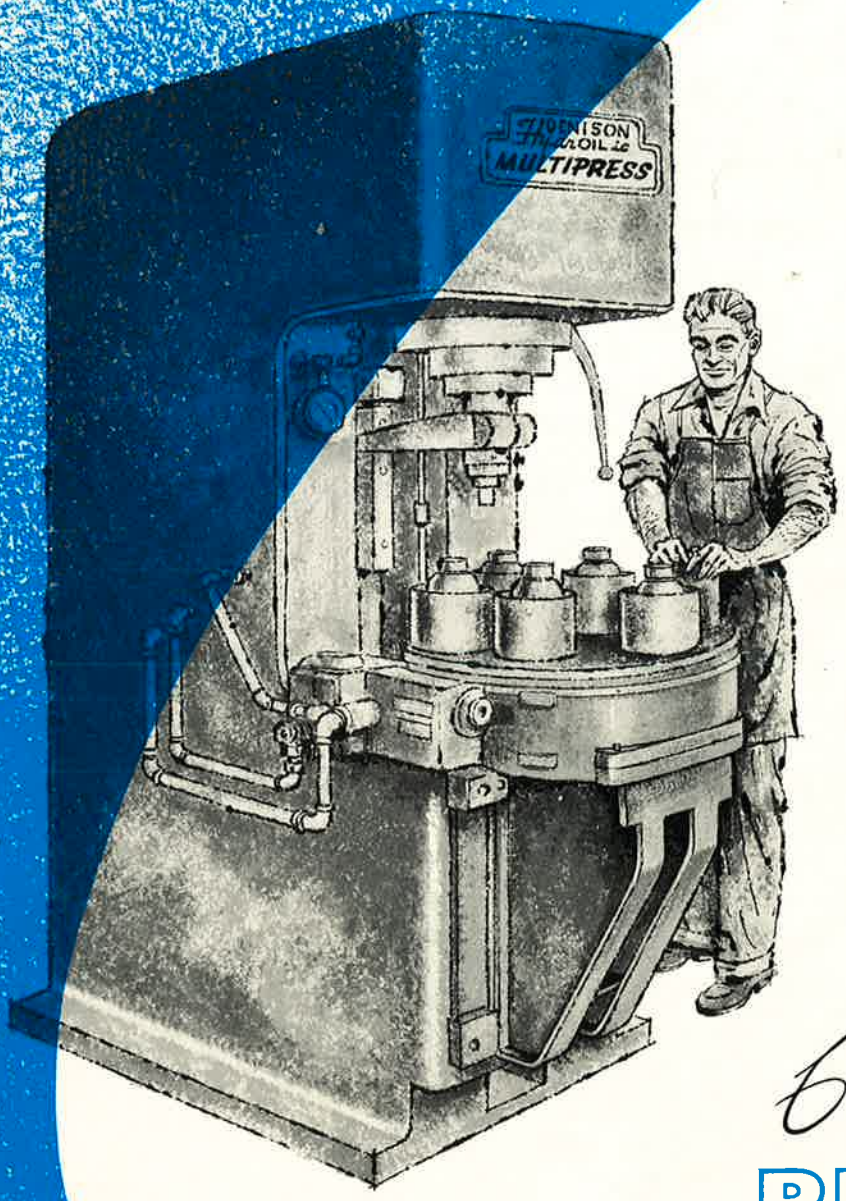
BULLETIN 120



for you, too...

DENISON MULTIPRESS

can be the key to

- A BETTER PRODUCT
- INCREASED PRODUCTION
- LOWER COSTS

what is your

DOES IT CALL FOR DOING ANY

problem?

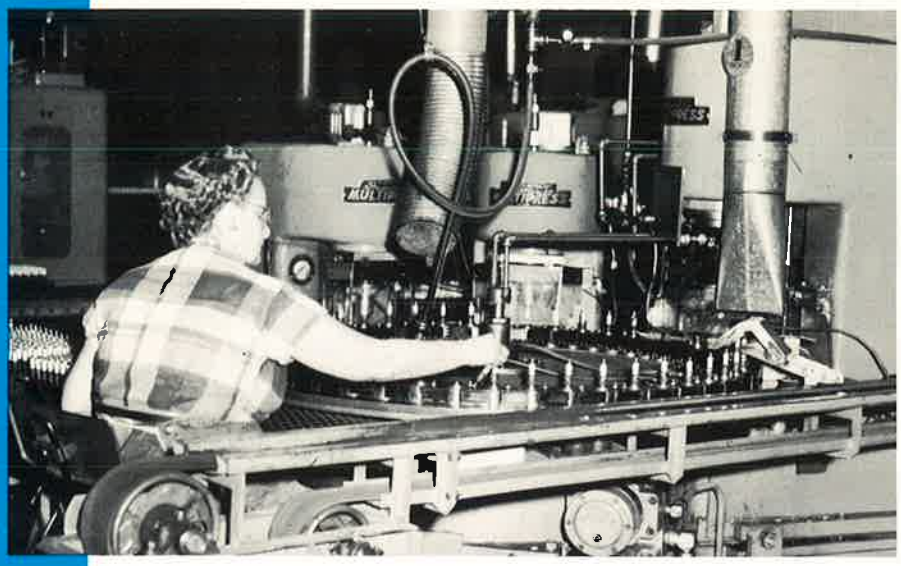
OF THESE TASKS BETTER, FASTER:

- BROACHING
- FORMING
- COMPACTING
- NIBBLING
- SHAPING
- STAMPING
- PRESSING
- INJECTING
- SLOTTING
- TRIMMING
- STAKING
- EMBOSSING
- MARKING
- BENDING
- PEENING
- BLANKING
- PELLETING
- TESTING
- CLEANING
- BURNISHING
- PUNCHING
- CRIMPING
- COINING
- HONING
- ASSEMBLING
- RIVETING
- STRAIGHTENING
- BRIQUETTING
- MOLDING
- FORGING
- SWAGING

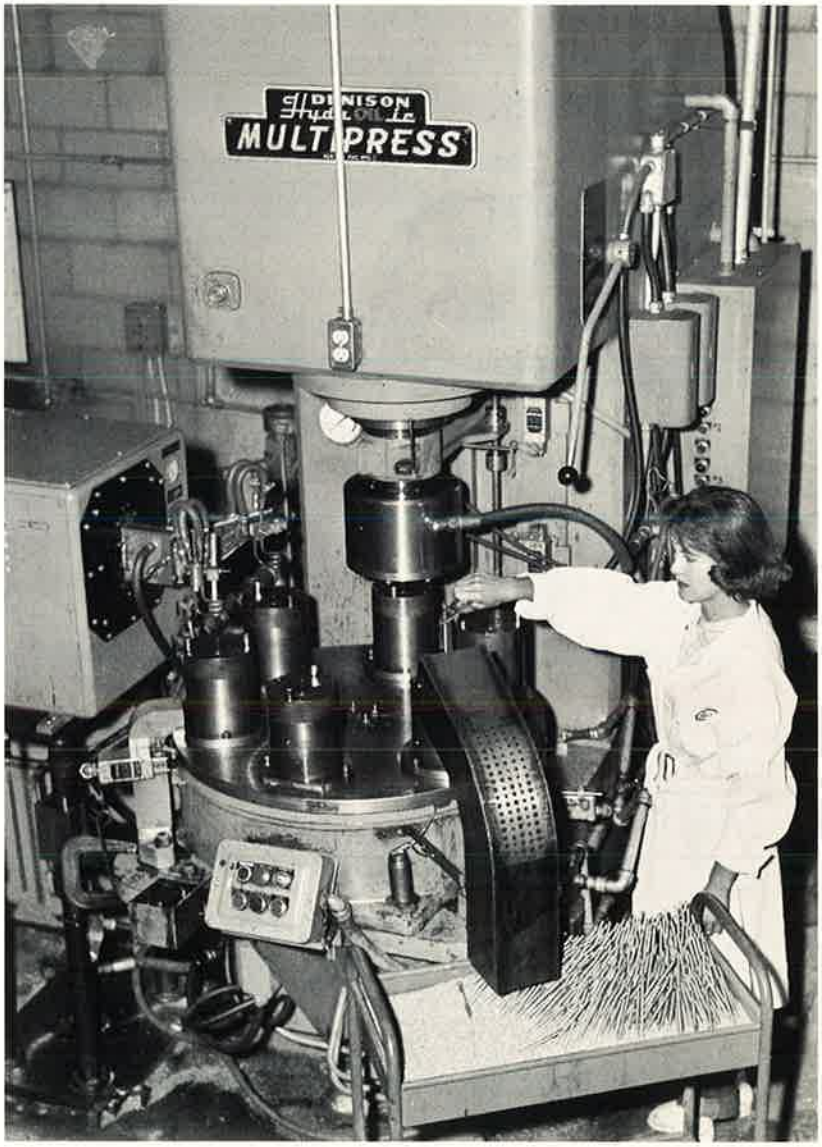
then **MULTIPRESS**

may very well be your answer . . .

as it has proven the answer for others

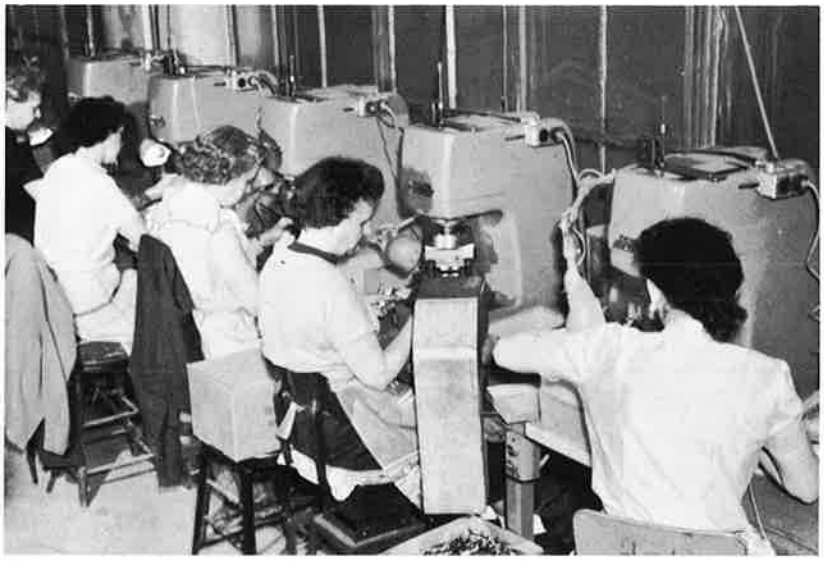


Three Multipresses and an index table have increased both quantity and quality of product for this manufacturer.



Titanium steel bolts are forged on this 25-ton Multipress equipped with index table and knock-out ram. Setup accommodates bolts ¼" to 1½" in diameter and of various lengths.

Fifteen and thirty-five ton Multipresses compacting metal cloth to constantly uniform dimensions and density.



Five Series A Multipresses performing miscellaneous short-run production tasks for a well known fountain pen maker.

A large Multipress piercing dielectric material with as many as 450 holes per stroke without shatter or spoilage.

Series A Multipress with an air operated table and utilizing pressure reversal to perform a six-part assembling task.

Toy train parts made of plastic are assembled with a carefully controlled ram pressure on this Series A, 1-ton Multipress.

A four-ton Multipress firmly fastens binding posts in plastic transformer housings, despite varying wall thickness.

and still others

This Series "R", 6-ton, bench model Multipress, equipped with a Denison index table and special "quick-change" tooling, assembles 600 to 850 components per hour.

An 8-ton Multipress perforates 16 different plastic adding machine cases continuously without any change in tooling.

Operating in a line connected by belt conveyors, 4-ton Multipresses perform bending, staking, aligning, compressing, riveting and stamping operations in the production of small precision electric motors.

This bench type, 5-ton Multipress equipped with a 12-station index table produces a complicated ordnance component by progressive blind bottom broaching.

AND WHAT MAKES *MULTIPRESS* SO CAPABLE?

CONTROL!

amazingly exact control...
MANUALLY AND AUTOMATICALLY

- *of ram speeds*
- *of ram pressures*
- *of ram strokes*
- *of ram action*

plus the inherent, unequalled smoothness of oil-hydraulic power

The cutaway illustration on the opposite page affords an excellent view of the main components of the basic Multipress. They include the frame, oil reservoir, hydraulic pump and its electric motor, and the ram-and-cylinder assembly. Ruggedness, extreme simplicity and compact arrangement are clearly evident. In brief, the electric motor drives the hydraulic pump which draws oil from the reservoir and delivers it under pressure to the ram-action control valve. When the valve is actuated by the operator depressing the control levers, oil under pressure flows into the top of the cylinder, forcing the piston and its ram downward upon the work. When he releases or raises the levers, oil flows through the lower cylinder port forcing the piston and ram upward.

MANUAL OR AUTOMATIC CONTROL

Under Manual Control (by either dual or single hand levers) or Foot Pedal Control, the operator starts and controls downward movement of the ram and its pressure upon the work. Ram reversal and return upward takes place upon his raising or releasing the hand lever or levers, or the foot pedal. Automatic Controls provide for this same single cycle of ram movement, or for continuous cycling. These two types of Multipress controls are more fully described on page six. Electric Push Button Control is another form of control for automatic valves in which single or dual push buttons replace the standard hand lever or levers and actuate a solenoid valve which controls ram movement.

Foot Pedal Control is merely a modification of single-lever Manual Control. It frees both hands of the operator for handling and guiding work.

TOUCH CONTROL

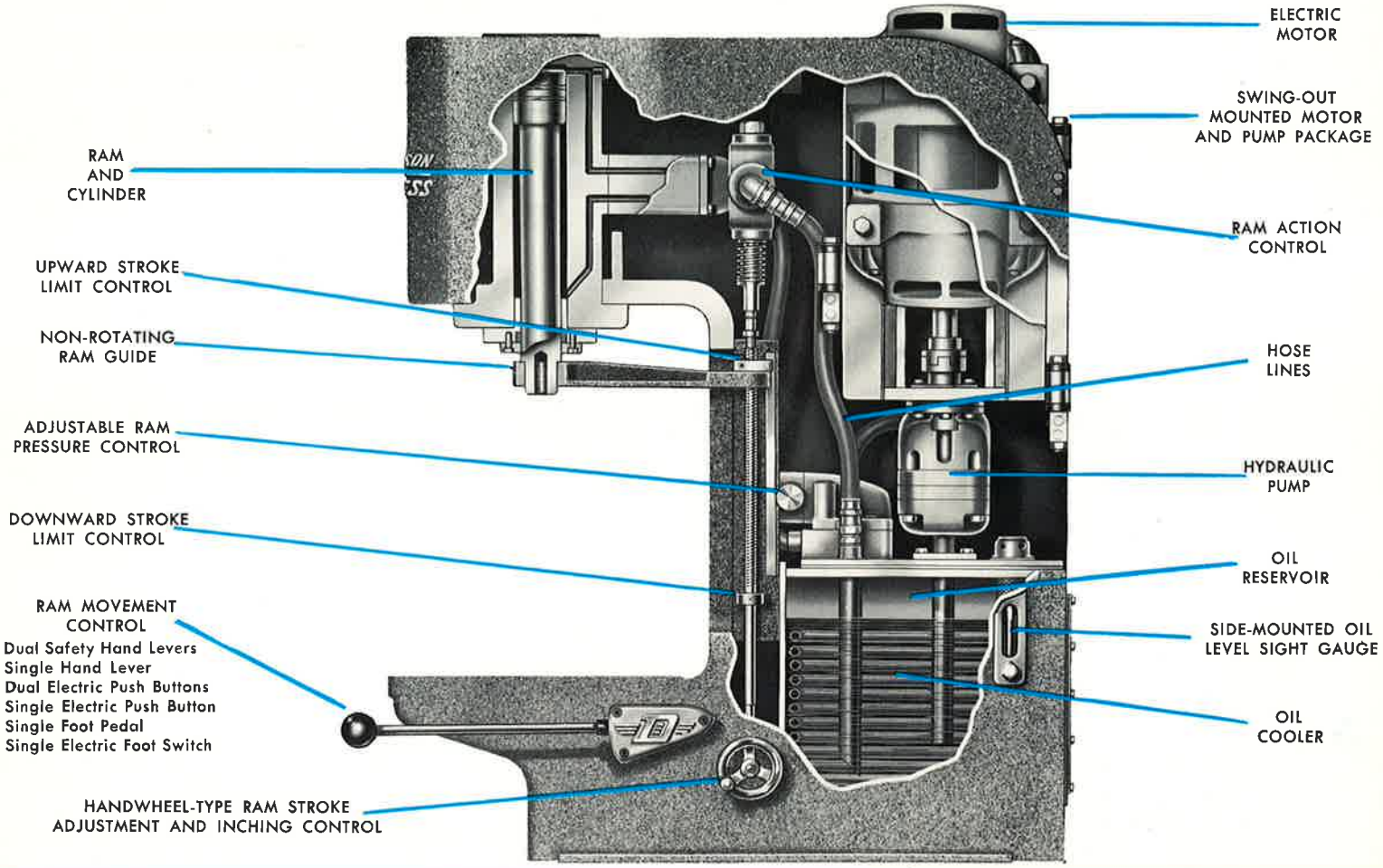
"Feather Touch" would be a more nearly correct name for it! This ultra-sensitive control mechanism instantly transmits slightest movement of the control levers to the ram and vice versa. It affords the operator a distinct "feel" of every ram action—speed of movement, direction of movement, even the pressure being exerted. It is the ultimate control for applications which require accurate and sensitive hand control of each pressing operation. Multipress Touch Control is more fully described on page 8 of this brochure under the section headed "C257".

RAM CONTROL

There are additional accessories which may be used in conjunction with the press control valves to increase production or improve quality.

The selection of the proper control valve combined with an Electric Speed Control accessory allows rapid approach with an adjustable slow pressing speed, thereby providing a versatile and highly desirable control.

An Inching and Hold Down Control whereby the operator can bring the ram down to the work in short travel advances, or stop it, is available for all series of the Multipress equipped with automatic valves. This control is especially useful when aligning tools during set up operations.



TEN SIZES — 1 TO 75 TON CAPACITIES

The Time Delay is another method of ram control which has many applications.

VIBRATORY RAM ACTION CONTROL

This feature of Multipress ram control affords short, repeated strokes of the ram upon the work as a definite part of each complete ram cycle. The length of those repeat strokes is adjustable from ⅛-inch to ½-inch on most models. On Automatically Controlled Multipress, the number of repeat strokes per ram cycle can also be regulated, from one to many. On Manually Controlled Multipress, only the length of the repeat, or vibratory, strokes is adjustable, the number of repeat strokes in each ram cycle being dependent upon how long the operator keeps the ram on the work. In other words, the vibratory action will continue as long as the control levers are held in the depressed position.

STROKE LIMIT CONTROLS

Length of the downward stroke of the Multipress ram can be closely regulated by two means—a travel limiting device and a maximum pressure control valve. The traveling limiting device is an adjustable stop-collar on the ram control shipper rod in the throat of the press. (See "Downward Stroke Limit Control" in the cutaway illustration.) When the banjo arm of the descending ram contacts this stop collar, direction of ram travel is instantly reversed. (automatic valves only.) Thus, the device prevents work spoilage caused by excess ram travel, and speeds production by shortening ram-cycle time.

Upward distance of ram travel may also be limited—this, by means of a second stop-collar on the ram control shipper rod, the upper collar shown in our cutaway drawing. When the banjo arm of the rising ram contacts this stop collar, ram travel is stopped. These two stop-collar stroke limiting devices can be invaluable time savers whenever full daylight opening or full ram stroke are not necessary for the pressing operation being effected. By shortening ram travel per ram cycle, more cycles per hour are afforded.

The second of the downward stroke limiting devices is the "Adjustable Ram Pressure Control" shown in the cutaway view. By means of this control, maximum pressure to be exerted by the ram upon the work can be pre-set at any degree between maximum pressure capacity of the press and 20% of that capacity. Then, when pressure on the work reaches this pre-set degree, the ram will automatically reverse its direction. (automatic valves only.) Here, too, is a great saver of spoiled work and time. During setting-up operations, the operator can watch the pressure gauge to determine what pressure is necessary to accomplish the work. Then, by adjusting the control for that pressure, the ram will travel no farther after the work is accomplished; nor will dangerous pressures be exerted upon individual pieces of work even though they may vary in size.

These ram travel and pressure limiting devices may be employed in combination, if desired.

VALVES which make control and versatility your production allies . . .

C201

This is the basic, manual control valve and is available with a choice of controls for the operation of the press ram. Dual hand lever control is standard unless otherwise specified.

C261

Same as C01 except incorporates differential fast approach speed circuit. This feature increases approach speed of ram approximately 65%. Pressing and return speed remain same as standard. The change from approach speed to pressing speed occurs when the ram contacts the work.

C202

Offers controlled pressing speed of ram. Choice of controls. Ram will descend at full speed or at controlled pressing speed, apply preset pressure and return at full return speed when the controls are released.

C203

Features manual control of ram with adjustable length vibratory strokes—short, repeat strokes that are applied upon the work as long as control levers are depressed. These repeat strokes are of full preset tonnage and are used where consecutive applications of pressure are necessary. Vibratory strokes may be adjusted "out" for action similar to the C01 valve, if desired. A choice of control levers or foot pedal is offered.

C257

The servo control is used where complete control over ram motion and pressure is desired. Depressing the hand lever causes the ram to descend. Ram movement, either up or down is directly proportional to hand lever movement. Moving it rapidly causes the ram to move rapidly. A differential circuit is incorporated to give a fast approach speed. Releasing the lever at any time causes the ram to return to its "up" position and stop. Increased pressure on the hand lever when ram is on work will cause a gradual change in the force exerted.

C204

Basic automatic control valve featuring choice of either automatic or single cycling of press ram. Ram will reverse automatically upon attaining preset pressure on the work or against stroke length control. This feature provides automatic reversal of ram for either distance or pressure requirements.

C264

Same as C04 except it incorporates differential approach speed circuit. This feature increases approach speed of ram approximately 65%. Pressing and return speeds remain as standard.

C209

Automatic cycling identical to C04 except provision is made for the the inter-locking of hydraulic accessories through the control system of the press.

C269

Automatic cycling identical to C09 control except it incorporates a differential approach speed circuit. This feature increases approach speed of ram approximately 65%. Pressing and return speeds remain standard.

C208

Automatic cycling plus vibratory repeat strokes which may be regulated both for length and number. For example, the ram may be preset to descend, exert preset pressure, and then make short repeat strokes upon work of any number between 1 and 25. The ram returns to its retracted position automatically. Speed control with adjustable pressing speed on the down stroke is also a feature for the bottom 2¼ inches of stroke.

C213

Automatic cycling identical to C08 control (including vibratory repeat strokes) except provision is made for interlocking hydraulic accessories through control system of the press.

C225

A sequence valve functioning, when interlocked with a C09 or C13 valve, to provide adjustable stroke length, rapid return, adjustable forward speed and adjustable vibratory stroke action. This valve will allow ram to reverse when preset pressure is attained. Used with shuttle feed which is a component of the pelleting accessory.

C226

A sequence valve which, when interlocked with a C09 or C13 valve, functions to provide adjustable stroke length with pressure or position reversal of press ram. This control valve is also used with the shuttle feed.

C262

A control valve used with a C04 or C09 valve to regulate the speed of the press ram.

CHOICE OF HAND LEVER, FOOT PEDAL OR ELECTRICAL CONTROLS FOR ABOVE VALVES

The above described control valves are applicable to all bench type Multipresses shown on the following pages, except Series A. They are also used on the 5 and 10-ton models of the smallest floor model Multipress — the Series H.

SERIES A MULTIPRESS

1-TON AND 2-TON CAPACITIES

The Denison Series A Multipress is a low-priced economy unit incorporating design and performance features developed through extensive market research and investigation of industry's production needs.

This series of presses meets the needs of industry for lightweight, compact, high-speed hydraulic presses capable of versatile, effortless operation and adaptable to a wide range of production needs and tooling set-ups.

Maintenance costs have been reduced to the minimum and servicing has been simplified as a result of the unique design which features a self-contained hydraulic power cylinder and valve unit assembly.

Simple electric circuit arrangements involving the solenoid valve allow these presses to be operated by timers or by remote control. See page 25 for a description of accessories available for use with these presses. For information regarding the adaptation of such devices or other accessories to meet specific needs, contact the nearest Denison Multipress Sales Representative.

1-TON MODEL

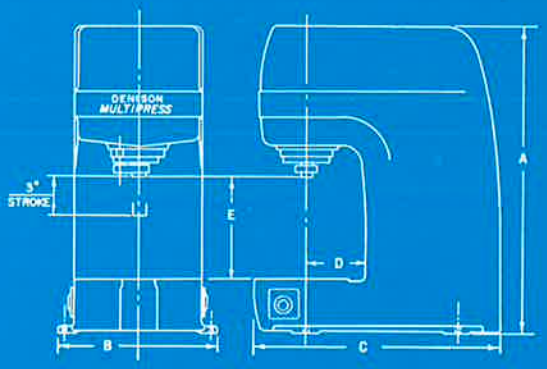
This Multipress is designed for applications which require up to 8 inches of daylight and a pressing range of from 495 to 2000 pounds. Only 24 inches high, this press can be easily and economically used for one specific operation and conveniently stored when not in use. The 1-ton Series A Multipress weighs only 225 pounds. It can be moved throughout shops or factories to handle a wide variety of production needs and need not be anchored in one specific location.

2-TON MODEL

Employing the same basic design features found in the 1-ton model, this Multipress offers up to 10 inches of daylight and a pressing range of from 994 to 4000 pounds. This compact press weighs approximately 375 pounds and its overall height is only 28½ inches. Since the unit requires no fixed-position anchoring, it can be quickly and easily moved to various production areas to handle a wide variety of production jobs.

For detailed specifications write for Bulletin M-36

Series A 1-Ton Model

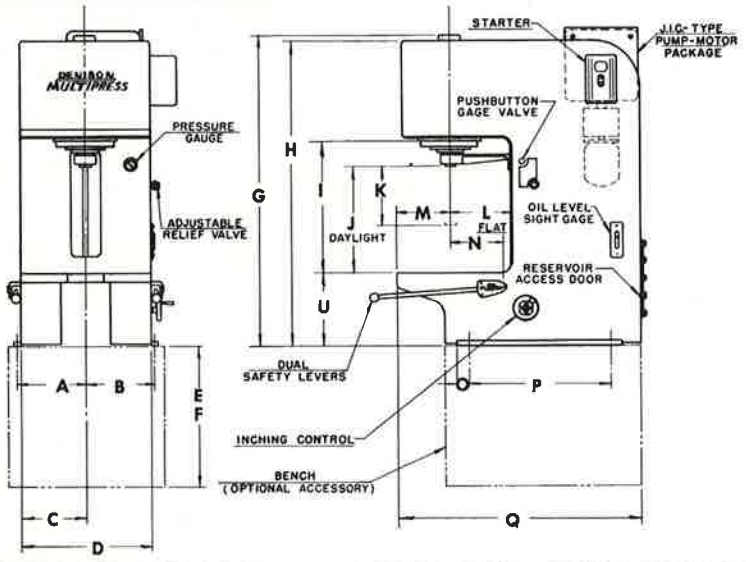


	SPECIFICATIONS	1-TON	2-TON
A	Height	24"	28½"
B	Width	12½"	13½"
C	Depth	19½"	22½"
D	Throat	4¾	4¾
E	Daylight	8"	10"
	Stroke (Fixed)	3"	3"
	Weight (Approx.)	225 lbs.	375 lbs.
	Motor (Horsepower)	3/4	3/4

CURRENT SPECIFICATIONS (60 Cycle)

Single Phase		Three Phase	
110 volts	. . 10.8 amps	220 volts	. . . 2.8 amps
220 volts	. . . 5.4 amps	440 volts	. . . 1.4 amps

SERIES R – S AND T



DIMENSION	SERIES R	S	T
A	9¼	10¾	11¾
B	9¼	10¾	11¾
C	8½	10	11
D	17	20	22
E	27¾	26	24
F	21¼	19½	15¾
G	*46¾	*51¾	*55 5/16
H	42⅜	48¼	52¼
I	19⅝	22½	23½
J	16	18	18
K	10	12	12
L (MIN.)	6 3/16	7 3/16	10 3/16
M	5½	7	9
N	5	6	9
O	2	2	2
P	17½	20	24
Q	30	34¼	41¼
U	8¼	10	12

*Approximate

Completely new in design, these bench-type presses are self-contained units of "C" type, welded construction. Presses are designed to meet JIC specifications. Presses and accessories, including specially-designed benches and 6-station or 12-station index tables, are finished in matching green spackle enamel.

Stroke length, ram speed and tonnage are easily and simply regulated. Presses are provided with manual or automatic control. Manual control is accomplished by means of two levers, both of which must be depressed to insure complete safety to the operator. Automatic single lever control allows single or continuous ram cycling — a choice of eleven control valves provide ram action and synchronization of accessories to meet every production need. Electric controls are also available to activate these presses — manually or automatically.

An important consideration in the selection of these presses is the *Rapid Ram Approach* feature. Since actual press production time occurs only during the pressing stroke, Denison reduces non-productive time by providing rapid traverse to ram approach and ram return. The result is more cycles-per-minute — more production per hour.

TYPICAL SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX. TONS	MOTOR HP	RAM SPEEDS (IPM @ 60 CYCLES) CLOSING	PRESSING	RETURN	CYLINDER RAM BORE	STROKE	MAXIMUM PRESSURE (PSI)
R011L	1	1½	755	320	695	1⅝	10	965
R065H	6	5	240	100	265	2¾	10	2020
S032L	3	2	370	150	405	2¼	12	1500
S087H	8	7½	330	120	300	3¼	12	1930
T043L	4	3	470	208	435	3¼	12	965
T120H	12	10	315	125	280	4	12	1910

For detailed specifications covering these presses write for Bulletins M-37 (Series R), M-38 (Series S) and M-39 (Series T).

MULTIPRESS

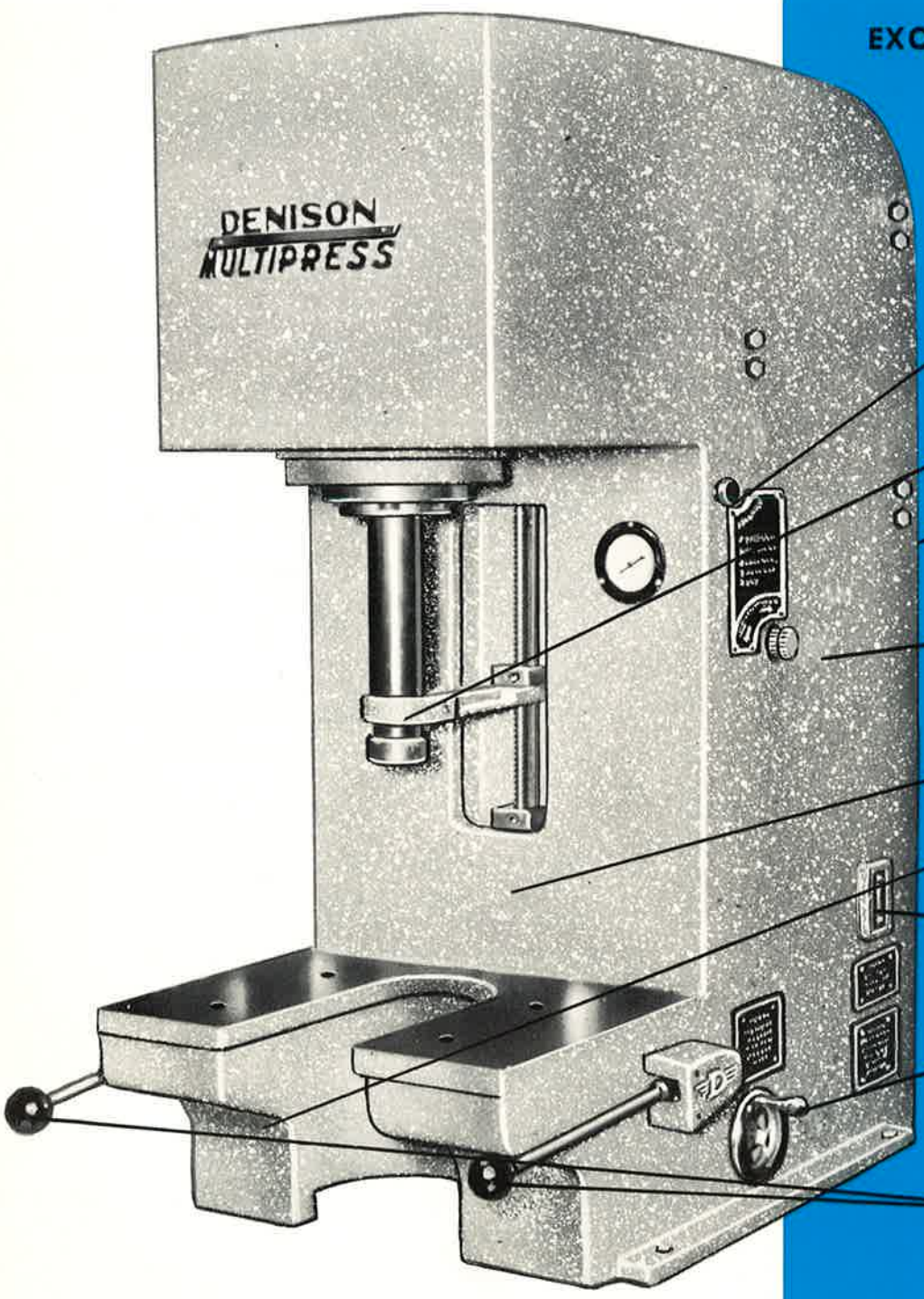
CAPACITIES

R — 1 to 6 tons

S — 3 to 8 tons

T — 4 to 12 tons

EXCLUSIVE DESIGN FEATURES



- **Pushbutton Gauge Valve**
- **Non-rotating Guide**
- **Swing-out Motor and Pump**
- **Ram Pressure Control**
- **Greater Daylight**
- **Recessed Base**
- **Side-mounted Oil Level Gauge**
- **Handwheel-type Ram Stroke Adjustment**
- **Dual Manual Control Levers**

and larger control **VALVES** for larger presses . . .

C91

Basic manual control valve with action similar to the small series C01 valve. Dual safety control levers permit throttling control of ram descent. Shockless reversal of ram.

C92

Offers combined differential circuit fast ram approach followed by controlled pressing speed which may be regulated. Return speed is rapid. The ram will descend at full speed, change automatically upon reaching a preset distance to controlled pressing speed, apply preset pressure and return at full return speed when the controls are released. Use of dual shipper rods makes it possible to control the distance the ram will descend before starting the slow pressing speed. Choice of controls. As a standard feature, the valve may be set to give manual or pressure reversal.

C93

Features manual control of ram with adjustable length vibratory strokes—short, repeat strokes that are applied upon the work as long as control handles are depressed. These repeat strokes are of full preset tonnage and are used where consecutive applications of pressure are necessary. Vibratory strokes may be adjusted "out" for straight ram cycling, if desired. When using straight ram cycling, the action is the same as with the C91 valve. Choice of controls.

C51

The servo control is used where complete control over ram motion and pressure is desired. Depressing the hand lever causes the ram to descend. Ram movement, either up or down is directly proportional to hand lever movement. Moving the lever rapidly causes the ram to move rapidly. A differential circuit is incorporated to give a fast approach speed. Releasing the lever at any time causes the ram to return to its "up" position and stop. Increased pressure on the hand lever when ram is on work will cause a gradual change in the force exerted.

C94

Basic automatic control valve featuring a choice of either automatic or single cycling control of press ram. The ram will reverse automatically upon attaining preset pressure on the work or against stroke length control. This feature provides automatic reversal of ram for either distance or pressure requirements and has differential circuit fast approach speed until the ram contacts the work and exerts a predetermined pressure. It then changes automatically to normal pressing speed.

C99

Automatic cycling identical to C94 except provision is made for the interlocking of hydraulic accessories through the control.

C98

Automatic cycling, plus vibratory repeat strokes which may be regulated both for length and number. For example, the ram may be preset to descend at a differential circuit fast approach speed, automatically change to a slower controlled speed when a predetermined distance has been reached, exert preset pressure and then make short, repeat strokes of any number between 1 and 10 upon work. The ram then returns to its "up" position automatically. Speed control with adjustable pressing speed on the down-stroke is also a feature for the full length of stroke. This valve also features automatic reversal of ram for either distance or pressure requirements.

C95

Automatic cycling identical to C98 control (including vibratory repeat strokes) except provision is made for the interlocking of hydraulic accessories through control system of press.

C96

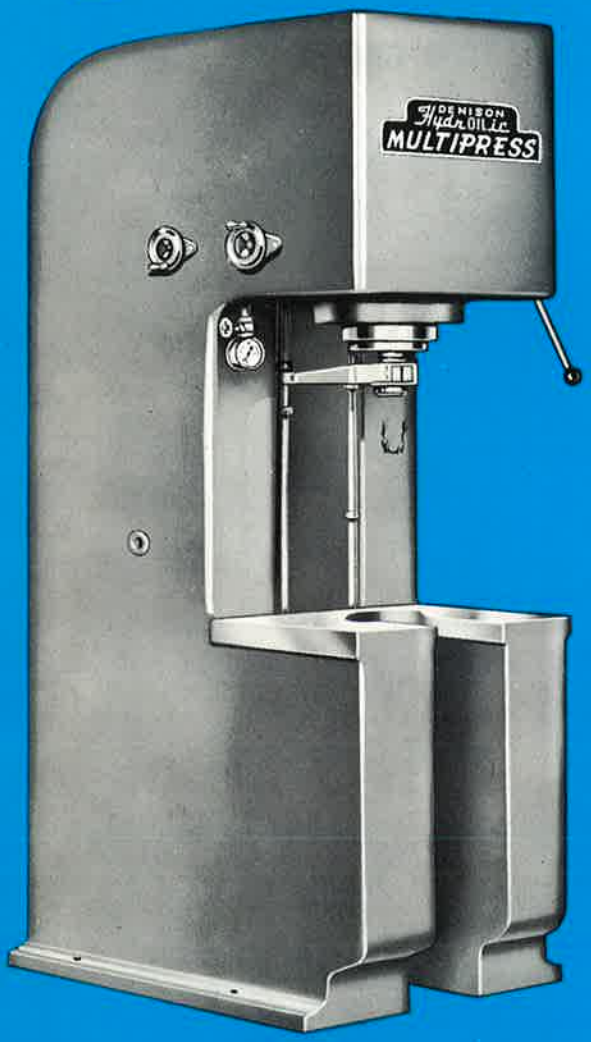
Automatic cycling same at C98 without vibratory repeat strokes.

C97

Automatic cycling identical to C96 control except provision is made for interlock of hydraulic accessories through control system of the press.

The valves described above are available for and applicable to the five series of Multipress shown on pages 13 to 17 inclusive.

SERIES H



Approximate Weight 5400 pounds.

For detailed specifications covering Series H Multipress, write for Bulletin M-24

MULTIPRESS

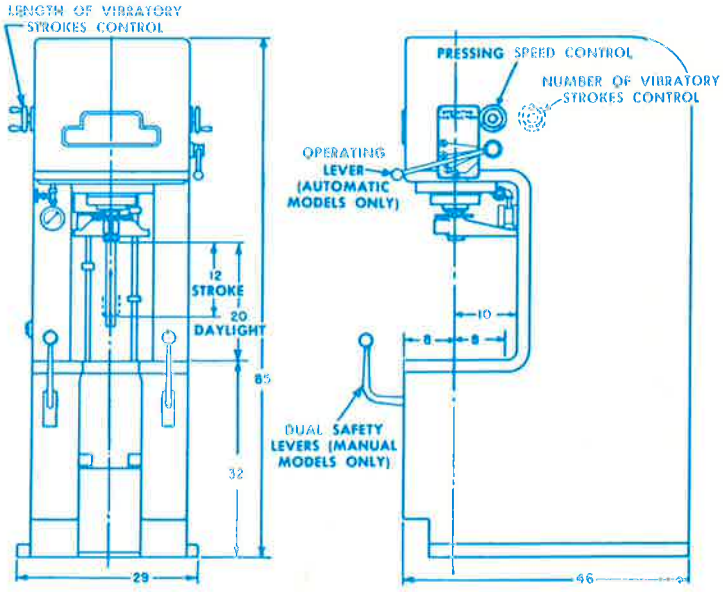
15 TON CAPACITY

H Series is the smallest of Multipress "floor" models. This, too, is a completely self-contained press, with the same versatility of ram action and flexibility of operation characteristics of the smaller bench models.

This model uses the large control valves described on the preceding page and designed expressly for large, floor model Multipresses. Daylight opening of this press is 20 inches.

Extra daylight frames can be furnished upon request.

Reservoir Capacity — 55 Gallons



TYPICAL SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX TONS	RAM SPEEDS I.P.M.—60 CYCLES			CYLINDER			PUMP G.P.M.	MAX P.S.I.	MOTOR H.P.	TYPE OF CONTROLS (VALVE MODEL)
		CLOSING	PRESSING	RETURN	PISTON	RAM	STROKE				
HA15	15		280	500	3¾"	2½"	12"	15	2700	15	C91
		630	280	500							C92 C93 C94 C95 C96 C97 C98 C99 C51

SERIES K

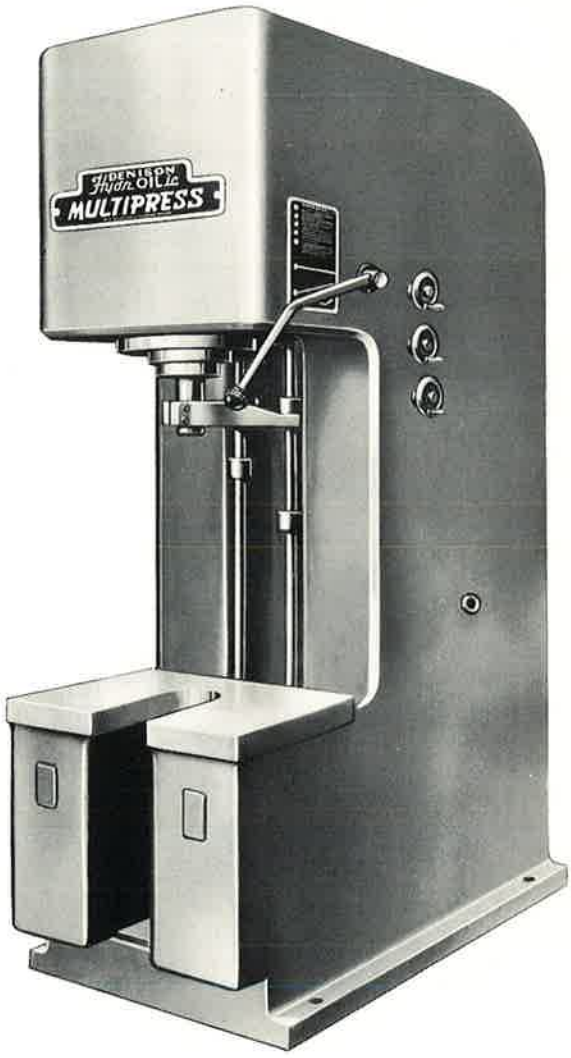
MULTIPRESS

25 TON CAPACITY

No other press of 25 ton capacity offers so many variations of control as does the Series K Multipress. Standing 95 inches high, providing 24 inches daylight with a 15-inch maximum ram stroke of smooth hydraulic power, this sturdy press offers fast, accurate and easily controlled power for almost unlimited applications.

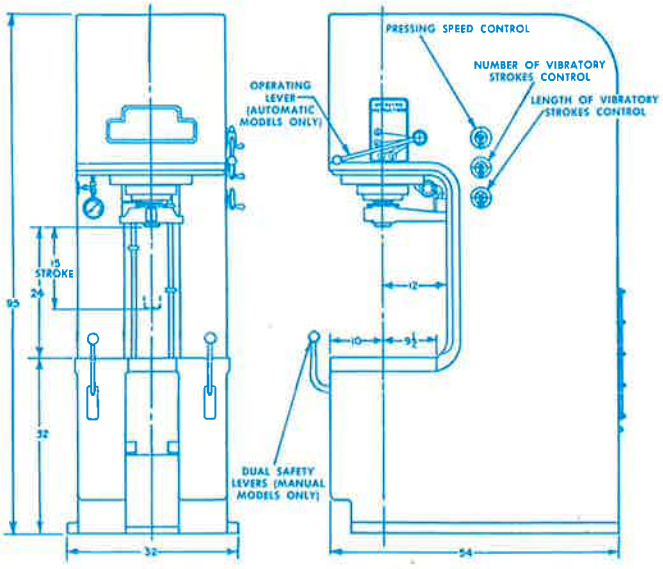
Series K Multipress offers a choice of ten valves, allowing a wide range of speed adjustment and tonnage control. Length of ram stroke is easily regulated over an infinite range. Ram movement may be regulated from fast approach to slow pressing speed at any point in its downward travel, on certain valves. This feature permits the utmost speed during the non-working portion of the cycle.

Here is a general utility press — for light or heavy duty jobs — the most modern press equipment you can buy. Coupled with Denison hydraulic accessories, it is an automatic production machine that not only increases production but reduces costs in many different ways.



Approximate Weight 7100 pounds.

Reservoir Capacity — 70 Gallons



For detailed specifications covering Series K Multipress, write for Bulletin M-25

The drawing shows both manual and automatic controls; also handwheels for Vibratory Stroke Control. Dual hand levers are furnished only with manual type controls. Electric controls also available.

SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX TONS	RAM SPEEDS I.P.M.—60 CYCLES			CYLINDER			PUMP G.P.M.	MAX P.S.I.	MOTOR H.P. 1200 RPM	TYPE OF CONTROLS (VALVE MODEL)
		CLOSING	PRESSING	RETURN	PISTON	RAM	STROKE				
KA25	25	530	250	470	4¾"	3¼"	15"	20	2820	25	C91
			250	470							C92 C93 C94 C95 C96 C97 C98 C99 C51

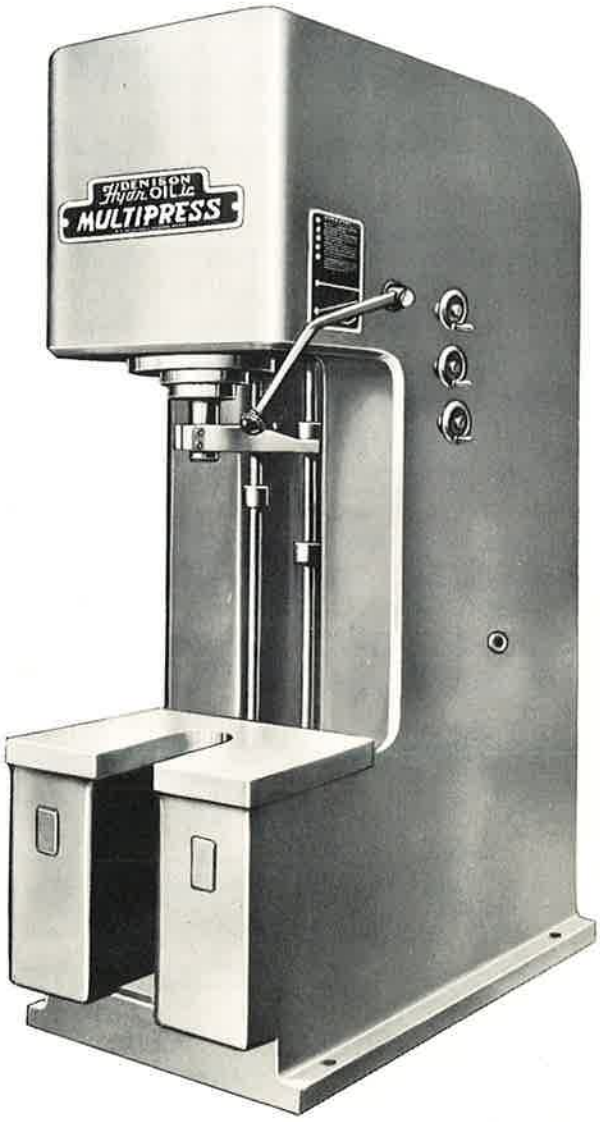
SERIES L

MULTIPRESS

35 TON CAPACITY

Series L Multipress is a 35-ton unit with controls and ram action never before available in a press of this tonnage range. It offers a choice of ten different control valves, simple adjustment of ram stroke length, and a wide range of ram speed adjustment. Ram movement may be regulated to change from fast approach speed to slow pressing speed at any point in its downward travel, on certain valves, permitting worthwhile time saving in the non-working portion of the stroke. Maximum safe working pressure to be exerted upon the work can be easily regulated. Close control of distance the ram travels is another spoiled-work saver. Daylight opening between ram and press bed is 24 inches. Maximum ram stroke is 15 inches.

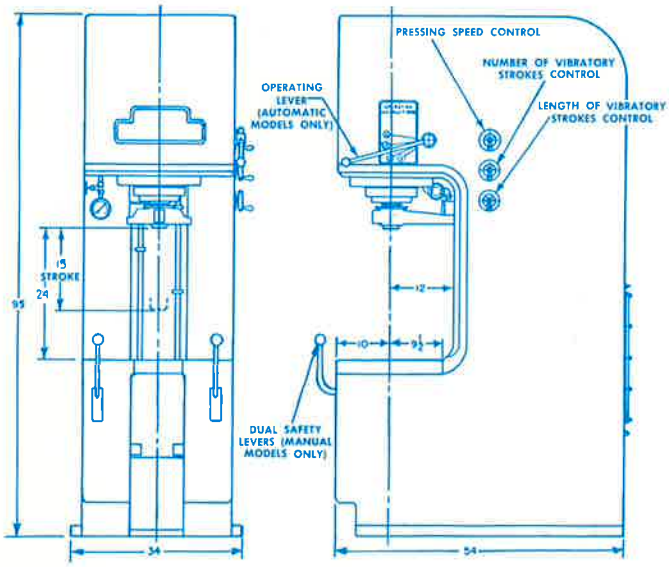
This press, when coupled with Multipress accessories, such as the hydraulic index table, provides a high-production, completely automatic machine which will not only increase production but reduce costs as well.



Approximate Weight 7600 pounds.

For complete specifications covering Series L Multipress, write for Bulletin M-26

Reservoir Capacity — 75 Gallons



The drawing shows both manual and automatic controls; also handwheels for Vibratory Stroke Control. Dual hand levers are furnished only with manual type controls. Electric controls also available.

GENERAL SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX TONS	RAM SPEEDS I.P.M.—60 CYCLES			CYLINDER			PUMP G.P.M.	MAX P.S.I.	MOTOR H.P.	TYPE OF CONTROLS (VALVE MODEL)
		CLOSING	PRESSING	RETURN	PISTON	RAM	STROKE				
LA35	35		250	470	4¾"	3¼"	15"	20	3950	30	C91
		530	250	470							C92 C93 C94 C95 C96 C97 C98 C99 C51

SERIES N

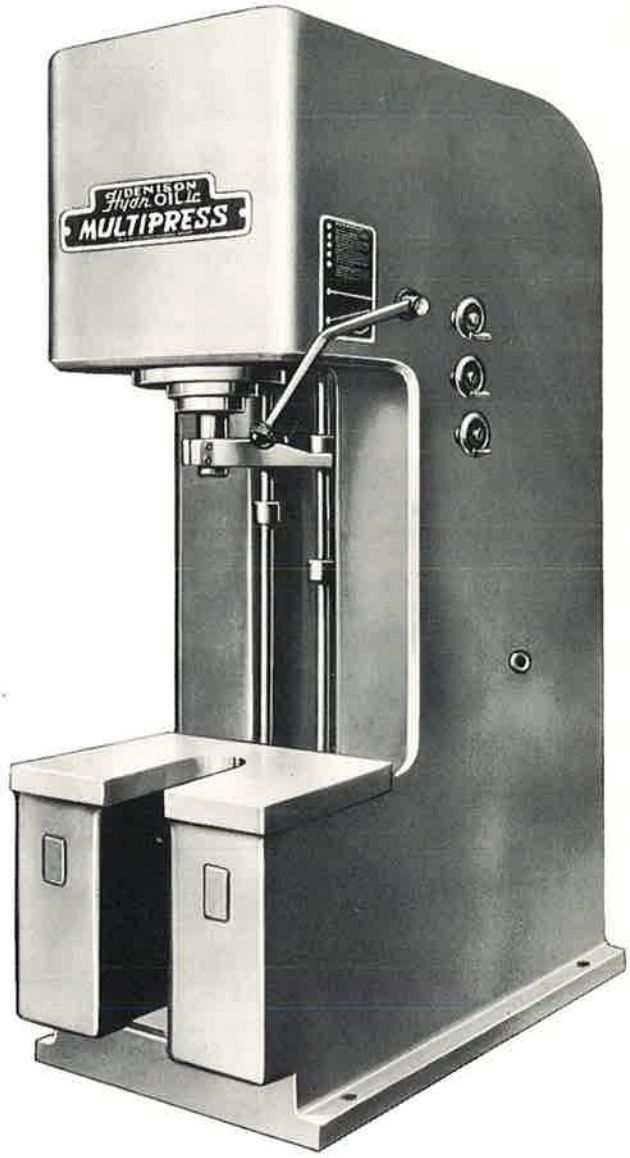
MULTIPRESS

50 TON CAPACITY

Fifty tons of smooth hydraulic power at your service . . . your choice of every Multipress control feature and ram action . . . and every component completely contained within its sleek, welded steel frame.

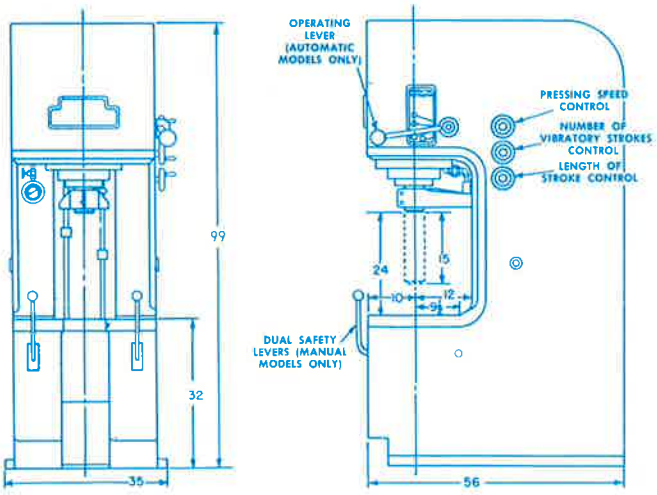
Series N Multipress offers 24-inch daylight between ram end and press bed, 15 inches maximum ram stroke. Controls may be dual or single hand lever, electric pushbutton, foot pedal, or foot switch. Ram pressure, speed, and length of stroke are closely adjustable. Automatically-controlled fast approach of the ram to the work, followed by slow pressing speed, on certain valves, can speed the non-working portion of the ram cycle and greatly increase production.

Hydraulic accessory equipment, such as index tables, further increase production capabilities of the Series N. Automatic feeding and ejecting —hydraulically controlled and closely regulatable—are features which only Multipress offers in a press of its tonnage capacity.



Approximate Weight 10,000 pounds.

Reservoir Capacity — 75 Gallons



For detailed specifications covering Series N Multipress, write for Bulletin M-27

The drawing shows both manual and automatic controls; also handwheels for Vibratory Stroke Control. Dual hand levers are furnished only with manual type controls. Electric controls also available.

GENERAL SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX TONS	RAM SPEEDS I.P.M.—60 CYCLES			CYLINDER			PUMP G.P.M.	MAX P.S.I.	MOTOR H.P.	TYPE OF CONTROLS (VALVE MODEL)
		CLOSING	PRESSING	RETURN	PISTON	RAM	STROKE				
NA50	50		145	290	6"	4¼"	15"	20	3540	30	C91
		290	145	290							C92 C93 C94 C95 C96 C97 C98 C99 C51

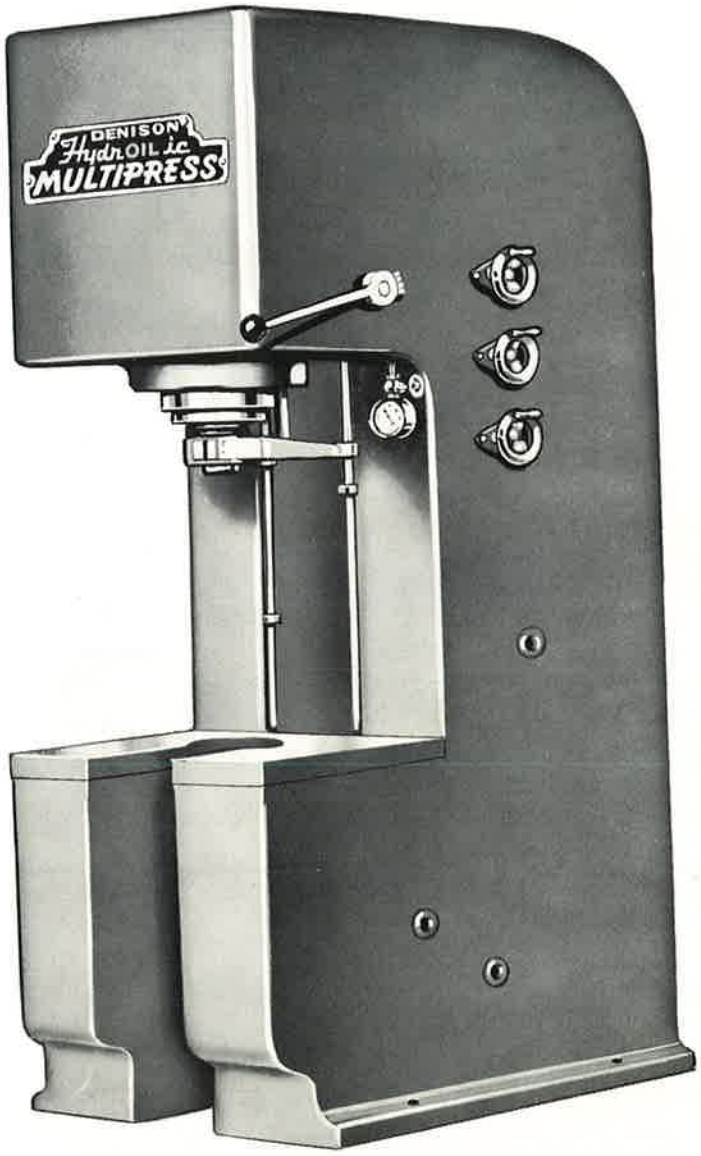
SERIES Q

MULTIPRESS

75 TON CAPACITY

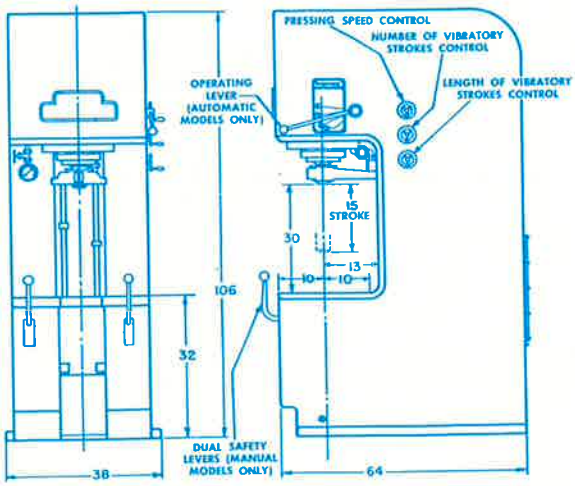
This is the largest of Multipresses—affording 30-inch daylight opening between ram end and press bed, and 15-inch maximum stroke. It too, is a completely self-contained unit. Any of the ten control valves described on page 10 may be used for a wide variety of ram action and the controls feature dual or single hand lever, electric push button, foot pedal, or foot switch. Features of the valves are vibratory stroke, adjustable ram approach and pressing speed control; and of course, pre-set maximum pressure and length of ram stroke control.

The complete line of hydraulic accessories available for other models in the Multipress line are also applicable to the Series Q press.



Approximate Weight 13,000 pounds.

Reservoir Capacity — 75 Gallons



For detailed specifications covering Series Q Multipress, write for Bulletin M-31

The drawing shows both manual and automatic controls; also handwheels for Vibratory Stroke Control. Dual hand levers are furnished only with manual type controls. Electric controls also available.

GENERAL SPECIFICATIONS AND PERFORMANCE CHARACTERISTICS

PRESS MODEL	MAX. TONS	RAM SPEEDS I.P.M.—60 CYCLES			CYLINDER			PUMP G.P.M.	MAX P.S.I.	MOTOR H.P. 1200 RPM	TYPE OF CONTROLS (VALVE MODEL)
		CLOSING	PRESSING	RETURN	PISTON	RAM	STROKE				
QA75	75		110	220	7"	5"	15"	20	3900	30	C91
		210	110	220							C92 C93 C94 C95 C96 C97 C98 C99 C51

Now, **ADD TO HYDRAULIC POWER UNDER SUCH PRECISE CONTROL...**

MULTIPRESS ACCESSORIES

DESIGNED EXPRESSLY FOR IT, BUT STANDARD IN COST.

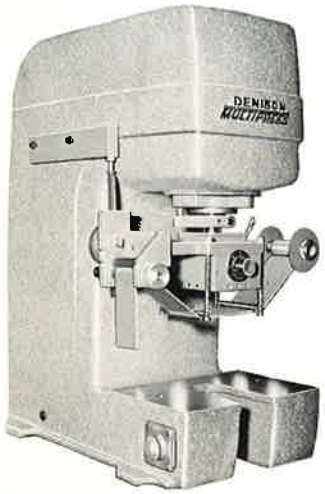
A number of the Multipress Accessories described on the following pages are moving ones — hydraulically driven by the same system which powers the press upon which they are mounted. Hydraulic interlock, through which the action of both press and accessory are perfectly synchronized, assures positive sequence of their movements as well as exact timing.

SERIES "A" ACCESSORIES

The flexibility and production usefulness of the Denison Series A Multipress line has been further enhanced by the development of accessories designed expressly for these compact, highly efficient, yet economical, hydraulic presses.

ACCESSORIES

ITEM	1-TON	2-TON
Foil Marking	X	X
Electric Foot Switch Control	X	X
Bench	X	X
Positive Stop	X	X
Cooler	X	X
Bolster	X	X
Dial Feed		X



Series A 2-Ton Press
th Foil Marking Accessory

FOIL MARKING ACCESSORY designed specifically for use with the Series A 1-ton and 2-ton Multipress, is a highly efficient device capable of successfully marking objects made from a wide variety of materials, such as plastics, wood, leather or paper. The smooth, precisely controlled preset ram pressure of the Multipress coupled with this accessory produces markings of uniform, high quality regardless of size, shape, or dimensional variation.

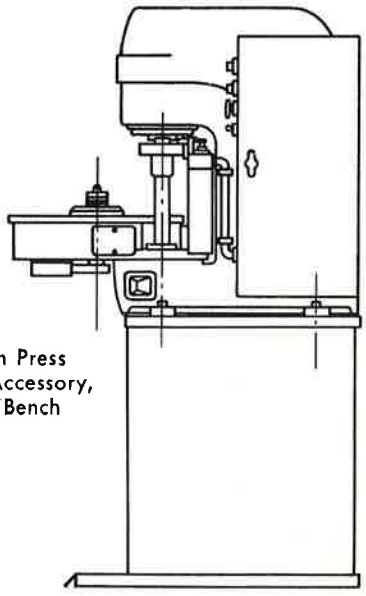
ELECTRIC FOOT SWITCH CONTROL permits operation of Series A 1-ton and 2-ton presses from a remote position without the use of the operator's hands. Two types of switches are available: impulse type and hold down type.

BENCH MODEL S-20 is a lightweight rigid unit of welded construction. This bench provides a safe, sturdy base for either the 1-ton or 2-ton Series A Multipress.

POSITIVE STOP is an adjustable ram stop available for use with the 1-ton and 2-ton Series A Multipress. Supplementing regular tooling, the positive stop provides distance reversal of ram travel within the limits of 0 to 3 inches. Threaded components of the positive stop allow virtual micromatic adjustment of its action from upper to lower limits. The use of a positive stop is recommended in those cases where tooling could bottom and be damaged if the press was operated with empty tooling or fixtures; in assembly operations, such as pressing bushings on a shaft to a specific distance of closely maintained tolerances; or in operations such as staking where the surface just below the staked piece must not be marred.

COOLERS are available for use with 1-ton and 2-ton Series A Multipresses. These coolers dissipate excessive heat of hydraulic fluid that may be encountered in applications calling for continuous, automatic cycling or when unusually high ambient temperatures are present. The use of coolers is recommended when the temperature of hydraulic fluid is expected to exceed 130° F.

BOLSTERS providing precision-machined surfaces for mounting dies and fixtures on both 1-ton and 2-ton Series A presses, are available in three models: A15 (Plain), A16 (Round Bore) and A17 (U-Slot). Overall size of bolsters is 9½ by 10½ inches. For further details consult Bulletin M-2.



Series A 2-Ton Press
with Dial Feed Accessory,
Controls and Bench

DIAL FEED ACCESSORY is a parts and tool carrier of rugged economical construction. It is available for use with the 2-ton Series A Multipress. Linked mechanically with the press ram, the dial feed may be adjusted to index 8, 12 or 24 times per dial revolution.

For detailed specifications, write for Bulletin M-36

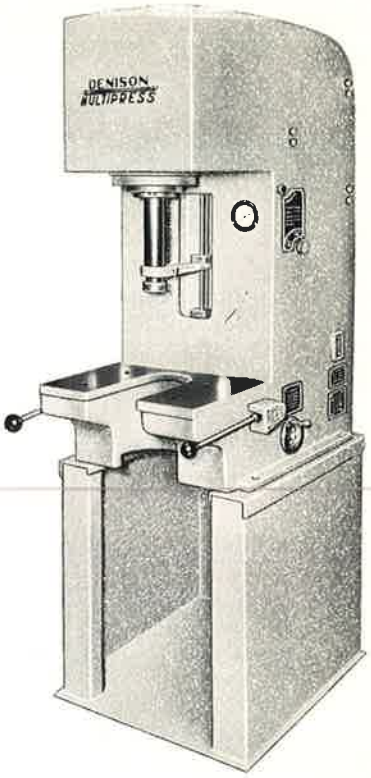
BENCHES

Designed expressly for bench type Multipresses, these benches are of rigid all-welded construction. Bench and press can be bolted together to form a completely integral unit with the bench firmly secured to the floor. Furnished in a green spackle finish to match the Multipresses, these benches provide an excellent working base. Two models are provided for use with each series of bench press. One is of normal height, the other is lower and designed specifically for use with the index table.

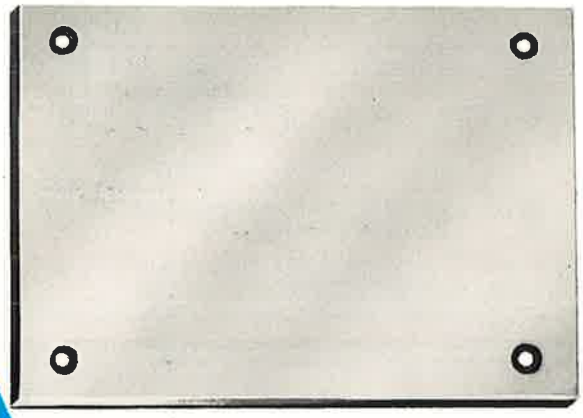
SERIES R MULTIPRESS USES —
MODEL S220 (Normal Height)
MODEL S219 (Low for index table)

SERIES S MULTIPRESS USES —
MODEL S206 (Normal Height)
MODEL S205 (Low for index table)

SERIES T MULTIPRESS USES —
MODEL S210 (Normal Height)
MODEL S209 (Low for index table)



For detailed specifications covering Multipress Benches, write for Bulletins M-37, M-38 and M-39



BOLSTERS

Bolsters provide a precision machined surface for mounting dies and fixtures on all presses except the Series A Multipress. They cover the press bed, countersunk bolt holes matching tapped holes in the press bed so that installation is simple. Quick changes with tooling permanently mounted are possible. Bolsters may be machined to provide keyways, v-slots and other openings to meet every production need.

For complete specifications write for Bulletin M-2.

INDEX TABLES

The Denison Index Table is a completely self-enclosed unit which is available for all models of the Multipress, except Series A. It operates from, and in positive sequence with, the action of the press ram through the control system of the hydraulic power unit.

Two sizes of tables are described and illustrated in this catalog. The smaller has a 14″ work diameter and the larger a 24″. Both are available for either 6 or 12 station indexing as indicated by the model numbers assigned to each.

SMALL SERIES (14″) — For old style presses, Series D through G
- SERIES 100 (6-station)
- SERIES 100 (12-station)

SMALL SERIES (14″) — For presses Series R, S and T
- SERIES 100 (6-station)
- SERIES 100 (12-station)

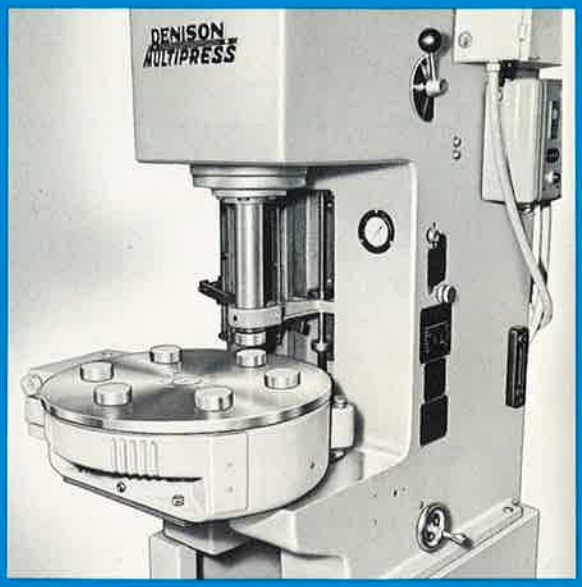
LARGE SERIES (24″) — For presses Series H through Q
- MODEL A-33 (6-station)
- MODEL A-31 (12-station)

Both large and small series tables index from station with an accuracy suitable for all normal requirements. The accuracy of the small table is plus or minus .001″. The large table — plus or minus .002. For jobs requiring extreme accuracy, your Denison representative will be glad to make recommendations. Provisions can always be made in the tooling for precise alignment of punches and dies.

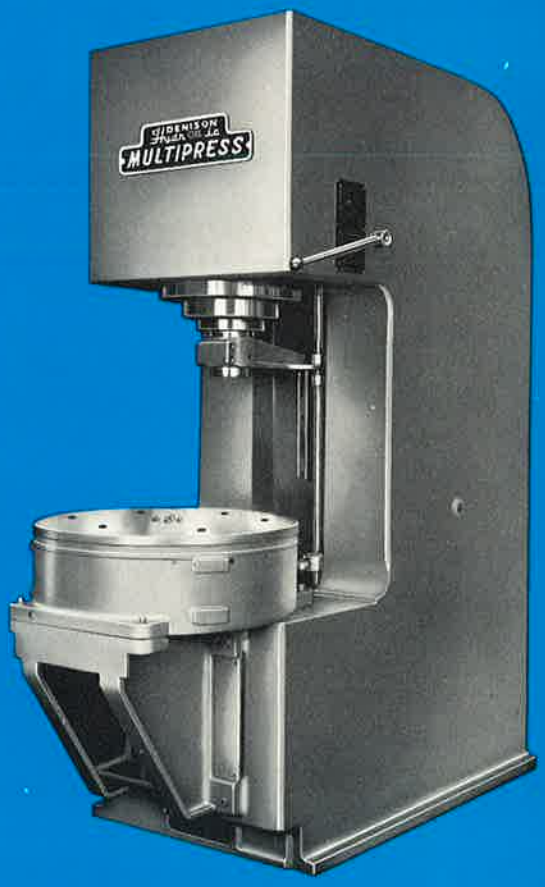
Completely automatic operations may be handled by the use of automatic hopper feeds and automatic ejection devises. As many as three hopper feeds have been incorporated on presses tooled by Denison engineers with seven of the twelve work stations active steps in the positioning of the parts prior to assembly.

Automatic ejection may be installed in many different ways. Brush-off, compressed air, push-out and punch through are only a few. Within the table housing, a machined track permits the installation of a cam riser radially in any desired location. Punches incorporated in the holding fixtures automatically raise the finished part when this cam is contacted, forcing the part out of the fixture for ejection. Air pressure is ideal for light small parts, as most shops need only to run an air line to the desired position from the shop supply.

When the nature of parts and tooling is such that normal ejection devices cannot be utilized, a knockout ram can be used with Denison Index Tables. Knockout holes in the index table bodies allow for the installation of an auxiliary knockout ram to provide ejection of these parts.



Series 100 Index Table on Series T Multipress.



Model A-33 Index Table on Floor Model Multipress

For detailed specifications, write for Bulletins M-9 and M-9-1.

CYLINDERS

HYDRAULIC CYLINDERS — combining the same high standards of quality as well-known Denison hydraulic pumps, motors, valves, controls — are now available in a complete line of standard sizes for a wide range of applications. Denison hydraulic cylinders are carefully designed for rugged service, long life and easy maintenance with outstanding features for reliability and economical performance.

DLP

Denison Low Pressure Series cylinders operate at pressures up to 2000 psi . . . are furnished with 1⅛ to 8 inch bores. Twenty mountings available.

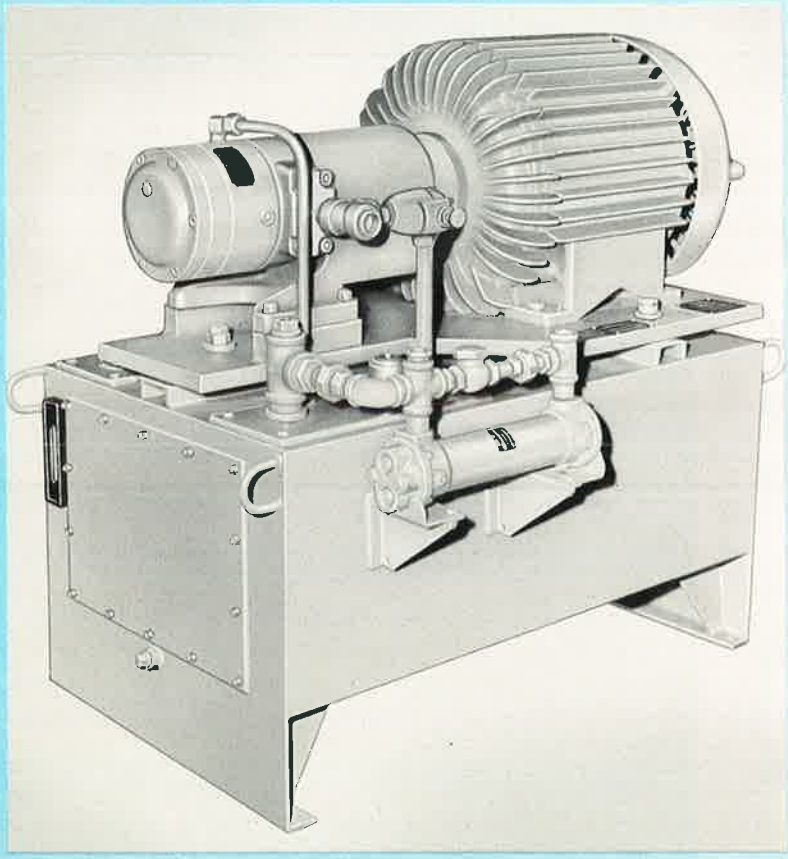
DMP

Denison Medium Pressure Series cylinders are designed for 2000 to 3000 psi operation. Twelve bore sizes are available from 1⅛ to 14 inch . . . seventeen types of mountings.

DHP

Denison High Pressure Series cylinders are heavy duty models for operation at pressures from 3500 to 5000 psi . . . available with bore sizes from 2 to 12 inches.

Write for detailed Specifications



JIC Pump Unit

HYDRAULIC PUMPING UNITS

These are complete, electric-motor-driven, oil-hydraulic power plants designed expressly for Multipresses, Multipress Accessories, and Multi-Unit Presses. They provide hydraulic pressures up to 5,000 pounds per square inch — volumes up to 122 gallons per minute. The electric motor, with its flexibly connected Denison Hydraulic Pump, mounts directly upon the oil reservoir base. Loosening four bolts permits lifting this entire motor-pump assembly from the reservoir. Oil cooling coils, within the reservoir, are optional. A pressure relief valve affords quick, easy and exact regulation of maximum pressure delivered. A float type gauge indicates oil level within the reservoir. The flanged bottom of the reservoir base permits bolting the unit to floor, bench, or machine.

For detailed specifications, write for Bulletins PU-3 through PU-6

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BULLETIN 120-K

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