



**MERCURY**

Leadership through innovation

# Hydro Pneumatic Presses

*The efficient, low cost alternative to Hydraulic, Power and Hand operated Presses*



**Mercury Pneumatics Pvt. Ltd.**

**MERCURY** Hydro Pneumatic Presses are products of extensive development efforts initiated in 1988. Over 18,000 of these time tested, reliable machines are working in various industries all over India as of January 2015.

### Salient Features

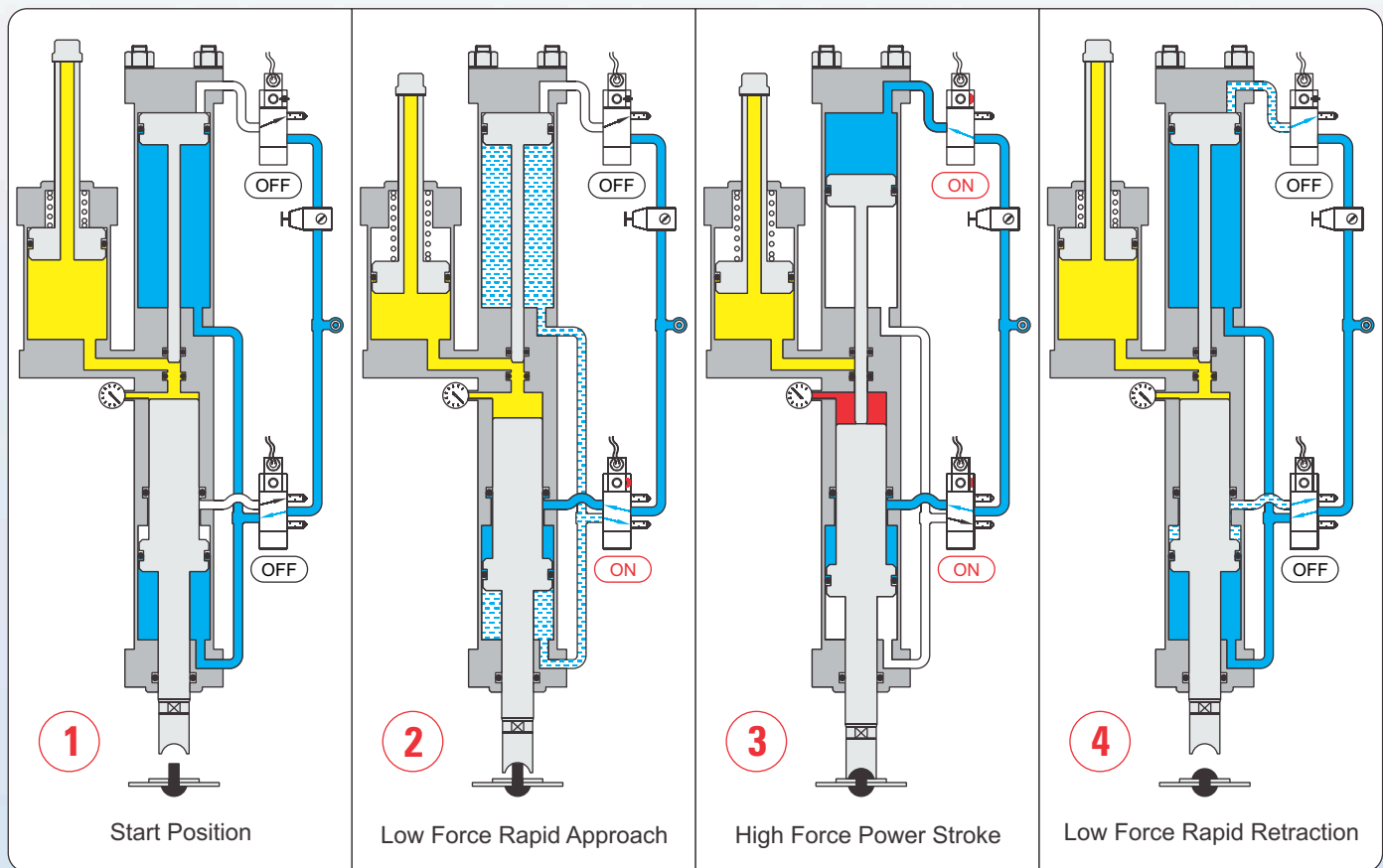
- **Fast Action** : 2T @ 100 cycles / min. (CPM), 4T @ 60 CPM, 8T @ 40 CPM, 15T & 30T @ 20 CPM.
- **Compact, light weight & vibration free** : Can be mounted on existing work benches without any foundation.
- **Versatile** : Force & speed can be varied infinitely. Machine can be mounted in any orientation.
- **Energy efficient** : 50% to 70% saving over equivalent hydraulic and pneumatic systems.
- **Low cost** : Upto 60% cheaper than hydraulic presses.
- **Safety** : True, non tie down, interlocked Two Hand Safety operation.

### Sequence of Operation

There are three stages of operation

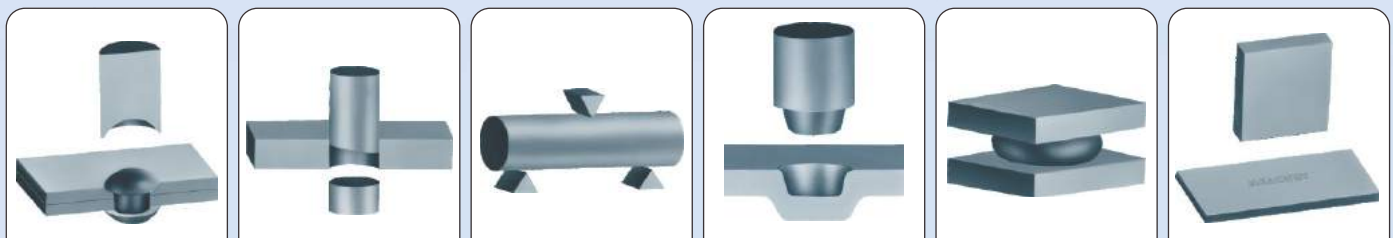
- (a) Initial low force, large travel, fast approach (Fig. ②)
- (b) High force, short travel (6, 12 or 24 mm), Power Stroke (Fig. ③)
- (c) Low force, rapid retraction (Fig. ④)

The low force approach and retraction at 5 bar air pressure results in upto 70% saving in energy.



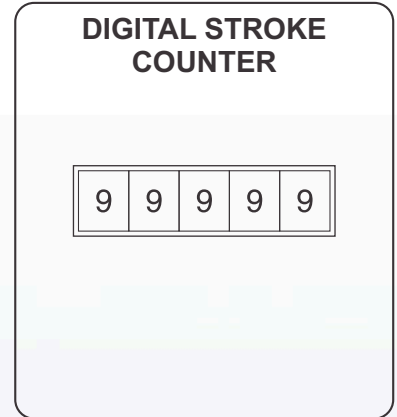
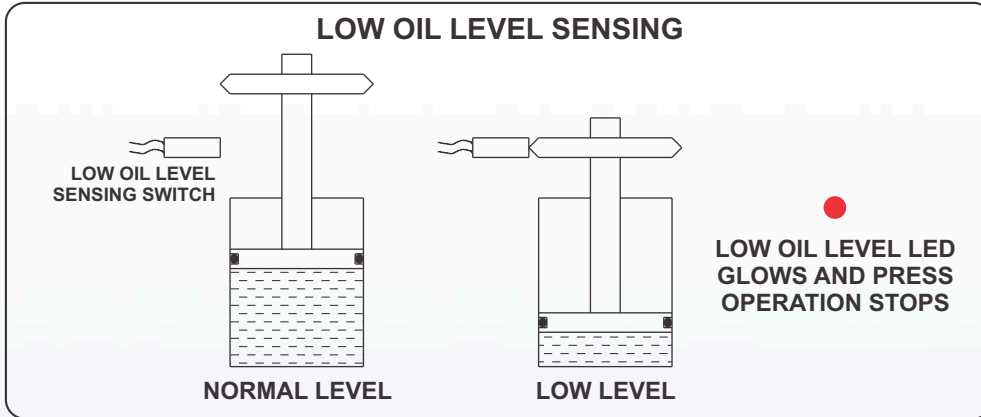
### Typical Applications

**MERCURY** Hydro Pneumatic Presses are ideal machines for any application requiring pressing force from 0.4 tonnes to 45 tonnes. They are specially suited for metal forming.

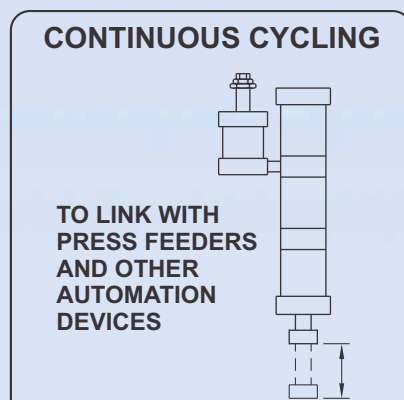
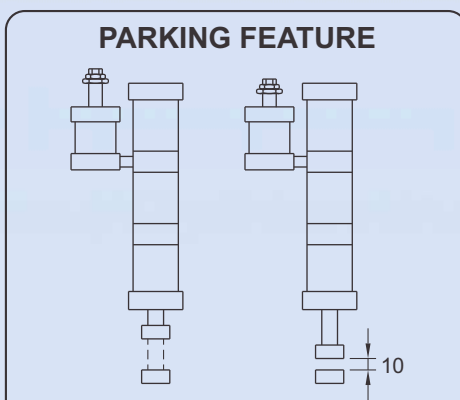
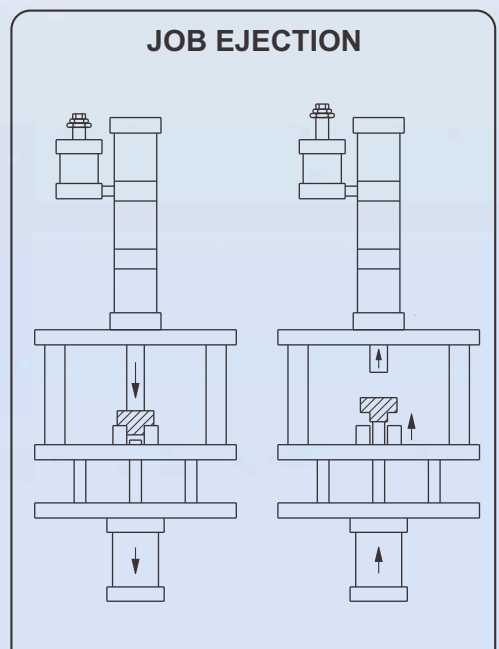
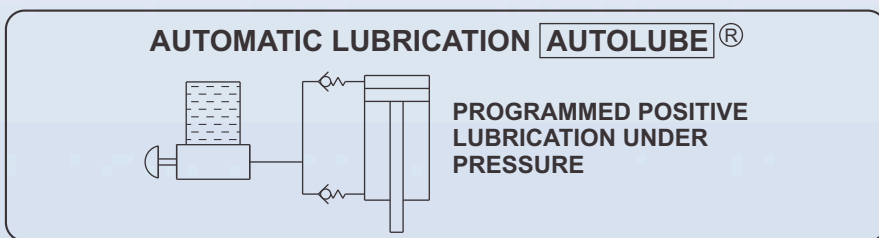
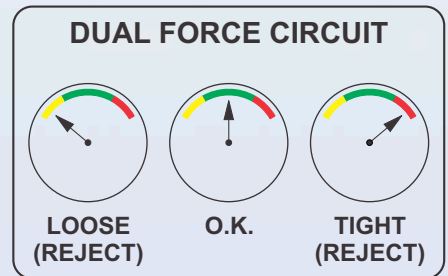
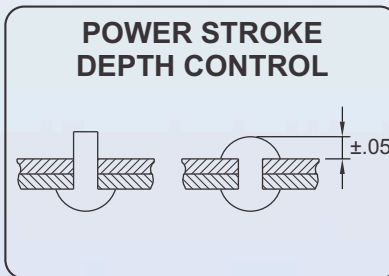
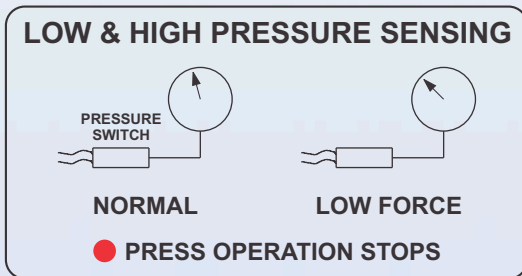
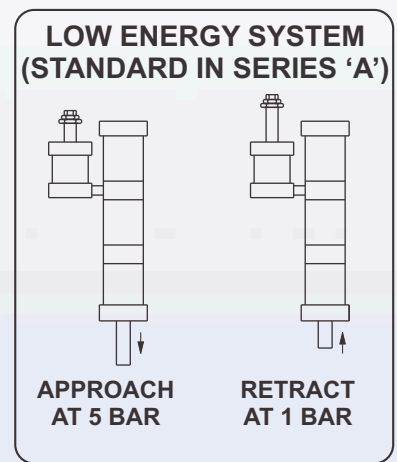
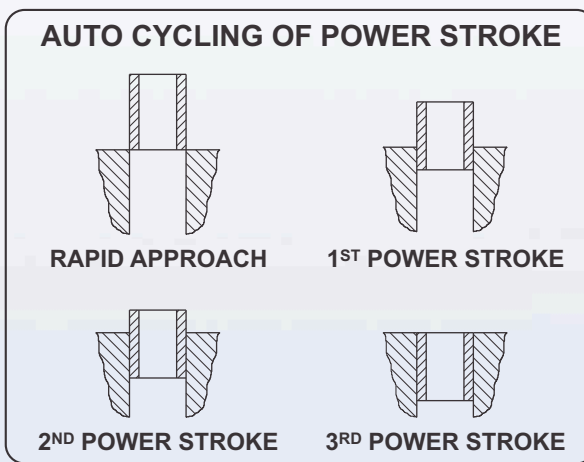
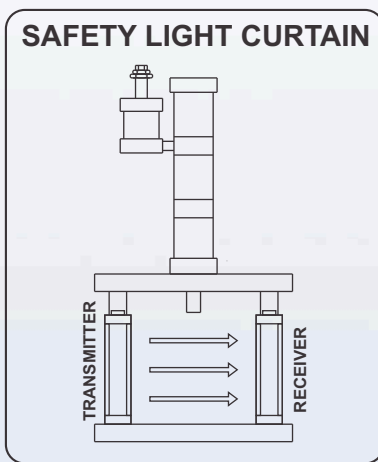




# Hydro Pneumatic Press - Standard Features

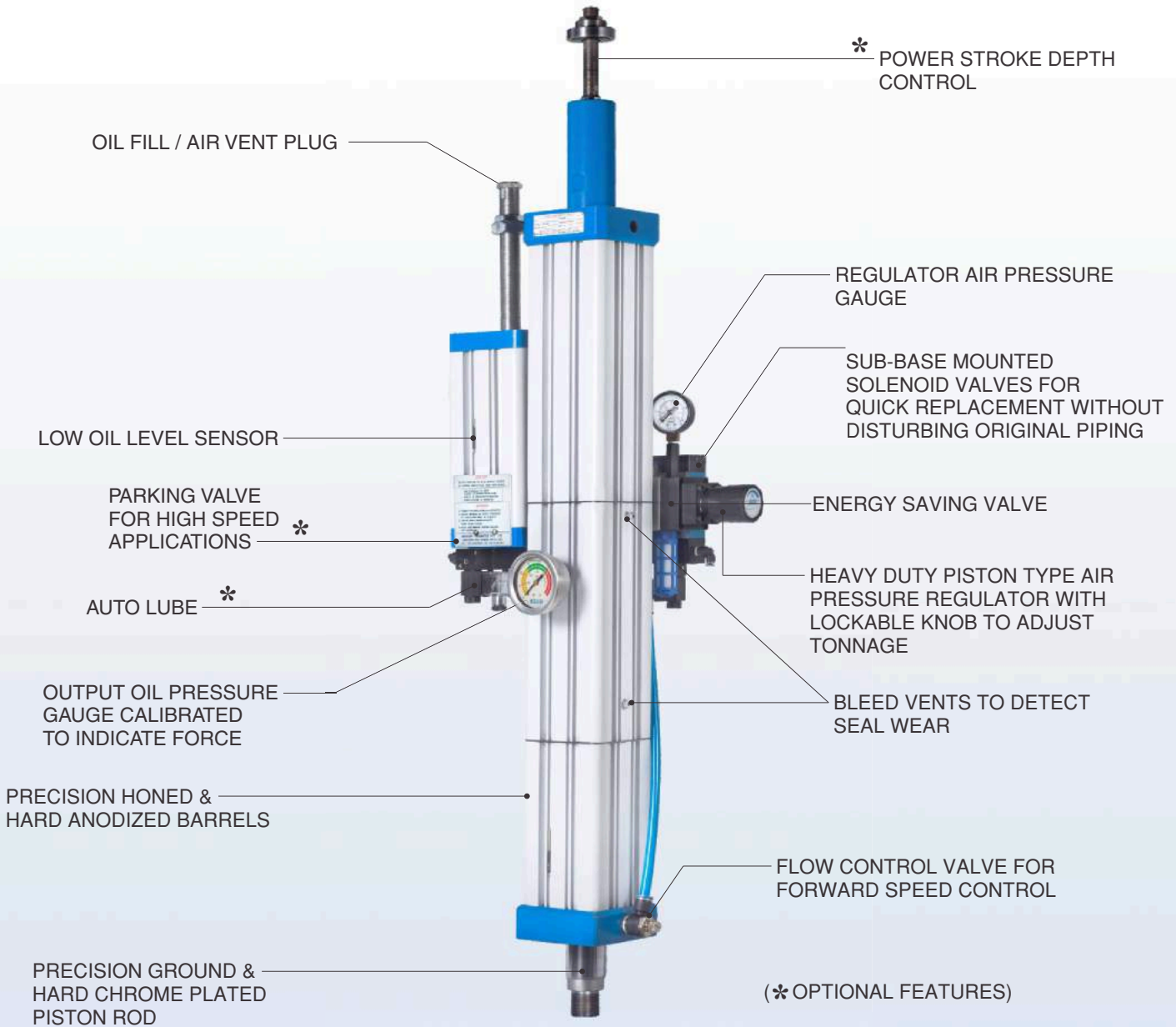


# Hydro Pneumatic Press - Optional Features

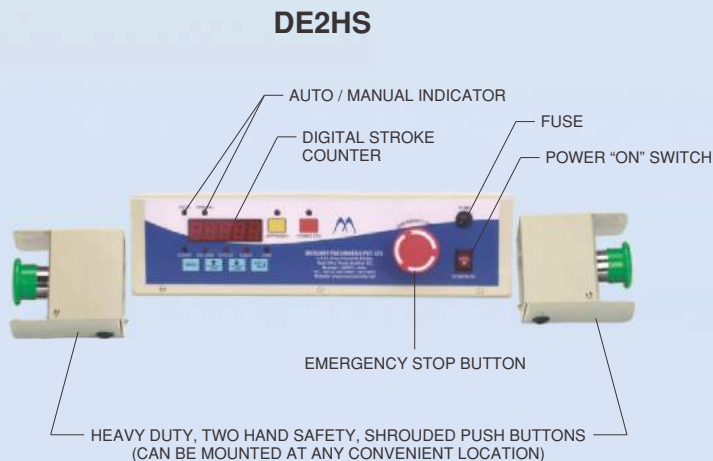




# Series 'A' Hydro Pneumatic Press Cylinder



## COMPACT "TRUE" TWO HAND "NON TIE DOWN" SAFETY CONTROLS



### Standard Features

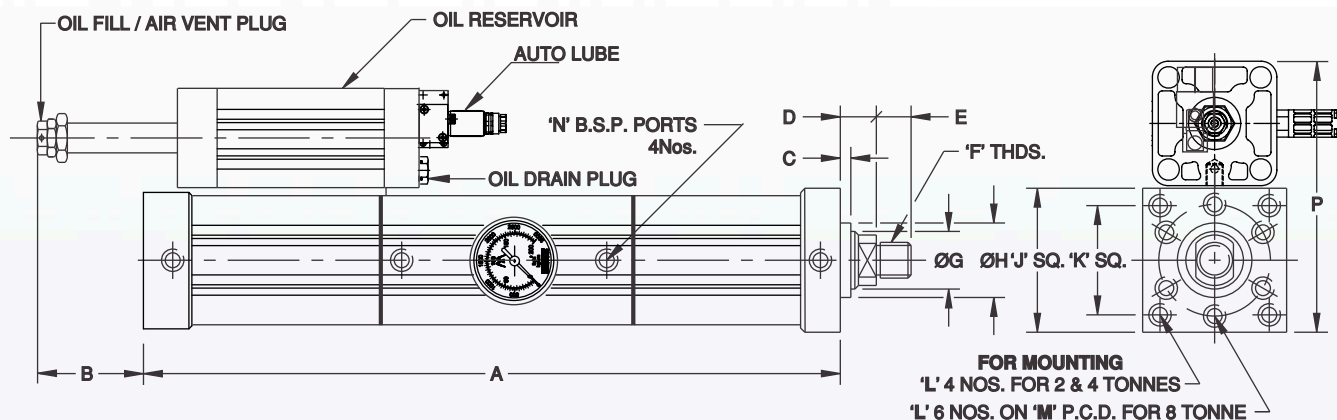
- Auto & Manual Mode
- 2 Hands Safety
- Digital Stroke Counter
- Low Oil Level Indicator

### Optional Features

- Auto Cycling of Power Stroke
- Foot Switch Operation
- Auto Lube Integration
- Pressure Switch Sensing
- Safety Light Curtain Integration
- Ejection Cylinder Integration
- Parking Feature
- Automatic Feeder Integration



# Series 'A' Press Cylinder Dimensions



MODEL No.	TON	Total Stroke	Power Stroke	A	B	C	D	E	F	ØG	ØH	J SQ.	K SQ.	L	M	N	P	Q (NL) AIR. CONSU.
A 016-75	1	75	24	522	78	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	7.3
A 016-100	1	100	24	572	78	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	8.2
A 016-150	1	150	24	672	78	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	10.0
A 021-50	2	50	6	475	125	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	4.6
A 021-75	2	75	6	525	125	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	5.6
A 021-100	2	100	6	575	125	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	6.5
A 021-150	2	150	6	625	125	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	8.3
A 024-75	2	75	12	541	59	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	7.4
A 024-100	2	100	12	591	59	4	19.0	30	M20x1.5	25	45	80	55	M12x1.75	-	1/4"	158	8.2
A 024-150	2	150	12	691	59	4	19.0	30	M20x1.5	25	45	80	55	M16x2	-	1/4"	158	10.1
A 026-75	1.95	75	24	571	81	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	12.9
A 026-100	1.95	100	24	621	81	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	14.3
A 026-150	1.95	150	24	721	81	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	17.0
A 041-50	4	50	6	512	140	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	8.2
A 041-75	4	75	6	562	140	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	9.6
A 041-100	4	100	6	612	140	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	11.0
A 041-150	4	150	6	662	140	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	13.6
A 044-75	4	75	12	608	44	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	13.9
A 044-100	4	100	12	658	44	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	200	15.2
A 044-150	4	150	12	758	44	4	22.0	35	M24x2.00	32	55	102	78	M16x2	-	1/4"	245	17.9
A 046-75	4.35	75	24	671	110	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	16.1
A 046-100	4.35	100	24	721	110	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	20.9
A 046-150	4.35	150	24	821	110	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	24.9
A 081-50	8	50	6	571	160	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	13.8
A 081-75	8	75	6	621	160	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	15.5
A 081-100	8	100	6	671	160	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	17.2
A 081-150	8	150	6	771	160	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	20.7
A 084-75	8	75	12	740	41	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	23.8
A 084-100	8	100	12	790	41	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	25.6
A 084-150	8	150	12	890	41	4	25.0	35	M36x2.00	50	75	126	-	M16x2	105	1/2"	245	29.1

### To Calculate Compressor Power Capacity

1HP = 120 litres of Free Air (NL) Per Minute at 5 Bars.

N = Number of Cycles per minute

Q= Free Air Consumed Per Cycle (From Chart) in Normal Litres (NL)

$$\text{Power Required} = \frac{Q \times N}{120} \text{ (H.P.) or } \frac{Q \times N}{120} \times 0.746 \text{ (KW)}$$

### To Calculate the cost of electricity

Example :- A 4Tonne, 50mm stroke with 6mm power stroke press is used at 5 bars to cut Aluminium washers from a sheet at the rate of 10 pieces per minute.

- 1) From above chart model A041-50 cylinder consumes 8.3 NL of air per cycle.
- 2) @ 10 strokes/min air consumption = 8.2 x 10 = 82.2 NLPM
- 3) Electric Power used = 82.2 ÷ 120 = 0.685 HP ≈ 0.51 KW
- 4) Cost of electricity @ Rs 10.0 per KWH = 0.51 x 10 = Rs. 5.10
- 5) Cost of electricity per cut piece = 5.10 ÷ 10 = 0.0085 Rs i.e. 0.85 paise per piece

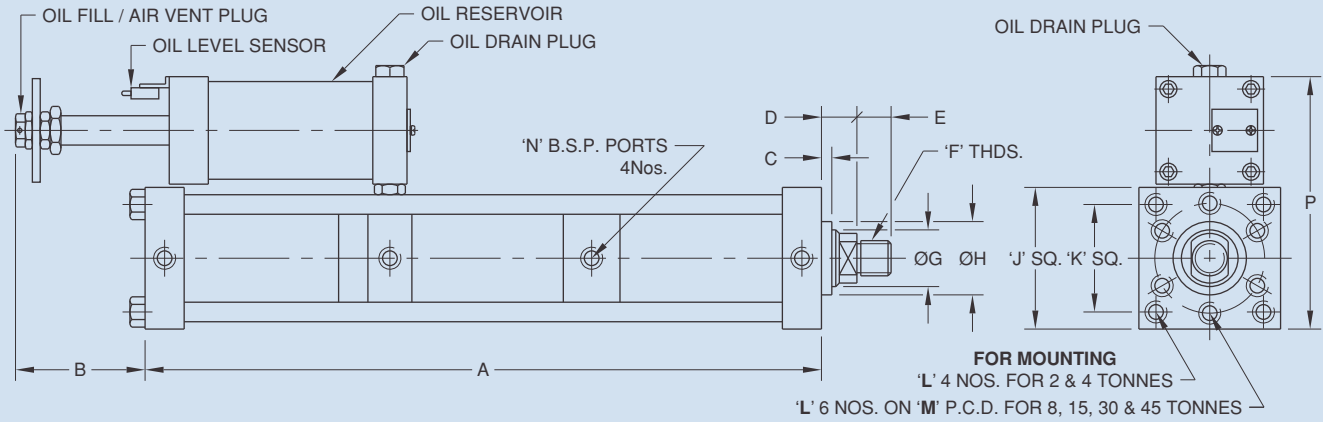
Note : Due to constant improvements, dimensions and technical specifications are subject to change without notice.

### Output Forces (Kgf.) at Inlet Air Pressure of 5 Bars

Tonnage	1T	1.95T	2T	4T	4.35T	8T
Approach	90	120	90	120	135	135
Power	1000	1950	1700	4000	4350	7750
Return	140	220	140	220	290	290



# Series 'N' Press Cylinder Dimensions



MODEL No.	TON	Total Stroke	Power Stroke	A	B	C	D	E	F	ØG	ØH	J SQ.	K SQ.	L	M	N	P	Q (NL) AIR. CONSU.
N 016-75	1	75	24	639	-	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	6.8
N 016-100	1	100	24	689	10	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	7.3
N 016-150	1	150	24	789	10	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	8.2
N 021-50	2	50	6	493	6	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	4.0
N 021-75	2	75	6	543	6	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	4.4
N 021-100	2	100	6	593	106	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	4.8
N 021-150	2	150	6	693	106	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	5.7
N 024-75	2	75	12	639	-	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	6.8
N 024-100	2	100	12	689	10	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	7.3
N 024-150	2	150	12	789	10	4	19.0	30	M20x1.5	25	45	78	55	M12x1.75	-	1/4"	160	8.2
N 026-75	1.95	75	24	680	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	13.6
N 026-100	1.95	100	24	730	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	14.5
N 026-150	1.95	150	24	830	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	16.2
N 041-50	4	50	6	534	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	8.0
N 041-75	4	75	6	584	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	8.8
N 041-100	4	100	6	634	86	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	9.7
N 041-150	4	150	6	734	86	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	11.4
N 044-75	4	75	12	680	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	13.6
N 044-100	4	100	12	730	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	14.5
N 044-150	4	150	12	830	-	4	22.0	35	M24x2	32	55	108	78	M16x2	-	1/4"	205	16.2
N 046-75	4.35	75	24	717	-	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	30
N 046-100	4.35	100	24	767	20	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	32
N 046-150	4.35	150	24	867	20	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	36
N 081-50	8	50	6	571	-	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	18
N 081-75	8	75	6	621	-	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	20
N 081-100	8	100	6	671	116	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	22
N 081-150	8	150	6	771	116	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	25
N 084-75	8	75	12	717	-	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	30
N 084-100	8	100	12	767	20	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	32
N 084-150	8	150	12	867	20	4	24.0	35	M36x2	50	75	145	-	M16x2	105	1/2"	265	36
N 086-75	7.25	75	24	760	-	4	24.5	50	M56x3	80	90	182	-	M20x2.5	125	1/2"	330	52
N 086-100	7.25	100	24	810	90	4	24.5	50	M56x3	80	90	182	-	M20x2.5	125	1/2"	330	55
N 086-150	7.25	150	24	910	90	4	24.5	50	M56x3	80	90	182	-	M20x2.5	125	1/2"	330	62
N 151-50	15	50	6	617	33	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	33
N 151-75	15	75	6	667	33	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	36
N 151-100	15	100	6	717	183	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	40
N 151-150	15	150	6	817	183	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	46
N 154-75	15	75	12	760	-	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	54
N 154-100	15	100	12	810	90	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	57
N 154-150	15	150	12	910	90	4	24.5	35	M40x2	56	90	182	-	M20x2.5	125	1/2"	330	64
N 156-75	14.75	75	24	854	-	4	26.0	50	M56x3	80	90	240	-	M24x3	150	1/2"	420	92
N 156-100	14.75	100	24	894	58	4	26.0	50	M56x3	80	90	240	-	M24x3	150	1/2"	420	96
N 156-150	14.75	150	24	994	58	4	26.0	50	M56x3	80	90	240	-	M24x3	150	1/2"	420	104
N 301-50	30	50	6	672	20	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	56
N 301-75	30	75	6	722	20	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	60
N 301-100	30	100	6	772	190	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	64
N 301-150	30	150	6	872	190	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	72
N 304-75	30	75	12	854	-	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	95
N 304-100	30	100	12	894	58	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	99
N 304-150	30	150	12	994	58	4	26.0	40	M48x3	63	90	240	-	M24x3	150	1/2"	420	107
N 306-100	30	100	24	1133	-	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	218
N 306-150	30	150	24	1233	-	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	231
N 306-200	30	200	24	1333	-	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	243
N 451-100	45	100	6	842	161	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	110
N 451-150	45	150	6	942	161	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	122
N 451-200	45	200	6	1042	211	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	134
N 454-100	45	100	12	1015	-	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	175
N 454-150	45	150	12	1115	-	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	187
N 454-200	45	200	12	1215	38	4	31.0	50	M64x4	80	100	285	-	M42x4.5	175	3/4"	459	199

### To Calculate Compressor Power Capacity

1HP = 120 litres of Free Air (NL) Per Minute at 5 Bars.

N = Number of Cycles per minute

Q = Free Air Consumed Per Cycle (From Chart) in Normal Litres (NL)

$$\text{Power Required} = \frac{Q \times N}{120} \text{ (H.P.) or } \frac{Q \times N}{120} \times 0.746 \text{ (KW)}$$

### Output Forces (Kgf.) at Inlet Air Pressure of 5 Bars

Tonnage	1T	1.95T	2T	4T	4.35T	7.25T	8T	14.75T	15T	30T	45T
Approach	60	120	60	120	275	475	275	435	475	435	680
Power	1050	1950	2050	4000	4350	7250	8585	14750	14800	29175	44950
Return	100	200	100	200	425	700	425	1050	825	1160	1300

Note : Due to constant improvements, dimensions and technical specifications are subject to change without notice.



# 2 Column Presses



Plain

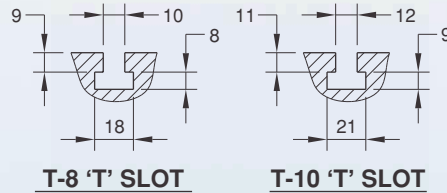
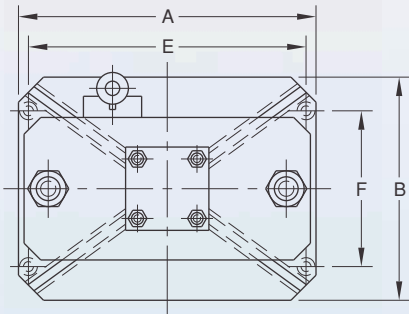


Anti Rotation Guide

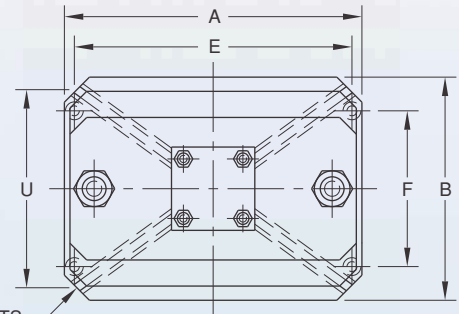


Guided Moving Platen

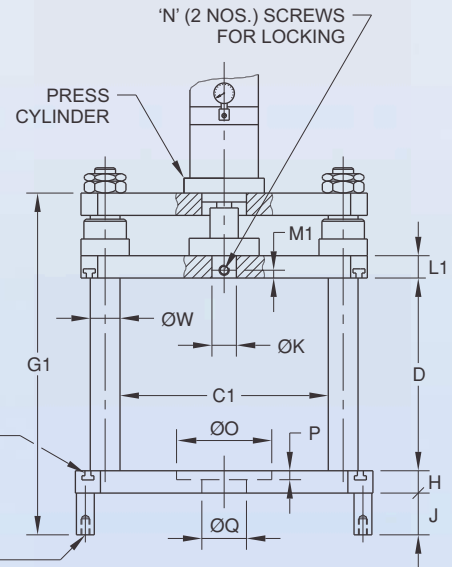
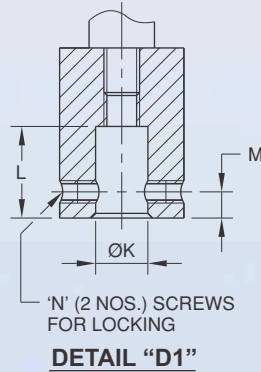
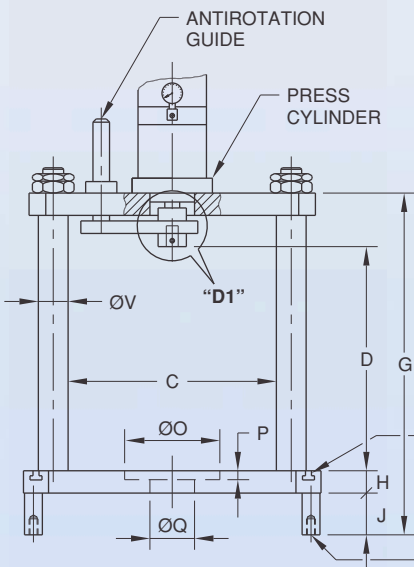
## PLAIN (2P--) & WITH ANTI ROTATION GUIDE (2P--R)



## WITH GUIDED MOVING PLATEN (2P--G)



DIAGONAL 'T' SLOTS ON BASE & MOVING PLATES



'R' THDS. (4 NOS.) FOR MOUNTING

	PLAIN	WITH ARG	WITH GMP	TON	A	B	C	C1	D	E	F	G	G1	H	J	ØK	L	L1	M	M1	N	ØO	P	ØQ	R	T	U	ØV	ØW
* 2P02	2P02R	2P02G	2	350	240	270	270	250	320	160	425	459	38	55	20	25	38	6	10	M6	60	18	45	M10	8	215	32	32	
* 2P04	2P04R	2P04G	4	400	300	300	302	300	364	205	493	534	43	55	25	30	43	10	12	M8	75	18	55	M12	8	270	40	38	
* 2P08	2P08R	2P08G	8	435	300	300	304	300	405	205	513	564	53	55	25	40	53	10	12	M8	105	20	75	M12	10	265	55	50	
2P15	2P15R	2P15G	15	510	325	350	352	350	465	215	633	694	68	85	30	60	68	10	12	M8	130	25	90	M16	10	285	65	63	
2P30	2P30R	2P30G	30	525	350	350	353	350	480	240	677	765	85	85	40	80	85	12	15	M10	130	25	90	M20	10	310	76	73	



# 4 Column Presses



A Series

N Series



A Series

N Series



A Series

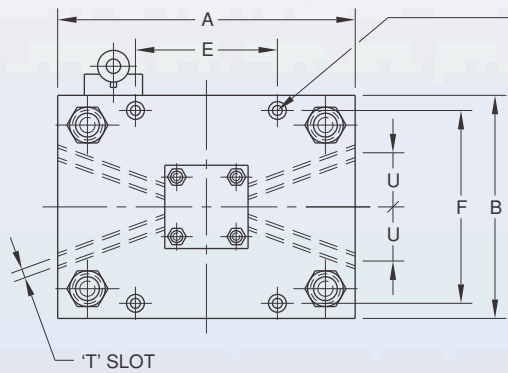
N Series

Plain

Anti Rotation Guide

Guided Moving Platen

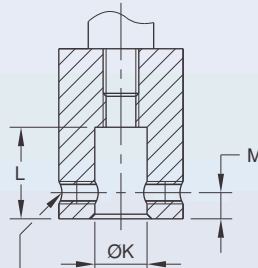
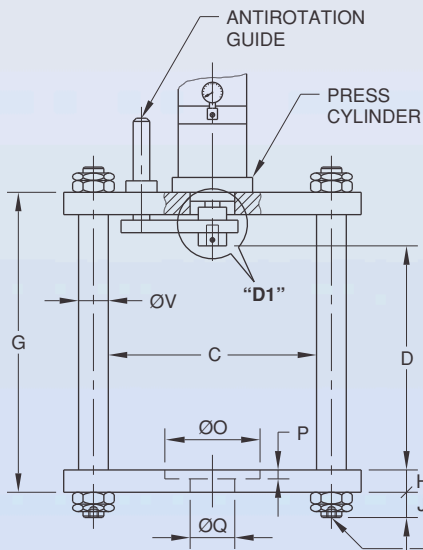
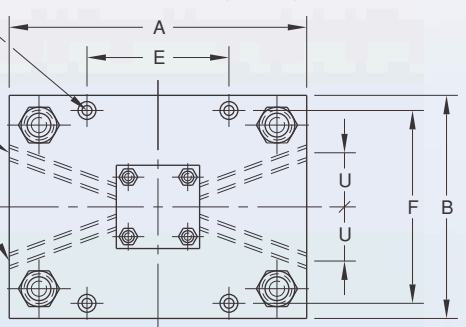
## PLAIN (4P--) & WITH ANTI ROTATION GUIDE (4P--R)



'R' (4 NOS.) DRILL & COUNTER FOR ALLEN CAP BOLT FOR MOUNTING

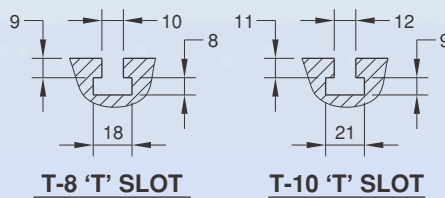
DIAGONAL 'T' SLOTS ON MOVING & BASE PLATES

## WITH GUIDED MOVING PLATEN (4P--G)



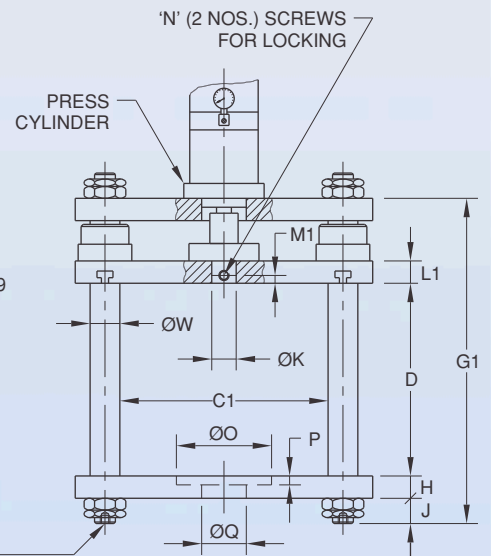
'N' (2 NOS.) SCREWS FOR LOCKING

**DETAIL "D1"**



T-8 'T' SLOT

T-10 'T' SLOT



'R' THDS. (4 NOS.) FOR MOUNTING

PLAIN	WITH ARG	WITH GMP	TON	A	B	C	C1	D	E	F	G	G1	H	J	ØK	L	L1	M	M1	N	ØO	P	ØQ	R	T	U	ØV	ØW
4P02	4P02R	4P02G	2	340	250	270	270	250	200	220	417	445	32	53	20	25	32	10	10	M6	60	18	45	M10	8	75	30	30
4P04	4P04R	4P04G	4	383	300	300	300	300	225	270	480	516	38	47	25	30	38	10	12	M8	75	18	55	M12	8	75	35	35
4P08	4P08R	4P08G	8	484	300	350	354	300	275	270	513	564	53	55	25	40	53	10	12	M8	105	20	75	M12	10	75	55	50
4P15	4P15R	4P15G	15	500	325	350	350	350	275	285	621	677	62	80	30	60	62	10	12	M8	130	25	90	M16	10	80	60	60
4P30	4P30R	4P30G	30	510	350	350	350	350	275	310	659	734	72	80	40	80	72	12	15	M10	130	25	90	M20	10	90	70	70





# 'C' Frame Presses

**MERCURY**



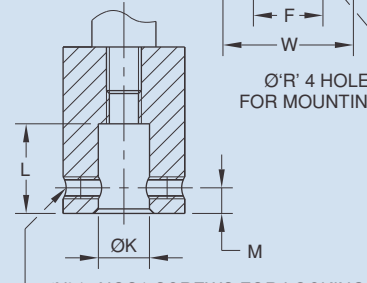
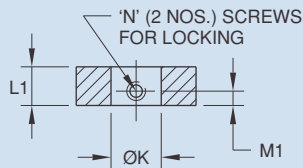
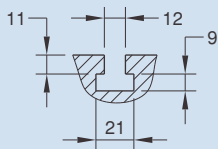
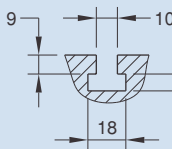
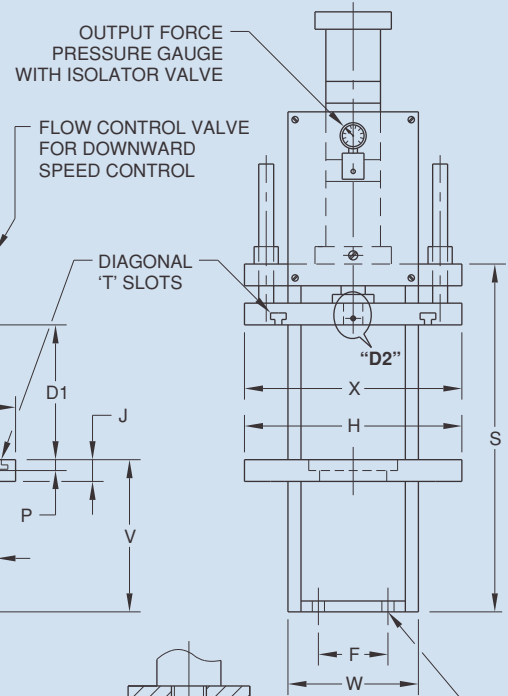
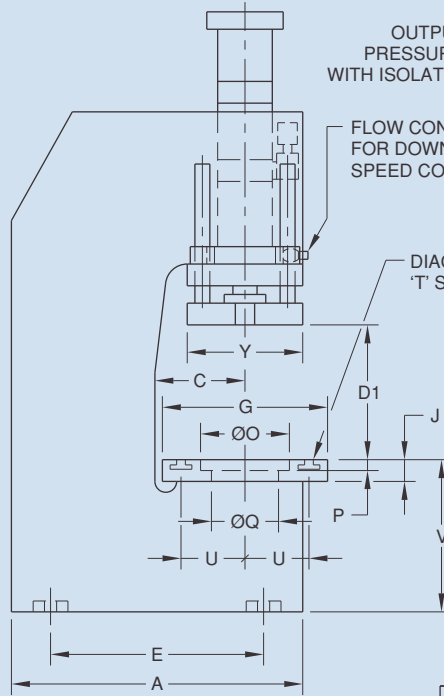
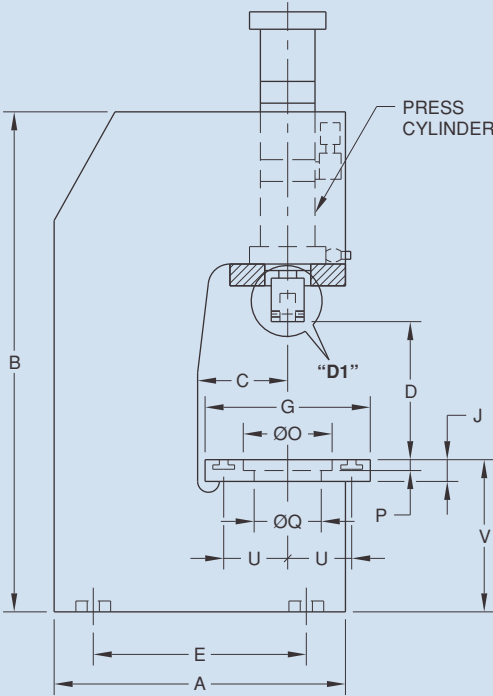
Plain

Anti Rotation Guide

Guided Moving Platen

**PLAIN (1C--) & WITH ANTI ROTATION GUIDE (1C--R)**

**WITH GUIDED MOVING PLATEN (1C--G)**



**T-8 'T' SLOT**

**T-10 'T' SLOT**

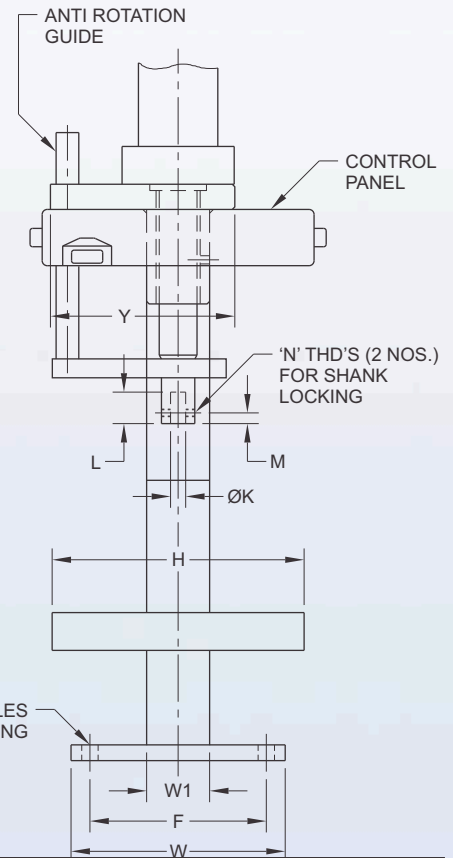
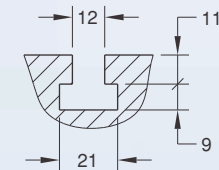
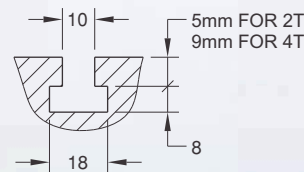
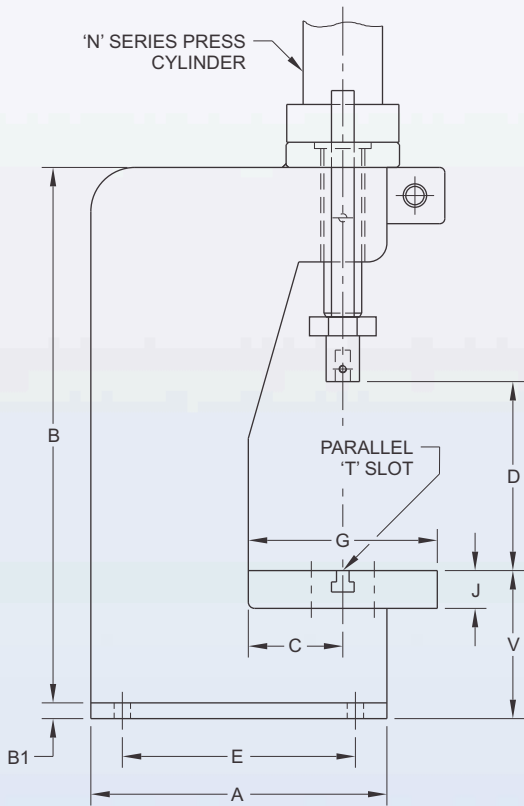
**DETAIL "D2"**

**DETAIL "D1"**

	PLAIN	WITH ARG	WITH GMP	TON	A	B	C	D	D1	E	F	G	H	J	ØK	L	L1	M	M1	N	ØO	P	ØQ	ØR	S	T	U	V	W	X	Y
*	1C02	1C02R	1C02G	2	465	767	125	255	221	400	85	230	230	38	20	25	38	6	10	M6	60	18	45	13	566	8	75	240	180	266	200
*	1C04	1C04R	1C04G	4	550	890	150	310	270	480	120	280	280	43	25	30	43	10	12	M8	75	18	55	13	664	8	100	270	225	337	200
*	1C08	1C08R	1C08G	8	640	984	175	300	250	575	150	330	350	53	25	40	53	10	12	M8	105	20	75	13	715	10	100	322	296	408	230
	1C15	1C15R	1C15G	15	700	1149	200	350	310	630	150	380	380	62	30	60	62	10	12	M8	130	25	90	17	839	10	125	372	311	431	250
	1C30	1C30R	1C30G	30	750	1217	200	350	310	680	175	380	380	72	40	80	72	12	15	M10	130	25	90	17	892	10	125	397	365	500	250
	1C45	1C45R	1C45G	45	925	1266	200	350	341	855	225	380	475	77	50	100	77	20	20	M12	130	25	100	17	941	10	125	402	425	560	280



# Compact 'C' Frame Presses



MODEL No.	TON	A	B	B1	C	D	E	F	G	H	J	ØK	L	M	N	R	T	V	W	W1	Y
3C02R	2	245	437	12.5	65	200	200	120	120	150	27	12	30	10	M6	13	Ø8	115	150	35	103
3C04R	4	345	470	15	75	200	300	170	140	200	35	16	30	10	M6	13	Ø8	150	200	50	138
3C08R	8	415	545	20	100	250	320	200	180	250	35	25	30	10	M6	13	Ø8	180	230	72	184
* 3C15R	15	495	630	-	100	200	420	100	175	300	50	30	40	10	M8	13	Ø8	200	276	-	276

\* (Note:-For 3C15R compact 'C' frame press, an 'N' series hydro pneumatic cylinder will be supplied.)

## SPECIAL PRESSES

