

MERCURY

Leadership through innovation

Hydro Pneumatic Presses

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



Mercury Pneumatics Pvt. Ltd.

C-105, Ansa Industrial Estate, Saki Vihar Rd, Andheri (E), Mumbai - 400072. India.

Ph.: +91-22-40344200

E-mail: mercurypneumatics@vsnl.net Website: www.mercuryindia.net

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

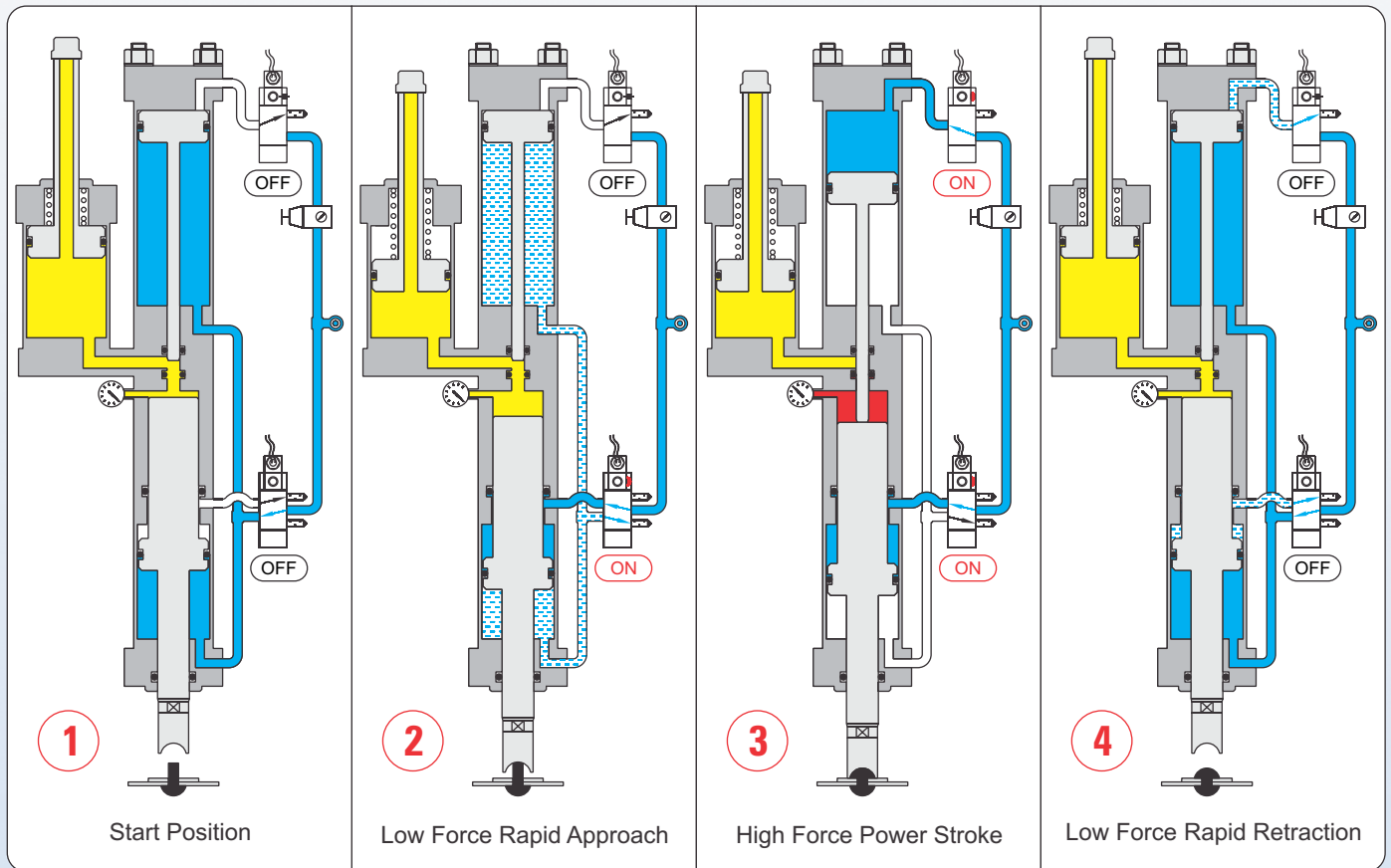
- **Fast Action** : 2T @ 100 cycles / min. (CPM), 4T @ 60 CPM, 8T @ 40 CPM, 15T & 30T @ 20 CPM.
- **Compact, light weight & vibration free** : Can be mounted on existing work benches without any foundation.
- **Versatile** : Force & speed can be varied infinitely. Machine can be mounted in any orientation.
- **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

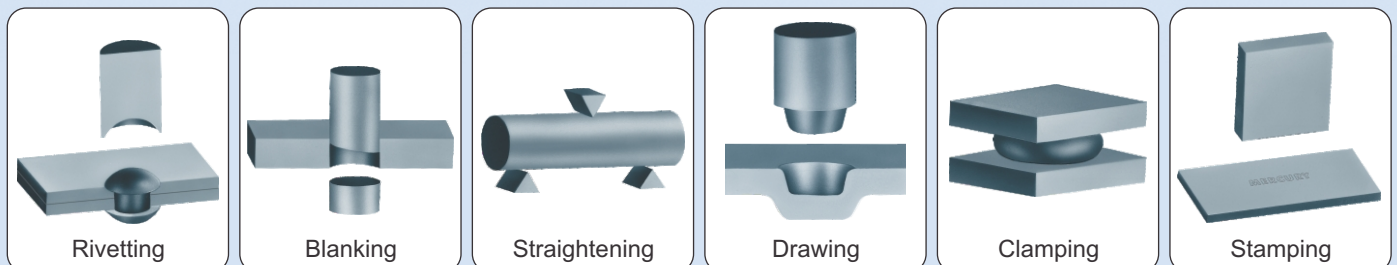
- (a) Initial low force, large travel, fast approach (Fig. ②)
- (b) High force, short travel (6, 12 or 24 mm), Power Stroke (Fig. ③)
- (c) Low force, rapid retraction (Fig. ④)

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



LOW OIL LEVEL SENSING

LOW OIL LEVEL SENSING SWITCH

NORMAL LEVEL LOW LEVEL

LOW OIL LEVEL LED GLOWS AND PRESS OPERATION STOPS

DIGITAL STROKE COUNTER

9 9 9 9 9

Hydro Pneumatic Press - Optional Features

SAFETY LIGHT CURTAIN

TRANSMITTER RECEIVER

AUTO CYCLING OF POWER STROKE

RAPID APPROACH 1ST POWER STROKE

2ND POWER STROKE 3RD POWER STROKE

LOW ENERGY SYSTEM (STANDARD IN SERIES 'A')

APPROACH AT 5 BAR RETRACT AT 1 BAR

LOW & HIGH PRESSURE SENSING

PRESSURE SWITCH

NORMAL LOW FORCE

● PRESS OPERATION STOPS

POWER STROKE DEPTH CONTROL

±0.05

DUAL FORCE CIRCUIT

LOOSE (REJECT) O.K. TIGHT (REJECT)

AUTOMATIC LUBRICATION AUTOLUBE[®]

PROGRAMMED POSITIVE LUBRICATION UNDER PRESSURE

JOB EJECTION

PARKING FEATURE

NORMAL TRAVEL PARKED TRAVEL

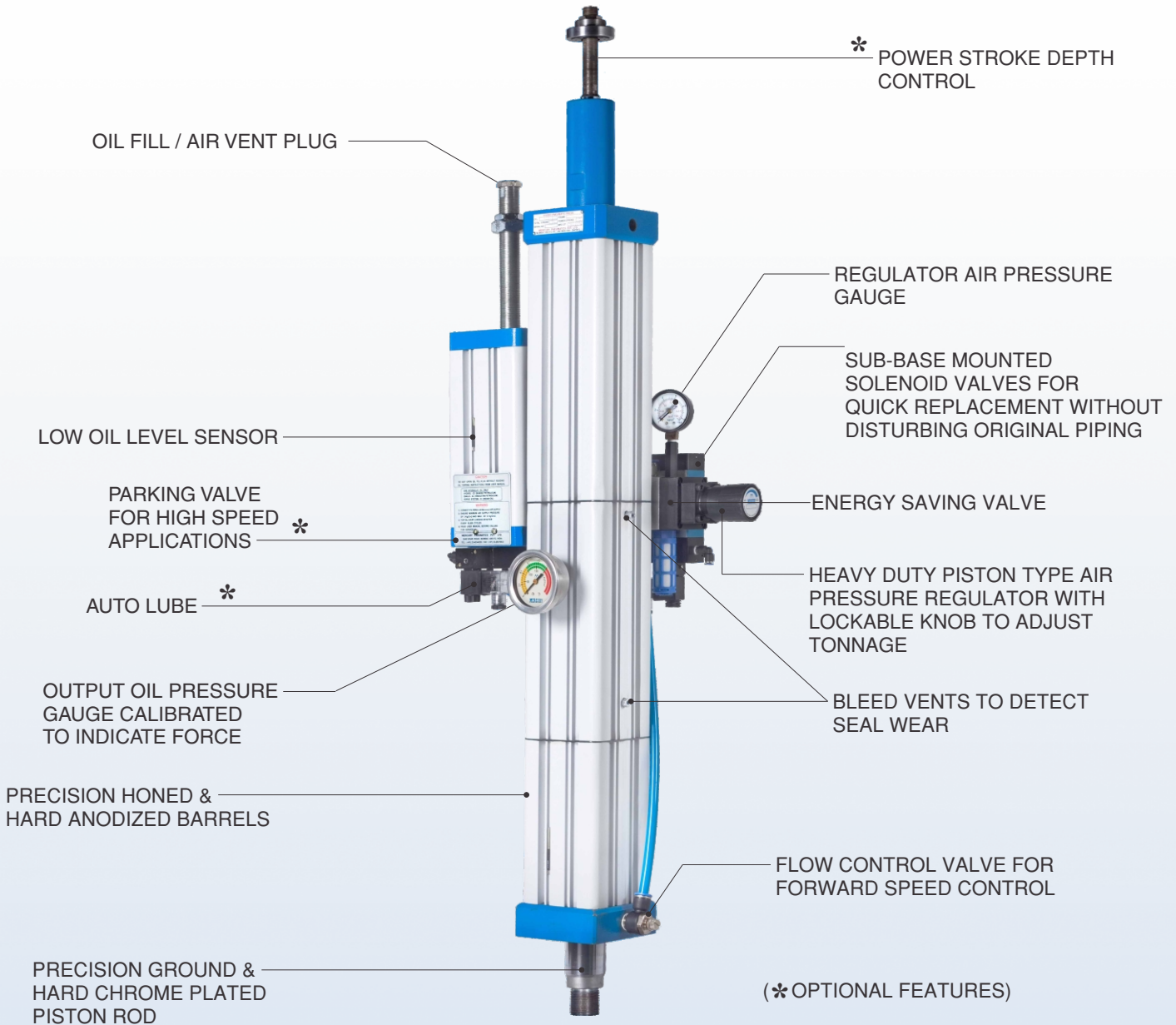
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CONTINUOUS CYCLING

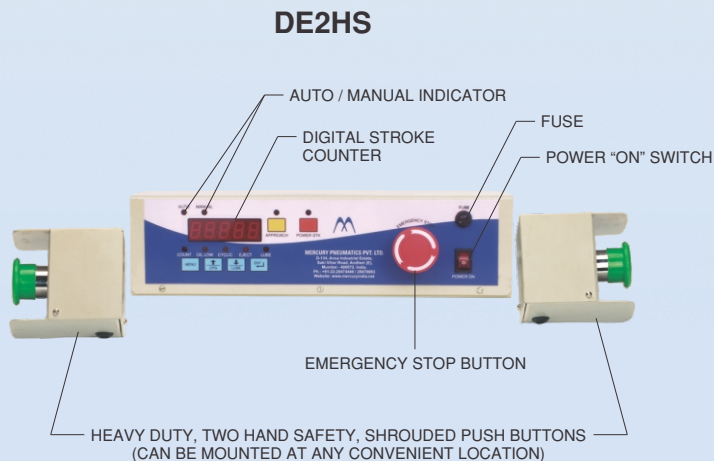
TO LINK WITH PRESS FEEDERS AND OTHER AUTOMATION DEVICES



Series 'A' Hydro Pneumatic Press Cylinder



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



Standard Features

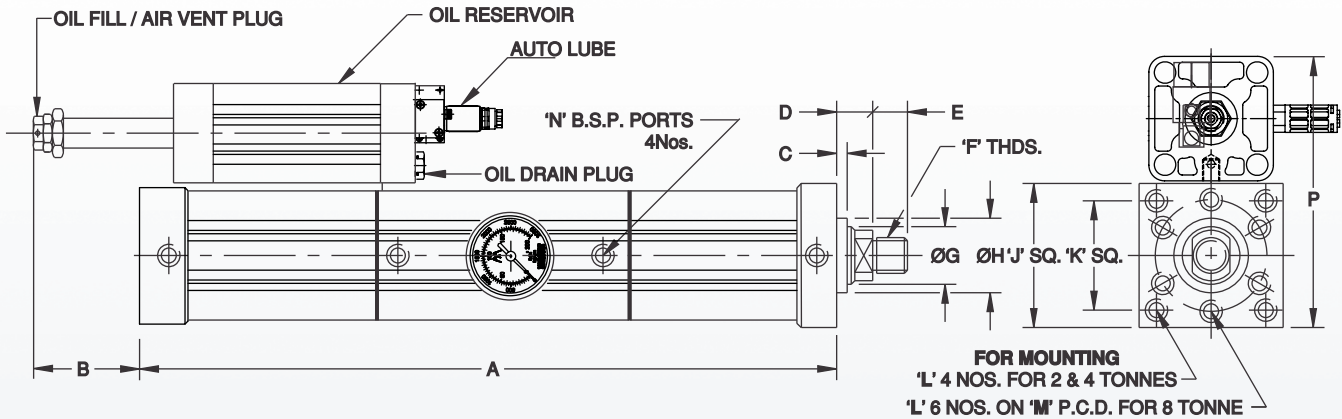
- Auto & Manual Mode
- 2 Hands Safety
- Digital Stroke Counter
- Low Oil Level Indicator

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
- Inching facilities



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 = $8.2 \times 10 = 82.2$ NLPM
- 3) Electric Power used = $82.2 \div 120 = 0.685$ HP \approx 0.51 KW
- 4) Cost of electricity @ Rs 10.0 per KWH = $0.51 \times 10 =$ Rs. 5.10
- 5) Cost of electricity per cut piece = $5.10 \div 10 = 0.0085$ Rs i.e. 0.85 paise per piece

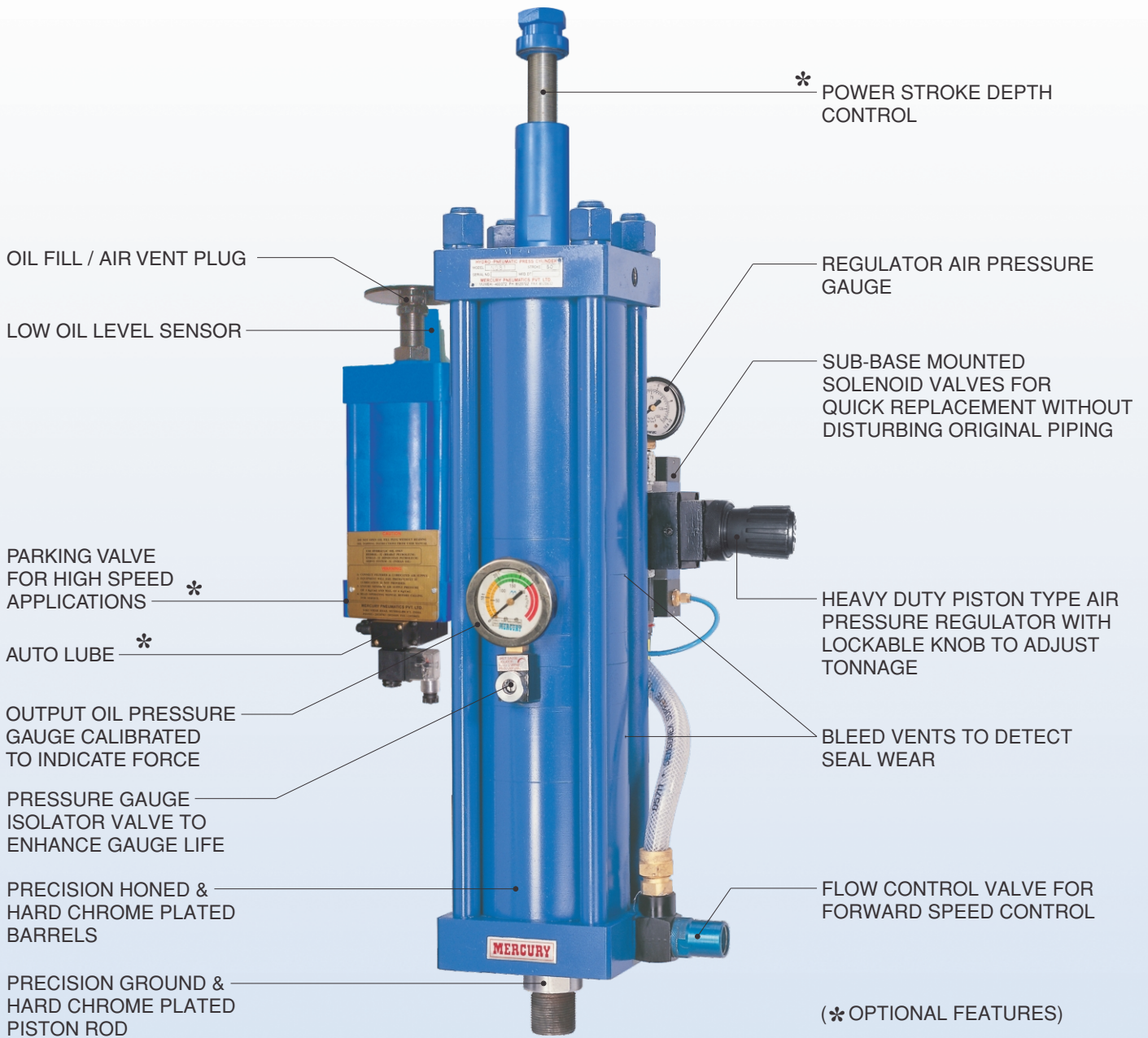
Note : Due to constant improvements, dimensions and technical specifications are subject to change without notice.

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 |

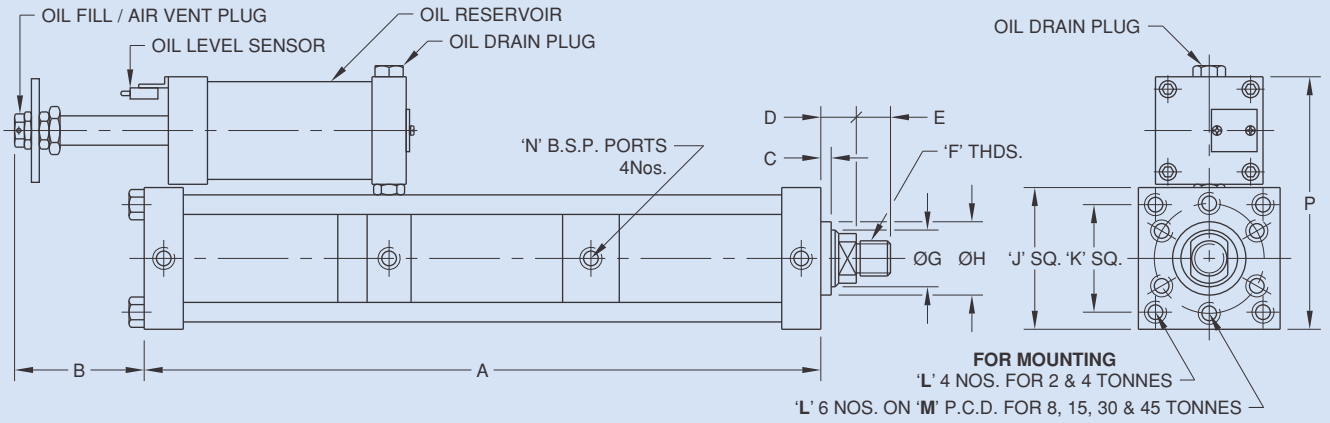


Series 'N' Hydro Pneumatic Press Cylinder





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)

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

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 | 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 |



2 Column Presses



A Series

N Series

Plain



A Series

N Series

Anti Rotation Guide

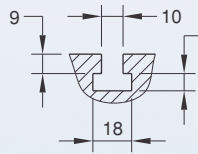
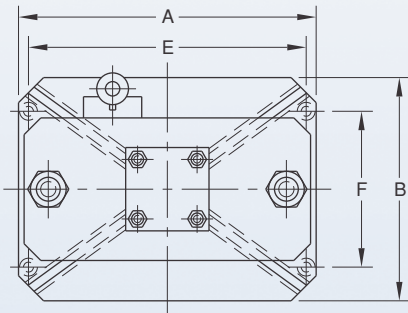


A Series

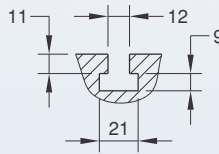
N Series

Guided Moving Platen

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

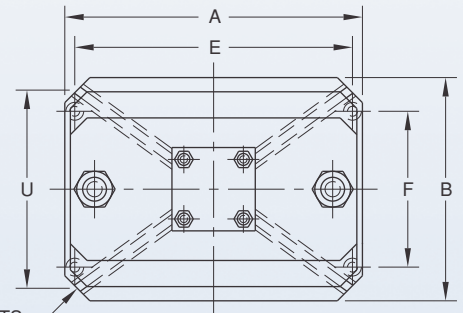


T-8 'T' SLOT

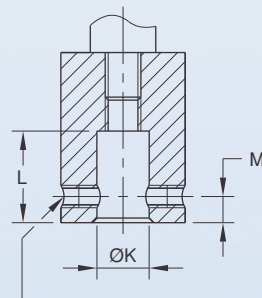
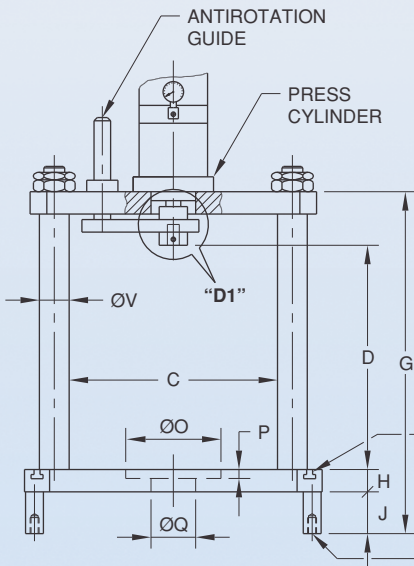


T-10 'T' SLOT

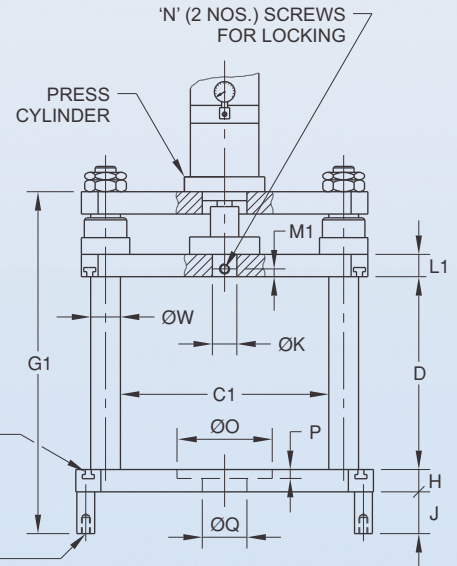
WITH GUIDED MOVING PLATEN (2P--G)



DIAGONAL 'T' SLOTS ON BASE & MOVING PLATES



'N' (2 NOS.) SCREWS FOR LOCKING
DETAIL "D1"



'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 |
| 2P45 | 2P45R | 2P45G | 45 | 630 | 400 | 390 | 390 | 400 | 575 | 250 | 796 | 860 | 95 | 100 | 50 | 100 | 95 | 20 | 15 | M12 | 130 | 25 | 100 | M20 | 10 | 350 | 90 | 90 |

* Available with series 'A' Hydro Pneumatic Cylinder



4 Column Presses



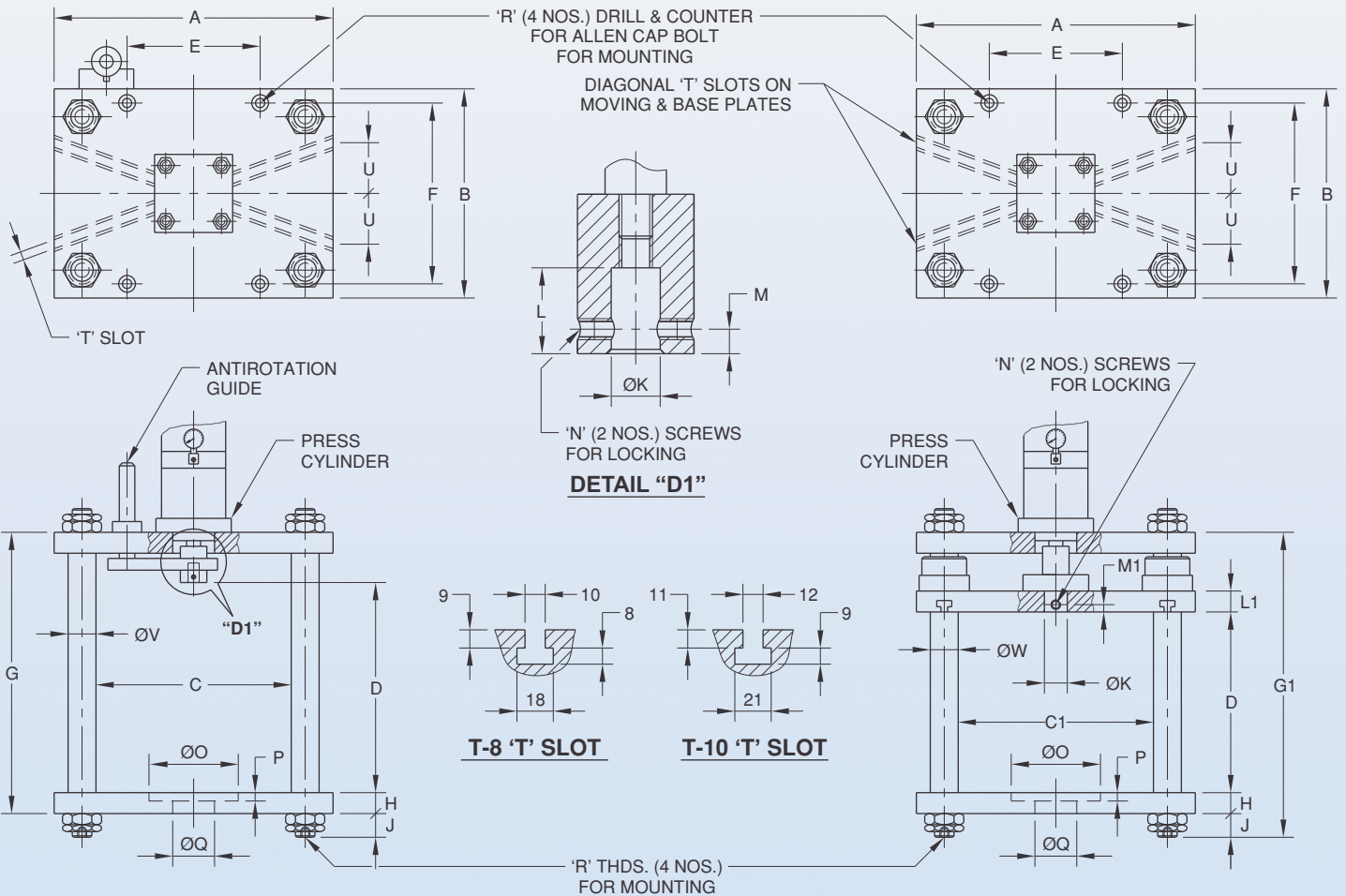
Plain

Anti Rotation Guide

Guided Moving Platen

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

WITH GUIDED MOVING PLATEN (4P--G)



| | 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 |
| | 4P45 | 4P45R | 4P45G | 45 | 610 | 400 | 400 | 400 | 400 | 300 | 350 | 786 | 840 | 85 | 100 | 50 | 100 | 85 | 20 | 15 | M12 | 130 | 25 | 100 | M20 | 10 | 85 | 80 | 80 |

* Available with series 'A' Hydro Pneumatic Cylinder



'C' Frame Presses



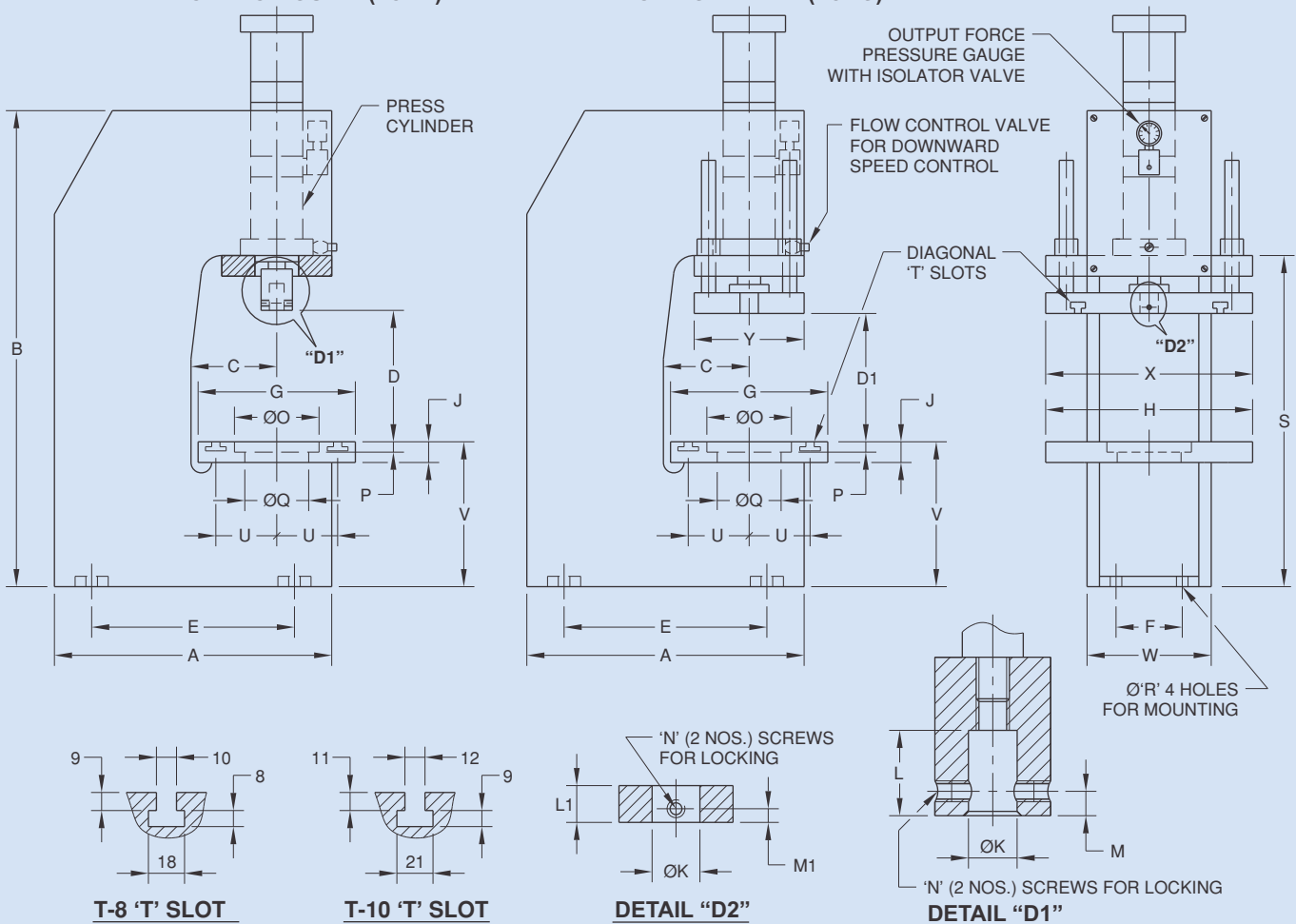
Plain

Anti Rotation Guide

Guided Moving Platen

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

WITH GUIDED MOVING PLATEN (1C--G)

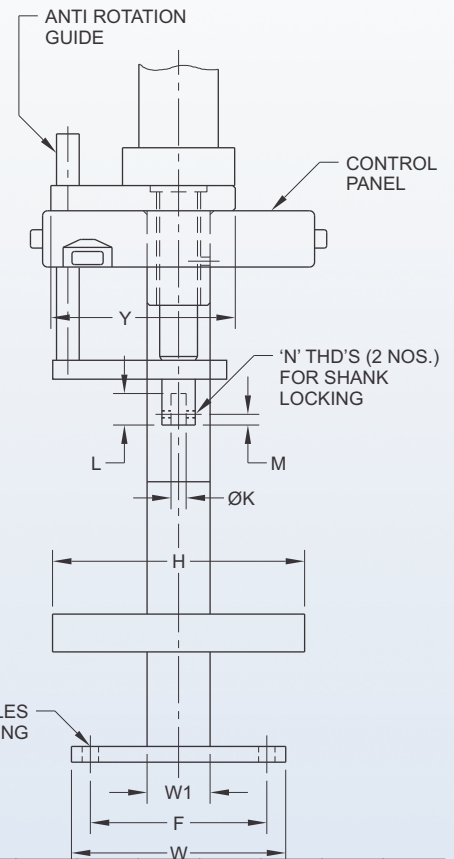
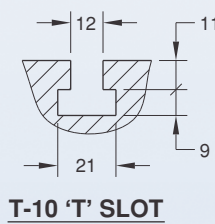
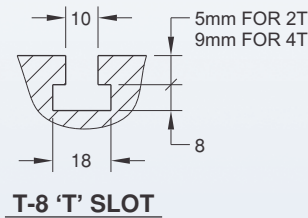
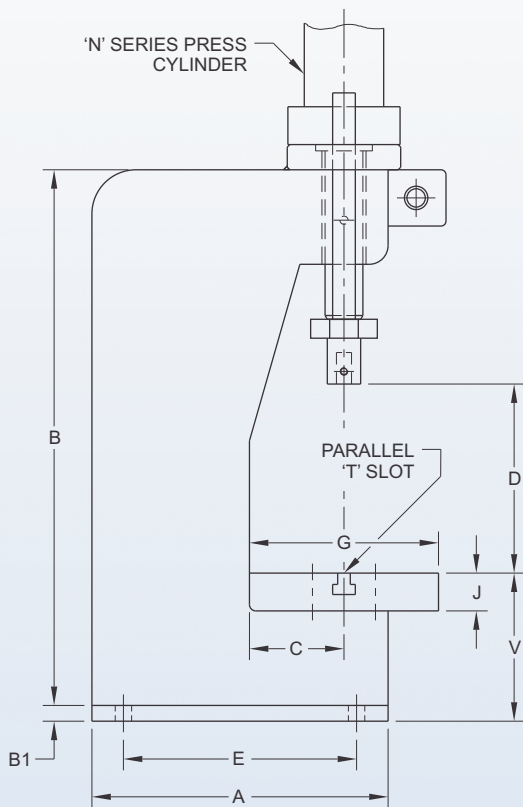


| PLAIN | WITH ARG | WITH GMP | TON | A | B | C | D | D1 | E | F | G | H | J | ØK | L | L1 | M | M1 | N | ØO | P | ØQ | ØR | S | T | U | V | W | X | Y |
|--------|----------|----------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|----|----|-----|----|----|----|-----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|
| * 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 |

* Available With Series 'A' Hydro Pneumatic Cylinder.



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 | Ø | 115 | 150 | 35 | 103 |
| 3C04R | 4 | 345 | 470 | 15 | 75 | 200 | 300 | 170 | 140 | 200 | 35 | 16 | 30 | 10 | M6 | 13 | Ø | 150 | 200 | 50 | 138 |
| 3C08R | 8 | 415 | 545 | 20 | 100 | 250 | 320 | 200 | 180 | 250 | 35 | 25 | 30 | 10 | M6 | 13 | 1Ø | 180 | 230 | 72 | 184 |
| * 3C15R | 15 | 495 | 630 | - | 100 | 200 | 420 | 100 | 175 | 300 | 50 | 30 | 40 | 10 | M8 | 13 | 10 | 200 | 276 | - | 276 |

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

SPECIAL PRESSES



Shaft Straightening Press



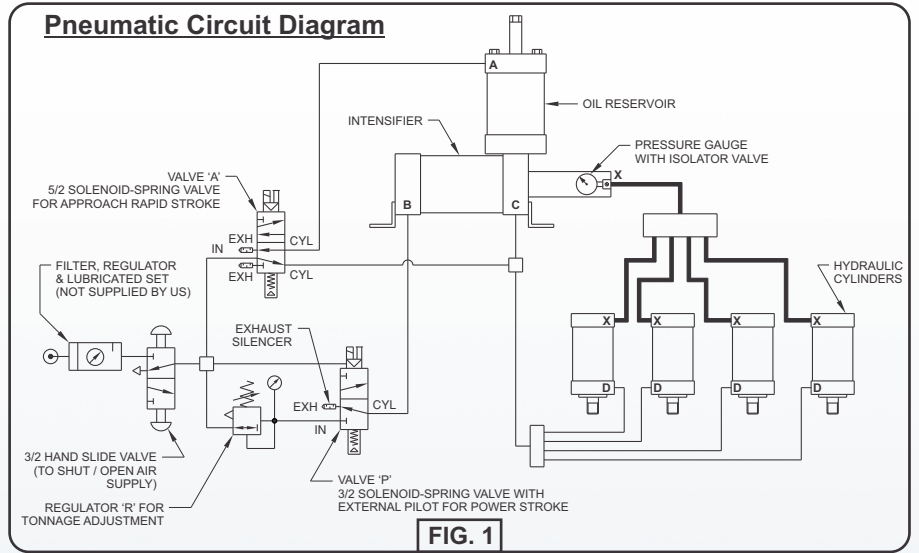
Manually Operated Press



Hexagonal Marking Machine



Series 'Z' Hydro Pneumatic Systems



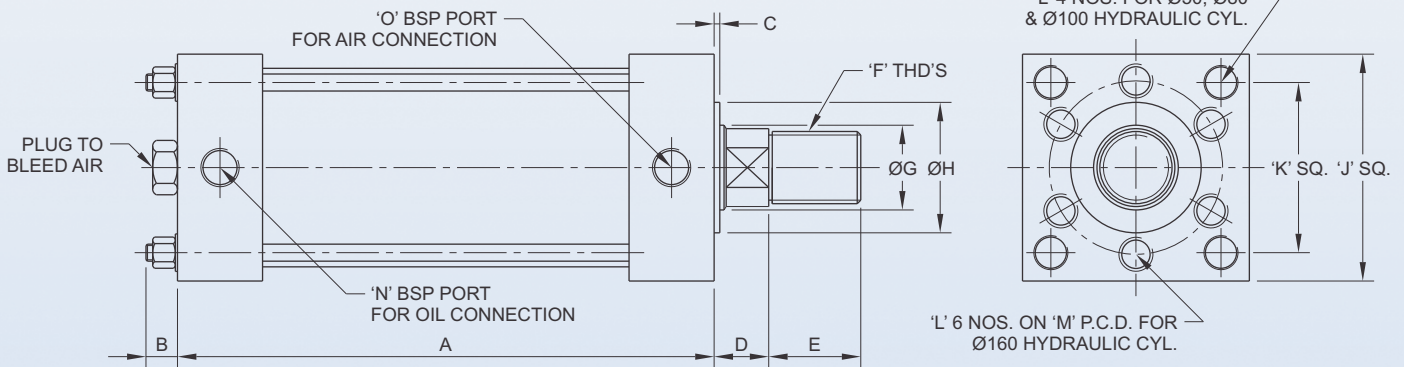
General Introduction

The series 'Z' Hydro Pneumatic System has been developed for applications where two or more Cylinders have to be operated from a single Reservoir-Intensifier Power unit. They are also useful for applications requiring a large travel under load (large Power Stroke) and for applications where the length of our standard 'N' Series Hydro Pneumatic Press Systems cannot be accommodated.

The systems consists of :-

- An integral Intensifier-Reservoir unit.
- Single or several Hydraulic Cylinders connected to the Intensifier-Reservoir unit through suitable high pressure flexible hoses and operated by solenoid valves as shown in circuit Fig. 1.

HYDRAULIC CYLINDER



Q = FREE AIR CONSUMPTION PER CYCLE (LITRES).

| MODEL | FORCE (Kgf) & 5 BAR | | OIL DISPLACEMENT (cu cm) | | A | B | C | D | E | F | G | H | J | K | L | M | N | O | Q | SEAL KIT No. |
|----------|---------------------|--------|--------------------------|------------------|-------|----|---|----|----|---------|----|----|-----|-----|-----------|-----|------|------|------|--------------|
| | APPROACH | RETURN | PER mm TRAVEL | FOR TOTAL TRAVEL | | | | | | | | | | | | | | | | |
| Z50-50 | 98 | 58 | 2 | 100 | 188 | 22 | 4 | 22 | 35 | M24 x 2 | 32 | 45 | 88 | 57 | M16 x 2 | - | 1/2" | 1/4" | 0.35 | 129-014 |
| Z50-100 | 98 | 58 | 2 | 200 | 238 | 22 | 4 | 22 | 35 | M24 x 2 | 32 | 45 | 88 | 57 | M16 x 2 | - | 1/2" | 1/4" | 0.7 | 129-014 |
| Z50-150 | 98 | 58 | 2 | 300 | 288 | 22 | 4 | 22 | 35 | M24 x 2 | 32 | 45 | 88 | 57 | M16 x 2 | - | 1/2" | 1/4" | 1.0 | 129-014 |
| Z50-200 | 98 | 58 | 2 | 400 | 338 | 22 | 4 | 22 | 35 | M24 x 2 | 32 | 45 | 88 | 57 | M16 x 2 | - | 1/2" | 1/4" | 1.4 | 129-014 |
| Z80-50 | 250 | 171 | 5 | 250 | 211 | 25 | 4 | 24 | 35 | M36 x 2 | 45 | 60 | 125 | 86 | M20 x 2.5 | - | 3/4" | 1/4" | 1.0 | 129-015 |
| Z80-100 | 250 | 171 | 5 | 500 | 261 | 25 | 4 | 24 | 35 | M36 x 2 | 45 | 60 | 125 | 86 | M20 x 2.5 | - | 3/4" | 1/4" | 2.0 | 129-015 |
| Z80-150 | 250 | 171 | 5 | 750 | 311 | 25 | 4 | 24 | 35 | M36 x 2 | 45 | 60 | 125 | 86 | M20 x 2.5 | - | 3/4" | 1/4" | 3.0 | 129-015 |
| Z80-200 | 250 | 171 | 5 | 1000 | 361 | 25 | 4 | 24 | 35 | M36 x 2 | 45 | 60 | 125 | 86 | M20 x 2.5 | - | 3/4" | 1/4" | 4.0 | 129-015 |
| Z100-50 | 392 | 269 | 8 | 400 | 223 | 30 | 4 | 24 | 35 | M40 x 2 | 56 | 75 | 155 | 107 | M24 x 3 | - | 3/4" | 1/2" | 1.6 | 129-016 |
| Z100-100 | 392 | 269 | 8 | 800 | 273 | 30 | 4 | 24 | 35 | M40 x 2 | 56 | 75 | 155 | 107 | M24 x 3 | - | 3/4" | 1/2" | 3.2 | 129-016 |
| Z100-150 | 392 | 269 | 8 | 1200 | 323 | 30 | 4 | 24 | 35 | M40 x 2 | 56 | 75 | 155 | 107 | M24 x 3 | - | 3/4" | 1/2" | 4.8 | 129-016 |
| Z100-200 | 392 | 269 | 8 | 1600 | 373 | 30 | 4 | 24 | 35 | M40 x 2 | 56 | 75 | 155 | 107 | M24 x 3 | - | 3/4" | 1/2" | 6.4 | 129-016 |
| Z160-50 | 1000 | 850 | 20 | 1000 | 238.5 | 45 | 4 | 29 | 40 | M48 x 3 | 63 | 75 | 240 | - | M30 x 3.5 | 135 | 1" | 1/2" | 5.0 | 129-017 |
| Z160-100 | 1000 | 850 | 20 | 2000 | 288.5 | 45 | 4 | 29 | 40 | M48 x 3 | 63 | 75 | 240 | - | M30 x 3.5 | 135 | 1" | 1/2" | 10.0 | 129-017 |
| Z160-150 | 1000 | 850 | 20 | 3000 | 338.5 | 45 | 4 | 29 | 40 | M48 x 3 | 63 | 75 | 240 | - | M30 x 3.5 | 135 | 1" | 1/2" | 15.0 | 129-017 |
| Z160-200 | 1000 | 850 | 20 | 4000 | 388.5 | 45 | 4 | 29 | 40 | M48 x 3 | 63 | 75 | 240 | - | M30 x 3.5 | 135 | 1" | 1/2" | 20.0 | 129-017 |

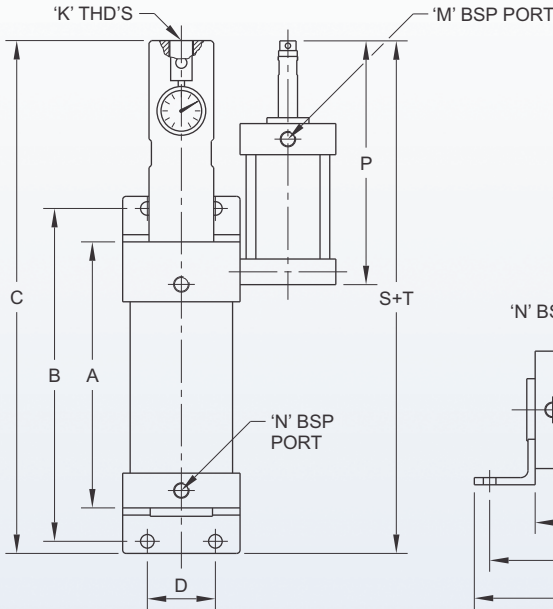
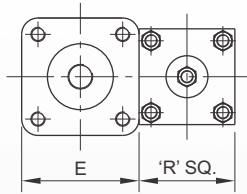


INTENSIFIER RESERVOIR UNIT

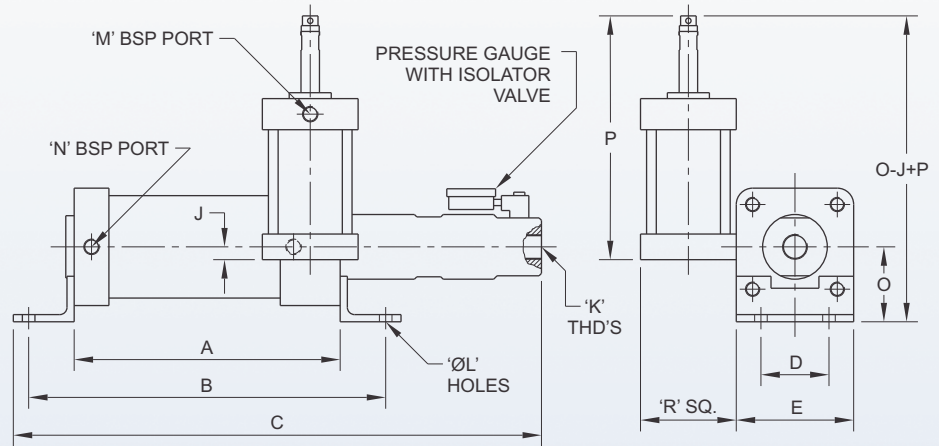


Reservoir

| MODEL | VOLUMETRIC OIL DISPLACEMENT FOR APPROACH (cu. cm) | P | M BSP | R SQ. | T | Q FREE AIR CONSUMPTION PER CYCLE (NL) | SEAL KIT No. |
|----------|---|-----|-------|-------|-----|---------------------------------------|--------------|
| 80-400 | 400 | 323 | 1/4" | 98 | 310 | 2.3 | 129-010 |
| 80-800 | 800 | 483 | 1/4" | 98 | 470 | 4.5 | 129-010 |
| 100-1200 | 1200 | 467 | 1/4" | 118 | 454 | 7.0 | 129-011 |
| 160-2200 | 2200 | 285 | 1/2" | 185 | 267 | 10.8 | 129-012 |
| 160-3000 | 3000 | 505 | 1/2" | 185 | 487 | 18.0 | 129-012 |
| 200-4700 | 4700 | 536 | 1/2" | 227 | 518 | 28.2 | 129-013 |
| 200-6000 | 6000 | 600 | 1/2" | 227 | 582 | 36.1 | 129-013 |



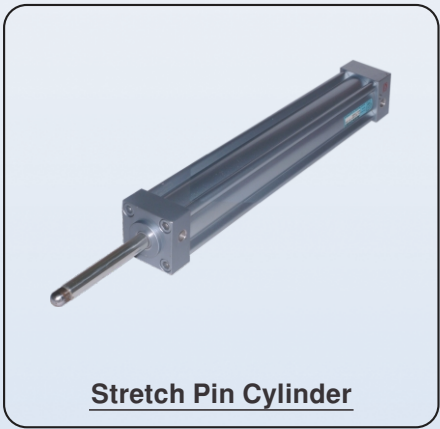
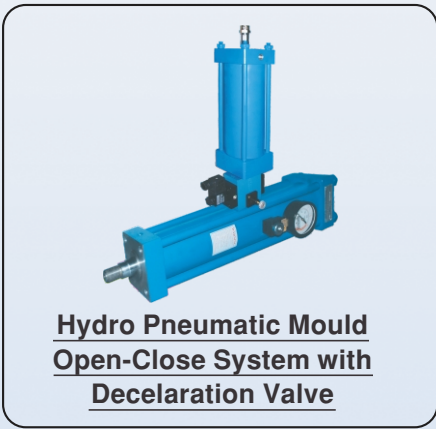
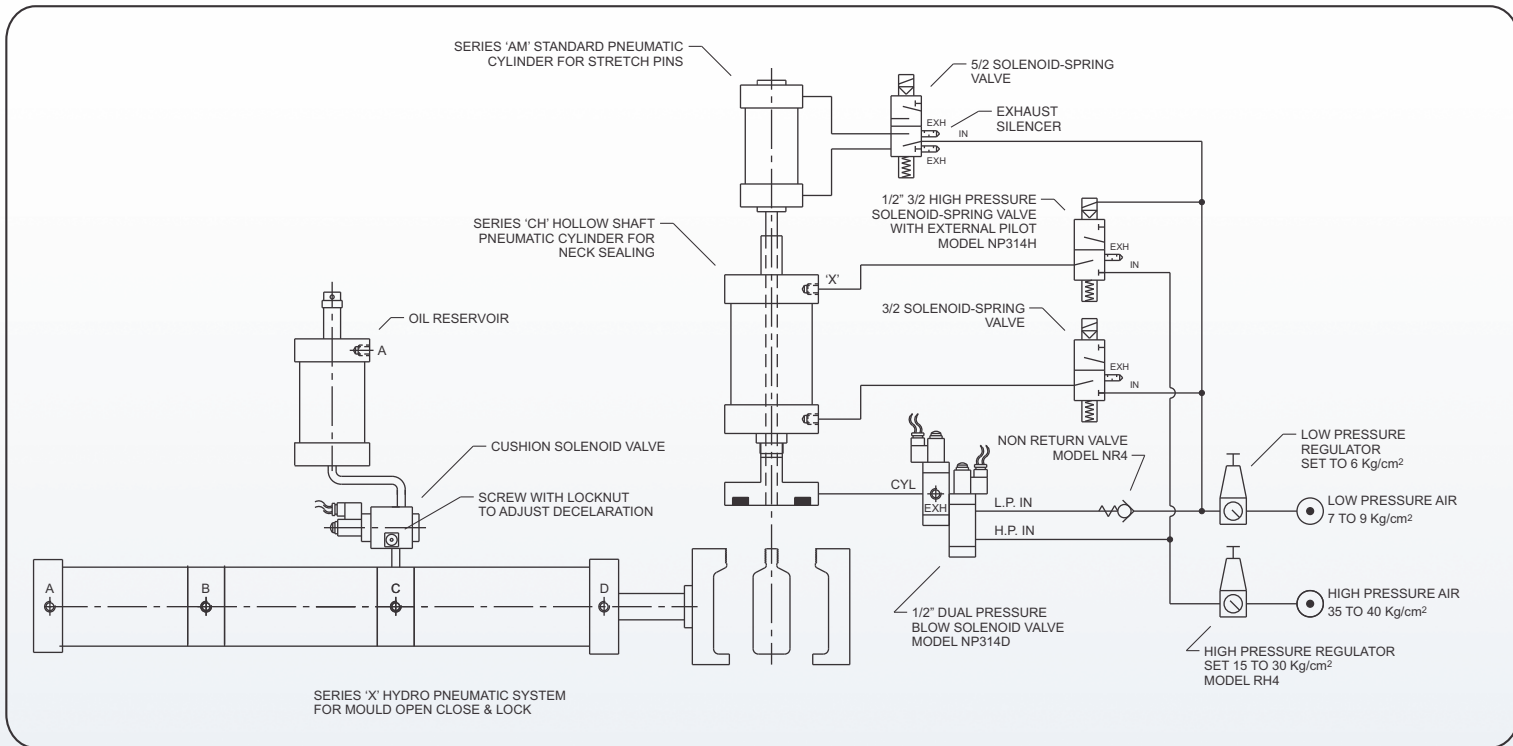
Vertical Installation



Horizontal Installation

Intensifier

| MODEL | RATIO | OUTPUT OIL PRESSURE @ 5 BAR | MAX. OIL DISPLACEMENT FOR POWER STROKE cu. cm | TONNAGE FOR HYD. CYL. | | | | A | B | C | D | E | J | K BSP | L Ø | N BSP | O | S | Q FREE AIR CONS. PER CYCLE (NL) | SEAL KIT No. |
|------------|-------|-----------------------------|---|-----------------------|------|-------|-------|-----|-----|------|-----|-----|----|-------|-----|-------|-----|-----|---------------------------------|--------------|
| | | | | Z 50 | Z 80 | Z 100 | Z 160 | | | | | | | | | | | | | |
| 80-14-200 | 32 | 160 | 27 | 3.1 | 8.0 | X | X | 347 | 433 | 597 | 63 | 98 | 19 | 1/2" | 12 | 1/4" | 63 | 373 | 11.8 | 129-001 |
| 80-14-400 | 32 | 160 | 57 | 3.1 | 8.0 | X | X | 547 | 633 | 997 | 63 | 98 | 19 | 1/2" | 12 | 1/4" | 63 | 573 | 23.7 | 129-001 |
| 80-20-200 | 16 | 80 | 55 | 1.5 | 4.0 | 6.2 | X | 347 | 433 | 597 | 63 | 98 | 19 | 1/2" | 12 | 1/4" | 63 | 373 | 11.6 | 129-002 |
| 80-20-400 | 16 | 80 | 117 | 1.5 | 4.0 | 6.2 | X | 547 | 633 | 997 | 63 | 98 | 19 | 1/2" | 12 | 1/4" | 63 | 573 | 23.4 | 129-002 |
| 100-16-200 | 39 | 195 | 35 | X | 9.8 | 15.3 | X | 353 | 439 | 603 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 382 | 18.6 | 129-018 |
| 100-16-400 | 39 | 195 | 75 | X | 9.8 | 15.3 | X | 553 | 639 | 1003 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 582 | 37.2 | 129-018 |
| 100-20-200 | 25 | 125 | 55 | 2.5 | 6.2 | 9.8 | X | 353 | 439 | 603 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 382 | 18.4 | 129-003 |
| 100-20-400 | 25 | 125 | 117 | 2.5 | 6.2 | 9.8 | X | 553 | 639 | 1003 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 582 | 37.0 | 129-003 |
| 100-28-200 | 12.5 | 64 | 107 | 1.2 | 3.2 | 5.0 | X | 353 | 439 | 603 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 382 | 18.1 | 129-004 |
| 100-28-400 | 12.5 | 64 | 230 | 1.2 | 3.2 | 5.0 | X | 553 | 639 | 1003 | 75 | 118 | 19 | 1/2" | 14 | 1/4" | 71 | 582 | 36.2 | 129-004 |
| 160-28-200 | 32 | 160 | 107 | 3.1 | 8.0 | X | 32.0 | 383 | 513 | 659 | 115 | 185 | 19 | 1/2" | 18 | 1/2" | 115 | 435 | 47.5 | 129-019 |
| 160-28-400 | 32 | 160 | 230 | 3.1 | 8.0 | X | 32.0 | 583 | 713 | 1059 | 115 | 185 | 19 | 1/2" | 18 | 1/2" | 115 | 635 | 95.0 | 129-019 |
| 160-32-200 | 25 | 125 | 140 | 2.5 | 6.2 | 9.8 | 25.0 | 383 | 513 | 659 | 115 | 185 | 19 | 3/4" | 18 | 1/2" | 115 | 435 | 47.2 | 129-005 |
| 160-32-400 | 25 | 125 | 300 | 2.5 | 6.2 | 9.8 | 25.0 | 583 | 713 | 1059 | 115 | 185 | 19 | 3/4" | 18 | 1/2" | 115 | 635 | 94.5 | 129-005 |
| 160-40-200 | 16 | 80 | 220 | 1.5 | 4.0 | 6.2 | 16.0 | 383 | 513 | 659 | 115 | 185 | 19 | 3/4" | 18 | 1/2" | 115 | 435 | 46.8 | 129-006 |
| 160-40-400 | 16 | 80 | 470 | 1.5 | 4.0 | 6.2 | 16.0 | 583 | 713 | 1059 | 115 | 185 | 19 | 3/4" | 18 | 1/2" | 115 | 635 | 93.5 | 129-006 |
| 200-32-200 | 39 | 195 | 140 | X | 9.8 | X | 39.0 | 392 | 532 | 673 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 449 | 74.4 | 129-007 |
| 200-32-400 | 39 | 195 | 300 | X | 9.8 | X | 39.0 | 592 | 732 | 1073 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 649 | 148.8 | 129-007 |
| 200-40-200 | 25 | 125 | 220 | 2.5 | 6.2 | 9.8 | 25.0 | 392 | 532 | 673 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 449 | 73.9 | 129-008 |
| 200-40-400 | 25 | 125 | 470 | 2.5 | 6.2 | 9.8 | 25.0 | 592 | 732 | 1073 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 649 | 147.6 | 129-008 |
| 200-56-200 | 12.5 | 63 | 430 | 1.2 | 3.1 | 5.0 | 12.7 | 392 | 532 | 673 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 449 | 72.5 | 129-009 |
| 200-56-400 | 12.5 | 63 | 923 | 1.2 | 3.1 | 5.0 | 12.7 | 592 | 732 | 1073 | 135 | 227 | 19 | 3/4" | 22 | 1/2" | 115 | 649 | 144.8 | 129-009 |



| Model No. | Tonnage | Total Travel | Power Stroke | Seal Kit Model No. |
|-----------|---------|--------------|--------------|--------------------|
| P020X-100 | 2 | 100 | 3 | 90-035 |
| P020X-150 | 2 | 150 | 3 | 90-035 |
| P040X-100 | 4 | 100 | 3 | 90-036 |
| P040X-150 | 4 | 150 | 3 | 90-036 |
| P040X-200 | 4 | 200 | 3 | 90-036 |
| P040X-250 | 4 | 250 | 3 | 90-036 |
| P060X-150 | 6 | 150 | 3 | 90-104 |
| P080X-100 | 8 | 100 | 3 | 90-037 |
| P080X-150 | 8 | 150 | 3 | 90-037 |
| P080X-200 | 8 | 200 | 3 | 90-037 |
| P080X-250 | 8 | 250 | 3 | 90-037 |
| P150X-100 | 15 | 100 | 3 | 90-038 |
| P150X-150 | 15 | 150 | 3 | 90-038 |
| P150X-200 | 15 | 200 | 3 | 90-038 |
| P150X-250 | 15 | 250 | 3 | 90-038 |
| P150X-300 | 15 | 300 | 3 | 90-038 |
| P300X-200 | 30 | 200 | 3 | 90-039 |
| P300X-250 | 30 | 250 | 3 | 90-039 |
| P300X-300 | 30 | 300 | 3 | 90-039 |
| P300X-350 | 30 | 350 | 3 | 90-039 |
| P310X-300 | 31 | 300 | 3 | 90-100 |
| P310X-350 | 31 | 350 | 3 | 90-100 |

| MODEL No. | PISTON Ø (mm) | SEAL KIT No. |
|----------------|---------------|--------------|
| CH50-25HP(12) | 50 | 90-077 |
| CH50-50HP(12) | 50 | 90-077 |
| CH50-75HP(12) | 50 | 90-077 |
| CH50-150HP(12) | 50 | 90-077 |
| CH63-50HP(12) | 63 | 90-095 |
| CH63-115HP(12) | 63 | 90-095 |
| CH63-150HP(12) | 63 | 90-095 |
| CH63-200HP(12) | 63 | 90-095 |
| CH80-25HP(12) | 80 | 90-074 |
| CH80-50HP(12) | 80 | 90-074 |
| CH80-50HP(14) | 80 | 90-074 |
| CH80-50HP(16) | 80 | 90-074 |
| CH100-50HP(11) | 100 | 90-097 |
| CH125-50HP(16) | 125 | 90-080 |
| CH125-50HP(20) | 125 | 90-080 |
| CH125-60HP(14) | 125 | 90-076 |
| CH125-60HP(16) | 125 | 90-076 |

| MODEL No. | PISTON Ø (mm) | SEAL KIT No. |
|-----------------|---------------|--------------|
| PL40-400-12-330 | 40 | 90-054 |
| PL50-400-12-330 | 50 | 90-053 |
| PL50-400-16-330 | 50 | 90-075 |
| PL50-600-16-375 | 50 | 90-075 |
| PL50-600-20-375 | 50 | 90-085 |



Single Blow Solenoid Valve

| MODEL No. | DESCRIPTION | PORT SIZE (BSP) | SYMBOL | SEAL KIT No. |
|-----------|---|-----------------|--------|--------------|
| NP314H | 3/2 (3 WAY) HIGH PRESSURE BLOW SOLENOID VALVE | 1/2" | | SKNP314H |

* ADD VOLTAGE & CONNECTOR SUFFIX WHILE ORDERING



Dual Blow Solenoid Valve

| MODEL No. | DESCRIPTION | PORT SIZE (BSP) | | SYMBOL | SEAL KIT No. |
|-----------|---|-----------------|------|--------|--------------|
| | | L.P | H.P | | |
| NP314D | 3/2 (3 WAY) DUAL PRESSURE BLOW SOLENOID VALVE | 1/2" | 1/2" | | SKNP314D |

* ADD VOLTAGE & CONNECTOR SUFFIX WHILE ORDERING



Dual Blow Solenoid Valve

| MODEL No. | DESCRIPTION | PORT SIZE (BSP) | | SYMBOL | SEAL KIT No. |
|-----------|---|-----------------|------|--------|--------------|
| | | L.P | H.P | | |
| SPV1047 | 3/2 (3 WAY) DUAL PRESSURE BLOW SOLENOID VALVE | 1/4" | 1/2" | | SKSPV1047 |
| SPV1044 | | 1/4" | 3/4" | | SKSPV1044 |

* ADD VOLTAGE & CONNECTOR SUFFIX WHILE ORDERING



Cushion Solenoid Valve

| MODEL No. | DESCRIPTION | PORT SIZE (BSP) | ORIFICE (mm) | SYMBOL | SEAL KIT No. |
|-----------|---|-----------------|--------------|--------|--------------|
| NP215C | 2/2 (2 WAY) N.O. CUSHION SOLENOID VALVE | 3/4" | Ø20.00 | | SKNP215C |
| NP216C | | 1" | Ø24.50 | | SKNP216C |

* ADD VOLTAGE & CONNECTOR SUFFIX WHILE ORDERING



High Pressure Regulator

| MODEL No. | DESCRIPTION | PORT SIZE (BSP) | SYMBOL | SEAL KIT No. |
|-----------|---|-----------------|--------|--------------|
| RH4 | HIGH PRESSURE REGULATOR WITH PRESSURE GAUGE | 1/2" | | SKRH4 |

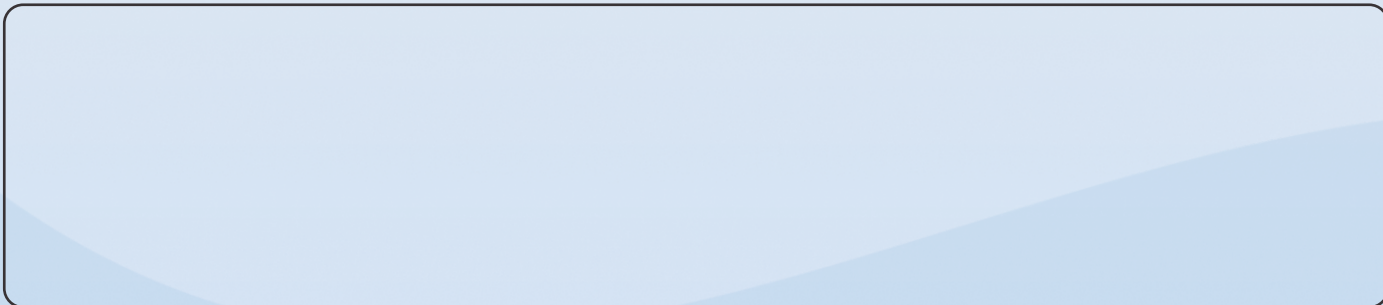
| Connector | 230VAC | 24VAC | 12VAC | 24VDC | 12VDC | 110VAC | 48VAC |
|-------------|--------|-------|-------|-------|-------|--------|-------|
| BLACK | A | B | C | D | E | F | G |
| ILLUMINATED | L | M | N | P | Q | R | S |



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