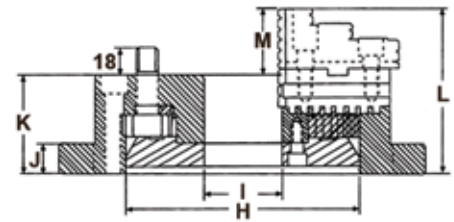
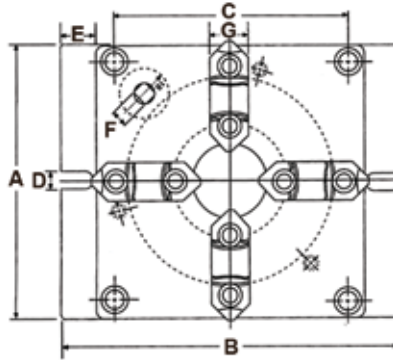
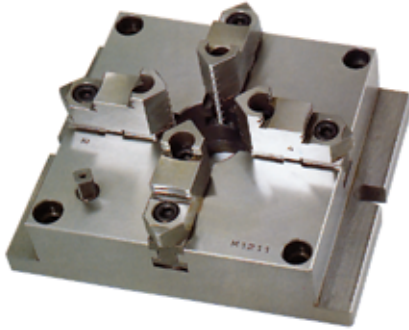


Universal Machining Chucks

4-Jaw – Vertical

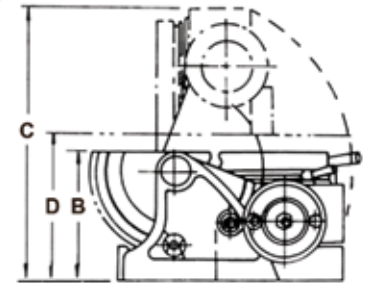
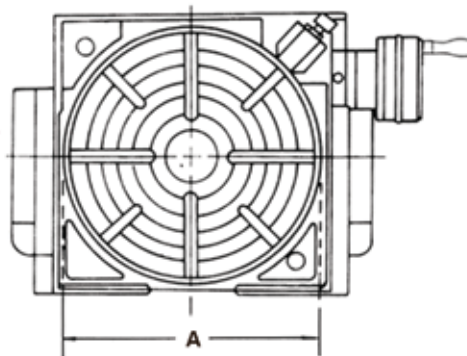
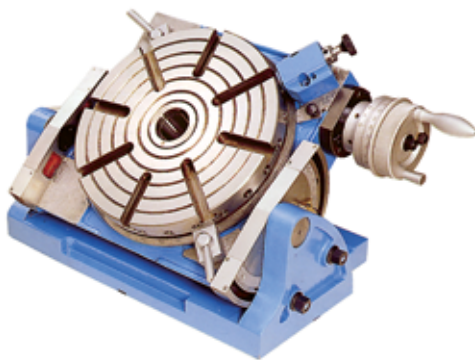
- Parts are gripped firmly by the formed jaws, ensuring high precision (deviation within 0.03mm)
- Large workpieces can be held tight with the low profile vise body
- Handle is set on the face and does not interfere with the table. A number of chucks can be used together
- Soft jaws available



A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)	L (mm)	M (mm)	Code
165	215	143	13	25	12	26	130	40	18	57	97	40	302706
200	250	174	15	25	12	28	160	55	20	65	109	44	302708

Universal Tilting Rotary Table

- Accurate and solidly designed table for use on milling, boring and other machine tools
- Allows indexing, facing and other work to be carried out rapidly with extreme precision
- Tilting range 90° from horizontal to vertical position, one rotation of handle equals 3°, five minutes tilting reading
- 10 second Vernier scale
- Table dial one minute graduations
- Fast indexing: location pin in 24 holes (15° ensures accurate spacing)
- Minimum set-up time
- Rugged construction



A Table Diameter (mm)	B Table Height (Horizontal) (mm)	C Overall Table Height (Vertical) (mm)	Center Hole	D Center Height (Vertical) (mm)	Direct Indexing	Gear Ratio	Approximate Weight (kg)	Code
300	185	370	MT3	208	24-div.	90:1	102	242130

Accessories sold separately

Tail Stock

Code
242127

Dividing Plates

Code
242132

5C Fixtures & Indexes

5C Collet Index – Horizontal/Vertical



- Index plate has screws in all 24 index holes for easy masking of holes not needed for a specific job
- Ratchet device on front of spindle permits fast rotation of spindle nose
- Collet closer lever has a leverage ratio of 100 to 1
- Hardened and ground index plate is designed for long life and extreme accuracy
- Index pin has a spring for quick positive location in index plate holes
- Spindle has taper seat in body frame

5C Angle Collet Fixture



- All moving parts hardened, ground and honed
- Cam lever opens and closes collets
- Collets can be changed easily and quickly
- For drilling, milling, grinding, tapping assembly, etc.
- Can be mounted and used horizontally and vertically
- Collet retains positive relation to base - can be adjusted without disturbing set-up
- Does not move up or down

Base Dimensions (Inch)	Height (Inch)	Code
4 x 5	7	251215

Base Dimensions (Inch)	Height (Inch)	Code
5 x 3-5/8	3-3/4	245203

5C Spin Index



- Single indexing from 0° to 360° by increments of ten degrees using the indexing plate only
- Indexing from 0° to 360° by increments of one degree using the indexing plate in conjunction with the vernier holes
- Dividing into 2, 3, 4, 6, 9, 12, 18 and 36 parts using the indexing plate only
- Used for grinding flutes on cutting tools
- If disengaged the spindle rotates freely and it has a linear travel up to 2-1/16"

Code
245205

5C Expanding Collets



- Body is precision ground and hardened
- Soft head can be machined to accommodate work piece

Machining Range (Inch)	Code
0.250 – 0.468	302455
0.437 – 0.800	302456
0.570 – 1.437	302457
0.750 – 1.937	302458
0.250 – 1.937 (Set of 4)	302459

Expanding Arbor Set

8-Piece Set – Straight Shank



Diameter (Inch)	Length (Inch)	Expansion (Inch)	Code
1-1/4	4	0.005	302460
1	4	0.005	
7/8	4	0.005	
3/4	4	0.005	
5/8	3	0.005	
1/2	3	0.005	
3/8	3	0.005	
1/4	3	0.005	

404



5C Collet Blocks

Description	Outside Dimensions (Inch)	Code
Square Block	1-3/4 x 1-3/4 x 2-3/4	302481
Hexagonal Block	1-3/4 HEX x 2-3/4	302482
Quick-Action Lever	-	302483
Complete Set	-	302484

Morse Taper Collets

Morse Taper Outside – Fractional Inside



Draw Bar Threads
• 3/8" – 16

Size (Inch)	MT2	MT3
	Code	Code
1/8	221300	221307
3/16	221301	221308
1/4	221302	221309
5/16	221303	221310
3/8	221304	221311
7/16	221305	221312

Size (Inch)	MT2	MT3
	Code	Code
1/2	221306	221313
9/16	-	221314
5/8	-	221315
11/16	-	221316
3/4	-	221317

Round Collets

5C, R8, Brown & Sharp 21 – Inch & Metric



Inch

Diameter (Inch)	5C	R8	B&S 21	Diameter (Inch)	5C	R8	B&S 21
	Code	Code	Code		Code	Code	Code
1/32	221101	221201	170311	19/32	221119	221219	170347
1/16	221102	221202	170313	5/8	221120	221220	170349
3/32	221103	221203	170315	21/32	221121	221221	170351
1/8	221104	221204	170317	11/16	221122	221222	170353
5/32	221105	221205	170319	23/32	221123	221223	170355
3/16	221106	221206	170321	3/4	221124	221224	170357
7/32	221107	221207	170323	25/32	221125	221225	170359
1/4	221108	221208	170325	13/16	221126	221226	170361
9/32	221109	221209	170327	27/32	221127	221227	170363
5/16	221110	221210	170329	7/8	221128	221228	170365
11/32	221111	221211	170331	29/32	221129	-	170367
3/8	221112	221212	170333	15/16	221130	-	170369
13/32	221113	221213	170335	31/32	221131	-	170371
7/16	221114	221214	170337	1	221132	-	170373
15/32	221115	221215	170339	1-1/16	221133	-	170375
1/2	221116	221216	170341	1-1/32	221134	-	-
17/32	221117	221217	170343				
9/16	221118	221218	170345				

Metric

Diameter (mm)	5C	R8	Diameter (mm)	5C	R8	Diameter (mm)	5C	R8
	Code	Code		Code	Code		Code	Code
1	-	221251	11	221281	221261	19	221289	221269
2	-	221252	12	221282	221262	20	221290	221270
3	221273	221253	13	221283	221263	21	221291	221271
4	221274	221254	14	221284	221264	22	221292	221272
5	221275	221255	15	221285	221265	23	221293	-
6	221276	221256	16	221286	221266	24	221294	-
7	221277	221257	17	221287	221267	25	221295	-
8	221278	221258	18	221288	221268			
9	221279	221259						
10	221280	221260						

Square & Hexagonal Collets

5C – Inch



Diameter (Inch)	5C Square Code	5C Hexagonal Code	Diameter (Inch)	5C Square Code	5C Hexagonal Code	Diameter (Inch)	5C Square Code	5C Hexagonal Code
3/32	221401	221431	13/32	221411	221441	21/32	221419	221449
1/8	221402	221432	7/16	221412	221442	11/16	221420	221450
5/32	221403	221433	15/32	221413	221443	23/32	221421	221451
3/16	221404	221434	1/2	221414	221444	3/4	221422	221452
7/32	221405	221435	17/32	221415	221445	25/32	–	221453
1/4	221406	221436	9/16	221416	221446	13/16	–	221454
9/32	221407	221437	19/32	221417	221447	27/32	–	221455
5/16	221408	221438	5/8	221418	221448	7/8	–	221456
11/32	221409	221439						
3/8	221410	221440						

Emergency Collets



5C Emergency Collet shown

- Emergency collets are soft to accommodate boring of special diameters within the collet range

Style	Code
5C	221140
R8	221240

5C Step Collets



- 5C step collets are soft to accommodate boring of special diameters above the collet range

Diameter (Inch)	Code
2	221142
3	221143
4	221144
5	221145

5C Adjustable Collet Stop



Code
826739

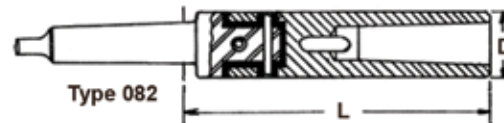
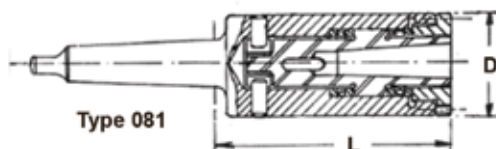
Floating Holders



- Used to compensate for misalignment between tool and work piece, both being held rigidly in machinery operations
- Recommended for both reaming and tapping

TYPE 081 with a parallel float of 0.014" to 0.016" and with an angular float

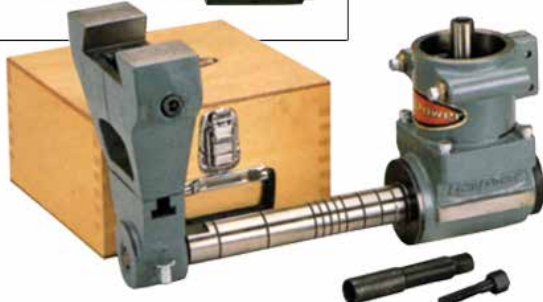
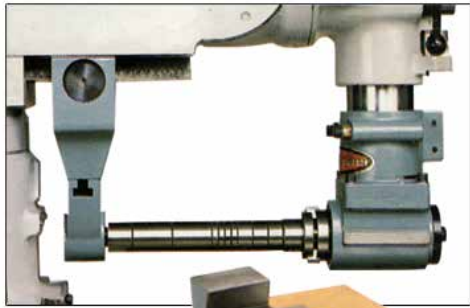
TYPE 082 where due to the vulcanized rubber joint, an angular flexibility is achieved



Morse Taper Shank	Morse Taper Bore	D (Inch)	L (Inch)	Type 081	Type 082
				Code	Code
1	1	1.603	3.18	185111	185211
1	2	1.730	4.72	185112	–
2	1	1.570	4.10	185121	185221
2	2	1.730	4.72	185122	185222
2	3	2.000	5.43	185123	185223
3	2	1.730	4.72	185132	185232
3	3	2.000	5.43	185133	185233
3	4	1.730	6.46	185134	185234
4	3	2.000	5.43	185143	185243
4	4	2.250	6.46	185144	185244
4	5	2.720	8.00	185145	–
5	4	2.250	6.46	185154	–
5	5	2.720	8.00	185155	–

Horizontal Milling Attachments

R8 & ISA40



Available only as a set

Spindle	Code
R8	264101
*ISA40	264103

*Please specify quill diameter and dovetail width

Right Angle Head

Taper	Suitable Milling Head Quill Diameter
R8	85.725 mm – 86 mm = 3.38"
NT40	85.725 mm – 115 mm = 3.38" – 4.53"

Horizontal Milling Arbor Support

Taper	Suitable Milling Head Quill Diameter
R8	85.725 mm – 86 mm = 3.38"
NT40	85.725 mm – 115 mm = 3.38" – 4.53"

Right Angle Heads

R8 & ISA40



- For horizontal cutting on vertical machines
- Rigid construction

Spindle Taper	Tool Taper	Quill Diameter (Inch)	Code
R8	R8	3.375/3.385	264105
*ISA40	R8	*3.375/4.520	264107

*Please specify quill diameter and dovetail width

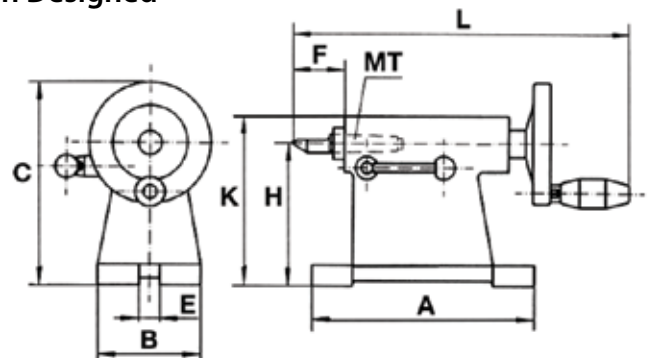
Tail Stock

Rigid & Precision Designed



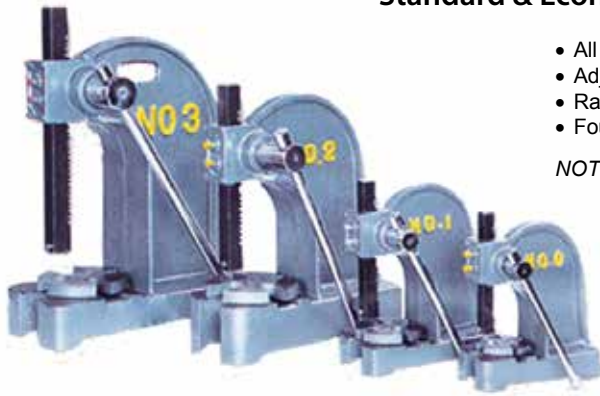
Set includes:

- Precision dead center with 0.0002" T.I.R.
- 2 locating keys
- 2 mounting bolts with T-nuts



H + 0002" (Inch)	K (Inch)	B (Inch)	A (Inch)	F Minimum (Inch)	F Maximum (Inch)	E Key Size (Inch)	Morse Taper	Weight (lbs)	Code
3.937	5.51	3.15	7.68	1.30	2.48	0.55	MT2	14	277111
4.921	7.01	3.54	7.68	1.54	2.72	0.55	MT2	16	277112
6.299	8.39	4.53	9.84	1.89	3.35	0.71	MT3	28	277113
9.843	11.93	5.91	11.02	2.34	3.92	0.71	MT4	51	277114

Arbor Presses Standard & Economy



- All main parts made of ductile cast iron
- Adjustable handle for convenient positioning
- Ram finite control with smooth gears
- Four 90 degree equally divided slotted round table

NOTE: Not recommended for broaching

Standard

Base Dimensions (Inch)	Press Height (Inch)	Press Tons	Maximum Work Height (Inch)	Swing (Inch)	Table Diameter (Inch)	Ram Dimensions (Inch)	Code
9.25 x 4.02	10	0.5	4.5	3.3	3.5	0.75 x 0.75	680105
10.63 x 5	12.6	1	5.5	4.1	4.3	1 x 1	680110
15.75 x 6.69	17.5	2	8.5	5.3	6.7	1.25 x 1.25	680115
18.5 x 7.87	22.4	3	12.5	5.3	6.7	1.5 x 1.5	680120
26.77 x 9.84	31.5	5	18.5	9.6	9.8	2 x 2	680130

Economy

Base Dimensions (Inch)	Press Height (Inch)	Press Tons	Maximum Work Height (Inch)	Largest Arbor (Inch)	Table Diameter (Inch)	Ram Dimensions (Inch)	Ram Length (Inch)	Press Distance Ram/Column (Inch)	Code
4 x 9.5	10	0.5	4.5	1.12	3.35	0.75 x 0.75	7.5	3.37	218002
5 x 11	12	1	5.25	1.37	3.54	1 x 1	9.5	4.25	218003
6.75 x 17	17	2	8.5	1.75	6.5	1.25 x 1.25	14	6	218004
8 x 8	21.5	3	12.62	2.5	7.48	1.5 x 1.5	18	6	218005

Universal Tilting Tables



- Made from heavy duty close grained cast iron
- Accurately indexed
- Machined T-slots
- Table surface accurately ground
- 360° rotary graduations
- 0-45° tilting graduations
- Three axis movement allows workpiece to be clamped at any angle

Table Dimensions (Inch)	Height (Inch)	Weight (lbs)	Code
4 x 5 x 1	4-9/16	12	810597
8-1/4 x 6 x 1-3/16	6	30	810598
10 x 8 x 1-3/16	5-9/16	59	810599

Universal Machine Lamps

Waterproof



- 50W halogen lamp
- Waterproof
- 120V connection (6ft cord)
- Handle on head allows easy positioning
- 24V

With Transformer (in base)

Without Transformer (for connection to machines)

Model	Reach (Inch)	Code	Model	Reach (Inch)	Code
JW 55RTS	Short	302961	JW 55RS	Short	302942
JW 55RTM	18 (9+9)	302966	JW 55RM	18 (9+9)	302943
JW 55RTL	32 (16+16)	302967	JW 55RL	32 (16+16)	302944

Halogen Machine Lamps



- 20W halogen lamp
- Vibration resistant
- 120V connection (6 ft. cord)
- Articulating arm

With Transformer (in base)

Without Transformer (for connection to machines)

Model	Reach (Inch)	Code	Model	Reach (Inch)	Code
JH 20RTS	Short	302962	JH 20RS	Short	302945
JH 20RTM	18 (9+9)	302963	JH 20RM	18 (9+9)	302946
JH 20RTL	32 (16+16)	302964	JH 20RL	32 (16+16)	302947

Transformers

May not be exactly as illustrated



Voltage	Code
120V/12V	302950
120V/24V	302951



Power Table Feed

- Smooth running with high torque of 150 lbs/inch
- Special electrical relay protects against damage caused by power failure
- New and stronger design assures long trouble-free life
- Electrical and mechanical parts are designed for easy maintenance

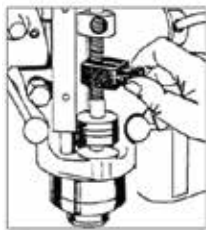
Specifications:

Input Voltage110V, 50/60 Hz., 1PH
 Driving..... Variable Speed
 Torque 150 lbs/in.
 Speed Range 0-200 RPM
 Rapid Speed..... 250 RPM + 10%

Code
302235

Replacement Circuit Board

Code
302236



Quill Stop

For Bridgeport Type Mills

- Quick action clip
- Clips on quill easily for rapid depth setting
- Top or bottom positioning
- 0.020" fine adjustment
- Easily removable when not being used

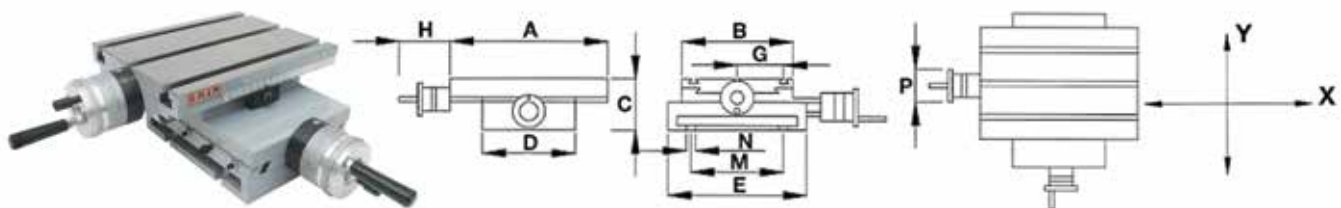


Code
302233

Cross-Slide Tables

Inch – Double Axis – Fixed Base

- General tolerance $\pm 0.03"$



Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	M (mm)	N (mm)	G (mm)	F (mm)	H (mm)	P (mm)	No. of Slots	Stroke X Axis (mm)	Stroke Y Axis (mm)	Weight (lbs)	Code
240 XY	240	190	108	155	195	100	9	72	12	127	62	3	60 + 60	70 + 70	37	266522
340 XY	340	190	108	155	195	100	9	72	12	127	62	3	100 + 100	70 + 70	60	266524
430 XY	430	240	120	190	260	140	11	72	12	127	70	3	140 + 140	90 + 90	100	266526
600 XY	600	240	120	190	260	140	11	72	12	127	70	3	200 + 200	90 + 90	132	266528
800 XY	800	280	144	240	290	184	14	72	12	127	80	3	250 + 250	125 + 125	200	266530