

Quick Change Tool Holder

MINI QUICK-CHANGE TOOL POST & HOLDERS

THIS WEDGE TYPE SYSTEM IS ENGINEERED & DESIGNED LIKE OUR LARGER TOOL POST SYSTEM.

6 pc/set includes

Holders:

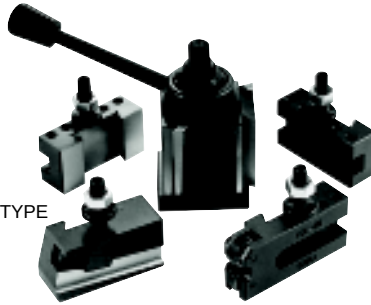
- No.1-Turning & Facing
- No.2-Boring, Turning & Facing
- No.4-Boring, Heavy Duty
- No.7-Universal parting blade
- No.10-Knurling, Facing & Turning

WEDGE TYPE

SWING CAPACITY UP TO 8"

OXA Series Style

Model No.951-6000

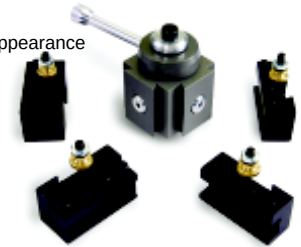


MINI QUICK-CHANGE TOOL POST & HOLDER KIT

- Fits 7x10, 7x12 and 7x14 mini lathes
- Made from 6061 T6 Aluminum
- Hard Anodized for durability and appearance
- No tools required to change tools

KIT INCLUDES

Tool post, Mounting hardware, Two turning tool holders, a boring tool holder and a cut-off blade holder.



Model No.951-6001

QUICK CHANGE TOOL POSTS & TOOL HOLDERS

Quick Change Lathe Tool Post Set

Piston Type

Piston Type Tool Post Sets

Each set consists of one piston type tool

Post and one of each of 5 tool holders:

- Style1: Boring & Facing.
- Style2: Boring, Turning & Facing.
- Style4: Boring, Heavy duty.
- Style7: Universal Parting Blade.
- Style10: Knurling, Facing & Turning.



Tool Post Series	Swing	Model No.
100(AXA)	Up To 12"	951-1100
200(BXA)	10-15"	951-1200
300(CXA)	13-18"	951-1300
400(CA)	14-20"	951-1400

Wedge Type

Wedge Type Tool Post Sets

Each set consists of one wedge type tool

Post and one of each of 5 tool holders:

- Style1: Boring & Facing.
- Style2: Boring, Turning & Facing.
- Style4: Boring, Heavy duty.
- Style7: Universal Parting Blade.
- Style10: Knurling, Facing & Turning.

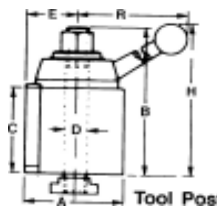


Tool Post Series	Swing	Model No.
100(AXA)	Up To 12"	951-1111
200(BXA)	10-15"	951-1222
300(CXA)	13-18"	951-1333
400(CA)	14-20"	951-1444
500(CA)	17-48"	951-1555

Quick Change Lathe Tool Posts

Features:

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

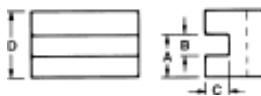


Tool Post Series	Width A	B	C	Overall D	Height E	Fits Lathe H	R	Size	Piston Type Model No.	Wedge Type Model No.
100	2-1/2"	3-7/8"	2-1/4"	9/16"	1-3/8"	4-11/16"	5-3/4"	12"	950-1100	950-1111
200	3	4-5/8"	2-3/4"	5/8"	1-5/8"	5-9/16"	7-5/16"	10-15"	950-1200	950-1222
300	3-1/2	5-1/8"	3	3/4"	1-7/8"	6-1/8"	7-7/8"	13-18"	950-1300	950-1333
400	4	6-1/4"	3-5/8"	7/8"	2-1/8"	7	9	14-20"	950-1400	950-1444
500	5	7-3/8"	4-5/8"	1	2-11/16"			17-48"		950-1555

#1 Turning & Facing Holders

Features:

- Takes various sizes of bits.
- Turning and facing tools can be locked in together.
- Save time and labor when changing operations.



Style No. 1

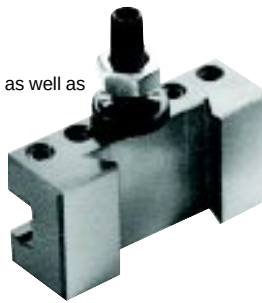
Series	A	B	C	D	Tool Bit	Model No.
100(AXA)	15/16"	1/2"	7/16"	1-1/2"	3/16-1/2"	950-1101
200(BXA)	1-1/8"	5/8"	1/2"	1-3/4"	1/4-5/8"	950-1201
300(CXA)	1-7/16"	3/4"	5/8"	2-1/8"	1/2-3/4"	950-1301
400(CA)	1-11/16"	1"	3/4"	2-1/2"	1/2-1"	950-1401
500(CA)	3-3/16"	1-1/4"	1"	3-1/8"		950-1501

Quick Change Tool Holder

#2 Boring, Turning & Facing Holders

Features:

- "V" groove holds round shank boring bars and tools as well as square tool bits
- Boring Bar not included.



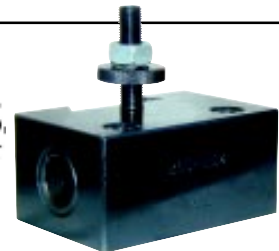
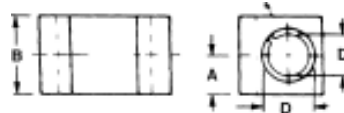
Style No. 2

Series	A	B	C	D	Tool Bit	Shank	Model No.
100(AXA)	15/16"	1/2"	7/16"	1-1/2"	3/16-1/2"	7/16	950-1102
200(BXA)	1-1/8	5/8	1/2	1-3/4	1/4-5/8	1/2	950-1202
300(CXA)	1-7/16	3/4	5/8	2-1/8	1/2-3/4	3/4	950-1302
400(CA)	1-11/16	1	3/4	2-1/2	1/2-1	13/16	950-1402
500(CA)	3-3/16	1-1/4	1	3-1/8		1-1/8	950-1502

#4, #41 Heavy Duty Boring Holders

Features:

- Equipped with a split bushing to accommodate a boring bar of smaller dia.
- It grips with extreme rigidity, cuts smoothly without chatter.
- Holders supplied with split bushing.



Style No. 4

Series	A	B	Inside D	D1	Model No.
100(AXA)	3/4	1-1/2	3/4	5/8	950-1104
200(BXA)	1	2	2	3/4	950-1204
300(CXA)	1	2	1	3/4	950-1304
400(CA)	1-3/8	2-3/4	1-1/4	1	950-1404
500(CA)	1-9/16	3-1/8	1-1/2	1-1/4	950-1504

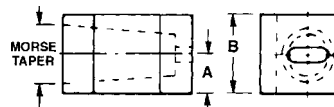
Style No. 41

Series	A	B	Inside D	D1	Model No.
100(AXA)	7/8	1-3/4	1	3/4	950-1141
200(BXA)	1	2	1-1/4	1	950-1241
300(CXA)	1-1/8	2-1/4	1-1/4	1	950-1341
400(CA)	1-3/8	2-3/4	1-1/2	1-1/4	950-1441

#5, #53 Morse Taper Holders

Features:

- Drills with carriage by using power feed instead of tail stock
- Easily centered.
- For 2,3 and 4 Morse Taper drills.
- Drill Not included.



Style No. 5

Series	A	B	Taper Hole Size	Model No.
100(AXA)	3/4	1-1/2	2M.T.	950-1105
200(BXA)	7/8	1-3/4	2M.T.	950-1205
300(CXA)	1	2	3M.T.	950-1305
400(CA)	1-1/4	2-1/2	3M.T.	950-1405

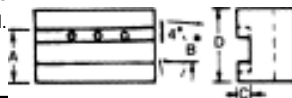
Style No. 53

Series	A	B	Taper Hole Size	Model No.
100(AXA)	3/4	1-1/2	3M.T.	950-1153
200(BXA)	7/8	1-3/4	3M.T.	950-1253
300(CXA)	1-1/16	2-1/8	4M.T.	950-1353
400(CA)	1-1/4	2-1/2	4M.T.	950-1453

#7 Universal Parting Blade Holders

Features:

- For bevel as well as T-cut blades.
- Absence of vibration prevents breaking blades.
- Blade additional.



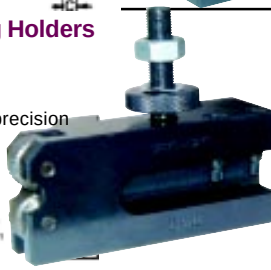
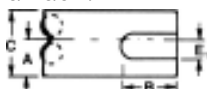
Style No. 7

Series	A	B	C	D	Height	Model No.
100(AXA)	13/16	1/2	13/16	1-1/2	1/2	950-1107
200(BXA)	1	11/16	13/16	1-3/4	11/16	950-1207
300(CXA)	1-3/16	3/4	13/16	2	3/4	950-1307
400(CA)	1-7/16	7/8	1/4	2-1/2	7/8	950-1407
500(CA)						

#10 Knurling, Facing & Turning Holders

Features:

- For turning and facing as knurling.
- Supplied with a set of high speed precision round lapped medium diamond knurls.
- Dimensions 3/4x3/8x1/4"

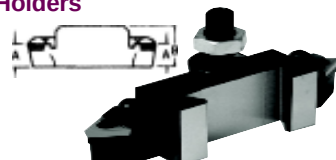


Style No. 10

Series	A	B	C	E	E1	Tool Bit	Model No.
100(AXA)	7/8"	2-1/2"	1-6/19"	1/2"	3/8"	3/16-1/2"	950-1110
200(BXA)	1	2-5/8	1-3/4	5/8	1/2	1/4-5/8	950-1210
300(CXA)	1-3/16	3-1/8	2	3/4	5/8	1/2-3/4	950-1310
400(CA)	1-7/16	3-3/4	2-1/2	1	3/4	1/2-1	950-1410
500(CA)	1-7/8	4-1/2	3-1/8	1-1/4	1		950-1510

#16 Combination Facing & Turning Holders

Accommodates both triangular and square inserts. Unique design permits both right hand and left hand turning and facing. Supplied with carbide shims to protect the holder. Inserts not included.



Series	A	B	I.C.	Thick	Model No.
100(AXA)	7/8"	1-3/8"	3/8"	1/8	950-1116
200(BXA)	1	1-3/4	3/8	1/8	950-1216
300(CXA)	1-3/16	2	3/8	1/8	950-1316
400(CA)	1-1/2	2-1/4	1/2	3/16	950-1416

Style No. 16

Quick Change Tool Holder

40-POSITION QUICK CHANGE TOOL POSTS & HOLDERS

Tool Post & Technical Specifications

The best designed Quick Change Tool Post & Holder system in the industry for its accuracy, rigidity and productivity now at affordable price!

- Two-year guarantee.
- Wear-free, tear-free, and maintenance-free.
- Adjust tool to 40 different positions indicated by a marked position dial (index every 9°)
- Fully interchangeable with other brand 40-position quick change tool post & holder.
- Heat-treated and precision-ground for very accurate repeatability.
- Change tools in seconds.
- Adjust height of cutting edge easily and accurately.
- Reground tools without removal from holder-setting unchanged.

40-Position Quick Change Tool Post Sets

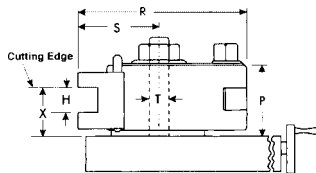
Series	Lathe Swing	Model No.
A0	Up to 10" (120-220mm)	950-2705
A1	6-13" (150-300mm)	950-2710
E5	10-18" (200-400mm)	950-2715
B2	13-20" (300-500mm)	950-2720
C3	18-30" (400-700mm)	950-2725
D1	30" up (600-1000mm)	950-2730

Each set includes:

- 1 Tool Post
- 3 "D" Holder
- 1 "B" Holder



40-Position Quick Change Tool Post



Specifications	Model No. 950-2100	Model No. 950-2200	Model No. 950-2300	Model No. 950-2400	Model No. 950-2500	Model No. 950-2600
Size of Too Post	A0	A1	E5	B2	C3	D1
Lathe Swing	Up to 10"	6-13"	10-18"	13-20"	18-30"	30"Up
Max. Driving Power (HP)	1.5	3	6	9	18	27
R max	2.99	4.13	5.14	6.00	7.90	9.49
S max	1.36	2.07	2.57	2.95	3.62	4.80
P	1.26	1.83	2.30	2.68	3.90	4.53
T	0.51	0.79	0.79	1.26	1.57	1.57
H	0.51	0.83	0.94	1.00	1.26	1.61
X min	0.79	1.18	1.37	1.46	1.86	2.44
X max	1.18	1.61	2.04	2.25	3.43	4.56

CUT-OFF TOOL HOLDER "A"

Fits Post	Blade	Holder	
Size	Thickness	Width	Length
A1	7/64"	13/32"	3-5/32"
E5	11/64"	5/8"	4"
B2	11/64"	5/8"	4-3/4"
D1	7/32"	3/4"	6"

Fits Post	Blade	Holder	
Size	Width(mm)	Length(mm)	Model No.
A0	10	50	540-0040
A1	10	75	540-0140
E5	10	100	540-0240
B2	16	120	540-0340
C2	18.5	150	540-0440

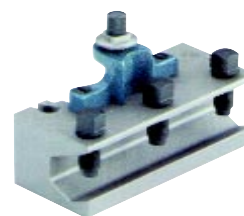


Quick Change Tool Holder

BORING, TURNING & FACING HOLDER "B"

Fits Post Size	Facing Height	Holder Length	Model No.
A0	15/32"	2"	950-2201
A1	3/4"	3-5/32"	950-2202
E5	1-3/16"	4"	950-2203
B2	1-1/4"	5-1/8"	950-2204
C3	1-1/4"	6-5/16"	950-2205
C3	1-5/8"	6-5/16"	950-2206
D1	2"	7-3/32"	950-2207

Fits Post Size	Facing Height(mm)	Holder Length(mm)	Model No.
A0	12	50	540-0020
A1	18	80	540-0120
A1	16	80	540-0121
A1	20	90	540-0122
E5	30	100	540-0220
B2	32	130	540-0320
C3	32	160	540-0421
C3	40	160	540-0422
D1	50	180	540-0520
D1	63	180	540-0521



TURNING AND FACING HOLDER "D"

Fits Post Size	Facing Height	Holder Length	Model No.
A0	15/32"	2"	950-2101
A1	3/4"	3-5/32"	950-2102
E5	3/4"	4"	950-2103
E5	1"	4"	950-2104
B2	1"	4-3/4"	950-2105
B2	1"	5-1/2"	950-2106
B2	1-1/4"	4-3/4"	950-2107
B2	1-1/4"	5-1/2"	950-2108
C3	1-1/4"	6"	950-2109
C3	1-1/4"	6-11/16"	950-2110
C3	1-5/8"	6"	950-2111
C3	1-5/8"	6-11/16"	950-2112
C3	1-3/4"	6-11/16"	950-2113
D1	1-5/8"	7-3/32"	950-2114
D1	2"	7-3/32"	950-2115
D1	2-1/2"	7-3/32"	950-2116

Fits Post Size	Facing Height(mm)	Holder Length(mm)	Model No.
A0	12	50	540-0010
A1	20	80	540-0110
A1	16	75	540-0111
A1	16	80	540-0112
A1	16	90	540-0113
A1	20	75	540-0114
A1	20	90	540-0115
E5	20	100	540-0211
E5	25	100	540-0212
B2	25	120	540-0311
B2	25	140	540-0312
B2	32	120	540-0313
B2	32	140	540-0314
C3	32	150	540-0411
C3	32	170	540-0412
C3	40	150	540-0413
C3	40	170	540-0414
C3	45	170	540-0415
D1	40	180	540-0511
D1	50	180	540-0512
D1	63	180	540-0513



BUSHINGS FOR DRILL & BORING BAR HOLDER "L"

Fits Post Size	Bushings Diameters	Hole M.T. Size	Bushing Model No.
A1	1-3/16"	1mt	950-2501
A1	1-3/16"	2mt	950-2502
E5	1-3/16"	2mt	950-2503
E5	1-5/8"	3mt	950-2504
B2	1-5/8"	3mt	950-2505
B2	1-5/8"	4mt	950-2506
C3	1-5/8"	3mt	950-2507
C3	1-5/8"	4mt	950-2508
C3	2"	4mt	950-2509
D1	2-1/2"	5mt	950-2510

Fits Post Size	Bushings Diameters (mm)	Hole M.T. Size	Model No.
A1	30	1mt	540-0151
A1	30	2mt	540-0152
E5	30	2mt	540-0251
E5	40	3mt	540-0252
B2	40	3mt	540-0351
B2	40	4mt	540-0352
C3	40	3mt	540-0451
C3	40	4mt	540-0452
C3	50	4mt	540-0453
D1	63	5mt	540-0550



DRILL & BORING BAR HOLDER "S"

Fits Post Size	Facing Height	Holder Length	Model No.
A0	19/32"	2"	950-2301
A1	1-3/16"	3-5/32"	950-2302
E5	1-3/16"	4"	950-2303
E5	1-5/8"	4"	950-2304
B2	1-5/8"	4-3/4"	950-2305
C3	1-5/8"	6"	950-2306
C3	2"	6"	950-2307
D1	2-1/2"	7-3/32"	950-2308

Fits Post Size	Facing Height(mm)	Holder Length(mm)	Model No.
A0	15	50	540-0030
A1	30	80	540-0130
A1	20	90	540-0131
E5	30	100	540-0231
E5	40	100	540-0232
B2	40	120	540-0330
C3	40	150	540-0431
C3	50	150	540-0432
D1	63	180	540-0530



Quick Change Tool Holder

QUICK CHANGE TOOL POST AND SETS

The quick change tool post is a major spare part of the ordinary lathes . It is composed of the cutter-cartridge body and the tool-holder for various cutting tools for processing works like cylindrical facing, end facing, cutting, knurling, drilling, enlarging boring and reaming, etc. The height of tools can be regulated and positioned relative to the centerline of machine spindle. It features external tool-mounting, too-matching, quick tool-changing, great precision in positing and great hardness etc.

Set Includes:

3 Tool-holders of flat section, 1 Tool-holder with V-seat for round tools, 1 Center-holder (Morse taper), 2 Standard spanners



Size	For Lathes with Swing	Dimensions Of Turret Body	Max. Height Square and Rectangular Tools	Max. Diameter Round Tool	Taper Shank	Max. Adjust Tool Holder	Sets Model No.
MK	Up to 7"	1-7/8x1-7/8x1-1/4	3/8	3/8		5/16	951-5100
M	7-10"	2-3/4x2-3/4x1-3/4	5/8	1/2	1	1/2	951-5200
A	10-14"	3-7/8x3-7/8x2-3/8	3/4	5/8	2	9/16	951-5300
B	14-18"	5x5x3-3/8	1-1/8	13/16	3	15/16	951-5400
C	18-24"	5-5/8x5-5/8x3-3/4	1-1/4	15/16	4	1	951-5500
D	Over	6-7/8x6-7/8x4-3/4	1-1/2	1-1/4	4	1-1/2	951-5600
E	Over	7-7/8x7-7/8x5-5/16	2	1-3/8	5	1-5/8	951-5700
F	Over	8-7/8x8-7/8x5-7/8	2	1-3/8	5	2-1/4	951-5800

Fig.	Description	MK	M	A	B	C	D	E	F
	Master Block	950-5100	950-5200	950-5300	950-5400	950-5500	950-5600	950-5700	950-5800
201	Flat-Seat Tool Holder	950-5121	950-5221	950-5321	950-5421	950-5521	950-5621	950-5721	950-5821
202	V-Tool Holder	950-5122	950-5222	950-5322	950-5422	950-5522	950-5622	950-5722	950-5822
203	Morse Taper Tool Holder	950-5123	950-5223	950-5323	950-5423	950-5523	950-5623	950-5723	950-5823
217	Parting-off Blade Holder	950-5117	950-5217	950-5317	950-5417	950-5517	950-5617	950-5717	950-5817
216	Boring Bar Tool Holder	950-5116	950-5216	950-5316	950-5416	950-5516	950-5616	950-5716	950-5816
204	Eccentric Clamp Pin	950-5124	950-5224	950-5324	950-5424	950-5524	950-5624	950-5724	950-5824
205	Tenon	950-5125	950-5225	950-5325	950-5425	950-5525	950-5625	950-5725	950-5825
212	Clamping Block Spring	=====	=====	950-5312	950-5412	950-5512	=====	=====	=====
213	Dowel Pin	950-5113	950-5213	950-5313	950-5413	950-5513	950-5613	950-5713	950-5813
210	Screw Stud	950-5110	950-5210	950-5310	950-5410	950-5510	950-5610	950-5710	950-5810
206	Height Adj. Screw	950-5106	950-5206	950-5306	950-5406	950-5506	950-5606	950-5706	950-5806
218	Boring Bar Locking Screw	950-5118	950-5218	950-5318	950-5418	950-5518	950-5618	950-5718	950-5818
220	Prong Locking Screw	=====	950-5220	950-5320	950-5420	950-5520	950-5620	950-5720	=====
219	Parting-off Blade Locking Prong	=====	950-5219	950-5319	950-5419	950-5519	950-5619	950-5719	=====
209	Short Screw	950-5109	950-5209	950-5309	950-5409	950-5509	950-5609	950-5709	950-5809
215	T-Key For Set Screws	950-5115	950-5215	950-5315	950-5415	950-5515	950-5615	950-5715	950-5815
214	Hexagon Wrench	950-5114	950-5214	950-5314	950-5414	950-5514	950-5614	950-5714	950-5814
207	Extractor	950-5107	950-5207	950-5307	950-5407	950-5507	950-5607	950-5707	950-5807
208	Long Screw	950-5108	950-5208	950-5308	950-5408	950-5508	950-5608	950-5708	950-5808
211	Extractor Screw	950-5111	950-5211	950-5311	950-5411	950-5511	950-5611	950-5711	950-5811

KDK Tool Holder

TURNING AND FACING BAR COMBINATION



KDK STYLE 101, 151 TOOL HOLDERS

- Interchangeable with KDK same series tool holders.
- No. 101 holder is for KDK-100 quick change tool post (12-16" Lathe Swing)
- No. 151 holder is for KDK-150 quick change tool post (15-18") Lathe Swing)
- All working parts hardened and ground.

Holder No.	Tool Bit Capacity	Lathe Swing	Model No.
101	1/2"	12~16"	952-1101
151	5/8"	15~18'	952-1151

THREADING AND FACING BAR COMBINATION



KDK STYLE 102, 152 TOOL HOLDERS

- Interchangeable with KDK same series tool holders.
- No. 102 holder is for KDK-100 quick change tool post (12-16" Lathe Swing)
- No. 152 holder is for KDK-150 quick change tool post (15-18") Lathe Swing)
- All working parts hardened and ground.

Holder No.	Tool Bit Capacity	Lathe Swing	Model No.
102	1/2"	12~16"	952-1102
152	5/8"	15~18'	952-1152

EXTENSION TURNING BAR COMBINATION



KDK STYLE 103, 153 TOOL HOLDERS

- Interchangeable with KDK same series tool holders.
- No. 103 holder is for KDK-100 quick change tool post (12-16" Lathe Swing)
- No. 153 holder is for KDK-150 quick change tool post (15-18") Lathe Swing)
- All working parts hardened and ground.

Holder No.	Tool Bit Capacity	Lathe Swing	Model No.
103	1/2"	12~16"	952-1103
153	5/8"	15~18'	952-1153

PARTING BAR COMBINATION



KDK STYLE 104, 154 TOOL HOLDERS

- Interchangeable with KDK same series tool holders.
- No. 104 holder is for KDK-100 quick change tool post (12-16" Lathe Swing)
- No. 154 holder is for KDK-150 quick change tool post (15-18") Lathe Swing)
- All working parts hardened and ground.

Holder No.	Blade Capacity	Lathe Swing	Model No.
104	1/8"x11/16"	12~16"	952-1104
154	1/8"x7/8"	15~18'	952-1154

MASTER BAR FOR BORING BARS



KDK STYLE 105, 155 TOOL HOLDERS

- Interchangeable with KDK same series tool holders.
- No. 105 holder is for KDK-100 quick change tool post (12-16" Lathe Swing)
- No. 155 holder is for KDK-150 quick change tool post (15-18") Lathe Swing)
- All working parts hardened and ground.

Holder No.	Boring Bar Capacity	Lathe Swing	Model No.
105	1" Hole	12~16"	952-1105
155	1-1/4" Hole	15~18'	952-1155

5C COLLET BAR



Model No.952-1119

KDK STYLE 119 TOOL HOLDER

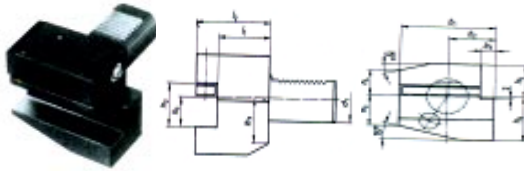
- Interchangeable with KDK same series tool holders.
- No. 119 holder is for KDK-100, 150 quick change tool post.
- All working parts hardened and ground.
- For lathes having 1" Center Height or more.
- Assures the simplicity of preset quick change tools to all 5C collet jobs.
- Spanner Wrench and Lock Ring included.

DIN Tool Holder

NC TOOL HOLDER DIN69880

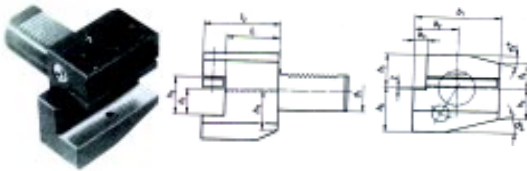
It is essential machine tool accessories for working center of CNC machine. We produce according to German DIN69880 standard, it feature developed structure, high accuracy, convenient and alternative etc. It can satisfy the needs of turning, drilling, reaming and milling etc. With various tool holders and allocate different types tool and accessory.

Type B1: With square crossholding fixture right, short



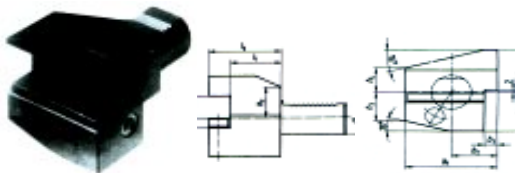
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	55	30	7	16	22	19	19	25	30	23	16	30	952-2001
30	70	35	10	20	29	26	22	28	38	30	22	40	952-2002
40	85	42.5	12.5	25	34	35	30	32.5	48	---	22	44	952-2003
50	100	50	16	32	41	42	35	35	60	---	30	55	952-2004
60	125	62.5	16	32	41	46	42.5	42.5	62.5	---	30	60	952-2005

Type B2: With square crossholding fixture left, short



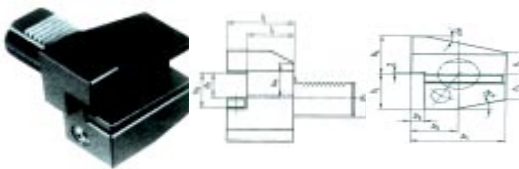
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	55	30	7	16	22	19	19	25	30	23	16	30	952-2101
30	70	35	10	20	29	26	22	28	38	30	22	40	952-2102
40	85	42.5	12.5	25	34	35	30	32.5	48	---	22	44	952-2103
50	100	50	16	32	41	42	35	35	60	---	30	55	952-2104
60	125	62.5	16	32	41	46	42.5	42.5	62.5	---	30	60	952-2105

Type B3: With square crossholding fixture overhead right, short



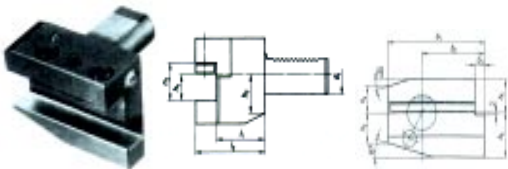
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	55	30	7	16	22	19	19	25	30	23	16	30	952-2201
30	70	35	10	20	29	26	22	35	38	28	22	40	952-2202
40	85	42.5	12.5	25	34	35	30	42.5	48	---	22	44	952-2203
50	100	50	16	32	41	42	35	50	60	---	30	55	952-2204
60	125	62.5	16	32	41	46	42.5	62.5	62.5	---	30	60	952-2205

Type B4: With square crossholding fixture overhead left, short



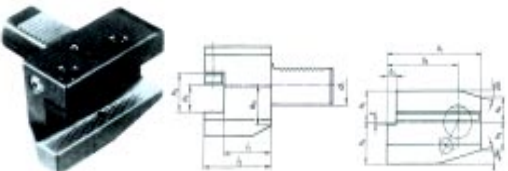
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	55	30	7	16	22	19	19	25	30	23	16	30	952-2301
30	70	35	10	20	29	26	22	35	38	28	22	40	952-2302
40	85	42.5	12.5	25	34	35	30	42.5	48	---	22	44	952-2303
50	100	50	16	32	41	42	35	50	60	---	30	55	952-2304
60	125	62.5	16	32	41	46	42.5	62.5	62.5	---	30	60	952-2305

Type B5: With square crossholding fixture right, long



d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	75	50	7	16	22	19	19	25	30	23	16	30	952-2401
30	100	65	10	20	29	26	22	28	38	30	22	40	952-2402
40	118	75.5	12.5	25	34	35	30	32.5	48	---	22	44	952-2403
50	130	80	16	32	41	42	35	35	60	---	30	55	952-2404
60	145	82.5	16	32	41	46	42.5	42.5	62.5	---	30	60	952-2405

Type B6: With square crossholding fixture left, long

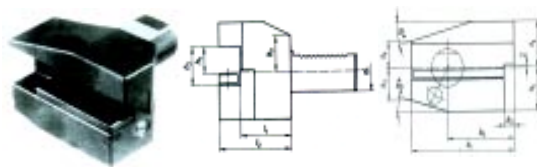


d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	75	50	7	16	22	19	19	25	30	23	16	30	952-2501
30	100	65	10	20	29	26	22	28	38	30	22	40	952-2502
40	118	75.5	12.5	25	34	35	30	32.5	48	---	22	44	952-2503
50	130	80	16	32	41	42	35	35	60	---	30	55	952-2504
60	145	82.5	16	32	41	46	42.5	42.5	62.5	---	30	60	952-2505

Tool Holder

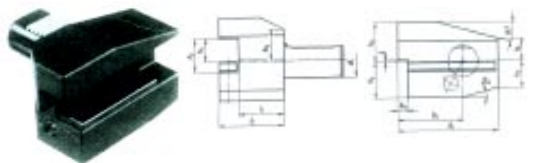
NC TOOL HOLDER

Type B7: With square crossholding fixture overhead right, long



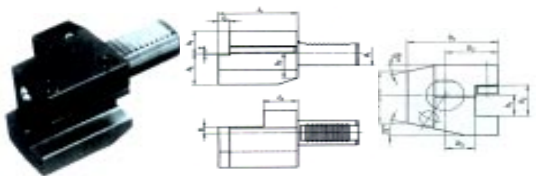
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	75	50	7	16	22	19	19	25	30	23	16	30	952-2601
30	100	65	10	20	29	26	22	35	38	28	22	40	952-2602
40	118	75.5	12.5	25	34	35	30	42.5	48	---	22	44	952-2603
50	130	80	16	32	41	42	35	50	60	---	30	55	952-2604
60	145	82.5	16	32	41	46	42.5	62.5	62.5	---	30	60	952-2605

Type B8: With square crossholding fixture overhead left, long



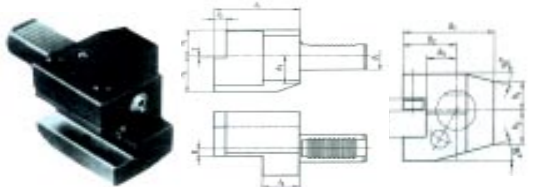
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	Model No.
20	75	50	7	16	22	19	19	25	30	23	16	30	952-2701
30	100	65	10	20	29	26	22	35	38	28	22	40	952-2702
40	118	75.5	12.5	25	34	35	30	42.5	48	---	22	44	952-2703
50	130	80	16	32	41	42	35	50	60	---	30	55	952-2704
60	145	82.5	16	32	41	46	42.5	62.5	62.5	---	30	60	952-2705

Type C1: With longitudinal square holding fixture, right



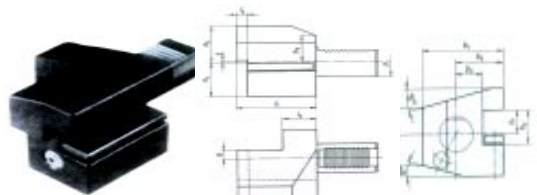
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	l3	Model No.
20	65	40	26	16	22	19	19	25	30	23	50	---	30	952-2801
30	70	35	17	20	29	26	22	28	38	30	70	10	30	952-2802
40	85	42.5	21	25	34	35	30	32.5	48	---	85	12.5	30	952-2803
50	100	50	26	32	41	42	35	35	60	---	100	16	40	952-2804
60	125	62.5	33	32	41	46	42.5	42.5	62.5	---	125	16	40	952-2805

Type C2: With longitudinal square holding fixture, left



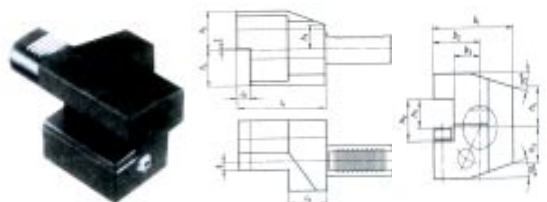
d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	l3	Model No.
20	65	40	26	16	22	19	19	25	30	23	50	---	30	952-2901
30	76	41	23	20	29	26	22	28	38	30	70	10	30	952-2902
40	90	47.5	25.5	25	34	35	30	32.5	48	---	85	12.5	30	952-2903
50	105	55	30.5	32	41	42	35	35	60	---	100	16	40	952-2904
60	125	62.5	33	32	41	46	42.5	42.5	62.5	---	125	16	40	952-2905

Type C3: With longitudinal square holding fixture overhead, right



d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	l3	Model No.
20	65	40	26	16	22	19	19	30	25	23	50	---	30	952-3001
30	70	35	17	20	29	26	22	38	35	28	70	10	30	952-3002
40	85	42.5	21	25	34	35	30	48	42.5	---	85	12.5	30	952-3003
50	100	50	26	32	41	42	35	60	50	---	100	16	40	952-3004
60	125	62.5	33	32	41	46	42.5	62.5	62.5	---	125	16	40	952-3005

Type C4: With longitudinal square holding fixture overhead, left



d1	b1	b2	b3	h1	h2	h3	h4	h5	h6	h7	l1	l2	l3	Model No.
20	65	40	26	16	22	19	19	25	30	23	55	---	30	952-3101
30	76	41	23	20	29	26	22	28	38	28	70	10	30	952-3102
40	90	47.5	25.5	25	34	35	30	32.5	48	---	85	12.5	30	952-3103
50	105	55	30.5	32	41	42	35	35	60	---	100	16	40	952-3104
60	125	62.5	33	32	41	46	42.5	42.5	62.5	---	125	16	40	952-3105

5C Collet

5C ROUND COLLETS

- Made of highest grade steel available for collect manufacture.
- Precision ground to close tolerance.
- Internal thread 1.041"-24, external thread 1.242"-20
- sets come with box



Premium			Premium		
Size	Economy Model No.	.0005" T.I.R Model No.	Size	Economy Model No.	.0005" T.I.R Model No.
1/32"	230-4102	230-4902	37/64"	230-4137	230-4937
3/64"	230-4103	230-4903	19/32"	230-4138	230-4938
1/16"	230-4104	230-4904	39/64"	230-4139	230-4939
5/64"	230-4105	230-4905	5/8"	230-4140	230-4940
3/32"	230-4106	230-4906	41/64"	230-4141	230-4941
7/64"	230-4107	230-4907	21/32"	230-4142	230-4942
1/8"	230-4108	230-4908	43/64"	230-4143	230-4943
9/64"	230-4109	230-4909	11/16"	230-4144	230-4944
5/32"	230-4110	230-4910	45/64"	230-4145	230-4945
11/64"	230-4111	230-4911	23/32"	230-4146	230-4946
3/16"	230-4112	230-4912	47/64"	230-4147	230-4947
13/64"	230-4113	230-4913	3/4"	230-4148	230-4948
7/32"	230-4114	230-4914	49/64"	230-4149	230-4949
15/64"	230-4115	230-4915	25/32"	230-4150	230-4950
1/4"	230-4116	230-4916	51/64"	230-4151	230-4951
17/64"	230-4117	230-4917	13/16"	230-4152	230-4952
9/32"	230-4118	230-4918	53/64"	230-4153	230-4953
19/64"	230-4119	230-4919	27/32"	230-4154	230-4954
5/16"	230-4120	230-4920	55/64"	230-4155	230-4955
21/64"	230-4121	230-4921	7/8"	230-4156	230-4956
11/32"	230-4122	230-4922	57/64"	230-4157	230-4957
23/64"	230-4123	230-4923	29/32"	230-4158	230-4958
3/8"	230-4124	230-4924	59/64"	230-4159	230-4959
25/64"	230-4125	230-4925	15/16"	230-4160	230-4960
13/32"	230-4126	230-4926	61/64"	230-4161	230-4961
27/64"	230-4127	230-4927	31/32"	230-4162	230-4962
7/16"	230-4128	230-4928	63/64"	230-4163	230-4963
29/64"	230-4129	230-4929	1"	230-4164	230-4964
15/32"	230-4130	230-4930	1-1/64"	230-4301	230-4971
31/64"	230-4131	230-4931	1-1/32"	230-4302	230-4972
1/2"	230-4132	230-4932	1-3/64"	230-4303	230-4973
33/64"	230-4133	230-4933	1-1/16"	230-4304	230-4974
17/32"	230-4134	230-4934	1-5/64"	230-4305	230-4975
35/64"	230-4135	230-4935	1-3/32"	230-4306	230-4976
9/16"	230-4136	230-4936	1-7/64"	230-4307	230-4977
			1-1/8"	230-4308	230-4978

Premium			Premium		
Size	Economy Model No.	.0005" T.I.R Model No.	Size	Economy Model No.	.0005" T.I.R Model No.
1.5mm	230-3015	229-3015	2mm	230-4202	230-5702
2.5mm	230-3025	229-3025	3mm	230-4203	230-5703
3.5mm	230-3035	229-3035	4mm	230-4204	230-5704
4.5mm	230-3045	229-3045	5mm	230-4205	230-5705
5.5mm	230-3055	229-3055	6mm	230-4206	230-5706
6.5mm	230-3065	229-3065	7mm	230-4207	230-5707
7.5mm	230-3075	229-3075	8mm	230-4208	230-5708
8.5mm	230-3085	229-3085	9mm	230-4209	230-5709
9.5mm	230-3095	229-3095	10mm	230-4210	230-5710
10.5mm	230-3105	229-3105	11mm	230-4211	230-5711
11.5mm	230-3115	229-3115	12mm	230-4212	230-5712
12.5mm	230-3125	229-3125	13mm	230-4213	230-5713
13.5mm	230-3135	229-3135	14mm	230-4214	230-5714
14.5mm	230-3145	229-3145	15mm	230-4215	230-5715
15.5mm	230-3155	229-3155	16mm	230-4216	230-5716
16.5mm	230-3165	229-3165	17mm	230-4217	230-5717
17.5mm	230-3175	229-3175	18mm	230-4218	230-5718
18.5mm	230-3185	229-3185	19mm	230-4219	230-5719
19.5mm	230-3195	229-3195	20mm	230-4220	230-5720
20.5mm	230-3205	229-3205	21mm	230-4221	230-5721
21.5mm	230-3215	229-3215	22mm	230-4222	230-5722
22.5mm	230-3225	229-3225	23mm	230-4223	230-5723
23.5mm	230-3235	229-3235	24mm	230-4224	230-5724
24.5mm	230-3245	229-3245	25mm	230-4225	230-5725
25.5mm	230-3255	229-3255	26mm	230-4226	230-5726
26.5mm	230-3265	229-3265	27mm	230-4227	230-5727
27.5mm	230-3275	229-3275	28mm	230-4228	230-5728
28.5mm	230-3285	229-3285	29mm	230-4229	230-5729
29.5mm	230-3295	229-3295	30mm	230-4230	230-5730

5C ROUND COLLET SETS

Range	No. Of pieces	Economy Model No.
1/8-3/4" by 8ths	6pcs	230-4006
1/8-1" by 8ths	8pcs	230-4008
1/8" to 1" by 16ths	15pcs	230-4015
1/8-1-1/16" by 16ths	16pcs	230-4016
1/16" to 1-1/16" by 16ths	17pcs	230-4017
1/16" to 1-1/8" by 16ths	18pcs	230-4018
1/8" to 1" by 32nds	29pcs	230-4029
1/8" to 1-1/32" by 32nds	30pcs	230-4030
1/8-1-1/6" by 32nds	31pcs	230-4031
1/16" to 1-1/16" by 32nds	33pcs	230-4033
1/16" to 1-1/8" by 32nds	35pcs	230-4035
1/8" to 1" by 64ths	57pcs	230-4057
1/16" to 1-3/64" by 64ths	64pcs	230-4064
1/16" to 1-1/16" by 64ths	65pcs	230-4065
1/16" to 1-1/8" by 64ths	69pcs	230-4069
4mm to 20mm by 2mm	9pcs	230-4009
12mm to 25mm by 1mm	14pcs	230-4014
3mm to 26mm by 1mm	24pcs	230-4024

- Guaranteed T.I.R: 0.0005"
- Made of high grade tool steel
- Hardened and precision ground
- Internal and external threaded.
- sets come with carton box

Range	No. Of pieces	Premium .0005" T.I.R Model No.
1/8-1" by 8ths	8pcs	230-5808
1/8" to 1" by 16ths	15pcs	230-5815
1/8-1-1/16" by 16ths	16pcs	230-5816
1/16" to 1-1/16" by 16ths	17pcs	230-5817
1/16" to 1-1/8" by 16ths	18pcs	230-5818
1/8" to 1" by 32nds	29pcs	230-5829
1/8" to 1-1/32" by 32nds	30pcs	230-5830
1/8-1-1/6" by 32nds	31pcs	230-5831
1/16" to 1-1/16" by 32nds	33pcs	230-5833
1/16" to 1-1/8" by 32nds	35pcs	230-5835
1/8" to 1" by 64ths	57pcs	230-5857
1/16" to 1-3/64" by 64ths	64pcs	230-5864
1/16" to 1-1/16" by 64ths	65pcs	230-5865
1/16" to 1-1/8" by 64ths	69pcs	230-5869
4mm to 20mm by 2mm	9pcs	230-5809
12mm to 25mm by 1mm	14pcs	230-5814
3mm to 26mm by 1mm	24pcs	230-5824
2mm-25mm	32pcs	230-5832

5C Collet



5C EMERGENCY COLLETS

- Used for holding soft or delicate work pieces without marring surfaces.
- Internal and external threaded.
- Can be drilled, bored or machined with a HSS tool bit.

Type	Model No.
5c steel	230-4395
5c brass	230-4396
5c nylon	230-4397

5C SQUARE COLLETS



- Made of high grade tool steel
- Hardened and precision ground
- Internal and external threaded.

6pcs set
1/8-3/4" by 8ths
Model No.530-4252

11pcs set
1/8-3/4 by 16th
Model No.530-4256

17pcs set
3mm to 19mm by 1mm
Model No.530-4017

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	530-4208	3mm	530-4030
5/32"	530-4210	4mm	530-4040
3/16"	530-4212	5mm	530-4050
7/32"	530-4214	5.5mm	530-4055
1/4"	530-4216	6mm	530-4060
9/32"	530-4218	7mm	530-4070
5/16"	530-4220	8mm	530-4080
11/32"	530-4222	9mm	530-4090
3/8"	530-4224	9.5mm	530-4095
13/32"	530-4226	10mm	530-4100
7/16"	530-4228	11mm	530-4110
15/32"	530-4230	12mm	530-4120
1/2"	530-4232	13mm	530-4130
17/32"	530-4234	13.5mm	530-4135
9/16"	530-4236	14mm	530-4140
19/32"	530-4238	15mm	530-4150
5/8"	530-4240	16mm	530-4160
21/32"	530-4242	17mm	530-4170
11/16"	530-4244	17.5mm	530-4175
23/32"	530-4246	18mm	530-4180
3/4"	530-4248	19mm	530-4190

5C HEX COLLETS



- Made of high grade tool steel
- Hardened and precision ground
- Internal and external threaded.

7-pc set
1/8" to 7/8" by 8ths
Model No.530-4360

13-pc set
1/8" to 7/8" by 16ths
Model No.530-4364

20pcs set
3mm to 22mm by 1mm
Model No.530-5221

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	530-4308	3mm	530-5030
5/32"	530-4310	4mm	530-5040
3/16"	530-4312	5mm	530-5050
7/32"	530-4314	6mm	530-5060
1/4"	530-4316	7mm	530-5070
9/32"	530-4318	8mm	530-5080
5/16"	530-4320	9mm	530-5090
11/32"	530-4322	10mm	530-5100
3/8"	530-4324	11mm	530-5110
13/32"	530-4326	12mm	530-5120
7/16"	530-4328	13mm	530-5130
15/32"	530-4330	13.5mm	530-5135
1/2"	530-4332	14mm	530-5140
17/32"	530-4334	15mm	530-5150
9/16"	530-4336	16mm	530-5160
19/32"	530-4338	17mm	530-5170
5/8"	530-4340	17.5mm	530-5175
21/32"	530-4342	18mm	530-5180
11/16"	530-4344	19mm	530-5190
23/32"	530-4346	20mm	530-5200
3/4"	530-4348	20.5mm	530-5205
25/32"	530-4350	21mm	530-5210
13/16"	530-4352	22mm	530-5220
27/32"	530-4354		
7/8"	530-4356		

5C Collet

5C STEP COLLETS

Soft head may be bored or stepped out.



	1"	1-1/8"	1-3/16"
Head Thickness			
Model No.	230-4362	230-4372	230-4382
Head Dia.			
Model No.	230-4363	230-4373	230-4383
Head Thickness			
Model No.	230-4364	230-4374	230-4384
Head Dia.			
Model No.	230-4365	230-4375	230-4385
Head Thickness			
Model No.	230-4366	230-4376	230-4386

5C EXPENDING COLLETS



Descriptions	Model No.
#1-#4 4Pcs set	230-4450
.025" to .463"x1" (#1)	230-4451
.437" to .800"x1" (#2)	230-4452
.750 to .1.437"x1" (#3)	230-4453
.750 to .1.935"x1" (#4)	230-4454

- Fit any standard 5C spindle
- Precision ground.
- Head width 1".
- Soft head for easy machining.
- Effective expansion up to .006".

5C FIXTURE MOUNTS COLLETS



- A lathe tool for use in place of face plate fixture.
- Quick mounting and dismounting.
- Repeat accuracy.
- Soft head for easy machining.

Head Dia.	Head Length	Model No.
2"	1"	230-4460
2"	2"	230-4461
2"	3"	230-4462
3"	1"	230-4463
3"	2"	230-4464
3"	3"	230-4465
4"	1"	230-4466
4"	3"	230-4467
5"	1"	230-4468
6"	1"	230-4469
4"	2"	230-4470

- Heat treated tool steel shank.
- Precision ground all over.
- Black oxide finished.

5C COLLET BLOCK SETS



Set Model No. 235-7050

- A simple and effective short jig, for machinist parallel, square of hex shapes as well as for cross hole drilling at 60°
- Made of hardened steel.
- Overall dimensions: 1-3/4" x1-3/4" x3".
- Ground to .0005" flatness, squareness and parallelism.
- Capacity: 1/6" through 1-1/8".
- Standard nut closer and cam operated, quick- acting closer can be used on both square and hex blocks.

Descriptions	Model No.
lever operated closer	235-7051
nut closer	235-7052
square block	235-7054
hex block	235-7056

5C COLLET STOPS W/TIPS



Model No. 239-9051

Converts standard 1" capacity lathe collets into soled or spring ejector stop collets without alteration of the standard collets.



Model No. 239-9052

Fits any 5C collet. Supplied with threaded rod. Hardened for long life. Black oxide

5C & 16C COLLET STOPS



- 5C collet stop include one each of 1/8, 1/2, 3/4 & 1" stop rod, and one collet rod.
- 16C collet stop include one 1" stop rod and one collet rod.

Type	Model No.
5C collet stop	209-2799
16C collet stop	209-2807

COLLET WRENCHES



- Simplifies installing and removing a collet in your CNC lathe.
- Made with a steel head and fins for strength

Type	Fins	Model No.
3J	4	239-1006
5C	3	239-1007
R8	3	239-1008
16C	3	239-1009

R8 Collet

R8 ROUND COLLETS

Inch		
Size	Economy Model No.	Premium Grade .0005" T.I.R Model No.
1/16"	231-4704	231-4904
3/32"	231-4706	231-4906
1/8"	231-4708	231-4908
5/32"	231-4710	231-4910
3/16"	231-4712	231-4912
7/32"	231-4714	231-4914
1/4"	231-4716	231-4916
9/32"	231-4718	231-4918
5/16"	231-4720	231-4920
11/32"	231-4722	231-4922
3/8"	231-4724	231-4924
13/32"	231-4726	231-4926
7/16"	231-4728	231-4928
15/32"	231-4730	231-4930
1/2"	231-4732	231-4932
17/32"	231-4734	231-4934
9/16"	231-4736	231-4936
19/32"	231-4738	231-4938
5/8"	231-4740	231-4940
21/32"	231-4742	231-4942
11/16"	231-4744	231-4944
23/32"	231-4746	231-4946
3/4"	231-4748	231-4948
25/32"	231-4750	231-4950
13/16"	231-4752	231-4952
27/32"	231-4754	231-4954
7/8"	231-4756	231-4956
1"	231-4764	231-4964



- Made of high grade tool steel
- Hardened and precision ground to close tolerance
- Internally thread: 7/16"-20

Metric

Size	Model No.	Premium .0005" T.I.R Model No.
2mm	231-4802	231-4602
3mm	231-4803	231-4603
4mm	231-4804	231-4604
5mm	231-4805	231-4605
6mm	231-4806	231-4606
7mm	231-4807	231-4607
8mm	231-4808	231-4608
9mm	231-4809	231-4609
10mm	231-4810	231-4610
11mm	231-4811	231-4611
12mm	231-4812	231-4612
13mm	231-4813	231-4613
14mm	231-4814	231-4614
15mm	231-4815	231-4615
16mm	231-4816	231-4616
17mm	231-4817	231-4617
18mm	231-4818	231-4618
19mm	231-4819	231-4619
20mm	231-4820	231-4620
21mm	231-4821	231-4621
22mm	231-4822	231-4622
23mm	231-4823	231-4623
24mm	231-4824	231-4624

SETS

Range	No. Of Pieces	Model No.	Premium .0005" T.I.R Model No.
1/8-3/4" by 8ths	6pcs	231-0006	231-5006
1/8" to 7/8" by 8ths	7pcs	231-0007	231-5007
1/4" to 7/8" by 16th	10pcs	231-0110	231-5110
1/8-3/4" by 16ths	11pcs	231-0011	231-5011
1/16" to 3/4" by 16ths	12pcs	231-0012	231-5012
1/8" to 7/8" by 16ths	13pcs	231-0013	231-5013
1/16" to 7/8" by 16ths	14pcs	231-0014	231-5014
1/8 to 3/4" by 32nds	21pcs	231-0021	231-5021
1/16-3/4" by 32ths	23pcs	231-0023	231-5023
1/8" to 7/8" by 32nds	25pcs	231-0025	231-5025
1/16" to 7/8" by 32nds	27pcs	231-0027	231-5027
1/8" to 3/4" by 16ths plus 7/8"	12pcs	231-0112	231-5112
1/16" to 1" by 1/32"	28pcs	231-0128	231-5128
6,8,10,11,13,14,17,18,19,22mm	10pcs	231-0111	231-5111
2mm to 20mm by 1mm	19pcs	231-0119	231-5019

R8 EMERGENCY COLLETS



- Can be drilled, bored or machined with a H.S.S Tool Bit.
- Face & Pilot Hole are soft to Permit machining to your requirement.

Type	Model No.
R8 steel	231-4395
R8 brass	231-4396
R8 nylon	231-4397

R8 HEX COLLETS



Model No.530-6006
6pcs 1/8" to 3/4" by 8ths

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	530-6208	3mm	530-6030
5/32"	530-6210	4mm	530-6040
3/16"	530-6212	5mm	530-6050
1/4"	530-6216	6mm	530-6060
9/32"	530-6218	7mm	530-6070
5/16"	530-6220	8mm	530-6080
11/32"	530-6222	9mm	530-6090
3/8"	530-6224	10mm	530-6100
13/32"	530-6226	11mm	530-6110
7/16"	530-6228	12mm	530-6120
15/32"	530-6230	13mm	530-6130
1/2"	530-6232	13.5mm	530-6135
17/32"	530-6234	14mm	530-6140
9/16"	530-6236	15mm	530-6150
19/32"	530-6238	16mm	530-6160
5/8"	530-6240	17mm	530-6170
21/32"	530-6242	17.5mm	530-6175
11/16"	530-6244	18mm	530-6180
23/32"	530-6246	19mm	530-6190
3/4"	530-6248	20mm	530-6200
25/32"	530-6250		



R8 SQUARE COLLETS

Model No.530-7004
4pcs 1/8" to 1/2" by 8ths

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	530-7208	3mm	530-7030
5/32"	530-7210	4mm	530-7040
3/16"	530-7212	5mm	530-7050
1/4"	530-7216	5.5mm	530-7055
9/32"	530-7218	6mm	530-7060
5/16"	530-7220	7mm	530-7070
11/32"	530-7222	8mm	530-7080
3/8"	530-7224	9mm	530-7090
13/32"	530-7226	9.5mm	530-7095
7/16"	530-7228	10mm	530-7100
15/32"	530-7230	11mm	530-7110
1/2"	530-7232	12mm	530-7120
17/32"	530-7234	13mm	530-7130
9/16"	530-7236	13.5mm	530-7135
		14mm	530-7140

3C Collet

3C ROUND COLLETS



- 41/64"-26 external thread

Inch					
Size	Model No.	Size	Model No.	Size	Model No.
3/64"	232-4703	7/32"	232-4714	25/64"	232-4725
1/16"	232-4704	15/64"	232-4715	13/32"	232-4726
5/64"	232-4705	1/4"	232-4716	27/64"	232-4727
3/32"	232-4706	17/64"	232-4717	7/16"	232-4728
7/64"	232-4707	9/32"	232-4718	29/64"	232-4729
1/8"	232-4708	19/64"	232-4719	15/32"	232-4730
9/64"	232-4709	5/16"	232-4720	31/64"	232-4731
5/32"	232-4710	21/64"	232-4721	1/2"	232-4732
11/64"	232-4711	11/32"	232-4722	33/64"	232-4733
3/16"	232-4712	23/64"	232-4723	17/32"	232-4734
13/64"	232-4713	3/8"	232-4724	35/64"	232-4735
				9/16"	232-4736

Metric			
Size	Model No.	Size	Model No.
1mm	232-6010	7.5mm	232-6075
1.5mm	232-6015	8mm	232-6080
2mm	232-6020	8.5mm	232-6085
2.5mm	232-6025	9mm	232-6090
3mm	232-6030	9.5mm	232-6095
3.5mm	232-6035	10mm	232-6100
4mm	232-6040	10.5mm	232-6105
4.5mm	232-6045	11mm	232-6110
5mm	232-6050	11.5mm	232-6115
5.5mm	232-6055	12mm	232-6120
6mm	232-6060	12.5mm	232-6125
6.5mm	232-6065	13mm	232-6130
7mm	232-6070		

3C SQUARE COLLETS



- 41/64"-26 external thread

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	232-6208	3mm	232-6230
5/32"	232-6210	4mm	232-6240
3/16"	232-6212	5mm	232-6250
7/32"	232-6214	5.5mm	232-6255
1/4"	232-6216	6mm	232-6260
9/32"	232-6218	7mm	232-6270
5/16"	232-6220	8mm	232-6280
11/32"	232-6222	9mm	232-6290
3/8"	232-6224		

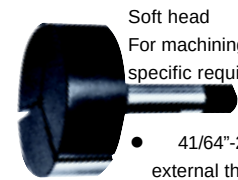
3C HEX COLLETS



- 41/64"-26 external thread

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	232-7008	3mm	232-7030
5/32"	232-7010	4mm	232-7040
3/16"	232-7012	5mm	232-7050
7/32"	232-7014	5.5mm	232-7055
1/4"	232-7016	6mm	232-7060
9/32"	232-7018	7mm	232-7070
5/16"	232-7020	8mm	232-7080
11/32"	232-7022	9mm	232-7090
3/8"	232-7024	10mm	232-7100
13/32"	232-7026	11mm	232-7110
7/16"	232-7028	12mm	232-7120

3C STEP COLLETS



Soft head
For machining to
specific requirements.

- 41/64"-26 external thread

Head Dia.	Thickness	Model No.
2"	1"	230-5521
2"	1-1/8"	230-5522
2"	1-1/4"	230-5523
3"	1"	230-5531
3"	1-1/8"	230-5532
3"	1-1/4"	230-5533

3AT ROUND COLLETS



- 41/64"-26 external thread

Inch						Metric					
Size	Model No.	Size	Model No.	Size	Model No.	Size	Model No.	Size	Model No.	Size	Model No.
3/64"	232-4803	13/64"	232-4813	23/64"	232-4823	1mm	232-4010	5mm	232-4050	9mm	232-4090
1/16"	232-4804	7/32"	232-4814	3/8"	232-4824	1.5mm	232-4015	5.5mm	232-4055	9.5mm	232-4095
5/64"	232-4805	15/64"	232-4815	25/64"	232-4825	2mm	232-4020	6mm	232-4060	10mm	232-4100
3/32"	232-4806	1/4"	232-4816	13/32"	232-4826	2.5mm	232-4025	6.5mm	232-4065	10.5mm	232-4105
7/64"	232-4807	17/64"	232-4817	27/64"	232-4827	3mm	232-4030	7mm	232-4070	11mm	232-4110
1/8"	232-4808	9/32"	232-4818	7/16"	232-4828	3.5mm	232-4035	7.5mm	232-4075	11.5mm	232-4115
9/64"	232-4809	19/64"	232-4819	29/64"	232-4829	4mm	232-4040	8mm	232-4080	12mm	232-4120
5/32"	232-4810	5/16"	232-4820	15/32"	232-4830	4.5mm	232-4045	8.5mm	232-4085	12.5mm	232-4125
11/64"	232-4811	21/64"	232-4821	31/64"	232-4831					13mm	232-4130
3/16"	232-4812	11/32"	232-4822	1/2"	232-4832						

3AT SQUARE COLLETS



- 0.637"-26 external thread

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	232-4208	3mm	232-4230
5/32"	232-4210	4mm	232-4240
3/16"	232-4212	5mm	232-4250
7/32"	232-4214	5.5mm	232-4255
1/4"	232-4216	6mm	232-4260
9/32"	232-4218	7mm	232-4270
5/16"	232-4220	8mm	232-4280
11/32"	232-4222	9mm	232-4290
3/8"	232-4224		

3AT HEX COLLETS

- 0.637"-26 external thread



Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	232-5008	3mm	232-5030
5/32"	232-5010	4mm	232-5040
3/16"	232-5012	5mm	232-5050
7/32"	232-5014	5.5mm	232-5055
1/4"	232-5016	6mm	232-5060
9/32"	232-5018	7mm	232-5070
5/16"	232-5020	8mm	232-5080
11/32"	232-5022	9mm	232-5090
3/8"	232-5024	10mm	232-5100
13/32"	232-5026	11mm	232-5110
7/16"	232-5028	12mm	232-5120

3AT STEP COLLETS



Soft head
For machining to
specific requirements.

Head Dia.	Thickness	Model No.
2"	1"	230-5621
2"	1-1/8"	230-5622
2"	1-1/4"	230-5623
3"	1"	230-5631
3"	1-1/8"	230-5632
3"	1-1/4"	230-5633

Collet & Rack

MORSE TAPER ROUND COLLETS

MT1, 1/4"-20 Internal Thread

D:12.2mm

L:57mm



Inch		Metric	
Size	Model No.	Size	Model No.
1/16"	230-4401	2mm	230-4412
1/8"	230-4402	3mm	230-4413
3/16"	230-4403	4mm	230-4414
1/4"	230-4404	6mm	230-4416
5/16"	230-4405	8mm	230-4418

MT2, 3/8"-16 Internal Thread

D:18mm

L:68mm

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-4508	2mm	230-5202
3/16"	230-4512	3mm	230-5203
1/4"	230-4516	5mm	230-5205
5/16"	230-4520	6mm	230-5206
3/8"	230-4524	10mm	230-5210
7/16"	230-4528	11mm	230-5211
1/2"	230-4532	12mm	230-5212

MT3, 1/2"-13 Internal Thread

D:24.1mm

L:86mm

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-4608	3mm	230-5103
3/16"	230-4612	5mm	230-5105
1/4"	230-4616	6mm	230-5106
5/16"	230-4620	8mm	230-5108
3/8"	230-4624	10mm	230-5110
7/16"	230-4628	11mm	230-5111
1/2"	230-4632	13mm	230-5113
9/16"	230-4636	14mm	230-5114
5/8"	230-4640	16mm	230-5116
11/16"	230-4644	17mm	230-5117
3/4"	230-4648	18mm	230-5118

230-4657

MT3 7pcs sets: 1/8,1/4, 3/8,1/2, 5/8,3/4, 3/16"

230-4597

MT2 7pcs sets: 1/8" to 1/2" by 16th

MT4, 5/8"-11 Internal Thread

D:31.5mm

L:108mm

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-4708	3mm	230-4803
3/16"	230-4712	4mm	230-4804
1/4"	230-4716	5mm	230-4805
5/16"	230-4720	6mm	230-4806
3/8"	230-4724	8mm	230-4808
7/16"	230-4728	10mm	230-4810
1/2"	230-4732	11mm	230-4811
9/16"	230-4736	13mm	230-4813
5/8"	230-4740	14mm	230-4814
11/16"	230-4744	16mm	230-4816
3/4"	230-4748	17mm	230-4817
13/16"	230-4752	18mm	230-4818
7/8"	230-4756	20mm	230-4820
15/16"	230-4760	22mm	230-4822
1"	230-4764	24mm	230-4824
		25mm	230-4825

7#, 9#, 21# B&S TAPER ROUND COLLETS

230-1500

B&S 7pcs sets: 1/8-1/2 by 16th



Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-1508	3mm	230-1573
3/16"	230-1512	5mm	230-1575
1/4"	230-1516	6mm	230-1576
5/16"	230-1520	8mm	230-1578
3/8"	230-1524	10mm	230-1580
7/16"	230-1528	11mm	230-1581
1/2"	230-1532	13mm	230-1583

Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-1608	3mm	230-1673
3/16"	230-1612	5mm	230-1675
1/4"	230-1616	6mm	230-1676
5/16"	230-1620	8mm	230-1678
3/8"	230-1624	10mm	230-1680
7/16"	230-1628	11mm	230-1681
1/2"	230-1632	13mm	230-1683
9/16"	230-1636	14mm	230-1684
5/8"	230-1640	16mm	230-1686
11/16"	230-1644	17mm	230-1687
3/4"	230-1648	18mm	230-1688
		20mm	230-1690

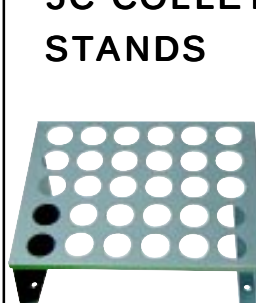
Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-1108	3mm	230-1173
3/16"	230-1112	5mm	230-1175
1/4"	230-1116	6mm	230-1176
5/16"	230-1120	8mm	230-1178
3/8"	230-1124	10mm	230-1180
7/16"	230-1128	11mm	230-1181
1/2"	230-1132	13mm	230-1183
9/16"	230-1136	14mm	230-1184
5/8"	230-1140	16mm	230-1186
11/64"	230-1144	17mm	230-1187
3/4"	230-1148	18mm	230-1188
13/64"	230-1152	20mm	230-1190
7/8"	230-1156	22mm	230-1192
15/16"	230-1160	24mm	230-1194
1"	230-1164	25mm	230-1195

CUTTER GRINDER COLLETS



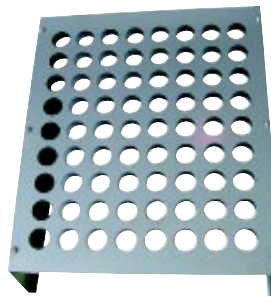
Inch		Metric	
Size	Model No.	Size	Model No.
1/8"	230-5308	3mm	230-5403
3/16"	230-5312	5mm	230-5405
1/4"	230-5316	6mm	230-5406
5/16"	230-5320	8mm	230-5408
3/8"	230-5324	10mm	230-5410
7/16"	230-5328	11mm	230-5411
1/2"	230-5332	13mm	230-5413
9/16"	230-5336	14mm	230-5414
5/8"	230-5340	16mm	230-5416

5C COLLET STANDS



Hold 5C 30 collets

Model No. 239-9530



Hold 5C 72 collets

Model No. 239-9572

WOODEN RACK FOR R8 COLLET



Hold 14 piece R8 collet

Model No. 239-9814

R8 COLLET RACKS



Specifications	Model No.
R8 Collet Rack, hold 12 collets	239-9212
R8 Collet Rack, hold 15 collets and tools	239-9815
R8 Vertical Collet Rack, hold 48 collets	239-9848

TG Collet

TG SERIES-SINGLE ANGLE COLLETS

TG Collet Dimensions

TG Series	Dia.	Length	Capacity Range
75	1.062"	1.844"	1/16- 3/4"
100	1.379"	2.375"	3/32-1"
150	2.001"	3.000"	3/8-1-1/2"
200	2.671"	3.250"	1"-2"



TG75 Collets

Metric					
Size	Model No.	Size	Model No.	Size	Model No.
1mm	204-8001	8mm	204-8016	14.5mm	204-8032
1.5mm	204-8002	8.5mm	204-8017	15mm	204-8033
2mm	204-8003	9mm	204-8018	15.5mm	204-8034
2.5mm	204-8004	9.5mm	204-8019	16mm	204-8036
3mm	204-8005	10mm	204-8021	16.5mm	204-8037
3.5mm	204-8006	10.5mm	204-8022	17mm	204-8038
4mm	204-8007	11mm	204-8023	17.5mm	204-8039
4.5mm	204-8008	11.5mm	204-8024	18mm	204-8041
5mm	204-8009	12mm	204-8026	18.5mm	204-8042
5.5mm	204-8011	12.5mm	204-8027	19mm	204-8043
6mm	204-8012	13mm	204-8028	19.5mm	204-8044
6.5mm	204-8013	13.5mm	204-8029	20mm	204-8046
7mm	204-8014	14mm	204-8031		

TG75 Collets

Inch					
Size	Model No.	Size	Model No.	Size	Model No.
1/16"	204-8101	5/16"	204-8121	9/16"	204-8141
5/64	204-8102	21/64	204-8122	37/64	204-8142
3/32	204-8103	11/32	204-8123	19/32	204-8143
7/64	204-8104	23/64	204-8124	39/64	204-8144
1/8	204-8106	3/8	204-8126	5/8	204-8146
9/64	204-8107	25/64	204-8127	41/64	204-8147
5/32	204-8108	13/32	204-8128	21/32	204-8148
11/64	204-8109	27/64	204-8129	43/64	204-8149
3/16	204-8111	7/16	204-8131	11/16	204-8151
13/64	204-8112	29/64	204-8132	45/64	204-8152
7/32	204-8113	15/32	204-8133	23/32	204-8153
15/64	204-8114	31/64	204-8134	47/64	204-8154
1/4	204-8116	1/2	204-8136	3/4	204-8156
17/64	204-8117	33/64	204-8137	49/64	204-8157
9/32	204-8118	17/32	204-8138	25/32	204-8158
19/64	204-8119	35/64	204-8139		

TG150 Collets

Inch			
Size	Model No.	Size	Model No.
3/32"	204-0003	27/32"	204-0054
7/64"	204-0004	55/64"	204-0055
1/8"	204-0005	7/8"	204-0056
9/64"	204-0006	57/64"	204-0057
5/32"	204-0007	29/32"	204-0058
11/64"	204-0008	59/64"	204-0059
3/16"	204-0009	15/16"	204-0060
13/64"	204-0010	61/64"	204-0061
7/32"	204-0011	31/32"	204-0062
15/64"	204-0015	63/64"	204-0063
1/4"	204-0016	1"	204-0064
17/64"	204-0017	1-1/64"	204-0101
9/32"	204-0018	1-1/32"	204-0102
19/64"	204-0019	1-3/64"	204-0103
5/16"	204-0020	1-1/16"	204-0104
21/64"	204-0021	1-5/64"	204-0105
11/32"	204-0022	1-3/32"	204-0106
23/64"	204-0023	1-7/64"	204-0107
3/8"	204-0024	1-1/8"	204-0108
25/64"	204-0025	1-9/64"	204-0109
13/32"	204-0026	1-5/32"	204-0110
27/64"	204-0027	1-11/64"	204-0111
7/16"	204-0028	1-3/16"	204-0112
29/64"	204-0029	1-13/64"	204-0113
15/32"	204-0030	1-7/32"	204-0114
31/64"	204-0031	1-15/64"	204-0115
1/2"	204-0032	1-1/4"	204-0116
33/64"	204-0033	1-17/64"	204-0117
17/32"	204-0034	1-9/32"	204-0118
35/64"	204-0035	1-19/64"	204-0119
9/16"	204-0036	1-5/16"	204-0120
37/64"	204-0037	1-21/64"	204-0121
19/32"	204-0038	1-11/32"	204-0122
39/64"	204-0039	1-23/64"	204-0123
5/8"	204-0040	1-3/8"	204-0124
41/64"	204-0041	1-25/64"	204-0125
21/32"	204-0042	1-13/32"	204-0126
43/64"	204-0043	1-27/64"	204-0127
11/16"	204-0044	1-7/16"	204-0128
45/64"	204-0045	1-29/64"	204-0129
23/32"	204-0046	1-15/32"	204-0130
47/64"	204-0047	1-31/64"	204-0131
3/4"	204-0048	1-1/2"	204-0132
49/64"	204-0049	1-33/64"	204-0133
25/32"	204-0050	1-17/32"	204-0134
51/64"	204-0051	1-35/64"	204-0135
13/16"	204-0052	1-9/16"	204-0136
53/64"	204-0053		

Metric	
Size	Model No.
2MM	204-0202
3MM	204-0203
4MM	204-0204
5MM	204-0205
6MM	204-0206
7MM	204-0207
8MM	204-0208
9MM	204-0209
10MM	204-0210
11MM	204-0211
12MM	204-0212
13MM	204-0213
14MM	204-0214
15MM	204-0215
16MM	204-0216
17MM	204-0217
18MM	204-0218
19MM	204-0219
20MM	204-0220
21MM	204-0221
22MM	204-0222
23MM	204-0223
24MM	204-0224
25MM	204-0225
26MM	204-0226
27MM	204-0227
28MM	204-0228
29MM	204-0229
30MM	204-0230
31MM	204-0231
32MM	204-0232
33MM	204-0233
34MM	204-0234
35MM	204-0235
36MM	204-0236
37MM	204-0237
38MM	204-0238
39MM	204-0239
40MM	204-0240

TG100 Collets

Inch			
Size	Model No.	Size	Model No.
1/64"	204-9901	33/64"	204-9933
1/32"	204-9902	17/32"	204-9934
3/64"	204-9903	35/64"	204-9935
1/16"	204-9904	9/16"	204-9936
5/64"	204-9905	37/32"	204-9937
3/32"	204-9906	19/32"	204-9938
7/64"	204-9907	39/64"	204-9939
1/8"	204-9908	5/8"	204-9940
9/64"	204-9909	41/64"	204-9941
5/32"	204-9910	21/32"	204-9942
11/64"	204-9911	43/64"	204-9943
3/16"	204-9912	11/16"	204-9944
13/64"	204-9913	45/64"	204-9945
7/32"	204-9914	23/32"	204-9946
15/64"	204-9915	47/64"	204-9947
1/4"	204-9916	3/4"	204-9948
17/64"	204-9917	49/64"	204-9949
9/32"	204-9918	25/32"	204-9950
19/64"	204-9919	51/64"	204-9951
5/16"	204-9920	13/16"	204-9952
21/64"	204-9921	53/64"	204-9953
11/32"	204-9922	27/32"	204-9954
23/64"	204-9923	55/64"	204-9955
3/8"	204-9924	7/8"	204-9956
25/64"	204-9925	57/64"	204-9957
13/32"	204-9926	29/32"	204-9958
27/64"	204-9927	59/64"	204-9959
7/16"	204-9928	15/16"	204-9960
29/64"	204-9929	61/64"	204-9961
15/32"	204-9930	31/32"	204-9962
31/64"	204-9931	63/64"	204-9963
1/2"	204-9932	1"	204-9964

Metric	
Size	Model No.
1MM	204-0301
2MM	204-0302
3MM	204-0303
4MM	204-0304
5MM	204-0305
6MM	204-0306
7MM	204-0307
8MM	204-0308
9MM	204-0309
10MM	204-0310
11MM	204-0311
12MM	204-0312
13MM	204-0313
14MM	204-0314
15MM	204-0315
16MM	204-0316
17MM	204-0317
18MM	204-0318
19MM	204-0319
20MM	204-0320
21MM	204-0321
22MM	204-0322
23MM	204-0323
24MM	204-0324
25MM	204-0325

TG200 Collets

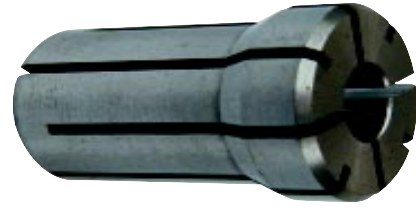
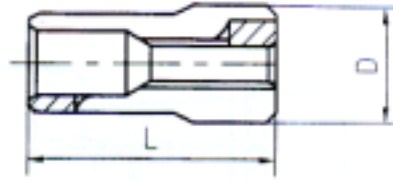
Size	Model No.
1"	204-0564
1-1/4"	204-0516
1-1/2"	204-0532
1-3/4"	204-0543
2"	204-0550

DA Collet

DA SERIES-DOUBLE ANGLE COLLETS

- Concentric within 0.0005" TIR at collet nose assembled with chuck
- Self release for rapid, easy operation.

DA Series	D	L	Capacity Range
300	.375"	2.00"	1/32-1/4
200	.539"	1.18"	3/64-25/64
100	.769"	1.44"	3/64-9/16
180	1.035"	1.62"	3/64-3/4



Inch				
Size	100DA Model No.	180DA Model No.	200DA Model No.	300DA Model No.
1/32"	=====	=====	=====	159-3020
3/64"	159-0000	159-0700	159-1140	159-3040
1/16"	159-0020	159-0720	159-1160	159-3060
5/64"	159-0040	159-0740	159-1180	159-3080
3/32"	159-0060	159-0760	159-1200	159-3100
7/64"	159-0080	159-0780	159-1220	159-3120
1/8"	159-0100	159-0800	159-1240	159-3140
9/64"	159-0120	159-0820	159-1260	159-3160
5/32"	159-0140	159-0840	159-1280	159-3180
11/64"	159-0160	159-0860	159-1300	159-3200
3/16"	159-0180	159-0880	159-1320	159-3220
13/64"	159-0200	159-0900	159-1340	159-3240
7/32"	159-0220	159-0920	159-1360	159-3260
15/64"	159-0240	159-0940	159-1380	159-3280
1/4"	159-0260	159-0960	159-1400	159-3300
17/64"	159-0280	159-0980	159-1420	
9/32"	159-0300	159-1000	159-1440	
19/64"	159-0320	159-1020	159-1460	
5/16"	159-0340	159-1040	159-1480	
21/64"	159-0360	159-1060	159-1500	
11/32"	159-0380	159-1080	159-1520	
23/64"	159-0400	159-1100	159-1540	
3/8"	159-0420	159-1120	159-1560	
25/64"	159-0440	159-1140	159-1580	
13/32"	159-0460	159-1160	159-1600	
27/64"	159-0480	159-1180	159-1620	
7/16"	159-0500	159-1200	159-1640	
29/64"	159-0520	159-1220	159-1660	
15/32"	159-0540	159-1240	159-1680	
31/64"	159-0560	159-1260	159-1700	
1/2"	159-0580	159-1280	159-1720	
33/64"	159-0600	159-1300	159-1740	
17/32"	159-0620	159-1320	159-1760	
35/64"	159-0640	159-1340	159-1780	
9/16"	159-0660	159-1360	159-1800	
37/64"		159-1380	159-1820	
19/32"		159-1400	159-1840	
39/64"		159-1420	159-1860	
5/8"		159-1440	159-1880	
41/64"		159-1460	159-1900	
21/32"		159-1480	159-1920	
43/64"		159-1500	159-1940	
11/16"		159-1520	159-1960	
45/64"		159-1540	159-1980	
23/32"		159-1560	159-2000	
47/64"		159-1580	159-2020	
3/4"		159-1600	159-2040	
49/64"		159-1620	159-2060	

Metric			
Size	100DA Model No.	180DA Model No.	200DA Model No.
1.5mm	159-5000	159-5560	159-5910
2.0mm	159-5020	159-5580	159-5920
2.5mm	159-5040	159-5600	159-5940
3.0mm	159-5060	159-5620	159-5960
3.5mm	159-5080	159-5640	159-5980
4.0mm	159-5100	159-5660	159-6000
4.5mm	159-5120	159-5680	159-6020
5.0mm	159-5140	159-5700	159-6040
5.5mm	159-5160	159-5720	159-6060
6.0mm	159-5180	159-5740	159-6080
6.5mm	159-5200	159-5760	159-6100
7.0mm	159-5220	159-5780	159-6120
7.5mm	159-5240	159-5800	159-6140
8.0mm	159-5260	159-5820	159-6160
8.5mm	159-5280	159-5840	159-6180
9.0mm	159-5300	159-5860	159-6200
9.5mm	159-5320	159-5880	159-6220
10.0mm	159-5340	159-5900	159-6240
10.5mm	159-5360	159-5920	159-6260
11.0mm	159-5380	159-5940	159-6280
11.5mm	159-5400	159-5960	159-6300
12.0mm	159-5420	159-5980	159-6320
12.5mm	159-5440	159-6000	159-6340
13.0mm	159-5460	159-6020	159-6360
13.5mm	159-5480	159-6040	159-6380
14.0mm	159-5500	159-6060	159-6400
14.5mm	159-5520	159-6080	159-6420
15.0mm		159-6100	159-6440
15.5mm		159-6120	159-6460
16.0mm		159-6140	159-6480
16.5mm		159-6160	159-6500
17.0mm		159-6180	159-6520
17.5mm		159-6200	159-6540
18.0mm		159-6220	159-6560
18.5mm		159-6240	159-6580
19.0mm		159-6260	159-6600
19.5mm		159-6280	159-6620
20.0mm		159-6300	159-6640

COLLET SETS

Collet Series	No. of Pieces	Range	Model No.
100	29	1/8-9/16 by 64ths	159-1029
100	15	1/8-9/16 by 32ths	159-1015
180	41	1/8-3/4 by 64ths	159-1841
180	21	1/8-9/16 by 32ths	159-1821
200	17	1/8-3/8 by 64ths	159-2017
200	9	1/8-3/8 by 32ths	159-2009
300	9	1/8-1/4 by 64ths	159-3009
300	5	1/8-1/4 by 32ths	159-3005

EOC Collet

EOC COLLETS



Type	A	L
16A/B	25.5	40
20A/B	29.8	45
25A/B	35.05	52
32A/B	43.7	60
40A/B	52.2	68
50A/B	63.8	80

16B 15pcs sets

2mm to 16mm by 1mm

Model No. 122-0535

25A 15pcs sets

1/8" to 1" by 16ths

Model No. 204-5100

Size	16B Model No.	20B Model No.	25B Model No.	32B Model No.	40B Model No.	50B Model No.	Size	25A Model No.	32A Model No.	40A Model No.	50A Model No.
2mm	122-0502	122-1502	122-2502				2mm	204-5202			
3mm	122-0504	122-1504	122-2504				3mm	204-5203			
4mm	122-0506	122-1506	122-2506	122-3506			4mm	204-5204	204-5354		
5mm	122-0508	122-1508	122-2508	122-3508			5mm	204-5205	204-5355		
6mm	122-0510	122-1510	122-2510	122-3510	122-4510		6mm	204-5206	204-5356	204-5406	204-9456
7mm	122-0512	122-1512	122-2512	122-3512	122-4512		7mm	204-5207	204-5357	204-5407	204-9457
8mm	122-0514	122-1514	122-2514	122-3514	122-4514	122-5514	8mm	204-5208	204-5358	204-5408	204-9458
9mm	122-0516	122-1516	122-2516	122-3516	122-4516	122-5516	9mm	204-5209	204-5359	204-5409	204-9459
10mm	122-0518	122-1518	122-2518	122-3518	122-4518	122-5518	10mm	204-5210	204-5360	204-5410	204-9460
11mm	122-0520	122-1520	122-2520	122-3520	122-4520	122-5520	11mm	204-5211	204-5361	204-5411	204-9461
12mm	122-0522	122-1522	122-2522	122-3522	122-4522	122-5522	12mm	204-5212	204-5362	204-5412	204-9462
13mm	122-0524	122-1524	122-2524	122-3524	122-4524	122-5524	13mm	204-5213	204-5363	204-5413	204-9463
14mm	122-0526	122-1526	122-2526	122-3526	122-4526	122-5526	14mm	204-5214	204-5364	204-5414	204-9464
15mm	122-0528	122-1528	122-2528	122-3528	122-4528	122-5528	15mm	204-5215	204-5365	204-5415	204-9465
16mm	122-0530	122-1530	122-2530	122-3530	122-4530	122-5530	16mm	204-5216	204-5366	204-5416	204-9466
17mm		122-1532	122-2532	122-3532	122-4532	122-5532	17mm	204-5217	204-5367	204-5417	204-9467
18mm		122-1534	122-2534	122-3534	122-4534	122-5534	18mm	204-5218	204-5368	204-5418	204-9468
19mm		122-1536	122-2536	122-3536	122-4536	122-5536	19mm	204-5219	204-5369	204-5419	204-9469
20mm		122-1538	122-2538	122-3538	122-4538	122-5538	20mm	204-5220	204-5370	204-5420	204-9470
21mm			122-2540	122-3540	122-4540	122-5540	21mm	204-5221	204-5371	204-5421	204-9471
22mm			122-2542	122-3542	122-4542	122-5542	22mm	204-5222	204-5372	204-5422	204-9472
23mm			122-2544	122-3544	122-4544	122-5544	23mm	204-5223	204-5373	204-5423	204-9473
24mm			122-2546	122-3546	122-4546	122-5546	24mm	204-5224	204-5374	204-5424	204-9474
25mm			122-2548	122-3548	122-4548	122-5548	25mm	204-5225	204-5375	204-5425	204-9475
26mm				122-3550	122-4550	122-5550	26mm		204-5376	204-5426	204-9476
27mm				122-3552	122-4552	122-5552	27mm		204-5377	204-5427	204-9477
28mm				122-3554	122-4554	122-5554	28mm		204-5378	204-5428	204-9478
29mm				122-3556	122-4556	122-5556	29mm		204-5379	204-5429	204-9479
30mm				122-3558	122-4558	122-5558	30mm		204-5380	204-5430	204-9480
31mm				122-3560	122-4560	122-5560	31mm		204-5381	204-5431	204-9481
32mm				122-3562	122-4562	122-5562	32mm		204-5382	204-5432	204-9482
33mm					122-4564	122-5564	33mm			204-5433	204-9483
34mm					122-4566	122-5566	34mm			204-5434	204-9484
35mm					122-4568	122-5568	35mm			204-5435	204-9485
36mm					122-4570	122-5570	36mm				204-9486
37mm					122-4572	122-5572	37mm				204-9487
38mm					122-4574	122-5574	38mm				204-9488
39mm					122-4576	122-5576	39mm				204-9489
40mm					122-4578	122-5578	40mm				204-9490
41mm						122-5580	41mm				204-9491
42mm						122-5582	42mm				204-9492
43mm						122-5584	43mm				204-9493
44mm						122-5586	44mm				204-9494
45mm						122-5588	45mm				204-9495
46mm						122-5590	46mm				204-9496
47mm						122-5592	47mm				204-9497
48mm						122-5594	48mm				204-9498
49mm						122-5596	49mm				204-9499
50mm						122-5598	50mm				204-9500

ER Collet

ER COLLETS

- Unique 8-flute design affords highest gripping power.
- True double angle, for extreme concentricity.
- 16 Jaws giving powerful gripping and parallel clamping.
- A unique self-releasing system is built into the collet and clamping nut to eliminate cutting tools sticking in collets.



Inch

Type	A	B
ER11	11.5mm	18mm
ER16	17mm	27mm
ER20	21mm	31mm
ER25	26mm	35mm
ER32	33mm	40mm
ER40	41mm	46mm

Size	ER11 Model No.	ER16 Model No.	ER20 Model No.	ER25 Model No.	ER 32 Model No.	ER40 Model No.
1/32"	204-1102	204-1602				
3/64"	204-1103	204-1603	204-2003			
1/16"	204-1104	204-1604	204-2004	204-2504		
5/64"	204-1105	204-1605	204-2005	204-2505		
3/32"	204-1106	204-1606	204-2006	204-2506	204-3206	
7/64"	204-1107	204-1607	204-2007	204-2507	204-3207	
1/8"	204-1108	204-1608	204-2008	204-2508	204-3208	204-4008
9/64"	204-1109	204-1609	204-2009	204-2509	204-3209	204-4009
5/32"	204-1110	204-1610	204-2010	204-2510	204-3210	204-4010
11/64"	204-1111	204-1611	204-2011	204-2511	204-3211	204-4011
3/16"	204-1112	204-1612	204-2012	204-2512	204-3212	204-4012
13/64"	204-1113	204-1613	204-2013	204-2513	204-3213	204-4013
7/32"	204-1114	204-1614	204-2014	204-2514	204-3214	204-4014
15/64"	204-1115	204-1615	204-2015	204-2515	204-3215	204-4015
1/4"	204-1116	204-1616	204-2016	204-2516	204-3216	204-4016
17/64"	204-1117	204-1617	204-2017	204-2517	204-3217	204-4017
9/32"	204-1118	204-1618	204-2018	204-2518	204-3218	204-4018
19/64"		204-1619	204-2019	204-2519	204-3219	204-4019
5/16"		204-1620	204-2020	204-2520	204-3220	204-4020
21/64"		204-1621	204-2021	204-2521	204-3221	204-4021
11/32"		204-1622	204-2022	204-2522	204-3222	204-4022
23/64"		204-1623	204-2023	204-2523	204-3223	204-4023
3/8"		204-1624	204-2024	204-2524	204-3224	204-4024
25/64"			204-2025	204-2525	204-3225	204-4025
13/32"			204-2026	204-2526	204-3226	204-4026
27/64"			204-2027	204-2527	204-3227	204-4027
7/16"			204-2028	204-2528	204-3228	204-4028
29/64"			204-2029	204-2529	204-3229	204-4029
15/32"			204-2030	204-2530	204-3230	204-4030
31/64"			204-2031	204-2531	204-3231	204-4031
1/2"			204-2032	204-2532	204-3232	204-4032
33/64"				204-2533	204-3233	204-4033
17/32"				204-2534	204-3234	204-4034
35/64"				204-2535	204-3235	204-4035
9/16"				204-2536	204-3236	204-4036
37/64"				204-2537	204-3237	204-4037
19/32"				204-2538	204-3238	204-4038
39/64"				204-2539	204-3239	204-4039
5/8"				204-2540	204-3240	204-4040
41/64"					204-3241	204-4041
21/32"					204-3242	204-4042
43/64"					204-3243	204-4043
11/16"					204-3244	204-4044
45/64"					204-3245	204-4045
23/32"					204-3246	204-4046
47/64"					204-3247	204-4047
3/4"					204-3248	204-4048
49/64"					204-3249	204-4049
25/32"					204-3250	204-4050
51/64"					204-3251	204-4051
13/16"					204-3252	204-4052
53/64"						204-4053
27/32"						204-4054
55/64"						204-4055
7/8"						204-4056
57/64"						204-4057
29/32"						204-4058
59/64"						204-4059
15/16"						204-4060
61/64"						204-4061
31/32"						204-4062
63/64"						204-4063
1"						204-4064
1-1/64"						204-4065

Metric

Size	ER11 Model No.	ER 16 Model No.	ER-20 Model No.	ER-25 Model No.	ER 32 Model No.	ER 40 Model No.
1mm	204-1010	204-6010	204-7010	204-7210		
1.5mm	204-1015	204-6015	204-7015	204-7215		
2mm	204-1020	204-6020	204-7020	204-7220	204-3320	
2.5mm	204-1025	204-6025	204-7025	204-7225	204-3325	
3mm	204-1030	204-6030	204-7030	204-7230	204-3330	204-4130
3.5mm	204-1035	204-6035	204-7035	204-7235	204-3335	
4mm	204-1040	204-6040	204-7040	204-7240	204-3340	204-4134
4.5mm	204-1045	204-6045	204-7045	204-7245	204-3345	
5mm	204-1050	204-6050	204-7050	204-7250	204-3350	204-4135
5.5mm	204-1055	204-6055	204-7055	204-7255	204-3355	
6mm	204-1060	204-6060	204-7060	204-7260	204-3360	204-4136
7mm	204-1070	204-6070	204-7070	204-7270	204-3370	204-4137
8mm		204-6080	204-7080	204-7280	204-3380	204-4138
9mm		204-6090	204-7090	204-7290	204-3390	204-4139
10mm		204-6100	204-7100	204-7300	204-3400	204-4140
11mm			204-7110	204-7310	204-3410	204-4141
12mm			204-7120	204-7320	204-3420	204-4142
13mm			204-7130	204-7330	204-3430	204-4143
14mm				204-7340	204-3440	204-4144
15mm				204-7350	204-3450	204-4145
16mm				204-7360	204-3460	204-4146
17mm					204-3470	204-4147
18mm					204-3480	204-4148
19mm					204-3490	204-4149
20mm					204-3500	204-4150
21mm						204-4151
22mm						204-4152
23mm						204-4153
24mm						204-4154
25mm						204-4155
26mm						204-4156
27mm						204-4157
28mm						204-4158
29mm						204-4159
30mm						204-4160

All sets include wooden stand

Type	Descriptions	Model No.
ER16	10pcs set includes 1/32", 1/16", 3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8"	204-1630
ER16	7pcs set include: 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8"	204-1637
ER20	12pcs set includes 1/16", 3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2"	204-2040
ER20	10pcs set include 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2"	204-2050
ER25	15pcs set includes 1/16", 3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2", 17/32", 9/16", 5/8"	204-2550
ER25	12pcs set include 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2", 17/32", 9/16", 5/8"	204-2552
ER32	18pcs set includes 3/32", 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2", 17/32", 9/16", 5/8", 21/32", 11/16", 23/32", 3/4"	204-3260
ER32	11pcs set include 1/8", 3/16", 1/4", 5/16", 3/8", 13/32", 7/16", 9/16", 5/8", 11/16", 3/4"	204-3261
ER40	23pcs/set with wooden stand, includes 1/8", 3/16", 7/32", 1/4", 5/16", 11/32", 3/8", 13/32", 7/16", 1/2", 17/32", 9/16", 5/8", 21/32", 11/16", 25/32", 13/16", 27/32", 7/8", 15/16", 31/32", 1"	204-4000
ER40	15pcs set include 1/8", 3/16", 1/4", 5/16", 3/8", 13/32", 7/16", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", 1"	204-4075

Type	Descriptions	Model No.
ER11	13pcs set include 0.5-7mm by 0.5mm	204-6411
ER16	10pcs set includes 1-10mm by 1mm	204-1631
ER20	12pcs set include 2-13mm by 1mm	204-6420
ER25	15pcs set include: 2-16mm by 1mm	204-2551
ER32	18pcs set include: 3-20mm by 1mm	204-3318
ER40	23pcs set include: 4-26mm by 1mm	204-4001

Collet Chuck & Nuts

ER COLLET CHUCKS



MORSE TAPER SHANK

Shank Diameter	Collet Type	Drawbar Thread	Capacity	Model No.
2MT	ER-20	3/8-16	.04-.511	230-7051
2MT	ER-25	3/8-16	.04-.629	230-7053
3MT	ER-32	1/2-13	.06-.787	230-7055
3MT	ER-40	1/2-13	.12-1.02	230-7057
4MT	ER-40	5/8-11	.12-1.02	230-7059
4MT	ER-50	5/8-11	.393-1.33	230-7063
5MT	ER-40	3/4-10	.12-1.02	230-7061
5MT	ER-50	3/4-10	.393-1.33	230-7065
6MT	ER-50	1"-8	.393-1.33	230-7067



30, 40 AND 50 SHANK

Shank Diameter	Collet Type	Drawbar Thread	Capacity	Model No.
30	ER-16	1/2-13	.02-.393	230-7071
30	ER-32	1/2-13	.08-.787	230-7073
30	ER-40	1/2-13	.12-1.02	230-7075
40	ER-16	5/8-11	.02-.393	230-7077
40	ER-20	5/8-11	.04-.511	230-7079
40	ER-32	5/8-11	.08-.787	230-7081
40	ER-40	5/8-11	.12-1.02	230-7083
40	ER-50	5/8-11	.393-1.33	230-7085
50	ER-16	1"-8	.02-.393	230-7087
50	ER-20	1"-8	.04-.511	230-7089
50	ER-40	1"-8	.12-1.02	230-7091
50	ER-50	1"-8	.393-1.33	230-7093



R8 SHANK

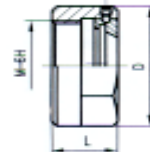
Shank Diameter	Collet Type	Drawbar Thread	Capacity	Model No.
R8	ER-16	7/16-20	.02-.393	230-7041
R8	ER-16	7/16-20	.02-.393	230-7043
R8	ER-32	7/16-20	.06-.787	230-7045
R8	ER-40	7/16-20	.12-1.02	230-7047



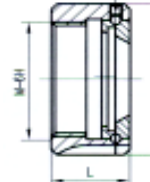
STRAIGHT SHANK

Shank Diameter	Collet Type	Drawbar Thread	Capacity	Model No.
5/8x2-1/2	ER-11	3/8-16	.02-.275	230-7001
3/4x2-1/2	ER-11	3/8-16	.02-.275	230-7003
3/4x4"	ER-11	3/8-16	.02-.275	230-7005
3/4x6"	ER-11	3/8-16	.02-.275	230-7007
3/4x2-1/2	ER-16	3/8-16	.02-.393	230-7009
3/4x4"	ER-16	3/8-16	.02-.393	230-7011
3/4x6"	ER-16	3/8-16	.02-.393	230-7013
3/4x2-1/2	ER-20	3/8-16	.04-.511	230-7015
3/4x4"	ER-20	3/8-16	.04-.511	230-7017
3/4x6"	ER-20	3/8-16	.04-.511	230-7019
3/4x2"	ER-25	3/8-16	.04-.629	230-7021
3/4x4"	ER-25	3/8-16	.04-.629	230-7023
1"x1-31/32	ER-32	3/8-16	.08-.787	230-7027
1-1/4x2-3/8	ER-32	1/2-13	.08-.787	230-7029
1-1/4x5-29/32	ER-32	1/2-13	.08-.787	230-7031
3/4x1-31/32	ER-32	5/8-11	.08-.787	230-7025
1"x2-3/8	ER-40	5/8-11	.12-1.02	230-7033
1-1/4x2-3/8	ER-40	5/8-11	.12-1.02	230-7035

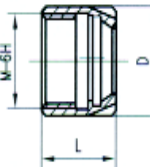
ER NUTS



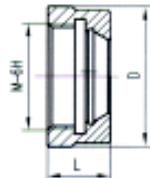
D(mm)	L(mm)	ER No.	Type A Model No.
19	11.3	ER11	230-8100
28	17.5	ER16	230-8102
35	19	ER20	230-8104



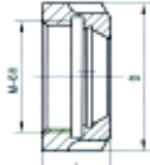
D(mm)	L(mm)	ER No.	Type B Model No.
42	20	ER-25	230-8200
50	22.5	ER-32	230-8202
63	25.5	ER-40	230-8204
78	35.5	ER-50	230-8206



D(mm)	L(mm)	ER No.	Type M Model No.
12	12	ER-8	230-8300
16	12	ER-11	230-8302
22	18	ER-16	230-8304
28	19	ER-20	230-8306
35	20	ER-25	230-8308



D(mm)	L(mm)	ER No.	Type T1 Model No.
19	11.3	ER-11	230-8400
28	17.5	ER-16	230-8402
35	19	ER-20	230-8404



D(mm)	L(mm)	ER No.	Type T2 Model No.
42	20	ER-25	230-8500
50	22.5	ER-32	230-8502
63	25.5	ER-40	230-8504
78	35.5	ER-50	230-8506

ER SPANNER



Spanner Overall	Opern	Length	Clamping Nut	Model No.
17mm	110mm	ER11-A	ER11-T1	230-7417
25mm	120mm	ER16-A	ER16-T1	230-7425
30mm	130mm	ER20-A	ER20-T1	230-7430



Spanner Overall	Opern	Length	Clamping Nut	Model No.
37mm	210mm	ER25-B	ER25-T2	230-7537
45mm	250mm	ER32-B	ER32-T2	230-7545
58mm	290mm	ER40-B	ER40-T2	230-7558
72mm	350mm	ER50-B	ER50-T2	230-7572



Overall	Length	Size	Clamping Nut	Model No.
168mm	38-42mm	ER25-B	ER25-T2	230-7637
190mm	45-52mm	ER32-B	ER32-T2	230-7645
210mm	55-63mm	ER40-B	ER40-T2	230-7658
240mm	78-85mm	ER50-B	ER50-T2	230-7672



Spanner Overall	Opern	Length	Clamping Nut	Model No.
7.5mm	70mm	ER8-M		230-7707
11mm	90mm	ER11-M		230-7711
15mm	110mm	ER16-M		230-7715
19.5mm	120mm	ER20-M		230-7719
25mm	130mm	ER25-M		230-7725

ER Collet Set & Fixture

COLLET CHUCK SETS(INCH)

ER11

7pcs Collets in Sets:

1/32, 1/16, 3/32, 1/8,
3/16, 7/32, 1/4

Shank Size	Model No.
R8	230-0718
30	230-0733
40	230-0734
50	230-0735
2MT	230-0772
3MT	230-0773
4MT	230-0774
3/4X2-1/2"	230-0741
3/4"x4	230-0743
3/4"x6"	230-0744

ER16

8pcs Collets in Sets:

3/32, 1/8, 3/16, 7/32, 1/4, 5/16,
11/32, 3/8

Shank Size	Model No.
R8	230-1818
30	230-1833
40	230-1834
50	230-1835
2MT	230-1872
3MT	230-1873
4MT	230-1874
1/2"	230-1841
3/4"	230-1843

ER16

10pcs Collets in Sets:

1/32, 1/16, 3/32, 1/8, 3/16,
7/32, 1/4, 5/16, 11/32, 3/8

Shank Size	Model No.
R8	230-0608
30	230-0630
40	230-0640
50	230-0650
2MT	230-0662
3MT	230-0663
4MT	230-0664
3/4X2-1/2"	230-0672
3/4"x4	230-0674
3/4"x6"	230-0676

ER 25

10pcs Collets in Sets:

3/32, 1/8, 3/16, 1/4, 5/16,
3/8, 7/16, 1/2, 9/16, 5/8

Shank Size	Model No.
R8	230-0408
30	230-0430
40	230-0440
50	230-0450
2MT	230-0462
3MT	230-0463
4MT	230-0464
3/4"	230-0474
1"	230-0476



ER 25

6pcs Collets in Sets:

3/16, 1/4, 5/16, 3/8,
1/2, 5/8

Shank Size	Model No.
R8	230-0508
30	230-0530
40	230-0540
50	230-0550
2MT	230-0562
3MT	230-0563
4MT	230-0564
3/4"x2-1/2	230-0574
1"x2-3/8	230-0576

ER 32

12pcs Collets in Sets:

1/16, 3/32, 1/8, 3/16, 1/4,
5/16, 3/8, 7/16, 1/2, 9/16,
5/8, 13/16

Shank Size	Model No.
R8	230-0208
30	230-0230
40	230-0240
50	230-0250
3MT	230-0263
4MT	230-0264
5MT	230-0265
3/4"x2-1/2"	230-0274
1"x2-3/8	230-0276

ER 32

6pcs Collets in Sets:

1/4, 5/16, 3/8, 1/2, 5/8, 3/4

Shank Size	Model No.
R8	230-0308
30	230-0330
40	230-0340
50	230-0350
3MT	230-0363
4MT	230-0364
5MT	230-0365
3/4"x2-1/2	230-0374
1"x2-3/8	230-0376

ER 40

15pcs Collets in Sets:

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"

Shank Size	Model No.
R8	230-0008
ISO 30	230-0030
ISO 40	230-0040
ISO 50	230-0050
3MT	230-0063
4MT	230-0064
5MT	230-0065
1"x2-3/8	230-0076
1-1/4" x2-3/8	230-0078

ER 40

8pcs Collets in Sets:

1/8, 1/4, 3/8, 1/2, 5/8, 3/4,
7/8, 1"

Shank Size	Model No.
R8	230-0108
30	230-0130
40	230-0140
50	230-0150
3MT	230-0163
4MT	230-0164
5MT	230-0165
1X2-3/8	230-0176
1-1/4"x2-3/8	230-0178

COLLET CHUCK SETS(METRIC)

ER40

15 collets :

3, 4, 5, 6, 8, 10, 12,
14, 15, 16, 18, 20,
22, 24, 26mm

Shank Size	15 Collets Model No.
R8	230-2008
30	230-2030
40	230-2040
45	230-2045
50	230-2050
3MT	230-2063
4MT	230-2064
5MT	230-2065
1"	230-2076
1-1/4"	230-2078

ER40

8 Collets:

3, 5, 8, 12, 15, 18,
22, 26mm

Shank Size	8 Collets Model No.
R8	230-2108
30	230-2130
40	230-2140
45	230-2145
50	230-2150
3MT	230-2163
4MT	230-2164
5MT	230-2165
1"	230-2176
1-1/4"	230-2178

ER32

12 Collets:

3, 4, 5, 6, 8, 10, 12,
14, 15, 16, 18, 20mm

Shank Size	12 Collets Model No.
R8	230-2208
30	230-2230
40	230-2240
50	230-2250
3MT	230-2263
4MT	230-2264
5MT	230-2265
3/4"	230-2274
1"	230-2276

ER32

6 collet :

6, 8, 10, 12, 16,
20mm

Shank Size	6Collets Model No.
R8	230-2308
30	230-2330
40	230-2340
50	230-2350
3MT	230-2363
4MT	230-2364
5MT	230-2365
3/4"	230-2374
1"	230-2376

ER25

10 collets:

3, 4, 5, 6, 8, 10,
12, 14, 15, 16mm

Shank Size	10 Collets Model No.
R8	230-2408
30	230-2430
40	230-2440
50	230-2450
2MT	230-2462
3MT	230-2463
4MT	230-2464
3/4"	230-2474
1"	230-2476

ER25

6 collets:

4, 6, 8, 10, 12, 16mm

Shank Size	6 Collets Model No.
R8	230-2508
30	230-2530
40	230-2540
50	230-2550
2MT	230-2562
3MT	230-2563
4MT	230-2564
3/4"	230-2574
1"	230-2576

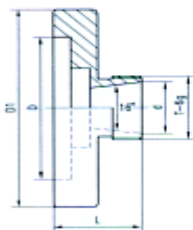
ER16

8 colles:

2, 3, 4, 5, 6, 7,
8, 10mm

Shank Size	8 Collets Model No.
R8	230-2608
30	230-2630
40	230-2640
50	230-2650
2MT	230-2662
3MT	230-2663
4MT	230-2664
1/2"	230-2672
3/4"	230-2674

COLLET FIXTURE



D(mm)	D1(mm)	d(mm)	T(mm)	L(mm)	Collet	Model No.
22	45	16	M22x1.5	25	ER16	231-0301
72	100	25	M32x1.5	36	ER25	231-0303
52	102	25	M32x1.5	36	ER25	231-0305
100	132	25	M32x1.5	34	ER25	231-0307
55	80	32	M40x1.5	42	ER32	231-0309
72	100	32	M40x1.5	42	ER32	231-0311
95	125	32	M40x1.5	42	ER32	231-0313
100	132	32	M40x1.5	42	ER32	231-0315
132	163	32	M40x1.5	42	ER32	231-0317

Collet Set

ER COLLET PUNCH FORMER

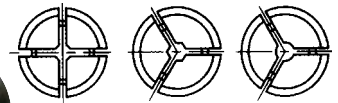
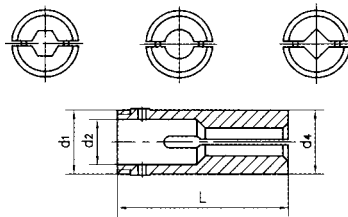


- Clamping diameter: $\parallel_{\pm 0.02} = \parallel_{\pm 0.02}$
- Supply ER32 collet size: 4,6,8,10,12,16,20 for workpiece diameter smaller than 4mm, use shank 20mm/ER16 collet chuck
- It clamps workpiece quickly and steadily when processing without checking the center

Model No. 287-6805

FEEDING COLLET DIN 6344

CLAMPING COLLET DIN 6343



Hex		Square		Round	
Size	Model No.	Size	Model No.	Size	Model No.
8mm	530-1208	7mm	530-1107	10mm	530-1010
10mm	530-1210	8mm	530-1108	12mm	530-1012
16mm	530-1216	13mm	530-1113	18mm	530-1018
20mm	530-1220	17mm	530-1117	24mm	530-1024
30mm	530-1230	25mm	530-1125	36mm	530-1036
45mm	530-1245	36mm	530-1136	52mm	530-1052

Hex		Round		Square	
Size	Model No.	Size	Model No.	Size	Model No.
10mm	530-0210	12mm	530-0012	11mm	530-0111
13mm	530-0213	16mm	530-0016	15mm	530-0115
19mm	530-0219	22mm	530-0022	18mm	530-0118
22mm	530-0222	26mm	530-0026	21mm	530-0121
26mm	530-0226	30mm	530-0030	25mm	530-0125
30mm	530-0230	36mm	530-0036	29mm	530-0129
36mm	530-0236	42mm	530-0042	35mm	530-0135
42mm	530-0242	50mm	530-0050	42mm	530-0142
52mm	530-0252	60mm	530-0060		

TAPPING CHUCK

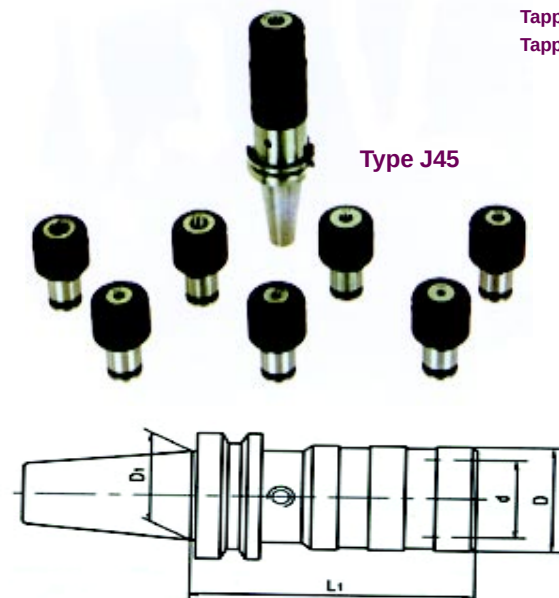
This unit is consisted of chuck and tap collet. The chuck has installed compensating device for thread pitch. There are two different tap collets, one with overload protection and one without. When using the tap collet with overload protection, the protection device can automatically release to avoid tap-break. Just adjust nuts and you can get the different release torque quickly and conveniently.

Collet include:

Tapping Range M3-M12: 7pcs/set 3.5x2.7,4x3,4.5x3.4,6x4.9,7x5.5,8x6.2,9x7mm

Tapping Range M7-M20: 8pcs/set 7x5.5,8x6.2,9x7,10x8,11x9,12x9,14x11,16x12mm

Tapping Range M14-M36: 9pcs/set 11x9,12x9,14x11,16x12,18x14.5,20x16,22x18,25x20,28x22mm



Type J45

Shank	Tapping range	D(mm)	D1(mm)	d(mm)	L1(mm)	Model No.
DIN69871.30	M3-M12	36	31.75	19	59	530-8101
DIN69871.40			44.45		59	530-8102
DIN69871.50			69.85		62	530-8103
BT30			31.75		59	530-8104
BT40			44.45		64	530-8105
BT50			69.85		75	530-8106
DIN69871.30	M7-M20	53	31.75	31	97	530-8107
DIN69871.40			44.45			530-8108
DIN69871.50			69.85			530-8109
BT30			31.75			530-8110
BT40			44.45			530-8111
BT50			69.85			530-8112
DIN69871.30	M14-M36	78	31.75	48	149	530-8113
DIN69871.40			44.45			530-8114
DIN69871.50			69.85			530-8115
BT30			31.75			530-8116
BT40			44.45			530-8117
BT50			69.85			530-8118

Milling chuck Set

MILLING CHUCK SET



- The milling chuck clamp with exceptional force and with a very tight tolerance on run out
- Used for the spindle taper of milling machines: R8, MS2-MS5, 7/24 30-50
- A set includes: 1 collet chuck, full set of collets and 1 spanner

Pcs/set	clamping range (mm)	Shank Dia. (mm)	Shank Type (Model No.)							
			R8	MT2	MT3	MT4	MT5	ISO30	ISO40	ISO50
6	4 5 6 8 10 12	50	230-3301	230-3311	230-3321	230-3331	230-3341	230-3351	230-3361	230-3371
8	4 5 6 8 10 12 14 16	56	230-3302	230-3312	230-3322	230-3332	230-3342	230-3352	230-3362	230-3372
10	4 5 6 8 10 12 14 16 18 20	63	230-3303	230-3313	230-3323	230-3333	230-3343	230-3353	230-3363	230-3373
11	4 5 6 8 10 12 14 16 18 20 25	70	230-3304	230-3314	230-3324	230-3334	230-3344	230-3354	230-3364	230-3374
12	6 8 10 12 14 16 18 20 25 28 30 32	90	230-3305	230-3315	230-3325	230-3335	230-3345	230-3355	230-3365	230-3375

MILLING CHUCK SET

Type J7325 (DIN6388-EOC25A)

- A set includes: 1 collet chuck, 1 clamping nut, full set of collets and 1 spanner
- Packed in a wooden case or plastic case
- Inch collet: EOC25A, Metric collet: DIN6388



Pcs/set	Collet (mm)	Collet (in)	Shank	Inch collet Model No.	Metric collet Model No.
8	3 5 8 12 15 18 22 25	1/8 1/4 3/8 1/2 5/8 3/4 7/8 1"	R8	230-5701	230-5801
			ISO30	230-5702	230-5802
			ISO40	230-5703	230-5803
			ISO45	230-5704	230-5804
			ISO50	230-5705	230-5805
			MS3	230-5706	230-5806
			MS4	230-5707	230-5807
			MS5	230-5708	230-5808
			1"	230-5709	230-5809
			1-1/4"	230-5710	230-5810
15	3 4 5 6 8 10 12 14 15 16 18 20 22 24 25	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"	R8	230-5711	230-5811
			ISO30	230-5712	230-5812
			ISO40	230-5713	230-5813
			ISO45	230-5714	230-5814
			ISO50	230-5715	230-5815
			MS3	230-5716	230-5816
			MS4	230-5717	230-5817
			MS5	230-5718	230-5818
			1"	230-5719	230-5819
			1-1/4"	230-5720	230-5820

MILLING COLLET CHUCK SETS

Type Q24-16

Inch set: each set complete with 8 collets of 1/8, 3/16, 1/4, 5/16, 3/8, 1/2, 9/16, 5/8

Metric set: each set complete with 8 collets of 4, 5, 6, 8, 10, 12, 14, 16mm



Chuck Type	Inch set Model No.	Metric set Model No.
R8	230-0908	230-1908
ISO30	230-0930	230-1930
ISO40	230-0940	230-1940
MT2	230-0962	230-1962
MT3	230-0963	230-1963
MT4	230-0964	230-1964
Straight 1"	230-0976	230-1976
Straight 1-1/4"	230-0978	230-1978

Milling chuck Set

MILLING COLLET CHUCK SETS

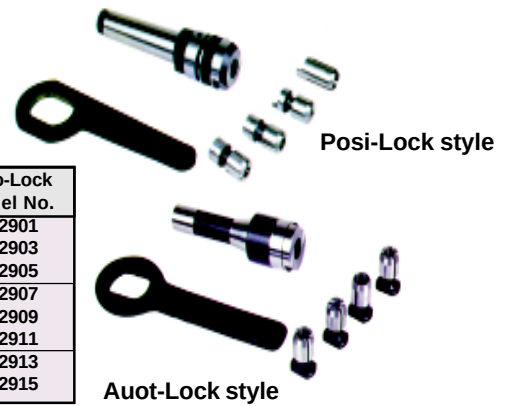
Type J7616

4Pcs sets Metric size collets
include: 6,10,12,16mm

Shank Type	Posi-Lock Model No.	Auto-Lock Model No.
R8	204-2601	204-2701
ISO30	204-2603	204-2703
ISO40	204-2605	204-2705
ISO50	204-2607	204-2707
MT2	204-2609	204-2709
MT3	204-2611	204-2711
MT4	204-2613	204-2713
MT5	204-2615	204-2715

4Pcs sets Inch size collets include:
1/4,3/8,1/2,5/8"

Shank Type	Posi-Lock Model No.	Auto-Lock Model No.
R8	204-2801	204-2901
ISO30	204-2803	204-2903
ISO40	204-2805	204-2905
ISO50	204-2807	204-2907
MT2	204-2809	204-2909
MT3	204-2811	204-2911
MT4	204-2813	204-2913
MT5	204-2815	204-2915



QUICK ACTION MILLING CHUCK SET

This quick-action chuck set was developed to optiacton the time-consuming exchange of the various milling tools in their mounts. The quick-action mounts is inserted into the spindle. Just as with conventional tapered tool shanks. Then the tool mounts are inserted into the quick-action mount, and secured by one quarter of the bayonet lock. All components of the set are precision-made hardened, and precision-ground.

Metric Type: ISO40 to ISO30

Model No:230-5901

- 1 quick-action mount: ISO40 to ISO30
- 1 collet chuck: ISO30, end thread: M16
- 8 collets: 4 5 6 8 10 12 14 16mm
- 1 ISO30 to MT1 adapter
- 1 ISO30 to MT2 adapter
- 1 ISO30 to MT3 adapter
- 1 drill arbor: $\parallel \text{Ø}22/\text{B}12$
- 1 drill chuck: 1-10mm/B12
- 1 shell end mill arbor:ISO30x32
- 2 hook spanner

Metric Type: ISO50 to ISO45

Model No:230-5902

- 1 quick-action mount: ISO50 to ISO45
- 1 collet chuck: ISO45, end thread: M16
- 8 collets: 6 8 10 12 14 16 18 20 25mm
- 1 ISO45 to MT2 adapter
- 1 ISO45 to MT3 adapter
- 1 ISO45 to MT4 adapter
- 1 drill arbor: $\parallel \text{Ø}32/\text{B}16$
- 1 drill chuck: 1-13mm/B16
- 1 shell end mill arbor:ISO45x40
- 2 hook spanner

Inch Type: CAT40 to CAT30

Model No:230-5903

- 1 quick-action mount: CAT40 to CAT30
- 1 collet chuck: CAT30, end thread: 5/8-11
- 8 collets: 1/8 3/16 1/4 3/8 1/2 9/16 5/8
- 1 CAT30 to MT1 adapter
- 1 CAT30 to MT2 adapter
- 1 CAT30 to MT3 adapter
- 1 drill arbor: $\parallel \text{Ø}7/8/\text{B}12$
- 1 drill chuck: 1/32-3/8/B12
- 1 shell end mill arbor:CAT30x1-1/4
- 2 hook spanner

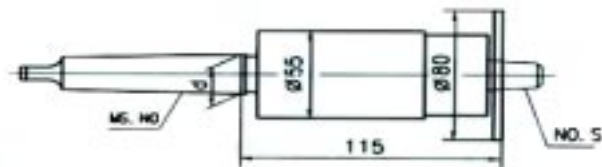
Inch Type: CAT50 to CAT45

Model No:230-5904

- 1 quick-action mount: CAT50 to CAT45
- 1 collet chuck: CAT45, end thread: 1"-8
- 8 collets: 1/4 5/16 3/8 1/2 9/16 5/8 11/16 3/4 1"
- 1 CAT45 to MT2 adapter
- 1 CAT45 to MT3 adapter
- 1 CAT45 to MT4 adapter
- 1 drill arbor: $\parallel \text{Ø}1-1/4/\text{B}16$
- 1 drill chuck: 1/8-1/2/B16
- 1 shell end mill arbor:CAT45x1-1/2
- 2 hook spanner



DRILL-TAP FIXTURE



Type J4013

MS. NO.	NO. S	d(mm)	Wt(kg)	Model No.
MS2	JT33	17.780	2.10	230-6702
MS3	JT33	23.825	2.35	230-6703
MS4	JT33	31.267	2.83	230-6704

We also can supply any type shank or connecting taper according to your requirments

Collet Set

DRILL TAP PROTECTION COLLET



- The functions of drilling and tapping.
- Used on radial drills, drilling attach machines, borers, lathes and so on for tapping.
- High precision, have protection function when tapping.

Main parameters

- Largest outer diameter of chuck is $\varnothing 38$.
- Adopt key contact power and flexible protection installation.

Main parameters	Model No. 205-3004	Model No. 205-3005	Model No. 205-3014	Model No. 205-3015
Drilling range:	$\varnothing 1 - \varnothing 30$	$\varnothing 1 - \varnothing 40$	$\varnothing 1 - \varnothing 30$	$\varnothing 1 - \varnothing 40$
Tapping range:	M6-M20	M6-M20	M6-M30	M6-M30
Morse conicity of main body:	MT4	MT5	MT4	MT5

DRILL AND TAP QUICK CHANGE COLLET



- The functions of drilling and tapping.
- Used on radial drills, drilling attach machines, borers, lathes and so on for tapping.
- High precision, have protection function when tapping.

Main parameters

- Largest outer diameter of collet is $\varnothing 35$.
- Adopt the friction disk in the main body to adjust tap power of the torque to steady skid and protect tap.

Main parameters	Model No. 205-3104	Model No. 205-3105	Model No. 205-3114	Model No. 205-3116
Drilling range:	$\varnothing 1 - \varnothing 30$	$\varnothing 1 - \varnothing 40$	$\varnothing 1 - \varnothing 40$	$\varnothing 1 - \varnothing 40$
Tapping range:	M6-M30	M6-M30	M16-M42	M16-M42
Morse conicity of main body:	MT4	MT5	MT5	MT6

QUICK CHANGE TAP COLLET



- Floating, quick change and convenient.
- Used on radial drills, tapping machines, borers, lathes and so on for tapping.

Main parameters

- Adopt internal power structure, get steadier function.

Largest outer diameter of collet is $\varnothing 47$

Main parameters	Model No. 205-3204	Model No. 205-3205	Model No. 205-3214
Tapping range:	M10-M42	M10-M42	M14-M42
Morse conicity of main body:	MT4	MT5	MT4*

*205-3214 Morse conicity no flat tail conicity of main body, have M12 thread key in the end, have two symmetrical power keys of the big end.

Largest outer diameter of collet is $\varnothing 39$

Main parameters	Model No. 205-3303	Model No. 205-3304	Model No. 205-3305	Model No. 205-3313	Model No. 205-3314
Tapping range:	M10-M30	M10-M33	M10-M33	M10-M33	M12-M30
Morse conicity of main body:	MT3	MT4	MT5	MT3*	MT4*

*205-3313/4 Morse conicity no flat tail conicity of main body, have M12 thread key in the end, have two symmetrical power keys of the big end.

Largest outer diameter of collet is $\varnothing 36$

Main parameters	Model No. 205-3403	Model No. 205-3404	Model No. 205-3413
Tapping range:	M5-M24	M5-M24	M12-M24
Morse conicity of main body:	MT3	MT4	MT3*

*205-3413 Morse conicity of main body, have M46x1.5 nut in the workpiece which connected with main body.

Largest outer diameter of collet is $\varnothing 28$

Main parameters	Model No. 205-3502	Model No. 205-3503	Model No. 205-3513
Tapping range:	M5-M16	M6-M20	M12-M24
Morse conicity of main body:	MT2	MT3	MT3*

*205-3513 Morse conicity of main body, have M37x1.5 nut in the workpiece which connected with main body.

Collet Set

QUICK CHANGE TAP COLLET (ENDOCONE)



- Floating, quick change and convenient.
- Used on tapping machines, drilling attach machines and so on for tapping.

Model No.205-3601

- Tapping range:M5-M24
- Largest outer diameter of collet is $\varnothing 36$.
- B22 internal short cone in main body, have six quadrate holes.
- Adopt internal power structure, get steadier fuction.

Model No.205-3603

- Tapping range:M5-M16
- Largest outer diameter of collet is $\varnothing 28$.
- Have B18 internal short cone in main body(2# short endocone).
- Adopt internal power structure, get steadier fuction.

Model No.205-3602

- Tapping range:M5-M24
- Largest outer diameter of collet is $\varnothing 36$.
- B22 internal short cone in main body, have thread M45x1.5 on the top of endocone.
- Adopt internal power structure, get steadier fuction.

Model No.205-3604

- Tapping range:M3-M12
- Largest outer diameter of collet is $\varnothing 28$.
- B16 internal short cone in main body(2# short endocone).
- Adopt internal power structure, get steadier fuction.

QUICK CHANGE PROTECTION TAP COLLET



- Used on drilling machines, tapping machines, borers, lathes and so on for tapping.
- Tapping range: M3-M12.
- G3 collet with collet outer diameter of $\varnothing 19$.
- 2#, 3#, 4# conicity morse conicity of main body.

MT2 Model No.205-3702

MT3 Model No.205-3703

MT4 Model No.205-3704

- Used on drilling machines, tapping machines, borers, lathes and so on for tapping.
- Tapping range: M12-M24.
- G12 collet with collet outer diameter of $\varnothing 30$.
- Have 3#, 4# morse conicity of main body.

MT3 Model No.205-3723

MT4 Model No.205-3724

- Have floating, quick change and torque protection fuctions.
- Adopt good flexible dish tablet, have steady protection fuction.

- Used on CNC machining center, NC milling machines, computer gongs and so on for tapping.
- Tapping range: M3-M12.
- G3 collet with collet outer diameter of $\varnothing 19$.
- Have 7:24, BT40, BT50 standards of main body.

7:24 Model No.205-3712

BT40 Model No.205-3714

BT50 Model No.205-3715

- Used on CNC machining center, NC milling machine, computer gongs and so on for tapping.
- Tapping range: M12-M24.
- G12 collet with collet outer diameter of $\varnothing 30$.
- Have 7:24, BT40, BT50 standards of main body.

7:24 Model No.205-3732

BT40 Model No.205-3734

BT50 Model No.205-3735

INTEGRATIVE STEELY TAP COLLET



B16 Model No.205-3806

B18 Model No.205-3808

JT2 Model No.205-3812

JT6 Model No.205-3816

- Convenient and suitable for any standard screw tap.
- Suitable for small tapping machines, beach drills, drilling attach machines and so on for tapping.
- Tapping range: M3-M13 / M5-M16.

Main parameters

- Main body with B16, B18, JT2, JT6 internal short cone.
- Adopt circular holder and square caput to collet it seperately, can find the center accurately.

Holder Bushings

TOOL HOLDER BUSHINGS

TYPE C

A O.D.	B. I.D.	C Slot Length	D	Model No.
3/4"	1/4"	1-7/8"	2-1/4"	210-6001
	5/16"			210-6002
	3/8"			210-6003
	1/2"			210-6004
1"	1/4"	2-3/8"	2-3/4"	210-6005
	5/16"			210-6006
	3/8"			210-6007
	1/2"			210-6008
	5/8"			210-6009
1-1/4"	3/4"	2-7/8"	3-1/4"	210-6010
	3/8"			210-6011
	1/2"			210-6012
	5/8"			210-6013
	7/8"			210-6014
	1"			210-6015

A O.D.	B. I.D.	C Slot Length	D	Model No.
1-1/2"	3/8"	3"	3-3/8"	210-6017
	1/2"			210-6018
	5/8"			210-6019
	3/4"			210-6020
	7/8"			210-6021
1-3/4"	1"	3-1/8"	3-1/2"	210-6022
	1-1/4"			210-6023
	1/2"			210-6024
	5/8"			210-6025
	3/4"			210-6026
2"	7/8"	3-1/2"	4"	210-6027
	1"			210-6028
	1-1/4"			210-6029
	1-1/2"			210-6030

- Made of high quality tool steel.
- Tool Holder Bushing for universal use on all CNC turning machines to adapt a wide variety of boring bars, drills, reamers and shank type tools.
- Hardened and precision ground to highest concentricity.

A O.D.	B. I.D.	C Slot Length	D	Model No.
2"	1/2"	3-5/8"	4"	210-6031
	5/8"			210-6032
	3/4"			210-6033
	1"			210-6034
	1-1/4"			210-6035
	1-1/2"			210-6036
2-1/2"	1-3/4"	4"	5"	210-6037
	2"			210-6038

TYPE Z

A O.D.	B I.D.	C Slot Length	E	D	Model No.
1"	1/4"	2-3/8"	2-3/4"	1/2"	210-6040
	5/16"				210-6041
	3/8"				210-6042
	1/2"				210-6043
	5/8"				210-6044
	3/4"				210-6045
1-1/4"	3/8"	2-5/8"	3"	5/8"	210-6046
	1/2"				210-6047
	5/8"				210-6048
	3/4"				210-6049
	7/8"				210-6050
	1"				210-6051
1-1/2"	3/8"	2-7/8"	3-1/4"	3/4"	210-6052
	1/2"				210-6053
	5/8"				210-6054
	3/4"				210-6055
	7/8"				210-6056

A O.D.	B I.D.	C Slot Length	E	D	Model No.
1-1/2"	1"	2-7/8"	3-1/4"	3/4"	210-6057
	1-1/4"				210-6058
	1/2"				210-6059
	5/8"				210-6060
	3/4"				210-6061
	1-3/4"				210-6062
2"	1"	3-1/8"	3-1/2"	3/4"	210-6063
	1-1/4"				210-6064
	1-1/2"				210-6065
	1/2"				210-6066
	5/8"				210-6067
	3/4"				210-6068
2-1/2"	7/8"	3-3/8"	3-3/4"	3/4"	210-6069
	1"				210-6070
	1-1/4"				210-6071
	1-1/2"				210-6072
	1-3/4"				210-6073



- Made of high quality tool steel.
- Tool Holder Bushing for all type of N/C-CNC turning centers, turret lathes and chucks.
- The elongated slots give the user a complete interchangeability with all brands of equipment.
- Hardened and precision ground to highest concentricity.

TYPE J

A O.D.	B I.D.	C Slot Length	E	D	F	Model No.
3/4"	1/4"	1-1/2"	13/16"	3/8"	3/8"	210-6080
	5/16"					210-6081
	3/8"					210-6082
	1/2"					210-6083
1"	3/8"	1-3/4"	7/8"	7/16"	5/8"	210-6084
	1/2"					210-6085
	5/8"					210-6086
	3/4"					210-6087
1-1/4"	3/8"	2-1/8"	1"	5/8"	5/8"	210-6088
	1/2"					210-6089
	5/8"					210-6090
	3/4"					210-6091
	7/8"					210-6092
	1"					210-6093
1-1/2"	3/8"	2-1/2"	1-1/8"	11/16"	7/8"	210-6094
	1/2"					210-6095
	5/8"					210-6096
	3/4"					210-6097

A O.D.	B I.D.	C Slot Length	E	D	F	Model No.
1-1/2"	7/8"	2-1/2"	1-1/8"	11/16"	7/8"	210-6098
	1"					210-6099
	1-1/4"					210-6100
	1/2"					210-6101
1-3/4"	5/8"	3"	1-1/4"	3/4"	7/8"	210-6102
	3/4"					210-6103
	7/8"					210-6104
	1"					210-6105
2"	1-1/4"	3-1/2"	1-1/2"	3/4"	1"	210-6106
	1-1/2"					210-6107
	1/2"					210-6108
	5/8"					210-6109
2-1/2"	3/4"	4"	1-1/2"	1"	1"	210-6110
	7/8"					210-6111
	1"					210-6112
	1-1/4"					210-6113
2-1/2"	1-1/2"	4"	1-1/2"	1"	1"	210-6114
	1-3/4"					210-6115



- Made of high quality tool steel Tool Holder.
- Hardened and precision ground to highest concentricity.
- Bushing has clearance holes so that you can clamp directly on the tool with set screws for positive alignment of the cutting edge of the tool.

End Mill Holder

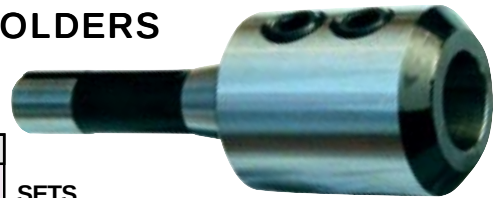
R8 END MILL HOLDERS

For single and double end mills (* for single end mills only).

- Internal thread 7/16"-20

Inch	
Hole Dia.	Model No.
3/16"	210-0102
1/4"	210-0103
5/16"	210-0104
3/8"	210-0105
7/16"	210-0106
1/2"	210-0107
5/8"	210-0108

Metric	
Hole Dia.	Model No.
4mm	210-1104
5mm	210-1105
6mm	210-1106
7mm	210-1107
8mm	210-1108
10mm	210-1110
12mm	210-1112



SETS

No. Of Pieces	Specifications	Model No.
5	3/16, 3/8, 1/2, 5/8, 3/4"	210-0305
8	3/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4"	210-0308
9	3/16, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2"	210-0309

For Single & Double End Mills
(* For Single End Mills Only)

MT END MILL HOLDER -TANG TYPE



Shank Hole			Shank Hole			Shank Hole			Shank Hole		
Taper	Dia.	Model No.	Taper	Dia.	Model No.	Taper	Dia.	Model No.	Taper	Dia.	Model No.
MT2	3/16"	219-2012	MT3	5/8"	*219-3017	MT4	1"	*219-4020	MT5	1-1/4"	*219-5021
MT2	1/4"	219-2013	MT3	3/4"	*219-3018	MT4	1-1/4"	*219-4021	MT5	1-1/2"	*219-5022
MT2	5/16"	219-2014	MT3	7/8"	*219-3019	MT4	1-1/2"	*219-4022	MT5	2"	*219-5024
MT2	3/8"	219-2015	MT3	1"	*219-3020	MT5	3/16"	219-5012	MT5	2-1/2"	*219-5025
MT2	1/2"	*219-2016	MT4	3/16"	219-4012	MT5	1/4"	219-5013	MT6	7/8"	219-6019
MT2	5/8"	*219-2017	MT4	1/4"	219-4013	MT5	5/16"	219-5014	MT6	1"	219-6020
MT2	3/4"	*219-2018	MT4	5/16"	219-4014	MT5	3/8"	219-5015	MT6	1-1/4"	*219-6021
MT3	3/16"	219-3012	MT4	3/8"	219-4015	MT5	1/2"	219-5016	MT6	1-1/2"	*219-6022
MT3	1/4"	219-3013	MT4	1/2"	219-4016	MT5	5/8"	219-5017	MT6	2"	*219-6024
MT3	5/16"	219-3014	MT4	5/8"	219-4017	MT5	3/4"	219-5018	MT6	2-1/2"	*219-6025
MT3	3/8"	219-3015	MT4	3/4"	219-4018	MT5	7/8"	219-5019			
MT3	1/2"	219-3016	MT4	7/8"	*219-4019	MT5	1"	219-5020			

For Single & Double End Mills
(* For Single End Mills Only)

MT END MILL HOLDER - DRAWBAR END TYPE

- Drawbar end thread: MT2:3/8"-16, MT3:1/2"-13, MT4:5/8"-11, MT5:3/4"-10, MT6:1"-8



Shank Hole			Shank Hole			Shank Hole			Shank Hole		
Taper	Dia.	Model No.	Taper	Dia.	Model No.	Taper	Dia.	Model No.	Taper	Dia.	Model No.
MT2	3/16"	219-2112	MT3	1/2"	219-3116	MT4	1-1/4"	*219-4121	MT6	3/8"	219-6115
MT2	1/4"	219-2113	MT3	5/8"	*219-3117	MT4	1-1/2"	*219-4122	MT6	1/2"	219-6116
MT2	5/16"	219-2114	MT3	3/4"	*219-3118	MT5	3/8"	219-5115	MT6	5/8"	219-6117
MT2	3/8"	219-2115	MT3	7/8"	*219-3119	MT5	1/2"	219-5116	MT6	3/4"	219-6118
MT2	1/2"	*219-2116	MT3	1"	*219-3120	MT5	5/8"	219-5117	MT6	7/8"	*219-6119
MT2	5/8"	*219-2117	MT4	3/8"	219-4115	MT5	3/4"	219-5118	MT6	1"	*219-6120
MT2	3/4"	*219-2118	MT4	1/2"	219-4116	MT5	7/8"	219-5119	MT6	1-1/4"	*219-6121
MT3	3/16"	219-3112	MT4	5/8"	219-4117	MT5	1"	219-5120	MT6	1-1/2"	*219-6122
MT3	1/4"	219-3113	MT4	3/4"	*219-4118	MT5	1-1/4"	*219-5121	MT6	2"	*219-6124
MT3	5/16"	219-3114	MT4	7/8"	*219-4119	MT5	1-1/2"	*219-5122	MT6	2-1/2"	*219-6126
MT3	3/8"	219-3115	MT4	1"	*219-4120	MT5	2"	*219-5124			

30-40-50 TAPER END MILL HOLDERS

- Drawbar end thread: 30#:1/2-13,40#:5/8-11, 50#:1"-8. Metric: 30#:M12,40#:M16,50#:M24



For holding single and double end mills
(* for holding single end mills only).

Inch			
Hole Dia.	30 Model No.	40 Model No.	50 Model No.
3/16"	210-3012	210-4012	
5/16"	210-3015	210-4015	
3/8"	210-3024	210-4024	210-5024
1/2"	210-3032	210-4032	210-5032
5/8"	210-3040	210-4040	210-5040
3/4"	210-3048	210-4048	210-5048
7/8"	*210-3056	210-4056	210-5056
1"	*210-3064	*210-4064	210-5064
1-1/4"	*210-3066	*210-4066	*210-5066
1-1/2"		*210-4068	*210-5068
2"		*210-4070	*210-5070
2-1/2"			*210-5072

Metric			
Hole Dia.	30 Model No.	40 Model No.	50 Model No.
6mm	210-3306		
8mm	210-3308	210-4308	210-5308
10 mm	210-3310	210-4310	210-5310
12mm	210-3312	210-4312	210-5312
13mm	210-3313	210-4313	210-5313
14mm	210-3314	210-4314	210-5314
16mm	210-3316	210-4316	210-5316
18mm	210-3318	210-4318	210-5318
19mm	210-3319	210-4319	210-5319
20mm	210-3320	210-4320	210-5320
22mm	*210-3322	210-4322	210-5322
25mm	*210-3325	*210-4325	210-5325
32mm	*210-3332	*210-4332	*210-5332
40mm		*210-4340	*210-5340
50mm			*210-5350
63mm			*210-5363

End Mill Holder

B&S TAPER END MILL HOLDERS



Hole Dia.	B&S7 Model No.	B&S9 Model No.
3/16	230-0001	230-0901
1/4	230-0002	230-0902
5/16	230-0003	230-0903
3/8	230-0004	230-0904
1/2	230-0005	230-0905
5/8	230-0006	230-0906
3/4	230-0007	230-0907
7/8	230-0009	230-0909

5C END MILL HOLDERS



Hole Dia.	Model No.
1-1/4	219-2401
1-1/2	219-2402
2"	219-2403
32mm	219-2432
40mm	219-2440
50mm	219-2450

MT SHELL END MILL HOLDER -TANG END



Inch					
Shank Hole Taper	Size	Model No.	Shank Hole Taper	Size	Model No.
MT2	1/2"	219-2032	MT4	7/8"	219-4056
MT2	5/8"	219-2040	MT4	1"	219-4100
MT2	3/4"	219-2048	MT4	1-1/4"	219-4106
MT3	1/2"	219-3032	MT4	1-1/2"	219-4132
MT3	5/8"	219-3040	MT5	1/2"	219-5032
MT3	3/4"	219-3048	MT5	5/8"	219-5040
MT3	7/8"	219-3056	MT5	3/4"	219-5048
MT3	1"	219-3064	MT5	7/8"	219-5056
MT3	1-1/4"	219-3066	MT5	1"	219-5100
MT4	1/2"	219-4032	MT5	1-1/4"	219-5106
MT4	5/8"	219-4040	MT5	1-1/2"	219-5132
MT4	3/4"	219-4048	MT5	2"	219-5200

Metric					
Shank Hole Taper	Size	Model No.	Shank Hole Taper	Size	Model No.
MT2	13mm	219-1213	MT4	27mm	219-1427
MT2	16mm	219-1216	MT4	32mm	219-1432
MT2	22mm	219-1222	MT4	40mm	219-1440
MT3	16mm	219-1316	MT5	16mm	219-1516
MT3	22mm	219-1322	MT5	22mm	219-1522
MT3	27mm	219-1327	MT5	27mm	219-1525
MT3	32mm	219-1332	MT5	32mm	219-1532
MT4	16mm	219-1416	MT5	40mm	219-1540
MT4	22mm	219-1422	MT5	50mm	219-1550

MT SHELL END MILL HOLDER-DRAW BAR THREAD END



Inch					
Shank Hole Taper	Size	Model No.	Shank Hole Taper	Size	Model No.
MT2	1/2"	219-2232	MT4	7/8"	219-4456
MT2	5/8"	219-2240	MT4	1"	219-4464
MT2	3/4"	219-2248	MT4	1-1/4"	219-4466
MT3	1/2"	219-3432	MT4	1-1/2"	219-4468
MT3	5/8"	219-3440	MT5	1/2"	219-5532
MT3	3/4"	219-3448	MT5	5/8"	219-5540
MT3	7/8"	219-3456	MT5	3/4"	219-5548
MT3	1"	219-3464	MT5	7/8"	219-5556
MT3	1-1/4"	219-3466	MT5	1"	219-5564
MT4	1/2"	219-4432	MT5	1-1/4"	219-5566
MT4	5/8"	219-4440	MT5	1-1/2"	219-5568
MT4	3/4"	219-4448	MT5	2"	219-5570

- Drawbar end thread:
MT2:3/8"-16, MT3:1/2"-13, MT4:5/8"-11, MT5:3/4"-10,
Metric: MT2:M10, MT3:M12, MT4:M16, MT5:M20

Metric					
Shank Hole Taper	Size	Model No.	Shank Hole Taper	Size	Model No.
MT2	13mm	219-2213	MT4	27mm	219-4327
MT2	16mm	219-2216	MT4	32mm	219-4332
MT2	22mm	219-2222	MT4	40mm	219-4340
MT3	16mm	219-3316	MT5	16mm	219-5316
MT3	22mm	219-3322	MT5	22mm	219-5322
MT3	27mm	219-3327	MT5	27mm	219-5327
MT3	32mm	219-3332	MT5	32mm	219-5332
MT4	16mm	219-4316	MT5	40mm	219-5340
MT4	22mm	219-4322	MT5	50mm	219-5350

STRAIGHT SHANK SHELL END MILL HOLDER

Dia. Of Shank	Arbor Dia.	Model No.
1/2"	1/2"	210-5501
1/2"	3/4"	210-5502
1/2"	1"	210-5503
1/2"	1-1/4"	210-5504
1/2"	1-1/2"	210-5505
3/4"	1/2"	210-5506
3/4"	3/4"	210-5507
3/4"	1"	210-5508
3/4"	1-1/4"	210-5509
3/4"	1-1/2"	210-5510



R8 SHELL END MILL HOLDER

- Internal thread
7/16"-20



Inch	
Arbor Dia.	Model No.
1/2"	210-0401
3/4"	210-0402
1"	210-0403
1-1/4"	210-0404
1-1/2"	210-0405

Metric	
Arbor Dia.	Model No.
16mm	210-0416
19mm	210-0419
22mm	210-0422
27mm	210-0427
32mm	210-0432
40mm	210-0440

End Mill Holder

30,40 AND 50 SHELL END MILL HOLDER



- Drawbar end thread:
Inch30# 1/2"-13, 40# 5/8"-11, 50# 1"-8
Metric: 30# M12, 40# M16, 50# M24

INCH

Hole Size	30 Taper Model No.	40 Taper Model No.	50 Taper Model No.
1/2"	210-6332	210-6431	210-6531
3/4"	210-6348	210-6448	210-6548
1"	210-6364	210-6464	210-6564
1-1/4"	210-6366	210-6466	210-6566
1-1/2"	210-6368	210-6468	210-6568
2"	210-6370	210-6470	210-6570
2-1/2"			210-6572

DIN 2080

Hole Size	SK50 Model No.	SK40 Model No.	SK 30 Model No.
16	210-9516	210-9416	210-9316
22	210-9522	210-9422	210-9322
27	210-9527	210-9427	210-9327
32	210-9532	210-9432	210-9332
40	210-9540	210-9440	
50	210-9550	210-9450	

ISO

Hole Size	ISO 30 Model No.	ISO 40 Model No.	ISO 50 Model No.
16mm	210-7316	210-7416	210-7516
19mm	210-7319	210-7419	210-7519
22mm	210-7322	210-7422	210-7522
25mm	210-7325	210-7425	210-7525
27mm	210-7327	210-7427	210-7527
32mm	210-7332	210-7432	210-7532
40mm	210-7340	210-7440	210-7540
50mm	210-7350	210-7450	210-7550
63mm	210-7363	210-7463	210-7563

MT COMB SHELL END MILL ARBORS



Inch

Shank Arbor Taper Dia.	Model No.	Shank Arbor Taper Dia.	Model No.
MT3 1/2"	210-3532	MT4 1-1/4"	210-4566
MT3 5/8"	210-3540	MT4 1-1/2"	210-4568
MT3 3/4"	210-3548	MT4 2"	210-4570
MT3 7/8"	210-3556	MT5 5/8"	210-5540
MT3 1"	210-3564	MT5 3/4"	210-5548
MT3 1-1/4"	210-3566	MT5 7/8"	210-5556
MT4 1/2"	210-4532	MT5 1"	210-5564
MT4 5/8"	210-4540	MT5 1-1/4"	210-5566
MT4 3/4"	210-4548	MT5 1-1/2"	210-5568
MT4 7/8"	210-4556	MT5 2"	210-5570
MT4 1"	210-4564		

- Drawbar end thread:
MT3:1/2"-13, MT4:5/8"-11, MT5:3/4"-10,
Metric: MT3:M12, MT4:M16, MT5:M20

Metric

Shank Arbor Taper Dia.	Model No.	Shank Arbor Taper Dia.	Model No.
MT3 13mm	210-3613	MT4 27mm	210-4627
MT3 16mm	210-3616	MT4 32mm	210-4632
MT3 22mm	210-3622	MT4 40mm	210-4640
MT3 27mm	210-3627	MT5 22mm	210-5622
MT3 32mm	210-3632	MT5 27mm	210-5627
MT4 13mm	210-4613	MT5 32mm	210-5632
MT4 16mm	210-4616	MT5 40mm	210-5640
MT4 22mm	210-4622	MT5 50mm	210-5650

R8 COMB SHELL END MILL ARBORS

It could be used clutch drive ring cross screw, cross spanner to help to clamp various end mills.



Inch

Arbor Dia.	Model No.
1/2"	210-1332
5/8"	210-1340
3/4"	210-1348
1"	210-1364
1-1/4"	210-1366
1-1/2"	210-1368

Metric

Arbor Dia.	Model No.
13mm	210-1413
16mm	210-1416
22mm	210-1422
27mm	210-1427
32mm	210-1432
40mm	210-1440

30-40-50 COMB SHELL END MILL ARBORS

- Drawbar end thread:
Inch30# 1/2"-13, 40# 5/8"-11, 50# 1"-8
Metric: 30# M12, 40# M16, 50# M24



Inch

Arbor Dia.	30 Model No.	40 Model No.	50 Model No.
1/2"	210-3132		
5/8"	210-3140	210-4140	210-5140
3/4"	210-3148	210-4148	210-5148
7/8"	210-3156	210-4156	210-5156
1"	210-3164	210-4164	210-5164
1-1/4"	210-3166	210-4166	210-5166
1-1/2"		210-4168	210-5168
2"		210-4170	210-5170

Metric

Arbor Dia.	30 Model No.	40 Model No.	50 Model No.
13mm	210-3213		
16mm	210-3216	210-4216	210-5216
22mm	210-3222	210-4222	210-5222
27mm	210-3227	210-4227	210-5227
32mm	210-3232	210-4232	210-5232
40mm		210-4240	210-5240
50mm		210-4250	210-5250

Mill Arbors

ACCESSORY FOR SHELL COMB END MILL ARBORS

SCREWS

Inch		
Arbor Dia.	Thread	Model No.
1/2"	1/4-28	210-5840
3/4"	3/8-24	210-5841
1"	1/2-20	210-5842
1-1/4"	5/8-18	210-5843
1-1/2"	3/4-16	210-5844
2"	1-14	210-5845

Metric		
Arbor Dia.	Thread	Model No.
13mm	M6	210-5830
16mm	M8	210-5831
22mm	M10	210-5832
27mm	M12	210-5833
32mm	M16	210-5834
40mm	M20	210-5835
50mm	M24	210-5836
60mm	M30	210-5837

SPANNER

Inch	
Arbor Dia.	Model No.
1/2"	210-5860
5/8"	210-5861
3/4"	210-5862
1"	210-5863
1-1/4"	210-5864
1-1/2"	210-5865
2"	210-5866

DRIVER RING

Inch	
Size	Model No.
1/2"	210-5810
5/8"	210-5811
3/4"	210-5822
7/8"	210-5823
1"	210-5824
1-1/4"	210-5825
1-1/2"	210-5826
2"	210-5827
1/2"	210-5880

Metric	
Size	Model No.
13mm	210-5800
16mm	210-5801
22mm	210-5802
27mm	210-5803
32mm	210-5804
40mm	210-5805
50mm	210-5806
60mm	210-5807

30 40 TAPER TO JACOBS ARBOR

NMTB Shank

- drawbar end: #30 1/2"-13, #40 5/8"-11

Jacob Taper	30 Model No.	40 Model No.
JT2	238-9802	
JT3	238-9803	238-9903
JT33	238-9804	238-9904
JT6	238-9806	238-9906

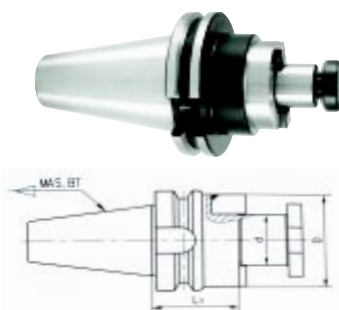
SHELL MILL ARBORS

- For CNC machines
- Hardened and precision ground

- For CNC machines having CAT40 taper spindles

BT Shank

Model BT x d-L1	D(mm)	Model No.
BT30x16-60	32	238-0001
BT30x22-60	40	238-0002
BT30x27-60	48	238-0003
BT30x32-60	58	238-0004
BT30x40-60	70	238-0005
BT30x50-70	90	238-0006
BT40x16-45	32	238-0007
BT40x16-60	32	238-0008
BT40x16-120	32	238-0009
BT40x22-45	40	238-0010
BT40x22-60	40	238-0011
BT40x22-100	40	238-0012
BT40x22-120	40	238-0013
BT40x27-45	48	238-0014
BT40x27-60	48	238-0015
BT40x27-75	48	238-0016
BT40x27-105	48	238-0017
BT40x27-120	48	238-0018
BT40x32-45	58	238-0019
BT40x32-60	58	238-0020
BT40x32-75	58	238-0021
BT40x32-120	58	238-0022
BT40x40-60	70	238-0023
BT40x40-75	70	238-0024
BT40x50-70	90	238-0025
BT45x22-60	40	238-0026
BT45x27-60	48	238-0027
BT45x27-100	48	238-0028
BT45x40-100	70	238-0029
BT45x40-105	70	238-0030



Model BT x d-L1	D(mm)	Model No.
BT50x16-60	32	238-0027
BT50x16-75	32	238-0028
BT50x16-120	32	238-0029
BT50x22-60	40	238-0030
BT50x22-75	40	238-0031
BT50x22-100	40	238-0032
BT50x22-120	40	238-0033
BT50x27-60	48	238-0034
BT50x27-105	48	238-0035
BT50x32-60	58	238-0036
BT50x32-75	58	238-0037
BT50x32-105	58	238-0038
BT50x40-60	70	238-0039
BT50x40-75	70	238-0040
BT50x40-90	70	238-0041
BT50x40-100	70	238-0042
BT50x40-105	70	238-0043
BT50x50-60	90	238-0044
BT50x50-70	90	238-0045
BT50x50-120	90	238-0046

CAT "V" flange Shank

Retention Knob thread: 5/8"-11

Dia. for bore in shell end mill	CAT40 Model No.
3/4"	238-0130
1"	238-0131
1-1/4"	238-0132
1-1/2"	238-0133

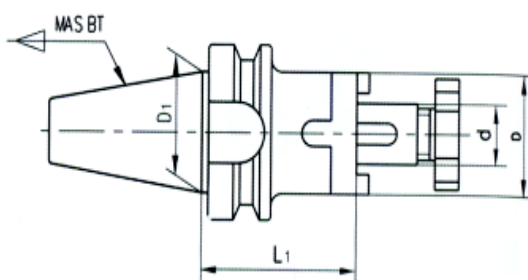
DIN69871.A Shank

Model DIN69871 x d-L1	D(mm)	Model No.
30x16-60	32	238-0101
30x22-60	40	238-0102
30x27-60	48	238-0103
30x32-60	58	238-0104
30x40-60	70	238-0105
30x50-70	90	238-0106
40x16-60	32	238-0107
40x22-60	40	238-0108
40x27-60	48	238-0109
40x27-75	48	238-0110
40x32-60	58	238-0111
40x40-60	70	238-0112
40x50-70	90	238-0113
50x16-60	32	238-0114
50x22-60	40	238-0115
50x27-60	48	238-0116
50x32-60	58	238-0117
50x40-60	70	238-0118
50x50-70	90	238-0119

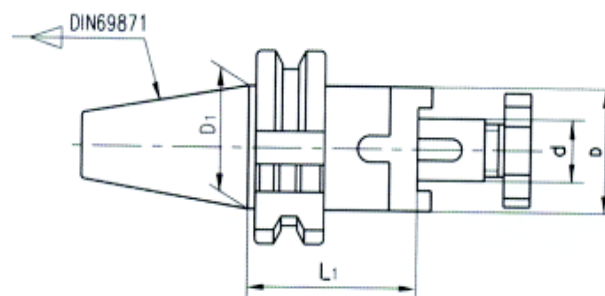
CNC Holder

COMBI SHELL END MILL ARBORS

- For CNC machines
- Hardened and precision ground



BT Shank



DIN69871 Shank

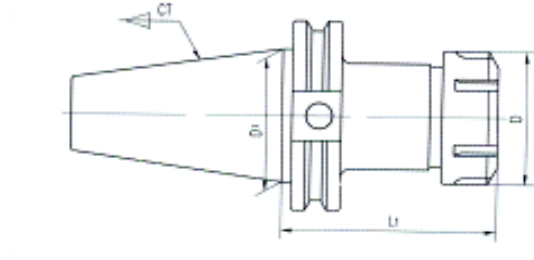
Model	D	D1	Model No.
BT30x13-55	28	31.75	238-2301
BT30x16-55	32	31.75	238-2302
BT30x16-100	32	31.75	238-2303
BT30x22-55	40	31.75	238-2304
BT30x22-100	40	31.75	238-2305
BT30x27-55	48	31.75	238-2306
BT30x27-100	48	31.75	238-2307
BT30x32-60	58	31.75	238-2308
BT30x32-100	58	31.75	238-2309
BT30x40-60	70	31.75	238-2310
BT30x40-100	70	31.75	238-2311
BT40x13-55	28	44.45	238-2312
BT40x16-55	32	44.45	238-2313
BT40x16-100	32	44.45	238-2314
BT40x22-55	40	44.45	238-2315
BT40x22-100	40	44.45	238-2316
BT40x27-55	48	44.45	238-2317
BT40x27-100	48	44.45	238-2318
BT40x32-60	58	44.45	238-2319
BT40x32-100	58	44.45	238-2320
BT40x40-60	70	44.45	238-2321
BT40x40-100	70	44.45	238-2322
BT50x13-63	28	69.85	238-2323
BT50x16-63	32	69.85	238-2324
BT50x16-100	32	69.85	238-2325
BT50x22-70	40	69.85	238-2326
BT50x22-100	40	69.85	238-2327
BT50x27-70	48	69.85	238-2328
BT50x27-100	48	69.85	238-2329
BT50x32-70	58	69.85	238-2330
BT50x32-100	58	69.85	238-2331
BT50x40-75	70	69.85	238-2332
BT50x40-100	70	69.85	238-2333
BT50x50-75	90	69.85	238-2334
BT50x50-125	90	69.85	238-2335

Model	D	D1	Model No.
DIN69871.30x13-55	28	31.75	238-2401
DIN69871.30x16-55	32	31.75	238-2402
DIN69871.30x16-100	32	31.75	238-2403
DIN69871.30x22-55	40	31.75	238-2404
DIN69871.30x22-100	40	31.75	238-2405
DIN69871.30x27-55	48	31.75	238-2406
DIN69871.30x27-100	48	31.75	238-2407
DIN69871.30x32-60	58	31.75	238-2408
DIN69871.30x32-100	58	31.75	238-2409
DIN69871.30x40-60	70	31.75	238-2410
DIN69871.30x40-100	70	31.75	238-2411
DIN69871.40x13-55	28	44.45	238-2412
DIN69871.40x16-55	32	44.45	238-2413
DIN69871.40x16-100	32	44.45	238-2414
DIN69871.40x22-55	40	44.45	238-2415
DIN69871.40x22-100	40	44.45	238-2416
DIN69871.40x27-55	48	44.45	238-2417
DIN69871.40x27-100	48	44.45	238-2418
DIN69871.40x32-60	58	44.45	238-2419
DIN69871.40x32-100	58	44.45	238-2420
DIN69871.40x40-60	70	44.45	238-2421
DIN69871.40x40-100	70	44.45	238-2422
DIN69871.50x13-63	28	69.85	238-2423
DIN69871.50x16-63	32	69.85	238-2424
DIN69871.50x16-100	32	69.85	238-2425
DIN69871.50x22-70	40	69.85	238-2426
DIN69871.50x22-100	40	69.85	238-2427
DIN69871.50x27-70	48	69.85	238-2428
DIN69871.50x27-100	48	69.85	238-2429
DIN69871.50x32-70	58	69.85	238-2430
DIN69871.50x32-100	58	69.85	238-2431
DIN69871.50x40-75	70	69.85	238-2432
DIN69871.50x40-100	70	69.85	238-2433
DIN69871.50x50-75	90	69.85	238-2434
DIN69871.50x50-125	90	69.85	238-2435

CNC Holder

MILLING ER COLLET CHUCK

- For CNC machines
- Hardened and precision ground



- CAT40 ER collet chusk.
- For CNC machine haveing CAT40 spindles

CAT Shank

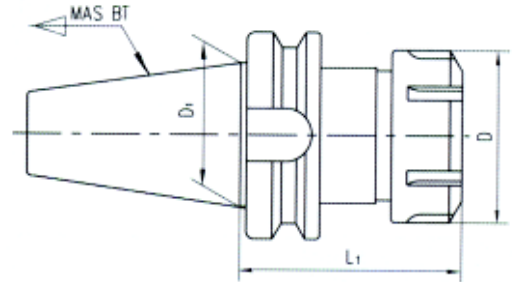
Model	D	D1	Model No.
CTxER-L1			
CT40xER16-63	28	44.45	238-2701
CT40xER16-70	28	44.45	238-2702
CT40xER16-100	28	44.45	238-2703
CT40xER16-120	28	44.45	238-2704
CT40xER16-125	28	44.45	238-2705
CT40xER16-150	28	44.45	238-2706
CT40xER20-70	35	44.45	238-2707
CT40xER20-90	35	44.45	238-2708
CT40xER20-100	35	44.45	238-2709
CT40xER20-105	35	44.45	238-2710
CT40xER20-135	35	44.45	238-2711
CT40xER20-150	35	44.45	238-2712
CT40xER25-70	42	44.45	238-2713
CT40xER25-90	42	44.45	238-2714
CT40xER25-100	42	44.45	238-2715
CT40xER25-125	42	44.45	238-2716
CT40xER25-150	50	44.45	238-2717
CT40xER32-70	50	44.45	238-2718
CT40xER32-100	50	44.45	238-2719
CT40xER32-120	50	44.45	238-2720
CT40xER32-150	50	44.45	238-2721
CT40xER40-70	63	44.45	238-2722
CT40xER40-80	63	44.45	238-2723
CT40xER40-100	63	44.45	238-2724
CT40xER40-120	63	44.45	238-2725
CT40xER40-150	63	44.45	238-2726
CT40xER50-80	78	44.45	238-2727
CT40xER50-100	78	44.45	238-2728
CT50xER16-70	28	69.85	238-2729
CT50xER16-90	28	69.85	238-2730
CT50xER16-105	28	69.85	238-2731

Model	D	D1	Model No.
CTxER-L1			
CT50xER16-135	28	69.85	238-2732
CT50xER16-165	28	69.85	238-2733
CT50xER20-70	35	69.85	238-2734
CT50xER20-90	35	69.85	238-2735
CT50xER20-105	35	69.85	238-2736
CT50xER20-135	35	69.85	238-2737
CT50xER20-150	35	69.85	238-2738
CT50xER20-165	35	69.85	238-2739
CT50xER25-70	42	69.85	238-2740
CT50xER25-105	42	69.85	238-2741
CT50xER25-135	42	69.85	238-2742
CT50xER25-165	42	69.85	238-2743
CT50xER32-70	50	69.85	238-2744
CT50xER32-80	50	69.85	238-2745
CT50xER32-100	50	69.85	238-2746
CT50xER32-120	50	69.85	238-2747
CT50xER40-80	63	69.85	238-2748
CT50xER40-100	63	69.85	238-2749
CT50xER40-120	63	69.85	238-2750
CT50xER40-135	63	69.85	238-2751
CT50xER50-90	78	69.85	238-2752
CT50xER50-120	78	69.85	238-2753
CT40xEOC16-100	43	44.45	238-2754
CT40xEOC25-80	60	44.45	238-2755
CT40xEOC25-100	60	44.45	238-2756
CT40xEOC25-120	60	44.45	238-2757
CT40xEOC32-73	72	44.45	238-2758
CT40xEOC32-90	72	44.45	238-2759
CT40xEOC32-105	72	44.45	238-2760
CT40xEOC32-120	72	44.45	238-2761

CNC Holder

MILLING ER COLLET CHUCK continued

- For CNC machines
- Hardened and precision ground



BT Shank

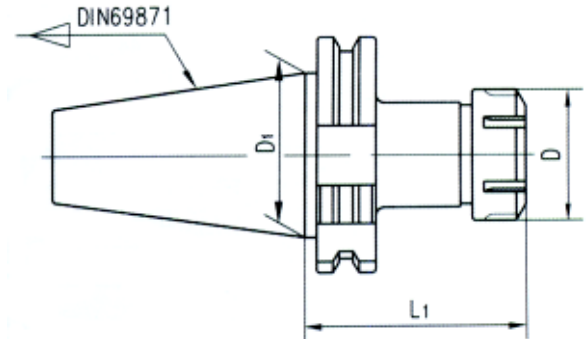
Model	D	D1	Model No.
BT30xER-L1			
BT30xER16-70	28	31.75	238-2501
BT30xER16-10	28	31.75	238-2502
BT30xER16-120	28	31.75	238-2503
BT30xER20-70	35	31.75	238-2504
BT30xER20-135	35	31.75	238-2505
BT30xER25-70	42	31.75	238-2506
BT30xER25-135	42	31.75	238-2507
BT30xER32-70	50	31.75	238-2508
BT30xER40-80	63	31.75	238-2509
BT40xER16-50	28	44.45	238-2510
BT40xER16-63	28	44.45	238-2511
BT40xER16-70	28	44.45	238-2512
BT40xER16-100	28	44.45	238-2513
BT40xER16-125	28	44.45	238-2514
BT40xER16-150	28	44.45	238-2515
BT40xER20-70	35	44.45	238-2516
BT40xER20-90	35	44.45	238-2517
BT40xER20-100	35	44.45	238-2518
BT40xER20-105	35	44.45	238-2519
BT40xER20-135	35	44.45	238-2520
BT40xER20-150	35	44.45	238-2521
BT40xER25-60	42	44.45	238-2522
BT40xER25-70	42	44.45	238-2523
BT40xER25-90	42	44.45	238-2524
BT40xER25-100	42	44.45	238-2525
BT40xER25-125	42	44.45	238-2526
BT40xER32-70	50	44.45	238-2527
BT40xER32-100	50	44.45	238-2528
BT40xER32-150	50	44.45	238-2529
BT40xER40-70	63	44.45	238-2530
BT40xER40-80	63	44.45	238-2531
BT40xER40-120	63	44.45	238-2532
BT40xER40-150	63	44.45	238-2533
BT45xER16-125	28	57.15	238-2534
BT45xER16-100	28	57.15	238-2535
BT45xER16-70	28	57.15	238-2536
BT45xER20-70	35	57.15	238-2537
BT45xER20-90	35	57.15	238-2538
BT45xER20-100	35	57.15	238-2539
BT45xER20-105	35	57.15	238-2540

Model	D	D1	Model No.
BT45xER-L1			
BT45xER20-135	35	57.15	238-2541
BT45xER25-70	42	57.15	238-2542
BT45xER25-90	42	57.15	238-2543
BT45xER25-100	42	57.15	238-2544
BT45xER25-125	42	57.15	238-2545
BT45xER32-70	50	57.15	238-2546
BT45xER32-100	50	57.15	238-2547
BT45xER32-120	50	57.15	238-2548
BT45xER32-150	50	57.15	238-2549
BT45xER40-80	63	57.15	238-2550
BT45xER40-100	63	57.15	238-2551
BT45xER40-120	63	57.15	238-2552
BT45xER40-150	63	57.15	238-2553
BT45xER50-80	78	57.15	238-2554
BT45xER50-100	78	57.15	238-2555
BT50xER16-70	28	69.85	238-2556
BT50xER16-90	28	69.85	238-2557
BT50xER16-105	28	69.85	238-2558
BT50xER16-135	28	69.85	238-2559
BT50xER16-165	28	69.85	238-2560
BT50xER20-70	35	69.85	238-2561
BT50xER20-90	35	69.85	238-2562
BT50xER20-105	35	69.85	238-2563
BT50xER20-135	35	69.85	238-2564
BT50xER20-150	35	69.85	238-2565
BT50xER20-165	35	69.85	238-2566
BT50xER25-70	42	69.85	238-2567
BT50xER25-105	42	69.85	238-2568
BT50xER25-135	42	69.85	238-2569
BT50xER25-165	42	69.85	238-2570
BT50xER32-70	50	69.85	238-2571
BT50xER32-80	50	69.85	238-2572
BT50xER32-100	50	69.85	238-2573
BT50xER32-120	50	69.85	238-2574
BT50xER40-80	63	69.85	238-2575
BT50xER40-100	63	69.85	238-2576
BT50xER40-120	63	69.85	238-2577
BT50xER40-135	63	69.85	238-2578
BT50xER50-90	78	69.85	238-2579
BT50xER50-120	78	69.85	238-2580

CNC Holder

MILLING ER COLLET CHUCK continued

- For CNC machines
- Hardened and precision ground



DIN69871 Shank

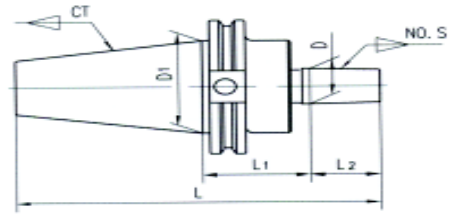
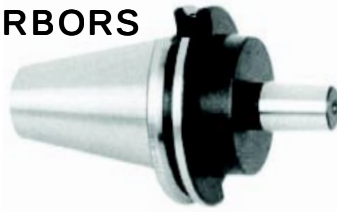
Model			
DIN69871xER-L1	D	D1	Model No.
DIN69871.30xER11-80	19	31.75	238-2601
DIN69871.30xER16-63	28	31.75	238-2602
DIN69871.30xER16-120	28	31.75	238-2603
DIN69871.30xER16-100	28	31.75	238-2604
DIN69871.30xER16-135	28	31.75	238-2605
DIN69871.30xER20-63	35	31.75	238-2606
DIN69871.30xER20-120	35	31.75	238-2607
DIN69871.30xER25-63	42	31.75	238-2608
DIN69871.40xER11-80	19	44.45	238-2609
DIN69871.40xER11-125	19	44.45	238-2610
DIN69871.40xER11-150	19	44.45	238-2611
DIN69871.40xER16-63	28	44.45	238-2612
DIN69871.40xER16-70	28	44.45	238-2613
DIN69871.40xER16-100	28	44.45	238-2614
DIN69871.40xER16-125	28	44.45	238-2615
DIN69871.40xER16-160	28	44.45	238-2616
DIN69871.40xER16-180	28	44.45	238-2617
DIN69871.40xER20-70	35	44.45	238-2618
DIN69871.40xER20-100	35	44.45	238-2619
DIN69871.40xER20-135	35	44.45	238-2620
DIN69871.40xER20-160	35	44.45	238-2621
DIN69871.40xER25-60	42	44.45	238-2622
DIN69871.40xER25-70	42	44.45	238-2623
DIN69871.40xER25-100	42	44.45	238-2624
DIN69871.40xER25-150	42	44.45	238-2625
DIN69871.40xER25-180	42	44.45	238-2626
DIN69871.40xER25-200	42	44.45	238-2627
DIN69871.40xER32-70	50	44.45	238-2628
DIN69871.40xER32-80	50	44.45	238-2629
DIN69871.40xER32-100	50	44.45	238-2630
DIN69871.40xER32-150	50	44.45	238-2631
DIN69871.40xER40-80	63	44.45	238-2632
DIN69871.40xER40-100	63	44.45	238-2633
DIN69871.40xER40-150	63	44.45	238-2634
DIN69871.40xER50-100	78	44.45	238-2635
DIN69871.40xEOC16-70	43	44.45	238-2636

Model			
DIN69871xER-L1	D	D1	Model No.
DIN69871.40xEOC16-100	43	44.45	238-2637
DIN69871.40xEOC25-70	60	44.45	238-2638
DIN69871.40xEOC25-100	60	44.45	238-2639
DIN69871.40xEOC25-120	60	44.45	238-2340
DIN69871.40xEOC32-90	72	44.45	238-2641
DIN69871.40xEOC32-120	72	44.45	238-2642
DIN69871.50xER16-160	28	69.85	238-2643
DIN69871.50xER16-180	28	69.85	238-2644
DIN69871.50xER20-100	35	69.85	238-2645
DIN69871.50xER20-135	35	69.85	238-2646
DIN69871.50xER20-160	35	69.85	238-2647
DIN69871.50xER25-70	42	69.85	238-2648
DIN69871.50xER25-100	42	69.85	238-2649
DIN69871.50xER25-150	42	69.85	238-2650
DIN69871.50xER25-200	42	69.85	238-2651
DIN69871.50xER32-70	50	69.85	238-2652
DIN69871.50xER32-80	50	69.85	238-2653
DIN69871.50xER32-120	50	69.85	238-2654
DIN69871.50xER32-160	50	69.85	238-2655
DIN69871.50xER32-200	50	69.85	238-2656
DIN69871.50xER40-80	63	69.85	238-2657
DIN69871.50xER40-120	63	69.85	238-2658
DIN69871.50xER40-160	63	69.85	238-2659
DIN69871.50xER40-200	63	69.85	238-2660
DIN69871.50xER50-80	78	69.85	238-2661
DIN69871.50xER50-90	78	69.85	238-2662
DIN69871.50xER50-120	78	69.85	238-2663
DIN69871.50xER50-160	78	69.85	238-2664
DIN69871.50xER50-200	78	69.85	238-2665
DIN69871.50xEOC16-100	43	69.85	238-2666
DIN69871.50xEOC25-70	60	69.85	238-2667
DIN69871.50xEOC25-100	60	69.85	238-2668
DIN69871.50xEOC25-140	60	69.85	238-2669
DIN69871.50xEOC32-73	72	69.85	238-2670
DIN69871.50xEOC32-80	72	69.85	238-2671
DIN69871.50xEOC32-140	72	69.85	238-2672
DIN69871.50xEOC40-90	85	69.85	238-2673

Drill Arbors

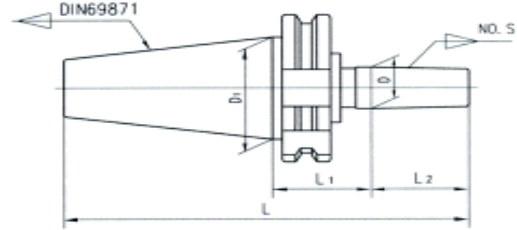
TAPER DRILL CHUCK ARBORS

- For CNC machines
- Hardened and precision ground



CAT "V" Flange Shank

Model	L2	L	D	D1	Drawbar thread	Model No.
CT-No.S-L1						
CT40-J2-45	22.225	135.5	14.199	44.45	5/8"-11	238-0401
CT40-J3-45	30.956	144.2	20.599	44.45	5/8"-11	238-0402
CT40-J4-45	42.069	155.3	28.55	44.45	5/8"-11	238-0403
CT40-J6-45	25.4	138.65	17.17	44.45	5/8"-11	238-0404
CT40-J33-45	25.4	138.65	15.85	44.45	5/8"-11	238-0405
CT45-J1-45	16.699	144.2	9.574	57.15	3/4"-10	238-0406
CT45-J2-45	22.225	150	14.199	57.15	3/4"-10	238-0407
CT45-J3-45	30.956	158.5	20.599	57.15	3/4"-10	238-0408
CT45-J4-45	42.069	169.6	28.55	57.15	3/4"-10	238-0409
CT45-J5-45	47.625	175.2	35.89	57.15	3/4"-10	238-0410
CT45-J6-45	25.4	153	17.17	57.15	3/4"-10	238-0411
CT45-J33-45	25.4	153	15.85	57.15	3/4"-10	238-0412
CT50-J2-45	22.225	168.85	14.199	69.85	1"-8	238-0413
CT50-J3-45	30.956	177.56	20.599	69.85	1"-8	238-0414
CT50-J4-45	42.069	188.67	28.55	69.85	1"-8	238-0415
CT50-J5-45	47.625	194.23	35.89	69.85	1"-8	238-0416
CT50-J6-45	25.4	172	17.17	69.85	1"-8	238-0417
CT50-J33-45	25.4	172	15.85	69.85	1"-8	238-0418
CT45-B10-45	14.5	142	10.094	57.15	3/4"-10	238-0419
CT45-B12-45	18.5	146	12.065	57.15	3/4"-10	238-0420
CT45-B16-32	24	138.6	15.733	57.15	3/4"-10	238-0421
CT45-B16-45	24	151.6	15.733	57.15	3/4"-10	238-0422
CT45-B18-45	32	159.6	17.780	57.15	3/4"-10	238-0423



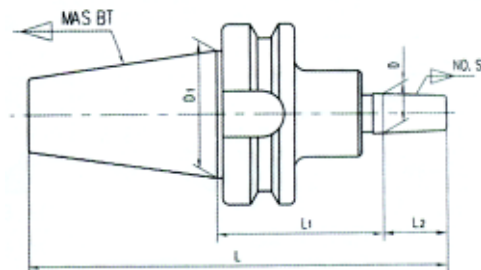
DIN69871 Shank

Model	L2	L	D	D1	Drawbar thread	Model No.
DIN69871-No.S-L1						
DIN69871.40-J0-32	11.112	111.5	6.35	44.45	M16	238-0301
DIN69871.40-J1-32	16.669	117	9.754	44.45	M16	238-0302
DIN69871.40-J2-32	22.225	122.6	14.199	44.45	M16	238-0303
DIN69871.40-J2S-32	19.05	119.5	13.940	44.45	M16	238-0304
DIN69871.40-J3-32	30.956	131.4	20.599	44.45	M16	238-0305
DIN69871.40-J4-32	42.069	142.5	28.550	44.45	M16	238-0306
DIN69871.40-J5-32	47.625	148	35.890	44.45	M16	238-0307
DIN69871.40-J6-32	25.4	125.8	17.170	44.45	M16	238-0308
DIN69871.40-J33-32	25.4	125.8	15.850	44.45	M16	238-0309
DIN69871.40-B6-32	10	110.4	6.35	44.45	M16	238-0310
DIN69871.40-B10-32	14.5	114.9	10.094	44.45	M16	238-0311
DIN69871.40-B10-45	14.5	127.9	10.094	44.45	M16	238-0312
DIN69871.40-B12-32	18.5	118.9	12.065	44.45	M16	238-0313
DIN69871.40-B12-80	18.5	166.9	12.065	44.45	M16	238-0314
DIN69871.40-B16-26	24	118.4	15.733	44.45	M16	238-0315
DIN69871.40-B16-32	24	124.4	15.733	44.45	M16	238-0316
DIN69871.40-B16-45	24	137.4	15.733	44.45	M16	238-0317
DIN69871.40-B18-32	32	132.4	17.780	44.45	M16	238-0318
DIN69871.40-B18-45	32	145.4	17.780	44.5	M16	238-0319
DIN69871.40-B22-32	40.5	140.9	21.793	44.45	M16	238-0320
DIN69871.40-B24-32	50.5	150.9	23.825	44.45	M16	238-0321
DIN69871.40-B16-45	24	170.75	15.733	69.85	M24	238-0322

Drill Arbors

TAPER DRILL CHUCK ARBORS continued

- For CNC machines
- Hardened and precision ground



BT Shank

Model BT-NO.S-L1	L2	L	D	D1	Drawbar thread	Model No.
BT30-J1-45	16.669	110	9.754	31.75	M12	238-0201
BT30-J2-45	22.225	115.6	14.199	31.75	M12	238-0202
BT30-J2S-45	19.05	112.4	13.940	31.75	M12	238-0203
BT30-J3-45	30.956	124.4	20.599	31.75	M12	238-0204
BT30-J4-45	42.069	135.4	28.550	31.75	M12	238-0205
BT30-J5-45	47.625	141	35.890	31.75	M12	238-0206
BT30-J6-45	25.4	118.8	17.170	31.75	M12	238-0207
BT30-J33-40	25.4	113.8	15.850	31.75	M12	238-0208
BT30-J33-45	25.4	118.8	15.850	31.75	M12	238-0209
BT30-B10-45	14.5	107.9	10.094	31.75	M12	238-0210
BT30-B12-45	18.5	111.9	12.065	31.75	M12	238-0211
BT30-B16-45	24	117.4	15.733	31.75	M12	238-0212
BT30-B18-45	32	125.4	17.780	31.75	M12	238-0213
BT40-J1-45	16.699	127.1	9.754	44.45	M16	238-0214
BT40-J2-45	22.225	132.6	14.199	44.45	M16	238-0215
BT40-J2S-45	19.05	129.4	13.940	44.45	M16	238-0216
BT40-J3-45	30.956	141.4	20.599	44.45	M16	238-0217
BT40-J4-45	42.069	152.5	28.550	44.45	M16	238-0218
BT40-J5-45	47.625	158	35.890	44.45	M16	238-0219
BT40-J6-45	25.4	135.8	17.170	44.45	M16	238-0220
BT40-J33-45	25.4	135.8	15.850	44.45	M16	238-0221
BT40-B10-45	14.5	124.9	10.094	44.45	M16	238-0222
BT40-B10-120	14.5	199.9	10.094	44.45	M16	238-0223
BT40-B12-45	18.5	128.9	12.065	44.45	M16	238-0224
BT40-B16-32	24	121.4	15.733	44.45	M16	238-0225
BT40-B16-45	24	134.4	15.733	44.45	M16	238-0226
BT40-B16-75	24	164.4	15.733	44.45	M16	238-0227
BT40-B16-90	24	179.4	15.733	44.45	M16	238-0228
BT40-B18-45	32	142.4	17.780	44.45	M16	238-0229
BT40-B18-75	32	172.4	17.780	44.45	M16	238-0230
BT45-B16-90	24	196.8	15.733	57.15	M20	238-0231
BT45-B16-100	24	206.8	15.733	57.15	M20	238-0232
BT50-J1-45	16.669	163.5	9.754	69.85	M24	238-0233
BT50-J2-45	22.225	169	14.199	69.85	M24	238-0234
BT50-J2S-45	19.05	165.9	13.940	69.85	M24	238-0235
BT50-J3-45	30.956	177.8	20.599	69.85	M24	238-0236
BT50-J4-45	42.069	188.9	28.550	69.85	M24	238-0237
BT50-J5-45	47.625	194.4	35.890	69.85	M24	238-0238
BT50-J6-45	25.4	172.2	17.170	69.85	M24	238-0239
BT50-J33-45	25.4	172.2	15.850	69.85	M24	238-0240
BT50-B10-45	14.5	161.3	10.094	69.85	M24	238-0241
BT50-B10-100	14.5	216.3	10.094	69.85	M24	238-0242
BT50-B12-45	18.5	165.3	12.065	69.85	M24	238-0243
BT50-B16-45	24	170.8	15.733	69.85	M24	238-0244
BT50-B16-60	24	185.8	15.733	69.85	M24	238-0245
BT50-B16-75	24	200.8	15.733	69.85	M24	238-0246
BT50-B16-90	24	215.8	15.733	69.85	M24	238-0247
BT50-B18-45	32	178.8	17.780	69.85	M24	238-0248

CNC Holder

END MILL ADAPTERS

- For CNC machines
- Hardened and precision ground



Retention Knob Thread: 5/8"-11

Bore Dia.	Gage Depth	Nose Dia.	Model No.
3/16"	1.38"	0.68"	238-2820
3/16"	2.50"	0.68"	238-2821
1/4"	1.38"	0.88"	238-2826
1/4"	2.50"	0.88"	238-2801
5/16"	1.38"	1"	238-2819
5/16"	2.50"	1"	238-2809
3/8"	1.38"	1"	238-2822
3/8"	2.50"	1"	238-2802
7/16"	1.38"	1.25"	238-2823
7/16"	2.50"	1.25"	238-2811
1/2"	1.75"	1.75"	238-2827

CAT40 "V" Flange Shank

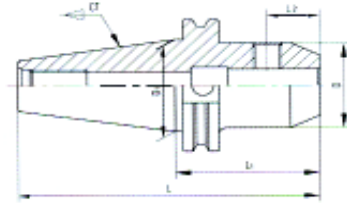
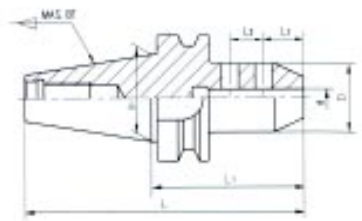
Bore Dia.	Gage Depth	Nose Dia.	Model No.
1/2"	2.50"	1.25"	238-2824
1/2"	4.72"	1.38"	238-2803
5/8"	1.75"	1.75"	238-2804
5/8"	2.50"	1.50"	238-2825
5/8"	3.94"	1.62"	238-2831
3/4"	1.75"	1.75"	238-2828
3/4"	2.50"	1.75"	238-2830
3/4"	3.94"	1.75"	238-2832
7/8"	3.94"	2"	238-2805
1"	3.94"	2"	238-2806
1-1/4"	3.94"	2.62"	238-2807

BT Shank

Model	L	D	D1	L2	L3	Model No.
BTxd-L1						
BT30x6-50	98.4	25	31.75	18	-	238-1101
BT30x6-60	108.4	25	31.75	18	-	238-1102
BT30x8-60	108.4	28	31.75	18	-	238-1103
BT30x10-60	108.4	35	31.75	20	-	238-1104
BT30x10-80	128.4	35	31.75	20	-	238-1105
BT30x12-60	108.4	42	31.75	22.5	-	238-1106
BT30x14-60	108.4	44	31.75	22.5	-	238-1107
BT30x16-75	123.4	48	31.75	24	-	238-1108
BT30x18-75	123.4	50	31.75	24	-	238-1109
BT30x20-75	123.4	52	31.75	25	-	238-1110
BT30x25-90	138.4	65	31.75	24	25	238-1111
BT40x6-50	115.4	25	44.45	18	-	238-1112
BT40x6-60	125.4	25	44.45	18	-	238-1113
BT40x8-50	115.4	28	44.45	18	-	238-1114
BT40x10-63	128.4	35	44.45	20	-	238-1115
BT40x12-63	128.4	42	44.45	22.5	-	238-1116
BT40x14-63	128.4	44	44.45	22.5	-	238-1117
BT30x16-63	128.4	48	44.45	24	-	238-1118
BT40x16-70	135.4	48	44.45	24	-	238-1119
BT40x18-63	128.4	50	44.45	24	-	238-1120
BT40x20-63	128.4	52	44.45	25	-	238-1121
BT40x20-70	135.4	52	44.45	25	-	238-1122
BT40x25-90	155.4	65	44.45	24	25	238-1123
BT40x25-100	165.4	65	44.45	24	25	238-1124
BT40x32-100	165.4	72	44.45	24	28	238-1125
BT40x32-110	175.4	72	44.45	24	28	238-1126
BT40x40-120	185.4	90	44.45	30	32	238-1127
BT40x40-140	205.4	90	44.45	30	32	238-1128
BT50x6-63	164.8	25	69.85	18	-	238-1129
BT50x8-63	164.8	28	69.85	18	-	238-1130
BT50x10-63	164.8	35	69.85	20	-	238-1131
BT50x12-80	181.8	42	69.85	22.5	-	238-1132
BT50x16-80	181.8	48	69.85	24	-	238-1133
BT50x20-80	181.8	52	69.85	25	-	238-1134
BT50x25-100	201.8	65	69.85	24	25	238-1135
BT50x25-105	206.8	65	69.85	24	25	238-1136
BT50x25-150	251.8	65	69.85	24	25	238-1137
BT50x25-200	301.8	65	69.85	24	25	238-1138
BT50x32-100	201.8	72	69.85	24	28	238-1139
BT50x32-105	206.8	72	69.85	24	28	238-1140
BT50x40-115	216.8	90	69.85	30	32	238-1141
BT50x40-120	221.8	90	69.85	30	32	238-1142
BT50x42-120	221.8	90	69.85	30	32	238-1143
BT50x50-150	251.8	100	69.85	35	35	238-1144

CNC Holder

END MILL ADAPTERS continued



BT Shank

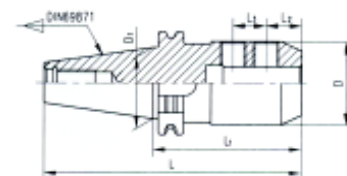
Model	L	D1	L2	L3	Model No.
BTxd-L1					
BT30x1/4"-60	108.4	31.75	12	-	238-1212
BT30x5/16"-60	108.4	31.75	16	-	238-1213
BT30x3/8"-60	108.4	31.75	19	-	238-1214
BT30x1/2"-60	108.4	31.75	22	-	238-1215
BT30x5/8"-75	123.4	31.75	23	-	238-1216
BT30x3/4"-75	123.4	31.75	25	-	238-1217
BT30x1"-90	138.4	31.75	28	25.4	238-1218
BT40x1/4"-50	115.4	44.45	12	-	238-1219
BT40x5/16"-50	115.4	44.45	16	-	238-1220
BT40x3/8"-63	128.4	44.45	19	-	238-1221
BT40x1/2"-63	128.4	44.45	22	-	238-1222
BT40x5/8"-63	128.4	44.45	23	-	238-1223
BT40x3/4"-63	128.4	44.45	25	-	238-1224
BT40x1"-100	165.4	44.45	28	25.4	238-1225
BT40x1-1/4"-100	165.4	44.45	28	25.4	238-1226
BT50x1/4"-63	164.8	69.85	12	-	238-1227
BT50x5/16"-63	164.8	69.85	16	-	238-1228
BT50x3/8"-63	164.8	69.85	19	-	238-1229
BT50x1/2"-80	181.8	69.85	22	-	238-1230
BT50x5/8"-80	181.8	69.85	23	-	238-1231
BT50x3/4"-80	181.8	69.85	25	-	238-1232
BT50x1"-100	201.8	69.85	28	25.4	238-1233
BT50x1-1/4"-105	206.8	69.85	28	25.4	238-1234
BT50x1-1/2"-115	216.8	69.85	28	25.4	238-1235

DIN69871 Shank

Model	L	D	D1	L2	L3	Model No.
DIN69871xd-L1						
DIN69871.30x1/4"-50	97.8	27	31.75	12	-	238-1301
DIN69871.30x5/16"-50	97.8	30	31.75	16	-	238-1302
DIN69871.30x3/8"-50	97.8	32	31.75	19	-	238-1303
DIN69871.30x1/2"-50	97.8	35	31.75	23	-	238-1304
DIN69871.30x5/8"-50	110.8	44.5	31.75	23	-	238-1305
DIN69871.40x1/4"-50	118.4	27	44.45	12	-	238-1306
DIN69871.40x5/16"-50	118.4	30	44.45	16	-	238-1307
DIN69871.40x3/8"-50	118.4	32	44.45	19	-	238-1308
DIN69871.40x1/2"-50	118.4	35	44.45	22	-	238-1309
DIN69871.40x5/8"-63	131.4	41	44.45	23	-	238-1310
DIN69871.40x3/4"-63	131.4	44.5	44.45	25	-	238-1311
DIN69871.40x1"-100	168.4	55	44.45	28	25.4	238-1312
DIN69871.40x1-1/4"-100	168.4	62	44.45	28	25.4	238-1313
DIN69871.50x1/4"-63	164.75	27	69.85	12	-	238-1314
DIN69871.50x5/16"-63	164.75	30	69.85	16	-	238-1315
DIN69871.50x3/8"-63	164.75	32	69.85	19	-	238-1316
DIN69871.50x1/2"-63	164.75	35	69.85	22	-	238-1317
DIN69871.50x5/8"-63	164.75	41	69.85	23	-	238-1318
DIN69871.50x3/4"-63	164.75	44.5	69.85	28	-	238-1319
DIN69871.50x1"-80	181.75	55	69.85	28	25.4	238-1320
DIN69871.50x1-1/4"-100	201.75	62	69.85	28	25.4	238-1321
DIN69871.50x1-1/2"-100	201.75	68	69.85	28	25.4	238-1322
DIN69871.50x2"-125	226.75	97	69.85	30	36.5	238-1323
DIN69871.50x1-1/2"-150	250.75	125	69.85	30	36.5	238-1324

CNC Holder

END MILL ADAPTERS continued

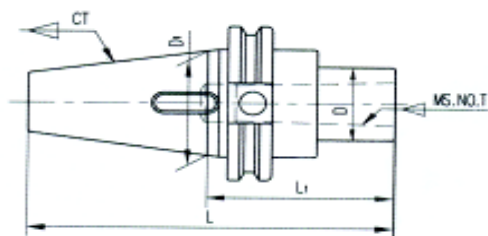


DIN69871 Shank

Model	L	D	D1	L2	L3	Model No.
DIN69871xd-L1						
DIN69871.30x6-50	97.8	25	31.75	18	-	238-1401
DIN69871.30x8-50	97.8	28	31.75	18	-	238-1402
DIN69871.30x10-50	97.8	35	31.75	20	-	238-1403
DIN69871.30x12-50	97.8	42	31.75	22.5	-	238-1404
DIN69871.30x16-50	97.8	48	31.75	24	-	238-1405
DIN69871.40x6-50	118.4	25	44.45	18	-	238-1406
DIN69871.40x6-100	168.4	25	44.45	18	-	238-1407
DIN69871.40x8-50	118.4	28	44.45	18	-	238-1408
DIN69871.40x8-100	168.4	28	44.45	18	-	238-1409
DIN69871.40x10-50	118.4	35	44.45	20	-	238-1410
DIN69871.40x10-100	168.4	35	44.45	20	-	238-1411
DIN69871.40x12-50	118.4	42	44.45	22.5	-	238-1412
DIN69871.40x14-50	118.4	44	44.45	22.5	-	238-1413
DIN69871.40x16-63	131.4	48	44.45	24	-	238-1414
DIN69871.40x18-63	131.4	50	44.45	24	-	238-1415
DIN69871.40x20-63	131.4	52	44.45	25	-	238-1416
DIN69871.40x25-100	168.4	65	44.45	24	25	238-1417
DIN69871.40x32-100	168.4	72	44.45	24	28	238-1418
DIN69871.40x40-120	188.4	90	44.45	30	32	238-1419
DIN69871.50x6-63	164.75	25	69.85	18	-	238-1420
DIN69871.50x8-63	164.75	28	69.85	18	-	238-1421
DIN69871.50x10-63	164.75	35	69.85	20	-	238-1422
DIN69871.50x12-63	164.75	42	69.85	22.5	-	238-1423
DIN69871.50x14-63	164.75	44	69.85	22.5	-	238-1424
DIN69871.50x16-63	164.75	48	69.85	24	-	238-1425
DIN69871.50x18-63	164.75	50	69.85	24	-	238-1426
DIN69871.50x20-63	164.75	52	69.85	25	-	238-1427
DIN69871.50x25-80	181.75	65	69.85	24	25	238-1428
DIN69871.50x32-100	201.75	72	69.85	24	25	238-1429
DIN69871.50x40-100	201.75	90	69.85	30	32	238-1430
DIN69871.50x40-120	221.75	90	69.85	30	32	238-1431

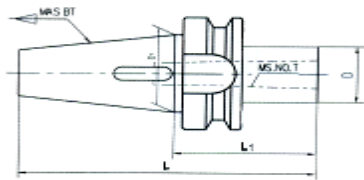
MORSE TAPER ADAPTORS(With Tang)

- For CNC machines
- Hardened and precision ground



Model	L	D	D1	Model No.
CTxMS.No.T-L1				
CT40xMS1-45	113.25	25	44.45	238-1601
CT40xMS2-63	131.25	32	44.45	238-1602
CT40xMS3-75	143.25	40	44.45	238-1603
CT40xMS4-100	168.25	48	44.45	238-1604
CT45xMS1-40	122.55	25	57.15	238-1605
CT45xMS2-50	132.55	32	57.15	238-1606
CT45xMS3-73	155.25	40	57.15	238-1607
CT45xMS4-95	177.55	48	57.15	238-1608
CT45xMS5-125	207.55	61	57.15	238-1609
CT50xMS1-40	141.6	25	69.85	238-1610
CT50xMS2-50	151.6	32	69.85	238-1611
CT50xMS2-135	236.6	32	69.85	238-1612
CT50xMS3-63	164.6	40	69.85	238-1613
CT50xMS3-150	251.6	40	69.85	238-1614
CT50xMS4-65	166.6	48	69.85	238-1615
CT50xMS4-85	186.6	48	69.85	238-1616
CT50xMS5-85	206.6	61	69.85	238-1617

CNC Holder

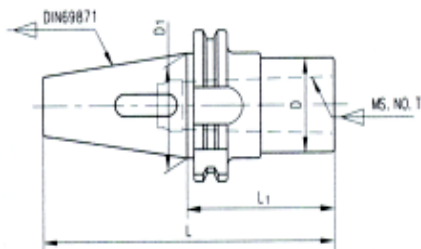


Model				
BTxMS.No.T-L1	L	D	D1	Model No.
BT30xMS1-45	93.4	25	31.75	238-1701
BT30xMS1-50	98.4	25	31.75	238-1702
BT30xMS2-60	108.4	32	31.75	238-1703
BT30xMS3-80	128.4	40	31.75	238-1704
BT40xMS1-45	110.4	25	44.45	238-1705
BT40xMS1-50	115.4	25	44.45	238-1706
BT40xMS1-120	185.4	25	44.45	238-1707
BT40xMS2-50	115.4	32	44.45	238-1708
BT40xMS2-60	125.4	32	44.45	238-1709
BT40xMS2-120	185.4	32	44.45	238-1710
BT40xMS3-70	135.4	40	44.45	238-1711
BT40xMS3-75	140.4	40	44.45	238-1712
BT40xMS4-90	155.4	48	44.45	238-1713
BT40xMS4-95	160.4	48	44.45	238-1714
BT40xMS4-135	200.4	48	44.45	238-1715
BT40xMS4-164	230.4	48	44.45	238-1716

BT Shank

Model				
BTxMS.No.T-L1	L	D	D1	Model No.
BT45xMS1-120	202.8	25	57.15	238-1717
BT45xMS2-120	202.8	32	57.15	238-1718
BT45xMS3-120	202.8	40	57.15	238-1719
BT45xMS3-140	222.8	40	57.15	238-1720
BT45xMS4-98	180.8	48	57.15	238-1721
BT50xMS1-45	146.8	25	69.85	238-1722
BT50xMS2-50	151.8	32	69.85	238-1723
BT50xMS2-60	161.8	32	69.85	238-1724
BT50xMS2-120	221.8	32	69.85	238-1725
BT50xMS2-135	236.8	32	69.85	238-1726
BT50xMS3-65	166.8	40	69.85	238-1727
BT50xMS3-75	176.8	40	69.85	238-1728
BT50xMS3120	221.8	40	69.85	238-1729
BT50xMS3-135	236.8	40	69.85	238-1730
BT50xMS3-150	251.8	40	69.85	238-1731
BT50xMS4-85	186.8	48	69.85	238-1732
BT50xMS4-95	196.8	48	69.85	238-1733
BT50xMS4-180	281.8	48	69.85	238-1734
BT50xMS5-105	206.8	63	69.85	238-1735
BT50xMS5-108	209.8	63	69.85	238-1736

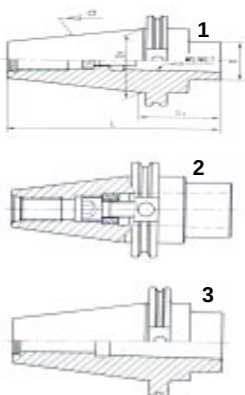
DIN69871 Shank



Model				
DIN69871xMS.No.T-L1	L	D	D1	Model No.
DIN69871.30xMS1-50	97.8	25	31.75	238-1501
DIN69871.30xMS2-60	107.8	32	31.75	238-1502
DIN69871.30xMS3-75	122.8	40	31.75	238-1503
DIN69871.40xMS1-45	113.4	25	44.45	238-1504
DIN69871.40xMS1-50	118.4	25	44.45	238-1505
DIN69871.40xMS2-50	118.4	32	44.45	238-1506
DIN69871.40xMS2-60	128.4	32	44.45	238-1507
DIN69871.40xMS3-70	138.4	40	44.45	238-1508
DIN69871.40xMS4-95	163.4	48	44.45	238-1509
DIN69871.40xMS5-125	193.4	63	44.45	238-1510
DIN69871.50xMS1-45	146.75	25	69.85	238-1511
DIN69871.50xMS2-60	161.75	32	69.85	238-1512
DIN69871.50xMS3-65	166.75	40	69.85	238-1513
DIN69871.50xMS4-95	196.75	48	69.85	238-1514
DIN69871.50xMS5-100	201.75	61	69.85	238-1515
DIN69871.50xMS5-105	206.75	61	69.85	238-1516

MORSE TAPER ADAPTORS(With Drawbar)

- For CNC machines
- Hardened and precision ground



Note:

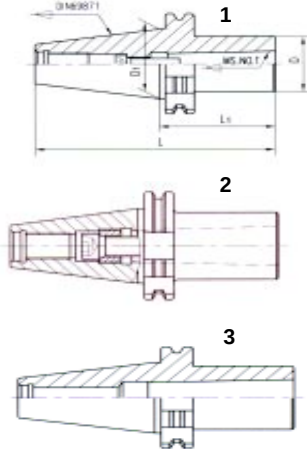
- See figure 1, When the arbor being used, It is necessary to fix inner hex screw
- See figure 2, When the arbor being used, It is necessary to fix standard knob, please note when order it
- See figure 2, When the arbor being used, It is necessary to fix extension knob, please note when order it

CAT Shank

Model				
CTxMS.No.T-L1	L	D	D1	Model No.
CT40xMW1-45	113.25	25	44.45	238-3201
CT40xMW2-60	128.25	32	44.45	238-3203
CT40xMW3-75	143.25	40	44.45	238-3205
CT40xMW3-90	158.25	40	44.45	238-3207
CT40xMW4-100	168.25	48	44.45	238-3209
CT40xMW4-120	188.25	48	44.45	238-3211
CT50xMW2-60	161.6	31.75	69.85	238-3213
CT50xMW3-60	161.6	41.28	69.85	238-3215
CT50xMW4-90	191.6	50.8	69.85	238-3217
CT50xMW5-100	201.6	59.85	69.85	238-3219

CNC Holder

MORSE TAPER ADAPTORS(With Drawbar) continued



DIN69871 Shank

Model				
DIN69871.AxMS.No.T-L1	L	D	D1	Model No.
DIN69871.40xMW1-45	113.4	25	44.45	238-3001
DIN69871.40xMW2-60	128.4	32	44.45	238-3003
DIN69871.40xMW3-70	138.4	40	44.45	238-3005
DIN69871.40xMW3-80	148.4	40	44.45	238-3007
DIN69871.40xMW3-100	168.4	40	44.45	238-3009
DIN69871.40xMW4-90	158.4	48	44.45	238-3011
DIN69871.40xMW4-100	168.4	48	69.85	238-3013
DIN69871.40xMW4-120	188.4	48	69.85	238-3015
DIN69871.50xMW1-45	146.8	25	69.85	238-3017
DIN69871.50xMW2-45	146.8	32	69.85	238-3019
DIN69871.50xMW2-50	161.8	32	69.85	238-3021
DIN69871.50xMW3-60	161.8	40	69.85	238-3023
DIN69871.50xMW3-80	181.8	40	69.85	238-3025
DIN69871.50xMW4-80	181.8	48	69.85	238-3027
DIN69871.50xMW4-90	191.8	48	69.85	238-3029
DIN69871.50xMW4-120	221.8	48	69.85	238-3031
DIN69871.50xMW5-100	201.8	61	69.85	238-3033
DIN69871.50xMW5-120	221.8	61	69.85	238-3035

Note:

1. See figure 1, When the arbor being used, It is necessary to fix inner hex screw
2. See figure 2, When the arbor being used, It is necessary to fix standard knob, please note when order it
3. See figure 2, When the arbor being used, It is necessary to fix extension knob, please note when order it



BT Shank

Model				
BTxMS.No.T-L1	L	D	D1	Model No.
BT40xMW1-45	110.4	25	44.45	238-3101
BT40xMW2-60	125.4	32	44.45	238-3103
BT40xMW3-75	140.4	40	44.45	238-3105
BT40xMW3-90	155.4	40	44.45	238-3107
BT40xMW4-95	160.4	48	44.45	238-3109
BT40xMW4-100	165.4	48	44.45	238-3111
BT50xMW1-45	146.8	25	69.85	238-3113
BT50xMW2-45	146.8	32	69.85	238-3115
BT50xMW2-60	161.8	32	69.85	238-3117
BT50xMW3-60	161.8	40	69.85	238-3119
BT50xMW3-75	176.8	40	69.85	238-3121
BT50xMW4-80	181.8	48	69.85	238-3123
BT50xMW4-100	201.8	48	69.85	238-3125
BT50xMW5-100	201.8	63	69.85	238-3127
BT50xMW5-120	221.8	63	69.85	238-3129

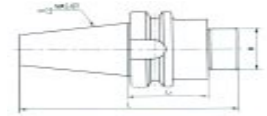
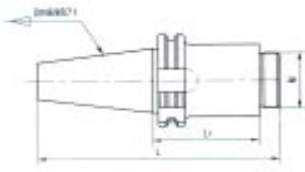
Note:

1. See figure 1, When the arbor being used, It is necessary to fix inner hex screw
2. See figure 2, When the arbor being used, It is necessary to fix standard knob, please note when order it
3. See figure 2, When the arbor being used, It is necessary to fix extension knob, please note when order it

Retention Knob

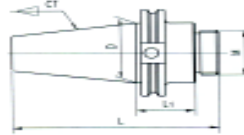
NC BORING SHANK

- For CNC machines
- Hardened and precision ground



Model	L	Model No.
DIN69871xM-L1		
DIN69871.40x1-1/2"-18-45	125.4	238-0601
DIN69871.40x1-1/2"-18-50	130.4	238-0602
DIN69871.40x1-1/2"-18-63	143.4	238-0603
DIN69871.45x1-1/2"-18-50	144.45	238-0604
DIN69871.50x1-1/2"-18-35	148.25	238-0605
DIN69871.50x1-1/2"-18-50	163.6	238-0606

Model	L	Model No.
BTxM-L1		
BT40x7/8"-20-45	122.4	238-0501
BT40x1-1/2"-18-45	122.4	238-0502
BT50x7/8"-20-75	188.8	238-0503
BT50x1-1/2"-18-75	188.8	238-0504
BT50x7/8"-20-80	193.8	238-0505
BT50x1-1/2"-18-80	193.8	238-0506



Model	L	Model No.
CTxM-L1		
CT40x1-1/2"-18-50	130.25	238-0701
CT45x1-1/2"-18-50	144.55	238-0702
CT50x1-1/2"-18-50	163.6	238-0703

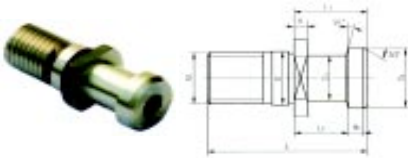
RETENTION KNOB

ANSI/ASME B5.50-1985

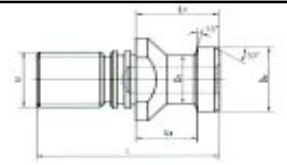
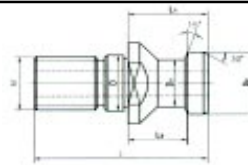


Type	D1(mm)	D2(mm)	M	L(mm)	L1(mm)	L2(mm)	H(mm)	H1(mm)	Model No.
30	9.78	13.21	1/2"-13	29.74	11.68	8.13	2.54	1.01	238-3201
40	12.45	18.80	5/8"-11	38.10	16.26	11.18	3.05	1.52	238-3202
45	15.37	23.88	3/4"-10	45.72	20.83	14.73	4.06	2.03	238-3203
50	20.83	28.96	1"-8	58.42	25.40	17.78	5.08	2.54	238-3204

ISO/DIS7388/2-1984A

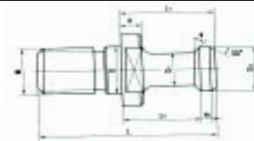


Type	D(mm)	D1(mm)	D2(mm)	M(mm)	L(mm)	L1(mm)	L2(mm)	H(mm)	H1(mm)	Model No.
30A	13	8	12	M12	44	24	19	4	3	238-3301
40A	17	14	19	M16	54	26	20	4	4	238-3302
45A	21	17	23	M20	65	30	23	5	5	238-3303
50A	25	21	28	M24	74	34	25	6	7	238-3304



DIN69872-1988

Type	D	D1	D2	M	L	L1	L2	A Type Model No.	B Type Model No.
30A	13mm	8mm	12mm	M12	44mm	24mm	19mm	238-3401	238-3501
40A	17	14	19	M16	54	26	20	238-3402	238-3502
45A	21	17	23	M20	65	30	23	238-3403	238-3503
50A	25	21	28	M24	74	34	25	238-3404	238-3504



MAS403-1982

Type	D	D1	D2	M	L	L1	L2	H	H	30 Model No.	45 Model No.
P30T()	12.5mm	7mm	11mm	M12	43mm	23mm	18mm	5mm	2.5mm	238-3601	238-3701
P40T()	17	10	15	M16	60	35	28	6	3	238-3602	238-3702
P45T()	21	14	19	M20	70	40	31	8	4	238-3603	238-3703
P50T()	25	17	23	M24	85	45	35	10	5	238-3604	238-3704

Machine Arbors

MILLING MACHINE ARBORS

STYLE A

- Style A with 23/32" x 1-3/4" pilots.
- Machined from high grade forging; have standard key ways and include arbor spacers and running bushings.



STYLE B

- Style B without pilots.
- Machined from high grade forging; have standard key ways and include arbor spacers and running bushings.



Arbor No.	Taper	Arbor Dia.	Length of Dia. of			Model No.
			Shoulder To nut	Running Bushings	Furnished	
30-7/8-A10-2	30	7/8"	10	1-5/8"	1	219-8332
31-A10-2	30	1"	10	1-5/8"	1	219-8336
31-1/4-A10-2	30	1-1/4"	10	1-7/8"	1	219-8338
40-7/8-A10	40	7/8"	10		None	219-8432
40-7/8-A16-3	40	7/8"	16	1-7/8"	1	219-8434
41-A8	40	1"	8		None	219-8436
41-A10	40	1"	10		None	219-8438
41-A12	40	1"		12	None	219-8440
41-A16-3	40	1"	16	1-7/8"	1	219-8442
41-1/4-A8	40	1-1/4"	8		None	219-8444
41-1/4-A10	40	1-1/4"	10		None	219-8446
41-1/4-A12	40	1-1/4"	12		None	219-8448
41-1/4-A16-3	40	1-1/4"	16	1-7/8"	1	219-8450
50-7/8-A10	50	7/8"	10		None	219-8532
50-7/8-A18-4	50	7/8"	18	2-1/8"	1	219-8534
51-A8	50	1"	8		None	219-8536
51-A12	50	1"	12	2-1/8"	None	219-8538
51-A18-4	50	1"	18		1	219-8540
51-1/4-A8	50	1-1/4"	8		None	219-8542
51-1/4-A12	50	1-1/4"	12		None	219-8544
51-1/4-A18-4	50	1-1/4"	18	2-1/8"	1	219-8546

Arbor No.	Taper	Arbor Dia.	Length of Dia. of			Model No.
			Shoulder To nut	Running Bushings	Furnished	
31-B2	30	1"	2"	None	None	219-9334
40-7/8-B14-3	40	7/8"	14	1-7/8"	1	219-9432
40-7/8-B16-3	40	7/8"	16	1-7/8"	1	219-9434
41-B3	40	1"	3"	None	None	219-9436
41-B14-3	40	1"	14	1-7/8"	1	219-9438
41-B20-3	40	1"	20	1-7/8"	1	219-9440
41-1/4-B3	40	1-1/4"	3"	None	None	219-9442
41-1/4-B14-3	40	1-1/4"	14	1-7/8"	1	219-9444
41-1/4-B20-3	40	1-1/4"	20	1-7/8"	1	219-9446
41-1/2-B10	40	1-1/2"	10	2-1/8"	None	219-9448
41-1/2-B20-4	40	1-1/2"	20	2-1/8"	1	219-9450
51-B3-1/2	50	1"	3-1/2"	None	None	219-9532
51-B15-4	50	1"	15	2-1/8"	1	219-9534
51-B18-4	50	1"	18	2-1/8"	2	219-9536
51-B24-4	50	1"	24	2-1/8"	2	219-9538
51-1/4-B3-1/2	50	1-1/4"	3-1/2"	None	None	219-9540
51-1/4-B15-4	50	1-1/4"	15	2-1/8"	1	219-9542
51-1/4-B18-4	50	1-1/4"	18	2-1/8"	2	219-9544
51-1/4-B24-4	50	1-1/4"	24	2-1/8"	2	219-9546
51-1/4-B30-4	50	1-1/4"	30	2-1/8"	2	219-9548
51-1/2-B3-1/2	50	1-1/2"	3-1/2"	None	None	219-9550
51-1/2-B18-4	50	1-1/2"	18	2-1/8"	2	219-9552
51-1/2-B24-5	50	1-1/2"	24	2-3/4"	2	219-9554
51-1/2-B30-5	50	1-1/2"	30	2-3/4"	2	219-9556
51-1/2-B36-5	50	1-1/2"	36	2-3/4"	2	219-9558
52-B24-5	50	2"	24	2-3/4"	2	219-9560
52-B30-5	50	2"	30	2-3/4"	2	219-9562
52-B36-5	50	2"	36	2-3/4"	2	219-9564
52-1/2-B36-6	50	2-1/2"	36	3-3/8"	2	219-9566

ARBOR SPACERS

WITH KEYWAYS



Spacer Width	7/8" Hole and 1-3/8"	1" Hole and 1-1/2"	1-1/4" Hole and 1-3/4"	1-1/2" Hole and 2-1/8"	2" Hole and 2-3/4"
	Model No.	Model No.	Model No.	Model No.	Model No.
1/16"	219-8110	219-8210	219-8710	219-8810	219-8910
3/32"	219-8112	219-8212	219-8712	219-8812	219-8912
1/8"	219-8114	219-8214	219-8714	219-8814	219-8914
3/16"	219-8116	219-8216	219-8716	219-8816	219-8916
1/4"	219-8118	219-8218	219-8718	219-8818	219-8918
5/16"	219-8120	219-8220	219-8720	219-8820	219-8920
3/8"	219-8122	219-8222	219-8722	219-8822	219-8922
7/16"	219-8124	219-8224	219-8724	219-8824	219-8924

Spacer Width	7/8" Hole and 1-3/8"	1" Hole and 1-1/2"	1-1/4" Hole and 1-3/4"	1-1/2" Hole and 2-1/8"	2" Hole and 2-3/4"
	Model No.	Model No.	Model No.	Model No.	Model No.
1/2"	219-8126	219-8226	219-8726	219-8826	219-8926
5/8"	219-8128	219-8228	219-8728	219-8828	219-8928
3/4"	219-8130	219-8230	219-8730	219-8830	219-8930
7/8"	219-8132	219-8232	219-8732	219-8832	219-8932
1"	219-8134	219-8234	219-8734	219-8834	219-8934
1-1/4"	219-8136	219-8236	219-8736	219-8836	219-8936
1-1/2"	219-8138	219-8238	219-8738	219-8838	219-8938
2"	219-8140	219-8240	219-8740	219-8840	219-8940
3"	219-8142	219-8242	219-8742	219-8842	219-8942

ARBOR RUNNING BUSHINGS WITH KEYWAYS FOR STYLE A AND STYLE B MILLING MACHINE ARBORS



Arbor Dia.	Outside Dia.	Length	Model No.	Arbor Dia.	Outside Dia.	Length	Model No.
7/8"	1-5/8"	2-5/8"	219-8652	1-1/4"	2-1/8"	3-3/4"	219-8668
1"	1-5/8"	2-5/8"	219-8654	1-1/2"	2-1/8"	3-3/4"	219-8670
1-1/4"	1-7/8"	2-5/8"	219-8656	7/8"	2-3/4"	4-1/4"	219-8672
7/8"	1-7/8"	3-1/8"	219-8658	1"	2-3/4"	4-1/4"	219-8674
1"	1-7/8"	3-1/8"	219-8660	1-1/4"	2-3/4"	4-1/4"	219-8676
1-1/4"	1-7/8"	3-1/8"	219-8662	1-1/2"	2-3/4"	4-1/4"	219-8678
7/8"	2-1/8"	3-3/4"	219-8664	2"	2-3/4"	4-1/4"	219-8680
1"	2-1/8"	3-3/4"	219-8666	2-1/2"	3-3/8"	4-1/4"	219-8682

NUTS

FOR MILLING MACHINE ARBORS



Arbor Dia.	Thread	Model No.
7/8"	7/8-14RH	219-8632
1"	1-14RH	219-8634
1-1/4"	1-1/4-12RH	219-8636
1-1/2"	1-1/2-12 RH	219-8638
2"	2-12RH	219-8640
2-1/2"	2-1/2-12RH	219-8642

Machine Arbors & Adapter

STRAIGHT SHANK STUB MILLING MACHINE ARBORS



- For holding saws or small cutters.
- These arbors are designed and made to fit directly into standard End Mill Adapters. Sets include spacers and nut.
- Arbors furnished with standard key ways and L.H. arbor nut.
- Lengths of shoulder to nut are 1"
- Hardened and ground.

Dia. Of Straight Shank	Arbor Dia.	Length of Shoulder to Nut	Model No.
1/2"	1/2"	1"	210-3800
1/2"	5/8"	1"	210-3801
1/2"	3/4"	1"	210-3802
3/4"	1/2"	1"	210-3803
3/4"	5/8"	1"	210-3804
3/4"	3/4"	1"	210-3805
3/4"	7/8"	1"	210-3806
3/4"	1"	1"	210-3807
3/4"	1-1/4"	1"	210-3808

STUB MILLING MACHINE ARBORS

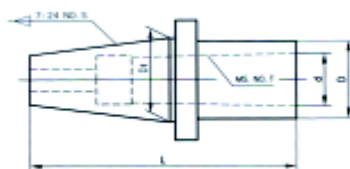
- Adjust the washer to hold the end mills according to your various needs.



Metric	End Mill	
Shank	Dia.	Model No.
R8	22mm	210-2208
MT2	22mm	210-2212
MT3	22mm	210-2213
MT4	22mm	210-2214
MT5	22mm	210-2215
R8	27mm	210-2218
MT2	27mm	210-2222
MT3	27mm	210-2223
MT4	27mm	210-2224
MT5	27mm	210-2225

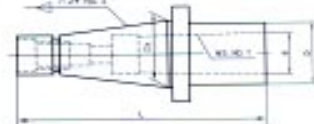
Inch	Arbor Dia.	Length of Shoulder to Nut	Model No.
R8	1"	2"	210-2108
MT2	1"	2"	210-2112
MT3	1"	2"	210-2113
MT4	1"	2"	210-2114
MT5	1"	2"	210-2115
R8	1-1/4"	2"	210-2118
MT2	1-1/4"	2"	210-2122
MT3	1-1/4"	2"	210-2123
MT4	1-1/4"	2"	210-2124
MT5	1-1/4"	2"	210-2125
30	1"	1-1/2"	210-2130
30	1-1/4"	1-3/4"	210-2133
40	1"	1-1/2"	210-2140
40	1-1/4"	1-3/4"	210-2144
50	1"	1-1/2"	210-2150
50	1-1/4"	1-3/4"	210-2155

30-40-50 TO MT ADAPTER(END OPENING TYPE)



7:24 No.S	MS.No.T	D(mm)	D1(mm)	d(mm)	L(mm)	Model No.
30	MT1	24	31.75	12.065	75	214-7001
30	MT2	30	31.75	17.780	100	214-7002
30	MT3	36	31.75	23.825	130	214-7003
30	MT4	48	31.75	31.267	165	214-7004
40	MT1	24	44.45	12.065	80	214-7005
40	MT2	30	44.45	17.780	85	214-7006
40	MT3	36	44.45	23.825	100	214-7007
40	MT4	48	44.45	31.267	145	214-7008
40	MT5	61	44.45	44.399	225	214-7009
50	MT1	25	69.85	12.065	127	214-7010
50	MT2	32	69.85	17.780	127	214-7011
50	MT3	40	69.85	23.825	127	214-7012
50	MT4	48	69.85	31.267	127	214-7013
50	MT5	61	69.85	44.399	180	214-7014

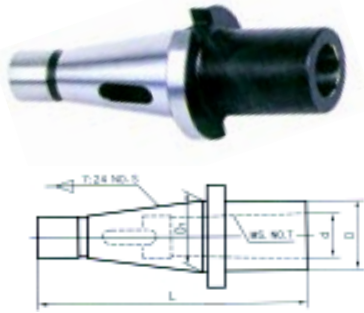
30-40-50 TO MT ADAPTER (DRAW BAR TYPE)



7:24 No.S	MS.No.T	D(mm)	D1(mm)	d(mm)	L(mm)	Model No.
30	MT1	25	31.75	12.065	118	214-7101
30	MT2	32	31.75	17.780	118	214-7102
30	MT3	40	31.75	23.825	155	214-7103
40	MT1	25	44.45	12.065	120	214-7104
40	MT2	32	44.45	17.780	120	214-7105
40	MT3	40	44.45	23.825	140	214-7106
40	MT4	48	44.45	31.267	178	214-7107
40	MT5	56	44.45	44.399	238	214-7108
50	MT1	25	69.85	12.065	160	214-7109
50	MT2	32	69.85	17.780	160	214-7110
50	MT3	40	69.85	23.825	160	214-7111
50	MT4	48	69.85	31.267	180	214-7112
50	MT5	61	69.85	44.399	210	214-7113

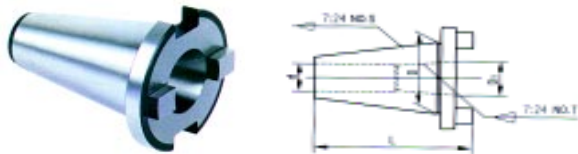
Adapter & Sleeves

30-40-50 TO MT ADAPTER (WITH TANG)



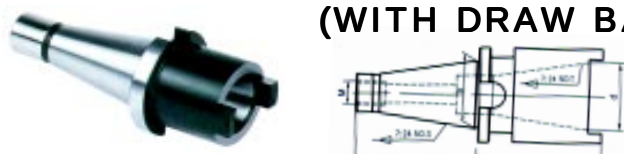
7:24 No.S	MS.No.T	D(mm)	D1(mm)	d(mm)	L(mm)	Model No.
30	MT1	25	31.75	12.065	118	214-7300
30	MT2	32	31.75	17.780	118	214-7305
30	MT3	40	31.75	23.825	138	214-7310
30	MT4	48	31.75	31.267	212	214-7315
40	MT1	25	44.45	12.065	143	214-7320
40	MT2	32	44.45	17.780	143	214-7325
40	MT3	40	44.45	23.825	158	214-7330
40	MT4	48	44.45	31.267	188	214-7335
40	MT5	61	44.45	44.399	273	214-7340
50	MT1	25	69.85	12.065	172	214-7345
50	MT2	32	69.85	17.780	187	214-7350
50	MT3	40	69.85	23.825	192	214-7355
50	MT4	48	69.85	31.267	197	214-7360
50	MT5	61	69.85	44.399	232	214-7365

30-40-50 TO 30-40-50 ADAPTER



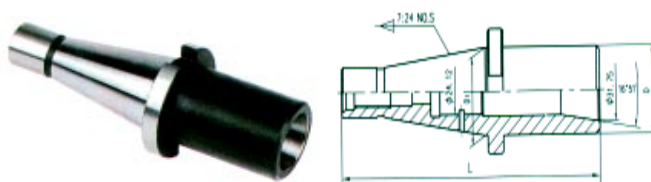
7:24 No.S	7:24 No.T	D(mm)	D1(mm)	d(mm)	L(mm)	Model No.
40	30	44.45	31.75	18	86	214-7200
50	30	69.85	31.75	18	129.5	214-7205
50	40	69.85	44.45	26	129.5	214-7210

30-40-50 TO 30-40-50 ADAPTER (WITH DRAW BAR)



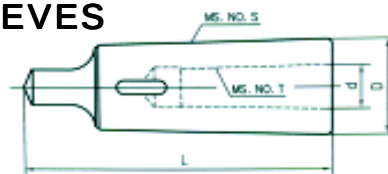
7:24 No.S	7:24.No.T	D(mm)	d(mm)	L(mm)	Model No.
40	30	44.45	31.75	152.4	214-7220
50	30	69.85	31.75	185.8	214-7225
50	40	69.85	44.45	207.8	214-7230

30-40-50 TO R8 ADAPTER



7:24 No.S	D1(mm)	D(mm)	L(mm)	Model No.
30	31.75	42	180	214-7290
40	44.45	44.5	167	214-7292
50	69.85	44.5	175	214-7294

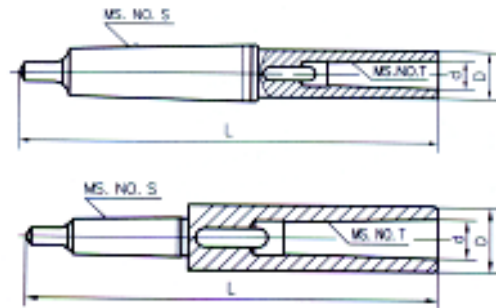
MORSE TAPER SLEEVES



MS. No.S	MS.No.T	D(mm)	d(mm)	L(mm)	Accuracy(mm)	HARDENED TANG ONLY Model No.	HARDENED&GROUND THROUGHOUT Model No.
1	0	13	9.045	80	0.015	214-8001	214-8101
2	1	18.6	12.065	92	0.015	214-8012	214-8112
3	1	24.1	12.065	99	0.015	214-8013	214-8113
3	2	24.7	17.780	112	0.015	214-8023	214-8123
4	1	31.6	12.065	124	0.015	214-8014	214-8114
4	2	31.6	17.780	124	0.015	214-8024	214-8124
4	3	32.4	23.825	140	0.015	214-8034	214-8134
5	1	44.7	12.065	156	0.020	214-8015	214-8115
5	2	44.7	17.780	156	0.020	214-8025	214-8125
5	3	44.7	23.825	156	0.020	214-8035	214-8135
5	4	45.5	31.267	171	0.020	214-8045	214-8145
6	1	63.8	12.065	218	0.020	214-8016	214-8116
6	2	63.8	17.780	218	0.020	214-8026	214-8126
6	3	63.8	23.825	218	0.020	214-8036	214-8136
6	4	63.8	31.267	218	0.020	214-8046	214-8146
6	5	63.8	44.399	218	0.020	214-8056	214-8156

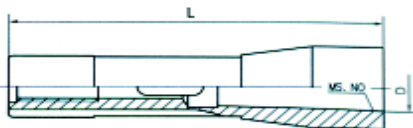
Sleeves

MORSE TAPER EXTENSION SOCKETS



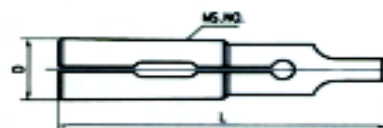
MT. No.S	MT.No.T	D(mm)	d(mm)	L(mm)	Accuracy(mm)	HARDENED TANG ONLY Model No.	HARDENED GROUND THROUGHOUT Model No.
1	1	20	12.065	145	0.03	214-8511	214-8611
1	2	30	17.780	160	0.03	214-8521	214-8621
1	3	36	23.825	181	0.03	214-8531	214-8631
2	1	20	12.065	160	0.03	214-8512	214-8612
2	2	30	17.780	175	0.03	214-8522	214-8622
2	3	36	23.825	196	0.03	214-8532	214-8632
2	4	48	31.267	221	0.03	214-8542	214-8642
3	1	20	12.065	175	0.03	214-8513	214-8613
3	2	30	17.780	194	0.03	214-8523	214-8623
3	3	36	23.825	215	0.03	214-8533	214-8633
3	3	40	23.825	215	0.03	214A-8533	214A-8633
3	4	48	31.267	240	0.03	214-8543	214-8643
3	5	63	44.399	275	0.03	214-8553	214-8653
4	1	20	12.065	200	0.03	214-8514	214-8614
4	2	30	17.780	215	0.03	214-8524	214-8624
4	3	36	23.825	240	0.03	214-8534	214-8634
4	4	48	31.267	265	0.03	214-8544	214-8644
4	5	63	44.399	300	0.03	214-8554	214-8654
4	6	85	63.348	368	0.05	214-8564	214-8664
5	1	20	12.065	232	0.04	214-8515	214-8615
5	2	30	17.780	247	0.04	214-8525	214-8625
5	3	36	23.825	268	0.04	214-8535	214-8635
5	4	48	31.267	300	0.04	214-8545	214-8645
5	5	63	44.399	335	0.04	214-8555	214-8655
5	6	85	63.348	403	0.05	214-8565	214-8665
6	1	20	12.065	294	0.04	214-8516	214-8616
6	2	30	17.780	309	0.04	214-8526	214-8626
6	3	36	23.825	330	0.04	214-8536	214-8636
6	4	48	31.267	355	0.04	214-8546	214-8646
6	5	63	44.399	390	0.04	214-8556	214-8656

R8 TO MT SLEEVES



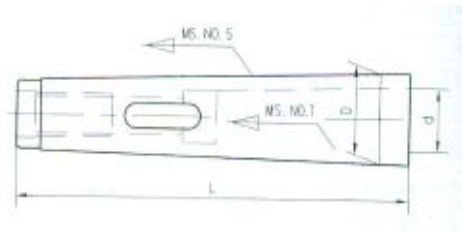
MT.No.	D(mm)	L(mm)	Model No.
R8 TO MT1	12.065	114	214-9001
R8 TO MT2	17.780	127	214-9002
R8 TO MT3	23.825	153	214-9003
R8 TO MT4	31.267	240	214-9004

MT DRILLING SLEEVES



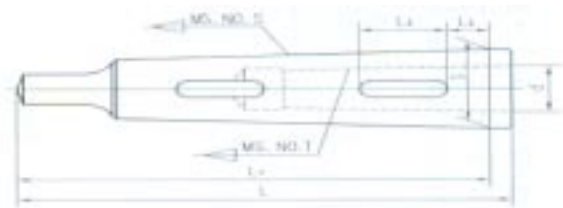
MT.No.	D(mm)	d(mm)	L(mm)	Model No.
MT1	12.31	2.24-8.0	67	214-3001
MT2	18.06	4.75-12	80	214-3002
MT3	24.15	11.2-18	80	214-3003
MT4	31.66	16-25	90	214-3004
MT5	44.7	19-30	160.5	214-3005

MORSE TAPER SLEEVES (DRAWBAR TYPE)



MS. No.S	MS.No.T	D(mm)	d(mm)	L(mm)	Accuracy(mm)	Model No.
2	1	17.780	12.065	108.5	0.01	214-8401
3	1	23.825	12.065	106	0.01	214-8402
3	2	23.825	17.780	116	0.01	214-8403
4	1	31.267	12.065	110	0.01	214-8404
4	2	31.267	17.780	120	0.01	214-8405
4	3	31.267	23.825	140	0.01	214-8406
5	1	44.399	12.065	136	0.02	214-8407
5	2	44.399	17.780	136	0.02	214-8408
5	3	44.399	23.825	148	0.02	214-8409
5	4	44.399	31.267	176	0.02	214-8410

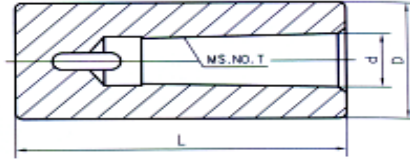
277 MORSE TAPER SLEEVES



MS. No.S	MS.No.T	L(mm)	L1(mm)	D(mm)	d(mm)	L2(mm)	L3(mm)	Model No.
3	1	99	94	23.825	12.065	13.5	19	214-8331
3	2	112	94	23.825	17.780	5.5	22	214-8332
4	1	124	117.5	31.267	12.065	12.5	19	214-8333
4	2	124	117.5	31.267	17.780	16	22	214-8334
4	3	129.5	117.5	31.267	23.825	24	36	214-8335
ME80	5	228	220	80	44.399	22	48	214-8336
ME80	6	280	220	80	63.348	22	48	214-8337

Sleeves

SOLID SOCKET WITH MT HOLE (WITH TANG)

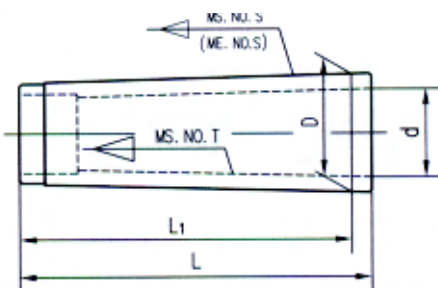


MS.No.T	D(in)	d(mm)	L(in)	Model No.
MT1	3/4	12.065	3-1/4	214-8700
MT1	1"	12.065	3-1/2	214-8701
MT1	1-1/4	12.065	3-1/2	214-8702
MT1	1-1/2	12.065	3-1/2	214-8703
MT2	1"	17.780	4"	214-8704
MT2	1-1/4	17.780	4"	214-8705
MT2	1-1/2	17.780	4"	214-8706
MT2	1-3/4	17.780	4"	214-8707
MT2	2"	17.780	4"	214-8708
MT2	2-1/8	17.780	4"	214-8720
MT3	1-1/4	23.825	4-3/4	214-8709
MT3	1-1/2	23.825	4-3/4	214-8710
MT3	1-3/4	23.825	4-3/4	214-8711
MT3	2"	23.825	4-3/4	214-8712
MT3	2-1/8	23.825	4-3/4	214-8721
MT3	2-1/4	23.825	4-3/4	214-8722
MT3	2-1/2	23.825	4-3/4	214-8723
MT4	1-1/2	31.267	6"	214-8713
MT4	1-3/4	31.267	6"	214-8714
MT4	2"	31.267	6"	214-8715
MT4	2-1/8	31.267	6"	214-8724
MT4	2-1/4	31.267	6"	214-8725
MT4	2-1/2	31.267	6"	214-8726
MT5	2-1/4	44.399	7-3/8	214-8716
MT5	2-1/4	44.399	8"	214-8727
MT5	2-1/2	44.399	7-3/8	214-8717
MT5	2-1/2	44.399	8"	214-8728
MT6	3-1/2	63.348	10-1/8	214-8719



MS.No.T	D(mm)	d(mm)	L(mm)	Model No.
MT1	16	12.065	90	214-8750
MT1	20	12.065	90	214-8751
MT1	25	12.065	95	214-8752
MT1	30	12.065	115	214-8753
MT1	32	12.065	88.9	214-8754
MT1	35	12.065	90	214-8755
MT1	40	12.065	88.9	214-8756
MT1	50	12.065	88.9	214-8757
MT2	25	17.780	95	214-8758
MT2	30	17.780	115	214-8759
MT2	32	17.780	101.6	214-8760
MT2	35	17.780	102	214-8761
MT2	40	17.780	101.6	214-8762
MT2	40	17.780	125	214-8763
MT2	50	17.780	101.6	214-8764
MT2	50	17.780	135	214-8765
MT3	30	23.825	115	214-8766
MT3	30	23.825	120.65	214-8767
MT3	32	23.825	120.65	214-8768
MT3	35	23.825	120	214-8769
MT3	36	23.825	120.65	214-8770
MT3	40	23.825	120.65	214-8771
MT3	40	23.825	135	214-8772
MT3	50	23.825	120.65	214-8773
MT3	50	23.825	175	214-8774
MT3	60	23.825	185	214-8775
MT4	40	31.267	152.4	214-8776
MT4	40	31.267	155	214-8777
MT4	50	31.267	152.4	214-8778
MT4	50	31.267	175	214-8779
MT4	60	31.267	185	214-8780
MT5	50	44.399	175	214-8781
MT5	60	44.399	187.3	214-8782

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MT.No.S						
ME.No.S	MT.No.T	L(mm)	L1(mm)	D(mm)	d(mm)	Model No.
MT2	1	60	56	17.780	12.065	214-8301
MT3	1	70	66	23.825	12.065	214-8302
MT3	2	70	66	23.825	17.780	214-8303
MT4	2	70	63.5	31.267	17.780	214-8304
MT4	3	70	63.5	31.267	23.825	214-8305
MT5	2	77	70.5	44.399	17.780	214-8306
MT5	3	77	70.5	44.399	23.825	214-8307
MT5	4	77	70.5	44.399	31.267	214-8308
MT6	3	110	103.5	63.348	23.825	214-8309
MT6	4	110	103.5	63.348	31.267	214-8310
MT6	5	110	103.5	63.348	44.399	214-8311
ME40	3	70	-	40	23.825	214-8312
ME40	4	70	-	40	31.267	214-8313
ME50	3	86	-	50	23.825	214-8314
ME50	4	86	-	50	31.267	214-8315
ME50	5	86	-	50	44.399	214-8316
ME60	4	100	-	60	31.267	214-8317
ME60	5	100	-	60	44.399	214-8318
ME70	4	110	-	70	31.267	214-8319
ME70	5	110	-	70	44.399	214-8320
ME80	4	110	-	80	31.267	214-8321
ME80	5	110	-	80	44.399	214-8322
ME80	6	110	-	80	63.348	214-8323
ME90	5	120	-	90	44.399	214-8324
ME90	6	120	-	90	63.348	214-8325

Drill Chucks

KEY TYPE DRILL CHUCKS



Taper Mounted

Capacity	Taper Mount	Model No.
0-1/4"	JT1	290-0001
0-3/8"	JT2	290-0002
0-1/2"	JT33	290-0003
0-1/2"	JT6	290-0004
1/32"-5/8"	JT3	290-0005
3/64"-3/4"	JT3	290-0006
0-1/2"	JT6	290-0007
1/8"-5/8"	JT3	290-0008
3/16"-3/4"	JT3	290-0009
3/16"-1-1/32"	JT4	290-0010

Thread Mounted

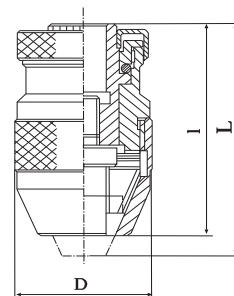
Capacity	Thread Mount	Model No.
0-1/4"	3/8"-24UNF	290-0021
1/16"-3/8"	3/8"-24UNF	290-0022
0-3/8"	3/8"-24 UNF	290-0023
5/16"-1/2"	3/8"-24 UNF	290-0024
5/16"-1/2"	1/2"-20 UNF	290-0025
1/8"-5/8"	1/2"-20 UNF	290-0026
1/8"-5/8"	5/8"-16 UNF	290-0027
6mm	M10x1	290-0030
6mm	M12x1.25	290-0031
10mm	M10x1	290-0032
10mm	M12x1.25	290-0033
1.5-13mm	M12x1.25	290-0034
3-16mm	M12x1.25	290-0035
3-16mm	M16x1.5	290-0036

KEYLESS DRILL CHUCKS



Light duty Keyless Drill chuck Thread mounted

Capacity	Thread Mount	Accuracy	Model No.
1-10mm	M10x1	0.14mm	290-7021
1-13mm	M12x1.25	0.14mm	290-7025
3-16mm	M16x1.5mm	0.20mm	290-7029
1/32"-3/8"	3/8"-24UNF	0.14mm	290-7049
1/32"-3/8"	1/2"-20UNF	0.14mm	290-7051
1/32"-1/2"	1/2"-20UNF	0.14mm	290-7053
1/8"-5/8"	5/8"-16UNF	0.20mm	290-7059



Light duty Keyless Drill chuck taper mounted

Capacity	Taper Mount	Accuracy	Model No.
1-10mm	B12	0.14mm	290-6021
1-13mm	B16	0.14mm	290-6025
3-16mm	B16	0.20mm	290-6029
3-16mm	B18	0.20mm	290-6031
1/32"-3/8"	JT2	0.14mm	290-6049
1/32"-1/2"	JT6	0.14mm	290-6051
1/32"-1/2"	JT33	0.14mm	290-6053
1/8"-5/8"	JT6	0.20mm	290-6055
1/8"-5/8"	JT3	0.20mm	290-6057

Heavy duty Keyless Drill chuck Taper mounted

Capacity	Taper Mount	Dimension DxLxL1	Accuracy	Model No.	Accuracy	Model No.
0.5-8mm	B12	42x91x84mm	0.06mm	290-5001	0.12mm	290-5101
0.5-8mm	B16	42x91x84mm	0.06mm	290-5003	0.12mm	290-5103
1-10mm	B12	42x91x84mm	0.06mm	290-5005	0.12mm	290-5105
1-10mm	B16	42x91x84mm	0.06mm	290-5007	0.12mm	290-5107
1-13mm	B12	48x106x97mm	0.06mm	290-5009	0.12mm	290-5109
1-13mm	B16	48x106x97mm	0.06mm	290-5011	0.12mm	290-5111
1-16mm	B16	53x109x101mm	0.07mm	290-5013	0.14mm	290-5113
1-16mm	B18	53x109x101mm	0.07mm	290-5015	0.14mm	290-5115
3-16mm	B16	53x109x101mm	0.07mm	290-5017	0.14mm	290-5117
3-16mm	B18	53x109x101mm	0.07mm	290-5019	0.14mm	290-5119
5-20mm	B22	62x129x119mm	0.09mm	290-5021	0.18mm	290-5121
0.5-6mm	B10	35x67x61mm	0.06mm	290-5023	0.12mm	290-5123
0.5-6mm	B12	35x67x61mm	0.06mm	290-5025	0.12mm	290-5125
1/64"-5/16"	JT2	42x91x84mm	0.06mm	290-5029	0.12mm	290-5129
1/64"-5/16"	JT33	42x91x84mm	0.06mm	290-5031	0.12mm	290-5131
1/32"-3/8"	JT2	42x91x84mm	0.06mm	290-5033	0.12mm	290-5133
1/32"-3/8"	JT33	42x91x84mm	0.06mm	290-5035	0.12mm	290-5135
1/32"-1/2"	JT2	48x106x97mm	0.06mm	290-5037	0.12mm	290-5137
1/32"-1/2"	JT33	48x106x97mm	0.06mm	290-5039	0.12mm	290-5139
1/32"-1/2"	JT6	48x106x97mm	0.06mm	290-5041	0.12mm	290-5141
1/32"-5/8"	JT3	53x109x101mm	0.07mm	290-5043	0.14mm	290-5143
1/32"-5/8"	JT6	53x109x101mm	0.07mm	290-5045	0.14mm	290-5145
1/8"-5/8"	JT3	53x109x101mm	0.07mm	290-5047	0.14mm	290-5147
1/8"-5/8"	JT6	53x109x101mm	0.07mm	290-5049	0.14mm	290-5149
3/16"-3/4"	JT3	62x129x119mm	0.09mm	290-5051	0.18mm	290-5151
1/64"-1/4"	JT1	35x67x61mm	0.06mm	290-5053	0.12mm	290-5153

Heavy duty Keyless Drill chuck Thread mounted

Capacity	Thread Mount	Accuracy	Model No.
0.5-8mm	M10x1	0.06mm	290-5401
1-10mm	M10x1	0.06mm	290-5403
1-13mm	M12x1.25	0.06mm	290-5405
1-16mm	M16x1.5	0.07mm	290-5407
3-16mm	M16x1.5	0.07mm	290-5409
1/64"-5/16"	3/8"-24UNF	0.06mm	290-5415
1/32"-3/8"	3/8"-24UNF	0.06mm	290-5417
1/32"-3/8"	1/2"-20UNF	0.06mm	290-5419
1/32"-1/2"	1/2"-20UNF	0.06mm	290-5421
1/32"-5/8"	1/2"-20UNF	0.07mm	290-5423
1/8"-5/8"	1/2"-20UNF	0.07mm	290-5425

Drill Chucks & Arbors

INTEGRATED KEYLESS DRILL CHUCKS



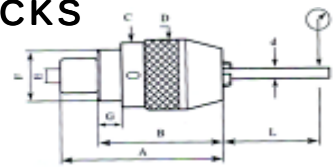
Multi-choices of arbors specification of integrated cutting machine.

Shank Type

Clamp Scope		Mounts	A	B	C	D	E	F	G	Weight kg	Model No.
mm	inch		mm	mm	mm	mm	mm	mm	mm		
0.2~8	1/64"~5/16"	MT2	85	60.5	36	37.5	M6	30	10	0.37	290-9001
0.2~10	1/64"~3/8"	MT2	94.5	70	41	43	M6	34	13	0.64	290-9002
0.2~13	1/64"~1/2"	MT3	107	80	48	50.5	M8	38	15	0.92	290-9003
0.2~16	1/64"~5/8"	MT3	112	85	54	57	M8	43	16	1.26	290-9004

Arbor Type

The design of drill chuck makes it more suitable for milling machine and integrated cutting machine. Exact machinery and firmly components ensure the accuracy and endurance.



Drill Chuck Precision Inspection Table

d	L	Precision	Model No.
mm	mm		
3	35	0.05	290-9001
6	35		
8	50		
3	35	0.05	290-9002
6	35		
10	58		
5	55	0.05	290-9003
10	55		
13	75		
5	55	0.05	290-9004
10	55		
16	80		

MT Shank

Clamp Scope		Mounts	Length (mm)			Weight kg	Model No.
mm	inch		A	B	D		
0.2~8	1/64"~5/16"	MT2	140.5	60.5	37	0.45	290-9100
0.2~13	1/64"~1/2"	MT2	160	80	50.5	1.00	290-9101
0.2~13	1/64"~1/2"	MT3	179	80	50.5	1.08	290-9102
0.2~13	1/64"~1/2"	MT4	205	81	50.5	1.48	290-9103
0.2~16	1/64"~5/8"	MT3	184	85	57	1.40	290-9104
0.2~16	1/64"~5/8"	MT4	209	85	57	1.70	290-9105

R8 Shank

Clamp Scope		Mounts	Length (mm)			Weight kg	Model No.
mm	mm		A	B	D		
0.2~13	1/64"~1/2"	R8	186	81	50.5	1.25	290-9110
0.2~16	1/64"~5/8"	R8	190	85	57	1.54	290-9111

KEYLESS DRILL CHUCK ARBOR WITH SHANK

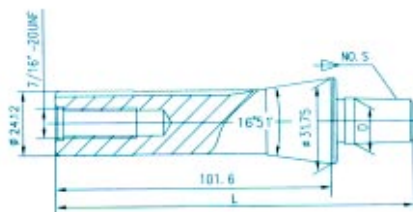


Clamping dia(mm)	ISO30 Model No.	CAT30 Model No.
1~8	290-9201	290-9202
1~10	290-9205	290-9204
1~13	290-9207	290-9206

Clamping dia(mm)	ISO40 Model No.	CAT40 Model No.
1~13	290-9211	290-9212
1~16	290-9213	290-9214

Clamping dia(mm)	ISO50 Model No.	CAT50 Model No.
1~13	290-9221	290-9222
1~16	290-9223	290-9224

R8 DRILL CHUCK ARBORS



R8-No.S	D(mm)	L(mm)	Model No.
JT0	6.350	117	290-0800
JT1	9.754	122	290-0801
JT2	14.199	128	290-0802
JT2S	13.940	125	290-082S
JT3	20.599	137	290-0803
JT4	28.550	148	290-0804
JT5	35.890	154	290-0805
JT6	17.170	132	290-0806
JT33	15.850	132	290-0833

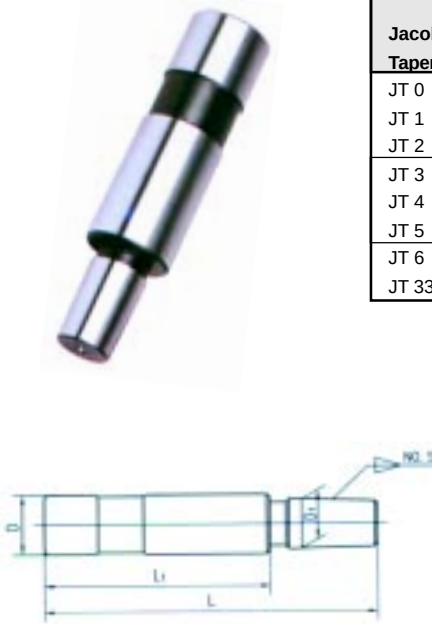
Drill Arbors

STRAIGHT SHANK DRILL ARBORS

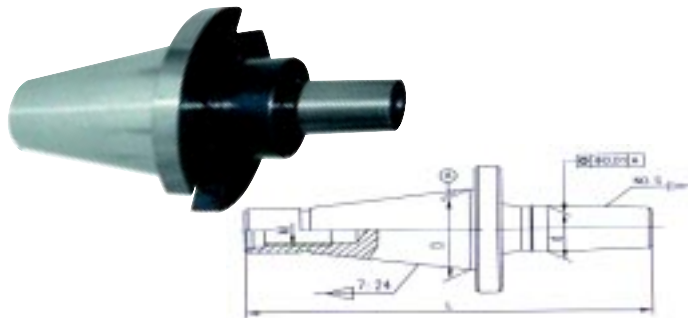
Jacobs Taper	3/8"(D) Straight Shank Model No.	1/2"(D) Straight Shank Model No.	5/8"(D) Straight Shank Model No.	3/4"(D) Straight Shank Model No.	7/8"(D) Straight Shank Model No.	1"(D) Straight Shank Model No.	1-1/2"(D) Straight Shank Model No.	1-1/4"(D) Straight Shank Model No.	1-3/4"(D) Straight Shank Model No.
JT 0	290-0400	290-1600	290-1700	290-1800	290-1900	290-2000	290-2100	290-0500	290-2200
JT 1	290-0401	290-1601	290-1701	290-1801	290-1901	290-2001	290-2101	290-0501	290-2201
JT 2	290-0402	290-1602	290-1702	290-1802	290-1902	290-2002	290-2102	290-0502	290-2202
JT 3	290-0403	290-1603	290-1703	290-1803	290-1903	290-2003	290-2103	290-0503	290-2203
JT 4	290-0404	290-1604	290-1704	290-1804	290-1904	290-2004	290-2104	290-0504	290-2204
JT 5	290-0405	290-1605	290-1705	290-1805	290-1905	290-2005	290-2105	290-0505	290-2205
JT 6	290-0406	290-1606	290-1706	290-1806	290-1906	290-2006	290-2106	290-0506	290-2206
JT 33	290-0433	290-1633	290-1733	290-1833	290-1933	290-2033	290-2133	290-0533	290-2233

Jacobs Taper	D1(mm)	6mm(D) Straight Shank Model No.	8mm(D) Straight Shank Model No.	10mm(D) Straight Shank Model No.	12mm(D) Straight Shank Model No.	13mm(D) Straight Shank Model No.	14mm(D) Straight Shank Model No.	16mm(D) Straight Shank Model No.	20mm(D) Straight Shank Model No.
JT 0	6.350	290-7300	290-7400	290-7500	290-7600	290-7700	290-7800	290-7900	290-8200
JT 1	9.754	290-7301	290-7401	290-7501	290-7601	290-7701	290-7801	290-7901	290-8201
JT 2	14.199	290-7302	290-7402	290-7502	290-7602	290-7702	290-7802	290-7902	290-8202
JT 3	20.599	290-7303	290-7403	290-7503	290-7603	290-7703	290-7803	290-7903	290-8203
JT 4	28.550	290-7304	290-7404	290-7504	290-7604	290-7704	290-7804	290-7904	290-8204
JT 5	35.890	290-7305	290-7405	290-7505	290-7605	290-7705	290-7805	290-7905	290-8205
JT 6	17.170	290-7306	290-7406	290-7506	290-7606	290-7706	290-7806	290-7906	290-8206
JT 33	15.850	290-7333	290-7433	290-7533	290-7633	290-7733	290-7833	290-7933	290-8233

Jacobs Taper	D1(mm)	25mm(D) Straight Shank Model No.	26mm(D) Straight Shank Model No.	32mm(D) Straight Shank Model No.	35mm(D) Straight Shank Model No.	36mm(D) Straight Shank Model No.	40mm(D) Straight Shank Model No.	50mm(D) Straight Shank Model No.
JT 0	6.350	290-8300	290-8400	290-8500	290-8600	290-8700	290-8800	290-8900
JT 1	9.754	290-8301	290-8401	290-8501	290-8601	290-8701	290-8801	290-8901
JT 2	14.199	290-8302	290-8402	290-8502	290-8602	290-8702	290-8802	290-8902
JT 3	20.599	290-8303	290-8403	290-8503	290-8603	290-8703	290-8803	290-8903
JT 4	28.550	290-8304	290-8404	290-8504	290-8604	290-8704	290-8804	290-8904
JT 5	35.890	290-8305	290-8405	290-8505	290-8605	290-8705	290-8805	290-8905
JT 6	17.170	290-8306	290-8406	290-8506	290-8606	290-8706	290-8806	290-8906
JT 33	15.850	290-8333	290-8433	290-8533	290-8633	290-8733	290-8833	290-8933



7:24 DRILL CHUCK ARBORS



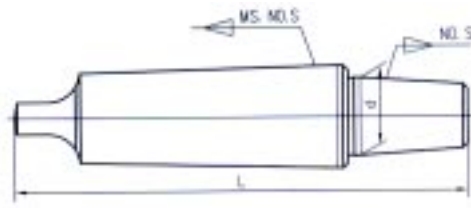
Jacobs Taper	D(mm)	d(mm)	L(mm)	M	ISO 30 Model No.
JT 0	31.75	6.350	99	M12	290-2300
JT 1	31.75	9.754	106	M12	290-2301
JT 2	31.75	14.199	113	M12	290-2302
JT 3	31.75	20.599	123	M12	290-2303
JT 4	31.75	28.550	136	M12	290-2304
JT 5	31.75	35.890	145	M12	290-2305
JT 6	31.75	17.170	122	M12	290-2306
JT 33	31.75	15.850	122	M12	290-2333

Jacobs Taper	D(mm)	d(mm)	L(mm)	M	ISO 40 Model No.
JT 0	44.45	6.350	126	M16	290-2400
JT 1	44.45	9.754	133	M16	290-2401
JT 2	44.45	14.199	141	M16	290-2402
JT 3	44.45	20.599	150	M16	290-2403
JT 4	44.45	28.550	165	M16	290-2404
JT 5	44.45	35.890	170	M16	290-2405
JT 6	44.45	17.170	145	M16	290-2406
JT 33	44.45	15.850	145	M16	290-2433

Jacobs Taper	D(mm)	d(mm)	L(mm)	M	ISO 50 Model No.
JT 0	69.85	-	-	-	-
JT 1	69.85	9.754	175	M24	290-2501
JT 2	69.85	14.199	180	M24	290-2502
JT 3	69.85	20.599	191	M24	290-2503
JT 4	69.85	28.550	202	M24	290-2504
JT 5	69.85	35.890	208	M24	290-2505
JT 6	69.85	17.170	184	M24	290-2506
JT 33	69.85	15.850	184	M24	290-2533

Drill Arbors

MORSE TAPER DRILL CHUCK ARBOR WITH TANG



Jacobs Taper	d(mm)	L(mm)	MT6 Model No.
JT 3	20.599	252	290-2703
JT6	17.170	246	290-2706

Jacobs Taper	d(mm)	L(mm)	MT1 Model No.
JT 0	6.350	79	290-1100
JT 1	9.754	85	290-1101
JT 2	14.199	90	290-1102
JT 3	20.599	99	290-1103
JT 4	28.550	110	290-1104
JT 5	35.890	116	290-1105
JT 6	17.170	94	290-1106
JT 33	15.850	94	290-1133

Jacobs Taper	d(mm)	L(mm)	MT0 Model No.
JT 0	6.350	73	290-1000
JT 3	20.599	93	290-1003
JT33	15.850	88	290-1033

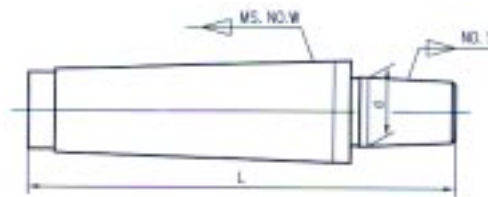
Jacobs Taper	d(mm)	L(mm)	MT2 Model No.
JT 0	6.350	94	290-1200
JT 1	9.754	100	290-1201
JT 2	14.199	105	290-1202
JT 3	20.599	114	290-1203
JT 4	28.550	125	290-1204
JT 5	35.890	130	290-1205
JT 6	17.170	108	290-1206
JT 33	15.850	108	290-1233

Jacobs Taper	d(mm)	L(mm)	MT5 Model No.
JT 0	6.350	113	290-1500
JT 1	9.754	118	290-1501
JT 2	14.199	124	290-1502
JT 3	20.599	133	290-1503
JT 4	28.550	144	290-1504
JT 5	35.890	149	290-1505
JT 6	17.170	127	290-1506
JT 33	15.850	127	290-1533

Jacobs Taper	d(mm)	L(mm)	MT4 Model No.
JT 0	6.350	138	290-1400
JT 1	9.754	143	290-1401
JT 2	14.199	149	290-1402
JT 3	20.599	158	290-1403
JT 4	28.550	169	290-1404
JT 5	35.890	174	290-1405
JT 6	17.170	152	290-1406
JT 33	15.850	152	290-1433

Jacobs Taper	d(mm)	L(mm)	MT3 Model No.
JT 0	6.350	113	290-1300
JT 1	9.754	118	290-1301
JT 2	14.199	124	290-1302
JT 3	20.599	133	290-1303
JT 4	28.550	144	290-1304
JT 5	35.890	149	290-1305
JT 6	17.170	127	290-1306
JT 33	15.850	127	290-1333

MORSE TAPER DRILL CHUCK ARBOR WITH DRAW BAR



Jacobs Taper	d(mm)	L(mm)	MT1 Model No.
JT 0	6.350	71	290-9100
JT 1	9.754	76	290-9101
JT 2	14.199	82	290-9102
JT 3	20.599	91	290-9103
JT 6	17.170	85	290-9106
JT 33	15.850	85	290-9133

Jacobs Taper	d(mm)	L(mm)	MT2 Model No.
JT 0	6.350	83	290-9200
JT 1	9.754	88	290-9201
JT 2	14.199	94	290-9202
JT 3	20.599	103	290-9203
JT 4	28.550	114	290-9204
JT 5	35.890	119	290-9205
JT 6	17.170	97	290-9206
JT 33	15.850	97	290-9233

Jacobs Taper	d(mm)	L(mm)	MT0 Model No.
JT 0	6.350	67	290-9000
JT 1	9.754	72	290-9001
JT 2	14.199	78	290-9002
JT 3	20.599	87	290-9003
JT 6	17.170	81	290-9006
JT 33	15.850	81	290-9033

Jacobs Taper	d(mm)	L(mm)	MT3 Model No.
JT 1	9.754	105	290-9301
JT 2	14.199	111	290-9302
JT 3	20.599	120	290-9303
JT 4	28.550	131	290-9304
JT 5	35.890	136	290-9305
JT 6	17.170	114	290-9306
JT 33	15.850	114	290-9333

Jacobs Taper	d(mm)	L(mm)	MT4 Model No.
JT 2	14.199	134	290-9402
JT 3	20.599	143	290-9403
JT 4	28.550	154	290-9404
JT 5	35.890	159	290-9405
JT 6	17.170	137	290-9406
JT 33	15.850	137	290-9433

Jacobs Taper	d(mm)	L(mm)	MT5 Model No.
JT 2	14.199	161	290-9502
JT 3	20.599	170	290-9503
JT 4	28.550	181	290-9504
JT 5	35.890	186	290-9505
JT 6	17.170	164	290-9506
JT 33	15.850	164	290-9533

Jacobs Taper	d(mm)	L(mm)	MT6 Model No.
JT 3	20.599	224	290-9603
JT 4	28.550	235	290-9604
JT 5	35.890	240	290-9605
JT 6	17.170	218	290-9606
JT 33	15.850	218	290-9633

Mandrels



EXPENDING ARBORS

Machine these arbors to hold a specific part. For use on lathes, milling machine, grinders, Chucks, collets, fixtures etc.

Model No. 262-0108
8PCs Sets of 8 arbors and
hex wrenches on a wooden block.

Size	Length of Arbor	Model No.
1/4"	3"	262-4016
3/8"	3"	262-4024
1/2"	3"	262-4032
5/8"	3"	262-4040
3/4"	4"	262-4048
7/8"	4"	262-4056
1"	4"	262-4100
1-1/4"	4"	262-4116

LATHE MANDRELS



Made of hardened tool steel which is accurately ground to size. Slightly tapered with marked in the large end Standard taper .0005" per inch. Sizes under 1" are .0005" undersize on small end. Sizes 1-1/16" to 3" are .001" under size on small end.

Diameter	Overall Length	Model No.	Diameter	Overall Length	Model No.	Diameter	Overall Length	Model No.
1/8	2-1/2	262-2008	3/4	6	262-2048	1-3/8	8-1/2	262-2124
5/32	3	262-2010	25/32	6-1/4	262-2050	1-7/16	8-3/4	262-2128
3/16	3	262-2012	13/16	6-1/4	262-2052	1-15/32	9	262-2130
7/32	3-3/4	262-2014	27/32	6-1/2	262-2054	1-1/2	9	262-2132
1/4	3-3/4	262-2016	7/8	6-1/2	262-2056	1-9/16	9-1/4	262-2136
9/32	4	262-2018	29/32	6-3/4	262-2058	1-5/8	9-1/2	262-2140
5/16	4	262-2020	15/16	6-3/4	262-2060	1-11/16	9-3/4	262-2144
11/32	4-1/4	262-2022	31/32	7	262-2062	1-3/4	10	262-2148
3/8	4-1/4	262-2024	1	7	262-2100	1-13/16	10-1/4	262-2152
13/32	4-1/2	262-2026	1-1/32	7-1/4	262-2102	1-7/8	10-1/2	262-2156
7/16	4-1/2	262-2028	1-1/16	7-1/4	262-2104	1-15/16	10-3/4	262-2160
15/32	5	262-2030	1-3/32	7-1/2	262-2106	2	11	262-2200
1/2	5	262-2032	1-1/8	7-1/2	262-2108	2-1/8	11-1/2	262-2208
17/32	5-1/4	262-2034	1-5/32	7-3/4	262-2110	2-1/4	12	262-2216
9/16	5-1/4	262-2036	1-3/16	7-3/4	262-2112	2-3/8	12	262-2224
19/32	5-1/2	262-2038	1-7/32	8	262-2114	2-1/2	12-1/2	262-2232
5/8	5-1/2	262-2040	1-1/4	8	262-2116	2-5/8	12-1/2	262-2240
21/32	5-3/4	262-2042	1-9/32	8-1/4	262-2118	2-3/4	13	262-2248
11/16	5-3/4	262-2044	1-5/16	8-1/4	262-2120	2-7/8	13	262-2256
23/32	6	262-2046	1-11/32	8-3/4	262-2122	3	13	262-2300



PRECISION EXPANDING MANDRELS

Hardened & precision ground for maximum concentricity and holding power

- Center holes are ground and lapped.
- Automatic expansion feature can be used on any bore within the range of the mandrel standard or non-standard.
- Sizes up to 1" are furnished with 1 sleeve larger sizes have 2 sleeve, 1 large and 1 small.

Expanding Mandrel Sets are individually packed.

Range	No. of Mandrels	Model No.
1/2" ~ 1"	5	262-3010
1" ~ 1-1/2"	3	262-3020
1/2" ~ 1-1/2"	8	262-3030

Range	Length of Arbor	Length of Sleeve	Model No.
1/2" ~ 9/16"	5"	2-1/2"	262-3050
9/16" ~ 21/32"	6"	2-3/4"	262-3052
21/32" ~ 3/4"	7"	2-3/4"	262-3054
3/4" ~ 7/8"	7"	3-1/4"	262-3056
7/8" ~ 1"	7"	3-1/2"	262-3058
1" ~ 1-1/4"	9"	4"	262-3060
1-1/4" ~ 1-1/2"	9"	4"	262-3062
1-1/2" ~ 2"	11-1/2"	5"	262-3064
2" ~ 2-3/4"	14"	6"	262-3066
2-3/4" ~ 3-3/4"	17"	7"	262-3068

Boring Head

PRECISION BORING HEADS-F1

- High quality, excellent performance, practical design at affordable price.
- Maximum rigidity is assured even when boring bar holder is used in an offset position.
- Hardened and ground adjusting screw along with outside base design guarantees long life and trouble free use.



Adjusting
Screws

Range	Model No.
for 2"	220-1201
for 3"	220-1302
For 4"	220-1401

Boring Head Dia.	Boring Bar Hole Size	Max. Offset	Grad.	1-1/2"-18 Model No.	7/8"-20 Model No.
2	1/2	5/8	.0005"	220-1200	220-1210
3	3/4	1	.0005"	220-1300	220-1310
4	1	1-5/8	.0005"	220-1400	220-1410
50	12	16	.01mm	220-1050	220-1060
75	18	25	.01mm	220-1075	220-1085
100	25	41	.01mm	220-1100	220-1110

PRECISION BORING HEADS-F2

Boring Head Diameter	Boring Bar Hole Size	Max. Offset	Grad.	Type	Thread	Model No.
2-1/8	1/2	5/16	.001"	F2	1-5/8"-16	220-1208
54mm	12mm	8mm	.01mm	F2	1-5/8"-16	220-1054

PRECISION BORING HEADS SHANK

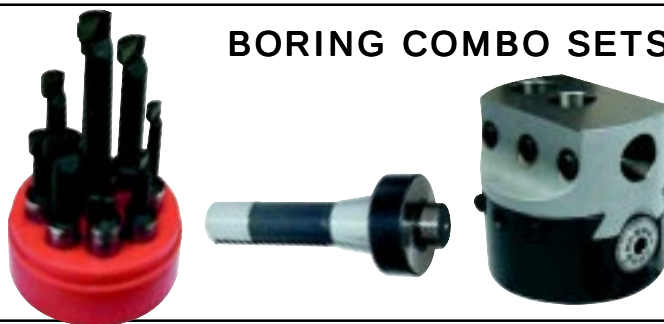


- All of the shank is suitable for F1.
- R8, MT2, MT3 and MT4 are suitable for F2.

Morse Taper Shank Thread	Draw Bar End Model No.	Tang End Model No.
1 7/8"-20	220-1511	220-1512
1 1-1/2"-18	220-1513	220-1514
2 3/4"-20	220-1519	220-1520
2 7/8"-20	220-1521	220-1522
2 1-1/2"-18	220-1523	220-1524
3 7/8"-20	220-1531	220-1532
3 1-1/2"-18	220-1533	220-1534
4 7/8"-20	220-1541	220-1542
4 1-1/2"-18	220-1543	220-1544
5 7/8"-20	220-1551	220-1552
5 1-1/2"-18	220-1553	220-1554

Shank Types	7/8"-20 Thread Model No.	1-1/2"-18 Thread Model No.
R8	220-1560	220-1561
1/2" Dia. Straight Shank	220-1563	220-1564
5/8" Dia. Straight Shank	220-1566	220-1567
3/4" Dia. Straight Shank	220-1569	220-1570
7/8" Dia. Straight Shank	220-1572	220-1573
1" Dia. Straight Shank	220-1575	220-1576
1-1/4" Dia. Straight Shank	220-1578	220-1579
1-1/2" Dia. Straight Shank	220-1581	220-1582
2" Dia. Straight Shank	220-1584	220-1585
30 taper	220-1590	220-1591
40 taper	220-1593	220-1594
50 taper	220-1596	220-1597

BORING COMBO SETS



2" Boring Combo Model No. 220-1600

- 2" Boring head Model No. 220-1200.
- R8 shank (7/8"-20 TPI) Model No. 220-1560.
- 1/2" Boring bar set Model No. 375-1202 or 375-1206

3" Boring Combo Model No. 220-1800

- 3" Boring head Model No. 220-1300.
- R8 shank (1-1/2"-18 TPI) Model No. 220-1561.
- 3/4" Boring bar set Model No. 375-1602 or 375-1606

REVOLVING TAILSTOCK TURRETS

These turrets, available in 2 sizes, have 6 holes each for holding 6 tools. A trigger type handle is conveniently located which enables instant changing.



Shank	Diameter of Turret	Size of Hole	Model No.
MT1	2-1/2"	5/8"	220-0900
MT2	2-1/2"	5/8"	220-0901
MT3	2-1/2"	5/8"	220-0902
MT4	2-1/2"	5/8"	220-0903
1/2" Dia. Straight Shank	2-1/2"	5/8"	220-0904
5/8" Dia. Straight Shank	2-1/2"	5/8"	220-0905
3/4" Dia. Straight Shank	2-1/2"	5/8"	220-0906
7/8" Dia. Straight Shank	2-1/2"	5/8"	220-0907
1" Dia. Straight Shank	2-1/2"	5/8"	220-0908
MT2	5"	1"	220-0911
MT3	5"	1"	220-0912
MT4	5"	1"	220-0913
7/8" Dia. Straight Shank	5"	1"	220-0915
1" Dia. Straight Shank	5"	1"	220-0916
1-1/4" Dia. Straight Shank	5"	1"	220-0917
1-1/2" Dia. Straight Shank	5"	1"	220-0918

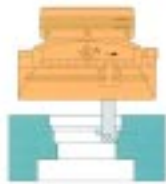
Boring Head

UNIVERSAL FACING AND BORING HEAD

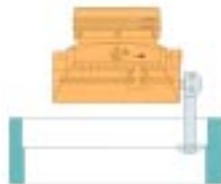
1. Bore small hole



2. Bore step hole



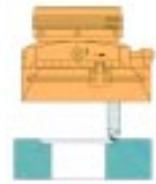
3. Bore large hole



4. Bore internal & external slot



5. Bore the face



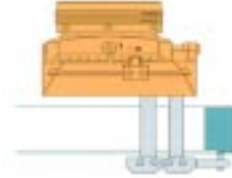
6. Counterbore step hole



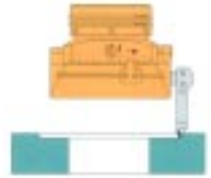
7. Bore inside & outside taper surface



8. Counterbore the face



9. Bore the large face



The facing and boring head is a major accessory of boring machine, Milling machine, CNC machine etc. It also can carry out such operations as facing, outside & inside boring, boring step and inner and outside groove cutting featuring manual fine feed, rapid adjustment, various velocities for radial automatic feed and overload protection.



Type of taper shanks available for the boring heads are as following:
R8, MT3-MT6, MW3-MW6, TZ32, 40, 45, ISO, CT, BT30, 40, 45, 50, ISOST30, 40, 45, 50, Metric 80, etc.

Descriptions	Model No. 220-1701	Model No. 220-1801	Model No. 220-1901
Max. facing and boring dia. (mm)	150	350	450
Dia. of tool post holes in slide (mm)	18	22	22
Fine feed per graduation (mm)	0.005	0.005	0.005
Weight of head without shank (kgs)	2.9	6.1	7.8
Max. stroke of slide (mm)	+/-15	+/-25	+/-50
Self-acting feed per revolution (mm)	0.02, 0.04, 0.06 0.08, 0.10, 0.12	0.03, 0.06, 0.09 0.12, 0.15, 0.18	0.03, 0.06, 0.09 0.12, 0.15, 0.18
Max. dia. of slide (mm)	90	120	168
Height of head without shank	87.5	118	118
The length of sliding block (mm)	75	105	160
The width of sliding block (mm)	70	90	90

PRECISION BORING HEAD



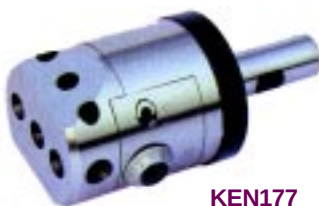
- Hole Dia. 18mm
- Head width: 75mm
- Head high: 67.5mm

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

Specification	Model No.	Specification	Model No.	Specification	Model No.
R8: 7/16" X20UNF	220-2001	MW5: 3/4" X10UNC	220-2007	ISO40: M16	220-2013
MW3: M12	220-2002	MS3: tanged	220-2008	ISO40: 5/8" X11UNC	220-2014
MW3: 1/2" X13UNC	220-2003	MS4: tanged	220-2009	ISO50: M24	220-2015
MW4: M16	220-2004	MS5: tanged	220-2010	ISO50: 1" X8UNC	220-2016
MW4: 5/8" X11UNC	220-2005	ISO30: M12	220-2011		
MW5: M20	220-2006	ISO30: 1/2" X12UNC	220-2012		

BORING HEAD

- Hole Dia. 12mm
- Head Dia: 63.5mm
- Head high: 79.25mm



Max. boring diameter	Boring bar hole size	Feeding per graduation
@10~150mm	@12mm	@0.025mm

Specification	Model No.	Specification	Model No.	Specification	Model No.
R8: 7/16" X20UNF	220-2101	MW5: 3/4" X10UNC	220-2109	ISO50: M24	220-2117
MW2: M10	220-2102	MS3: tanged	220-2110	ISO50: 1" X8UNC	220-2118
MW2: 3/8" X16UNC	220-2103	MS4: tanged	220-2111	Straight shank: 12mm	220-2119
MW3: M12	220-2104	MS5: tanged	220-2112	Straight shank: 16mm	220-2120
MW3: 1/2" X13UNC	220-2105	ISO30: M12	220-2113	Straight shank: 20mm	220-2121
MW4: M16	220-2106	ISO30: 1/2" X13UNC	220-2114	Straight shank: 25mm	220-2122
MW4: 5/8" X11UNC	220-2107	ISO40: M16	220-2115	Straight shank: 32mm	220-2123
MW5: M20	220-2108	ISO40: 5/8" X11UNC	220-2116	Straight shank: 40mm	220-2124

Boring Head & Center

UNIVERSAL BORING AND FACING HEAD

It is a major accessory of the machine tools, such as jig boring machine, horizontal boring machine, milling machine, cnc machine, etc. It is possible to carry out such operation as facing, outside inside diameter boring, boring step holes and inner and outside groove cutting etc.

It has the mechanism of manual fine feed, rapid adjustment, various velocities for radial automatic feed and overload protection.

Available optional shanks: MS, R8, 7:24, BT, DIN69871 etc.



F4 Type

- Dia. of boring:5-250mm
- Boring bar hole size:18mm
- Center distance between holes:23mm
- Fine feed per graduation:0.005mm
- Offset: $\pm 1.5\text{mm}$

Shank Type	Model No.
R8	220-2301
MT3	220-2302
MT4	220-2303
MT5	220-2304
ISO30	220-2305
ISO40	220-2306
ISO50	220-2307
BT40	220-2308
BT50	220-2309

HIGH PRECISION UNIVERSAL BORING AND FACING MASTER HEAD



F5 Type

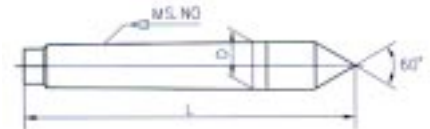
- Dia. of boring:12-500mm
- Boring bar hole size:30mm
- Center distance between holes:50mm
- Fine feed per graduation:0.005mm
- Stroke of slide block: 100
- Max. RPM: 500
- Built-in feed per rev.: 0.05mm
- Rapid return per rev.: 2mm

Shank Type	Model No.
R8	220-2401
MT4	220-2402
MT5	220-2403
ISO40	220-2404
ISO50	220-2405
BT40	220-2406
BT50	220-2407

SOLID LATHE CENTERS

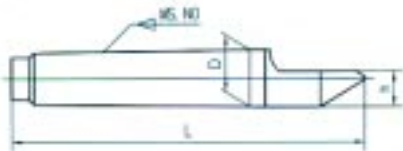


- Hardened and ground to the closest tolerance.
- There are three type to meet your need carbon steel, high speed steel tipped, carbide tipped
- Accuracy: 0.01mm



Morse Taper	L(mm)	D(mm)	Carbon Steel Model No.	H.S.S. Model No.	Carbide Tipped Model No.
MT1	80/3-3/16"	12.065	251-3011	251-3071	251-3051
MT2	100/3-15/16"	17.780	251-3012	251-3072	251-3052
MT3	125/4-15/16"	23.825	251-3013	251-3073	251-3053
MT4	160/6-5/16"	31.267	251-3014	251-3074	251-3054
MT5	200/7-7/8"	44.399	251-3015	251-3075	251-3055
MT6	270/11"	63.348	251-3016	251-3076	251-3056
MT7	360/14"	83.061	251-3017	251-3077	251-3057

HALF- NOTCHED LATHE CENTERS

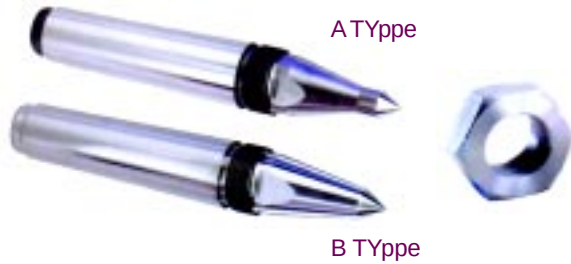


- Accuracy: 0.01mm

Morse Taper	D(mm)	h(mm)	L(mm)	Model No.	Carbide Tipped Model No.
MT1	12.065	7.6	80	251-3801	251-3811
MT2	17.780	11	100	251-3802	251-3812
MT3	23.825	15.05	125	251-3803	251-3813
MT4	31.267	20.8	160	251-3804	251-3814
MT5	44.399	29.35	200	251-3805	251-3815
MT6	63.348	41.9	270	251-3806	251-3816
MT7	83.061	53.78	360	251-3807	251-3817

Lathe Centers

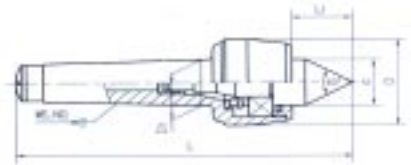
CNC THREADED DEAD LATHE CENTERS



WITH CARBIDE-TIPPED POINT

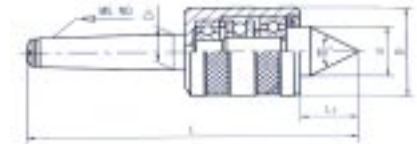
Morse Taper	D(mm)	L(mm)	ATYPE Model No.	BTYPE Model No.
MT3	23.825	150	251-6003	251-6013
MT4	31.267	180	251-6004	251-6014
MT5	44.399	215	251-6005	251-6015

PRECISION LIGHT DUTY LIVE CENTER



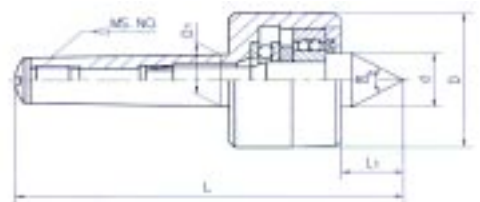
MT.No	L(mm)	L1(mm)	D(mm)	D1(mm)	d(mm)	Maxload(Kg)	Maxspeed(rpm)	Accuracy(mm)	Model No.
MT1	115	19.9	34	12.065	18	320	5000	0.005	251-3031
MT2	130.6	29.6	45	17.780	25	400	5000	0.006	251-3032
MT3	161.7	33.5	52	23.825	28	800	4500	0.006	251-3033
MT4	195.7	40.5	60	31.267	32	1250	3500	0.006	251-3034
MT5	245.5	51.8	80	44.399	45	1500	3000	0.006	251-3035
MT6	357.5	82.3	130	63.348	75	1800	2500	0.006	251-3036
MT7	437	88.3	130	83.061	75	2200	2000	0.006	251-3037

PRECISION MEDIUM DUTY LIVE CENTER



MT. No	L (mm)	L1 (mm)	D (mm)	D1 (mm)	d (mm)	MaxRadial Load (Kg)	Maxspeed (rpm)	Accuracy (mm)	Model No.	Carbide Tipped Model No.
MT1	115	20	34	12.065	18	900	5000	0.01	251-3021	
MT2	145	26	45	17.780	25	1500	5000	0.01	251-3022	251-3020
MT3	170	30	52	23.825	28	2000	4200	0.01	251-3023	251-3027
MT4	205.7	34.7	60	31.267	32	3200	3200	0.01	251-3024	251-3028
MT5	254	45	77	44.399	45	6300	2000	0.015	251-3025	251-3029
MT6	362	68.5	125	63.348	75	10000	1600	0.015	251-3026	251-3030

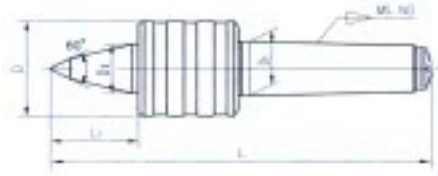
PRECISION HEAVY DUTY LIVE CENTER



MT.No	L(mm)	L1(mm)	D(mm)	D1(mm)	d(mm)	Maxload(Kg)	Maxspeed(rpm)	Accuracy(mm)	Model No.
MT1	109.6	18.5	38	12.065	16	1400	3600	0.008	251-3001
MT2	128.5	24	48	17.780	22	3500	3400	0.01	251-3002
MT3	156	28.5	56	23.825	25	5500	3200	0.01	251-3003
MT4	184	31.5	64	31.267	28	8000	3000	0.01	251-3004
MT5	239.5	45	85	44.399	41	10000	2500	0.012	251-3005
MT6	333.5	64	130	63.348	63	15000	1500	0.015	251-3006

Lathe Centers

PRECISION MEDIUM DUTY LIVE CENTER(EXTENDED)

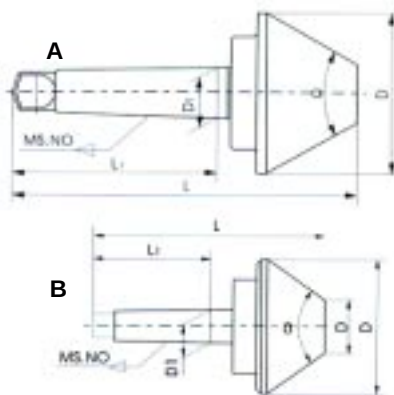


MT.No	L(mm)	L1(mm)	D(mm)	D1(mm)	D2(mm)	Model No.
MT2	141	28.5	40	17.780	18	251-3042
MT3	168	36.5	45	23.825	22	251-3043
MT4	190	36.5	45	31.267	22	251-3044
MT5	267.5	62	78	44.399	40	251-3045
MT6	346.5	75	102	63.348	50	251-3046

BULL NOSE LIVE CENTERS



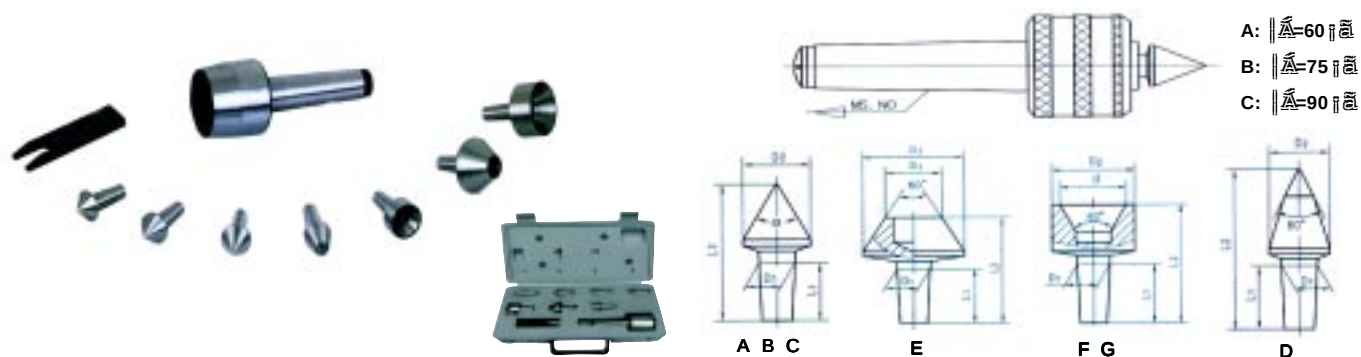
Morse Taper	Small End Dia.	Large End Dia.	Model No.
MT2	1/2"	2-7/16"	251-3702
MT3	3/4"	3"	251-3703
MT3	1-1/4"	4"	251-3704
MT3	1-1/2"	5"	251-3705
MT4	1-3/8"	5"	251-3706
MT4	2"	6"	251-3707
MT5	1-3/8"	6"	251-3708
MT5	2-1/8"	8"	251-3709



Model	MS NO	L(mm)	L1	D	D1	d	θ	Model No.		
B	2	135	64	61.9	17.780	12.7	70°	251-6101		
		130		51			54.6°	251-6102		
A		148	75	66(70)		20	60°	251-6103		
B		126	64	80		11.9	75°	251-6104		
				85				251-6105		
	152	81	76.2	23.825	19.05	54.6°	251-6106			
149.75					19.6	70°	251-6107			
162					25	60°	251-6108			
149.75					11.9	75°	251-6109			
A	3	174.75	94	90	25	60°	251-6110			
B		148	81	100	40	75°	251-6111			
		160		110	32		251-6112			
								251-6113		
A	4	204	117.5	80	31.267	25	60°	251-6114		
B		167	102.5			11.9	75°	251-6115		
A		206	117.5	100		30	60°	251-6116		
B		184	102.5	110		32	75°	251-6117		
		180		120		50		251-6118		
A		215	117.5	125		40	60°	251-6119		
B		176	102.5	132		34	52°	251-6120		
A		238	117.5	150		40	60°	251-6121		
B		211.5	102.5	160		34.9	75°	251-6122		
		225		200		404	251-6123			
		5	205			70	44.399	20	60°	251-6124
A			225	149.5		60(70)A				251-6125
			236			80A				251-6126
B	199		129.5	80	25	75°	251-6127			
A	239		149.5	90A	11.9		251-6128			
B	247		129.5	130A	25	60°	251-6129			
	227			100	30		251-6130			
	206		100	32	75°	251-6131				
	231		149.5	120	40	60°	251-6132			
A	251			120A			251-6133			
B	269		129.5	140			34.9	75°	251-6134	
A	269			150A	251-6135					
B	243		129.5	150	40	75°	251-6136			
	249	129.5	152.4	251-6137						
A	282	149.5	160A	40	60°	251-6138				
B	252	129.5	200		75°	251-6139				

Lathe Centers

MEDIUM-DUTY MULTI-PURPOSE LIVE CENTER



MT. No	D1	L1	A		B		C		D		E			F			G			Model No.
			D2	L2	D2	L2	D2	L2	D2	L2	D2	D3	L2	D2	L2	d	D2	L2	d	
MT2	10	20	16	39	16	35.5	16	33	16	46	25	10	40	16	36	10	20	39	16	251-3082
MT3	12	24	20	48	20	43.5	20	40.5	18	56	35	15	50	22	42	18	35	48	30	251-3083
MT4	15	30	28	61.5	28	55.5	28	51.5	26	73	55	30	61.5	40	55	35	55	60	48	251-3084
MT5	20	40	36	80	36	72.45	36	66.8	36	101	70	41	78	60	81	50	70	85	61	251-3085
MT6	30	55	55	117	55	113	55	108	50	138	90	50	107.5	75	110	60	90	116	75	251-3086

SUPPER ROLLING CHANGEABLE-POINT LIVE CENTER



A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Max load (kg)	Max speed (rpm)	Accuracy (mm)	Model No.
17.780	36	22	10.5	65.8	110	10	300	5500	0.005	251-4002
23.825	47	30	15	93	145	15	400	4500	0.005	251-4003
31.267	55	35	16	104	172	20	1200	4000	0.01	251-4004
44.399	70	45	20	134.5	216	25	2000	3000	0.01	251-4005
63.348	90	60	23	139	282	30	4000	2000	0.015	251-4006

VERTICAL HORIZONTAL TOOL HOLDER DEVICE



Taper of tool holder	Out size(mm)	Model No.
BT30	205x98.5x128	231-1000
BT40	205x98.5x128	231-1001
BT50	275x150x198	231-1002
DIN69871.30	205x98.5x128	231-1003
DIN69871.40	205x98.5x128	231-1004
DIN69871.50	275x150x198	231-1005
CAT30	205x98.5x128	231-1006
CAT40	205x98.5x128	231-1007
CAT50	275x150x198	231-1008

5C FIXTURE



5C collect fits for this device, which can clamp tool or workpiece with different diameter and figure. It can be fixed on lathe. Milling machine, grinder, and other special equipment, with such features as high precision, easy operation, safe application, strong clamping, etc.

Model No.		
CLAMPING RANGE	5C round collet 3/64"--1-1/8"	287-0110
	5C square 1/8"--3/4"	
	5C hex 1/8"--7/8"	

5C Fixtures

VERT. 5C ANGLE COLLET FIXTURES

(Model A)

Model No. 235-6090
Base Size: 4"x7-7/8"
Height: 4-1/2"



H/V 5C ANGLE COLLET FIXTURES

(Model B)

Model No. 235-6095
Base Size: 4-1/4"x5"
Height: 4-1/2"



H/V 5C ANGLE COLLET FIXTURES

(Model C)

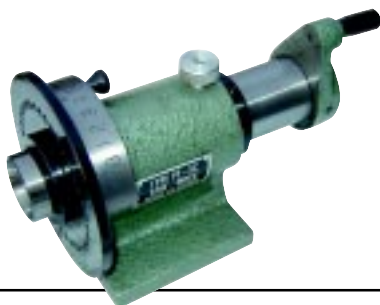


H/V 5C COLLET FIXTURES

Base In	Height In	Base In	Height In	Model No.
Horizontal	Horizontal	Vertical	Vertical	
5x3.96"	3.74"	5x3.74"	4.13"	235-6080

Base In	Height In	Base In	Height In	Model No.
Horizontal	Horizontal	Vertical	Vertical	
6.1x4.03"	7.16"	6.1x4.72"	4.13"	235-6085

5C SPIN INDEX FIXTURES



Model No. 235-6011

- Hardened and precision ground spindle.
- .0004" T.I.R spindle accuracy.
- Super time saver.
- Applicable to all milling machines, surface grinders and inspection equipment.
- Precision ground 36 position index plate.
- Direct indexing in ten steps, graduated in 5° increments.

5C COLLET INDEX FIXTURES



- Threaded spindle is hardened and ground (2-1/4"-8TPI).
- Single lever action activates the indexing mechanism.
- Precision ground index plate has 24 indexing locations in fifteen degree.
- 15° increments, any of which can be masked for greater versatility.

Model No. 235-6200

Specifications	Maximum Variation
Dividing spindle concentricity	.004"
Cylinder center bore (per 1") concentricity	.008"
Lateral offset of center slot of dividing spindle	.008"
Center slot to dividing spindle concentric	.008"
Spindle center line parallelism	.008"

END MILL GRINDING FIXTURES



- The fixture uses 5C collects (no more bushings to lose) which means any shank-size end mill from 1/16" to 1-1/8" can be ground. Shell mills can easily be held with straight shank arbors.
 - Grinds 2,3,4,6,8 & 12 fluted end mills and shell mills. Faces only!
 - Clearance and relief angles are built into base.
 - Solid 2-1/2" x 4-1/2" base ground on bottom for sure contact with magnet.
 - Black oxide finish.
- Model No. 287-6000

END MILL CUTTERS/ SHARPENERS



- Designed to accomplish all sharpening need.
- Diameter of shank of end mill is 3/8, 1/2", 5/8".
- It may be equally divided to 2,3,4,6,8.

TYPE 287

Model No. 231-0287

Dividing Head & Fixtures



UNIVERSAL DIVIDING HEAD

- With the help of this dividing head, the workpiece held between centers, or on a chuck can be rotated to any angle as desired and the periphery of a workpiece can be divided into any divisions of equal parts. By means of all kinds of cutters, the dividing head can also help milling machine to perform the milling operation for flute, spur gear, spiral flute, Archimedean cam, helical flute and etc.
- The dividing head is equipped with a face plate that can be mounted into the spindle nose. The workpiece can be mounted on the face plate, thus, cutting can be carried out on 4-sides of a workpiece.

Specifications		Model No. 200-4080	Model No. 200-4100	Model No. 200-4125	Model No. 200-4160
center hight(mm)		80	100	125	160
swivel angle of spindle from it's horizontal position(upward)		10°	95°		
horizontal position(downward)		10°	5°		
rotating angle of spindle for one complete revolution of dividing handle		9°(540 grad,1' each)			
Min.reading of vernier		10"			
worm gear ratio		1:40			
taper of spindle bore		MT3		MT4	
width of locating key(mm)		14		18	
Diameter of short taper of spindlenose for mounting flange(mm)		36.541	41.275	53.975	53.975
hole numbers on index plate	1st plate	24,25,28,30,34,37,38,39,41,42,43			
	2nd plate	46,47,49,51,53,54,57,58,59,62,66			
change gear	model	1.5		2	
	teth numbers	25,30,35,40,50,55,60,70,80,90,100			
individual indexing error of the spindle for one complete revolution of dividing handle		160"	145"		
cumulate error at any 1/4 periphery of spindle		11"			
Max. bearing Kg		80	100	130	130

SEMI-UNIVERSAL DIVIDING HEAD



Semi-Universal dividing head is a simple type of universal index center and can be used for direct and indirect dividing. No accessories for the differential dividing and spiral work are included, but the whole construction of the dividing head is identical with the whole construction of the dividing head is identical with the universal type. The direct index plate of 24 holes allows the direct dividing in 2, 3, 4, 6, 8, 12 and 24 three plates in the standard accessories make the indirect dividing possible in any number from 2 to 50 and in certain numbers up to 380.

SEMI-UNIVERSAL DIVIDING HEAD

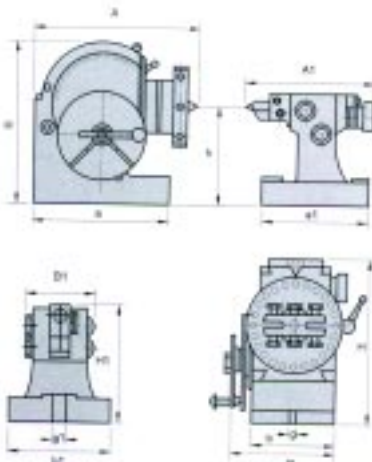
A	B	H	h	a	b	g	Spindle hole	N.W	Model No.
193	131	173	100	166	90	16	MS3	21	200-7001
254	175	200	128	210	114	16	MS4	36	200-7002

TAIL-STOCK

A1	B1	H1	h	a1	b1	g1	Model No.
193	131	173	100	166	90	16	200-7101
254	175	220	128	210	114	16	200-7102

Number of holes dividing plate A,B,C

Plate A	15	16	17	18	19	20
Plate B	21	23	27	29	31	33
Plate C	37	39	41	43	47	49



Dividing Head & Fixtures

UNIVERSAL DIVIDING HEAD



The universal dividing head has been designed to carry out all types of gear cutting. Precision dividing and spiral work with greater precision and efficiency than ever. The dividing head can be tilted from a horizontal position of 90° down to 10° from vertical, and inclinations can be read off a scale graduated in degrees. The dividing head is built to highest engineering standards and tested to assure complete satisfaction. The ratio of worm to gear is 1:40.

Universal index head can be used with milling, grinding, drilling machine for dividing.

UNIVERSAL DIVIDING HEAD

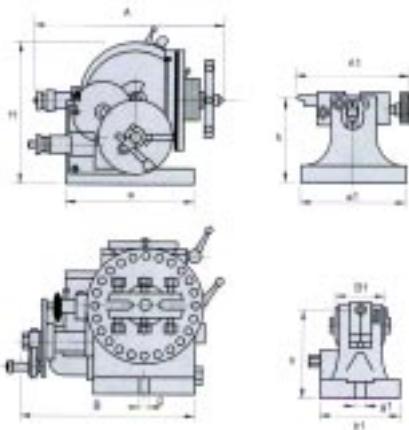
A	B	H	h	a	b	g	Spindle hole	N.W	Model No.
365	272	236	135	213	134	16	MS4	73	200-7003

TAIL-STOCK

A1	B1	H1	h	a1	b1	g1	Model No.
183	88	156	135	175	124	16	200-7103

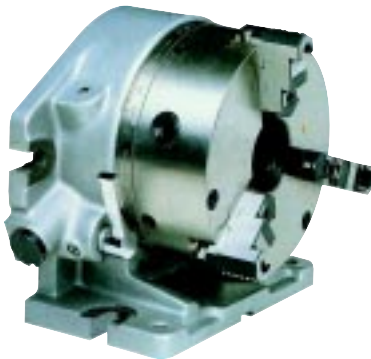
Number of holes dividing plate A,B,C

Plate A	15	16	17	18	19	20
Plate B	21	23	27	29	31	33
Plate C	37	39	41	43	47	49



HORIZONTAL/VERTICAL INDEXING FIXTURES

- Designed for milling, drilling, jig boring, and many other shop applications.
- Hardened and ground 24 position index plate (15 degree increments).
- 360 degree satin chrome grauated ring with 5 minute adjustable vernier plate insures accurate readings.
- Fast and simple indexing of 2,3,4,6,8,12 and 24 divisions.



Specifications

Indexing unit complete with 3 jaw

Chuck and 6 masking plate.

Squareness (table base to chuck).....0.0008"

Parallelism (face to face).....0.0006"

Concentricity(mounting flange).....0.0008"

Concentricity (chuck).....0.0012"

Size of Thru			
Chuck	Hole Dia.	Model No.	
6	1-23/32	200-2006	
8	2-15/32	200-2008	

SUPER HORIZONTAL/VERTICAL INDEXING FIXTURES

- Designed for milling, drilling, jig boring, and many other shop applications.
- Hardened and ground 24 position index plate (15 degree increments).
- 360 degree satin chrome grauated ring with **10 SECOND** adjustable vernier plate insures accurate readings.
- Fast and simple indexing of 2,3,4,6,8,12 and 24 divisions.



Specifications

Indexing unit complete with 3 jaw

Chuck and 6 masking plate and face plate

Vernier Reading.....10 seconds

Squareness (table base to chuck).....0.0008"

Parallelism (face to face).....0.0004"

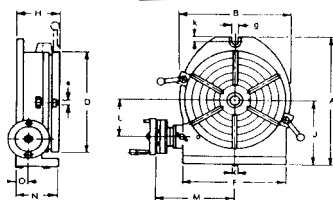
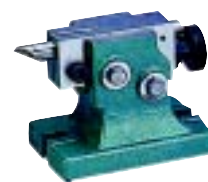
Concentricity(mounting flange).....0.0008"

Concentricity (chuck).....0.0012"

Size of Thru			
Chuck	Hole Dia.	Model No.	
6	1-23/32	200-2106	
8	2-15/32	200-2108	

Rotary table

HIGH PRECISION H/V ROTARY TABLES



- Extra deep coolant channel.
- Dual positive action locks.

Optional Dividing Plates

- Graduated 360°
- Low profile.
- 10 second vernier reading.

Optional Tailstock

- Gear drive immersed in oil.
- Optional dividing plates and tailstock.
- Gear Ratio 90:1.

Optional Accessories

H/V Rotary tables

Specifications	Maximum Variation (inches/second)
Clamping surface flatness(concave)	.0006"
Cylindrical center bore concentricity	.0008"
Taper center bore concentricity	.0008"
Surface to base parallelism	.0008"
Surface to angle face squareness	.0004"
Surface to center slot squareness	.0008"

Descriptions	Model No.
Dividing plate (Fit all except 6")	200-1096
Adjustable tailstock for 8" & 10"	200-1098
Adjustable tailstock for 12"	200-1100

Descriptions	Model No.
8" Horizontal & Vertical Table (YUASA TYPE)	200-1143
10" Horizontal & Vertical Table (YUASA TYPE)	200-1153
12" Horizontal & Vertical Table (YUASA TYPE)	200-1163
4" Horizontal & Vertical Table	200-1089
6" Horizontal & Vertical Table	200-1090
8" Horizontal & Vertical Table	200-1091
10" Horizontal & Vertical Table	200-1093
12" Horizontal & Vertical Table	200-1095
16" Horizontal & Vertical Table	200-1097

Table Dia.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	T-Slot Width	Net Weight	Shipping Weight	Model No.
8"	11.200	9.400	0.650	7.872	3MT	8.203	0.570	3.944	5.985	0.610	3.700	7.830	3.880	1.900	0.465	64lbs	95lbs	200-1143
10"	12.900	11.300	0.552	9.800	3MT	9.960	0.562	4.330	6.750	0.562	4.100	8.625	4.175	1.900	0.465	94lbs	135lbs	200-1153
12"	16.125	14.250	0.710	12-5/8	4MT	12.625	0.725	4.750	8.250	0.725	5.25	10.250	4.640	1.900	0.545	209lbs	250lbs	200-1163

HIGH PRECISION HORIZONTAL ROTARY TABLES



Optional Dividing Plate

- Gear drive immersed in oil.
- 10 second vernier reading.
- Optional dividing plates and tailstock.

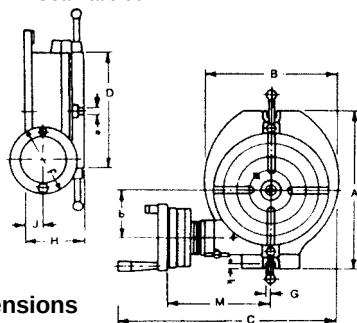
- Extra deep coolant channel.
- Dual positive action locks.
- Gear ratio 90:1.

Special design features include:

- Graduated 360°
- Low profile.
- Satin chrome dials.

Rotary tables

Dimensions



Specifications	Maximum Variation (inches/second)
Clamping surface flatness(concave)	.0006"
Cylindrical center bore concentricity	.0008"
Taper center bore concentricity	.0008"
Surface to base parallelism	.0008"
Surface to angle face squareness	.0004"
Surface to center slot squareness	.0008"

Descriptions	Model No.
6" Horizontal	200-1076
8" Horizontal	200-1078
10" Horizontal	200-1080
12" Horizontal	200-1082
16" Horizontal	200-1416
20" Horizontal	200-1420
25" Horizontal	200-1425
32" Horizontal	200-1432
40" Horizontal	200-1440
Dividing Plate (Fits all except 6")	200-1096

Table Dia.	Maximum Variation .004"	A	B	C	D	E	F	G	H	J	K	L	M	T-Slot Width	Net Weight	Shipping Weight	Model No.
6"	.008	10-1/4	7-3/4	13-1/16	6-19/64	2MT	4-15/16	0.224	3-5/64	1	45/64	3	5	0.39	36lbs	48lbs	200-1076
8"	.008	11-7/16	9-5/16	14-1/4	7-7/8	3MT	4-15/16	9/32	3-7/32	1	13/16	3-1/2	5-11/16	0.456	50lbs	61lbs	200-1078
10"	.008	13	11-1/4	16-5/8	9-15/16	3MT	4-15/16	9/32	3-11/16	1	13/16	3-7/8	9-1/2	0.465	82lbs	93lbs	200-1080
12"	.008	16-1/8	14-3/16	19-9/16	12-5/8	4MT	4-15/16	0.354	4-1/16	1-3/8	1	4-1/4	12-5/16	0.545	153lbs	167lbs	200-1082

Rotary Table

PRECISION INCLINEABLE ROTARY TABLES



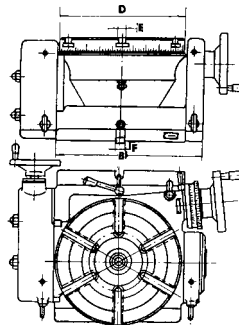
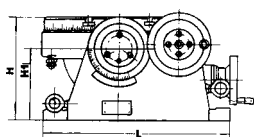
- Satin chrome dials.
- Gear ratio 90:1.
- Low profile.



- Gear drive immersed in oil.
- 10 second vernier reading.
- Optional dividing plates and tailstock.



- Dual positive action locks.
- Extra deep coolant channel.



Descriptions	Model No.
10" inclineable rotary table	200-1915
12" inclineable rotary table	200-1917
16" inclineable rotary table	200-1919

Specifications	Maximum Variation (inches/second)
Clamping surface flatness(concave)	.0006"
Cylindrical center bore concentricity	.0008"
Taper center bore concentricity	.0008"
Surface to base parallelism	.0008"
Surface to angle face squareness	.0004"
Surface to center slot squareness	.0008"

Table OuterDia.	Table Height	Center Height	Base Dia.	Base Dia.	Width of T-slot	Locating Key	Centering Hole	Center Taper Hole	Weight	Model No.
D	H	H1	B	L	E	F	D			
9.81	8.07	5.51	10.24	12.2	0.47	0.55	1.2	MT-3	172	200-1915
12.6	10.04	6.89	13.07	14.96	0.55	0.71	1.6	MT-4	293	200-1917

MILLING AND DRILLING TABLE



Model No.	201-2524
Size	7x7(Rotatable 360°)
Height	4-1/8"
Travel	4 on each axis
Base Size	4-5/8" diameter
Mounting	1-1/8" Long Base Bolt
Weight	35 lbs

Suitable for all kinds of precision machining operations. Easy to read dials are graduated in .001". Dovetail slides have adjustable steel gibs to compensate for wear. T-slots are 5/8" wide x 7/16" deep.

COMPOUND SLIDING TABLE



200-2707

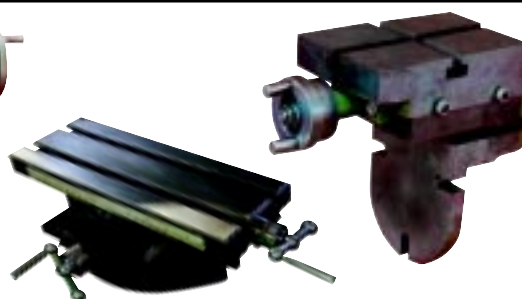
200-2708

Description	Model No. 200-2707	Model No. 200-2708
Size of Table	11-13/16x7-7/8	7-7/8x7-7/8
Height Overall	5-1/2	6-7/8
Length Overall	20-3/32	13-25/32
Size of Slots	7/16	3/8
Sliding	7-7/8	4-29/32
Graduation	.001"	.001"
Weight (Approx.)	84lbs	44lbs



200-2537

A heavy, rugged slide used in all kinds of positioning, milling, drilling, microscope viewing and staging, adjustable bases for heavy loads, small jig boring, precision cutter.



200-2536

COMPOUND SLIDE TABLES

200-2535

Desc.	Model No. 200-2535	Model No. 200-2536	Model No. 200-2537
Table	4"x6"	5-1/2"x12"	6"x18"
T-Slot Size	3/8"	5/8"	5/8"
Height	6-7/8"	4-1/2"	5"
Travel	3-1/5"	6-1/2"/4-1/3"	13"/6"
Base Size		9"x8"	10-1/2"x8"

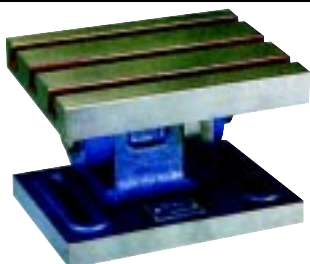
Angle Plates

ADJUSTABLE ANGLE PLATES



Heavy machined casting. Adjustable 45 in either direction. Crank handle for easy and precise adjustment.

Plate Size (In)	Height (In)	T-Bolt (In)	Model No.
5 x 7	3-7/8	3/8	200-1105
7 x 10	5-3/16	7/16	200-1110
9 x 12	6-7/16	7/16	200-1112
10 x 15	7-3/8	5/8	200-1115
12 x 24	8-1/8	5/8	200-1124



SWIVEL ANGLE TABLES

- Adjustable heavy castings.
- Rugged construction.
- Machined "T" slots.
- SAVES job set-up time in operation.
- Graduated for 90 tilt.
- Accuracy of table surface

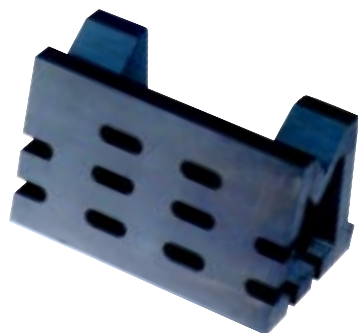
Size	Height	Model No.
5 x 6"	4"	200-1305
6 x 8"	5"	200-1306
8 x 10"	6"	200-1308
10 x 12	7"	200-1310
12 x 15"	9"	200-1312



SWIVEL ANGLE PLATES

- Perfect for setting work at any angle during milling or other operations.
- Heavy rugged graded casting.
- Machined "T" slots.
- Graduated 90 for setting 45 on each side.
- Accuracy of table surface 0.0005mm

T-Slot	Size	Height	Model No.
1/2"	5 x 7"	3-3/4"	200-1205
1/2"	7 x 10"	5"	200-1207
3/5"	10 x 15"	6-3/4"	200-1210



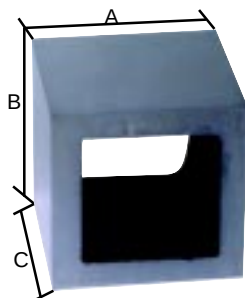
VEE ANGLE PLATE

The V-Angle is manufactured from a high grade cast iron that is fully stress relieved to give stability though out its working life.

The V-Angle has many more clamping positions than an ordinary angle plate. Its design allows almost any shape to be clamped securely, and all types of clamps to be used.

Size	Model No.
3 x 3 x 5"	418-4905
4 x 4 x 6"	418-4906
5 x 5 x 7"	418-4907
6 x 6 x 8"	418-4908

BOX PARALLELS

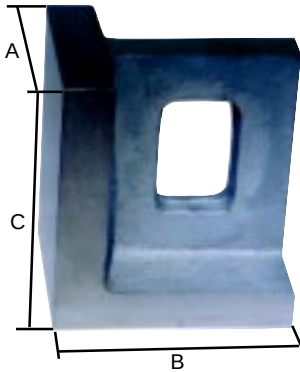


- Made of high quality fine grained cast iron, stress relieved.
- All faces and ends finished square and parallel.
- Machined finish-Size + or - 0.015". Square and parallel within 0.002". per 6"
- Ground finish - Size + or - 0.002" Square and parallel within " 0.0005" per 6"

A	B	C	Wall Thickness	Wt (lbs)	Machined Model No.	Ground Model No.
4"	4"	5"	5/8"	12	418-4000	418-4020
4"	4"	6"	3/4"	16	418-4002	418-4022
4"	6"	6"	3/4"	20	418-4004	418-4024
5"	5"	5"	3/4"	17	418-4006	418-4026
5"	10"	10"	3/4"	73	418-4008	418-4028
6"	6"	6"	3/4"	25	418-4010	418-4030
6"	6"	8"	3/4"	35	418-4012	418-4032
6"	12"	12"	3/4"	105	418-4014	418-4034
8"	8"	8"	5/8"	71	418-4016	418-4036
10"	10"	10"			418-4018	418-4038

Angle Plate

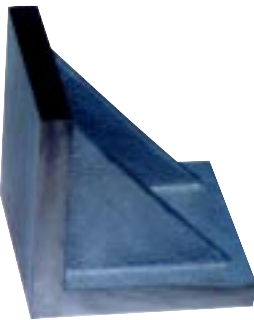
UNIVERSAL RIGHT ANGLE PLATES



Machined or Precision Ground

Made of finest quality, close grained semi-steel castings, stress relieved against distortion by annealing after seasoning. All outside surfaces closely finished for square and parallel references: Machined Square and parallel within 0.001 per 6". Precision ground: Square within 0.0005" per 6". Parallel within 0.00025" per 6".

A	B	C	Machine Finished Model No.	Ground Finished Model No.
3-3/4"	4"	5"	418-4105	418-4205
4"	4"	6"	418-4110	418-4210
5"	5"	6"	418-4115	418-4215
4"	5"	8"	418-4120	418-4220
5"	8"	12"	418-4125	418-4225
5-1/2"	7"	10"	418-4130	418-4230
5-1/2"	8"	10"	418-4135	418-4235
6"	6"	8"	418-4140	418-4240
8"	10"	12"	418-4145	418-4245
8"	9"	16"	418-4150	418-4250
10"	12"	16"	418-4155	418-4255
12"	12"	24"	418-4160	418-4260



PLAIN ANGLE PLATES

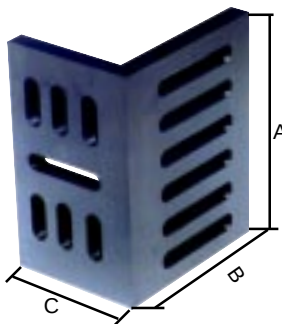
Machined or Precision Ground

- Made from high tensile cast iron normalized and stress relieved.
- Machined: Flat and square within 0.002" per 6" for general work.
- Precision ground: flat and square within 0.0005" per 6" for layout and inspection or precision machine

Size	No. of Ribs	Machined Model No.	Ground Model No.
2 x 2 x 2"	1	418-4310	418-4400
3 x 3 x 3"	1	418-4315	418-4415
4 x 4 x 4"	2	418-4320	418-4420
5 x 5 x 5"	2	418-4325	418-4425
6 x 6 x 6"	2	418-4330	418-4430
8 x 8 x 8"	2	418-4335	418-4435
10 x 10 x 10"	2	418-4340	418-4440
12 x 12 x 12"	2	418-4345	418-4445

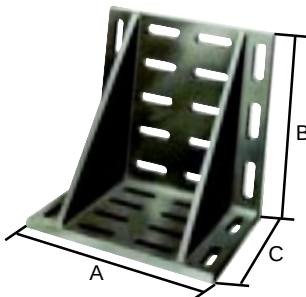
SLOTTED ANGLE PLATES

- Made of high tensile cast iron properly seasoned against distortion.
- webbed style accurately machined, square parallel on outside faces and ends.
- Open end style accurately machined square and parallel on all faces.



Dimensions A	Dimensions B	Dimensions C	Webbed Machined Model No.	Webbed Ground Model No.	Open end Machined Model No.	Open end Ground Model No.
3"	2-1/2"	2"	418-4510	418-4612	418-4712	418-4812
3-1/2"	3"	2-1/2"	418-4515	418-4617	418-4717	418-4817
4-1/2"	3-1/2"	3"	418-4520	418-4622	418-4720	418-4822
6"	5"	4-1/2"	418-4525	418-4627	418-4725	418-4827
7"	5-1/2"	4-1/2"	418-4530	418-4632	418-4730	418-4832
8"	6"	5"	418-4535	418-4637	418-4735	418-4837
9"	7"	6"	418-4540	418-4642	418-4740	418-4842
10"	8"	6"	418-4545	418-4647	418-4745	418-4847
12"	9"	8"	418-4550	418-4652	418-4750	418-4852

GIANT SLOTTED ANGLE PLATES



- Made from high tensile cast-iron normalized and stress relieved.
- Machined flat and square within 0.002" per 6" for general work.

Dimensions A	Dimensions B	Dimensions C	Model No.
16"	12"	9"	418-4916
20"	16"	12"	418-4920
24"	24"	18"	418-4924
36"	24"	24"	418-4936

Plates

STEPPED ANGLE PLATES

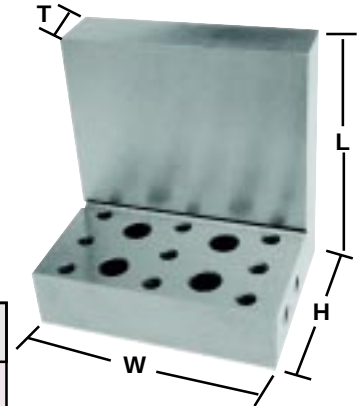
- Manufactured from a single piece of hardened tool steel.
- Precision ground, square and parallel.
- A convenient step of 1-1/4"(32mm) down from the top and a 1/2"(12mm) seat allows for use with smaller work pieces.
- 24 Tapped holes allow for fastening to fixtures and clamping work to the angle plate.
- Ground flat, square & parallel within .0002".



Dimensions Inch/Metric	Thread of Tapped Holes	Model No.
3x3x3"(75x75x75mm)	1/4"-20	418-4978
4x4x4(100x100x100mm)	5/16"-18	418-7980

PRECISION STEEL ANGLE PLATES

- Solid 1 piece steel construction for longer life.
- Hardened to RC 58-62.
- Ground flat, square & parallel within .0002".
- Tapped holes are either 1/4-20 or 3/8-16 to use standard clamping accessories.



L	w	H	T	Tapped Holes	Model No.
3"	3"	4"	1"	(13)1/4"-20	418-4970
3	4	4	1-1/8	(31)1/4-20	418-4972
4	4	4	1-1/4	(13)1/4-20	418-4974
4	4	6	1-1/4	(14)3/8-16	418-4976
4	6	6	1-1/4	(33)1/4-20	418-4982

PRECISION SINE PLATES

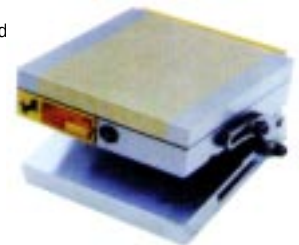
- Squareness & Parallelism 0.0002".
- Hardened steel.



Size	Model No.
4x4x2"	647-7580
6x6x2-1/4"	647-7590

MAGNETIC SINE PLATES

Using ceramic permanent magnets which cannot be demagnetized, these magnetic. Sine Plates are designed for the precise angular positioning and holding of small or odd-shaped workpieces. Fine pole division permits more uniform magnetic holding. Sine plate angles lock rigidly with locking strap. Removable handle included for on off.



Dimensions	Center dist. of Rolls	Model No.
4x4x4-5/8"	3" Within .0002"	647-5544
6x6x4-5/8"	5" Within .0002"	647-5566

COMPOUND ANGLE PLATES

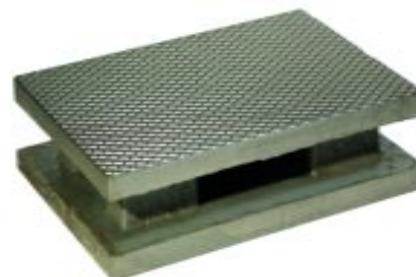
- Solid one piece construction.
- Made of steel, hardened to RC 58-62, and ground flat.
- Square and parallel within .0002".
- Features ground vees for convenient holding of small round parts.
- Includes one clamp.



Dimensions	Tapped Holes	Model No.
6" long x 4" high x 1" thick	(16)1/4"-20	418-4910

LAPPING BENCH PLATE

- Precision ground on one side, ground on the other side.
- Made of casting iron.
- Size: 10"x14"x2-3/4"



Stand for the plate

Model No. 640-0000

Model No. 641-0000

Chucks

WOOD LATHE CHUCK



- The chuck is self-centering. fraps internally and externally, can round and square workpiece
- The chuck fits a wide range of wooden lathe spindle by connecting arbor

	Model No.
4 Jaw for wood lathe-3/4"-16 TPI	428-5001
4 Jaw for wood lathe-1"-8 TPI	428-5002
4 Jaw for wood lathe-1"-12 TPI	428-5003
4 Jaw for wood lathe-1-1/4"-8 TPI	428-5004
4 Jaw for wood lathe-1-1/2"-8 TPI	428-5005

1" PIN JAWS FOR 4-JAW WOOD CHUCK

Pin jaws are designed for mounting bowls by expanding into a recess inside the bottom of the workpiece. A dovetailed lip grips the workpiece securely for safe and confident turning. Fits a 1" diameter recess.



Model No. 428-5101

4" DOVE JAWS FOR 4-JAW WOOD CHUCK

Dovetail jaws are designed for mounting bowls by expanding into a recess or clamping around the bottom of the workpiece. The outside measurement of the jaw face when fully closed is 4". Total expansion is approximately 1" beyond the closed measurement.



Model No. 428-5104

3&4 JAW SHANK TYPE SELF-CENTERING CHUCKS

Scroll type, chucks come with attached 5c,R8 or MT mounting shank, 2 set of solid jaws, chuck wrench.



3-Jaw Type

	5C	R8	MT2	MT3	MT4
Size	Model No.	Model No.	Model No.	Model No.	Model No.
3"/75mm	230-6003	230-6013	230-6113	230-6213	230-6313
4"/100mm	230-6004	230-6014	230-6114	230-6214	230-6314
5"/125mm	230-6005	230-6015	230-6115	230-6215	230-6315
6"/150mm	230-6006	230-6016	230-6116	230-6216	230-6316

4-Jaw Type

	5C	R8	MT2	MT3	MT4
Size	Model No.	Model No.	Model No.	Model No.	Model No.
3"/75mm	230-6303	230-6313	230-6413	230-6513	230-6713
4"/100mm	230-6304	230-6314	230-6414	230-6514	230-6714
5"/125mm	230-6305	230-6315	230-6415	230-6515	230-6715
6"/150mm	230-6306	230-6316	230-6416	230-6516	230-6716

3-JAW PLAIN BACK SELF-CENTERING CHUCKS

Plain back, universal scroll chucks. for adaptor mounting. has 2 sets solid jaws & 2 piece jaws



- Self-Centering 0.003" TIR

3-Jaw with 2sets solid jaws

Chuck Dia.	Thru Hole	Model No.
3"/80mm	630"/16mm	429-3003
4"/100mm	.866"/22mm	429-3004
5"/125mm	1.181"/30mm	429-3005
6"/160mm	1.575"/40mm	429-3006
8"/200mm	2.559"/65mm	429-3008
10"/250mm	3.150"/80mm	429-3010
12"/325mm	3.937"/100mm	429-3012
15"/380mm	5.315"/135mm	429-3015

Chucks

3-JAW PLAIN BACK SELF-CENTERING CHUCKS



3-Jaw with top reversible jaws

The chucks of this type are mounted to spindle nose through and adapting flange. The chuck are supplied with reversible jaws as per(ISO3442) and can perform eigher as internal or external jaws through adjustment.

Chuck		
Dia.	Thru Hole	Model No.
6"/160mm	1.575"/40mm	429-3050
8"/200mm	2.362"/60mm	429-3051
10"/250mm	3.150"/80mm	429-3052
12"/325mm	3.937"/100mm	429-3054
15"/380mm	5.118"/130mm	429-3055

4-JAW PLAIN BACK SELF-CENTERING CHUCKS



Cylinder center mounting

The chucks of this type are mounted to spindle nose through adapting flange as cylinder centre mounting.

Chuck		
Dia.	Thru Hole	Model No.
3"/80mm	0.63"/16mm	428-8204
4"/100mm	0.87"/22mm	428-8230
5"/127mm	1.181"/30mm	428-8205
6"/160mm	1.575"/40mm	428-8206
8"/200mm	2.559"/65mm	428-8208
10"/250mm	3.150"/80mm	428-8210
12"/325mm	3.937"/100mm	428-8212
15"/380mm	4.000"/101mm	428-8215
20"/508mm	6.25"/159mm	428-8220

3 & 4 JAW DIRECT MOUNT D1 CAMLOCK CHUCKS

the advantage of using a direct mount chuck is extra working capacity on the lathe due to a shouter overall length with the integral camlock mount.



The chucks of this type are mounted directly to flange type spindle nose with studs for cam locks. The structure of the jaws are as same as the ones of cylinder centre mounting three-jaw seld centring chucks

3-Jaw driect mounting self centering chucks

Chuck Dia.	Spindle	Thru Hole	Model No.
6"/160mm	D1-3	1.575"/40mm	429-3063
6"/160mm	D1-4	1.575"/40mm	429-3064
6"/160mm	D1-5	1.575"/40mm	429-3065
8"/200mm	D1-4	1.969"/50mm	429-3084
8"/200mm	D1-5	1.969"/50mm	429-3085
8"/200mm	D1-6	1.969"/50mm	429-3086
10"/250mm	D1-5	2.756"/70mm	429-3105
10"/250mm	D1-6	2.756"/70mm	429-3106
10"/250mm	D1-8	2.756"/70mm	429-3108
12"/325mm	D1-11	3.937"/100mm	429-3121
12"/325mm	D1-6	3.937"/100mm	429-3126
12"/325mm	D1-8	3.937"/100mm	429-3128
15"/380mm	D1-11	5.11"/130mm	429-3151
15"/380mm	D1-8	5.11"/130mm	429-3158

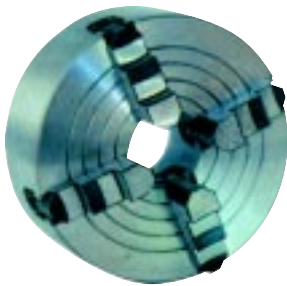
4-Jaw Independent mounting with studs for cam locks

Chuck Dia.	Spindle	Thru Hole	Model No.
6"/160mm	D1-3	1.771"/45mm	429-4082
8"/200mm	D1-3	2.165"/55mm	429-4083
8"/200mm	D1-4	2.165"/55mm	429-4084
8"/200mm	D1-5	2.165"/55mm	429-4085
10"/250mm	D1-4	2.756"/70mm	429-4104
10"/250mm	D1-5	2.953"/75mm	429-4105
10"/250mm	D1-6	2.953"/75mm	429-4106
12"/250mm	D1-6	3.740"/95mm	429-4126
12"/250mm	D1-8	3.740"/95mm	429-4128
16"/400mm	D1-8	4.921"/125mm	429-4168

Chucks

4- JAW INDEPENDENT FLAT BACK CHUCKS

The chuck body is made of cast iron. The reversible jaws and operation screw are made of high quality carbon steel jaws and are hardened precision ground.

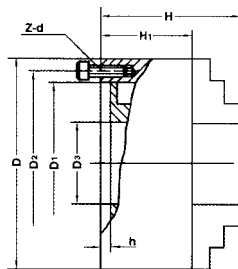


Chuck Dia.	Hole Circle	Thru Hole	Model No.
3"/80mm	2.59/66mm	.86"/22mm	429-4003
4"/100mm	3.30/84mm	.984/25mm	429-4004
5"/125mm	4.251/108mm	1.181/30mm	429-4005
6"/160mm	5.708/130mm	1.574/40mm	429-4006
8"/200mm	4.126/104.8mm	1.968/50mm	429-4008
10"/250mm	4.724/120mm	2.559/65mm	429-4010
12"/320mm	6.496/165mm	3.74/95mm	429-4012
16"/400mm	7.283/185mm	4.921/125mm	429-4016
20"/500mm	9.291/236mm	6.299/160mm	429-4020

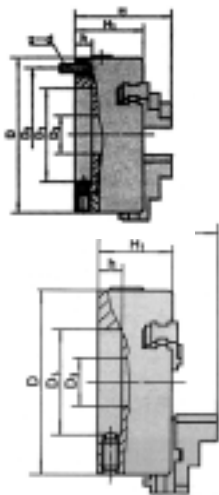
6- JAW FLAT BACK, SELF-CENTERING, SCROLL CHUCKS

These chucks are suitable for clamping and machining the thin-walled workpieces, especially the handle-cutting tools.

By using this series of chucks, the deformation can be reduced or avoided when the workpieces are gripped and the grinding states can be improved owing to their evenbearing



Dimensions	Model No. 429-6004	Model No. 429-6005	Model No. 429-6006	Model No. 429-6008
D	100mm(4")	130mm(5")	165mm(6")	200mm(8")
D1	72	100	130mm	165mm
D2	84	115	145mm	180mm
D3	26	35mm	42mm	65mm
H	73	86mm	96.5mm	109mm
H1	53.5	60mm	66.5mm	75mm
h	3.5	3.5mm	4.5mm	5mm
z-d	3-M8	3-M8	3-M8	3-M10



PRECISION ADJUSTABLE RUN-TRUE CHUCKS

This series chucks are made of high quality materials with precision machining, and the bodies enjoy nice rigidity. What is more, the chucks have a high repeatable concentric precision. With suitable adjustment the chuck's clamping precision can reach 0.013mm.

3-Jaw Adjustable Chucks

	Model No. 429-3165	Model No. 429-3600	Model No. 429-3200	Model No. 429-3825	Model No. 429-3250	Model No. 429-3910	Model No. 429-3325	Model No. 429-3912
Size	165mm	6"	200mm	8"	250mm	10"	325mm	12"
D	165	6.49"	204	8.03"	254	10"	330	12.99"
D1	80	3.15"	120	4.724"	150	5.90"	200	7.874"
D2	145	5.70"	180	7.08"	226	8.89"	296	11.653"
D3	40	1.575"	65	2.56"	80	3.15"	100	3.937"
H	102	4.01"	112	4.41"	138	5.433"	158.5	6.24"
H1	72	2.835"	78	3.07"	88	3.464"	100	3.937"
h	13.5	0.531"	13.5	0.531"	18	0.708"	20.5	0.807"
z-d	6-M8	6-1/4-18	6-M10	6-3/8-16	6-M12	6-7/16"-14	6-M16	6-1/2-13

6-Jaw Adjustable Chucks

	Model No. 429-6160	Model No. 429-6600	Model No. 429-6200	Model No. 429-6825	Model No. 429-6250	Model No. 429-6910	Model No. 429-6315	Model No. 429-6912
Size	160mm	6"	200mm	8"	250mm	10"	315mm	12"
D	152.5mm	6	210	8.27	254	10	305	12
D1	79.37	3.125	120.65	4.75	161.90	6.374	200.79	7.905
D2	135.70	5.343	190.5	7.5	111.13	4.375	133.35	5.25
D3	39	1.535	57.5	2.264	72	2.835	83	3.268
H	98.6	3.882	132.2	5.206	153.8	6.056	166.9	6.569
H1	59	2.323	79.3	3.122	88.7	3.492	101.1	3.980
h	17.5	0.689	19.1	0.752	20.4	0.803	20.4	0.803
z-d	6-M6	6-1/4-20	6-M10	6-3/8-16	6-M12	6-7/16-14	6-M12	6-1/2-13



Mounting Plate



CHUCK KEYS

Standard Model

Size	Model No.
1/4"	290-1171
5/16"	290-1172
3/8"	290-1173
7/16"	290-1174
1/2"	290-1175
9/16"	290-1176
5/8"	290-1177
11/16"	290-1178
3/4"	290-1179

- Hardened & tempered.
- Heavy duty construction.
- Made to fit all makes of chucks.

Self-Ejecting Model

Size	Model No.
1/4"	290-1071
5/16"	290-1072
3/8"	290-1073
7/16"	290-1074
1/2"	290-1075

Size	Model No.
9/16"	290-1076
5/8"	290-1077
11/16"	290-1078
3/4"	290-1079

MOUNTING PLATES

"A" Series

With Fully Machined Chuck Side

Mounting From Front



Size of Chuck	Spindle	For Self-centring Chuck Model No.
6"/160mm	A4	429-3401
6"/160mm	A5	429-3403
6"/160mm	A6	429-3405
8"/200mm	A4	429-3407
8"/200mm	A5	429-3409
8"/200mm	A6	429-3411
10"/250mm	A6	429-3413
10"/250mm	A8	429-3415
12"/315mm	A8	429-3417
12"/315mm	A11	429-3419
15"/380mm	A8	429-3421
15"/380mm	A11	429-3423

"C" Series With

Fully Machined Chuck Side

Mounting With Bayonet Bolt And Shouldered Tap Bolt



Size of Chuck	Spindle	For Self-centring Chuck Model No.
5"/125mm	C3	429-3701
5"/125mm	C4	429-3703
6"/160mm	C3	429-3705
6"/160mm	C4	429-3707
6"/160mm	C5	429-3709
8"/200mm	C4	429-3711
8"/200mm	C5	429-3713
8"/200mm	C6	429-3715
10"/250mm	C5	429-3717
10"/250mm	C6	429-3719
10"/250mm	C8	429-3721
12"/315mm	C6	429-3723
12"/315mm	C8	429-3725
12"/315mm	C11	429-3727
15"/380mm	C8	429-3729
15"/380mm	C11	429-3731

"D" Series With

Fully Machined Chuck Side

Mounting With Studs For Cam Locks



Size of Chuck	Spindle	For Self-centring Chuck Model No.
5"/125mm	D3	429-4501
5"/125mm	D4	429-4503
6"/160mm	D3	429-4505
6"/160mm	D4	429-4507
6"/160mm	D5	429-4509
8"/200mm	D3	429-4511
8"/200mm	D4	429-4513
8"/200mm	D5	429-4515
8"/200mm	D6	429-4517
10"/250mm	D4	429-4519
10"/250mm	D5	429-4521
10"/250mm	D6	429-4523
10"/250mm	D8	429-4525
12"/315mm	D5	429-4527
12"/315mm	D6	429-4529
12"/315mm	D8	429-4531
12"/315mm	D11	429-4533
15"/380mm	D6	429-4535
15"/380mm	D8	429-4537
15"/380mm	D11	429-4539

Threaded Type Adapter Plates

For The Mounting Of Plain-Back Chucks To Threaded Spindles

Size of Chuck	Size of Screw Thread	Model No.
3"/80mm	1"-10	429-4701
3"/80mm	1-1/2"-8	429-4703
3"/80mm	1/2"-20	429-4705
3"/80mm	1"-8	429-4707
4"/100mm	1"-10	429-4709
4"/100mm	1-1/2"-8	429-4711
4"/100mm	1"-8	429-4713
5"/125mm	1"-10	429-4715
5"/125mm	1-1/2"-8	429-4717
6"/160mm	1-1/2"-8	429-4719
6"/160mm	2-1/4"-8	429-4721

Size of Chuck	Size of Screw Thread	Model No.
8"/200mm	1-1/2"-8	429-4723
8"/200mm	2-1/4"-8	429-4725
8"/200mm	2-3/8"-6	429-4727
10"/250mm	2-1/4"-8	429-4729
10"/250mm	2-3/8"-6	429-4731
12"/320mm	2-3/8"-6	429-4733
12"/320mm	2-3/4"-8	429-4735

"L" Series Back Plates For Adjustable Chucks

Size of Chuck	Spindle	Model No.
6"/160mm	L-00	429-4801
6"/160mm	L-0	429-4803
8"/200mm	L-00	429-4805
8"/200mm	L-0	429-4807
10"/250mm	L-00	429-4809
10"/250mm	L-0	429-4811
10"/250mm	L-1	429-4813
12"/320mm	L-0	429-4815
10"/250mm	L-1	429-4817

Punch Former & Grinder

BIG TYPE PUNCH FORMER(ONE-WAY)



287-6810 is applicable on surface grinder or universal grinder to clamp puncher within $\varnothing 70\text{mm}$ for grinding various shapes

- Center height 150mm
- Clamping diameter in V-slot: $\varnothing 70\text{mm}$
- Travel of V-block: 25mm
- Quantity of tooth: 24

Model No. 287-6810

BIG TYPE PUNCH FORMER(TWO-WAY)



Model No. 287-6811

- Center height 150mm
- Clamping diameter in V-slot: $\varnothing 70\text{mm}$
- Travel of V-block: 35mm
- Transversal travel of slide: $\varnothing 35\text{mm}$
- Quantity of tooth: 24

287-6811 is applicable on surface grinder or universal grinder to clamp puncher within $\varnothing 70\text{mm}$ for grinding various shapes, It can sharp quickly and precisely, with the moving function and fixing block for oval grinding.

The fine turning function can adjust center accurately. Using the fixing block and folding down the screw when mouse much, can grind oval workpiece conveniently

3 JAW PUNCH FORMER



- 3 jaws chuck hole diameter: 16mm
- Min clamping diameter: 2mm
- Max clamping diameter: 70mm

This type punch former is attached with 3 jaws which can hold workpieces quickly and conveniently, It can also adjust center of 3 jaws. It is suitable to be produced in batch

Model No. 287-6804

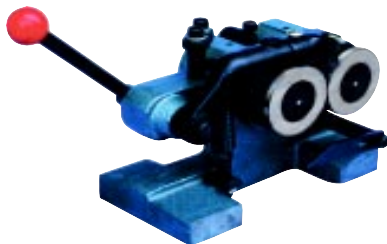
SINE PLATE FOR PUNCH FORMER



Sine plate is applied on 287-6801/287-6803/287-6804

Model No. 287-6808

PUNCH GRINDER



Punch grinder is a precision product which installed on a plane plate, and grind the top surface of round punch simply and accurately. The operation can be stable handled due to use the depressed roller to fix the handle. Heavy grinding can be done also. Ascertain the surface of the turning roller and depressed bearing without scratch and rust to keep its accuracy before using.

Model No. 287-6802

PUNCH GRINDER



- The small punch grinder can process from diameter 0.5mm to 10mm
- Grinding diameter: 0.5-6mm
- Right pressure must be put on the screw to avoid over pressure

Model No. 287-6806

MOTOR PUNCH GRINDER



Specifications

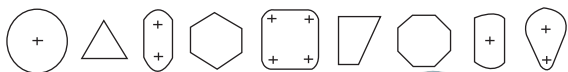
Length of workpiece.....20-120mm
 Outside grinding length.....5-35mm
 Grinding diameter.....1.5-25mm
 Accuracy.....0.005mm
 Roller driving motor.....110V/60Hz 129rpm or 220V/50Hz 108rpm

Model No. 287-6807

PUNCH FORMER AND RADIUS DRESSE

A precision Grinding Machine Accessory for dressing grinding wheel, also adaptable to Grinding Machine and Electrical Discharge Machine (EDM) for precision punch forming.

Applications



Applications



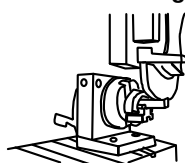
- Use for concave and convex radius.
- Hardened tool steel construction.
- Radius dresser standard with both models.
- With oscillating Vee Block for tangent dressing.
- Compare to units costing 2 or 3 times as much.
- Complete with fitted case.

Specifications

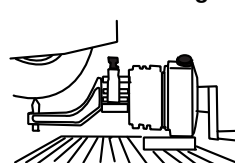
Center Height.....	3-1/2(80mm)
Indexing Div.....	24 every 15 degree +/- 10 seconds
Tangential travel either side of center.....	25/32(19.8mm)
Dia. Workpiece of V-block.....	0.16-1.18(4-30mm)
V-block adjusting system.....	Rack and Pinon
Max. Size Grinding Wheel.....	7.87(200mm)
Max. Outside Radius (on wheel).....	1.89(48mm)
Max.inside Radius(on wheel).....	3.9(100mm)
Dimension.....	14.2x4.6x5.7(360x116x145mm)

Model No. 287-6801

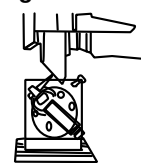
Punch Forming



Radius Dressing



Angle Dressing



PUNCH FORMER AND RADIUS DRESSE(ONE-WAY)



Specifications

Center Height.....	3-1/2(80mm)
Indexing Div.....	24 every 15 degree +/- 10 seconds
Tangential travel either side of center.....	25/32(19.8mm)
Max. Size Grinding Wheel.....	7.87(200mm)
Max. Outside Radius (on wheel).....	1.89(48mm)
Max.inside Radius(on wheel).....	3.9(100mm)

Model No. 287-6803

Punch forming application

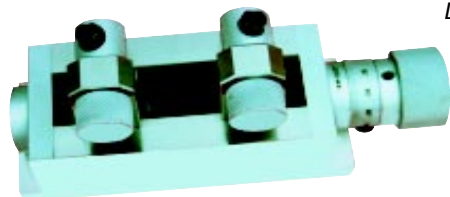


Grinding wheel dressing application



PRECISION DUPLEX DRESSER

Dress any custom width up to 1-9/16"



Model No. 225-1005

- Designed to simultaneously dress both sides of a grinding wheel, precisely and without deformation.
- useful for thinning grinding wheels or dressing thin wheels.
- Tool steel construction and hardened throughout to HRC 60 for life time use.

Specifications

Max. Width of Wheel.....	1-9/16"
Max. Dressing Depth.....	1-9/16"
Min. Dressing Width.....	0.0079"
Graduation.....	0.0001"
Weight.....	71lbs.

HI-LO WHEEL DRESSER

- Minimum Height.....2"
- Maximum Height.....9"
- Cast iron construction.
- 1/4 Carat and 3/8" shank diamond included.



Model No. 225-1213

ADJUSTABLE DRESSER

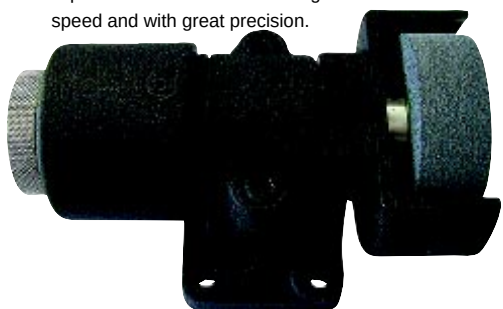
- Use on all grinding machines.
- Dress OD and face of wheels.
- Adjustable to 7" height.
- Dress any width.



Model No. 225-2016

BRAKE TRUING UNIT

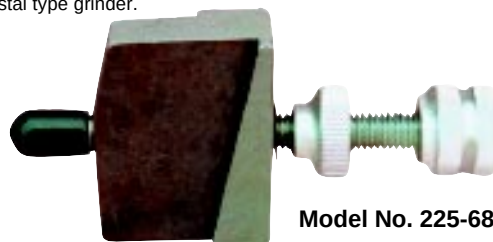
- For dressing diamond and CBN wheels.
- Surface is treated with blaze-dried lacquer.
- Axis part is fixed with shaft bearing and can be rotated at high speed and with great precision.



Model No. 225-3000

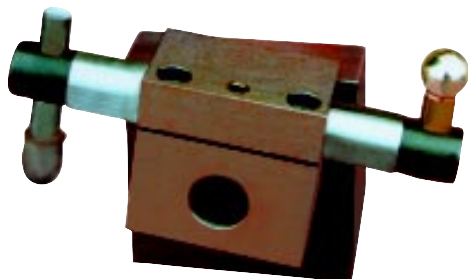
GEIGER WHEEL DRESSER

- Features a shank 3/8" diamond.
- Restores your grinding wheels back to perfection.
- Complete with an extremely hard 1/2 carat industrial diamond tip.
- Accurate and simple to use tool that accommodates most any bench or pedestal type grinder.



Model No. 225-6812

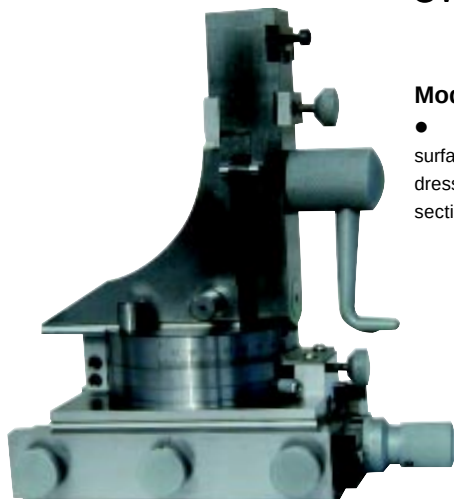
ANGLE DRESSER



- Features a shank 3/8" diamond.
- Heavy precision ground base plate.
- All 6 sides square to .0002"
- Side block pivots on shoulder hardened screws.

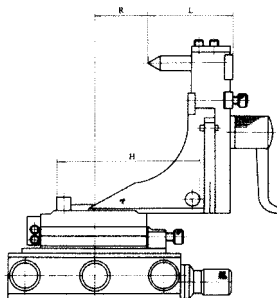
Model No. 225-2017

UNIVERSAL WHEEL DRESSERS



Model No. 287-6070

- Universal Wheel Dresser Adaptable on surface grinder and universal tool grinder for dressing grinding wheels into various cross sections of flat or curved shapes.



Specifications	Model No.287-6070
Center Height	165mm (6-2/5")
Measuring quasi-pin dia	10mm (0.4")
Max. Swing Distance of diamond cutter	120mm (4.8")
Max. Wheel Diameter	200mm (8")
Reading Accuracy or Turret Index	5"
Max. Translation of Feed	20mm (0.8")
Feed per division of handle scale	0.02mm
Weight	5kg

- To dress convex arc surface: $H = L + R$
- To dress concave arc surface: $H = L - R$
- **H.**—Distance between outer generation lines of two location pins.
- **R.**— Radius of the arc surface to be dressed.
- **L.** —Distance from tip of diamond cutter to base plate.

Dresse & Sharpeners

RADIUS AND ANGLE DRESSERS



Special Order for Rat Tail Adapter

Model No. 225-1020

An extremely accurate and versatile unit which may be used on all O.D., I.D., and surface operations. Knob "A" controls radius dressing and Knob "B" controls angle dressing. At no time are the hands near the point contact. All moving parts are lapped and the unit has adjustable gibs for taking up of future wear.

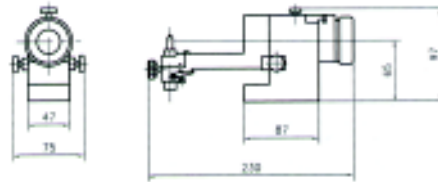
- No height gage or set-up aids required.
- Radius is set on the grinder by measuring over the two pins or by inserting a gage block, for direct reading.
- Inside or outside radius is determined by using either the left hand or right hand pins.
- Uses 3/8" shank diamond.

Specifications	Model No. 225-1020
Maximum Diameter of Wheel	12"
Convex Radii	0-1-5/8"
Concave Radii	0-4"
Tangent Travel Either Side of Center	2"
Center Line of Tool	3.4"
Over Length	16.61"
Weight	30lbs
Rat Tail Adapter	Model No. 225-1030

Accuracy:

Squareness of Face Plate to Dresser Arm, per 2"	.0005"
Squareness of Face Plate to Base	.0006"
Center Run out of Dovetail Groove to Wheel Center	.0006"

OPTICAL UNIVERSAL WHEEL DRESSER

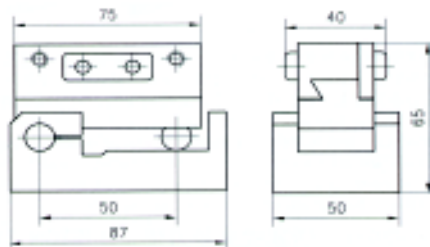


- This dresser is used for wheel dresser on surface grinder and universal tool grinder. Any sectional profile of wheel composed of straight line and arc can be dressed.
- status of contact between wheel and diamond point point of the dresser as well as the quality of dressed surface can be seen clearly through the optical sighting device.

- Height of center: 65mm
- Max wheel dia.: 205mm
- Max size of arc can be dressed convex arc : 13mm
- Max size of arc can be dressed concave arc : 25.4mm
- Angle of wheel may be dressed: 95° to 0° to 95°
- Stroke of slide block: 22.5mm

Model No.287-0015

SINE WHEEL DRESSER

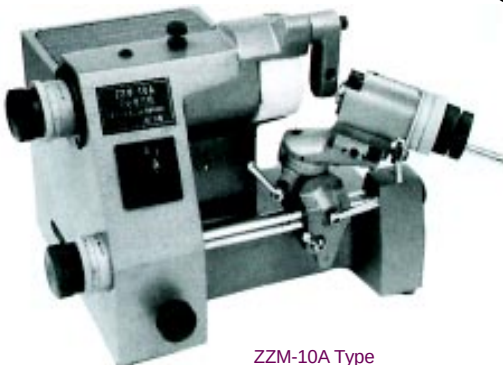


The grinding wheel dresser can be adjusted within 0° to 90°. The tolerance distance between two spindle is 0.01mm. It can dress any angles of wheel surface by its horizontal and vertical.

- Adjustable angle range: 0° to 90°
- Stroke of sliding base: 2"
- Parallelism of sliding base to base surface: 0.0003"

Model No.287-0010

CUTTER SHARPENER



ZZM-10A Type

this type cutter sharpener is desirable to grind milling cutter of all kinds of diameters, Shapers and angles for die sinker, also to die pin corresponding to the miller according to the die sinker scale. It is also suitable for grinding turning tool, and drills, etc.

Model No. 287-0000

5C Collet Type

Model No. 287-0001

- Wheel diameter: 4"
- Wheel thickness: 2"
- Wheel hole size: 3/4"
- Spindle speed: 5200rpm
- Collet clamping diameter range: 1/8"-5/8"
- Tool post longitudinal travel: 5-1/2"
- Spindle longitudinal micro adjustment: 1/3"
- Grinding taper range: 0° to 180°
- Grinding negative angle range: 0° to 52°
- Grinding relief range: 0° to 44°

Necessary equipment:

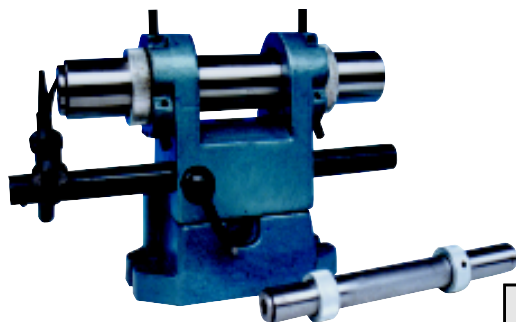
drill grinder: 2870-0010

Turning tool attachment: 2870-0011

Milling tool attachment: 2870-0012

Cutter Master

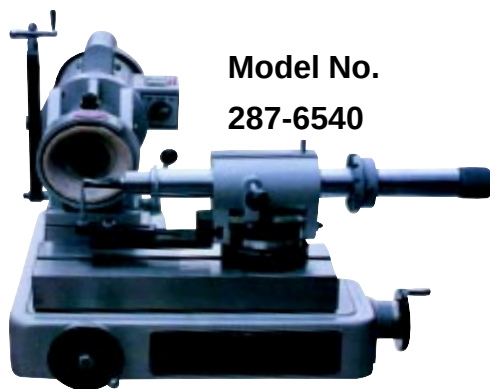
END-MILL SHARPENERS



Model No. 287-6530

- Designed to accomplish all sharpening needs. No need to send out tools. Specials as standards can be sharpened.
- Spindles and bushings to cover the full range of 3/16" up to 1-1/4"
- Shank end-mills are supplied. Will accept cutters with diameters up to 12", and even larger with the use of "riser blocks".
- Quickly sharpens cutters and end-mills right on your tool or surface grinder.
- Two spindles and four bushings cover the full range of 3/16", 3/8", 1/2", 5/8", 3/4", 7/8", 1" and 1-1/4" shank end-mills.
- Accept double end, end-mills

Specifications	Maximum Variation
Spindle center line to base parallelism (per 12")	0.0024"
Body to stand concentricity	0.0012"
Repeat accuracy	0.0012"



Model No.
287-6540

CUTTERMMASTER ENDMILL GRINDER

Specialized for grinding various End Mills,

Countersinks, Taps, Drills and Machine Tools

- Simple, safe operation—anyone can learn.
- High-grade castings throughout, precision machined and fitted!
- Rapid mounting of attachments.
- Sliding motor mount for rapid setting and lock.
- Wired for 110 Volts, single-phase motor.
- Uses standard 5C Collets.
- Dovetail ways with adjustable gibs.

Specifications

Max. Grinding Dia.	8-21/32"
Max. Grinding Length	9-1/4"
Air Bearing Fixture Center Height	4-3/4"
Longitudinal Table Travel	6"
Worktable Surface Dimension	
Longitudinal	16-1/2"x5-21/32"
Cross	12-29/32"x5-21/32"
Worktable T-Slot	1/2"x3/4"x5/16"
Table Infeed Graduation	0.001
Max. Wheel	5"x2"x1-1/4"
Tilt Adjustment For Wheelhead	+30°
Wheel Spindle Revolution	3450R.P.M.
Air Bearing Stroke	9-1/4"
Motor	1Phase, 110V/220V
Overall Dimensions	24"x24-1/2"x19-3/4"

RADIUS ATTACHMENT



Model No. 287-6541

This device is one of main attachment about type 287-6540 sharpener, It is applicable to grinding ball end mill, It can be used with other sharpener of worktable type

Specifications

Width of T slot	12.7mm
Collet for spindle hole	5C
Min infeed	0.0005"
Max acr radius of grinding	3"
Equal dividing	30°
Parallelism of work hole to base	0.02mm/60mm
Radial run out of work hole center line(60mm from hole)	0.015mm

PRECISION DRILL RE-SHARPENING MACHINE

Feature

- Easy operate, quickly, safety and high precision. Once hold will finish cutting edge and crossing edge
- Can grinding twist drill with two flutes
- Grinding range: cutting edge and crossing edge
- Grinding diameter: 3-21mm
- Grinding angle: 118°~150°
- motor: 230V 3.2A 50Hz 1000rpm
- Wheel maintenance: For the super resist-grinding wheel, you can operate without coolant and repair
- Operation time: Generally speaking, one drill which diameter is 3mm will be finished in 15 seconds, and one drill which diameter is 19mm will be finished in 60 seconds

Model No. 287-6600

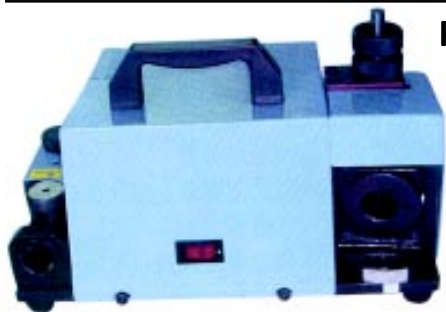


PRECISION DRILL RE-SHARPENING MACHINE

Feature

- Easy operate, quickly, safety and high precision. Once hold will finish cutting edge and crossing edge
- Can grinding twist drill with two flutes
- Grinding range: cutting edge and crossing edge
- Grinding diameter: 2-13mm(equipped collet: ER20)
- Grinding angle: 118°~135°
- motor: AC110V 1phase or AC220V 1phase
- Wheel: For the diamond grinding wheel, you can operate without coolant and repair

Model No. 287-6601



Grinder

FAST END MILL RE-SHARPENING MACHINE



Feature

- Easy operate, quickly safe. Once hold will finish end edge.
- Suitable to precisely grind HSS, carbide-point end mill with diamond grinding wheel.

Range of Grinding Dia	Range of Grinding end edge	Max. speed	Equipped Collets	Model No.
∅4- ∅13	2 ∅ 6 ∅ 20 ∅	5000rpm	ER20	287-6700

PRECISION DRILL RE-SHARPENING MACHINE



Feature

- Easy operate, quickly safe. Once hold will finish cutting edge and crossing edge.
- Suitable to precisely grind HSS, carbide-point drill with diamond grinding wheel.

Range of Grinding Dia	Range of Grinding Taper	Adjust Range	Equipped Collets	Motor	Model No.
∅3- ∅13	118 ∅-135 ∅	∅1mm	ER20	220V / 120W / 5000rpm	287-6702
∅13- ∅26	100 ∅-140 ∅	∅1mm	ER40	220V / 200W / 5000rpm	287-6703

LATHE TOOL GRINDER



With CN wheel, applicable to grind cutting tools made from HSS, carbide steel, ceramic. Easy operation, high accuracy makes it an ideal tool instead of manual grinding.

Model No. 287-6704

Main Technical Data:

Wheel diameter: 150mm
 Back angle of wheel: 30 ∅
 Table size: 133mm x 280mm
 Table travel: 80mm
 Up and down adjust: extensible: -10 ∅ -25 ∅
 Locking block swivel: ∅70 ∅
 Motor: 220V / 250W / 1400rpm
 Grinding capacity: Square shank lathe cutters and in axonum ∅28 straightshank tool.

LATHE TOOL GRINDER



Equipped with reversible diamond grinding wheel, it can grind HSS, carbide, ceramic tools etc. The wheel is balance before assembling and free from turning. Outstanding construction features optimized performance with minimum maintenance with easy operation.

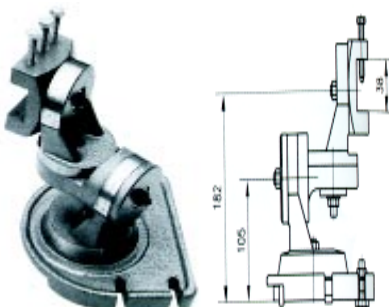
Model No. 287-6705

Grinding wheel size: 125x16x25mm
 Worktable vertical angle: ∅20 ∅
 Angle of Location block: ∅70 ∅
 Motor: 230V / 250W / 2800rpm
 Grinding range: Square lathe tool

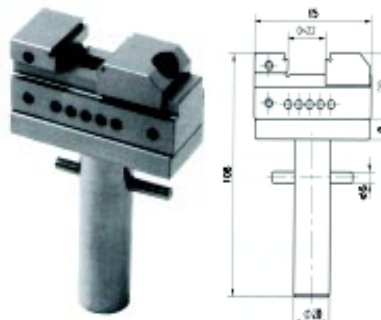
UNIVERSAL SHARPENER

This machine is used for precision grinding of square tools with any direction. Easy to operate.

Model No. 287-0005



ELECTRODE HOLDERS



- Hardness of surface is HRC 58-62.
- Parallelism ∅0.005mm/100mm.
- Squareness ∅0.005mm/100mm

Model No.287-0020

Edge Finder

SCREW JACK

It can be used on various, jacking with different combination easy to operation & save your time and pressure.



BASE OUTER DIE

1" Model No. 287-0200

1-1/8" Model No. 287-0250

"LITTLE GIANT" JACK SCREW SETS

For leveling work on planer beds, upright drills and setting up machinery

- Each kind of jack had different range as below, which can raise 1000 pounds or more.
- The extensions may be used singly or together, and when use together, Max. height for each one is : 3-3/4 and 6-1/8.
- Squareness $\pm 0.005\text{mm}/100\text{mm}$



Pieces	Range	Ability to lift	Model No.
6	1-1/2" to 2-1/4"	1000lbs	827-9370
6	2-1/4" to 3-3/8"	1000lbs	827-9380

DRIFT KEYS-DROP FORGED

- Removes taper shank drills or readers
- From sleeves or sockets quickly

Set Model No. 292-6240

Set include all FOUR size



Body	Fits Mt. Sleeves and sockets	Overall Length	ThickNess	Width at Hole	Model No.
1	No.1 M.T.	4-1/2"	13/64"	11/16"	292-6220
2	No.2 M.T.	4-1/8"	1/4"	13/16"	292-6225
3	No.3 M.T.	6-3/4"	5/16"	1-1/16"	292-6230
4	No.4.5.6 M.T.	7-1/8"	15/32"	1-1/8"	292-6235

HALF AUTOMATIC MORSE SHANK RULLER



The morse shank can easy to be pulled off by the half-automatic morse shank puller, Operation quickly, Saving time and pressure.

MS.NO	Overall Length(mm)	Model No.
1--3	317	287-0120
4--6	380	287-0122

MECHANICAL EDGE FINDER



Model No.210-0200

- Mwchanical dege finder for quick and easy location of round or flat work
- Manufactured from high quality steel
- Easy to use
- Quick and accurate
- Concentricity 0.005mm

ELECTTONIC EDGE FINDERS

Model No.287-0300



- Touch point LED indication
- Manufactured from high quality alloy steel
- Hardened and precision ground
- Concentricity:0.01mm

Shank Dia: 59mm

Overall length: 96.5mm

EDGE & CENTER FINDERS

- Helps ensure accuracy by releasing an audibe click when the tip jumps
- Availse in three size: 1/2", 3/8" and 10mm
- Hardened and precision ground on all working surface



Rotray Edge Finder

Shank Dia.	Tip Dia.	Model No.
3/8	4mm	805-3111
3/8	6mm	805-3115
3/8	10mm	805-3113
10mm	4mm	805-3101
10mm	6mm	805-3105
10mm	10mm	805-3103



Micro Edge Finders

Shank Dia.	Tip Dia.	Model No.
3/8	.200"	805-3121
3/8	10mm	805-3127
1/2	.200"	805-3123
1/2	.500"	805-3125
10mm	10mm	805-3129



Audible Edge Finders

Shank Dia.	Tip Dia.	Model No.
3/8	10mm	805-3161
1/2	.500"	805-3165
10mm	10mm	805-3163



Center Finders

Shank Dia.	Model No.
3/8	805-3131
1/2	805-3133



Combo Edge/Center Finders

Shank Dia.	Tip Dia.	Model No.
3/8	.200"	805-3141
1/2	.200"	805-3143



Micro Audible Edge Finders

Shank Dia.	Tip Dia.	Model No.
3/8	.200"	805-3151
1/2	.200"	805-3153

Clamping Kit

18-PC LARGE SPECIFICATION CLAMPING KIT

Material IC45a

Heat treatment HRC 30-40



Model 1

Each set contains:

- 4-T-Slot nuts
- 4-Flange nuts
- 2-Coupling nuts
- 2-Jacking tubes
- 2-U-clamps
- 4-Studs

Inch Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
11/16	5/8-11	30	50	160	18	400-1101
11/16	5/8-11	30	50	200	18	400-1102
11/16	5/8-11	40	50	250	18	400-1103
13/16	3/4-10	40	50	200	22	400-1104
13/16	3/4-10	40	60	250	22	400-1105
13/16	3/4-10	40	60	300	22	400-1106
1	7/8-9	40	65	200	26	400-1107
1	7/8-9	40	65	250	26	400-1108
1	7/8-9	40	65	315	26	400-1109
1-3/8	1-1/8-7	50	75	250	34	400-1110
1-3/8	1-1/8-7	50	75	315	34	400-1111
1-3/8	1-1/8-7	50	75	400	34	400-1112
1-9/16	1-1/8-6	60	100	400	40	400-1113
1-9/16	1-1/8-6	60	100	600	40	400-1114

Metric Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
17.7-19.7	M16-18	30	50	160	18	400-1201
17.7-19.7	M16-18	30	50	200	18	400-1202
17.7-19.7	M16-18	40	50	250	18	400-1203
21.7-23.7	M20-22	40	50	200	22	400-1204
21.7-23.7	M20-22	40	60	250	22	400-1205
21.7-23.7	M20-22	40	60	300	22	400-1206
27.7	M24	40	65	200	26	400-1207
27.7	M24	40	65	250	26	400-1208
27.7	M24	40	65	315	26	400-1209
33.7	M30	50	75	250	34	400-1210
33.7	M30	50	75	315	34	400-1211
33.7	M30	50	75	400	34	400-1212
39.7	M36	60	100	400	40	400-1213
39.7	M36	60	100	600	40	400-1214



Model 2

Each set contains:

- 4-T-Slot nuts
- 4-Flange nuts
- 2-Coupling nuts
- 2-Step blocks
- 2-Step clamps
- 4-Studs

Inch Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
5/8	1/2-13	20	40	100	14	400-1301
11/16	5/8-11	25	50	125	18	400-1302
13/16	3/4-10	30	60	160	22	400-1303
7/8	7/8-9	30	70	200	26	400-1304

Metric Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
13.7-15.7	M12-14	20	40	100	14	400-1401
17.7-19.7	M16-18	25	50	125	18	400-1402
21.7-23.7	M20-22	30	60	160	22	400-1403
27.7	M24	30	70	200	26	400-1404



Model 3

IC45a

HRC30-40

Material IC45a

Heat treatment HRC 30-40

Each set contains:

- 4-T-Slot nuts
- 4-Flange nuts
- 2-Coupling nuts
- 2-Jacking tubes
- 2-Plain clamps
- 4-Studs

Inch Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
9/16	1/2-13	20	40	100	14	400-1501
5/8	1/2-13	20	40	125	14	400-1502
11/16	5/8-11	25	50	125	18	400-1503
3/4	5/8-11	25	50	160	18	400-1504
13/16	3/4-10	30	60	160	22	400-1505
13/16	3/4-10	30	60	200	22	400-1506
7/8	7/8-9	30	70	200	26	400-1507
1	7/8-9	30	70	250	26	400-1508
1-3/8	1-1/8-7	40	80	250	34	400-1509
1-3/8	1-1/8-7	40	70	315	34	400-1510

Metric Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
13.7-15.7	M12-14	20	40	100	14	400-1601
13.7-15.7	M12-14	20	40	125	14	400-1602
17.7-19.7	M16-18	25	50	125	18	400-1603
17.7-19.7	M16-18	25	50	160	18	400-1604
21.7-23.7	M20-22	30	60	160	22	400-1605
21.7-23.7	M20-22	30	60	200	22	400-1606
27.7	M24	30	70	200	26	400-1607
27.7	M24	30	70	250	26	400-1608
33.7	M30	40	80	250	34	400-1609
33.7	M30	40	70	315	34	400-1610



Model 4

Each set contains:

- 4-T-Slot nuts
- 4-Flange nuts
- 2-Coupling nuts
- 2-T-Studs
- 2-Clamps
- 4-Studs
- IC45a
- HRC30-40
- Material IC45a
- Heat treatment HRC 30-40

Inch Size

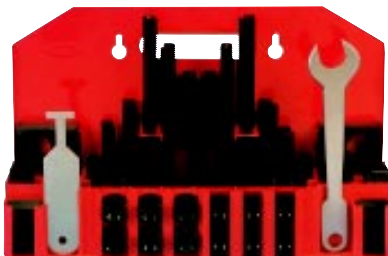
T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
5/8	1/2-13	20	40	100	15	400-1701
5/8	1/2-13	20	40	125	15	400-1702
5/8	1/2-13	20	40	160	15	400-1703
11/16	5/8-11	25	50	125	18	400-1704
11/16	5/8-11	25	50	160	18	400-1705
11/16	5/8-11	25	50	200	18	400-1706
13/16	3/4-10	30	60	160	22	400-1707
13/16	3/4-10	30	60	200	22	400-1708

Metric Size

T-Slot Size	Stud Size	Clamp Size				Model No.
		A	B	L	C	
13.7-15.7	M12-14	20	40	100	15	400-1801
13.7-15.7	M12-14	20	40	125	15	400-1802
13.7-15.7	M12-14	20	40	160	15	400-1803
17.7-19.7	M16-18	25	50	125	18	400-1804
17.7-19.7	M16-18	25	50	160	18	400-1805
17.7-19.7	M16-18	25	50	200	18	400-1806
21.7-23.7	M20-22	30	60	160	22	400-1807
21.7-23.7	M20-22	30	60	200	22	400-1808

Clamping Kit

52-PC. DELUXE STEEL CLAMPING KIT



Each set contains

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

* Nut Wrench - FREE.

* Slot Cleaner - FREE.

Table Slot	Stud Size	Metal Holder Model No.	Plastic Holder Model No.
3/8"	5/16"-18	400-2375	400-3375
7/16"	3/8" -16	400-2437	400-3437
9/16"	1/2" -13	400-2562	400-3562
1/2"	3/8" -16	400-2501	400-3501
5/8"	1/2" -13	*400-2626	*400-3626
3/4"	5/8" -11	400-2750	400-3750

50-PC SUPER CLAMP SETS

WITH STEEL BLOCKS

Each set contains

- 24 studs with flats, 4 each: 3", 4", 5", 6", 7", 8".lg.
- 4 coupling nut.
- 4 flange nuts.
- 6 serrated end clamps.
- 6 T slot nut.
- 6 step blocks.
- 1 T-slot cleaner-FREE.
- 1 holder-FREE.



Table Slot	Stud Size	Model No.
3/8"	5/16-18	400-4375
5/8"	1/2-13	400-4626

38-PC T-NUT & STUD SETS

- 4 flange nuts
- 4 T-slot nuts
- 4 coupling nuts
- 1T-slot cleaner
- 24 studs, 4 each: 3", 4", 5", 6", 7", 8".lg
- 1 Holder

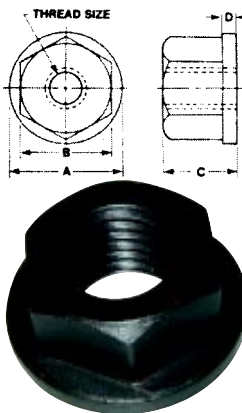
Table Slot	Stud Size	Model No.
7/16"	3/8-16	402-4437
9/16"	1/2-13	402-4562
5/8"	1/2-13	402-4625
3/4"	5/8-11	402-4750



FLANGED NUTS

- heat treated steel black oxide finished.

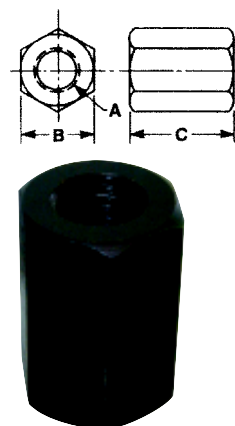
Thread Size	A	B	C	D	Model No.
5/16-18	11/16	1/2	9/32	1/8	407-5020
3/8-16	3/4	9/16	9/32	1/8	407-5024
1/2-13	1-5/32	7/8	1/2	3/16	407-5032
5/8-11	1-5/16	15/16	5/8	3/16	407-5040
3/4-10	1-1/2	1-1/8	21/32	1/4	407-5048
7/8-9	1-3/4	1-5/16	3/4	1/4	407-5056
1-8	2	1-1/2	7/8	1/4	407-5064



COUPLING NUTS

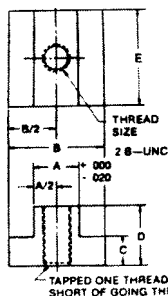
- heated treated steel black oxide finished.

Thread Size	Hex Size A	Hex Size B	Length C	Model No.
3/8-16	11/16	1		407-4024
5/16-18	9/16	7/8		407-4020
1/2-13	7/8	1-1/4		407-4032
5/8-11	1-1/16	1-5/8		407-4040
3/4-10	1-1/4	1-7/8		407-4048
7/8-9	1-7/16	2-1/4		407-4056
1-8	1-5/8	2-1/2		407-4064



T-SLOT NUTS

- Heat treated steel black oxide finished.
- An imperfect thread is left in the base of the T-nut to eliminate any danger of screwing stud through.
- T-nut and damaging table slot



Thread Size	Table Slot A	B	C	D	E	Model No.
5/16-18	3/8	5/8	3/16	1/2	7/8	407-2202
3/8-16	7/16	11/16	7/32	1/2	7/8	407-2204
3/8-16	1/2	7/8	9/32	1/2	7/8	407-2206
3/8-16	9/16	7/8	11/32	5/8	1-1/8	407-2208
1/2-13	9/16	7/8	11/32	5/8	1-1/8	407-2210
1/2-13	5/8	1	11/32	5/8	1-1/8	407-2212
1/2-13	11/16	1-1/8	7/16	3/4	1-1/4	407-2214
5/8-11	11/16	1-1/8	7/16	3/4	1-1/4	407-2216
5/8-11	3/4	1-1/4	15/32	3/4	1-1/4	407-2218
5/8-11	13/16	1-1/4	9/16	1	1-1/2	407-2220
3/4-10	13/16	1-1/4	9/16	1	1-1/2	407-2222
3/4-10	7/8	1-1/2	9/16	1	1-1/2	407-2224
3/4-10	1	1-5/8	5/8	1	1-3/4	407-2226
3/4-10	1-1/16	1-5/8	11/16		2	407-2228
7/8-9	1	1-5/8	5/8	1	1-3/4	407-2230
1/8	1-1/16	1-5/8	11/16		2	407-2232

Clamping Kit



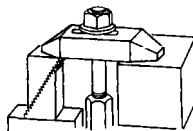
CLAMPING STUDS

- Heat treated steel
- Black oxide finished
- Studs threaded the same on both ends

OAL Length	A-1-1/8"	A-1-1/4"	A-1-1/2"	A-1-3/4"	A-2"	A-2-1/4"	A-2-1/2"
	5-16-18	3/8-16	1/2-13	5/8-11	3/4-10	7/8-9	1-8
	Model No.	Model No.	Model No.	Model No.	Model No.	Model No.	Model No.
1-1/2"	407-0115	407-0215	407-0315				
2"	407-0120	407-0220	407-0320	407-0420			
2-1/2"	407-0125	407-0225	407-0325				
3"	407-0130	407-0230	407-0330	407-0430	407-0530	407-0630	407-0730
3-1/2"		407-0235	407-0335	407-0435			
4"	407-0140	407-0240	407-0340	407-0440	407-0540	407-0640	407-0740
4-1/2"		407-0245	407-0345	407-0445			
5"	407-0150	407-0250	407-0350	407-0450	407-0550	407-0650	407-0750
5-1/2"		407-0255	407-0355	407-0455			
6"	407-0160	407-0260	407-0360	407-0460	407-0560	407-0660	407-0760
6-1/2"		407-0265	407-0365	407-0465			
7"	407-0170	407-0270	407-0370	407-0470	407-0570	407-0670	407-0770
7-1/2"	407-0175	407-0275	407-0375	407-0475			
8"	407-0180	407-0280	407-0380	407-0480	407-0580	407-0680	407-0780
			A-2"	A-2"	A-2"		
10"			407-0390	407-0490	407-0590	407-0690	407-0790
12"			407-0392	407-0492	407-0592	407-0692	407-0792
14"			407-0394	407-0494	407-0594	407-0694	407-0794
16"					407-0596	407-0696	407-0796
18"					407-0598	407-0698	407-0798
20"					407-0599	407-0699	407-0799

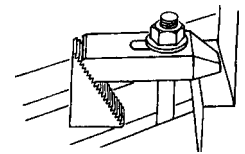
PLAIN CLAMP

Heat treated steel black oxide finished



Bolt Size	Length	Width	Thickness	Model No.
5/16 or 3/8	2-1/2	1	1/2	410-7002
5/16 or 3/8	4	1	5/8	410-7004
5/16 or 3/8	6	1-1/8	3/4	410-7006
1/2	2-1/2	1-1/8	1/2	410-7008
1/2	4	1-1/4	3/4	410-7010
1/2	6	1-1/4	7/8	410-7012
5/8	2-1/2	1-1/4	5/8	410-7014
5/8	4	1-1/2	3/4	410-7016
5/8	6	1-1/2	7/8	410-7018
3/4	4	1-1/2	3/4	410-7020
3/4	6	1-1/2	1	410-7022
3/4	8	1-3/4	1-1/8	410-7024
1	6	2	1-1/4	410-7026
1	8	2	1-3/8	410-7028
1	10	2	1-1/2	410-7030

STEP CLAMP



- Heat treated steel black oxide finished.
- Step clamp teeth are matched
- 1/2" & 5/8" bolt size clamps forged & hardened. to fit anysize step block.

Bolt Size	Length	Width	Thickness	Model No.
5/16 or 3/8	2-1/2	1	1/2	410-7702
5/16 or 3/8	4	1	5/8	410-7704
5/16 or 3/8	6	1-1/8	3/4	410-7706
1/2	2-1/2	1-1/8	1/2	410-7708
1/2	4	1-1/4	3/4	410-7710
1/2	6	1-1/4	7/8	410-7712
5/8	2-1/2	1-1/4	5/8	410-7714
5/8	4	1-1/2	3/4	410-7716
5/8	6	1-1/2	7/8	410-7718
3/4	4	1-1/2	3/4	410-7720
3/4	6	1-1/2	1	410-7722
3/4	8	1-3/4	1-1/8	410-7724
7/8 or 1	8	2	1-1/4	410-7726
7/8 or 1	8	2	1-3/8	410-7728
7/8 or 1	10	2	1-1/2	410-7730



DELUXE STEP BLOCKS

- Solid in pairs only.
- Standard steel and powder casting.

Capacity of Full Block	Height Of 1/2 Block	Powder Casting Model No	Steel Model No.
3/4 to 1 1/2	1-1/8	407-6110	407-6010
1-1/8 to 2-1/2	1-3/4	407-6120	407-6020
2-1/2 to 6	3-7/8	407-6130	407-6030

Heavy Duty Steel 1-1/2" Wide

Capacity of Full Block	Height Of 1/2 Block	Powder Casting Model No	Steel Model No.
1-1/2 to 3-3/4	2-1/2	407-6140	407-6040
2-1/2 to 6	3-7/8	407-6150	407-6050
3-1/2 to 9	5-1/2	407-6161	407-6060

Double Duty Steel 2" Wide

Capacity of Full Block	Height Of 1/2 Block	Powder Casting Model No	Steel Model No.
1-1/2 to 3-3/4	2-1/2	407-6170	407-6070
2-1/2 to 6	3-7/8	407-6180	407-6080
3-1/2 to 9	5-1/2	407-6190	407-6090

Clamping Kit

T-SLOT BOLTS

- Rough steel with milled T-slot guide
- Black oxide finish.
- Heat treated to HRC 36-40.



T-Slot (F)	Thread (A)	Head (B)	Length Under Length(E)	Model No.
1/2"	1/2"-13	2"	1"	407-1201
1/2"	1/2"-13	3"	1-1/2"	407-1202
1/2"	1/2"-13	4"	1-1/2"	407-1203
1/2"	1/2"-13	5"	2"	407-1204
5/8"	5/8"-11	2-1/2"	1-1/4"	407-1205
5/8"	5/8"-11	3"	1-1/2"	407-1206
5/8"	5/8"-11	3-1/2"	1-1/2"	407-1207
5/8"	5/8"-11	4"	1-1/2"	407-1208
5/8"	5/8"-11	5"	1-1/2"	407-1209
5/8"	5/8"-11	6"	1-1/2"	407-1210
5/8"	5/8"-11	8"	3"	407-1211
3/4"	3/4"-10	3"	1-1/4"	407-1212
3/4"	3/4"-10	4"	1-1/2"	407-1213
3/4"	3/4"-10	5"	1-1/2"	407-1214
1"	1"-8	4"	2"	407-1215
1"	1"-8	6"	2-1/2"	407-1216



Model No. 400-0000

ECONOMY ADAPTA CLAMP KIT

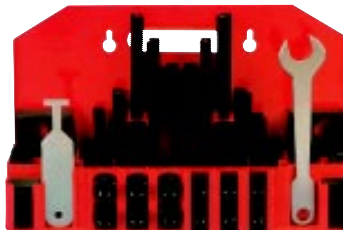
Better Performance with just 21 pieces



Model No. 400-8032

Including:
2 forged adjust clamps
8 T slot bolts, two each of 2,4,5,6"
4 Rotary T slot bolts 3,4,5,6"
2 springs, 4 flange nuts, and 1 sturdy holder.

52-PC. METRIC CLAMPING KIT



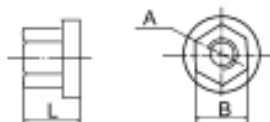
Size	Model No.
M10	400-3010
M12	400-3012
M14	400-3014
M16	400-3016

COUPLING NUTS



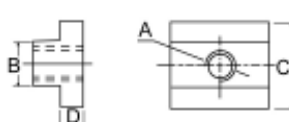
A	L	B	Model No.
M10	24	17	407-4110
M12	32	19	407-4112
M14	32	19	407-4114
M16	40	24	407-4116

FLANGED NUTS



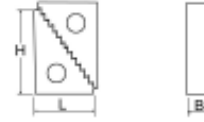
A	L	B	Model No.
M10	12	17	407-5010
M12	17	19	407-5012
M14	17	19	407-5014
M16	20	24	407-5016

T-SLOT NUTS

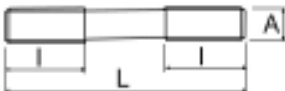


A	B	C	D	Model No.
M10	11.70	22	7.1	407-2310
M12	13.70	25	8	407-2312
M14	15.70	25	8	407-2314
M16	17.70	31	11	407-2316

STEP BLOCKS



L	H	B	Model No.
19.05	27.30	25	407-6210
26.99	39.60	25	407-6220
63.50	96.00	25	407-6230
50.80	77.30	27	407-6240
76.20	115	27	407-6250

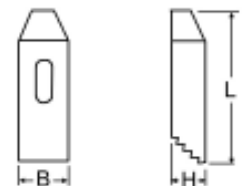


DOUBLE END BOLTS

A	L	I	Model No.	A	L	I	Model No.
M10	76	28	407-8005	M14	76	28	407-8065
M10	102	32	407-8010	M14	102	38	407-8070
M10	127	32	407-8015	M14	127	38	407-8075
M10	152	32	407-8020	M14	152	38	407-8080
M10	178	32	407-8025	M14	178	38	407-8085
M10	203	32	407-8030	M14	203	38	407-8090
M12	76	28	407-8035	M16	76	28	407-8095
M12	102	38	407-8040	M16	102	45	407-8100
M12	127	38	407-8045	M16	127	45	407-8105
M12	152	38	407-8050	M16	152	45	407-8110
M12	178	38	407-8055	M16	178	45	407-8115
M12	203	38	407-8060	M16	203	45	407-8120

STEP CLAMPS

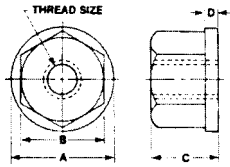
For Bolt	L	B	H	Model No.
M10	63.5	25	12	407-8205
M10	101.6	25	15	407-8210
M10	152.4	28	19	407-8215
M12	63.5	28	12	407-8220
M12	101.6	31	19	407-8225
M12	152.4	31	22	407-8230
M14	63.5	28	12	407-8235
M14	101.6	31	19	407-8240
M14	152.4	31	22	407-8245
M16	101.6	38	19	407-8250
M16	152.4	38	22	407-8255



Clamping Kit

METRIC FLANGE NUTS

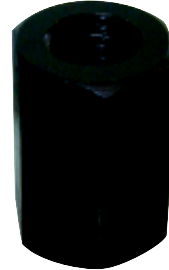
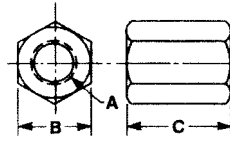
- Case hardened
- Material: 12L14
- Black oxide finish



Thd. Size	Flange Dia A(mm)	Hex Size B(mm)	Overall Ht. C(mm)	Flange Ht. D(mm)	Model No.
M6x1.00	16.0	10.0	8	2.00	407-5090
M8x1.25	19.0	13.0	10	2.50	407-5091
M10x1.50	22.0	17.0	13	3.00	407-5092
M12x1.75	27.0	19.0	17	4.00	407-5093
M16x2.00	33.0	24.0	21	5.00	407-5094
M20x2.50	40.0	30.0	25	6.00	407-5095
M24x3.0	49.0	36.0	32	7.00	407-5096

METRIC COUPLING NUTS

Material: European class 10.9 steel For functional and safety purposes bolts (DIN 787) and/or studs (DIN 6379) to be joined should be screwed in on either side to half the length of the nut. Minimum thread reach should be 1 x diameter of thread.

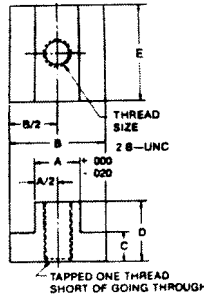
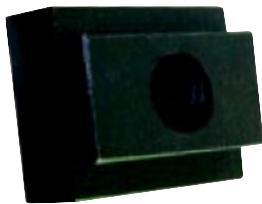


Thread Size	Hex Size S	E	Ht.	Model No.
M6	10	11.5	18	407-4201
M8	17	15.0	24	407-4202
M10	17	17.8	30	407-4203
M12	22	20.0	36	407-4204
M14	22	23.4	42	407-4205
M16	24	27.7	48	407-4206
M18	30	31.2	54	407-4207
M20	30	34.6	60	407-4208
M24	36	41.6	72	407-4209

METRIC T-SLOT NUTS

Table Saver Design or Tapped Thru

- Case Hardened
- Black oxide finish
- Size to fit all standard machine tables
- Tapped last thread is incomplete to prevent
- The stud from turning into the machine table



Thread Size	Table Slot A	Base W B	Slot Ht. C	OAH D	OAL E	Model No.
M6x1.0	8mm	14mm	6mm	10mm	19	407-2280
M6x1.0	10	16	6	11	22	407-2281
M8x1.25	10	16	6	11	22	407-2282
M10x1.5	12	19	7	13	22	407-2283
M10x1.5	14	22	9	16	19	407-2284
M12x1.75	14	22	9	16	19	407-2285
M12x1.75	16	25	9	16	19	407-2286
M16x2.0	18	29	11	19	32	407-2288
M16x2.0	20	32	14	25	35	407-2289
M20x2.5	22	35	14	25	38	407-2290
M24x3.0	27	41	18	29	51	407-2291

METRIC STUDS

- Rolled Thread
- Material: Stress proof
- Tensile Strength: 860 MPa¹/125,000 psi
- Yield Strength: 690 MPa/100,000 psi
- Black Oxide Finish

¹Mage Pascals



Thread Size	OAL L(mm)	Thread Length N(mm)	Model No.
M6x1.0	50	20	407-8130
M6x1.0	65	20	407-8131
M6x1.0	80	27	407-8132
M6x1.0	95	27	407-8133
M6x1.0	110	31	407-8134
M6x1.0	140	35	407-8135
M6x1.0	150	35	407-8136
M6x1.0	175	35	407-8137
M6x1.0	200	35	407-8138
M8x1.25	50	20	407-8139
M8x1.25	65	20	407-8140
M8x1.25	80	27	407-8141
M8x1.25	95	31	407-8142
M8x1.25	110	31	407-8143
M8x1.25	140	35	407-8144
M8x1.25	150	35	407-8145
M8x1.25	175	35	407-8146
M8x1.25	200	35	407-8147
M10x1.5	50	20	407-8148
M10x1.5	65	20	407-8149
M10x1.5	80	27	407-8150

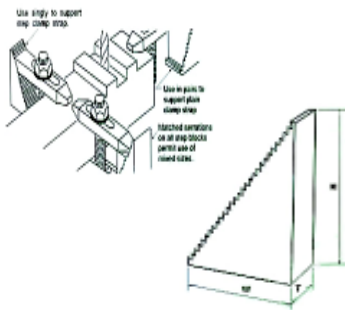
Thread Size	OAL L(mm)	Thread Length N(mm)	Model No.
M10x1.5	95	31	407-8151
M10x1.5	110	35	407-8152
M10x1.5	125	35	407-8153
M10x1.5	140	35	407-8154
M10x1.5	150	35	407-8155
M10x1.5	175	35	407-8156
M10x1.5	200	35	407-8157
M12x1.75	50	20	407-8158
M12x1.75	65	20	407-8159
M12x1.75	80	27	407-8160
M12x1.75	95	31	407-8161
M12x1.75	110	39	407-8162
M12x1.75	125	39	407-8163
M12x1.75	140	39	407-8164
M12x1.75	150	39	407-8165
M12x1.75	175	39	407-8166
M12x1.75	200	39	407-8167
M16x2.0	80	27	407-8168
M16x2.0	95	31	407-8169
M16x2.0	110	47	407-8170
M16x2.0	125	47	407-8171

Thread Size	OAL L(mm)	Thread Length N(mm)	Model No.
M16x2.0	150	47	407-8172
M16x2.0	175	47	407-8173
M16x2.0	200	47	407-8174
M16x2.0	250	47	407-8175
M16x2.0	300	47	407-8176
M20x2.5	80	27	407-8177
M20x2.5	95	31	407-8178
M20x2.5	110	47	407-8179
M20x2.5	125	55	407-8180
M20x2.5	150	55	407-8181
M20x2.5	175	55	407-8182
M20x2.5	200	55	407-8183
M20x2.5	250	55	407-8184
M20x2.5	300	63	407-8185
M24x3.0	100	55	407-8186
M24x3.0	150	39	407-8187
M24x3.0	125	55	407-8188
M24x3.0	175	63	407-8189
M24x3.0	200	63	407-8190
M24x3.0	250	63	407-8191
M24x3.0	300	63	407-8192

Clamping Kit

STEP BLOCK

2 pcs for 1 set



T	W	H	Height (max)	Non-Magnetism	With-Magnetism
				Model No.	Model No.
25	19	31	45	400-2521	400-2621
25	28	46	70	400-2522	400-2622
25	47	78	130	400-2523	400-2623
25	57	92	150	400-2524	400-2624
27	28	46	70	400-2525	400-2625
27	47	78	130	400-2526	400-2626
27	70	115	180	400-2527	400-2627
38	38	63	90	400-2528	400-2628
38	60	98	150	400-2529	400-2629
38	82	140	220	400-2530	400-2630

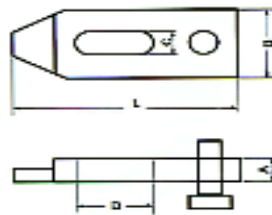
CLAMP STRAP

IC45e

HRC30-40

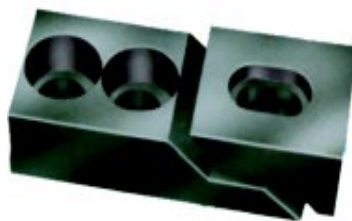
Material IC45e

Heat treatment HRC 30-40



A	B	L	C	T-Stud Size	Model No.
20	40	100	15	24x4x60	400-2901
20	40	125	15	25x4x60	400-2902
20	40	160	15	25x4x60	400-2903
25	50	125	18	25x4x70	400-2904
25	50	160	18	25x4x70	400-2905
25	50	200	18	25x4x70	400-2906
30	60	160	22	36x5x90	400-2907
30	60	200	22	36x5x90	400-2908

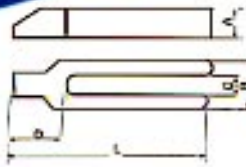
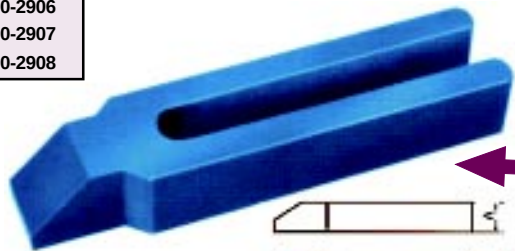
A	B	L	C	Stud Size	Model No.
15	30	80	11	10x1.5x35	400-3301
20	40	100	15	12x1.75x42	400-3302
25	50	125	18	12x1.75x42	400-3303



HRC 30-40

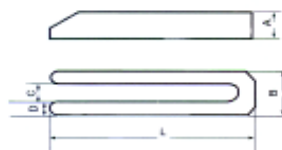
Material IC45e

Heat treatment HRC 30-40



A	B	L	C	Stud Size	Model No.
15	30	100	9	M8	400-3401
20	30	125	11	M10	400-3402
25	40	160	14	M12-14	400-3403
25	40	200	14	M12-14	400-3404
30	50	200	18	M16-18	400-3405
30	50	250	18	M16-18	400-3406
40	60	250	22	M20-22	400-3407
40	60	315	22	M20-22	400-3408
40	70	250	26	M24-26	400-3409
40	70	315	26	M24-26	400-3410
50	80	315	34	M30	400-3411
50	80	400	34	M30	400-3412

A	B	L	C	Stud Size	Model No.
30	50	120	10.5	M12	400-3101
30	50	120	10.5	M12	400-3102
30	50	120	12.5	M12	400-3103
30	50	120	14.5	M12	400-3104
30	50	120	16.5	M12	400-3105
30	50	120	18.5	M12	400-3106



A	B	L	C	Stud Size	Model No.
20	40	125	14	M12	400-2801
25	50	160	16	M14	400-2802
25	50	160	18	M16	400-2803
25	50	160	22	M20	400-2804
30	60	200	22	M20	400-2805
30	60	200	26	M24	400-2806
30	70	250	26	M24	400-2807



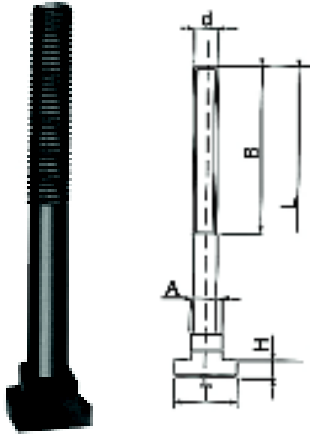
A	B	L	C	Stud Size	Model No.
15	21	60	7	M6	400-3521
15	30	80	9	M8	400-3502
20	31	100	11	M10	400-3503
25	40	125	14	M12-14	400-3504
25	40	160	14	M12-14	400-3505
25	40	200	14	M12-14	400-3506
30	50	160	18	M16-18	400-3507
30	50	200	18	M16-18	400-3508
40	50	250	18	M16-18	400-3509
40	50	200	22	M20-22	400-3510
40	60	250	22	M20-22	400-3511
40	60	300	22	M20-22	400-3512
40	65	200	26	M24-26	400-3513
40	65	250	26	M24-26	400-3514
40	65	315	26	M24-26	400-3515
50	74	250	34	M30	400-3516
50	74	315	34	M30	400-3517
50	74	400	34	M30	400-3518
60	100	400	40	M36	400-3519
60	100	600	40	M36	400-3520

Clamping Kit

T-STUD

Material IC45e

Heat treatment HRC 15-25



d x 1	B	A	T	H	Model No.
M10x45	30	9.7	17	6	407-1601
M10x60	30	9.7	17	6	407-1602
M10x80	35	9.7	17	6	407-1603
M10x100	45	9.7	17	6	407-1604
M10x120	55	9.7	17	6	407-1605
M10x140	45	9.7	17	6	407-1606
M10x160	45	9.7	17	6	407-1607
M12x50	30	11.7	20	7	407-1608
M12x60	35	11.7	20	7	407-1609
M12x80	40	11.7	20	7	407-1610
M12x100	45	11.7	20	7	407-1611
M12x115	45	11.7	20	7	407-1612
M12x125	55	11.7	20	7	407-1613
M12x145	55	11.7	20	7	407-1614
M12x175	55	11.7	20	7	407-1615
M12x205	55	11.7	20	7	407-1616
M14x60	35	13.7	23	9	407-1617
M14x70	40	13.7	23	9	407-1618
M14x80	45	13.7	23	9	407-1619
M14x100	45	13.7	23	9	407-1620
M14x120	55	13.7	23	9	407-1621
M14x150	75	13.7	23	9	407-1622
M14x180	75	13.7	23	9	407-1623
M14x200	65	13.7	23	9	407-1624
M14x240	80	13.7	23	9	407-1625
M16x60	40	15.7	25	10	407-1626
M16x80	45	15.7	25	10	407-1627

d x 1	B	A	T	H	Model No.
M16x100	45	15.7	25	10	407-1628
M16x120	55	15.7	25	10	407-1629
M16x160	65	15.7	25	10	407-1630
M16x180	75	15.7	25	10	407-1631
M16x210	75	15.7	25	10	407-1632
M16x240	75	15.7	25	10	407-1633
M18x80	45	17.7	30	10.5	407-1634
M18x100	45	17.7	30	10.5	407-1635
M18x120	55	17.7	30	10.5	407-1636
M18x160	65	17.7	30	10.5	407-1637
M18x180	65	17.7	30	10.5	407-1638
M18x210	65	17.7	30	10.5	407-1639
M18x240	65	17.7	30	10.5	407-1640
M20x80	35	19.7	32	12	407-1641
M20x100	55	19.7	32	12	407-1642
M20x120	55	19.7	32	12	407-1643
M20x150	75	19.7	32	12	407-1644
M20x180	70	19.7	32	12	407-1645
M20x210	70	19.7	32	12	407-1646
M20x240	75	19.7	32	12	407-1647
M22x130	80	21.7	35	14.5	407-1648
M22x210	80	21.7	35	14.5	407-1649
M22x265	80	21.7	35	14.5	407-1650
M22x315	80	21.7	35	14.5	407-1651
M24x130	70	23.7	40	16	407-1652
M24x210	70	23.7	40	16	407-1653
M24x265	80	23.7	40	16	407-1654
M24x310	80	23.7	40	16	407-1655

JACKING TUBE



IC45e

HRC 30-40

Material IC45e

Heat treatment HRC 30-40

Can be adjusted at any height for clamp workpiece.

Non-magnetism jacking tube

ØD	H(min)	H(max)	T-Stud Size	Model No.
34	40	50	25x4	400-3601
34	85	150	25x4	400-3602
50	50	70	36x5	400-3603
50	75	110	36x5	400-3604
50	110	180	36x5	400-3605
65	100	140	40x5	400-3606
65	140	220	40x5	400-3607
65	190	300	40x5	400-3608
80	140	210	45x5	400-3609
100	190	320	63x5	400-3610



IC45e

HRC 30-40

Material IC45e

Heat treatment HRC 30-40

Can be attract the vertical worktable and adjusted at any height for clamp workpiece.

With magnetism jacking tube

ØD	H(min)	H(max)	T-Stud Size	Model No.
34	55	70	25x4	400-3701
40	100	155	25x4	400-3702
50	85	130	36x5	400-3703
50	120	180	36x5	400-3704
60	165	270	36x5	400-3705

Clamps

ADJUSTABLE CLAMPING ASSEMBLIES



- One piece assembly allows quick set-up on mill tables with T-slot.
- Instant height adjustment.
- Attached brass shims protect machine table and workpiece

T-slot Bolt (Stud x Length)	Clamping Range	Clamping Width	Model No.
3/8"-16x3"	Up to 1-3/4"	1-1/4"	400-8051
1/2"-13x4"	Up to 2-1/16"	1-5/8"	400-8053
5/8"-11x5"	Up to 3"	1-7/8"	400-8055
3/4"-10x6"	Up to 4-1/4"	2-5/8"	400-8057

HEAVY DUTY HOLD-DOWN CLAMP SET

- One piece forged steel heads, fully heat treated
- Allows quick set-up on mill table with T-slot
- Instant height adjustment
- Self-positioning
- Hinged swivel rocker

SOLD BY PAIR



A Model

T-slot	Model No.
5/16"-18	400-5001
3/8"-16	400-5002
1/2"-13	400-5003

T-slot	Model No.
M8	400-5101
M10	400-5102
M12	400-5103
M14	400-5104



B Model

T-slot	Model No.
3/8"-16	400-5201
1/2"-13	400-5202
5/8"-11	400-5203
3/4"-10	400-5204

T-slot	Model No.
M10	400-5301
M12	400-5302
M14	400-5303
M16	400-5304
M18	400-5305
M20	400-5306

WELDING ANGLE CLAMPS

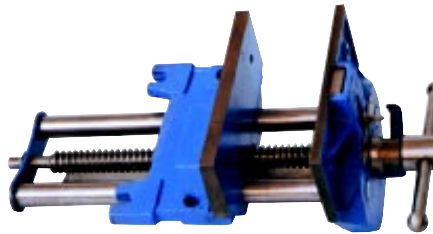
Problems solver and the time saver



Model No. 318-0008

- Holds two pieces of different thickness at a 90° angle.
- Has "V" jaws for holding round material.
- Up to 1-1/2" on square or rect angular material.
- Up to 1-1/2" round material.

WOOD WORKING CLAMP



This heavy duty unit is everything a vise should be. Some features include carefully machined main screw and guide rods, quality casting and quick release bar. Pre-drilled jaws allow easy installation of wooden faces. Fastens flush to a standard 2-1/2" work bench.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
7"	3-1/2"	11"	428-9900
9"	3-1/3"	10-1/2"	428-9901



428-7430



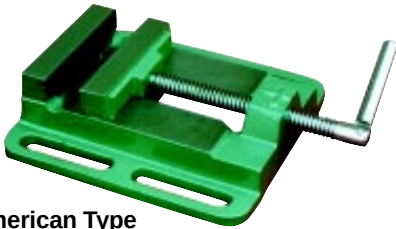
428-7440

HOLD DOWN CLAMPS

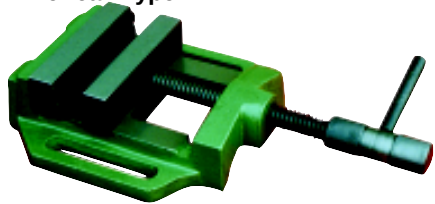
Hold down clamps can be spotted on any work surface on bench tops. A countersink hole is bored to accommodate the bolt that engages the clamp frame, rugged, heat thread malleable iron frame.

Capacity	Opening Throat	Dia. Of Screw	Model No.
3	1-3/4	9/16"	428-7430
4-1/4	2-1/2	13/16"	428-7440

DRILL PRESS VISES



American Type



German Type

- Popularly used in tool rooms and machine shops for small work.
- Adjustable screw has fine pitch and long bearing.
- Rugged cast iron construction.
- Grooved steel jaw for better grip.
- Lead screw has precision cut.

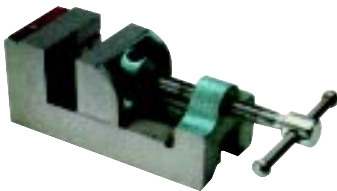
American Type

Jaw Width	Height of Jaw	Max. Jaw Opening	Model No.
2-1/2"	3/4"	2	428-8402
3"	3/4"	3-3/8	428-8403
4"	3/4"	4	428-8404
5"	7/8"	4-7/8	428-8405
6"	7/8"	5-5/8	428-8406

German Type

Jaw Width	Jaw	Height of Max. Jaw Opening	Model No.
50mm	20	30	428-8412
75mm	20	50	428-8413
100mm	20	80	428-8414
125mm	25	100	428-8415
150mm	25	135	428-8416

DRILL PRESS VISES



- For small drilling, tapping and grinding.
- Can be turned on either side of stand on end.
- Accurately machined and assembled from high intensive cast iron.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
2-1/2	1-1/2	2-1/2"	428-7402
3-1/2	1-3/4	3-1/2"	428-7403
4-1/2	1-3/4	4-1/2"	428-7404

SWIVEL & TILT VISES



- The base has keyway and two bolt slots for locating and mounting on machine table.
- Angle vise are mounted on swivel base, providing complete 360° rotation of the angle base and 0° horizontal to 90° vertical setting.
- Jaw plates are one plain and one grooved.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
2-1/2	1-1/2	2-1/2"	428-8825
3-1/2	1-3/8	3"	428-8830
4-1/2	1-5/8	4"	428-8840

DELUXE TILT VISES



- Full 90° horizontal to vertical adjustment.
- One grooves and one plain jaw plates.
- Two bolt lugs on the base for setting on machine table.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
3	1-3/8	3"	428-8730
4	1-5/8	4"	428-8740

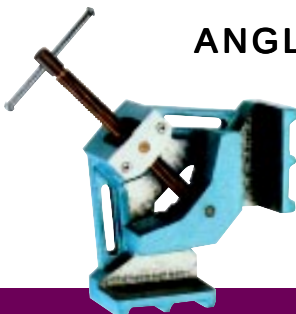
ADJUSTABLE ANGLE VISES



- Full 90° adjustable hardened and ground replaceable jaws, ground to fit round parts.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
2-1/2"	1-1/2"	2-3/8"	428-7101
3-1/2"	1-1/2"	3"	428-7102
4-1/2"	1-5/8"	4"	428-7103

ANGLE VISES



Length of Jaw	Height of Jaw	Jaw Opening	Model No.
4"	1-3/8"	2-3/8"	625-0125
5"	2-3/8"	4"	625-0130

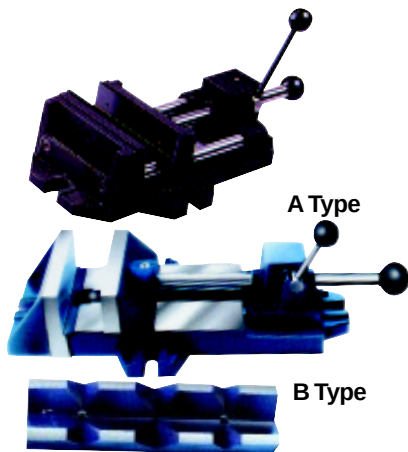
HAND VISE SPRING TYPE



Length x jawWidth	Model No.
3"x1 3/8"	608-1000
4"x1 5/8"	608-1005
5"x2"	608-1010

Vise

QUICK GRIP DRILL PRESS VISES



- Center bar of high carbon steel and locking mechanism are hardened and ground. Set screw adjusts clamping pressure and feed of the sliding jaw, when the lever is in operation.
- With bolt lugs for clamping on worktable.
- Body and sliding jaw are of selected strong stress relieved iron casting.

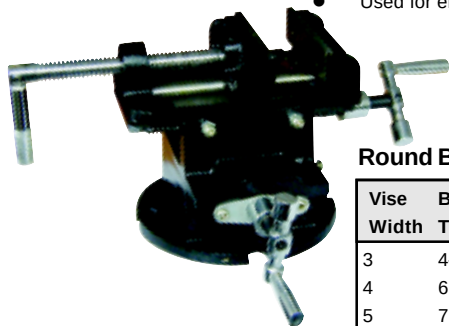
A Type

Jaw Width	Jaw Depth	Jaw Opening	Model No.
3	1-1/4	3"	428-8503
4	1-5/16	4-11/16"	428-8504
6	1-13/16	6-3/16"	428-8506
8	2	8-3/8"	428-8508

B Type

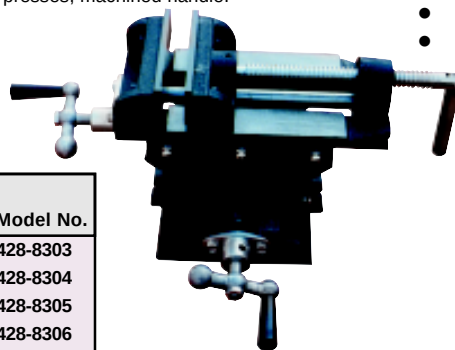
Jaw Width	Jaw Opening	Jaw Depth	Model No.
3-1/8	2-3/4"	1-1/2	428-8523
4	3-1/8"	1-3/4	428-8524
4-3/4	3-1/2"	2	428-8525

2-WAY COMPOUND SLIDE VISE



Round Base

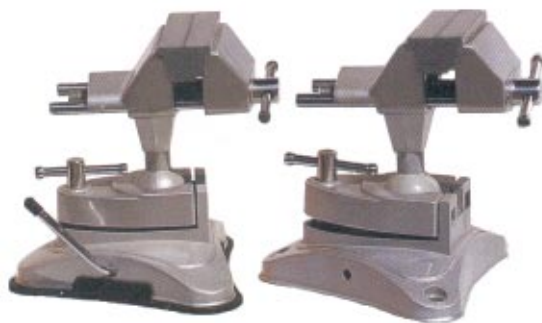
Vise Width	Base Travel	Vise Travel	Model No.
3	4-1/2	3-1/2"	428-8303
4	6	5"	428-8304
5	7	6"	428-8305
6	8	6"	428-8306



Square Base

Vise Width	Base Travel	Vise Travel	Model No.
3	4-1/2	3-1/2"	428-8313
4	6	5"	428-8314
5	7	6"	428-8315
6	8	6"	428-8316

- Used for end mills or drills presses, machined handle.
- Adjustable wear gibs and both axis.
- Independent cross feed and traverse.
- Hardened and ground top jaws.



UNIVERSAL BABY BENCH VISE

- Universal movement on the ball joint
- Section base for most of smooth surfaces

Jaw Width	Jaw Opening	Swivel Model No.	Fix type Model No.
3"	1-1/2"	428-1401	428-1402

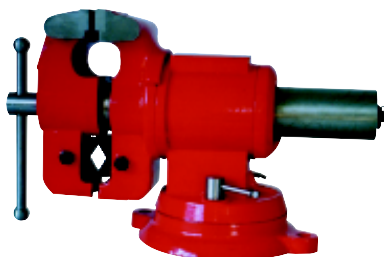


BENCH VISE

- Removable hardened alloy steel jaw inserts.
- Completely enclosed center screw.
- Attractive hammered enamel finish.

Jaw Width	Jaw Opening	Weight (kgs)	Stationary Base Model No.	Weight (kgs)	Swivel Base Model No.
4"	4"	6.5	428-7504	7	428-7604
5"	5"	12	428-7505	13	428-7605
6"	6"	20	428-7506	22	428-7606
8"	8"	32	428-7508	35	428-7608

MULTI-PURPOSE ROTATING VISE



One of the most versatile vises on the market. Unique design comes equipped with 5" parallel jaw, V-shaped pipe jaws, and a solid steel anvil. Both jaws and locking base swivel 360° for the best angle on your work.

Jaw width	Parallel Jaw Opening	PipeVise Opening	Weight (kgs)	Model No.
4"	0-3.2"	.39-2"	19	428-9905
4"	0-3.2"	.39-2"	23	428-9907
5"	0-4"	.6-2.36	40	428-9910
5"	0-4"	.6-2.36"	22	428-9911
5"	0-4"	.6-2.36"	27	428-9912
5"	0-4"	0-4.7"	30	428-9913
5"	0-4"	0-4.7"	34	428-9914
6"	0-4.7"	.59-2.56"	38	428-9915
6"	0-4.7"	.59-2.56"	45	428-9916

Vise

TILT & SWIVEL MILLING VISES



- Positive locking to withstand heavy loads.
- Horizontal swivel movement 360°
Vertical swivel movement 90°
- Accuracy hardened and ground jaws run on precision ground.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
4	1-5/8	2-3/4"	428-7304
5	1-7/8	4"	428-7305
6	2	5"	428-7306

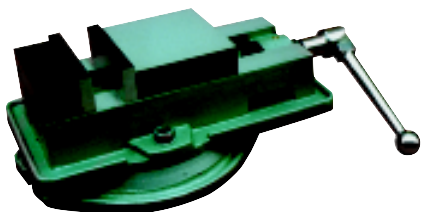
MILLING VISE WITH SWIVEL BASE



- Used in milling sharpening and drilling machine.
- Fill 360° swivel base with fine, accurate graduation.
- Can be used both as stationary or swivel vise.
- Drop forged handle.

Jaw Width	Jaw Depth	Jaw Opening	Model No.
3	1-3/8	2-5/8"	428-8103
4	1-1/2	3-1/8"	428-8104
5	1-3/4	4"	428-8105
6	2	5"	428-8106
8	2-3/8	6-1/2"	428-8108

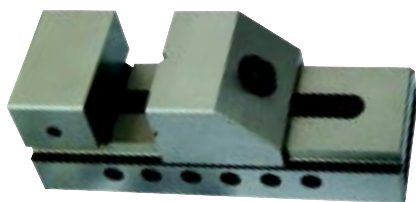
PRECISION MILLING MACHINE VISES



- Two type with swivel and without swivel. Only 6-1/4" without swivel.
- With lock down jaw eliminates TILT.
- Provide better clamping pressure.
- Eliminates hammering.
- Removable hinged handle for fast locking.

Jaw Width	Jaw Depth	Jaw Opening	With Swivel Base Model No.	Without Swivel Base Model No.
4	1-1/4	4-1/8"	428-7241	428-7240
5	1-3/8	4-1/2"	428-7251	428-7250
6	1-3/4	5-1/2"	428-7261	428-7260
8	2-1/4	8-1/4"	428-7281	428-7280
6-1/4	1-1/2	8-1/8"		428-7265

PRECISION TOOLMAKERS VISE



- Guaranteed tolerance within .005mm/.0002" of parallelism, flatness and squareness with the vise in any mode. Made of high carbon steel, Hardened and tempered to ensure stability and accuracy throughout the unit's working life. The hardness is 58-62 HRC.
- For high accuracy light machining, inspection or marking of precision components. Vise can be used on base, side, end or top.

Jaw Width	Jaw Depth	Jaw Opening	Vise Length	Model No.
1	3/8	1	1-5/8"	428-9210
2	1-1/4	3	6"	428-9220
2-1/2	1-3/8	3-1/2	7-1/4"	428-9225
3	1-5/8	4	7-5/8"	428-9230
3-1/2	1-5/8	5	10"	428-9235
4	1-7/8	5	10-3/8"	428-9240
5	2	6-3/8	12"	428-9250

PRECISION TOOLMAKERS VISE



- Clamping slots and 3/8" hole in base, provide easy means of fixing to angle plate etc.
- Hardened and ground dovetail slides eliminate "left" and insure consistent accuracy, the hardness is 58-62 HRC.
- Has ground "V" way, Detachable replacement jaws.
- Vise is square and parallel to .005mm/.0002"

Jaw Width	Jaw Depth	Jaw Opening	Vise Length	Model No.
2	1	2-1/2	6"	428-9020
2-1/2	1-1/4	3-1/2	7-1/2"	428-9025
3	1-1/4	4	8-1/2"	428-9030
3-1/2	1-3/8	5	10"	428-9035
4	1-5/8	5	10-3/8"	428-9040
5	2	6-3/8	12"	428-9050

PRECISION ANGLE VISE



- Made of high carbon steel. Subject to rigid heat-treatment.
- Provide a close tolerance of .005mm/.0002" for both parallelism and squareness.
- Available for inspecting angles and work pieces with angle.

Jaw Width	Jaw Depth	Jaw Opening	Vise Length	Model No.
2	1	2-5/8	5-3/8"	428-9520
2-1/2	1-1/4	3-5/8	3"	428-9525
3	1-1/4	4	7-5/8"	428-9530
3-1/2	1-5/8	4	9-3/8"	428-9535
4	1-5/8	5	10"	428-9540



PRECISION SINE VISE

Jaw Width	Jaw Depth	Jaw Opening	Vise Length	Model No.
75mm	32mm	100mm	214mm	428-3701
100mm	45mm	120mm	244mm	428-3702
125mm	50mm	160mm	303.5mm	428-3703



PRECISION MACHINE VISE

- Perpendicularity of vise and work table is 50:0.02.
- Made of high quality alloy steel, the case hardness is HRC58-62.
- Suitable for milling, boring, drilling and grinding on CNC machine, machine center and ordinary machines

Jaw Width	Jaw Opening	Vise Length	Max clamping force(KGF)	Model No.
152mm	152mm	305mm	3000	428-3710

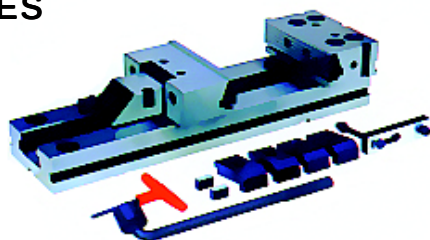
SINGLE & DOUBLE ACTION VISES



- Made of high-quality alloy steel
- Parallelism 0.005mm / 100mm, squareness 0.005mm
- The hardness of working surface is HRC58-62 and precision ground surface
- It can quickly change from double vise to single vise with very large opening
- It is widely used on machining center and other precision machine tools

Jaw Width (mm)	Jaw High (mm)	OAL (mm)	Double Jaw open(mm)	Model No.	Single Jaw open(mm)
100	30	460	2x90	428-3401	290
125	40	520	2x100	428-3402	320
150	50	580	2x110	428-3403	360
150	50	680	2x160	428-3404	460
175	60	666	2x120	428-3405	400
175	60	766	2x170	428-3406	500
175	60	866	2x220	428-3407	600
175	60	966	2x270	428-3408	700
200	65	805	2x150	428-3409	500
200	65	905	2x200	428-3410	600
200	65	1005	2x250	428-3411	700
200	65	1105	2x300	428-3412	800
200	65	1205	2x350	428-3413	900

PRECISION HORIZONTAL VERTICAL VISES

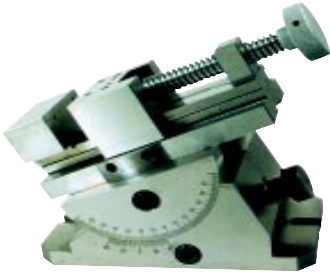


- Made of high-quality alloy steel
- Parallelism 0.005mm / 100mm, squareness 0.005mm
- The hardness of working surface is HRC58-62 and precision ground to mirror finish
- Can be used in vertical or horizontal, to process anomalous shape workpiece.
- It is widely used on machining center and other precision machine tools

Jaw Width (mm)	Jaw High (mm)	Smax(mm)	OAL length	Model No.
100	30	100	270	428-3301
125	40	150	345	428-3302
150	50	200	420	428-3303
150	50	300	520	428-3304
175	60	200	455	428-3305
175	60	300	555	428-3306
175	60	400	655	428-3307
175	60	500	755	428-3308
200	65	200	495	428-3309
200	65	300	595	428-3310
200	65	400	695	428-3311
200	65	500	795	428-3312
200	65	600	895	428-3313

Vise

PRECISION UNIVERSAL VISE



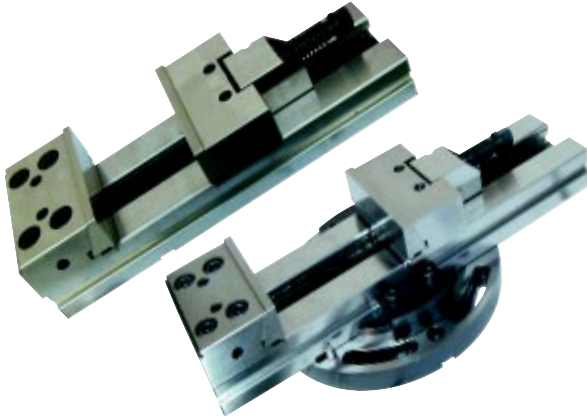
Precision Universal Vise is a newly developed fixture which is composed of two parts, namely a precision vise and a swivel plate base. With the aid of graduated swivel plate, the vise is capable of revolving 360° in a horizontal plane and 45° in a vertical plane. It

is adaptable to precision grinding machine and boring machine and so on, for level and inclined face machining as well as boring at a certain degree of inclination etc.

Width of Jaw	Max. Opening of Jaws	Depth of Jaw	Model No.
2-3/4"	3-1/8"	1-1/8"	628-7020
70mm	80mm	30mm	628-7010

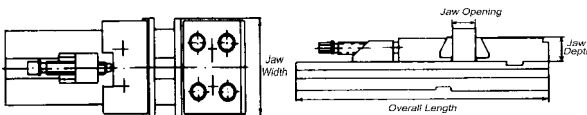
PRECISION MODULAR VISES

Ground flat, square, and parallel within 0.005mm (.0002")



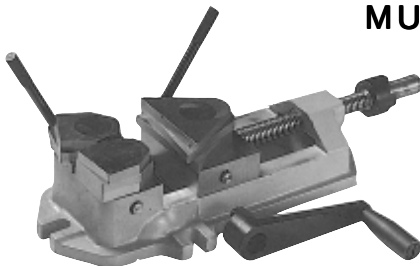
Each Model includes:

- One each of L-Socket Wrench, T-Hex Key,
- One set Vise Holding Clamps (four pieces)
- One set Positioning Key-Nuts (two pieces)
- One Work Stop with main bolt.



Jaw Width	Jaw Depth	Jaw Opening	Overall Length	Without Swivel Base Model No.	With Swivel Base Model No.
4"/100mm	1.2"/30mm	4"/100mm	10.6"/270mm	428-0100	428-1100
5"/125mm	1.6"/40mm	6"/150mm	13.6"/345mm	428-0125	428-1125
6"/150mm	2.0"/50mm	8"/200mm	16.5"/420mm	428-0150	428-1150
6"/150mm	2.4"/50mm	12"/300mm	20.5"/520mm	428-0151	428-1151
6"/150mm	2.4"/50mm	16"/400mm	24.8"/620mm	428-0152	428-1152
7"/175mm	2.4"/60mm	8"/200mm	17.9"/455mm	428-0175	428-1175
7"/175mm	2.4"/60mm	12"/300mm	21.9"/555mm	428-0176	428-1176
7"/175mm	2.4"/60mm	16"/400mm	25.8"/655mm	428-0177	428-1177
7"/175mm	2.4"/60mm	20"/500mm	29.7"/755mm	428-0178	428-1178
7"/175mm	2.4"/60mm	24"/600mm	33.7"/855mm	428-0179	428-1179
8"/200mm	2.6"/65mm	8"/200mm	19.5"/495mm	428-0200	428-1200
8"/200mm	2.6"/65mm	12"/300mm	23.4"/595mm	428-0201	428-1201
8"/200mm	2.6"/65mm	16"/400mm	27.4"/695mm	428-0202	428-1202
8"/200mm	2.6"/65mm	20"/500mm	31.3"/795mm	428-0203	428-1203
8"/200mm	2.6"/65mm	24"/600mm	35.2"/895mm	428-0204	428-1204
12"/300mm	3.1"/80mm	8"/200mm	21.1"/535mm	428-0205	428-1205
12"/300mm	3.1"/80mm	12"/300mm	25.0"/635mm	428-0300	428-1300
12"/300mm	3.1"/80mm	16"/400mm	28.9"/735mm	428-0301	428-1301
12"/300mm	3.1"/80mm	20"/500mm	32.9"/835mm	428-0302	428-1302
12"/300mm	3.1"/80mm	24"/600mm	36.8"/935mm	428-0303	428-1303
12"/300mm	3.1"/80mm	28"/700mm	40.8"/1035mm	428-0304	428-1304
12"/300mm	3.1"/80mm	32"/800mm	44.7"/1135mm	428-0305	428-1305

MULTI-FIXTURE VISES

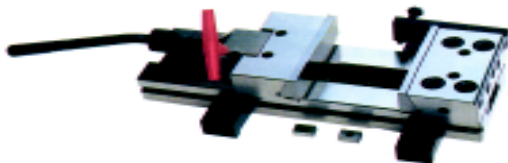


Faset set-up for fixture work.

Three - point gripping jaws make holds of both odd and regular shape work pieces securely. Use on Milling Machine, Radial Drills, Drill Presses, Set-up Tables.

Width of Jaw	Max. Opening of Jaws	Length of Base	Overall Length	Overall Width	Overall Height	Model No.
2-3/4"	3"	10"	14-3/4"	7-1/8"	3-1/4"	428-8915
5-1/2"	6"	18-1/4"	25"	9"	5"	428-8920

MAIN ATTACHMENT OF MODULAR VISES



Set Model No.
428-0600

	Model No.
L wrench	428-0601
T wrench	428-0602
Four piece of vise holding clamps	428-0603
Work stop with main bolt	428-0604
positioning key-nuts(two pieces)	428-0605

WOOD WORKING ANGLE VISE



Framing Vise 4"

Model No. 428-8400

The vise is designed for wood working.

Two Jaws could be adjusted to 90°. The swivel base could turn 90°. Max. Jaw Opening is 4", The weight is 11LBS

Vise

QUICK ACTION PRECISION MODULAR VISES

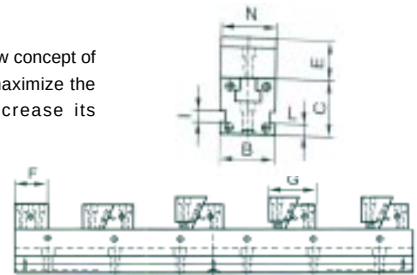
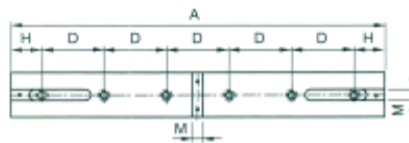


- Made in high-quality alloy steel
- Parallelism 0.005mm/100mm, squareness 0.005mm
- Locate position by pilot pin, adjust pin on body according to opening size, then clamp quickly
- It is widely used on machining center and other precision machine tools.

Jaw Width	Jaw Depth	Jaw Opening	Overall Length	Without Swivel Base Model No.	With Swivel Base Model No.
125mm	40mm	150mm	345mm	428-0400	428-0500
150mm	50mm	200mm	420mm	428-0401	428-0501
150mm	50mm	300mm	520mm	428-0402	428-0502
175mm	60mm	400mm	655mm	428-0403	428-0503

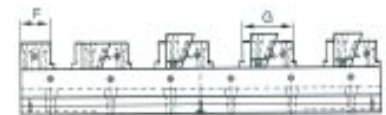
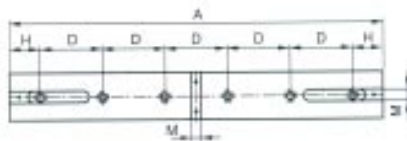
MULTIFLEX VISES

The MULTIFLEX vises are a total new concept of modular clamping system able to maximize the machine table capacity and increase its productivity (Reduce dead times)



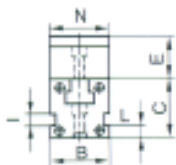
With Smooth Jaws

A	B $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$	C $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$	D	E	F	G	H	I	L	M	N	Model No.
300	50	50	100	32/25	38	55/58	50	10	15	16	49	428-3801
400	50	50	100	32/25	38	55/58	50	10	15	16	49	428-3802
500	50	50	100	32/25	38	55/58	50	10	15	16	49	428-3803
600	50	50	100	32/25	38	55/58	50	10	15	16	49	428-3804
700	50	50	100	32/25	38	55/58	50	10	15	16	49	428-3805
400	75	75	100	46/40	50	70/75	50	11	20	16	74	428-3806
500	75	75	100	46/40	50	70/75	50	11	20	16	74	428-3807
600	75	75	100	46/40	50	70/75	50	11	20	16	74	428-3808
700	75	75	100	46/40	50	70/75	50	11	20	16	74	428-3809
800	75	75	100	46/40	50	70/75	50	11	20	16	74	428-3810



With Step Jaws

A	B $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$	C $\begin{smallmatrix} 0 \\ -0.02 \end{smallmatrix}$	D	E	F	G	H	I	L	M	N	Model No.
300	50	50	100	32/25	38	65/68	50	10	15	16	49	428-3821
400	50	50	100	32/25	38	65/68	50	10	15	16	49	428-3822
500	50	50	100	32/25	38	65/68	50	10	15	16	49	428-3823
600	50	50	100	32/25	38	65/68	50	10	15	16	49	428-3824
700	50	50	100	32/25	38	65/68	50	10	15	16	49	428-3825
400	75	75	100	46/40	50	83/88	50	11	20	16	74	428-3826
500	75	75	100	46/40	50	83/88	50	11	20	16	74	428-3827
600	75	75	100	46/40	50	83/88	50	11	20	16	74	428-3828
700	75	75	100	46/40	50	83/88	50	11	20	16	74	428-3829
800	75	75	100	46/40	50	83/88	50	11	20	16	74	428-3830



Vise

UNIVERSAL POWER VISE



- Made of high-quality alloy steel
- Parallelism 0.025mm / 100mm, squareness 0.025mm
- Special mechanical system gives high steady pressure
- It is widely used on machining center and other precision machine tools

Jaw Width (mm)	Jaw Depth (mm)	Max. Opening (mm)	Over Length (mm)	Outside Size (mm)	Model No.
100	48.5	125	532	2500	428-3601
130	53	180	580	3500	428-3602
160	63	240	680	5500	428-3603
200	63	280	732	5500	428-3604



PARROT VISE

Jaw Width	Jaw Depth	Jaw Opening	Model No.
90mm	65mm	115mm	428-2300



PRECISION MACHINE VISE

Jaw Width	Jaw Depth	Jaw Opening	Overall Length	Model No.
124mm	40mm	140mm	323mm	428-0700
149mm	52mm	210mm	423mm	428-0701
174mm	58mm	240mm	470mm	428-0702
199mm	66mm	270mm	520mm	428-0703
249mm	74mm	340mm	600mm	428-0704



HYDRAULIC POWER MACHINE VISE

- It is made of spheroidal cast iron
- The hardness of working surface is HRC50-60
- Parallelism 0.025mm/100mm, squareness 0.025mm
- Resist bending in place of traditional clamping. It can produce stroing clamping by small pressure
- According the size of the workpiece, changing the position of the screw nut, it can have four opening

Jaw Width	Jaw Depth	Jaw Opening	Model No.
152mm	52mm	320mm	428-0710
160mm	52mm	120mm	428-0717
200mm	63mm	150mm	428-0718



3 WAY TILTING & SWIVEL MACHINE VISE

- It is made of spheroidal cast iron
- Parallelism 0.025mm/100mm, squareness 0.025mm
- Attained fitting with a stop in there way, by using such sircling delinable structure as vise body, two way body and sliding base
- It is used on machining and EDM complex parts

Jaw Width	Jaw Depth	Jaw Opening	Model No.
105mm	40mm	105mm	428-0712
125mm	40mm	125mm	428-0713

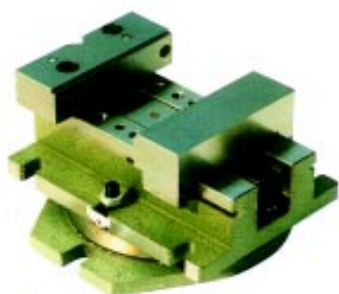
Vise

TILTING MACHINE VISE



- It is made of high-quality cast iron
- The accuracy of vise (parallelism and squareness) is 0.025mm/100mm
- The vise can be tilted to any position from 0° to 90° and locked, and can be rotated 360° jaw with a swivel base
- It is widely used on machine in making some kinds of slots, holes and faces

With of jaw (mm)	Height of jaw (mm)	Max. opening (mm)	Model No.
100	41	75	428-1401
125	46	95	428-1402
125	46	135	428-1403
160	50	120	428-1404

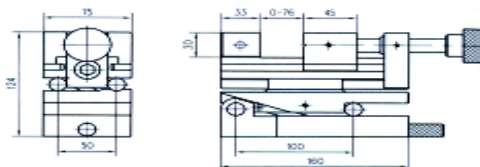
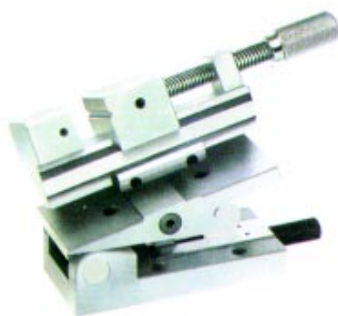


DH PRECISION VISE

- It is made of high-quality alloy steel, the hardness of working surface reaches HRC58-62
 - The accuracy of vise (parallelism and squareness): 0.01mm
 - Quickly to clamp and easy to operate
- Used on milling grinding machine etc

Jaw Width	Jaw Depth	Jaw Opening	Model No.
84mm	25mm	100mm	428-0715
140mm	40mm	135mm	428-0716

PRECISION COMPOUND SINE VISE

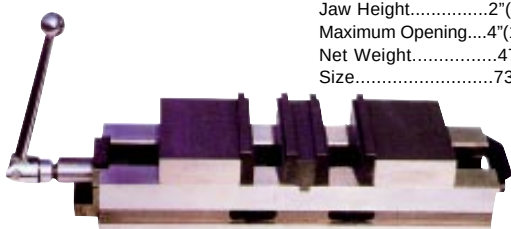


Model No.428-9320

- Made of high-quality alloy steel, the hardness of working surface reaches HRC58-62
- Parallelism 0.005mm/100mm, squareness 0.005mm
- The precision sine vise is developed for processing at various angles. It is used for grinding, cutting, making hole making and measuring
- Adjustable angle range: 0° to 45°

PRECISION MACHINE VISE

with 2 Clamping Stations



Model No.428-1260

Jaw Width.....6.3(160mm)
Jaw Height.....2"(50mm)
Maximum Opening.....4"(100mm)
Net Weight.....47kg
Size.....730x280x200mm

ANGLE TIGHT II PRECISION CNC MACHINE VISE

6"Jaw Width,5-7/8"Jaw Opening,17.5"OAL,5" Height.



Model No.428-9999

Vise



MACHINE VISE FOR HOLDING SHAFTS AND ROUND

- 4" wide hardened steel replaceable jaws.
- Capacity 1/2" to 2-1/2 round parts
- Work rests on V-block made of hardened and ground tool steel
- Has an adjustable sliding rod to set work in proper position.
- Vise ends are ground so that it can be used vertically or horizontally

Description	Model No.
3" Jaw Width	428-3017
4" Jaw Width	428-3018



K-TYPE MACHINE VISE

Jaw Width	Jaw Depth	Jaw Opening	Overall Length	Model No.
100mm	30mm	65mm	295mm	428-2400
125mm	38mm	80mm	400mm	428-2401
150mm	40mm	114mm	462mm	428-2402
200mm	58mm	150mm	620mm	428-2403



LEVER POWER CLAMP

- It is on the base of not changing the guide screw clamp, added elongated work clamping arm and eccentric locking mechanism, that make the operation simple, efficient and labor-saving.
- It is one of main attachments for drilling machine, easy to operate, steady and reliable.

With of jaw (mm)	Height of jaw (mm)	Max. opening (mm)	Model No.
135	48	145	428-1501
180	58	225	428-1502



QUICK RELEASE VISE

- QUICK series machines vices are used double parallel guide rods structure, it can make the movable block move steady during clamping. And it used eccentric locking mechanism. The clamping force is strong and locking reliable.
- It is one of main attachments for drilling machine, easy to operate, steady and reliable.

With of jaw (mm)	Height of jaw (mm)	Max. opening (mm)	Model No.
75	25	76	428-1601
100	38	102	428-1602
160	42	152	428-1603
200	42	203	428-1604



PRECISION CLAMP

- QUICK precision drilling machine vice The top surface and two lateral faces of vice are milled. So that the accuracy of vice (parallelism and squareness) is not more than 0.1mm.
- When it is compatible with bench-type drilling machine, it can realize the drilling with high precision. And it can be used in a variety of directions, such as flat, lateral and vertical.

With of jaw (mm)	Height of jaw (mm)	Max. opening (mm)	Model No.
100	38	102	428-1701
160	47	152	428-1702

Vise

LEADER CLAMP

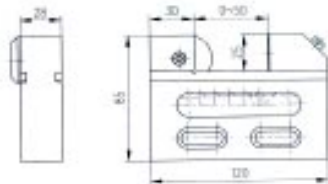


- This style machine vises are used guide rod structure, it can make the movable block move steady during clamping.
- It is one of main attachments for drilling machine, easy to operate, steady and reliable.

With of jaw (mm)	Height of jaw (mm)	Max. opening (mm)	Model No.
75	35	76	428-1701
100	46	102	428-1702
160	53	152	428-1703
200	53	203	428-1704

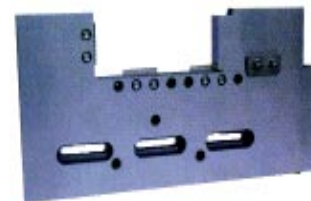
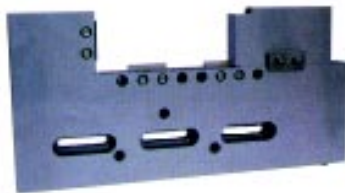
PRECISION VISE FOR EDM

- Parallelism 0.003mm, squareness 0.003mm
- Used for precision inspection, BMD and wire-cutting machine



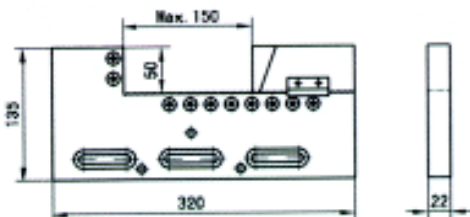
Model No. 428-1800

- Parallelism $\pm 0.003\text{mm}$, squareness $\pm 0.003\text{mm}$
- Used for precision inspection, BMD and wire-cutting machine

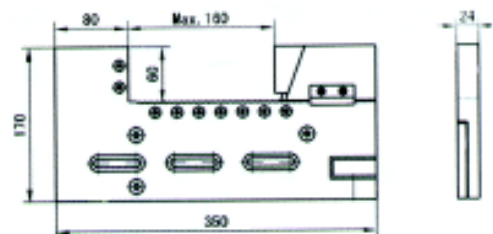


Model No. 428-1801

- Parallelism 0.003mm / 100mm, squareness 0.005mm
- The vise can be adjusted up and down, left and right, forth and back to make parallelism
- Strong clamping can stand high water pressure



Model No. 428-1802



Model No. 428-1803

Roller Stand

ROLLER STAND



150-3001



150-3005



150-3010



150-3015



150-3020



150-3025

Description	Model No. 150-3001	Model No. 150-3005	Model No. 150-3010	Model No. 150-3015	Model No. 150-3020	Model No. 150-3025
Dia. of Roller	57mm	57mm	38mm	38mm	52mm	52mm
Number of Rollers	1	5	1	2	1	2
Height	680-1140mm	680-1140mm	710-1150mm	670-1120mm	580-970mm	580-970mm
Max. Holding Weight	80kg	80kg	45kg	50kg	900kg	900kg
Weight	9.4kg	16.2kg	4.5kg	7.5kg	20kg	20kg



150-3030



150-3035

BALL STAND

Description	Model No. 150-3030	Model No. 150-3035
Dia. of Ball	16mm	16mm
Number of Balls	8	8
Height	660-1110mm	680-1130mm
Max. Holding Weight	80kg	80kg
Weight	7.3kg	9.4kg

ROLLER TABLE



150-3070



150-3080

Description	Model No. 150-3070	Model No. 150-3075	Model No. 150-3080
Dia. of Roller	60mm	60mm	57mm
Number of Rollers	4	7	9
Height	650mm	650mm	68-1130mm
Max. Holding Weight	400kg	400kg	200kg
Weight	52.5kg	75kg	56kg

ROLLER FOR ROLLER STAND



Description	Model No. 150-3040	Model No. 150-3045
Dia. of Roller	38mm	57mm
Max. Holding Weight	50kg	80kg

BALL FOR BALL STAND



Description	Model No. 150-3050	Model No. 150-3055
Dia. of Ball	16mm	16mm
Max. Holding Weight	16kg	25kg

GRINDER STAND



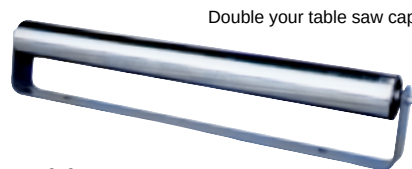
150-3060



150-3065

Description	Model No. 150-3060	Model No. 150-3065
Height	800mm	830mm
Weight	10kg	26kg

ROLLER AND BRACKET SET



Model No. 830-2016

Double your table saw capacity. Attach to sawhorse or other surface and make your own roller table. Avoid the high cost of roller stand by making your own. Features: chrome polished roller, steel bracket, two holes for mounting.

Size of Roller: diameter of 1-1/4" long of 12-1/2"