

United States Patent Office.

AUSTIN F. CUSHMAN, OF HARTFORD, CONNECTICUT.



Letters Patent No. 110,000, granted January 10, 1871.

CUSHMAN INDUSTRIES

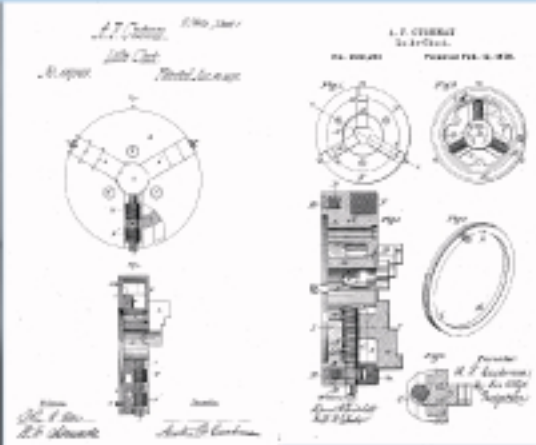
Established in 1862

The Schedule referred to in this title is hereby made a part of the same.

From the Beginning...



Cushman Chuck, circa 1870



Cushman Factory, 1914

...It Has Been Cushman Chucks



Witnesses.
THO. G. ELLIS,
W. E. SIMONDS.

Catalog No. C-906

I, A
of Har
certain
followi

My i
The
combin
n a nov
ons in
It fun
angular
back sid
ng and
by a cir
after m

De
Figur
buck,
to show
Figur
fig. 1.
Figur
removed
Figur
aws.

A A' A' are the jaws, which have grooves a to slide
the projections b, in and out, upon the center of the
huck.

The b
which w
lide ou

The i
ices of
erent c
be jaw
ersed, s
e used
he wor

B is t
ll the p
C' thro
late of

O is t
round
ody B.

D is a
ore whi

he back-plate O, containing the rack E, is
moving in a groove in the outer edge of the collar
). These allow the ring or collar to turn freely, but
old it closely in contact with the plate O.

On the front of D is cut the circular rack E, in
which works the three pinions G under the jaws.

eccentrically, they are placed in the proper relative
position while the rack is ungeared. It is then re-
placed in the pinions by screwing in the back-plate O,
move

st in
key-

outo

two
back

the
re-
jaw

any

plate

ved,
nd a
bors

E, to
at or

ntly
M is

s G,
the
olled

nd in

move

ing

the
bits

the
d, in

hav-
w A
side,

the

pe-
de-

AUSTIN F. CUSHMAN.



Cushman offers a wide variety of workholding tools and parts, including:

- Independent Chucks
- Adjustable Jaw Accra-Set™ Self-Centering 3 and 6-Jaw Chucks
- Non-Adjustable Jaw Self-Centering 2 Jaw and 2-3 Jaw Power Chucks
- Adjustable Jaw Self-Centering 2 Jaw and 2-3 Jaw Power Chucks
- Serrated Jaw 2 and 2-3 Jaw Power Chucks
- 590 Series Lever-Operated Power Chucks
- 2+2 Jaw Double Clamping Power Chucks
- Draw Down Power Chucks
- Ball Lock Power Chucks
- Special Application Power Chucks
- Special Application Manual Chucks
- Air Operated Rotating Cylinders and Repair Parts
- Hydraulic Cylinders and Repair Parts
- Hard Step Top Jaws of All Configurations
- Soft Blank Top Jaws of All Configurations
- Operating Screws
- Thrust Bearings
- Master Jaws
- Wedges
- Levers
- Pins
- Counterweights
- Plungers
- Pinions
- Scrolls
- Quick Change Counter Centrifugal Chucks
- Counter Centrifugal Chucks
- Adapter Plates



Cushman also offers quality workholding-related services, such as:

- Certified Repair Centers
- Specials to Print
- Workholding Consultation Services



Also be sure to go to the
Cushman Industries Website!

<http://www.cushmanindustries.com>

- Product Specifications
- Online Catalog
- General and Stock Inquiries
- Company History and Information
- Support and Discussion Forum
- Trade Show Listings

Table of Contents

Chucks & Cylinders	
Basic Steps for Chuck Selection	2-3
3-Jaw Self-Centering Universal Accra-Set Chucks - 10-104	4
6-Jaw Self-Centering Universal Accra-Set Chucks - 10-174	5
Mounting Plates for Models 10-104, 10-174	6
3-Jaw Self-Centering Heavy Duty Chucks - 10-114, Component Parts	7
4-Jaw Independent Chucks - 10-003, 10-004	8
Component Parts for Models 10-003, 10-004	9
Mounting Plates for Models 10-003, 10-004	10
4-Jaw Heavy Duty Independent Chucks - 10-014	11
3-Jaw High Speed Power Chucks - 10-590	14
Serrated Jaw Self-Centering Power Chucks - 20-670, 20-671, 20-672	15
Non-Adjustable Jaw Self-Centering Power Chucks - 20-620, 20-621, 20-622	16
Adjustable Jaw Self-Centering Power Chucks - 20-640, 20-641, 20-642	17
Self-Centering Power Chucks Component Parts List	18
Workholding Power Chucks - 20-679	19
Workholding Large-Diameter Open Center Power Chucks - 20-679	20
Workholding Large Bore Power Chucks - 20-689	21
Workholding 2 Jaw High Speed Open Center Power Chucks	22
Workholding 2/3 Jaw Thru-Hole Power Chucks - 20-677	23
Workholding 2+2 Jaw Double Clamping Power Chucks - 20-688	24
Air Cylinders - 10-752	25
Component Parts for Air Cylinders - 10-752	26
Workholding Closed Center Rotating Hydraulic Cylinders - 10-766	27
Workholding Closed Center Rotating Hydraulic Double Cylinders - 10-767	28
Drill Chucks	32-33
Drill Chuck Keys & Arbors	33
Jaws	
Face Plate and Boring Mill Jaws - 10-063, 10-073	12
Heavy Duty Boring Mill Jaws - 10-076, Component Parts - 10-061, 10-063, 10-073, 10-076	13
Hard Step Top Jaws	29
Soft Blank Top Jaws	30
Information	
Other Products Cushman Offers / Website Information	Inside Front Cover
Information Inquiry Form	31

Basic Steps for Chuck Selection

To help you select the correct Cushman chuck for your application, the following factors must be determined:

1. Basic Chuck Type
2. Diameter required
3. Style Jaws needed
4. Spindle Nose Type and size

The information shown below illustrates the steps needed for chuck selection. The spindle nose columns can be used as a reference source for your application. Hard Step Top Jaws ordering table is on p.29. Soft Blank Top Jaws ordering table is on p.30.

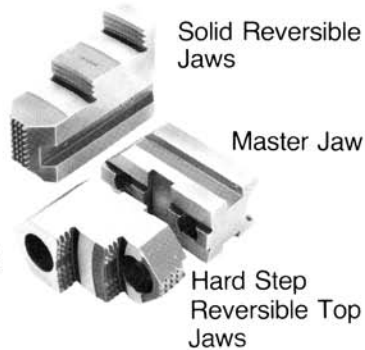
BASIC CHUCK TYPES

JAW STYLES

BACK OF CHUCK



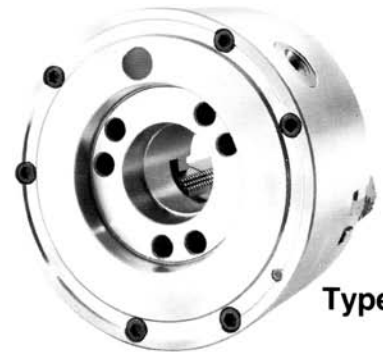
Independent



Solid Reversible Jaws

Master Jaw

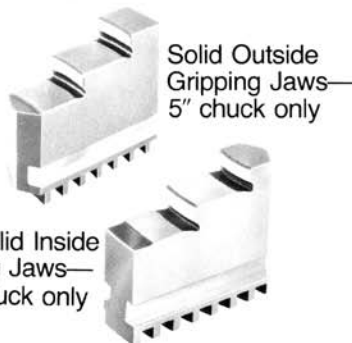
Hard Step Reversible Top Jaws



Type A

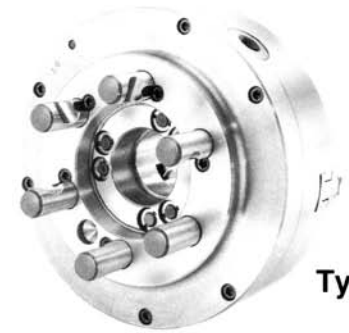


Self-Centering



Solid Outside Gripping Jaws—5" chuck only

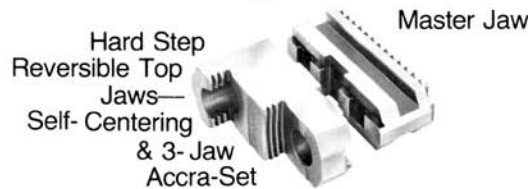
Solid Inside Gripping Jaws—5" chuck only



Type D

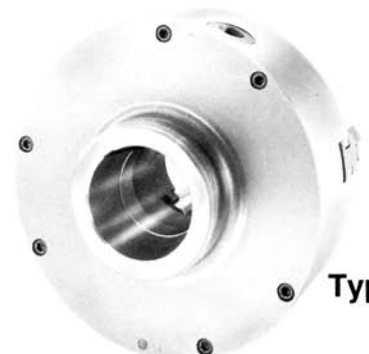


3-Jaw Accra-Set

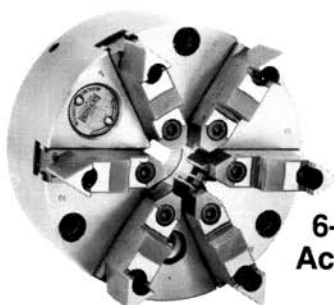


Hard Step Reversible Top Jaws—Self-Centering & 3-Jaw Accra-Set

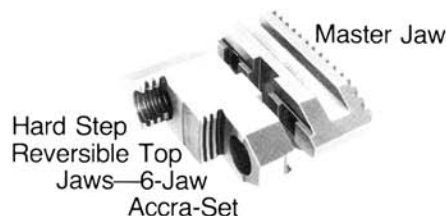
Master Jaw



Type L



6-Jaw Accra-Set



Hard Step Reversible Top Jaws—6-Jaw Accra-Set

Master Jaw



Straight Recess

EXAMPLE

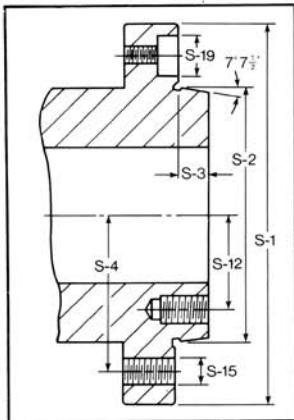
Chuck
Identification

Explanation of Part Numbers

10-104	10	D 06	B
Series Number	Chuck Size	Chuck Mounting	Model

SPINDLE NOSE TYPES

DIMENSIONAL TABLES



Type A American Standard A1, A2, B1, B2 Spindles Dimensions -- Inches

American Standard Type A						
	A5	A6	A8	A11	A15	A20
S-1	5-1/4	6-1/2	8-1/4	11	15	20-1/2
S-2*	3.2505	4.1880	5.50075	7.75075	11.251**	16.251**
S-3†	.5625	.625	.6875	.750	.8125	.875
S-4	2-1/16	2-5/8	3-3/8	4-5/8	6-1/2	9-1/8
S-12	1-7/32	1-5/8	2-3/16	3-1/4	4-7/8	7-1/4
S-15	7/16-14	1/2-13	5/8-11	3/4-10	7/8-9	1-8

*Tolerance +.0005/-0.000

**Tolerance +.001/-0.000

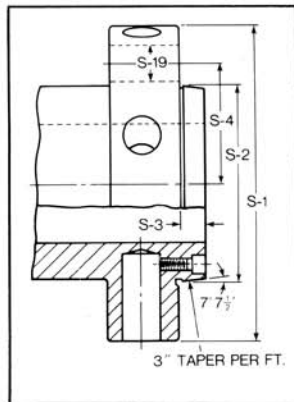
†Tolerance +.000/-0.001

A1 Has tapped holes on both the inner bolt circle and the outer bolt circle.

A2 Has tapped holes on the outer bolt circle, but has no holes on the inner bolt circle.

B1 Has drilled holes on the outer bolt circle and tapped holes on the inner bolt circle.

B2 Has drilled holes on the outer bolt circle, but has no holes on the inner bolt circle.

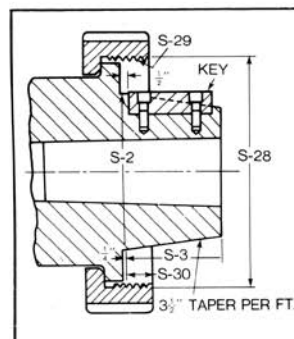


Type D1 American Standard Cam Lock Spindles Dimensions -- Inches

Cam-Lock Type D1						
	D3	D4	D5	D6	D8	D11
S-1	3-5/8	4-5/8	5-3/4	7-1/8	8-7/8	11-3/4
S-2*	2.1250**	2.5005	3.2505	4.1880	5.50075	7.75075
S-3	7/16	7/16	1/2	9/16	5/8	11/16
S-4	1-25/64	1-5/8	2-1/16	2-5/8	3-3/8	4-5/8
S-19	.594	.656	.781	.906	1.031	1.218

*Tolerance +.0005/-0.000

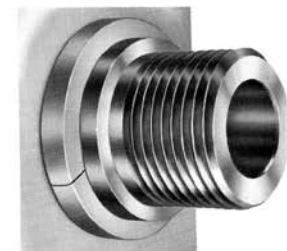
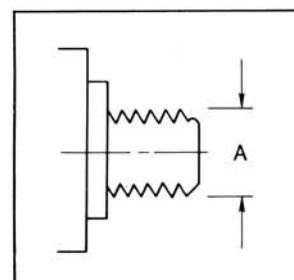
**Tolerance +.00025/-0.000



Type L Long Taper Key Drive Dimensions -- Inches

Long Taper Key Drive Type L					
	L00	L0	L1	L2	L3
S-2*	2-3/4	3-1/4	4-1/8	5-1/4	6-1/2
S-3	2	2-3/8	2-7/8	3-3/8	3-7/8
S-28	3-3/4	4-1/2	6	7-3/4	10-3/8
S-29	6TPI	6TPI	6TPI	5TPI	4TPI

*Tolerance +.002/-0.000



Threaded Spindle

Thread Size
A
1-1/2-8
2-1/4-8
2-3/8-6



3-Jaw Self-Centering Universal Accra-Set Chuck

High Quality, Steel Body Scroll Chuck

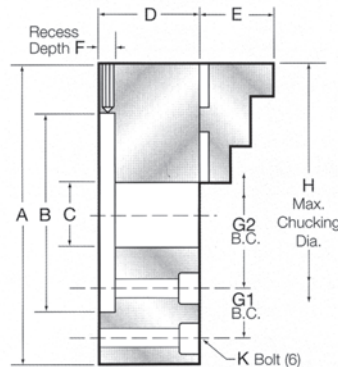
Special Features:

- Medium Duty Steel Body
- American Standard Tongue & Groove Jaw Mount
- Two Piece/Reversible Stepped Hard Jaws
- Sizes 6" through 32" (larger sizes available)
- Straight Recess
- For use with Mounting Plates

Chuck Specifications

Chuck Size	Chuck Model No.	Est. Gross Weight (lbs)	Gripping Capacity		Max RPM	Price
			Min	Max		
6"	10-104-06-000Z	26	3/16"	5"	4900	850
8"	10-104-08-000Z	46	3/16"	6-1/2"	4200	1,300
10"	10-104-10-000Z	71	3/16"	8"	3300	1,600
12"	10-104-12-000Z	112	3/4"	10"	2300	2,200
15"	10-104-15-000Z	146	1-1/2"	13"	2000	3,800
18"	10-104-18-000Z	270	1-1/2"	16"	1300	9,450
20"*	10-104-20-000Z	450	1-1/2"	18"	---	10,500
24"	10-104-24-000Z	550	2"	18"	850	11,500
28"*	10-104-28-000Z	730	2"	26"	---	14,450
32"*	10-104-32-000Z	960	2"	30"	---	19,250

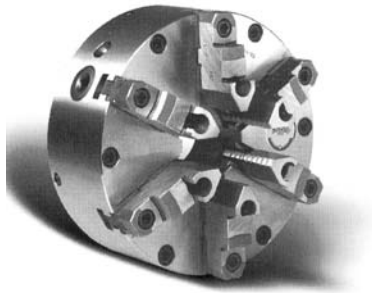
*Not Accra-Set, Not Fine Adjustment. Please call for dimensional data.



The operator must ensure that the chuck complies with all safety instructions before use. The proceeding table provides a quick guide to the safe operating speeds of manual chucks. These speeds refer to chucks which are maintained in accordance with our instructions, with no eccentric components and are based on the given maximum input torque.

Chuck Dimensions

Chuck Size	A	B*	C	D	E	F	Bolt Pattern		H	K
							G1	G2		
6"	6.31	3.125	1.81	2.88	1.59	0.69	5.34	--	7.31	1/4"
8"	8.25	4.750	2.25	3.25	1.75	0.75	7.50	--	9.25	3/8"
10"	9.85	6.375	3.00	3.63	2.13	0.81	--	4.38	11.00	7/16"
12"	12.20	7.906	4.06	4.00	2.28	0.84	--	5.25	14.00	1/2"
15"	15.74	11.781	4.56	5.13	3.16	1.13	--	6.75	17.00	5/8"
18"	18.00	11.781	5.025	5.781	3.27	1.125	--	6.75	19.00	5/8"
24"	24.00	16.030	7.025	6.530	3.27	1.188	--	9.25	25.00	3/4"



6-Jaw Self-Centering Universal Accra-Set Chuck

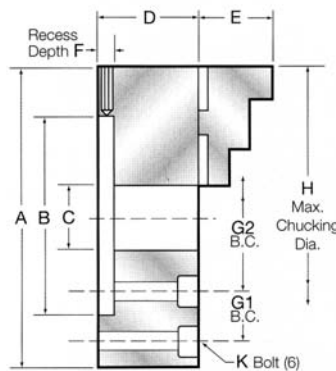
High Quality, Steel Body Scroll Chuck

Special Features:

- Medium Duty Steel Body
- American Standard Tongue & Groove Jaw Mount
- Two Piece/Reversible Stepped Hard Jaws
- Sizes 6" through 32" (larger sizes available)
- Straight Recess
- For use with Mounting Plates

Chuck Specifications

Chuck Size	Chuck Model No.	Est. Gross Weight (lbs)	Gripping Capacity		Max RPM	Price
			Min	Max		
6"	10-174-06-000Z	27	3/16"	5"	2500	960
8"	10-174-08-000Z	49	3/16"	6-1/2"	2200	1,550
10"	10-174-10-000Z	76	3/16"	8"	1900	1,890
12"	10-174-12-000Z	116	3/4"	10"	1500	2,350
15"	10-174-15-000Z	205	1-1/2"	13"	1300	4,500
18"	10-174-18-000Z	290	1-1/2"	16"	1100	POA



The operator must ensure that the chuck complies with all safety instructions before use. The proceeding table provides a quick guide to the safe operating speeds of manual chucks. These speeds refer to chucks which are maintained in accordance with our instructions, with no eccentric components and are based on the given maximum input torque.

Chuck Dimensions

Chuck Size	A	B*	C	D	E	F	Bolt Pattern		H	K
							G1	G2		
6"	6.31	3.125	1.81	2.88	1.59	0.69	5.34	--	7.31	1/4"
8"	8.25	4.750	2.25	3.25	1.75	0.75	7.50	--	9.25	3/8"
10"	9.85	6.375	3.00	3.63	2.13	0.81	--	4.38	11.00	7/16"
12"	12.20	7.906	4.06	4.00	2.28	0.84	--	5.25	14.00	1/2"
15"	15.74	11.781	4.56	5.13	3.16	1.13	--	6.75	17.00	5/8"
18"	18.00	11.781	5.025	5.781	3.27	1.125	--	6.75	19.00	5/8"
24"	24.00	16.030	7.025	6.530	3.27	1.188	--	9.25	25.00	3/4"

*Tolerance: -0.000/+0.001"

Mounting Plates for Accra-Set 3-Jaw and 6-Jaw Chucks

Cushman offers a full line of Mounting Plates, type "D," "A," "L," and threaded plates for the Accra-Set™ Chucks. Cushman Mounting Plates are interchangeable with other popular adjustable universal style Chucks.

Mounting plates are precision machined to suit the spindle nose of your machine. For maximum accuracy of Accra-Set™ mounting plates, mount plate on machine spindle nose, place a dial indicator on the chuck side face of the adapter close to the mounting holes, rotate the adapter, and if the total indicator reading (TIR) exceeds .0005", take a light truing cut across the face of the mounting plate.

Type D Mounting Plates - "Camlock"

Spindle	6"	8"	10"	12"	15"	18"	24"
D-3	03-0605020 \$260.00	03-0805020 \$275.00	-	-	-	-	-
D-4	03-0605021 \$260.00	03-0805021 \$275.00	03-1005021 \$350.00	-	-	-	-
D-5	03-0605022 \$275.00	03-0805022 \$295.00	03-1005022 \$350.00	-	-	-	-
D-6	-	03-0805023 \$285.00	03-1005023 \$375.00	03-1205023 \$375.00	03-1505023 \$495.00	-	-
D-8	-	-	03-1005024 \$375.00	03-1205024 \$540.00	03-1505024 \$540.00	03-1805024 \$895.00	03-2405024 \$1,275.00
D-11	-	-	-	03-1205025 \$495.00	03-1505025 \$695.00	03-1805025 \$995.00	03-2405025 \$1,295.00

Type A American Standard Short Taper A-1 & A-2 Spindles

Spindle	6"	8"	10"	12"	15"	18"	24"
A-4	03-0605009 \$275.00	-	-	-	-	-	-
A-5	03-0605010 \$275.00	03-0805010 \$285.00	03-1005010 \$395.00	-	-	-	-
A-6	-	03-0805011 \$285.00	03-1005011 \$395.00	03-1205011 \$410.00	-	-	-
A-8	-	-	03-1005012 \$395.00	03-1205012 \$410.00	03-1505012 \$535.00	03-1805012 \$895.00	-
A-11	-	-	-	-	03-1505013 \$595.00	03-1805013 \$995.00	03-2405013 \$1,275.00
A-15	-	-	-	-	-	-	03-2405014 \$1,295.00

Type L American Standard Long Taper Key Drive Spindle

Spindle	6"	8"	10"	12"	15"	18"	24"
L-00	03-0605031 \$285.00	03-0805031 \$310.00	03-1005031 \$340.00	-	-	-	-
L-0	03-0605032 \$285.00	03-0805032 310.00	03-1005032 \$340.00	03-1205032 \$435.00	-	-	-
L-1	-	03-0805033 \$320.00	03-1005033 \$340.00	03-1205033 \$435.00	03-1505033 \$595.00	03-1805033 \$1,295.00	03-2405033 \$1,895.00
L-2	-	-	03-1005034 \$595.00	03-1205034 \$595.00	03-1505034 \$595.00	03-1805034 \$1,595.00	03-2405034 \$1,895.00
L-3	-	-	-	-	03-1505035 \$890.00	03-1805035 \$1,695.00	03-2405035 \$1,895.00

For Hardinge® and Elgin Lathe

Spindle	5"	6"
4° Taper	03-0505044 \$255.00	03-0605044 \$295.00
2-3/16"-10 Threaded	03-0505045 \$240.00	03-0605045 \$285.00

Plates for rotary tables also available.

Threaded & Blank Mountings for Accra-Set™ Chucks

Spindle	5"	6"	8"	10"	12"
Blank	03-0505040 \$180.00	03-0605040 \$185.00	03-0805040 \$205.00	03-1005040 \$240.00	03-1205040 \$250.00
1-1/2"-8	03-0505041 \$215.00	03-0605041 \$225.00	03-0805041 \$245.00	-	-
1-3/4"-8	03-0505042 215.00	03-0605042 \$225.00	03-0805042 \$245.00	-	-
2-1/4"-8	03-0505043 \$215.00	03-0605043 \$225.00	03-0805043 \$245.00	-	-
2-3/8"-6	-	03-0605046 \$240.00	03-0805046 \$250.00	-	-

* Threaded adapter plates and special plates are available upon request.

"Accra-Set™" chucks and adapters are shipped unassembled unless ordered assembled at an extra charge.

When ordering special adapters, give make, model number, size, and spindle dimensions of machine.

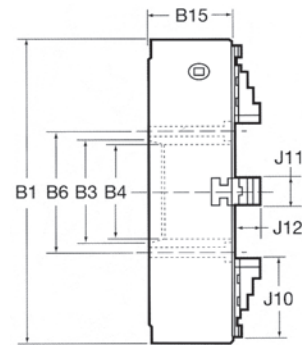
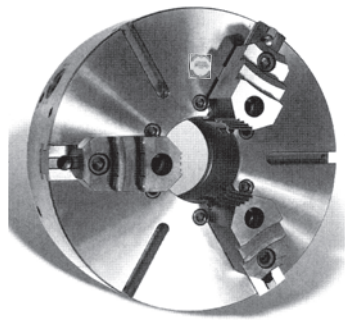
- Sizes 20" to 48"
- Forged Steel Body
- Extra Heavy Duty American Standard, Hard Top and Master Jaws
- Gripping surfaces serrated for more holding power
- Large Thru-Holes Standard
- Hardened Scroll Gear for long life

3-Jaw Self-Centering Heavy Duty Chuck

High Quality, Steel Body Chuck

Chuck Size	Model No.	Mount	Thru Hole	Max RPMs	Approx. Weight	Price
12*	10-114-12-000Z	Flat Back	3.13	*	152 lbs	9,250
15*	10-114-15-000Z	Flat Back	5.13	*	235 lbs	11,550
20	10-114-20-A11Z	A2-11	6.75	1100	475 lbs	12,220
24	10-114-24-A15Z	A2-15	10.75	850	695 lbs	15,040
24	10-114-24-A20Z	A2-20	12.50	850	670 lbs	15,040
28	10-114-28-A15Z	A2-15	10.75	750	890 lbs	20,210
28	10-114-28-A20Z	A2-20	12.50	750	870 lbs	20,210
32	10-114-32-A15Z	A2-15	10.75	600	1290 lbs	24,205
32	10-114-32-A20Z	A2-20	14.50	600	1270 lbs	24,205

*Dimensional table will be provided upon request.



Dimensional Data 3-Jaw Self-Centering Heavy Duty Chuck

Model No.	B1 O.D.	Mount Type	B3 Mount Recess	B4 Thru Hole	B6 Mounting Bolt Radius	B15 Body Width	J10 Master Jaw Length	J11 Top Jaw Width	J12 Top Jaw Height
10-114-20-A11Z	19.68	A2-11	7.75	6.75	4.625	6.34	6.50	2.36	3.27
10-114-24-A15Z	24.80	A2-15	11.25	10.75	6.50	6.61	6.50	2.36	3.27
10-114-24-A20Z	24.80	A1-20	16.25	12.50	7.25	6.69	6.50	2.36	3.27
10-114-28-A15Z	27.56	A2-15	11.25	10.75	6.50	6.81	8.50	2.95	3.62
10-114-28-A20Z	27.56	A1-20	16.25	12.50	7.25	6.89	8.50	2.95	3.62
10-114-32-A15Z	31.49	A2-15	11.25	10.75	6.50	7.01	9.84	2.95	3.62
10-114-32-A20Z	31.49	A2-20	16.25	14.50	9.175	7.09	8.50	2.95	3.62

NOTE: Note to be used for design purposes unless approved by the factory.

Component Parts - Series 10-114 - Old Style (Price on Application)

CHUCK SIZE	SCROLL	PINION	PINION RETAINER	PINION BUSHING	PINION BUSHING RETAINER	WRENCH	JAWS - SET OF 3	
							No. 6 MASTER JAWS	No. 6 TOP JAWS
8	03-001521-F1	03-001521-03	05-000895-00	---	---	06-201801-00	03-001521-F4	03-001521-F2
10	05-003542-F0	03-001089-02	05-000896-00	---	---	06-201848-00	03-003541-F0	03-001089-F3
12	04-008003-F0	05-006367-00	05-006375-00	04-008720-00	05-002242-00	06-201848-00	05-006374-F0	03-001438-F3
15	04-007965-F0	05-006193-00	05-006307-00	04-008052-00	05-002242-00	06-201868-00	04-007839-F0	04-007840-F0
18	03-005896-F0	05-006286-00	05-006307-00	04-008072-00	05-002242-00	06-201868-00	04-007913-F0	04-007840-F0
21	03-005925-F0	05-006398-00	05-006307-00	04-007978-00	05-002242-00	06-201868-00	04-008030-F0	04-007840-F0
24	03-002692-F2	04-007977-00	05-006307-00	04-007978-00	05-002242-00	06-201868-00	04-007979-F0	04-007840-F0

- **Broadest line available**
- **Solid reversible or two-piece American Standard Jaws available as noted**
- **Straight Recess**
- **Steel Bodies**
- **Sizes 6" to 48"**

Series 10-003 & 10-004

4-Jaw Independent Chuck

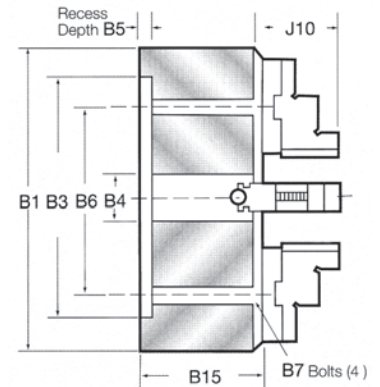
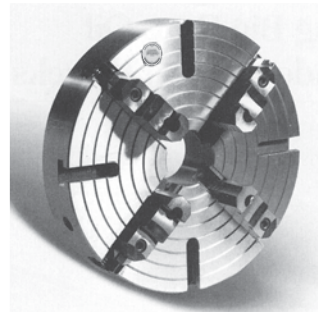
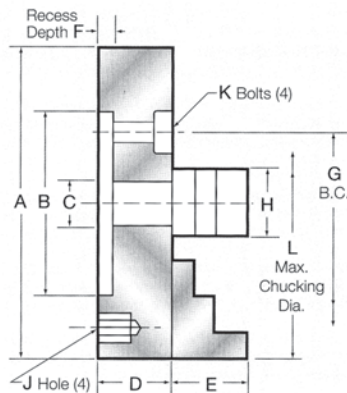
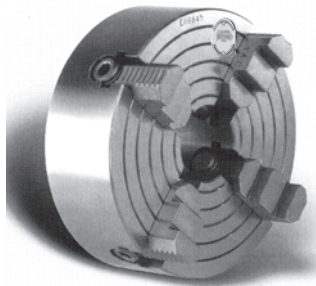
High Quality, Steel Body Independent Chuck

Series 10-003 Steel Bodies Solid Reversible Jaws

CHUCK SIZE	CHUCK NO.	EST. GROSS WGT. LBS.	PRICE
6	10-003-06-000Z	16	740
8	10-003-08-000Z	31	920
10	10-003-10-000Z	43	980
12	10-003-12-000Z	72	1,350
14	10-003-14-000Z	126	1,550
16	10-003-16-000Z	180	1,810

Series 10-004 Steel Bodies American Standard 2-Piece Tongue & Groove Jaws

CHUCK SIZE	CHUCK NO.	EST. GROSS WGT. LBS.	PRICE
14	10-004-14-000Z	160	2,100
16	10-004-16-000Z	200	2,330
18	10-004-18-000Z	310	3,170
20	10-004-20-000Z	390	3,500
24	10-004-24-000Z	475	5,620
28	10-004-28-000Z	560	7,870
32	10-004-32-000Z	715	10,080



Dimensional Data 10-003 4-Jaw Independent Steel Body Chucks

Chuck Size	A	B	C	D	E	F	G	H	J	K	L	Gripping Capacity	
												Min.	Max.
6	6.30	4.921	1.77	2.12	.87	.16	5.512	.94	M10	M10	7-1/8	5/16	5
8	7.87	4.921	1.97	2.83	1.22	.16	5.512	1.26	M10	M10	9-1/4	5/16	7
10	9.84	7.874	2.36	2.83	1.22	.19	8.819	1.26	M12	M12	12	1/2	8
12	12.40	7.874	2.95	3.15	1.42	.19	8.819	1.42	M12	M12	14	1/2	10
14	13.80	10.236	2.95	3.58	1.47	.19	11.26	1.42	-	M12	16	3/4	12
16	15.75	10.236	2.95	3.58	1.47	.19	11.26	1.42	-	M12	18	3/4	14

Dimensional Data 10-004 4-Jaw Independent Steel Body Chucks

Chuck Dia.	B1	B3	B4	B5	B6	B7	B15	J10
14"	13.8"	5.905"	2.95"	.196"	4.92"	M-12	3.15"	2.00"
16"	15.8"	7.874"	4.055"	.196"	6.61"	M-20	3.15"	2.00"
18"	17.7"	7.874"	4.055"	.196"	6.61"	M-20	4.33"	2.00"
20"	19.6"	9.842"	4.055"	.196"	8.66"	M-20	4.33"	2.00"
24"	23.6"	9.842"	4.055"	.196"	8.66"	M-20	4.92"	3.75"
28"	27.5"	9.842"	4.72"	.196"	8.66"	M-20	4.92"	3.75"
32"	31.5"	9.842"	5.31"	.196"	8.66"	M-20	4.92"	3.75"

All parts are priced on application.

Series 10-003 & 10-004

Component Parts

Independent Chucks - Series 10-001, 10-002, 10-003, 10-004 (Old Type Design)

CHUCK SIZE	MODEL LETTER	OPERATING SCREW	THRUST BEARING	WRENCH	JAWS - SET OF 4 ONLY		
					SOLID ONE-PIECE REVERSIBLE	2-PC TONGUE & GROOVE TYPE	
						No. 6 MASTER JAWS	No. 6 TOP JAWS
10	C	05-002184-00	06-201883-00	06-201260-00	05-003019-F0	04-001201-F2	04-001201-F1
12	C	05-002185-00	06-201883-00	06-201260-00	05-003019-F0	04-001202-F2	04-001202-F1
15	C	05-002187-00	06-201883-00	06-201260-00	05-006534-F0	04-001213-F1	04-001213-F2
18	C	05-002199-00	06-201866-00	06-201264-00	05-004551-F0	04-003948-F0	04-003947-F0
21	C	05-002195-00	06-201866-00	06-201264-00	05-004551-F0	04-002065-F0	04-003947-F0
24	C	05-002559-00	06-201866-00	06-201264-00	05-004551-F0	04-002065-F0	04-003947-F0
28	C	05-002560-00	06-201866-00	06-201264-00	05-004551-F0	04-002065-F0	04-003947-F0
32	C	05-000309-02	06-201851-00	06-201885-00	05-000612-F0	03-001981-F1	03-001981-F2

Independent Chucks - Series 10-003, 10-004

CHUCK SIZE	MODEL LETTER	OPERATING SCREW	THRUST BEARING	WRENCH	JAWS - SET OF 4 ONLY		
					SOLID ONE-PIECE REVERSIBLE	2-PC TONGUE & GROOVE TYPE	
						No. 6 MASTER JAWS	No. 6 TOP JAWS
10	C, D, E	05-002184-00	06-201883-00	06-201260-00	05-003019-F0	04-001201-F2	04-001201-F1
12	C, D, E	05-002185-00	06-201883-00	06-201260-00	05-003019-F0	04-001202-F2	04-001202-F1
15	C, D, E	05-002187-00	06-201883-00	06-201260-00	05-006534-F0	04-001213-F1	04-001213-F2
18	D, E	05-210722-00	06-201851-00	06-201885-00	04-210721-F0	03-210871-F0	03-001981-F2
21	D, E	05-211793-00	06-201851-00	06-201885-00	04-210721-F0	03-210871-F0	03-001981-F2
24	D, E	05-209524-00*	06-201881-00	06-201867-00	03-209509-F0	03-209504-F0	04-001941-F0
28	D, E	05-211858-00**	06-201881-00	06-201867-00	03-209509-F0	03-209504-F0	04-001941-F0
32	D, E	05-211423-00	06-201881-00	06-201867-00	03-209509-F0	03-209504-F0	04-001941-F0

* Chuck Size 24" A11/D11 E Model Mount, use Operating Screw Part No. 05-225822-00.

** Chuck Size 28" 000 D Model, Straight Recess Mount, use Operating Screw Part No. 05-216862-00.

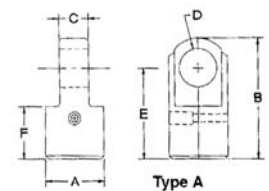
NOTE: Please refer to the factory when ordering component parts for Chuck Models A & B.

Single End	
Double End	
Internal	
External	
Hex	
Square	
Depth	

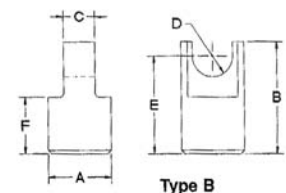
Pitch	
Right	
Left	
Acme	
Square	

Qty:	Approved By:					Date:			
A	B	C	D	E	F	K	L	M	

Replacement Screws & Thrust Bearings



A*	B	C	D*	E	F
----	---	---	----	---	---



A*	B	C	D*	E	F
----	---	---	----	---	---

* Diameter

Single End	
Double End	
Internal	
External	
Hex	
Square	
Depth	

Pitch	
Right	
Left	
Acme	
Square	

Qty:	Approved By:					Date:						
A	B	C	D	E	F	G	H	I	J	K	L	M

Qty:	Approved By:					Date:	
------	--------------	--	--	--	--	-------	--

Mounting Plates for 4-Jaw Independent Chucks

Mounting plates are precision machined to suit the spindle nose of your machine. Plates are stocked semi-finished. If ordering plates separately, specify the model number of your chuck so that Cushman can finish machine the adapter to suit your Cushman chuck.

Type D Mounting Plates - "Camlock"

Spindle	6"	8"	10"	12"	14"	16"
D-3	03-0603020 \$190.00	03-0603020 \$190.00	03-1003020 \$320.00	03-1003020 \$320.00	-	-
D-4	03-0603021 \$190.00	03-0603021 \$190.00	03-1003021 \$320.00	03-1003021 \$320.00	-	-
D-5	03-0603022 \$195.00	03-0603022 \$195.00	03-1003022 \$320.00	03-1003022 \$320.00	03-1203022 \$375.00	-
D-6	-	03-0603023 \$230.00	03-1003023 \$350.00	03-1003023 \$350.00	03-1203023 \$375.00	03-1203023 \$375.00
D-8	-	-	03-1003024 \$350.00	03-1003024 \$350.00	03-1203024 \$375.00	03-1203024 \$375.00
D-11	-	-	-	-	03-1203025 \$540.00	03-1203025 \$540.00

Type A American Standard Short Taper A-1 & A-2 Spindles

Spindle	6"	8"	10"	12"	14"	16"
A-5	03-0603010 \$215.00	03-0603010 \$215.00	03-1003010 \$295.00	-	-	-
A-6	03-0603011 \$275.00	03-0603011 \$275.00	03-1003011 \$295.00	03-1003011 \$295.00	-	-
A-8	-	-	03-1003012 \$295.00	03-1003012 \$295.00	03-1203012 \$320.00	03-1203012 \$320.00
A-11	-	-	-	-	03-1203013 \$350.00	03-1203013 \$350.00

Type L American Standard Long Taper Spindles

Spindle	6"	8"	10"	12"	14"	16"
L-00	03-0603031 \$315.00	03-0603031 \$315.00	03-1003031 \$360.00	-	-	-
L-0	03-0603032 \$315.00	03-0603032 \$315.00	03-1003032 \$360.00	03-1003032 \$360.00	03-1203032 \$410.00	-
L-1	-	-	03-1003033 \$390.00	03-1003033 \$390.00	03-1203033 \$410.00	03-1203033 \$410.00
L-2	-	-	03-1003034 \$475.00	03-1003034 \$475.00	03-1203034 \$550.00	03-1203034 \$550.00

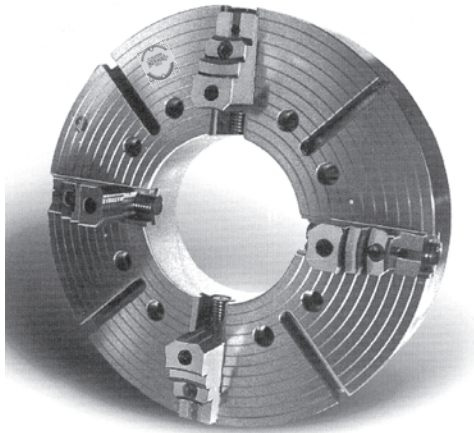
Hardinge® 4° Taper Plate

Spindle	6"	8"
4° Taper	03-0604044 \$340.00	03-0604044 \$340.00

Threaded Spindles

Spindle	6"	8"	10"
1-1/2"-8	03-0603041 \$175.00	03-0603041 \$175.00	-
1-3/4"-8	03-0603042 \$215.00	03-0603042 \$215.00	-
2-1/4"-8	03-0603043 \$215.00	03-0603043 \$215.00	03-1003043 \$275.00

Special adapter plates available upon request. Specify Chuck number and spindle nose specifications. For standard spindle dimensions, see page 3.



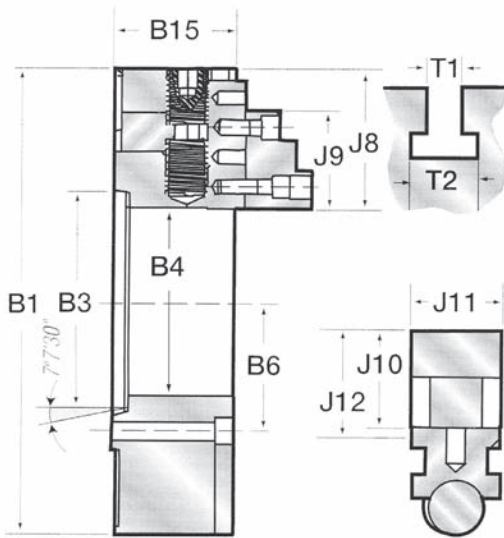
4-Jaw Heavy Duty Independent Chuck

Extra Heavy-Duty
Sizes 18" through 48"

- Forged Steel Body
- Extra Heavy Duty American Standard, Hard Top and Master Jaws
- Gripping surfaces serrated for more holding power
- Larger Thru-Holes Standard
- T-Slots Standard
- Direct A Type Mounting
- One Year Warranty
- Available in smaller and larger sizes on request

Chuck Specifications

Chuck Size	Chuck Model No.	Mount	Thru Hole	Max RPMs	Approx. Weight	Price
12"	10-014-12-A08Z	A2-8	3.37"	1500	200	*
18"	10-014-18-A11Z	A2-11	6.50"	1100	350	5,400
21"	10-014-21-A11Z	A2-11	6.50"	1000	540	6,200
21"	10-014-21-A15Z	A2-15	7.30"	1000	533	6,200
24"	10-014-24-A11Z	A2-11	6.50"	850	720	7,200
24"	10-014-24-A15Z	A2-15	10.50"	850	700	7,200
24"	10-014-24-A20Z	A2-20	12.59"	850	685	7,200
28"	10-014-28-A15Z	A2-15	10.50"	700	905	8,850
28"	10-014-28-A20Z	A2-20	12.59"	700	920	8,850
32"	10-014-32-A15Z	A2-15	10.50"	600	1265	10,500
32"	10-014-32-A20Z	A2-20	12.59"	600	1255	10,500
36"	10-014-36-A20Z	A2-20	12.59"	600	1930	*
40"	10-014-40-A20Z	A2-20	12.59"	500	2350	*
40"	10-014-40-A28Z	A2-28	18.50"	500	2275	*



Chuck Dimensions

* Consult factory for 12", 36", 40" and larger sizes.

Model No.	B1 O.D.	B3 Mount Type	B4 Mount Recess	B6 Thru Hole	B15 Mounting Bolt Radius	J8 Body Width	J9 Master Jaw Length	J10 Top Jaw Length	J11 Top Jaw Height	J12 Top Jaw Width	T1 Top Jaw Height from Face	T2 T-Slot	T2 T-Slot
12-A08Z	12"	A2-08	5.50"	3.37"	3.375"	5.47"	5.00"	5.00"	3.26"	2.12"	3.26"	.755"	--
18-A11Z	18"	A2-11	7.75"	6.50"	4.625"	5.75"	6.50"	5.00"	2.87"	2.40"	3.26"	.855"	1.565"
21-A11Z	21"	A2-11	7.75"	6.57"	4.625"	5.75"	6.50"	5.00"	2.87"	2.40"	3.26"	.855"	1.565"
21-A15Z	21"	A2-15	11.25"	7.30"	6.500"	5.75"	6.50"	5.00"	2.87"	2.40"	3.26"	.855"	1.565"
24-A11Z	24"	A2-11	7.75"	6.57"	4.625"	6.10"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
24-A15Z	24"	A2-15	11.25"	10.51"	6.500"	6.10"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
24-A20Z	24"	A2-20	16.25"	12.59"	9.125"	6.10"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
28-A15Z	28"	A2-15	11.25"	10.51"	6.500"	6.10"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
28-A20Z	28"	A2-20	16.25"	12.59"	9.125"	6.10"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
32-A15Z	32"	A2-15	11.25"	10.51"	6.500"	6.50"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
32-A20Z	32"	A2-20	16.25"	12.59"	9.125"	6.50"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
36-A20Z	36"	A2-20	16.25"	12.59"	9.125"	6.50"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
40-A20Z	39.37"	A2-20	16.25"	12.59"	9.125"	6.50"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"
40-A28Z	39.37"	A2-28	23.00"	18.50"	12.750"	6.50"	8.00"	5.00"	3.26"	3.00"	3.62"	.855"	1.565"

NOTE: Not to be used for design purposes unless approved by the factory.

Face Plate and Boring Mill Jaws

- Face plate jaws furnished for tables with single radial slots
- Boring mill jaws furnished for tables with double parallel slots
- Face plate and boring mill jaws available with solid reversible jaws in sets of 4
- Face plate jaws sizes 6", 8"
- Boring mill jaws sizes 8", 10", 12", 14"

Face Plate Jaws

For tables with Single Radial Slots

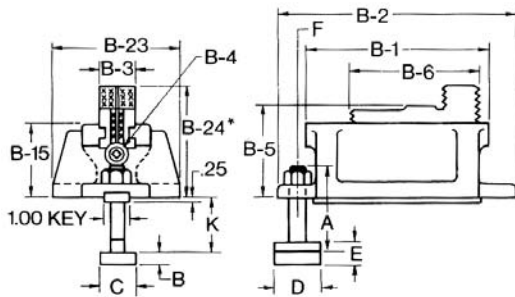


Series 10-063 Steel Bodies Set of 4 with Solid Reversible Jaws

SIZE	FACE PLATE JAWS NO.	EST. GROSS WGT. LBS.	PRICE
6	10-063-06-000D	160	8,000
8	10-063-08-000D	280	8,800

T-Bolt Dimensional Table

JAW SIZE	A	B	C	D	E	F	STD. K MIN.
4" THRU 8"	3.00	.53	1.31	1.75	.97	3/4-10	1.437-.750



Dimensional Table Series 10-063

JAW SIZE	6	8
B-1	6.25	8.25
B-2	8.50	10.50
B-3	1.69	1.69
B-4	1.17	1.17
B-5	4.38	4.38
B-6	5.00	5.00
B-15	3.75	3.75
B-23	5.00	5.50
B-24	5.25	5.25

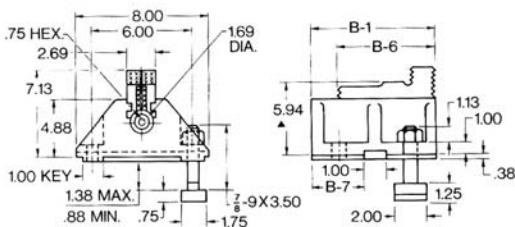
Boring Mill Jaws

For tables with Double Parallel Slots



Series 10-073 Steel Bodies Set of 4 with Solid Reversible Jaws

SIZE	BORING MILL JAW NO.	EST. GROSS WGT. LBS.	PRICE
8	10-073-08-000B	260	8,250
10	10-073-10-000B	320	9,500
12	10-073-12-000B	360	10,500
14	10-073-14-000B	420	12,500

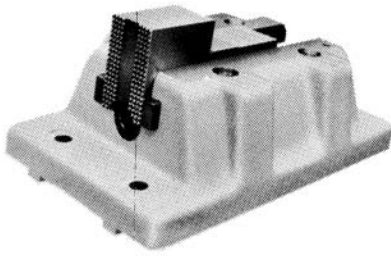


Dimensional Table Series 10-073

JAW SIZE	8	10	12	14
B-1	8.00	10.00	12.00	14.00
B-6	6.00	6.00	8.00	8.00
B-7	3.50	3.00	3.50	4.50

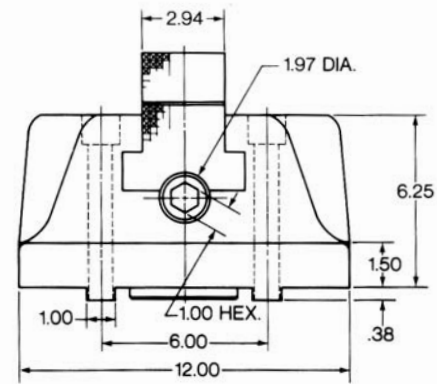
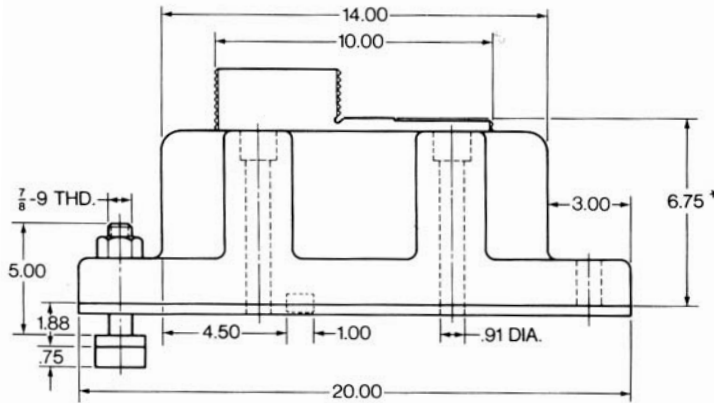
Heavy-Duty Boring Mill Jaws

For tables with Double Parallel Slots



Series 10-076 Steel Bodies **Set of 4 with Solid Reversible Jaws**

SIZE	FACE PLATE JAWS NO.	EST. GROSS WGT. LBS.	PRICE
14	10-076-14-000A	1,250	POA



*Will be uniform in sets within .003.

All parts are priced on application.

Series 10-061, 10-063, 10-073, 10-076

Component Parts

For Older Models

Independent Chucks - Series 10-061, 10-063

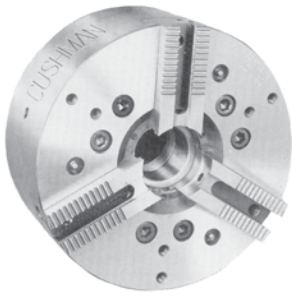
SIZE	OPERATING SCREW	THRUST BEARING	WRENCH	JAW
4	05-002501-00	06-201883-00	06-201260-00	04-000326-F0
6	05-002502-00	06-201883-00	06-201260-00	04-000326-F0
8	05-002503-00	06-201883-00	06-201260-00	04-000326-F0
10	05-002504-00	06-201866-00	06-201264-00	04-000857-F0
12	05-003943-00	06-201866-00	06-201264-00	04-000857-F0

Independent Chucks - Series 10-073

SIZE	OPERATING SCREW	THRUST BEARING	WRENCH	JAW
8	05-214201-00	06-217101-00	04-217094-00	03-214200-F0
10	05-217522-00	06-217101-00	04-217094-00	03-214200-F0
12	05-217099-00	06-217101-00	04-217094-00	03-217098-F0
14	05-217518-00	06-217101-00	04-217094-00	03-217098-F0

Independent Chucks - Series 10-076

SIZE	OPERATING SCREW	THRUST BEARING	WRENCH	JAW
14	05-005099-00	06-201948-00	06-201914-00	03-207473-F0



3-Jaw High Speed Power Chuck

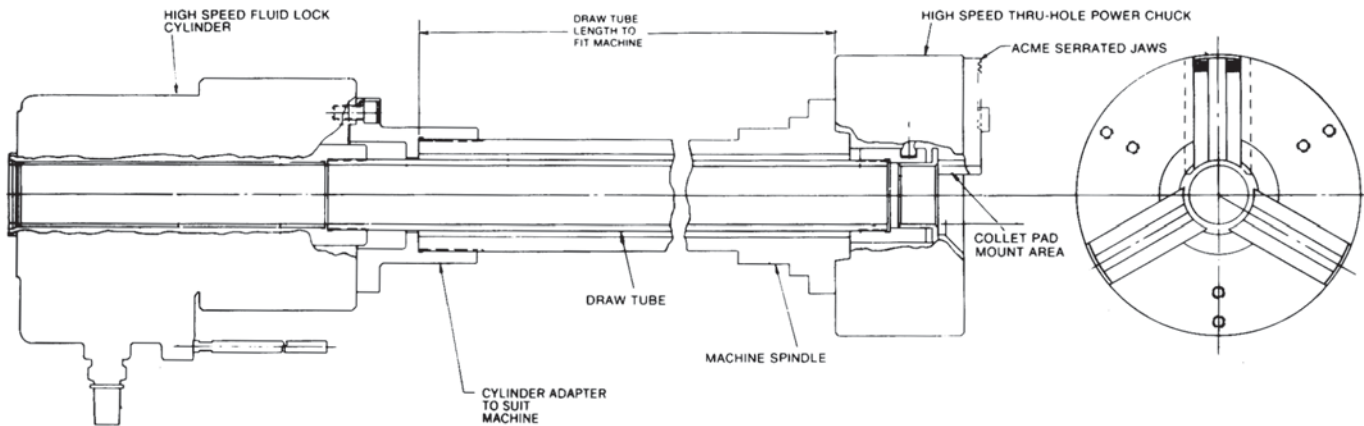
High Quality, Lever Style, High Speed Power Chuck

Cushman thru-hole high speed chucks, hydraulic cylinders and tooling are integrated, power operated workholding packages. Acme serrated master jaws are standard on these thru-hole cylinder and chuck combinations.

With a work clearance hole through both hydraulic cylinder and chuck, a Cushman high speed workholding package affords great flexibility for users of conventional bar and chucking machines as well as automatic N/C equipment.

Cushman high speed chucks counter centrifugal force using a system of counter weights to reduce the tendency of the jaws to release at higher speeds.

NOTE: Master Jaws, Levers, Lever Pins, Plungers, Bushings, and Counterweights are available from stock upon request.



HIGH-SPEED THRU-HOLE CHUCKS

RECOMMENDED OPERATING LIMITS									
PART NUMBER	SIZE (INCHES)	EST. GROSS WGT. (LBS.)	THRU-HOLE (INCHES)	MAX REC. SPEED (R.P.M.) (2)	MAX. REC. DRAW-TUBE PULL (LBS.) (1)	JAW FORCE @ MAX REC. D.T.P. (LBS./JAW) (1)	JAW FORCE @ MAX REC. SPEED (LBS./JAW) (2)	MAX. TOP JAW WR FOR RATED SPEED (LB.-IN.) (2)	PRICE
10-590-08-A06AZ	08	58	1.50	4,500	14,000	5,300	2,650	3.03	8,500
10-590-10-A06AZ	10	100	2.56	4,000	16,500	6,100	3,050	6.74	9,600
10-590-10-A08AZ	10	100	2.56	4,000	16,500	6,100	3,050	6.74	9,600
10-590-12-A08CZ	12	150	2.56	3,500	18,000	9,500	4,750	10.16	10,500
10-590-12-A08AZ	12	150	3.13	3,500	18,000	9,500	4,750	10.16	10,500
10-590-15-A08CZ	15	260	2.56	3,000	24,950	15,200	7,600	24.23	15,000
10-590-15-A08AZ	15	260	3.13	3,000	24,950	15,200	7,600	24.23	15,000
10-590-15-A11CZ	15	260	4.62	3,000	24,950	15,200	7,600	24.23	15,000
10-590-18-A11CZ	18	390	4.62	2,250	24,950	18,500	9,250	29.68	18,500

(1) Rated jaw force is based on static conditions (O.R.P.M.) with factory lubrication. Variations in jaw force due to changes in chuck, lubrication or both may occur. Jaw force may increase with use. This will not be detrimental to the chuck as long as the increase does not exceed 20%.

(2) Maximum recommended speeds are based on 50% jaw force retention at the stated WR (weight x radius to center-of-gravity) value. Specific applications must be reviewed by the user to establish that the jaw force is adequate for the loads to be encountered. Higher speeds may be permissible but must be reviewed. Contact your Cushman representative.

SERRATED JAW SELF-CENTERING POWER CHUCKS

Type A American Standard Spindles

(Specifications on page 3)

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life. Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots. To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number 20-670-12-A06 with a draw tube, change the reference number to 20-673-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.

Chucks with serrated master jaws are especially recommended for production and chucking operations where it is necessary to provide a wide range of jaw capacity, and is achieved by "stepping" the top jaw along the master jaw. One set of master jaw keys are furnished with each chuck; top jaws are not included. Balanced to eliminate vibration and chatter at high RPM.

Chucks are priced on application.

SERIES 20-670 - 3-Jaw Chucks

American Standard Serrated Master Jaws*

(For Draw Tube type, change number to 20-673)†



Series:
• 20-670
• 20-673

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
10	20-670-10-A06Z	12	20-670-12-A08Z	18	20-670-18-A11Z	21	20-670-21-A15Z
10	20-670-10-A08Z	15	20-670-15-A08Z	18	20-670-18-A15Z	24	20-670-24-A15Z
12	20-670-12-A06Z	15	20-670-15-A11Z	21	20-670-21-A11Z		

SERIES 20-671 - 2-Jaw Chucks

American Standard Serrated Master Jaws*

(For Draw Tube type, change number to 20-674)†



Series:
• 20-671
• 20-674

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
10	20-671-10-A06Z	12	20-671-12-A08Z	18	20-671-18-A11Z	21	20-671-21-A15Z
10	20-671-10-A08Z	15	20-671-15-A08Z	18	20-671-18-A15Z	24	20-671-24-A15Z
12	20-671-12-A06Z	15	20-671-15-A11Z	21	20-671-21-A11Z		

SERIES 20-672 - 2 & 3-Jaw Chucks

American Standard Serrated Master Jaws*

(For Draw Tube type, change number to 20-675)†



Series:
• 20-672
• 20-675

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
10	20-672-10-A06Z	15	20-672-15-A08Z**	18	20-672-18-A15Z	21	20-672-21-A15Z
10	20-672-10-A08Z	15	20-672-15-A11Z	21	20-672-21-A11Z	24	20-672-24-A15Z
12	20-672-12-A08Z	18	20-672-18-A11Z				

*Accralock Angular Serrated Master Jaws can be furnished at slight extra cost.

**Adapter for mounting included.

†See statement at top of page.

NON-ADJUSTABLE JAW SELF-CENTERING POWER CHUCKS

Type A American Standard Spindles

(Specifications on page 3)

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life. Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots. To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number 20-620-12-A06 with a draw tube, change the reference number to 20-623-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.

Recommended for general manufacturing service where adjustability of individual jaws is not required. Particularly suited for repetitive operations, especially heavy workpieces. Provides a simple and economical method of workholding, eliminating costly special devices. Balanced to eliminate vibration and chatter at high RPM.

All chucks are priced on application.

SERIES 20-620 - 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-623)†

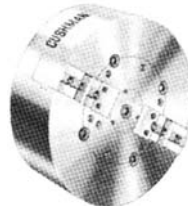


Series:
• 20-620
• 20-623

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
6	20-620-06-A05Z	10	20-620-10-A06Z	15	20-620-15-A08Z	21	20-620-21-A11Z
6	20-620-06-A06Z	10	20-620-10-A08Z	15	20-620-15-A11Z	21	20-620-21-A15Z
8	20-620-08-A06Z	12	20-620-12-A06Z	18	20-620-18-A11Z	24	20-620-24-A15Z
8	20-620-08-A08Z	12	20-620-12-A08Z	18	20-620-18-A15Z		

SERIES 20-621 - 2-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-624)†



Series:
• 20-621
• 20-624

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
6	20-621-06-A05Z	10	20-621-10-A06Z	15	20-621-15-A08Z	21	20-621-21-A11Z
6	20-621-06-A06Z	10	20-621-10-A08Z	15	20-621-15-A11Z	21	20-621-21-A15Z
8	20-621-08-A06Z	12	20-621-12-A06Z	18	20-621-18-A11Z	24	20-621-24-A15Z
8	20-621-08-A08Z	12	20-621-12-A08Z	18	20-621-18-A15Z		

SERIES 20-622 - 2 & 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-625)†



Series:
• 20-622
• 20-625

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
8	20-622-08-A06Z	10	20-622-10-A08Z	15	20-622-15-A11Z	21	20-622-21-A11Z
8	20-622-08-A08Z	12	20-622-12-A08Z	18	20-622-18-A11Z	21	20-622-21-A15Z
10	20-622-10-A06Z	15	20-622-15-A08Z**	18	20-622-18-A15Z	24	20-622-24-A15Z

**Adapter for mounting included.

†See statement at top of page.

ADJUSTABLE JAW SELF-CENTERING POWER CHUCKS

Type A American Standard Spindles

(Specifications on page 3)

All power chucks are carefully designed and are built to provide accurate repetitive workholding. Bodies are of steel with all moving surfaces precision ground and all wearing surfaces flame-hardened and ground. Internal parts are protected by dust plates carefully fitted to the chuck face, thereby preventing the entry of chips and dirt. Reliability combined with heavy duty type performance enables these chucks to be used for most types of workholding over a long, rugged, trouble-free service life. Note: Chucks listed below do not include top jaws. All chucks in sizes 12" and larger are furnished with T-slots. To order chucks with Draw Tubes, change the reference number as shown above each listing. (Example: to order chuck number 20-640-12-A06Z with a draw tube, change the reference number to 20-643-12-A06.) Most of the chucks listed in this catalog are for direct mounting on Type A American Standard Spindles. Other chuck sizes and spindle seats are available on request.

Self-centering Power Chucks with American Standard Master Jaws providing independent jaw action are simple and quick to adjust. This series of chucks is designed for accurate, expeditious holding of irregularly shaped workpieces. Initial accuracy maintained on repetitive chucking operations.

All chucks are priced on application.

SERIES 20-640 - 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-643)†

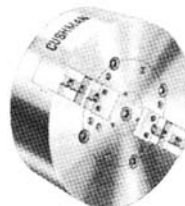


Series:
• 20-640
• 20-643

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
8	20-640-08-A06Z	12	20-640-12-A06Z	18	20-640-18-A11Z	21	20-640-21-A15Z
8	20-640-08-A08Z	12	20-640-12-A08Z	18	20-640-18-A15Z	24	20-640-24-A11Z
10	20-640-10-A06Z	15	20-640-15-A08Z	21	20-640-21-A11Z	24	20-640-24-A15Z
10	20-640-10-A08Z	15	20-640-15-A11Z				

SERIES 20-641 - 2-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-644)†



Series:
• 20-641
• 20-644

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
8	20-641-08-A06Z	12	20-641-12-A06Z	15	20-641-15-A11Z	21	20-641-21-A11Z
8	20-641-08-A08Z	12	20-641-12-A08Z	18	20-641-18-A11Z	21	20-641-21-A15Z
10	20-641-10-A06Z	15	20-641-15-A08Z	18	20-641-18-A15Z	24	20-641-24-A11Z
10	20-641-10-A08Z						

SERIES 20-642 - 2 & 3-Jaw Chucks

American Standard Tongue & Groove Master Jaws
(For Draw Tube type, change number to 20-645)†



Series:
• 20-642
• 20-645

SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER	SIZE	PART NUMBER
8	20-642-08-A06Z	12	20-642-12-A08Z	18	20-642-18-A11Z	21	20-642-21-A15Z
8	20-642-08-A08Z	15	20-642-15-A08Z**	18	20-642-18-A15Z	24	20-642-24-A11Z
10	20-642-10-A06Z	15	20-642-15-A11Z	21	20-642-21-A11Z	24	20-642-24-A15Z
10	20-642-10-A08Z						

**Adapter for mounting included.

†See statement at top of page.

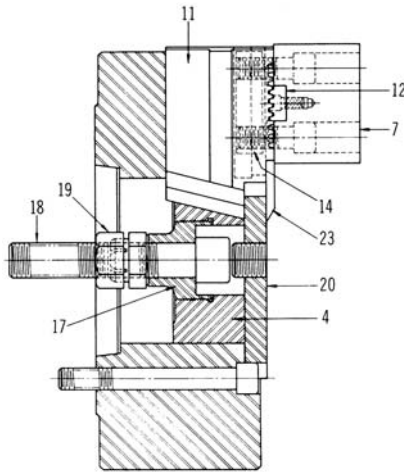
SELF-CENTERING POWER CHUCKS COMPONENT PARTS LIST

Serrated/Adjustable/Non-Adjustable Jaw Types

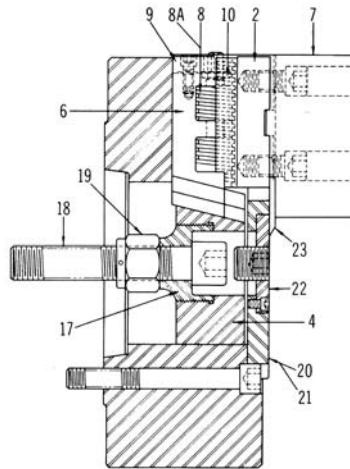
All parts are priced on application.

Series: 20-620; 20-621; 20-622; 20-623; 20-624; 20-625
 Series: 20-670; 20-671; 20-672; 20-673; 20-674; 20-675
 Series: 20-640; 20-641; 20-642; 20-643; 20-644; 20-645

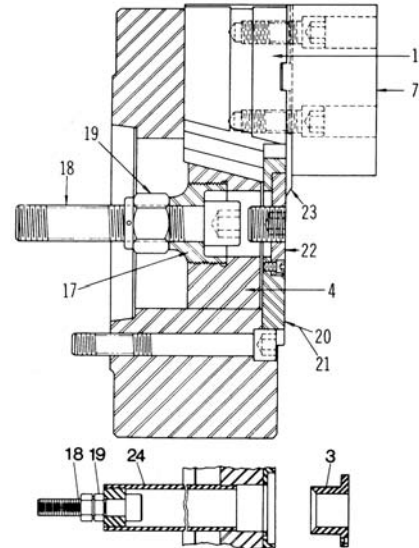
Serrated Jaw Type



Adjustable Jaw Type



Non-Adjustable Jaw Type



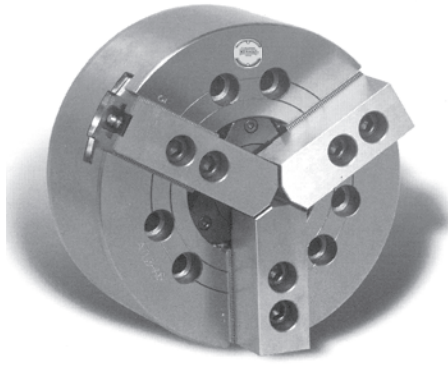
Draw Tube Assembly

Chuck Size (Inches)	1	2	3	4	6	8	9	10	11	12	14
	Master Jaws Non-Adjustable Tongue & Groove	Master Jaws Adjustable Tongue & Groove	Center Hole Bushing	Wedge	Screw Carrier	Adjusting Screw	Screw Locking Plate	Screw Locking Washer	Master Jaw Acme Serrated	Acme Serrated Jaw Key	Jaw Nut
6	03200269F0	---	2500389300	2400389000	---	---	---	---	--	---	---
8	24009673F0	25009552F0	2500427000	2400426800	04207492F0	3500487400	3500487500	3500487600	--	---	---
10	23009782F0	23009675F0	3500593700	2400431400	0420749300	2500847500	2500847600	3500486000	23010917F0	2501091200	2501091800
12" A-6 Spindle	23009632F0	23009681F0	3500593700	2400431400	04207495F0	3500486400	2500847600	3500486000	23013875F0	2501091200	2501091100
12" A-8 Spindle	23009685F0	23009681F0	2500430400	2400429900	04207495F0	3500486400	2500836600	3500486000	23010909F0	2501091200	2501091100
15	24011821F0	23009710F0	2501239300	2401223100	04207496F0	3500488600	2500836600	3500488700	23010906F0	2501090700	2501091600
18	23009718F0	23009715F0	2500447400	2400447200	04214857F0	3500567400	2500836600	3500488700	23010914F0	2501090700	2501091600
21	03204131F0	03204138F0	0520329800	2301778900	0421496100	3500497900	3500741800	3500488700	03204613F0	2501119900	2501120000
24	03205889F0	03203276	0520329800	2301778900	0421541900	3500497900	3500741800	3500488700	03205381F0	2501119900	2501120000

Chuck Size (Inches)	15	16	17	18	19	20	21	22	23	24
	Hard Stepped Top Jaw	Wrench	Wedge Plug	Draw Rod Stud	Draw Rod Lock Nut	Protector Plate	Protector Plate with Cover Plate Recess	Cover Plate	Chip Plates	Draw Tube Assembly
6" A5	---	---	2500448100	9820645100	9823806400	---	2400929900	2500520400	0520027000	2601302300
6" A6	---	---	2500448100	9820645100	9823806400	---	2400389200	2500520400	0520027000	2601302300
8" A6	---	2601252300	2500448200	9820645100	9823806400	---	3400447200	2500520500	2500955500	2601302400
8" A8	---	2601252300	2500448200	9820645100	9823806400	---	3400831300	2500520500	2500955500	2601302400
10" A6	---	2601250400	2500448300	9820644700	9820644500	---	3400318500	2500520600	2500967700	2601302500
10" A8	---	2601250400	2500448300	9820644700	9820644500	---	3400451000	2500520600	2500967700	2601302500
12" A6	24010957F0	2601250400	2500448300	9820644700	9820644500	---	3400318500	2500520600	2500967700	2601302500
12" A8	24010957F0	2601250400	2500448400	9820644900	9820644500	---	3400447700	2500524400	2500967700	2601302600
15" A8	24011058F0	2601405300	3500238200	9820644900	9820645000	---	2401144100	2500520800	2501143900	2601302700
15" A11	24011058F0	2601405300	3500238200	9820644900	9820645000	---	2401225200	2500520800	2501143900	2601302700
18"	24011058F0	2601405300	3500447500	9820644900	9820645000	---	2401180300	2500520800	2500971900	2601302800
21" A11	24011205F0	2601405300	2500448600	9820644900	9820645000	0420298100	---	---	0520449300	2620330200
21" A15	24011205F0	2601405300	2500448600	9820644900	9820645000	0420426800	---	---	0520449300	2620330200
24" A11	24011205F0	2601405300	2500448600	9820644900	9820645000	0420298100	---	---	0520449300	2620330200
24" A15	24011205F0	2601405300	2500448600	9820644900	9820645000	0420426800	---	---	---	2620330200

Workholding Large-Diameter Open Center Power Chuck

Direct replacement chucks for Kitagawa B Series



- Sizes 15" through 24"
- Easy retrofit
- Interchangeable Top Tooling 1.5mm x 60° serrations 15" and 18" chucks, and 3mm x 60° on 21" and 24" chucks
- High Speed
- Full 1 Year warranty on parts and labor
- Hardened jaw ways, master jaws and internal parts
- Large thru-holes, plus Quick Change cover plate for closed center applications
- Chuck accuracy +/- .0005" repeatability

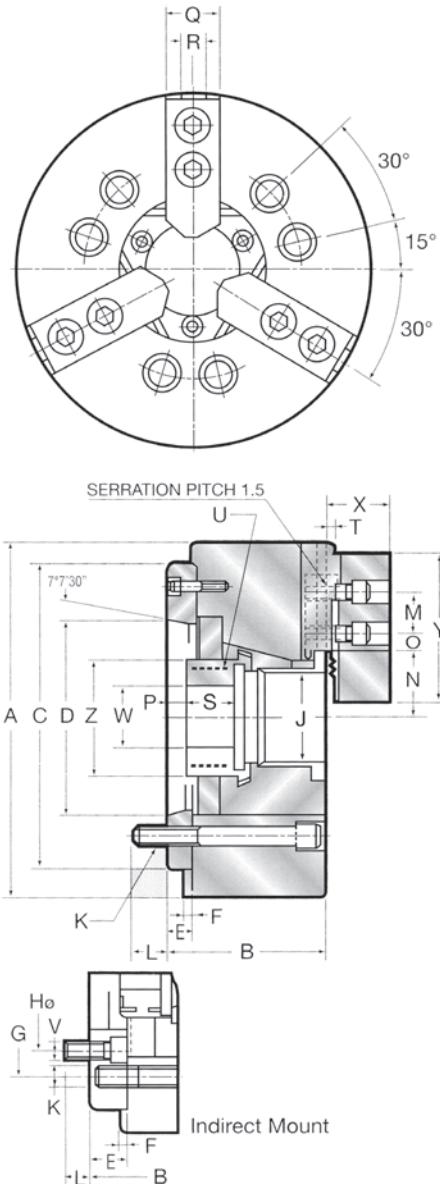
Model No.	Mount	Thru Hole Dia	Jaw Stroke Dia	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
					Max	Min					
20-679-15A8IZ	A2-8	4.626	.417	.905	15.00	1.181	15,961	40,465	2500	295	6,750
20-679-15A11DZ	A2-11	4.626	.417	.905	15.00	1.181	15,961	40,465	2500	280	6,750
20-679-18A11DZ	A2-11	4.626	.417	.905	17.71	1.181	15,961	40,465	2000	392	9,950
20-679-21A11IZ	A2-11	5.512	.417	.905	20.86	3.425	20,231	43,940	1700	542	12,750
20-679-21A15DZ	A2-15	5.512	.417	.905	20.86	3.425	20,231	43,940	1700	542	12,750
20-679-24A11IZ	A2-11	6.496	.417	.905	24.01	4.331	20,231	43,940	1400	670	16,150
20-679-24A15DZ	A2-15	6.496	.417	.905	24.01	4.331	20,231	43,940	1400	670	16,150

I - Indirect Mount

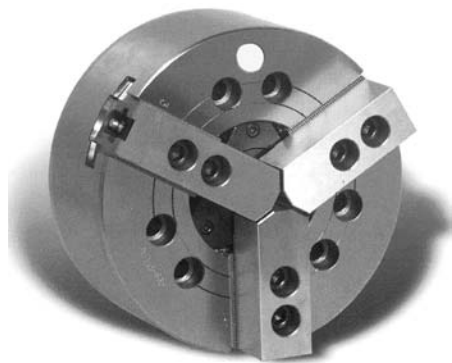
D - Direct Mount

Dimensional Data

MODEL	15A8I	15A11D	18A11D	21A11I	21A15D	24A11I	24A15D
A	15.00	15.00	17.72	20.86	20.86	24.01	24.01
B	6.299	5.860	5.860	6.338	6.338	6.693	6.693
C	11.811	11.811	14.960	14.960	14.960	14.960	14.960
D	5.501	7.751	7.751	11.251	11.251	11.251	11.251
E	1.299	.866	.866	.866	1.063	.866	1.063
F	.234	.234	.234	.234	.234	.234	.234
G	9.252	9.252	9.250	13.000	13.000	13.000	13.000
H	6.748	9.552	-	9.252	13.000	9.252	13.000
J	4.626	4.626	4.626	5.511	5.511	6.496	6.496
K	6-M20	6-M20	6-M20	6-M22	6-M22	6-M22	6-M22
L	.945	1.102	1.102	1.338	1.338	1.378	1.378
M	1.693	1.693	1.693	2.362	2.362	2.362	2.362
N	max 3.228	3.228	3.228	3.878	3.878	4.252	4.252
	min 3.016	3.016	3.016	3.669	3.669	4.043	4.043
O	max 1.722	1.722	3.081	3.445	3.445	4.626	4.626
	min .718	.718	.718	.846	.846	.846	.846
P	max 1.732	1.142	1.299	1.496	1.496	1.850	1.850
	min .827	.236	.394	.590	.590	.945	.945
Q	.244	.244	.244	.256	.256	.256	.256
R	.866	.866	.866	.866	.866	.866	.866
S	1.555	1.555	1.555	1.555	1.555	1.575	1.575
T	.197	.197	.197	.197	.197	.197	.197
U	max M130x2.0	M130x2.0	M130x2.0	M155x2.0	M155x2.0	M175x2.0	M175x2.0
V	6-M16	-	-	6-M20	-	6-M20	-
W	2.362	2.362	2.362	3.146	3.146	3.146	3.146
X	2.756	2.756	2.756	2.874	2.874	2.874	2.874
Y	6.496	6.496	6.496	7.046	7.046	7.046	7.046
Z	5.472	5.472	5.472	6.693	6.693	7.362	7.362

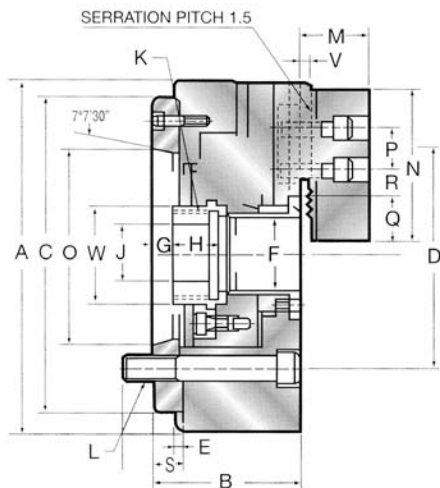
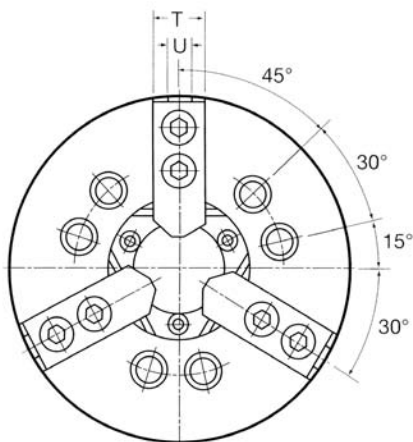


Workholding Large Bore Power Chuck



- Sizes 6" through 12"
- Easy retrofit
- Interchangeable Top Tooling 1.5mm x 60° serrations
- High Speed
- Full 1 Year warranty on parts and labor
- Hardened jaw ways, master jaws and internal parts
- Super large thru-hole, plus Quick Change cover plate for closed center applications
- Chuck accuracy +/- .0005" repeatability

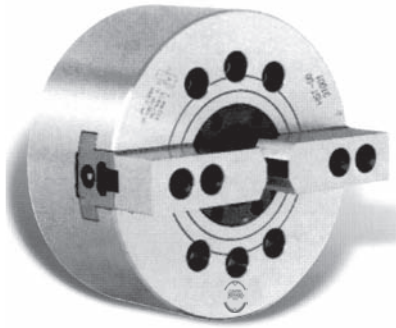
Model No.	Mount	Thru Hole Dia	Jaw Stroke Dia	Sleeve Stroke	Gripping Capacity		Draw Bar Pull lb/f	Grip Force lb/f	Max RPM	Wt Lbs	Price
					Max	Min					
20-689-06A5Z	A2-5	2.047	.252	.591	6.89	.649	5,624	12,815	6000	26	1,900
20-689-08A5Z	A2-5	2.598	.291	.689	8.27	.905	7,928	19,554	5000	51	2,150
20-689-08A6Z	A2-6	2.598	.291	.689	8.27	.905	7,928	19,554	5000	51	2,150
20-689-10A6Z	A2-6	3.030	.346	.748	10.00	1.220	24,953	19,554	4200	89	2,550
20-689-10A8Z	A2-8	3.030	.346	.748	10.00	1.220	24,953	19,554	4200	89	2,550
20-689-12A8Z	A2-8	4.055	.417	.905	12.40	2.126	12,363	32,376	2800	123	3,150
20-689-12A11Z	A2-11	4.055	.417	.905	12.40	2.126	12,363	32,376	2800	123	3,150



Dimensional Data

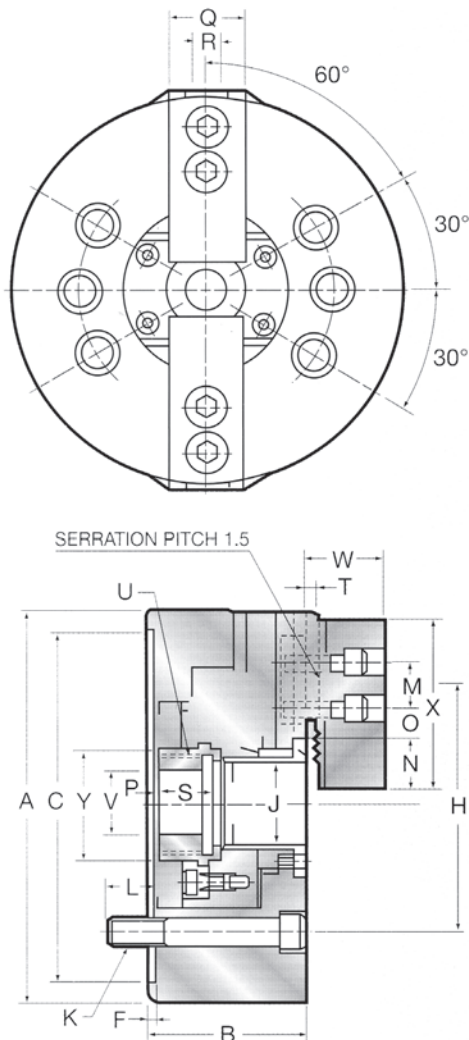
MODEL	06A5	08A5	08A6	10A6	10A8	12A8	12A11
A	6.889	8.267	8.267	10.00	10.00	12.401	12.401
B	4.173	5.354	5.118	4.724	4.449	5.512	5.827
C	5.512	6.693	6.693	8.661	8.661	11.811	11.811
D	4.126	5.252	5.252	6.748	6.748	9.252	9.252
E	.197	.197	.197	.167	.167	.236	.236
F	2.204	2.598	2.598	3.033	3.033	4.055	4.055
G max	.551	.275	.275	1.319	1.319	.315	.315
G min	-.039	-.354	-.354	.571	.295	-.590	-.590
H	.689	1.082	1.082	.984	.984	1.102	1.102
J	.787	1.578	1.578	1.771	1.771	1.968	1.968
K	M60x2.0	M74x1.5	M74x1.5	M85x2.0	M85x2.0	M112x2.0	M112x2.0
L	6-M10x95	6-M12x120	6-M12x120	6-M16	6-M16	6-M20x130	6-M20x130
M	1.279	1.535	1.535	1.693	1.693	1.988	1.988
N	2.834	3.740	3.740	6.748	6.748	4.370	4.370
O	3.201	3.201	4.188	4.188	5.501	5.501	7.751
P	.787	.984	1.181	1.181	1.181	1.181	1.181
Q max	1.496	1.799	1.799	2.007	2.007	2.649	2.649
Q min	1.370	1.653	1.653	1.834	1.834	2.441	2.441
R max	.856	.935	.935	1.329	1.801	1.801	1.801
R min	.903	.462	.462	.581	.620	.620	.620
S	1.181	1.969	1.733	.984	.708	1.417	1.732
T	1.229	1.378	1.378	1.575	1.575	1.968	1.968
U	.472	.551	.551	.630	.630	.708	.708
V	.078	.078	.078	.078	.078	.078	.078
W	2.559	3.149	3.149	3.701	3.701	4.882	4.882

Workholding 2 Jaw High Speed Open Center Power Chuck



- 1.5mm x 60° Master Jaw
- Repeatability +/- .0005"
- Large thru-hole
- Hardened jaw ways and all internal parts
- All steel body
- High RPM

Model No.	Mount	Thru Hole	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull	Grip Force (lb/f)	Max RPM	Weight (lbs)	Price
					Max	Min					
20-687-06A5DZ	A2-5	1.771	.216	.472	6.65	.590	4,945	12,813	6000	30	2,850
20-687-08A5IZ	A2-5	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	3,450
20-687-08A6DZ	A2-6	2.047	.291	.630	8.27	.512	7,824	19,332	5000	52	3,450
20-687-10A6IZ	A2-6	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	3,950
20-687-10A8DZ	A2-8	2.952	.346	.748	10.00	1.220	9,667	24,953	4200	91	3,950
20-687-12A6IZ	A2-6	3.582	.417	.905	11.97	1.653	12,363	32,372	3300	148	4,750
20-687-12A8DZ	A2-8	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	4,750
20-687-12A11IZ	A2-11	3.582	.417	.905	11.97	1.978	12,363	32,372	3300	141	5,250



Dimensional Data

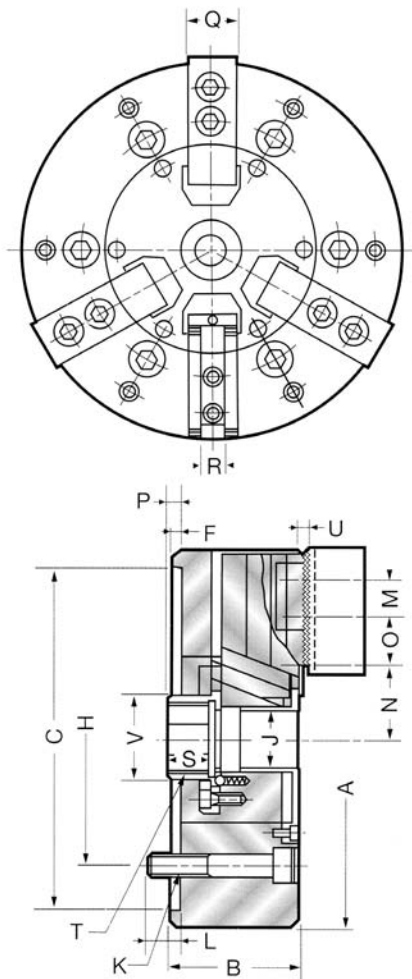
MODEL	06A5D	08A5I	08A6D	10A6I	10A8D	12A6I	12A8D	12A11I
A	6.63	8.26	8.26	10.00	10.00	11.97	11.97	11.97
B	3.582	-	4.055	4.724	4.449	5.079	4.832	-
C	5.512	6.693	6.693	8.661	8.661	8.661	8.661	8.661
D	3.201	3.201	4.188	4.188	5.501	4.118	5.501	7.751
E	.590	-	.669	.984	.708	.984	.708	-
F	.167	.167	.167	.167	.167	.236	.236	.236
G	4.126	5.252	5.252	6.748	6.748	6.748	6.748	6.748
H	4.126	-	5.252	5.252	6.748	5.252	6.748	9.250
J	1.771	2.047	2.047	2.953	2.953	3.582	3.582	3.582
K	6-M10	6-M12	6-M12	6-M16	6-M16	6-M16	6-M16	6-M16
L	.630	-	.708	.728	.945	.728	.984	-
M	.787	.984	.984	1.181	1.181	1.181	1.181	1.181
N	max	1.259	1.523	1.523	2.007	2.007	2.413	2.413
	min	1.151	1.378	1.378	1.834	1.834	2.204	2.204
O	max	.895	1.171	1.171	1.329	1.326	1.801	1.801
	min	.364	.581	.581	.581	.581	.620	.620
P	max	1.023	-	1.240	1.319	1.043	1.299	1.299
	min	.551	-	.610	.571	.295	.394	.394
Q	1.220	1.378	1.378	1.575	1.575	1.968	1.968	1.968
R	.472	.551	.551	.630	.630	.827	.827	.827
S	.748	.807	.807	.984	.984	1.102	1.102	1.102
T	.0789	.0789	.0789	.0789	.0789	.0789	.0789	.0789
U max	M55x2.0	M60x2.0	M60x2.0	M85x2.0	M85x2.0	M90x2.0	M100x2.0	-
V	-	6-M10	-	6-M12	-	6-M12	-	6-M20
W	2.362	2.598	2.598	3.701	3.701	4.252	4.252	4.252
X	.787	1.181	1.181	1.771	1.771	1.968	1.968	1.968
Y	1.142	1.535	1.535	1.693	1.693	2.009	2.009	2.009
Z	2.834	3.740	3.740	4.331	4.331	4.370	4.370	4.370

Workholding 2/3 Jaw Thru-Hole Power Chuck



- Used as 2 Jaw or 3 Jaw Power Chuck
- Thru-hole and long stroke
- Adapter Mounted
- Serration Pitch 1.5mm 8", 10" & 12" - 3mm 15"
- Larger diameters available upon request

Model No.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Diameter		Maximum Pull		Max Grip		Max RPM	Weight (lbs)	Price
			2 Jaw Max	3 Jaw Min	2 Jaw (lbs)	3 Jaw (lbs)	2 Jaw (lbs)	3 Jaw (lbs)			
20-677-08-A5Z	.378	.709	7.87	1.181	3,306	4,409	7,275	9,700	3000	44	6,250
20-677-08-A6Z	.378	.709	7.87	1.181	3,306	4,409	7,275	9,700	3000	44	6,250
20-677-10-A6Z	.728	.984	9.84	1.181	5,070	7,716	9,038	13,668	3000	70	7,250
20-677-10-A8Z	.728	.984	9.84	1.181	5,070	7,716	9,038	13,668	3000	70	7,250
20-677-12-A8Z	.803	1.102	11.81	1.967	6,613	9,920	11,684	17,636	2500	121	8,750
20-677-12-A11Z	.803	1.102	11.81	1.967	6,613	9,920	11,684	17,636	2500	121	8,750
20-677-15-A8Z	.803	1.102	13.78	2.756	8,818	13,227	15,652	23,148	2000	218	13,500
20-677-15-A11Z	.803	1.102	13.78	2.756	8,818	13,227	15,652	23,148	2000	218	13,500



Dimensional Data

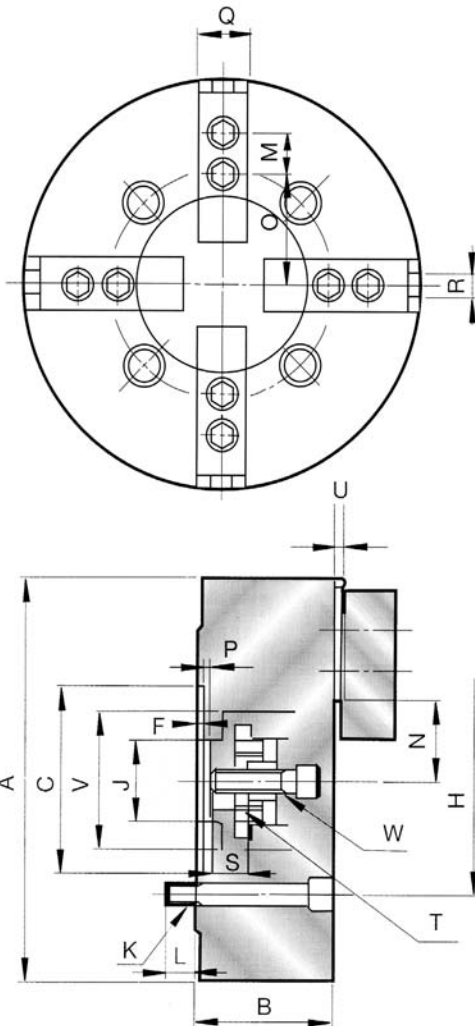
MODEL	8	10	12	15
A	8.26	10	11.97	15
B	2.874	3.346	3.819	4.803
C	7.480	9.055	11.024	13.760
F	.197	.197	.197	.276
H	5.250	6.750	7.874	9.843
J	1.378	1.575	2.165	2.953
K	6-M12	6-M16	6-M20	6-M20
L	.787	.866	.984	1.063
M	.984	1.181	1.181	1.969
N	max 1.803 min 1.614	max 2.020 min 1.661	max 2.891 min 2.189	max 3.378 min 2.976
O	max 1.181 min .295	max 1.654 min .374	max 1.831 min .413	max 2.608 min .591
P	max .827 min .118	0 -.984	0 -1.102	0 -1.102
Q	1.181	1.378	1.575	1.575
R	.475	.630	.630	.826
S	1.063	1.102	1.181	1.575
T	M42	M50	M65	M85
U	.197	.197	.197	.197
V	1.890	2.283	2.953	3.740

Workholding 2 + 2 Jaw Double Clamping Power Chuck



- Closed center style Power Chucks with 2 separate clamping motions of opposing jaws
- Ideal for square or angular work
- Long jaw stroke and high clamping forces
- A mounts
- Requires double acting cylinder
- 3mm serration pitch

Model No.	Jaw Stroke Dia.	Sleeve Stroke	Gripping Capacity		Draw Bar Pull (lb/f)	Grip Force (lb/f)	Max RPM	Weight (lbs)	Price
			Max	Min					
20-688-10A6Z	.630	.866	10.0	1.574	5,070	18,500	2000	110	9,250
20-688-10A8Z	.630	.866	10.0	1.574	5,070	18,500	2000	110	9,250
20-688-12A8Z	.630	.866	12.0	1.574	5,070	18,500	1500	139	12,750
20-688-12A11Z	.630	.866	12.0	1.574	5,070	18,500	1500	139	12,750
20-688-15A8Z	.669	.984	15.0	2.047	6,600	23,800	1200	264	18,750
20-688-15A11Z	.669	.984	15.0	2.047	6,600	23,800	1200	264	18,750

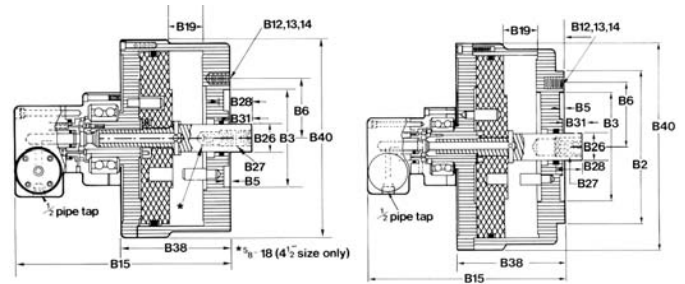


Dimensional Data

MODEL	10	12	15
A	10.63	11.98	15
B	4.33	4.33	5.01
C	4.72	5.51	7.68
F	.217	.217	.295
H	6.693	6.673	9.252
J	2.283	2.283	3.071
K	4-M16	4-M16	4-M20
L	.945	.945	1.181
M	1.181	1.181	1.496
N	max	2.520	3.071
	min	2.205	2.736
O	max	3.740	5.689
	min	2.913	3.563
P	max	.925	1.319
	min	.059	.197
Q	1.574	1.574	1.968
R	.630	.630	.709
S	.122	.122	2.163
T	M42x1.5	M42x1.5	M55x2.0
U	.197	.197	.197
V	4.055	4.055	5.118
W	M16x20	M16x20	M20x25

AIR CYLINDER SERIES 10-752

These double-acting, rotating, aluminum body, air operated cylinders are especially designed for power chuck actuation. Trouble-free service is due to precision finishing bores and the patented swivel connection which provides maximum performance.



10-752 Series

Model	10-752-04Z	10-752-06Z	10-752-08Z*	10-752-10Z*	10-752-12Z*	10-752-14Z*	10-752-16Z*	10-752-18Z*	10-752-20Z
Price	3,800	3,800	5,000	5,000	5,000	6,800	7,000	9,200	10,000
Piston Diameter	4.50	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00
Piston Area Sq. Inch	15.14	27.05	49.04	76.77	111.33	152.17	197.92	251.34	309.25
Piston Stroke	1.0	1.50	1.50	1.50	1.50	2.00	2.00	2.00	2.00
Max. Recommended Speed RPM	4,000	4,000	3,900	3,000	2,400	*1,980	1,560	1,470	1,300
Draw Bar Pull at Max Pressure Lbs.*	1,226	2,191	3,972	6,218	9,018	12,326	16,032	20,359	29,049
Max. Pressure PSI	90	90	90	90	90	90	90	90	90
Weight Lbs.	17	32	39	57	72	112	137	212	227
WR ² Inertia Lbs. Ft. ²	.3	.8	3.1	4.2	8.0	19.5	28.0	52.6	80.0

*Operating Efficiency 90%

Dimensions

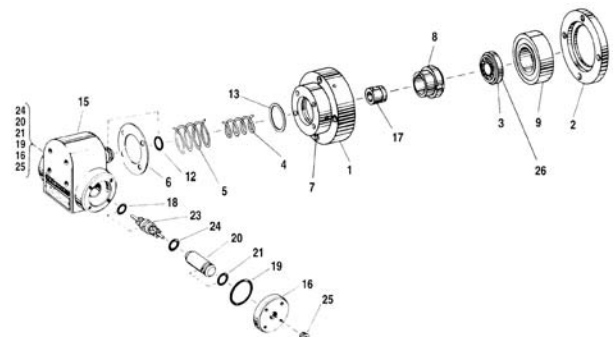
Size	4"	6"	8"	10"	12"	14"	16"	18"	20"
B-2	--	--	6.750	8.380	8.380	10.880	10.880	10.880	10.880
B-3	3.001	4.501	4.501	6.001	6.001	6.001	6.001	6.001	6.001
B-5	.312	.312	.312	.312	.312	.312	.312	.312	.312
B-6	1.875	2.750	2.750	3.500	3.500	3.500	3.500	3.500	3.500
R-2	--	--	--	--	--	4.750	4.750	4.750	4.750
B-12	.375-16UNC	.500-13UNC	.500-13UNC	.625-11UNC	.625-11UNC	.625-11UNC	.625-11UNC	.625-11UNC	.750-10UNC
B-13*	.750	1.000	1.000	1.120	1.120	1.120	1.120	1.120	1.250
B-14†	4.000	4.000	4.000	6.000	6.000	12.000	12.000	12.000	12.000
B-15	8.880	9.880	9.880	10.500	12.130	12.130	12.130	12.130	12.130
B-19	1.000	1.500	1.500	1.500	1.500	2.000	2.000	2.000	2.000
B-26	1.000	1.250	1.250	1.500	1.500	1.500	2.000	2.000	2.500
B-27	.750-16UNF	.750-16UNF	.750-16UNF	1.000-14UNS	1.000-14UNS	1.000-14UNS	1.250-12UNF	1.250-12UNF	1.500-12UNF
B-28	1.500	1.500	1.500	1.500	1.500	1.500	1.880	1.880	2.520
B-31	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
B-38	4.000	5.000	5.000	5.750	5.750	7.310	7.310	7.310	7.310
B-40	5.500	7.130	9.130	11.250	13.250	15.250	17.500	19.380	21.500

*B-13 Full depth of thread †B-14 Number of tapped holes

PARTS KITS FOR SERIES 10-752

Cylinder Size in Inches	Parts Kit	Price
4"	06-217201-00	300
6"	06-217202-00	300
8"	06-217203-00	325
10"	06-217204-00	325
12"	06-217205-00	325
14"	06-217206-00	350
16"	06-217207-00	375
18"	06-217208-00	420
20"	06-217209-00	475

Air Lock/Air Swivel Connection for Series 10-752 Air Cylinders
Complete Swivel Assembly - Part No. 06-214827-00 - \$1,200



DETAIL NO.	1	2	3	4	5	6	7	8	9	PARTS KIT*
Cylinder Size (in.)	Body	Guide Pin	Cylinder Body "O Ring"	Piston Rod	Piston Rod "O" Ring	Piston	Piston "O" Ring	Cylinder Cap	Gasket	
4"		15-002181-00	ARP568 02140	04-207155-00	ARP568 01140	04-205450-00	APR568 03460	14-001023-00	98-00218000	06-217201-00
6"		15-002235-00	ARP568 02180	04-205445-00	ARP568 01140	04-205451-00	APR568 04330	14-001065-00	98-00223700	06-217202-00
8"	Not	15-002235-00	ARP568 02180	04-205445-00	ARP568 01140	04-205452-00	APR568 04430	13-000658-00	98-00107000	06-217203-00
10"	Available	15-002412-00	ARP568 03250	04-209517-00	ARP568 01140	04-205453-00	APR568 04480	13-000695-00	98-00278300	06-217204-00
12"	as a	15-002412-00	ARP568 03250	04-209517-00	ARP568 01140	04-205454-00	APR568 04520	12-001129-00	98-00278200	06-217205-00
14"	Service	15-000167-00	ARP568 03250	04-205447-00	ARP568 01140	03-205455-00	APR56804560	12-001328-00	98-00017600	06-217206-00
16"	Part	15-000167-00	ARP568 03290	04-205448-00	ARP568 01140	03-205456-00	APR568 04600	12-001559-00	98-00080000	06-217207-00
18"		15-000167-00	ARP568 03290	04-205448-00	ARP568 01140	03-205457-00	98-206901-00	12-001891-00	98-00298000	06-217208-00
20"		15-000167-00	ARP568 03330	04-205449-00	ARP568 01140	03-205458-00	98-206902-00	12-002270-00	98-00394400	06-217209-00

*Parts kit includes Cylinder Details #3, 5, 7, and 9, as well as Air Swivel Connection Details #4, 5, 6, 8, 12, 13, 17, 18, 19, 21, 24 and 26

Air Lock / Air Swivel Connection for Series 10-752 Air Cylinders

Complete Swivel Assembly - Part No. 06-214827-00 (see previous page)

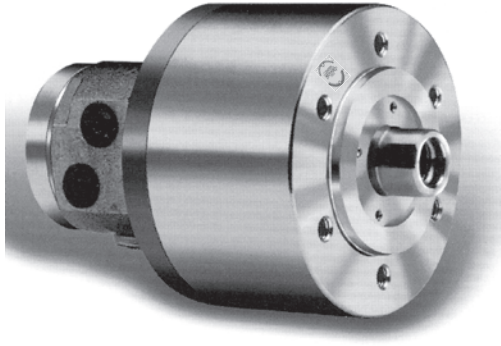
DETAIL NO.	1	2	3	4	5	6	7
For All Cylinder Sizes	Swivel Body Assembly	Swivel Clamp Ring	Bearing Plate	Inner Spring	Outer Spring	Swivel Cap Gasket	Swivel Lockscrew
Part No.	06-208009-00	15-002179-00	15-003578-00	98-003747-00	98-003597-00	98-002520-00	15-002164-00
Quantity	1	1	1	1	1	1	1

DETAIL NO.	8	9	10	11	12	13	14
For All Cylinder Sizes	Outer Bearing Assembly	Ball Bearing	Socket Head Capscrew	Socket Head Capscrew	"O" Ring	"O" Ring	Low Head Socket Lockscrew
Part No.	06-201719-00	98-206492-00	SC-1620 22500	SC1620 12500	ARP568 01140	ARP568 02220	98-234217-00
Quantity	1	1	4	4	1	1	4

DETAIL NO.	15	16	17	18	19	20	21
For All Cylinder Sizes	Swivel Cap	End Cap	Inner Bearing	"O" Ring	"O" Ring	Check Valve	"O" Ring
Part No.	03-214574-00	05-214576-00	06-201720-00	ARP568 00130	ARP568 00260	98-14642-00	ARP568 00150
Quantity	1	2	1	1	2	2	2

DETAIL NO.	22	23	24	25	26
For All Cylinder Sizes	Button Head Capscrew	Valve Pin	Stop Washer	Plug	Bearing Plate Gasket
Part No.	BH1024 06250	05-214577-00	98-214636-00	FPP827	98-241581-00
Quantity	8	1	2	2	1

Check Valve Kit*	*Kit includes 2 each of Details #19, 20 & 21; and 1 each of Detail #18. Priced on application.
06-231281-00	



Workholding Closed Center Rotating Hydraulic Cylinder

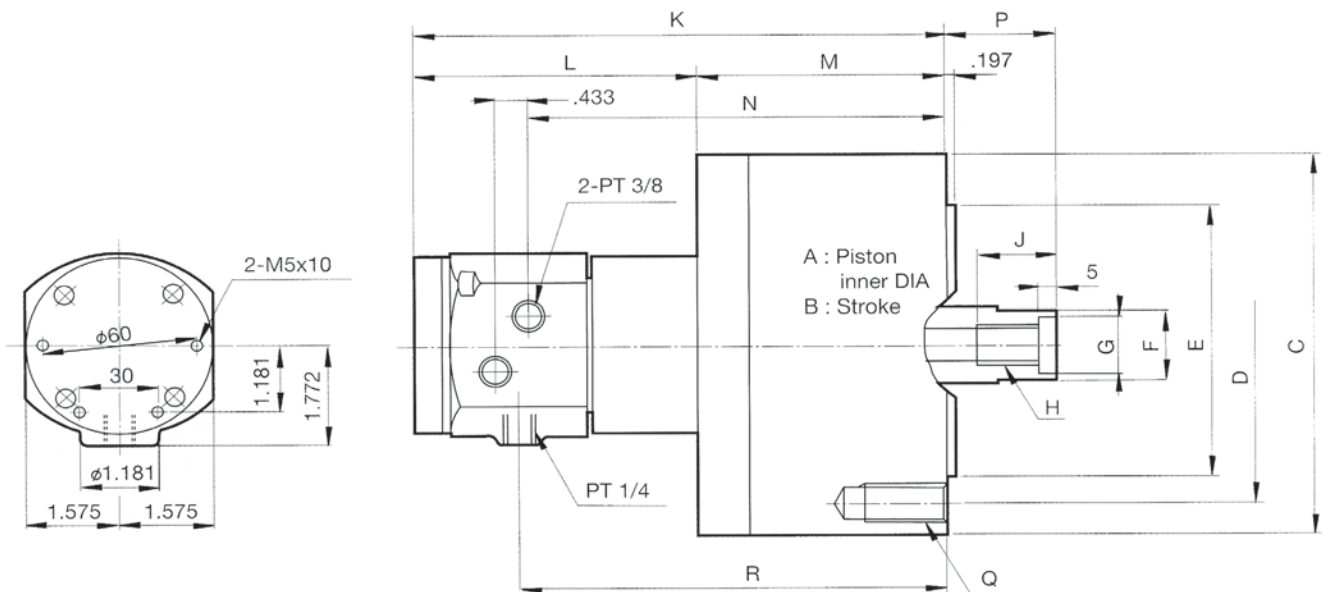
RCV With Safety Device/Optional Stroke Sensing

- High speed closed center hydraulic cylinder
- This can be installed in both horizontal and vertical applications
- Equipped with safety check valves, preventing loss of grip if power supply is interrupted
- Available with stroke sensing

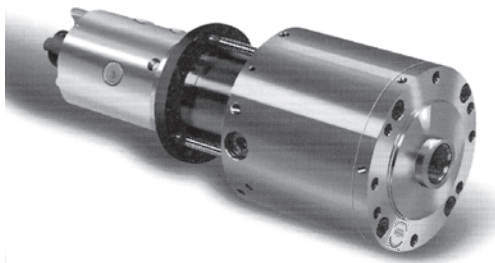
Model No.*	Piston Area (Sq. in.)		Piston Stroke	Max Speed RPM	Draw Bar Pull lb/f	Max Pressure PSI	Drain gal/min	Wt lbs	Price
	Push	Pull							
10-766-0750Z	6.83	5.73	.591	6000	3,325	580	.2	9	1,050
10-766-1000Z	13.33	12.24	.787	6000	7,100	580	.2	16	1,250
10-766-1250Z	18.91	17.52	.984	6000	10,160	580	.2	22	1,500
10-766-1500Z	27.28	24.80	1.181	5500	14,385	580	.2	30	1,750
10-766-2000Z	48.67	44.95	1.378	5500	26,100	580	.2	49	2,980
10-766-2500Z	67.30	70.80	2.360	2000	63,720	900	.2	193	8,450

* For stroke sensing, add RE to the end of the part number (Example: 10-766-0750ZRE)

Dimensional Data



Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P		Q	R
														Max	Min		
0750Z	2.953	.591	4.094	3.543	2.559	1.181	.827	M20x2.5	1.378	6.772	4.173	2.598	5.000	1.811	1.220	6-M6x20	5.236
1000Z	4.134	.787	5.345	3.937	3.150	1.181	.827	M20x2.5	1.378	7.756	4.252	3.504	5.984	1.772	.984	6-M10x20	6.220
1250Z	4.921	.984	6.299	5.118	4.331	1.378	.984	M24x3.0	1.732	8.071	4.252	3.819	6.299	2.008	1.024	6-M12x24	6.535
1500Z	5.906	1.181	7.480	5.118	4.331	1.772	1.220	M30x3.5	1.772	8.425	4.252	4.173	6.654	2.005	1.024	6-M12x24	6.890
2000Z	7.874	1.378	9.646	5.709	4.724	2.165	1.457	M36x4.0	2.362	8.976	4.173	4.803	2.205	2.717	1.339	12-M16x30	7.441
2500Z	9.842	1.968	11.810	10.827	6.298	2.559	1.732	M42x3.0P	2.165	12.400	4.921	7.283	9.720	2.953	.590	6-M16x190	10.000



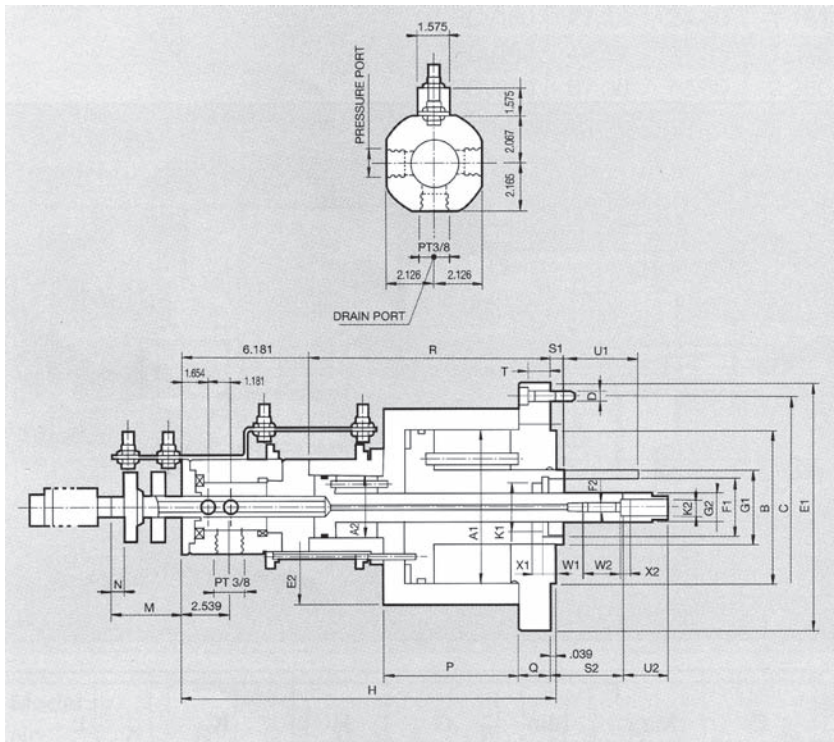
Workholding Closed Center Rotating Hydraulic Double Cylinder

RCD With Stroke Control

- Special double acting cylinder has two separate piston actuations
- Can integrate rear attachments such as air sensing, air blow, coolant, etc
- Available with stroke control
- Can be used vertically or horizontally
- Optionally add rotary union for air sensing, air blow, or coolant
- Priced on Application

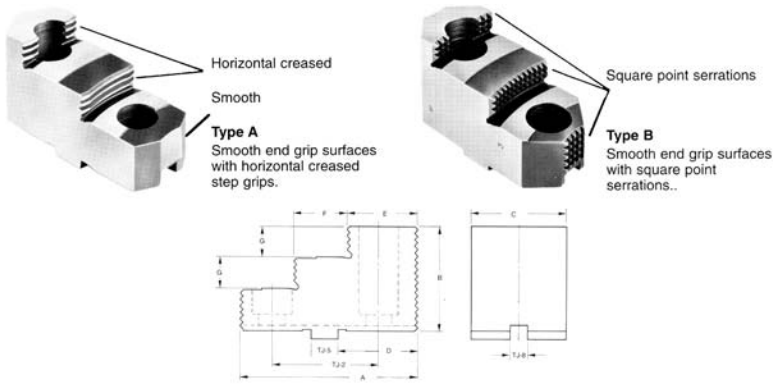
Model No.	Piston Area (Sq. in.)		Max Piston Stroke	Max Speed RPM	Pressure PSI	Weight (lbs)
	Piston 1	Piston 2				
10-767-1370Z	17.52/19.38	4.96/5.58	2.756/.787	5000	735	66
10-767-1770Z	29.14/34.10	4.96/5.58	3.223/.787	4000	735	110

Dimensional Data



Model	1370Z	1770Z
A1	5.118	6.693
A2	2.756	2.756
B	5.118	6.693
C	7.480	9.252
D	6-M12	6-M16
E1	8.465	10.630
E2	6.693	8.268
F1	M42xP1.5	M42xP1.5
F2	M16	M16
G1	1.969	2.756
G2	1.102	1.102
H	15.039	15.906
I	.197	.197
K1	1.102	1.969
K2	.708	.708
M	2.559	2.559
N	.591	.591
P	5.197	5.748
Q	1.024	1.339
R	8.661	9.528
S1 (min)	.394	.394
S2 (min)	3.701	2.835
T	.551	.709
U1	2.756	3.228
U2	.787	.787
W1	.709	.787
W2	.984	.984
X1	.472	.472
X2	.472	.472

Hard Step Top Jaws

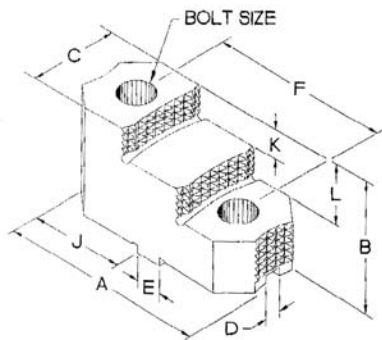


- Furnished for American Standard tongue and groove configuration
- Hard step top jaws can be quickly reversed for internal or external chucking
- Easily removed for applications requiring soft blank or formed top jaws
- Square point serrations, smooth, and horizontal creased jaw gripping surfaces available in combinations as shown below
- All jaws listed apply to manual chucks in this catalog
- All jaws listed will fit comparable chucks with American Standard jaw configuration
- All jaws made of high alloy steels

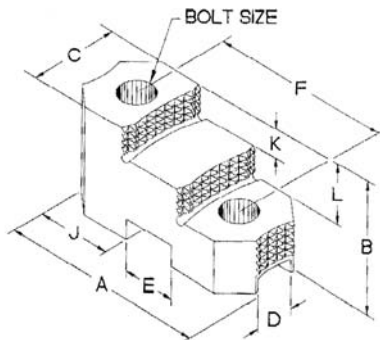
Medium Duty 3-Jaw Universal Scroll Chucks Series 102-104-162-164

JAW NUMBER	CHUCK SIZE	JAW TYPE	A	B	C	D	E	F	G	TJ-2	TJ-5	TJ-8	BOLT SIZE	BOLT LENGTH	PRICE (SET OF 3)
03232927-F0	6"	A	2.68	1.47	1.18	1.13	.62	1.00	.38	1.50	.499	.313	3/8-16	3/4" & 1"	400.00
03232771-F0	8"	A	3.12	1.50	1.18	1.37	.75	1.18	.38	1.75	.499	.313	3/8-16	3/4" & 1-1/4"	450.00
03232799-F0	10"	A	3.75	1.81	1.44	1.56	.87	1.44	.50	2.12	.749	.502	1/2-13	1" & 1-1/2"	500.00
03232953-F0	12"	A	4.25	1.94	1.69	1.87	1.00	1.66	.56	2.50	.749	.502	1/2-13	1" & 1-1/2"	720.00
03001728-F3	15"	B	5.00	2.06	1.69	2.25	1.00	1.87	.56	3.00	.749	.502	5/8-11	1-1/4" & 1-3/4"	795.00
03001736-F3	18"-36"	B	5.00	2.62	.194	2.25	2.00	1.50	.69	3.00	.749	.502	3/4-10	1-3/4" & 3"	900.00

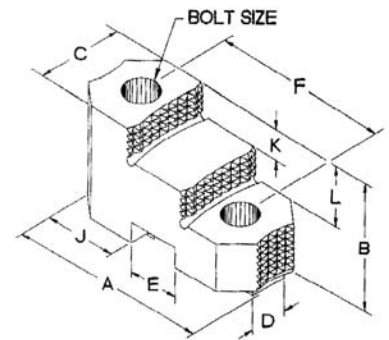
Custom Hard Jaws



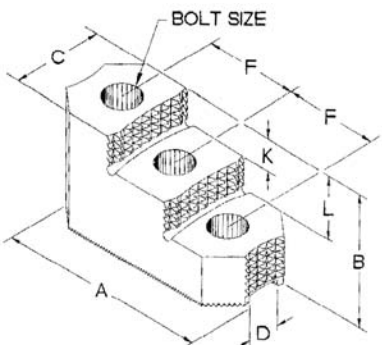
Tongue & Groove



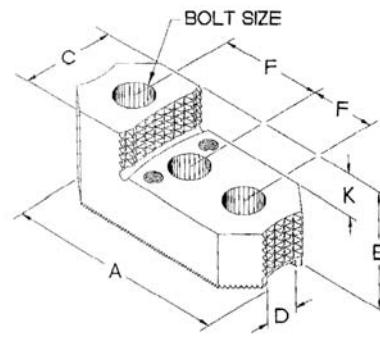
Square Serrated



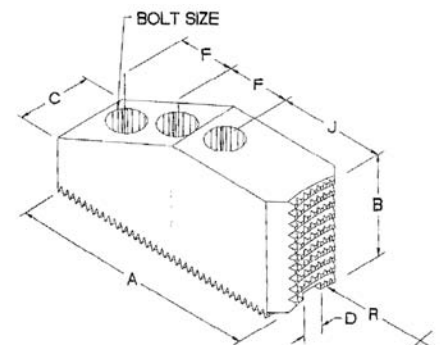
Acme Serrated



Double Step Serrated



Single Step Serrated



Extended Serrated

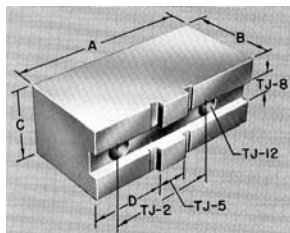
Quantity:			Approved By:					Date:			
A	B	C	D	E	F	J	K	L	Bolt Size	Serration	

Number one in workholding, and in top jaws.

NOTE: You can machine and form Cushman top jaws for use on all chucks with American Standard, tongue and groove jaw design.

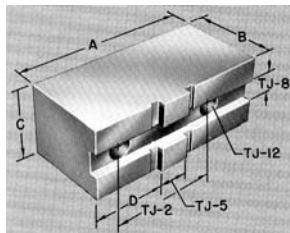
Soft Blank Top Jaws

American Standard Tongue and Groove Medium Duty - Rectangular



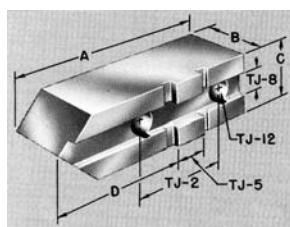
Chuck Size	Order by Jaw Model Number	STANDARD HEIGHT								EXTRA HIGH		Standard Height Price	Extra High Height Price
		DIMENSIONS				CRITICAL DIMENSIONS				Order by Jaw Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6	0520144700	2-5/8	1-5/8	1-1/4	1-1/8	1-1/2	.499-.498	.315-.313	3/8	0520147100	3-3/8	20.00	45.00
8	0520145000	3-1/2	1-5/8	1-1/4	1-5/8	1-3/4	.499-.498	.315-.313	3/8	0520147400	3-3/8	25.00	50.00
10	0520145200	4-1/4	1-7/8	1-1/2	1-15/16	2-1/8	.749-.748	.503-.501	1/2	0520147600	3-3/8	25.00	60.00
12	0520145400	4-7/8	2-3/8	1-3/4	2-5/16	2-1/2	.749-.748	.503-.501	1/2	0520147800	3-7/8	32.00	60.00
15	0520145600	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	5/8	0520148000	3-3/4	40.00	65.00
18-21	0520145700	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	3/4	0520148100	3-3/4	42.50	90.00
24-36	0520145800	5-5/8	3-1/4	2-1/2	2-3/4	3	.749-.748	.503-.501	3/4	0520148200	4-3/4	50.00	95.00

American Standard Tongue and Groove Heavy Duty - Rectangular



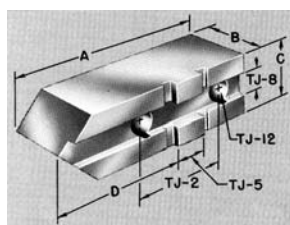
Chuck Size	Order by Jaw Model Number	STANDARD HEIGHT								EXTRA HIGH		Standard Height Price	Extra High Height Price
		DIMENSIONS				CRITICAL DIMENSIONS				Order by Jaw Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6	0520144800	2-5/8	1-5/8	1-1/4	1-1/8	1-1/2	.499-.498	.315-.313	7/16	-	-	25.00	-
8	0520145100	3-1/2	1-7/8	1-1/2	1-5/8	1-3/4	.499-.498	.315-.313	1/2	0520147500	3-3/8	35.00	45.00
10	0520145300	4-1/4	2-3/8	1-3/4	1-15/16	2-1/8	.749-.748	.503-.501	5/8	0520147700	3-7/8	35.00	45.00
12	0520145500	4-7/8	2-3/8	2	2-5/16	2-1/2	.749-.748	.503-.501	5/8	0520147900	3-7/8	40.00	60.00
15-36	0520145700	5-5/8	2-1/4	2	2-3/4	3	.749-.748	.503-.501	3/4	0520148100	3-3/4	42.50	90.00
15-36	0520145800	5-5/8	3-1/4	2-1/2	2-3/4	3	.749-.748	.503-.501	3/4	0520148200	4-3/4	50.00	95.00

American Standard Tongue and Groove Medium Duty - Long Pointed



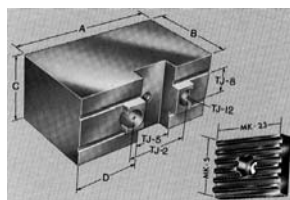
Chuck Size	Order by Jaw Model Number	STANDARD HEIGHT								EXTRA HIGH		Standard Height Price	Extra High Height Price
		DIMENSIONS				CRITICAL DIMENSIONS				Order by Jaw Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6	0520145900	3-3/16	1-5/8	1-1/4	1-11/16	1-1/2	.499-.498	.315-.313	3/8	0520148300	3-3/8	36.00	45.00
8	0520146200	3-15/16	1-5/8	1-1/4	2-1/4	1-3/4	.499-.498	.315-.313	3/8	0520148600	3-3/8	36.00	45.00
10	0520146400	4-13/16	1-7/8	1-1/2	2-11/16	2-1/8	.749-.748	.503-.501	1/2	0520148800	3-3/8	40.00	50.00
12	0520146600	5-3/4	2-3/8	1-3/4	3-3/8	2-1/2	.749-.748	.503-.501	1/2	0520149000	3-7/8	48.00	60.00
15	0520146800	7-1/4	2-1/4	2	4-1/2	3	.749-.748	.503-.501	5/8	0520149500	3-3/4	60.00	100.00
18-36	0520151900	7-1/4	3-1/4	2-1/2	4-1/2	3	.749-.748	.503-.501	3/4	0520152000	4-3/4	80.00	105.00

American Standard Tongue and Groove Heavy Duty - Long Pointed



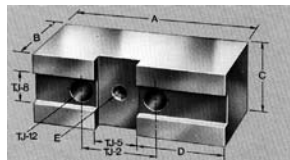
Chuck Size	Order by Jaw Model Number	STANDARD HEIGHT								EXTRA HIGH		Standard Height Price	Extra High Height Price
		DIMENSIONS				CRITICAL DIMENSIONS				Order by Jaw Model Number	Dim. B		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12				
6	0520146000	3-3/16	1-5/8	1-1/4	1-11/16	1-1/2	.499-.498	.315-.313	7/16	0520148400	3-3/8	35.00	45.00
8	0520146300	3-15/16	1-7/8	1-1/2	2-1/4	1-3/4	.499-.498	.315-.313	1/2	0520148700	3-3/8	45.00	50.00
10	0520146500	4-13/16	2-3/8	1-3/4	2-11/16	2-1/8	.749-.748	.503-.501	5/8	0520148900	3-7/8	45.00	55.00
12	0520146700	5-3/4	2-3/8	2	3-3/8	2-1/2	.749-.748	.503-.501	5/8	0520149100	3-7/8	55.00	80.00
15	0520156900	7-1/4	2-1/4	2	4-1/2	3	.749-.748	.503-.501	3/4	0520149600	3-3/4	65.00	100.00
15-36	0520151900	7-1/4	3-1/4	2-1/2	4-1/2	3	.749-.748	.503-.501	3/4	0520152000	4-3/4	80.00	105.00

American Standard Acme - Serrated



Chuck Size	Order by Jaw Model Number	ACME SERRATED JAWS								MASTER KEYS			Acme Serrated Price	Master Keys Price
		DIMENSIONS				CRITICAL DIMENSIONS				Order by Jaw Model Number	Dim. MK-5	Dim. MK-23		
		A	B	C	D	TJ-2	TJ-5	TJ-8	TJ-12					
10	2501307200	4-1/8	2-5/16	1-3/4	1-13/16	1-3/4	1.030	.750	1/2	2501091200	1.030	1-11/16	55.00	95.00
12	2501307100	4-1/8	2-5/16	1-3/4	1-13/16	2	1.030	.875	5/8	2501091200	1.030	1-11/16	65.00	95.00
15-18	2501307000	5-5/8	3-1/4	2-1/2	2-5/8	2-1/2	1.530	1.000	3/4	2501090700	1.530	2-1/16	100.00	110.00
21-24	2501306900	5-7/8	3-1/4	3	2-3/4	3	1.530	1.250	7/8	2501119900	1.530	2-7/16	110.00	110.00
										040082800	1.530	2-7/8	-	110.00

American Standard Square - Serrated



Chuck Size	Order by Jaw Model Number	SQUARE SERRATED JAWS								MASTER KEYS		Square Serrated Price	Master Keys Price	
		DIMENSIONS					CRITICAL DIMENSIONS			Chuck Size	Order by Key Model Number			
		A	B	C	D	E	TJ-2	TJ-5	TJ-8					TJ-12
8	0520457000	3	2	1-1/4	1-11/32	1/4-20	1-7/16	.746-.745	.503-.501	3/8	8	0522711600	50.00	60.00
10-12	0520457100	4	2-1/2	1-3/4	1-5/8	5/16-18	1-3/4	.995-.994	.753-.751	1/2	10-12	0522729900	60.00	85.00
15-18	0520457200	5	3	2-1/4	1-3/4	3/8-16	2-1/2	1.489-1.487	1.003-1.001	3/4	15-18	0522700500	75.00	85.00



INFORMATION INQUIRY FORM

If you wish to make an informational inquiry, please photocopy this page and fax it to Cushman Industries:

708-865-1042

Contact Information	
Name	
Company Name	
Telephone No.	
Fax No.	
E-Mail Address	

Inquiry Information	
Product or Service	
Product Model Number	
Inquiry Subject	
Inquiry Details	

Urgent!

Please Call

New Customer



CUSHMAN DRILL CHUCKS



Industrial Heavy Duty Drill Chuck

For Stationary and Portable Drilling Machines

- Specially designed for stationary drilling, turning, milling and wood working machines.
- The one-piece gear ring and sleeve eliminate the possibility of teeth breaking.
- The jaws, gear ring and body are all totally hardened to avoid wear and lengthen the life of the drill chuck.
- Fits tools of up to 19mm (3/4") in diameter.
- Machine fitting via Jacobs tapers.
- Wide range of accessories to fit the drill chuck to any type of drilling machines.

Model No.	Capacity Min		Capacity Max		Key	Mount	Closed Length		Open Length		Sleeve Diameter		Price
	In	mm	In	mm			In	mm	In	mm	In	mm	
C13L JT2	1/32	1	1/2	13	K3	2 JT	3.23	82	2.71	69	2.05	52	62.00
C13L JT6	1/32	1	1/2	13	K3	6 JT	3.23	82	2.71	69	2.05	52	83.00
C13L JT33	1/32	1	1/2	13	K3	33 JT	3.23	82	2.71	69	2.05	52	70.00
C16 JT3	1/32	1	5/8	16	K3	3 JT	3.78	96	3.07	78	2.21	56	99.00
C19 JT3	1/8	3	3/4	19	K4	3 JT	4.97	126	3.50	89	2.66	67.50	125.00



Ball-Bearing Heavy Duty Drill Chuck

For Production Drilling Equipment

- Drill chuck with key for industrial applications that require the toughest machining conditions.
- Equipped with ball bearings to reduce friction in the tightening mechanism and provide a better grip on the drill shaft.
- All the pieces are hardened and ground.
- The one-piece gear ring and sleeve eliminate the possibility of teeth breakage.
- Fits tools up to 25mm (1"). Machine fitting via Jacobs tapers.

Model No.	Capacity Min		Capacity Max		Key	Mount	Closed Length		Open Length		Sleeve Diameter		Price
	In	mm	In	mm			In	mm	In	mm	In	mm	
C375BB	1/32	1	3/8	10	K32	2 JT	2.75	70	2.16	55	1.85	47	91.00
C500BB	1/32	1	1/2	13	K3	3 JT	3.70	94	2.96	75	2.44	62	128.00
C625BB	1/32	1	5/8	16	K4	3 JT	4.02	102	3.19	81	2.64	67	147.00
C750BB	1/32	1	3/4	19	K4	4 JT	4.93	125	3.90	99	2.95	75	221.00
C1000BB	3/16	5	1	25	K5	5 JT	5.79	147	4.41	112	3.66	93	298.00



Standard Keyless Medium Duty Drill Chuck

For Stationary and Portable Drilling Machines

- Drill chucks for industrial use (medium duty), available with screw fittings for professional portable drilling machines and with taper fittings for stationary drilling machines.
- Automatic fitting for efficient, fast change of tools.
- Self-tightening mechanism automatically increases the grip in proportion to the increase in torque during the drilling and avoids the tool slipping in clockwise rotation.
- Fits tools of up to 20mm in diameter.
- Machine fitting Jacobs tapers and UNF thread fittings.

Model No.	Capacity Min		Capacity Max		Mount	Closed Length		Open Length		Sleeve Diameter		Price
	In	mm	In	mm		In	mm	In	mm	In	mm	
K08-J2	0	0	5/16	8	2 JT	2.67	68	2.40	61	1.33	34	60.00
K10-J2	0	0	3/8	10	2 JT	3.14	80	2.87	73	1.53	39	63.00
K13-J2	1/32	1	1/2	13	2 JT	3.74	95	3.38	86	1.73	44	73.00
K13-J33	1/32	1	1/2	13	33 JT	3.74	95	3.38	86	1.73	44	73.00
K13-J6	1/32	1	1/2	13	6 JT	3.74	95	3.38	86	1.73	44	73.00
K13-1/2	1/32	1	1/2	13	1/2-20	3.74	95	3.38	86	1.73	44	73.00
K20-J3	13/64	5	3/4	20	3 JT	5.51	140	4.99	127	2.51	64	166.00

Keyless Heavy Duty Precision Drill Chuck

For Stationary and Portable Drilling Machines



- All KP model drill chucks are 100% inspected to ensure not to exceed a maximum total integrated run-out of 0.0016".
- The self-tightening feature automatically increases clamping force proportional to increased torque to prevent tool shank slippage. This is standard for right-hand rotation applications, left hand rotation is available upon request.
- The KP series of drill chucks is well suited for use on drill presses with high accuracy: jig bore machines, horizontal and vertical milling machines, and production drilling machines.
- All components of the KP drill chuck series that are exposed to wear have been hardened to maintain accuracy and extend the tool and chuck life.
- Tool holding capacity up to 5/8" (0.625) diameter
- Ranges of 0-3mm and 0-6.7mm made from stainless steel are designed and available upon request.
- Standard mounts available in Jacobs taper.



Model No.	Capacity Min		Capacity Max		Mount	Closed Length		Open Length		Sleeve Diameter		Price
	In	mm	In	mm		In	mm	In	mm	In	mm	
KP65-J1	.012	3	1/4	6.50	1 JT	2.76	70	2.44	62	1.30	33	152.00
KP100-J2	.2	5	3/4	10	2 JT	3.50	89	3.19	81	1.69	43	164.00
KP100-J33	.2	5	3/4	10	33 JT	3.50	89	3.19	81	1.69	43	164.00
KP130-J2	1/32	1	1/2	13	2 JT	4.06	103	3.58	91	1.93	49	175.00
KP130-J33	1/32	1	1/2	13	33 JT	4.06	103	3.58	91	1.93	49	175.00
KP130-J6	1/32	1	1/2	13	6 JT	4.06	103	3.58	91	1.93	49	175.00
KP130-R8	1/32	1	1/2	13	R8 Integrated*	3.54	90	3.23	82	1.89	48	235.00
KP160-J6	.118	3	.63	16	6 JT	4.21	107	3.74	95	2.17	55	202.00

Drill Chuck Arbors

Morse Taper to Jacobs Taper



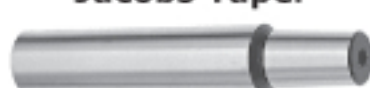
MORSE TAPER SHANK	TO JACOBS TAPER	TOOL NO.	PRICE
1	1	DCM1J-1	5.95
1	2	DCM1J-2	5.95
1	3	DCM1J-3	6.50
1	33	DCM1J-33	6.50
1	6	DCM1J-6	6.50
2	1	DCM2J-1	5.95
2	2	DCM2J-2	5.95
2	3	DCM2J-3	5.95
2	33	DCM2J-33	5.95
2	4	DCM2J-4	7.75
2	6	DCM2J-6	7.75
3	1	DCM3J-1	7.95
3	2	DCM3J-2	7.95
3	3	DCM3J-3	7.95
3	33	DCM3J-33	7.95
3	4	DCM3J-4	8.75
3	5	DCM3J-5	8.75
3	6	DCM3J-6	8.75
4	2	DCM4J-2	12.50
4	3	DCM4J-3	12.50
4	33	DCM4J-33	12.50
4	4	DCM4J-4	12.50
4	5	DCM4J-5	12.50
4	6	DCM4J-6	12.50
5	3	DCM5J-3	22.75
5	4	DCM5J-4	22.75
5	5	DCM5J-5	22.75
5	6	DCM5J-6	22.75

R-8 Shanks for Drill Chucks



MORSE TAPER SHANK	TO JACOBS TAPER	TOOL NO.	PRICE
R8	1	RBJ1	25.80
R8	2	RBJ2	25.80
R8	3	RBJ3	25.80
R8	33	RBJ33	25.80
R8	4	RBJ4	25.80
R8	6	RBJ6	25.80

Straight to Jacobs Taper



STRAIGHT SHANK SIZE	TO JACOBS TAPER	TOOL NO.	PRICE
1/2	0	DCS12J-0	5.75
1/2	1	DCS12J-1	5.75
1/2	2	DCS12J-2	5.75
1/2	3	DCS12J-3	5.75
1/2	33	DCS12J-33	5.75
1/2	4	DCS12J-4	7.75
1/2	6	DCS12J-6	5.75
5/8	1	DCS58J-1	5.95
5/8	2	DCS58J-2	5.95
5/8	3	DCS58J-3	6.50
5/8	33	DCS58J-33	6.50
5/8	4	DCS58J-4	7.75
5/8	6	DCS58J-6	7.75
3/4	2	DCS34J-2	8.90
3/4	3	DCS34J-3	8.90
3/4	33	DCS34J-33	9.50
3/4	4	DCS34J-4	9.95
3/4	6	DCS34J-6	9.50
1	2	DCS1J-2	9.95
1	3	DCS1J-3	9.95
1	33	DCS1J-33	9.95
1	4	DCS1J-4	9.95
1	6	DCS1J-6	9.95
1-1/2	3	DCS112J-3	15.90
1-1/2	4	DCS112J-4	15.90

Threaded Shank



MORSE TAPER SHANK	SHANK THREAD	TOOL NO.	PRICE
2	3/8 — 24	DCT38	32.98
2	1/2 — 20	DCT12	32.98
2	5/8 — 16	DCT58	32.98

Chuck Keys

List No. CH100



Key No.	PRICE
K0	2.90
K1	1.95
K2	2.90
K3	3.30
K3C	3.45
K4	8.50
K5	15.00

Key No.	PRICE
K7	2.35
K30	2.75
K32	2.95
KK	1.90
ST13	13.00
ST12	14.20

United States Patent Office.

AUSTIN F. CUSHMAN, HARTFORD, CONNECTICUT.

CUSHMAN INDUSTRIES

IMPROVEMENT IN LATHE-CHUCKS.



Cushman Industries

Division of Republic Drill/APT Corporation

Headquarters

2058 North 15th Avenue

Melrose Park, IL 60160

Sales Desk: 800-886-3456

Phone: 708-865-7666

Fax: 708-865-1042

E-Mail: inquiry@cushmanindustries.com

Branch

1863 Larchwood Drive

Troy, Michigan 48083

Phone: 248-689-5517

Fax: 248-689-3356

<http://www.cushmanindustries.com>

Distributed and Serviced By:

THEO. G. ELLIS,
W. E. SIMONDS.