

Components for Machine Building

Multiple Spindle Heads



Standard and Custom Components to Fit Your Needs Exactly



If you're building equipment to drill, tap, chamfer or thread, Hause Machines can help you create a machine that will fulfill your most demanding requirements.

Our vastly expanded product line includes a broad array of components, and the selection is constantly growing.

Building on a long tradition of excellence, we've also renewed our commitment to quality, value and service. With product warranties ranging from one year to five years, standard Hause components are available for a wide range of manufacturing functions. Off-the-shelf type components include:

- Drilling Units
- Tapping Units
- Indexers
- Multiple Spindle Heads
- Drill Presses and Tap Presses
- Special Components: Columns, Risers and Bases

Custom Components

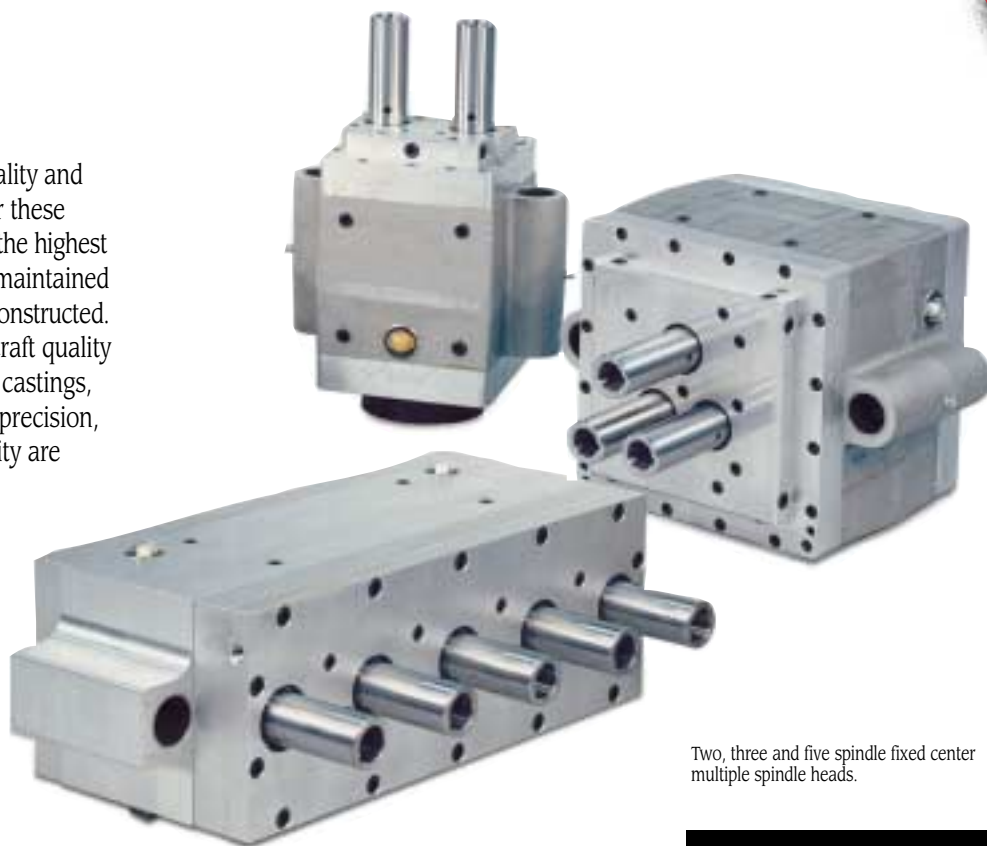
Although one of our standard components may fulfill your requirements, our experienced engineering group is ready to develop a custom component that will fit your production needs exactly.

We'll draw from a wide range of proven solutions and new technologies to solve your problems and increase your productivity.

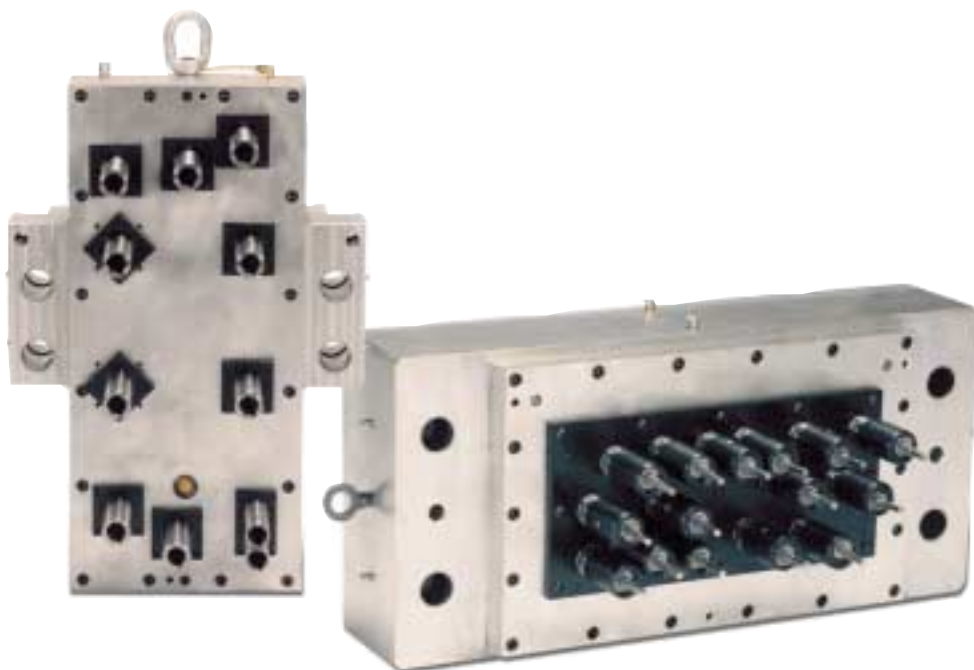
Visit Hause Machines on the Web

To see our full line of engineered solutions – and to learn more about how Hause can help you solve manufacturing problems – please visit our home on the World Wide Web. The Web site is an exciting development at Hause. We are using it for rapid communication with customers, troubleshooting, electronic commerce and more. Come see what Hause can do for you at **www.hausemachines.com**.

The Hause reputation for quality and long life is the foundation for these multiple spindle heads. Only the highest machine tool standards are maintained for every unit designed and constructed. Whether machined from aircraft quality aluminum, steel or from our castings, these heads are used where precision, repeatability and dependability are necessary.



Two, three and five spindle fixed center multiple spindle heads.



Eleven spindle, double guide bar bossed head with an internal lubrication pump. The spindle head was used to drill an eleven hole pattern in aluminum castings.

Fifteen orbiting spindle, double guide bar bossed head. The spindle head is used to flatten rivets in fifteen different positions, assembling two different parts together.

Features

- .001 c/c positioning on the spindles
- Extra heavy duty with larger bearings and bigger spindles
- Spindle choices for a variety of tool holders
- Internal coolant passages for maintaining temperature
- Spindles are ground to close tolerances from hardened alloy materials
- Precision ball bearings or needle bearings
- Large diameter extended bushing guide rods when required
- Foot-mounted version available for mounting to slides
- Grease or oil lubrication available (application dependent)



Two spindle fixed center multiple spindle head. Separated to show build details. (Rear view)



Two spindle fixed center multiple spindle head. Separated to show build details. (Front view)

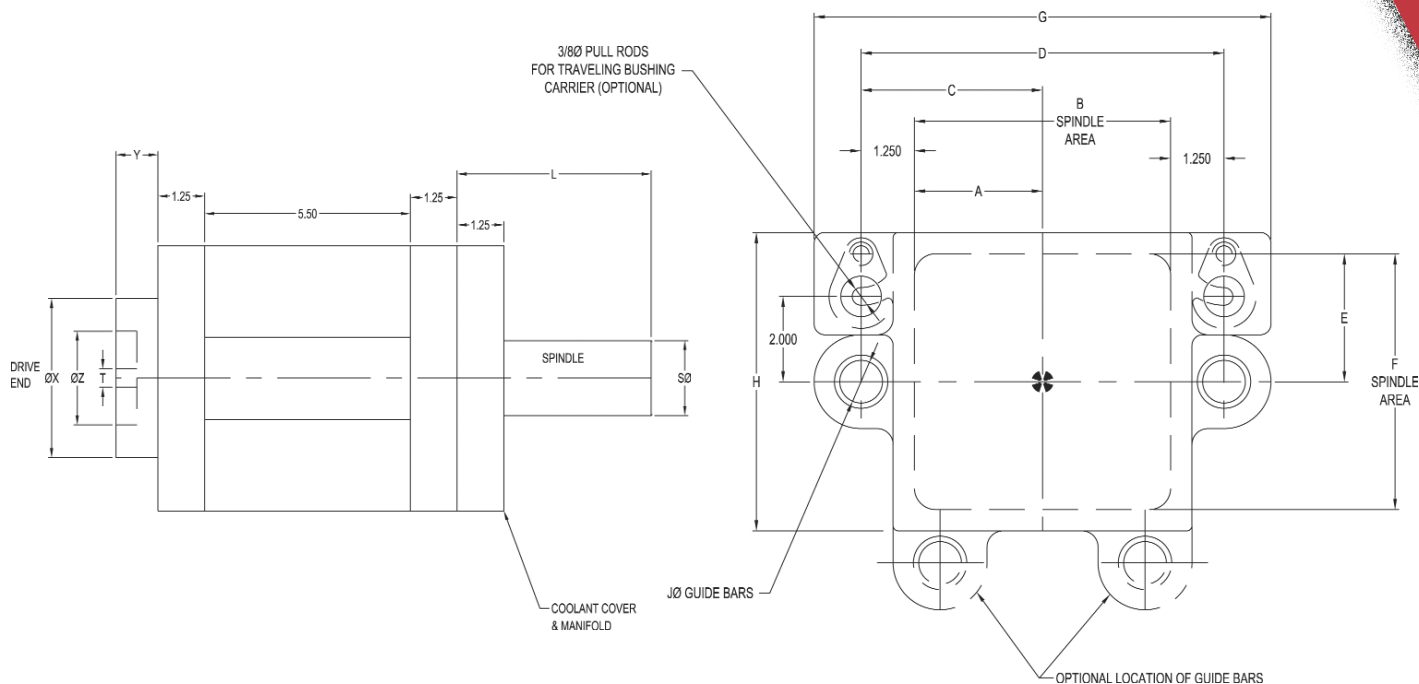


Four spindle fixed center multiple spindle head with a traveling bushing carrier, mounted to a Hausse air-hydraulic Holomatic® unit.

Two, three, five and six spindle fixed center multiple spindle heads of typical Hausse construction.



STANDARD CASTING – AUTOMOTIVE QUALITY HEADS



Note: Oil head up to 5000 RPM

- 1) Lubrication: Use BP Gearep #90 or equivalent grade gear oil.
- 2) Check oil level height regularly. Change every 1000 hours of service.

Note: Grease head up to 3000 RPM

- 1) Lubrication: Use Lubriplate or equivalent grade grease.
- 2) Check grease level every 24 hours. Change every 1000 hours of service.

Specifications (Unit: inch)

Frame Size	A	B	C	D	E	F	G	H	J
5 x 5	2.50	5.00	3.7500	7.5000	2.50	5.00	9.63	6.00	1.0000
6 x 6	3.00	6.00	4.2500	8.5000	3.00	6.00	10.63	7.00	1.0000
8 x 8	4.00	8.00	5.2500	10.5000	4.00	8.00	12.63	9.00	1.2500
10 x 10	5.00	10.00	6.2500	12.5000	5.00	10.00	14.63	11.00	1.2500
6 x 8	4.00	8.00	5.2500	10.5000	3.00	6.00	12.63	7.00	1.0000
6 x 10	5.00	10.00	6.2500	12.5000	3.00	6.00	14.63	7.00	1.0000
6 x 12	6.00	12.00	7.2500	14.5000	3.00	6.00	16.63	7.00	1.2500
8 x 10	5.00	10.00	6.2500	12.5000	4.00	8.00	14.63	9.00	1.2500
8 x 12	6.00	12.00	7.2500	14.5000	4.00	8.00	16.63	9.00	1.2500

Drive Size Flange Mtg.	X	Y	Z	T
Standard Duty (600 in-lbs)	4.25	1.125	2.2490	.500
High Torque (3000 in-lbs)	5.75	1.250	3.8740	.875

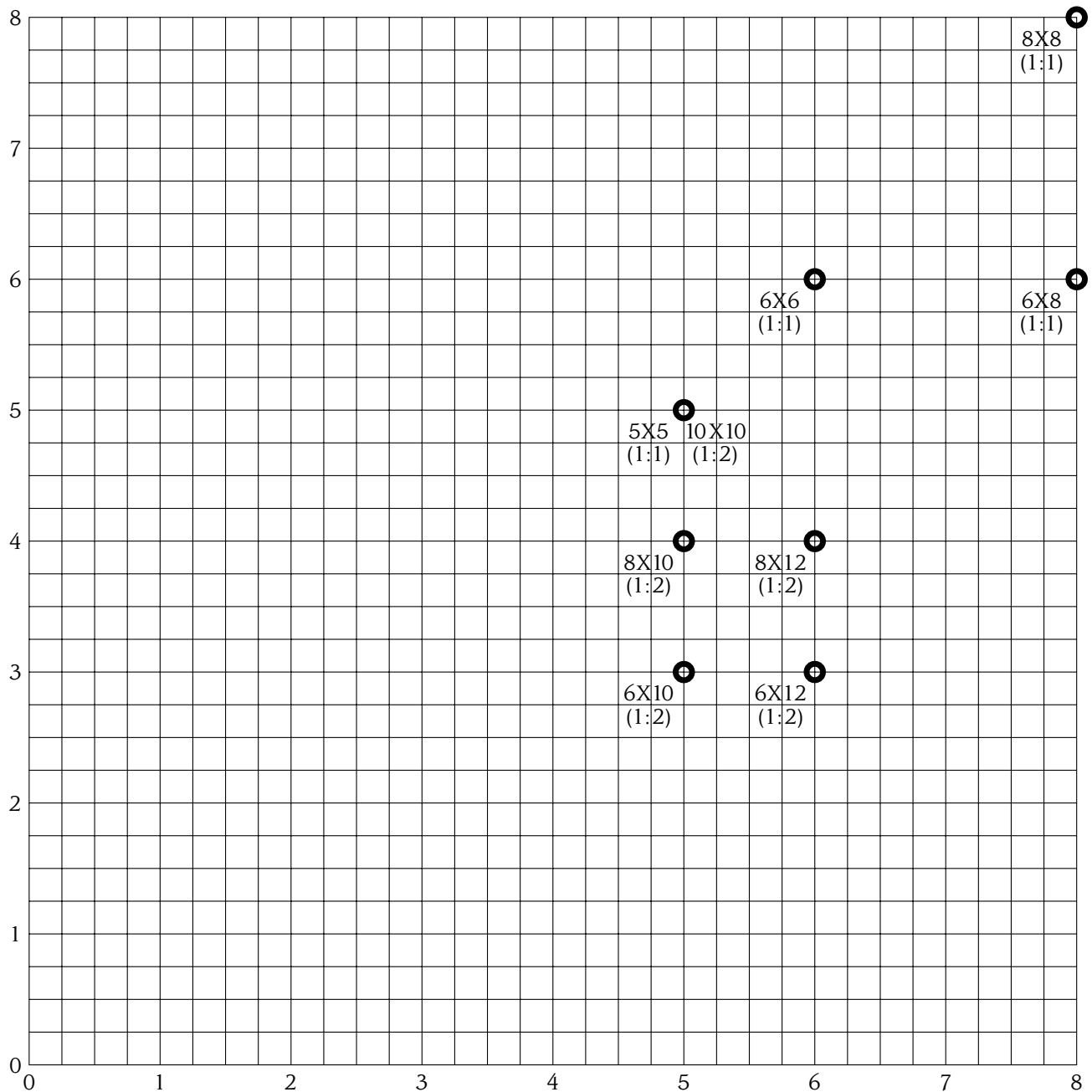
Spindle Size	L	S
3/8 AA	3.500	.68
1/2 AA	3.750	.735
5/8 AA	3.750	.985
3/4 AA	3.750	1.235
7/8 AA	4.250	1.360
1 AA	4.250	1.484
1-1/16 AA	4.250	1.610
1-1/4 AA	5.250	1.75
1-3/8 AA	5.250	1.985

Inspection & Tolerance

Spindle runout .002 at spindle end
 Spindle parallelism .001 in 4" of length
 Spindle spacing & length ± .001
 Guide bar spacing ± .001

SPINDLE LAYOUT - AUTOMOTIVE QUALITY HEADS

Please photocopy this page and sketch the spindle size and locations per your application. Fax this sketch along with the applications worksheet (from page 7) to Hause Machines at 419-485-3146 for a quotation on your multiple spindle head. All automotive quality heads are "per application." Standard quality fixed center heads designed "per application" are also available.



APPLICATIONS WORKSHEET - AUTOMOTIVE QUALITY HEADS

Date _____

Customer Information

Name _____ Title _____
Company Name _____ Sales Rep. _____
Address _____
City _____ State _____ Zip _____
Phone _____ Fax _____

Machining Operation

Number of spindles: _____
Operation performed: 1____ 2____ 3____ 4____ 5____ 6____ 7____ 8____ 9____ 10____
Spindle type: 1____ 2____ 3____ 4____ 5____ 6____ 7____ 8____ 9____ 10____
Possibilities include:
#0-#4 MT, #0-#3 Jacob's Taper, 1/2 to 1-3/8 AA, Collet, HSK, 30 taper, 40 taper, other _____
Spindle RPM: 1____ 2____ 3____ 4____ 5____ 6____ 7____ 8____ 9____ 10____
For tapping applications:
Tapping pitch: 1____ 2____ 3____ 4____ 5____ 6____ 7____ 8____ 9____ 10____

MSH Configuration

Mounting configuration: Vertical____ Horizontal____ Angled____
Housing material: Steel____ Aluminum____
If aluminum, please indicate: Cast aluminum housing style____ Solid aluminum housing____
Lubrication: Grease____ Oil____
Spindle construction: Cartridge style spindle (removable from front of spindle)____ Semi-cartridge spindles____ Standard____
Bearings: Angular contact____ Conrad____ Needle____ Ball bearings____
Input HP____ Input RPM____ Drive Type (Piloted slot spindle standard)____
MSH is to be mounted to: Holomatic____ Direct drive to motor____ Belt housing and motor____ Other____

Notes

Please send this worksheet with sample part, spindle layout sketch or CAD file to Hause Machines, or fax to 419-485-3146.

ADJUSTABLE ECCENTRIC MULTIPLE SPINDLE HEADS



**T-72
T-90**



**T-108
T-121**



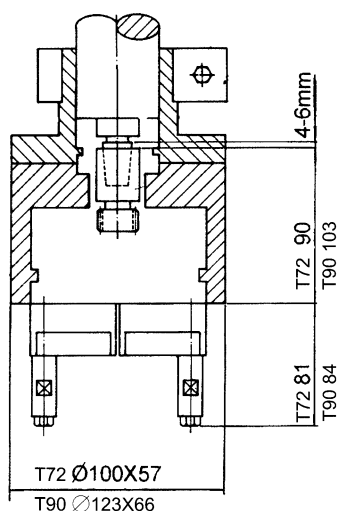
**T-214
T-226
T-240**

FLOATING ADAPTER TYPE
Patent No. 78022

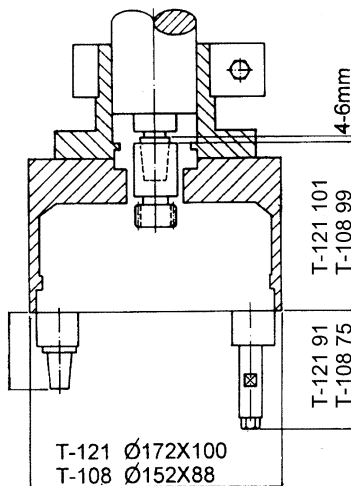


T-359

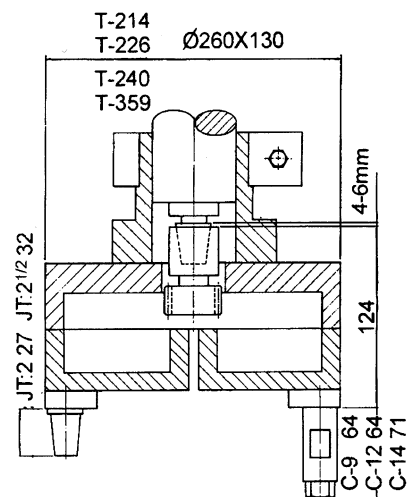
(Unit: inch)



T-72, T-90



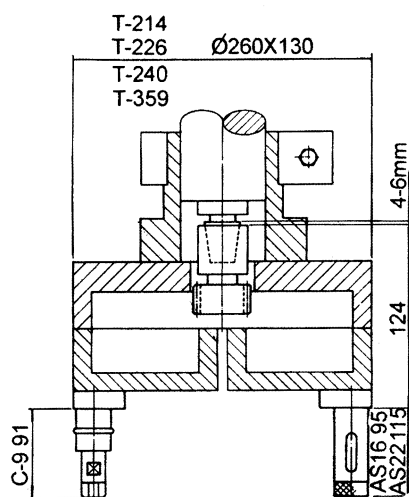
T-108, T-121



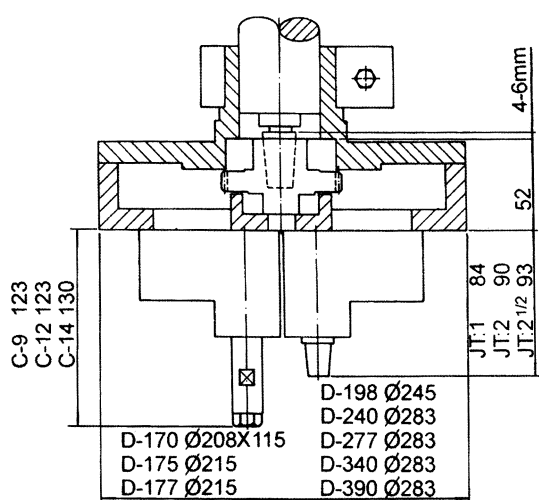
T-214, T-226, T-240, T-359

Specifications (Unit: inch)

Model	T-72	T-90	T-108	T-121	T-214	T-226	T-240	T-359
Max. Distance Between Spindles	2-13/16"	3-1/2"	4-1/4"	4-3/4"	8-27/64"	8-7/8"	9-27/64"	14-1/8"
Min. Spindle Diameter	1/2"	5/8"	23/32"	31/32"	1-7/8"	1-3/8"	2-3/8"	2-1/4"
Min. Pitch Diameter	-	-	-	-	-	-	-	-
Min. Distance Between Spindles	1/2"	5/8"	23/32"	31/32"	1-7/8"	1-3/8"	2-3/8"	2-1/4"
Ratio of Input/Output RPM	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1
Max. Drilling Capacity in Mild Steel (inch)	Ø5/32	Ø3/16	Ø15/64	Ø5/16	Ø27/64	Ø11/32	Ø29/32	Ø11/32
Max. Tapping Capacity in Mild Steel (inch)	5/32	3/16	15/64	5/16	7/16	5/16	7/8	5/16
Number of Spindles	2	2	2	2	2	2	2	2



T-214, T-226, T-240, T-359



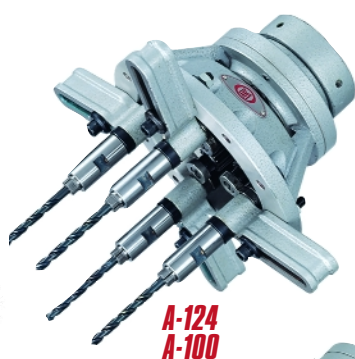
D TYPE

D-170	D-175	D-177	D-198	D-240	D-277	D-340	D-390
6-5/8"	6-5/8"	6-15/16"	7-3/4"	9-3/8"	10-7/8"	13-3/8"	15-5/16"
1-1/2"	1-3/4"	2-1/4"	4-7/16"	-	-	-	-
-	-	-	-	3-3/4"	3-15/16"	8-1/4"	9-11/16"
1-1/2"	1-1/2"	1-1/2"	1-3/4"	2-1/4"	1-1/2"	2-1/4"	2-1/4"
1:2.7	1:2.7	1:3	1:2.9	1:3.3	1:5.1	1:3.3	1:3.3
Ø1/2	Ø1/2	Ø3/8	Ø1/2	Ø1/2	Ø1/4	Ø1/2	Ø1/2
1/2	1/2	3/8	1/2	1/2	1/4	1/2	1/2
2	3	4	4	3-4	6	4	4

Features

- Eccentric and adjustable heads
- Gear and universal joint drives available
- Fixed center custom built heads available
- Adaptable to most drilling units, drill and tap presses, and CNC machines
- Variety of spindles including collets, Jacob's tapers, and adjustable adapters
- Floating spindle adapters available
- Up to 6000 RPM spindle speed available

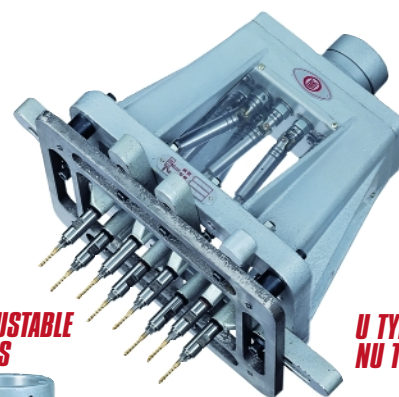
ADJUSTABLE UNIVERSAL MULTIPLE SPINDLE HEADS



**A-124
A-100**



**FIXED-CENTER, W/ADJUSTABLE
ADAPTER TOOL HOLDERS**



**U TYPE
NU TYPE**



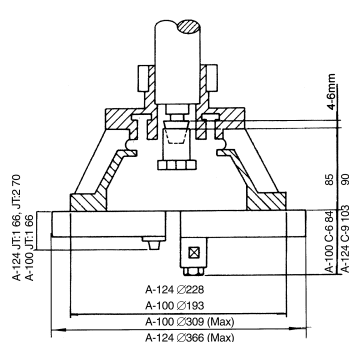
**U TYPE
NU TYPE**



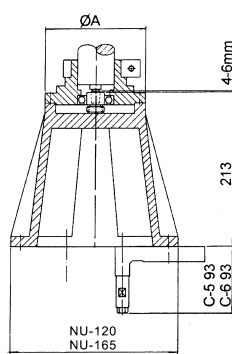
**FIXED-CENTER,
W/GUIDE
BUSH PLATE**

(Unit: inch)

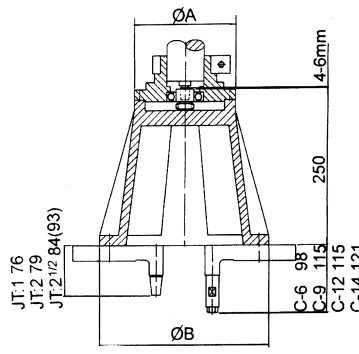
Model	U-165	U-200	U-250	U-300	U-400
ØB	288	340	385	440	560



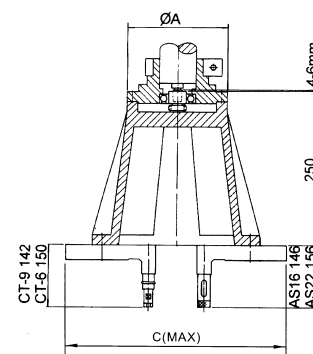
A-100, A-124



NU TYPE



U TYPE

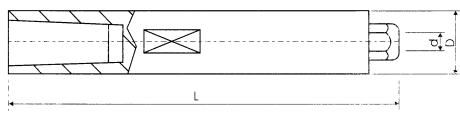


U TYPE

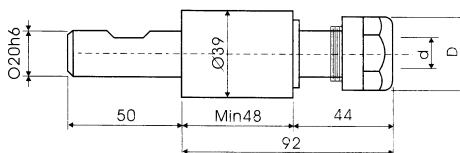
Specifications (Unit: inch)

Model	A-100	A-124	NU-120	NU-165	U-165	U-200	U-250	U-300	U-400	Fixed Type
Max. Distance Between Spindles	3-15/16"	4-7/8"	4-11/16"	6-1/2"	6-1/2"	7-7/8"	9-3/4"	11-3/4"	15-3/4"	By order
Min. Spindle Diameter	1" (4S)	1-1/2" (4S)	-	-	-	-	-	-	-	-
C (Max.)	-	-	370	428	446	560	645	740	850	-
Min. Distance Between Spindles	3/4"	1-1/16"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	10.0"
Ratio of Input/Output RPM	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	By order
Max. Drilling Capacity in Mild Steel (inch)	Ø15/64	Ø5/16	Ø11/64	Ø11/16	Ø1/2	Ø1/2	Ø1/2	Ø1/2	Ø1/2	By order
Max. Tapping Capacity in Mild Steel (inch)	15/64	5/16	11/64	11/16	1/2	1/2	1/2	1/2	1/2	By order
Number of Spindles	2~4	2~4	2~4	2~10	2~10	2~10	2~12	2~10	2~10	By order

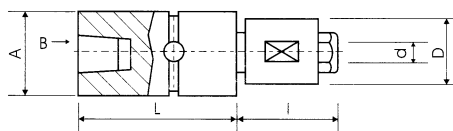
SPINDLE AND COLLET SPECIFICATIONS



Extension bar (Length can be specified)



Floating spindle adapter
(for tapping and reaming applications)
Patent No.: 79022



Floating spindle adapter
(for tapping and reaming applications)
Patent No.: 79022

Specifications (Unit: m/m)

Size/Type	L	B	D	d	Remarks*
JC-9	85	JT6	Ø24	Ø3-Ø8	
JC-12	85	JT6	Ø24	Ø6-Ø11	
JC-14	92	JT6	Ø30	Ø8-Ø13	
JC-16	115	JT3	Ø42	Ø10-Ø16	
JC-20	125	JT4	Ø44	Ø13-Ø18	
JC-30	131	JT4	Ø58	Ø16-Ø28	
			Ø10	Ø1.1-Ø4	

*"AS" (automotive styles) also available in certain models.

ER20

D Max. Shank Diameter

Ø32 Ø13

Specifications (Unit: m/m)

Size/Type	A	B	L	I	D	d	Remarks*
FCJ-5	Ø30	JT2S-JT6	65	46	Ø12	Ø2-Ø5.5	
FCJ-6	Ø30	JT2S-JT6	65	50	Ø17	Ø2-Ø6	
FCJ-9	Ø30	JT2S-JT6	65	66	Ø19	Ø3-Ø8	
FCJ-9	Ø34	JT6	72	37	Ø26	Ø3-Ø8	
FCJ-9	Ø34	M17xP1.0+JT2S	77	37	Ø26	Ø3-Ø8	
FCJ-9	Ø34	M20xP1.0+JT6	78	37	Ø26	Ø3-Ø8	
FCJ-12	Ø34	JT6	72	37	Ø26	Ø6-Ø11	
FCJ-12	Ø34	M17xP1.0+JT2S	77	37	Ø26	Ø6-Ø11	
FCJ-12	Ø34	M20xP1.0+JT6	78	37	Ø26	Ø6-Ø11	
FCJ-14	Ø34	JT6	72	68	Ø30	Ø8-Ø13	
FCJ-14	Ø34	M17xP1.0+JT2S	77	68	Ø30	Ø8-Ø13	
FCJ-14	Ø34	M20xP1.0+JT6	78	68	Ø30	Ø8-Ø13	
FCJ-16	Ø58	JT3	98	43	Ø44	Ø10-Ø16	
FCJ-16	Ø58	JT4	110	43	Ø44	Ø10-Ø16	
FCJ-20	Ø58	JT3	98	46	Ø44	Ø13-Ø18	
FCJ-20	Ø58	JT4	110	47	Ø44	Ø13-Ø18	
FCJ-30	Ø58	JT4	110	48	Ø58	Ø16-Ø28	

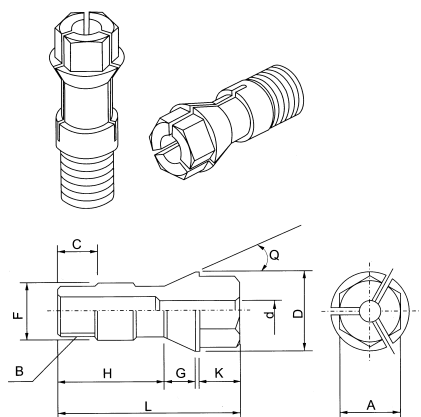
Specifications (Unit: m/m)

Size/Type	A	B	C	D	d	E	F ^{-0.020 -0.025}	G	H	L	Q	K	Remarks*
D-4	6	1/4-28UNF	8.5	Ø8	Ø1.5-Ø4.0	5	Ø6.5	4	13	24	12°	4	
C-5	8	5/16-24UNF	9	Ø10.8	Ø1.5-Ø5.0	6	Ø8.5	5	19	31	14°	5	
C-6	10	3/8-27UNF	12	Ø13.2	Ø1.5-Ø6.0	7	Ø10	6	23	36	15°	6.5	
C-9	14	1/2-20UNF	15	Ø17	Ø3.0-Ø8.0	9	Ø13	7	29	47	15°	8	
C-12	17	5/8-18UNF	15	Ø21.2	Ø5.0-Ø11	10	Ø16.5	7	31	48	15°	9	
C-14	21	3/4-16UNF	15	Ø24.6	Ø6.0-Ø13	11	Ø20	8	34	53	15°	10	
C-16	26	M24 x P2.0	18	Ø31	Ø10-Ø18	15	Ø25	11	44	70	15°	12	
C-20	29	M27 x P2.0	19	Ø34.1	Ø14-Ø20	22	Ø28	11	44	71	15°	13	
C-30	38	M38 x P2.0	22	Ø45.7	Ø17-Ø30	25	Ø39	12	50	81	15°	16	

Order Formula:
Type x Shank Diameter x Quantity
Ex: CT-9 x Ø8mm x 4pcs

C For drill
CT For tap

*Remarks: Please specify if you are using for the following tools: reamer, end mill, chamfering tool, high pitch drill, left turn tap.





809 South Pleasant St.
Montpelier, OH 43543
tel: 419-485-3158
800-932-8665
fax: 419-485-3146
www.hausemachines.com

