	0.079	0.065	0.059	0.046	0.038	0.034	0.031	0.028						
0.80	0.430	0.089	0.074	0.067	0.052	0.044	0.038	0.035	0.032						
1.00	0.540	0.112	0.092	0.085	0.065	0.055	0.048	0.044	0.040						
1.25	0.680	0.124	0.103	0.094	0.072	0.061	0.054	0.048	0.044	0.041	0.039				
1.50	0.810	0.134	0.110	0.101	0.078	0.065	0.058	0.052	0.048	0.045	0.042	0.040	0.038		
1.75	0.950	0.144	0.119	0.109	0.084	0.071	0.062	0.056	0.052	0.048	0.045	0.043	0.041	0.039	0.037
															1/1

MICRO-MINI PLUS SERIES – THREADING DEPTH OF CUT REFERENCE

WHITWORTH 55°

Material

P	Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel
K	Cast iron, Ductile cast iron
N	Non-Ferrous metal

Pitch (mm)	Total cutting depth (mm)	Number of passes									
		1	2	3	4	5	6	7	8	9	10
48	0.34	0.093	0.077	0.070	0.054	0.046					
40	0.41	0.100	0.083	0.076	0.058	0.049	0.043				
32	0.51	0.125	0.103	0.094	0.072	0.061	0.054				
28	0.58	0.130	0.107	0.098	0.075	0.063	0.056	0.051			
24	0.68	0.152	0.126	0.115	0.088	0.074	0.066	0.059			
22	0.74	0.153	0.126	0.116	0.089	0.075	0.066	0.060	0.055		
20	0.81	0.168	0.138	0.127	0.097	0.082	0.072	0.065	0.060		
19	0.86	0.178	0.147	0.135	0.103	0.087	0.077	0.069	0.064		
18	0.90	0.164	0.136	0.124	0.095	0.080	0.071	0.064	0.059	0.055	0.051
16	1.02	0.186	0.154	0.141	0.108	0.091	0.08	0.073	0.067	0.062	0.058
											1/1

Material

M	Stainless steel
S	Titanium alloys, Heat resistant alloys
H	Hardened steel

Pitch (mm)	Total cutting depth (mm)	Number of passes											
		1	2	3	4	5	6	7	8	9	10	11	12
48	0.34	0.070	0.058	0.053	0.041	0.034	0.030	0.027	0.025				
40	0.41	0.085	0.070	0.064	0.049	0.042	0.037	0.033	0.030				
32	0.51	0.106	0.087	0.080	0.061	0.052	0.046	0.041	0.038				
28	0.58	0.120	0.099	0.091	0.070	0.059	0.052	0.047	0.043				
24	0.68	0.141	0.116	0.106	0.082	0.069	0.061	0.055	0.050				
22	0.74	0.135	0.112	0.102	0.078	0.066	0.058	0.053	0.048	0.045	0.042		
20	0.81	0.148	0.122	0.112	0.086	0.072	0.064	0.058	0.053	0.049	0.046		
19	0.86	0.157	0.130	0.119	0.091	0.077	0.068	0.061	0.056	0.052	0.049		
18	0.90	0.149	0.123	0.112	0.086	0.073	0.064	0.058	0.053	0.050	0.047	0.044	0.042
16	1.02	0.168	0.139	0.127	0.098	0.082	0.073	0.066	0.060	0.056	0.053	0.050	0.047
													1/1

MICRO-MINI PLUS SERIES – THREADING DEPTH OF CUT REFERENCE

AMERICAN NPT 60°

Material

P	Pure iron, Free-cutting steel, Electromagnetic soft iron, Carbon steel, Alloy steel
K	Cast iron, Ductile cast iron
N	Non-Ferrous metal

Pitch (mm)	Total cutting depth (mm)	Number of Passes								
		1	2	3	4	5	6	7	8	9
27	0.80	0.179	0.148	0.135	0.104	0.088	0.077	0.070		
18	1.19	0.230	0.190	0.174	0.134	0.113	0.099	0.090	0.083	0.077
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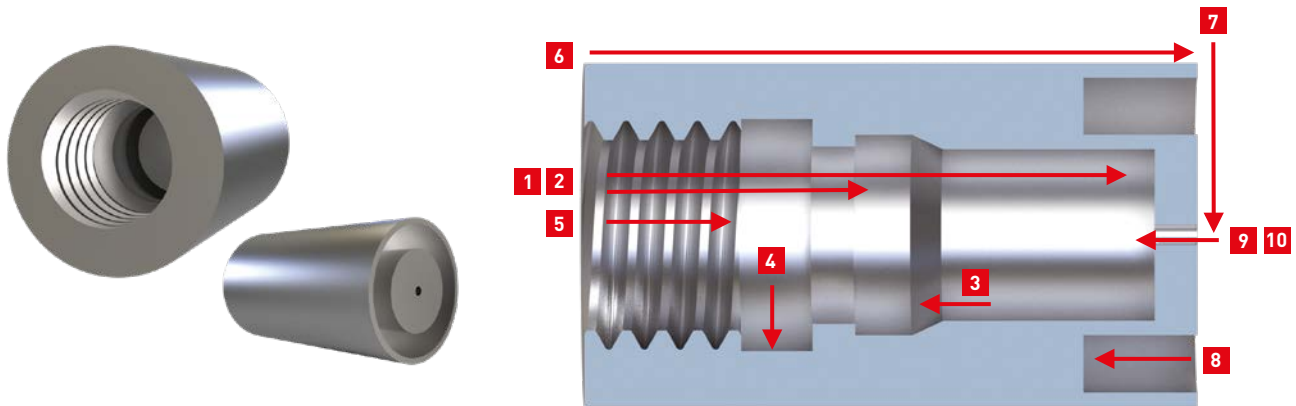
Material

M	Stainless steel
S	Titanium alloys, Heat resistant alloys
H	Hardened steel

Pitch (mm)	Total cutting depth (mm)	Number of passes										
		1	2	3	4	5	6	7	8	9	10	11
27	0.80	0.166	0.137	0.125	0.096	0.081	0.071	0.065	0.059			
18	1.19	0.206	0.170	0.156	0.120	0.101	0.089	0.080	0.074	0.069	0.065	0.061
												1/1

MICRO-MINI PLUS SERIES

BROADER LINE-UP STRONGER TOOLING PROPOSALS

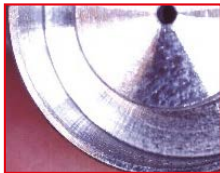
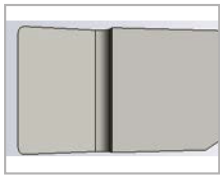


Process	Spindle	Operation	Tool	Order number (Grade)	Remarks (mm)
1	Front side	Drilling	DVAS Drill	DVAS0550X05S060 DP1120	5.5
2		Boring	Micro-Mini Plus	PM576L20R020AR	—
3		Back boring	Micro-Mini Plus	PBB404L14R015SR	—
4		Internal grooving	Micro-Mini Plus	PG606200L14R10SR	—
5		Internal threading	Micro-Mini Plus	PT606125ISOL-14SR	—
6		External threading	SP Type holder	CCGT060202M-FSF-P MS7025 SCLCR1010K06-SM	—
7	Rear side	Cutting-Off	GY Series	GY2M0120B010R05-GS VP20RT GYSR1010JX00-B08	—
8		Face grooving	Micro-Mini Plus	PF807200L19R10BR	—
9		Pilot drilling	MWS Drill	MWS0070SB VP15TF	0.7
10		Boring	Micro-Mini Plus	PPA054L020R002AR (DMIN=0.5 mm)	0.7 → 0.75

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PROCESS 8: FACE GROOVING

3D Chipbreaker provides excellent chip evacuation and prevents chatter and vibration.

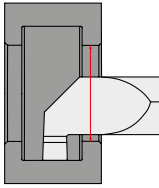
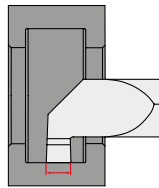
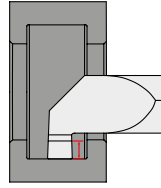
		Machined surface	Chip form
Micro-Mini Plus			
Conventional			

MICRO-MINI PLUS SERIES

SMALL-PART MACHINING TOOL COMPARISON CHART

GROOVING

INTERNAL FLAT GROOVE

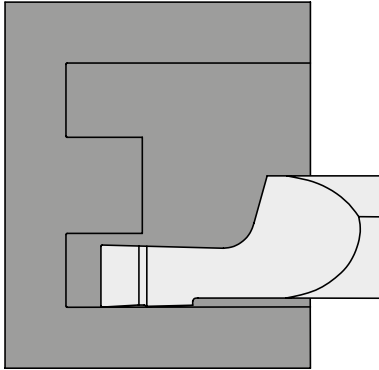
Product name	DMIN			CW		CDX	
							
	< 10	10 – 20	> 20	< 5	≥ 5	< 5	≥ 5
MICRO-MINI PLUS							
	2.0 – 6.8			0.50 – 2.00		0.4 – 2.5	
MICRO-MINI TWIN							
	3.0 – 7.0			1.00 – 2.00		1 – 2	
XB SERIES							
	7.8 –	– 20		0.79 – 3.00		1 –	– 8
FSL5							
		10 – 20		1.20 – 4.00		1 – 3	
GY							
			25 –	2.00 –	– 8.00	4 –	– 8

MICRO-MINI PLUS SERIES – SMALL PARTS MACHINING TOOL COMPARISON CHART

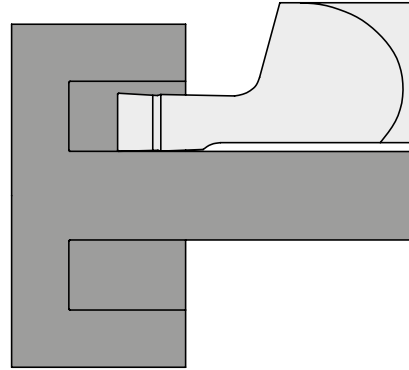
GROOVING

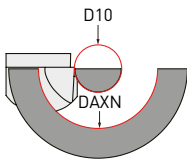
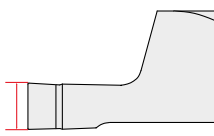
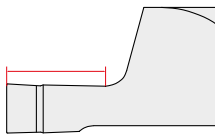
FACE GROOVING

Internal face

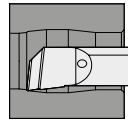
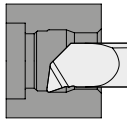
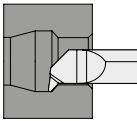
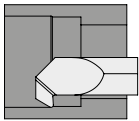
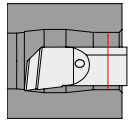


External face



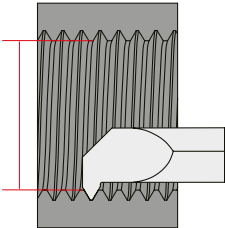
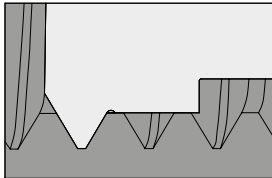
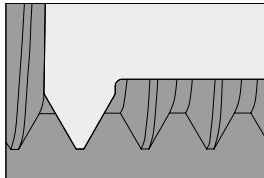
Product name		DAXN				CW		CDX	
		D10							
									
	< 10	10 – 20	> 20	< 5	≥ 5	< 10	≥ 10		
MICRO-MINI PLUS									
	Internal face	DAXN	6 – 8			1.00 – 3.00		2 –	– 20
		D10	0 – 6						
	External face	DAXN	6			1.00 – 3.00		2 – 6	
		D10	0 – 4						
XB SERIES									
	Internal face	DAXN		12 – 18		1.00 – 3.00		1.5 –	– 20
		D10	8 –	– 12					
	External face	DAXN		12 – 18		1.00 – 3.00		1.5 – 6	
		D10	6 –	– 12					
GY									
	External face	DAXN			35 –	2.00 –	– 6.35		12 – 25.65
		D10			29 –				

MICRO-MINI PLUS SERIES – SMALL PARTS MACHINING TOOL COMPARISON CHART
BORING AND PROFILING

Product name	DMIN									
										
	< 10	10 – 20	Boring	B2 < 30°	B2 ≥ 30°	Back boring				
MICRO-MINI PLUS										
	0.5 – 6.8		✓	✓	✓	✓				
MICRO-MINI TWIN										
	2.2 – 8.2		✓							
XB SERIES										
	7 –	– 13.8	✓	✓	✓	✓				
	5 –	14 –	✓		✓	✓				

MICRO-MINI PLUS SERIES – SMALL PARTS MACHINING TOOL COMPARISON CHART

INTERNAL THREADING

Product name	DMIN		Form	Full form		Partial form		Others
								
	< 10	10 – 20		ISO	WIT	NPT	TR	
				Pitch	TPI	TPI	Pitch	
MICRO-MINI PLUS								
	0.73 – 7.0		Full form	0.5 – 1.5	28 – 19			
			Partial form	0.25 – 1.75	48 – 16	27 – 18		
MICRO-MINI TWIN								
	3.0 – 7.0		Full form					
			Partial form	0.5 – 1.75				
XB SERIES								
	7.0 –	– 14	Full form	0.5 – 3.5	19 – 14	27 – 14		
			Partial form	0.5 – 3.5	32 – 11		1.5 – 5	
FSL5								
		10 – 20	Full form					
			Partial form	1.5 – 3.5				
MMTI								
		13 –	Full form	0.5 – 5	28 – 5	27 – 8	1.5 – 5	✓
			Partial form	0.5 – 5				✓

SYMBOLS

 Recommended cutting conditions	MACHINING TYPE
NEW Completely new products or expansions released in the current Spring or Autumn product launch and are not included in the latest version of the General Catalogue.	 Roughing
NEW Products or expansions that have already been introduced in one of the previous Spring or Autumn product launches but are not included in the latest General Catalogue.	 Medium cutting
APPLICATION	 Light cutting
 Face milling	 Pre-finishing
 Chamfer milling	 Finishing
 Shoulder milling with R	 Fine-finishing
 Face milling close to a wall	TOOL MATERIAL
 Shoulder milling	 Ultra micro grain carbide Ultra micro grain carbide substrate material.
 Side milling	 Cubic boron nitride Mitsubishi Materials' original CBN material.
 Slot milling	 Ceramic For high speed efficient machining of super alloys due to the excellent high temperature strength property.
 Ramping	 High hardness powder metallurgy HSS High hardness powder metallurgy HSS substrate material.
 Pocket milling	 High grade high alloy HSS High grade high alloy HSS substrate material.
 Slot milling with R	 Cobalt high speed steel Cobalt high speed steel substrate material.
 Copy milling	 High speed steel High speed steel substrate material.
 T-Slot milling	

SYMBOLS

COATING



SMART MIRACLE coating

New smooth and dense coating technology for high efficiency milling of difficult to cut materials.



CRN coating

Newly developed CrN coating for Copper Electrodes machining.



Violet coating

Increased tool life of 2-3 times more than TiN coated products.



DP coating

New generation coating suitable for a wide range of materials.



MIRACLE coating

The original Miracle (Al,Ti)N coating. Also suitable for dry cutting.



[Al, Ti]N coating

[Al,Ti]N highly versatile application range.



[Al,Ti,Cr]N multi-layer coating

For carbon, alloy and hardened steels.



IMPACT MIRACLE coating

Single phase nano crystal coating technology has higher film hardness and heat resistance.



MIRACLE coating

The original MIRACLE (Al,Ti)N coating. Also suitable for dry cutting.



VFR coating

The [AlCrSi]N/[AlTiSi]N PVD multilayer coating is ideal for machining of extremely hard materials up to 70 HRC.



DLC coating

Hardness similar to CVD diamond coating achieved with high adhesion strength.



Diamond coating

Suitable for CFRP and CFRP-aluminium materials.



Diamond coating

Suitable for graphite machining.



Diamond coating

The original CVD diamond coating.



CVD Diamond coating

Unique multi-layer micro-grain diamond crystal control technology drastically improves wear resistance and smoothness.

CUTTING EDGE PROPERTIES



Sharp corner edge

Indicates the end mill has a sharp corner edge.



Gash land

Indicates the end mill cutting edge has a protective chamfer.



Rake angle



Helix angle

Indicates the helix angle of the end mill.



Point angle

Indicates the drill point angle.



Roughing flute geometry



Variable helix



Rounded gash



Corner angle

WEB THINNING



X type point geometry

X web thinning used at the drill point.



XR type point geometry

XR web thinning used at the drill point.



S type point geometry

Easy cutting geometry.



N type point geometry

Effective when the point web is thick.



Chipbreaker

SYMBOLS

TOLERANCES



Tolerance of taper angle
Indicates the tolerance of the taper angle.



R tolerance
Indicates the radial tolerance of a ball nose end mill.



R tolerance
Indicates the radial tolerance of the corner radius.



R tolerance
Indicates the radial tolerance of a cutter with a corner radius.



Outside diameter tolerance
Indicates the diameter tolerance of the end mill.



Peak tolerance
Indicates the tolerance for the end diameter.



Shank diameter tolerance



Shank diameter tolerance



Drill tolerance / diameter

COOLANT HOLES



External coolant



Internal coolant



Internal coolant



Centered, internal coolant hole



Radial, internal coolant holes



Internal coolant holes



Internal coolant holes

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