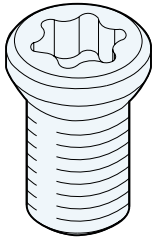


Spare Parts

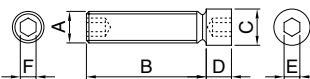
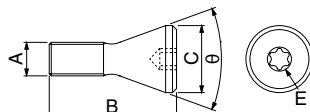
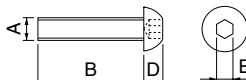
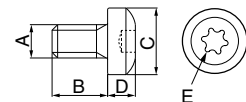
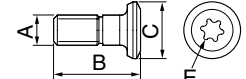
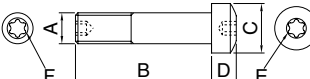
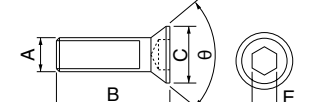
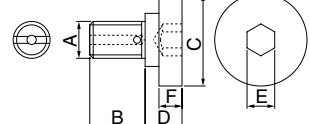
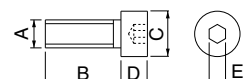


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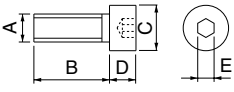
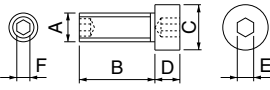
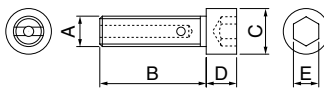
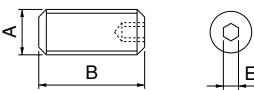
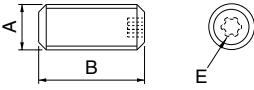
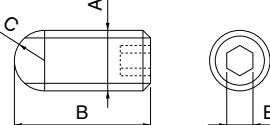
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Cartridges	P12
Clamp Sets	P13~P14
Clamps	P15~P16
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Screws

Shape	Description	Stock	Dimension (mm)							Angle		Torque (N·m)	Remarks
			A	B	C	D	E	F	α	θ			
	AJ -6X38 -8X44-9.5 -10X46	● ● ●	M6X1.0 M8X1.25 M10X1.5	38.0 44.0 46.0	6.0 9.5 11.5	10.0 6.0 8.0	3.0 4.0 5.0	3.0 4.0 5.0	- - -	- - -	- - -		
	AJ -519TR	●	M5X0.8	19.0	10.0	-	T15	-	-	40°	-		
	BH 3X6 3X12 6X25	● ● ●	M3X0.5 M3X0.5 M6X1.0	6.0 12.0 25.0	- - -	2.0 2.0 4.0	2.0 2.0 4.0	- - -	- - -	- - -	- - -		
	BH 6X10TR	●	M6X1.0	10.0	12.0	5.0	T25	-	-	-	6.5		
	CP 8X15TL 8X23TL	● ●	M8X1.25	15.0 23.0	-	-	T25	-	-	-	6.0	L...shows Left-hand Thread	
	CS -2D -3D -5D	● ● ●	M4X0.7 M5X0.8 M5X0.8	21.5 22.0 28.0	6.4 8.0 8.0	3.5 4.0 4.0	2.5 3.0 3.0	2.0 2.5 2.5	- - -	- - -	1.7 3.9 3.0		
	CS -3D-TR	●	M5X0.8	22.0	8.0	4.0	T15	T15	-	-	3.9		
	GS -50	●	M5X0.8	13.0	7.5	-	3.0	-	-	82°	-		
	HF 16X40HA 20X53H 20X53HA 24X60H 24X60HA	● ● ● ● ●	M16X2.0 M20X2.5 M24X3.0	24.0 35.0 33.0 40.5 36.0	40.0 43.0 50.0 65.0	16.0 18.0 20.0 19.5 24.0	12.0 14.0 14.0 17.0	10.0	- - - -	- - - -	- - - -	With Coolant Hole	
	HH 3X6 3X12 HH 4X16 HH 5X15 5X16 5X20 5X25 5X30 HH 6X12 6X16 6X16A 6X18 6X18A 6X20 6X25 6X30 HH 8X20 8X25	● ●	M3X0.5 M4X0.7 M5X0.8 M6X1.0 M8X1.25	6.0 12.0 16.0 15.0 16.0 20.0 25.0 30.0 12.0 16.0 16.0 18.0 20.0 25.0 30.0 20.0 25.0	5.5 7.0 8.5 10.0	3.0 4.0 5.0 6.0	2.5 3.0 4.0 5.0	- - - -	- - - -	- - - -	- - - -		

● : Std. Item

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks						
			A	B	C	D	E	F	α	θ								
	HH 10X25	●	M10X1.5	25.0	16.0	10.0	8.0	-	-	-	-							
	10X30	●		30.0		6.0	7.0											
	10X30S	●		30.0														
	10X35	●		35.0	10.0	8.0												
	10X40	●		40.0														
	HH 12X35	●	M12X1.75	35.0	18.0	12.0	10.0	-	-	-								
	12X40	●		40.0														
	HH 16X35	●	M16X2.0	35.0	24.0	16.0	14.0	-	-	-								
	16X40	●		40.0														
	16X45	●		45.0														
HH 20X40	●	M20X2.5	40.0	30.0	20.0	17.0	-	-	-									
20X55	●		55.0															
	HH 4X12	●	M4X0.7	10.0	7.0	4.0	3.0	2.0	-	-	-							
	HH 8X25H	●	M8X1.25	25.0	13.0	8.0	5.0	-	-	-	-	With Coolant Hole						
	10X30H	●	M10X1.5	30.0	16.0	10.0	6.0											
	10X35HK	●		35.0														
	12X35H	●	M12X1.75	35.0	18.0	12.0	8.0											
	12X35HK	●		35.0														
	16X52H	●	M16X2.0	36.0	24.0	16.0	12.0											
	HS 3X3P	●	M3X0.5	2.9	-	-	1.5	-	-	-	1.0	HS4X4P and HS6X4P have a flat edge						
	3X4P	●		3.9														
	3X4	●		4.0														
	HS 4X4P	●	M4X0.7	3.9	-	-	2.0	-	-	-	2.0							
	4X4	●		4.0														
	HS 5X5	●	M5X0.8	5.0	-	-	3.0	-	-	-	4.0							
	HS 6X4P	●	M6X0.75	3.9														
	6X6	●		6.0														
	6X8T	●		8.0														
	6X14	●		14.0														
	6X22	●		22.0														
	HS 8X10	●	M8X1.25	10.0			-				-		4.0	-	-	-	-	
	8X12	●		12.0														
	HS 10X10	●	M10X1.5	10.0	-	-		5.0	-	-			-					
	10X16	●		16.0														
	HS 12X12	●	M12X1.75	12.0				6.0	-	-			-	-				
	12X16	●		16.0														
	12X18	●		18.0														
	12X20	●		20.0														
	12X25	●		25.0														
	12X30	●		30.0														
	12X35	●		35.0														
	HS 16X12	●	M16X2.0	12.0	-	-	8.0	-	-	-								
	16X18	●		18.0														
	16X20	●		20.0														
	HS -2524TRP	●	M2.5X0.35	2.4	-	-	5IP	-	-	-	0.5	○IP shows Torx Plus						
	-2534TRP	●		3.4							0.8							
	-3048TRP	●	M3X0.5	4.8			6IP				1.2							
	-4067TRP	●	M4X0.7	6.7			7IP				1.2							
	HSB 4X8 ^{R/L}	●	M4X0.7	8.0	R2.0	-	2.0	-	-	-	2.0	R...shows Right-hand Thread L...shows Left-hand Thread						

Screws

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks	
			A	B	C	D	E	F	α	θ			
	LS -03N	●	M5X0.8	9.7	M5X0.8	-	2.0	-	-	-	2.0	N : Silver coated	
	-03SN	●		12.0							2.5		3.0
	LS -05	●	M5X0.8	15.5	M5X0.8	-	2.0	2.0	-	-	2.0		
	LS -1N	●	M6X1.0	17.0	6.0	-	2.5	2.5	-	-	3.0	N : Silver coated	
	-1SN	●		14.2									
	-1T	●		21.0									
	LS -2N	●	M8X1.0	20.0	8.0	-	3.0	3.0	-	-	4.0		
	-3	●		22.0									
	-4N	●		24.0									
	-5	●	M10X1.0	29.0	10.0	-	4.0	4.0	-	-	-		
	LS -1P	●	M6X1.0	16.5	6.0	-	10IP	10IP	-	-	2.0	○○IP shows Torx Plus	
	-2P	●	M8X1.0	18.2	8.0		15IP	15IP			3.5		
	-3P	●		21.8									
	LS -11	●	M6X1.0	9.5	-	-	3.0	-	-	-	-		
	-15	●		12.5									
	M 3X8	●	M3X0.5	8.0	5.5	2.0	-	-	-	-	-	Flat fillister head screw equivalent to JIS B-1101	
	3X12	●		12.0									
	4X10	●	M4X0.7	10.0	7.0	2.6							
	SB -1TR	●	M2X0.4	5.3	3.8	-	-	T6	-	82°	0.5	R...shows Right-hand Thread	
	-2TR	●	M2.5X0.45	6.2	4.5			T8			1.2		
	-3TR	●	M3X0.5	7.2	4.8			T10			2.0		
	-3STR	●		6.4	5.2								
	-3.5TR	●	M3.5X0.6	9.3	5.6			T15			3.5		
	-4TR	●	M4X0.7	7.7	5.8								
	-5TR	●	M5X0.8	20.0	8.7			T20			90°		4.5
	-2290TR	●	M2.2X0.45	9.2	2.8					T6			0.5
	-25100TR	●	M2.5X0.45	10.0	3.5					T7			0.8
	-40115TR	●	M4X0.7	11.5	5.5			T15		60°	3.5		
	-5070TR	●	M5X0.8	7.0	6.8			T20			4.5		
	-5090TR	●		9.0									
	-50120TR	●		12.0									

Reference

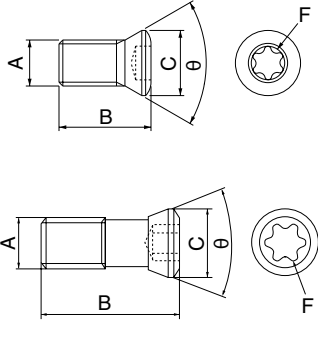
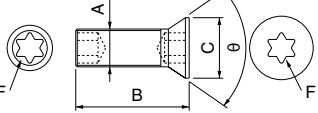
Torx and Torx Plus have different cross-sections.



Torx



Torx Plus

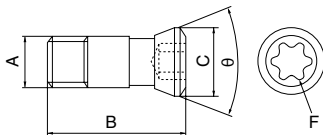
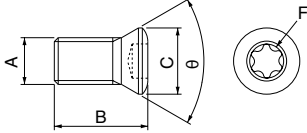
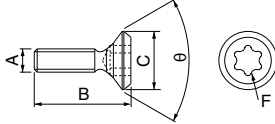
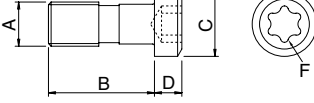
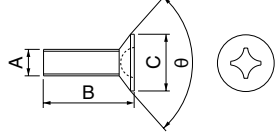
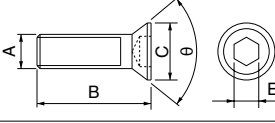
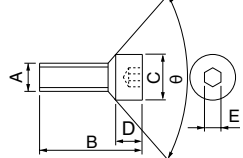
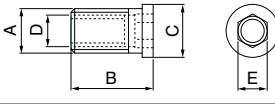
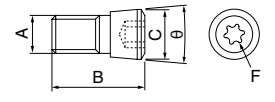
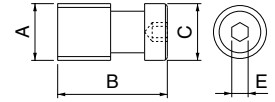
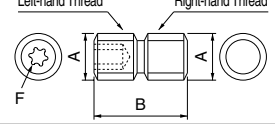
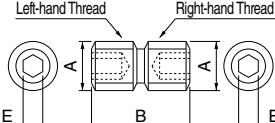
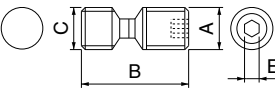
Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks
			A	B	C	D	E	F	α	θ		
 SB-40125TRN	SB -1635TR	●	M1.6X0.35	3.3	2.6			T6		60°		R...shows Right-hand Thread L...shows Left-hand Thread ○○IP shows Torx Plus
	SB -1STR	●	M2X0.4	5.0	3.1			6IP		55°		
	-1840TRP	●	M1.8X0.35	4.0	2.5			T6		60°		
	-2035TR	●		3.7	3.0			6IP		55°		
	-2035TRG	●		3.5	2.7			T6		60°	0.5	
	-2037TRP	●		3.7				6IP		60°		
	-2040TR	●		3.8	3.0			T6		60°		
	-2040TRG	●		4.0				6IP		37°		
	-2041TRP	●	M2X0.4	4.1	2.7			T6		60°		
	-2042TRG	●		4.3	2.8			T8		60°	1.2	
	-2045TR	●		4.8	3.0			T6		60°	0.5	
	-2045TRN	●		5.8	3.5			T6				
	-2050TR	●		8.3	2.8							
	-2060TR	●		5.1	3.1			T7		60°	0.8	
	-2080TR	●		5.5	3.5							
	SB -2250TR	●	M2.2X0.45	5.8	3.1							
	-2255TR	●		6.8	3.2							
	-2260TR	●		4.6				T8		60°	1.2	
	-2270T ^{3/4}	●		5.4				8IP				
	SB -2545TR	●	M2.5X0.45	5.5	3.5			T8		60°		
	-2555TRG	●		5.7								
	-2555TRP	●		6.8								
	-2560TR	●		5.3	4.2			T10		60°	2.0	
	-2570TR	●		6.0				10IP			1.2	
	SB -3060TR	●	M3X0.5	6.5	4.0			8IP			2.0	
	-3060TRP	●		4.2				T10			1.2	
	-3065TRP	●		7.0	4.0			T8			2.0	
	-3070TRG	●		8.0	4.2			10IP				
	-3070T ^{3/4}	●						T10				
	-3070TRP	●		7.3	5.0						2.0	
	-3080TR	●		8.0	5.3			T15		60°	3.5	
	SB -3573TRP	●	M3.5X0.6	9.0				15IP			4.0	
	-3580TR	●		9.2	5.1			T10			2.0	
	-3590TRP	●										
	-3592TR	●		4.6	5.1			T10		57°	2.0	
	SB -4050TRN	●	M4X0.5	5.9								
	-4060TR	●		6.7	5.5			T15			3.5	
	-4065TR	●		7.0								
	-4070TRG	●		7.7	5.4			T10			2.0	
	-4070TRN	●		6.7								
	-4070TRS	●		7.5				15IP		60°		
	-4075TRP	●		8.2				T15				
	-4082TPR	●		8.5								
	-4085TR	●	M4X0.7	8.6				15IP			3.5	
	-4085TRP	●		9.0	5.7							
	-4086TRP	●		9.0	5.5							
	-4090TRP	●		12.0	5.1			T15		50°		
	-4090TRPN	●		12.5	5.2					60°		
	-40120TR	●		14.0	5.5					75°		
	-40125TRN	●		6.7								
	-40140TR	●		6.8	6.0			T10		57°	2.0	
	-40140TRN	●		13.0	6.6			20IP		55°	4.5	
	SB -4570TRN	●	M4.5X0.5	8.5				T20		50°		
	-45130TR	●	M4.5X0.75	12.0	6.8			20IP		60°	4.5	
	SB -5085TR	●		7.2				15IP			3.5	
	-50120TRP	●		13.7	9.7			T20		70°	4.5	
	-50120TRPH	●		14.0	7.3			T15		50°	3.5	
	-50120TRS	●						20IP			4.5	
	-50137K	●		12.0				T25		60°	6.0	
	-50140TR	●		13.0				20IP			4.5	
	-50140TRP	●										
	SB -60120TR	●	M6X1.0									
	-60130TRP	●										
	SB -4070TRW	●	M4X0.7	6.7	5.5			T8		60°	1.2	R...shows Right-hand Thread
	-4590TRWN	●	M4.5X0.75	9.3	5.6			T10		57°	2.0	

● : Std. Item

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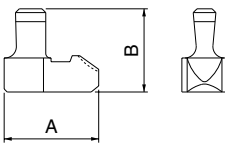
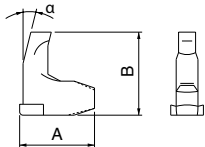
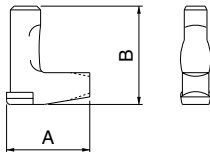
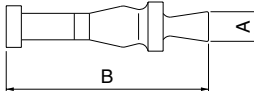
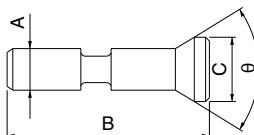
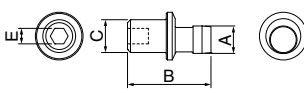
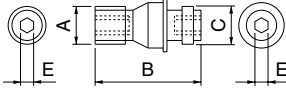
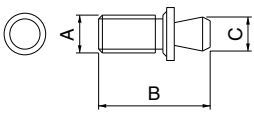
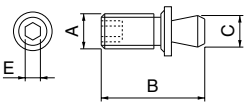
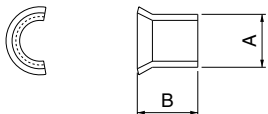
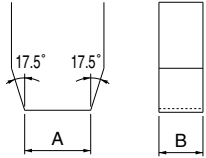
Screws

Shape	Description	Stock	Dimension (mm)						Angle		Torque (N·m)	Remarks					
			A	B	C	D	E	F	α	θ							
	SC -30067	●	M3X0.35	6.7	4.4	-	-	T8	-	60°	1.2						
	-35085	●	M3.5X0.35	8.5	5.7			T10			2.0						
	-40100	●	M4X0.5	10.0	6.0			T15			3.5						
	-50130	●	M5X0.5	13.0	6.6			T20			4.5						
	-60160	●	M6X0.75	16.0	8.0			T25			6.0						
	-60210	●		21.0	9.6			T30			8.0						
		●															
	SE -3070TRP	●	M3X0.5	7.0	4.3	-	-	9IP	-	43°	1.7	○○IP shows Torx Plus					
	-40050TRN	●	M4X0.7	5.0	5.0			T15			44°		3.5				
	-40055TR	●		5.5													
	-40068TR	●		6.8													
	-40080TR	●		8.0													
	-40090TR	●		9.0													
	-40100TR	●		10.0													
	SE -40120TR	●	M4X0.7	12.0	5.6	-	-	T15	-	60°	3.5						
	-50125TR	●	M5X0.8	12.5	6.8			T20			4.5						
	SH -50150TR	●	M5X0.8	15.1	7.3	3.1	-	T20	-	-	4.5						
	SP 3X4	●	M3X0.5	4.0	4.0	-	-	-	-	90°	-	With additional machining below the flat head screw Cross recessed flat head screw equivalent to JIS...B-1111					
	3X6	●		6.0	6.0												
	3X8	●		8.0													
	3X10	●		10.0													
	SP 4X9	●	M4X0.7	9.0	5.6	-	2.0	-	-	90°	-						
	SP 8X35	●	M8X1.25	35.0	11.0	4.4	5.0	-	-	90°	-						
	SPW -6045	●	M6X0.75	9.0	7.5	M4.5X0.75	4.5	-	-	-	-	A shows External, D shows Internal. External and Internal threads are both Right-hand threads.					
	-7050	●	M7X0.75	9.0	8.8	M5X0.8	5.0	-	-	-							
	SS -4N	●	M5.5X0.5	8.5	6.6	M4X0.7	4.0	-	-	-							
	SV -60136R	●	M6X1.0	13.6	6.3	-	-	T25	-	6°	-	Torx					
	-60136TR	●						T20			4.5						
	TH 8X15	●	M8X1.25	20.0	8.5	-	4.0	-	-	-	-						
	W 6X17	●	M6X1.0	17.0	-	-	-	T20	-	-	4.5						
	6X18N	●		18.0				T15			3.5						
	8X16	●	M8X1.0	16.0				T25			6.0						
	W 6X18	●	M6X1.0	17.5	-	-	3.0	-	-	-	-						
	6X20	●	M6X1.0	20.5													
	8X18	●	M8X1.25	18.0			4.0										
	*8X21	●	M8X1.0	21.0													
	W 10X31	●	M10X1.0	31.0	M10X1.5	-	5.0	-	-	-	-						

* No socket on right-hand thread side

● : Std. Item

Pins

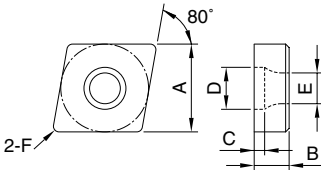
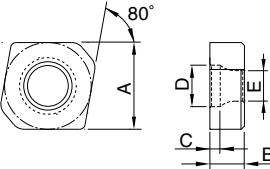
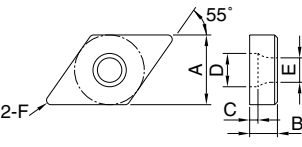
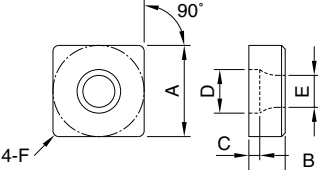
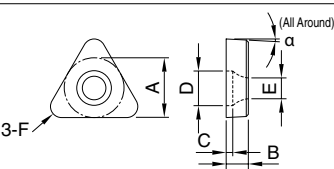
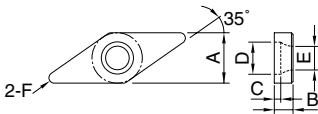
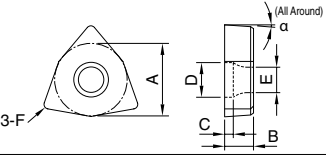
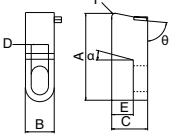
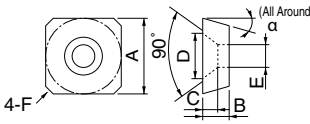
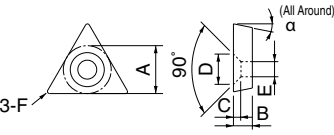
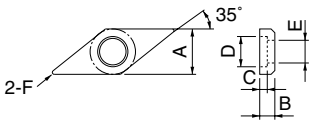
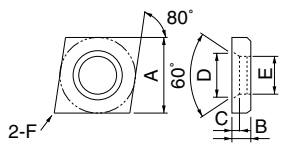
Shape	Description	Stock	Dimension (mm)						Angle		Remarks							
			A	B	C	D	E	F	α	θ								
	LL -03N	●	7.8	6.3	-	-	-	-	-	-								
	-03SN	●	11.1	8.9														
	-03TN	●	8.3	8.9														
	LL -05C	●	10.7	11.7	-	-	-	-	12 °	-								
	-1CN	●	13.0	13.3					14 °									
	-2C	●	18.8	17.6					14 °									
	LL -1K	●	10.0	12.0	-	-	-	-	-	-								
	-1N	●	10.3	12.0														
	-1DN	●	12.3	12.0														
	-2K	●	13.3	13.2														
	-2N	●	13.5	13.0														
	-3K	●	16.0	14.8														
	-3N	●	16.4	13.0														
	-4	●	16.4	14.7														
	-5N	●	17.1	16.7														
-6	●	20.7	21.0															
	LP -2S	●	3.65	20.0	-	-	-	-	-	-								
	-6S	●	3.65	25.0	-	-	-	-	-	-								
	LPA -11	●	2.8	11.0	4.2	-	-	-	-	60 °								
	-13	●		13.0														
	-17	●		17.0														
	LPF -11	●	2.5	11.0	3.5	-	-	-	-	60 °								
	-1113	●		13.0														
	-1117	●		17.0														
	-13	●	3.8	13.0	5.5													
	-17	●		17.0														
	PP -4	●	4.6	14.0	5.5	-	3.0	-	-	-								
	TS -3S	●	M5X0.8	15.0	3.60	-	2.0	-	-	-								
	WP -1S	●	M5X0.8	18.0	3.65	-	-	-	-	-								
	5X15	●		15.0	5.0													
	WP 5X11	●	M5X0.8	10.5	5.0	-	2.0	-	-	-								
	LSP -1	●	5.0	5.3	-	-	-	-	-	-								
	-2	●	6.5	5.6														
	-3	●	8.25	7.9														
	-4	●	9.5	10.0														
	LSP -2K	●	5.1	5.2														
	-3K	●	6.7	5.7														
	P -03	●	2.8	1.95	-	-	-	-	-	-								
	-03S	●	3.5	1.95	-	-	-	-	-	-								

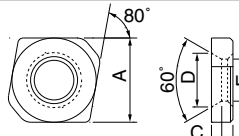
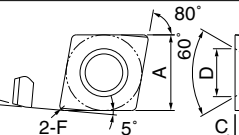
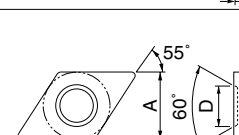
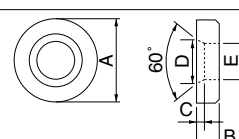
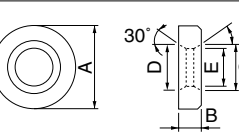
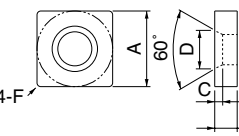
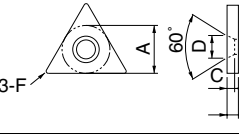
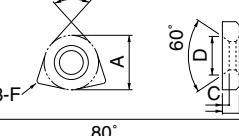
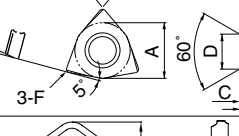
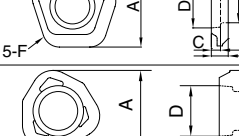
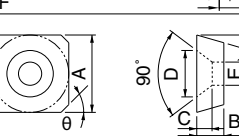
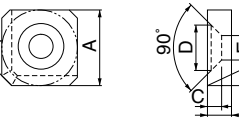
● : Std. Item

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Shims

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	DC -42	●	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-44	●	12.55	5.0	1.5			R0.8			
	DC -44-C	●	12.55	5.0	1.5	6.0	4.4	-	-	-	Shim Screw : SB-4085TR
	DD -42	●	12.55	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-42-16	●		3.2	1.2			R1.6			
	-43	●		3.4	1.3			R0.8			
	-44	●		5.0	1.5			R0.8			
	DS -42	●	12.0	3.2	1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	-44	●	12.55	5.0	1.5			R0.8			
	DT -32	●	8.63	3.2	0.95	5.0	3.4	R1.6	3°	-	Shim Screw : SB-3080TR
	-42	●	12.46		1.2	6.0	4.4	R1.2	-	-	Shim Screw : SB-4085TR
	DV -33	●	9.40	3.5	1.2	6.0	4.4	R1.0	-	-	Shim Screw : SB-4085TR
	DW -42	●	11.5	3.2	1.2	6.0	4.4	R1.2	4°	-	Shim Screw : SB-4085TR
	-44	●	12.65	5.0	1.5			R0.8	-		
	556 C ^P / _L	●	34.0	10.0	12.7	5.6	5.0	R1.6	0°	55°	R...shows Right-hand L...shows Left-hand Shim Screw : HH5X16
	KPS -42	●	11.5	3.2	2.0	7.2	3.2	C1.0	7°	-	Shim Screw : SP3X8
	KPT -32	●	8.0	3.2	1.9	7.0	3.2	R0.4	11°	-	Shim Screw : SP3X8 : SP3X10
	-42	●	10.5	3.2	1.9	7.0	3.2	R0.8	11°	-	
	KVN -32	●	9.52	3.2	2.1	7.6	5.5	R0.8	-	-	Lock Pin : LP-2S : LP-6S
	LC -32N	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-4K	●	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	-42N	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	-42N-20	●						R2.0			
	-53N	●	15.9	4.8	1.7	10.0	8.0	R1.2	-	-	Shim Pin : LSP-3
	-63	●	19.0	4.8	2.0	11.61	9.3	R1.6	-	-	Shim Pin : LSP-4

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	LC -42N-C	●	12.65	3.2	1.5	8.01	6.28	-	-	-	Shim Pin : LSP-2
	-53N-C	●	15.9	4.8	1.7	10.0	8.0	-	-	-	Shim Pin : LSP-3
	-63-C	●	19.0	4.8	2.0	11.61	9.3	-	-	-	Shim Pin : LSP-4
	LC -42N^{R/L}	●	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R...shows Right-hand L...shows Left-hand Shim Pin : LSP-2
	LD -32N	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-4K	●	11.7	3.2	1.4	8.1	6.73	R0.8	-	-	Shim Pin : LSP-3K
	-4K43	●		4.8	3.0	8.3	6.60	R1.2			
	-42	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	-42-20	●	12.65	4.8	3.1	8.5	6.28	R2.0			
	-43	●						R0.8	-	-	
-43-20	●					R2.0					
	LR -80	●	9.47	3.2	1.3	6.25	4.75	-	-	-	Shim Pin : LSP-1
	-81	●	12.65	3.2	1.5	8.01	6.28	-	-	-	Shim Pin : LSP-2
	LR -10C	●	8.5	3.2	6.3	6.3	4.7	-	-	-	Shim Pin : LSP-1
	-12C	●	10.0	3.2	6.3	6.3	4.7	-	-	-	
	-16C	●	13.6	3.2	7.9	8.01	6.28	-	-	-	Shim Pin : LSP-2
	LS -32	●	9.47	3.2	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-42	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LT -3K	●	8.53	2.7	1.0	6.1	5.13	R0.8	-	-	Shim Pin : LSP-2K
	-32N	●	9.47	2.7	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-32N-20	●						R2.0			
	-42N	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	-42N-20	●						R2.0			
	LW -32N	●	9.47	2.4	1.3	6.18	4.68	R0.8	-	-	Shim Pin : LSP-1
	-42N	●	12.65	3.2	1.5	8.01	6.28	R0.8	-	-	Shim Pin : LSP-2
	LW -42N^{R/L}	●	12.65	3.2	1.5	8.01	6.28	R0.8	10°	-	R...shows Right-hand L...shows Left-hand Shim Pin : LSP-2
	MFPPN -45	●	17.07	3.5	1.95	9.8	7.18	R3.5	-	-	Shim Screw : SPW-7050
	MFPPN -90	●	15.25	4.0	2.5	9.44	7.25	R3.0 R4.0	-	-	Shim Screw : SPW-7050
	MSD -42	●	10.7	3.2	1.85	7.0	3.3	-	20°	45°	Shim Screw : SP3X8
	MSE -4245S	●	10.3	3.2	2.0	6.0	5.0	-	20°	45°	Shim Screw : SP4X9
	MSE -4215	●	10.53	3.2	1.5	6.4	3.4	-	25°	15°	Shim Screw : SP3X8
	-4245	●	10.53	3.2	1.5	6.4	3.4	-	25°	45°	Shim Screw : SP3X8

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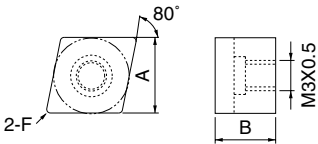
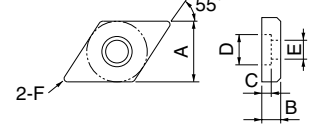
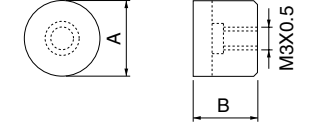
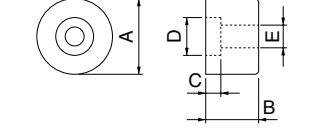
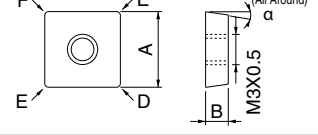
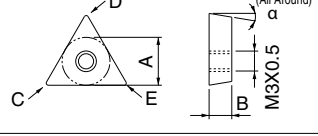
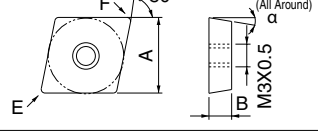
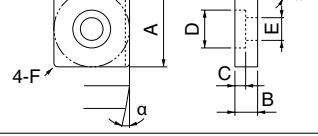
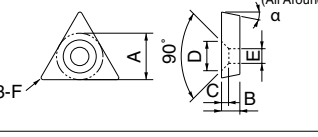
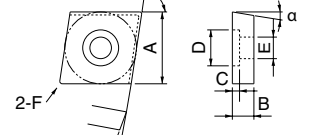
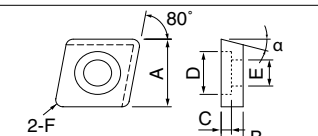
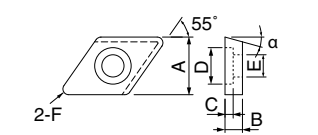
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T

Shims

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	MSO -4T245	●	10.0	2.0	4.7	6.4	4.8	-	27°	45°	Shim Screw : SP3X6
	MSO -5200	●	12.6	3.18	1.8	8.27	6.66	R0.8	15°	-	Shim Screw : SPW-6045
	MSP -42	●	11.3	3.2	1.85	7.0	3.3	-	15°	15°	Shim Screw : SP3X8
	MTE -42	●	9.8	3.2	-	6.4	3.4	-	25°	-	Shim Screw : SP3X8
	MVN -32	●	9.52	3.2	2.1	7.4	6.5	R0.8	-	-	Lock Pin : TS-3S
	PD -42	●	12.7	3.2	1.7	6.0	8.4	0.8	12°	-	Shim Screw : SB-2050TR
	SP -129	●	9.52	9.52	R0.8	R1.6	R1.2	R1.6	-	-	Shim Screw : HH3X12
	SP -141	●	12.7	4.0	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-143	●	12.7	7.2	2.4	6.2	3.3	R1.2	-	-	Shim Screw : M3X12
	-162	●	15.8	6.0	3.4	8.0	4.4	R1.5	-	-	Shim Screw : M4X10
	SP -148	●	12.7	8.8	2.4	6.2	3.3	R1.2	-	-	Shim Screw : BH3X12
	SP -219	●	6.35	9.52	R0.8	R1.2	R1.6	-	-	-	Shim Screw : HH3X12
	SP -221	●	9.52	4.0	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X8
	-223	●	9.52	7.2	2.5	6.5	3.5	R1.2	-	-	Shim Screw : M3X12
	SP -342	●	12.7	6.0	2.5	6.5	3.5	R1.2	-	75°	Shim Screw : M3X8
	-441	●	12.7	4.0	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X8
	-443	●	12.7	7.2	2.5	6.2	3.3	R0.8	-	80°	Shim Screw : M3X12
	-454	●	15.7	8.0	3.4	8.0	4.5	R1.6	-	80°	Shim Screw : M4X10

● : Std. Item

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	SP -429	●	9.52	9.52	-	-	-	R1.2	-	-	Shim Screw : HH3X12
	SP -521	●	10.0	4.0	2.5	6.2	3.3	R1.0	-	-	Shim Screw : M3X8
	-523	●		7.2							Shim Screw : M3X12
	-541	●	12.7	4.0	2.5	6.2	3.3	R1.2	-	-	Shim Screw : M3X8
	-543	●		7.2							Shim Screw : M3X12
	SP -826	●	9.52	7.9	-	-	-	-	-	-	Shim Screw : HH3X12
	-829	●	9.52	9.52	-	-	-	-	-	-	
	SP -841	●	12.7	4.0	2.4	6.2	3.3	-	-	-	Shim Screw : M3X8
	-843	●	12.7	7.2	2.4	6.2	3.3	-	-	-	Shim Screw : M3X12
	-849	●	12.7	8.8	2.4	6.2	3.3	-	-	-	Shim Screw : BH3X12
	-861	●	15.8	6.0	3.4	8.0	4.4	-	-	-	Shim Screw : M4X10
	SP -130A	●	9.52	3.2	-	R0.4	R0.8	R1.2	8°	-	Shim Screw : BH3X12
	SP -210A	●	6.35	3.2	R0.4	R0.8	R1.2	-	8°	-	Shim Screw : BH3X6
	SP -420A	●	9.52	3.2	-	-	R0.8	R1.2	8°	-	Shim Screw : BH3X6
	SP -141P	●	12.7	4.0	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X8
	-143P	●	12.7	7.2	2.4	6.2	3.3	R1.2	7°	-	Shim Screw : M3X12
	SP -230P	●	8.3	3.2	2.0	7.2	3.2	R0.5	7°	-	Shim Screw : SP3X10
	SP -341P	●	12.6	4.0	2.5	6.5	3.5	R1.2	7°	-	Shim Screw : M3X8
	SP -441P	●	12.7	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-443P	●		7.2							Shim Screw : M3X12
	SP -521P	●	10.0	4.0	2.5	6.2	3.3	R1.2	11°	-	Shim Screw : M3X8
	-523P	●		7.2							Shim Screw : M3X12

● : Std. Item

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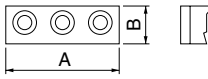
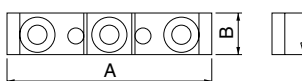
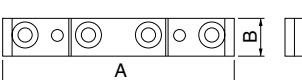
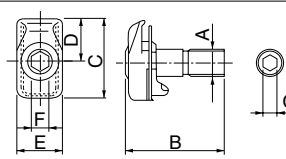
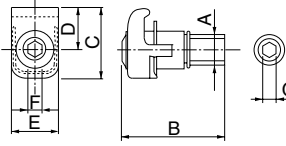
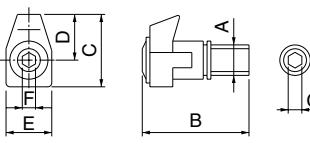
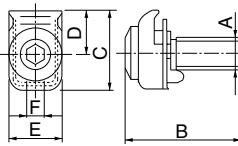
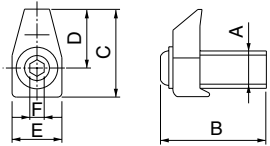
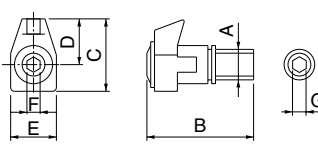
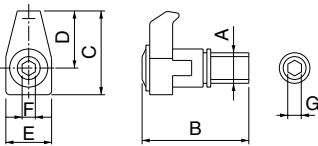
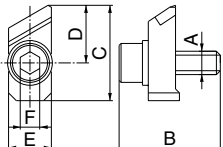
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Shims / Cartridges

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	SP -RC	●	12.6	3.0	-	7.35	3.35	-	-	-	Shim Screw : SP3X8
	SVN -32	●	8.0	3.2	1.5	3.1	2.3	R0.4	-	-	Shim Screw : SB-2050TR
	SVN -32N	●	8.2	3.2	1.5	7.0	5.9	R0.6	-	-	Shim Screw : SS-4N
	SVN -32S	●	8.2	3.2	1.5	7.0	5.9	R0.2	-	-	Shim Screw : SS-4N 1-edge
	TN -32	●	9.52	3.2	6.5	7.0	4.2	R0.4	-	-	Shim Screw : SP3X8
	-43	●	12.70	3.2	8.1	7.0	4.2	R0.5	-	-	
	TNW -32	●	9.52	3.2	4.8	7.0	4.2	-	-	-	Shim Screw : SP3X8
	WTN -33	●	9.52	4.76	2.5	7.0	5.3	R0.8	-	-	Shim Pin : WP-1S
	-33-20	●						R2.0			
	WWN -42	●	12.7	3.0	1.4	7.0	5.3	R1.2	-	-	Shim Pin : WP5X15
	WWP -42	●	12.7	3.0	1.5	8.3	5.3	R1.2	11°	-	Shim Pin : WP5X11
	-42-16	●						R1.6			
	MAP -2506	●	-	9.5	14.9	20	-	-	5°	-	Clamp Screw : SB-40140TR
	LSD -445R	●	12.7	13.0	20.0	26.5	-	-	20°	45°	Dimension A shows Insert I.C.
	LSE -445R	●	12.7	13.0	19.5	26.0	-	-	20°	45°	
	LSO -445R	●	13.494	12.0	21.3	23.5	-	-	27°	45°	
	LSP -415R	●	12.7	13.0	18.0	26.0	-	-	15°	15°	
	LTE -490R	●	12.7	12.0	17.0	30.0	-	-	15°	-	Dimension A shows Insert I.C.

● : Std. Item

Clamp Sets

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)							Remarks
			A	B	C	D	E	F	G	
	BCS -1	●	64.0	13.0	-	-	-	-	-	
	-5	●	48.0	16.5	-	-	-	-	-	
	BCS -2	●	74.0	15.0	-	-	-	-	-	
	-3	●	88.0	16.0	-	-	-	-	-	
	BCS -4	●	98.0	16.0	-	-	-	-	-	
	CE -010	●	M8X1.25	28.0	24.0	12.8	13.0	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-220	●			27.0	15.8	15.0			
	CE -020	●	M8X1.25	30.0	17.0	10.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	CE -030	●	M8X1.25	30.0	19.0	12.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-040	●			22.5	16.0				
	CE -320	●	M6X1.0	24.5	18.2	9.7	12.7	4.0	-	
	CE -360S	●	M6X1.0	16.0	18.0	10.55	12.4	4.0	-	
	CE -030A	●	M8X1.25	30.0	20.0	13.7	12.7	4.0	-	G : Indicates hexagon hole two side widths of back side of bolts
	CE -410	●	M8X1.25	30.0	26.0	19.5	12.7	4.0	4.0	G : Indicates hexagon hole two side widths of back side of bolts
	-430	●			29.0	22.5				
	CP -RC^{R/L}	●	M6X1.0	20.0	24.5	14.8	11.0	5.0	-	R...shows Right-hand L...shows Left-hand

● : Std. Item

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Clamp Sets

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)							Remarks
			A	B	C	D	E	F	G	
	CPS -1	●	M3X0.5	9.0	10.0	5.2	5.5	2.0	-	
	CPS -2	●	M5X0.8	14.5	14.0	8.5	6.8	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts
	-2P	●		18.0						
	-3	●	M6X1.0	19.0	16.5	10.0	8.8	3.0	3.0	
	CPS -2S	●	M5X0.8	13.5	14.0	8.5	6.8	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts
	-2TR	●		15.0						
	CPS -4V	●	M4X0.7	8.9	11.3	7.3	8.0	T10	-	G : Indicates hexagon hole two side widths of back side of bolts
	-5F	●	M5X0.8	11.3	12.7	7.5	10.3	T15	2.5	
	-5S	●		18.0	15.0	9.5	11.0		2.0	
	-5V	●		13.5	12.7	7.5	10.3		2.5	
	CPS -6F	●	M6X1.0	16.5	15.6	9.5	12.2	3.0	-	G : Indicates hexagon hole two side widths of back side of bolts
	-6M	●		18.5	17.5	11.0	13.0		3.0	
	-6S	●			18.0	12.0	12.0			
	-6V	●			15.6	9.5	12.2			
	-8V	●	M8X1.25	24.0	20.8	13.0	15.5	4.0	4.0	
	CPS -5E	●	M5X0.8	13.5	17.5	12.0	9.0	T15	2.5	G : Indicates hexagon hole two side widths of back side of bolts
	CPS -5^R/_L	●	M5X0.8	18.0	17.5	12.0	9.0	2.5	2.5	G : Indicates hexagon hole two side widths of back side of bolts R...shows Right-hand Thread L...shows Left-hand Thread
	LGBA -16^R/_LS	●	M5X0.8	15.0	16.1	11.2	9.85	T15	2.0	G : Indicates hexagon hole two side widths of back side of bolts R...shows Right-hand Thread L...shows Left-hand
	-22^R/_LS	●			17.6	12.7				
	WCS -1N	●	M6X1.0	21.0	15.7	-	15.0	3.0	-	
	WCS -8	●	M6X1.0	21.0	19.4	-	15.0	3.0	-	

● : Std. Item

Clamps

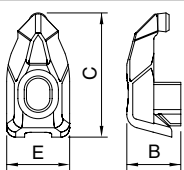
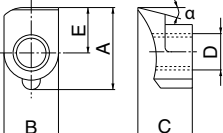
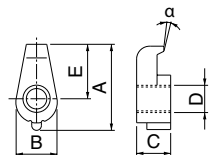
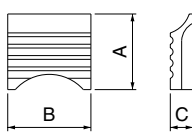
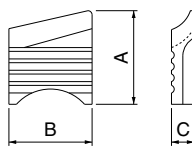
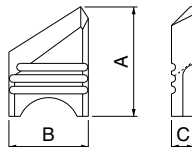
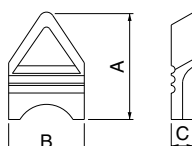
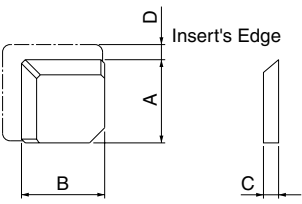
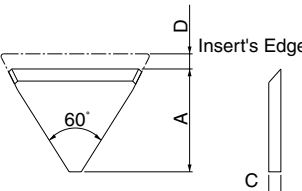
Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	C 08R	●	7.6	8.7	8.9	3.6	M5X0.8 (Left-hand Thread)	-	10°	-	
	C 09N	●	6.0	9.0	9.8	5.3	M6X1.0 (Left-hand Thread)	-	10°	-	Clamp Screw : W6X18N
	C 17R	●	12.2	20.0	14.3	8.5	M8X1.25 (Left-hand Thread)	-	12°	-	Clamp Screw : W8X18
	C 20R	●	15.1	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	CH -20R	●	13.1	15.5	14.8	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	C 25R	●	13.2	15.5	15.0	7.5	5.3	-	10°	-	Clamp Screw : TH8X15
	CGA -3°/L	●	24.0	17.66	12.0	6.2	1.9	11.0	-	-	R...shows Right-hand L...shows Left-hand
	-4°/L	●	24.0	17.66	12.0	6.2	2.9	11.0	-	-	
	-5°/L	●	27.5	18.66	12.0	6.2	3.9	14.5	-	-	
	CGB °/L	●	19.0	14.0	8.2	6.35	9.5	-	-	-	R...shows Right-hand L...shows Left-hand
	CGH -1°/L	●	25.0	22.0	8.0	6.05	3.0	5.5	-	-	R...shows Right-hand L...shows Left-hand
	-2°/L	●					5.0				
	-3°/L	●					6.0				
	CGIA -3R	●	10.7	17.0	10.5	5.2	1.8	2.0	-	-	
	-4R	●			11.5		2.5				
	-5R	●			10.5		3.5				

● : Std. Item

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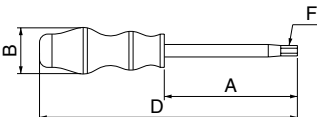
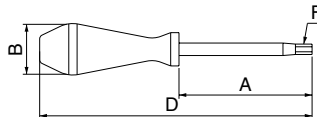
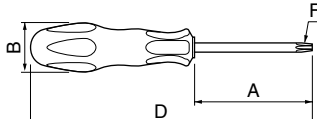
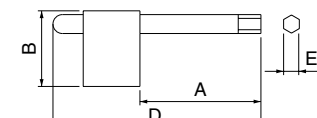
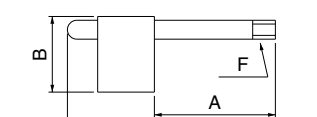
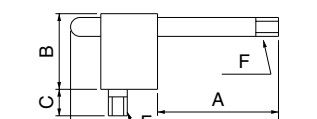
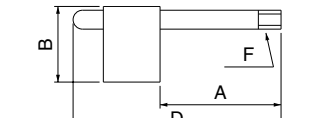
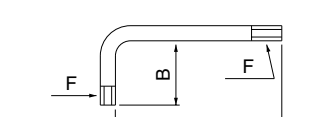
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Clamps / Chipbreakers

Shape Handed Spare Parts show Right-hand	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	CP -2D	●	-	10.0	21.6	-	10.4	-	-	-	
	-3D	●		12.0	27.6		14.0				
	-5D	●		13.0	32.0						
	CP -8TE	●	17.9	12.0	12.0	M8X1.25 (Left-hand Thread)	10.0	-	15 °	-	
	CP -8W	●	20.9	12.0	8.0	M8X1.25 (Left-hand Thread)	13.0	-	3 °	-	
	CB -11	●	11.5	12.7	3.5	-	-	-	-	-	
	-51	●	16.0	15.6	3.5	-	-	-	-	-	
	CB -12	●	14.0	12.7	3.5	-	-	-	-	-	Right-hand
	-13	●	14.0	12.7	3.5	-	-	-	-	-	Left-hand
	CB -14	●	18.51	12.7	3.5	-	-	-	-	-	Right-hand
	-15	●	18.51	12.7	3.5	-	-	-	-	-	Left-hand
	CB -16	●	18.0	12.7	3.5	-	-	-	-	-	
	-17	●	21.0	15.6	3.5	-	-	-	-	-	
	CB -S3220	●	7.94	7.94	1.0	2.0	-	-	-	-	
	-S4220	●	11.12	11.12	2.0	2.0	-	-	-	-	
	CB -T2212	●	7.48	-	1.5	1.2	-	-	-	-	
	-T3220	●	10.87	-	2.0	2.0	-	-	-	-	

● : Std. Item

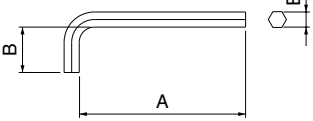
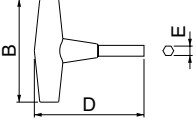
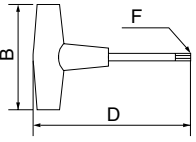
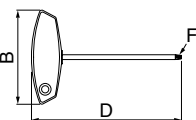
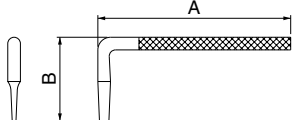
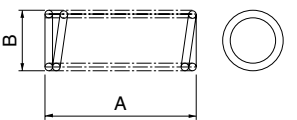
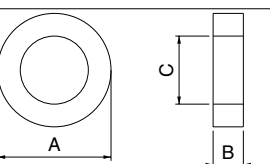
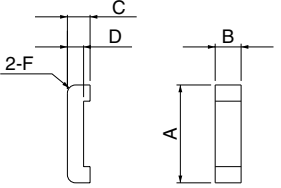
Wrenches

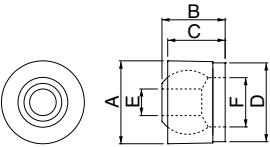
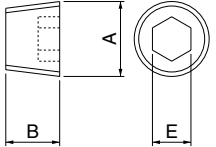
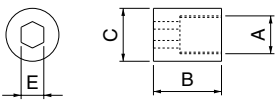
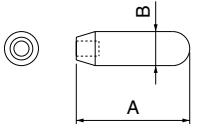
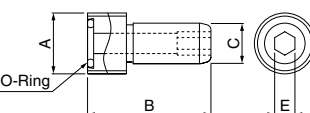
Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	DT -7	●	44	16	-	114	-	T7	-	-	Torx
	-8	●	70	26		150		T8			
	DT -10	●	70	29	-	160	-	T10	-	-	Torx
	-15	●	70	32		170		T15			
	-20	●	90	32		190		T20			
	-25	●	82	36		190		T25			
	DTM -6	●	40	17	-	115	-	T6	-	-	Torx Top of wrench is magnetized
	-7	●	44	17		119		T7			
	-8	●	70	24		150		T8			
	-10	●	70	28		167		T10			
	-15	●	70	31		174		T15			
	DTP -6	●	73	23	-	150	-	6IP	-	-	○○ IP shows Torx Plus
	-7	●				150		7IP			
	-9	●	61	30		174		9IP			
	-15	●	81	33		186		15IP			
	-20	●	100			206		20IP			
	DTPM -8	●	70	24	-	150	-	8IP	-	-	○○ IP shows Torx Plus Top of wrench is magnetized
	-10	●	70	28		165		10IP			
	-15	●	70	31		174		15IP			
	FH -2	●	40	20	-	71	2.0	-	-	-	Hexagon
	-2.5	●	45	20		76	2.5				
	FT -6	●	35	15	-	65	-	T6	-	-	Torx
	-7	●	34	15		62		T7			
	-8	●	40	20		74		T8			
	-10	●	40	20		74		T10			
	FT -15	●	45	25	10	80	-	T15	-	-	Torx
	FTP -5	●	35	15	-	65	-	5IP	-	-	○ IP shows Torx Plus
	-6	●	34			62		6IP			
	LTW -8SS	●	43	6	-	-	-	T8	-	-	Torx
	-10S	●	62	10				T10			
	-10SS	●	47	7				T10			
	-15S	●	62	10				T15			
	-20	●	58	19				T20			
	-25	●	65	20				T25			

● : Std. Item

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Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	LW	-1.5	●	45	14			1.5			Hexagon
		-2	●	50	16			2.0			
		-2.5	●	56	18			2.5			
		-3	●	63	20			3.0			
		-4	●	70	25			4.0			
		-4.5	●	78	26			4.5			
		-5	●	80	28	-	-	5.0	-	-	
		-6	●	90	32			6.0			
		-8	●	109	36			8.0			
		-10	●	112	40			10.0			
		-14	●	140	56			14.0			
		-17	●	160	63			17.0			
		-19	●	180	70			19.0			
	TH	-4	●	-	80	-	83	4.0	-	-	Hexagon
	TT	-15	●		70		118	T15			Torx
		-25	●		70		69	T25			
		-25L	●		80		145	T25			
		-30	●		80		110	T30			
	TTC	-20	●	-	98	-	130	T20	-	-	
		-25	●					T25			
	TTP	-20	●	-	70	-	138	-	20IP	-	○○ IP shows Torx Plus
	TTW	-15	●	-	80	-	125	-	T15	-	Torx
	LTK	-5	●	70	30	-	-	-	-	-	
	SP	-2D	●	8.5	5.6						Spring
		-3D	●	12.0	7.2						
		-5	●	12.0	6.7						
		-5D	●	12.0	7.2						
		-6	●	12.0	7.7						
	W	-6	●	11.5	1.6	6.4					Washer
		6-14	●	11.5	1.4	6.4					
	WB	-5	●	10.0	1.0	5.3					Washer (Brass)
		-6	●	11.5	1.6	6.4					
		-8	●	15.5	1.6	8.4					
	WSP	-1	●	15.1	4.0	3.5	2.5	-	R1.25	-	Spacer

Shape	Description	Stock	Dimension (mm)						Angle		Remarks
			A	B	C	D	E	F	α	θ	
	DN 10	●	6.2	5.1	4.5	5.7	2.6	4.0	-	-	Nozzle
	20	●	10.1	7.7	7.0	9.6	M4X0.7	6.0			
	GP -1	●	PT1/8	7.0	-	-	5.0	-	-	-	Plug
	-2	●	PT1/4	9.0	-	-	6.0	-	-	-	
	WN -1	●	M5X8	10.0	7.0	-	3.0	-	-	-	Nut
	PC -1	●	60.0	8.5	-	-	-	-	-	-	Punch
	-2	●	62.2	10.0	-	-	-	-	-	-	
	CL 63-1	●	M18X1.0	36.5	12	-	6.0	-	-	-	Coolant Pipe
	100-1	●	M24X1.5	44.0	16.0		8.0				

● : Std. Item

Former Parts List

Toolholders for Ceramic Tools

Description	Spare Parts				
	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
CCLNR 2525M -16	CB-17	CE-220	LW-4	SP-454	M4X10
CS-N^{R/L} -12	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
CSKN^{R/L} -12	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
CSYN^{R/L} -12	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)
CSSN^{R/L} -12	CB-11	CE-020	LW-4	SP-141 *(SP-143)	M3X8 *(M3X12)

* Shim & Shim Screw : When using SN□□1204 Insert, purchase spare parts in () separately.

Toolholders for Ceramic Tools

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
CCLN^{R/L} -12GX	CE-410	LW-4	SP-441	M3X8
CDHN^{R/L} -12GX	CE-410	LW-4	SP-521	M3X8
	CE-430		SP-541	
CDJN^{R/L} -12GX	CE-410	LW-4	SP-521	M3X8
	CE-430		SP-541	
CSRN^{R/L} -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10
CSDNN -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10
CSSN^{R/L} -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10
CS-N^{R/L} -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10
CSKN^{R/L} -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10
CSYN^{R/L} -12GX	CE-410	LW-4	SP-141	M3X8
			SP-162	M4X10

Toolholders for Solid CBN Tools

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
CCLN^{R/L} -09A	CE-030A	LW-4	SP-429	HH3X12
CTUN^{R/L} -11A	CE-030A	LW-4	SP-219	HH3X12

Toolholders for Bearing Machining

Description	Spare Parts					
	Lever	Lock Screw	Shim	Shim Pin	Punch	Wrench
PRGC^{R/L} -12BE	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5
PRGC^{R/L} -12BF	LL-1CN	LS-1N	LR-12C	LSP-1	PC-1	FH-2.5
	LL-2C	LS-1T	LR-16C	LSP-2	PC-2	FH-2.5

Toolholders for Back Turning

Description	Spare Parts			
	Anchor Pin	Lock Screw	Clamp Screw	Wrench
AABSR 0810K -40F	LPA-11	HSB4X8R	-	FH-2
1010.. -40F				
1212.. -40F				
1616.. -40F	LPA-17			
SABSR -40F	-	-	SB-3080TR	FT-10
AABWR 0810K -40F	LPA-11	HSB4X8R	-	FH-2
1010.. -40F				
1212.. -40F				
1616.. -40F	LPA-17			
SABWR -40F	-	-	SB-3080TR	FT-10
AABWR 0810K -50F	LPA-11	HSB4X8R	-	FH-2
1010.. -50F				
1212.. -50F				
1616.. -50F	LPA-17			
SABWR -50F	-	-	SB-3080TR	FT-10

KTKF

Description	Spare Parts	
	Clamp Screw	Wrench
KTKF^{R/L} -12	SB-4590TRWN	LTW-10S
..... -16		

External Toolholders (Back Clamp)

Description	Spare Parts		
	Anchor Pin	Lock Screw	Wrench
ACLC^{R/L} 0810K -06F	LPF-11	HSB4X8 ^{R/L}	FH-2
1010K -06F			
1010K -09F			
1212M -09F	LPF-13		
1616M -09F	LPF-17		
ADJC^{R/L} 0810K -07F	LPF-11	HSB4X8 ^{R/L}	FH-2
1010K -07F			
1010K -11F			
1212M -11F	LPF-13		
1616M -11F	LPF-17		
ADNCR 0810K -07F	LPF-11	HSB4X8R	FH-2
1010K -07F			
1010K -11F			
1212M -11F	LPF-13		
1616M -11F	LPF-17		
AVJB^{R/L} 1010K -11F	LPF-11	HSB4X8 ^{R/L}	FH-2
1212M -11F	LPF-1113		
1616M -11F	LPF-1117		
AVVBR 1010K -11F	LPF-11	HSB4X8R	FH-2
1212M -11F	LPF-1113		
1616M -11F	LPF-1117		

* Lock Screw : HSB4X8R for R-hand Toolholder, HSB4X8L for L-hand Toolholder.

Former Parts List

External Toolholders (Screw Clamp)

Description	Spare Parts	
	Clamp Screw	Wrench
SCLC ^{R/L} -06	SB-2570TR	FT-8
	SB-4085TR	FT-15
	SB-5090TR	LTW-20
SCAC ^{R/L} -06	SB-2570TR	FT-8
	SB-4085TR	FT-15
	1212F -09FF	
SDJC ^{R/L} -07F	SB-2570TR	FT-8
	SB-4085TR	FT-15
SDLC ^{R/L} -07FF	SB-2570TR	FT-8
	SB-4085TR	FT-15
SDXC ^{R/L} -07	SB-2570TR	FT-8
	SB-4085TR	FT-15
SDNC ^{R/L} -07F	SB-2570TR	FT-8
	SB-4085TR	FT-15
SDNCN -07	SB-2570TR	FT-8
	SB-4085TR	FT-15
SDLP ^{R/L} -07F	SB-2570TR	FT-8
	SB-4085TR	FT-15
STGC ^{R/L} -08	SB-2050TR	FT-6
	SB-2050TR	FT-6
	SB-3080TR	FT-10
SVJB ^{R/L} -11F	SB-2570TR	FT-8
SVLP ^{R/L} -08FF	SB-2050TR	FT-6
	SB-2570TR	FT-8
SVPP ^{R/L} -08FF	SB-2050TR	FT-6
	SB-2570TR	FT-8
SYXP ^{R/L} -06F	SB-2050TR	FT-6

External Toolholders (Screw Clamp)

Description	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench
SVPB ^{R/L} -11	SB-2570TR	FT-8	-	-	-
	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
SVVBN -11	SB-2570TR	FT-8	-	-	-
	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4

External Toolholders (Top Clamp)

Description	Spare Parts				
	Clamp Set	Wrench	Shim	Shim Screw	Chipbreaker
CSBP ^{R/L} -09N	CPS-2P	LW-2.5	-	-	CB-S3220
CSKP ^{R/L} -09N	CPS-2P	LW-2.5	-	-	CB-S3220
	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
CSSP ^{R/L} -09N	CPS-2P	LW-2.5	-	-	CB-S3220
	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
CSDPN -12N	CPS-3	LW-3	KPS-42	SP3X8	CB-S4220
CTGP ^{R/L} -11N	CPS-2P	LW-2.5	-	-	CB-T2212
	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
CTFP ^{R/L} -11N	CPS-2P	LW-2.5	-	-	CB-T2212
	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220
CTTP ^{R/L} -11N	CPS-2P	LW-2.5	-	-	CB-T2212
	CPS-3	LW-3	KPT-32	SP3X8	CB-T3220

Twin-Bars

Description	Spare Parts	
	Clamp Screw	Wrench
STW^R/L -15	SB-3080TR	LTW-10S
STWSR -15T	SB-3080TR	LTW-10S

System Tip-Bars

Description			Spare Parts			
			Clamp Screw	Wrench	Screw (Side Stopper)	Wrench
SVNR	1010H	-12	SB-3080TR	FT-10	HS3X4	LW-1.5
	1212K	-12			HS3X8	
	1616K	-12			HS3X12	
	2020K	-12			HS3X16	
	2525M	-12				
SVNSR		-12-..	SB-3080TR	LTW-10S	HS3X4	LW-1.5
S12F-	SVNR	12	SB-3080TR	FT-10	HS3X4	LW-1.5
S14G-	SVNR	12				
S16H-	SVNR	12			HS3X8	
S19H-	SVNR	12				
S19N-	SVNR	12				
S20H-	SVNR	12			HS3X12	
S25H-	SVNR	12				
S25Q-	SVNR	12				
S....	SVNR	12S	SB-3080TR	FT-10	HS3X4	LW-1.5

System Tip-Bars (S-SVN-XN)

Description	Spare Parts		
	Clamp Screw	Wrench	Clamp Screw
S...- SVNR 12XN	SB-3080TR	FT-10	SP3X4

PSH Sleeve

Description	Spare Parts	
	Clamp Screw	Wrench
PSH 02.. -..	HS3X4P	LW-1.5
03.. -..		
PSH 04.. -..	HS4X4P	LW-2
05.. -..		
06.. -..		
07.. -..		

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Boring Bars (Screw Clamp)

Description		Spare Parts	
		Clamp Screw	Wrench
S10H-	SCLC ^{R/L} /03-..E	SB-1635TR	FT-6
S10J-	SCLC ^{R/L} /04-..E	SB-2035TR	
S08X-	SCLC ^{R/L} /06-10E	SB-2545TR	FT-8
S08X-	SCLC ^{R/L} /06-10	SB-2545TR	FT-8
C...-	SCLC ^{R/L} /03-..	SB-1635TR	FT-6
C...-	SCLC ^{R/L} /04-..	SB-2035TR	
C08L-	SCLC ^{R/L} /06-10	SB-2545TR	FT-8
A08H-	SCLC ^{R/L} /06-10E	SB-2545TR	FT-8
E...-	SCLC ^{R/L} /06-..	SB-2545TR	FT-8
S..M-	SCLP ^{R/L} /08-..E	SB-3STR	FT-10
S...-	SCLP ^{R/L} /09-..E	SB-4TR	FT-15
S..M-	SCLP ^{R/L} /08-..	SB-3STR	FT-10
S...-	SCLP ^{R/L} /09-..	SB-4TR	FT-15
C10N-	SCLP ^{R/L} /08-..	SB-3STR	FT-10
C...-	SCLP ^{R/L} /09-..	SB-4TR	FT-15
A..X-	SCLP ^{R/L} /08-..E	SB-3STR	FT-10
A...-	SCLP ^{R/L} /09-..E	SB-4TR	FT-15
E10N-	SCLP ^{R/L} /08-12	SB-3STR	FT-10
E10N-	SCLP ^{R/L} /08-12A-..	SB-3060TR	
E...-	SCLP ^{R/L} /09-..	SB-4TR	FT-15
S...-	SDUC ^{R/L} /07-..E	SB-2560TR	FT-8
S...-	SDUC ^{R/L} /11-..E	SB-4085TR	FT-15
S...-	SDUC ^{R/L} /07-..	SB-2560TR	FT-8
S...-	SDUC ^{R/L} /11-..	SB-4085TR	FT-15
C...-	SDUC ^{R/L} /07-..	SB-2560TR	FT-8
C...-	SDUC ^{R/L} /11-..	SB-4085TR	FT-15
S...-	SDZC ^{R/L} /07-..E	SB-2560TR	FT-8
S...-	SDZC ^{R/L} /11-..E	SB-4085TR	FT-15
S...-	SDZC ^{R/L} /07-..	SB-2560TR	FT-8
S...-	SDZC ^{R/L} /11-..	SB-4085TR	FT-15
C06J-	STLB ^{R/L} /06-08A	SB-2035TR	FT-6
E08L-	STLP ^{R/L} /08-10A	SB-1TR	
E08L-	STLP ^{R/L} /09-10A	SB-2545TR	FT-8
E10N-	STLP ^{R/L} /09-..		
E10N-	STLP ^{R/L} /11-..	SB-3060TR	FT-10
S06H-	STUB ^{R/L} /06-08E	SB-1STR	FT-6
S08K-	STUP ^{R/L} /08-10E	SB-1TR	
S..M-	STUP ^{R/L} /09-..E	SB-2TR	FT-8
S...-	STUP ^{R/L} /11-..E	SB-3TR	FT-10
S..X-	STUP ^{R/L} /16-..E	SB-4TR	FT-15
S06H-	STUB ^{R/L} /06-08	SB-1STR	FT-6
S08K-	STUP ^{R/L} /08-10	SB-1TR	
S..M-	STUP ^{R/L} /09-..	SB-2TR	FT-8
S...-	STUP ^{R/L} /11-..	SB-3TR	FT-10
S25X-	STUP ^{R/L} /16-32	SB-4TR	FT-15
C10L-	STUB ^{R/L} /06-08	SB-1STR	FT-6
C08L-	STUP ^{R/L} /08-10	SB-1TR	
C...-	STUP ^{R/L} /09-..	SB-2TR	FT-8
C...-	STUP ^{R/L} /11-..	SB-3TR	FT-10
C20S-	STUP ^{R/L} /16-..	SB-4TR	FT-15
A08H-	STUP ^{R/L} /08-10E	SB-1TR	FT-6
A..X-	STUP ^{R/L} /09-..E	SB-2TR	FT-8
A...-	STUP ^{R/L} /11-..E	SB-3TR	FT-10
A...-	STUP ^{R/L} /16-..E	SB-4TR	FT-15
E08L-	STUP ^{R/L} /08-10	SB-1TR	FT-6
E...-	STUP ^{R/L} /09-..	SB-2TR	FT-8
E...-	STUP ^{R/L} /11-..	SB-3TR	FT-10
E20S-	STUP ^{R/L} /16-25	SB-4TR	FT-15

Boring Bars (Screw Clamp)

Description		Spare Parts	
		Clamp Screw	Wrench
S...-	SWUB ^{R/L} 08-..E	SB-2050TR	FT-6
S12M-	SWUP ^{R/L} 11-14E	SB-2545TR	FT-8
S...-	SWUP ^{R/L} 11-..E	SB-2560TR	
S...-	SWUP ^{R/L} 16-..E	SB-4065TR	FT-15
S...-	SWUB ^{R/L} 06-..	SB-2040TR	FT-6
S10J-	SWUB ^{R/L} 08-..	SB-2035TR	
C...-	SWUB ^{R/L} 06-..	SB-2035TR	FT-6
C07K-	SWUB ^{R/L} 08-..		
C08L-	SWUB ^{R/L} 08-..	SB-2050TR	
C10N-	SWUB ^{R/L} 08-..		
C12Q-	SWUP ^{R/L} 11-14(-./.)	SB-2545TR	FT-8
C12Q-	SWUP ^{R/L} 11-16(-./.)	SB-2560TR	
C16X-	SWUP ^{R/L} 11-18(-./.)		
C...-	SWUP ^{R/L} 16-..	SB-4065TR	FT-15
E...-	SWUB ^{R/L} 08-..	SB-2050TR	FT-6
S16Q-	SSKPR09-20	SB-4TR	FT-15
S20R-	SSKPR09-25		
S25X-	SSKPR12-32	GS-50S	LW-3
S32S-	SSKPR12-40	GS-50	
S12M-	SYXP ^{R/L} 06-12E	SB-2040TR	FT-6
S16Q-	SYXP ^{R/L} 06-16E	SB-2045TR	

Boring Bars (Screw Clamp)

Description	Spare Parts				
	Clamp Screw	Wrench	Shim	Shim Screw	Wrench (for Shim Screw)
S12M- SVJP ^{R/L} 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVJC ^{R/L} 08-..E		FT-6			
S...- SVJB ^{R/L} 11-..E	SB-2570TR	FT-8	SVN-32N	SS-4N	LW-4
S...- SVJB ^{R/L} 16-..EN	SB-40125TRN	FT-15		SS-4N	LW-4
S32S- SVJB ^{R/L} 16-40E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S40T- SVJB ^{R/L} 16-50E				SB-2050TR	FT-6
S10M- SVPC ^{R/L} 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVPB ^{R/L} 11-..E	SB-2570TR	FT-8		-	-
S...- SVPB ^{R/L} 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVPB ^{R/L} 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVPB ^{R/L} 16-40E				SB-2050TR	FT-6
S12M- SVUC ^{R/L} 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVUB ^{R/L} 11-..E	SB-2570TR	FT-8			
S...- SVUB ^{R/L} 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVUB ^{R/L} 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVUB ^{R/L} 16-40E				SB-2050TR	FT-6
S12M- SVZC ^{R/L} 08-16E	SB-2050TR	FT-6	-	-	-
S...- SVZB ^{R/L} 11-..E	SB-2570TR	FT-8			
S...- SVZB ^{R/L} 16-..EN	SB-40125TRN	FT-15	SVN-32N	SS-4N	LW-4
S25X- SVZB ^{R/L} 16-34E	SB-40115TR	FT-15	SVN-32	SB-2050TR	FT-6
S32S- SVZB ^{R/L} 16-40E				SB-2050TR	FT-6

Boring Bars (Top Clamp)

Description	Spare Parts				
	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
S12L- CTUP ^{R/L} 09-16	-	CPS-1	FH-2	-	-
S...- CTUP ^{R/L} 11-..	-	CPS-2	FH-2.5	-	-
S25X- CTUP ^{R/L} 16-34	-	CPS-3	LW-3	-	-
S32S- CTUP ^{R/L} 16-43				KPT-32	SP3X10
S40X- CTUP ^{R/L} 16-50					
S32S- CTUC ^{R/L} 16-40	*CB-13/12	CE-320	LW-4	SP-230P	SP3X10
S...- CCLN ^{R/L} 09-..A	-	CE-360S	LW-4	SP-420A	BH3X6
S...- CSKN ^{R/L} 09-..A	-	CE-360S	LW-4	SP-130A	BH3X12
S32S - CSKPR12-43	CPS-3	-	LW-3	KPS-42	SP3X10

* CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.

Former Parts List

Boring Bars for Ceramic Tools (Top Clamp)

Description	Spare Parts				
	Chipbreaker	Clamp Set	Wrench	Shim	Shim Screw
S32S- CCLN^{R/L} -12-40GX	-	CE-410	LW-4	-	-
S40T- CCLN^{R/L} -12-50GX				SP-441P	M3X8
S32S- CDUN^{R/L} -12-40GX	-	CE-410	LW-4	-	-
S40T- CDUN^{R/L} -12-50GX				SP-521P	M3X8
S32S- CSKN^{R/L} -12-40GX	-	CE-410	LW-4	-	-
S40T- CSKN^{R/L} -12-50GX				SP-141P	M3X8
S40T- CSKN^{R/L} -12-50	^{*1} CB-13/12	CE-320	LW-4	SP-141P ^{*2} (SP-143P)	M3X8 ^{*2} (M3X12)

^{*1} CB-13 for Right-hand Toolholder, CB-12 for Left-hand Toolholder.

^{*2} When using SN□□1204 Insert, please purchase spare parts in () separately.

Sleeves for Tip-Bars

Description		Spare Parts	
		Screw	Wrench
PH	02 ..-..	HS3X4	LW-1.5
	03 ..-..		
	04 ..-..		
	05 ..-..	HS4X4	LW-2
	06 ..-..		
	07 ..-..		
	07 ..-..		

KTGF-F

Description	Spare Parts	
	Clamp Screw	Wrench
KTGF^{R/L} -16F	SB-4070TRW	FT-8

KTG

Description	Spare Parts	
	Clamp Screw	Wrench
KTG^{R/L} -16	SB-4TR	FT-15
.... 22-..	GS-50	LW-3

KN91

Description	Spare Parts				
	Clamp	Clamp Bolt	Washer	Spring	Wrench
KN91^{R/L} 44 -4	[*] CE-111/121	BH8X30	W-8	SP-8	LW-5
44 -5					
44 -7	[*] CE-131/141				

^{*} KN91^{R/L} 44-4/5 ... CE-111 for Right-hand Toolholder, and CE-121 for Left-hand Toolholder.

KN91^{R/L} 44-7 ... CE-131 for Right-hand Toolholder, and CE-141 for Left-hand Toolholder.

KGHS

Description	Spare Parts				
	Clamp	Clamp Bolt	Washer	Spring	Wrench
KGHS^{R/L} -4	CGH-1 ^{1/2} / _R	HH6X25	W-6	SP-6	LW-5
..... -5					
..... -7	CGH-2 ^{1/2} / _R				

· Clamp : KGHS^{R/L} ... CGH-○L for Right-hand Toolholder, and CGH-○R for Left-hand Toolholder.

KGA

Description	Spare Parts			
	Clamp	Clamp Bolt	Spring	Wrench
KGA^{R/L} -3	CGA-3 ^{R/L}	HH6X20	SP-6	LW-5
.... -4	CGA-4 ^{R/L}			
.... -5	CGA-5 ^{R/L}			

· Clamp : CGA-○R for Right-hand Toolholder and CGA-○L for Left-hand Toolholder.

KGM

Description		Spare Parts	
		Screw	Wrench
KGM ^{R/L}	1212H -3	SB-5TR	LTW-20
	1616H -3	HH5X16	LW-4
	2020K -3		
	2525M -3		
KGM ^{R/L}	2020K -4	HH5X16	LW-4
	2525M -4	HH5X25	
KGM ^{R/L}	2020K -5	HH5X16	LW-4
	2525M -5	HH5X25	
	3232P -5		
KGM ^{R/L}	2525M -8	HH6X25	LW-5
	3232P -8		

KGM-T

Description		Spare Parts	
		Screw	Wrench
KGM ^{R/L}	2012K-2T17	SB-5TR	LTW-20
	2020K-2T17	HH5X16	LW-4
	2525M-2T17	HH5X25	
KGM ^{R/L}	1616H-3T20	HH5X16	LW-4
	2012K-3T20	SB-5TR	LTW-20
	2020K-3T20	HH5X16	LW-4
	2525M-3T20	HH5X25	
KGM ^{R/L}	2020K-4T20	HH5X16	LW-4
	2525M-4T20	HH5X25	
	2525M-4T25		
KGM ^{R/L}	2525M-5T25	HH5X25	LW-4
	3232P-5T25		
KGM ^{R/L}	2525M-6T30	HH5X25	LW-4

KGM (for Automatic Lathe)

Description	Spare Parts	
	Clamp Screw	Wrench
KGM^{R/L} 0810K - ...	SE-40120TR	LTW-15S
1010.. - ...		
1212.. - 1.5-...		
1212.. - 2-...		
1212.. - 2.5-...		
1616.. - 2-...	SE-50125TR	LTW-20
1616.. - 2.5-...		
1616.. - 3-...		

KGMM / KGMS

Description	Spare Parts	
	Screw	Wrench
KGMM^{R/L} 1212H-3	SB-5TR	LTW-20
1616H-3	HH5X16	LW-4
2020K-3		
2525M-3		
KGMS^{R/L} 1212H-3	SB-5TR	LTW-20
1616H-3	GS-50	LW-3
2020K-3	HH5X16	LW-4
2525M-3	HH5X25	

Former Parts List

KGMU

Description	Spare Parts	
	Clamp Bolt	Wrench
KGMU^{R/L} 2020K	HH5X16	LW-4
2525M	HH5X25	

KIGM-V

Description	Spare Parts	
	Clamp Screw	Wrench
KIGM^{R/L} 2016B-3V	GS-50	LW-3
2520B-3V		
3225B-3V	SB-5TR	LTW-20
3225B-4V	SB-5TR	LTW-20
4032B-4V		

GFVS-AA / GFVT-AA

Description	Spare Parts	
	Clamp Set	Wrench
GFVS^{R/L} -08AA	CPS-5V	FT-15
GFVT^{R/L} -08AA	CPS-5V	FT-15

GIFV

Description	Spare Parts	
	Clamp Set	Wrench
GIFV^{R/L} 5032B-502B	CPS-6V	LW-3

KTKH-S

Description	Spare Parts
	Releasing Wrench
KTKH^{R/L} - ...S	LTK-5

KTKH-B

Description	Spare Parts	
	Clamp Screw	Wrench
KTKH^{R/L} 0808K - ...B	SE-40120TR	FT-15
1010K - ...B		
1212M - ...B		
1414M - ...B		
1616M - ...B	SE-50125TR	LTW-20

KTTX

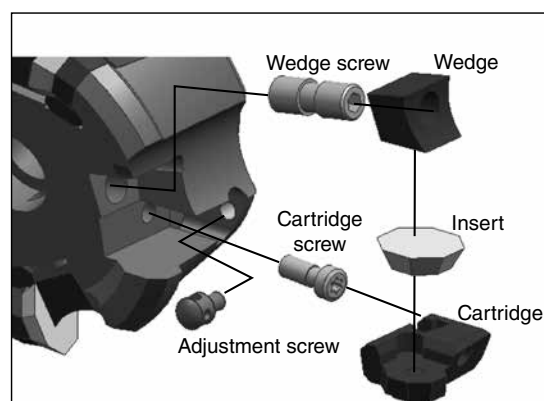
Description	Spare Parts	
	Clamp Screw	Wrench
KTTXR -16F	SB-4070TRW	FT-8

MOF45

Description	Spare Parts		
	Clamp Screw	Wrench	Mounting bolt
MOF 45080R-05-6T 45100R-05-.T 45200R-05-..T	SB-4082TPR	DTP-15	HH12X35
			-
			-
MOF 45080R-07-5T 45100R-07-.T 45200R-07-..T	SB-50120TRS	DTP-15	HH12X35
			-
			-
MOF 45040R-05-3T-M 45050R-05-4T-M 45063R-05-5T-M 45080R-05-6T-M 45100R-05-.T-M 45200R-05-..T-M	SB-4082TPR	DTP-15	HH8X25
			HH10X30
			HH12X35
			-
			-
MOF 45063R-07-4T-M 45080R-07-5T-M 45100R-07-.T-M 45200R-07-..T-M	SB-50120TRS	DTP-15	HH10X30S
			HH12X35
			-
			-

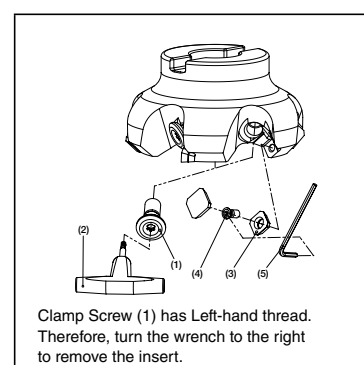
MOFX45

Description	Cartridge	Cartridge screw	Wedge	Wedge screw
MOFX45...	LOF07R	SH-50150TR	WOF07R	W8X21
Description	Adjustment screw	Wrench (for Wedge)	Wrench (for Cartridge)	
MOFX45...	AJ-412	TH-4	TTC-20	



MSE45 (Face Mill)

Description	(1) Clamp Screw	(2) Wrench	(3) Shim	(4) Shim Screw	(5) Wrench
					
MSE 45040R-.T-M 45050R-.T-M	CP8X15TL (Left-hand Thread)	TTC-25	MSE-4245S	SP4X9	LW-2 (for Shim Screw)
MSE 45080R-.T 45200R-..T	CP8X23TL (Left-hand Thread)				
MSE 45063R-.T-M 45200R-..T-M					



- Mounting bolt (SP8X35) is included for MSE45040R-○T-M.
- Mounting bolt (HH10X30S) is included for MSE45050R-○T-M and MSE45063R-○T-M.
- Mounting bolt (HH12X35) is included for MSE45080R-○T-M and MSE45080R-○T.

Former Parts List

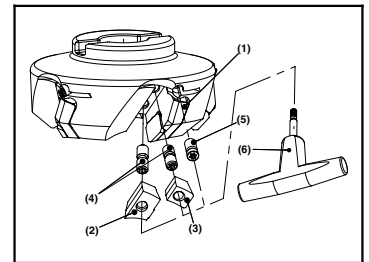
MSE45 (End Mill)

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
MSE 4550	CPS-6M	LW-3	MSE-4245	SP3X8
4563				
4580-32				

MSE45-SF (Face Mill)

Description	(1) Cartridge	(2) Clamp	(3) Clamp	(4) Clamp Screw	(5) Adjustment Screw	(6) Wrench
MSE 45..R-T-SF	LSE-445SR	C43R (for Insert)	C44R (for Cartridge)	W6X17	SV-60136TR	TTC-20
MSE 45..R-T-M-SF						

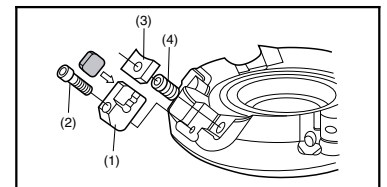
· Mounting bolt (HH10X30S) is included for MSE45063R-4T-M-SF.
· Mounting bolt (HH12X35) is included for MSE45080R-5T-M-SF.



MSD45 (Face Mill)

Description	(1) Cartridge	(2) Cartridge Clamp Screw	(3) Clamp	(4) Clamp Screw	Wrench
MSD 45...R	LSD-445R	HH4X16	C20R	TH8X15	TH-4

· Mounting bolt (HH12X35) is included for MSD4580R.

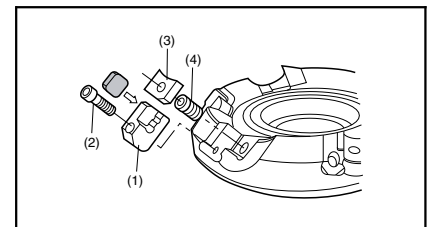


MSD45 (End Mill)

Description	Spare Parts			
	Clamp Set	Wrench	Shim	Shim Screw
MSD 4550	CPS-6M	LW-3	MSD-42	SP3X8
4563				
4580-32				

MSO45 (Face Mill)

Description	(1) Cartridge	(2) Cartridge Clamp Screw	(3) Clamp	(4) Clamp Screw	Wrench
MSO 45...R	LSO-445R	HH4X16	CH-20R	TH8X15	TH-4



MSO45-09 (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
MSO 45...R-09	SB-3060TR	DT-10

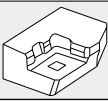
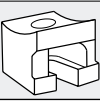
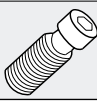
MSO45-S-09 (End Mill)

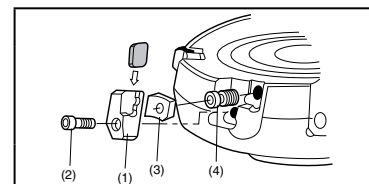
Description	Spare Parts	
	Clamp Screw	Wrench
MSO 45...S32-09	SB-3060TR	DT-10

MSP15 / MSE15 (End Mill)

Description	Clamp Set	Wrench	Shim	Shim Screw
				
MSP 15..	CPS-6M	LW-3	MSP-42	SP3X8
MSE 15..	CPS-6M	LW-3	MSE-4215	SP3X8

MSP15 (Face Mill)

Description	(1) Cartridge	(2) Cartridge Clamp Screw	(3) Clamp	(4) Clamp Screw	Wrench
					
MSP 15...R	LSP-415R	HH4X16	C25R	TH8X15	TH-4



. Mounting bolt (HH12X35) is included in MSP1580R.

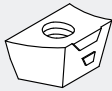
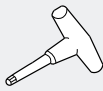
MEC (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
MEC ...R-11-..T(-M)	SB-2555TRG	DTM-8
...R-17-..T(-M)	SB-4070TRN	DTM-15

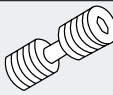
MECX (End Mill)

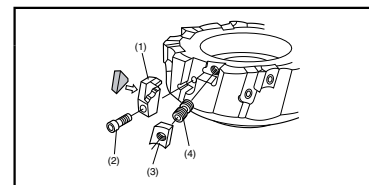
Description	Spare Parts	
	Clamp Screw	Wrench
MECX 33-S32-200-07-6T	SB-2042TRG	DTM-6

MTE90-SF

Description	Cartridge	Clamp	Clamp	Clamp Screw	Adjustment Screw	Wrench
						
MTE 90...-SF	LTE-490SR	C91R (for Insert)	C92R (for Cartridge)	W8X16	SV-60136R	TTC-25

MTE90 (Face Mill)

Description	(1) Cartridge	(2) Cartridge Clamp Screw	(3) Clamp	(4) Clamp Screw	Wrench
					
MTE 90...R	LTE-490R	HH4X16	C17R	W8X18	TH-4



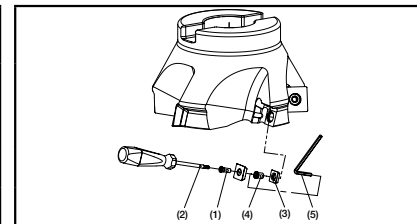
MTE90 (End Mill)

Description	Spare Parts				
	Clamp	Clamp screw	Wrench	Shim	Shim Screw
					
MTE 9050 9063 9080-32	CP-8TE	W8X18	LW-4	MTE-42	SP3X8

Former Parts List

MSO90 (Face Mill)

Description	(1) Clamp Screw	(2) Wrench	(3) Shim	(4) Shim Screw	(5) Wrench
MSO 90...R-15-.T	SB-45130TR	DTP-20	MSO-5200	SPW-6045	LW-4.5 (for Shim Screw)
MSO 90...R-15-.T-M					



· Mounting bolt (HH12X35) is included for MSO90080R-15-○T-M and MSO90080R-15-○T
· Mounting bolt (HH10X30S) is included for MSO90063R-15-○T-M

MSO90-S (End Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
MSO 90...S32-09	SB-3080TR	DT-10
90...S32-15	SB-5085TR	DT-20

MSO90-09 (Face Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
MSO 90...R-09	SB-3080TR	DT-10

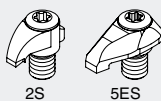
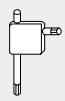
MEA / MEB

Description	Spare Parts	
	Clamp Screw	Wrench
MEA .. -S..(- ...)	SB-2560TR	DT-8
MEB .. -S..	SB-4085TR	DT-15

DMC

Description	Spare Parts	
	Clamp Screw	Wrench
DMC ... -S..	SB-2545TR	FT-8
DMC 0..	SB-3060TR	FT-10

MTPS / MTES

Description	Clamp Set	Wrench
	 2S 5ES	
MTPS ...	CPS-2S	FT-15
MTES ...	CPS-5ES	

MEAL

Description	Spare Parts	
	Clamp Screw	Wrench
MEAL .. -S..	SB-5085TR	DT-20

MRP-S (End Mill)

Description	Spare Parts	
	Clamp Screw	Wrench
MRP ...-S.. -08(-...)	SB-3060TR	DT-10
...-S.. -10-.T(-...)	SB-3080TR	DT-10
...-S.. -12(-.T)(-...)	SB-4085TR	DT-15
050-S42 -12(-300)	SB-40115TR	
...-S.. -16(-...)	SB-50120TR	DT-20

MRP (Face Mill)

Description			Spare Parts	
			Clamp Screw	Wrench
MRP	...R	-10- .T	SB-3080TR	DT-10
MRP	050R	-12	SB-40115TR	DT-15
	063R	-12		
	080R	-12	SB-4085TR	
	080R	-12-7T		
MRP	...R	-16(- .T)	SB-50120TR	DT-20
MRP	...R	-20	SB-60120TR	DT-25

MHD (Helical End Mill)

Description		Spare Parts				
		Clamp Screw	Wrench	Clamp Bolt		Wrench
				1 Front Piece	2 Front Pieces	
MHD	32-S32 -SA	SB-2560TR	DT-8	-	HH8X50	LW-6
	40-S32 -SA	SB-3080TR	DT-10		HH8X65	
	40-S42 -SA				HH12X65	
	50-S42 -SA					
MHD	40-S42 -SB	SB-3080TR	DT-10	HH8X40	-	LW-6
	50-S42 -SB			HH12X40		LW-10
MHD	20S-S20 -C	SB-2560TR	DT-8	-	-	-
	25-S25 -C					
	32-S32 -C					
	40-S42 -C	SB-3080TR	DT-10			
	50-S42 -C					
MHD	32-S32 -A	SB-2560TR	DT-8	HH8X35	HH8X50	LW-6
	40-S32 -A	SB-3080TR	DT-10	HH8X40	HH8X65	
	40-S42 -A			HH12X40	HH12X65	
	50-S42 -A					
MHD	32-S32 -A-130	SB-2560TR	DT-8	HH8X35	HH8X50	LW-6
	40-S32 -A-150	SB-3080TR	DT-10	HH8X40	HH8X65	
	50-S42 -A-150			HH12X40	HH12X65	
MHD	40-S42 -B	SB-3080TR	DT-10	HH8X40	-	LW-6
	50-S42 -B			HH12X40		LW-10
MHD	32 -F	SB-2560TR	DT-8	-	-	-
	40 -F	SB-3080TR	DT-10			
	50 -F					

MHD (Face Mill and Integral Arbor type)

Description	Spare Parts			
	Clamp Screw	Wrench	Clamp Bolt	Wrench
MHD 63-FMA -SA	SB-3080TR	DT-10	HH16X90	LW-14
80-FMA -SA			HH20X110	LW-17
100-FMA -SA			HH24X110	LW-19
MHD 63-FMA -A			HH16X90	LW-14
80-FMA -A			HH20X110	LW-17
100-FMA -A			HH24X110	LW-19
MHD 63-BT50 -SA			HH16X65	LW-14
80-BT50 -SA			HH20X90	LW-17
100-BT50 -SA			HH24X90	LW-19
MHD 63-BT50 -A			HH16X65	LW-14
80-BT50 -A			HH20X90	LW-17
100-BT50 -A			HH24X90	LW-19
MHD 63 -F			-	-
80 -F				
100 -F				

Former Parts List

MHD (Radius)

Description			Spare Parts						
			Clamp Screw		Wrench		Clamp Bolt		Wrench
			for Bottom Insert	for Middle Insert	for Bottom Insert	for Middle Insert	1 Front Piece	2 Front Pieces	
MHD	32-S32	-4RSA	SB-2560TR	SB-2560TR	DT-8	DT-8	-	HH8X50	LW-6
	40-S32	-5RSA	SB-3080TR	SB-3080TR	DT-10	DT-10		HH8X55	
	40-S42	-5RSA	SB-4085TR		DT-15			HH12X55	LW-10
	50-S42	-6RSA							
MHD	32-S32	-A	SB-2560TR		DT-8		-	HH8X50	LW-6
	40-S32	-A	SB-3080TR		DT-10			HH8X65	
	40-S42	-A						HH12X65	LW-10
	50-S42	-A							
MHD	32	-F	SB-2560TR		DT-8		-	-	-
	40	-F	SB-3080TR		DT-10				
	50	-F							
MHD	32	-4RF	SB-2560TR	SB-2560TR	DT-8	DT-8	-	-	-
	40	-5RF	SB-3080TR	SB-3080TR	DT-10	DT-10			
	50	-6RF	SB-4085TR		DT-15				

MVG

Description		Spare Parts	
		Clamp Set	Wrench
MVG		CPS-6V	LW-3

Blank Tool

Description		Spare Parts
		Coolant Pipe
T63H-	BL...- ...	CL63-1