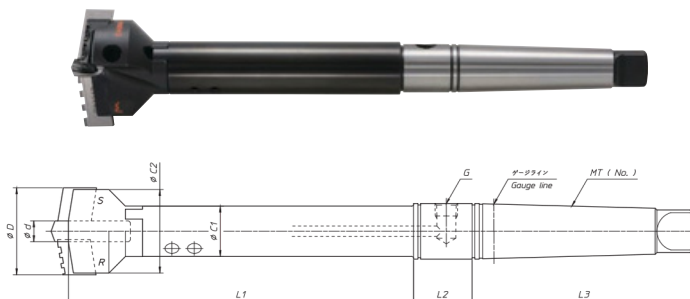


CUTTING TOOLS

MORSE TAPER SHANK SET (STANDARD)

Set contents (A-D drill)

1. Standard head	1 piece
2. Shank	1 piece
3. Center drill	2 pieces
4. Spare blade	2 sets
5. Oil plug	1 piece
6. Wrench	1 set



※For E-I drills, the spare blade and center drill are sold separately, but the oil plug and wrench are included.

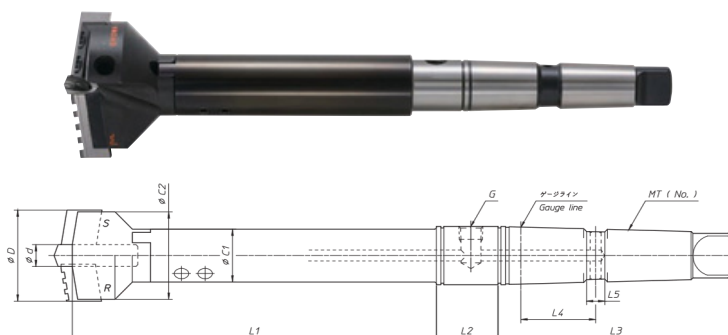
MODEL		Hole dia.	Set blade		ød	L1	L2	L3	øC1	øC2	MT No.	G	N/W (kg)
MT4	-A15-55-200-S	50~55	BK50	BK53	12	200	30	130	29	48	MT4	PT1/4	2.1
	-A2-65-200-S	55~65	BK55	BK60					35	53			2.2
	-B 80-200-S	65~80	BK65	BK73					38	63			2.7
	-C100-200-S	80~100	BK80	BK90					45	78			3.2
	-D120-200-S	100~120	BK100	BK110					55	98			4.3
MT5	-E150-200-S	120~150	Blade and centerdrill sold separately		20	200	30	163	65	118	MT5	PT1/4	7.0
	-F180-200-S	150 ~ 180							75	148			9.4
	-G210-200-S	180 ~ 210							85	178			12.5
MT6	-H240-300-S	210~240			20	300	40	228	95	207	MT6	PT3/8	23.9
	-I 270-300-S	240~270							95	237			28.6

CUTTING TOOLS

MORSE TAPER SHANK SET (FOR OIL-HOLE ADAPTER)

Set contents (A-D drill)

1. Standard head	1 piece
2. Shank	1 piece
3. Center drill	2 pieces
4. Spare blade	2 sets
5. Oil plug	1 piece
6. Wrench	1 set



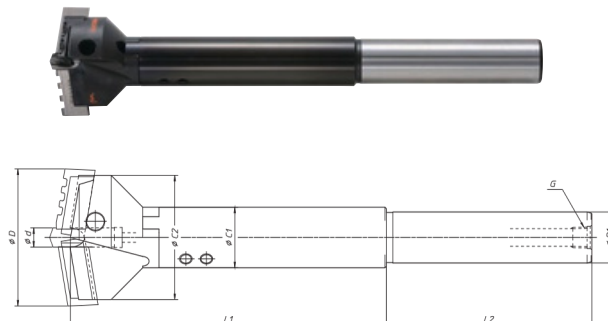
MODEL		Hole dia.	Set blade		ød	L1	L2	L3	L4	L5	C1	C2	MT No.	G	N/W (kg)
MT4	-A15-55-200-OH-S	50 ~ 55	BK50	BK53	12	200	30	130	41	20	29	48	MT4	PT1/4	2.1
	-A2-65-200-OH-S	55 ~ 65	BK55	BK60							35	53			2.2
	-B 80-200-OH-S	65 ~ 80	BK65	BK73							38	63			2.7
	-C100-200-OH-S	80 ~ 100	BK80	BK90							45	78			3.2
	-D120-200-OH-S	100 ~ 120	BK100	BK110							55	98			4.3

CUTTING TOOLS

STRAIGHT SHANK SET (STANDARD)

Set contents (A-D drill)

1.Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4.Spare blade	2 sets
5.Oil plug	1 piece
6.Wrench	1 set



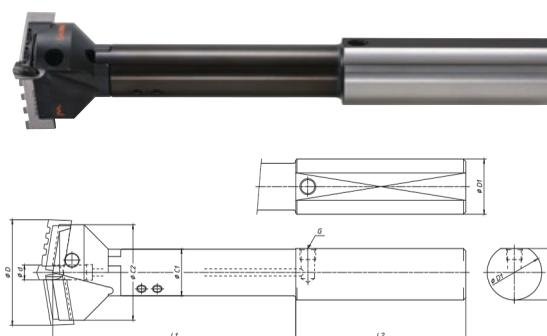
MODEL		Hole dia.	Set blade		$\phi D1$	ϕd	L1	L2	C1	C2	G	N/W (kg)
ST32	-A _{1S} -55-200-S	50~55	BK50	BK53	32	12	200	130	29	48	PT1/4	2.1
	-A ₂ -65-200-S	55~65	BK55	BK60						53		2.2
	-B 80-200-S	65~80	BK65	BK73					35	63		2.7
	-C100-200-S	80~100	BK80	BK90					38	78		3.2
	-D120-200-S	100~120	BK100	BK110					45	98		4.3
ST42	-A _{1S} -55-200-S	50~55	BK50	BK53	42	12	200	130	29	48	PT1/4	2.3
	-A ₂ -65-200-S	55~65	BK55	BK60						53		2.4
	-B 80-200-S	65~80	BK65	BK73					35	63		2.9
	-C100-200-S	80~100	BK80	BK90					38	78		3.5
	-D120-200-S	100~120	BK100	BK110					45	98		4.6

CUTTING TOOLS

STRAIGHT SHANK SET (FOR TURRET LATHE)

Set contents (A-D drill)

1. Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4. Spare blade	2 sets
5. Oil plug	1 piece
6. Wrench	1 set



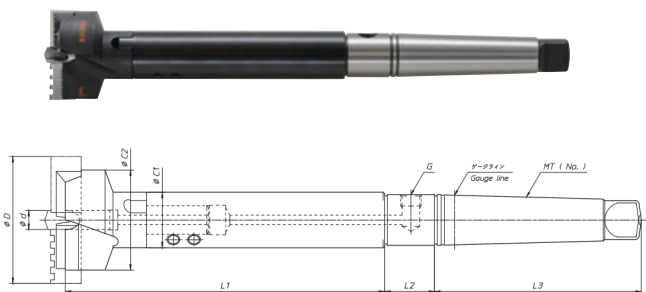
MODEL		Hole dia.	Set blade		$\phi D1$	ϕd	L1	L2	C1	C2	H	G	N/W (kg)
ST45	-A _{1S} -55-200-S	50 ~ 55	BK50	BK53	12	45	200	140	29	48	42	PT1/4	2.6
	-A ₂ 6-5-200-S	55 ~ 65	BK55	BK60						53			2.8
	-B 80-200-S	65 ~ 80	BK65	BK73					35	63			3.3
	-C100-200-S	80 ~ 100	BK80	BK90					38	78			4.0
	-D120-200-S	100 ~ 120	BK100	BK110					45	98			5.1

CUTTING
TOOLS

MORSE TAPER SHANK SET
(FLAT HEAD TYPE)

Set contents (A-D drill)

1.Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4.Spare blade	2 sets
5.Oil plug	1 piece
6.Wrench	1 set



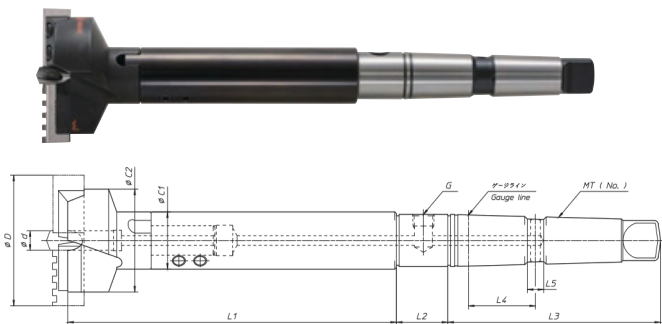
MODEL		Hole dia.	Set blade		ød	L1	L2	L3	C1	C2	MT No.	G	N/W (kg)
MT4	-A ₁₅ -55-200-FT-S	50 ~ 55	BK50F	BK53F	12	200	30	130	29	48	MT4	PT1/4	2.1
	-A ₂ -65-200-FT-S	55 ~ 65	BK55F	BK60F					53	2.2			
	-B 80-200-FT-S	65 ~ 80	BK65F	BK73F					35	63			2.7
	-C100-200-FT-S	80 ~ 100	BK80F	BK90F					38	78			3.2
	-D120-200-FT-S	100 ~ 120	BK100F	BK110F					45	98			4.3

CUTTING
TOOLS

MORSE TAPER SHANK SET
(FLAT HEAD TYPE FOR OIL-HOLE ADAPTER)

Set contents (A-D drill)

1.Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4.Spare blade	2 sets
5.Oil plug	1 piece
6.Wrench	1 set



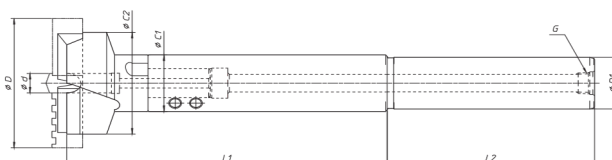
MODEL		Hole dia.	Set blade		ød	L1	L2	L3	ℓ1	ℓ2	C1	C2	MT No.	G	N/W (kg)
MT4	-A ₁₅ -55-200-FOH-S	50 ~ 55	BK50F	BK53F	12	200	30	130	41	20	29	48	MT4	PT1/4	2.1
	-A ₂ -65-200-FOH-S	55 ~ 65	BK55F	BK60F							53	2.2			
	-B 80-200-FOH-S	65 ~ 80	BK65F	BK73F							35	63			2.7
	-C100-200-FOH-S	80 ~ 100	BK80F	BK90F							38	78			3.2
	-D120-200-FOH-S	100 ~ 120	BK100F	BK110F							45	98			4.3

CUTTING TOOLS

STRAIGHT SHANK SET (FLAT HEAD TYPE)

Set contents (A-D drill)

1.Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4.Spare blade	2 sets
5.Oil plug	1 piece
6.Wrench	1 set



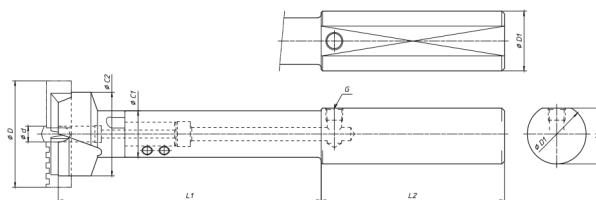
MODEL		Hole dia.	Set blade		ød	øD1	L1	L2	C1	C2	G	N/W (kg)
ST32	-A _{1S} -55-200-FT-S	50 ~ 55	BK50F	BK53F	12	32	200	130	29	48	PT1/4	2.1
	-A ₂ -65-200-FT-S	55 ~ 65	BK55F	BK60F						53		2.2
	-B 80-200-FT-S	65 ~ 80	BK65F	BK73F					35	63		2.7
	-C100-200-FT-S	80 ~ 100	BK80F	BK90F					38	78		3.2
	-D120-200-FT-S	100 ~ 120	BK100F	BK110F					45	98		4.3
ST42	-A _{1S} -55-200-FT-S	50 ~ 55	BK50F	BK53F	12	42	200	130	29	48	PT1/4	2.3
	-A ₂ -65-200-FT-S	55 ~ 65	BK55F	BK60F						53		2.4
	-B 80-200-FT-S	65 ~ 80	BK65F	BK73F					35	63		2.9
	-C100-200-FT-S	80 ~ 100	BK80F	BK90F					38	78		3.5
	-D120-200-FT-S	100 ~ 120	BK100F	BK110F					45	98		4.6

CUTTING TOOLS

STRAIGHT SHANK SET (FOR TURRET LATHE)

Set contents (A-D drill)

1.Standard head	1 piece
2.Shank	1 piece
3.Center drill	2 pieces
4.Spare blade	2 sets
5.Oil plug	1 piece
6.Wrench	1 set



MODEL		Hole dia.	Set blade		ød	øD1	L1	L2	C1	C2	H	G	N/W (kg)
ST45	-A _{1S} -55-200-FT-S	50 ~ 55	BK50F	BK53F	12	45	200	140	29	48	42	PT1/4	2.6
	-A ₂ -65-200-FT-S	55 ~ 65	BK55F	BK60F						53			2.8
	-B 80-200-FT-S	65 ~ 80	BK65F	BK73F					35	63			3.3
	C100-200-FT-S	80 ~ 100	BK80F	BK90F					38	78			4.0
	D120-200-FT-S	100 ~ 120	BK100F	BK110F					45	98			5.1

CUTTING TOOLS

BLADE (FOR STANDARD HEAD)



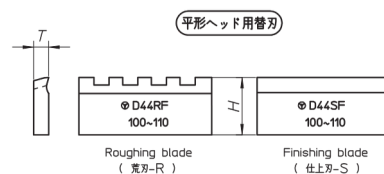
MODEL	Hole dia øDmm	T	H	Head No.	N/W (kg)
A19 RS BK50	50(50 ~ 53)	5	20	A _{1S} -55	0.04
A19.5 RS BK51	51				0.04
A20 RS BK52	52				0.04
A20.5 RS BK53	53				0.04
A21 RS BK54	54				0.04
A21.5RS BK55	55(55 ~ 65)			A ₂ -65	0.04
A22 RS BK56	56				0.04
A22.5RS BK57	57				0.04
A23 RS BK58	58				0.04
A23.5RS BK59	59				0.04
A24RS BK60	60(60 ~ 65)				0.04
A24.5 RS BK61	61				0.04
A25 RS BK62	62				0.04
A25.5 RS BK63	63				0.04
A26 RS BK64	64				0.04
B26.5 RS BK65	65(65 ~ 73)			B-80	0.05
B27 RS BK66	66				0.05
B27.5 RS BK67	67				0.05
B28 RS BK68	68				0.05
B28.5 RS BK69	69				0.05
B29 RS BK70	70				0.05
B29.5 RS BK71	71				0.05
B30 RS BK72	72				0.05
B30.5 RS BK73	73(73 ~ 80)				0.06
B31 RS BK74	74				0.06
B31.5 RS BK75	75			C-100	0.06
B32 RS BK76	76				0.06
B32.5 RS BK77	77				0.06
B33 RS BK78	78				0.06
B33.5 RS BK79	79				0.06
C34 RS BK80	80(80 ~ 90)				0.07
C24.5 RS BK81	81				0.07
C35 RS BK82	82				0.07
C35.5RS BK83	83				0.07
C36 RS BK84	84				0.07
C36.5 RS BK85	85				0.07
C37 RS BK86	86				0.07
C37.5 RS BK87	87				0.07
C38 RS BK88	88				0.07
C38.5RS BK89	89				0.07
C39 RS BK90	90(90 ~ 100)				0.08
C39.5 RS BK91	91				0.08
C40 RS BK92	92				0.08
C40.5 RS BK93	93				0.08
C41 RS BK94	94				0.08
C41.5 RS BK95	95				0.08
C42 RS BK96	96				0.08
C42.5 RS BK97	97				0.08
C43 RS BK98	98				0.08
C43.5 RS BK99	99				0.08

MODEL		Hole dia øDmm	T	H	Head No.	N/W (kg)	
D44 RS	BK100	100(100 ~ 110)	5	20	D-120	0.08	
D44.5RS	BK101	101				0.08	
D45 RS	BK102	102				0.08	
D45.5 RS	BK103	103				0.08	
D46 RS	BK104	104				0.08	
D46.5 RS	BK105	105				0.08	
D47 RS	BK106	106				0.08	
D47.5 RS	BK107	107				0.08	
D48 RS	BK108	108				0.08	
D48.5 RS	BK109	109				0.08	
D49 RS	BK110	110(110~120)				0.10	
D49.5 RS	BK111	111				0.10	
D50 RS	BK112	112				0.10	
D50.5 RS	BK113	113				0.10	
D51 RS	BK114	114				0.10	
D51.5 RS	BK115	115				0.10	
D52 RS	BK116	116				0.10	
D52.5 RS	BK117	117				0.10	
D53 RS	BK118	118				0.10	
D53.5 RS	BK119	119				0.10	
D54 RS	BK120D	120	8	25	E-150	0.16	
E120 RS	BK120E	120				0.16	
E125 RS	BK125	125				0.18	
E130 RS	BK130	130				0.18	
E135 RS	BK135	135				0.20	
E140 RS	BK140	140				0.20	
E145 RS	BK145	145				0.20	
E150 RS	BK150E	150				0.20	
F150 RS	BK150F	150			12	F-180	0.30
F155 RS	BK155	155					0.32
F160 RS	BK160	160					0.32
F165 RS	BK165	165					0.34
F170 RS	BK170	170					0.34
F175 RS	BK175	175					0.36
F180 RS	BK180	180				G-210	0.38
G180 RS	BK180	180					0.38
G190 RS	BK190	190					0.41
G200 RS	BK200	200					0.43
G210 RS	BK210	210					0.45
H210 RS	BK220	210					H-240
H220 RS	BK230	220	0.48				
H230 RS	BK240	230	0.50				
H240 RS	BK240	240	0.52				
I240 RS	BK240	240	I-270	0.52			
I250 RS	BK250	250		0.55			
I260 RS	BK260	260		0.58			
I270 RS	BK270	270		0.60			

CENTER DRILL

MODEL	DIA.	Head No.	N/W (kg)
CD-12	12mm	A1-55,A2-65,B80,C100,D120	0.04
CD-12C	12mm	A1-55,A2-65,B80,C100,D120	0.04
CD-20	20mm	E150,F180,G210,H240,I270	0.15

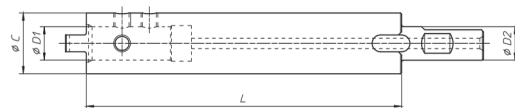
BLADE (FOR FLTA HEAD)



Each set consists of a roughing blade (R) and a finishing blade (S).

MODEL	Hole dia øDmm	T	H	Applicable head No.
A19 RS FT	50(50 ~ 53)	5	20	A _{1S} -55-FT
A20.5 RS FT	53(53 ~ 55)			
A21.5 RS FT	55(55 ~ 60)			A ₂ -65-FT
A24 RS FT	60(60 ~ 65)			
B26.5 RS FT	65(65 ~ 73)			B-80-FT
B30.5 RS FT	73(73 ~ 80)			
C34 RS FT	80(80 ~ 90)			C-100-FT
C39 RS FT	90(90 ~ 100)			
D44 RS FT	100(100 ~ 110)			D-120-FT
D49 RS FT	110(110 ~ 120)			

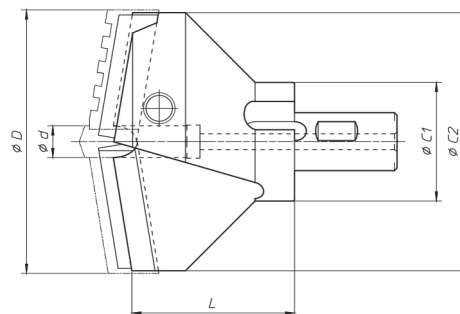
EXTENTION ARBOR



MODEL		øD1,øD2	L	øC	HEAD	N/W (kg)
EXT	-A-150	16	150	29	A _{1S} -55 • A ₂ -65	0.8
	-300		300			1.6
	-B-150	18	150	35	B 80	1.2
	-300		300			2.3
	-C-150	20	150	38	C100	1.4
	-300		300			2.7
	-D-150	22	150	45	D120	1.9
	-300		300			3.8
	-E-150	30	150	55	E150	2.8
	-300		300			5.5
	-F-150	35	150	65	F180	3.9
	-300		300			7.8
	-G-150	40	150	75	G210	5.1
	-300		300			10.2
	-H-150	45	150	85	H240	6.4
	-300		300			12.8
	-I-150	50	150	95	I270	7.9
	-300		300			16.0

CUTTING TOOLS

STANDARD HEAD ASS'Y

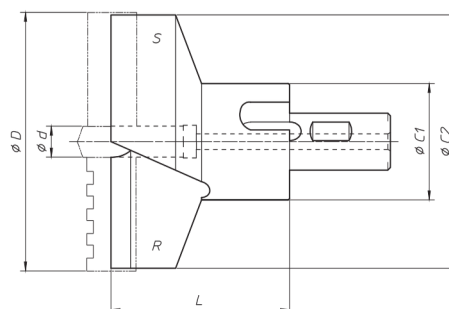


WITH BLADE CLAMPS (Blade and center drill are sold separately.)

MODEL		Hole dia. ϕD		ϕd	L	$\phi C1$	$\phi C2$	N/W (kg)
		MIN.	MAX.					
HD	-A _{1S} -55	50	55	12	40	29	48	0.4
	-A ₂ -65	55	65		41.5		53	0.5
	-B 80	65	80		47	35	63	0.7
	-C100	80	100		50.5	38	78	1.0
	-D120	100	120		62	45	98	1.7
	-E150	120	150	20	55	55	118	2.6
	-F180	150	180		63.5	65	148	4.3
	-G210	180	210		75	75	178	6.7
	-H240	210	240		75.5	85	207	10.0
	-I270	240	270		76	95	237	11.8

CUTTING TOOLS

FLAT HEAD ASS'Y

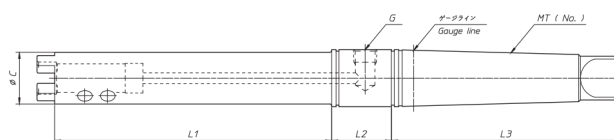


WITH BLADE CLAMPS (Blade and center drill are sold separately.)

MODEL		Hole dia. ϕD		ϕd	L	$\phi C1$	$\phi C2$	N/W (kg)
		MIN	MAX.					
HD	-A _{1S} -55FT	50	55	12	43	29	48	0.4
	-A ₂ -65FT	55	65		45		53	0.5
	-B 80FT	65	80		51	35	63	0.7
	-C100FT	80	100		56	38	78	1.0
	-D120FT	100	120		69	45	98	1.7

CUTTING TOOLS

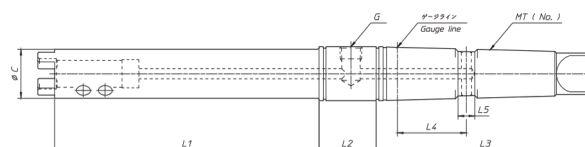
MT DRILL ARBOR



MODEL	MT No.	L1	L2	L3	øC	G	DRILL HEAD	N/W (kg)
MT4-A-200	MT4	157	30	130	29	PT1/4	A ₁₅ -55 A ₂ -65	1.4
MT4-B-200		150			35		B80	1.8
MT4-C-200		144			38		C100	2.0
MT4-D-200		131			45		D120	2.5
MT5-E-200	MT5	137	30	163	55	PT1/4	E150	3.8
MT5-F-200		126			65		F180	4.5
MT5-G-200		112			75		G210	5.2
MT6-H-300		209			85	PT3/8	H240	7.8
MT6-I-300	MT6	206	40	228	95		I270	11.0

CUTTING TOOLS

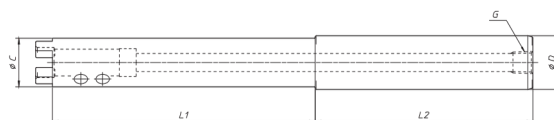
OH MT DRILL ARBOR



MODEL	MT No.	L1	L2	L3	L4	L5	øC	G	DRILL HEAD	N/W (kg)
MT4-A-200-OH	MT4	157	30	130	41	20	29	PT1/4	A ₁₅ -55 A ₂ -65	1.4
MT4-B-200-OH		150					35		B80	1.8
MT4-C-200-OH		144					38		C100	2.0
MT4-D-200-OH		131					45		D120	2.5

CUTTING TOOLS

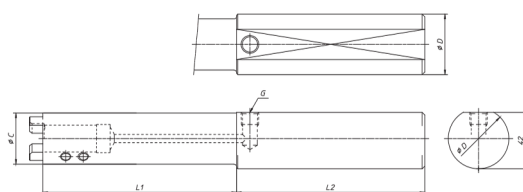
ST DRILL ARBOR



MODEL		φD	L1	L2	øC	G	DRILL HEAD	N/W (kg)
ST32	-A-200	32	157	130	29	PT1/4	A _{1S} -55 A ₂ -65	1.6
	-B-200		150		35		B80	2.0
	-C-200		144		38		C100	2.1
	-D-200		131		45		D120	2.7
ST42	-A-200	42	157	130	29	PT1/4	A _{1S} -55 A ₂ -65	1.8
	-B-200		150		35		B80	2.2
	-C-200		144		38		C100	2.3
	-D-200		131		45		D120	2.9

CUTTING TOOLS

ST DRILL ARBOR (FOR LATHE)



MODEL		φD	L1	L2	øC	G	DRILL HEAD	N/W (kg)
ST45	-A-200	45	157	140	29	PT1/4	A _{1S} -55 A ₂ -65	1.9
	-B-200		150		35		B80	2.3
	-C-200		144		38		C100	2.4
	-D-200		131		45		D120	3.0

CUTTING TOOLS

COOLANT RING



Coolant ring	set
Coolant ring	1pc
Stopper	1pc

※Oil plug is sold separately.

MODEL		Inner diameter (mm)	Oil Plug
ST32	-MT4	32	PT1/4
	-MT5	45	
	-MT6	65	PT3/8

Oil plug (individual)

MODEL		Oil Plug
PT	1/4	CR-MT4, CR-MT5
	3/8	CR-MT6

Oil ring used supply coolant through the drill in rotational applications.

CUTTING TOOLS

T/C GUIDE

(FOR THROUGH HOLE WITH STANDARD HEAD)



2pc/set

MODEL		Applicable head	WRENCH
DG	-B80-S	B-80($\varnothing$ 65- $\varnothing$ 73)	No wrench
	-B80-L	B-80($\varnothing$ 73- $\varnothing$ 80)	
	-C/D	C-100/D-120	
	-E/F	E-150/F-180	w/wrench
	-G/H/I		

T/C guides will minimize vibration when drill goes through the other end.

CUTTING TOOLS

BLADE CLAMP



2pc set with screws

FOR STANDARD HEAD

MODEL	
BC	-A ₁₅ -55
	-A ₂ -65
	-B 80
	-C100
	-D120
	-E150
	-F180
	-G210
	-H240
	-I270

FOR FLAT HEAD

MODEL	
BC	-A ₁₅ -55FT
	-A ₂ -65FT
	-B 80FT
	-C100FT
	-D120FT

NEW SUPER DRILL

Deep hole machining up to MAX. 1800 mm
Deep boring up to 15 times diameter!



HIGH RELIABILITY AND PROVEN PERFORMANCE

SUPER DRILL was put on the market by SHOWA TOOL CO. Since that time, it was continuously improved through in-the-field experiences. In response to customer's demands, NEW SUPER DRILL has been developed to increase its flexibility, employing a modular system. The basic set consists of a head and a shank. And, extension arbors are added for deeper holes. SUPER DRILL's ease-of-use is further enhanced by this modular construction.

NO.1

SINGLE PASS, PRECISION BORING OF 50MM-270MM DIAMETERS

No center drilling or pilot hole required. Super Drill's built-in center drill acts as an axis for precision drilling. New Super drill is available in 10 standard head sizes, A1S-55, A2-65, B-80, C-100, D-120, E-150, F-180, G-210, H-240 and I-270, for drilling 50mm to 270mm diameters.

NO.2

SPECIALTY OF DEEP HOLE DRILLING

Combination of roughing and finishing blades form small chips, providing efficient chip removal. No pecking or dwelling required, even for deep holes.

NO.3

ABLE TO DRILL EVEN IN HARD METALS

New Super Drill cutting blades are manufactured from sintered HSS, providing excellent drilling performance even in hard metals.

NO.4 REUSABLE BLADES AND CENTER DRILL

The cutting edge of New Super Drill consists of a center drill, a roughing(R) blade and a finishing(S) blade. Different diameter of holes can be bored by changing blades within the capacity of each drill holder.

The blades and center drill can be resharpened which reduces tool cost.

RE-SHARPENING FIXTURE



A pair of roughing and finishing blades, can be resharpened utilizing the resharpening fixture on the surface grinder.

OIL RING



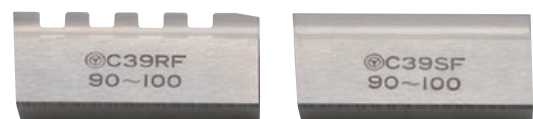
Oil ring is used to supply coolant through the drill in rotational applications.

T/C GUIDES (FOR THROUGH HOLE)



In case of through hole drilling, the drill may vibrate immediately before breaking through, depending on hole diameter, cutting speed and feed rate, and rigidity of the machine spindle. This can result in damage of the cutting blades. Using T/C

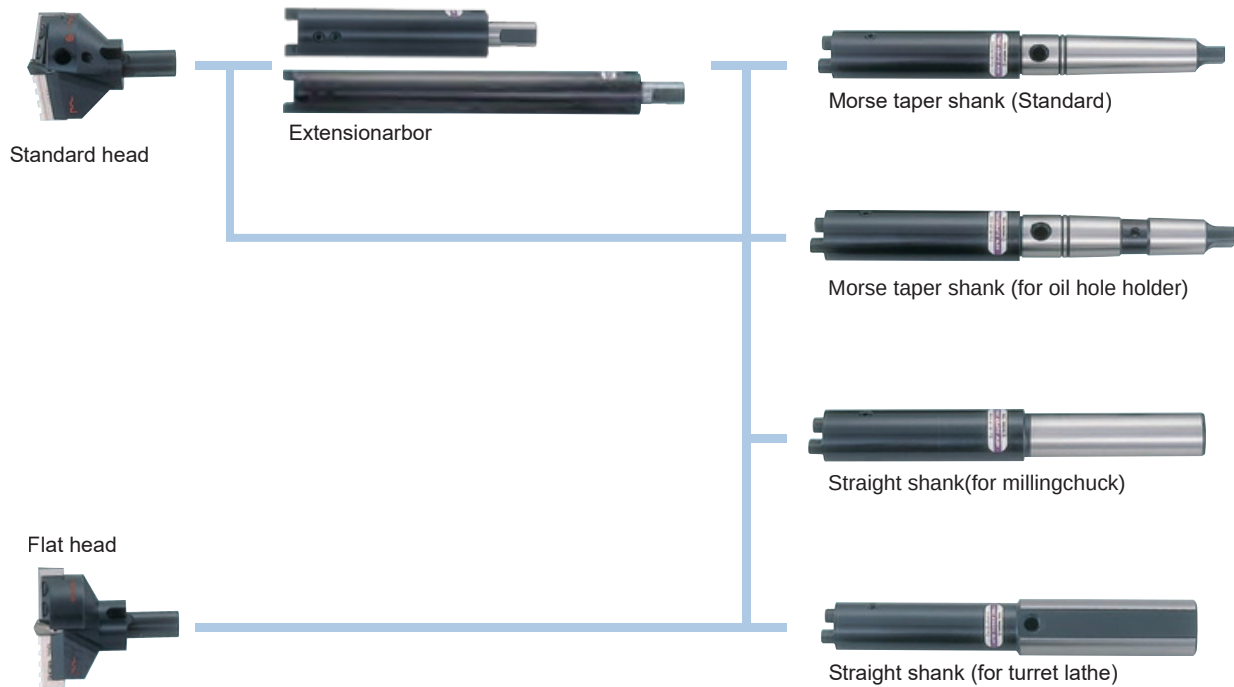
SHARPENING THE BLADES



- ① "R" and "S" blades are ground to the same height.
- ② Both blades are ground in straight line, making first and second clearance.
- ③ Grind the center drill to the point angle of 140° with thinning guides when boring through.

NO.5

EASY ASSEMBLY, FLEXIBLE FOR VARIOUS APPLICATIONS



NO.6

ASSEMBLY

New Super Drill's cutting edge consists of three cutters a roughing(R) blade, a finishing(S) blade and a center drill. This combination of cutters gives outstanding drilling efficiency.

■ Procedure



- ① Insert the center drill in the center of the head.
- ② Clamp the roughing(R) blade in the seat marked with . The inside edge of the roughing blade must contact tightly against the side slot of the center drill, to prevent the center drill turning free.
- ③ Clamp the finishing(S) blade in the seat marked S.
- ④ Finally, tighten the center drill setting screw.

Guide Values for New Super Drill

Material	DIN	42CrMo4		CK35-55				ST											
	USA	4140				1025		D		W1-10		D2		40-50					
	JIS	SCM440		S35C-55C		SCM440		SS		SK3		SKD11		FC25-40		SUS27			
DIA.		Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed	Speed	Feed
50-60		160-180	0.1-0.15	160-180	0.1-0.15	190-210	0.1-0.15	210-240	0.1-0.18	80-90		70-80		140-150	0.15-0.25	75-90	0.06-0.12	450-500	0.15-0.25
60-70		140-160		150-160		170-190		190-210		80-85		55-70		120-140		60-75		400-450	
70-80		110-140	0.1-0.18	120-140		155-170	0.1-0.18	170-190		70-80	0.08-0.15	50-55	0.06-0.1	100-120	0.15-0.35	55-70	0.06-0.13	350-400	0.15-0.35
80-90		100-120		110-120		140-155		155-170		60-70		45-50		90-100		50-60		300-350	
90-100		90-110		100-110		125-140		140-155		55-60		40-50		80-90		45-50		300-330	
100-110		80-100		90-100		110-125		130-140		50-55		35-40		70-80		40-45		280-300	
110-120		70-90		80-90		100-110		120-130		45-50		30-35		65-70		35-40		250-290	
120-130		70-80		70-80		90-100		105-120		40-45		30-35		60-65		30-35		230-250	
130-140		65-70	0.06-0.15	65-70		80-90	0.06-0.16	90-100	0.1-0.15	35-40	0.06-0.15	25-30	0.05-0.1	50-60	0.1-0.25	25-30	0.06-0.12	200-230	0.15-0.2
140-150		50-60		50-60		75-80		80-90		30-35		25-30		40-50		20-30		180-200	
150-160		50-60		50-60		70-75		75-85		25-35		20-25		35-45		20-25		170-180	
160-170		50-60		50-60		65-70		70-80		25-30		20-25		35-45		15-25		160-170	
170-180		45-50		45-50		60-65		65-75		25-30		20-25		35-40		15-25		150-160	
180-190		45-50		45-50		60-65		60-70		20-30		20-25		30-40		15-25		140-150	
190-200		40-45		45-50		55-60		60-65		20-25		15-20		30-40		15-20		135-140	
200-210		40-45		40-45		55-60		55-65		20-25		15-20		30-35		10-20		130-135	
210-220		40-45		40-45		50-55		55-60		15-25		15-20		25-35		10-20		120-130	
220-230		35-40		40-45		50-55		50-60		15-20		15-20		25-35		10-20		115-120	
230-240		35-40		35-40		45-50		50-55		15-20		15-20		25-30		10-20		110-115	
240-250		30-35		35-40		45-50		45-55		15-20		15-20		25-30		10-20		105-110	
250-260		30-35	30-35	45-50	45-50	15-20	15-20	20-25	10-20	100-110									
260-270		30-35	30-35	40-45	40-50	15-20	10-15	20-25	10-15	100-110									

NOTE: Reduce drill speed by 30% ~50% in case of quenched and tempered Chromoly, structural steel, etc. depending on their hardness.

New Super Drill Drilling Data

Nominal Item	Machining diameter mm	Rotation speed (min-1)	Material Cut, speed Feed	Material Cut, speed Feed	S50C 20m/min 0.15	Nominal Item	Machining diameter (mm)	Rotation speed (min-1)	Material Cut, speed Feed	Material Cut, speed Feed	S50C 20m/min 0.15
			Cut, torque kN . m	Cut, power (kW)	Thrust force (kN)				Cut, torque kN . m	Cut, power (kW)	Thrust force (kN)
A1-50 ~ 55	50	127	0.17	2.2	4.8	G180 ~ 210	185	34	1.57	5.8	14.4
	55	116	0.20	2.3	5.2		190	34	1.64	5.9	14.7
A2-55 ~ 65	60	106	0.23	2.5	5.6		195	33	1.72	6.0	15.1
	65	98	0.26	2.6	6.0		200	32	1.79	6.1	15.4
B-65 ~ 80	70	91	0.30	2.8	6.4		205	31	1.87	6.2	15.7
	75	85	0.33	2.9	6.8		210	30	1.95	6.3	16.0
C-80 ~ 100	80	80	0.37	3.1	7.2	H-210 ~ 240	215	30	2.03	6.4	16.3
	85	75	0.41	3.2	7.5		220	29	2.11	6.5	16.6
	90	71	0.46	3.4	7.9		225	28	2.19	6.7	17.0
	95	67	0.50	3.5	8.3		230	28	2.28	6.8	17.3
	100	64	0.55	3.6	8.6		235	27	2.36	6.9	17.6
	105	61	0.60	3.8	9.0	I-240 ~ 270	240	27	2.45	7.0	17.9
D-100 ~ 120	110	58	0.64	3.9	9.3		245	26	2.54	7.1	18.2
	115	55	0.70	4.0	9.7		250	25	2.63	7.2	18.5
	120	53	0.75	4.2	10.0		255	25	2.72	7.3	18.8
	125	51	0.80	4.3	10.4		260	24	2.81	7.4	19.1
E-120 ~ 150	130	49	0.86	4.4	10.7		265	24	2.90	7.5	19.4
	135	47	0.92	4.6	11.1		270	24	3.00	7.6	19.7
	140	45	0.97	4.7	11.4						
	145	44	1.03	4.8	11.8						
	150	42	1.10	4.9	12.1						
F-150 ~ 180	155	41	1.16	5.0	12.4						
	160	40	1.22	5.2	12.8						
	165	39	1.29	5.3	13.1						
	170	37	1.36	5.4	13.4						
	175	36	1.43	5.5	13.7						
	180	35	1.50	5.6	14.1						

NOTE : The above values are not ones measured in actual drilling. It is recommended to us New Super Drill on a machine having 50% or more bigger capacity than these values for efficient drilling.