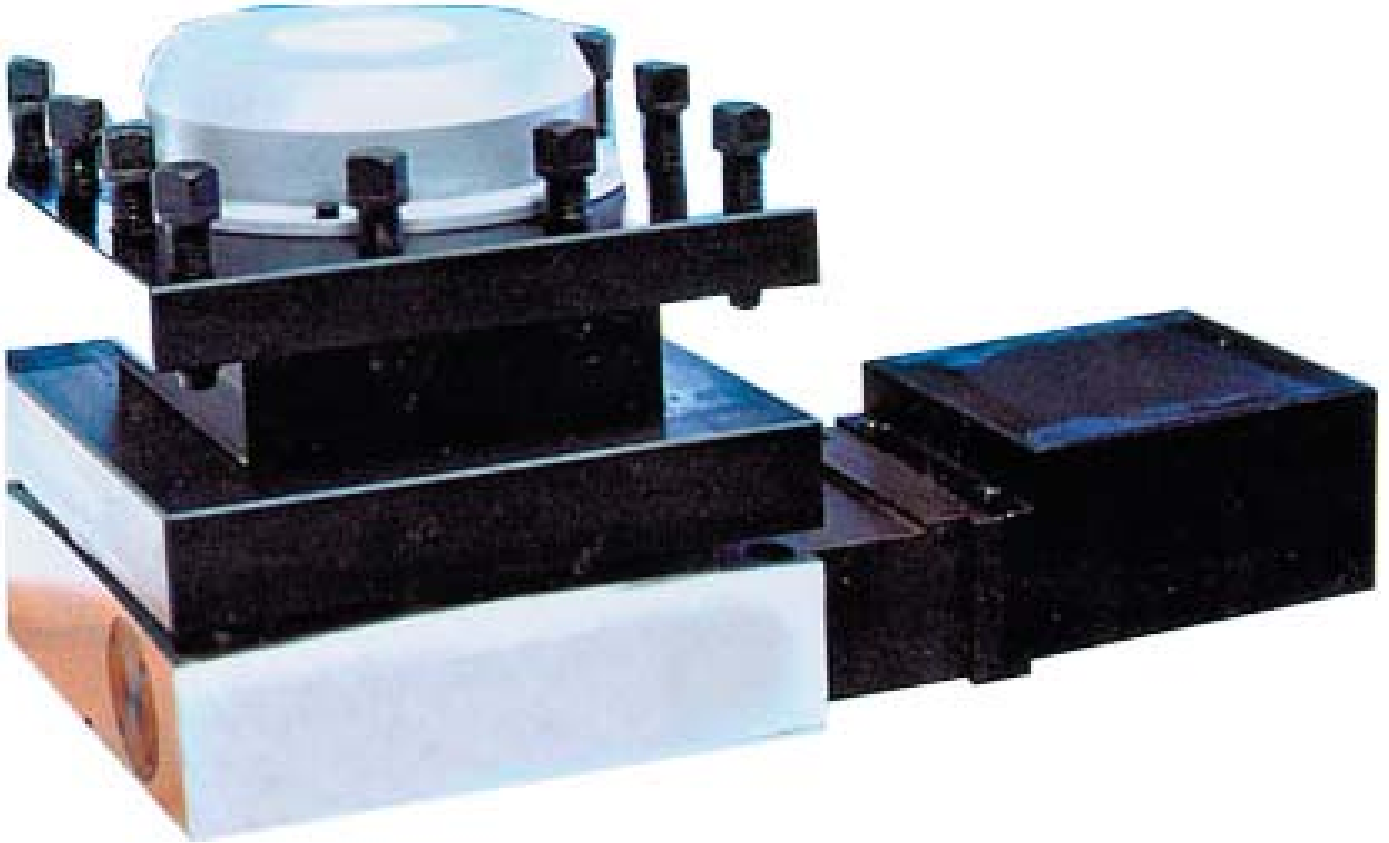


NC TOOL TURRENT

The NC turret is designed to hold several tools and automatically index for common CNC lathes. It utilizes 3-part Hirth coupling as indexing mechanism with indexing sequence mainly controlled by a HALL transducer. It features high accuracy, work reliability and easy maintenance thanks to tailored design.



Order No.	400-1011	400-1012	400-1013	400-1014	400-1015	400-1016	400-1017	400-1018	400-1019
Square Turret Size	206mm	190mm	214mm	166mm	180mm	200mm	200mm	206mm	240mm
Work Positions	4	4	6	4	4	4	6	4	4
Minimum Height from base to Tool Post	100.5mm	122mm		70mm	81mm	100mm		106mm	120mm
Center Height Tool Bits			47mm				125mm		
Position Change Time (second)	3.15	3.5	3	3.24	3.16	3.15	2.66	3.15	2.9
Rotating speed (r/min)	17	20	20	17	17	17	17	17	20
Max. Torque in Horizontal (N.M)	800	560	560	400	800	800	800	800	1000
Max. Torque in Vertical (N.M)	2000	1700	1700	1250	2000	2000	2000	2000	2500
Repeatability	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
Net Weight	56kg	56kg	68kg	30kg	39kg	54kg	54kg	60kg	74kg

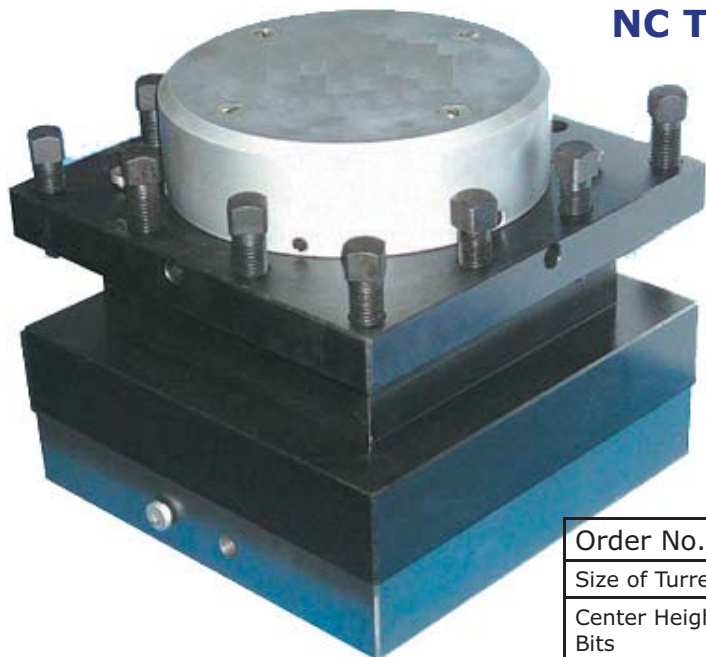
NC TOOL TURRENT

The turret is designed mainly for the NC vertical and horizontal lathe. It clamps and unclamps by Hydraulic pressuer motor, rotate without lifting. It utilizes a face gear coupling as indexing mechanism. So it features high accuracy; reliability; rotating reposefully; good airproof, fit to machining big parts.



Order No.	400-1020	400-1021	400-1022
Minimum Height from base to Post	170mm	200mm	200mm
Position Change Time (second)	3	4	4
Max. Rotating Speed (r/min)	8	8	8
Max. Torque in Horizontal (N.M)	5000	6000	6000
Max. Torque in Vertical (N.M)	2500	3000	3000
Repeatability	0.005	0.005	0.005
System Press (Mpa)	3	3	3
Net Weight	250kg	455kg	485kg

NC TOOL TURRENT



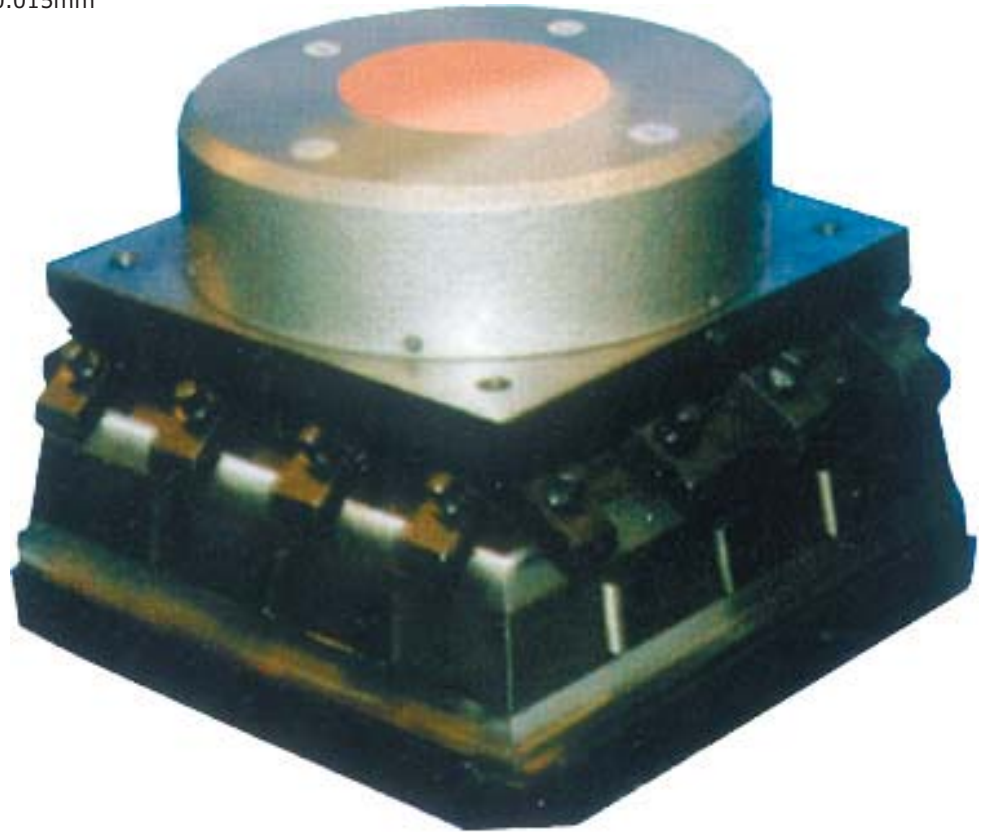
The NC turret is an important accessory for NC lathe and especially applicable for large NC horizontal lathe and NC vertical lathe. It is designed to hold several tools and automatically index . Thus automation and high efficiency of operational procedures can be realized. It utilizes a face gear coupling as indexing mechanism. Indexing sequence is mainly controlled by a positioning face gear and a HORE transducer. So it features high accuracy, reliability, wide application, compact design.

Order No.	400-1023	400-1024	400-1025	400-1026	400-1027
Size of Turrent Squire	300mm	300mm	380mm	380mm	440mm
Center Height of Tool Bits	125mm	120mm	110mm	105mm	145mm
Position Change Time	4s	4s	4s	6s	5s
Max. Clamping force N.M.	27500	27500	34000	60000	63000
Torque of Motor	5	5	6.4	6.4	9.4

NC TOOL TURRENT

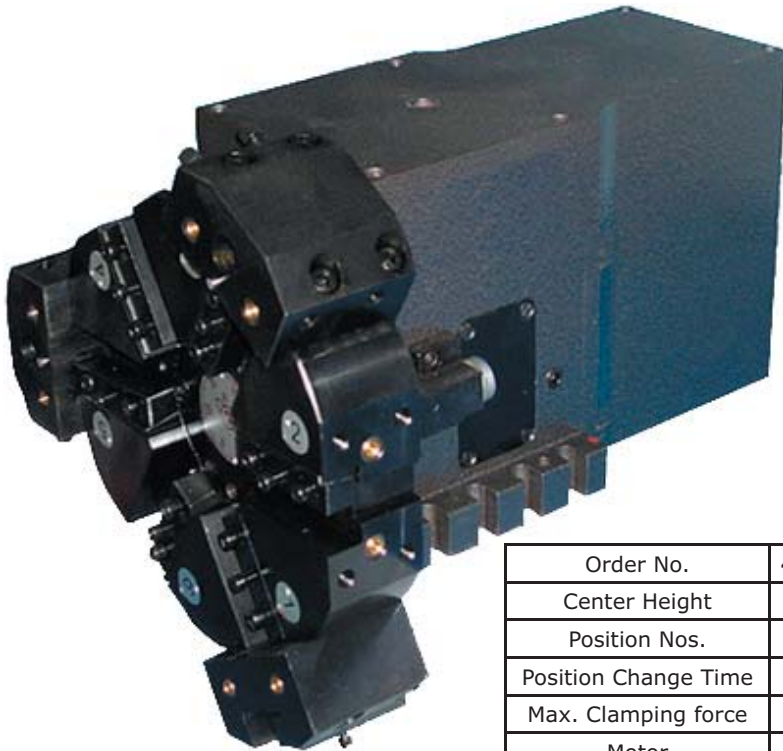
The NC turret is an important accessory for NC lathe and especially suitable for NC vertical lathe and heavy-duty NC horizontal lathe. It is designed to hold several tools and automatically index. A non-lifting face gear coupling is used as indexing mechanism. Indexing sequence is mainly controlled by a HALL transducer. It features high accuracy; work reliability; and easy maintenance thanks to tailored design.

- * Repeatability: $\leq 0.005\text{mm}$
- * Vertical residual deformation: $\leq 0.015\text{mm}$
- * Horizontal elastic deformation: $\leq 0.05\text{mm}$
- * Horizontal residual deformation: $\leq 0.015\text{mm}$



Order No.	Square Size (mm)	Center Height (mm)	Position	Position Change Time	Max. Clamping Force (KN)	Motor Torque (N.M)	Net Weight (KG)	Max. Vertical Torque	Max. Vertal Elastic Deformation	Max. Horizontal Torque
400-1028	300	125	4	4s	27.5	5	140	4 KN.M	0.12mm	2KN.M
400-1029	300	160	6	3.5s	27.5	5	149	4KN.M	0.12mm	2KN.M
400-1030	320	90	4	4s	27.5	5	113	4KN.M	0.08mm	2KN.M
400-1031	320	90	4	6.5s	40	5	116	5KN.M	0.08mm	2KN.M
400-1032	320	94.2	5	6.2s	40	5	119	5KN.M	0.08mm	2KN.M
400-1033	320	90	6	5s	40	5	119	5KN.M	0.08mm	2KN.M
400-1034	380	109	4	4s	34	6.4	175	5KN.M	0.12mm	2.5KN.M
400-1035	380	145	4	6.5s	60	6.4	210	7KN.M	0.08mm	3KN.M
400-1036	380	95	4	6.5s	60	6.4	175	7KN.M	0.08mm	3KN.M
400-1037	380	145	4	6.5s	60	6.4		7KN.M	0.08mm	3KN.M
400-1038	380	135	5	6.2s	60	6.4	260	7KN.M	0.08mm	3KN.M
400-1039	380	109	6	3.5s	34	6.4	170	5KN.M	0.12mm	2.5KN.M
400-1040	380	135	6	5.5S	60	6.4	200	7KN.M	0.12mm	3KN.M
400-1042	440	160	4	8.5s	100	9.4	301	15KN.M	0.12mm	12KN.M
400-1043	440	160	6	8.5s	100	9.4	311	15KN.M	0.05mm	12KN.M
400-1044	450	110	4	4.5s	63	9.4	284	7.5KN.M	0.05mm	3.75KN.M
400-1045	450	105.3	4	8.5s	100	9.4	295	15KN.M	0.05mm	12KN.M

NC TOOL TURRENT



The NC turret is an important accessory for NC lathe and especially applicable for all-pervading NC lathe. It is designed to hold several tools and automatically index. Thus automation and high efficiency of operational procedures can be realized. It utilizes a face gear coupling as indexing mechanism. Indexing sequence is mainly controlled by a positioning face gear and a HORE transducer. So it features high accuracy, reliability, wide application, compact design.

Order No.	400-1046	400-1047	400-1048	400-1049	400-1050
Center Height	63mm	80mm	80mm	100mm	100mm
Position Nos.	6	6	8	6	8
Position Change Time	3s	3s	3s	2.85s	2.85s
Max. Clamping force	20KN	25KN	25KN	40KN	40KN
Motor	120w ,1400rpm				3N.M
Halcel Unit	DC 12-24, 20MA NPN				
Net Weight	50kg	65kg	73kg	113kg	115kg

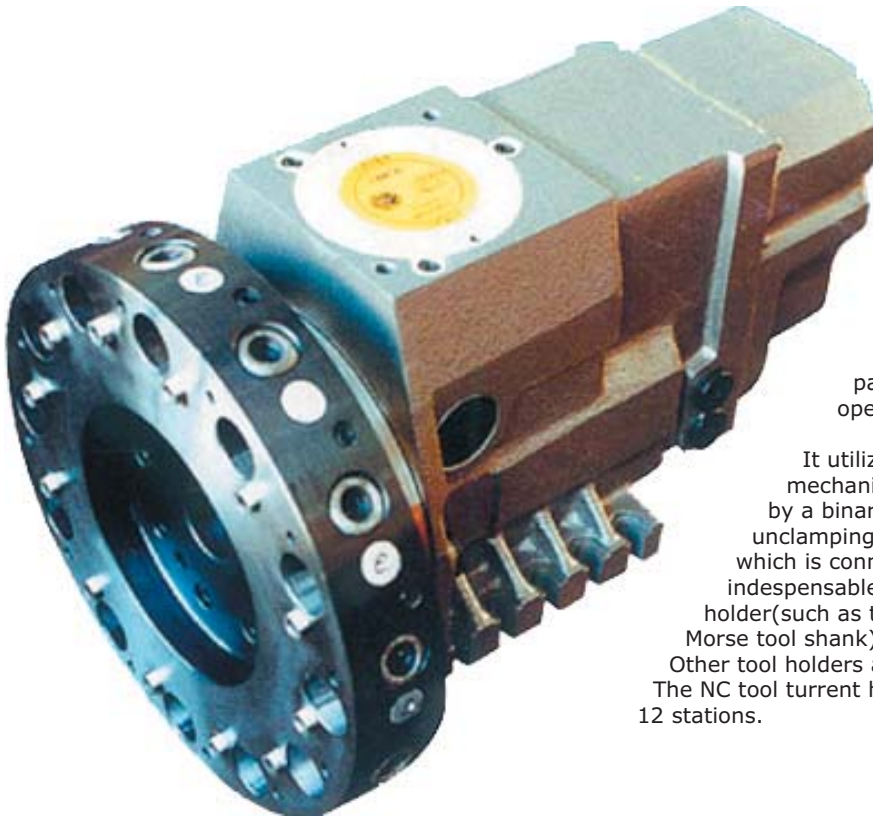
NC TOOL TURRENT

This type of NC tool turret is designed to hold several tools, bidirectionally index and position in the shortest path. It utilizes a face gear coupling as indexing mechanism. Indexing sequence is mainly controlled by a binary absolute encoder. It features compact design; high flexibility; high accuracy and reliable performance. With the matching disc, and various supplementary tool holder, such complicated work procedures as turning, boring, drilling, and milling can be accomplished. Turret disc and tool holder (such as turning holder, boring tool holder, collect and Morse tool shank) are on special orders.



Order No.	400-1071	400-1072
Center Height	80mm	125mm
Station Numbers	8	12
45° position change and clamping time	0.67	1.1
45° position change	0.29	0.47
180° position change and clamping time	1.54	2.5
Max. unbalanced load torque	15N.M	60NM
Angular index accuracy	+/-6"	
Repeatability	+/-2"	
Index Frequency	750/hour	750tims/hour
Power Output Ratio	1:01	01:01.1
Max. Rotary Initial	.8kg.m	1kg.m
Max. Load	40kg	160kg
Input Power Torque	<6N.m	23.5N.M
Optional Servo Motor Power	<1kw	<3.7kw
Coolant Holes	G3/8"	G3/8"
Cable Connecting Hole	M20x1.5	M24x1.5
Weight	30kg	40kg
Size	635x614x507mm	888x764x816mm

NC TOOL TURRENT



The NC turret produced by technology introduced from Baruffaldi S.P.A. Italy, is an important equipment of high performance and key part for full-function NC. lathe. It is designed to hold several tools featuring bidirectional indexing and shortest indexing path. So that automation and high accuracy of operational procedures can be realized.

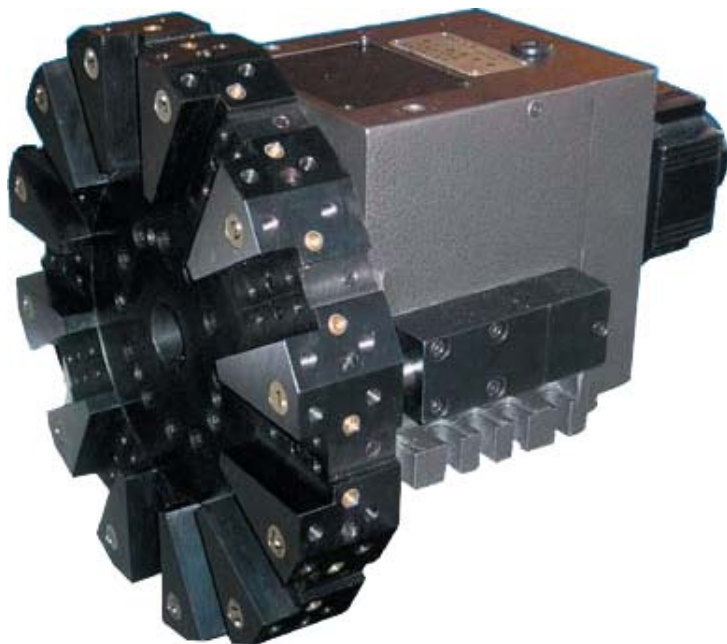
It utilizes a face gear coupling as indexing mechanism. Indexing sequence is mainly controlled by a binary absolute encoder; Clamping and unclamping of turret are signalled by a proximity switch which is connected together with the encoder to PC. With indispensable matching attachment, turret disc, tool holder (such as turning tool holder, boring tool holder, collet and Morse tool shank), complicated work procedures can be realized. Other tool holders are on special orders. The NC tool turret has 6 specifications, with each having both 8 and 12 stations.

Order No.	400-1060	400-1061	400-1062	400-1063	400-1064	400-1065
Center Height	63mm	80mm	80mm	100mm	100mm	125mm
Station Numbers	6	8	12	8	12	8
30°position change and clamping time	/	0.58	0.5	0.8	0.68	0.95
30°position change	1	0.19	0.16	0.27	0.22	0.32
45°position change and clamping time	0.32	0.67	0.58	0.95	0.79	1.1
45°position change	0.84	0.29	0.25	0.4	0.34	0.47
180°position change and clamping time	1.78	1.54	1.33	2.15	1.8	2.5
Max. unbalanced load torque	10N.m	15N.M	15Nm	40Nm	40NM	60NM
Angular index accuracy	+/-6"					
Repeatability	+/-2"					
Weight	30kg	40kg	40KG	120kg	120kg	160KG

Order No.	400-1066	400-1067	400-1068	400-1069	400-1070
Center Height	125mm	160mm	160mm	200mm	200mm
Station Number2	12	8	12	8	12
30°position change and clamping time	0.8	1.5	0.9	1.8	1.02
30°position change	0.27	0.5	0.3	0.62	0.34
45°position change and clamping time	0.95	1.75	1.06	2.1	1.19
45°position change	0.4	0.75	0.45	0.9	0.5
180°position change and clamping time	2.15	4	2.44	5.23	2.7
Max. unbalanced load torque	60NM	160NM	160NM	470NM	470NM
Angular index accuracy	+/-6"				
Repeatability	+/-2"				
Weight	160kg	380kg	380kg	500kg	500KG

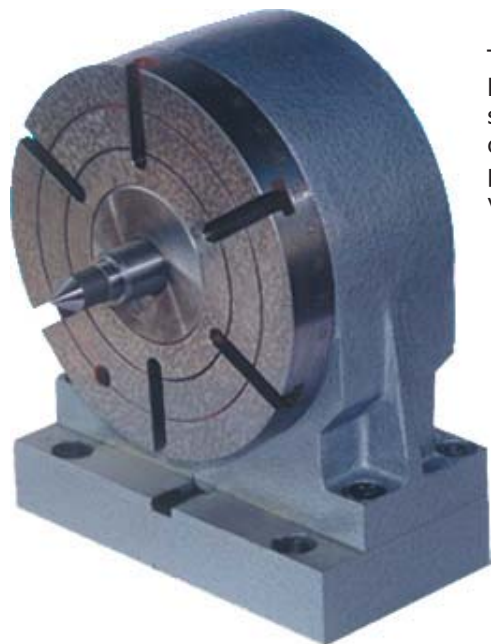
NC TOOL TURRENT

The NC tool turrents index with servo motor, clamp and unclam with oil and rotate without lifting. Minutely orientating with a face gear, they rotate in two sides and choose tool in the shortest distance. It features high accuracy, reliability, more load and wide application.



Order No.	400-1073	100-1074
Center Height	80mm	100mm
Station Numbers	8 or 12	8 or 12
30° position change and clamping time	.58s	.45s
30° position change	.20s	.15s
45° position change and clamping time	.67s	.50s
45° position change	.29s	.2s
180° position change and clamping time	1.54s	1s
Max. unbalanced load torque	15N.M	40NM
Angular index accuracy	+/-6"	
Repeatability	+/-2"	
Index Frequency	750times/hour	
Max. Rotary Initial	1.3kgm	45kgm
Max. Load	40kg	120kg
Controll Pressure	3.5MPa	3.5MPa

NC TAILSTOCK



The NC rotary tailstock is one of the accessories for the NC rotary table. It has the function of the commonly tailstock, and that can totation and clamp synchronization with the table. It applies the air pressure (or hudraulic) collets, chuck or centre to clamp the work-pisce with table, and carries out the performance: direct and indirect dividing, plate processing, plate-slotting and various cam-curring.

Order No.	400-1095	100-1096
Table Diameter	Ø250mm	Ø400mm
Center Height	160mm	260mm
Center Thru Hole Diamter	Ø70	Ø115mm
Center Bore Diameter	Ø80H7x24	Ø120H6x20
Locking Key Size	18mm	18mm
Clamping torque (0.5MPa air)	350NM	500NM
Clamping torque (1MPa Oil)	700NM	
Clamping torque (1.5MPa oil)		1500NM
Max. Load	100kg	100kg



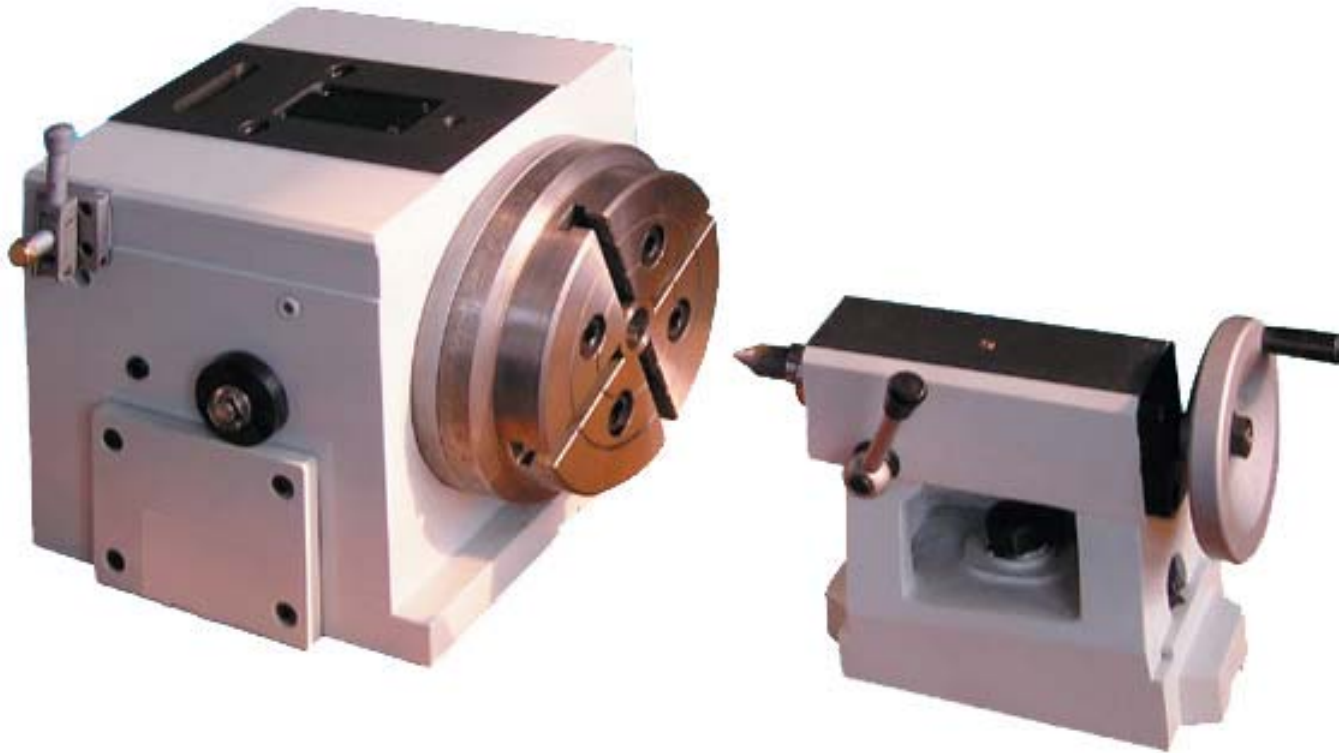
Z-AXES SETTER, INNER GAUGE TYPE

Order No.	Range	Grad.	Accuracy
102-3094	2"	0.001"	0.0006"
102-3095	50mm	0.01mm	0.015mm

NC DIVIDING HEAD

The NC dividing head is one of the main accessories for the NC machine and machining center, it can also be used as one of the main accessories of semi-auto milling machine, boring machine or other machine tool.

Connected with the CNC control device or the control system of the machine and the 4-6 bar pressure air, the NC dividing head can carry out the performance of clamping, unclamping and circular indexing at arbitrary angle for the work-piece. this product can be used vertically and horizontally.



Order No.	400-1080	400-1081	400-1082	400-1083	400-1084	400-1085	400-1086	400-1087
Center Height	110mm	110mm	110mm	125mm	125mm	140mm	145mm	150mm
Table Diameter			Ø125	Ø160				
Table T Slot Size			10H12	10H10				
Gear Ratio	1:90						1:60	
Center Bush Diameter			Ø16H7	Ø20H7				
Inde Tram Bush Diameter	Ø10H8							
Spinle Nose Mouting Size	5C 2.87"x10		Ø52H6	Ai6				
Collet	5C			3J, 5C			3J,5C	
Motor Torque	less than 2.94NM							
Air Press	0.4-0.6Mpa						0.4-0.5MPa	
Repeatability	7.5"							
Dividing Accuracy	60"						45"	
Max. Tangent Torque	90NM			120NM				
Max. Speed	11.1rpm						33.3rpm	
Max. Horizton Load	100KG	100KG	100KG	150KG	150KG	150	150	
Max. Vertical Load	50kg	50kg	50kg	80kg	80kg	80kg	80kg	
Net Weight	35KG	50KG	50KG	80KG	80kg	90kg	90kg	

NC DIVIDING HEAD

The indexers utilize a worm and worm wheel type indexing. It is an ideal accessory for NC milling machine, NC boring machine and machining center as well as for semi-automatic precision milling machine, boring machine and etc. It is designed by applying air pressure(or hydraulic)to clamp or unclamp the spindle.Matched with NC control box.servo motor and encoder, high accurate indexing to any desired angles can be done.

This indexer spindle utilizes a standard register taper. With the aid of face plate.chuck, 5c or 3j collets and tailstock, indexing and cutting for different kinds of workpieces such as long bars or shaftes can be realized.



Order No.	400-1088	400-1089
Center Height	160mm	210mm
Face Plate Diameer	Ø200mm	Ø315mm
T slot size	10H10	14H10
T slot numbers	4	4 or 8
Center Bushing Diameter	Ø25H7	Ø30H7
Indexer Tran Bushing Diameter	Ø10H7	Ø15H7
Width of locking key	18mm	22mm
Spindle Nose Size	5"	8"
Collet	3J	
Total Reduction Ratio	1:180	1:180
Air (Hydraulic) Press	0.5MPa	
Servo Motor	0.8KW (6Nm)	1.1KW (12Nm)
Max. Tanget Torque	300Nm	380Nm
Repeatability	5"	5"
Divinding Accuracy	30"	30"
Max. Speed	11.1rpm	11.1rpm
Net Weight	132kg	260kg
Max. Workload	120kg	175kg

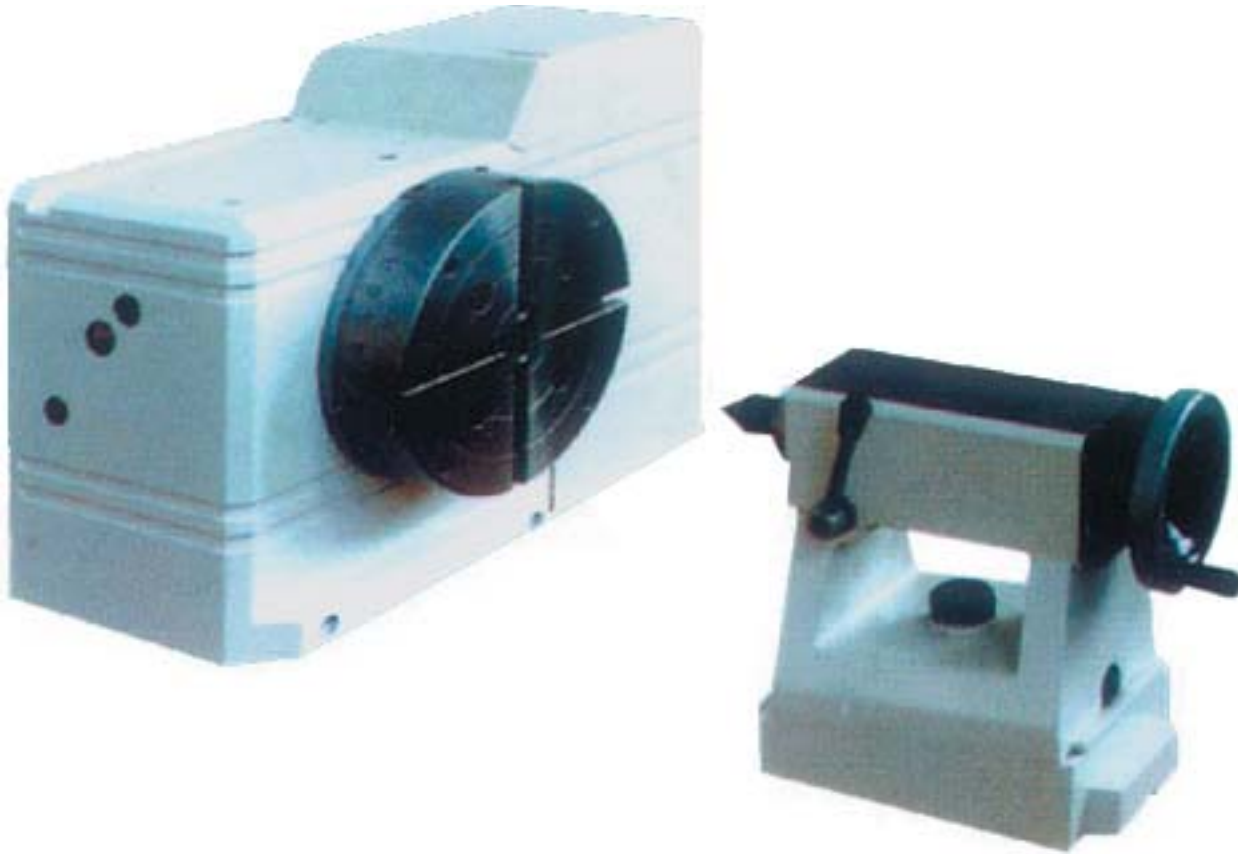
Z-AXES SETTER, BACK INSERT TYPE

Order No.	Range	Grad.	Accuracy
102-3096	2"	0.001"	0.0006"
102-3097	50mm	0.01mm	0.015mm



NC DIVIDING HEAD

The NC dividing head is the necessary accessories for the NC milling machine, boring machine and other machine tools as well. The FK series NC products can be mounted on the table of machine tool by both horizontal and vertical ways. They can be mounted on the table of machine tool by both horizontal and vertical ways. The clamping power is supplied by both hydraulic and pneumatic way. While the spindle unclamped, the NC controlling system can realized the dividing works for the multiple of 5degree through the driving of the servo motor and the feedback of the encoder.

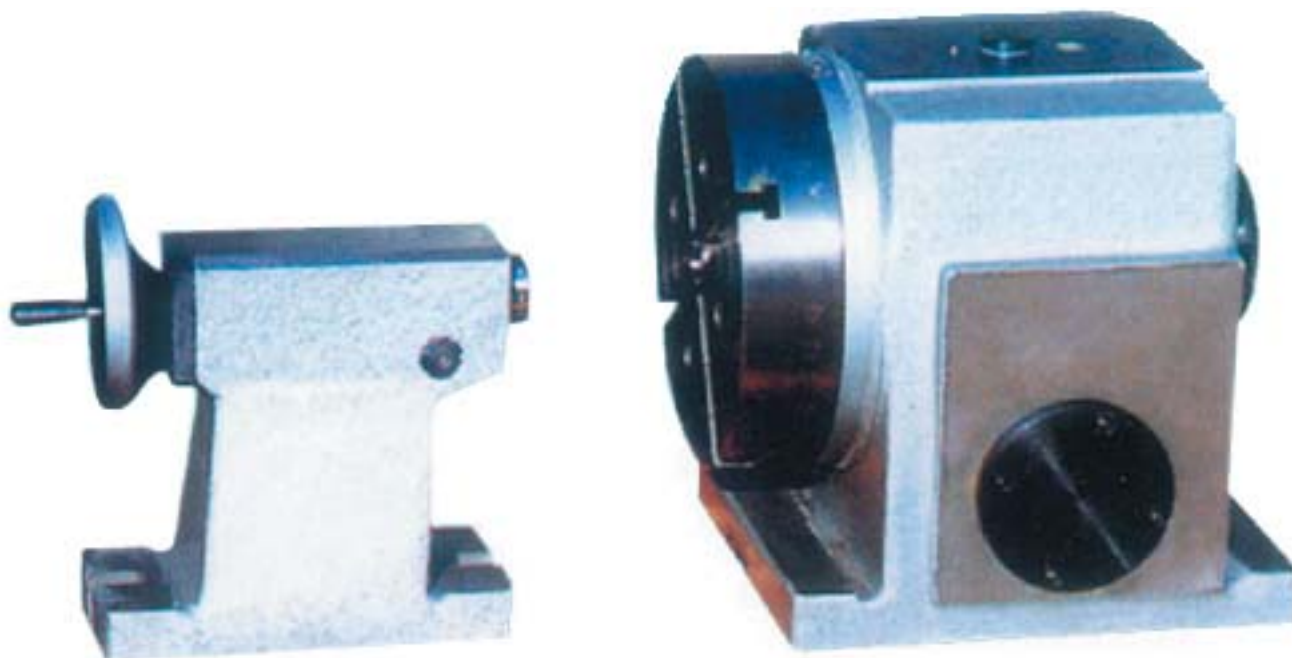


Order No.	400-1090	400-1091	400-1092
Center Height	140mm	175mm	220mm
Face Plate Diameer	Ø160mm	Ø200mm	Ø315mm
T slot size	10H10	10H10	14H10
T slot numbers	4	4	6
Center Bushing Diameter	Ø20H7	Ø25H7	Ø30H7
Indexer Tran Bushing Diameter	Ø10H7	Ø10H7	Ø15H7
Width of locking key	18mm	18mm	18mm
Teeth No. of Gear Coupling	72	72	72
Angle of Equal Dividing	5 degree		
Air (Hydraulic) Pressure	0.5-0.7MPa/0.5-7MPa		
Servo Motor	0.3KW		
Max. Tanget Torque	300Nm	380Nm	
Repeatability	3"	3"	3"
Divinding Accuracy	10"		
Net Weight	50kg	75kg	150kg
Max. Workload	100kg	125kg	350kg

NC DIVIDING HEAD

The index is designed to utilize a three-piece precision face gear coupling. It is an ideal accessory for NC boring machine and machining center as well as semi-automatic precision milling machine, boring machine and etc. because of the preset function control used for the indexer, high accurate positioning can be carried out by 5° increment. The indexing is realized by applying air pressure.

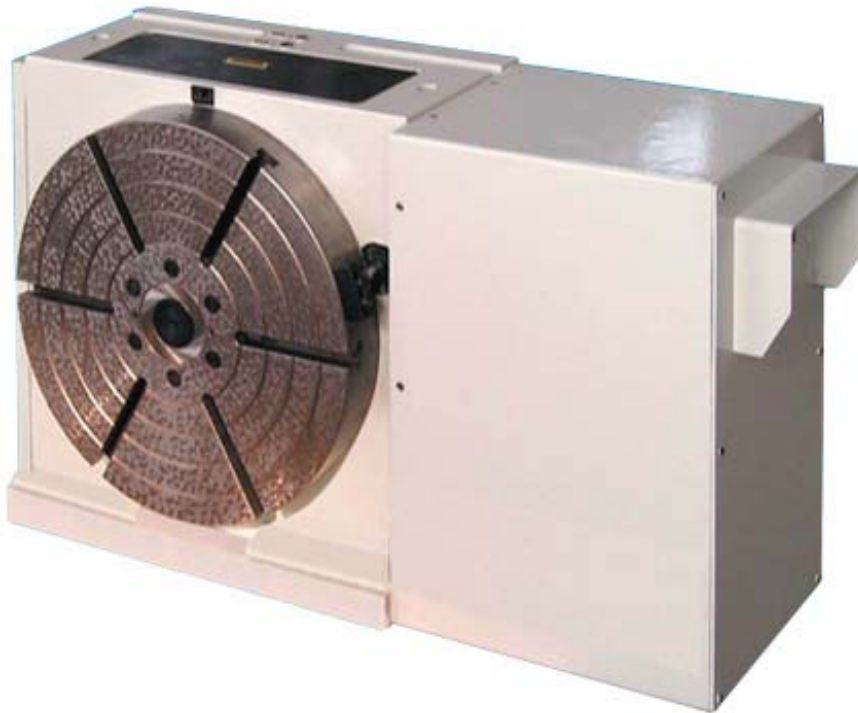
The spindle nose has a standard register taper. The workpieces mounted on the face plate can be easily positioned and finished. If a chuck with short taper recess is fitted onto the spindle nose, larger or longer bars can be held. When using 5C or 3J collet in the spindle bore, smaller or shorter hard draw bars can be held for machining. With the help of centers on indexer and tailstock, cutting of long shaft can be performed.



Order No.	400-1093	400-1094
Center Height	160mm	200mm
Face Plate Diameter	Ø200mm	Ø315mm
T slot size	10H10	14H10
T slot numbers	4	4 Or 8
Center Bushing Diameter	Ø25H7	Ø30H7
Indexer Tran Bushing Diameter	Ø10H7	Ø10H7
Width of locking key	18mm	22mm
Teeth No. of Gear Coupling	72	72
Collet	3J	
Increment	5 degree	
Max. Target Torque	300Nm	380Nm
Repeatability	5"	3"
Dividing Accuracy	15"	10"
Unbalanced Error	20.7Nm	42Nm
Max. Cutting Torque	390Nm	680Nm
Max. Workload	40kg	65kg
Net Weight	95kg	239kg

HORIZONTAL & VERTICAL NC ROTARY TABLE

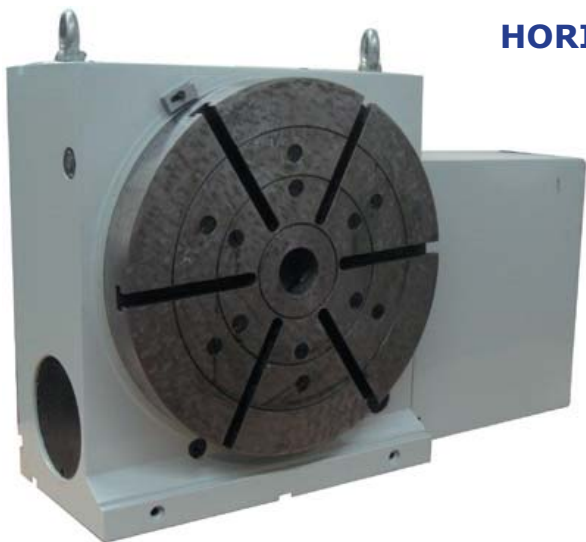
The horizontal and vertical rotary tables are for cnc milling machines, installed on the machine tables both vertically and horizontally, as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree.



The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility. Tailstocks are optional accessories.

Order No.		410-0228	410-0229	410-0230	410-0231	410-0232
Turntable diameter (mm)		Φ500	Φ630	Φ800	Φ1000	Φ1200
Center height (mm)		310	400	465	580	720
Total thickness(mm)		300	350	390	530	984
Center bore diameter (mm)		Φ60H6x25	Φ70H6x30	Φ135H6x35	Φ165H6x50	Φ80H7x100
Locating key size (mm)		22	22	22	22	22
T-slot size(mm)		6-18	6-18	8-18	12-22	4-28
Worm gear ratio		1:160	1:120	1:120	1:132	1:132
Total reduction ratio		1:180	1:180	1:360	1:360	1:360
Max.speed (r/min)		8.3	8.3	5.6	4.2	4.2
Table graduation angle per pulse		0.001°	0.001°	0.001°	0.001°	0.001°
Servo motor	Output power	≥1.4	≥1.4	≥3.8	≥3.8	≥5
	Torque (Nm)	≥12	≥15	≥25	≥25	≥35
Dividing accuracy		20"	20"	15"	15"	15"
Repeatability accuracy		6"	4"	4"	4"	4"
Clamp torque	Oil 15×100000Pa	750	1500	6000	Oil 35x100000Pa 7800	Oil 35x100000Pa 1000
	Air 6×100000Pa	250	500	2000		
Load capacity hor. (kg)		400	600	2000	3500	5000
Load capacity vert. (kg)		200	300	750	1500	2500
Max. inertia of vertical (kg.cm.s ²)		100	200	400	450	550
Max. torque capacity (N.m)		1700	2500	4000	5000	5500
Net weight(Kg)		680	1125	1350	2020	3000

HORIZONTAL & VERTICAL NC ROTARY TABLE



The horizontal and vertical rotary tables are for cnc milling machines, installed on the machine tables both vertically and horizontally, as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree.

The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility. Tailstocks are optional accessories.

Order No.	410-0221	410-0222	410-0223	410-0224	410-0225	410-0226	410-0227	
Turntable diameter (mm)	Φ160	Φ210	Φ250	Φ315	Φ400	Φ500	Φ630	
Center height (mm)	135	140	160	210	260	310	400	
Total thickness(mm)	170	180	190	210	250	300	350	
Center bore diameter (mm)	Φ20H6	Φ25H6	Φ30H6	Φ40H6	Φ50H6	Φ60H6	Φ70H6	
Locating key size (mm)	14	14	18	18	18	22	22	
T-slot size(mm)	4-12	4-12	6-12	6-14	6-14	6-18	6-18	
Worm gear ratio	1:80	1:90	1:90	1:90	1:120	1:150	1:120	
Total reduction ratio	1:90	1:90	1:180	1:180	1:180	1:180	1:180	
Max.speed (r/min)	16.6	16.6	11.1	11.1	11.1	11.1	11.1	
Table graduation angle per pulse	0.001°	0.001°	0.001°	0.001°	0.001°	0.001°	0.001°	
Servo motor	Output power	≥0.9	≥0.9	≥0.8	≥0.8	≥1.1	≥1.4	≥1.4
	Torque (Nm)	≥3	≥3	≥5	≥5	≥10	≥12	≥12
Dividing accuracy	40"	30"	30"	25"	20"	20"	20"	
Repeatability accuracy	8"	8"	6"	6"	6"	6"	4"	
Clamp torque	Oil 15×100000Pa	300	450	1000	1800	2000	2800	4000
	Air 6×100000Pa	110	150	300	500	650	800	800
Load capacity hor. (kg)	200	200	300	350	500	600	800	
Load capacity vert. (kg)	75	75	150	150	250	300	400	
Max. inertia of vertical (kg.cm.s ²)	15	15	16.4	55.4	55.4	100	200	
Max. torque capacity (N.m)	90	90	300	700	1200	1700	3000	
Net weight(Kg)	55	75	110	200	325	650	1125	

Z-AXES SETTER

Order No.	Range	Grad.	Accuracy
102-3090	2"	0.001"	0.0006"
102-3091	50mm	0.01mm	0.015mm
102-3092	4"	0.001"	0.0008"
102-3093	100mm	0.01mm	0.015mm



**HORIZONTAL & VERTICAL NC ROTARY TABLE
(with through hole)**



The horizontal and vertical rotary tables are for cnc milling machines, installed on the machine tables both vertically and horizontally, as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree.

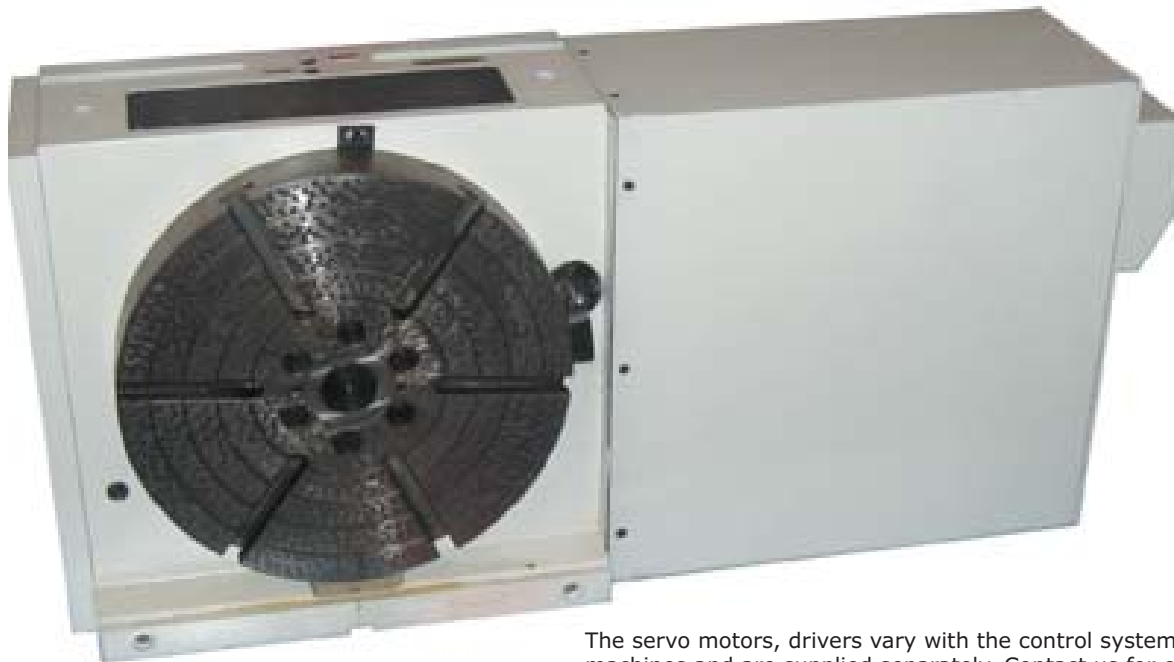
The through holes in the spindles hold long shafts. Hydraulic or pneumatic collets and lathe chucks can be mounted on these NC tables for automatic feeding and cutting .

The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility. Tailstocks are optional accessories.

Order No.	410-0233	410-0234	410-0235	410-0236	410-0237	410-0238	410-0239	
Turntable diameter (mm)	Φ160	Φ210	Φ250	Φ315	Φ400	Φ500	Φ630	
Center height (mm)	135	140	160	210	260	310	400	
Total thickness(mm)	170	180	190	210	250	300	350	
Center bore diameter (mm)	Φ40H6	Φ60H6	Φ70H6	Φ90H6	Φ130H6	Φ180H6	Φ225H6	
Locating key size (mm)	14	14	18	18	18	22	22	
T-slot size(mm)	4-12	4-12	6-12	6-14	6-14	6-18	6-18	
Worm gear ratio	1:80	1:90	1:90	1:90	1:120	1:150	1:120	
Total reduction ratio	1:90	1:90	1:180	1:180	1:180	1:180	1:180	
Max.speed (r/min)	16.6	16.6	11.1	11.1	11.1	11.1	11.1	
Table graduation angle per pulse	0.001°	0.001°	0.001°	0.001°	0.001°	0.001°	0.001°	
Servo motor	Output power	≥0.9	≥0.9	≥0.8	≥0.8	≥1.1	≥1.4	≥1.4
	Torque (Nm)	≥3	≥3	≥5	≥5	≥10	≥12	≥12
Dividing accuracy		40"	30"	30"	25"	20"	20"	20"
Repeatability accuracy		8"	8"	6"	6"	6"	6"	4"
Clamp torque	Oil 15×100000Pa	300	450	1000	1800	2000	2800	4000
	Air 6×100000Pa	110	150	300	500	650	800	800
Load capacity hor. (kg)		200	200	300	350	500	600	800
Load capacity vert. (kg)		75	75	150	150	250	300	400
Max. inertia of vertical (kg. cm.s ²)		15	15	16.4	55.4	55.4	100	200
Max. torque capacity (N.m)		90	90	300	700	1200	1700	3000
Net weight(Kg)		55	75	110	200	325	650	1125

HIGH SPEED HORIZONTAL & VERTICAL NC ROTARY TABLE

The horizontal and vertical rotary tables are for cnc milling machines, installed on the machine tables both vertically and horizontally, as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree. The through holes in the spindles hold long shafts. Hydraulic or pneumatic collets and lathe chucks can be mounted on these NC tables for automatic feeding and cutting .



The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility. Tailstocks are optional accessories.

Order No.		410-0243	410-0244
Turntable diameter (mm)		Φ315	Φ400
Center height (mm)		210	260
Total thickness(mm)		210	250
Center bore diameter (mm)		Φ40H6	Φ50H6
Locating key size (mm)		18	18
T-slot size(mm)		6-14	6-14
Worm gear ratio		1:90	1:120
Total reduction ratio		1:60	1:50
Max.speed (r/min)		25	30
Table graduation angle per pulse		0.001°	0.001°
Servo motor	Output power	≥0.8	≥0.8
	Torque (Nm)	≥5	≥22.4
Dividing accuracy		25"	20"
Repeatability accuracy		6"	6"
Clamp torque	Oil 15×100000Pa	950	2000
	Air 6×100000Pa	500	700
Load capacity hor. (kg)		350	500
Load capacity vert. (kg)		150	300
Max. inertia of vertical (kg.cm.s2)		55.4	55.4
Max. torque capacity (N.m)		700	700
Net weight(Kg)		200	325

HORIZONTAL NC ROTARY TABLE

The horizontal NC rotary tables are for cnc milling machines, CNC boring and milling machines as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree. The through holes in the spindles hold long shafts.



Order No.	410-0247	410-0248	410-0249	410-0250	410-0251	
Turntable Sizes (mm)	Φ520	500x600	Φ630	630x630	Φ800	
Total thickness(mm)	150	295	350	400	410	
Center bore diameter (mm)	Φ60H6	Φ60H6	Φ70H6	Φ70H6	Φ135H6	
T-slot size(mm)	6-18	6-14	6-18	5-18	8-18	
Worm gear ratio	1:160	1:160	1:120	1:120	1:120	
Total reduction ratio	1:180	1:180	1:180	1:180	1:360	
Max.speed (r/min)	11.1	11.1	11.1	11.1	5.5	
Table graduation angle per pulse	0.001°	0.001°	0.001°	0.001°	0.001°	
Servo motor (Optional)	Output power	≥2.1KW	≥2.1KW	≥2.1KW	≥2.1KW	≥3.8KW
	Required torque	22NM	12NM	12NM	12NM	22NM
Motor interface	Fanuc α12	Fanuc α12	Fanuc α12	Fanuc α12	Fanuc α12	
Dividing accuracy	15"	15"	20"	20"	15"	
Repeatability accuracy	6"	6"	4"	4"	4"	
Clamp torque	Oil 15×100000Pa	1650	2100	3000	3000	5880
	Air 6×100000Pa		700	1000	1000	1960
Load capacity hor. (kg)	500	500	2000	2000	3000	
Max. inertia of vertical (kg. cm.s2)		259	1012	1012	2449	
Max. torque capacity (N.m)	1650	1700	3000	3000	4000	
Net weight(Kg)		660	1300	1500	1450	

* The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility.

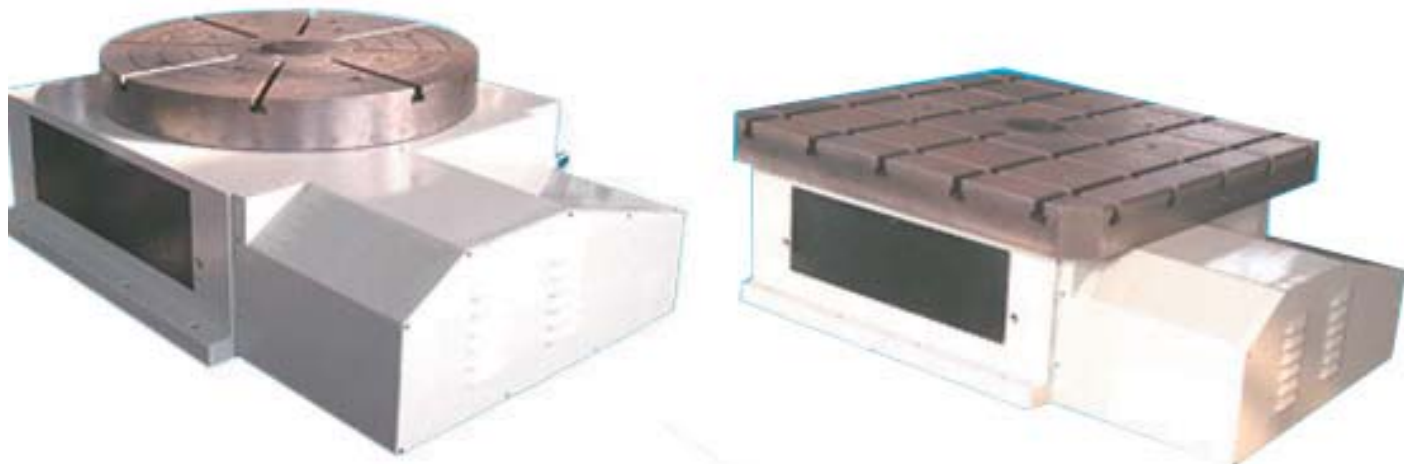
Z-AXES SETTER, OPTICAL TYPE

Order No.	Range	Accuracy
102-3098	50mm	0.015mm
102-3099	100mm	0.02mm



HORIZONTAL NC ROTARY TABLE

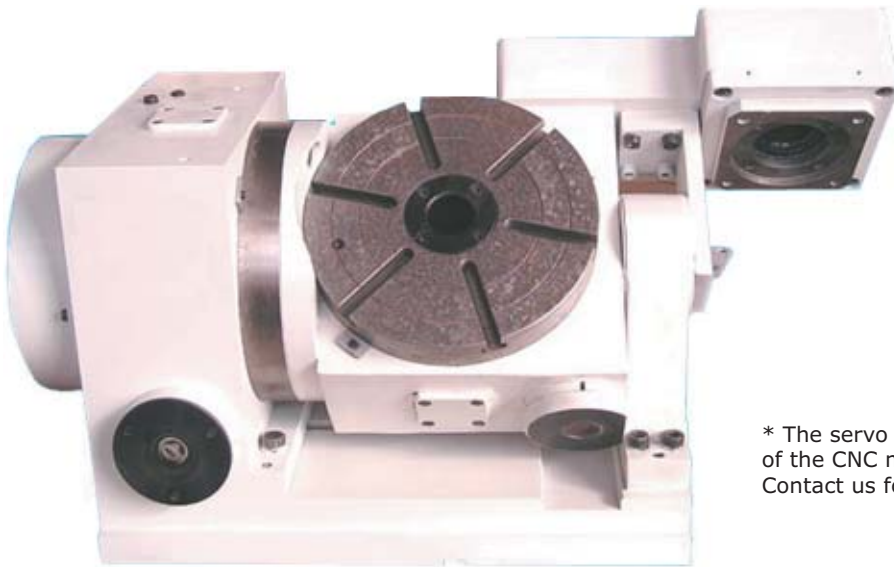
The horizontal NC rotary tables are for cnc milling machines, CNC boring and milling machines as the 4th axis of the CNC machines. Integrated with the proper control system of the CNC machine, these CNC rotary tables achieve equal or unequal division at any increment for hole drilling, threading, slotting and curved surfacing. The minimum division is 0.001 degree. The through holes in the spindles hold long shafts.



Order No.		410-0252	410-0253	410-0254	410-0255	410-0256
Turntable Sizes (mm)		Φ1000	Φ1200	Φ1600	Φ2000	Φ2500
Total thickness(mm)		410	410	460	500	510
Center bore diameter (mm)		Φ135H6	Φ135H6	Φ150H6	Φ150H6	Φ150H6
T-slot size(mm)		8-18	8-22	16-22	16-22	16-22
Worm gear ratio		1:120	1:120	1:180	1:180	1:180
Total reduction ratio		1:360	1:360	1:720	1:540	1:540
Max.speed (r/min)		5.5	3.7	2.7	3.7	3.7
Table graduation angle per pulse		0.001°	0.001°	0.001°	0.001°	0.001°
Servo motor (Optional)	Output power	≥3.8KW	≥3.8KW	≥11.3KW	≥11.3KW	≥11.3KW
	Required torque	22NM	22NM	36NM	36NM	36NM
Motor interface		Fanuc α12	Fanuc α12	Simens 1FK6103	Simens 1FK6103	Simens 1FK6103
Dividing accuracy		15"	15"	15"	15"	15"
Repeatability accuracy		4"	4"	4"	4"	4"
Clamp torque	Oil 15×100000Pa	6000	6150	11760	14700	17640
	Air 6×100000Pa	2000	2050	3920	4900	5880
Load capacity hor. (kg)		3200	3200	8000	10000	12000
Max. inertia of vertical (kg. cm.s ²)		4082	6428	26122	51020	95664
Max. torque capacity (N.m)		4000	4000	6000	6000	6000
Net weight(Kg)		1660	1920	5200	6500	8600

* The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility.

TILTING NC ROTARY TABLE



The tilting NC rotary table is controlled by two-coordinate control system of either the main CNC machine or separate two coordinate control system. It can serve as the 4th and 5th axis of the CNC machine for hole drilling, slot cutting, curved lines and surface cutting at any angles. The tables can also be used on conventional drilling, milling and boring machines for work dividing.

* The servo motors, drivers vary with the control systems of the CNC milling machines and are supplied separately. Contact us for compatibility.

Order No.	410-0200	410-0201	410-0202	410-0203	410-0204	
Table Diameter (mm)	170	250	320	400	500	
Table Height (Horizontal) mm	246.5	315	346	420	570	
Table Center Hight (mm)	150	225	235	290	390	
Bore Diamter (mm)	φ35H7	φ40H7×12	φ100H6×25	φ130H6×20	φ180H620	
T slot size (mm)	12	12	14	14	18	
Locating Key Size (mm)	18	18	18	18	18	
Rotary Worm Gear Ratio	1:80	1:90	1:90	1:120	1:150	
Rotary Worm Ratio	1:180	1:180	1:180	1:180	1:180	
Tilting Worm Ratio	1:80	1:90	1:90	1:120	1:150	
Total Tilting Ratio	1:180	1:180	1:180	1:180	1:180	
Max speed (r/min)	11.1	11.1	11.1	11.1	11.1	
Servo Motor Power	Rotary	Panasonic MSMA082A1C/G	α6	α12	α12	
	Tilting					
Servo Motor Torque	Rotary	2.4	6	6	12	12
	Tilting	6.36	6	6	12	12
Min. Increment	0.001°	0.001°	0.001°	0.001°	0.001°	
Tilting Range	0-90°	0°-90°	0-90°	0-90°	-20°-120°	
Table Clamping Torque	Gas 5×100000Pa 200Nm	Oil 15×100000Pa 1800Nm	Oil 15×100000Pa 1500Nm	Oil 15×100000Pa 2000N.m	Oil 15×100000Pa 2800Nm	
		Gal 5×100000Pa 350Nm				
Tilting Clamping Torque N.m	Gas 5×100000Pa 260Nm	Oil 15×100000Pa 1800Nm	Oil 15×100000Pa 2100NM	Oil 15×100000Pa 3000NM	Oil 15×100000Pa 3800NM	
		Gas 5×100000Pa 350NM				
Rotary	Divding Accuracy	≤30"	≤30"	≤25"	≤20"	≤20"
	Repeatablity	≤6"	≤6"	≤6"	≤6"	≤6"
Tilting	Divding Accuracy	≤60"	≤60"	≤45"	≤45"	≤45"
	Repeatablity	≤10"	≤10"	≤10"	≤10"	≤10"
Max Load (kg)	Horizontal	50	100	150	200	400
	Tilting	25	75	100	150	200
Table Weight (kg)	320	450	450	600		

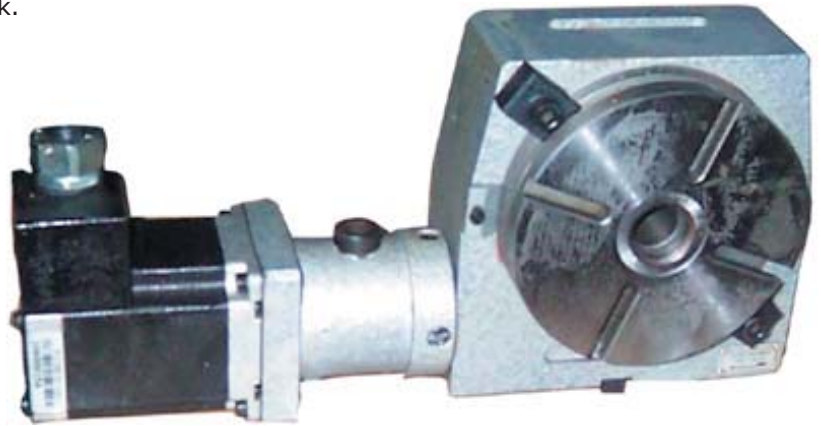
NC HORIZONTAL AND VERTICAL ROTARY TABLE

- * The NC rotary table is run with step motor and serves as the 4th axis of a CNC milling machine.
- * Tailstock is provided to support horizontal work.
- * 4th axis control is not included.

Specifications

Table Dia.: 100mm
Locking Key Width: 10mm
Center Height: 70mm
Overall Size: 125x125x70mm
Table Slot: 6mm (4)
Center Bore: 2MT
Bore Diameter: 20mmx8
Gear Ratio: 1:72
Vernier: 10"
Index Accuracy: 120"

Order No. 410-0257

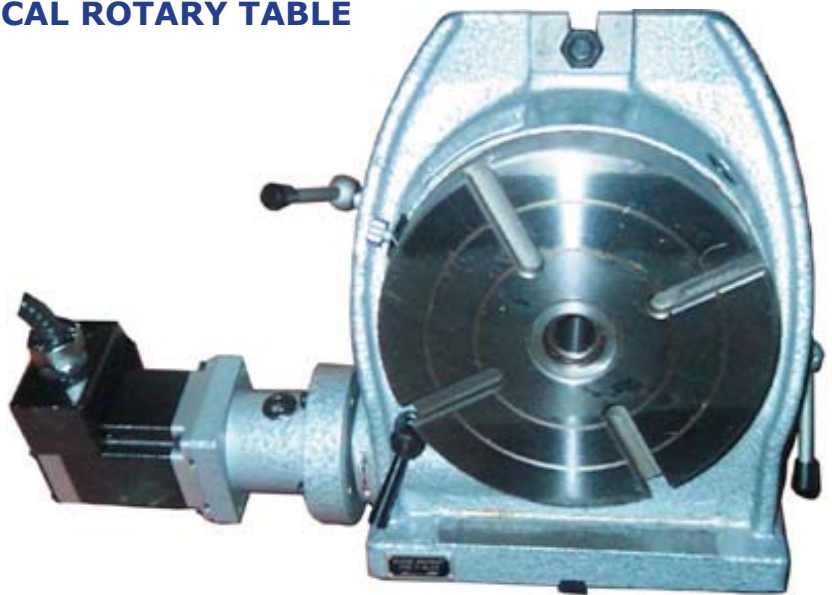


NC HORIZONTAL AND VERTICAL ROTARY TABLE

Specifications:

Table diameter: 160 mm
Taper of center hole: 2MT
Width of T-slot: 10 mm
Adjacent angle of T-slot: 90°
Width of locating key: 14mm
Worm ratio: 90:1
Graduation/vernier: 1° / 10"
Angle per full step: 0.02°
Motor Steps: 200/rev
Motor Winding: 2 phase
Motor Inductance: 5.73 mH
Motor Resistance: 1.34Ω
Motor phase current: 2.8 A
Motor holding torque: 1.9 Nm
Motor Shaft: 1/4"

Order No. 410-0258



NC HORIZONTAL AND VERTICAL ROTARY TABLE

Specifications:

Table diameter: 200 mm
Taper of center hole: 3MT
Width of T-slot: 12 mm
Adjacent angle of T-slot: 90°
Width of locating key: 14mm
Worm ratio: 90:1
Graduation/vernier: 1° / 10"
Angle per full step: 0.02°
Motor Steps: 200/rev
Motor Winding: 2 phase
Motor Inductance: 3.5 mH
Motor Resistance: 0.42Ω
Motor phase current: 5.5 A
Motor holding torque: 4.6 Nm
Motor Shaft: 1/2"

Order No. 410-0259



HORIZONTAL ROTARY TABLE

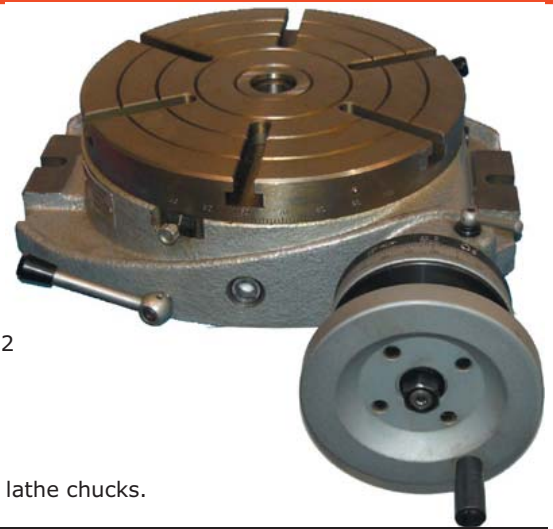
- *10" vernier.
- *90:1 Gear Ratio.
- *Low profile.
- *Hardened and ground worm gear.
- *360° scale graduated rotary table.
- *For indexing, circular milling, angle setting, milling and boring.

The horizontal rotary tables are mostly used on milling machines for indexing, drilling, end milling, angle setting, boring, circular cutting etc.

- * With the optional dividing plate, division from 2 to 66 at 1 increment, 67 to 132 at 2, 3 or 5 increment can be achieved.
- * With the optional 3 jaw self-centering chuck and adaptors, round work pieces can be quickly mounted to the rotary table .

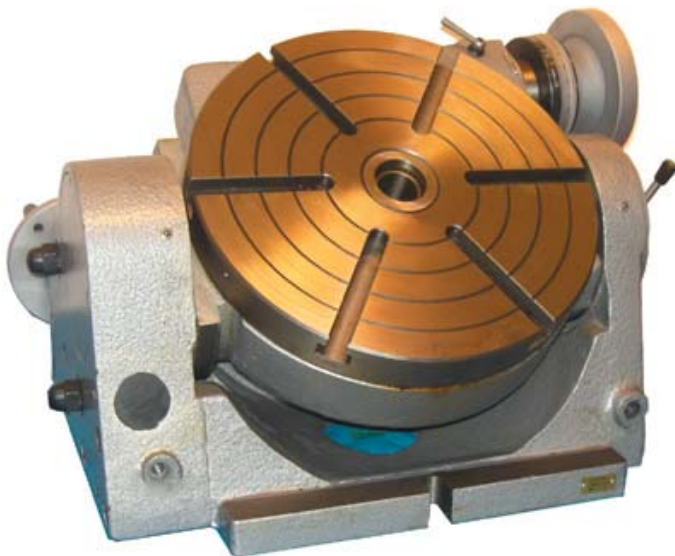
Standard kit: 2 T nuts and bolts set.

Optional Accessories: Dividing plate, adaptors for lathe chuck, 3-jaw or four jaw lathe chucks.



Order No.	410-0106	410-0108	410-0110	410-0112	410-0116	410-0120	410-0125	410-0132	410-0133
Table Dia.	160mm	200mm	250mm	320mm	400mm	500mm	630mm	800mm	1000mm
Overall Length	260mm	290mm	330mm	410mm	530mm	640mm	820mm	1000mm	1170mm
Width	196mm	236mm	286mm	360mm	450mm	560mm	700mm	890mm	1080mm
Locking Key Width	12mm	14mm	14mm	18mm	18mm	22mm	22mm	22mm	
Thickness	75mm	80mm	90mm	110mm	140mm	159mm	160mm	215mm	250mm
T Slot Width	12mm	14mm	14mm	16mm	16mm	20mm	20mm	30mm	
T Slot Nos.	4	4	6	6	6	8	8	8	8
Center Bore	2MT	3MT	3MT	4MT	4MT	5MT	5MT	6MT	6MT
Bore Diameter	25mmx6	30mmx6	30mmx6	40mmx10	40mmx10	50mmx12	50mmx12	75mmx14	75mmx14
Gear Modules	1.5	1.75	2	2.5	3.5	3.5	4.5	5.5	5.5
Gear Ratio	1:90	1:90	1:90	1:90	1:120	1:120	1:120	1:120	1:120
Vernier	10"	10"	10"	10"	10"	10"	10"	10"	10"
Index Accuracy	80"	60"	60"	60"	60"	60"	60"	60"	60"
Max. Load	100kg	150kg	200kg	250kg	300kg	550kg	700kg	1250kg	2000kg
Table Weight	16.5kg	22.5kg	33.5kg	65kg	125kg	215kg	345kg	800kg	1300kg

TILTING ROTARY TABLE



- *10" vernier.
- *90:1 Gear Ratio.
- *Low profile.
- *Hardened and ground worm gear.
- *360° scale graduated rotary table.
- *For indexing, circular milling, angle setting, milling and boring.
- * Tilt to any position from 0 to 90 degree and locked.

Standard kit: 2 T nuts and bolts set.

Optional Accessories: Dividing plate, adaptors for lathe chuck, 3-jaw or four jaw lathe chucks.

- * With the optional dividing plate, division from 2 to 66 at 1 increment, 67 to 132 at 2, 3 or 5 increment can be achieved.
- * With the optional 3 jaw self-centering chuck and adaptors, round work pieces can be quickly mounted to the rotary table .

Order No.	Table Dia.	Base Dimension	Center Height	Table Height	Center Bore
410-0210	250mm	310x252	140mm	205mm	3MT
410-0212	320mm	310x252	140mm	205mm	3MT
410-0216	400mm	500x500	217mm	320mm	4MT

HORIZONTAL AND VERTICAL ROTARY TABLE

The horizontal and vertical rotary tables are mostly used on milling machines for indexing, drilling, end milling, angle setting, boring, circular cutting etc. With the support of a tailstock, workpieces can be held between the centers for periphery dividing, milling and drilling.

With the optional dividing plate, division from 2 to 66 at 1 increment, 67 to 132 at 2, 3 or 5 increment can be achieved.

With the optional 3 jaw self-centering chuck and adaptors, round work pieces can be quickly mounted to the rotary table .

*10" vernier.

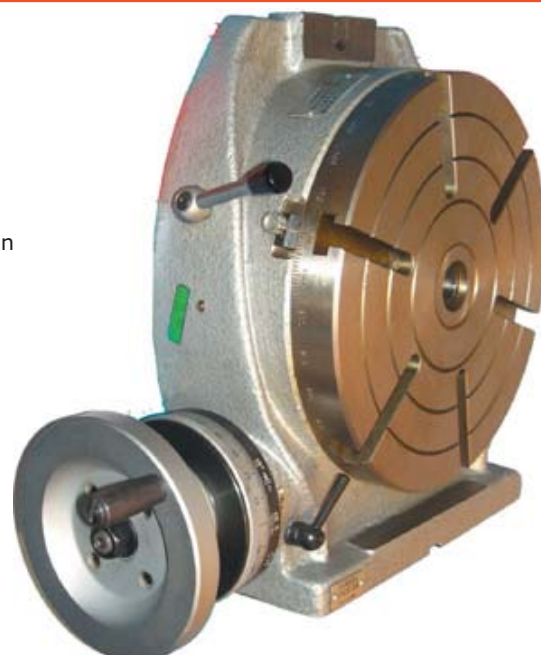
*90:1 Gear Ratio.

*Low profile.

*Hardened and ground worm gear.

*360° scale graduated rotary table.

*For indexing, circular milling, angle setting, milling and boring.



Standard kit: 4 T nuts and bolts set.

Optional Accessories:

Dividing plate

adaptors for lathe chuck

3-jaw or four jaw lathe chucks

Tailstock

Solid Center

Order No.	410-0004	410-0006	410-0008	410-0010	410-0012	410-0016
Table Dia.	100mm	160mm	200mm	250mm	320mm	400mm
Locking Key Width	10mm	12mm	14mm	14mm	18mm	18mm
Center Height	70mm	125mm	150mm	170mm	210mm	260mm
Overall Height	125mm	242mm	285mm	328mm	410mm	525mm
Width	125mm	196mm	236mm	286mm	360mm	450mm
Thickness	70mm	85mm	100mm	110mm	120mm	150mm
Table Slot	6mm	10mm	12mm	12mm	14mm	14mm
Slot Nos.	4	4	4	6	6	6
Center Bore	2MT	2MT	3MT	3MT	4MT	4MT
Bore Diameter	20mmx8	25mmx6	30mmx6	30mmx6	40mmx10	40mmx10
Gear Module	1	1.5	1.75	2	2.5	3.5
Gear Ratio	1:72	1:90	1:90	1:90	1:90	1:90
Vernier	10"	10"	10"	10"	10"	10"
Index Accuracy	120"	80"	60"	60"	60"	60"
Max Horizontal Load	20kg	100kg	150kg	200kg	250kg	300kg
Max Vertical Load	10kg	50kg	75kg	100kg	125kg	150kg
Table Weight	7kg	23kg	32kg	46kg	77kg	150kg

AJUSTABLE TAILSTOCK

The tailstocks work with vertical rotary table, indexers for holding center shafts, cylinders, solid centers, and workpieces for cutting of grooves, splines, flats, keyways etc. The center height and the axis are adjustable. The centers are retracetable for repeated operations. Centers are securely locked with clamps.



Order No.	410-0030	410-0031	410-0032	410-0033
Center Height	80-100mm	100-140mm	140-180mm	180-224mm
Quill Taper			MT2	MT2
Locating key	12mm	14mm	14mm	18mm
Tilting Angle of Center Axis	+/- 11 degrees			
Travel of Center	25mm			
Weight	6kg	8kg	14.5kg	16.5kg
Shipping Size	26x23x19cm	28x23x19cm	35x31x22cm	40x31x22cm
For tables and indexes	410-0405	410-0006	410-0008 410-0010	410-0012

HORIZONTAL AND VERTICAL ROTARY TABLE

The horizontal and vertical rotary tables are mostly used on milling machines for indexing, drilling, end milling, angle setting, boring, circular cutting etc. With the support of a tailstock, workpieces can be held between the centers for periphery dividing, milling and drilling.

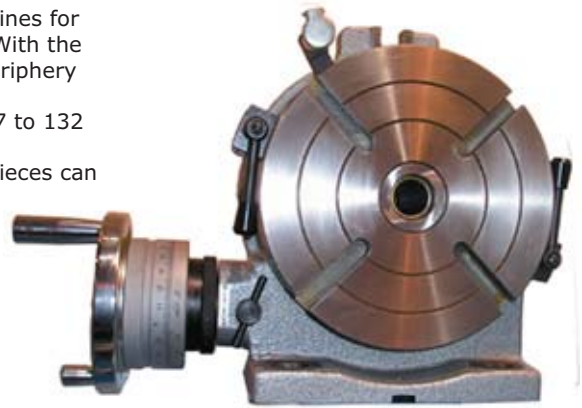
With the optional dividing plate, division from 2 to 66 at 1 increment, 67 to 132 at 2, 3 or 5 increment can be achieved.

With the optional 3 jaw self-centering chuck and adaptors, round work pieces can be quickly mounted to the rotary table .

Standard kit: 4 T nuts and bolts set.

Optional Accessories:

- Dividing plate
- adaptors for lathe chuck
- 3-jaw or four jaw lathe chucks
- Tailstock
- Solid Center



Order No.	410-0308	410-0310	410-0312	410-0316	410-0320
Table Dia.	200mm	250mm	320mm	400mm	500mm
Locking Key Width	16mm	16mm	16mm	18mm	18mm
Center Height	135mm	165mm	195mm	260mm	286mm
Overall Height	265mm	325mm	388mm	525mm	617mm
Width	220mm	280mm	330mm	450mm	586mm
Thickness	100mm	115mm	135mm	150mm	175mm
Table Slot	12mm	12mm	14mm	14mm	20mm
Slot Nos.	4	6	6	6	8mm
Center Bore	3MT	3MT	4MT	4MT	4MT
Bore Diameter	30mmx6	30mmx6	40mmx10	40mmx10	50mmx15
Gear Module	1.5	2	2.5	3.5	3.5
Gear Ratio	1:90	1:90	1:90	1:90	1:90
Vernier	10"	10"	10"	10"	10"
Index Accuracy	80"	60"	60"	60"	60"
Max Horizontal Load	150kg	200kg	250kg	300kg	550kg
Max Vertical Load	75kg	100kg	125kg	150kg	275kg
Table Weight	27kg	43kg	67kg	130kg	225kg

POWER-OPERATED HORIZONTAL ROTARY TABLE

The power-operated rotary tables are one of the main accessories for milling machines, drilling machine, planning machines. They can be power operated and manually operated as well. Drilling, milling, circular cutting, curved surface cutting, straight line cutting etc. can be performed with these rotary tables.

Optional accessories:

- Dividing plate
- Flange for lathe chuck
- Lathe chuck

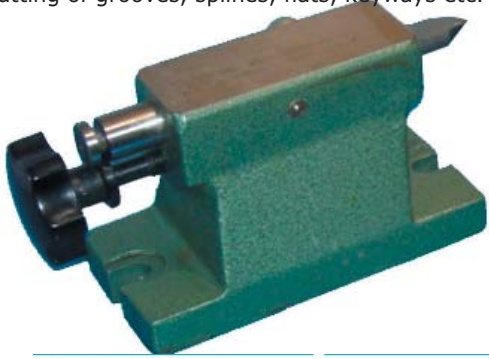


Order No.	410-0018	410-0019
Table Diameter	Φ320	Φ400
Bore Taper	MT4	MT4
Bore Diameter	Φ40	Φ40
Table Slot	14mm	14mm
Locating Key	18mm	18mm
Gear Module	2.5	2.5
Gear Ratio	1:90	1:90
Vernier	10"	10"
Index accuracy	60"	60"
Weight	83kg	145kg
Shipping Weight	100kg	165kg
Shipping Size	69x53x25cm	82x64x28cm

MACHINE ACCESSORIES

TAILSTOCK

The tailstocks work with vertical rotary table, indexers for holding center shafts, cylinders, solid centers, and workpieces for cutting of grooves, splines, flats, keyways etc.



Order No.	410-0027	410-0028	410-0029
Center Height	70mm	125mm	260mm
Quill Taper		MT2	MT3
Locating key	10mm	12mm	18mm
Tilting Angle of Center Axis	+/- 11 degrees		
Travel of Center	12MM	30MM	30MM
Weight	2.5kg	9kg	28kg
Shipping Size	20X12X20CM	32X16X22CM	38X36X26CM
For tables and indexes	410-0004	410-0006	410-0016



DIVIDING PLATES

All divisions of 2 to 66, and all 67-132 divisible by 2, 3 and 5 can be achieved accurately and easily with the help of these dividing plates. ssss is a simple dividing plate for dividing at 30' increment only.

Order No.	Table Size	Hole Numbers
410-0021	For rotary table 160mm to 400mm	A: 34,37,38,39,41,43,44,50,52,56,61 B: 46,47,49,51,53,54,57,58,59,62,64
410-0022	For rotary table 500mm 1000mm	A: 33,34,37,38,39,41,43,44,50,52,56,61 B: 46,47,49,51,53,54,57,58,59,62,63,64
410-0023	For 100MM table size	10 Holes for dividing at 30' increment

COMPOUND SLIDE TABLE WITH 360 SWIVEL BASE



Order No. 410-0020

Table Size: 254x444mm
 Thickness of cross slide table: 153mm
 Table traverse travel: 114mm to both sides
 Table cross travel: 76mm to both sides.
 Table T slot size: 5/8"
 Distance between T slots: 80mm
 Minimum dial reading: 0.001"
 Max working force on the table: 700kg
 Table squareness: 0.03mm
 Squareness of cross table to longitudinal talbe:
 0.03mm/100mm
 Parallelism of table surface to bottom: 0.05mm
 Run-out of the table surface to bottom: 0.08mm
 Linear positioning accuracy: 0.05mm/100mm
 Repetability: 0.02mm
 Weight: 70kg

5C COLLET HORIZONTAL AND VERTICAL INDEX

- *Hardened and ground spindle with 2-1/4"-8TPI thread.
- *Rapid collet opening and closing.
- *Single lever action indexing mechanism.
- *24 position index plate in 15 increments

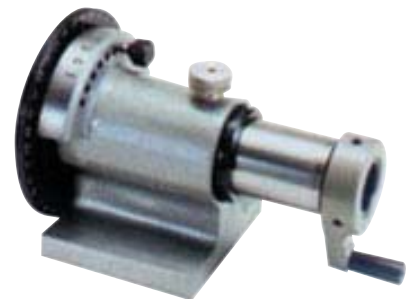
Specification:

Spindle concentricity:0.0004"
 Spindle centerline parallelis:0.0008"
 Surface to base squareness:0.0008"
 Center slot to spindle concentricity:0.0008"
 Lateral offset of center slot to spindle:0.0008"
 Cylindrical center bore concentricity (per 1"):0.0008"



Order No. 410-0405

5C SPIN INDEX FIXTURE



- *Accept 5C collets up to 1-1/8" capacity.
- *Hardened and precision ground spindle.
- *Precision ground 36 position index plate.
- *0.0004" spindle concentricity.

Order No. 410-0406

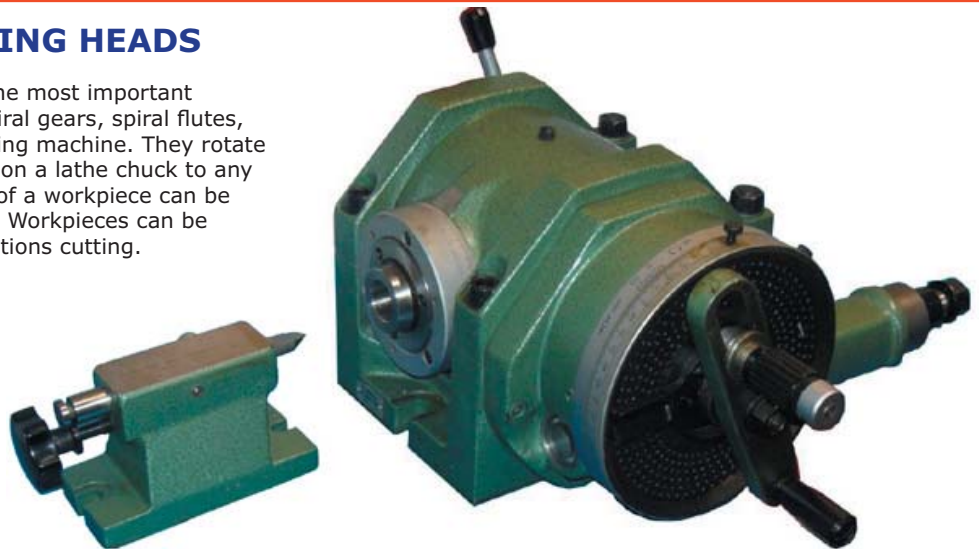
UNIVERSAL DIVIDING HEADS

The universal dividing head are one of the most important accessories to cut flutes, spur gears, spiral gears, spiral flutes, archimedean cams, helical flutes on milling machine. They rotate the workpieces held between centers or on a lathe chuck to any angle as desired and the circumference of a workpiece can be divided into any divisions of equal parts. Workpieces can be mounted on the face plate for multi-positions cutting.

Standard Accessories:

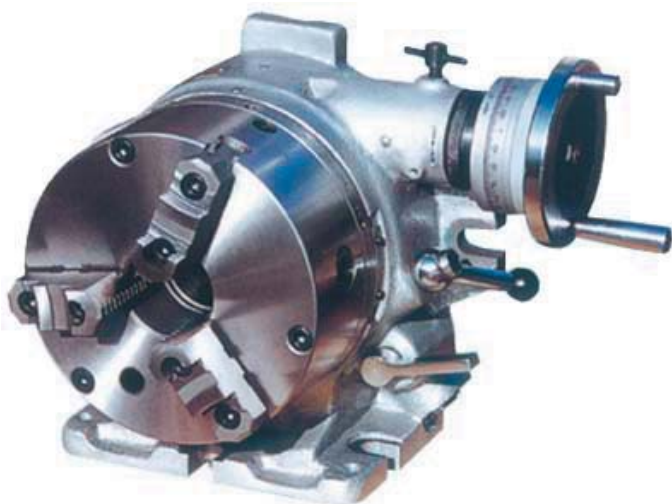
- Tailstock
- Jack
- Solide center
- Carrier
- Dividing Plate
- Adaptor for lathe chuck
- 3-jaw chuck

* Face plate is optional



Order No.	410-0407	410-0408	410-0409	410-0410
Center height (mm)	80	100	125	160
Dia. of spindle nose taper (mm)	36.541	41.275	53.975	53.975
Width of locating key (mm)	14	14	18	18
Upward swivel angle of spindle from its Hor. Position	0~6°	0~5°	0~5°	0~5°
Downward swivel angle of spindle from its Hor. Position	0~90°	0~95°	0~95°	0~95°
Worm gear ratio	1:40	1:40	1:40	1:40
Taper of spindle bore	3MT	3MT	4MT	4MT
Min. readout of vernier	10"	10"	10"	10"
Spindle Rotation Angle per revolution of dividing handle	9 °	9 °	9 °	9 °
Index error for one complete revolution of dividing handle	60"	+/-45"	+/-45"	+/-45"
Accumulative Error at 1/4" any 1/4" periphery of spindle	+/-1 minute	+/-1 minute	+/-1 minute	+/-1 minute
Max. bearing (Kg)	80	100	130	130
Holes of Index Plate	Side I	24,25,28,30,34,37,38,39,41,42,43		
	Side II	46,47,49,51,53,54,57,58,59,62,66		
Change Gears	Module	1.5		2
	Teeth Numbers	25,30,35,40,50,55,70,80,90,100		
Net weight (Kg)	36	67	86	130
Gross weight (Kg)	42	79	126	149
Case dimensions (mm)	542x403x220	616x465x265	635x530x310	710x535x342

HORIZONTAL/VERTICAL SUPER SPACE INDEXER



- *Surface squareness: 0.0006".
- *Radius spindle run-out: 0.0004".
- *Parallelism between the spindle supporting surface and base: 0.0006".
- *24 division index plates hardened and ground.
- *Axial spindle supporting surface run-out: 0.0006".
- *For milling, drilling, boring, slotting and tool grinding.
- *360 graduated satin-chrome ring with 10" adjustable vernier.

Order No.	410-0403	410-0404
Center Height	130mm	150mm
Spindle Bore Dia.	Φ80	Φ119.774
Divisions	2,3,4,6,8,12,24	
Gear Ratio	1:90	1:90
Locating key size	16mm	16mm
Lathe Chuck Size	167mm	210mm
Index Accuracy	25"	25"

MACHINE ACCESSORIES

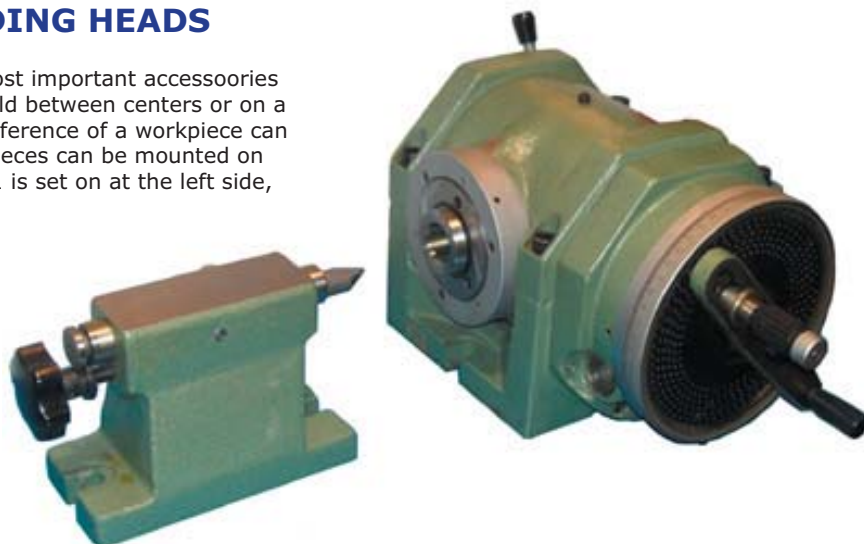
SEMI-UNIVERSAL DIVIDING HEADS

The semi universal dividing head are one of the most important accessories for milling machine. They rotate the workpieces held between centers or on a lathe chuck to any angle as desired and the circumference of a workpiece can be divided into any divisions of equal parts. Workpieces can be mounted on the face plate for multi-positions cutting. 410-0411 is set on at the left side, while the others at the right sides.

Standard Accessories:

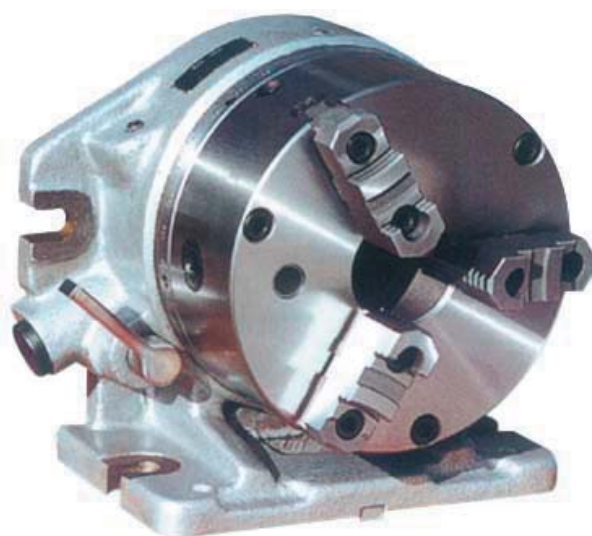
- Tailstock
- Jack
- Solide center
- Carrier
- Dividing Plate
- Adaptor for lathe chuck
- 3-jaw chuck

* Face plate is optional



Order No.	410-0411	410-0412	410-0413	410-0414
Center height (mm)	80	100	125	160
Dia. of spindle nose taper (mm)	36.541	41.275	53.975	53.975
Width of locating key (mm)	14	14	18	18
Upward swivel angle of spindle from its Hor. Position	0~6 °	0~5°		
Downward swivel angle of spindle from its Hor. position e)	0~90°	0~95°		
Worm gear ratio	1:40	1:40	1:40	1:40
Taper of spindle bore	3MT	3MT	4MT	4MT
Min. readout of vernier	10"	10"	10"	10"
Spindle Rotataion Angle per revolution of dividing handle	9 °			
Index error for one compete revolution of dividing handle	60"	+/-45"	+/-45"	+/-45"
Accumulative Error at 1/4" any 1/4" periphery of spindle	+/-70"	+/-1 minute	+/-1 minute	+/-1 minute
Max. bearing (Kg)	80	100	130	130
Holes of Index Plate	Side I	24,25,28,30,34,37,38,39,41,42,43		
	Side II	46,47,49,51,53,54,57,58,59,62,66		
Net weight (Kg)	26	57	83.5	100
Gross weight (Kg)	32	69	96	114
Case dimensions (mm)	480x360x219	610x459x255	536x460x310	710x505x342

HORIZONTAL/VERTICAL SUPER SPACE INDEXER



*Horizontal and vertical use.

*Face Parallelism 0.0006".

*360 graduated satin-chrome ring with 5" adjustable vernier.

*Indexing accuracy 25 seconds.

*Base to chuck sqareness 0.0008".

*For milling, drilling, jig boring etc.

*Mounting flange concentricity: 0.0008".

*Adjustable chuck concentricity: 0.0005"

*24 division index plates hardned and ground.

Standard Kit:

6 mask plates

3 allen wrenches

1 three jaw lathe chuck

Optional Face Plate

Order No.	410-0401	410-0402
Center Height	130	149.25
Bore Diameter	Φ80	Φ119.80
Divisions	2,3,4,6,8,12,24	
Locating Key	16	16
Lathe Chuck Diametere	167mm	210mm
Index Accuracy	25"	25"
Weight	33	52
Shipping Size	41x37x35cm	37x34x31cm

SEMI-UNIVERSAL DIVIDING HEADS

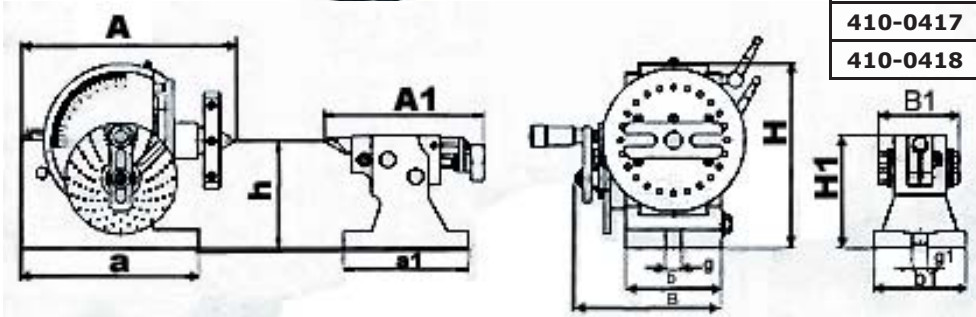
Semi-universal dividing heads are used for direct and indirect dividing. No other accessories are needed for cutting surface, slot, gear and other spiral work. The direct index plate has 24 holes and achieves direct dividing in 2, 3, 4, 6, 8, 12 and 24. With the optional Plates, indirect dividing in any number from 2 to 50, and certain divisions up to 380 can be achieved.



Order No.	A	B	H	h	a	b	g	Spindle
410-0415	193	131	173	100	166	90	16	MT3
410-0416	254	175	200	128	210	114	16	MT4

Tailstock specifications

Order NO.	A1	B1	H1	h	a1	b1	g1
410-0417	193	131	173	100	166	90	16
410-0418	254	175	220	128	210	114	16



Dividing Plates

Order NO.	Numbers of indexing holes
410-0419	15,16,17,18,19,20
410-0420	21,23,27,29,31,33
410-0421	37,39,41,43,47,49

UNIVERSAL DIVIDING HEADS

This universal dividing head divides any angle by direct, indirect or differential methods. It can be easily adjusted to any angle between -10° to +90° from a horizontal position. The dividing head features spiral machining capability. Hardened and ground worm gears comes with a 40:1 ratio. The unit has 12 gears for indexing and spiral cutting. Dividing possible: All numbers from 1 to 50, even numbers from 50 to 100 and many others from 50 to 400.



Set includes:

- Dividing head
- 3 dividing plates
- Threaded back plate for mounting chuck
- Tailstock
- Center and driving dog

Order No.	A	B	H	h	a	b	g	Spindle
410-0422	365	272	236	135	213	134	16	MT4

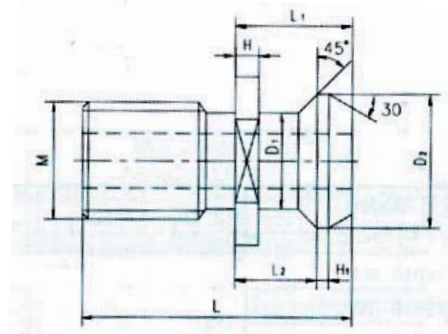
TAILSTOCK

The tailstocks work with vertical rotary table, indexers for holding center shafts, cylinders, solid centers, and workpieces for cutting of grooves, splines, flats, keyways etc.



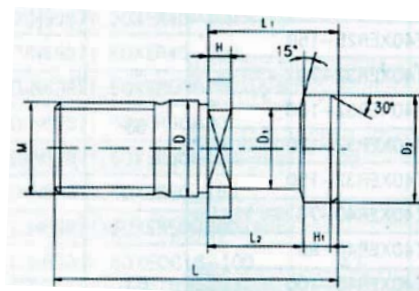
Order No.	410-0027	410-0028	410-0029
Center Height	70mm	125mm	260mm
Quill Taper		MT2	MT3
Locating key	10mm	12mm	18mm
Tilting Angle of Center Axis	+/- 11 degrees		
Travel of Center	12MM	30MM	30MM
Weight	2.5kg	9kg	28kg
Shipping Size	20X12X20CM	32X16X22CM	38X36X26CM
For tables and indexes	410-0004	410-0006	410-0016

ANSI/ASME B5 50-1985 RETENTION KNOB



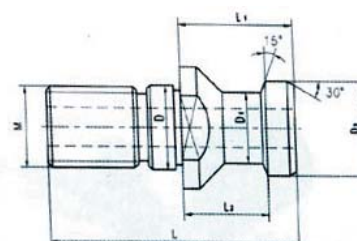
Order No.	Size	D1	D2	L	L1	L2	H	H1
434-0650	1/2"-13TPI	9.78mm	13.21mm	27.94mm	11.68mm	8.13mm	2.54mm	1.01mm
434-0651	5/8"-11TPI	12.45mm	18.8mm	38.1mm	16.26mm	11.18mm	3.05mm	1.52mm
434-0652	3/4"-10TPI	15.37mm	23.88mm	45.72mm	20.83mm	14.73mm	4.06mm	2.03mm
434-0653	1"-8TPI	20.83mm	28.96mm	58.42mm	25.4mm	17.78mm	5.08mm	2.54mm

ISO/DIS7388/2-1984A RETENTION KNOB



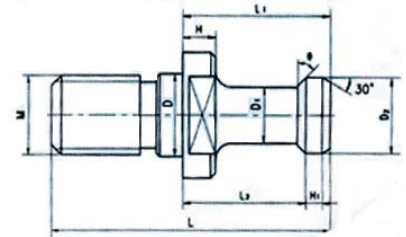
Order No.	Size	D	D1	D2	L	L1	L2	H	H1
434-0654	M12	13mm	8mm	12mm	44mm	24mm	19mm	4mm	3mm
434-0655	M16	17mm	14mm	19mm	54mm	26mm	20mm	4mm	4mm
434-0656	M20	21mm	17mm	23mm	65mm	30mm	23mm	5mm	5mm
434-0657	M24	25mm	21mm	28mm	74mm	34mm	25mm	6mm	7mm

DIN69872-1988 RETENTION KNOB



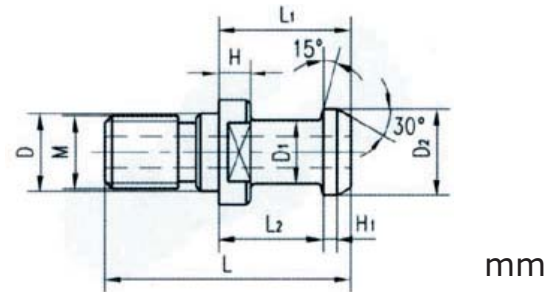
Order No.		Size	D	D1	D2	L	L1	L2
A type	B type							
434-0658	434-0662	M12	13mm	9mm	13mm	44mm	24mm	19mm
434-0659	434-0663	M16	17mm	14mm	19mm	54mm	26mm	20mm
434-0660	434-0664	M20	21mm	17mm	23mm	65mm	30mm	23mm
434-0661	434-0665	M24	25mm	21mm	28mm	74mm	34mm	25mm

MAS403-1982 RETENTION KNOB



Order No.		Size	D	D1	D2	L	L1	L2	H	H1
30°	45°									
434-0666	434-0670	M12	12.5mm	7mm	11mm	43mm	23mm	18mm	5mm	2.5mm
434-0667	434-0671	M16	17mm	10mm	15mm	60mm	35mm	28mm	6mm	3mm
434-0668	434-0672	M20	21mm	14mm	19mm	70mm	40mm	31mm	8mm	4mm
434-0669	434-0673	M24	25mm	17mm	23mm	85mm	45mm	35mm	10mm	5mm

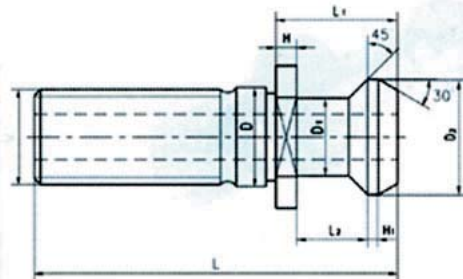
JIS B6339-1986 RETENTION KNOB



mm

Order No.	Size	D	D1	D2	L	L1	L2	H	H1
434-0674	M12	12.5	8	12	43	23.4	18.4	5	3
434-0675	M12	12.5	11	15	44	24	19	5	3
434-0676	M16	17	14	19	54	29	23	7	3
434-0677	M20	21	17	23	60	30	23	7	4
434-0678	M24	25	21	28	74	34	25	7	5
434-0679	M30	31	27	36	98	48	36	11	7

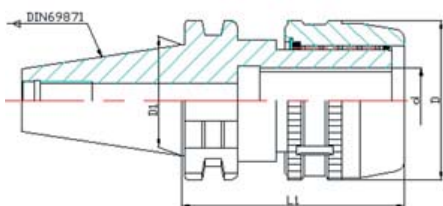
ISO/DIS7388-2 1984B PU



mm

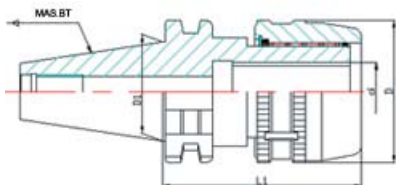
Order No.	Size	D	D1	D2	L	L1	L2	H	H1
434-0680	M12	13	9.3	13.3	27	11.8	8.1	2.7	1.2
434-0681	M16	17	12.95	18.95	44.5	16.4	11.15	3.25	1.75
434-0682	M20	21	16.3	24.05	56	20.95	14.85	4.25	2.25
434-0683	M24	25	19.6	29.1	65.5	25.55	17.95	5.25	2.75

DIN69871 MILLING CHUCK ARBOR



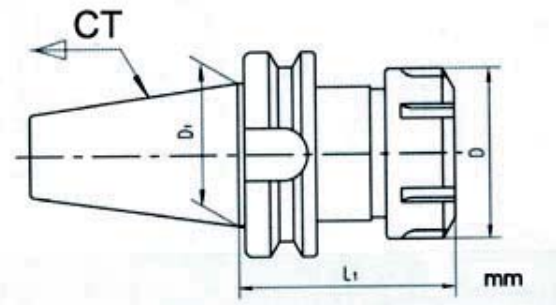
Order No.	Size	d	D	D1
434-0700	16mmx50mmx90mm	16	50	44.45
434-0701	22mmx56mmx100mm	22	56	44.45
434-0702	22mmx56mmx120mm	22	56	44.45
434-0703	25mmx63mmx105mm	25	63	44.45
434-0704	32mmx70mmx100mm	32	70	44.45
434-0705	32mmx70mmx105mm	32	70	44.45
434-0706	32mmx70mmx135mm	32	70	44.45
434-0707	42mmx90mmx135mm	42	90	44.45
434-0708	22mmx56mmx110mm	22	56	69.85
434-0709	22mmx56mmx150mm	22	56	69.85
434-0710	32mmx70mmx150mm	32	70	69.85
434-0711	32mmx70mmx150mm	32	70	69.85
434-0712	42mmx90mmx120mm	42	90	69.85
434-0713	42mmx90mmx150mm	42	90	69.85
434-0714	42mmx90mmx165mm	42	90	69.85

MILLING CHUCK ARBORS



Order No.	Size	d	D	D1
434-0720	16mmx50mmx86mm	16	50	44.45
434-0721	22mmx56mmx90mm	22	56	44.45
434-0722	22mmx56mmx100mm	22	56	44.45
434-0723	22mmx56mmx135mm	22	56	44.45
434-0724	25mmx63mmx100mm	25	63	44.45
434-0725	25mmx63mmx105mm	25	63	44.45
434-0726	32mmx70mmx100mm	32	70	44.45
434-0727	32mmx70mmx105mm	32	70	44.45
434-0728	32mmx70mmx135mm	32	70	44.45
434-0729	42mmx90mmx115mm	42	90	44.45
434-0730	22mmx56mmx100mm	22	56	69.85
434-0731	32mmx70mmx110mm	32	70	69.85
434-0732	32mmx70mmx150mm	32	70	69.85
434-0733	42mmx90mmx120mm	42	90	69.85
434-0734	42mmx90mmx120mm	42	90	69.85
434-0735	42mmx90mmx165mm	42	90	69.85

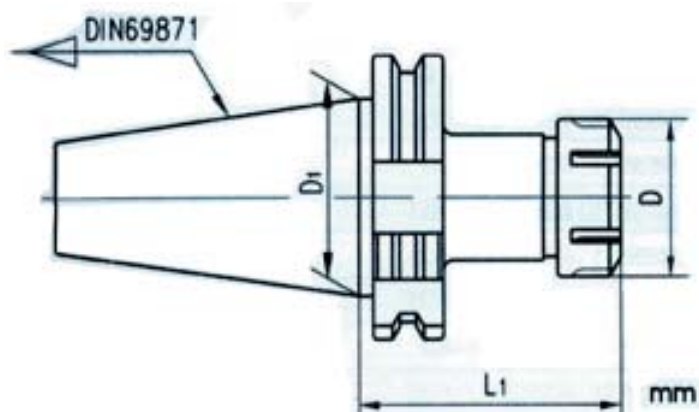
CAT MILLING CHUCK ARBORS



Order No.	Size	D	D1
434-0750	CT40xER16-63	28	44.45
434-0751	CT40xER16-70	28	44.45
434-0752	CT40xER16-100	28	44.45
434-0753	CT40xER16-120	28	44.45
434-0754	CT40xER16-125	28	44.45
434-0755	CT40xER16-150	28	44.45
434-0756	CT40xER20-70	35	44.45
434-0757	CT40xER20-90	35	44.45
434-0758	CT40xER20-100	35	44.45
434-0759	CT40xER20-105	35	44.45
434-0760	CT40xER20-135	35	44.45
434-0761	CT40xER20-150	35	44.45
434-0762	CT40xER25-70	42	44.45
434-0763	CT40xER25-90	42	44.45
434-0764	CT40xER25-100	42	44.45
434-0765	CT40xER25-125	42	44.45
434-0766	CT40xER25-150	42	44.45
434-0767	CT40xER32-70	50	44.45
434-0768	CT40xER32-100	50	44.45
434-0769	CT40xER32-120	50	44.45
434-0770	CT40xER32-150	50	44.45
434-0771	CT40xER40-70	63	44.45
434-0772	CT40xER40-80	63	44.45
434-0773	CT40xER40-100	63	44.45
434-0774	CT40xER40-120	63	44.45
434-0775	CT40xER40-150	63	44.45
434-0776	CT40xER50-80	78	44.45
434-0777	CT40xER50-100	78	44.45
434-0778	CT50xER16-70	28	69.85
434-0779	CT50xER16-90	28	69.85
434-0780	CT50xER16-105	28	69.85

Order No.	Size	D	D1
434-0781	CT50xER16-135	28	69.85
434-0782	CT50xER16-165	28	69.85
434-0783	CT50xER20-70	35	69.85
434-0784	CT50xER20-90	35	69.85
434-0785	CT50xER20-105	35	69.85
434-0786	CT50xER20-135	35	69.85
434-0787	CT50xER20-150	35	69.85
434-0788	CT50xER20-165	35	69.85
434-0789	CT50xER25-70	42	69.85
434-0790	CT50xER25-105	42	69.85
434-0791	CT50xER25-135	42	69.85
434-0792	CT50xER25-165	42	69.85
434-0793	CT50xER32-70	50	69.85
434-0794	CT50xER32-80	50	69.85
434-0795	CT50xER32-100	50	69.85
434-0796	CT50xER32-120	50	69.85
434-0797	CT50xER40-80	63	69.85
434-0798	CT50xER40-100	63	69.85
434-0799	CT50xER40-120	63	69.85
434-0800	CT50xER40-135	63	69.85
434-0801	CT50xER50-90	78	69.85
434-0802	CT50xER50-120	78	69.85
434-0803	CT50xEOC16-100	43	69.85
434-0804	CT50xEOC25-85	60	69.85
434-0805	CT50xEOC25-100	60	69.85
434-0806	CT50xEOC25-125	60	69.85
434-0807	CT50xEOC32-70	72	69.85
434-0808	CT50xEOC32-90	72	69.85
434-0809	CT50xEOC32-105	72	69.85
434-0810	CT50xEOC32-120	72	69.85
434-0811	CT50xEOC32-150	72	69.85

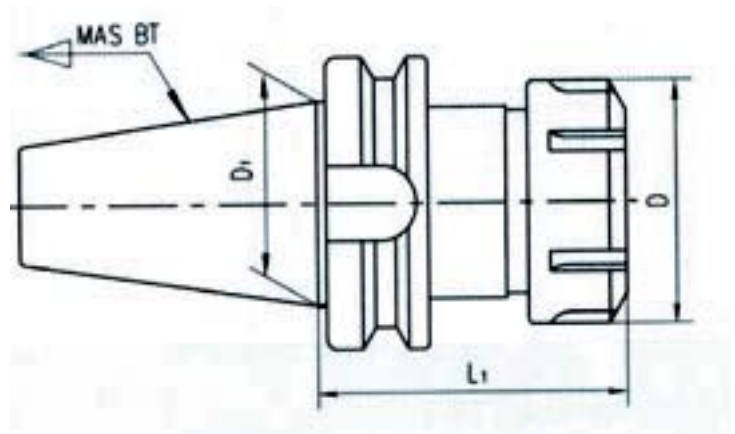
DIN69871 MILLING CHUCK ARBORS



Order No.	Size	D	D1
434-0830	DIN69871.A30xER11-80	19	31.75
434-0831	DIN69871.A30xER16-63	28	31.75
434-0832	DIN69871.A30xER20-63	35	31.75
434-0833	DIN69871.A30xER25-63	42	31.75
434-0834	DIN69871.A40xER11-80	19	44.5
434-0835	DIN69871.A40xER16-63	28	44.5
434-0836	DIN69871.A40xER16-70	28	44.45
434-0837	DIN69871.A40xER16-100	28	44.45
434-0838	DIN69871.A40xER16-120	28	44.45
434-0839	DIN69871.A40xER20-70	35	44.45
434-0840	DIN69871.A40xER20-100	35	44.45
434-0841	DIN69871.A40xER20-160	35	44.45
434-0842	DIN69871.A40xER25-60	42	44.45
434-0843	DIN69871.A40xER25-70	42	44.45
434-0844	DIN69871.A40xER25-100	42	44.45
434-0845	DIN69871.A40xER25-150	42	44.45
434-0846	DIN69871.A40xER32-70	50	44.45
434-0847	DIN69871.A40xER32-80	50	44.45
434-0848	DIN69871.A40xER32-100	50	44.45
434-0849	DIN69871.A40xER32-150	50	44.45
434-0850	DIN69871.A40xER40-80	63	44.45
434-0851	DIN69871.A40xER40-100	63	44.45
434-0852	DIN69871.A40xER40-150	63	44.45
434-0853	DIN69871.A40xER50-100	78	44.45
434-0854	DIN69871.A40xEOC16-70	43	44.45
434-0855	DIN69871.A40xEOC16-100	43	44.45
434-0856	DIN69871.A40xEOC25-70	60	44.45
434-0857	DIN69871.A40xEOC25-100	60	44.45

Order No.	Size	D	D1
434-0858	DIN69871.A40xEOC25-120	60	44.45
434-0859	DIN69871.A40xEOC32-90	72	44.45
434-0860	DIN69871.A40xEOC32-120	72	44.45
434-0861	DIN69871.A40xEOC32-150	72	44.45
434-0862	DIN69871.A50xER16-100	28	69.85
434-0863	DIN69871.A50xER16-160	28	69.85
434-0864	DIN69871.A50xER20-100	35	69.85
434-0865	DIN69871.A50xER20-135	35	69.85
434-0866	DIN69871.A50xER20-160	35	69.85
434-0867	DIN69871.A50xER25-70	42	69.85
434-0868	DIN69871.A50xER25-100	42	69.85
434-0869	DIN69871.A50xER25-150	42	69.85
434-0870	DIN69871.A50xER32-80	50	69.85
434-0871	DIN69871.A50xER32-120	50	69.85
434-0872	DIN69871.A50xER32-160	50	69.85
434-0873	DIN69871.A50xER40-80	63	69.85
434-0874	DIN69871.A50xER40-120	63	69.85
434-0875	DIN69871.A50xER40-160	63	69.85
434-0876	DIN69871.A50xER50-90	78	69.85
434-0877	DIN69871.A50xER50-120	78	69.85
434-0878	DIN69871.A50xER50-160	78	69.85
434-0879	DIN69871.A50xER50-200	78	69.85
434-0880	DIN69871.A50xEOC16-100	43	69.85
434-0881	DIN69871.A50xEOC25-70	60	69.85
434-0882	DIN69871.A50xEOC25-100	60	69.85
434-0883	DIN69871.A50xEOC32-70	72	69.85
434-0884	DIN69871.A50xEOC32-80	72	69.85
434-0885	DIN69871.A50xEOC32-90	85	69.85

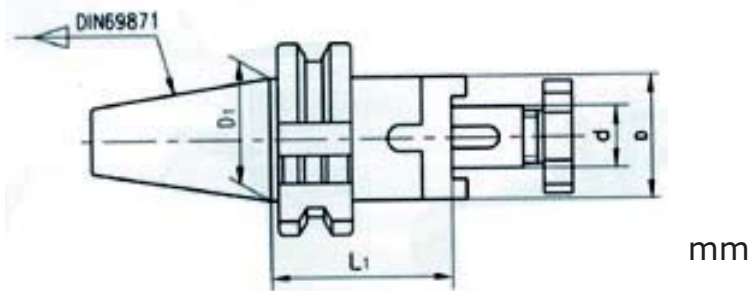
BT MILLING CHUCK ARBORS



Order No.	Size	D	D1
434-0900	BT30xER16-70	28	31.75
434-0901	BT30xER20-70	35	31.75
434-0902	BT30xER25-70	42	31.75
434-0903	BT30xER32-70	50	31.75
434-0904	BT30xER40-80	63	31.75
434-0905	BT40xER16-70	28	44.45
434-0906	BT40xER20-70	35	44.45
434-0907	BT40xER20-90	35	44.45
434-0908	BT40xER20-100	35	44.45
434-0909	BT40xER20-135	35	44.45
434-0910	BT40xER20-150	35	44.45
434-0911	BT40xER25-60	42	44.45
434-0912	BT40xER25-70	42	44.45
434-0913	BT40xER25-90	42	44.45
434-0914	BT40xER25-100	42	44.45
434-0915	BT40xER25-125	42	44.45
434-0916	BT40xER25-150	42	44.45
434-0917	BT40xER32-70	50	44.45
434-0918	BT40xER32-100	50	44.45
434-0919	BT40xER32-150	50	44.45
434-0920	BT40xER40-70	63	44.45
434-0921	BT40xER40-80	63	44.45
434-0922	BT40xER40-120	63	44.45
434-0923	BT40xER40-150	63	44.45
434-0924	BT40xER16-70	28	57.15
434-0925	BT45xER20-70	35	57.15
434-0926	BT45xER20-90	35	57.15
434-0927	BT45xER20-100	35	57.15
434-0928	BT45xER20-135	35	57.15
434-0929	BT45xER25-70	42	57.15
434-0930	BT45xER25-90	42	57.15

Order No.	Size	D	D1
434-0931	BT45xER25-100	42	57.15
434-0932	BT45xER25-125	42	57.15
434-0933	BT45xER32-70	50	57.15
434-0934	BT45xER32-100	50	57.15
434-0935	BT45xER32-120	50	57.15
434-0936	BT45xER32-150	50	57.15
434-0937	BT45xER40-80	63	57.15
434-0938	BT45xER40-100	63	57.15
434-0939	BT45xER40-120	63	57.15
434-0940	BT45xER40-150	63	57.15
434-0941	BT45xER50-80	78	57.15
434-0942	BT45xER50-100	78	57.15
434-0943	BT50xER16-70	28	69.85
434-0944	BT50xER16-90	28	69.85
434-0945	BT50xER16-135	28	69.85
434-0946	BT50xER20-70	35	69.85
434-0947	BT50xER20-90	35	69.85
434-0948	BT50xER20-135	35	69.85
434-0949	BT50xER20-150	35	69.85
434-0950	BT50xER20-165	35	69.85
434-0951	BT50xER25-70	42	69.85
434-0952	BT50xER25-135	42	69.85
434-0953	BT50xER25-165	42	69.85
434-0954	BT50xER32-70	50	69.85
434-0955	BT50xER32-80	50	69.85
434-0956	BT50xER32-100	50	69.85
434-0957	BT50xER32-120	50	69.85
434-0958	BT50xER40-80	63	69.85
434-0959	BT50xER40-100	63	69.85
434-0960	BT50xER40-120	63	69.85
434-0961	BT50xER40-135	63	69.85
434-0962	BT50xER50-90	78	69.85
434-0963	BT50xER50-120	78	69.85

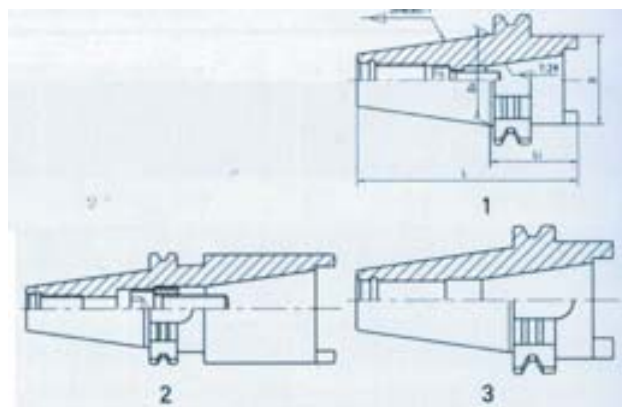
DIN69871 COMBI SHELL END MILL ARBORS



Order No.	Size	D	D1	Wt(kg)
434-1000	A30x13-55	28	31.75	1
434-1001	A30x16-55	32	31.75	1
434-1002	A30x22-55	40	31.75	2
434-1003	A30x27-55	48	31.75	2.1
434-1004	A30x32-60	58	31.75	1.8
434-1005	A30x32-100	58	31.75	2.6
434-1006	A30x40-60	70	31.75	7.3
434-1007	A30x40-100	70	31.75	3.5
434-1008	A40x13-55	28	44.45	1.1
434-1009	A40x16-55	32	44.45	1.2
434-1010	A40x16-100	32	44.45	1.5
434-1011	A40x22-55	40	44.45	1.23
434-1012	A40x22-100	40	44.45	1.83
434-1013	A40x27-55	48	44.45	1.3
434-1014	A40x27-100	48	44.45	2.2
434-1015	A40x32-60	58	44.45	1.5

Order No.	Size	D	D1	Wt(kg)
434-1016	A40x32-100	58	44.45	2.3
434-1017	A40x40-60	70	44.45	1.8
434-1018	A40x40-100	70	44.45	3
434-1019	A50x13-63	28	69.85	3.5
434-1020	A50x16-63	32	69.85	3.5
434-1021	A50x16-100	32	69.85	3.8
434-1022	A50x22-70	40	69.85	3.6
434-1023	A50x22-100	40	69.85	4
434-1024	A50x27-70	48	69.85	3.7
434-1025	A50x27-100	48	69.85	4.4
434-1026	A50x32-70	58	69.85	3.8
434-1027	A50x32-100	58	69.85	4.7
434-1028	A50x40-75	70	69.85	3.9
434-1029	A50x40-100	70	69.85	5.3
434-1030	A50x50-75	90	69.85	4.5
434-1031	A50x50-125	90	69.85	7.2

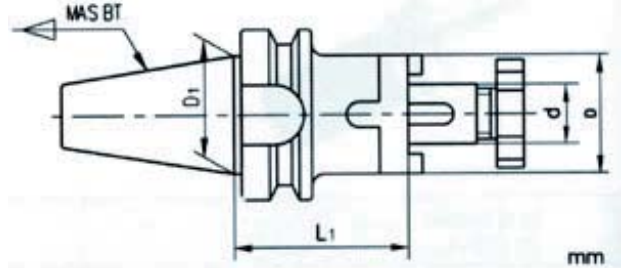
ISO TAPER SLEEVES



Order No.	Size	D	D1	L
434-0985	DIN69871.A40xISO30-50	50	44.45	127.4
434-0986	DIN69871.A40xISO40-100	63	44.45	179.4
434-0987	DIN69871.A50xISO30-50	50	69.85	160.75
434-0988	DIN69871.A50xISO40-70	70	69.85	182.75
434-0989	DIN69871.A50xISO50-120	97	69.85	235.75

Order No.	Size	D	D1	L
434-0990	BT40xISO30-50	50	44.45	124.4
434-0991	BT40xISO40-100	63	44.45	176.4
434-0992	BT50xISO30-50	50	69.85	160.8
434-0993	BT50xISO40-70	70	69.85	182.8
434-0994	BT50xISO50-120	97	69.85	235.8

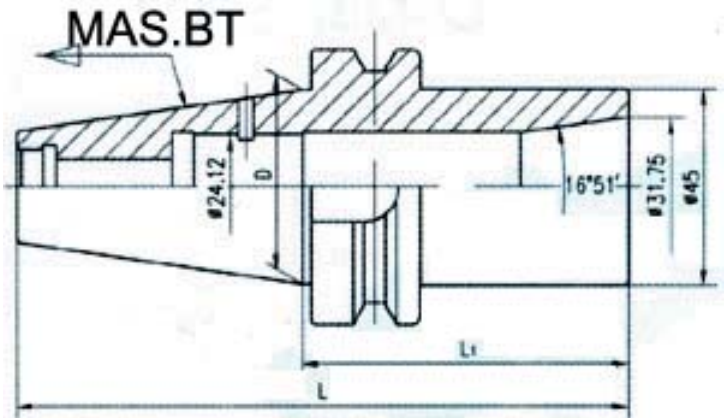
BT COMBI SHELL END MILL ARBORS



Order No.	Size	D	D1	Wt(kg)
434-1050	BT30x13-55	28	31.75	1
434-1051	BT30x16-55	32	31.75	1
434-1052	BT30x22-55	40	31.75	1.2
434-1053	BT30x27-55	48	31.75	1.2
434-1054	BT30x32-60	58	31.75	1.5
434-1055	BT30x32-100	58	31.75	2.6
434-1056	BT30x40-60	70	31.75	2.3
434-1057	BT30x40-100	70	31.75	3.5
434-1058	BT40x13-55	28	44.45	1
434-1059	BT40x16-55	32	44.45	1.2
434-1060	BT40x16-100	32	44.45	1.5
434-1061	BT40x22-55	40	44.45	1.25
434-1062	BT40x22-100	40	44.45	1.85
434-1063	BT40x27-55	48	44.45	1.5
434-1064	BT40x27-100	48	44.45	2
434-1065	BT40x32-60	58	44.45	1.5

Order No.	Size	D	D1	Wt(kg)
434-1066	BT40x32-100	58	44.45	2.3
434-1067	BT40x40-60	70	44.45	2
434-1068	BT40x40-100	70	44.45	3
434-1069	BT50x13-63	28	69.85	3.5
434-1070	BT50x16-63	32	69.85	3.6
434-1071	BT50x16-100	32	69.85	4
434-1072	BT50x22-70	40	69.85	3.7
434-1073	BT50x22-100	40	69.85	4
434-1074	BT50x27-70	48	69.85	4
434-1075	BT50x27-100	48	69.85	4.4
434-1076	BT50x32-70	58	69.85	4.2
434-1077	BT50x32-100	58	69.85	4.7
434-1078	BT50x40-75	70	69.85	4.5
434-1079	BT50x40-100	70	69.85	5.5
434-1080	BT50x50-75	90	69.85	4.6
434-1081	BT50x50-125	90	69.85	7.2

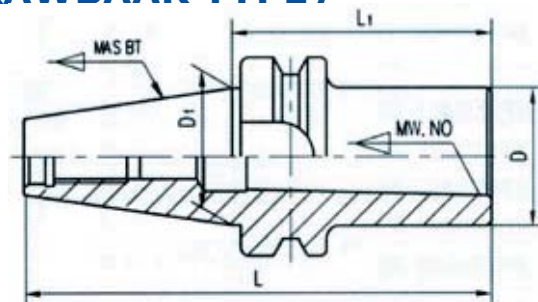
BT TO R8 NC TAPER SLEEVE



Order No.	Size	L	D
434-1090	BT30xR8-115	163.4mm	31.75mm
434-1091	BT30xR8-135	183.4mm	31.75mm
434-1092	BT30xR8-150	198.4mm	31.75mm
434-1093	BT40xR8-75	140.4mm	44.45mm
434-1094	BT40xR8-95	160.4mm	44.45mm
434-1095	BT40xR8-100	165.4mm	44.45mm
434-1096	BT40xR8-130	195.4mm	44.45mm

MACHINE ACCESSORIES

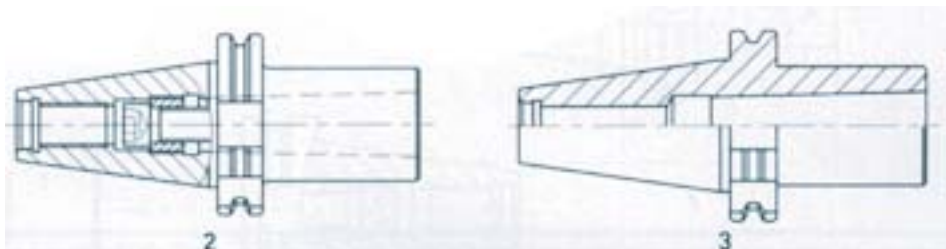
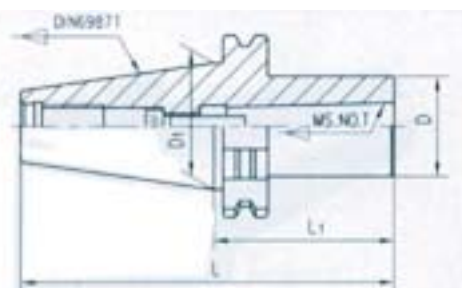
CAT TO MORSE TAPER SLEEVE (DRAWBAR TYPE)



Order No.	Size	D	D1	L
434-0630	CT40 x MT1-45	25	44.45	113.25
434-0631	CT40 x MT2-60	32	44.45	128.25
434-0632	CT40 x MT3-75	40	44.45	143.25
434-0632	CT40 x MT3-90	40	44.45	158.25
434-0633	CT40 x MT4-100	48	44.45	168.25

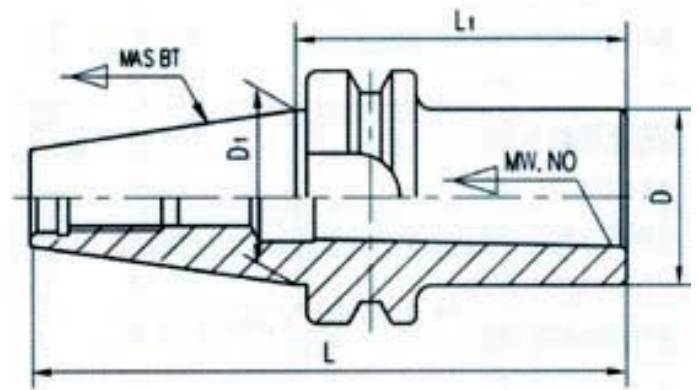
Order No.	Size	D	D1	L
434-0634	CT40 x MT4-120	48	44.45	188.25
434-0635	CT50 x MT2-60	31.75	69.85	161.6
434-0636	CT50 x MT3-60	41.28	69.85	161.6
434-0637	CT50 x MT4-90	50.8	69.85	191.6
434-0638	CT50 x MT5-100	69.85	69.85	201.6

DIN69871 TO MORSE TAPER SLEEVE (DRAWBAR TYPE)



Order No.	Size	L	D	D1	Order No.	Size	L	D	D1
434-1100	A40xMT1x-45	113.4	25	44.5	434-1109	A50xMT2-45	146.8	32	69.85
434-1101	A40xMT2-60	128.4	32	44.5	434-1110	A50xMT2-60	161.8	32	69.85
434-1102	A40xMT3-70	138.4	40	44.5	434-1111	A50xMT3-60	161.8	40	69.85
434-1103	A40xMT3-80	148.4	40	44.5	434-1112	A50xMT3-80	181.8	40	69.85
434-1104	A40xMT3-100	168.4	40	44.5	434-1113	A50xMT4-80	181.8	48	69.85
434-1105	A40xMT4-90	158.4	48	44.5	434-1114	A50xMT4-90	191.8	48	69.85
434-1106	A40xMT4-100	168.4	48	69.85	434-1115	A50xMT4-120	221.8	48	69.85
434-1107	A40xMT4-120	188.4	48	69.85	434-1116	A50xMT5-100	201.8	61	69.85
434-1108	A50xMT1-45	146.8	25	69.85	434-1117	A50xMT5-120	221.8	61	69.85

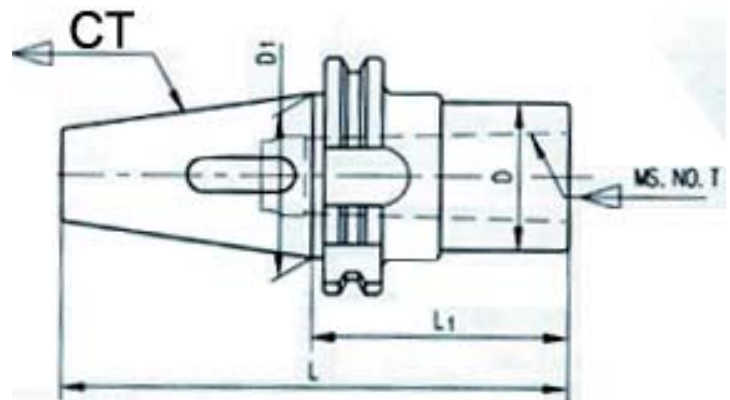
BT TO MORSE TAPER SLEEVE (DRAWBAR TYPE)



Order No.	Size	D	D1	L
434-0601	BT40 x MT1-45	25	44.5	110.4
434-0602	BT40 x MT2-60	32	44.5	125.4
434-0603	BT40 x MT3-75	40	44.5	140.4
434-0604	BT40 x MT3-90	40	44.5	155.4
434-0605	BT40 x MT4-95	48	44.5	160.4
434-0606	BT40 x MT4-100	48	44.5	165.4
434-0607	BT50 x MT1-45	25	69.85	146.8
434-0608	BT50 x MT2-45	32	69.85	146.8

Order No.	Size	D	D1	L
434-0609	BT50 x MT2-60	32	69.85	161.8
434-0610	BT50 x MT3-60	40	69.85	161.8
434-0611	BT50 x MT3-75	40	69.85	176.8
434-0612	BT50 x MT4-80	48	69.85	181.8
434-0613	BT50 x MT4-100	48	69.85	201.8
434-0614	BT50 x MT5-100	63	69.85	201.8
434-0615	BT50 x MT5-120	63	69.85	221.8

CAT TO MORSE TAPER SLEEVE (With Tang)

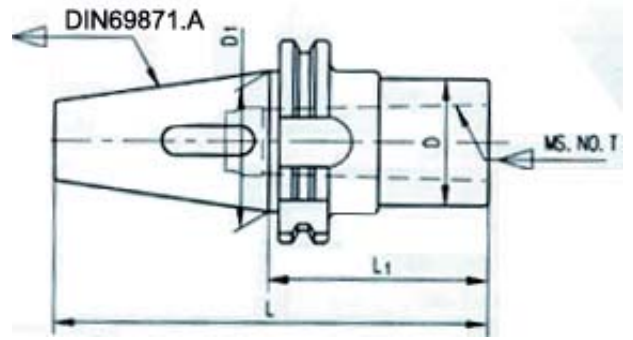


Order No.	Size	D	D1	L	Wt(kg)
434-0551	CT40xMT1x 45mm	25	44.45	113.25	1.3
434-0552	CT40xMT2x 63mm	32	44.45	131.25	1.7
434-0553	CT40xMT3x 75mm	40	44.45	143.25	2
434-0554	CT40xMT4x100mm	48	44.45	168.25	2.5
434-0555	CT45xMT1x 40mm	25	57.15	122.55	2.7
434-0556	CT45xMT2x 50mm	32	57.15	132.55	3.8
434-0557	CT45xMT3x 73mm	40	57.15	155.55	4.2
434-0558	CT45xMT4x 95mm	48	57.15	177.55	4.6
434-0559	CT45xMT5x125mm	61	57.15	207.55	5.5

Order No.	Size	D	D1	L	Wt(kg)
434-0560	CT50xMT1x 40mm	25	69.85	141.6	4
434-0561	CT50xMT2x 50mm	32	69.85	151.6	4
434-0562	CT50xMT2x135mm	32	69.85	236.6	5
434-0563	CT50xMT3x 63mm	40	69.85	164.6	4.5
434-0564	CT50xMT3x150mm	40	69.85	251.6	5.5
434-0565	CT50xMT4x 65mm	48	69.85	166.6	4.4
434-0566	CT50xMT4x 85mm	48	69.85	186.6	4.8
434-0567	CT50xMT5x105mm	61	69.85	206.6	5.2

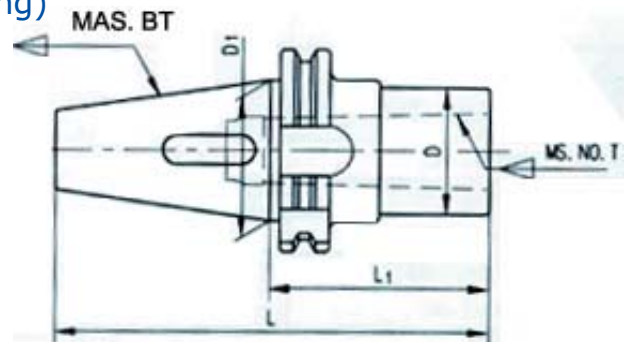
MACHINE ACCESSORIES

DIN 69871 TO MORSE TAPER SLEEVE



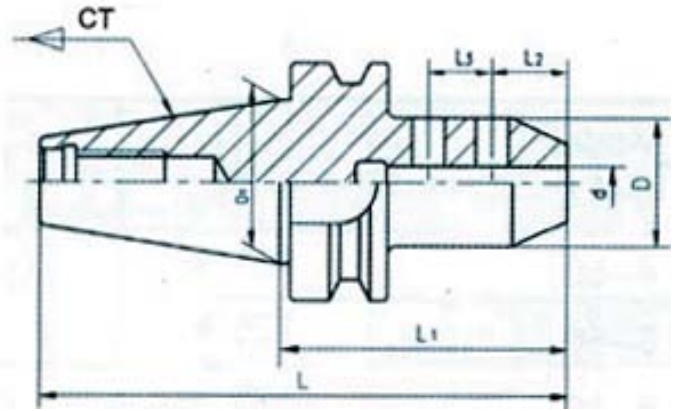
Order No.	Size	D	D1	L	Wt(kg)	Order No.	Size	D	D1	L	Wt(kg)
434-0581	A30xMT1x50mm	25	31.75	97.8	0.55	434-0589	A40xMT4x95mm	48	44.45	163.4	2.4
434-0582	A30xMT2x60mm	32	31.75	107.8	0.8	434-0590	A40xMT5x125mm	63	44.45	193.4	3.8
434-0583	A30xMT3x75mm	40	31.75	122.8	0.85	434-0591	A50xMT1x45mm	25	69.85	146.75	4.05
434-0584	A40xMT1x45mm	25	44.45	113.4	1.2	434-0592	A50xMT2x60mm	32	69.85	161.75	4.4
434-0585	A40xMT1x50mm	25	44.45	118.4	1.3	434-0593	A50xMT3x65mm	40	69.85	166.75	4.5
434-0586	A40xMT2x50mm	32	44.45	118.4	1.5	434-0594	A50xMT4x95mm	48	69.85	196.75	4.9
434-0587	A40xMT2x60mm	32	44.45	128.4	1.56	434-0595	A50xMT5x100mm	61	69.85	201.75	5.1
434-0588	A40xMT3x70mm	40	44.45	138.4	1.8	434-0596	A50xMT5x105mm	61	69.85	206.75	5.15

BT TO MORSE TAPER SLEEVE (With Tang)



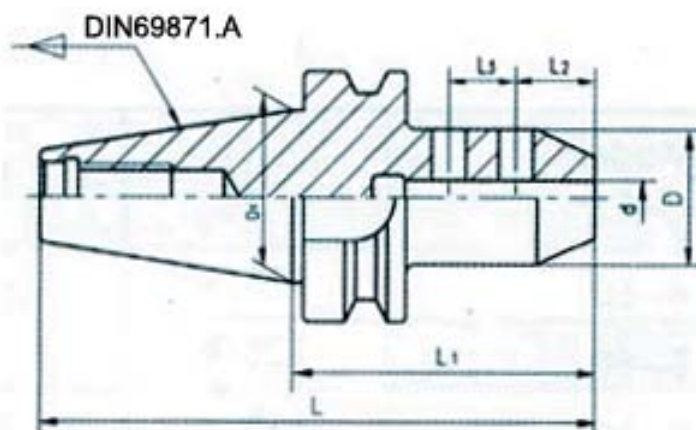
Order No.	Size	D	D1	L	Wt(kg)	Order No.	Size	D	D1	L	Wt(kg)
434-0501	BT30xMT1x 45	25	31.75	93.4	0.55	434-0519	BT45xMT3x120	40	57.15	202.8	2.4
434-0502	BT30xMT1x 50				0.6	434-0520	BT45xMT3x140				2.6
434-0503	BT30xMT2x 60	32	31.75	108.4	0.9	434-0521	BT45xMT4x 98	48	57.15	180.8	2.4
434-0504	BT30xMT3x 80	40	31.75	128.4	0.9	434-0522	BT50xMT1x 45	25	69.85	146.8	4.1
434-0505	BT40xMT1x 45	25	44.45	110.4	1.2	434-0523	BT50xMT2x 50	32	69.85	151.8	4
434-0506	BT40xMT1x 50				1.25	434-0524	BT50xMT2x 60	32	69.85	161.8	4.2
434-0507	BT40xMT1x120				1.5	434-0525	BT50xMT2x120	32	69.85	221.8	4.3
434-0508	BT40xMT2x 50	32	44.45	115.4	1.55	434-0526	BT50xMT2x135				4.35
434-0509	BT40xMT2x 60	32	44.45	125.4	1.65	434-0527	BT50xMT3x 65	40	69.85	166.8	4.2
434-0510	BT40xMT2x120				1.78	434-0528	BT50xMT3x 75	40	69.85	176.8	4.3
434-0511	BT40xMT3x 70	40	44.45	135.4	1.8	434-0529	BT50xMT3x120	40	69.85	221.8	4.4
434-0512	BT40xMT3x 75	40	44.45	140.4	1.9	434-0530	BT50xMT3x135	40	69.85	236.8	4.46
434-0513	BT40xMT4x 90	48	44.45	155.4	2.3	434-0531	BT50xMT3x150	40	69.85	251.8	4.68
434-0514	BT40xMT4x 95	48	44.45	160.4	2.4	434-0532	BT50xMT4x 85	48	69.85	186.8	4.8
434-0515	BT40xMT4x135	48	44.45	200.4	2.5	434-0533	BT50xMT4x 95	48	69.85	196.8	5
434-0516	BT40xMT4x165				2.65	434-0534	BT50xMT4x180				5.8
434-0517	BT45xMT1x120	25	57.15	202.8	1.9	434-0535	BT50xMT5x105	63	69.85	206.8	5
434-0518	BT45xMT2x120	32	57.15	202.8	2.3	434-0536	BT50xMT5x108	63	69.85	209.8	5.06

CAT END MILL ADAPTOR



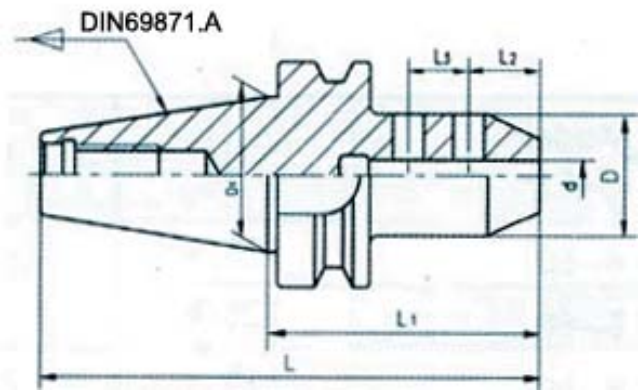
Order No.	Size	D	D1	L	L2	L3
434-0451	CT40x3/16"- 2-1/2"	19.05	44.45	131.8	143.3	
434-0452	CT40x1/4"- 2-1/2"	20.26	44.45	131.8	198.8	
434-0453	CT40x5/16"- 2-1/2"	22.52	44.45	131.8	198.8	
434-0454	CT40x3/8"- 2-1/2"	32	44.45	131.8	198.8	
434-0455	CT40x7/16"- 2-1/2"	31.75	44.45	131.8	22.2	
434-0456	CT40x1/2"- 2-5/8"	44.45	44.45	134.9	22.2	
434-0457	CT40x5/8"- 3-3/4"	44.45	44.45	163.5	23.8	
434-0458	CT40x3/4"- 3-3/4"	44.45	44.45	163.5	25.4	
434-0459	CT40x7/8"- 4"	52	44.45	169.9	27	22.2
434-0460	CT40x1"- 4"	63	44.45	169.9	28.6	25.4
434-0461	CT40x1-1/4"- 4-1/8"	69.85	44.45	173	28.6	25.4
434-0462	CT50x3/8"- 4-1/2"	31.75	69.85	215.9	19.8	
434-0463	CT50x3/8"- 6-1/2"	31.75	69.85	266.7	19.8	
434-0464	CT50x1/2"- 2-5/8"	44.45	69.85	168.3	22.2	
434-0465	CT50x1/2"- 4-5/8"	44.45	69.85	219.2	22.2	
434-0466	CT50x5/8"- 3-3/4"	44.45	69.85	196.85	23.8	
434-0467	CT50x5/8"- 5-3/4"	44.45	69.85	247.7	23.8	
434-0468	CT50x3/4"- 3-3/4"	44.45	69.85	196.85	25.4	
434-0469	CT50x3/4"- 5-3/4"	44.45	69.85	247.7	25.4	
434-0470	CT50x7/8"- 3-3/4"	52	69.85	196.85	27	22.2
434-0471	CT50x7/8"- 5-3/4"	52	69.85	247.7	27	22.2
434-0472	CT50x1"- 4"	63	69.85	203.2	28.6	25.4
434-0473	CT50x1"- 6"	63	69.85	254	28.6	25.4
434-0474	CT50x1"- 8"	63	69.85	304.8	28.6	25.4
434-0475	CT50x1-1/4"- 4"	69.85	69.85	203.2	28.6	25.4
434-0476	CT50x1-1/4"- 6"	69.85	69.85	254	28.6	25.4
434-0477	CT50x1-1/4"- 8"	69.85	69.85	304.8	28.6	25.4
434-0478	CT50x1-1/2"- 4"	69.85	69.85	203.2	28.6	25.4
434-0479	CT50x1-1/2"- 6"	69.85	69.85	254	28.6	25.4
434-0480	CT50x1-1/2"- 8"	69.85	69.85	304.8	28.6	25.4
434-0481	CT50x2"- 5-5/8"	69.85	69.85	244.5	30.2	36.5
434-0482	CT50x2"- 7-5/8"	69.85	69.85	295.3	30.2	36.5
434-0483	CT50x2-1/2"- 6"	69.85	69.85	254	30.2	36.5

DIN69871 END MILL ADAPTOR



Order No.	Size	D	D1	L	L2	L3	Wt(kg)
434-0401	A30x6mmx 50	25	31.75	97.8	18		0.58
434-0402	A30x8mmx 50	28	31.75	97.8	18		0.64
434-0403	A30x10mmx 50	35	31.75	97.8	20		0.72
434-0404	A30x12mmx 50	42	31.75	97.8	22.5		0.8
434-0405	A30x16mmx 50	48	31.75	97.8	24		0.96
434-0406	A40x6mmx 50	25	44.45	118.4	18		0.92
434-0407	A40x6mmx100	25	44.45	168.4	18		2.4
434-0408	A40x8mmx 50	28	44.45	118.4	18		0.96
434-0409	A40x8mmx100	28	44.45	168.4	18		2.4
434-0410	A40x10mmx 50	35	44.45	118.4	20		2
434-0411	A40x10mmx100	35	44.45	168.4	20		2.3
434-0412	A40x12mmx 50	42	44.45	118.4	22.5		1.12
434-0413	A40x14mmx 50	44	44.45	118.4	22.5		1.12
434-0414	A40x16mmx 63	48	44.45	131.4	24		1.2
434-0415	A40x18mmx 63	50	44.45	131.4	24		1.2
434-0416	A40x20mmx 63	52	44.45	131.4	25		1.32
434-0417	A40x25mmx100	65	44.45	168.4	24	25	2.04
434-0418	A40x32mmx100	72	44.45	168.4	24	28	2.24
434-0419	A40x40mmx120	90	44.45	188.4	30	32	2.4
434-0420	A50x6mmx 63	25	69.85	164.75	18		3.3
434-0421	A50x8mmx 63	28	69.85	164.75	18		3.4
434-0422	A50x10mmx 63	35	69.85	164.75	20		3.42
434-0423	A50x12mmx 63	42	69.85	164.75	22.5		3.42
434-0424	A50x14mmx 63	44	69.85	164.75	22.5		3.44
434-0425	A50x16mmx 63	48	69.85	164.75	24		3.46
434-0426	A50x18mmx 63	50	69.85	164.75	24		3.48
434-0427	A50x20mmx 63	52	69.85	164.75	25		4.24
434-0428	A50x25mmx 80	65	69.85	181.75	24	25	4.4
434-0429	A50x32mmx100	72	69.85	201.75	24	28	4.52
434-0430	A50x40mmx100	90	69.85	201.75	30	32	4.54
434-0431	A50x40mmx120	90	69.85	221.75	30	32	4.72
434-0432	A50x40mmx125	100	69.85	226.75	35	35	4.62
434-0433	A50x63mmx150	125	69.85	251.75	40	40	5.6

DIN69871 END MILL ADAPTOR



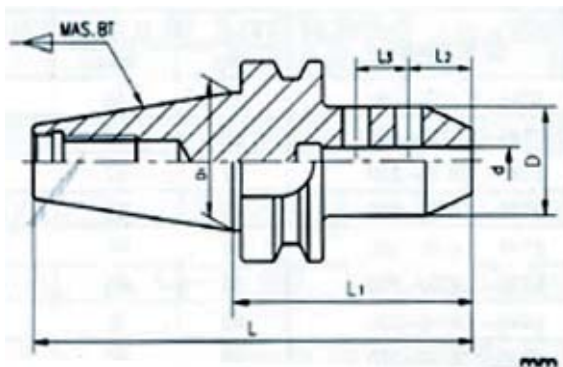
Order No.	ISO NO.-d-L1	L (mm)	D (mm)	D1 (mm)	L2 (mm)
434-0361	ISO 30x1/4"x 50	97.8	27	31.75	12
434-0362	ISO 30x5/16"x 50	97.8	30	31.75	16
434-0363	ISO 30x3/8"x 50	97.8	32	31.75	19
434-0364	ISO 30x1/2"x 50	97.8	35	31.75	23
434-0365	ISO 30x5/8"x 63	110.8	41	31.75	23
434-0366	ISO 40x1/4"x 50	118.4	27	44.45	12
434-0367	ISO 40x5/6"x 50	118.4	30	44.45	16
434-0368	ISO 40x3/8"x 50	118.4	32	44.45	19
434-0369	ISO 40x1/2"x 50	118.4	35	44.45	22
434-0370	ISO 40x5/8"x 63	131.4	41	44.45	23
434-0371	ISO 40x3/4"x 63	431.4	44.5	44.45	25
434-0372	ISO 40x1"x100	168.4	55	44.45	28
434-0373	ISO 40x1-1/4"x100	168.4	62	44.45	28
434-0374	ISO 50x1/4"x 63	164.75	27	69.85	12
434-0375	ISO 50x5/16"x 63	164.75	30	69.85	16
434-0376	ISO 50x3/8"x 63	164.75	32	69.85	19
434-0377	ISO 50x1/2"x 63	164.75	35	69.85	22
434-0378	ISO 50x5/8"x 63	164.75	41	69.85	23
434-0379	ISO 50x3/4"x 63	164.75	44.5	69.85	28
434-0380	ISO 50x1"x 80	181.75	55	69.85	28
434-0381	ISO 50x1-1/4"x100	201.75	62	69.85	28
434-0382	ISO 50x1-1/2"x100	201.75	68	69.85	28
434-0383	ISO 50x2"x125	226.75	97	69.85	30
434-0384	ISO 50x2-1/4"x150	250.75	125	69.85	30

BT BORING SHANK FOR SQUARE BIT, RIGHT ANGLE



Order No.	Size	D	D1	L	W
434-1250	BT45x25x120	25-40mm	20	120	8
434-1251	BT45x38-150	38-60mm	30	150	10
434-1252	BT45x50x165	50-70mm	40	165	13
434-1253	BT45x72x195	72-100mm	60	195	19

BT END MILL ADAPTOR



Order No.	BT No.xdxL1	L (mm)	D (mm)	D1 (mm)	L2 (mm)
434-0261	BT30x1/4"x60	108.4	27	31.75	12
434-0262	BT30x5/16"x60	108.4	30	31.75	16
434-0263	BT30x3/8"x60	108.4	32	31.75	19
434-0264	BT30x1/2"x60	108.4	35	31.75	22
434-0265	BT30x5/8"x75	123.4	41	31.75	23
434-0266	BT30x3/4"x75	123.4	44.5	31.75	25
434-0267	BT30x1"x90	138.4	55	31.75	28
434-0268	BT40x1/4"x50	115.4	27	44.45	12
434-0269	BT40x5/16"x50	115.4	30	44.45	16
434-0270	BT40x3/8"x63	128.4	32	44.45	19
434-0271	BT40x1/2"x63	128.4	35	44.45	22
434-0272	BT40x5/8"x63	128.4	41	44.45	23
434-0273	BT40x3/4"x63	128.4	44.5	44.45	25
434-0274	BT40x1"x100	165.4	55	44.45	28
434-0275	BT40x1-1/4"x100	165.4	62	44.45	28
434-0276	BT50x1/4"x63	164.8	27	69.85	12
434-0277	BT50x5/16"x63	164.8	30	69.85	16
434-0278	BT50x3/8"x63	164.8	32	69.85	19
434-0279	BT50x1/2"x80	181.8	35	69.85	22
434-0280	BT50x5/8"x80	181.8	41	69.85	23
434-0281	BT50x3/4"x80	181.8	44.5	69.85	25
434-0282	BT50x1"x100	201.8	55	69.85	28
434-0283	BT50x1-1/4"x105	206.8	62	69.85	28
434-0284	BT50x1-1/2"x105	216.8	38	69.85	28

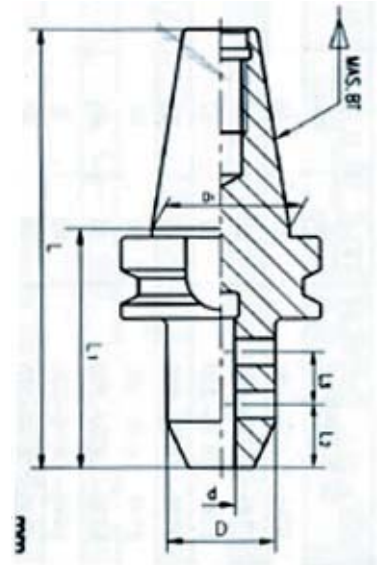
BT BORING SHANK



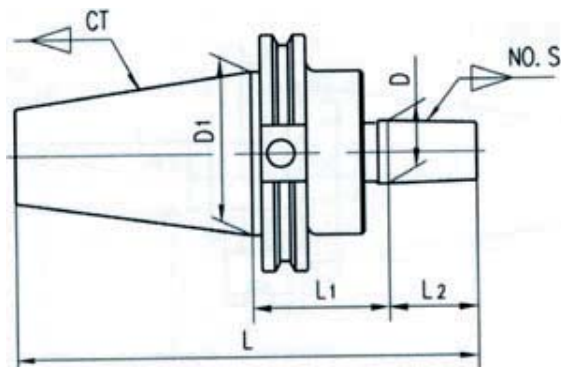
Order No.	Size	L (mm)	Wt(kg)
434-1140	BT40x7/8"-20-45	122.4	1.4
434-1141	BT40x1-1/2"-18-45	122.4	1.4
434-1142	BT50x7/8"-20-75	188.8	4.3
434-1143	BT50x1-1/2"x18-75	188.8	5
434-1144	BT50x7/8"-20-80	193.8	4.7
434-1145	BT50x1-1/2"x18-80	193.8	5.2

BT END MILL ADAPTOR

Order No.	Size	Wt(kg)	D	D1	L	L2	L3
434-0301	BT30x 6mmx 50mm	0.66	25	31.75	98.4	18	
434-0302	BT30x 6mmx 60mm	0.72	25	31.75	108.4	18	
434-0303	BT30x 8mmx 60mm	0.8	28	31.75	108.4	18	
434-0304	BT30x10mmx 60mm	0.83	35	31.75	108.4	20	
434-0305	BT30x10mmx 80mm	0.83	35	31.75	128.4	20	
434-0306	BT30x12mmx 60mm	0.88	42	31.75	108.4	22.5	
434-0307	BT30x14mmx 60mm	1.02	44	31.75	108.4	22.5	
434-0308	BT30x16mmx 75mm	1.04	48	31.75	123.4	24	
434-0309	BT30x18mmx 75mm	1.26	50	31.75	123.4	24	
434-0310	BT30x20mmx 75mm	1.36	52	31.75	123.4	25	
434-0311	BT30x25mmx 90mm	1.5	65	31.75	138.4	24	25
434-0312	BT40x 6mmx 50mm	0.96	25	44.45	115.4	18	
434-0313	BT40x 6mmx 60mm	0.98	25	44.45	125.4	18	
434-0314	BT40x 8mmx 50mm	1	28	44.45	115.4	18	
434-0315	BT40x10mmx 63mm	1.08	35	44.45	128.4	20	
434-0316	BT40x12mmx 63mm	1.2	42	44.45	128.4	22.5	
434-0317	BT40x14mmx 63mm	1.22	44	44.45	128.4	22.5	
434-0318	BT40x16mmx 63mm	1.24	48	44.45	128.4	24	
434-0319	BT40x16mmx 70mm	1.3	48	44.45	135.4	24	
434-0320	BT40x18mmx 63mm	1.36	50	44.45	128.4	24	
434-0321	BT40x20mmx 63mm	1.36	52	44.45	128.4	25	
434-0322	BT40x20mmx 70mm	2.1	52	44.45	135.4	25	
434-0323	BT40x25mmx 90mm	2.07	65	44.45	155.4	24	25
434-0324	BT40x25mmx100mm	2.08	65	44.45	165.4	24	25
434-0325	BT40x32mmx100mm	2.25	72	44.45	165.4	24	28
434-0326	BT40x32mmx110mm	2.3	72	44.45	175.4	24	28
434-0327	BT40x40mmx120mm	2.5	90	44.45	185.4	30	32
434-0328	BT40x40mmx140mm	2.8	90	44.45	205.4	30	32
434-0329	BT50x 6mmx 63mm	3.2	25	69.85	164.8	18	
434-0330	BT50x 8mmx 63mm	3.23	28	69.85	164.8	18	
434-0331	BT50x10mmx 63mm	3.24	35	69.85	164.8	20	
434-0332	BT50x12mmx 80mm	3.36	42	69.85	181.8	22.5	
434-0333	BT50x16mmx 80mm	3.48	48	69.85	181.8	24	
434-0334	BT50x20mmx 80mm	3.52	52	69.85	181.8	25	
434-0335	BT50x25mmx100mm	4.28	65	69.85	201.8	24	25
434-0336	BT50x25mmx105mm	4.3	65	69.85	206.8	24	25
434-0337	BT50x25mmx150mm	4.35	65	69.85	251.8	24	25
434-0338	BT50x25mmx200mm	4.4	65	69.85	301.8	24	25
434-0339	BT50x32mmx100mm	4.44	72	69.85	201.8	24	28
434-0340	BT50x32mmx105mm	4.56	72	69.85	206.8	24	28
434-0341	BT50x40mmx115mm	4.58	90	69.85	216.8	30	32
434-0342	BT50x40mmx120mm	4.58	90	69.85	221.8	30	32
434-0343	BT50x42mmx120mm	4.6	90	69.85	221.8	30	32
434-0344	BT50x50mmx150mm	4.9	100	69.85	251.8	35	32

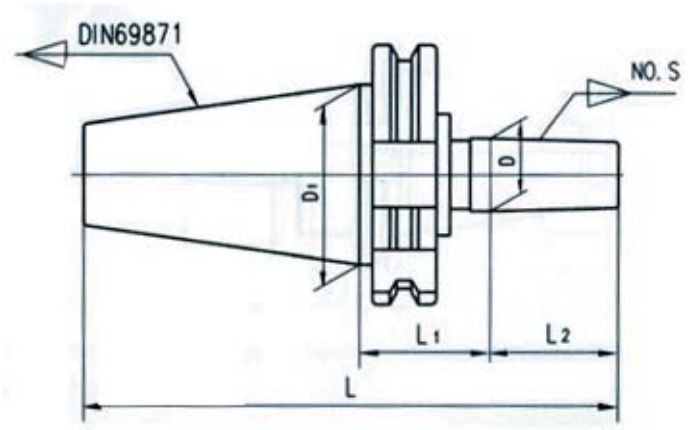


CAT DRILL CHUCK ARBOR



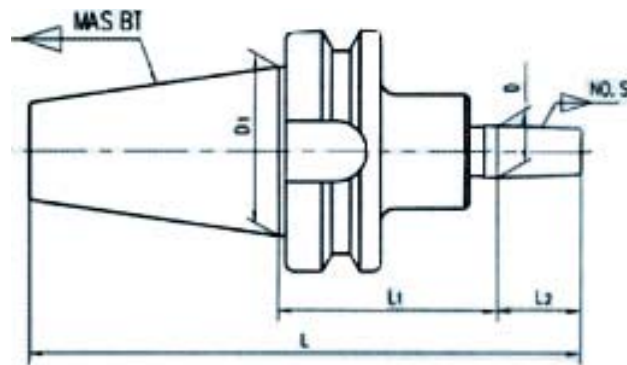
Order No.	Size	L2	L	D	D1	Drawbar thread
434-0221	CT40-JT2-45	22.225	135.5	14.199	44.45	5/8"-11
434-0222	CT40-JT3-45	30.956	144.2	20.599	44.45	5/8"-11
434-0223	CT40-JT4-45	42.069	155.3	28.55	44.45	5/8"-11
434-0224	CT40-JT6-45	25.4	138.65	17.17	44.45	5/8"-11
434-0225	CT40-JT33-45	25.4	137.25	15.85	44.45	5/8"-11
434-0226	CT45-JT1-45	16.669	144.2	9.754	57.15	3/4"-10
434-0227	CT45-JT2-45	22.225	150	14.199	57.15	3/4"-10
434-0228	CT45-JT3-45	30.956	158.5	20.599	57.15	3/4"-10
434-0229	CT45-JT4-45	42.069	169.6	28.55	57.15	3/4"-10
434-0230	CT45-JT5-45	47.625	175.2	35.89	57.15	3/4"-10
434-0231	CT45-JT6-45	25.4	153	17.17	57.15	3/4"-10
434-0232	CT45-JT33-45	25.4	153	15.85	57.15	3/4"-10
434-0233	CT50-JT2-45	22.225	168.85	14.199	69.85	1"-8
434-0234	CT50-JT3-45	30.956	177.56	20.599	69.85	1"-8
434-0235	CT50-JT4-45	42.069	188.67	28.55	69.85	1"-8
434-0236	CT50-JT5-45	47.625	194.23	35.89	69.85	1"-8
434-0237	CT50-JT6-45	25.4	172	17.17	69.85	1"-8
434-0238	CT50-JT33-45	25.4	172	15.85	69.85	1"-8
434-0239	CT45-B10-45	14.5	142	10.094	57.15	3/4"-10
434-0240	CT45-B12-45	18.5	146	12.065	57.15	3/4"-10
434-0241	CT45-B16-32	24	138.6	15.733	57.15	3/4"-10
434-0242	CT45-B16-45	24	151.6	15.733	57.15	3/4"-10
434-0243	CT45-B18-45	32	159.6	17.78	57.15	3/4"-10
434-0244	CT40-B16-45	24	137.25	15.733	44.45	5/8"-11
434-0245	CT40-B18-45	32	145.25	17.78	44.45	5/8"-11
434-0246	CT50-B10-45	14.5	161.1	10.094	69.85	1"-8
434-0247	CT50-B12-45	18.5	165.1	12.065	69.85	1"-8
434-0248	CT50-B16-60	24	185.6	15.773	69.85	1"-8
434-0249	CT50-B18-60	32	193.6	17.78	69.85	1"-8
434-0250	CT50-B22-60	40.5	202.1	21.793	69.85	1"-8
434-0251	CT50-B24-60	50.5	212.1	23.825	69.85	1"-8

DIN69871 DRILL CHUCK ARBOR



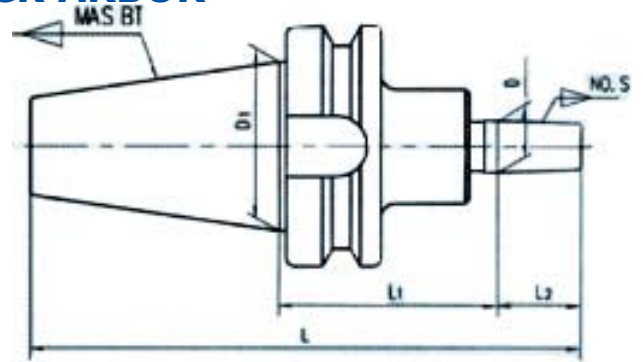
Order No.	Size	L2	L	D	D1	Drawbar thread
434-0171	A40-J0-32	11.112	111.5	6.35	44.45	M16
434-0172	A40-J1-32	16.669	117	9.754	44.45	M16
434-0173	A40-J2-32	22.225	122.6	14.199	44.45	M16
434-0174	A40-J2S-32	19.05	119.5	13.94	44.45	M16
434-0175	A40-J3-32	30.956	131.4	20.599	44.45	M16
434-0176	A40-J4-32	42.069	142.5	28.55	44.45	M16
434-0177	A40-J5-32	47.625	148	35.89	44.45	M16
434-0178	A40-J6-32	25.4	125.8	17.17	44.45	M16
434-0179	A40-J33-32	26.4	126.8	15.85	44.45	M16
434-0180	A50-J3-45	30.965	177.7	20.599	69.85	M16
434-0181	A50-J6-45	25.4	172.1	17.17	69.85	M16
434-0182	A50-J33-45	25.4	172.1	15.85	69.85	M16
434-0183	A40-B6-32	10	110.4	6.35	44.5	M16
434-0184	A40-B10-32	14.5	114.9	10.094	44.45	M16
434-0185	A40-B10-45	14.5	127.9	10.094	44.45	M16
434-0186	A40-B12-32	18.5	118.9	12.065	44.45	M16
434-0187	A40-B12-80	18.5	166.9	12.065	44.45	M16
434-0188	A40-B16-26	24	118.4	15.733	44.45	M16
434-0189	A40-B16-32	24	124.4	15.733	44.45	M16
434-0190	A40-B16-45	24	137.4	15.733	44.45	M16
434-0191	A40-B18-32	32	132.4	17.78	44.45	M16
434-0192	A40-B18-45	32	145.4	17.78	44.5	M16
434-0193	A40-B22-32	40.5	140.9	21.793	45.5	M16
434-0194	A40-B24-32	50.5	150.9	23.825	46.5	M16
434-0195	A50-B16-45	24	170.75	15.733	69.85	M24
434-0196	A50-B16-45	24	170.8	15.733	69.85	M16
434-0197	A50-B18-45	32	178.8	17.78	69.85	M16
434-0198	A50-B22-60	40.5	202.3	21.793	69.85	M24
434-0199	A50-B24-60	50.5	212.3	23.825	69.85	M24

BT DRILL CHUCK ARBOR



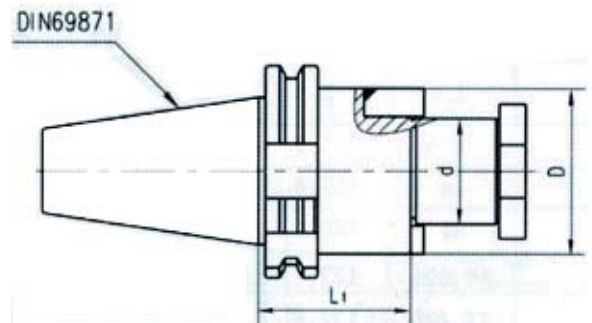
Order No.	Size	L2	L	D	D1	Drawbar thread	Wt(kg)
434-0101	BT30-JT1-45	16.669	110	9.754	31.75	M12	0.6
434-0102	BT30-JT2-45	22.225	115.6	14.199	31.75	M12	0.7
434-0103	BT30-JT2S-45	19.05	112.4	13.94	31.75	M12	0.7
434-0104	BT30-JT3-45	30.956	124.4	20.599	31.75	M12	0.8
434-0105	BT30-JT4-45	42.069	135.4	28.55	31.75	M12	0.85
434-0106	BT30-JT5-45	47.625	141	35.89	31.75	M12	0.9
434-0107	BT30-JT6-45	25.4	118.8	17.17	31.75	M12	0.75
434-0108	BT30-JT33-40	25.4	113.8	15.85	31.75	M12	0.75
434-0109	BT30-JT33-45	25.4	118.8	15.85	31.75	M12	0.75
434-0110	BT30-B10-45	14.5	107.9	10.094	31.75	M12	0.6
434-0111	BT30-B12-45	18.5	111.9	12.065	31.75	M12	0.6
434-0112	BT30-B16-45	24	117.4	15.733	31.75	M12	0.7
434-0113	BT30-B18-45	32	125.4	17.78	31.75	M12	0.82
434-0114	BT40-JT1-45	16.669	127.1	9.754	44.45	M16	1.16
434-0115	BT40-JT2-45	22.225	132.6	14.199	44.45	M16	1.25
434-0116	BT40-JT2S-45	19.05	129.4	13.94	44.45	M16	1.2
434-0117	BT40-JT3-45	30.956	141.4	20.599	44.45	M16	1.45
434-0118	BT40-JT4-45	42.069	152.5	28.55	44.45	M16	1.55
434-0119	BT40-JT5-45	47.625	158	35.89	44.45	M16	1.6
434-0120	BT40-JT6-45	25.4	135.8	17.17	44.45	M16	1.3
434-0121	BT40-JT33-45	25.4	135.8	15.85	44.45	M16	1.3
434-0122	BT40-B10-45	14.5	124.9	10.094	44.45	M16	1.4
434-0123	BT40-B10-120	14.5	199.9	10.094	44.45	M16	1.76
434-0124	BT40-B12-45	18.5	128.9	12.065	44.45	M16	1.34
434-0125	BT40-B16-32	24	121.4	15.733	44.45	M16	1.4
434-0126	BT40-B16-45	24	134.4	15.733	44.45	M16	1.45
434-0127	BT40-B16-75	24	164.4	15.733	44.45	M16	1.55
434-0128	BT40-B16-90	24	179.4	15.733	44.45	M16	1.4
434-0129	BT40-B18-45	32	142.4	17.78	44.45	M16	1.7
434-0130	BT40-B18-75	32	172.4	17.78	44.45	M16	1.76
434-0131	BT45-B16-90	24	196.8	15.733	51.75	M20	2.3
434-0132	BT45-B16-100	24	206.8	15.733	51.75	M20	2.4
434-0133	BT50-JT1-45	16.669	163.5	9.754	69.85	M24	3.6
434-0134	BT50-JT2-45	22.225	169	14.199	69.85	M24	3.95
434-0135	BT50-JT2S-45	19.05	165.9	13.94	69.85	M24	3.9

BT DRILL CHUCK ARBOR



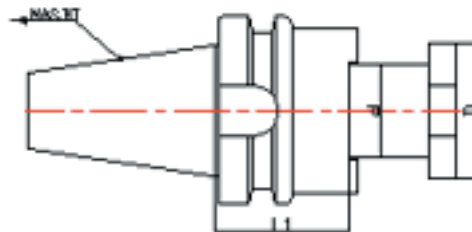
Order No.	Size	L2	L	D	D1	Drawbar thread	Wt(kg)
434-0136	BT50-JT3-45	30.956	177.8	20.599	69.85	M24	3.7
434-0137	BT50-JT4-45	42.069	188.9	28.55	69.85	M24	3.75
434-0138	BT50-JT5-45	47.625	194.4	35.89	69.85	M24	3.8
434-0139	BT50-JT6-45	25.4	172.2	17.17	69.85	M24	4
434-0140	BT50-JT33-45	25.4	172.2	15.85	69.85	M24	4
434-0141	BT50-B10-45	14.5	161.3	10.094	69.85	M24	3.6
434-0142	BT50-B10-100	14.5	216.3	10.094	69.85	M24	3.8
434-0143	BT50-B12-45	18.5	165.3	12.065	69.85	M24	3.6
434-0144	BT50-B16-45	24	170.8	15.733	69.85	M24	3.65
434-0145	BT50-B16-60	24	185.8	15.733	69.85	M24	3.7
434-0146	BT50-B16-75	24	200.8	15.733	69.85	M24	3.74
434-0147	BT50-B16-90	24	215.8	15.733	69.85	M24	3.78
434-0148	BT50-B18-45	32	178.8	17.78	69.85	M24	3.7

DIN69871 SHELL MILL ARBOR



Order No.	Size	D	Wt(kg)	Order No.	Size	D	Wt(kg)
434-0051	A30x16mm-60	32	1	434-0061	A40x32mm-60	58	4.5
434-0052	A30x22mm-60	40	1.3	434-0062	A40x40mm-60	70	4.8
434-0053	A30x27mm-60	48	1.5	434-0063	A40x50mm-70	90	3.7
434-0054	A30x32mm-60	58	1.8	434-0064	A50x16mm-60	32	3.8
434-0055	A30x40mm-60	70	2.2	434-0065	A50x22mm-60	40	4
434-0056	A30x50mm-70	90	3.2	434-0066	A50x27mm-60	48	4.2
434-0057	A40x16mm-60	32	1.2	434-0067	A50x32mm-60	58	4.5
434-0058	A40x22mm-60	40	1.3	434-0068	A50x40mm-60	70	4.8
434-0059	A40x27mm-60	48	1.4	434-0069	A50x50mm-70	90	5
434-0060	A40x27mm-75	48	1.6	434-0070	A50x50mm-80	90	5.1

BT SHELL MILL ARBOR



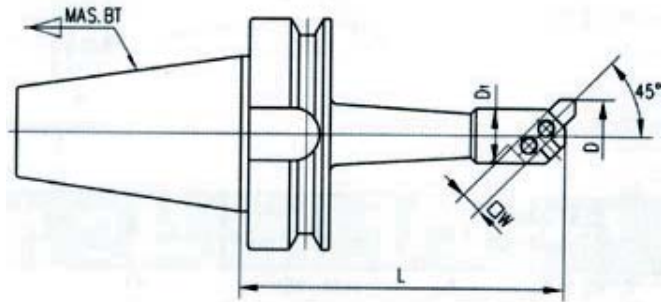
Order No.	Size	D	Wt(kg)	Order No.	Size	D	Wt(kg)
434-0001	BT30x16mm-60	32	1	434-0026	BT45x22mm-60	40	2.6
434-0002	BT30x22mm-60	40	1.3	434-0027	BT45x27mm-60	48	2.8
434-0003	BT30x27mm-60	48	1.5	434-0028	BT45x27mm-100	48	3.1
434-0004	BT30x32mm-60	58	1.8	434-0029	BT45x40mm-100	70	3.4
434-0005	BT30x40mm-60	70	2.2	434-0030	BT45x40mm-105	70	3.5
434-0006	BT30x50mm-60	90	4.5	434-0031	BT50x16mm-60	32	3.6
434-0007	BT40x16mm-45	32	1	434-0032	BT50x16mm-75	32	3.9
434-0008	BT40x16mm-60	32	1.3	434-0033	BT50x16mm-120	32	4.3
434-0009	BT40x16mm-120	32	1.7	434-0034	BT50x22mm-60	40	5
434-0010	BT40x22mm-45	40	1.5	434-0035	BT50x22mm-75	40	4
434-0011	BT40x22mm-60	40	1.7	434-0036	BT50x22mm-100	40	4.5
434-0012	BT40x22mm-100	40	3	434-0037	BT50x22mm-120	40	5.5
434-0013	BT40x22mm-102	40	3.6	434-0038	BT50x27mm-60	48	5.5
434-0014	BT40x27mm-45	48	1.5	434-0039	BT50x27mm-105	48	4
434-0015	BT40x27mm-60	48	1.6	434-0040	BT50x32mm-60	58	4.5
434-0016	BT40x27mm-75	48	1.8	434-0041	BT50x32mm-75	58	1.6
434-0017	BT40x27mm-105	48	2.1	434-0042	BT50x32mm-105	58	1.8
434-0018	BT40x27mm-120	48	2.3	434-0043	BT50x40mm-60	70	2.2
434-0019	BT40x32mm-45	58	1.2	434-0044	BT50x40mm-75	70	3.6
434-0020	BT40x32mm-60	58	1.5	434-0045	BT50x40mm-90	70	3.7
434-0021	BT40x32mm-75	58	1.8	434-0046	BT50x40mm-100	70	3.75
434-0022	BT40x32mm-120	58	2.8	434-0047	BT50x40mm-105	70	3.8
434-0023	BT40x40mm-60	70	2	434-0048	BT50x50mm-60	90	4
434-0024	BT40x40mm-75	70	2.2	434-0049	BT50x50mm-70	90	4.2
434-0025	BT40x50mm-70	90	2.5	434-0050	BT50x50mm-120	90	4.4

BT BORING SHANK



Order No.	Size	L (mm)	Wt(kg)
434-1140	BT40x7/8"-20-45	122.4	1.4
434-1141	BT40x1-1/2"-18-45	122.4	1.4
434-1142	BT50x7/8"-20-75	188.8	4.3
434-1143	BT50x1-1/2"x18-75	188.8	5
434-1144	BT50x7/8"-20-80	193.8	4.7
434-1145	BT50x1-1/2"x18-80	193.8	5.2

BT BORING SHANK FOR SQUARE BIT, ANGLE MOUNTING



Order No.	Size	D	D1	L	W
434-1200	BT40x25x150	25-38mm	20	150	8
434-1201	BT40x30x150	30-42mm	24	150	8
434-1202	BT40x38x150	38-52mm	30	150	10
434-1203	BT40x42x150	42-56mm	34	150	10
434-1204	BT40x50x150	50-65mm	40	150	13
434-1205	BT40x62x150	62-90mm	50	150	16
434-1206	BT40x72x150	72-110mm	60	150	19
434-1207	BT45x25x180	25-28mm	20	180	8
434-1208	BT45x30x180	30-42mm	24	180	8
434-1209	BT45x38x200	38-52mm	30	200	10
434-1210	BT45x42x200	42-56mm	34	200	10
434-1211	BT45x50x200	50-65mm	40	200	13
434-1212	BT45x50x230	50-65mm	40	230	13
434-1213	BT45x62x200	62-90mm	50	200	16

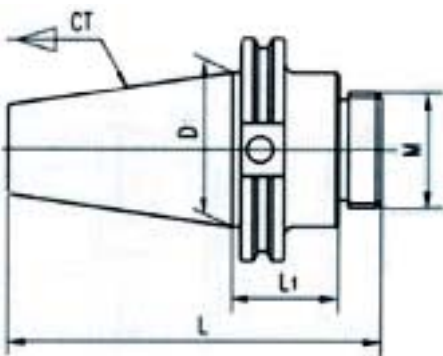
Order No.	Size	D	D1	L	W
434-1214	BT45x62x270	62-90mm	50	270	16
434-1215	BT45x72x200	72-110mm	60	200	19
434-1216	BT45x72x270	72-110mm	60	270	19
434-1217	BT45x72x250	72-110mm	60	250	19
434-1218	BT45x90x200	90-125mm	75	200	19
434-1219	BT45x90x250	90-125mm	75	250	19
434-1220	BT50x25x150	25-38mm	20	150	8
434-1221	BT50x30x170	30-42mm	24	170	8
434-1222	BT50x38x170	38-52mm	30	170	10
434-1223	BT50x42x180	42-56mm	34	180	10
434-1224	BT50x50x200	50-65mm	40	200	13
434-1225	BT50x62x250	62-90mm	50	250	16
434-1226	BT50x72x250	72-110mm	60	250	19
434-1227	BT50x90x250	90-125mm	75	250	19

BT BORING SHANK FOR SQUARE BIT, RIGHT ANGLE



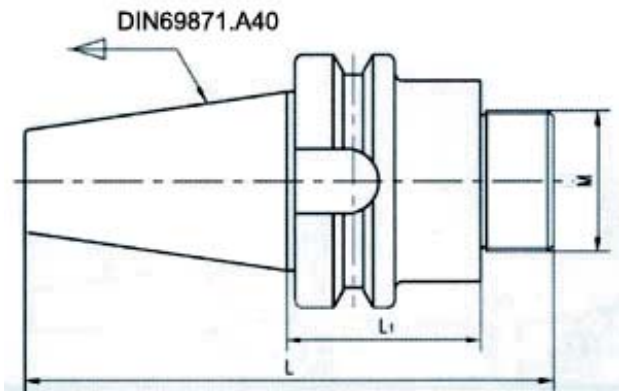
Order No.	Size	D	D1	L	W
434-1250	BT45x25x120	25-40mm	20	120	8
434-1251	BT45x38-150	38-60mm	30	150	10
434-1252	BT45x50x165	50-70mm	40	165	13
434-1253	BT45x72x195	72-100mm	60	195	19

CAT BORING SHANK



Order No.	Size	L (mm)	Wt(kg)
434-1175	CT40-1-1/2"X18-50	130	1.5
434-1176	CT45-1-1/2"X18-50	144.55	3.2
434-1177	CT50-1-1/2"X18-50	163.6	4

DIN69871 BORING SHANK



Order No.	Size	L (mm)	Wt(kg)
434-1160	A40.1-1/2"X18-40	120.4	1.4
434-1161	A40.1-1/2"X18-50	130.4	3.2
434-1162	A40.1-1/2"X18-63	143.4	3.4
434-1163	A45.1-1/2"X18-50	144.45	3
434-1164	A50.1-1/2"X18-35	148.25	3.7
434-1165	A50.1-1/2"X18-50	163.6	4

VERTICAL/HORIZONTAL NC TOOL CLAMPING DEVICE

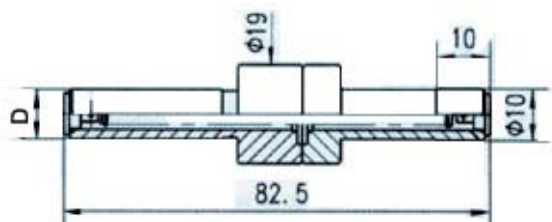


Order No.	For Holders	Overall Size (mm)	Weight (kg)
434-0091	BT30	205x98.5x128	3.7
434-0092	BT40	205x98.5x128	3.8
434-0093	BT50	275x150x198	11.4
434-0094	DIN69871. 30	205x98.5x128	3.7
434-0095	DIN69871. 40	205x98.5x128	3.8
434-0096	DIN69871. 50	275x150x198	11.4
434-0097	CAT30	205x98.5x128	3.7
434-0098	CAT40	205x98.5x128	3.8
434-0099	CAT50	275x150x198	11.4

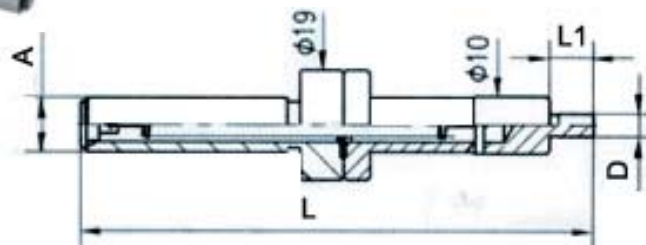
MECHANICAL EDGE FINDER



- * For quick and easy locating round or flat work.
- * Made of high quality alloy steel.
- * Quick and accurate.
- * Concentricity 0.005mm



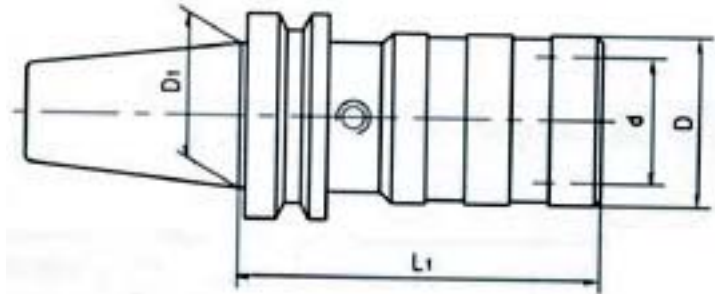
Order No.	D
434-0081	9.5MM
434-0084	10MM



Order No.	L	L1	A	D
434-0080	89.5mm	7.5mm	9.5mm	4mm
434-0082	89mm	8.2mm	10mm	4mm
434-0083	89.5mm	7.5mm	9.5mm	6mm

CNC TAPPING CHUCK

The CNC tapping chucks are made with with thread pitch compensation mechanism. There are two kinds of tapping collects, overload protection and non-overload protection. With the overload protection tapping collets, the release torque can be adjusted by the setting screws. The tap reverses back and out automatically if the tapping torque comes to the release torque, which prevents taps from breaking.



*** Tapping collets are included.**

Order No.	Shank	Tapping range	D(mm)	D1(mm)	d(mm)	L1(mm)
434-1230	DIN69871.30	M3-M12	36	31.75	19	64
434-1231	DIN69871.40	M3-M12	36	44.45	19	64
434-1232	DIN69871.50	M3-M12	36	69.85	19	64
434-1233	BT30	M3-M12	36	31.75	19	64
434-1234	BT40	M3-M12	36	44.45	19	64
434-1235	BT50	M3-M12	36	69.85	19	64
434-1236	DIN60871.30	M7-M20	53	31.75	31	97
434-1237	DIN69871.40	M7-M20	53	44.45	31	97
434-1238	DIN69871.50	M7-M20	53	69.85	31	97
434-1239	BT30	M7-M20	53	31.75	31	97
434-1240	BT40	M7-M20	53	44.45	31	97
434-1241	BT50	M7-M20	53	69.85	31	97
434-1242	DIN69871.30	M14-M36	78	31.75	48	149
434-1243	DIN69871.40	M14-M36	78	44.45	48	149
434-1244	DIN69871.50	M14-M36	78	69.85	48	149
434-1245	BT30	M14-M36	78	31.75	48	149
434-1246	BT40	M14-M36	78	44.45	48	149
434-1247	BT50	M14-M36	78	69.85	48	149

Electronic Edge Finder

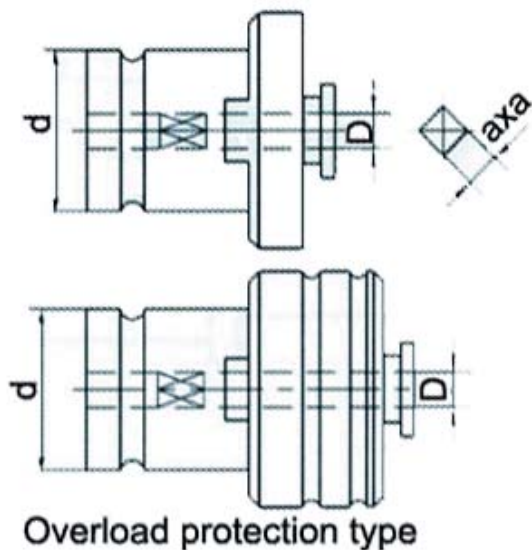


- * Touch point LED indication.
- * Made of high quality alloy steel.
- * Hardened and precision ground.
- * Concentricity 0.01mm

Order No.	Diameter of Holding Bar	Length	Accuracy
434-1300	20mm	176MM	0.01MM
434-1301	32mm		
434-1302	20mm	98MM	
434-1303	32mm		
434-1304	3/4"		
434-1305	1-1/4"		

TAPPING COLLETS

There are kinds of CNC tapping collets, overload protection and non-overload protection. The overload protection tapping collets help reverses back and out the tap automatically, which prevents taps from breaking.

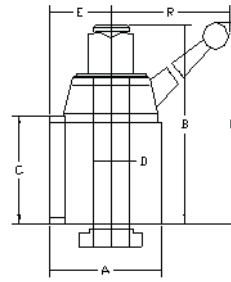


Overload Protection	Non-Protection	Size	Shank Dia.	Tap Size		
Order No.	Order No.	Dxa (mm)	d (mm)	DIN371	DIN374	DIN376
434-1330	434-1370	3.5x2.7	19	M3	M5	M5
434-1331	434-1371	4x3	19	M3.5		
434-1332	434-1372	4.5x3.4	19	M4	M6	
434-1333	434-1373	6x4.9	19	M5	M6	
434-1334	434-1374	6x4.9	19	M6		
434-1335	434-1375	6x4.9	19		M8	M8
434-1336	434-1376	7x5.5	19		M10	M10
434-1337	434-1377	8x6.2	19	M8		
434-1338	434-1378	9x7	19		M12	M12
434-1339	434-1379	10x8	19	M10		
434-1340	434-1380	11x9	48		M14	M14
434-1341	434-1381	12x9	48		M16	M16
434-1342	434-1382	14x11	48		M18	M18
434-1343	434-1383	16x12	48		M20	M20
434-1344	434-1384	18x14.5	48		M22	M22
434-1345	434-1385	18x14.5	48		M24	M24
434-1346	434-1386	20x16	48		M27	M27
434-1347	434-1387	22x18	48		M30	M30
434-1348	434-1388	25x20	48		M33	M33
434-1349	434-1389	28x22	48		M36	M36
434-1350	434-1390	7x5.5	31		M10	M10
434-1351	434-1391	8x6.2	31	M8		
434-1352	434-1392	9x7	31		M12	M12
434-1353	434-1393	10x8	31	M10		
434-1354	434-1394	11x9	31		M14	M14
434-1355	434-1395	12x9	31		M16	M16
434-1356	434-1396	14x11	31		M18	M18
434-1357	434-1397	16x12	31		M20	M20

QUICK CHANGE TOOL POSTS & TOOL HOLDERS



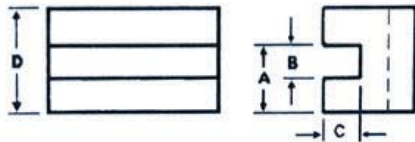
- All working parts hardened & ground.
- Maximum rigidity for chatter-free performance
- No time wasted with shims.
- Increases productivity of all lathe operations.
- Completely sealed for maintenance-free operation.
- Change tools in seconds.



Piston Type		Wedge Type		A	B	C	D	E	H	R	SWING
Tool Post	Set	Tool Post	Set								
400-1000	401-1000	400-1111	401-1111	2-1/2"	3-7/8"	2-1/4"	9/16"	1-3/8"	4-11/16"	5-3/4"	12"
400-2000	401-2000	400-2222	401-2222	3"	4-5/8"	2-3/4"	5/8"	1-5/8"	5-9/16"	7-5/16"	10"~15"
400-3000	401-3000	400-3333	401-3333	3-1/2"	5-1/8"	3"	3/8"	1-7/8"	6-1/8"	7-7/8"	13"~18"
400-4000	401-4000	400-4444	401-4444	4"	6-1/4"	3-5/8"	7/8"	2-1/8"	7"	9"	14"~20"

Turning and Facing Holder #1

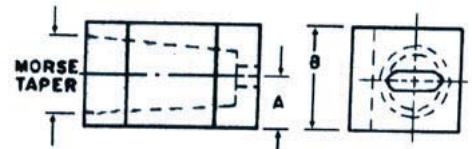
Takes various sizes of tool bits.



Order No.	A	B	C	D	Tool Bit
400-1001	15/16"	1/2"	7/16"	1-1/2"	3/16"-1/2"
400-2001	1-1/8"	5/8"	1/2"	1-3/4"	1/4"-5/8"
400-3001	1-7/16"	3/4"	5/8"	2-1/8"	1/2"-3/4"
400-4001	1-11/16"	1"	3/4"	2-1/2"	1/2"-1"

Morse Taper Holder for Drilling #5

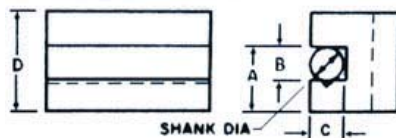
Drills by using power feed with carriage instead of tailstock



Order No.	A	B	Taper Hole Size
400-1005	3/4"	1-1/2"	2MT
400-2005	1"	2"	2MT
400-3005	1"	2"	3MT
400-4005	1-3/8"	2-3/4"	3MT

Boring, Turning & Facing Holder #2

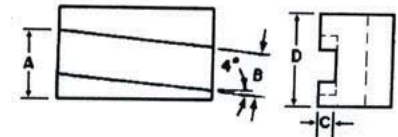
V groove holds round shank boring bars and tools as well as square tool bits.



Order No.	A	B	C	D	Tool Bit	Shank
400-1002	15/16"	1/2"	7/16"	1-1/2"	3/16"-1/2"	7/16"
400-2002	1-1/8"	5/8"	1/2"	1-3/4"	1/4"-5/8"	1/2"
400-3002	1-7/16"	3/4"	5/8"	2-1/8"	1/2"-3/4"	3/4"
400-4002	1-11/16"	1"	3/4"	2-1/2"	1/2"-1"	13/16"

Universal Parting Blade Tool Holder #7

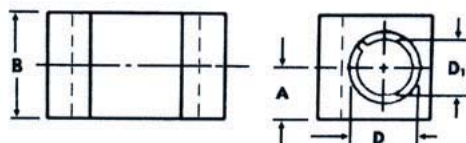
For bevel and T-cut blade. Cuts off close to chuck.



Order No.	A	B	C	D	Blade Height
400-1007	13/16"	1/2"	3/16"	1-1/2"	1/2"
400-2007	1"	11/16"	3/16"	1-3/4"	11/16"
400-3007	1-3/16"	3/4"	3/16"	2"	3/4"
400-4007	1-7/16"	7/8"	1/4"	2-1/2"	7/8"

Heavy Duty Boring Bar Holder #4

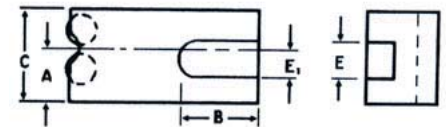
Split bushing accommodate smaller diameter boring bars



Order No.	A	B	D	D1
400-1004	3/4"	1-1/2"	3/4"	5/8"
400-2004	1"	2"	1"	3/4"
400-3004	1"	2"	1"	3/4"
400-4004	1-3/8"	2-3/4"	1-1/4"	1"

Knurling, Turning & Facing Holder #10

Supplied with a set of high speed precision ground and tapped medium diamond knurls.

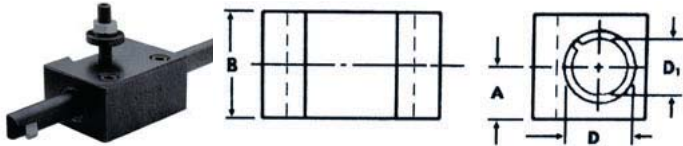


Order No.	A	B	C	E	E1
400-1010	7/8"	2-1/2"	1-9/16"	1/2"	3/8"
400-2010	1"	2-5/8"	1-3/4"	5/8"	1/2"
400-3010	1-3/16"	3-1/8"	2"	3/4"	5/8"
400-4010	1-7/16"	3-3/4"	2-1/2"	1"	3/4"

MACHINE ACCESSORIES

Heavy Duty Boring Bar Holder #41

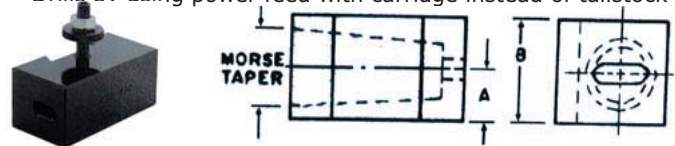
Split bushing accommodate bigger diameter boring bars.



Order No.	A	B	D	D1
400-1041	7/8"	1-3/4"	1"	3/4"
400-2041	1"	2"	1-1/4"	1"
400-3041	1-3/16"	2-1/4"	1-1/4"	1"
400-4041	1-1/2"	2-3/4"	1-1/2"	1-1/4"

Morse Taper Holder for Drilling #53

Drills by using power feed with carriage instead of tailstock

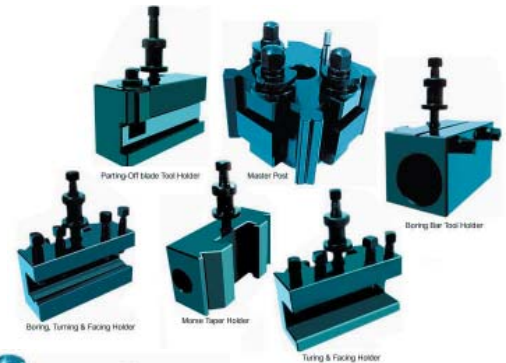


Order No.	A	B	Taper Hole
400-1053	3/4"	1-1/2"	MT3
400-2053	7/8"	1-3/4"	MT3
400-3053	1-1/16"	2-1/8"	MT4
400-4053	1-1/4"	2-1/2"	MT4

QUICK CHANGE TOOL POST SETS

The tool posts feature dovetail-type locking system. Each set comes with one each turning and facing holder, boring and turning/facing holder, parting tool holder, boring bar holder, morse taper holder. Speed up your lathe operations and enjoy the convenience of easy tool setup with this quick-change tool set.

Tool Post	Tool Post Set	Swing Up to	Master Post Dimension
Order No.	Order No.		
402-1000	402-1010	7"	1-7/8"x1-7/8"x1-1/4"
402-1001	402-1011	7"~10"	2-3/4"x2-3/4"x
402-1002	402-1012	9"~12"	3-7/8"x3-7/8"x2-3/8"
402-1003	402-1013	10"~14"	5"x5"x3-3/8"
402-1004	402-1014	12~18"	5-5/8"x5-5/8"x3-3/4"
402-1005	402-1015	14"~18"	6-7/8"x6-7/8"x4-3/4"
402-1006	402-1016	18"~24"	7-7/8"x7-7/8"x5-5/16"
402-1007	402-1017	Over 24"	8-7/8"x8-7/8"x5-7/8"



Turning and Facing Holder #1



Order No.	Swing Up to	Max. Tool Bit Height
402-1020	7"	3/8"
402-1021	180-250mm	16mm
402-1022	250-300mm	16mm
402-1023	250-350mm	20mm
402-1024	300-380mm	25mm
402-1025	350-500mm	32mm
402-1026	500-650mm	32mm
402-1027	650-1200mm	40mm



TOOLPOST

Boring, Turning and Facing Holder #2



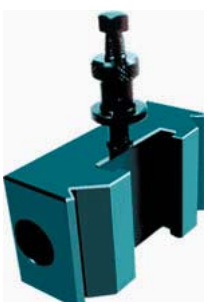
Order No.	Max. Tool Bit Height	Max. Tool Dia.
402-1030	3/8"	
402-1031	5/8"	14mm
402-1032	3/4"	16mm
402-1033	1-1/8"	18mm
402-1034	1-1/4"	20mm
402-1035	1-1/2"	24mm
402-1036	2"	26mm
402-1037	2"	35mm

Part-Off Blade Tool Holder 4#



Order No.	Swing Up to	Blade Size
402-1050	7"	
402-1051	7"~10"	15x4x3mm
402-1052	9"~12"	18x4x3mm
402-1053	10"~14"	20x6x5mm
402-1054	12~18"	20x6x5mm
402-1055	14"~18"	25x6x5mm
402-1056	18"~24"	30x6x5mm
402-1057	Over 24"	35x8x7mm

Morse Taper Tool Holder 3#



Order No.	Swing Up to	Taper
402-1040	7"	
402-1041	7"~10"	MT1
402-1042	9"~12"	MT1
402-1043	10"~14"	MT2
402-1044	12~18"	MT3
402-1045	14"~18"	MT3
402-1046	18"~24"	MT4
402-1047	Over 24"	MT5

Boring Bar Tool Holder 5#



Order No.	Swing Up to	Bore Dia.
402-1060	7"	
402-1061	7"~10"	18mm
402-1062	9"~12"	20mm
402-1063	10"~14"	25mm
402-1064	12~18"	32mm
402-1065	14"~18"	40mm
402-1066	18"~24"	50mm
402-1067	Over 24"	60mm

40 POSITION QUICK CHANGE TOOL POSTS



- *40 position at 9° increment.
- *Rigid and quick cam-lock locking and releasing holders.
- * Easy tool center height adjustment.
- * Tool holders are interchangeable with those from other brands.

Model		400-1100	400-1101		400-1102			400-1103		400-1104			400-1105			400-1106	
Turning holder size		12	16	20	16	20	25	25	32	32	40	45	40	50	63	50	63
Facing & boring holder size		15	30		30	30	40	40	40	40	50	45	63	63	63	63	63
Driving power(KW)		1	2		4.5	4.5	4.5	7	7	13	13	13	20	20	20	28	28
Lathe swing		120-220	150-300		200-400			300-500		400-700			600-1000			800-1500	
Cross slide width	L	80	100		120			150		180			200			250	
Cut edge height min	s	18	24.5	28.5	24.5	28.5	37	37	45.5	47	55	63	60	70	83	70	88
Cut edge height max	S	26	35.5	39.5	40.5	39.5	43	57	56.5	87	90	93	95	100	103	90	118
Height adjustment	hv	8	11		16	11	6	20	11	40	35	30	35	30	20	20	30
Tool repose	hv	6	8.5		8.5	8.5	12	12	13.5	15	15	18	20	20	25	20	25
Max tool height	a	12	16		16	20	25	25	32	32	40	45	40	50	63	50	65
Total width	B	70	100		125	125	125	150	150	192	202	202	230	234	242	275	282
Total height	H	37	56		68	68	68	79	79	110	110	110	122	122	122	135	135
Max distance	A	30	48		60	60	60	71	71	90	102	102	112	116	124	140	147
Normal bore	t	12	20		20	20	20	32	32	40	40	40	40	40	40	80	80
Max bore	T	12	31		31	31	31	51	51	70	70	70	80	80	80	110	110
Machine bore	r	as per customer's requirements															

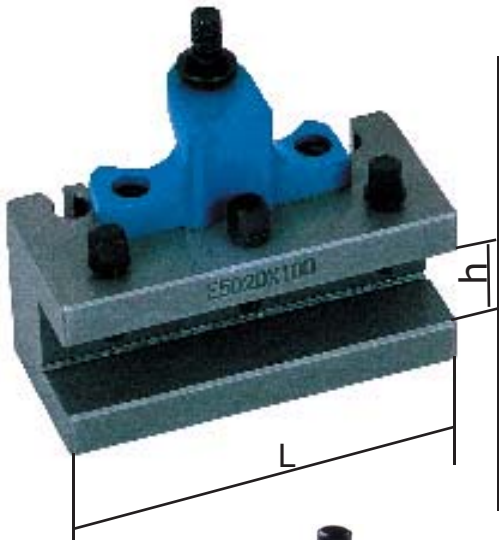
40 POSITION QUICK CHANGE TOOL POST & TOOL HOLDER SET



- * The most popular sizes.
- * Each set includes: one tool post, three turning tool holders and one turning, facing and boring tool holders.

Order No.	Lathe swing	Each Set Includes:
400-1240	120-220mm	400-1100 (1),400-1120 (3),400-1150 (1)
400-1241	150-300mm	400-1101 (1),400-1124 (3),400-1151 (1)
400-1242	200-400mm	400-1102 (1),400-1126 (3),400-1152 (1)
400-1243	300-500mm	400-1103 (1),400-1128 (3),400-1154 (1)
400-1244	400-700mm	400-1104 (1),400-1132 (3),400-1155 (1)

TURNING AND FACING TOOL HOLDER



Order No.	Size (Lxh)	For Toolpost	Order No.	Size (Lxh)	For Toolpost
400-1120	12x50mm	400-1100	400-1131	32x140mm	400-1103
400-1121	16x75mm	400-1101	400-1132	32x150mm	400-1104
400-1122	16x90mm	400-1101	400-1133	32x170mm	400-1104
400-1123	20x75mm	400-1101	400-1134	40x150mm	400-1104
400-1124	20x90mm	400-1101	400-1135	40x170mm	400-1104
400-1125	16x100mm	400-1102	400-1136	45x170mm	400-1104
400-1126	20x100mm	400-1102	400-1137	40x180mm	400-1105
400-1127	25x100mm	400-1102	400-1138	50x180mm	400-1105
400-1128	25x120mm	400-1103	400-1139	63x180mm	400-1105
400-1129	25x140mm	400-1103	400-1140	50x220mm	400-1106
400-1130	32x120mm	400-1103	400-1141	63x220mm	400-1106

TURNING, FACING AND BORING TOOL HOLDER



Order No.	Size (HxL)	For Tool Post
400-1150	12x50mm	400-1100
400-1151	20x85mm	400-1101
400-1152	30x100mm	400-1102
400-1153	18x120mm	400-1103
400-1154	32x130mm	400-1103
400-1155	40x160mm	400-1104
400-1156	50x160mm	400-1104
400-1157	63x180mm	400-1105
400-1158	70x220mm	400-1106

DRILLING AND BORING TOOL HOLDER

Bushings are not included



Order No.	Size (Dia. x L)	For Tool Post
400-1170	15x50mm	400-1100
400-1171	30x80mm	400-1101
400-1172	30x100mm	400-1102
400-1173	40x100mm	400-1102
400-1174	40x120mm	400-1103
400-1175	40x160mm	400-1104
400-1176	50x160mm	400-1104
400-1177	63x180mm	400-1105
400-1178	63x220mm	400-1106

BUSHINGS FOR BORING TOOL HOLDER



Order No.	Size (dxMorse Taper)	Order No.	Size (dxMorse Taper)
400-1210	30mmxMT1	400-1215	40mmxMT4
400-1211	30mmxMT2	400-1216	50mmxMT3
400-1212	40mmxMT1	400-1217	50mmxMT4
400-1213	40mmxMT2	400-1218	50mmxMT5
400-1214	40mmxMT3	400-1219	63MMxMT5

Precision Modular Vises

Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground to a mirror finish.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable stationary and movable jaws
- * For CNC machine center, CNC milling machine and other precision machines for milling, grinding, drilling, tapping etc.



Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length	Clamping Force (kg)
440-1000	100mm	30mm	100mm	270mm	3000
440-1005	125mm	40mm	150mm	345mm	3000
440-1010	150mm	50mm	200mm	420mm	5000
440-1015	150mm	50mm	200mm	520mm	5000
440-1020	175mm	60mm	200mm	455mm	6000
440-1025	175mm	60mm	300mm	555mm	6000
440-1030	175mm	60mm	400mm	655mm	6000
400-1031	175mm	60mm	500mm	755mm	6000
400-1032	175mm	60mm	600mm	855mm	6000
440-1035	200mm	65mm	200mm	495mm	10000
440-1040	200mm	65mm	300mm	595mm	10000
440-1045	200mm	65mm	400mm	695mm	10000
440-1046	200mm	65mm	500mm	795mm	10000
440-1047	200mm	65mm	600mm	895mm	10000
440-1050	300mm	80mm	200mm	535mm	12000
440-1051	300mm	80mm	300mm	635mm	12000
440-1052	300mm	80mm	400mm	735mm	12000
440-1053	300mm	80mm	500mm	835mm	12000
440-1554	300mm	80mm	600mm	935mm	12000
440-1055	300mm	80mm	700mm	1035mm	12000
440-1056	300mm	80mm	800mm	1135mm	12000

Precision Modular Vises With Swivel Base

Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground to a mirror finish.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable swivel base, stationary and movable jaws
- * For CNC machine center, CNC milling machine and other precision machines for milling, grinding, drilling, tapping etc.

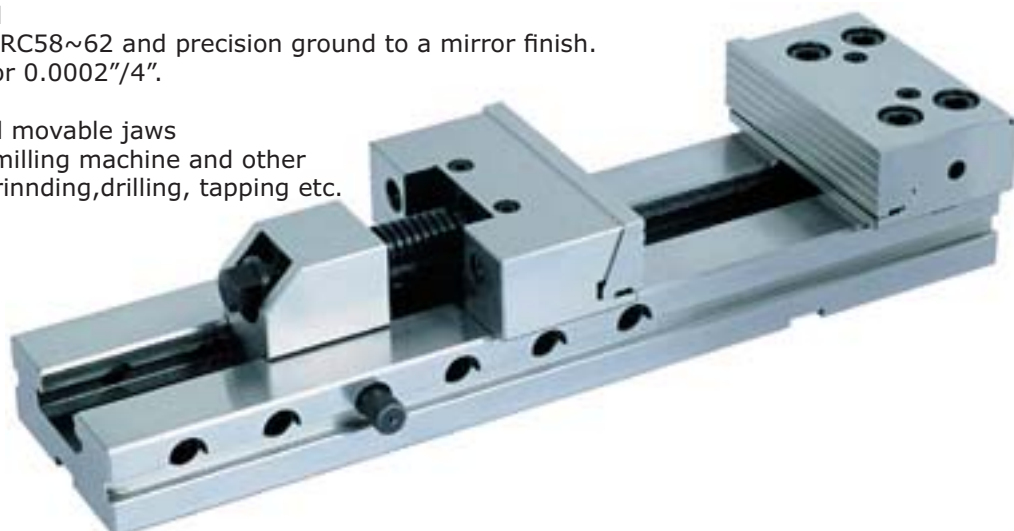


Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length	Clamping Force (kg)
441-1000	100mm	30mm	100mm	270mm	3000
441-1005	125mm	40mm	150mm	345mm	3000
441-1010	150mm	50mm	200mm	420mm	5000
441-1015	150mm	50mm	200mm	520mm	5000
441-1020	175mm	60mm	200mm	455mm	6000
441-1025	175mm	60mm	300mm	555mm	6000
441-1030	175mm	60mm	400mm	655mm	6000
441-1031	175mm	60mm	500mm	755mm	6000
441-1032	175mm	60mm	600mm	855mm	6000
441-1035	200mm	65mm	200mm	495mm	10000
441-1040	200mm	65mm	300mm	595mm	10000
441-1045	200mm	65mm	400mm	695mm	10000
441-1046	200mm	65mm	500mm	795mm	10000
441-1047	200mm	65mm	600mm	895mm	10000
441-1050	300mm	80mm	200mm	535mm	12000
441-1051	300mm	80mm	300mm	635mm	12000
441-1052	300mm	80mm	400mm	735mm	12000
441-1053	300mm	80mm	500mm	835mm	12000
441-1554	300mm	80mm	600mm	935mm	12000
441-1055	300mm	80mm	700mm	1035mm	12000
441-1056	300mm	80mm	800mm	1135mm	12000

Quick Action Precision Modular Vises

Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground to a mirror finish.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable stationary and movable jaws
- * For CNC machine center, CNC milling machine and other precision machines for milling, grinding, drilling, tapping etc.



Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length	Clamping Force (kg)
440-1070	100mm	40mm	150mm	345mm	3000
440-1071	150mm	50mm	200mm	420mm	5000
440-1072	150mm	50mm	300mm	520mm	5000
440-1073	175mm	60mm	400mm	655mm	6000

Quick Action Precision Modular Vises With Swivel Base

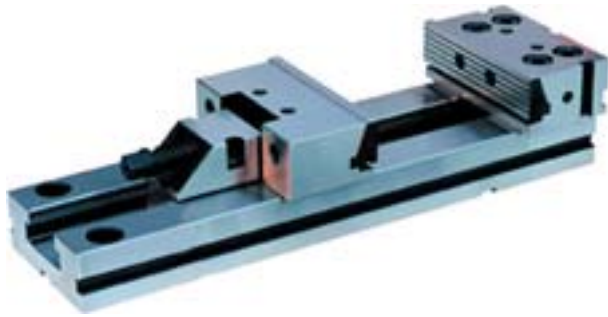
Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground to a mirror finish.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable swivel base, stationary and movable jaws
- * For CNC machine center, CNC milling machine and other precision machines for milling, grinding, drilling, tapping etc.
- * Swivel 360° horizontally.



Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length	Clamping Force (kg)
440-1074	100mm	40mm	150mm	345mm	3000
440-1075	150mm	50mm	200mm	420mm	5000
440-1076	150mm	50mm	300mm	520mm	5000
440-1077	175mm	60mm	400mm	655mm	6000

Precision Horizontal/Vertical Vise



Can be used vertically and horizontally

Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground to a mirror finish.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable stationary and movable jaws
- * For CNC machine center, CNC milling machine and other precision machines for milling, grinding, drilling, tapping etc.

Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length	Clamping Force (kg)
440-1080	100mm	30mm	100mm	270mm	3000
440-1081	125mm	40mm	150mm	345mm	3000
440-1082	150mm	50mm	200mm	420mm	5000
440-1083	150mm	50mm	300mm	520mm	5000
440-1084	175mm	60mm	200mm	455mm	6000
440-1085	175mm	60mm	300mm	555mm	6000
440-1086	175mm	60mm	400mm	655mm	6000
400-1087	175mm	60mm	500mm	755mm	6000
440-1088	200mm	65mm	200mm	495mm	10000
440-1089	200mm	65mm	300mm	595mm	10000
440-1090	200mm	65mm	400mm	695mm	10000
440-1091	200mm	65mm	500mm	795mm	10000
440-1092	200mm	65mm	600mm	895mm	10000

Large Opening NC Vise



Order No.	S1 (MM)	Jaw Width	Jaw Height	Vise Length
441-1060	290	100mm	30mm	460mm
441-1061	320	125mm	40mm	520mm
441-1062	360	150mm	50mm	580mm
441-1063	460	150mm	50mm	680mm
441-1064	400	175mm	60mm	666mm
441-1065	500	175mm	60mm	766mm
441-1066	600	175mm	60mm	866mm
441-1067	700	175mm	60mm	966mm
441-1068	500	200mm	65mm	805mm
441-1069	600	200mm	65mm	905mm
441-1070	700	200mm	65mm	1005mm
441-1071	800	200mm	65mm	1105mm
441-1072	900	200mm	65mm	1205mm

Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable stationary and movable jaws
- * For CNC machines and other precision machines for milling, grinding, drilling, tapping etc.

Double Action NC Vise

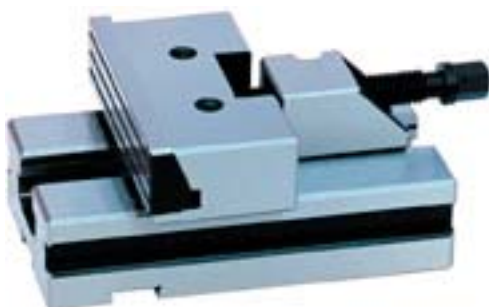
Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Interchangeable stationary and movable jaws
- * For CNC machines and other precision machines for milling, grinding, drilling, tapping etc.



Order No.	Jaw Opening (MM)	Jaw Width	Jaw Height	Vise Length
441-1080	2x90	100mm	30mm	460mm
441-1081	2x100	125mm	40mm	520mm
441-1082	2x110	150mm	50mm	580mm
441-1083	2x160	150mm	50mm	680mm
441-1084	2x120	175mm	60mm	666mm
441-1085	2x170	175mm	60mm	766mm
441-1086	2x220	175mm	60mm	866mm
441-1087	2x270	175mm	60mm	966mm
441-1088	2x150	200mm	65mm	805mm
441-1089	2x200	200mm	65mm	905mm
441-1090	2x250	200mm	65mm	1005mm
441-1091	2x300	200mm	65mm	1105mm
441-1092	2x350	200mm	65mm	1205mm

Movable Jaws



Features:

- * Made of high-quality alloy steel
- * Working surface hardened to HRC58~62 and precision ground.
- * Parallelism 0.005mm/100mm or 0.0002"/4".
- * Squareness 0.005mm.
- * Applied for unlimited length work.
- * For CNC machines and other precision machines for milling, grinding, drilling, tapping etc.

Stationary Jaws



Order No.	Jaw Width	Jaw Height	Overall Length
441-1100	100mm	30mm	140mm
441-1101	125mm	40mm	160mm
441-1102	150mm	50mm	230mm
441-1103	175mm	60mm	240mm
441-1104	200mm	65mm	300mm

Order No.	Jaw Width	Jaw Height	Overall Length
441-1110	100mm	30mm	140mm
441-1111	125mm	40mm	160mm
441-1112	150mm	50mm	230mm
441-1113	175mm	60mm	240mm
441-1114	200mm	65mm	300mm

PRECISION MACHINE VISE WITH 2 CLAMPING STATIONS

- * High grade ductile body.
- * Bed hardened to HRC 50 to 60.
- * Precision ground on all sides.
- * Can be mounted vertically or horizontally on CNC machine centers, CNC milling machines etc..
- * Eliminates clamping deflection by transmitting equal and opposing forces to the stationary jaw.
- * Single handle operates both clamping stations simultaneously.



Order No.	450-1604	450-1605
Width of jaw	100	160
Height of jaw	35	50
Max.opening	76	100
G.W./N.W	22/20kg	45/43kg
Shipping Size	58x18x17cm	71x23x21cm

HYDRAULIC MACHINE VISE

Order No. 450-1508



- * Made of high grade ductile iron.
- * HRC50-60 hardness of working surface.
- * Paralleism and squareness: 0.025mm/100mm.
- * Unique and reliable hydraulic system.
- * Maximum clamping force.
- * 4 adjustable openings set by the screw nut.

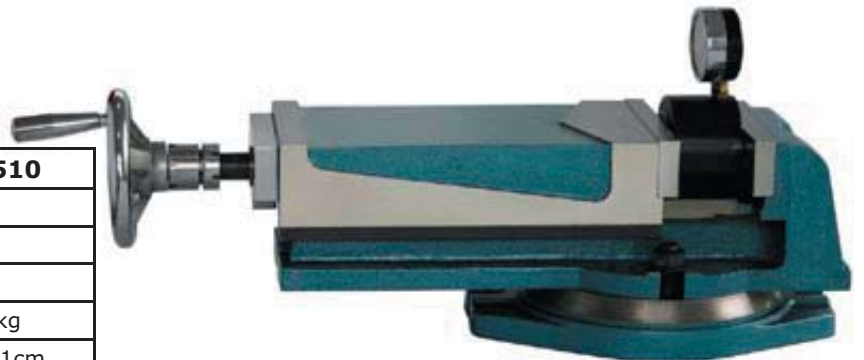
Specifications:

Width of jaw:	125mm
Height of jaw:	46mm
Max.opening:	140mm
G.W./N.W:	29/27kg
Shipping Size:	46x26x22cm

- * Made of high grade ductile iron.
- * HRC50-60 hardness of working surface.
- * Paralleism and squareness: 0.025mm/100mm.
- * Unique and reliable hydraulic system.
- * Maximum clamping force.
- * 360° graduated swivel base.

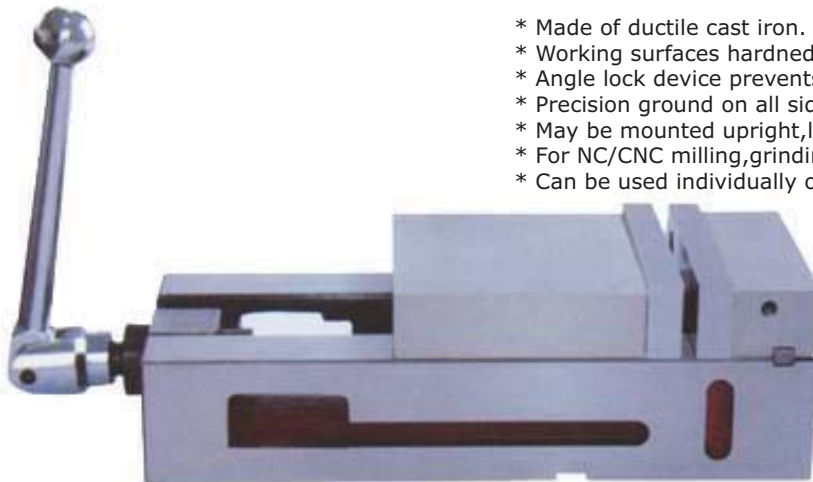
HYDRAULIC MACHINE VISE

Order No.	450-1509	450-1510
Width of jaw	100	160
Height of jaw	35	50
Max.opening	76	100
G.W./N.W	22/20kg	45/43kg
Shipping Size	58x18x17cm	71x23x21cm



ACCU-LOCK NC MACHINE VISE

- * Made of ductile cast iron.
- * Working surfaces hardened to minimum HRC50.
- * Angle lock device prevents workpiece from rising during operation.
- * Precision ground on all sides to 0.025mm/100mm paralleism and squareness.
- * May be mounted upright, left and on right side.
- * For NC/CNC milling, grinding, drilling, tapping operations.
- * Can be used individually or in multiple vise setup.



Order No.	450-1705	450-1706
Width of jaw	100	160
Height of jaw	32	45
Max.opening	100	140
G.W./N.W	12/11kg	29/27kg
Shipping Size	37x17x15cm	48x20x21cm

Universal Power Vise



Features:

- * Made of high-grade ductile iron castings.
- * Parallelism 0.025mm/100mm
- * Squareness 0.025mm.
- * Special mechanical system generates high steady clamping force.
- * Used on CNC machines, precision equipment.

Jaw width: 160mm
 Jaw depth: 63mm
 Max. Opening: 280mm
 Overall length: 550mm

Order No. 440-1060

Precision Quick Action Vise

Features:

The vises are made of high-quality alloy steel, case hardened to HRC56-60, precision ground to parallelism 0.015mm/100mm and squareness 0.03mm. They feature quick clamping and easy operation and can be used on CNC machines, precision equipment.



Order No.	Jaw Width	Jaw Height	Jaw Opening	Vise Length
440-1061	124mm	40mm	140mm	323mm
440-1062	149mm	52mm	210mm	423mm
440-1063	174mm	58mm	240mm	470mm
440-1064	199mm	66mm	270mm	520mm
440-1065	249mm	74mm	340mm	600mm

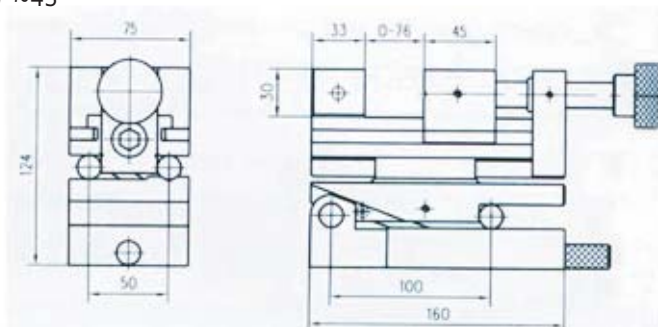
Precision Compound Sine Vise



- * Made of high quality alloy steel.
- * Parallelism 0.005mm/100mm.
- * Adjustable angle range 0°~45°

- * Hardened surface to HRC58-62
- * Squareness 0.005mm

- *Jaw Width: 75mm
- *Jaw height: 30mm
- * Overall height: 124mm
- * Length: 160mm
- * Max. opening: 76mm



Order No. 460-1000

Precision Universal Vise



The vise is comprised of two parts, vise body and the swivel base. It swivels 360° horizontally and tilts 45° vertically. The accurate graduations and three-way swivel feature makes it the most versatile tool for precision drilling, milling, grinding, and machining of flat surfaces, curved surfaces and angular surfaces.

- * Made of high quality alloy steel.
- * Hardened surface to HRC58-62
- * Parallelism 0.005mm/100mm.
- * Squareness 0.005mm
- * Adjustable angle range 0°~45° vertical and 360° horizontally.
- * Max. Jaw opening: 80mm
- * Jaw Width: 70mm
- * Jaw height: 30mm
- * Overall dimension: 195x100x137mm

Order No. 460-1001

Precision Toolmakers Vice

- Ground V way.
- Square and parallel to +/-0.0002””.
- Base and front jaw are of one piece steel.
- All surface hardened and precision ground square
- Clamping slots are provided and jaws are easily replaced
- Hardened and ground dovetail slide eliminates “lift” and insures consistent accuracy



High Precision Screwless Vice

- * Hardened and stablized
- * Parallel to 0.005mm/100mm, squre to 0.005mm.
- * “No-Rise” jaw construction exerts a continual downward pressure on the jaw, thus avoiding “Rise” common to most vises.



Order NO.	Jaw Width (mm)	Jaw Height	Jaw Opening	Length (mm)	Weight (kg)
460-1005	50	25	65	155	3
460-1006	60	25	55	110	2.4
460-1010	63	32	85	190	3.8
460-1015	73	35	100	210	5
460-1020	80	40	100	220	6.5
460-1025	88	40	125	250	11
460-1030	100	45	125	260	13
460-1035	125	50	160	300	19.5
460-1040	125	50	210	350	23
460-1045	150	50	175	315	23.8

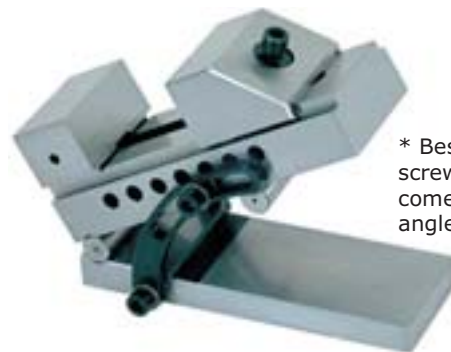
Order NO.	Jaw Width (mm)	Jaw Height	Jaw Opening	Length (mm)	Weight (kg)
461-1000	25	9.15	22	65.4	0.5
461-1001	36	20	40	100	1.2
461-1002	38	20	44	105	1.3
461-1005	50	25	65	140	2
461-1010	63	32	85	175	3
461-1015	73	35	100	190	4.1
461-1020	80	40	100	200	5.5
461-1025	88	40	125	235	7.3
461-1030	100	45	125	245	10
461-1035	125	50	160	285	18
461-1040	150	50	200	330	21.5
461-1045	150	50	250	380	23
461-1050	150	50	300	430	24

Precision Sine Toolmaker’s Vice



* Besides all the features of toolmakers’ vise, the vises come with 0-45° adjustable angle.

Precision Sine Screwless Vice



* Besides all the features of screwless vises, the vises come with 0-45° adjustable angle.

Order NO.	Jaw Width (mm)	Jaw Height (mm)	Jaw Opening (mm)	Length (mm)	Overall Height (mm)
460-1050	50	25	65	155	86.6
460-1055	63	32	85	190	94.6
460-1060	73	35	100	210	111
460-1065	80	40	100	220	121
460-1070	88	40	125	250	125
460-1075	100	45	125	260	139.2
460-1080	125	50	160	300	154.2
460-1085	150	50	175	315	160.9

Order NO.	Jaw Width (mm)	Jaw Height	Jaw Opening	Length (mm)	Overall Hight (mm)
461-1055	50	25	65	140	79.36
461-1060	63	32	85	175	92.36
461-1065	73	35	100	190	104
461-1070	80	40	100	200	117
461-1075	88	40	125	235	112
461-1080	100	45	125	245	134.08
461-1085	125	50	160	285	144.08
461-1090	150	50	200	330	150.9

UNIVERSAL 3-WAY MACHINE VISE



Features:

- * made of high-quality cast iron
- * 3 separate angle movement.
- * Parallelism and squareness: 0.025mm/100mm
- * Used on machining and EDM complex parts.
- * Top cradle- 90 degree from horizontal to vertical.
- * Bottom cradle -45 degree each side (90 range)
- * 360 swivel base.
- * Hardened and ground steel jaws.
- * Accurately machined and ground base parallel and square to the vertical axis.

Order No.	Width of jaw	Height of jaw	Jaw Opening	G.W./N.W	Shipping Size
450-1504	105mm	40mm	105mm	28/26kg	49x32x28cm
450-1505	125mm	43mm	120mm	30/28kg	52x32x26cm

2-WAY ANGLE MACHINE VISE



Features:

- * Used for milling, shaping, grinding, drilling and jig boring.
- * Made of high grade cast iron.
- * 90 degree vertical movement and 360 degree swivel base.
- * Fully covered aceme screw.
- * Parallelism and squareness less than 0.025mm/100mm

Order No.	Jaw Width	Jaw Height	Jaw Opening	G.W./N.W	Shipping Size
450-1304	100mm	41mm	80mm	19/18kg	36x22x21cm
450-1305	125mm	46mm	100mm	29/27kg	46x26x22cm
450-1306	160mm	50mm	125mm	43/41kg	47x29x25cm

2-WAY ANGLE MACHINE VISE



Specifications:

Width of jaw: 125mm
 Height of jaw: 46mm
 Max.opening: 140mm
 G.W./N.W: 29/27kg
 Shipping Size: 46x26x22cm

Features:

- * Used for milling, shaping, grinding, drilling and jig boring.
- * Made of high grade cast iron.
- * 90 degree vertical movement and 360 degree swivel base.
- * Fully covered aceme screw.
- * Parallelism and squareness less than 0.025mm/100mm

Order No. 450-1315

WISE FOR HOLDING ROUND WORK AND SHAFTS

- * Jaw Width: 100mm
- * Capacity: 10mm to 80mm round work.
- * Approximate weight: 21kg.
- * Used on milling machine and drill presses.
- * Hardened Tool steel V block.
- * Work horizontally or vertically.
- * For clamping round parts.
- * Double V grooves.



Order No. 450-1404

Features:

- Prevent movement or tilt of the moveable jaw while clamped.
- Hardened and ground moveable jaw plates
- Totally enclosed heat treated screw.
- Ground steel handle



Precision Superlock Vise

Order No.	450-1003	450-1004	450-1005	450-1006	450-1008
Jaw Width	3-9/64"	4"	5"	6"	8"
Jaw Opening	3-9/64"	4"	4-1/4"	5-1/2"	7-1/2"
Jaw Depth	1"	1-1/8"	1-5/16"	1-1/2"	2"
Length	10-5/8"	12-9/16"	14"	16-3/4"	21-3/8"
Width	5"	5-3/4"	7"	8-1/4"	11"
Vise Height	3"	3-3/8"	3-11/16"	4-3/8"	5-3/16"

Features:

- Prevent movement or tilt of the moveable jaw while clamped.
- Hardened and ground moveable jaw plates
- Totally enclosed heat treated screw.
- Ground steel handle



Precision Superlock Vise Without Base

Order No.	450-1013	450-1014	450-1015	450-1016	450-1018
Jaw Width	3-9/64"	4"	5"	6"	8"
Jaw Opening	3-9/64"	4"	4-1/4"	5-1/2"	7-1/2"
Jaw Depth	1"	1-1/8"	1-5/16"	1-1/2"	2"
Length	10-5/8"	12-9/16"	14"	16-3/4"	21-3/8"
Width	5"	5-3/4"	7"	8-1/4"	11"
Vise Height	3"	3-3/8"	3-11/16"	4-3/8"	5-3/16"

SWIVEL BASE MILLING MACHINE VISE



- * Used in milling, shaping and drilling machines.
- * Made of high quality cast iron.
- * Parallelism and squareness 0.025mm/100mm.
- * 360 degree graduated swivel base.
- * Either used as a stationery or swivel vise.

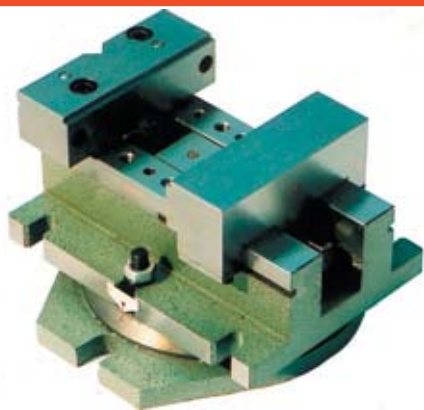
Order No.	Jaw Width	Jaw Height	Jaw Opening	Weight
450-1103	80mm	30mm	65mm	7kg
450-1104	100mm	35mm	80mm	9.5kg
450-1105	125mm	40mm	100mm	16kg
450-1106	160mm	52mm	125mm	36kg
450-1108	200mm	63mm	160mm	52kg

SWIVEL BASE MACHINE VISE



- * Used on milling, shaping and drilling machines.
- * Made of high quality cast iron.
- * Parallelism and squareness 0.025mm/100mm.
- * 360 degree swivel base.
- * Either used as a stationery or swivel vise.
- * Extraordinary clamping range.

Order No.	Jaw Width	Jaw Height	Jaw Opening	Weight
450-1205	136mm	36mm	170mm	17kg
450-1206	160mm	51mm	180mm	23kg
450-1208	200mm	64mm	280mm	41kg
450-1210	250mm	64mm	280mm	67kg
450-1212	320mm	81mm	360mm	88kg



PRECISION VISE

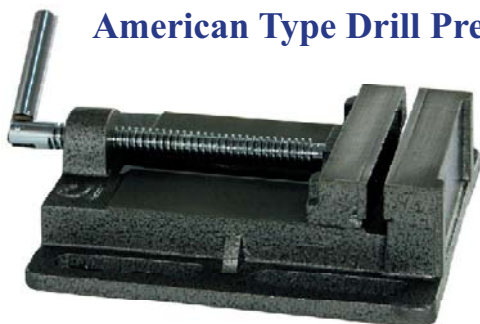
- * Made of high quality alloy steel.
- * Hardened surface to HRC58-62.
- * Ground to parallelism and squareness 0.01mm.
- * Quick clamping and easy operation.
- * For milling machines, grinding machines etc.

Order No.	Jaw Width	Jaw Height	Max. opening	Height
461-1098	100mm	25mm	100mm	118mm
461-1099	140mm	40mm	135mm	154mm

German Type Drill Press Vise



American Type Drill Press Vise



Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1085	67mm	24mm	70mm	1.8kg
450-1086	78mm	19mm	78mm	2kg
450-1087	100mm	26mm	110mm	3kg
450-1088	125mm	26mm	110mm	5.25kg
450-1089	150mm	26mm	150mm	6.8kg

Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1069	65mm	16mm	45mm	1kg
450-1070	75mm	20mm	50mm	2kg
450-1071	100mm	23mm	75mm	3.1kg
450-1072	125mm	26mm	100mm	4.6kg
450-1073	150mm	30mm	125mm	7kg
450-1074	200mm	35mm	175mm	11.5kg

0-90° ADJUSTABLE ANGLE VISE

- * 0-90° degree adjustable angle.
- * Can be used as ordinary vise at horizontal position.
- * Accurately graduated for all angles.

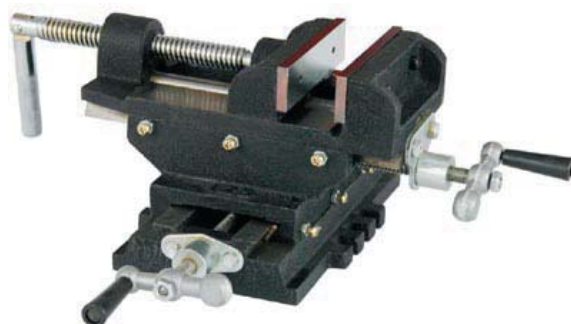


450-1053



450-1055

Order No.	Jaw Width	Jaw Height	Jaw Opening	Weight
450-1053	85mm	32mm	80mm	4.5kg
450-1054	115mm	39mm	90mm	6.3kg
450-1055	106mm	46mm	95mm	8kg

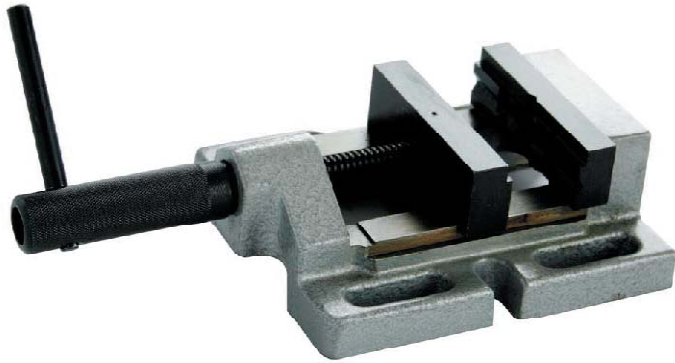


- * Hardened and ground top jaws.
- * Adjustable gibs.
- * Independent feed and travel.
- * Used for end milling, drilling etc.

CROSS VISE

Order No.	Jaw Width	Jaw Height	Max. Opening	Base Travel	Vise Travel	Weight
450-1033	80mm	30mm	65mm	70mm	65mm	6kg
450-1034	102mm	35mm	90mm	80mm	80mm	9.5kg
450-1035	125mm	41mm	115mm	95mm	95mm	13.5kg
450-1036	152mm	42mm	135mm	100mm	100mm	16.7kg
450-1038	203mm	47mm	165mm	130mm	130mm	26.3kg

DRILL PRESS VISE



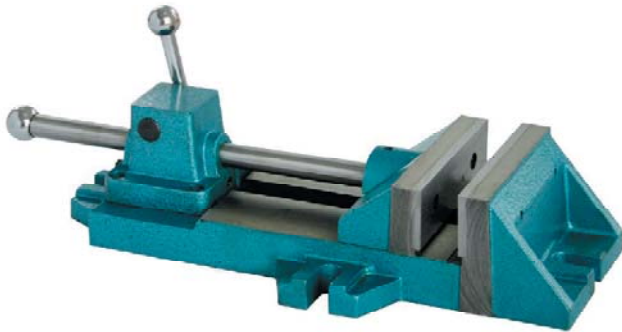
Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1065	85mm	30mm	60mm	3kg
450-1066	100mm	30mm	75mm	4.5kg
450-1067	120mm	30mm	100mm	6.3kg
450-1068	150mm	30mm	125mm	8.5kg

DRILL PRESS VISE



Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1075	80mm	34mm	75mm	3.5kg
450-1076	106mm	46mm	95mm	6.5kg
450-1077	155mm	48mm	150mm	12.5kg

QUICK RELEASE VISE



Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1078	100mm	40mm	90mm	6.75kg
450-1079	125mm	45mm	110mm	8.9kg
450-1080	150mm	50mm	135mm	12kg

QUICK RELEASE VISE



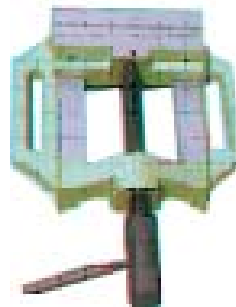
Order No.	Jaw Width	Jaw Height	Net Weight
450-1065	62mm	59mm	4.3kg
450-1066	75mm	75mm	7.5kg
450-1067	100mm	78mm	11.5kg
450-1068	125mm	95mm	19kg

American Type Drill Press Vise



Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1060	65mm	18mm	55mm	1.6kg
450-1061	75mm	18mm	75mm	2kg
450-1062	100mm	18mm	95mm	3kg
450-1063	122mm	20mm	120mm	4.5kg
450-1064	146mm	20mm	140mm	6kg

German Type Drill Press Vise

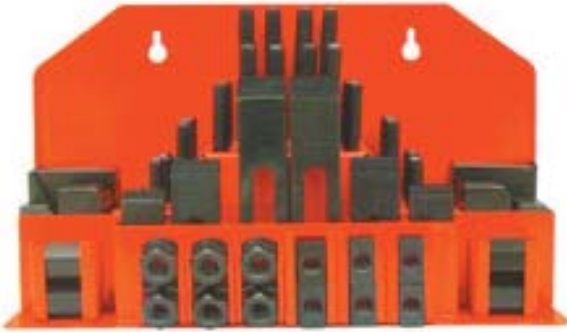


Order No.	Jaw Width	Jaw Height	Max. opening	Net Weight
450-1081	75mm	20mm	50mm	1.6kg
450-1082	100mm	20mm	80mm	2.8kg
450-1083	125mm	25mm	100mm	4.3kg
450-1084	150mm	25mm	135mm	5.5kg

58PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 6 T-slot nuts
- * 6 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 24 studs, 4 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0020	5/16"-18	3/8"	439-0139	5/16"-18	3/8"
439-0024	3/8"-16	7/16"	439-0140	3/8"-16	7/16"
439-0026		1/2"	439-0141		1/2"
439-0028		9/16"	439-0142		9/16"
439-0032	1/2"-13	9/16"	439-0143	1/2"-13	9/16"
439-0034		5/8"	439-0144		5/8"
439-0036		11/16"	439-0145		11/16"
439-0040	5/8"-11	11/16"	439-0146	5/8"-11	11/16"
439-0042		3/4"	439-0147		3/4"
439-0044		13/16"	439-0148		13/16"
439-0048	3/4"-10	7/8"	439-0149	3/4"-10	7/8"
439-0050		1"	439-0150		1"

58PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 6 T-slot nuts
- * 6 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 24 studs, 4 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0070	5/16"-18	3/8"	439-0151	5/16"-18	3/8"
439-0072	3/8"-16	7/16"	439-0152	3/8"-16	7/16"
439-0074		1/2"	439-0153		1/2"
439-0076		9/16"	439-0154		9/16"
439-0078	1/2"-12	9/16"	439-0155	1/2"-12	9/16"
439-0080		5/8"	439-0156		5/8"
439-0082		11/16"	439-0157		11/16"
439-0084	5/8"-11	11/16"	439-0158	5/8"-11	11/16"
439-0086		3/4"	439-0159		3/4"
439-0088		13/16"	439-0160		13/16"
439-0090	3/4"-10	7/8"	439-0161	3/4"-10	7/8"
439-0092		1"	439-0162		1"

58PCS CLAMPING KITS, METRIC THREADS

Each sets contains:

- * 6 T-slot nuts
- * 6 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 24 studs, 4 each of 75mm, 100mm, 125mm, 150mm, 175mm, 200mm
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0106	M6	8mm	439-0128	M6	8mm
439-0108	M8	10mm	439-0130	M8	10mm
439-0110	M10	12mm	439-0131	M10	12mm
439-0112	M12	14mm	439-0132	M12	14mm
439-0114	M14	16mm	439-0133	M14	16mm
439-0116	M16	18mm	439-0134	M16	18mm
439-0118	M18	20mm	439-0136	M18	20mm
439-0120	M20	22mm	439-0138	M20	22mm

42PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 12 studs, 2 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder

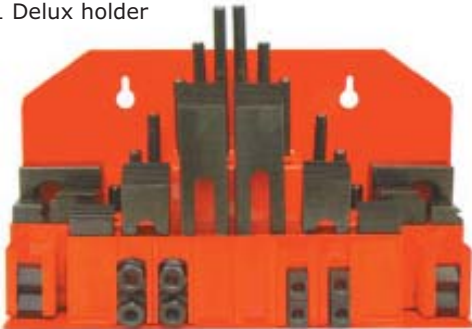


Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0301	5/16"-18	3/8"	439-0341	5/16"-18	3/8"
439-0302	3/8"-16	7/16"	439-0342	3/8"-16	7/16"
439-0303		1/2"	439-0343		1/2"
439-0304		9/16"	439-0344		9/16"
439-0305	1/2"-13	9/16"	439-0345	1/2"-13	9/16"
439-0306		5/8"	439-0346		5/8"
439-0307		11/16"	439-0347		11/16"
439-0308	5/8"-11	11/16"	439-0348	5/8"-11	11/16"
439-0309		3/4"	439-0349		3/4"
439-0310		13/16"	439-0350		13/16"
439-0311	3/4"-10	7/8"	439-0351	3/4"-10	7/8"
439-0312		1"	439-0352		1"

42PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 12 studs, 2 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0313	5/16"-18	3/8"	439-0353	5/16"-18	3/8"
439-0314	3/8"-16	7/16"	439-0354	3/8"-16	7/16"
439-0315		1/2"	439-0355		1/2"
439-0316		9/16"	439-0356		9/16"
439-0317	1/2"-12	9/16"	439-0357	1/2"-12	9/16"
439-0318		5/8"	439-0358		5/8"
439-0319		11/16"	439-0359		11/16"
439-0320	5/8"-11	11/16"	439-0360	5/8"-11	11/16"
439-0321		3/4"	439-0361		3/4"
439-0322		13/16"	439-0362		13/16"
439-0323	3/4"-10	7/8"	439-0363	3/4"-10	7/8"
439-0324		1"	439-0364		1"

42PCS CLAMPING KITS, METRIC THREADS

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 6 pair step blocks
- * 6 serrated end clamps
- * 12 studs, 2 each of 75mm, 100mm, 125mm, 150mm, 175mm, 200mm
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0325	M6	8mm	439-0333	M6	8mm
439-0326	M8	10mm	439-0334	M8	10mm
439-0327	M10	12mm	439-0335	M10	12mm
439-0328	M12	14mm	439-0336	M12	14mm
439-0329	M14	16mm	439-0337	M14	16mm
439-0330	M16	18mm	439-0338	M16	18mm
439-0331	M18	20mm	439-0339	M18	20mm
439-0332	M20	22mm	439-0340	M20	22mm

36PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 4 pair step blocks
- * 4 serrated end clamps
- * 12 studs, 4 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0380	5/16"-18	3/8"	439-0420	5/16"-18	3/8"
439-0381	3/8"-16	7/16"	439-0421	3/8"-16	7/16"
439-0382		1/2"	439-0422		1/2"
439-0383		9/16"	439-0423		9/16"
439-0384	1/2"-13	9/16"	439-0424	1/2"-13	9/16"
439-0385		5/8"	439-0425		5/8"
439-0386		11/16"	439-0426		11/16"
439-0387	5/8"-11	11/16"	439-0427	5/8"-11	11/16"
439-0388		3/4"	439-0428		3/4"
439-0389		13/16"	439-0429		13/16"
439-0390	3/4"-10	7/8"	439-0430	3/4"-10	7/8"
439-0391		1"	439-0431		1"

36PCS CLAMPING KITS, US THREADS

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 4 pair step blocks
- * 4 serrated end clamps
- * 12 studs, 4 each of 3", 4", 5", 6", 7", 8"
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0392	5/16"-18	3/8"	439-0432	5/16"-18	3/8"
439-0393	3/8"-16	7/16"	439-0433	3/8"-16	7/16"
439-0394		1/2"	439-0434		1/2"
439-0395		9/16"	439-0435		9/16"
439-0396	1/2"-12	9/16"	439-0436	1/2"-12	9/16"
439-0397		5/8"	439-0437		5/8"
439-0398		11/16"	439-0438		11/16"
439-0399	5/8"-11	11/16"	439-0439	5/8"-11	11/16"
439-0400		3/4"	439-0440		3/4"
439-0401		13/16"	439-0441		13/16"
439-0402	3/4"-10	7/8"	439-0442	3/4"-10	7/8"
439-0403		1"	439-0443		1"

Each sets contains:

- * 4 T-slot nuts
- * 4 flange nuts.
- * 4 coupling nuts.
- * 4 pair step blocks

36PCS CLAMPING KITS, METRIC THREADS

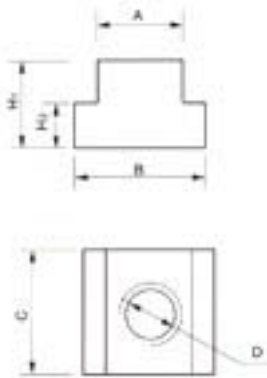
- * 4 serrated end clamps
- * 12 studs, 4 each of 75mm, 100mm, 125mm, 150mm, 175mm, 200mm
- * 1 Delux holder



Non Hardened			Hardened		
Order No.	Stud Size	Table Slot	Order No.	Stud Size	Table Slot
439-0404	M6	8mm	439-0412	M6	8mm
439-0405	M8	10mm	439-0413	M8	10mm
439-0406	M10	12mm	439-0414	M10	12mm
439-0407	M12	14mm	439-0415	M12	14mm
439-0408	M14	16mm	439-0416	M14	16mm
439-0409	M16	18mm	439-0417	M16	18mm
439-0410	M18	20mm	439-0418	M18	20mm
439-0411	M20	22mm	439-0419	M20	22mm

T-SLOT NUTS

An incomplete thread is left in the T-nut base to eliminate any danger of screwing the studs through the T-nuts and damaging the table slots.



* Black oxide finish.
* Heated treated.

Order No.	Description	Thread Size	Table Slot	B	Length	H1	H2
439-0200	T-NUT, Metric	M6	8mm	13	13	10	6
439-0201		M8	10mm	15	15	12	6
439-0202		M10	12mm	18	20	14	7
439-0203		M12	14mm	22	25	16	8
439-0204		M14	16mm	25	25	16	10
439-0205		M16	18mm	29	30	19	10.5
439-0206		M18	20mm	34	34	28	14
439-0207		M20	22mm	34	34	28	14
439-0208	T-NUT, British	5/16"-18	3/8"	5/8"	7/8"	1/2"	3/16"
439-0209		3/8"-16	7/16"	11/16"	7/8"	1/2"	7/32"
439-0210			1/2"	7/8"	7/8"	1/2"	9/32"
439-0211			9/16"	7/8"	1"	5/8"	11/32"
439-0212		1/2"-12	9/16"	7/8"	1"	5/8"	11/32"
439-0213			5/8"	1"	1"	5/8"	11/32"
439-0214			11/16"	1-1/8"	1-1/4"	3/4"	7/16"
439-0215			11/16"	1-1/8"	1-1/4"	3/4"	7/16"
439-0216		5/8"-11	3/4"	1-1/4"	1-1/4"	3/4"	15/32"
439-0217			13/16"	1-1/4"	1-1/2"	7/8"	9/16"
439-0218		3/4"-10	7/8"	1-1/2"	1-1/2"	7/8"	9/16"
439-0219			1"	1-5/8"	1-1/2"	7/8"	9/16"
439-0220	T-nut, US	5/16"-18	3/8"	5/8"	7/8"	1/2"	3/16"
439-0221		3/8"-16	7/16"	11/16"	7/8"	1/2"	7/32"
439-0222			1/2"	7/8"	7/8"	1/2"	9/32"
439-0223			9/16"	7/8"	1"	5/8"	11/32"
439-0224		1/2"-13	9/16"	7/8"	1"	5/8"	11/32"
439-0225			5/8"	1"	1"	5/8"	11/32"
439-0226			11/16"	1-1/8"	1-1/4"	3/4"	7/16"
439-0227			11/16"	1-1/8"	1-1/4"	3/4"	7/16"
439-0228		5/8"-11	3/4"	1-1/4"	1-1/4"	3/4"	15/32"
439-0229			13/16"	1-1/4"	1-1/2"	7/8"	9/16"
439-0230		3/4"-10	7/8"	1-1/2"	1-1/2"	7/8"	9/16"
439-0231			1"	1-5/8"	1-1/2"	7/8"	9/16"

STEEL STEP BLOCKS

* Heat treated.
* Black oxide finish.
* Machined teeth.



Order No.	Description	For Stud Sizes	Length (mm)	Height (mm)	Block Width (mm)
439-0250	Small	3/8", M10	22	30	25
439-0251		5/16", M8	22	30	25
439-0252		1/2", M12, M14	22	30	25
439-0253		5/8", M16	27	40	27
439-0254		3/4", M18, M20	27	40	32
439-0255	Medium	3/8", M10	27	40	25
439-0256		5/16", M8	27	40	25
439-0257		1/2", M12, M14	27	40	25
439-0258		5/8", M16	45	74	27
439-0259	3/4", M18, M20	45	74	32	
439-0260	Large	3/8", M10	45	74	25
439-0261		5/16", M8	45	74	25
439-0262		1/2", M12, M14	55	92	25
439-0263		5/8", M16	67	113	27
439-0264		3/4", M18, M20	67	113	32

3 Axis Digital Readout (DRO)

For use on multi-function milling machines, universal milling machines, EDM, lathes.



Features:

- * Metric system/British system conversion
- * 200 subsidiary zero position function
- * Smooth R Arc Calculation function (ARC Function)
- * Circular arc equally Dividing Function(PCD Function)
- * The function of hole drilling along an oblique line
- * The Calculation function
- * Angular Surface Processing
- * The progressive progressing of rectangular inner chamber
- * The Tool Diameter Compensation Function
- * Zero position automatic tracking.
- * Power Interruption Memory
- * Linear Error Compensation

Specifications:

- * Power: AC 80V~260V $\pm 15\%$, 50 Hz~60 Hz
- * Power consumption: 25VA
- * Working temperature: 0°C~45°C
- * Storage temperature: -30°C~70°C
- * Relative humidity: <90%(20 \pm 5°)
- * Weight: ≈ 3.2 kg
- * Number of coordinates: 3 axis
- * Display: 7 digit with plus and minus symbol display
- * Frequency multiplication: 4X
- * Allowable input signal: TTL square wave
- * Allowable input signal frequency: ≤ 5 M Hz
- * Length resolution: 5 μ m, 1 μ m, 10 μ m, 0.1 μ m, 0.2 μ m, 0.5 μ m
- * Operation keyboard: Sealed diaphragm touch keys

Order No. 905-8015

2 Axis Digital Readout

For use on multi-function milling machines, universal milling machines, lathes.



Features:

- * Metric system/British system conversion
- * 200 groups zero position memory
- * Zero position automatic digital follow-up
- * Easy "R" function
- * Linear error compensation function
- * Rounding "R" function
- * Power down memory
- * PCD hole positioning on circumference
- * Hole Drilling Along An Oblique Line
- * Angular Surface Processing
- * Calculator Function
- * 200 Tool Storeroom

Specifications:

- * Power: AC 80V~260V $\pm 15\%$, 50 Hz~60 Hz
- * Power consumption: 25VA
- * Working temperature: 0°C~45°C
- * Storage temperature: -30°C~70°C
- * Relative humidity: <90%(20 \pm 5°)
- * Weight: ≈ 3.2 kg
- * Number of coordinates: 3 axis
- * Display: 7 digit with plus and minus symbol display
- * Frequency multiplication: 4X
- * Allowable input signal: TTL square wave
- * Allowable input signal frequency: ≤ 5 M Hz
- * Length resolution: 5 μ m, 1 μ m, 10 μ m, 0.1 μ m, 0.2 μ m, 0.5 μ m
- * Operation keyboard: Sealed diaphragm touch keys

Order No. 905-8010

Digital Scales, 5 um Resolution

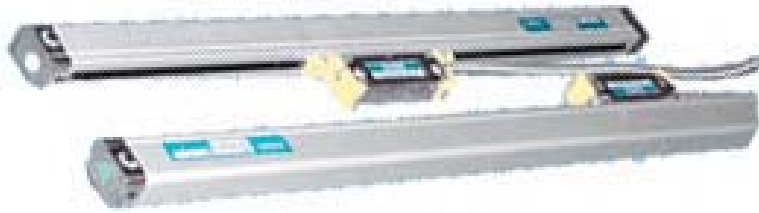


Specifications:

- * Cross Section Size: 25x34mm
- * Accuracy: $\pm 3/\pm 5/\pm 10\mu$ m at 20°C or 68°F
- * Max. Transversing Speed: 1m/s
- * Repeatability: ± 1 counting impulse
- * Protection: IP55
- * Resolution: 5um
- * Output: TTL

Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length
905-8801	70mm	905-8806	320mm	905-8811	570mm	905-8816	820mm
905-8802	120mm	905-8807	370mm	905-8812	620mm	905-8817	870mm
905-8803	170mm	905-8808	420mm	905-8813	670mm	905-8818	920mm
905-8804	220mm	905-8809	470mm	905-8814	720mm	905-8819	970mm
905-8805	270mm	905-8810	520mm	905-8815	770mm	905-8820	1020mm

Digital Scales, 5 um Resolution

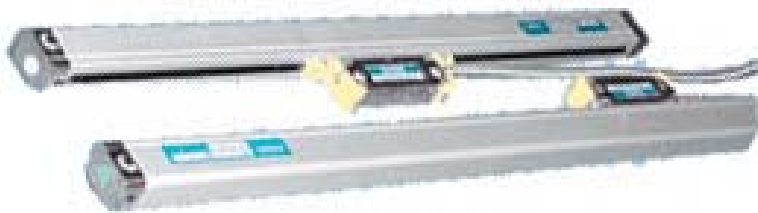


Specifications:

- * Cross Section Size: 28x20mm
- * Accuracy: $\pm 3/\pm 5/\pm 10\mu\text{m}$ at 20°C or 68°F
- * Max. Transversing Speed: 1m/s
- * Repeatability: ± 1 counting impulse
- * Protection: IP55
- * Resolution: 5um
- * Output: TTL

Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length
905-8821	120mm	905-8823	220mm	905-8825	320mm	905-8827	420mm
905-8822	170mm	905-8824	270mm	905-8826	370mm	905-8828	470mm

Digital Scales, 5 um Resolution

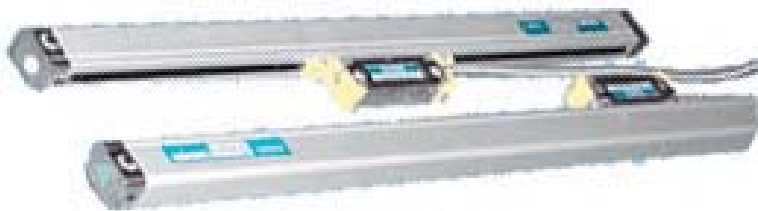


Specifications:

- * Cross Section Size: 30x43mm
- * Accuracy: $\pm 3/\pm 5/\pm 10\mu\text{m}$ at 20°C or 68°F
- * Max. Transversing Speed: 1m/s
- * Repeatability: ± 1 counting impulse
- * Protection: IP55
- * Resolution: 5um
- * Output: TTL

Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length
905-8829	1000mm	905-8840	1550mm	905-8851	2100mm	905-8862	2650mm
905-8830	1050mm	905-8841	1600mm	905-8852	2150mm	905-8863	2700mm
905-8831	1100mm	905-8842	1650mm	905-8853	2200mm	905-8864	2750mm
905-8832	1150mm	905-8843	1700mm	905-8854	2250mm	905-8865	2800mm
905-8833	1200mm	905-8844	1750mm	905-8855	2300mm	905-8866	2850mm
905-8834	1250mm	905-8845	1800mm	905-8856	2350mm	905-8867	2900mm
905-8835	1300mm	905-8846	1850mm	905-8857	2400mm	905-8868	2950mm
905-8836	1350mm	905-8847	1900mm	905-8858	2450mm	905-8869	3000mm
905-8837	1400mm	905-8848	1950mm	905-8859	2500mm		
905-8838	1450mm	905-8849	2000mm	905-8860	2550mm		
905-8839	1500mm	905-8850	2050mm	905-8861	2600mm		

Digital Scales, 5 um Resolution



Specifications:

- * Cross Section Size: 40x42mm
- * Accuracy: $\pm 3/\pm 5/\pm 10\mu\text{m}$ at 20°C or 68°F
- * Max. Transversing Speed: 1m/s
- * Repeatability: ± 1 counting impulse
- * Protection: IP55
- * Resolution: 5um
- * Output: TTL

Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length	Order No.	Measuring Length
905-8870	170mm	905-8876	470mm	905-8882	770mm	905-8888	1070mm
905-8871	220mm	905-8877	520mm	905-8883	820mm	905-8889	1120mm
905-8872	270mm	905-8878	570mm	905-8884	870mm	905-8890	1170mm
905-8873	320mm	905-8879	620mm	905-8885	920mm	905-8891	1220mm
905-8874	370mm	905-8880	670mm	905-8886	970mm		
905-8875	420mm	905-8881	720mm	905-8887	1020mm		

Universal Gutter and Tool Grdiner

* This machine sharpens HSS and hard metal cutters and can be used to cylindrical grinding, plane groove processing, 3D profiling. With optional accessories, it can grinder gears, worm-wheel hobs, form tools, ball-end milling cutters, fluted twist drills, taper taps, shaped cutting tools, end mills, face mills, R mills, side mill cutters, angle mills, reamers, turning tools, R turning tools, hobbing cutters, twist drills, tapes, encarving tools, chamfering tools, round paper knife, circular and planer grooves, and profiled faces.

- * Imported high precision linear ball slide rail.
- * 360° swivel motor with two mouting sides for grinding wheels.
- * Max. linear speed 40m/s.
- * Soubdke taoer can be made to customer's size.
- * Optional stand, universal grinding attachment, turning tools sharpners, end mill sharpeners, R shape end mills, universal tool grinder.

Specifications:

- * Horizontal traver of the table: 300mm
- * Longitudinal travel of the table: 150mm
- * Table size: 550mmx130mm
- * Wheelhead vertical travel: 120mm
- * Swivel anngle of the wheelhead: 360°
- * Grinding wheel size: 150x50x32mm
- * Grinding wheel speed: 2800RPM or 3600RPM
- * Motor: 3/4HP, 110V/220V/380V
- * Weight: 168/160kg
- * Shipping size: 70x63x63cm

Order No. 439-1044



Universal Gutter and Tool Grdiner

* This machine sharpens HSS and hard metal cutters and can be used to cylindrical grinding, plane groove processing, 3D profiling. With optional accessories, it can grinder gears, worm-wheel hobs, form tools, ball-end milling cutters, fluted twist drills, taper taps, shaped cutting tools, end mills, face mills, R mills, side mill cutters, angle mills, reamers, turning tools, R turning tools, hobbing cutters, twist drills, tapes, encarving tools, chamfering tools, round paper knife, circular and planer grooves, and profiled faces.

- * Imported high precision linear ball slide rail.
- * 360° swivel motor with two mouting sides for grinding wheels.
- * Max. linear speed 40m/s.
- * Soubdke taoer can be made to customer's size.
- * Optional stand, universal grinding attachment, turning tools sharpners, end mill sharpeners, R shape end mills, universal tool grinder.

Specifications:

- * Max. Grinding diameter: 250mm
- * Horizontal traver of the table: 400mm
- * Longitudinal travel of the table: 150mm
- * Table size: 680mmx130mm
- * Wheelhead vertical travel: 120mm
- * Swivel anngle of the wheelhead: 360°
- * Grinding wheel size: 150x50x32mm
- * Grinding wheel speed: 5000RPM
- * Motor: wheelhead, 3/4HP, 110V/220V/380V
- * Height of the head holder: 135mm
- * Spindle taper: MT4
- * Weight: 168/160kg
- * Shipping size: 73x71x72cm

Order No. 439-1043



UNIVERSAL TOOL GRINDING MACHINE

Specifications:

Max.Diameter of Wheel: 125mm
Max.Grinding Length: 100mm
Table Travel Right and Left: 175mm
Table Travel Forward and Return: 100mm
Head Height Travel: 120mm
Pivoting Grinding Head: $\pm 50^\circ$
Packing Size: 109x72x93cm
G.W./N.W: 266/208kg

Order No. 439-1050

Standard Equipment:

Right and left tailstock
Spring stop
Variable table stops
Standard center 60°
Half center 60°
1 cupwheel and 1 diamond top wheel (optional)
1 grinding wheel and 1 poppet (5x0.6x1.26")
3-jaw lathe chuck with flange
Turning tool holder
Cutter mandrels
Base frame
Operating tools
Operator manual



TWIST DRILL SHARPENER

- * Grinding capacity: 3-19mm.
- * Grinding angle: $118-140^\circ$.
- * For any length 2 flute twist drills made of HSS, Tin coated, cobalt coated, parabola drills, taper shank drills, carbide drills (with optional diamond grinding wheels).
- * Grinding tolerance to ISO 10899.
- * No coolant is required.
- * Electroplated grinding wheel with super wearing resistance. No need to calibrate or repair.
- * Grinding process completes in 15 second for a 3mm drill, 60seconds for a 19mm drill.
- * Motor: 230V, 3A 50Hz, 2850RPM
- * Overall size: 305mmx280mmx230mm
- * Weight: 11kg

Order No. 439-1046



LATHE TOOL GRINDER

Equipped with reversible diamond grinding wheel, it can grind HSS, carbide, ceramic tools etc.. The wheel is balanced before assembling. Outstanding constructure features optimized performance with minimum maintenance. It is easy to operate.

- * Grinding wheel size: 125x16x25mm
- * Work table adjustable vertical angle: $\pm 20^\circ$
- * Lockation block ajustable angle: $\pm 70^\circ$.
- * Motor: 250W
- * Speed: 2800rpm
- * Grinding tools: square lathe tools.

Order No. 439-1021

SAW BLADE SHARPENER

- * Elaborately designed levers make adjusting cutting angles, rear angles, tooth depths, tooth pitches very easy, quick and precise.
- * Tungsten carbide tipped feeding jaws.
- * Saw blade capacity: $\Phi 50$ to 480mm.
- * Pitch capacity: 25mm
- * Cutting angle: -5° to 30° .
- * Feeding speed: 45-200teeth/minute
- * Max. thickness of blade: 8mm
- * Grinding wheel size: Dia. 70mm, 150mm Thick
- * Grinding wheel speed: 4500rpm
- * Motor: 1/2HP 220V, 3/4HP 380V
- * Weight: 105kg
- * Shipping size: 135x80x80mm

Order NO. 439-1048



MULTI-PURPOSE TOOL GRINDING MACHINE

Features:

- * $\Phi 3$ mm to $\Phi 32$ mm cutters of straight shanks and taper shanks.
- * 360° swivel motor with twin grinding wheels.
- * For twist drills, scalar drill bits, taps, end mills, round bars.
- * 4" clamps with 6 jaws.
- * Grinding two flutes with single clamp.
- * Simple to use, accurate grinding.
- * Optional stand

Specifications:

- * Horizontal table travel: 90mm
- * Longitudinal table travel: 150mm
- * Swivel angle of wheelhead: 360° .
- * Front angle of drill bits: 90° to 180° .
- * Grinding wheel size: 125x50x32mm
- * Grinding wheel speed: 2800rpm
- * Motor: 3/4HP, 110V/220V/380V
- * Weight: 118kg/105kg
- * Shipping size: 81x52x47cm

Order NO. 439-1045



GRAVER GRINDER

- * Easy setting of pushing angle and clearance angle.
- * 180° or 360° swivel dividing head.
- * Moveable pushers make grinding of negative pushing angle easier than ever.
- * Division at 15° increment.
- * For grinding circular, semi-circular, positive angle of taper, back draught shaped cutters with single edge, or cutter punches of right, triangle, four, multi-angles or diamond shapes.

Specifications:

- * Max. holding capacity: 18mm
- * Max. grinding capacity: 25mm
- * Pushing angle: 0° to 180° .
- * Clearance angle: 0° to 45° .
- * Negative pushing angle: 0° to 45° .
- * Main axis speed: 5000rpm
- * Grinding wheel size: 100x50x20mm.
- * Motor: 1/2HP, 220V, 50HZ
- * Weight: 60kg/46kg
- * Shipping size: 55x45x47cm

Order NO. 439-1042



CUTTER SHARPENER

It is applicable to grind milling cutters of various kinds of sizes, shapes and angles, moulding pins for die sinkers. It can be used to sharpen turning tools, end mills, drills etc.

***Optional sharpener collets from 3 to 16mm.**

Specifications:

- Grinding Wheel Diameter: 100mm or 4"
- Wheel Thickness: 50mm/2"
- Hole size: 20mm or 3/4"
- Spindle speed: 5200rpm
- Collet clamping diameter rang: 3~16mm
- Tool post longitudinal travel: 140mm or 5-1/2"
- Tool post longitudinal micro adjustment: 18mm or 3/4"
- Spindle longitudinal micro adjustment: 8mm or 5/16"
- Grinding taper range: 0°~180°
- Grinding negative angle range: 0°~52°
- Grinding relief range: 0°~44°

Order No. 439-1012



CUTTER SHARPENER

It is applicable to grind milling cutters of various kinds of sizes, shapes and angles, moulding pins for die sinkers. It can be used to sharpen turning tools, end mills, drills etc.

***Optional sharpener 5C collets from 3 to 28mm.**

Specifications:

- Grinding Wheel Diameter: 100mm or 4"
- Wheel Thickness: 50mm/2"
- Hole size: 20mm or 3/4"
- Spindle speed: 5200rpm
- Collet clamping diameter rang: 3~28mm or 1/8~5/8"
- Tool post longitudinal travel: 140mm or 5-1/2"
- Tool post longitudinal micro adjustment: 18mm or 3/4"
- Spindle longitudinal micro adjustment: 8mm or 5/16"
- Grinding taper range: 0°~180°
- Grinding negative angle range: 0°~52°
- Grinding relief range: 0°~44°

Order No. 439-1049



CUTTER SHARPENER

It is applicable to grind milling cutters of various kinds of sizes, shapes and angles, moulding pins for die sinkers. It can be used to sharpen turning tools, end mills, drills etc.

***Optional sharpener R8 collets from 3 to 22mm.**

Specifications:

- Grinding Wheel Diameter: 100mm or 4"
- Wheel Thickness: 50mm/2"
- Hole size: 20mm or 3/4"
- Spindle speed: 5200rpm
- Collet clamping diameter rang: 3~22mm
- Tool post longitudinal travel: 140mm or 5-1/2"
- Tool post longitudinal micro adjustment: 18mm or 3/4"
- Spindle longitudinal micro adjustment: 8mm or 5/16"
- Grinding taper range: 0°~180°
- Grinding negative angle range: 0°~52°
- Grinding relief range: 0°~44°

Order No. 439-1051



CUTTER SHARPNER

It features opening structure, spacious operation area, max grinding capacity. It can sharpen helical edge, rear angle of the end flute, relief angles of taps, drills, reamers, bull nose end mills with operational accessories. Its main body is made from high quality aluminum alloy. It takes advance air floating technique. the spindle rotates flexibly after being pressed which reduces friction to the lowest.

Specifications:

- * End mill capacity (dia of shank x dia of edge x length):
2"x9"x10" or 50x225x250mm
- * Swing over table: 9-3/4" or 245mm
- * Longitudinal table travel (X axis): 6" or 150mm
- Cross travel of table (Y axis): 3" or 75mm
- * Maximum wheel: 5"x2"x1-1/4" or 125x50x32mm
- * Tilt adjustment for wheelhead: +35° -10°
- * Air bearing swivel: 360°
- * Air bearing stroke: 10" or 250mm
- * Table infeed graduation: 0.001"/0.02mm
- * Air bearing graduation: 6.3MPa
- * Pipe joint diameter: Z1/4"
- * Collet fit for spindle:
- * Parallelism between two tables: 0.01mm/100mm
- * Parallelism of sleeve center line to worktable:
0.01mm/100mm
- * Speed: 3450/2580rpm (110v) or 2800rpm (230V)
- * power: 1/3HP or 0.25KW
- * **Optional 5C collets**



Order No. 439-1013

CUTTER SHARPNER

Features:

- * Easy to operate, grinding smoothly and steady.
- * Air Bearing construction keeps high accuracy and life long.
- * Applicable to 2,3,4,6 flutes HSS end mill, carbide end mill, reamer.

Technical Data:

- * Capacity: (shank dia. x blade dia. x length)
50mm x 175mm x 200mm
- * Table cross travel (X axis): 115mm
- * Table longitudinal travel (Y axis): 60mm
- * Table in-feed graduation: 0.02mm
- * Adjustment for wheel head: plus 35°
to minus 5°.
- * Air bearing swivel: 360 degree
- * Maximum wheel faring cup: 125mm x 52mm x 32mm
- * Air consumption: =0.63MP
- * Operation time: Complete in 2 minutes including setup
time for 13mm 2 flutes end mill generally.
- * Motor: 220V/0.25KW/50Hz/2800Rpm
- * Optional accessory available to grind ball
end mills and taps.
- * **Optional 5C collets**



Order No. 439-1016

PRECISION DRILL SHARPNER



The precision drill sharpener is easy to operate. With one mouting, it can grinde the cutting edge and cross edge of the drill one time. With operational diamond grinding wheel, it can sharpen HSS, carbide drills etc.

- * Grinding capacity: drills from 2 to 13mm
- * Range of grinding angle: 118° to 135°
- * Collets: ER20 (**Optional**)
- * Motor: 120w, 220V
- * Speed: 5000rpm

Order No. 439-1016

PRECISION DRILL SHARPNER



The precision drill sharpener is easy to operate. With one mouting, it can grinde the cutting edge and cross edge of the drill one time. With operational diamond grinding wheel, it can sharpen HSS, carbide drills etc.

- * Grinding capacity: drills from 13 to 26mm
- * Range of grinding angle: 110° to 140°
- * Collets: ER40 (**Optional**)
- * Grinding wheel adjustable range: ≤ 1 mm
- * Motor: 200w, 220V
- * Speed: 5000rpm

Order No. 439-1041

SAW BLADE SHARPNER



Features:

- * The X employs high precision linear motion guide and motor, providing high accuracy operation, maximum stability and maximum wear resistance.
- * Cutting angle, back relief angle, tooth depth and pitch are conveniently adjusted. Extremely accurate tooth form.
- * Variable speeds can be adjusted for tooth pitch variation.
- * Suitable for new tooth forming or broken tooth brimming.
- * The tungsten carbide tipped pusher provides maximum wear resistance.
- * The rotary spring on pusher arm minimizes spring fatigue and gives added accuracy of feed.
- * Sharpening range: Saw blade diameter from 65 to 450mm.
- * Tooth pitch: ≤ 25
- * Tooth depth: ≤ 8 mm
- * Thickness of sawblade: ≤ 8 mm
- * Cutting angles: 0 to 30°

Order No. 439-1022

LATHE TOOL GRINDER



This is an ideal tool for grind lathe tools. With CBN wheel, it is applicable to grind cutting tools made of HSS, carbide steel, ceramic. It features easy operation, high accuracy.

Specifications:

Wheel diameter: 150mm

Back angle of wheel: 30°

Table size: 133x280mm

Table travel: 80mm

Up and down adjustment of table: -10° to 25°

Locking block swivel: +/-70°

Motor: 250W

Speed: 1400rpm 220V

Grinding capacity: Square shank lathe tools or maximum diameter 28mm for round tools.

Order No. 439-1017

LATHE TOOL GRINDER



This drill grinder features simple structure, easy operation. With one setup, it accomplishes grinding drill cutting edge and cross edge at the point end.

Specifications:

* Grinding capacity: 2 to 19mm

* Spindle speed: 10000rpm

* Motor: 250W,

Order No. 439-1018

PRECISION DRILL GRINDER



Features:

* One setup completes cutting edge and cross edge grinding.

* Can grind twist drills with two flutes.

* Diamond wheel. Coolant unnecessary.

* A 3mm drill takes 15 second while a 19mm takes about 60 seconds.

Grinding diameter range: 3-21mm

Grinding angle range: 118° to 150°

Motor: 230V, 50HZ

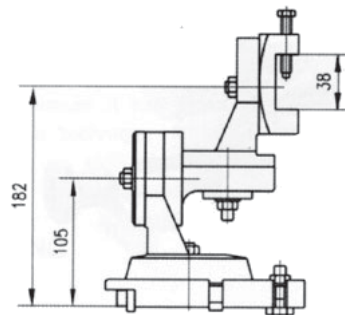
Speed: 10000RPM.

Order No. 439-1019

UNIVERSAL SHARPENER

This sharpener is used for sharpening square tools at any direction. It is very easy to use. Weight is 8kg.

Order No. 439-1021



END MILL SHARPENER



This unit is used to sharpen end mills.

- * Diameter of end mill shank: 3/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4".
- * Overall Length: 330mm
- * Center Height: 150mm
- * Weight: 11.6kg

Order No. 439-1005

END MILL SHARPENER



- * Uses 5C collets.
- * Clamping cutters with shank of 1/16" to 1-1/8" in diameter.
- * For grinding 2, 3, 4, 6, 8, 12 flute end mills and shell mills.
- * Unique angle base ensures great grinding capacity.
- * Ground base bottom for secured contact with magnetic chuck.

Order No. 439-1024

END MILL SHARPENER



This sharpener is for grinding mill cutters, reamers, drill bits etc.

- * Comes with 1/2, 5/8 and 3/4 tool sleeves.

Order No. 439-1014

WHEEL WIDTH DRESSER

- * Dresses both sides of the grinding wheels.



- * Maximum width of wheel: 40mm
- * Maximum dressing depth: 40mm
- * Mini dressing width: 0.5mm
- * Graduation: 0.02mm

Order No. 439-1028

MOTOR PUNCH GRINDER

- * Motorized centerless grinding for long pins or punches.
- * Combined with the optional magnetic sine plate, it can grind various angles.
- * Grind pins or punches to various profile with optional grinding wheels.
- * Length of pins and punches: 20 to 120mm.
- * Outside grinding length: 5-35mm
- * Grinding diameter: 1.5 to 25mm
- * Accuracy: 0.005mm
- * Motor: 110V/60Hz 129rpm or 220V/50Hz 108rpm

Order No. 439-1033



UNIVERSAL DRESSER

This universal dresser is a versatile tool for manual surface grinders, universal tool grinders, carve grinders etc. for dressing wheels in various forms, flat or curved surfaces.

Specifications:

- Center height: 165mm
- Diameter of calibration pin: 10mm
- Max. diamond cutteer swing: +/-20mm
- Max. grinding capacity: Dia. 200mm
- Max. dressing arc: Radius 40mm to both sides.
- Dial graduation: 5"
- Max. manual feed: 20mm
- Feed per revolution of handle: 0.02mm.
- Overall size: 165x106x180mm
- Weight: 5kg

Order No. 439-1029



RADIUS AND ANGLE DRESSER

The accurate and versatile radius and angle dresser is used on all grinding operations. Knob A controls radii and knob B controls angle movement. Hand pins determine the inside or outside radius. Easy radius setting is done with the optional gage blocks.

- * Max dressing diameter of grinding wheel: 300mm
- * Hole size to accommodate diamond tool shank: 3/8" or 9.525mm.
- * Overall length: 387mm
- * Base size: 134mmx105mm
- * Center height: 3.4" or 86.36mm
- * Weight: 13kg

Order No. 439-1000



OPTICAL UNIVERSAL DRESSER

This unit is for wheel dressing on surface grinders, universal tool grinders. Fixed 3X focus lens observes the status of the diamond point and the dress surface. Radius and angle can be set perfectly tangent with the help of optional gage blocks.

- * Center height: 65mm
- * Convex radii: 205mm
- * Concave radii: 13mm
- * Dressing angle 95°-0°-95°
- * Tangent travel: 22.5mm (either side of center)
- * Overall length: 230mm
- * Overall height: 97mm
- * Overall width: 75mm

Order No. 439-1027



SINE WHEEL DRESSER

This dresser features simple structure, easy operation. It can be used at both horizontal and vertical positions for any angle surface dressing.

- * Adjustable angle range: 0-60°.
- * Travel of slide top: 50mm
- * Parallelism between slide top to base: 0.01mm
- * Overall size (LxWxH): 87mmx50mmx75mm

Order No. 439-1026



POUNCH FORMER & RADIUS TANGENT WHEEL DRESSER

Features:

- * For concave and convex radius dressing.
- * Grinding round, radius and multi-angle points of standard punch dies, EMD electrodes.
- * Rack gear design.
- * Stand radius dresser arm and V block.

Technical Data:

- * Center height: 80mm
- * Clamping diameter in V slot: 4-30mm
- * V block travel: 25mm
- * Index division: 24 (every 15°)
- * Convex radius: 50mm
- * Concave radius: 100mm
- * Overall size: 203mmx107mmx133mm

Order No. 439-1011



**POUNCH FORMER & RADIUS TANGENT WHEEL DRESSER
WITH OSCILLATING V BLOCK**

Features:

- * For concave and convex radius dressing.
- * Grinding round, radius and multi-angle points of standard punch dies, EMD electrodes.
- * Rack gear design.
- * Stand radius dresser arm and V block.
- * More punch forming applications than 439-1011

Technical Data:

- * Center height: 80mm
- * Clamping diameter in V slot: 4-30mm
- * V block travel: 25mm
- * Transversal travel of slide: 12.5mm both sides.
- * Index division: 24 (every 15°)
- * Convex radius: 50mm
- * Concave radius: 100mm

Order No. 439-1010



POUNCH FORMER

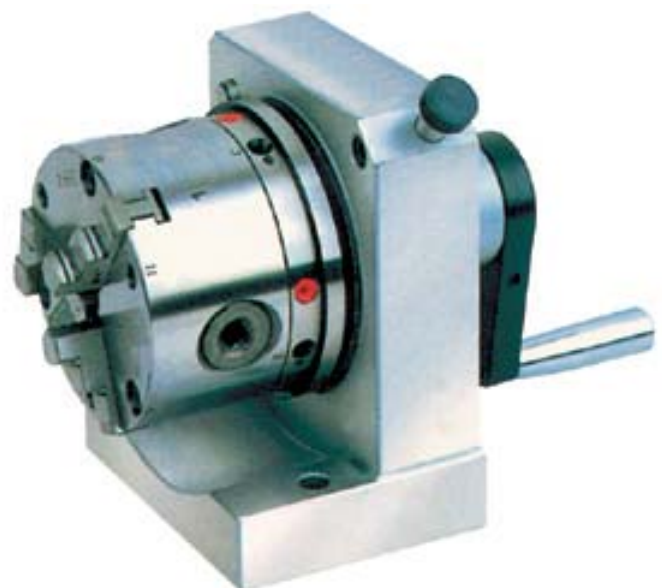
- * Accurate and quick clamping.
- * Clamping range: 2 to 20mm.
- * ER32 collets: 4,6,8,10,12,16,20mm.
- * For sizes smaller than 4mm, optional ER16 collet have to be ordered.



Order No. 439-1039

POUNCH FORMER

With the 3-jaw chuck, the punch former can hold workpieces quickly and accurately. It's a useful tool for batch production.



- * Clamping range: 2 to 70mm.
 - * Chuck Bore diameter: 16mm.
- Order No. 439-1038**

R8 COLLETS



- Made of highest grade steel
- Hardened & Ground to 0.0005" TIR
- Fits all R8 spindle- 7/16"-20TPI thread.



R8 Round Collet Sets

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
466-0003	1/32"	466-0024	3/8"	466-0046	23/32"	466-0106	3.5mm	466-0123	12mm
466-0004	1/16"	466-0026	13/32"	466-0048	3/4"	466-0107	4mm	466-0125	13mm
466-0006	3/32"	466-0028	7/16"	466-0050	25/32"	466-0108	4.5mm	466-0127	14mm
466-0008	1/8"	466-0030	15/32"	466-0052	13/16"	466-0109	5mm	466-0129	15mm
466-0010	5/32"	466-0032	1/2"	466-0054	27/32"	466-0110	5.5mm	466-0131	16mm
466-0012	3/16"	466-0034	17/32"	466-0056	7/8"	466-0111	6mm	466-0133	17mm
466-0014	7/32"	466-0036	9/16"	466-0101	1mm	466-0113	7mm	466-0135	18mm
466-0016	1/4"	466-0038	19/32"	466-0102	1.5mm	466-0115	8mm	466-0137	19mm
466-0018	9/32"	466-0040	5/8"	466-0103	2mm	466-0117	9mm	466-0139	20mm
466-0020	5/16"	466-0042	21/32"	466-0104	2.5mm	466-0119	10mm	466-0140	21mm
466-0022	11/32"	466-0044	11/16"	466-0105	3mm	466-0121	11mm	466-0141	22mm

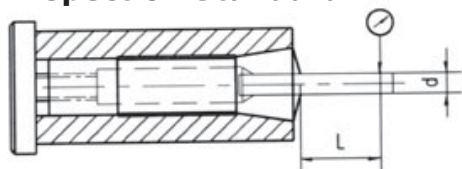
R8 Square Collet Sets

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
466-0175	3MM	466-0181	6MM	466-0193	12MM	466-1012	3/16"	466-1024	3/8"
466-0176	3.5MM	466-0183	7MM	466-0195	13MM	466-1014	7/32"	466-1026	13/32"
466-0177	4MM	466-0185	8MM	Inch Size		466-1016	1/4"	466-1028	7/16"
466-0178	4.5MM	466-0187	9MM	466-1007	3/32"	466-1018	9/32"	466-1030	15/32"
466-0179	5MM	466-0189	10MM	466-1008	1/8"	466-1020	5/16"	466-1032	1/2"
466-0180	5.5MM	466-0191	11MM	466-1010	5/32"	466-1022	11/32"		

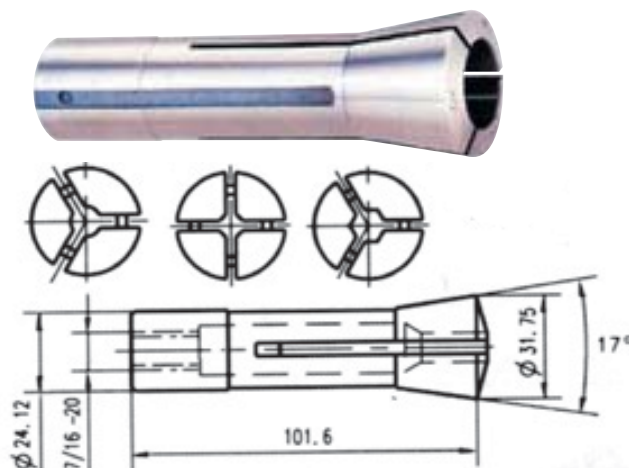
R8 HEX Collet Sets

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
466-0145	3MM	466-0152	6.5MM	466-0165	13MM	466-2014	7/32"	466-2028	7/16"
466-0146	3.5MM	466-0153	7MM			466-2016	1/4"	466-2030	15/32"
466-0147	4MM	466-0155	8MM	Inch Size		466-2018	9/32"	466-2032	1/2"
466-0148	4.5MM	466-0157	9MM	466-2007	3/32"	466-2020	5/16"	466-2034	17/32"
466-0149	5MM	466-0159	10MM	466-2008	1/8"	466-2022	11/32"	466-2036	9/16"
466-0150	5.5MM	466-0161	11MM	466-2010	5/32"	466-2024	3/8"	466-2038	19/32"
466-0151	6MM	466-0163	12MM	466-2012	3/16"	466-2026	13/32"	466-2040	5/8"

Inspection Standard



Collet Hole Size (d)		L	Run out	
mm	in		in	mm
1~1.6	1/32 ~1/16	6.35	0.0005	0.013
>1.6~3	>1/16 ~1/8	12.7		
>3~10	>1/8 ~3/8	25.4		
>10~16	>3/8 ~5/8	38.1		
>16~20	>5/8 ~25/32	50.8		



PRECISION 5C ROUND COLLETS



- Made of highest grade steel
- Hardened & Ground to 0.0005" TIR
- External thread 1.245x20RH, Internal thread: 1.047x24RH

Order No.	Size
465-1001	3/64"
465-1002	1/16"
465-1003	5/64"
465-1004	3/32"
465-1005	7/64"
465-1006	1/8"
465-1007	9/64"
465-1008	5/32"
465-1009	11/64"
465-1010	3/16"
465-1011	13/64"
465-1012	7/32"
465-1013	15/64"
465-1014	1/4"

Order No.	Size
465-1015	17/64"
465-1016	9/32"
465-1017	19/64"
465-1018	5/16"
465-1019	21/64"
465-1020	11/32"
465-1021	23/64"
465-1022	3/8"
465-1023	25/64"
465-1024	13/32"
465-1025	27/64"
465-1026	7/16"
465-1027	29/64"
465-1028	15/32"

Order No.	Size
465-1029	31/64"
465-1030	1/2"
465-1031	33/64"
465-1032	17/32"
465-1033	35/64"
465-1034	9/16"
465-1035	37/64"
465-1036	19/32"
465-1037	39/64"
465-1038	5/8"
465-1039	41/64"
465-1040	21/32"
465-1041	43/64"
465-1042	11/16"

Order No.	Size
465-1043	45/64"
465-1044	23/32"
465-1045	47/64"
465-1046	3/4"
465-1047	49/64"
465-1048	25/32"
465-1049	51/64"
465-1050	13/16"
465-1051	53/64"
465-1052	27/32"
465-1053	55/64"
465-1054	7/8"
465-10255	57/64"
465-1056	29/32"

Order No.	Size
465-1057	59/64"
465-1058	15/16"
465-1059	61/62"
465-1060	31/32"
465-1061	63/64"
465-1062	1"
465-1063	1-1/64"
465-1064	1-1/32"
465-1065	1-3/64"
465-1066	1-1/16"
465-1067	1-5/64"
465-1068	1-3/32"
465-1069	1-7/64"
465-1070	1-1/8"

5C ROUND ROUND COLLET SET

Order No.	Size Range	No. of Pcs
465-1081	1/8"~1"by 8th	8pcs
465-1082	1/8"~1"by 16th	15pcs
465-1083	1/8"~1-1/16"by 16th	16pcs
465-1084	1/16"~1-1/16"by 16th	17pcs
465-1085	1/16"~1-1/8"by 16th	18pcs
465-1086	1/8"~1"by 32nd	29pcs
465-1087	1/8"~1-1/32"by 32nd	30pcs
465-1088	1/8"~1-1/16"by 32nd	31pcs
465-1089	1/16"~1-1/16"by 32nd	33pcs
465-1090	1/16"~1-1/8"by 32nd	35pcs
465-1091	1/8"~1"by 64th	57pcs
465-1092	1/16"~1-3/64"by 64th	64pcs
465-1093	1/16"~1-1/16"by 64th	65pcs
465-1094	1/16"~1-1/8"by 64th	69pcs

5C HEX COLLET

Order No.	Size
465-1208	1/8"
465-1212	3/16"
465-1216	1/4"
465-1220	5/16"
465-1224	3/8"
465-1228	7/16"
465-1232	1/2"
465-1236	9/16"
465-1240	5/8"
465-1244	11/16"
465-1248	3/4"
465-1252	13/16"
465-1256	7/8"



5C SQUARE COLLET

Order No.	Size
465-1308	1/8"
465-1312	3/16"
465-1316	1/4"
465-1320	5/16"
465-1324	3/8"
465-1328	7/16"
465-1332	1/2"
465-1336	9/16"
465-1340	5/8"
465-1344	11/16"
465-1348	3/4"
465-1352	13/16"
465-1356	7/8"



5C EMERGENCY COLLETS

Features:

Face & Pilot Hole are soft. Can be drilled, bored or machine with a H.S.S Tool Bit to your requirements.



Order No.	Made of:
465-1401	Steel
465-1402	Brass
465-1403	Nylon

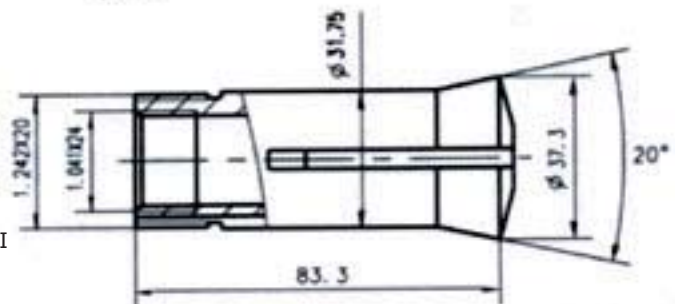


5C COLLET STOP



- Fits any 5C ID threaded collets, uses any standard 3/8"-16TPI threaded rod or screw for stops.
- Has full hex milled for use of box wrench and/or open end.
- Black Oxide and hardened for long life.

Order No. 465-1501



5C COLLETS SIZES

5C EXPANDING COLLET SET

Features:

- * Holds concentricity within .0005"
- * Fits any standard 5c spindle
- * The taper will not draw back into spindle once seated, shoulder widths, can be held within +/- .001"
- * Can be made to specs for holding on pitch diameters, hex or square broached holes, rectangular for micro bores, etc.
- * Set consists of 4 expanding collets in wooden rack, providing i.d. chucking from .250" to 1.937".
- * Collets are machineable through their entire range.

Order No.	Description
465-1600	Set of 4 collets in Rack from .250-1.937"
Individual Sizes	
465-1601	Collet .250-.468
465-1602	Collet .437-.800
465-1603	Collet .750-1.437
465-1604	Collet .750-1.937



5C COLLET RACK

- Collet rack holds up to 30 collets
- Baked enamel paint surface
- Hangs on wall or machine or sets on a shelf or workbench



Order No. 465-1502

5C COLLET BLOCK SET

Features:

- For simple set-ups on lathes, milling machines, surface grinders and drill presses.
- Precision hardened & ground, square and parallel to within .00005".
- 1/16" - to 1-1/16" capacity
- Overall dimensions: 2" x 2" x 3.5"
- Simple indexing at 60, 90 or 120 degrees.



Order No. 465-1530

5C STEP COLLETS

- Up to 6" diameter holding capacity
- Precision ground body and heat treated threads
- Soft face can be machined to your requirements

Order No.	Head Dia.	Thickness
465-1702	2"	1"
465-1703	3"	
465-1704	4"	
465-1705	5"	
465-1706	6"	
465-1712	2"	
465-1713	3"	
465-1714	4"	
465-1715	5"	
465-1716	6"	
465-1722	2"	1-3/16"
465-1723	3"	
465-1724	4"	
465-1725	5"	
465-1726	6"	



5C COLLET FIXTURE

- * For collets up to 1-1/8" capacity.
- * Hold work for milling, drilling, tapping, reaming, grinding, slotting.
- * Cam lever opens and closes collets easily and quickly.
- * Center height (horizontal) 64mm or 2.52"
- * Height at horizontal position: 73.74
- * Height at vertical position: 4.13"
- * Base size (Horizontal): 5"x3.96"
- * Base size (Vertical): 5"x3.74"
- * Parallelism of spindle to base: 0.020mm or 0.0008"
- * Squareness of spindle axis to base surface: 0.020mm or 0.0008"
- * Weight: 4.822kg



Order No. 465-1504

5C COLLET FIXFIXTURE

- * Center hight (horizontal) 60mm or 2.36"
- * Height at horizontal position: 7.16"
- * Height at vertical postion: 4.13"
- * Base size (Horizontal): 6.10x4.03"
- * Base size (Vertical): 6.10x4.72"
- * Parallelism of spindle to base: 0.020mm or 0.0008"
- * Sqareness of spindle axis to base surface: 0.020mm or 0.0008"
- * Weight: 8.2kg

Order No. 465-1530



5C COLLET FIXFIXTURE



- Height: 4-1/2"
- Base size: 4"x7-7/8"
- Sqareness of centerline to base: 0.02mm or 0.0008"
- Weight: 4.62kg

Order No. 465-1530

5C COLLET FIXFIXTURE



- Height: 4-1/2"
- Base size: 4"x7-7/8"
- Sqareness of centerline to base: 0.02mm or 0.0008"
- Center height at horizontal position: 64mm or 2.52"
- Weight: 5.5kg

Order No. 465-1530

POWER FEED

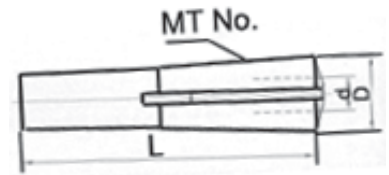
For Milling Machines

- * Special electrical relay protects damage caused by power failure.
- * Easy electrical and mechanical maintenance
- * 110V, or 220V electrical with manual reset switch and pilot light
- * Voltage: 110V 50/60HZ or 220V 60HZ



Order No.	Description	Power
920-1000	Table feed "X"	130W
920-1001	Table feed "Y" axis	130W
920-1002	Knee feed "Z" axis	130W
920-1003	Table feed "X" Axis	90W
920-1004	Table feed "Y" axis	90W
920-1005	Knee feed "Z" axis	90W

MORSE TAPER ROUND COLLET



MT1		MT2		MT3		MT3		MT4	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
467-1004	1/16"	467-2028	7/16"	467-3028	7/16"	467-3078	18mm	467-4073	3mm
467-1008	1/8"	467-2032	1/2"	467-3032	1/2"	MT4		467-4074	4mm
467-1012	3/16"	467-2042	2mm	467-3036	9/16"	Order No.	Size	467-4075	5mm
467-1016	1/4"	467-2043	3mm	467-3040	5/8"	467-4008	1/8"	467-4076	6mm
467-1020	5/16"	467-2044	4mm	467-3044	11/16"	467-4012	3/16"	467-4078	8mm
467-1032	2mm	467-2045	5mm	467-3048	3/4"	467-4016	1/4"	467-4080	10mm
467-1033	3mm	467-2046	6mm	467-3063	3mm	467-4020	5/16"	467-4081	11mm
467-1034	4mm	467-2048	8mm	467-3064	4mm	467-4024	3/8"	467-4082	12mm
467-1035	5mm	467-2050	10mm	467-3065	5mm	467-4028	7/16"	467-4083	13mm
467-1036	6mm	467-2051	11mm	467-3066	6mm	467-4032	1/2"	467-4084	14mm
467-1038	8mm	467-2052	12mm	467-3068	8mm	467-4036	9/16"	467-4086	16mm
MT2		MT3		467-3070	10mm	467-4040	5/8"	467-4087	17mm
Order No.	Size	Order No.	Size	467-3071	11mm	467-4044	11/16"	467-4088	18mm
467-2008	1/8"	467-3008	1/8"	467-3072	12mm	467-4048	3/4"	467-4090	20mm
467-2012	3/16"	467-3012	3/16"	467-3073	13mm	467-4052	13/16"	467-4092	22mm
467-2016	1/4"	467-3016	1/4"	467-3074	14mm	467-4056	7/8"	467-4094	24mm
467-2020	5/16"	467-3020	5/16"	467-3076	16mm	467-4060	15/16"	467-4095	25mm
467-2024	3/8"	467-3024	3/8"	467-3077	17mm	467-4064	1"		

MORSE TAPER 4# COLLET with Buttress thread



- * Morse taper 4 collets
- * S20x2 thread.
- * Greater clamping force than regular thread.
- * Made from elastic alloy steel.
- * Hardened to HRC55-60 clamping part and HRC40-45 elastic part

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
467-5052	1/8"	467-5059	9/16"	467-5066	1"	467-5072	10mm	467-5078	17mm
467-5053	3/16"	467-5060	5/8"	Metric		467-5073	11mm	467-5079	18mm
467-5054	1/4"	467-5061	11/16"	467-5067	3mm	467-5074	12mm	467-5080	20mm
467-5055	5/16"	467-5062	3/4"	467-5068	4mm	467-5075	13mm	467-5081	22mm
467-5056	3/8"	467-5063	13/16"	467-5069	5mm	467-5076	14mm	467-5082	24mm
467-5057	7/16"	467-5064	7/8"	467-5070	6mm	467-5077	16mm	467-5083	25mm
467-5058	1/2"	467-5065	15/16"	467-5071	8mm				

COLLET CHUCK Morse Taper

Cat. No.	Shank Dia.	Collet Type	Capacity
468-8123	MT2	ER-20	.04-.511"
468-8124	MT2	ER-25	.04-.629"
468-8135	MT3	ER-32	.06-.787"
468-8136	MT3	ER-40	.12-1.02"
468-8146	MT4	ER-40	.12-1.02"
468-8147	MT4	ER-50	.393-1.33"
468-8156	MT5	ER-40	.12-1.02"
468-8157	MT5	ER-50	.393-1.33"
468-8167	MT6	ER-50	.393-1.33"



COLLET CHUCK 30, 40 and 50

Cat. No.	Shank Dia.	Collet Type	Capacity
468-8212	30	ER-16	.02-.393"
468-8215	30	ER-32	.08-.787"
468-8216	30	ER-40	.12-1.02"
468-8222	40	ER-16	.02-.393"
468-8223	40	ER-20	.04-.511"
468-8225	40	ER-32	.08-.787"
468-8226	40	ER-40	.12-1.02"
468-8227	40	ER-50	.393-1.33"
468-8232	50	ER-16	.02-.393"
468-8233	50	ER-20	.04-.511"
468-8236	50	ER-40	.12-1.02"
468-8237	50	ER-50	.393-1.33"



COLLET CHUCK Straight Shank

Cat. No.	Shank Dia.	Collet	Capacity
468-8311	5/8"x2-1/2"	ER-11	.02-.275"
468-8312	3/4"x2-1/2"	ER-11	.02-.275"
468-8313	3/4"x4"	ER-11	.02-.275"
468-8314	3/4"x6"	ER-11	.02-.275"
468-8321	3/4"x2-1/2"	ER-16	.02-.393"
468-8322	3/4"x4"	ER-16	.02-.393"
468-8323	3/4"x6"	ER-16	.02-.393"
468-8331	3/4"x2-1/2"	ER-20	.04-.511"
468-8332	3/4"x4"	ER-20	.04-.511"
468-8333	3/4"x6"	ER-20	.04-.511"
468-8341	3/4"x2-1/2"	ER-25	.04-.629"
468-8342	3/4"x4"	ER-25	.04-.629"
468-8351	1"x1-31/32"	ER-32	.08-.787"
468-8352	1-1/4"x2-3/8"	ER-32	.08-.787"
468-8353	1-1/4"x5-29/32"	ER-32	.08-.787"
468-8354	3/4"x1-31/32"	ER-32	.08-.787"
468-8361	1"x2-3/8"	ER-40	.12-1.02"
468-8362	1-1/4"x2-3/8"	ER-40	.12-1.02"



COLLET CHUCK R8 Shank

Cat. No.	Shank Dia.	Collet Type	Capacity
468-8421	R8	ER-16	.02-.393"
468-8215	R8	ER-32	.08-.787"
468-8216	R8	ER-40	.12-1.02"
468-8222	R8	ER-16	.02-.393"



COLLET CHUCK SET



ER-11 Set includes 7 collets: 1/32", 1/16", 3/32", 1/8", 3/16", 7/32", 1/4",
ER-16 Set includes 10 collets: 1/32", 1/16", 3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8"

Shank Size	ER-11	ER-16
	Order No.	Order No.
R8	468-9131	468-9231
30	468-9123	468-9223
40	468-9124	468-9224
50	468-9125	468-9225
MT2	468-9112	468-9212
MT3	468-9113	468-9213
MT4	468-9114	468-9214
3/4"-2-1/2"	468-9142	468-9242
3/4"x4"	468-9143	468-9243
3/4"x6"	468-9144	468-9244

ER-25 10 collets include: 3/32", 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8".
ER-25 6 collets include: 3/16", 1/4", 5/16", 3/8", 1/2", 5/8".

Shank Size	10 collets	6 collets
	Order No.	Order No.
R8	468-9431	468-9432
30	468-9423	468-9426
40	468-9424	468-9427
50	468-9425	468-9428
MT2	468-9412	468-9415
MT3	468-9413	468-9416
MT4	468-9414	468-9417
3/4"x2-1/2"	468-9442	468-9446
1"x2-3/8"	468-9443	468-9447

ER-32 12 collets include: 1/16", 3/32", 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 13/16".
ER-32 6 collets include: 1/4", 5/16", 3/8", 1/2", 5/8", 3/4".

Shank Size	12 collets	6 collets
	Order No.	Order No.
R8	468-9531	468-9532
30	468-9523	468-9526
40	468-9524	468-9527
50	468-9525	468-9528
MT2	468-9512	468-9515
MT3	468-9513	468-9516
MT4	468-9514	468-9517
3/4"x2-1/2"	468-9542	468-9546
1"x2-3/8"	468-9543	468-9547

ER COLLET CHUCK SET

ER16 collet chuck set		
Shank Size	Order No.	Order No.
R8	468-9710	468-9720
ISO30	468-9711	468-9721
ISO40	468-9712	468-9722
ISO50	468-9713	468-9723
MT2	468-9714	468-9724
MT3	468-9715	468-9725
MT4	468-9716	468-9726
1/2"	468-9717	468-9727
3/4"	468-9718	468-9728
Each set includes:	1 collet chuck, 1 clamping nut, 1 spanner, 8pcs ER16 collets (2, 3, 4, 5, 6, 7, 8, 10mm)	1 collet chuck, 1 clamping nut, 1 spanner, 8pcs ER16 collets (3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8")



ER25 Collet Chuck Set				
Shank Size	Order No.	Order NO.	Order No.	Order NO.
R8	468-9730	468-9740	468-9750	468-9760
ISO30	468-9731	468-9741	468-9751	468-9761
ISO40	468-9732	468-9742	468-9752	468-9762
ISO50	468-9733	468-9743	468-9753	468-9763
MT2	468-9734	468-9744	468-9754	468-9764
MT3	468-9735	468-9745	468-9755	468-9765
MT4	468-9736	468-9746	468-9756	468-9766
1/2"	468-9737	468-9747	468-9757	468-9767
3/4"	468-9738	468-9748	468-9758	468-9768
Each set includes:	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER25 collets (4, 6, 8, 10, 12, 16mm)	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER25 collets (1/8", 3/16", 5/16", 3/8", 1/2", 5/8")	1 collet chuck, 1 clamping nut, 1 spanner, 10pcs ER25 collets (3, 4, 5, 6, 8, 10, 12, 14, 15, 16mm)	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER25 collets (3/32", 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8")

ER32 Collet Chuck Set				
Shank Size	Order No.	Order NO.	Order No.	Order NO.
R8	468-9770	468-9780	468-9790	468-9800
ISO30	468-9771	468-9781	468-9791	468-9801
ISO40	468-9772	468-9782	468-9792	468-9802
ISO50	468-9773	468-9783	468-9793	468-9803
MT3	468-9774	468-9784	468-9794	468-9804
MT4	468-9775	468-9785	468-9795	468-9805
MT5	468-9776	468-9786	468-9796	468-9806
3/4"	468-9777	468-9787	468-9797	468-9807
1"	468-9778	468-9788	468-9798	468-9808
Each set includes:	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER32 collets (6, 8, 10, 12, 16, 20mm)	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER32 collets (1/4", 5/16", 3/8", 1/2", 5/8", 3/4")	1 collet chuck, 1 clamping nut, 1 spanner, 12pcs ER32 collets (3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20mm)	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER25 collets (3/32", 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4")

- * Packed in wooden case or plastic case.
- * Please specify thread size when ordering.
- * Combination of various shanks and collets available too.

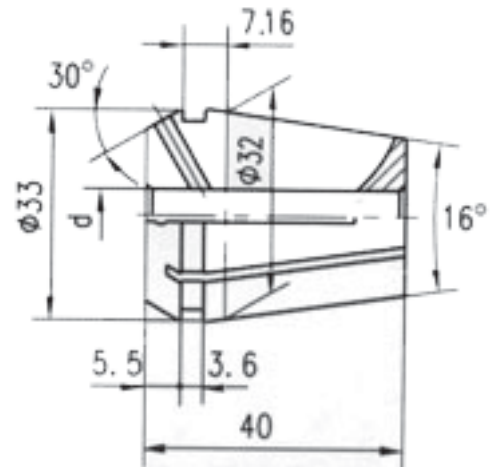
ER COLLET CHUCK SET

ER40 Collet Chuck Set				
Shank Size	Order No.	Order NO.	Order No.	Order NO.
R8	468-9810	468-9820	468-9830	468-9840
ISO30	468-9811	468-9821	468-9831	468-9841
ISO40	468-9812	468-9822	468-9832	468-9842
ISO50	468-9813	468-9823	468-9833	468-9843
MT3	468-9814	468-9824	468-9834	468-9844
MT4	468-9815	468-9825	468-9835	468-9845
MT5	468-9816	468-9826	468-9836	468-9846
1"	468-9817	468-9827	468-9837	468-9847
1-1/4"	468-9818	468-9828	468-9838	468-9848
Each set includes:	1 collet chuck, 1 clamping nut, 1 spanner, 8pcs ER40 collets (3, 5, 8, 12, 15, 18, 22, 26mm)	1 collet chuck, 1 clamping nut, 1 spanner, 8pcs ER40 collets (1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1")	1 collet chuck, 1 clamping nut, 1 spanner, 12pcs ER40 collets (3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 22, 24, 24, 26mm)	1 collet chuck, 1 clamping nut, 1 spanner, 6pcs ER40 collets (1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1")



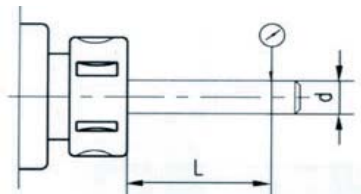
ER32C COLLETS

- * 65Mn alloy steel
- * Hardened to HRC44-48
- * Accuracy to DIN64999



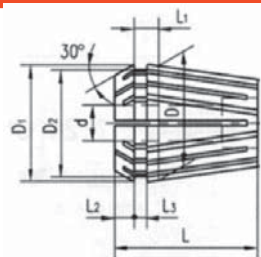
Order No.	d (mm)	Order No.	d (mm)	Order No.	d (mm)
468-1080	3mm	468-1086	9mm	468-1092	15mm
468-1081	4mm	468-1087	10mm	468-1093	16mm
468-1082	5mm	468-1088	11mm	468-1094	17mm
468-1083	6mm	468-1089	12mm	468-1095	18mm
468-1084	7mm	468-1090	13mm	468-1096	19mm
468-1085	8mm	468-1091	14mm	468-1097	20mm

DIN64998B tolerance standard



II. Regular supply
I. Special order

d	L	Run outD	
		I	II
1.0~1.6	6	0.01MM	0.015MM
>1.6~3.0	10		
>3.0~6.0	16		
>6.0~10.0	25	0.015mm	0.02mm
>10.0~18.0	40		
>18.0~26.0	50		
>26.0~30.0	60		
>30.0~34.0	80	0.02mm	0.03mm



DIN6499B ER SPRING COLLETS

Collet	d H7	D	D1	D2	L	L1	L2	L3	Collapsible capacity
ER8	0.5~5.0	8	8.5	6.5	13.5	2.7	1.5	1.2	0.5
ER11	1.0~7.0	11	11.5	9.5	18	3.8	2.5	2	0.5
ER16	1.0~2.0	16	17	13.8	27.5	6.26	4	2.7	0.5
ER16	>2.0~10.0	16	17	13.8	27.5	6.26	4	2.7	1
ER20	1.0~2.5	20	21	17.4	31.5	6.36	4.8	2.8	0.5
ER20	>2.5~13.0	20	21	17.4	31.5	6.36	4.8	2.8	1
ER25	1.0~2.5	25	26	22	34	6.66	5	3.1	0.5
ER25	>2.5~16.0	25	26	22	34	6.66	5	3.1	1
ER32	2.0~3.5	32	33	29.2	40	7.16	5.5	3.6	0.5
ER32	>3.5~20.0	32	33	29.2	40	7.16	5.5	3.6	1
ER40	3.0~26.0	40	41	36.2	46	7.66	7	4.1	1
ER50	6.0~10.0	50	52	46	60	12.6	8.5	5.5	1
ER50	>10.0~34.0	50	52	46	60	12.6	8.5	5.5	2

ER8		ER16		ER25		ER32		ER50	
Order NO.	d	Order NO.	d	Order NO.	d	Order NO.	d	Order NO.	d
468-1061	1MM	468-2049	5MM	468-4059	5MM	468-5083	17MM	468-7111	6MM
468-1062	1.5MM	468-2051	6MM	468-4061	6MM	468-5085	18MM	468-7113	7MM
468-1063	2MM	468-2053	7MM	468-4063	7MM	468-5087	19MM	468-7115	8MM
468-1064	2.5MM	468-2055	8MM	468-4065	8MM	468-5089	20MM	468-7117	9MM
468-1065	3MM	468-2057	9MM	468-4067	9MM	ER40		468-7119	10MM
468-1066	3.5MM	468-2059	10MM	468-4069	10MM	Order NO.	d	468-7121	11MM
468-1067	4MM	ER20		468-4071	11MM	468-6085	3MM	468-7123	12MM
468-1068	4.5MM	Order NO.	d	468-4073	12MM	468-6087	4MM	468-7125	13MM
468-1069	5MM	468-3041	1MM	468-4075	13MM	468-6089	5MM	468-7127	14MM
ER11		468-3042	1.5MM	468-4077	14MM	468-6091	6MM	468-7129	15MM
Order NO.	d	468-3043	2MM	468-4079	15MM	468-6093	7MM	468-7131	16MM
468-1031	1MM	468-3044	2.5MM	468-4081	16MM	468-6095	8MM	468-7133	17MM
468-1032	1.5MM	468-3045	3MM	ER32		468-6097	9MM	468-7135	18MM
468-1033	2MM	468-3047	4MM	Order NO.	d	468-6099	10MM	468-7137	19MM
468-1034	2.5MM	468-3049	5MM	468-5053	2MM	468-6101	11MM	468-7139	20MM
468-1035	3MM	468-3051	6MM	468-5054	2.5MM	468-6103	12MM	468-7141	21MM
468-1036	3.5MM	468-3053	7MM	468-5055	3MM	468-6105	13MM	468-7143	22MM
468-1037	4MM	468-3055	8MM	468-5056	3.5MM	468-6107	14MM	468-7145	23MM
468-1038	4.5MM	468-3057	9MM	468-5057	4MM	468-6109	15MM	468-7147	24MM
468-1039	5MM	468-3059	10MM	468-5059	5MM	468-6111	16MM	468-7149	25MM
468-1040	5.5MM	468-3061	11MM	468-5061	6MM	468-6113	17MM	468-7151	26MM
468-1041	6MM	468-3063	12MM	468-5063	7MM	468-6115	18MM	468-7153	27MM
468-1043	7MM	468-3065	13MM	468-5065	8MM	468-6117	19MM	468-7155	28MM
ER16		ER25		468-5067	9MM	468-6119	20MM	468-7157	29MM
Order NO.	d	Order NO.	d	468-5069	10MM	468-6121	21MM	468-7159	30MM
468-2041	1MM	468-4051	1MM	468-5071	11MM	468-6123	22MM	468-7161	31MM
468-2042	1.5MM	468-4052	1.5MM	468-5073	12MM	468-6125	23MM	468-7163	32MM
468-2043	2MM	468-4053	2MM	468-5075	13MM	468-6127	24MM	468-7165	33MM
468-2044	2.5MM	468-4054	2.5MM	468-5077	14MM	468-6129	25MM	468-7167	34MM
468-2045	3MM	468-4055	3MM	468-5079	15MM	468-6131	26MM		
468-2047	4MM	468-4057	4MM	468-5081	16MM				

- * 8° taper design
- * Powerful 16 jaw gripping.
- * Self-releasing system eliminates sticking.
- * Extreme concentricity with double angles.
- * Wide holding range.

DIN6499B ER SPRING COLLETS

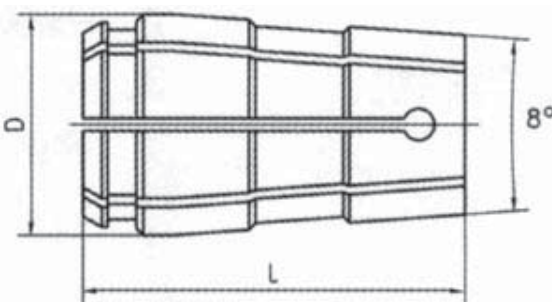
ER8		ER16		ER25		ER32		ER40		ER50		
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	
468-1050	1/32"	468-2013	7/32"	468-4003	1/16"	468-5016	17/64"	468-6025	13/32"	468-7027	7/16"	
468-1051	3/64"	468-2014	15/64"	468-4004	5/64"	468-5017	9/32"	468-6026	27/64"	468-7028	29/64"	
468-1052	1/16"	468-2015	1/4"	468-4005	3/32"	468-5018	19/64"	468-6027	7/16"	468-7029	15/32"	
468-1053	5/64"	468-2016	17/64"	468-4006	7/64"	468-5019	5/16"	468-6028	29/64"	468-7030	31/64"	
468-1054	3/32"	468-2017	9/32"	468-4007	1/8"	468-5020	21/64"	468-6029	15/32"	468-7036	37/64"	
468-1055	7/64"	468-2018	19/64"	468-4008	9/64"	468-5021	11/32"	468-6030	31/64"	468-7037	19/32"	
468-1056	1/8"	468-2019	5/16"	468-4009	5/32"	468-5022	23/64"	468-6031	1/2"	468-7038	39/64"	
468-1057	9/64"	468-2020	21/64"	468-4010	11/64"	468-5023	3/8"	468-6032	33/64"	468-7039	5/8"	
468-1058	5/32"	468-2021	11/32"	468-4011	3/16"	468-5024	25/64"	468-6033	17/32"	468-7040	41/64"	
468-1059	11/64"	468-2022	23/64"	468-4012	13/64"	468-5025	13/32"	468-6034	35/64"	468-7041	21/32"	
468-1060	3/16"	468-2023	3/8"	468-4013	7/32"	468-5026	27/64"	468-6035	9/16"	468-7042	43/64"	
ER11		ER20		468-4014	15/64"	468-5027	7/16"	468-6036	37/64"	468-7043	11/16"	
Order No.	Size	Order No.	Size	468-4015	1/4"	468-5028	29/64"	468-6037	19/32"	468-7044	45/64"	
468-1001	1/32"	468-3002	3/64"	468-4016	17/64"	468-5029	15/32"	468-6038	39/64"	468-7045	23/32"	
468-1002	3/64"	468-3003	1/16"	468-4017	9/32"	468-5030	31/64"	468-6039	5/8"	468-7046	47/64"	
468-1003	1/16"	468-3004	5/64"	468-4018	19/64"	468-5031	1/2"	468-6040	41/64"	468-7047	3/4"	
468-1004	5/64"	468-3005	3/32"	468-4019	5/16"	468-5032	33/64"	468-6041	21/32"	468-7053	27/32"	
468-1005	3/32"	468-3006	7/64"	468-4020	21/64"	468-5033	17/32"	468-6042	43/64"	468-7054	55/64"	
468-1006	7/64"	468-3007	1/8"	468-4021	11/32"	468-5034	35/64"	468-6043	11/16"	468-7055	7/8"	
468-1007	1/8"	468-3008	9/64"	468-4022	23/64"	468-5035	9/16"	468-6044	45/64"	468-7056	57/64"	
468-1008	9/64"	468-3009	5/32"	468-4023	3/8"	468-5036	37/64"	468-6045	23/32"	468-7057	29/32"	
468-1009	5/32"	468-3010	11/64"	468-4024	25/64"	468-5037	19/32"	468-6046	47/64"	468-7058	59/64"	
468-1010	11/64"	468-3011	3/16"	468-4025	13/32"	468-5038	39/64"	468-6047	3/4"	468-7059	15/16"	
468-1011	3/16"	468-3012	13/64"	468-4026	27/64"	468-5039	5/8"	468-6048	49/64"	468-7060	61/62"	
468-1012	13/64"	468-3013	7/32"	468-4027	7/16"	ER40		468-6049	25/32"	468-7061	31/32"	
468-1013	7/32"	468-3014	15/64"	468-4028	29/64"	Order No.	Size	468-6050	51/64"	468-7062	63/64"	
468-1014	15/64"	468-3015	1/4"	468-4029	15/32"	468-6007	1/8"	468-6051	13/16"	468-7063	1"	
468-1015	1/4"	468-3016	17/64"	468-4030	31/64"	468-6008	9/64"	468-6052	53/64"	468-7064	1-1/64"	
468-1016	17/64"	468-3017	9/32"	468-4031	1/2"	468-6009	5/32"	468-6053	27/32"	468-7070	1-7/64"	
468-1017	9/32"	468-3018	19/64"	468-4032	33/64"	468-6010	11/64"	468-6054	55/64"	468-7071	1-1/8"	
ER16		468-3019	5/16"	ER32		D	468-6011	3/16"	468-6055	7/8"	468-7072	1-9/64"
Order No.	Size	468-3020	21/64"	Order No.	Size	468-6012	13/64"	468-6056	57/64"	468-7073	1-5/32"	
468-2001	1/32"	468-3021	11/32"	468-5005	3/32"	468-6013	7/32"	468-6057	29/32"	468-7074	1-11/64"	
468-2002	3/64"	468-3022	23/64"	468-5006	7/64"	468-6014	15/64"	468-6058	59/64"	468-7075	1-3/16"	
468-2003	1/16"	468-3023	3/8"	468-5007	1/8"	468-6015	1/4"	ER50		468-7076	1-13/64"	
468-2004	5/64"	468-3024	25/64"	468-5008	9/64"	468-6016	17/64"	Order No.	Size	468-7077	1-7/32"	
468-2005	3/32"	468-3025	13/32"	468-5009	5/32"	468-6017	9/32"	468-7019	5/16"	468-7078	1-15/64"	
468-2006	7/64"	468-3026	27/64"	468-5010	11/64"	468-6018	19/64"	468-7020	21/64"	468-7079	1-1/4"	
468-2007	1/8"	468-3027	7/16"	468-5011	3/16"	468-6019	5/16"	468-7021	11/32"	468-7080	1-17/64"	
468-2008	9/64"	468-3028	29/64"	468-5012	13/64"	468-6020	21/64"	468-7022	23/64"	468-7081	1-9/32"	
468-2009	5/32"	468-3029	15/32"	468-5013	7/32"	468-6021	11/32"	468-7023	3/8"			
468-2010	11/64"	468-3030	31/64"	468-5014	15/64"	468-6022	23/64"	468-7024	25/64"			
468-2011	3/16"	468-3031	1/2"	468-5015	1/4"	468-6023	3/8"	468-7025	13/32"			
468-2012	13/64"					468-6024	25/64"	468-7026	27/64"			

MACHINE ACCESSORIES

TG SPRING COLLETS



TG COLLET	D (mm)	L (mm)
TG75	27	46.9
TG100	35	60.5
TG150	50.8	76.2

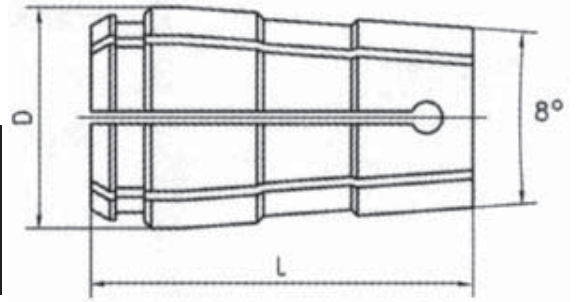


TG75		TG75		TG100		TG150		TG150	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-1801	1/16"	465-1840	43/64"	465-1896	37/64"	465-1956	25/64"	465-1995	1"
465-1802	5/64"	465-1841	11/16"	465-1897	19/32"	465-1957	13/32"	465-1996	1-1/64"
465-1803	3/32"	465-1842	45/64"	465-1898	39/64"	465-1958	27/64"	465-1997	1-1/32"
465-1804	7/64"	465-1843	23/32"	465-1899	5/8"	465-1959	7/16"	465-1998	1-3/64"
465-1805	1/8"	465-1844	47/64"	465-1900	41/64"	465-1960	29/64"	465-1999	1-1/16"
465-1806	9/64"	465-1845	3/4"	465-1901	21/32"	465-1961	15/32"	465-2000	1-5/64"
465-1807	5/32"	465-1846	49/64"	465-1902	43/64"	465-1962	31/64"	465-2001	1-3/32"
465-1808	11/64"	465-1847	25/32"	465-1903	11/16"	465-1963	1/2"	465-2002	1-7/64"
465-1809	3/16"	TG100		465-1904	45/64"	465-1964	33/64"	465-2003	1-1/8"
465-1810	13/64"	Order No.	Size	465-1905	23/32"	465-1965	17/32"	465-2004	1-9/64"
465-1811	7/32"	465-1867	1/8"	465-1906	47/64"	465-1966	35/64"	465-2005	1-5/32"
465-1812	15/64"	465-1868	9/64"	465-1907	3/4"	465-1967	9/16"	465-2006	1-11/64"
465-1813	1/4"	465-1869	5/32"	465-1908	49/64"	465-1968	37/64"	465-2007	1-3/16"
465-1814	17/64"	465-1870	11/64"	465-1909	25/32"	465-1969	19/32"	465-2008	1-13/64"
465-1815	9/32"	465-1871	3/16"	465-1910	51/64"	465-1970	39/64"	465-2009	1-7/32"
465-1816	19/64"	465-1872	13/64"	465-1911	13/16"	465-1971	5/8"	465-2010	1-15/64"
465-1817	5/16"	465-1873	7/32"	465-1912	53/64"	465-1972	41/64"	465-2011	1-1/4"
465-1818	21/64"	465-1874	15/64"	465-1913	27/32"	465-1973	21/32"	465-2012	1-17/64"
465-1819	11/32"	465-1875	1/4"	465-1914	55/64"	465-1974	43/64"	465-2013	1-9/32"
465-1820	23/64"	465-1876	17/64"	465-1915	7/8"	465-1975	11/16"	465-2014	1-19/64"
465-1821	3/8"	465-1877	9/32"	465-1916	57/64"	465-1976	45/64"	465-2015	1-5/16"
465-1822	25/64"	465-1878	19/64"	465-1917	29/32"	465-1977	23/32"	465-2016	1-21/64"
465-1823	13/32"	465-1879	5/16"	465-1918	59/64"	465-1978	47/64"	465-2017	1-11/32"
465-1824	27/64"	465-1880	21/64"	465-1919	15/16"	465-1979	3/4"	465-2018	1-23/64"
465-1825	7/16"	465-1881	11/32"	465-1920	61/62"	465-1980	49/64"	465-2019	1-3/8"
465-1826	29/64"	465-1882	23/64"	465-1921	31/32"	465-1981	25/32"	465-2020	1-25/64"
465-1827	15/32"	465-1883	3/8"	465-1922	63/64"	465-1982	51/64"	465-2021	1-13/32"
465-1828	31/64"	465-1884	25/64"	465-1923	1"	465-1983	13/16"	465-2022	1-27/64"
465-1829	1/2"	465-1885	13/32"	TG150		465-1984	53/64"	465-2023	1-7/16"
465-1830	33/64"	465-1886	27/64"	Order No.	Size	465-1985	27/32"	465-2024	1-29/64"
465-1831	17/32"	465-1887	7/16"	465-1947	1/4"	465-1986	55/64"	465-2025	1-15/32"
465-1832	35/64"	465-1888	29/64"	465-1948	17/64"	465-1987	7/8"	465-2026	1-31/64"
465-1833	9/16"	465-1889	15/32"	465-1949	9/32"	465-1988	57/64"	465-2027	1-1/2"
465-1834	37/64"	465-1890	31/64"	465-1950	19/64"	465-1989	29/32"	465-2028	1-33/64"
465-1835	19/32"	465-1891	1/2"	465-1951	5/16"	465-1990	59/64"	465-2029	1-17/32"
465-1836	39/64"	465-1892	33/64"	465-1952	21/64"	465-1991	15/16"	465-2030	1-35/64"
465-1837	5/8"	465-1893	17/32"	465-1953	11/32"	465-1992	61/62"	465-2031	1-9/16"
465-1838	41/64"	465-1894	35/64"	465-1954	23/64"	465-1993	31/32"	d	d
465-1839	21/32"	465-1895	9/16"	465-1955	3/8"	465-1994	63/64"	d	d



TG SPRING COLLETS

TG COLLET	D (mm)	L (mm)
TG75	27	46.9
TG100	35	60.5
TG150	50.8	76.2



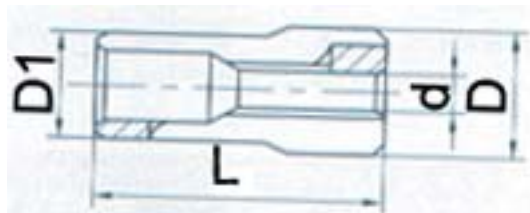
TG75		TG75		TG100		TG150		TG150	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-1848	2MM	465-1865	19MM	465-1937	16MM	465-2037	11MM	465-2054	28MM
465-1849	3MM	465-1866	20MM	465-1938	17MM	465-2038	12MM	465-2055	29MM
465-1850	4MM	TG100		465-1939	18MM	465-2039	13MM	465-2056	30MM
465-1851	5MM	Order No.	Size	465-1940	19MM	465-2040	14MM	465-2057	31MM
465-1852	6MM	465-1924	3MM	465-1941	20MM	465-2041	15MM	465-2058	32MM
465-1853	7MM	465-1925	4MM	465-1942	21MM	465-2042	16MM	465-2059	33MM
465-1854	8MM	465-1926	5MM	465-1943	22MM	465-2043	17MM	465-2060	34MM
465-1855	9MM	465-1927	6MM	465-1944	23MM	465-2044	18MM	465-2061	35MM
465-1856	10MM	465-1928	7MM	465-1945	24MM	465-2045	19MM	465-2062	36MM
465-1857	11MM	465-1929	8MM	465-1946	25MM	465-2046	20MM	465-2063	37MM
465-1858	12MM	465-1930	9MM	TG150		465-2047	21MM	465-2064	38MM
465-1859	13MM	465-1931	10MM	Order No.	Size	465-2048	22MM	465-2065	39MM
465-1860	14MM	465-1932	11MM	465-2032	6MM	465-2049	23MM	465-2066	40MM
465-1861	15MM	465-1933	12MM	465-2033	7MM	465-2050	24MM		
465-1862	16MM	465-1934	13MM	465-2034	8MM	465-2051	25MM		
465-1863	17MM	465-1935	14MM	465-2035	9MM	465-2052	26MM		
465-1864	18MM	465-1936	15MM	465-2036	10MM	465-2053	27MM		

SHARPENER COLLETS



Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-2601	1/8"	465-2607	1/2"	465-2613	1-1/8"	465-2617	6mm	465-2623	16mm
465-2602	3/16"	465-2608	9/16"			465-2618	8mm	465-2624	18mm
465-2603	1/4"	465-2609	5/8"	METRIC		465-2619	10mm	465-2625	20mm
465-2604	5/16"	465-2610	3/4"	465-2614	3mm	465-2620	12mm	465-2626	25mm
465-2605	3/8"	465-2611	7/8"	465-2615	4mm	465-2621	14mm	465-2627	25mm
465-2606	7/16"	465-2612	1"	465-2616	5mm	465-2622	15mm		

DA COLLETS



Collet	D(mm)	L(mm)	D1(mm)
DA10	19.5	36.5	16.5
DA18	26.045	41.7	22.08
DA20	13.6	30.4	11.43
DA30	905	25.4	7.62

DA100		DA100		DA180		DA180		DA200	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-2070	1/32"	465-2096	7/16"	465-2147	9/32"	465-2173	11/16"	465-2236	5/16"
465-2071	3/64"	465-2097	29/64"	465-2148	19/64"	465-2174	45/64"	465-2237	21/64"
465-2072	1/16"	465-2098	15/32"	465-2149	5/16"	465-2175	23/32"	465-2238	11/32"
465-2073	5/64"	465-2099	31/64"	465-2150	21/64"	465-2176	47/64"	465-2239	23/64"
465-2074	3/32"	465-2100	1/2"	465-2151	11/32"	465-2177	3/4"	465-2240	3/8"
465-2075	7/64"	465-2101	33/64"	465-2152	23/64"	465-2178	25/32"	465-2241	25/64"
465-2076	1/8"	465-2102	17/32"	465-2153	3/8"	DA200		465-2261	1/32"
465-2077	9/64"	465-2103	35/64"	465-2154	25/64"	Order No.	Size	DA130	
465-2078	5/32"	DA180		465-2155	13/32"	465-2218	1/32"	Order No.	Size
465-2079	11/64"	Order No.	Size	465-2156	27/64"	465-2219	3/64"	465-2262	3/64"
465-2080	3/16"	465-2131	1/32"	465-2157	7/16"	465-2220	1/16"	465-2263	1/16"
465-2081	13/64"	465-2132	3/64"	465-2158	29/64"	465-2221	5/64"	465-2264	5/64"
465-2082	7/32"	465-2133	1/16"	465-2159	15/32"	465-2222	3/32"	465-2265	3/32"
465-2083	15/64"	465-2134	5/64"	465-2160	31/64"	465-2223	7/64"	465-2266	7/64"
465-2084	1/4"	465-2135	3/32"	465-2161	1/2"	465-2224	1/8"	465-2267	1/8"
465-2085	17/64"	465-2136	7/64"	465-2162	33/64"	465-2225	9/64"	465-2268	9/64"
465-2086	9/32"	465-2137	1/8"	465-2163	17/32"	465-2226	5/32"	465-2269	5/32"
465-2087	19/64"	465-2138	9/64"	465-2164	35/64"	465-2227	11/64"	465-2270	11/64"
465-2088	5/16"	465-2139	5/32"	465-2165	9/16"	465-2228	3/16"	465-2271	3/16"
465-2089	21/64"	465-2140	11/64"	465-2166	37/64"	465-2229	13/64"	465-2272	13/64"
465-2090	11/32"	465-2141	3/16"	465-2167	19/32"	465-2230	7/32"	465-2273	7/32"
465-2091	23/64"	465-2142	13/64"	465-2168	39/64"	465-2231	15/64"	465-2274	15/64"
465-2092	3/8"	465-2143	7/32"	465-2169	5/8"	465-2232	1/4"		
465-2093	25/64"	465-2144	15/64"	465-2170	41/64"	465-2233	17/64"		
465-2094	13/32"	465-2145	1/4"	465-2171	21/32"	465-2234	9/32"		
465-2095	27/64"	465-2146	17/64"	465-2172	43/64"	465-2235	19/64"		

R8 EMERGENCY COLLETS

Features:

Face & Pilot Hole are soft. Can be drilled, bored or machine with a H.S.S Tool Bit to your requirements.



Order No.	Made of:
466-3001	Steel
466-3002	Brass
466-3003	Nylon

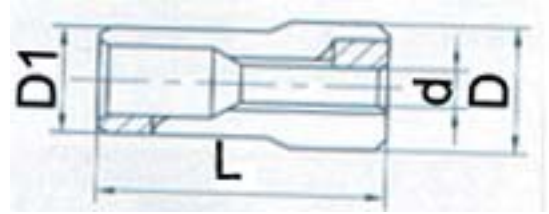
R8 COLLET RACK

- *Holds 12 R8 collets.
- *Closed cover to prevent collet from chips.



Order No. 466-4003

DA COLLETS



Collet	D(mm)	L(mm)	D1(mm)
DA10	19.5	36.5	16.5
DA18	26.045	41.7	22.08
DA20	13.6	30.4	11.43
DA30	905	25.4	7.62

DA100		DA100		DA180		DA180		DA200	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-2104	1mm	465-2125	11.5mm	465-2192	7.5mm	465-2213	18mm	465-2256	8mm
465-2105	1.5mm	465-2126	12mm	465-2193	8mm	465-2214	18.5mm	465-2257	8.5mm
465-2106	2mm	465-2127	12.5mm	465-2194	8.5mm	465-2215	19mm	465-2258	9mm
465-2107	2.5mm	465-2128	13mm	465-2195	9mm	465-2216	19.5mm	465-2259	9.5mm
465-2108	3mm	465-2129	13.5mm	465-2196	9.5mm	465-2217	20mm	465-2260	10mm
465-2109	3.5mm	465-2130	14mm	465-2197	10mm	DA200		DA300	
465-2110	4mm	DA180		465-2198	10.5mm	Order No.	Size	Order No.	Size
465-2111	4.5mm	Order No.	Size	465-2199	11mm	465-2242	1mm	465-2720	1mm
465-2112	5mm	465-2179	1mm	465-2200	11.5mm	465-2243	1.5mm	465-2721	1.5mm
465-2113	5.5mm	465-2180	1.5mm	465-2201	12mm	465-2244	2mm	465-2722	2mm
465-2114	6mm	465-2181	2mm	465-2202	12.5mm	465-2245	2.5mm	465-2723	2.5mm
465-2115	6.5mm	465-2182	2.5mm	465-2203	13mm	465-2246	3mm	465-2724	3mm
465-2116	7mm	465-2183	3mm	465-2204	13.5mm	465-2247	3.5mm	465-2725	3.5mm
465-2117	7.5mm	465-2184	3.5mm	465-2205	14mm	465-2248	4mm	465-2726	4mm
465-2118	8mm	465-2185	4mm	465-2206	14.5mm	465-2249	4.5mm	465-2727	4.5mm
465-2119	8.5mm	465-2186	4.5mm	465-2207	15mm	465-2250	5mm	465-2728	5mm
465-2120	9mm	465-2187	5mm	465-2208	15.5mm	465-2251	5.5mm	465-2729	5.5mm
465-2121	9.5mm	465-2188	5.5mm	465-2209	16mm	465-2252	6mm	465-2730	6mm
465-2122	10mm	465-2189	6mm	465-2210	16.5mm	465-2253	6.5mm		
465-2123	10.5mm	465-2190	6.5mm	465-2211	17mm	465-2254	7mm		
465-2124	11mm	465-2191	7mm	465-2212	17.5mm	465-2255	7.5mm		

R8 COLLET TRAY

For Bridgeport type mills



Order No. 466-4001

R8 COLLET RACK

- *Holds 48 R8 collets.
- *Can be used to store arbors, end mill adaptors, shend end mill Arbors.
- *12"-1/2"Hx15-1/2"Wx8" Deep.

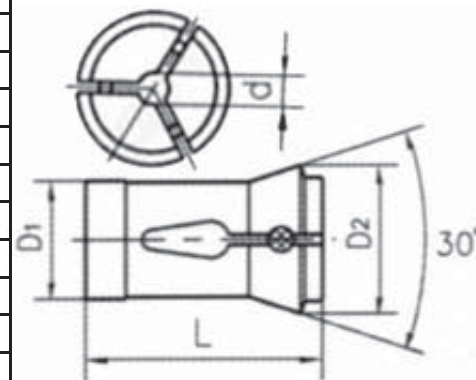


Order No. 466-4002

DIN6343 ROUND CLAMPING COLLETS



Model	D1 (mm)	D2 (mm)	L (mm)	d max	Wt(kg)
DIN6343-F17.5	17.5	22	51	13	0.05
DIN6343-F22	22	30	55	16	0.09
DIN6343-F27	27	38	72.7	22	0.1
DIN6343-F28	28	38	70	22	0.12
DIN6343-F32	32	45	75	26	0.27
DIN6343-F35	35	48	80	30	0.35
DIN6343-F42	42	55	94	36	0.49
DIN6343-F48	48	60	94	42	0.57
DIN6343-F56	56	68	94	50	0.65
DIN6343-F66	66	84	110	60	1.16



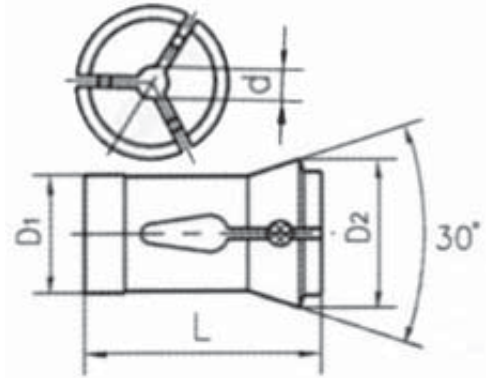
DIN6343-F17.5		DIN6343-F27		DIN6343-F28		DIN6343-F35		DIN6343-F42	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-3001	2mm	465-3068	5mm	465-3131	16mm	465-3227	4mm	465-3299	8mm
465-3002	3mm	465-3069	6mm	465-3132	17mm	465-3228	5mm	465-3300	9mm
465-3003	4mm	465-3070	7mm	465-3133	18mm	465-3229	6mm	465-3301	10mm
465-3004	5mm	465-3071	8mm	465-3134	19mm	465-3230	7mm	465-3302	11mm
465-3005	6mm	465-3072	9mm	465-3135	20mm	465-3231	8mm	465-3303	12mm
465-3006	7mm	465-3073	10mm	465-3136	21mm	465-3232	9mm	465-3304	13mm
465-3007	8mm	465-3074	11mm	465-3137	22mm	465-3233	10mm	465-3305	14mm
465-3008	9mm	465-3075	12mm	DIN6343-F32		465-3234	11mm	465-3306	15mm
465-3009	10mm	465-3076	13mm	Order No.	Size	465-3235	12mm	465-3307	16mm
465-3010	11mm	465-3077	14mm	465-3170	4mm	465-3236	13mm	465-3308	17mm
465-3011	12mm	465-3078	15mm	465-3171	5mm	465-3237	14mm	465-3309	18mm
465-3012	13mm	465-3079	16mm	465-3172	6mm	465-3238	15mm	465-3310	19mm
DIN6343-F22		465-3080	17mm	465-3173	7mm	465-3239	16mm	465-3311	20mm
Order No.	Size	465-3081	18mm	465-3174	8mm	465-3240	17mm	465-3312	21mm
465-3029	2mm	465-3082	19mm	465-3175	9mm	465-3241	18mm	465-3313	22mm
465-3030	3mm	465-3083	20mm	465-3176	10mm	465-3242	19mm	465-3314	23mm
465-3031	4mm	465-3084	21mm	465-3177	11mm	465-3243	20mm	465-3315	24mm
465-3032	5mm	465-3085	22mm	465-3178	12mm	465-3244	21mm	465-3316	25mm
465-3033	6mm	DIN6343-F28		465-3179	13mm	465-3245	22mm	465-3317	26mm
465-3034	7mm	Order No.	Size	465-3180	14mm	465-3246	23mm	465-3318	27mm
465-3035	8mm	465-3118	3mm	465-3181	15mm	465-3247	24mm	465-3319	28mm
465-3036	9mm	465-3119	4mm	465-3182	16mm	465-3248	25mm	465-3320	29mm
465-3037	10mm	465-3120	5mm	465-3183	17mm	465-3249	26mm	465-3321	30mm
465-3038	11mm	465-3121	6mm	465-3184	18mm	465-3250	27mm	465-3322	31mm
465-3039	12mm	465-3122	7mm	465-3185	19mm	465-3251	28mm	465-3323	32mm
465-3040	13mm	465-3123	8mm	465-3186	20mm	465-3252	29mm	465-3324	33mm
465-3041	14mm	465-3124	9mm	465-3187	21mm	465-3253	30mm	465-3325	34mm
465-3042	15mm	465-3125	10mm	465-3188	22mm	DIN6343-F42		465-3326	35mm
465-3043	16mm	465-3126	11mm	465-3189	23mm	Order No.	Size	465-3327	36mm
DIN6343-F27		465-3127	12mm	465-3190	24mm	465-3295	4mm		
Order No.	Size	465-3128	13mm	465-3191	25mm	465-3296	5mm		
465-3066	3mm	465-3129	14mm	465-3192	26mm	465-3297	6mm		
465-3067	4mm	465-3130	15mm			465-3298	7mm		

DIN6343 ROUND CLAMPING COLLETS

- * Elastic steel 65Mn
- * Clamping part HRC55-60, elastick part HRC40-45
- * Applicable to automatic lathes, turrent lates etc.



Model	D1 (mm)	D2 (mm)	L (mm)	d max	Wt(kg)
DIN6343-F17.5	17.5	22	51	13	0.05
DIN6343-F22	22	30	55	16	0.09
DIN6343-F27	27	38	72.7	22	0.1
DIN6343-F28	28	38	70	22	0.12
DIN6343-F32	32	45	75	26	0.27
DIN6343-F35	35	48	80	30	0.35
DIN6343-F42	42	55	94	36	0.49
DIN6343-F48	48	60	94	42	0.57
DIN6343-F56	56	68	94	50	0.65
DIN6343-F66	66	84	110	60	1.16

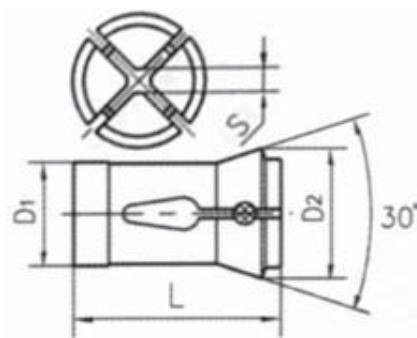


DIN6343-F48		DIN6343-F48		DIN6343-F56		DIN6343-F60		DIN6343-F60	
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-3377	4mm	465-3405	32mm	465-3490	23mm	465-3581	10mm	465-3607	36mm
465-3378	5mm	465-3406	33mm	465-3491	24mm	465-3582	11mm	465-3608	37mm
465-3379	6mm	465-3407	34mm	465-3492	25mm	465-3583	12mm	465-3609	38mm
465-3380	7mm	465-3408	35mm	465-3493	26mm	465-3584	13mm	465-3610	39mm
465-3381	8mm	465-3409	36mm	465-3494	27mm	465-3585	14mm	465-3611	40mm
465-3382	9mm	465-3410	37mm	465-3495	28mm	465-3586	15mm	465-3612	41mm
465-3383	10mm	465-3411	38mm	465-3496	29mm	465-3587	16mm	465-3613	42mm
465-3384	11mm	465-3412	39mm	465-3497	30mm	465-3588	17mm	465-3614	43mm
465-3385	12mm	465-3413	40mm	465-3498	31mm	465-3589	18mm	465-3615	44mm
465-3386	13mm	465-3414	41mm	465-3499	32mm	465-3590	19mm	465-3616	45mm
465-3387	14mm	465-3415	42mm	465-3500	33mm	465-3591	20mm	465-3617	46mm
465-3388	15mm	DIN6343-F56		465-3501	34mm	465-3592	21mm	465-3618	47mm
465-3389	16mm	Order No.	Size	465-3502	35mm	465-3593	22mm	465-3619	48mm
465-3390	17mm	465-3475	8mm	465-3503	36mm	465-3594	23mm	465-3620	49mm
465-3391	18mm	465-3476	9mm	465-3504	37mm	465-3595	24mm	465-3621	50mm
465-3392	19mm	465-3477	10mm	465-3505	38mm	465-3596	25mm	465-3622	51mm
465-3393	20mm	465-3478	11mm	465-3506	39mm	465-3597	26mm	465-3623	52mm
465-3394	21mm	465-3479	12mm	465-3507	40mm	465-3598	27mm	465-3624	53mm
465-3395	22mm	465-3480	13mm	465-3508	41mm	465-3599	28mm	465-3625	54mm
465-3396	23mm	465-3481	14mm	465-3509	42mm	465-3600	29mm	465-3626	55mm
465-3397	24mm	465-3482	15mm	465-3510	43mm	465-3601	30mm	465-3627	56mm
465-3398	25mm	465-3483	16mm	465-3511	44mm	465-3602	31mm	465-3628	57mm
465-3399	26mm	465-3484	17mm	465-3512	45mm	465-3603	32mm	465-3629	58mm
465-3400	27mm	465-3485	18mm	465-3513	46mm	465-3604	33mm	465-3630	59mm
465-3401	28mm	465-3486	19mm	465-3514	47mm	465-3605	34mm	465-3631	60mm
465-3402	29mm	465-3487	20mm	465-3515	48mm	465-3606	35mm		
465-3403	30mm	465-3488	21mm	465-3516	49mm				
465-3404	31mm	465-3489	22mm	465-3517	50mm				

DIN6343 SQUARE CLAMPING COLLETS

- * Elastic steel 65Mn
- * Clamping part HRC55-60, elastick part HRC40-45
- * Applicable to automatic lathes, turrent lates etc.

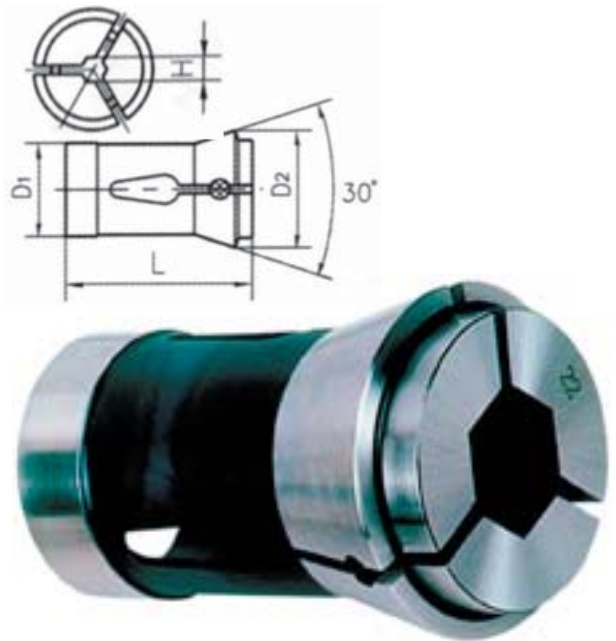
Model	D1 (mm)	D2 (mm)	L (mm)	Smax	Wt(kg)
DIN6343-F17.5	17.5	22	51	8	0.05
DIN6343-F22	22	30	55	11	0.09
DIN6343-F27	27	38	72.7	15	0.1
DIN6343-F28	28	38	70	15	0.12
DIN6343-F32	32	45	75	18	0.27
DIN6343-F35	35	48	80	21	0.35
DIN6343-F42	42	55	94	25	0.49
DIN6343-F48	48	60	94	29	0.57
DIN6343-F56	56	68	94	35	0.65
DIN6343-F66	66	84	110	42	1.16



								DIN6343-F56	
DIN6343-F17.5		DIN6343-F28		DIN6343-F35		DIN6343-F56		Order No.	Size
Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	465-3632	10mm
465-3013	2mm	465-3138	2mm	465-3328	4mm	465-3518	8mm	465-3633	11mm
465-3014	3mm	465-3139	3mm	465-3329	5mm	465-3519	9mm	465-3634	12mm
465-3015	4mm	465-3140	4mm	465-3330	6mm	465-3520	10mm	465-3635	13mm
465-3016	5mm	465-3141	5mm	465-3331	7mm	465-3521	11mm	465-3636	14mm
465-3017	6mm	465-3142	6mm	465-3332	8mm	465-3522	12mm	465-3637	15mm
465-3018	7mm	465-3143	7mm	465-3333	9mm	465-3523	13mm	465-3638	16mm
465-3019	8mm	465-3193	4mm	465-3334	10mm	465-3524	14mm	465-3639	17mm
DIN6343-F22		465-3194	5mm	465-3335	11mm	465-3525	15mm	465-3640	18mm
Order No.	Size	465-3195	6mm	465-3336	12mm	465-3526	16mm	465-3641	19mm
465-3044	2mm	465-3196	7mm	465-3337	13mm	465-3527	17mm	465-3642	20mm
465-3045	3mm	465-3197	8mm	465-3338	14mm	465-3528	18mm	465-3643	21mm
465-3046	4mm	465-3198	9mm	465-3339	25mm	465-3529	19mm	465-3644	22mm
465-3047	5mm	465-3199	10mm	DIN6343-F48		465-3530	20mm	465-3645	23mm
465-3048	6mm	465-3200	11mm	Order No.	Size	465-3531	21mm	465-3646	24mm
465-3049	7mm	465-3201	12mm	465-3416	4mm	465-3532	22mm	465-3647	25mm
465-3050	8mm	465-3202	13mm	465-3417	5mm	465-3533	23mm	465-3648	26mm
465-3051	9mm	465-3203	14mm	465-3418	6mm	465-3534	24mm	465-3649	27mm
465-3052	10mm	465-3204	15mm	465-3419	7mm	465-3535	25mm	465-3650	28mm
465-3053	11mm	465-3205	16mm	465-3420	8mm	465-3536	26mm	465-3651	29mm
DIN6343-F27		465-3206	17mm	465-3421	9mm	465-3537	27mm	465-3652	30mm
465-3089	5mm	465-3207	18mm	465-3422	10mm	465-3538	28mm	465-3653	31mm
465-3090	6mm	DIN6343-F32		465-3423	11mm	465-3539	29mm	465-3654	32mm
465-3091	7mm	Order No.	Size	465-3424	12mm	465-3540	30mm	465-3655	33mm
465-3092	8mm	465-3254	4mm	465-3425	13mm	465-3541	31mm	465-3656	34mm
465-3093	9mm	465-3255	5mm	465-3426	14mm	465-3542	32mm	465-3657	35mm
465-3094	10mm	465-3266	16mm	465-3427	15mm	465-3543	33mm	465-3658	36mm
465-3095	11mm	465-3267	17mm	465-3428	16mm	465-3544	34mm	465-3659	37mm
465-3096	12mm	465-3268	18mm	465-3429	17mm	465-3545	35mm	465-3660	38mm
465-3097	13mm	465-3269	19mm	465-3430	18mm			465-3661	39mm
465-3098	14mm	465-3270	20mm	465-3431	19mm			465-3662	40mm
465-3099	15mm	465-3271	21mm					465-3663	41mm
								465-3664	42mm

DIN6343 HEX CLAMPING COLLETS

- * Elastic steel 65Mn
- * Clamping part HRC55-60, elastick part HRC40-45
- * Applicable to automatic lathes, turrent lates etc.



Model	D1 (mm)	D2 (mm)	L (mm)	Hmax	Wt(kg)
DIN6343-F17.5	17.5	22	51	10	0.05
DIN6343-F22	22	30	55	13	0.09
DIN6343-F27	27	38	72.7	19	0.1
DIN6343-F28	28	38	70	19	0.12
DIN6343-F32	32	45	75	22	0.27
DIN6343-F35	35	48	80	26	0.35
DIN6343-F42	42	55	94	30	0.49
DIN6343-F48	48	60	94	36	0.57
DIN6343-F56	56	68	94	42	0.65
DIN6343-F66	66	84	110	52	1.16

DIN6343-F17.5		DIN6343-F27		DIN6343-F28		DIN6343-F35		DIN6343-F42	
Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size
465-3020	2mm	465-3105	7mm	465-3167	17mm	465-3276	8mm	465-3359	13mm
465-3021	3mm	465-3106	8mm	465-3168	18mm	465-3277	9mm	465-3360	14mm
465-3022	4mm	465-3107	9mm	465-3169	19mm	465-3278	10mm	465-3361	15mm
465-3023	5mm	465-3108	10mm	DIN6343-F32		465-3279	11mm	465-3362	16mm
465-3024	6mm	465-3109	11mm	Order NO.	Size	465-3280	12mm	465-3363	17mm
465-3025	7mm	465-3110	12mm	465-3208	4mm	465-3281	13mm	465-3364	18mm
465-3026	8mm	465-3111	13mm	465-3209	5mm	465-3282	14mm	465-3365	19mm
465-3027	9mm	465-3112	14mm	465-3210	6mm	465-3283	15mm	465-3366	20mm
465-3028	10mm	465-3113	15mm	465-3211	7mm	465-3284	16mm	465-3367	21mm
DIN6343-F22		465-3114	16mm	465-3212	8mm	465-3285	17mm	465-3368	22mm
Order NO.	Size	465-3115	17mm	465-3213	9mm	465-3286	18mm	465-3369	23mm
465-3054	2mm	465-3116	18mm	465-3214	10mm	465-3287	19mm	465-3370	24mm
465-3055	3mm	465-3117	19mm	465-3215	11mm	465-3288	20mm	465-3371	25mm
465-3056	4mm	DIN6343-F28		465-3216	12mm	465-3289	21mm	465-3372	26mm
465-3057	5mm	Order NO.	Size	465-3217	13mm	465-3290	22mm	465-3373	27mm
465-3058	6mm	465-3152	2mm	465-3218	14mm	465-3291	23mm	465-3374	28mm
465-3059	7mm	465-3153	3mm	465-3219	15mm	465-3292	24mm	465-3375	29mm
465-3060	8mm	465-3154	4mm	465-3220	16mm	465-3293	25mm	465-3376	30mm
465-3061	9mm	465-3155	5mm	465-3221	17mm	465-3294	26mm	DIN6343-F48	
465-3062	10mm	465-3156	6mm	465-3222	18mm	DIN6343-F42		Order NO.	Size
465-3063	11mm	465-3157	7mm	465-3223	19mm	Order NO.	Size	465-3442	4mm
465-3064	12mm	465-3158	8mm	465-3224	20mm	465-3350	4mm	465-3443	5mm
465-3065	13mm	465-3159	9mm	465-3225	21mm	465-3351	5mm	465-3444	6mm
DIN6343-F27		465-3160	10mm	465-3226	22mm	465-3352	6mm	465-3445	7mm
Order NO.	Size	465-3161	11mm	DIN6343-F35		465-3353	7mm	465-3446	8mm
465-3100	2mm	465-3162	12mm	Order NO.	Size	465-3354	8mm	465-3447	9mm
465-3101	3mm	465-3163	13mm	465-3272	4mm	465-3355	9mm	465-3448	10mm
465-3102	4mm	465-3164	14mm	465-3273	5mm	465-3356	10mm	465-3449	11mm
465-3103	5mm	465-3165	15mm	465-3274	6mm	465-3357	11mm	465-3450	12mm
465-3104	6mm	465-3166	16mm	465-3275	7mm	465-3358	12mm	465-3451	13mm

DIN6343 HEX CLAMPING COLLETS

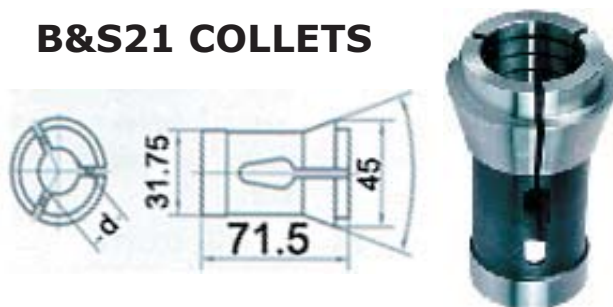
- * Elastic steel 65Mn
- * Clamping part HRC55-60, elastick part HRC40-45
- * Applicable to automatic lathes, turrent lates etc.



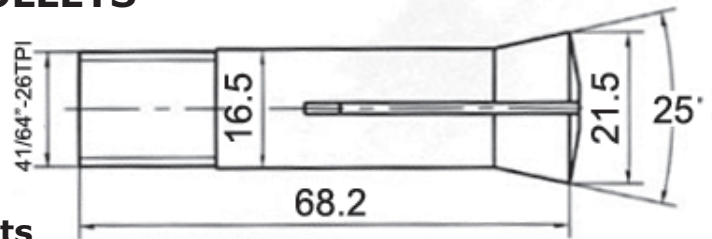
Model	D1 (mm)	D2 (mm)	L (mm)	Hmax	Wt(kg)
DIN6343-F17.5	17.5	22	51	10	0.05
DIN6343-F22	22	30	55	13	0.09
DIN6343-F27	27	38	72.7	19	0.1
DIN6343-F28	28	38	70	19	0.12
DIN6343-F32	32	45	75	22	0.27
DIN6343-F35	35	48	80	26	0.35
DIN6343-F42	42	55	94	30	0.49
DIN6343-F48	48	60	94	36	0.57
DIN6343-F56	56	68	94	42	0.65
DIN6343-F66	66	84	110	52	1.16

DIN6343-F48		DIN6343-F48		DIN6343-F56		DIN6343-F66		DIN6343-F66	
Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size
465-3452	14mm	465-3473	35mm	465-3563	25mm	465-3666	11mm	465-3687	32mm
465-3453	15mm	465-3474	36mm	465-3564	26mm	465-3667	12mm	465-3688	33mm
465-3454	16mm	DIN6343-F56		465-3565	27mm	465-3668	13mm	465-3689	34mm
465-3455	17mm	Order NO.	Size	465-3566	28mm	465-3669	14mm	465-3690	35mm
465-3456	18mm	465-3546	8mm	465-3567	29mm	465-3670	15mm	465-3691	36mm
465-3457	19mm	465-3547	9mm	465-3568	30mm	465-3671	16mm	465-3692	37mm
465-3458	20mm	465-3548	10mm	465-3569	31mm	465-3672	17mm	465-3693	38mm
465-3459	21mm	465-3549	11mm	465-3570	32mm	465-3673	18mm	465-3694	39mm
465-3460	22mm	465-3550	12mm	465-3571	33mm	465-3674	19mm	465-3695	40mm
465-3461	23mm	465-3551	13mm	465-3572	34mm	465-3675	20mm	465-3696	41mm
465-3462	24mm	465-3552	14mm	465-3573	35mm	465-3676	21mm	465-3697	42mm
465-3463	25mm	465-3553	15mm	465-3574	36mm	465-3677	22mm	465-3698	43mm
465-3464	26mm	465-3554	16mm	465-3575	37mm	465-3678	23mm	465-3699	44mm
465-3465	27mm	465-3555	17mm	465-3576	38mm	465-3679	24mm	465-3700	45mm
465-3466	28mm	465-3556	18mm	465-3577	39mm	465-3680	25mm	465-3701	46mm
465-3467	29mm	465-3557	19mm	465-3578	40mm	465-3681	26mm	465-3702	47mm
465-3468	30mm	465-3558	20mm	465-3579	41mm	465-3682	27mm	465-3703	48mm
465-3469	31mm	465-3559	21mm	465-3580	42mm	465-3683	28mm	465-3704	49mm
465-3470	32mm	465-3560	22mm	DIN6343-F66		465-3684	29mm	465-3705	50mm
465-3471	33mm	465-3561	23mm	Order NO.	Size	465-3685	30mm	465-3706	51mm
465-3472	34mm	465-3562	24mm	465-3665	10mm	465-3686	31mm	465-3707	52mm

Order No.	D (mm)	Order No.	D (mm)	Order No.	D (mm)
465-2585	1/8"	465-2590	7/16"	465-2595	3/4"
465-2586	3/16"	465-2591	1/2"	465-2596	13/16"
465-2587	1/4"	465-2592	9/16"	465-2597	7/8"
465-2588	5/16"	465-2593	5/8"	465-2598	15/16"
465-2589	3/8"	465-2594	11/16"	465-2599	1"



3C COLLETS



3C Round Collets

Order NO.	Hole Size	Order NO.	Hole Size	Order NO.	Hole Size	Order NO.	Hole Size	Order NO.	Hole Size
465-2470	1/16"	465-2481	15/64"	465-2492	13/32"	465-2501	2MM	465-2512	7.5MM
465-2471	5/64"	465-2482	1/4"	465-2493	27/64"	465-2502	2.5MM	465-2513	8MM
465-2472	3/32"	465-2483	17/64"	465-2494	7/16"	465-2503	3MM	465-2514	8.5MM
465-2473	7/64"	465-2484	9/32"	465-2495	29/64"	465-2504	3.5MM	465-2515	9MM
465-2474	1/8"	465-2485	19/64"	465-2496	15/32"	465-2505	4MM	465-2516	9.5MM
465-2475	9/64"	465-2486	5/16"	465-2497	31/64"	465-2506	4.5MM	465-2517	10MM
465-2476	5/32"	465-2487	21/64"	465-2498	1/2"	465-2507	5MM	465-2518	10.5MM
465-2477	11/64"	465-2488	11/32"	Metric		465-2508	5.5MM	465-2519	11MM
465-2478	3/16"	465-2489	23/64"	Order NO.	Hole Size	465-2509	6MM	465-2520	11.5MM
465-2479	13/64"	465-2490	3/8"	465-2499	1MM	465-2510	6.5MM	465-2521	12MM
465-2480	7/32"	465-2491	25/64"	465-2500	1.5MM	465-2511	7MM	465-2522	12.5MM

3C HEX Collets

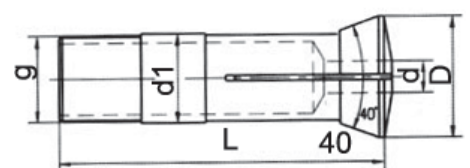
Order No.	Hole Size	Order No.	Hole Size	Order No.	Hole Size	Order No.	Hole Size	Order No.	Hole Size
1526-465	1/8"	465-1533	15/64"	465-1540	11/32"	465-1556	3.5MM	465-1563	7MM
1527-465	9/64"	465-1534	1/4"	465-1541	23/64"	465-1557	4MM	465-1564	7.5MM
1528-465	5/32"	465-1535	17/64"	465-1542	3/8"	465-1558	4.5MM	465-1565	8MM
1529-465	11/64"	465-1536	9/32"	465-1543	25/64"	465-1559	5MM	465-1566	8.5MM
1530-465	3/16"	465-1537	19/64"	465-1544	13/32"	465-1560	5.5MM	465-1567	9MM
1531-465	13/64"	465-1538	5/16"	Metric		465-1561	6MM	465-1568	9.5MM
1532-465	7/32"	465-1539	21/64"	465-1555	3MM	465-1562	6.5MM	465-1569	10MM

3C SQUARE Collets

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
465-1616	1/8"	465-1621	13/64"	465-1626	9/32"	465-1636	3.5MM	465-1641	6MM
465-1617	9/64"	465-1622	7/32"	465-1627	19/64"	465-1637	4MM	465-1642	6.5MM
465-1618	5/32"	465-1623	15/64"	Metric		465-1638	4.5MM	465-1643	7MM
465-1619	11/64"	465-1624	1/4"	465-1635	3MM	465-1639	5MM	465-1644	7.5MM
465-1620	3/16"	465-1625	17/64"	465-1635	3MM	465-1640	5.5MM	465-1645	10MM

DIN6341 COLLETS

Order No.	d1	D(mm)	L(mm)	dmax (mm)	g	Wt(kg)
465-2630	8	12	45	5	M8x0.75	0.06
465-2631	10	15	52	6	Tr10x1	0.09
465-2632	12	18	60	8	Tr12x1	0.11
465-2633	16	24	70	11	Tr16x1.5	0.12
465-2634	20	28	80	15	Tr20x1.5	0.15
465-2635	23	32	90	18	Tr23x1.5	0.21
465-2636	28	38	100	22	Tr28x1.5	0.23
465-2637	32	45	110	27	Tr32x1.5	0.27
465-2638	45	60	140	36	Tr45x2	0.32





3AT COLLETS

- * Alloy elastic steel
- * Hardened to HRC55-60 clamping part and HRC40-50 elastic body.
- * Precision ground

3AT ROUND COLLETS

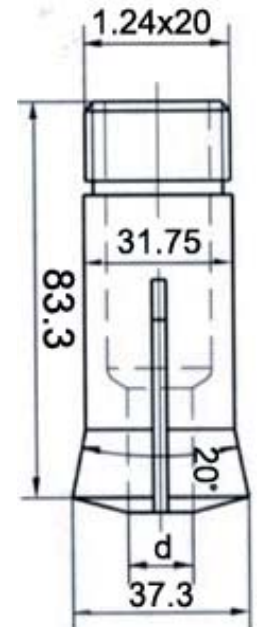
Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size
465-2360	3/64"	465-2371	7/32"	465-2382	25/64"	465-2392	2MM	465-2403	7.5MM
465-2361	1/16"	465-2372	15/64"	465-2383	13/32"	465-2393	2.5MM	465-2404	8MM
465-2362	5/64"	465-2373	1/4"	465-2384	27/64"	465-2394	3MM	465-2405	8.5MM
465-2363	3/32"	465-2374	17/64"	465-2385	7/16"	465-2395	3.5MM	465-2406	9MM
465-2364	7/64"	465-2375	9/32"	465-2386	29/64"	465-2396	4MM	465-2407	9.5MM
465-2365	1/8"	465-2376	19/64"	465-2387	15/32"	465-2397	4.5MM	465-2408	10MM
465-2366	9/64"	465-2377	5/16"	465-2388	31/64"	465-2398	5MM	465-2409	10.5MM
465-2367	5/32"	465-2378	21/64"	465-2389	1/2"	465-2399	5.5MM	465-2410	11MM
465-2368	11/64"	465-2379	11/32"	Metric		465-2400	6MM	465-2411	11.5MM
465-2369	3/16"	465-2380	23/64"	465-2390	1MM	465-2401	6.5MM	465-2412	12MM
465-2370	13/64"	465-2381	3/8"	465-2391	1.5MM	465-2402	7MM	465-2413	12.5MM

3AT HEX COLLETS

Order No.	Size	Order No.	Size
465-2433	1/8"	465-2443	3MM
465-2434	5/32"	465-2444	4MM
465-2435	3/16"	465-2445	5MM
465-2436	7/32"	465-2446	6MM
465-2437	1/4"	465-2447	7MM
465-2438	9/32"	465-2448	8MM
465-2439	5/16"	465-2449	9MM
465-2440	11/32"	465-2450	10MM
465-2441	3/8"		
465-2442	13/32"		

3AT SQUARE COLLETS

Order No.	Size	Order No.	Size
465-2420	1/8"	465-2427	3MM
465-2421	5/32"	465-2428	4MM
465-2422	3/16"	465-2429	5MM
465-2423	7/32"	465-2430	6MM
465-2424	1/4"	465-2431	7MM
465-2425	9/32"	465-2432	8MM
465-2426	5/16"		

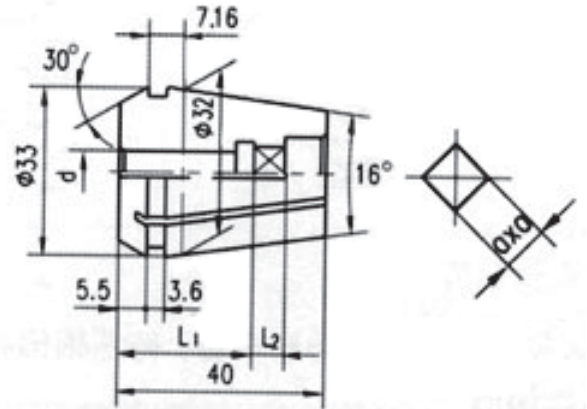


5ST COLLETS

Order NO.	Size	Order NO.	Size	Order NO.	Size	Order NO.	Size
465-2280	1/32"	465-2298	5/16"	465-2316	19/32"	465-2334	7/8"
465-2281	3/64"	465-2299	21/64"	465-2317	39/64"	465-2335	57/64"
465-2282	1/16"	465-2300	11/32"	465-2318	5/8"	465-2336	29/32"
465-2283	5/64"	465-2301	23/64"	465-2319	41/64"	465-2337	59/64"
465-2284	3/32"	465-2302	3/8"	465-2320	21/32"	465-2338	15/16"
465-2285	7/64"	465-2303	25/64"	465-2321	43/64"	465-2339	61/62"
465-2286	1/8"	465-2304	13/32"	465-2322	11/16"	465-2340	31/32"
465-2287	9/64"	465-2305	27/64"	465-2323	45/64"	465-2341	63/64"
465-2288	5/32"	465-2306	7/16"	465-2324	23/32"	465-2342	1"
465-2289	11/64"	465-2307	29/64"	465-2325	47/64"	465-2343	1-1/64"
465-2290	3/16"	465-2308	15/32"	465-2326	3/4"	465-2344	1-1/32"
465-2291	13/64"	465-2309	31/64"	465-2327	49/64"	465-2345	1-3/64"
465-2292	7/32"	465-2310	1/2"	465-2328	25/32"	465-2346	1-1/16"
465-2293	15/64"	465-2311	33/64"	465-2329	51/64"	465-2347	1-5/64"
465-2294	1/4"	465-2312	17/32"	465-2330	13/16"	465-2348	1-3/32"
465-2295	17/64"	465-2313	35/64"	465-2331	53/64"	465-2349	1-7/64"
465-2296	9/32"	465-2314	9/16"	465-2332	27/32"	465-2350	1-1/8"
465-2297	19/64"	465-2315	37/64"	465-2333	55/64"		



ERG TAPPING COLLET



ER16G					ER32G				
Order No.	d	a	L1	L2	Order No.	d	a	L1	L2
468-1100	3.5mm	2.7mm	18mm	3mm	468-1145	3.5mm	2.7mm	18mm	3mm
468-1101	4mm	3mm	18mm	3mm	468-1146	4mm	3mm	18mm	3mm
468-1102	4.5mm	3.4mm	18mm	3mm	468-1147	4.5mm	3.4mm	18mm	3mm
468-1103	5.5mm	4.3mm	18mm	4mm	468-1148	5.5mm	4.3mm	18mm	4mm
468-1104	6mm	4.9mm	18mm	4mm	468-1149	6mm	4.9mm	18mm	4mm
468-1105	7mm	5.5mm	18mm	5mm	468-1151	7mm	5.5mm	18mm	5mm
468-1106	8mm	6.2mm	22mm	6mm	468-1152	8mm	6.2mm	22mm	6mm
ER20G					468-1153	9mm	7mm	22mm	6mm
Order No.	d	a	L1	L2	468-1154	10mm	8mm	25mm	7mm
468-1110	3.5mm	2.7mm	18mm	3mm	468-1155	11mm	9mm	25mm	8mm
468-1111	4mm	3mm	18mm	3mm	468-1156	12mm	9mm	25mm	8mm
468-1112	4.5mm	3.4mm	18mm	3mm	468-1157	14mm	11mm	25mm	10mm
468-1113	5.5mm	4.3mm	18mm	4mm	468-1158	16mm	12mm	25mm	10mm
468-1114	6mm	4.9mm	18mm	4mm	468-1159	18mm	14.5mm	25mm	10mm
468-1116	7mm	5.5mm	18mm	5mm	468-1160	20mm	16mm	28mm	12mm
468-1117	8mm	6.2mm	22mm	6mm	ER40G				
468-1118	9mm	7mm	22mm	6mm	Order No.	d	a	L1	L2
468-1119	10mm	8mm	25mm	7mm	468-1165	3.5mm	2.7mm	18mm	3mm
ER25G					468-1166	4mm	3mm	18mm	3mm
Order No.	d	a	L1	L2	468-1167	4.5mm	3.4mm	18mm	3mm
468-1125	3.5mm	2.7mm	18mm	3mm	468-1168	5.5mm	4.3mm	18mm	4mm
468-1126	4mm	3mm	18mm	3mm	468-1169	6mm	4.9mm	18mm	4mm
468-1127	4.5mm	3.4mm	18mm	3mm	468-1171	7mm	5.5mm	18mm	5mm
468-1128	5.5mm	4.3mm	18mm	4mm	468-1172	8mm	6.2mm	22mm	6mm
468-1129	6mm	4.9mm	18mm	4mm	468-1173	9mm	7mm	22mm	6mm
468-1131	7mm	5.5mm	18mm	5mm	468-1174	10mm	8mm	25mm	7mm
468-1132	8mm	6.2mm	22mm	6mm	468-1175	11mm	9mm	25mm	8mm
468-1133	9mm	7mm	22mm	6mm	468-1176	12mm	9mm	25mm	8mm
468-1134	10mm	8mm	25mm	7mm	468-1177	14mm	11mm	25mm	10mm
468-1135	11mm	9mm	25mm	8mm	468-1178	16mm	12mm	25mm	10mm
468-1136	12mm	9mm	25mm	8mm	468-1179	18mm	14.5mm	25mm	10mm
468-1137	14mm	11mm	25mm	10mm	468-1180	20mm	16mm	28mm	12mm
468-1138	16mm	12mm	25mm	10mm	468-1181	22mm	18mm	32mm	14mm
					468-1182	25mm	20mm	32mm	14mm

QUICK ACTION MILLING CHUCK SET

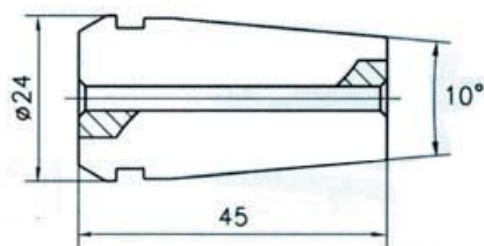
These milling chuck sets are used for work that needs to change tools frequently. Insert the quick action mount into the machine spindle, put the tools into the mount, turn the byunet lock by 90°, it's all done. All the components are hardend and precision ground.

Order No.	468-9000	468-9001
Milling Chuck Shank	ISO40	ISO50
Each Set Includes	1 Quick action mount 1 collet chuck 8 collets : (4, 5, 6, 8, 10, 12, 14, 16mm) 1 MT1 adaptor 1 MT2 adptor 1 MT3 adaptor 1 B12 drill chuck arbor 1 drill chuck 1 face mill arbor 1 spanner	1 Quick action mount 1 collet chuck 9 collets : (6, 8, 10, 12, 14, 16,18,20,25mm) 1 MT2 adptor 1 MT3 adaptor 1 MT4 adaptor 1 B16 drill chuck arbor 1 drill chuck 1 face mill arbor 2 spanner



Q24-16 MILLING CHUCK SET

Order No.	Shank	Each set include	Wt(kg)	
468-9004	R8	One each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm, 14mm, 16mm collet One collet chuck One clamping nut One spanner	2.0	
468-9005	ISO30		1.93	
468-9006	ISO40		2.5	
468-9007	ISO50		3.9	
468-9008	MT2		1.6	
468-9009	MT3		1.9	
468-9010	MT4		2.1	
468-9011	MT5		3.5	
468-9012	1"		2.3	
468-9013	1-1/4"		2.6	
468-9014	R8		One each of 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 9/16", 5/8" collet One collet chuck One clamping nut One spanner	2.0
468-9015	ISO30			1.93
468-9016	ISO40			2.5
468-9017	ISO50	3.9		
468-9018	MT2	1.6		
468-9019	MT3	1.9		
468-9020	MT4	2.1		
468-9021	MT5	3.5		
468-9022	1"	2.3		
468-9023	1-1/4"	2.6		



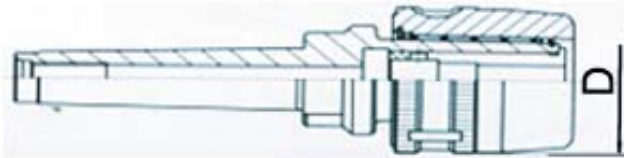
ISO/ISO ADAPTOR (DRAWBAR TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	D1 (mm)	d (mm)	L(mm0)
435-0695	ISO40	ISO30	44.45	31.75	18	86
435-0696	ISO50	ISO30	69.85	31.75	18	129.5
435-0697	ISO50	ISO40	69.85	44.45	26	129.5



MILLING CHUCK SET

- * Exceptionally great clamping force
- * High concentricity tolerance.
- * Suitable for powerful cutting.



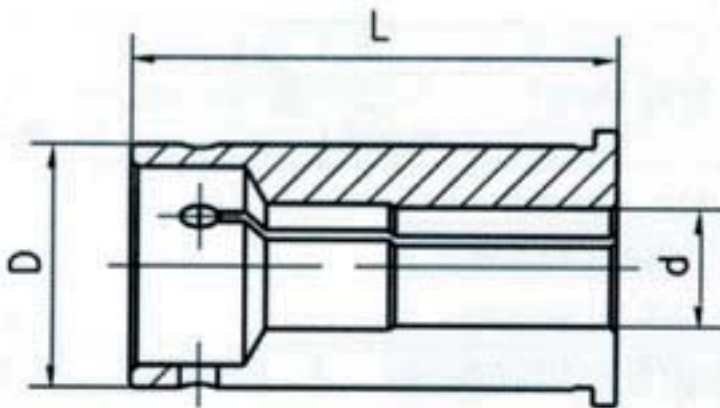
Order No.	Shank Size	Each Set Include	Order No.	Shank Size	Each Set Include
468-9030	R8	One collet chuck (50mm) one spanner One each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm collet	468-9049	ISO30	1 collet chuck ,1 spanner 1 each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm,14mm, 16mm, 18mm, 20mm collet
468-9031	MT2		468-9050	ISO40	
468-9032	MT3		468-9051	ISO50	
468-9033	MT4		468-9052	R8	
468-9034	ISO30		468-9053	MT2	
468-9035	ISO40	One collet chuck (56mm) one spanner One each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm,14mm,16mm collet	468-9054	MT3	One collet chuck (70mm) one spanner One each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm,14mm, 16mm, 18mm, 20mm, 25mm collet
468-9036	R8		468-9055	MT4	
468-9037	MT2		468-9056	MT5	
468-9038	MT3		468-9057	ISO30	
468-9039	MT4		468-9058	ISO40	
468-9040	MT5	One collet chuck (63mm) one spanner One each of 4mm, 5mm, 6mm, 8mm, 10mm, 12mm,14mm, 16mm, 18mm, 20mm collet	468-9059	ISO50	One collet chuck (70mm) one spanner One each of 6mm, 8mm, 10mm, 12mm,14mm, 16mm, 18mm, 20mm, 25mm ,28mm, 30mm, 32mm collet
468-9041	ISO30		468-9060	R8	
468-9042	ISO40		468-9061	MT2	
468-9043	ISO50		468-9062	MT3	
468-9044	R8		468-9063	MT4	
468-9045	MT2	468-9064	MT5		
468-9046	MT3	468-9065	ISO30		
468-9047	MT4	468-9066	ISO40		
468-9048	MT5	468-9067	ISO50		



AUTO-LOCK MILLING CHUCK

Order No.	Shank Dia.	Each set includes	Order No.	Shank Dia.	Each set includes
468-9468	R8	One milling chuck holder One spanner One each of 1/4", 3/8", 1/2", 5/8" collet	468-9477	R8	One milling chuck holder One spanner One each of 6mm, 10mm, 12mm, 16mm collet
468-9469	ISO30		468-9478	ISO30	
468-9470	ISO40		468-9479	ISO40	
468-9472	ISO50		468-9481	ISO50	
468-9473	MT2		468-9482	MT2	
468-9474	MT3		468-9483	MT3	
468-9475	MT4		468-9484	MT4	
468-9476	MT5		468-9485	MT5	

STRAIGHT SHANK COLLETS



Order No.	d	D	L	Order No.	d	D	L	Order No.	d	D	L
465-3740	4mm	16mm	45mm	465-3763	5mm	25mm	60mm	465-3786	12mm	42mm	80mm
465-3741	5mm			465-3764	6mm			465-3787	14mm		
465-3742	6mm			465-3765	8mm			465-3788	16mm		
465-3743	8mm			465-3766	10mm			465-3789	18mm		
465-3744	10mm			465-3767	12mm			465-3790	20mm		
465-3745	12mm			465-3768	14mm			465-3791	25mm		
465-3746	4mm			22mm	50mm			465-3769	16mm		
465-3747	5mm	465-3770	18mm			465-3793	30mm				
465-3748	6mm	465-3771	20mm			465-3794	32mm				
465-3749	8mm	465-3772	4mm			465-3795	6mm				
465-3750	10mm	465-3773	5mm			465-3796	8mm				
465-3751	12mm	465-3774	6mm			465-3797	10mm				
465-3752	14mm	465-3775	8mm			465-3798	12mm				
465-3753	16mm	20mm	50mm	465-3776	10mm	42mm	80mm	465-3799	14mm	40mm	80mm
465-3754	4mm			465-3777	12mm			465-3800	16mm		
465-3755	5mm			465-3778	14mm			465-3801	18mm		
465-3756	6mm			465-3779	16mm			465-3802	20mm		
465-3757	8mm			465-3780	18mm			465-3803	25mm		
465-3758	10mm			465-3781	20mm			465-3804	28mm		
465-3759	12mm			465-3782	25mm			465-3805	30mm		
465-3760	14mm	25mm	60mm	465-3783	6mm	42mm	80mm	465-3806	32mm		
465-3761	16mm			465-3784	8mm						
465-3762	4mm			465-3785	10mm						

POSI-LOCK MILLING CHUCK

Order No.	Shank Dia.	Each set includes	Order No.	Shank Dia.	Each set includes
468-9450	R8	One milling chuck holder One spanner One each of 1/4", 3/8", 1/2", 5/8" collet	468-9459	R8	One milling chuck holder One spanner One each of 6mm, 10mm, 12mm, 16mm collet
468-9451	ISO30		468-9460	ISO30	
468-9452	ISO40		468-9461	ISO40	
468-9454	ISO50		468-9463	ISO50	
468-9455	MT2		468-9464	MT2	
468-9456	MT3		468-9465	MT3	
468-9457	MT4		468-9466	MT4	
468-9458	MT5		468-9467	MT5	



EOCA COLLET MILLING CHUCK



- * 65Mn alloy steel
- * Hardend and ground
- * Packed in fitted plastic case or wooden box.
- * Each set consists of one collet chuck, one spanner and full set of collets.

Shank Size	Order No.	Order No.	Order No.	Order No.
	8pcs Metric	8pcs Metric	12pcs Inch	12pcs Inch
R8	468-9500	468-9509	468-9550	468-9559
MT2	468-9501	468-9510	468-9551	468-9560
MT3	468-9502	468-9511	468-9552	468-9561
MT4	468-9503	468-9512	468-9553	468-9562
MT5	468-9504	468-9513	468-9554	468-9563
ISO30	468-9505	468-9514	468-9555	468-9564
ISO40	468-9506	468-9515	468-9556	468-9565
ISO45	468-9507	468-9516	468-9557	468-9566
ISO50	468-9508	468-9517	468-9558	468-9567
Each set includes	One collet chuck One spanner One each of 4, 5, 6, 8, 10, 12, 16, 20mm EOC20A collet	One collet chuck One spanner One each of 3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20mm EOC20A collet	One collet chuck One spanner One each of 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" EOC20A collet	One collet chuck One spanner One each of 3/32", 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16, 3/4" EOC20A collet

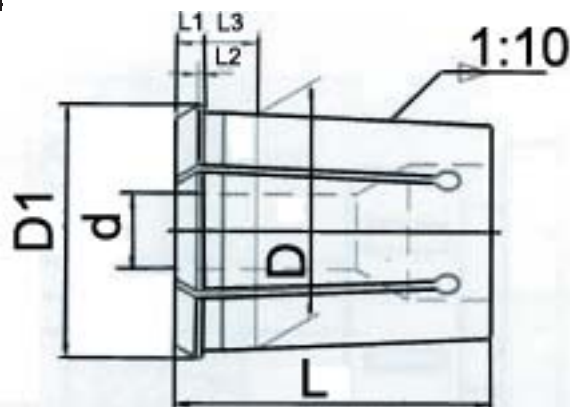
Shank Size	Order No.	Order No.	Order No.	Order No.
	8pcs metric	15pcs metric	8pcs inch	15pcs inch
R8	468-9518	468-9529	468-9568	468-9579
ISO30	468-9519	468-9530	468-9569	468-9580
ISO40	468-9520	468-9531	468-9570	468-9581
ISO45	468-9521	468-9532	468-9571	468-9582
ISO50	468-9522	468-9533	468-9572	468-9583
MT2	468-9523	468-9534	468-9573	468-9584
MT3	468-9524	468-9535	468-9574	468-9585
MT4	468-9525	468-9536	468-9575	468-9586
MT5	468-9526	468-9537	468-9576	468-9587
1"	468-9527	468-9538	468-9577	468-9588
1-1/4"	468-9528	468-9539	468-9578	468-9589
Each set includes	One collet chuck One spanner One each of 3mm, 5mm, 8mm, 12mm, 15mm, 18mm, 22mm, 25mm EOC25A collet	One collet chuck One spanner One each of 3, 4, 5, 6, 8, 10, 12, 14, 15, 16, 18, 20, 22, 24, 25mm EOC25A collet	One collet chuck One spanner One each of 1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1" EOC25A collet	One collet chuck One spanner One each of 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1" EOC25A collet

DIN 6388A COLLETS



Specifications of EOCA collets

Collet	D	D1	d	L	L1	L2	L3
EOC6A	10	11.5	1~6	21	3.5	0.5	4
EOC8A	12.65	14.5	1~8	26	4	0.8	4.5
EOC10A	15.15	17.2	1~10	30	4.5	0.8	4.5
EOC12A	17.75	19.8	1~12	34	5	1.1	4.5
EOC16A	22.65	25.5	2~16	40	5.5	1.2	5.5
EOC20A	27.4	29.8	2~20	45	6	1.35	6
EOC25A	32.9	35.05	2~25	52	6	1.4	6
EOC32A	41.3	43.7	4~32	60	6	1.45	7
EOC40A	49.7	52.2	6~39	68	6	1.45	8
EOC50A	61.1	63.8	8~49	80	7	1.55	9



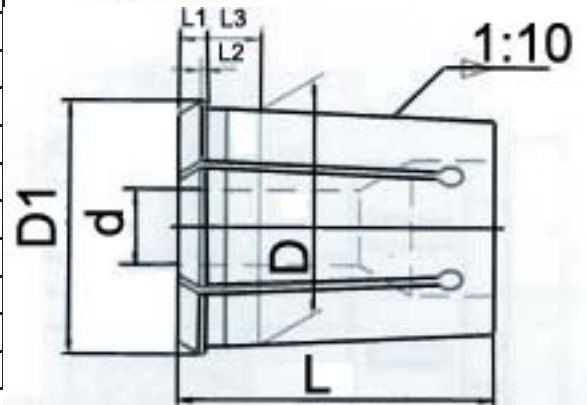
Order No.	d	Order No.	d	Order No.	d	Order No.	d
EOC6A		468-1273	10mm	468-1297	13mm	468-1321	3mm
468-1250	1mm	EOC12A		468-1298	14mm	468-1322	4mm
468-1251	2mm	468-1274	1mm	468-1299	15mm	468-1323	5mm
468-1252	3mm	468-1275	2mm	468-1300	16mm	468-1324	6mm
468-1253	4mm	468-1276	3mm	EOC20A		468-1325	7mm
468-1254	5mm	468-1277	4mm	468-1301	2mm	468-1326	8mm
468-1255	6mm	468-1278	5mm	468-1302	3mm	468-1327	9mm
EOC8A		468-1279	6mm	468-1303	4mm	468-1328	10mm
468-1256	1mm	468-1280	7mm	468-1304	5mm	468-1329	11mm
468-1257	2mm	468-1281	8mm	468-1305	6mm	468-1330	12mm
468-1258	3mm	468-1282	9mm	468-1306	7mm	468-1331	13mm
468-1259	4mm	468-1283	10mm	468-1307	8mm	468-1332	14mm
468-1260	5mm	468-1284	11mm	468-1308	9mm	468-1333	15mm
468-1261	6mm	468-1285	12mm	468-1309	10mm	468-1334	16mm
468-1262	7mm	EOC16A		468-1310	11mm	468-1335	17mm
468-1263	8mm	468-1286	2mm	468-1311	12mm	468-1336	18mm
EOC10A		468-1287	3mm	468-1312	13mm	468-1337	19mm
468-1264	1mm	468-1288	4mm	468-1313	14mm	468-1338	20mm
468-1265	2mm	468-1289	5mm	468-1314	15mm	468-1339	21mm
468-1266	3mm	468-1290	6mm	468-1315	16mm	468-1340	22mm
468-1267	4mm	468-1291	7mm	468-1316	17mm	468-1341	23mm
468-1268	5mm	468-1292	8mm	468-1317	18mm	468-1342	24mm
468-1269	6mm	468-1293	9mm	468-1318	19mm	468-1343	25mm
468-1270	7mm	468-1294	10mm	468-1319	20mm	EOC32A	
468-1271	8mm	468-1295	11mm	EOC25A		468-1344	4mm
468-1272	9mm	468-1296	12mm	468-1320	2mm	468-1345	5mm

DIN 6388A COLLETS



Specifications of EOCA collets

Collet	D	D1	d	L	L1	L2	L3
EOC6A	10	11.5	1~6	21	3.5	0.5	4
EOC8A	12.65	14.5	1~8	26	4	0.8	4.5
EOC10A	15.15	17.2	1~10	30	4.5	0.8	4.5
EOC12A	17.75	19.8	1~12	34	5	1.1	4.5
EOC16A	22.65	25.5	2~16	40	5.5	1.2	5.5
EOC20A	27.4	29.8	2~20	45	6	1.35	6
EOC25A	32.9	35.05	2~25	52	6	1.4	6
EOC32A	41.3	43.7	4~32	60	6	1.45	7
EOC40A	49.7	52.2	6~39	68	6	1.45	8
EOC50A	61.1	63.8	8~49	80	7	1.55	9

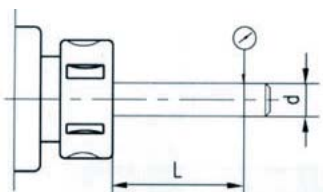


Order No.	d	Order No.	d	Order No.	d	Order No.	d
EOCA32		468-1372	32mm	468-1398	31mm	468-1424	24mm
468-1346	6mm	EOCA40		468-1399	32mm	468-1425	25mm
468-1347	7mm	468-1373	6mm	468-1400	33mm	468-1426	26mm
468-1348	8mm	468-1374	7mm	468-1401	34mm	468-1427	27mm
468-1349	9mm	468-1375	8mm	468-1402	35mm	468-1428	28mm
468-1350	10mm	468-1376	9mm	468-1403	36mm	468-1429	29mm
468-1351	11mm	468-1377	10mm	468-1404	37mm	468-1430	30mm
468-1352	12mm	468-1378	11mm	468-1405	38mm	468-1431	31mm
468-1353	13mm	468-1379	12mm	468-1406	39mm	468-1432	32mm
468-1354	14mm	468-1380	13mm	468-1407	40mm	468-1433	33mm
468-1355	15mm	468-1381	14mm	EOCA50		468-1434	34mm
468-1356	16mm	468-1382	15mm	468-1408	8mm	468-1435	35mm
468-1357	17mm	468-1383	16mm	468-1409	9mm	468-1436	36mm
468-1358	18mm	468-1384	17mm	468-1410	10mm	468-1437	37mm
468-1359	19mm	468-1385	18mm	468-1411	11mm	468-1438	38mm
468-1360	20mm	468-1386	19mm	468-1412	12mm	468-1439	39mm
468-1361	21mm	468-1387	20mm	468-1413	13mm	468-1440	40mm
468-1362	22mm	468-1388	21mm	468-1414	14mm	468-1441	41mm
468-1363	23mm	468-1389	22mm	468-1415	15mm	468-1442	42mm
468-1364	24mm	468-1390	23mm	468-1416	16mm	468-1443	43mm
468-1365	25mm	468-1391	24mm	468-1417	17mm	468-1444	44mm
468-1366	26mm	468-1392	25mm	468-1418	18mm	468-1445	45mm
468-1367	27mm	468-1393	26mm	468-1419	19mm	468-1446	46mm
468-1368	28mm	468-1394	27mm	468-1420	20mm	468-1447	47mm
468-1369	29mm	468-1395	28mm	468-1421	21mm	468-1448	48mm
468-1370	30mm	468-1396	29mm	468-1422	22mm	468-1449	49mm
468-1371	31mm	468-1397	30mm	468-1423	23mm	468-1450	50mm

DIN 6388B COLLETS

Specifications of EOCB collets

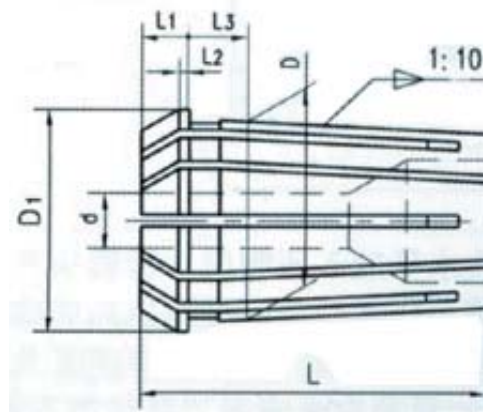
Collets	D1	D	d	L	L1	L2	L3
EOC16B	25.5	22.65	2~16	40	5.5	1.2	9.5
EOC20B	29.8	22.4	2~20	45	6	1.35	10
EOC25B	35.05	32.9	2~25	52	6	1.4	10
EOC32B	43.7	41.3	4~32	60	6	1.45	11
EOC40B	52.2	49.7	6~40	68	6	14.5	12
EOC50B	63.8	61.1	8~50	80	7	1.55	13



II. Regular supply
I. Special order

Accuracy

d	L	Run outD	
		I	II
1.0~1.6	6	0.01MM	0.015MM
>1.6~3.0	10		
>3.0~6.0	16		
>6.0~10.0	25	0.015mm	0.02mm
>10.0~18.0	40		
>18.0~26.0	50		
>26.0~30.0	60	0.02mm	0.03mm
>30.0~34.0	80		

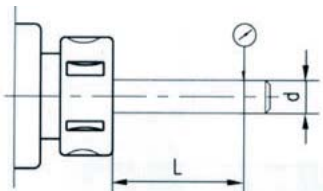


Order No.	d	Order No.	d	Order No.	d	Order No.	d
EOC16B		468-1525	12mm	468-1551	19mm	468-1577	23mm
468-1500	2mm	468-1526	13mm	468-1552	20mm	468-1578	24mm
468-1501	3mm	468-1527	14mm	468-1553	21mm	468-1579	25mm
468-1502	4mm	468-1528	15mm	468-1554	22mm	468-1580	26mm
468-1503	5mm	468-1529	16mm	468-1555	23mm	468-1581	27mm
468-1504	6mm	468-1530	17mm	468-1556	24mm	468-1582	28mm
468-1505	7mm	468-1531	18mm	468-1557	25mm	468-1583	29mm
468-1506	8mm	468-1532	19mm	EOC32B		468-1584	30mm
468-1507	9mm	468-1533	20mm	468-1558	4mm	468-1585	31mm
468-1508	10mm	EOC25B		468-1559	5mm	468-1586	32mm
468-1509	11mm	468-1534	2mm	468-1560	6mm	EOC40B	
468-1510	12mm	468-1535	3mm	468-1561	7mm	468-1587	6mm
468-1511	13mm	468-1536	4mm	468-1562	8mm	468-1588	7mm
468-1512	14mm	468-1537	5mm	468-1563	9mm	468-1589	8mm
468-1513	15mm	468-1538	6mm	468-1564	10mm	468-1590	9mm
468-1514	16mm	468-1539	7mm	468-1565	11mm	468-1591	10mm
EOC20B		468-1540	8mm	468-1566	12mm	468-1592	11mm
468-1515	2mm	468-1541	9mm	468-1567	13mm	468-1593	12mm
468-1516	3mm	468-1542	10mm	468-1568	14mm	468-1594	13mm
468-1517	4mm	468-1543	11mm	468-1569	15mm	468-1595	14mm
468-1518	5mm	468-1544	12mm	468-1570	16mm	468-1596	15mm
468-1519	6mm	468-1545	13mm	468-1571	17mm	468-1597	16mm
468-1520	7mm	468-1546	14mm	468-1572	18mm	468-1598	17mm
468-1521	8mm	468-1547	15mm	468-1573	19mm	468-1599	18mm
468-1522	9mm	468-1548	16mm	468-1574	20mm	468-1600	19mm
468-1523	10mm	468-1549	17mm	468-1575	21mm	468-1601	20mm
468-1524	11mm	468-1550	18mm	468-1576	22mm	468-1602	21mm

DIN 6388B COLLETS

Specifications of EOCB collets

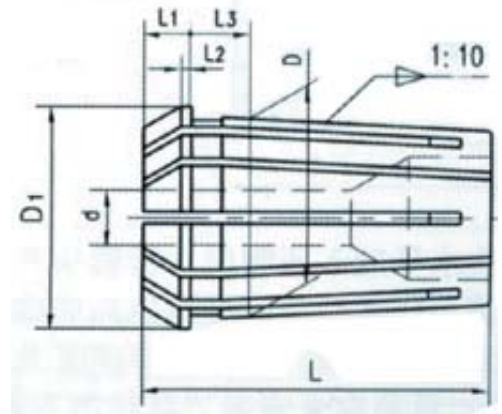
Collets	D1	D	d	L	L1	L2	L3
EOC16B	25.5	22.65	2~16	40	5.5	1.2	9.5
EOC20B	29.8	22.4	2~20	45	6	1.35	10
EOC25B	35.05	32.9	2~25	52	6	1.4	10
EOC32B	43.7	41.3	4~32	60	6	1.45	11
EOC40B	52.2	49.7	6~40	68	6	14.5	12
EOC50B	63.8	61.1	8~50	80	7	1.55	13



II. Regular supply
I. Special order

Accuracy

d	L	Run outD	
		I	II
1.0~1.6	6	0.01MM	0.015MM
>1.6~3.0	10		
>3.0~6.0	16		
>6.0~10.0	25	0.015mm	0.02mm
>10.0~18.0	40		
>18.0~26.0	50		
>26.0~30.0	60	0.02mm	0.03mm
>30.0~34.0	80		



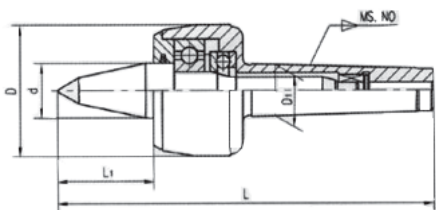
Order No.	d	Order No.	d	Order No.	d	Order No.	d
EOC40B		468-1618	37mm	468-1633	19mm	468-1649	35mm
468-1603	22mm	468-1619	38mm	468-1634	20mm	468-1650	36mm
468-1604	23mm	468-1620	39mm	468-1635	21mm	468-1651	37mm
468-1605	24mm	468-1621	40mm	468-1636	22mm	468-1652	38mm
468-1606	25mm	EOC50B		468-1637	23mm	468-1653	39mm
468-1607	26mm	468-1622	8mm	468-1638	24mm	468-1654	40mm
468-1608	27mm	468-1623	9mm	468-1639	25mm	468-1655	41mm
468-1609	28mm	468-1624	10mm	468-1640	26mm	468-1656	42mm
468-1610	29mm	468-1625	11mm	468-1641	27mm	468-1657	43mm
468-1611	30mm	468-1626	12mm	468-1642	28mm	468-1658	44mm
468-1612	31mm	468-1627	13mm	468-1643	29mm	468-1659	45mm
468-1613	32mm	468-1628	14mm	468-1644	30mm	468-1660	46mm
468-1614	33mm	468-1629	15mm	468-1645	31mm	468-1661	47mm
468-1615	34mm	468-1630	16mm	468-1646	32mm	468-1662	48mm
468-1616	35mm	468-1631	17mm	468-1647	33mm	468-1663	49mm
468-1617	36mm	468-1632	18mm	468-1648	34mm	468-1664	50mm

ISO/ISO ADAPTOR (DRAWBAR TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	d(mm)	L(mm0)
435-0660	ISO40	ISO30	44.45	31.75	152.4
435-0661	ISO50	ISO30	69.85	31.75	185.8
435-0662	ISO50	ISO40	69.85	44.45	207.8

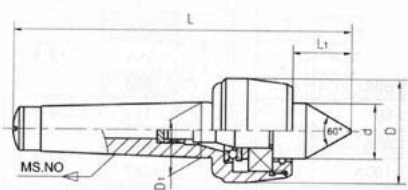


PRECISION LIVE CENTER



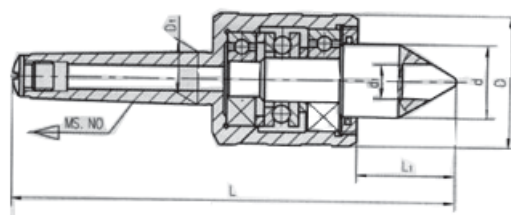
Order No.	Size	L (mm)	D (mm)	L1 (mm)	d (mm)	D1 (mm)	Max Load (kg)	Max Speed (rpm)	Accuracy (mm)
437-0211	MT1	124	36	27	15	12.065	80	7000	0.01
437-0212	MT2	139	45	34	20	17.78	140	7000	0.005
437-0213	MT3	176.5	60	47	25	23.825	400	5000	0.005
437-0214	MT4	217	70	53	32	31.267	500	3800	0.005
437-0215	MT5	273	90	65	40	44.399	1200	3000	0.005
437-0216	MT6	354.5	105	78	50	63.348	2500	2600	0.01

PRECISION LIGHT-DUTY LIVE CENTER



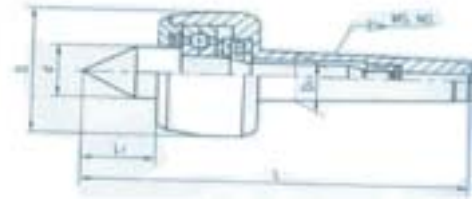
Order No.	Size	L (mm)	D (mm)	L1 (mm)	d (mm)	D1 (mm)	Max Radial Load (N)	Max Speed (rpm)	Accuracy (mm)
437-0221	MT1	115	34	19.9	18	12.065	320	5000	0.005
437-0222	MT2	130.6	45	29.6	25	17.78	400	5000	0.006
437-0223	MT3	161.7	52	33.5	28	23.825	800	4500	0.006
437-0224	MT4	195.7	60	40.5	32	31.267	1250	3500	0.006
437-0225	MT5	245.5	80	51.8	45	44.399	1500	3000	0.006
437-0226	MT6	357.5	130	82.3	75	63.348	1800	2500	0.006

CARBIDE TIPPED MEDIUM-DUTY LIVE CENTER



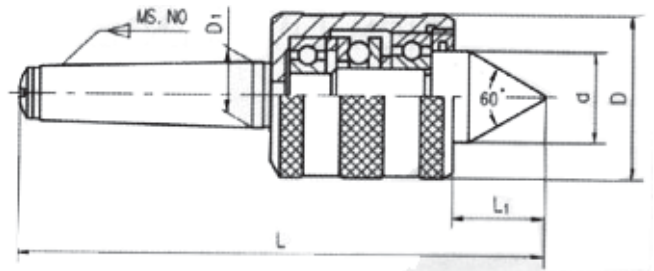
Order No.	Morse Taper	L (mm)	L1 (mm)	d (mm)	D (mm)	D1 (mm)	d1 (mm)	Max Load (kg)	Max Speed (rpm)	Accuracy (mm)
437-0262	MT2	145	26	45	25	17.78	12	1500	5000	0.01
437-0263	MT3	170	30	52	28	23.825	15	2000	4200	0.01
437-0264	MT4	205.7	34.7	60	32	31.267	18	3200	3200	0.01
437-0265	MT5	254	45	77	45	44.399	24	6300	2000	0.015
437-0266	MT6	362	68.5	125	75	63.348	40	10000	1600	0.015

PRECISION LIVE CENTER



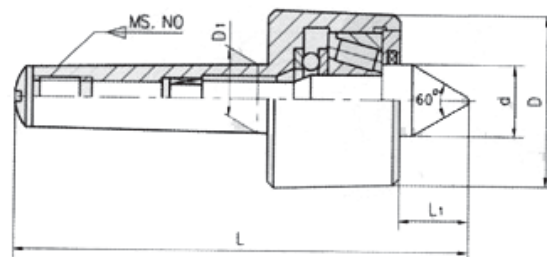
Order No.	Morse Taper	L (mm)	D (mm)	L1 (mm)	d (mm)	D1 (mm)	Max Load (kg)	Max Speed (rpm)	Accuracy (mm)
437-0241	MT1	114	36	17	15	12.065	100	7000	0.01
437-0242	MT2	129	45	24	20	17.78	200	7000	0.005
437-0243	MT3	151.5	50	27.5	22	23.825	400	6300	0.005
437-0244	MT3	160.5	60	31	25	23.825	500	5000	0.005
437-0245	MT4	205	70	41	32	31.267	800	3800	0.005
437-0246	MT5	258.5	90	50.5	40	44.399	2000	3000	0.005
437-0247	MT6	334	105	57.5	50	63.348	3500	2600	0.01
437-0248	MT6	378	140	67	60	63.348	4500	1500	0.01

MEDIUM DUTY LIVE CENTER



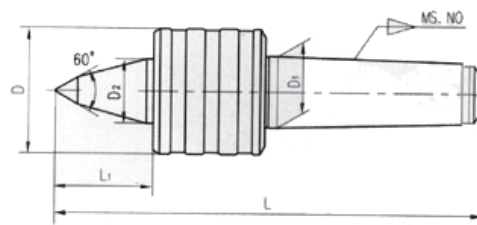
Order No.	Morse Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	Max Radial Load (N)	Max Speed (rpm)	Wt(kg)	Accuracy (mm)
437-0201	MT1	115	20	34	12.065	18	900	5000	0.29	0.01
437-0202	MT2	145	26	45	17.78	25	1500	5000	0.7	0.01
437-0203	MT3	170	30	52	23.825	28	2000	4200	0.93	0.01
437-0204	MT4	205.7	34.7	60	31.267	32	3200	3200	1.7	0.01
437-0205	MT5	254	45	77	44.399	45	6300	2000	3.39	0.015
437-0206	MT6	362	68.5	125	63.348	75	10000	1600	12	0.015
437-0251	MT1	125	30	34	12.065	18	900	5000	0.31	0.01
437-0252	MT2	155	36	45	17.78	25	1500	5000	0.74	0.01
437-0253	MT3	183	43	52	23.825	28	2000	4200	0.99	0.01
437-0254	MT4	222	51	60	31.267	32	3200	3200	1.8	0.01
437-0255	MT5	272	63	77	44.399	45	6300	2000	3.62	0.015
437-0256	MT6	382	88.5	125	63.348	75	10000	1600	12.69	0.015

PRECISION HEAVY DUTY LIVE CENTER



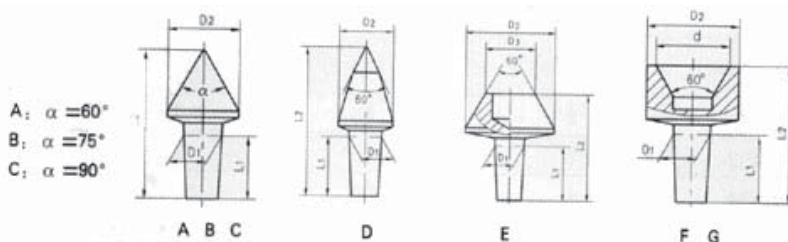
Order No.	Morse Taper	L (mm)	D (mm)	L1 (mm)	d (mm)	D1 (mm)	Max Radial Load (N)	Max Speed (rpm)	Wt (kg)	Accuracy (mm)
437-0231	MT1	109.6	38	18.5	16	12.065	1400	3600	0.29	0.008
437-0232	MT2	128.5	48	24	22	17.78	3500	3400	0.39	0.01
437-0233	MT3	156	56	28.5	25	23.825	5500	3200	1.09	0.01
437-0234	MT4	184	64	31.5	28	31.267	8000	3000	1.69	0.01
437-0235	MT5	239.5	85	45	41	44.399	10000	2500	4	0.015
437-0236	MT6	333.5	130	64	63	66.348	15000	1500	11.61	0.015

MEDIUM DUTY LIVE CENTER WITH LONG NOSE



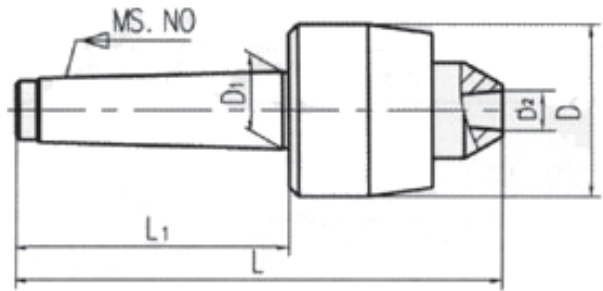
Order No.	Morse Taper	L1 (mm)	D (mm)	D1 (mm)	D2 (mm)	L (mm)	Wt (kg)
437-0272	MT2	30	40	17.78	18	141	0.84
437-0273	MT3	36	45	23.825	22	165	0.91
437-0274	MT4	36	45	31.267	22	188	1.62
437-0275	MT5	64	78	44.399	40	270	3.43
437-0276	MT6	75	102	63.348	50	346	11

MEDIUM DUTY INSERT LIVE CENTER SET



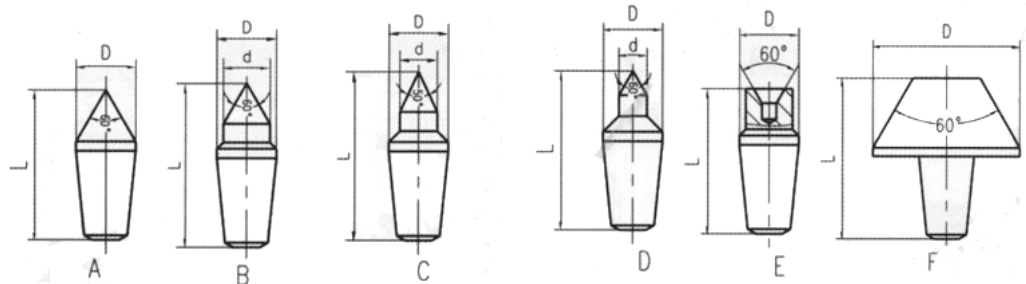
Order No.	Morse Taper	D1	L1	A	B	C	D	E	F	G
				D2/L2	D2/L2	D2/L2	D2/L2	D2/D3/L2	D2/L2/d	D2/L2/d
437-0402	MT2	10	20	16/39	16/35.5	16/33	16/46	25/10/40	16/36/10	20/39/16
437-0403	MT3	12	24	20/48	20/43.5	20/40.5	18/56	35/15/50	22/42/18	35/48/30
437-0404	MT4	15	30	28/61.5	28/55.5	28/51.5	26/73	55/30/61.5	40/55/35	55/60/48
437-0405	MT5	20	40	36/80	36/72.45	36/66.8	36/101	70/41/78	60/81/50	70/85/61

HIGH SPEED MEDIUM DUTY INSERT LIVE CENTER SET



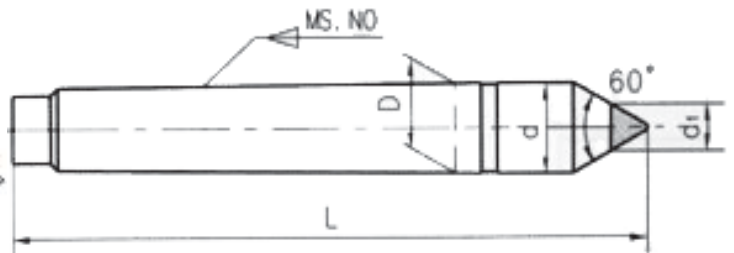
Order No.	Morse Taper	D (mm)	D1 (mm)	L1 (mm)	L (mm)
437-0412	MT2	48	17.78	69	127
437-0413	MT3	54	23.825	86	153
437-0414	MT4	63	31.367	109	182
437-0415	MT5	83	44.399	136	217

Insert Size



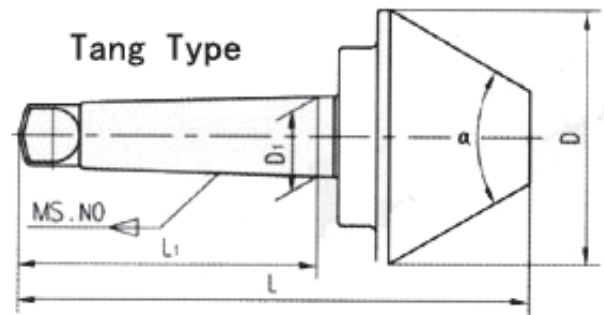
Order No.	A		B			C			D			E			F	
	L	D	L	D	d	L	D	d	L	D	d	L	D	d	L	D
437-0412	26	10.2	28.5	10.2	8	29	10.2	6.5	27.5	10.2	5	25	10.2	8	30	28
437-0413	32	12.75	35	12.75	10	36	12.75	8	34	12.75	6	31	12.75	10	37	34
437-0414	32	12.75	35	12.75	10	36	12.75	8	34	12.75	6	31	12.75	10	37	34
437-0415	39	15.7	44	15.7	12	45	15.7	10	42	15.7	8	43	15.7	12	48	40

CARBIDE TIPPED SOLIDE CENTER



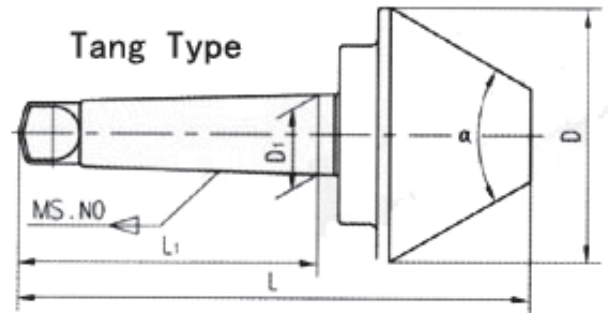
Order No.	Morse Taper	D (mm)	L (mm)	d(mm)	d1(mm)	Weight (kg)	Accuracy
437-0001	MT1	12.065	80	12.2	8	0.057	0.01mm
437-0002	MT2	17.780	100	18	8	0.151	
437-0003	MT3	23.825	125	24.1	12	0.335	
437-0004	MT4	31.267	160	31.6	15	0.746	
437-0005	MT5	44.399	200	44.7	18	1.826	
437-0006	MT6	63.348	270	63.8	24	5.230	

BULL NOSE CENTER WITH TANG



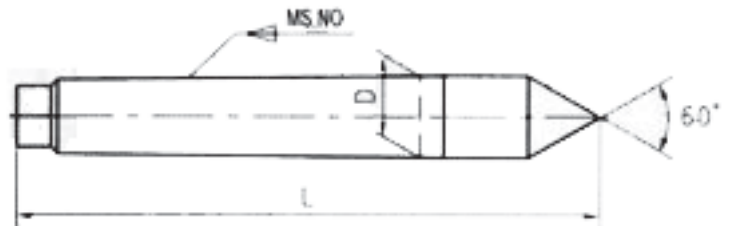
Order No.	Shank Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	α
437-0450	MT2	143	75	60	17.78	20	60°
437-0451		143		70		20	
437-0452		156		80		25	
437-0453		156		90		25	
437-0454	MT3	168	94	60	23.825	20	
437-0455		168		70		20	
437-0456		175		80		25	
437-0457		175		90		25	
437-0458		183		100		30	
437-0459		183		110		35	
437-0460		183		120		40	
437-0461		197		130		40	
437-0462	202	81	140	40			
437-0463	MT4	193	117.5	60	31.267	20	
437-0464		193		70		20	
437-0465		208		80		25	
437-0466		208		90		25	
437-0467		208		100		30	
437-0468		208		110		35	
437-0469		208		120		40	
437-0470		222		130		40	
437-0471		227		140		40	
437-0472		237		150		40	
437-0473		247		160		40	
437-0474	247	200	66				
437-0475	MT5	225	149.5	60	44.399	20	
437-0476		225		70		20	
437-0477		240		80		25	
437-0478		240		90		25	
437-0479		248		100		30	
437-0480		248		110		35	
437-0481		248		120		40	
437-0482		254		130		40	

BULL NOSE CENTER WITH TANG



Order No.	Shank Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	a (°)
437-0483	MT5	259	149.5	140	44.399	40	60°
437-0484		269	149.5	150		40	
437-0485		279	149.5	160		40	
437-0486		279	149.5	200		66	
437-0487		302.5	149.5	250		57	
437-0488		310	210	100		30	
437-0489		310	210	110		35	
437-0490		310	210	120		40	
437-0491	MT6	324	210	130	63.348	40	75°
437-0492		329	210	140		40	
437-0493		341	210	150		40	
437-0494		351	210	160		40	
437-0495		307	182	170		38	
437-0496		335	182	250		57	

SOLIDE CENTER

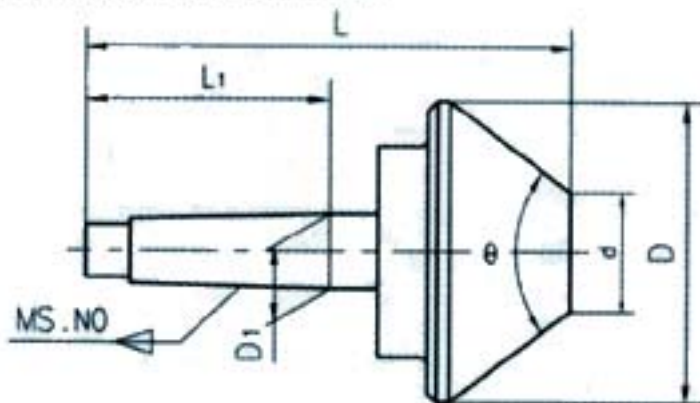


Order No.	Morse Taper	D (mm)	L (mm)	Weight (kg)	Accuracy
437-0011	MT1	12.065	80	0.057	0.01mm
437-0012	MT2	17.780	100	0.150	
437-0013	MT3	23.825	125	0.334	
437-0014	MT4	31.267	160	0.746	
437-0015	MT5	44.399	200	1.862	
437-0016	MT6	63.348	270	4.925	

BULL NOSE CENTER



DRAWBAR TYPE

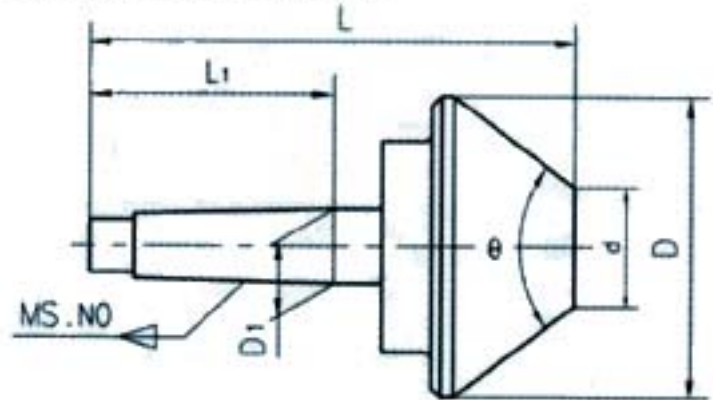


Order No.	Shank Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	α (°)
437-0500	MT2	132	64	60	17.78	20	60
437-0501	MT2	129	64	60	17.78	12	75
437-0502	MT2	135	64	61.9	17.78	13	70
437-0503	MT2	130	64	62	17.78	13	54.6
437-0504	MT2	132	64	63	17.78	13	70
437-0505	MT2	132	64	70	17.78	20	60
437-0506	MT2	129	64	70	17.78	12	75
437-0507	MT2	145	64	80	17.78	25	60
437-0508	MT2	133	64	80	17.78	12	75
437-0509	MT2	145	64	90	17.78	25	60
437-0510	MT2	133	64	90	17.78	12	75
437-0511	MT3	165	81	60	23.825	20	60
437-0512	MT3	152	81	60	23.825	12	75
437-0513	MT3	155	81	70	23.825	20	60
437-0514	MT3	152	81	70	23.825	12	75
437-0515	MT3	152	81	76.2	23.825	19	54.6
437-0516	MT3	150	81	76.2	23.825	19	70
437-0517	MT3	162	81	80	23.825	25	60
437-0518	MT3	156	81	80	23.825	12	75
437-0519	MT3	162	81	90	23.825	25	60
437-0520	MT3	156	81	90	23.825	12	75
437-0521	MT3	170	81	100	23.825	30	60
437-0522	MT3	164	81	100	23.825	32	75
437-0523	MT3	170	81	110	23.825	35	60
437-0524	MT3	164	81	110	23.825	32	75
437-0525	MT3	170	81	120	23.825	40	60
437-0526	MT3	164	81	120	23.825	32	75
437-0527	MT3	184	81	130	23.825	40	60
437-0528	MT3	174	81	130	23.825	35	75
437-0529	MT3	189	94	140	23.825	40	60
437-0530	MT3	174	94	140	23.825	35	75
437-0531	MT4	178	102.5	60	31.267	20	60
437-0532	MT4	175	102.5	60	31.267	12	75

BULL NOSE CENTER



DRAWBAR TYPE

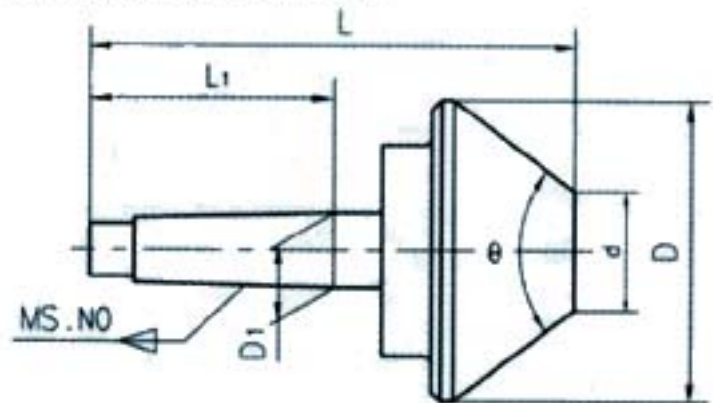


Order No.	Shank Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	α (°)
437-0533	MT4	178	102.5	70	31.267	20	60
437-0534	MT4	175	102.5	70	31.267	12	75
437-0535	MT4	193	102.5	80	31.267	25	60
437-0536	MT4	179	102.5	80	31.267	12	75
437-0537	MT4	193	102.5	90	31.267	25	60
437-0538	MT4	179	102.5	90	31.267	12	75
437-0539	MT4	193	102.5	100	31.267	30	60
437-0540	MT4	187	102.5	100	31.267	32	75
437-0541	MT4	193	102.5	110	31.267	35	60
437-0542	MT4	187	102.5	110	31.267	32	75
437-0543	MT4	193	102.5	120	31.267	40	60
437-0544	MT4	187	102.5	120	31.267	32	75
437-0545	MT4	207	102.5	130	31.267	40	60
437-0546	MT4	197	102.5	130	31.267	35	75
437-0547	MT4	212	102.5	140	31.267	40	60
437-0548	MT4	197	102.5	140	31.267	35	75
437-0549	MT4	222	102.5	150	31.267	40	60
437-0550	MT4	207	102.5	150	31.267	35	75
437-0551	MT4	232	102.5	160	31.267	40	60
437-0552	MT4	212	102.5	160	31.267	35	75
437-0553	MT4	232	102.5	200	31.267	66	60
437-0554	MT4	225	102.5	200	31.267	40	75
437-0555	MT5	205	129.5	60	44.399	20	60
437-0556	MT5	202	129.5	60	44.399	12	75
437-0557	MT5	205	129.5	70	44.399	20	60
437-0558	MT5	202	129.5	70	44.399	12	75
437-0559	MT5	220	129.5	80	44.399	25	60
437-0560	MT5	206	129.5	80	44.399	12	75
437-0561	MT5	220	129.5	90	44.399	25	60
437-0562	MT5	206	129.5	90	44.399	12	75
437-0563	MT5	228	129.5	100	44.399	30	60
437-0564	MT5	222	129.5	100	44.399	32	75
437-0565	MT5	228	129.5	110	44.399	35	60

BULL NOSE CENTER

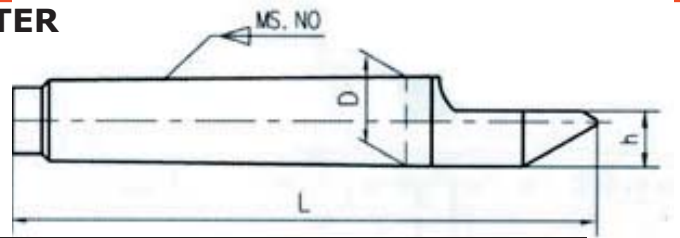


DRAWBAR TYPE



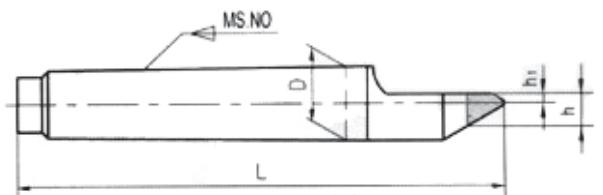
Order No.	Shank Taper	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	α (°)
437-0566	MT5	222	129.5	110	44.399	32	75
437-0567	MT5	228	129.5	120	44.399	40	60
437-0568	MT5	222	129.5	120	44.399	32	75
437-0569	MT5	231	129.5	130	44.399	40	70
437-0570	MT5	254	129.5	130	44.399	40	60
437-0571	MT5	232	129.5	130	44.399	35	75
437-0572	MT5	239	129.5	140	44.399	40	60
437-0573	MT5	232	129.5	140	44.399	35	75
437-0574	MT5	249	129.5	150	44.399	40	60
437-0575	MT5	234	129.5	150	44.399	35	75
437-0576	MT5	259	129.5	160	44.399	40	60
437-0577	MT5	239	129.5	160	44.399	35	75
437-0578	MT5	259	129.5	200	44.399	66	60
437-0579	MT5	252	129.5	200	44.399	40	75
437-0580	MT5	281	129.5	250	44.399	57	75
437-0581	MT5	282	182	100	44.399	30	60
437-0582	MT5	276	182	100	44.399	32	75
437-0583	MT5	282	182	110	44.399	35	60
437-0584	MT5	276	182	110	44.399	32	75
437-0585	MT5	282	182	120	44.399	40	60
437-0586	MT5	276	182	120	44.399	32	75
437-0587	MT6	296	182	130	63.348	40	60
437-0588	MT6	296	182	130	63.348	35	75
437-0589	MT6	301	182	140	63.348	40	60
437-0590	MT6	286	182	140	63.348	35	75
437-0591	MT6	313	182	150	63.348	40	60
437-0592	MT6	298	182	150	63.348	35	75
437-0593	MT6	323	182	160	63.348	40	60
437-0594	MT6	303	182	160	63.348	35	75
437-0595	MT6	341	210	200	63.348	66	60
437-0596	MT6	313	182	200	63.348	66	60
437-0597	MT6	364.5	210	250	63.348	57	75

HALF CENTER



Order No.	Morse Taper	D (mm)	h (mm)	L (mm)	Weight (kg)	Accuracy
437-0111	MT1	12.065	7.6	80	0.057	0.01mm
437-0112	MT2	17.780	11	100	0.150	
437-0113	MT3	23.825	15.05	125	0.334	
437-0114	MT4	31.267	20.8	160	0.746	
437-0115	MT5	44.399	29.35	200	1.862	
437-0116	MT6	63.348	41.9	270	4.925	

CARBIDE TIPPED HALF CENTER



Order No.	Morse Taper	D (mm)	h (mm)	h1 (mm)	L (mm)	Weight (kg)	Accuracy
437-0101	MT1	12.065	7.6	1.5	80	0.057	0.01mm
437-0102	MT2	17.780	11	2	100	0.150	
437-0103	MT3	23.825	15.05	3	125	0.334	
437-0104	MT4	31.267	20.8	5	160	0.746	
437-0105	MT5	44.399	29.35	7	200	1.862	
437-0106	MT6	63.348	41.9	10	270	4.925	

Order No.	Arbor Diameter	Length	Expanding Range	Size of Wrench
435-1002	1/4"	3"	.005"	5/64"
435-1003	3/8"	3"	.005"	3/32"
435-1004	1/2"	3"	.005"	3/32"
435-1005	5/8"	3"	.005"	9/64"
435-1006	3/4"	4"	.005"	9/64"
435-1007	7/8"	4"	.005"	3/16"
435-1008	1"	4"	.005"	3/16"
435-1009	1-1/4"	4"	.005"	3/16"
435-1010	1-3/4"	4"	.005"	3/16"
435-1011	6mm	3"	.005"	5/64"
435-1012	10mm	3"	.005"	3/32"
435-1013	12mm	3"	.005"	3/32"
435-1014	16mm	3"	.005"	9/64"
435-1015	19mm	4"	.005"	9/64"
435-1016	22mm	4"	.005"	3/16"
435-1017	25mm	4"	.005"	3/16"
435-1018	32mm	4"	.005"	3/16"
435-1019	45mm	4"	.005"	3/16"

EXPANDING MANDRELS



EXPANDING MANDREL SETS

Order No.	Arbor Sizes
435-1002	1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1-1/4", 1-1/2"
435-1003	6mm, 10mm, 12mm, 16mm, 19mm, 22mm, 25mm, 32mm

R8 END MILL HOLDER

- * 7/16"-20TPI thread for drawbar.
- * Made from high quality steel forgings.
- * Heated treated and precision ground.



Order No.	Hole Dia.	End Mill Type	Order No.	Hole Dia.	End Mill Type	Order No.	Hole Dia.	End Mill Type
430-0001	3/16"	Single End Mill	430-0015	1-1/2"	Single End Mill	430-0206	6mm	Single End Mill
430-0002	1/4"		430-0016	2"		430-0207	7mm	
430-0003	5/16"		430-0017	2-1/2"		430-0208	8mm	
430-0004	3/8"		430-0104	3/8"	Double End Mills	430-0210	10mm	
430-0005	7/16"		430-0105	7/16"		430-0212	12mm	
430-0006	1/2"		430-0106	1/2"		430-0214	14mm	
430-0007	9/16"		430-0107	9/16"		430-0216	16mm	
430-0008	5/8"		430-0108	5/8"		430-0218	18mm	
430-0009	11/16"		430-0109	11/16"		430-0220	20mm	
430-0010	3/4"		430-0110	3/4"		430-0222	22mm	
430-0011	7/8"		430-0111	7/8"		430-0225	25mm	
430-0012	1"		430-0112	1"	430-0227	27mm		
430-0013	1-1/8"		430-0204	4mm	Single End Mill	430-0232	32mm	
430-0014	1-1/4"		430-0205	5mm		430-0240	40mm	

R8 END MILL HOLDER

- * M12 thread for drawbar.
- * Made from high quality steel forgings.
- * Heated treated and precision ground.



Order No.	Hole Size	Order No.	Hole Size	Order No.	Hole Size	Order No.	Hole Size
430-0204	4mm	430-0208	8mm	430-0216	16mm	430-0225	25mm
430-0205	5mm	430-0210	10mm	430-0218	18mm	430-0227	27mm
430-0206	6mm	430-0212	12mm	430-0220	20mm	430-0232	32mm
430-0207	7mm	430-0214	14mm	430-0222	22mm	430-0240	40mm

R8 SHELL MILL ARBOR



Order No.	Hole Dia.	Order No.	Hole Dia.
430-1001	1/2"	430-1011	13mm
430-1002	5/8"	430-1012	16mm
430-1003	3/4"	430-1013	22mm
430-1004	7/8"	430-1014	27mm
430-1005	1"	430-1015	32mm
430-1006	1-1/4"	430-1016	40mm
430-1007	1-1/2"		

R8 COMB SHELL END MILL ARBOR



Order No.	Hole Dia.	Order No.	Hole Dia.
430-2001	1/2"	430-2021	13mm
430-2002	5/8"	430-2022	16mm
430-2003	3/4"	430-2023	22mm
430-2004	7/8"	430-2024	27mm
430-2005	1"	430-2025	32mm
430-2006	1-1/4"		

MORSE TAPER END MILL HOLDER-DRAWBAR TYPE



Order No.	Hole Dia.	Shank Taper	Order No.	Hole Dia.	Shank Taper	Order No.	Hole Dia.	Shank Taper	Order No.	Hole Dia.	Shank Taper	
431-0101	3/16"	MT1	431-0301	3/16"	MT3	431-0401	3/16"	MT4	431-0504	3/8"	MT5	
431-0102	1/4"		431-0302	1/4"		431-0402	1/4"		431-0505	1/2"		
431-0103	5/16"		431-0303	5/16"		431-0403	5/16"		431-0506	5/8"		
431-0104	3/8"		431-0304	3/8"		431-0404	3/8"		431-0507	3/4"		
431-0105	1/2"		431-0305	1/2"		431-0405	1/2"		431-0508	7/8"		
431-0106	5/8"		431-0306	5/8"		431-0406	5/8"		431-0509	1"		
431-0107	3/4"		431-0307	3/4"		431-0407	3/4"		431-0510	1-1/4"		
431-0201	3/16"	MT2	431-0308	7/8"	MT4	431-0408	7/8"	MT5	431-0511	1-1/2"		MT6
431-0202	1/4"		431-0309	1"		431-0409	1"		431-0512	2"		
431-0203	5/16"		431-0401	3/16"		431-0409	1-1/4"		431-0513	2-1/2"		
431-0204	3/8"		431-0402	1/4"		431-0410	1-1/2"		431-0608	7/8"		
431-0205	1/2"		431-0403	5/16"		431-0501	3/16"		431-0609	1"		
431-0206	5/8"		431-0404	3/8"		431-0502	1/4"		431-0610	1-1/4"		
431-0207	3/4"		431-0405	1/2"		431-0503	5/16"		431-0611	1-1/2"		
								431-0612	2"			
								431-0613	2-1/2"			

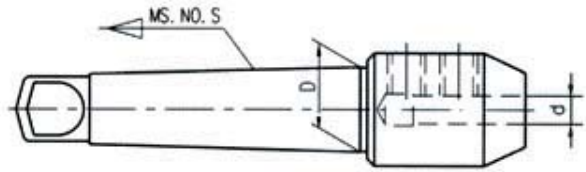
MORSE TAPER END MILL HOLDER-DRAWBAR TYPE



Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper
431-0110	4mm	MT1	431-0128	12mm	MT3	431-0146	24mm	MT4	431-0164	50mm	MT5
431-0111	6mm		431-0129	14mm		431-0147	25mm		431-0165	63mm	
431-0112	8mm		431-0130	16mm		431-0148	32mm		431-0166	4mm	
431-0113	10mm		431-0131	18mm		431-0149	40mm		431-0167	6mm	
431-0114	12mm		431-0132	20mm		431-0150	4mm		431-0168	8mm	
431-0115	4mm	MT2	431-0133	22mm	MT4	431-0151	6mm	MT5	431-0169	10mm	MT6
431-0116	6mm		431-0134	24mm		431-0152	8mm		431-0170	12mm	
431-0117	8mm		431-0135	25mm		431-0153	10mm		431-0171	14mm	
431-0118	10mm		431-0136	4mm		431-0154	12mm		431-0172	16mm	
431-0119	12mm		431-0137	6mm		431-0155	14mm		431-0173	18mm	
431-0120	14mm		431-0138	8mm		431-0156	16mm		431-0174	20mm	
431-0121	16mm		431-0139	10mm		431-0157	18mm		431-0175	22mm	
431-0122	18mm	MT3	431-0140	12mm	431-0158	20mm	431-0176		24mm		
431-0123	20mm		431-0141	14mm	431-0159	22mm	431-0177		25mm		
431-0124	4mm		431-0142	16mm	431-0160	24mm	431-0178		32mm		
431-0125	6mm		431-0143	18mm	431-0161	25mm	431-0179		40mm		
431-0126	8mm		431-0144	20mm	431-0162	32mm	431-0180		50mm		
431-0127	10mm		431-0145	22mm	431-0163	40mm	431-0181		63mm		

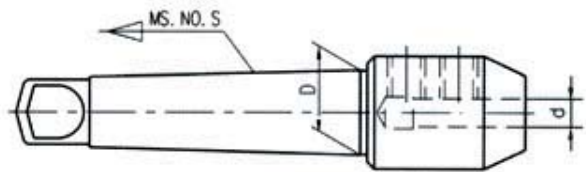
MACHINE ACCESSORIES

MORSE TAPER END MILL HOLDER-TANG TYPE



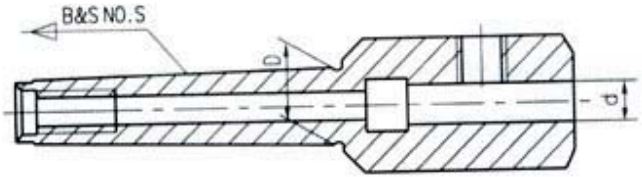
Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper
431-1101	3/16"	MT1	431-1207	3/4"	MT2	431-1404	3/8"	MT4	431-1507	3/4"	MT5
431-1102	1/4"		431-1301	3/16"	MT3	431-1405	1/2"		431-1508	7/8"	
431-1103	5/16"		431-1302	1/4"		431-1406	5/8"		431-1509	1"	
431-1104	3/8"		431-1303	5/16"		431-1407	3/4"		431-1510	1-1/4"	
431-1105	1/2"		431-1304	3/8"		431-1408	7/8"		431-1511	1-1/2"	
431-1106	5/8"		431-1305	1/2"		431-1409	1"		431-1512	2"	
431-1107	3/4"		431-1306	5/8"		431-1410	1-1/2"		431-1513	2-1/2"	
431-1201	3/16"	MT2	431-1307	3/4"		MT4	431-1501	3/16"	MT5	431-1608	7/8"
431-1202	1/4"		431-1308	7/8"	431-1502		1/4"	431-1609		1"	
431-1203	5/16"		431-1309	1"	431-1503		5/16"	431-1610		1-1/4"	
431-1204	3/8"		431-1401	3/16"	431-1504		3/8"	431-1611		1-1/2"	
431-1205	1/2"		431-1402	1/4"	431-1505		1/2"	431-1612		2"	
431-1206	5/8"		431-1403	5/16"	431-1506		5/8"	431-1613		2-1/2"	

MORSE TAPER END MILL HOLDER-TANG TYPE



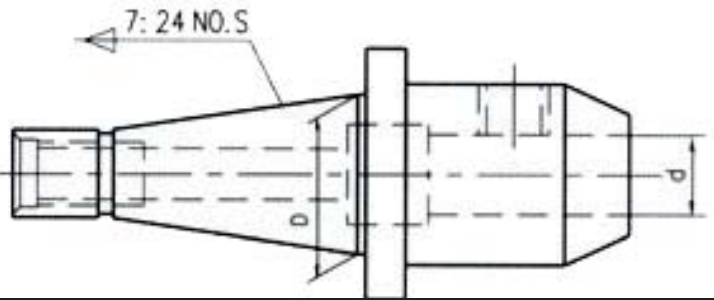
Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper
431-0210	4mm	MT1	431-0228	12mm	MT3	431-0246	24mm	MT4	431-0264	50mm	MT5
431-0211	6mm		431-0229	14mm		431-0247	25mm		431-0265	63mm	
431-0212	8mm		431-0230	16mm		431-0248	32mm		431-0266	4mm	
431-0213	10mm		431-0231	18mm		431-0249	40mm		431-0267	6mm	
431-0214	12mm		431-0232	20mm		431-0250	4mm		431-0268	8mm	
431-0215	4mm	MT2	431-0233	22mm	MT4	431-0251	6mm	MT5	431-0269	10mm	MT6
431-0216	6mm		431-0234	24mm		431-0252	8mm		431-0270	12mm	
431-0217	8mm		431-0235	25mm		431-0253	10mm		431-0271	14mm	
431-0218	10mm		431-0236	4mm		431-0254	12mm		431-0272	16mm	
431-0219	12mm		431-0237	6mm		431-0255	14mm		431-0273	18mm	
431-0220	14mm		431-0238	8mm		431-0256	16mm		431-0274	20mm	
431-0221	16mm		431-0239	10mm		431-0257	18mm		431-0275	22mm	
431-0222	18mm		431-0240	12mm		431-0258	20mm		431-0276	24mm	
431-0223	20mm		431-0241	14mm		431-0259	22mm		431-0277	25mm	
431-0224	4mm		MT3	431-0242		16mm	431-0260		24mm	431-0278	
431-0225	6mm	431-0243		18mm	431-0261	25mm	431-0279	40mm			
431-0226	8mm	431-0244		20mm	431-0262	32mm	431-0280	50mm			
0227-431	10mm	0245-431		22mm	0263-431	40mm	0281-431	63mm			

BROWN AND SHARP TAPER END MILL HOLDER



Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper
430-0020	3/16"	B&S7	430-0030	3/8"	B&S9	430-0040	3/4"	B&S10	430-0050	5/8"	B&S11
430-0021	1/4"		430-0031	1/2"		430-0041	7/8"		430-0051	3/4"	
430-0022	5/16"		430-0032	5/8"		430-0042	1"		430-0052	7/8"	
430-0023	3/8"		430-0033	3/4"	430-0043	1-1/4"	430-0053	1"			
430-0024	1/2"		430-0034	3/16"	430-0044	1-1/2"	430-0054	1-1/4"			
430-0025	5/8"		430-0035	1/4"	430-0045	3/16"	430-0055	1-1/2"			
430-0026	3/4"	B&S10	430-0036	5/16"	430-0046	1/4"	430-0056	2"			
430-0027	3/16"		430-0037	3/8"	430-0047	5/16"	430-0057	2-1/2"			
430-0028	1/4"		430-0038	1/2"	430-0048	3/8"					
430-0029	5/16"		430-0039	5/8"	430-0049	1/2"					

ISO TAPER END MILL HOLDER



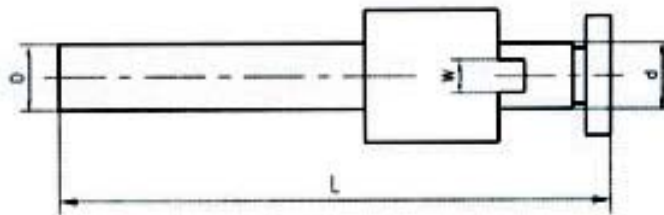
INCH

Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper	Order No.	Hole Size	Shank Taper
432-0301	3/16"	ISO30	432-0309	1-1/4"	ISO30	432-0408	1"	ISO40	432-0506	3/4"	ISO50
432-0302	5/16"		432-0401	3/16"	ISO40	432-0409	1-1/4"		432-0507	7/8"	
432-0303	3/8"		432-0402	5/16"		432-0410	1-1/2"		432-0508	1"	
432-0304	1/2"		432-0403	3/8"		432-0411	2"	432-0509	1-1/4"		
432-0305	5/8"		432-0404	1/2"		432-0412	2-1/2"	432-0510	1-1/2"		
432-0306	3/4"		432-0405	5/8"		432-0503	3/8"	432-0511	2"		
432-0307	7/8"		432-0406	3/4"		432-0504	1/2"	432-0512	2-1/2"		
432-0308	1"		432-0407	7/8"	432-0505	5/8"					

Metric

Order NO.	Hole Size	Shank Taper	Hole Size	Hole Size	Shank Taper	Hole Size	Hole Size	Shank Taper	Hole Size	Hole Size	Shank Taper
432-0321	6mm	ISO30	432-0330	32mm	ISO30	432-0429	25mm	ISO40	432-0527	18mm	ISO50
432-0322	8mm		432-0421	6mm	ISO40	432-0430	32mm		432-0528	20mm	
432-0323	10mm		432-0422	8mm		432-0431	40mm		432-0529	25mm	
432-0324	12mm		432-0423	10mm		432-0521	6mm	432-0530	32mm		
432-0325	14mm		432-0424	12mm		432-0522	8mm	432-0531	40mm		
432-0326	16mm		432-0425	14mm		432-0523	10mm	432-0532	42mm		
432-0327	18mm		432-0426	16mm		432-0524	12mm	432-0533	50mm		
432-0328	20mm		432-0427	18mm	432-0525	14mm	432-0534	63mm			
432-0329	25mm		432-0428	20mm	432-0526	16mm					

STRAIGHT SHANK SHELL END MILL ARBORS



Metric, mm

Order No.	D	d	W	L	Order No.	D	d	W	L
431-0420	12	13	8	85	431-0443	32	27	12	117
431-0421	12	16	8	90	431-0444	32	32	14	123
431-0422	12	22	10	97	431-0445	32	40	16	130
431-0423	16	13	8	88	431-0446	32	50	18	137
431-0424	16	16	8	93	431-0447	32	60	20	162
431-0425	16	22	10	100	431-0448	40	16	8	115
431-0426	16	27	12	105	431-0449	40	22	10	122
431-0427	20	13	8	90	431-0450	40	27	12	127
431-0428	20	16	8	95	431-0451	40	32	14	133
431-0429	20	22	10	102	431-0452	40	40	16	140
431-0430	20	27	12	107	431-0453	40	50	18	147
431-0431	20	32	14	113	431-0454	40	60	20	172
431-0432	20	40	16	120	431-0455	50	22	10	132
431-0433	25	13	8	96	431-0456	50	27	12	137
431-0434	25	16	8	101	431-0457	50	32	14	143
431-0435	25	22	10	108	431-0458	50	40	16	150
431-0436	25	27	12	113	431-0459	50	50	18	157
431-0437	25	32	14	119	431-0460	50	60	20	182
431-0438	25	40	16	126	431-0461	63	27	12	147
431-0439	25	50	18	133	431-0462	63	32	14	153
431-0440	32	13	8	100	431-0463	63	40	16	160
431-0441	32	16	8	105	431-0464	63	50	18	167
431-0442	32	22	10	112	431-0465	63	60	20	192

Inch Diameter

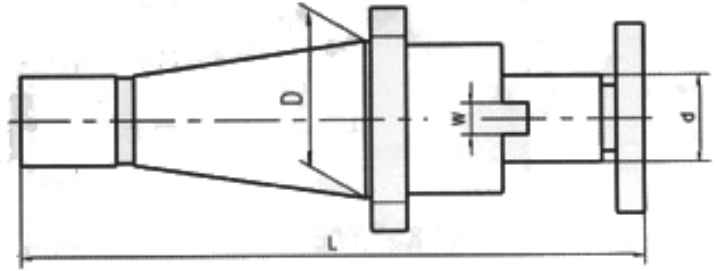
Order No.	D (in)	d (in)	W (mm)	L (mm)	Order No.	D (in)	d (in)	W (mm)	L (mm)
431-0470	1/2	1/2	6.35	104	431-0477	3/4	1/2	6.35	146
431-0471	1/2	5/8	7.14	105	431-0478	3/4	5/8	7.14	147
431-0472	1/2	3/4	7.94	113	431-0479	3/4	3/4	7.94	154.5
431-0473	1/2	7/8	8.7	114	431-0480	3/4	7/8	8.7	155.5
431-0474	1/2	1	9.53	114	431-0481	3/4	1	9.53	155.5
431-0475	1/2	1-1/4	12.7	117	431-0482	3/4	1-1/4	12.7	159
431-0476	1/2	1-1/2	15.88	130	431-0483	3/4	1-1/2	15.88	168

ISO/R8 ADAPTOR

Order No.	Outside Taper	Inside Taper	D(mm)	D1 (mm)	L(mm)
435-0623	ISO30	R8	42	31.75	180
435-0624	ISO40	R8	44.5	44.45	167
435-0625	ISO50	R8	44.5	69.85	175



7:24 SHANK SHELL END MILL ARBORS

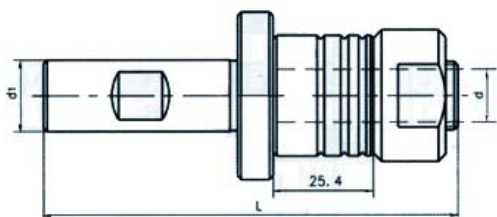


Metric Diameter

Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	L (mm)	Weight (kg)	Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	L (mm)	Weight (kg)
432-1300	ISO30	31.75	13	8	121	0.31	432-1316	ISO40	44.45	40	16	182	1.91
432-1301		31.75	16	8	126	0.37	432-1317		44.45	50	18	187	2.8
432-1303		31.75	22	10	129	0.47	432-1318		44.45	60	20	209	4.23
432-1305		31.75	27	12	134	0.6	432-1320		ISO50	69.85	16	8	205
432-1306		31.75	32	14	141	1.04	432-1322	69.85		22	10	208	3.04
432-1307		31.75	40	16	150	1.59	432-1324	69.85		27	12	211	3.22
432-1308		31.75	50	18	155	2.43	432-1325	69.85		32	14	215	3.49
432-1310		ISO40	44.45	16	8	153	0.71	432-1326	69.85	40	16	219	3.91
432-1312	44.45		22	10	156	0.82	432-1327	69.85	50	18	224	4.75	
432-1314	44.45		27	12	159	0.95	432-1328	69.85	60	20	246	6.15	
432-1315	44.45		32	14	178	1.45							

Inch Diameter

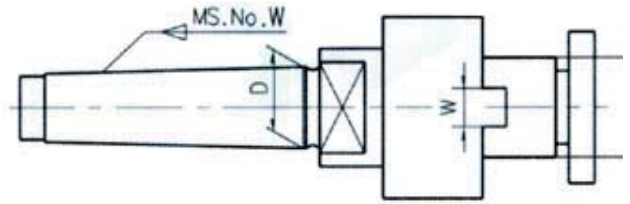
Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	L (mm)	Weight (kg)	Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	L (mm)	Weight (kg)
432-1330	ISO30	31.75	1/2"	6.35	139.5	0.55	432-1342	ISO40	44.45	1"	9.53	170	1.4
432-1331		31.75	5/8"	7.14	140.5	0.64	432-1343		44.45	1-1/4"	12.7	171	1.7
432-1332		31.75	3/4"	7.94	144	0.75	432-1344		44.45	1-1/2"	15.88	178	2.2
432-1333		31.75	7/8"	8.7	145	0.88	432-1345		44.45	2"	19.05	205	3.9
432-1334		31.75	1"	9.53	145	1.02	432-1346	ISO50	69.85	1/2"	6.35	198	2.7
432-1335		31.75	1-1/4"	12.7	146	1.41	432-1347		69.85	5/8"	7.14	199	2.8
432-1336		31.75	1-1/2"	15.88	153	1.83	432-1348		69.85	3/4"	7.94	202	2.9
432-1337		31.75	2"	19.05	180	3.57	432-1349		69.85	7/8"	8.7	203	3
432-1338	ISO40	44.45	1/2"	6.35	164.5	0.92	432-1350	69.85	1"	9.53	203	3.2	
432-1339		44.45	5/8"	7.14	165.5	1.01	432-1351	69.85	1-1/4"	12.7	204	4	
432-1340		44.45	3/4"	7.94	169	1.13	432-1352	69.85	1-1/2"	15.88	214.5	4	
432-1341		44.45	7/8"	8.7	170	1.3	432-1353	69.85	2"	19.05	138.5	5.7	



STRAIGHT SHANK MILLING MACHINE ARBORS

Order No.	d1	d	L1(mm)	Order No.	d1	d	L1(mm)
430-0550	1/2"	1/2"	102.4	430-0556	3/4"	1/2"	108.7
430-0551	1/2"	5/8"	102.4	430-0557	3/4"	5/8"	108.7
430-0552	1/2"	3/4"	105.6	430-0558	3/4"	3/4"	111.9
430-0553	1/2"	7/8"	105.6	430-0559	3/4"	7/8"	111.9
430-0554	1/2"	1"	111.9	430-0560	3/4"	1"	118.3
430-0555	1/2"	1-1/4"	111.9	430-0561	3/4"	1-1/4"	118.3

MORSE SHANK SHELL END MILL ARBORS (Drawbar Type)



Inch diameter

Order No.	Shank Taper	D(mm)	d(in)	W(mm)	Wt(kg)	Order No.	Shank Taper	D(mm)	d(in)	W(mm)	Wt(kg)
431-3252	MT2	17.78	1/2"	6.35	0.253	431-3265	MT4	31.267	7/8"	8.7	1.105
431-3253		17.78	5/8"	7.14	0.307	431-3266		31.267	1"	9.53	1.36
431-3254		17.78	3/4"	7.94	0.369	431-3267		31.267	1-1/4"	12.7	1.526
431-3255		17.78	7/8"	8.7	0.59	431-3268		31.267	1-1/2"	15.88	1.859
431-3256	MT3	23.825	1/2"	6.35	0.48	431-3269	MT5	44.399	1/2"	6.35	1.931
431-3257		23.825	5/8"	7.14	0.53	431-3270		44.399	5/8"	7.14	1.994
431-3258		23.825	3/4"	7.94	0.65	431-3271		44.399	3/4"	7.94	2.079
431-3259		23.825	7/8"	8.7	0.73	431-3272		44.399	7/8"	8.7	2.76
431-3260		23.825	1"	9.53	0.85	431-3273		44.399	1"	9.53	2.278
431-3261		23.825	1-1/4"	12.7	1.148	431-3274		44.399	1-1/4"	12.7	2.55
431-3262	MT4	31.267	1/2"	6.35	0.859	431-3275	44.399	1-1/2"	15.88	2.428	
431-3263		31.267	5/8"	7.14	0.923	431-3276	44.399	2"	19.05	2.725	
431-3264		31.267	3/4"	7.94	1.008						

Metric diameter

Order NO.	Shank Taper	D(mm)	d (mm)	W (mm)	Wt (kg)	Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	Wt(kg)
431-3277	MT2	17.78	13	8	0.269	431-3289	MT4	31.267	27	12	1.198
431-3278		17.78	16	8	0.314	431-3290		31.267	32	14	1.42
431-3279		17.78	22	10	0.417	431-3291		31.267	40	16	2.224
431-3280	MT3	23.825	13	8	0.484	431-3292	MT5	31.267	50	18	2.482
431-3281		23.825	16	8	0.53	431-3293		44.399	16	8	2.064
431-3282		23.825	22	10	0.637	431-3294		44.399	22	10	2.219
431-3283		23.825	27	12	0.77	431-3295		44.399	27	12	2.41
431-3284		23.825	32	14	0.969	431-3296		44.399	32	14	2.697
431-3285		23.825	40	16	1.507	431-3297		44.399	40	16	3.145
431-3286	MT4	31.267	13	8	0.879	431-3298	44.399	50	18	4.035	
431-3287		31.267	16	8	0.931	431-3299	44.399	60	20	5.154	
431-3288		31.267	22	10	1.05						

R8 STUB MILLING ARBOR



Order NO.	Bush Diameter	Clamping Length(mm)	Overall Length	Wt(kg)
430-0311	13mm	63mm	199	0.527
430-0312	16mm		201	0.591
430-0313	22mm		206	0.733
430-0314	27mm		211	0.905
430-0315	32mm		215	1.089
430-0304	1"	50.8mm	193	0.786
430-0305	1-1/4"		196	0.947

**MORSE SHANK SHELL END MILL ARBORS
(Tang Type)**

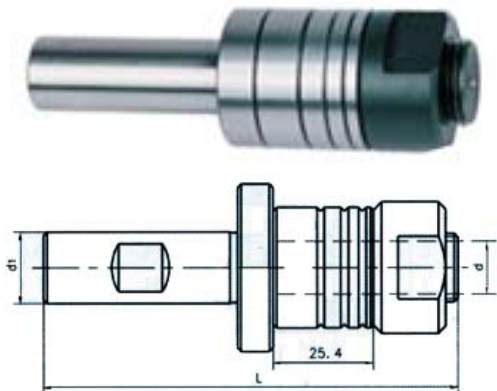


Inch diameter

Order No.	Shank Taper	D(mm)	d(in)	W(mm)	Wt(kg)	Order No.	Shank Taper	D(mm)	d(in)	W(mm)	Wt(kg)
431-3201	MT2	17.78	1/2"	6.35	0.253	431-3214	MT4	31.267	7/8"	8.7	1.105
431-3202		17.78	5/8"	7.14	0.307	431-3215		31.267	1"	9.53	1.36
431-3203		17.78	3/4"	7.94	0.369	431-3216		31.267	1-1/4"	12.7	1.526
431-3204		17.78	7/8"	8.7	0.59	431-3217		31.267	1-1/2"	15.88	1.859
431-3205	MT3	23.825	1/2"	6.35	0.48	431-3218	MT5	44.399	1/2"	6.35	1.931
431-3206		23.825	5/8"	7.14	0.53	431-3219		44.399	5/8"	7.14	1.994
431-3207		23.825	3/4"	7.94	0.65	431-3220		44.399	3/4"	7.94	2.079
431-3208		23.825	7/8"	8.7	0.73	431-3221		44.399	7/8"	8.7	2.76
431-3209		23.825	1"	9.53	0.85	431-3222		44.399	1"	9.53	2.278
431-3210	MT4	23.825	1-1/4"	12.7	1.148	431-3223	MT5	44.399	1-1/4"	12.7	2.55
431-3211		31.267	1/2"	6.35	0.859	431-3224		44.399	1-1/2"	15.88	2.428
431-3212		31.267	5/8"	7.14	0.923	431-3225		44.399	2"	19.05	2.728
431-3213		31.267	3/4"	7.94	1.008						

Metric diameter

Order NO.	Shank Taper	D(mm)	d (mm)	W (mm)	Wt (kg)	Order No.	Shank Taper	D (mm)	d (mm)	W (mm)	Wt(kg)
431-3226	MT2	17.78	13	8	0.269	431-3241	MT4	31.267	27	12	1.198
431-3227		17.78	16	8	0.314	431-3242		31.267	32	14	1.42
431-3228		17.78	22	10	0.417	431-3243		31.267	40	16	2.224
431-3232	MT3	23.825	13	8	0.484	431-3244	MT5	31.267	50	18	2.482
431-3233		23.825	16	8	0.53	431-3245		44.399	16	8	2.064
431-3234		23.825	22	10	0.637	431-3246		44.399	22	10	2.219
431-3235		23.825	27	12	0.77	431-3247		44.399	27	12	2.41
431-3236		23.825	32	14	0.969	431-3248		44.399	32	14	2.697
431-3237	MT4	23.825	40	16	1.507	431-3249	MT5	44.399	40	16	3.145
431-3238		31.267	13	8	0.879	431-3250		44.399	50	18	4.035
431-3239		31.267	16	8	0.931	431-3251		44.399	60	20	5.154
431-3240		31.267	22	10	1.05						



STRAIGHT SHANK MILLING MACHINE ARBORS

Order No.	d1	d	L1(mm)	Order No.	d1	d	L1(mm)
430-0550	1/2"	1/2"	102.4	430-0556	3/4"	1/2"	108.7
430-0551	1/2"	5/8"	102.4	430-0557	3/4"	5/8"	108.7
430-0552	1/2"	3/4"	105.6	430-0558	3/4"	3/4"	111.9
430-0553	1/2"	7/8"	105.6	430-0559	3/4"	7/8"	111.9
430-0554	1/2"	1"	111.9	430-0560	3/4"	1"	118.3
430-0555	1/2"	1-1/4"	111.9	430-0561	3/4"	1-1/4"	118.3

Inch Milling Machine Arbors



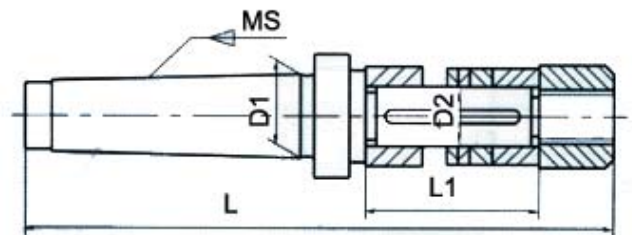
Order No.	Taper	Shank Dia.	Clamping Length	Bush Diameter	Type	Bush Numbers
430-0331	ISO30	1"	10"		A	none
430-0332	ISO30	1"	12"		A	none
430-0333	ISO30	1-1/4"	10"		A	none
430-0334	ISO30	1"	2"		B	none
430-0335	ISO30	1"	8"		B	none
430-0336	ISO30	1"	12"	1-7/8"	B	1
430-0337	ISO30	7/8"	10"		A	none
430-0338	ISO40	7/8"	16"	1-7/8"	A	1
430-0339	ISO40	1"	8"		A	none
430-0340	ISO40	1"	10"		A	none
430-0341	ISO40	1"	12"		A	none
430-0342	ISO40	1"	16"		A	none
430-0343	ISO40	1"	20"		A	none
430-0344	ISO40	1-1/4"	8"		A	none
430-0345	ISO40	1-1/4"	10"		A	none
430-0346	ISO40	1-1/4"	12"		A	none
430-0347	ISO40	1-1/4"	16"		A	none
430-0348	ISO40	1-1/4"	3"		A	none
430-0349	ISO40	1"	3"		B	none
430-0350	ISO40	7/8"	16"	1-7/8"	B	none
430-0351	ISO40	1-1/4"	16"	1-7/8"	A	1
430-0352	ISO40	7/8"	14"	1-7/8"	B	1
430-0353	ISO40	1"	14"	1-7/8"	B	1
430-0354	ISO40	1-1/4"	14"	1-7/8"	B	1
430-0355	ISO40	1"	20"	1-7/8"	B	1
430-0356	ISO40	1-1/4"	20"	1-7/8"	B	1
430-0357	ISO40	1-1/2"	20"	2-1/8"	B	1
430-0358	ISO50	7/8"	18"	2-1/8"	A	1
430-0359	ISO50	1"	8"	2-1/8"	A	1
430-0360	ISO50	1"	12"		A	none
430-0361	ISO50	1"	18"	2-1/8"	A	1
430-0362	ISO50	1-1/4"	8"		A	none
430-0363	ISO50	1-1/4"	12"		A	none
430-0364	ISO50	1-1/4"	18"	2-1/8"	A	1

Inch Milling Machine Arbors



Order No.	Taper	Shank Dia.	Clamping Length	Bush Diameter	Type	Bush Numbers
430-0365	ISO50	1"	15"	2-1/8"	B	1
430-0366	ISO50	1"	18"	2-1/8"	B	2
430-0367	ISO50	1"	24"	2-1/8"	B	2
430-0368	ISO50	1-1/4"	15"	2-1/8"	B	1
430-0369	ISO50	1-1/4"	18"	2-1/8"	B	2
430-0370	ISO50	1-1/4"	24"	2-3/4"	B	2
430-0371	ISO50	1-1/4"	30"	2-3/4"	B	2
430-0372	ISO50	1-1/2"	18"	2-3/4"	B	2
430-0373	ISO50	1-1/2"	24"	2-3/4"	B	2
430-0374	ISO50	1-1/2"	30"	2-3/4"	B	2
430-0375	ISO50	1-1/2"	36"	2-3/4"	B	2
430-0376	ISO50	1"	3-1/2"		B	none
430-0377	ISO50	1-1/4"	3-1/2"		B	none
430-0378	ISO50	1-1/2"	3-1/2"		B	none
430-0379	ISO50	7/8"	10"		A	none
430-0380	ISO50	2"	24"	2-3/4"	B	2
430-0381	ISO50	2"	30"	2-3/4"	B	2
430-0382	ISO50	2"	36"	2-3/4"	B	2
430-0383	ISO50	2-1/2"	36"	3-3/8"	B	2

MORSE SHANK STUB MILLING MACHINE ARBOR



Model	Shank	D1 (mm)	D2 (mm)	L (mm)	L1 (mm)	Wt (kg)	Model	Shank	D1 (mm)	D2 (mm)	L (mm)	L1 (mm)	Wt (kg)
430-0570	MT2	17.78	22	171	63	0.421	430-0578	MT3	23.825	27	211	63	0.905
430-0571	MT2	17.78	12.7	148	63	0.43	430-0579	MT3	23.825	31.75	177	50.8	0.795
430-0572	MT2	17.78	15.875	151.6	50.8	0.478	430-0580	MT3	23.825	32	215	63	1.089
430-0573	MT2	17.78	25.4	157	50.8	0.504	430-0581	MT4	31.267	13	227	63	0.336
430-0574	MT3	23.825	13	199	63	0.527	430-0582	MT4	31.267	16	229	63	0.4
430-0575	MT3	23.825	16	201	63	0.591	430-0583	MT4	31.267	22	234	63	0.542
430-0576	MT3	23.825	22	206	63	0.783	430-0584	MT4	31.267	27	239	63	0.714
430-0577	MT3	23.825	25.4	174	50.8	0.634	430-0585	MT4	31.267	32	243	63	0.89

Metric Milling Machine Arbors



Order No.	Taper	d (mm)	L1 (mm)	Wt(kg)	Type	Order No.	Taper	d (mm)	L1 (mm)	Wt(kg)	Type
430-0401	ISO30	16	200	0.722	A	430-0435	ISO40	40	630	7.51	A
430-0402	ISO30	16	250	0.796	A	430-0436	ISO50	22	200	3.533	A
430-0403	ISO30	16	315	0.892	A	430-0437	ISO50	22	250	3.672	A
430-0404	ISO30	16	400	1.108	A	430-0438	ISO50	22	315	3.853	A
430-0405	ISO30	22	200	1.065	A	430-0439	ISO50	22	400	4.089	A
430-0406	ISO30	22	250	1.204	A	430-0440	ISO50	22	500	4.367	A
430-0407	ISO30	22	315	1.385	A	430-0441	ISO50	22	630	4.728	A
430-0408	ISO30	22	400	1.621	A	430-0442	ISO50	27	315	4.445	A
430-0409	ISO30	22	200	1.462	A	430-0443	ISO50	27	400	4.801	A
430-0410	ISO30	22	250	1.671	A	430-0444	ISO50	27	500	5.22	A
430-0411	ISO30	22	315	1.944	A	430-0445	ISO50	27	630	5.766	A
430-0412	ISO30	22	400	2.3	A	430-0446	ISO50	27	800	6.477	A
430-0413	ISO40	16	200	1.308	A	430-0447	ISO50	32	315	4.762	A
430-0414	ISO40	16	250	1.382	A	430-0448	ISO50	32	400	5.269	A
430-0415	ISO40	16	315	1.478	A	430-0449	ISO50	32	500	5.865	A
430-0416	ISO40	16	400	1.664	A	430-0450	ISO50	32	630	6.639	A
430-0417	ISO40	16	200	1.664	A	430-0451	ISO50	32	800	7.652	A
430-0418	ISO40	16	250	1.803	A	430-0452	ISO50	32	1000	8.844	A
430-0419	ISO40	16	315	1.984	A	430-0453	ISO50	40	400	4.538	A
430-0420	ISO40	16	400	2.22	A	430-0454	ISO50	40	500	5.479	A
430-0421	ISO40	16	500	2.498	A	430-0455	ISO50	40	630	6.702	A
430-0422	ISO40	27	250	2.287	A	430-0456	ISO50	40	800	8.302	A
430-0423	ISO40	27	315	2.559	A	430-0457	ISO50	40	1000	10.184	A
430-0424	ISO40	27	400	2.915	A	430-0458	ISO50	50	400	9.98	A
430-0425	ISO40	27	500	3.334	A	430-0459	ISO50	50	500	11.46	A
430-0426	ISO40	27	630	3.879	A	430-0460	ISO50	50	630	13.383	A
430-0427	ISO40	32	250	2.86	A	430-0461	ISO50	50	800	15.897	A
430-0428	ISO40	32	315	3.131	A	430-0462	ISO50	50	1000	18.855	A
430-0429	ISO40	32	400	3.484	A	430-0463	ISO50	60	400	13.294	A
430-0430	ISO40	32	500	3.9	A	430-0464	ISO50	60	500	13.568	A
430-0431	ISO40	32	630	4.649	A	430-0465	ISO50	60	630	13.924	A
430-0432	ISO40	40	315	4.589	A	430-0466	ISO50	60	800	14.39	A
430-0433	ISO40	40	400	5.388	A	430-0467	ISO50	60	1000	14.938	A
430-0434	ISO40	40	500	5.83	A						

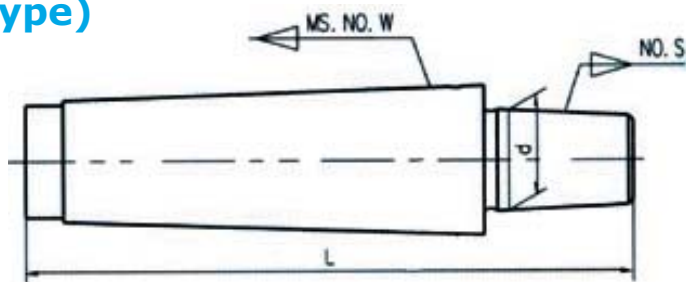
Metric Milling Machine Arbors



Order No.	Taper	d (mm)	L1 (mm)	Wt(kg)	Type
430-0468	ISO30	16	200	0.741	B
430-0469	ISO30	16	250	0.815	B
430-0470	ISO30	16	315	0.911	B
430-0471	ISO30	16	400	1.037	B
430-0472	ISO30	22	200	1.084	B
430-0473	ISO30	22	250	1.223	B
430-0474	ISO30	22	315	1.404	B
430-0475	ISO30	22	400	1.64	B
430-0476	ISO30	27	200	1.481	B
430-0477	ISO30	27	250	1.690	B
430-0478	ISO30	27	315	1.963	B
430-0479	ISO30	27	400	2.319	B
430-0480	ISO40	16	200	1.336	B
430-0481	ISO40	16	250	1.41	B
430-0482	ISO40	16	315	1.506	B
430-0483	ISO40	16	400	1.632	B
0484-430	ISO40	16	200	1.7	B
0485-430	ISO40	22	250	1.836	B
0486-430	ISO40	22	315	2.02	B
0487-430	ISO40	22	400	2.256	B
0488-430	ISO40	22	500	2.534	B
430-0489	ISO40	27	250	2.36	B
430-0490	ISO40	27	315	2.632	B
430-0491	ISO40	27	400	2.988	B
430-0492	ISO40	27	500	3.407	B
430-0493	ISO40	27	630	3.952	B
430-0494	ISO40	32	250	2.957	B
430-0495	ISO40	32	315	3.228	B
430-0496	ISO40	32	400	3.581	B
430-0497	ISO40	32	500	3.997	B
430-0498	ISO40	32	630	4.746	B
430-0499	ISO40	40	315	4.743	B
430-0500	ISO40	40	400	5.542	B
430-0501	ISO40	40	500	5.984	B

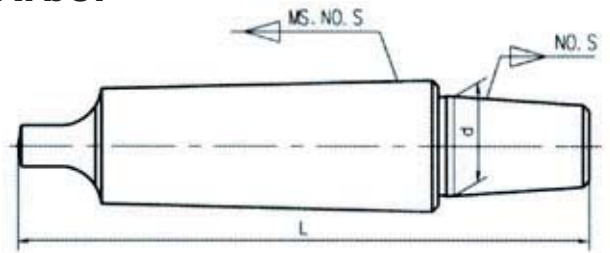
Order No.	Taper	d (mm)	L1 (mm)	Wt(kg)	Type
430-0502	ISO40	40	630	7.704	B
430-0503	ISO50	22	200	3.569	B
430-0504	ISO50	22	250	3.768	B
430-0505	ISO50	22	315	3.889	B
430-0506	ISO50	22	400	4.125	B
430-0507	ISO50	22	500	4.403	B
430-0508	ISO50	22	630	4.764	B
430-0509	ISO50	27	315	4.518	B
430-0510	ISO50	27	400	4.784	B
430-0511	ISO50	27	500	5.296	B
430-0512	ISO50	27	630	5.835	B
430-0513	ISO50	27	800	5.55	B
430-0514	ISO50	32	315	4.859	B
430-0515	ISO50	32	400	5.366	B
430-0516	ISO50	32	500	5.963	B
430-0517	ISO50	32	630	6.736	B
430-0518	ISO50	32	800	7.749	B
430-0519	ISO50	32	1000	8.941	B
430-0520	ISO50	40	400	4.692	B
430-0521	ISO50	40	500	5.633	B
430-0522	ISO50	40	630	6.856	B
430-0523	ISO50	40	800	8.456	B
430-0524	ISO50	40	1000	10.388	B
430-0525	ISO50	50	400	10.366	B
430-0526	ISO50	50	500	11.835	B
430-0527	ISO50	50	630	13.751	B
430-0528	ISO50	50	800	16.72	B
430-0529	ISO50	50	1000	19.23	B
430-0530	ISO50	60	400	13.813	B
430-0531	ISO50	60	500	14.087	B
430-0532	ISO50	60	630	14.443	B
430-0533	ISO50	60	800	14.909	B
430-0534	ISO50	60	1000	15.457	B

Morse Taper Drill Chuck Arbor (Drawbar type)



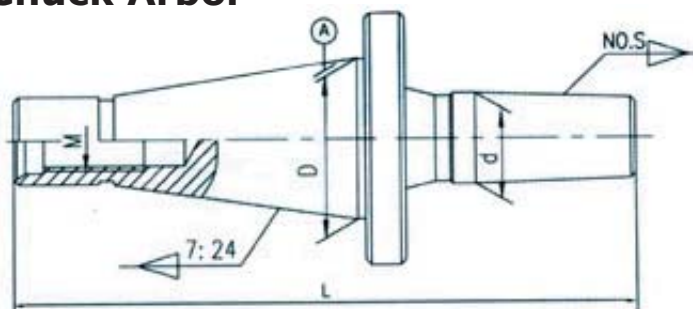
Order No.	Size	d (mm)	L (mm)	Order No.	Size	d (mm)	L (mm)
436-0700	MTOxJ0	6.35	67	436-0738	MT3xJ5	35.89	136
436-0701	MTOxJ1	9.754	72	436-0739	MT3xJ6	17.17	114
436-0702	MTOxJ2	14.199	78	436-0740	MT3xJ33	15.85	114
436-0703	MTOxJ3	20.599	87	436-0741	MT3xB10	10.094	107
436-0704	MTOxJ6	17.17	81	436-0742	MT3xB12	12.065	111
436-0705	MTOxJ33	15.85	81	436-0743	MT3xB16	15.733	118
436-0706	MTOxB10	10.094	74	436-0744	MT3xB18	17.78	126
436-0707	MTOxB12	12.065	78	436-0745	MT3xB22	21.793	135
436-0708	MTOxB16	15.733	85	436-0746	MT3xB24	23.825	145
436-0709	MTOxB18	17.78	93	436-0747	MT4xJ2	14.199	134
436-0710	MT1xJ0	6.35	71	436-0748	MT4xJ3	20.599	143
436-0711	MT1xJ1	9.754	76	436-0749	MT4xJ4	28.55	154
436-0712	MT1xJ2	14.199	82	436-0750	MT4xJ5	35.89	159
436-0713	MT1xJ3	20.599	91	436-0751	MT4xJ6	17.17	137
436-0714	MT1xJ6	17.17	85	436-0752	MT4xJ33	15.85	137
436-0715	MT1xJ33	15.85	85	436-0753	MT4xB16	15.733	141
436-0716	MT1xB10	10.094	78	436-0754	MT4xB18	17.78	149
436-0717	MT1xB12	12.065	82	436-0755	MT4x22	21.793	158
436-0718	MT1xB16	15.733	89	436-0756	MT4x24	23.825	168
436-0719	MT1xB18	17.78	97	436-0757	MT5xJ2	14.199	161
436-0720	MT2xJ0	6.35	83	436-0758	MT5xJ3	20.599	170
436-0721	MT2xJ1	9.754	88	436-0759	MT5xJ4	28.55	181
436-0722	MT2xJ2	14.199	94	436-0760	MT5xJ5	35.89	186
436-0723	MT2xJ3	20.599	103	436-0761	MT5xJ6	17.17	164
436-0724	MT2xJ4	28.55	114	436-0762	MT5xJ33	15.85	164
436-0725	MT2xJ5	35.89	119	436-0763	MT5xB16	15.733	168
436-0726	MT2xJ6	17.17	97	436-0764	MT5xB18	17.78	176
436-0727	MT2xJ33	15.85	97	436-0765	MT5xB22	21.793	185
436-0728	MT2xB10	10.094	90	436-0766	MT5xB24	23.825	195
436-0729	MT2xB12	12.065	94	436-0767	MT6xJ3	20.599	224
436-0730	MT2xB16	15.733	101	436-0768	MT6xJ4	28.55	235
436-0731	MT2xB18	17.78	109	436-0769	MT6xJ5	35.89	240
436-0732	MT2xB22	21.793	117	436-0770	MT6xJ6	17.17	218
436-0733	MT2xB24	23.825	127	436-0771	MT6xJ33	15.85	218
436-0734	MT3xJ1	9.754	105	436-0772	MT6xB16	15.733	222
436-0735	MT3xJ2	14.199	111	436-0773	MT6xB18	17.78	230
436-0736	MT3xJ3	20.599	120	436-0774	MT6xB22	21.793	238
436-0737	MT3xJ4	28.55	131	436-0775	MT6xB24	23.825	248

**Morse Taper Drill Chuck Arbor
(Tang type)**



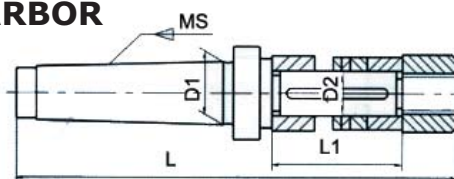
Order No.	Size	d (mm)	L (mm)	Order No.	Size	d (mm)	L (mm)
436-0776	MT0-B6	6.35	75	436-0817	MT3-B16	15.733	131
436-0777	MT0-B10	10.094	80	436-0818	MT3-B18	17.78	139
436-0778	MT0-B12	12.065	84	436-0819	MT3-B22	21.793	147
436-0779	MT0-B16	15.733	91	436-0820	MT3-B24	23.825	157
436-0780	MT0-B18	17.78	99	436-0821	MT3-J0	6.35	113
436-0781	MT0-B22	21.793	108	436-0822	MT3-J1	9.754	118
436-0782	MT0-B24	23.825	118	436-0823	MT3-J2	14.199	124
436-0783	MT0-J0	6.35	73	436-0824	MT3-J3	20.599	133
436-0784	MT0-J3	20.599	93	436-0825	MT3-J4	28.55	144
436-0785	MT0-J33	15.85	88	436-0826	MT3-J5	35.89	149
436-0786	MT1-B10	10.094	86	436-0827	MT3-J6	17.17	127
436-0787	MT1-B12	12.065	90	436-0828	MT3-J33	15.85	127
436-0788	MT1-B16	15.733	97	436-0829	MT4-B10	10.094	145
436-0789	MT1-B18	17.78	105	436-0830	MT4-B12	12.065	149
436-0790	MT1-B22	21.793	114	436-0831	MT4-B16	15.733	156
436-0791	MT1-B24	23.825	124	436-0832	MT4-B18	17.78	164
436-0792	MT1-J0	6.35	79	436-0833	MT4-B22	21.793	172
436-0793	MT1-J1	9.754	85	436-0834	MT4-B24	23.825	182
436-0794	MT1-J2	14.199	90	436-0835	MT4-J0	6.35	138
436-0795	MT1-J3	20.599	99	436-0836	MT4-J1	9.754	143
436-0796	MT1-J4	28.55	110	436-0837	MT4-J2	14.199	149
436-0797	MT1-J5	35.89	116	436-0838	MT4-J3	20.599	158
436-0798	MT1-J6	17.17	94	436-0839	MT4-J4	28.55	169
436-0799	MT1J33	15.85	94	436-0840	MT4-J5	35.89	174
436-0800	MT2-B10	10.094	101	436-0841	MT4-J6	17.17	152
436-0801	MT2-B12	12.065	105	436-0842	MT4-J33	15.85	152
436-0802	MT2-B16	15.733	112	436-0843	MT5-B10	10.094	177
436-0803	MT2-B18	17.78	120	436-0844	MT5-B12	12.065	181
436-0804	MT2-B22	21.793	128	436-0845	MT5-B16	15.733	188
436-0805	MT2-B24	23.825	138	436-0846	MT5-B18	17.78	196
436-0806	MT2-B18S	17.431	113	436-0847	MT5-B22	21.793	204
436-0807	MT2-J0	6.35	94	436-0848	MT5-B24	23.825	214
436-0808	MT2-J1	9.754	100	436-0849	MT5-J0	6.35	170
436-0809	MT2-J2	14.199	105	436-0850	MT5-J1	9.754	175
436-0810	MT2-J3	20.599	114	436-0851	MT5-J2	14.199	181
436-0811	MT2-J4	28.55	125	436-0852	MT5-J3	20.599	190
436-0812	MT2-J5	35.89	130	436-0853	MT5-J4	28.55	201
436-0813	MT2-J6	17.17	108	436-0854	MT5-J5	35.89	206
436-0814	MT2-J33	15.85	108	436-0855	MT5-J6	17.17	184
436-0815	MT3-B10	10.094	120	436-0856	MT5-J33	15.85	184
436-0816	MT3-B12	12.065	124	436-0857	MT6-J6	17.17	246

ISO Taper Drill Chuck Arbor



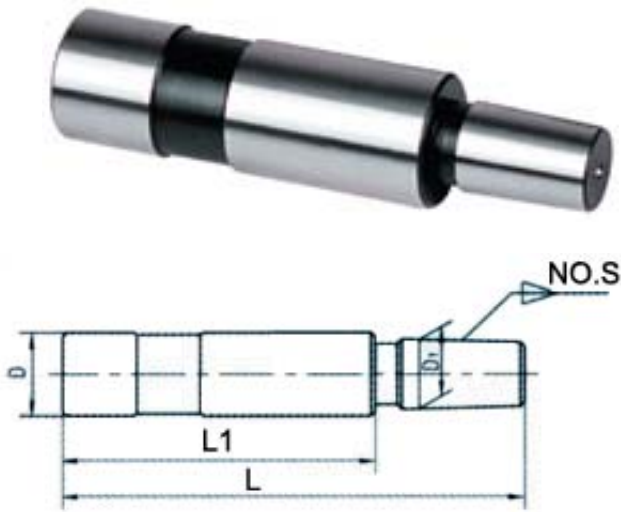
Order No.	Size	D (mm)	d (mm)	L (mm)	M	Order No.	Size	D (mm)	d (mm)	L (mm)	M
436-0858	ISO30-J0	31.75	6.35	99	M12	436-0881	ISO50-J6	69.85	17.17	184	M24
436-0859	ISO30-J1		9.754	106		436-0882	ISO50-J3		20.599	191	
436-0860	ISO30-J2S		13.94	109		436-0883	ISO50-J4		28.55	202	
436-0861	ISO30-J2		14.199	113		436-0884	ISO50-J5		35.89	208	
436-0862	ISO30-J33		15.85	122		436-0885	ISO30-B10	31.75	10.094	104	M12
436-0863	ISO30-J6		17.17	122		436-0886	ISO30-B12		12.065	108	
436-0864	ISO30-J3		20.599	123		436-0887	ISO30-B16		15.733	116	
436-0865	ISO30-J4		28.55	136		436-0888	ISO30-B18		17.78	124	
436-0866	ISO30-J5		35.89	145		436-0889	ISO30-B22		21.793	133	
436-0867	ISO40-J0		6.35	126		436-0890	ISO30-B24		23.825	143	
436-0868	ISO40-J1	44.45	9.754	133	M16	436-0891	ISO40-B10	44.45	10.094	132	M16
436-0869	ISO40-J2S		13.94	136		436-0892	ISO40-B12		12.065	136	
436-0870	ISO40-J2		14.199	141		436-0893	ISO40-B16		15.733	143	
436-0871	ISO40-J33		15.85	145		436-0894	ISO40-B18		17.78	151	
436-0872	ISO40-J6		17.17	145		436-0895	ISO40-B22		21.793	160	
436-0873	ISO40-J3		20.599	150		436-0896	ISO40-B24		23.825	169	
436-0874	ISO40-J4		28.55	165		436-0897	ISO50-B10	69.85	10.094	170	M24
436-0875	ISO40-J5		35.89	170		436-0898	ISO50-B12		12.065	174	
436-0876	ISO50-J0		6.35	167		436-0899	ISO50-B16		15.733	182	
436-0877	ISO50-J1		9.754	175		436-0900	ISO50-B18		17.78	195	
436-0878	ISO50-J2S	13.94	177	436-0901	ISO50-B22	21.793	200				
436-0879	ISO50-J2	14.199	180	436-0902	ISO50-B24	23.825	215				
436-0880	ISO50-J33	15.85	184								

MORSE SHANK STUB MILLING MACHINE ARBOR



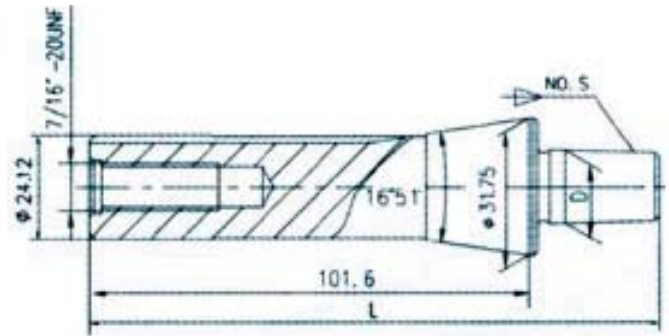
Model	Shank	D1 (mm)	D2 (mm)	L (mm)	L1 (mm)	Wt (kg)	Model	Shank	D1 (mm)	D2 (mm)	L (mm)	L1 (mm)	Wt (kg)
430-0570	MT2	17.78	22	171	63	0.421	430-0578	MT3	23.825	27	211	63	0.905
430-0571	MT2	17.78	12.7	148	63	0.43	430-0579	MT3	23.825	31.75	177	50.8	0.795
430-0572	MT2	17.78	15.875	151.6	50.8	0.478	430-0580	MT3	23.825	32	215	63	1.089
430-0573	MT2	17.78	25.4	157	50.8	0.504	430-0581	MT4	31.267	13	227	63	0.336
430-0574	MT3	23.825	13	199	63	0.527	430-0582	MT4	31.267	16	229	63	0.4
430-0575	MT3	23.825	16	201	63	0.591	430-0583	MT4	31.267	22	234	63	0.542
430-0576	MT3	23.825	22	206	63	0.783	430-0584	MT4	31.267	27	239	63	0.714
430-0577	MT3	23.825	25.4	174	50.8	0.634	430-0585	MT4	31.267	32	243	63	0.89

Straight Shank Drill Chuck Arbor



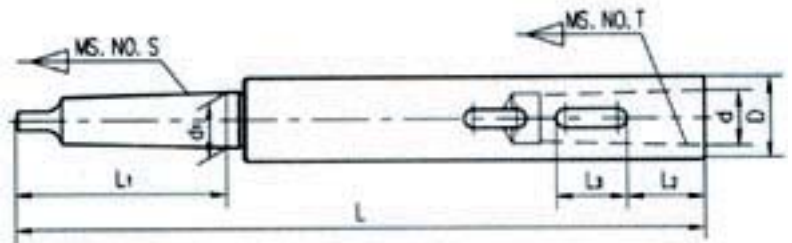
Order No.	Shank Diameter		Shank Taper	D1(mm)
	Inch Size	Metric Size		
D-J0	3/8" 1/2" 5/8" 7/8" 3/4" 1" 1-1/4" 1-1/2"	6mm 8mm 10mm 12mm 14mm 16mm 20mm 25mm 26mm 32mm 35mm 36mm 40mm 50mm	J0	6.35
D-J1			J1	9.754
D-J2			J2	14.199
D-J3			J3	20.599
D-J4			J4	28.55
D-J5			J5	35.89
D-J6			J6	17.17
D-J33			J33	15.85
D-B6			B6	6.35
D-B10			B10	10.094
D-B12			B12	12.065
D-B16			B16	15.733
D-B18			B18	17.78
D-B22			B22	21.793
D-B24			B24	23.825

R8 Shank Drill Chuck Arbor



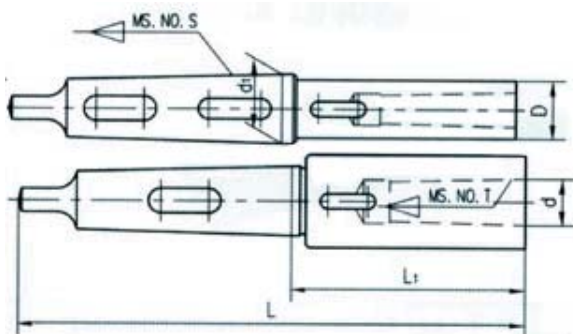
Order No.	Model	D(mm)	L(mm)	Wt(kg)	Order No.	Model	D(mm)	L(mm)	Wt(kg)
436-3320	R8-J0	6.35	117	0.393	436-3329	R8-B6	6.35	119	0.25
436-3321	R8-J1	9.754	122	0.409	436-3330	R8-B10	10.094	124	0.386
436-3322	R8-J2S	13.94	125	0.4	436-3331	R8-B12	12.065	128	0.408
436-3323	R8-J2	14.199	128	0.414	436-3332	R8-B16	15.733	135	0.44
436-3324	R8-J33	15.85	132	0.418	436-3333	R8-B18	17.78	143	0.454
436-3325	R8-J6	17.17	132	0.426	436-3334	R8-B22	21.793	152	0.514
436-3326	R8-J3	20.599	137	0.465	436-3335	R8-B24	23.825	162	0.567
436-3327	R8-J4	28.55	148	0.6					
436-3328	R8-J5	35.89	154	0.742					

Extra Long Drill Sleeve



Order NO.	Outside Taper	Inside Taper	L	L1	D	d	d1	L2	L3
435-0076	MT3	MT2	500	94	30	17.78	23.825	30	26
435-0077	MT3	MT3	300	94	36	23.825	23.825	34	31
435-0078	MT5	MT6	396	149.5	85	63.348	44.399	30	46
435-0079	MT6	MT6	460	210	85	63.348	63.348	30	46

DIN1806 MORSE TAPER SLEEVES



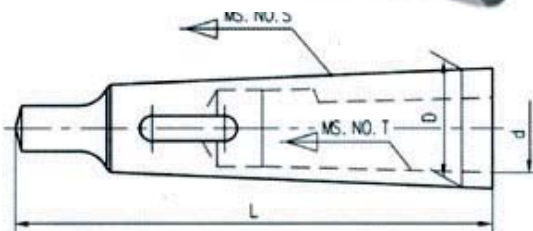
Order No.	Outside Taper	Inside Taper	L (mm)	L1 (mm)	D (mm)	d (mm)	d1 (mm)	Accuracy (mm)
435-0060	MT3	MT1	175	81	20	12.065	23.825	0.03
435-0061		MT2	194	100	30	17.78		0.03
435-0062		MT2	500	406	30			0.04
435-0063		MT3	215	121	36	23.825		0.03
435-0064		MT	300	206	36			0.04
435-0065	MT4	MT2	215	97.5	30	17.18	31.267	0.03
435-0066		MT3	240	122.5	36	23.825		0.03
435-0067		MT4	265	147.5	48	31.267		0.03
435-0068	MT5	MT2	247	97.5	30	17.78	44.399	0.04
435-0069		MT3	268	118.5	36	23.825		0.04
435-0070		MT4	300	150.5	48	31.267		0.04
435-0071		MT5	335	185.5	63	44.399		0.04
435-0072		MT6	396	246.5	85	63.348		0.05
435-0073	MT6	MT4	355	145	48	31.267	63.348	0.04
435-0074		MT5	390	180	63	44.399		0.04
435-0075		MT6	460	250	85	63.348		0.05

Morse Taper Drill Sleeve (Draw bar type)



Order No.	Outside/Inside	D (mm)	d (mm)	L (mm)	Accuracy
435-0480	MT2-MT1	17.78	12.065	108.5	0.01mm
0481-435	MT3-MT1	23.825	12.065	106	
0482-435	MT3-MT2	23.825	17.78	116	
0483-435	MT4-MT1	31.267	12.065	110	
0484-435	MT4-MT2	31.267	17.78	120	
0485-435	MT4-MT3	31.267	23.825	140	
0486-435	MT5-MT1	44.399	12.065	136	0.02mm
0487-435	MT5-MT2	44.399	17.78	136	
0488-435	MT5-MT3	44.399	23.825	148	
0489-435	MT5-MT4	44.399	31.267	176	

High Torque Drill Sleeve



Order No.	435-0476	435-0477	435-0478
Outside Taper	MT2	MT3	MT4
Inside Taper	MT1	MT2	MT3
D(mm)	17.78	23.825	31.267
d(mm)	12.065	17.78	23.825
L(mm)	92	112	140
Wt(kg)	0.1	0.12	0.38

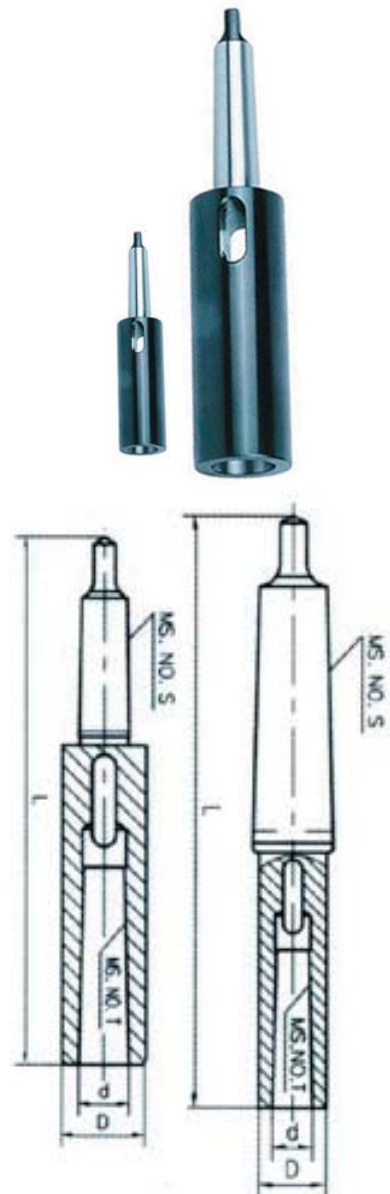
EXTRA LONG EXTENSION SOCKETS WITH MORSE TAPER HOLES

Order No.	Outside Taper	Inside Taper	L	L1	D	d	D1
435-0510	MT1	MT1	175	113	19	12.065	12.065
435-0511	MT1	MT1	200	138	20	12.065	12.065
435-0512	MT1	MT1	250	188	20	12.065	12.065
435-0513	MT1	MT1	300	238	20	12.065	12.065
435-0514	MT1	MT1	350	288	20	12.065	12.065
435-0515	MT1	MT1	400	338	20	12.065	12.065
435-0516	MT1	MT1	450	338	20	12.065	12.065
435-0517	MT1	MT1	500	438	20	12.065	12.065
435-0518	MT2	MT1	215	140	20	12.065	17.78
435-0519	MT2	MT1	332	257	20	12.065	17.78
435-0520	MT2	MT2	200	125	25	17.78	17.78
435-0521	MT2	MT2	225	150	25	17.78	17.78
435-0522	MT2	MT2	250	175	25	17.78	17.78
435-0523	MT2	MT2	300	225	25	17.78	17.78
435-0524	MT2	MT2	350	275	25	17.78	17.78
435-0525	MT2	MT2	400	325	25	17.78	17.78
435-0526	MT2	MT2	450	375	25	17.78	17.78
435-0527	MT2	MT2	500	425	25	17.78	17.78
435-0528	MT2	MT2	600	525	25	17.78	17.78
435-0529	MT2	MT3	300	225	34	23.285	17.78
435-0530	MT3	MT2	254	160	25	17.78	23.285
435-0531	MT3	MT2	300	206	25	17.78	23.285
435-0532	MT3	MT2	320	226	25	17.78	23.285
435-0533	MT3	MT2	354	260	30	17.78	23.285
435-0534	MT3	MT2	415	321	25	17.78	23.285
435-0535	MT3	MT2	704	610	25	17.78	23.285
435-0536	MT3	MT3	250	156	32	23.825	23.285
435-0537	MT3	MT3	300	206	32	23.825	23.285
435-0538	MT3	MT3	350	256	32	23.825	23.285
435-0539	MT3	MT3	400	306	32	23.825	23.285
435-0540	MT3	MT3	450	356	32	23.825	23.285
435-0541	MT3	MT3	500	406	32	23.825	23.285
435-0542	MT3	MT3	600	506	32	23.825	23.285
435-0543	MT4	MT3	450	332.5	32	23.825	31.267
435-0544	MT4	MT4	300	182.5	40	31.267	31.267
435-0545	MT4	MT4	350	232.5	40	31.267	31.267
435-0546	MT4	MT4	400	282.5	40	31.267	31.267
435-0547	MT4	MT4	450	332.5	40	31.267	31.267
435-0548	MT4	MT4	500	382.5	40	31.267	31.267
435-0549	MT4	MT4	600	482.5	40	31.267	31.267
435-0550	MT4	MT4	800	682.5	40	31.267	31.267
435-0551	MT5	MT4	450	300.5	42	31.267	44.399
435-0552	MT5	MT5	500	350.5	56	44.399	44.399
435-0553	MT5	MT5	550	400.5	63	44.399	44.399
435-0554	MT5	MT5	600	450.5	56	44.399	44.399
435-0555	MT6	MT6	465	255	85	63.348	63.348
435-0556	MT6	MT6	500	290	85	63.348	63.348
435-0557	MT6	MT6	600	390	85	63.348	63.348

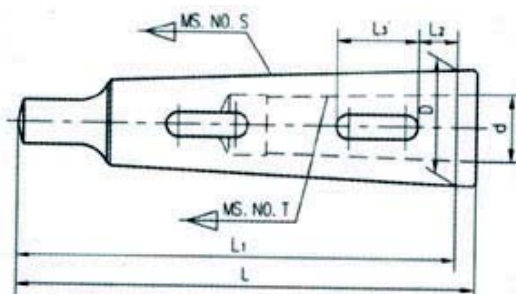


EXTENSION SOCKETS WITH MORSE TAPER HOLES

Order No.	Outside Taper	Inside Taper	D(mm)	d(mm)	L(mm)	Wt(kg)	Accuracy (mm)
435-0370	MT1	MT1	20	12.065	145	0.19	0.03
435-0371	MT1	MT2	30	17.78	160	0.4	0.03
435-0372	MT1	MT3	36	23.825	181	0.4	0.03
435-0373	MT2	MT1	20	12.065	160	0.29	0.03
435-0374	MT2	MT2	30	17.78	175	0.5	0.03
435-0375	MT3	MT3	36	23.825	196	0.6	0.03
435-0376	MT3	MT4	48	31.267	221	1.43	0.03
435-0377	MT3	MT1	20	12.065	175	0.41	0.03
435-0378	MT3	MT2	30	17.78	194	0.62	0.03
435-0379	MT3	MT3	36	23.825	215	0.89	0.03
435-0380	MT3	MT3	40	23.825	215	1.1	0.03
435-0381	MT3	MT4	48	31.267	240	1.55	0.03
435-0382	MT3	MT5	63	44.399	275	2.8	0.03
435-0383	MT4	MT1	20	12.065	200	0.81	0.03
435-0384	MT4	MT2	30	17.78	215	1	0.03
435-0385	MT4	MT3	36	23.825	240	1.27	0.03
435-0386	MT4	MT4	48	31.267	265	1.93	0.03
435-0387	MT4	MT5	63	44.399	300	3.18	0.03
435-0388	MT4	MT6	85	63.348	368	6.5	0.05
435-0389	MT5	MT1	20	12.065	232	1.79	0.04
435-0390	MT5	MT2	30	17.78	247	2	0.04
435-0391	MT5	MT3	36	23.825	268	2.27	0.04
435-0392	MT5	MT4	48	31.267	300	2.93	0.04
435-0393	MT5	MT5	63	44.399	335	4.18	0.05
435-0394	MT5	MT6	85	63.348	403	6.7	0.04
435-0395	MT6	MT1	20	12.065	294	4.04	0.04
435-0396	MT6	MT2	30	17.78	309	4.25	0.04
435-0397	MT6	MT3	36	23.825	330	4.52	0.04
435-0398	MT6	MT4	48	31.267	355	5.18	0.04
435-0399	MT6	MT5	63	44.399	390	6.43	0.04



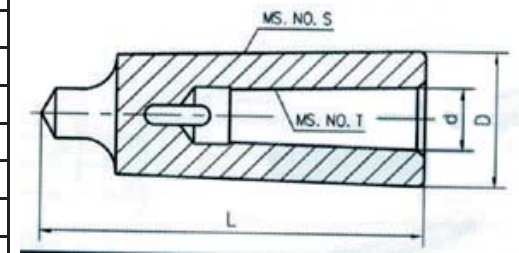
277 MORSE TAPER SLEEVES



Order No.	Outside Taper	Inside Taper	L	L1	D	d	L2	L3
435-0450	MT3	MT1	99	94	23.825	12.065	13.5	19
435-0451	MT3	MT2	112	94	23.825	17.78	5.5	22
435-0452	MT4	MT1	124	117.5	31.267	12.065	12.5	19
435-0453	MT4	MT2	124	117.5	31.267	17.78	16	22
435-0454	MT4	MT3	129.5	117.5	31.267	23.825	24	36
435-0455	ME80	MT5	228	220	80	44.399	22	48
435-0456	ME80	MT6	280	220	80	63.348	22	48

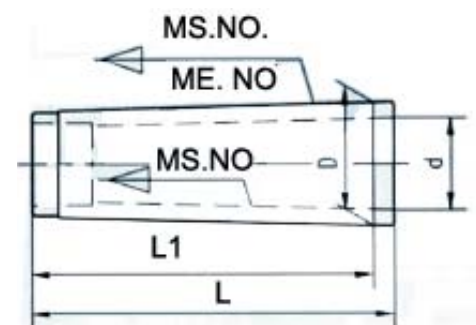
DIN2185 Morse Taper Sleeves

Order No.	Size	D(mm)	d(mm)	L(mm)	Wt(kg)	Accuracy
435-0460	MT1-MT0	13	9.045	80	0.1	0.015
435-0461	MT2-MT1	18.6	12.065	92	0.1	0.015
435-0462	MT3-MT1	24.1	12.065	99	0.24	0.015
435-0463	MT3-MT2	24.7	17.78	112	0.12	0.015
435-0464	MT4-MT1	31.6	12.065	124	0.6	0.015
435-0465	MT4-MT2	31.6	17.78	124	0.5	0.015
435-0466	MT4-MT3	32.4	23.825	140	0.38	0.015
435-0467	MT5-MT1	44.7	12.065	140	1.59	0.02
435-0468	MT5-MT2	44.7	17.78	156	1.49	0.02
435-0469	MT5-MT3	44.7	23.825	156	1.36	0.02
435-0470	MT5-MT4	45.5	31.267	171	0.95	0.02
435-0471	MT6-MT1	63.8	12.065	218	3.84	0.02
435-0472	MT6-MT2	63.8	17.78	218	3.73	0.02
435-0473	MT6-MT3	63.8	23.825	218	3.85	0.02
435-0474	MT6-MT4	63.8	31.267	218	3.12	0.02
435-0475	MT6-MT5	63.8	44.399	218	1.95	0.02



Morse Taper Sleeves

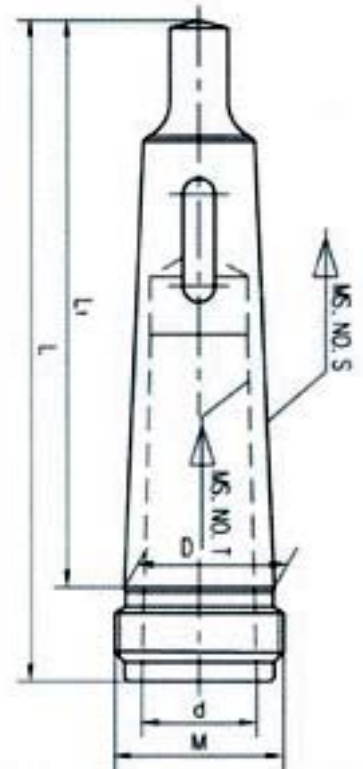
Order No.	Outside Taper	Inside Taper	L (mm)	L1 (mm)	D (mm)	d (mm)
435-0560	MT2	MT1	60	56	17.78	12.065
435-0561	MT3	MT1	70	66	23.825	12.065
435-0562	MT3	MT2	70	66	23.825	17.78
435-0563	MT4	MT2	70	63.5	31.267	17.78
435-0564	MT4	MT3	70	63.5	31.267	23.825
435-0565	MT5	MT2	77	70.5	44.399	17.78
435-0566	MT5	MT3	77	70.5	44.399	23.825
435-0567	MT5	MT4	77	70.5	44.399	31.267
435-0568	MT6	MT3	110	103.5	63.348	23.825
435-0569	MT6	MT4	110	103.5	63.348	31.267
435-0570	MT6	MT5	110	103.5	63.348	44.399
435-0571	ME40	MT3	70	103.5	40	23.825
435-0572	ME40	MT4	70		40	31.267
435-0573	ME50	MT3	86		50	23.825
435-0574	ME50	MT4	86		50	31.267
435-0575	ME50	MT5	86		50	44.399
435-0576	ME60	MT4	100		60	31.267
435-0577	ME60	MT5	100		60	44.399
435-0578	ME70	MT4	110		70	31.267
435-0579	ME70	MT5	110		70	44.399
435-0580	ME80	MT4	110		80	31.267
435-0581	ME80	MT5	110		80	44.399
435-0582	ME80	MT6	110		80	63.348
435-0583	ME90	MT5	120		90	44.399
435-0584	ME90	MT6	120		90	63.348



Morse Taper Sleeve with threads end



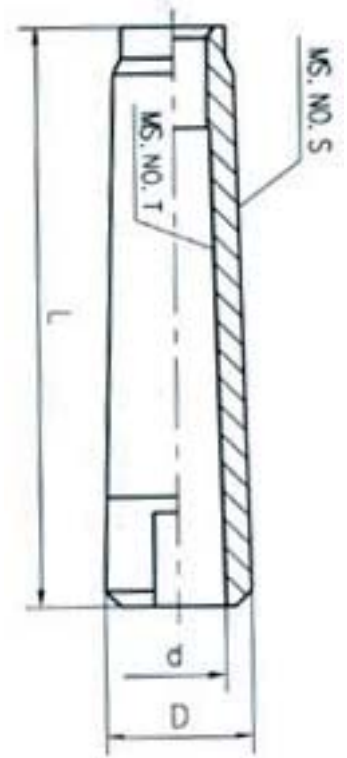
Order No.	Outside Taper	Inside Taper	L	L1	D	d	M	Accuracy
435-0585	MT2	MT1	95	75	17.78	12.065	M22x1.5	0.015
435-0586	MT3	MT1	115	94	23.825	12.065	M28x1.5	0.02
435-0587	MT3	MT2	115	94	23.825	17.78	M28x1.5	0.02
435-0588	MT4	MT1	137	117.5	31.267	12.065	M35x1.5	0.03
435-0589	MT4	MT2	137	117.5	31.267	17.78	M35x1.5	0.03
435-0590	MT4	MT3	137	117.5	31.267	23.825	M35x1.5	0.03
435-0591	MT5	MT2	173	149.5	44.399	17.78	M48x1.5	0.04
435-0592	MT5	MT3	173	149.5	44.399	23.825	M48x1.5	0.04
435-0593	MT5	MT4	173	149.5	44.399	31.267	M48x1.5	0.04
435-0594	MT6	MT3	240	210	63.348	23.825	M68x1.5	0.04
435-0595	MT6	MT4	240	210	63.348	31.267	M68x1.5	0.04
435-0596	MT6	MT5	240	210	63.348	44.399	M68x1.5	0.04



Morse Taper Sleeve



Order No.	M.NO.S	MS.NO.T	D(mm)	d(mm)	L(mm0)	Wt(kg)	Accuracy
435-0600	MT2	MT1	18	12.065	74	0.1	0.015
435-0601	MT3	MT1	24.1	12.65	80	0.24	
435-0602	MT3	MT2	24.1	17.78	80	0.12	
435-0603	MT4	MT1	36.1	12.065	90	0.63	0.02
435-0604	MT4	MT2	36.1	17.78		0.5	
435-0605	MT4	MT3	36.1	23.825		0.38	
435-0606	MT5	MT2	44.7	17.78	110	1.49	
435-0607	MT5	MT3	44.7	23.825		1.36	
435-0608	MT5	MT4	44.7	31.267		0.95	
435-0609	MT6	MT3	63.8	23.825	130	3.58	0.025
435-0610	MT6	MT4	63.8	31.267		3.12	
435-0611	MT6	MT5	63.8	44.399		1.95	
435-0612	MT7	MT5	83.56	44.399	195	1.69	



ISO/ISO ADAPTOR (Through Hole)

Order No.	Outside Taper	Inside Taper	D(mm)	D1 (mm)	d(mm)	L(mm0)
435-0615	ISO40	ISO30	44.45	31.75	16.5	152.4
435-0616	ISO40	ISO40	44.45	44.45	16.5	204.4
435-0617	ISO50	ISO30	69.85	31.75	24.5	185.8
435-0618	ISO50	ISO40	69.85	44.45	24.5	207.8
435-0619	ISO50	ISO50	69.85	69.85	24.5	260.8



ISO/ISO ADAPTOR

Order No.	Outside Taper	Inside Taper	D1(mm)	D(mm)	L(mm)
435-0620	ISO40	ISO30	44.45	31.75	110
435-0621	ISO50	ISO30	69.85	31.75	145
435-0622	ISO50	ISO40	69.85	44.45	145



ISO/R8 ADAPTOR

Order No.	Outside Taper	Inside Taper	D(mm)	D1 (mm)	L(mm0)
435-0623	ISO30	R8	42	31.75	180
435-0624	ISO40	R8	44.5	44.45	167
435-0625	ISO50	R8	44.5	69.85	175



ISO/ISO ADAPTOR (DRAWBAR TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	d(mm)	L(mm0)
435-0660	ISO40	ISO30	44.45	31.75	152.4
435-0661	ISO50	ISO30	69.85	31.75	185.8
435-0662	ISO50	ISO40	69.85	44.45	207.8



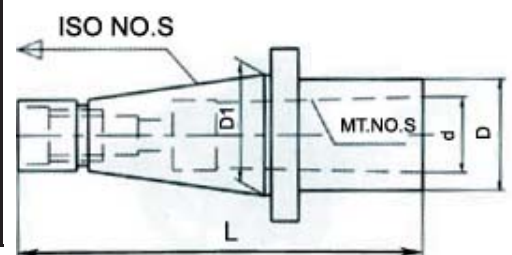
ISO/ISO ADAPTOR (DRAWBAR TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	D1 (mm)	d (mm)	L(mm0)
435-0695	ISO40	ISO30	44.45	31.75	18	86
435-0696	ISO50	ISO30	69.85	31.75	18	129.5
435-0697	ISO50	ISO40	69.85	44.45	26	129.5



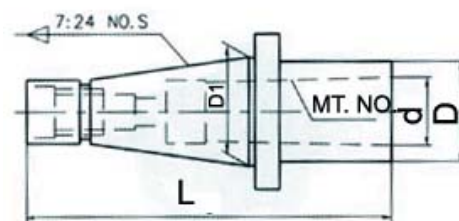
ISO TO MORSE TAPER ADAPTOR (TANG TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	D1(mm)	d(mm)	L(mm)
435-0665	ISO30	MT1	25	31.75	12.065	118
435-0666	ISO30	MT2	32	31.75	17.78	118
435-0667	ISO30	MT3	40	31.75	23.825	138
435-0668	ISO30	MT4	48	31.75	31.267	212
435-0669	ISO40	MT1	25	44.45	12.065	143
435-0670	ISO40	MT2	32	44.45	17.78	143
435-0671	ISO40	MT3	40	44.45	23.825	158
435-0672	ISO40	MT4	48	44.45	31.267	188
435-0673	ISO40	MT5	61	44.45	44.399	273
435-0674	ISO50	MT1	25	69.85	12.065	172
435-0675	ISO50	MT2	32	69.85	17.78	187
435-0676	ISO50	MT3	40	69.85	23.825	192
435-0677	ISO50	MT4	48	69.85	31.267	197
435-0678	ISO50	MT5	61	69.85	44.399	232



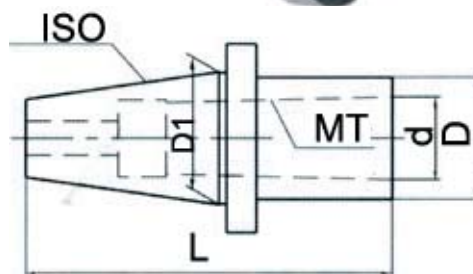
ISO TO MORSE TAPER ADAPTOR (DRAWBAR TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	D1(mm)	d(mm)	L(mm)
435-0700	ISO30	MT1	25	31.75	12.065	105
435-0701	ISO30	MT2	32	31.75	17.78	118
435-0702	ISO30	MT3	40	31.75	23.825	155
435-0703	ISO40	MT1	25	44.45	12.065	120
435-0704	ISO40	MT2	32	44.45	17.78	120
435-0705	ISO40	MT3	40	44.45	23.825	140
435-0706	ISO40	MT4	48	44.45	31.267	178
435-0707	ISO40	MT5	56	44.45	44.399	238
435-0708	ISO50	MT1	25	69.85	12.065	160
435-0709	ISO50	MT2	32	69.85	17.78	160
435-0711	ISO50	MT3	40	69.85	23.825	160
435-0712	ISO50	MT4	48	69.85	31.267	180
435-0713	ISO50	MT5	61	69.85	44.399	210



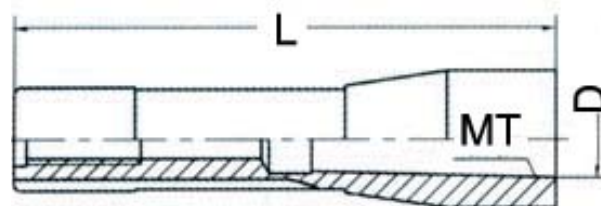
ISO TO MORSE TAPER ADAPTOR (END OPENING TYPE)

Order No.	Outside Taper	Inside Taper	D(mm)	D1(mm)	d(mm)	L(mm)
435-0680	ISO30	MT1	24	31.75	12.065	75
435-0681	ISO30	MT2	30	31.75	17.78	100
435-0682	ISO30	MT3	36	31.75	23.825	130
435-0683	ISO30	MT4	49	31.75	31.267	165
435-0684	ISO40	MT1	24	44.45	12.065	80
435-0685	ISO40	MT2	30	44.45	17.78	85
435-0686	ISO40	MT3	36	44.45	23.825	100
435-0687	ISO40	MT4	48	44.45	31.267	145
435-0688	ISO40	MT5	61	44.45	44.399	225
435-0689	ISO50	MT1	25	69.85	12.065	127
435-0690	ISO50	MT2	32	69.85	17.78	127
435-0691	ISO50	MT3	40	69.85	23.825	127
435-0692	ISO50	MT4	48	69.85	31.267	127
435-0693	ISO50	MT5	61	69.85	44.399	180



R8 TO MORSE TAPER SLEEVES

Order No.	Outside Taper	Inside Taper	D(mm)	L(mm)	Wt(kg)
435-0760	R8	MT1	12.065	102	0.14
435-0761	R8	MT2	17.78	105	0.28
435-0762	R8	MT3	23.825	135	0.34
435-0763	R8	MT4	31.267	218	d
435-0764	R8	MT1	12.065	114	0.382
435-0765	R8	MT2	17.78	127	0.399
435-0766	R8	MT3	23.825	153	0.41
435-0767	R8	MT4	31.267	240	1.68



LATHE MANDRELS, inch

- * 1:2000 taper
- * -0.0005" tolerance for mandrel size from 1/8" to 1"
- * -0.001" tolerance for mandrel size from 1-1/16" to 3".



Order NO.	DiameterxLength	Order NO.	DiameterxLength	Order NO.	DiameterxLength
436-7901	1/8"X2-1/2"	436-7921	3/4"X6"	436-7941	1-3/8"X8-1/2"
436-7902	5/32"X3"	436-7922	25/32"X6-1/4"	436-7942	1-7/16"X8-3/4"
436-7903	3/16"X3"	436-7923	13/16"X6-1/4"	436-7943	1-15/32"X9"
436-7904	7/32"X3-3/4"	436-7924	27/32"X6-1/2"	436-7944	1-1/2"X9"
436-7905	1/4"X3-3/4"	436-7925	7/8"X6-1/2"	436-7945	1-9/16"X9-1/4"
436-7906	9/32"X4"	436-7926	29/32"X6-3/4"	436-7946	1-5/8"X9-1/2"
436-7907	5/16"X4"	436-7927	15/16"X6-3/4"	436-7947	1-11/16"X9-3/4"
436-7908	11/32"X4-1/4"	436-7928	31/32"X7"	436-7948	1-3/4"X10"
436-7909	3/8"X4-1/4"	436-7929	1"X7"	436-7949	1-13/16"X10-1/4"
436-7910	13/32"X4-1/2"	436-7930	1-1/32"X7-1/4"	436-7950	1-7/8"X10-1/2"
436-7911	7/16"X4-1/2"	436-7931	1-1/16"X7-1/4"	436-7951	1-15/16"X10-3/4"
436-7912	15/32"X5"	436-7932	1-3/32"X7-1/2"	436-7952	2"X11"
436-7913	1/2"X5"	436-7933	1-1/8"X7-1/2"	436-7953	2-1/8"X11-1/2"
436-7914	17/32"X5-1/4"	436-7934	1-5/32"X7-3/4"	436-7954	2-1/4"X12"
436-7915	9/16"X5-1/4"	436-7935	1-3/16"X7-3/4"	436-7955	2-3/8"X12"
436-7916	19/32"X5-1/2"	436-7936	1-7/32"X8"	436-7956	2-1/2"X12-1/2"
436-7917	5/8"X5-1/2"	436-7937	1-1/4"X8"	436-7957	2-5/8"X12-1/2"
436-7918	21/32"X5-3/4"	436-7938	1-9/32"X8-1/4"	436-7958	2-3/4"X13"
436-7919	11/16"X5-3/4"	436-7939	1-5/16"X8-1/4"	436-7959	2-7/8"X13"
436-7920	23/32"X6"	436-7940	1-11/32"X8-3/4"	436-7960	3"X13"

LATHE MANDRELS, metric

- * 1:2000 taper
- * -0.0125mm tolerance for mandrel size from 3mm to 25mm
- * -0.025mm tolerance for mandrel size from 26mm to 72mm.



Order No.	DiameterxLength	Order No.	DiameterxLength	Order No.	DiameterxLength
436-7961	3mmx63.5mm	436-7977	19mmx152mm	436-7993	42mmx241mm
436-7962	4mmx76mm	436-7978	20mmx159mm	436-7994	44mmx254mm
436-7963	5mmx95mm	436-7979	21mmx165mm	436-7995	45mmx254mm
436-7964	6mmx95mm	436-7980	22mmx165mm	436-7996	46mmx260mm
436-7965	7mmx102mm	436-7981	23mmx171.5mm	436-7997	48mmx267mm
436-7966	8mmx102mm	436-7982	25mmx178mm	436-7998	50mmx273mm
436-7967	9mmx108mm	436-7983	26mmx184mm	436-7999	51mmx279mm
436-7968	10mmx114mm	436-7984	27mmx184mm	436-8000	55mmx292mm
436-7969	11mmx114mm	436-7985	28mmx190.5mm	436-8001	58mmx305mm
436-7970	12mmx127mm	436-7986	30mmx197mm	436-8002	60mmx305mm
436-7971	13mmx127mm	436-7987	32mmx203mm	436-8003	62mmx317.5mm
436-7972	14mmx133mm	436-7988	34mmx210mm	436-8004	65mmx317.5mm
436-7973	15mmx140mm	436-7989	35mmx216mm	436-8005	70mmx330mm
436-7974	16mmx140mm	436-7990	36mmx222mm	436-8006	72mmx330mm
436-7975	17mmx146mm	436-7991	38mmx229mm		
436-7976	18mmx152mm	436-7992	40mmx235mm		

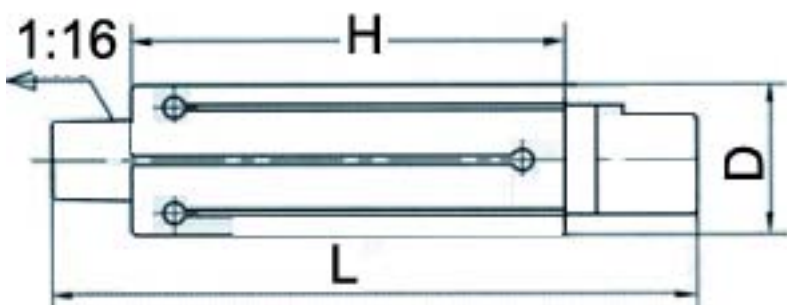
EXPANDING MANDRELS

Order No.	D	L	H	Sleeve No.	Wt(kg)
436-7801	1/2~9/16"	5"	2-1/2"	1	0.1
436-7802	9/16~21/32"	6"	2-3/4"	1	0.15
436-7803	21/32~3/4"	6"	2-3/4"	1	0.22
436-7804	3/4~7/8"	7"	3-1/4"	1	0.3
436-7805	7/8~1"	7"	3-1/2"	1	0.45
436-7806	1~1-1/4"	9"	4"	2	0.7
436-7807	1-1/4~1-1/2"	9"	4"	2	1.2
436-7808	1-1/2~2"	11.5"	5"	2	2.1
436-7809	2~2-3/4"	14"	6"	2	6.25
436-7810	2-3/4~3-3/4"	17"	7"	2	14.54

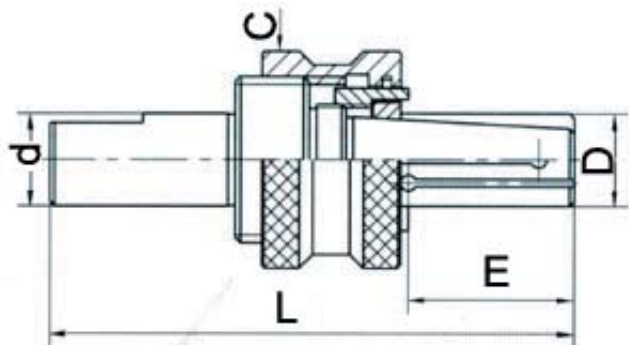


EXPANDING MANDREL SETS

Order No.	D	Mandrel Nos.
436-7811	1/2" to 1"	5
436-7812	1" to 2"	3
436-7813	1/2"	8
436-7814	2-3/4~3-3/4"	5
436-7815	1-1/2" to 3-3/4"	3

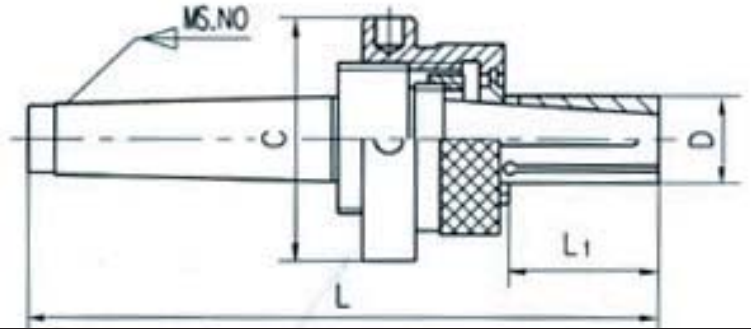


EXPANDING MANDREL



Order No.	D	E	L	d	G	Sleeves	Extensibility
436-7816	5.5-7mm	12	74.5	10	19.5	4	0.5mm
436-7817	7.5-9mm	16	79.5	12	23	4	
436-7818	9.5-11.5mm	20	89.5	12	28	5	
436-7819	12-14.5mm	26	97.5	14	31	6	
436-7820	14.5-19mm	30	102.5	18	38	10	
436-7821	19.5-24.5mm	36	113.5	20	47	11	
436-7822	24.7-28.7mm	42.5	136	25	69	5	1mm
436-7823	29.7-33.7mm	46	144.5	30	72	5	
436-7824	34.7-38.7mm	52.5	156	40	79	5	
436-7825	39.7-43.7mm	58	166.5	40	87	5	
436-7826	44.7-53.7mm	76.5	197	45	96	10	
436-7827	54.7-63.7mm	85	208.5	50	107	10	
436-7828	64.7-78.7mm	96	221.5	50	130	15	

EXPANDING MANDRELS



Order No.	D	C	Shank Taper	L (mm)	L1 (mm)	Sleeves	Extensibility
436-7830	5.5-7mm	19.5mm	MT2	110	12	4	0.5mm
436-7831	5.5-7mm	19.5mm	MT3	127	12		
436-7832	5.5-7mm	19.5mm	MT4	150	12		
436-7833	7.5-9mm	23mm	MT2	118.5	16		
436-7834	7.5-9mm	23mm	MT3	135.5	16		
436-7835	7.5-9mm	23mm	MT4	158.5	16		
436-7836	9.5-11.5mm	28mm	MT2	123.5	20	5	
436-7837	9.5-11.5mm	28mm	MT3	140.5	20		
436-7838	9.5-11.5mm	28mm	MT4	163.5	20		
436-7839	12-14.5mm	31mm	MT2	131.5	26	6	
436-7840	12-14.5mm	31mm	MT3	148.5	26		
436-7841	12-14.5mm	31mm	MT4	171.5	26		
436-7842	14.5-19mm	38mm	MT2	136.5	30	10	
436-7843	14.5-19mm	38mm	MT3	153.5	30		
436-7844	14.5-19mm	38mm	MT4	176.5	30		
436-7845	19.5-24.5mm	47mm	MT3	159.5	36	11	
436-7846	19.5-24.5mm	47mm	MT4	182.5	36		
436-7847	24.7-28.7mm	69mm	MT3	177	42.5	5	1mm
436-7848	24.7-28.7mm	69mm	MT4	200	42.5		
436-7849	29.7-33.7mm	72mm	MT3	180.5	46		
436-7850	29.7-33.7mm	72mm	MT4	203.5	46		
436-7851	34.7-38.7mm	79mm	MT4	210	52.5		
436-7852	39.7-43.7mm	87mm	MT4	215.5	58		
436-7853	44.7-53.7mm	96mm	MT4	239	76.5		
436-7854	54.7-63.7mm	107mm	MT4	250.5	85		
436-7855	64.7-78.7mm	130mm	MT4	263.5	96		

TAPPING CHUCK SET



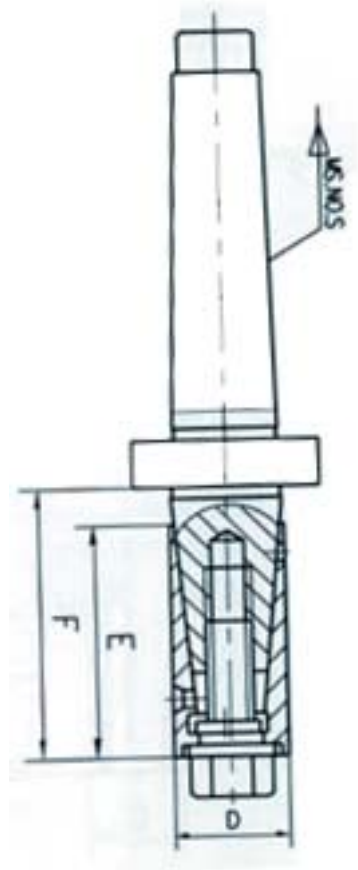
The tapping chuck set includes chuck arbor, drill chuck adaptor, morse taper adaptor sleeves and tapping sleeves. Simply move the locking bush, the drill and tap sleeves can be quickly changed.

Model	Body Dia. (mm)	Adaptor Dia. (mm)	Shank Taper	Tapping range	Morse Taper Adaptors
468-9700	57	25	MT3	M3-M12	MT2
468-9701	57	25	MT4	M3-M16	MT2
468-9702	57	25	MT5	M3-M16	MT2
468-9703	82	40	MT4	M8-M24	MT2,MT3
468-9704	82	40	MT5	M12-M24	MT2,MT3

EXPANDING MANDRELS



Model	D(mm)	Shank Taper	E(mm)	F(mm)	Sleeves	Extensibility
436-7860	14.7-18.7	MT2	35	41.5	5	1mm
436-7861	14.7-18.7	MT3	35	41.5	5	1mm
436-7862	14.7-18.7	MT4	35	41.5	5	1mm
436-7863	19.7-23.7	MT2	40	46.5	5	1mm
436-7864	19.7-23.7	MT3	40	46.5	5	1mm
436-7865	19.7-23.7	MT4	40	46.5	5	1mm
436-7866	24.7-28.7	MT2	46	52.5	5	1mm
436-7867	24.7-28.7	MT3	46	52.5	5	1mm
436-7868	24.7-28.7	MT4	46	52.5	5	1mm
436-7869	24.7-28.7	MT5	46	52.5	5	1mm
436-7870	29.7-33.7	MT3	50	56.5	5	1mm
436-7871	29.7-33.7	MT4	50	56.5	5	1mm
436-7872	29.7-33.7	MT5	50	56.5	5	1mm
436-7873	34.7-38.7	MT3	60	66.5	5	1mm
436-7874	34.7-38.7	MT4	60	66.5	5	1mm
436-7875	34.7-38.7	MT5	60	66.5	5	1mm
436-7876	39.7-43.7	MT3	60	66.5	5	1mm
436-7877	39.7-43.7	MT4	60	66.5	5	1mm
436-7878	39.7-43.7	MT5	60	66.5	5	1mm
436-7879	44.7-52.7	MT3	80	92	5	2mm
436-7880	44.7-52.7	MT4	80	92	5	2mm
436-7881	44.7-52.7	MT5	80	92	5	2mm
436-7882	54.7-62.7	MT3	90	102	5	2mm
436-7883	54.7-62.7	MT4	90	102	5	2mm
436-7884	54.7-62.7	MT5	90	102	5	2mm
436-7885	64.7-80.7	MT4	100	112	9	2mm
436-7886	64.7-80.7	MT5	100	112	9	2mm
436-7887	81.7-99.7	MT4	122	134	10	2mm
436-7888	81.7-99.7	MT5	122	134	10	2mm
436-7889	100.7-118.7	MT5	140	152	10	2mm
436-7890	119.7-139.7	MT5	180	192	11	2mm



F4 UNIVERSAL BORING AND FACING HEAD

The universal boring and facing head is for operations such as facing, external and internal diameter boring, step hole boring, inside and outside grooving on jig boring machines, horizontal boring machines, milling machines, CNC machines etc.. This versatile tool features mechanism of fine manual feed, rapid adjustment, various velocities for automatic radial feed and overload protection.

Shanks for the boring and facing head

- * Boring range: 5-250mm in diameter.
- * Boring bar hole size: Dia. 18mm.
- * Center distance between holes: 23mm.
- * Fine feed per graduation: 0.005mm
- * Offset: +/-15mm

Order No.	Shank Size	Order No.	Shank Size
437-2011	R8, 7/16"-20UNF	437-2022	MT5,tang
437-2012	MT3, M12	437-2023	MT6,tang
437-2013	MT3, 1/2"-13UNC	437-2024	ISO30, M12
437-2014	MT4, M16	437-2025	ISO30, 1/2"-13UNC
437-2015	MT4, 5/8"-11UNC	437-2026	ISO40,M16
437-2016	MT5,M20	437-2027	ISO40,5/8"-11UNC
437-2017	MT5, 3/4"-10UNC	437-2028	ISO50,M24
437-2018	MT6,M24	437-2029	ISO50,1"-8UNC
437-2019	MT6,1"-8UNC	437-2030	BT30,M12
437-2020	MT3,tang	437-2031	BT40,M16
437-2021	MT4,tang	437-2032	BT50,M24



Order No. 437-2010

BORING HEAD



Optional boring bars and shanks.

Order No.	Body Dia.	Overall length	Max offset	Boring bore dia	Graduation	Max Dia of Boring
437-2002	2"	61.6	5/8"	1/2"	0.001"	3/8"-5"
437-2003	3"	80.2	1"	3/4"	0.0005"	1/2"-9"
437-2004	4"	93.2	1-5/8"	1"	0.0005"	5/8"-25"
437-2050	50mm	61.6	16mm	12mm	0.01mm	10-125mm
437-2075	75mm	80.2	25mm	18mm	0.01mm	12-225mm
437-2100	100mm	93.2	41mm	25mm	0.01mm	15-630mm

Shanks with 7/8"-20TPI mounting thread

Order NO.	Taper Shank	Order NO.	Taper Shank
437-2303	MT2 DRAWBAR	437-2601	ISO40
437-2323	MT3 TANG	437-2602	ISO50
437-2306	MT3 DRAWBAR	437-2337	B&S9W
437-2326	MT3 TANG	437-2500	1/2"
437-2309	MT4 DRAWBAR	437-2501	5/8"
437-2329	MT4 TANG	437-2502	3/4"
437-2312	MT5 DRAWBAR	437-2503	7/8"
437-2332	MT5 TANG	437-2504	1"
437-2334	MT6 DRAWBAR	437-2505	1-1/4"
437-2338	MT5 TANG	437-2506	1-1/2"
437-2400	R8	439-2508	1-3/4"
437-2600	ISO30	437-2507	2"

Shanks with 1-1/2"-18TPI mounting thread

Order No	Shank Taper	Order No	Shank Taper
437-2304	MT2 drawbar	437-2605	ISO40
437-2324	MT2 tang	437-2606	ISO50
437-2307	MT3 drawbar	437-2337	B&S9W
437-2327	MT3 tang	437-2510	1/2"
437-2310	MT4 drawbar	437-2511	5/8"
437-2330	MT4 tang	437-2512	3/4"
437-2313	MT5 drawbar	437-2513	7/8"
437-2333	MT5 tang	437-2514	1"
437-2335	MT6 drawbar	437-2515	1-1/4"
437-2339	MTY tang	437-2516	1-1/2"
437-2401	R8	439-2518	1-3/4"
437-2604	ISO30	437-2517	2"

BORING HEAD



Specifications:

Order No.	Body Dia.	Max offset	Boring bore dia	Graduation
437-2410	2-1/8"	5/16"	1/2"	0.001"
437-2411	54mm	8mm	12mm	0.02"

Optional Shanks with 1-5/8"-16tpi thread

Order No.	Shank Size	Order No.	Shank Size	Order No.	Shank Size
437-2415	MT2	437-2418	R8	437-2421	3/4"
437-2416	MT3	437-2419	1/2"	437-2422	7/8"
437-2417	MT4	437-2420	5/8"	437-2423	1"

PRECISION BORING HEAD

Max. Boring diameter: 160mm
 Boring bar hole size: 18mm
 Fine feed per graduation: 0.02mm
 Max. stroke of slide block: 25mm

Optional Shanks

Order No.	Shank Size	Order No.	Shank Size
437-2345	R8-7/16"-20UNF	437-2353	MT4 tang
437-2346	MT3xM12	437-2354	MT5 tang
437-2347	MT3x1/2"-13UNC	437-2355	ISO30xM12
437-2348	MT4xM16	437-2356	ISO30x1/2"-12UNC
437-2349	MT4x5/8"-11UNC	437-2357	ISO40xM16
437-2350	MT5xM20	437-2358	ISO40x5/8"-11UNC
437-2351	MT5x3/4"-10UNC	437-2359	ISO50xM24
437-2352	MT3 tang	437-2360	ISO50x1"-8UNC



Order NO. 437-2341

PRECISION BORING HEAD

Max. Boring diameter: 10 to 150mm
 Boring bar hole size: 12mm
 Fine feed per graduation: 0.025mm



Order NO. 437-2370

Order No.	Shank Size	Order No.	Shank Size
437-2374	R8-7/16"-20UNF	437-2386	ISO30xM12
437-2375	M2xM10	437-2387	ISO30x1/2"-12UNC
437-2376	M2x3/8"-16UNC	437-2388	ISO40xM16
437-2377	MT3xM12	437-2389	ISO40x5/8"-11UNC
437-2378	MT3x1/2"-13UNC	437-2390	ISO50xM24
437-2379	MT4xM16	437-2391	ISO50x1"-8UNC
437-2380	MT4x5/8"-11UNC	437-2392	12mm
437-2381	MT5xM20	437-2393	16mm
437-2382	MT5x3/4"-11UNC	437-2394	20mm
437-2383	MT3 tang	437-2395	25mm
437-2384	MT4 tang	437-2396	32mm
437-2385	MT5 tang	437-2397	40mm



Carbide Tipped boring bars and shanks are all optional. Order separately.

DRILL-TAP FIXTURE

This versatile fixture accommodates 6 tools. Installed to the lathe tailstock, it can be used for drilling, tapping, reaming, center hole drilling and supporting as a live center.



Optional accessories for drill/tap fixture:

1. ER16 collets from 1 to 10mm
2. ER20 collets from 1 to 13mm
3. Drill chuck 13mm
4. Drill chuck 16mm
5. Precision light duty live center MT1 or MT2
6. Tapping collets from M3 to M12, M3 to M16
7. Die holder: M3 to M12 or M3 to M16

Order No.	Diameter of Turrent	Hole Size
437-2430	2-1/2"	5/8"
437-2431	5"	1"
437-2432	63.5mm	16mm
437-2433	127mm	25mm

Shank for 437-2430		Shank for 437-2431		Shank for 437-2432		Shank for 437-2433	
Order No.	Shank Size	Order No.	Shank Size	Order No.	Shank Size	Order No.	Shank Size
437-2435	MT1	437-2444	MT2	437-2451	MT1	437-2460	MT2
437-2436	MT2	437-2445	MT3	437-2452	MT2	437-2461	MT3
437-2437	MT3	437-2446	MT4	437-2453	MT3	437-2462	MT4
437-2438	MT4	437-2447	7/8"	437-2454	MT4	437-2463	22mm
437-2439	1/2"	437-2448	1"	437-2455	12mm	437-2464	25mm
437-2440	5/8"	437-2449	1-1/4"	437-2456	16mm	437-2465	32mm
437-2441	3/4"	437-2450	1-1/2"	437-2457	20mm	437-2466	40mm
437-2442	7/8"			437-2458	22mm		
437-2443	1"			437-2459	25mm		

DRILL RIG

This drill gig is a versatile tool which increase your work efficiency by two or three times. Used on the common drilling machines, it can accomplish drilling, enlarging, reaming, chamfering, tapping etc. You don't need to stop your machines when changing tool positions.



Specifications:
 Max. drill diamter: 13mm
 Tool change accuracy: 0.02mm
 Spindle Taper: B16
 Re-position accuracy: 0.05mm
 Tool Change time: < 3 seconds
 Weight: 3g

Order NO. 437-2470

QUICK CHANGE CHUCKS

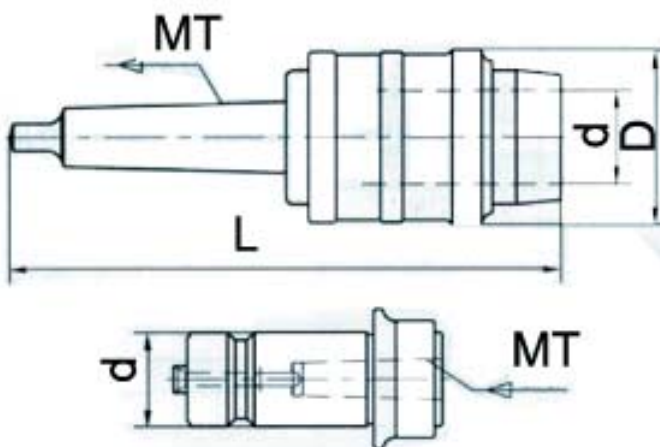
The quick change chuck consists of the chuck body, a few morse taper adaptors and drill chuck arbors. Simple push the locking bush to release and change the morse taper adaptors or drill chuck arbors. It is a versativle tool for for for drilling, reaming on drilling machine, lathe and boring machines.



Order No.	Shank Taper	Morse Taper Sleeves	Drill Chuck Arbor
468-9670	MT3	MT1, MT2, MT3	JT0
			JT1
			JT2S
			JT2
			JT3
468-9671	MT4	MT1, MT2, MT3	JT4
			JT5
			JT6
			JT33
468-9672	MT5	MT1, MT2, MT3	

QUICK CHANGE CHUCKS

The quick change chuck consists of the chuck body, a few morse taper adaptors. Simple push the locking bush to release and change the morse taper adaptors or drill chuck arbors. It is a versatile tool for for drilling, reaming on drilling machine, lathe and boring machines.

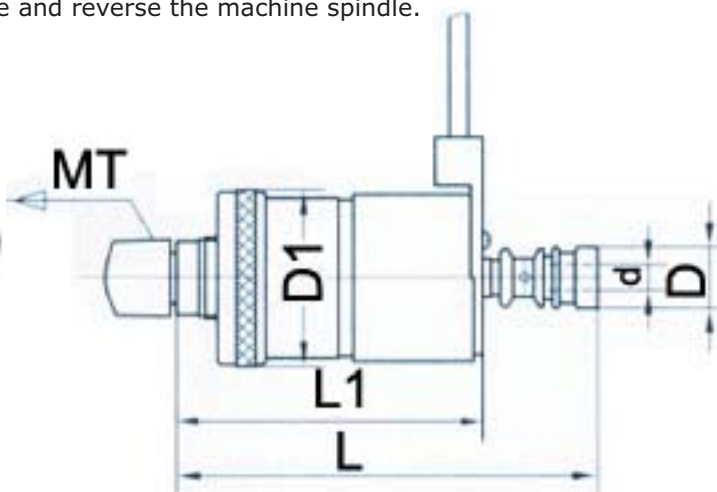


Order No.	Shank Taper	Morse Taper Sleeves	D (mm)	d (mm)	L (mm)	Weight (kg)
468-9673	MT2	MT1, MT2,	52	24	170	1.7
468-9674	MT3	MT1, MT2, MT3,	66	32	197	3.5
468-9675	MT4	MT1, MT2, MT3,MT4	78	42	246.5	5.3
468-9676	MT5	MT2, MT3,MT4, MT5	90	52	308.5	9.8
468-9677	R8	MT1, MT2, MT3,	66	32	203	3.4

REVISIBLE TAPPING CHUCKS

Features:

- * overload protection
- * Adjustable torque
- * Self-reversing with no need to stop the machine and reverse the machine spindle.
- * Quick withdrawal and simple to operate



Order No.	Tapping Range	Morse Taper Adaptors	d (mm)	D (mm)	D1 (mm)	L (mm)	L1 (mm)
468-9680	M2-M7	MT1-JT33, MT3-JT33	2.5-6.5	23	55	135	95
468-9681	M5-M12	MT3-M16, MT4-M16	3.5-10	28	75	164	114.5
468-9682	M8-M20	MT3-M20, MT4-M20	6.3-14	38	90.5	205	135

DRILL AND TAP CHUCK SET

Features:

- * Quickly change the drill or tap collets simply by pushing the nuts.
- * Adjustable tap torque to avoid tap breakage.
- * For use on lathe, milling machines and boring machines etc..
- * Tapping range from M6 to M30.

Each set includes:

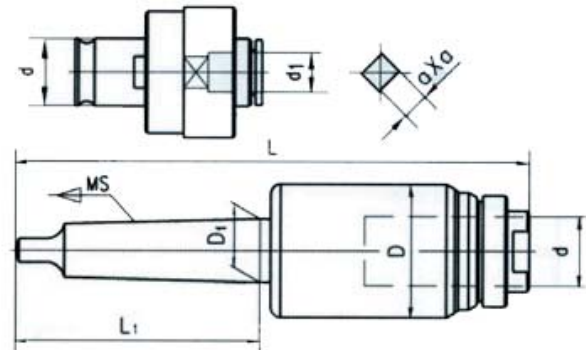
- 1 Morse taper chuck arbor
- 1 drill and tap chuck body
- 1 B16 drill chuck arbor
- 1 Morse taper adaptor
- 7 Tapping bushes
- 7 tapping collets



Order No.	Morse Taper Chuck Arbor
468-9683	MT2
468-9684	MT3
468-9685	MT4
468-9686	MT5

TAP CHUCK SET

The tapping chucks are made with with thread pitch compensation mechanism. The collet chucks have overload torque proection device to prevent tap breakage. To obtain different release torque for different diameter taps, simply adjust the nuts. It is a must for tapping work on drill, lathe, boring machines, milling machines etc.



Order No.	Shank taper	D (mm)	D1 (mm)	d (mm)	L1(mm)	L (mm)	Tapping range	Torque (Nm)	Wt (kg)
468-9687	MT2	46	17.78	19	75	171.5	M3-M12	25	1.08
468-9688	MT3	46	23.825	19	94	191	M3-M12	25	1.28
468-9689	MT4	46	31.267	19	117.5	216	M3-M12	25	3
468-9690	R8	46	31.75	19	101.6	193.6	M3-M16	46.3	1.71
468-9691	MT2	46	17.78	19	75	171.5	M3-M16	46.3	1.08
468-9692	MT3	46	23.825	19	94	191	M3-M16	46.3	1.61
468-9693	MT4	46	31.267	19	117.5	216	M3-M16	46.3	3
468-9694	MT3	66	23.825	30	94	227	M12-M24	150	3.2
468-9695	MT4	66	31.267	30	117.5	252	M12-M24	150	3.6
468-9696	MT5	66	44.399	30	149.5	284	M12-M24	150	4.5

TAPPING CHUCK SET

The tapping chuck set includes chuck arbor, drill chuck adaptor, morse taper adaptor sleeves and tapping sleeves. Simply move the locking bush, the drill and tap sleeves can be quickly changed.



Model	Body Dia. (mm)	Adaptor Dia. (mm)	Shank Taper	Tapping range	Morse Taper Adaptors
468-9700	57	25	MT3	M3-M12	MT2
468-9701	57	25	MT4	M3-M16	MT2
468-9702	57	25	MT5	M3-M16	MT2
468-9703	82	40	MT4	M8-M24	MT2,MT3
468-9704	82	40	MT5	M12-M24	MT2,MT3

Rectangular Magnetic Chuck

- * Magnetic force greater than 115PSI.
- * Securely hold magnetic conductive workpieces for surface grinding applications.

Order No.	Length (mm)	Width (mm)	Order No.	Length (mm)	Width (mm)
116-0530	175	100	116-0536	450	150
116-0531	250	125	116-0537	400	200
116-0532	150	150	116-0538	450	200
116-0533	300	150	116-0539	500	200
116-0534	350	150	116-0540	500	250
116-0535	400	150	116-0541	600	250



Super Dense Rectangular Magnetic Chuck

- * Magnetic force greater than 140PSI.
- * Securely hold magnetic conductive workpieces for surface grinding applications.
- * Fine poles (steel 1.5mm, brass 0.5mm)

Order No.	Length (mm)	Width (mm)	Order No.	Length (mm)	Width (mm)
116-0500	175	100	116-0505	400	150
116-0501	250	125	116-0506	450	150
116-0502	150	150	116-0507	400	200
116-0503	300	150	115-0508	450	200
116-0504	350	150	115-0509	500	200



Round Magnetic Chuck

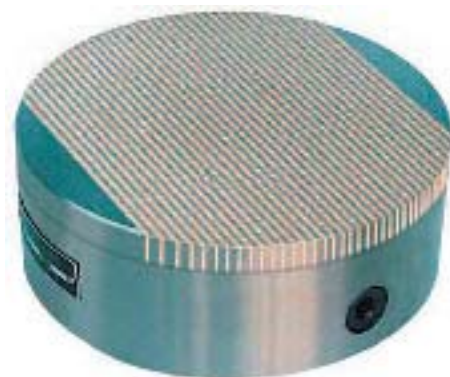
- * Securely hold magnetic conductive workpieces for surface grinding applications.



Order No.	Size (DXH)	Max. Holding Power
116-0410	100x68mm	116PSI
116-0411	160x66mm	
116-0412	200x73mm	
116-0413	250x80mm	174PSI
116-0414	300x94mm	
116-0415	350x97mm	
116-0416	400x100mm	
116-0417	500x110mm	

Super Dense Round Magnetic Chuck

- * Magnetic force greater than 116PSI.
- * Securely hold magnetic conductive workpieces for surface grinding applications.
- * Fine poles.



Order No.	Size (DXH)
116-0400	200x60mm
116-0401	300x60mm
116-0402	400x60mm
116-0403	500x60mm
116-0404	600x60mm

Shockproof Machine Mounts

- * Machines are stationary on floor without anchors. Therefore the cost and time of installation can be greatly saved.
- * It is convenient and quick to adjust the level of machine .
- * The layout of machines can be changed freely according to the modification of manufacturing process. So it is easy to design the flexible production line .
- * Vibration and noise can be reduced and isolated by using this product.
- * It can resist oil and corrosion greatly
- * Metal cutting machine, CNC machines, metalforming machines, rubber and plastic machines, spinning machines and foodprocess machines.

Order No.	Dia.	Thread	Bolt Height	Base Height	Adjustable height	Weight (kg)
400-1400	40mm	M5	30	15	5	0.05
400-1401	80mm	M10	80	25	8	0.3
400-1402	120mm	M12	100	32	12	1.02
400-1403	160mm	M16	120	35	12	2.03
400-1404	185mm	M20	130	39	12	3.07
400-1405	229mm	M24X1.5	180	54	12	7.56
400-1406	317mm	M30X2	200	70	12	17.5



Shockproof Machine Mounts

Light duty metalcutting machine, light industry, textile, foodprocess production line machine.

Order No.	Dia.	Thread	Base Height	Bolt Length	Height adjust	Weight (kg)	Load Per Mount (kgs)
400-1410	63mm	M10	17	90	12	0.2	9-80
400-1411	76mm	M12	20	110	12	0.34	80-135
400-1412	86mm	M12	25	115	14	0.45	135-320
400-1413	110mm	M16	28	135	14	0.93	320-540
400-1414	127mm	M16	30	140	15	1.18	540-890
400-1415	150mm	M16	33	140	18	1.64	890-1500
400-1416	171mm	M20	35	150	20	2.4	1500-2100



Shockproof Machine Mounts

For metal cutting machine, metalforming machine, printing machine, Rubber and plastic machines, spinning machines, light industry machines, food processing machines, generator and pump machine.

Order No.	Dia.	Thread	Base Height	Bolt Length	Height adjust	Weight (kg)	Load Per Mount (kgs)
400-1420	80mm	M10	49	100	10	0.94	80-400
400-1421	120mm	M12	56	120	10	2.38	310-750
400-1422	160mm	M16	67	140	12	4.61	700-1200
400-1423	200mm	M20	80	180	14	9.85	1100-4800



Shockproof Machine Mounts

- * Machines are stationary on floor without anchors.
- * It is convenient and quick to adjust the level of machine.
- * The layout of machines can be changed freely according to the modification of manufacturing process.
- * Vibration and noise can be reduced and isolated by using this product.
- * It can resist oil and corrosion greatly.

Order No.	L*W*H (mm)	Thread (mm)	Adjustable Height (mm)	Weight (kg)	Load Per Mount (kgs)
400-1430	115x80x61	M12	8	2.86	500-750
400-1431	150x75x61	M12	10	3.59	750-1000
400-1432	190x95x65	M16	12	6.3	1000-2000
400-1433	250x115x90	M20	14	15.3	2000-3000

