



GANI MARKETING

CLAMPING ELEMENTS

STANDARD, SPECIAL VARIABLE HYDRAULIC CYLINDER
MANUFACTURING TECHNOLOGY



ISO 9001:2015
STD Product



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SOLUTION



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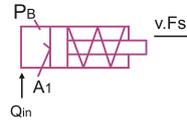
➤ Points to be remember

Formulas & description

-  $Q = V / t$
-  $V = A \cdot s$
-  $F = p \cdot A$
-  $P = F / A$
-  $Q = A \cdot v$
-  $M = V \cdot p / 2\pi$
-  $v = s / t$

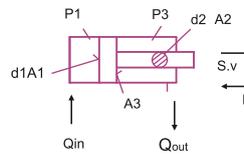
where,

- F: force
- p: pressure
- A: area
- Q: flow
- v: speed
- V: volume
- t: time



Single acting hydraulic cylinder

-  $V [m^3/s] = s [m/s] / 1000 t [s]$
-  $A [m^2] = \pi d^2 / 4 [mm]$
-  $F_s [N] = -0.1 \cdot p_B [bar] \cdot A [m^2]$
-  $P_B [bar] = -10 F_s [N] / A_1 [m^2]$
-  $Q_{in} [lpm] = 0.06 \cdot A [m^2] \cdot v [m/s]$

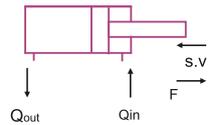


- s: travel(stroke)
- d: piston diameter
- F_s: force
- Q_{in}: inflow
- P_B: operating pressure
- v: piston speed

Double acting hydraulic cylinder

Extending

-  $A_1 = \pi d_1^2 / 4 = 0.78 d_1^2$
-  $A_3 = \pi (d_1^2 - d_2^2) / 4$
-  $P_1 \cdot A_1 = P_3 \cdot A_3 - F$
-  $P_1 = (P_3 \cdot A_3 - F) / A_1$
-  $Q_{in} = A_1 \cdot v$
-  $Q_{out} = A_3 \cdot v$
- P_3 : result back of pressure from pipes & valves for Q_{out}



- A₁: piston area
- d₁: piston
- A₃: rod area
- d₂: rod
- F: force
- P₁: pressure, piston side

simplified

$$P_1 [bar] = \frac{P_3 [bar] \cdot A_3 [m^2] - 10 F [N]}{A_1 [m^2]} \quad F [N] = \frac{-P_1 [bar] \cdot A_1 [m^2] + P_3 [bar] \cdot A_3 [m^2]}{10}$$

Retracting

-  $Q_{out} = A_1 \cdot v$
-  $Q_{in} = A_3 \cdot v$
-  $P_1 \cdot A_1 = P_3 \cdot A_3 + F$
-  $P_3 = (P_1 \cdot A_1 - F) / A_3$
- P_1 : result back of pressure from pipes & valves for Q_{out}

- A₁: piston area
- d₁: piston
- A₃: rod area
- d₂: rod
- F: force
- P₁: pressure, piston side

simplified

$$P_1 [bar] = \frac{P_3 [bar] \cdot A_3 [m^2] - 10 F [N]}{A_1 [m^2]} \quad F [N] = \frac{P_1 [bar] \cdot A_1 [m^2] - P_3 [bar] \cdot A_3 [m^2]}{10}$$

| Nomenclature | Codings | Unit | Factor | Unit |
|--------------|---------|-----------------------|--------|------|
| Pressure | P | 1 N/mm ² | 10 | bar |
| | | 1 MPa | 10 | |
| | | 1 kgf/cm ² | 1 | |
| Force | F | 1 psi | 0.07 | N |
| | | 1 kg.m/s ² | 1 | |
| | | 1 lbf | 4.45 | |

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Toggle Clamp Cylinder

Double Acting, Hydraulic

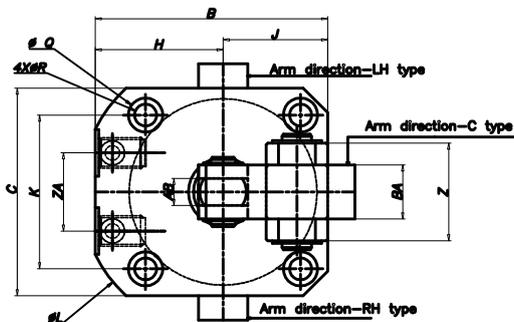
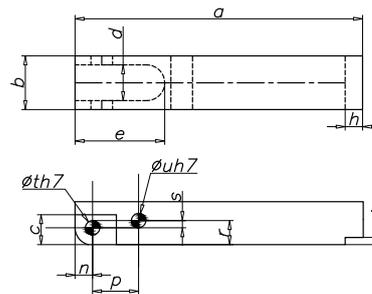
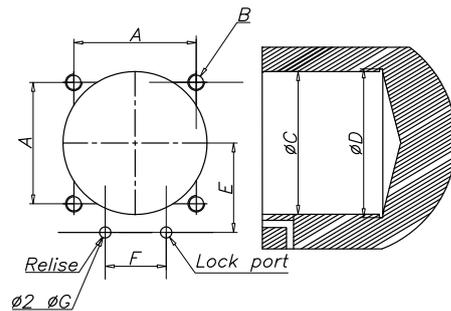
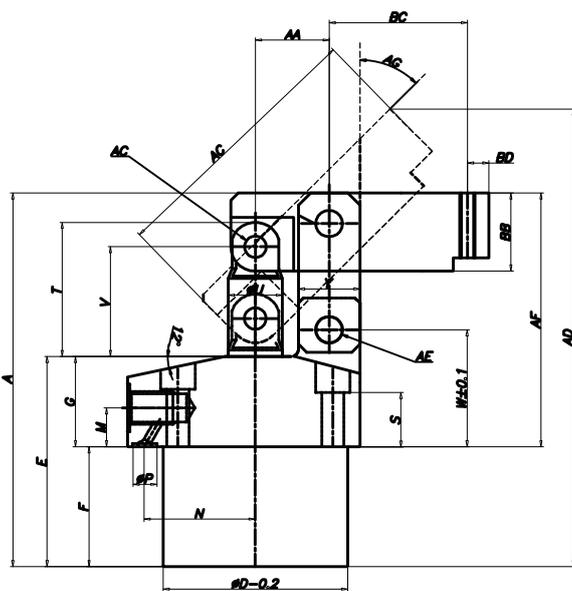


Features:

- This is a double acting cylinder with link clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It is hydraulic & centre port configuration.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:

Application Sample:



Clamp Lever Dimension Standard

| MODEL No | RH | 361 | 401 | 481 | 551 | 651 | 751 | 901 | 1051 |
|----------|----|------|------|------|-----|------|-----|-----|------|
| | LH | 362 | 402 | 482 | 552 | 652 | 752 | 902 | 1052 |
| a | | 70 | 75 | 85 | 90 | 105 | 110 | 150 | 200 |
| b-01 | | 10 | 12 | 12 | 16 | 19 | 22 | 25 | 32 |
| c | | 13 | 14 | 16 | 20 | 25 | 32 | 38 | 45 |
| d | | 5 | 6 | 6 | 8 | 10 | 11 | 13 | 16 |
| e | | 13 | 14.5 | 16 | 17 | 22 | 26 | 31 | 36 |
| g | | 10 | 12 | 13 | 17 | 18 | 22 | 26 | 31 |
| h | | 10.5 | 13 | 13 | 17 | 22 | 25 | 31 | 38 |
| j | | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 6 |
| N | | 4.5 | 5.5 | 6 | 6 | 8 | 10 | 11 | 13 |
| p | | 14.5 | 16 | 18.5 | 21 | 24.5 | 30 | 36 | 44 |
| r | | 4.5 | 5.5 | 6 | 6 | 8 | 10 | 11 | 13 |
| s | | 2.5 | 28 | 3.5 | 6 | 7.5 | 9.5 | 13 | 16 |
| t H7 | | 5 | 6 | 6 | 6 | 8 | 10 | 12 | 15 |
| u H7 | | 5 | 8 | 6 | 8 | 10 | 12 | 15 | 18 |

External Dimension Table:

All dimensions in mm

| MODEL No | C | TC01-360-C | TC01-400-C |
|----------|----------|------------|------------|
| | | Ø22 | Ø25 |
| | RH | TC01-361-R | TC01-401-R |
| | LH | TC01-362-L | TC01-402-L |
| | A | 79 | 87.5 |
| | B | 51 | 55 |
| | C | 42 | 46 |
| | D | 36 | 40 |
| | E | 54 | 54 |
| | F | 29 | 31 |
| | G | 25 | 25 |
| | H | 30 | 32 |
| | J | 21 | 23 |
| | K | 31.5 | 34 |
| | L | 70 | 74 |
| | M | 11 | 11 |
| | N | 23.5 | 26 |
| | P | 3 | 3 |
| | Q | 7.5 | 9.5 |
| | ØR | 4.5 | 5.6 |
| | S | 18 | 15 |
| | T | 27 | 30.5 |
| | U | 10 | 12 |
| | V | 22.5 | 25 |
| | W | 30 | 30.5 |
| | X | 20 | 22 |
| | Y | 10 | 32 |
| | Z | 19 | 21 |
| | ZA | 16 | 18 |
| | Hvd.port | G1/8" | G1/8" |
| | AA | 14.5 | 16 |
| | AB | 5 | 6 |
| | ØAC | 5 | 6 |
| | AD | | |
| | ØAE | 5 | 6 |
| | AF | 43 | 44.5 |
| | AG | 19.6 | 20.2 |
| | AH | 5 | 6 |
| | AJ | AJ | AJ |
| | BA | 10 | 12 |
| | BB | 12.5 | 14 |
| | BC | BC | BC |
| | BD | BD | BD |

Specification Table :

| | | |
|-------------------------------|------|------|
| Lock cyl.area (cm) | 3.8 | 4.9 |
| full stroke mm | 18.5 | 20 |
| locking stroke mm | 15.5 | 17 |
| Extra stroke mm | 3 | 3 |
| cyl.volume lock cm3 | 5.9 | 8.33 |
| Release cm3 | 4.7 | 6.4 |
| Max.operating pressure (Mpa) | 7 | |
| Min.operating pressure (Mpa) | 0.5 | |
| design pressure (Mpa) | 10.5 | |
| Temperature (0C) | 0.7 | |
| weight (kg) | 0.72 | 1.15 |

Machining Dimension Table For Mounting Clamp :

| Model No | RH | TC01-361 | TC01- 401 |
|----------|-------|----------|-----------|
| | LH | TC01-362 | TC01- 402 |
| | A | 31.4 | 34 |
| | B | M4 | M5 |
| | C+0.2 | 36 | 40 |
| | D | 30 | 35 |
| | E | 23.5 | 26 |
| | F | 16 | 18 |
| | G | 2.5 | 2.5 |

Toggle Clamp Cylinder

Double Acting

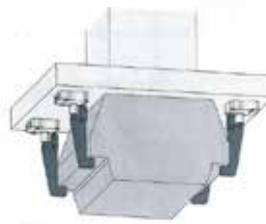
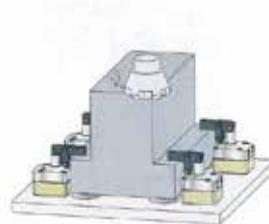
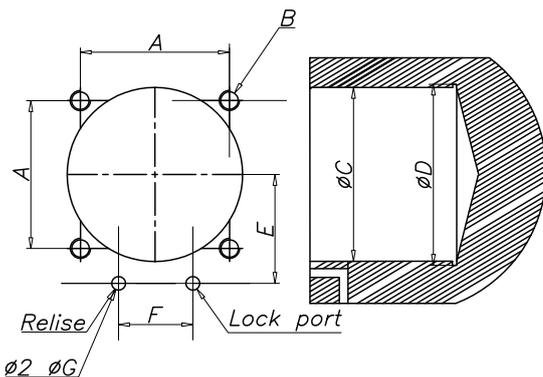
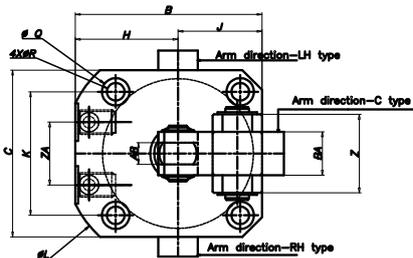
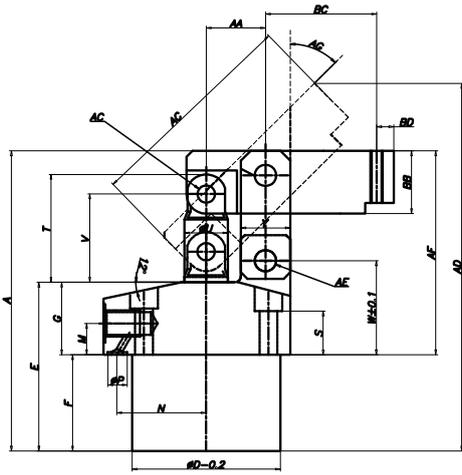


Features:

- This is a double acting cylinder with link clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It is hydraulic & centre port configuration.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:

Application Sample:



Machining Dimensions For Cylinder Mounting

| MODELNo | RH | 481 | 551 | 651 | 751 | 901 | 1051 |
|---------|----|-----|------|------|-----|------|------|
| | LH | 482 | 552 | 652 | 752 | 902 | 1052 |
| A | | 40 | 47 | 55 | 63 | 75 | 88 |
| B | | M5 | M6 | M6 | M8 | M10 | M12 |
| C+0.2 | | 48 | 55 | 65 | 75 | 90 | 105 |
| D | | 45 | 50 | 60 | 70 | 85 | 100 |
| E | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| F | | 22 | 24 | 30 | 32 | 37 | 45 |
| G | | 3 | 3 | 3 | 3 | 3 | 4 |

External Dimension Table: _____

All dimensions in mm

| MODEL No | C | TC01-480-C | TC01-550-C | TC01-650-C | TC01-750-C | TC01-900-C | TC01-1050-C |
|----------|----|------------|------------|------------|------------|------------|-------------|
| | RH | TC01-481-R | TC01-551-R | TC01-651-R | TC01-751-R | TC01-901-R | TC01-1051-R |
| | LH | TC01-482-L | TC01-552-L | TC01-652-L | TC01-752-L | TC01-902-L | TC01-1052-L |
| BORE-DIA | | Ø30 | Ø35 | Ø45 | Ø55 | Ø65 | Ø85 |
| A | | 101 | 112.5 | 129.5 | 153 | 182 | 211 |
| B | | 61 | 69 | 81 | 94.5 | 111 | 127 |
| C | | 51 | 60 | 70 | 85 | 100 | 120 |
| D | | 48 | 55 | 65 | 75 | 90 | 105 |
| E | | 62 | 67 | 75.5 | 86 | 103 | 117 |
| F | | 34 | 39 | 45.5 | 49 | 63 | 67 |
| G | | 28 | 28 | 30 | 37 | 40 | 50 |
| H | | 35.5 | 39 | 46 | 52 | 61 | 67 |
| J | | 25.5 | 30 | 35 | 42.5 | 50 | 60 |
| K | | 40 | 47 | 55 | 63 | 75 | 88 |
| L | | 83 | 88 | 106 | 116 | 136 | 152 |
| M | | 11 | 11 | 12 | 15 | 16 | 15 |
| N | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| P | | 3 | 3 | 3 | 3 | 3 | 4 |
| Q | | 9.5 | 11 | 11 | 14 | 17.5 | 20 |
| R | | 5.5 | 6.8 | 6.8 | 9 | 11 | 14 |
| S | | 19 | 18 | 20 | 22 | 22 | 26 |
| T | | 35 | 37.5 | 45 | 55 | 65.5 | 77 |
| U | | 14 | 16 | 18 | 22 | 28 | 35.5 |
| V | | 29 | 31.5 | 37 | 45 | 52 | 62 |
| W | | 34.5 | 35.5 | 39 | 48 | 52.5 | 64 |
| X | | 26 | 30 | 35.5 | 43.5 | 52.5 | 64 |
| Y | | 13 | 16 | 19 | 25 | 28 | 32 |
| Z | | 21 | 28 | 37 | 40 | 49 | 64 |
| ZA | | 22 | 24 | 30 | 32 | 37 | 45 |
| Hvd.port | | G1/8" | G1/8" | G1/4" | G1/4" | G1/4" | G3/8" |
| AA | | 18.5 | 21 | 24.5 | 30 | 36 | 44 |
| AB | | 6 | 8 | 10 | 11 | 13 | 16 |
| ØAC | | 6 | 6 | 8 | 10 | 12 | 15 |
| ØAE | | 6 | 8 | 10 | 12 | 15 | 18 |
| AD | | 92.4 | 101.9 | 111.4 | 130.8 | 146.5 | 173.6 |
| AF | | 51 | 53.5 | 59 | 72 | 81 | 98 |
| AG | | 18.9 | 19.9 | 20.5 | 21.4 | 22.4 | 23.1 |
| AH | | 4.3 | 4.7 | 4.3 | 4.5 | 5 | 4.1 |
| AJ | | 61.2 | 71.7 | 78.7 | 90.8 | 104.6 | 122.5 |
| BA | | 12 | 16 | 19 | 22 | 25 | 32 |
| BB | | 16 | 20 | 25 | 32 | 38 | 45 |
| BC | | 23.5 | 29 | 32 | 37.5 | 41.5 | 21 |
| BD | | 6 | 8 | 10 | 11 | 14 | 17 |

Specification Table: _____

| | | | | | | | |
|-------------------------|---------|-------|-------|-------|-------|-------|--------|
| Lock cyl.area (cm) | 7.07 | 9.62 | 15.9 | 23.7 | 33.2 | 44.2 | |
| full stroke mm | 23.5 | 26 | 29.5 | 35 | 41 | 49 | |
| locking stroke mm | 20.5 | 23 | 26.5 | 32 | 38 | 46 | |
| Extra stroke mm | 3 | 3 | 3 | 3 | 3 | 3 | |
| Cyl.volume | lock | 14.5 | 22.13 | 42.14 | 75.85 | 126.2 | 203.35 |
| | Release | 11.33 | 175 | 35.4 | 63.8 | 102.6 | 157.7 |
| max.pressure mpa | 7 | | | | | | |
| min .pressure mpa | 0.5 | | | | | | |
| design pressure (Mpa) | 10.5 | | | | | | |
| Temperature (OC) | 0.7 | | | | | | |
| weight (kg) | 1.5 | 1.8 | 2.5 | 4.2 | 6.5 | 10.2 | |

Swing Cylinder (Top Mounting)

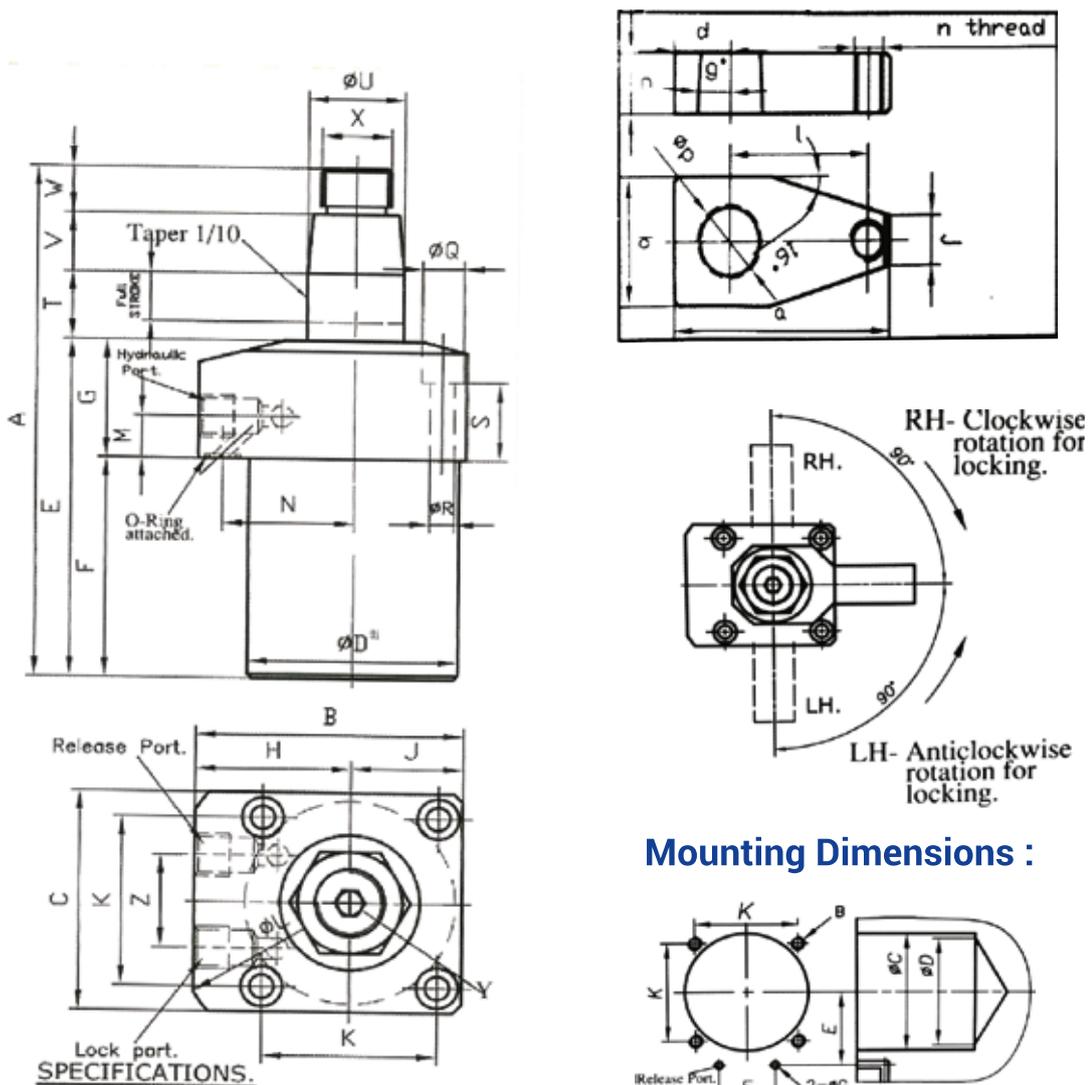
Double Acting



Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
150 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:



Mounting Dimensions :

External Dimension Table:

All dimensions in mm

| MODEL | 90° RH | SC02-361-R | SC02-401-R |
|-----------------|--------|------------|------------|
| | 90° LH | SC02-362-L | SC02-402-L |
| BORE-DIA | | Ø22 | Ø25 |
| A | | 114 | 128 |
| B | | 50 | 55 |
| C | | 41 | 46 |
| D | -0.2 | 36 | 40 |
| E | | 72 | 78 |
| F | | 45 | 53 |
| G | | 27 | 25 |
| H | | 29.5 | 32 |
| J | | 20.5 | 23 |
| K | | 31.5 | 34 |
| L | | 69 | 74 |
| M | | 14 | 11.5 |
| N | | 23.5 | 26 |
| P | | 3 | 3 |
| Q | | 7.5 | 9.5 |
| R | | 4.5 | 5.5 |
| S | | 18 | 17 |
| T | | 21 | 22 |
| U | | 14 | 16 |
| V | | 9 | 12 |
| W | | 12 | 15 |
| X | | M10 | M12 |
| Y(HEX Xdepth) | | 5X4 | 6X5 |
| Z | | 16 | 18 |
| Hvd.port | | G1/8" | G1/8" |
| Taper angle | | 6° | 6° |

Specification

| | | |
|--------------------------------|-------------|------|
| Lock cyl.area (cm) | 203 | 2.36 |
| full stroke(90 rotation) mm | 18 | 20 |
| swing stroke(90 rotation) mm | 10 | 12 |
| locking stroke mm | | |
| Cyl.volume | lock cm3 | 26 |
| | Release cm3 | 4.9 |
| pressure (mpa) | 7 | |
| max.operating pressure. (mpa) | 1.5 | |
| Design pressure (mpa) | 10.5 | |
| Temperature (OC) | 0.7 | |
| weight (kg) | 0.8 | 1 |

Machining Dimensions For Cylinder Mounting

| MODEL No | RH | SC02-361 | SC02-401 |
|----------|----|----------|----------|
| | LH | SC02-362 | SC02-402 |
| K | | 31.5 | 34 |
| B | | M4 | M5 |
| C+0.2 | | 36 | 40 |
| D | | 31 | 35 |
| E | | 23.5 | 26 |
| F | | 16 | 18 |
| G | | 3 | 3 |

Clamp Lever Dimension (Without Sleeve)

| MODEL No | RH | 361 | 401 | 481 | 551 | 651 | 751 | 901 | 1051 |
|----------|----|-----|------|------|-----|------|-----|-----|------|
| | LH | 362 | 402 | 482 | 552 | 652 | 752 | 902 | 1052 |
| a | | 50 | 56.5 | 65.5 | 77 | 91.5 | 105 | 127 | 152 |
| b | | 26 | 28 | 35 | 38 | 50 | 58 | 75 | 90 |
| c | | 11 | 13 | 16 | 22 | 22 | 28 | 34 | 40 |
| d | | 13 | 14 | 17.5 | 19 | 25 | 29 | 38 | 45 |
| g | | 3 | 3 | 3 | 3 | 3 | 5.5 | 5.5 | 5.5 |
| i | | 32 | 36.5 | 42 | 50 | 56.5 | 65 | 75 | 90 |
| j | | 10 | 12 | 12 | 17 | 19 | 22 | 27 | 32 |
| n | | M5 | M6 | M6 | M8 | M10 | M16 | M16 | M20 |
| p | | 15 | 18 | 22 | 25 | 30 | 40 | 45 | 55 |

Swing Cylinder (Top Mounting)

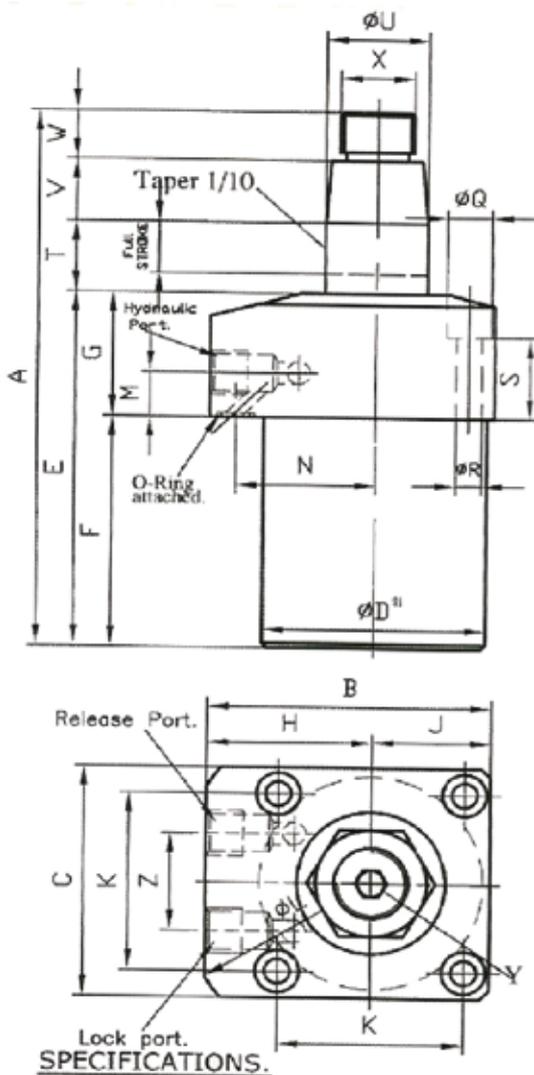
Double Acting



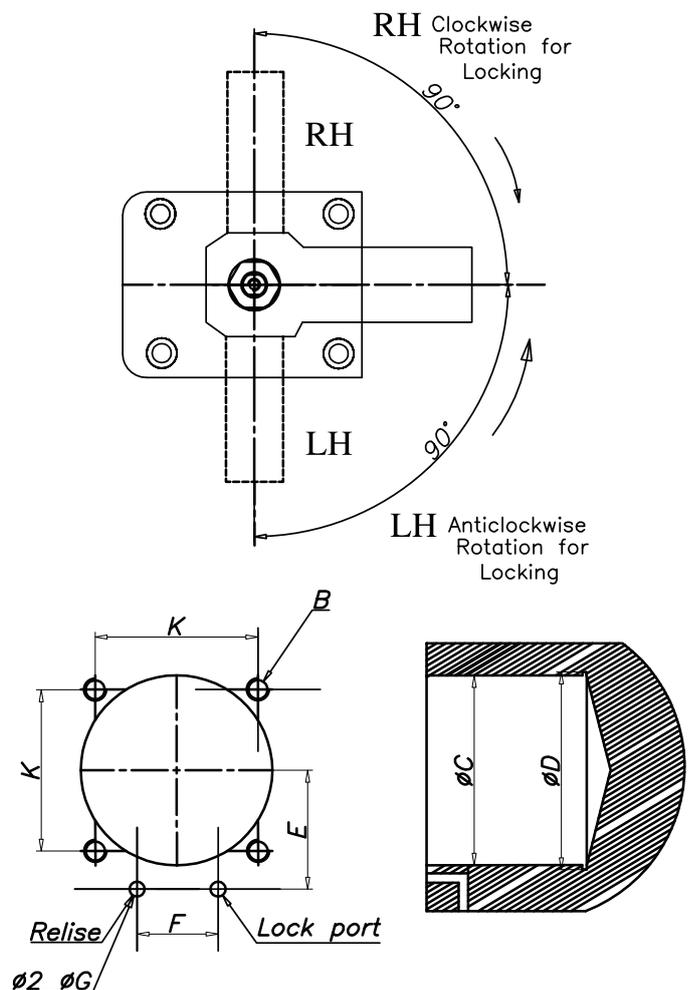
Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure) 150 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension:



Application Sample:



External Dimension Table:

All dimensions in mm

| MODEL NO | 90° RH | SC02-481R | SC02-551R | SC02-651R | SC02-751R | SC02-901R | SC02-1051R |
|-----------------|--------|-----------|-----------|-----------|------------|-----------|------------|
| | 90° LH | SC02-482L | SC02-552L | SC02-652L | SC02-7552L | SC02-902L | SC02-1052L |
| Bore Dia | | Ø35 | Ø40 | Ø50 | Ø55 | Ø75 | Ø85 |
| A | | 141 | 159 | 163 | 195 | 215 | 263 |
| B | | 61 | 69 | 81 | 92 | 107 | 127 |
| C | | 52 | 60 | 70 | 80 | 95 | 120 |
| D | | 48 | 55 | 65 | 75 | 90 | 105 |
| E | | 87 | 96 | 97 | 115 | 125 | 153 |
| F | | 58 | 68 | 67 | 78 | 85 | 102 |
| G | | 28 | 30 | 30 | 37 | 40 | 51 |
| H | | 35 | 39 | 46 | 52 | 59.5 | 67 |
| J | | 26 | 30 | 35 | 40 | 47.5 | 60 |
| K | | 40 | 47 | 55 | 63 | 75 | 88 |
| L | | 83 | 88 | 106 | 116 | 136 | 152 |
| M | | 12.5 | 11 | 12 | 15 | 18 | 17 |
| N | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| P | | 3 | 3 | 3 | 3 | 3 | 4 |
| Q | | 9.5 | 11 | 11 | 14.5 | 17.5 | 20 |
| R | | 5.5 | 6.6 | 6.6 | 9 | 11 | 14 |
| S | | 18.5 | 18 | 20 | 22 | 22 | 26 |
| T | | 25.6 | 23 | 28 | 36 | 36 | 47 |
| U | | 22 | 25 | 30 | 36 | 45 | 55 |
| V | | 14 | 20 | 20 | 26 | 32 | 38 |
| W | | 15 | 15 | 18 | 18 | 22 | 25 |
| X | | M16X15 | M16X15 | M20X1.5 | M30X1.5 | M36X1.5 | M45x1.5 |
| Y(hex Xdepth) | | 6X6 | 8X6 | 10X8 | 10X10 | 10X10 | 12X10 |
| Z | | 22 | 24 | 30 | 32 | 37 | 45 |
| Hvd.port | | G1/8" | G1/8" | G1/8" | G1/4" | G1/4" | G3/8" |
| Taper angle | | 6° | 6° | 6° | 6° | 11° | 11° |

Specification Table :

| | | | | | | |
|-----------------------------------|-------------|------|------|------|------|-------|
| Lock cvl.Area cm | 5 | 8 | 14 | 19.7 | 31.2 | 40.7 |
| Full strocke mm | 22 | 24 | 24 | 31 | 32 | 42 |
| (90'rotation) mm (90'rotion) | 12 | 14 | 14 | 19 | 20 | 26 |
| locking stroke mm | 10 | 10 | 10 | 12 | 12 | 16 |
| cyl.volume | lock cm3 | 7 | 13.2 | 25.2 | 42.3 | 102.6 |
| | Release cm3 | 12.5 | 20.9 | 37.1 | 68.7 | 199.5 |
| Max. pressure (Mpa) | 7 | | | | | |
| Min. pressure (Mpa) | 1.5 | | | | | |
| design pressure (Mpa) | 10.5 | | | | | |
| Temperature (OC) | 0.7 | | | | | |
| weight (kg) | 1.3 | 1.8 | 2.7 | 4.2 | 5.5 | 9 |

Machining Dimension Table For Mounting Clamp :

| MODEL No | RH | 481 | 551 | 651 | 751 | 901 | 1051 |
|----------|----|-----|------|------|-----|------|------|
| | LH | 482 | 552 | 652 | 752 | 902 | 1052 |
| K | | 40 | 47 | 55 | 63 | 75 | 88 |
| B | | M5 | M6 | M6 | M8 | M10 | M12 |
| C+0.2 | | 48 | 55 | 65 | 75 | 90 | 105 |
| D | | 45 | 50 | 60 | 70 | 85 | 100 |
| E | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| F | | 22 | 24 | 30 | 32 | 37 | 45 |
| G | | 3 | 3 | 3 | 3 | 3 | 4 |

Swing Cylinder (Top Mounting P Type)

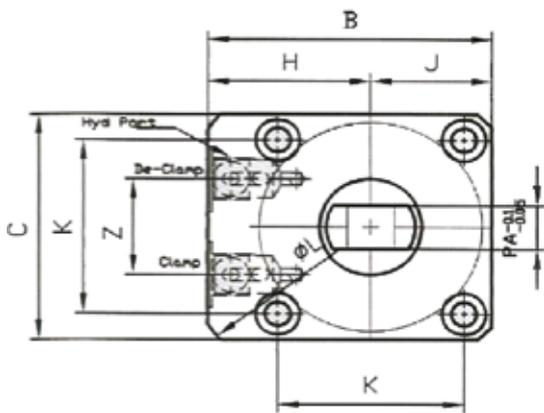
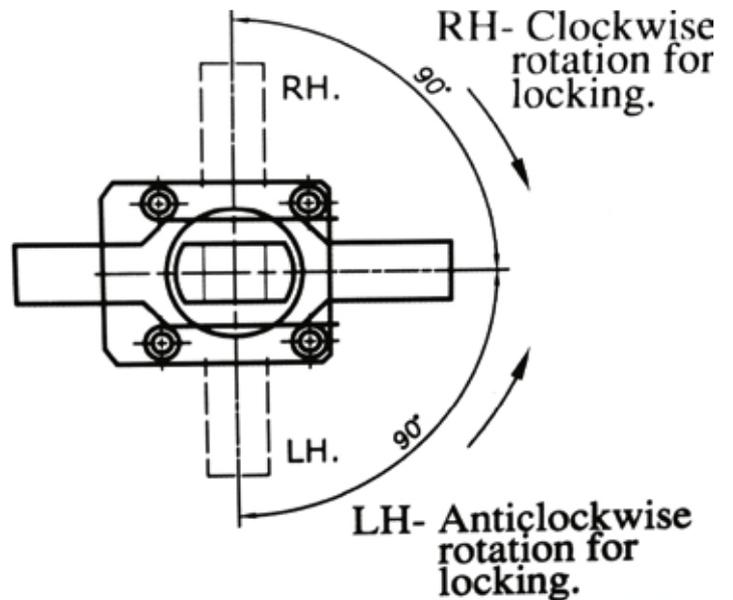
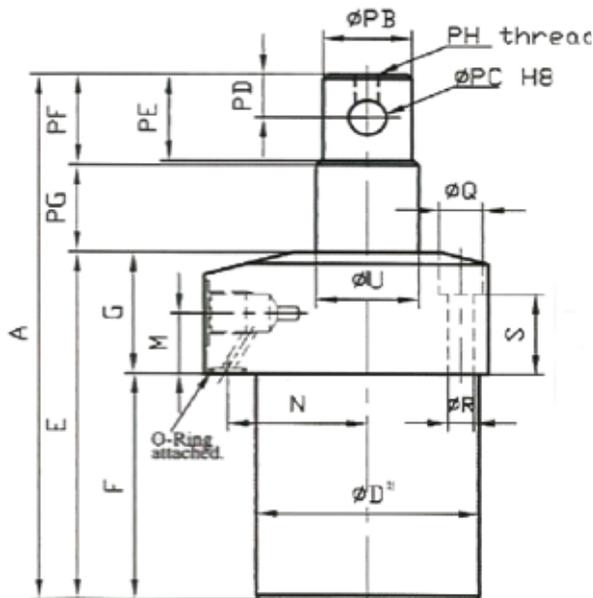
Double Acting



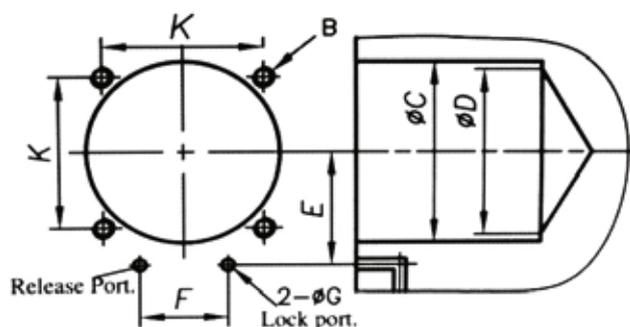
Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
150 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:



Mounting Dimensions:



External Dimension Table:

All dimensions in mm

| MODEL NO | 90° RH | SC02 361-RP | SC02 401-RP | SC02 481-RP | SC02 551-RP | SC02 651-RP | SC02 751-RP | SC02 901-RP | SC02 1051-RP |
|-----------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | 90° LH | SC02 362-LP | SC02 402-LP | SC02 482-LP | SC02 552-LP | SC02 652-LP | SC02 752-LP | SC02 902-LP | SC02 1052-LP |
| BORE-DIA | | Ø22 | Ø25 | Ø35 | Ø40 | Ø50 | Ø55 | Ø75 | Ø85 |
| A | | 110 | 119 | 136 | 141.5 | 156 | 189 | 205.5 | 254 |
| B | | 50 | 55 | 61 | 69 | 81 | 92 | 107 | 127 |
| C | | 41 | 46 | 52 | 60 | 70 | 80 | 95 | 120 |
| ØD | | 36 | 40 | 48 | 55 | 65 | 75 | 90 | 105 |
| E | | 72 | 78 | 87 | 96 | 97 | 114.5 | 125 | 153 |
| F | | 53 | 53 | 58.5 | 67 | 68 | 77.5 | 84 | 100 |
| G | | 27 | 25 | 28 | 30 | 30 | 37 | 40 | 53 |
| H | | 29.5 | 32 | 35 | 39 | 46 | 52 | 59.5 | 67 |
| J | | 20.5 | 23 | 26 | 30 | 35 | 40 | 47.5 | 60 |
| K | | 31.4 | 34 | 40 | 47 | 55 | 63 | 75 | 88 |
| ØL | | 69 | 74 | 83 | 88 | 106 | 116 | 136 | 152 |
| M | | 14 | 12 | 12.5 | 18 | 18 | 24 | 24 | 31 |
| N | | 23.5 | 26 | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| P | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| Q | | 7.5 | 9 | 9.5 | 11 | 11 | 14.5 | 17.5 | 20 |
| R | | 4.5 | 5.5 | 5.5 | 6.6 | 6.6 | 9 | 11 | 14 |
| S | | 16 | 19 | 18.5 | 17 | 18 | 22 | 22 | 24.5 |
| U | | 14 | 16 | 22 | 25 | 30 | 36 | 45 | 55 |
| PG | | 21 | 21 | 24 | 29 | 28 | 32 | 33.5 | 44.5 |
| PF | | 17 | 20 | 25 | 30.5 | 32 | 41.5 | 46 | 56.5 |
| PE | | 16 | 18 | 23.5 | 29 | 30.5 | 38.5 | 44.5 | 53.5 |
| PH thread | | M3 | M3 | M4 | M5 | M6 | M6 | M8 | M8 |
| PD | | 7 | 9 | 10 | 12 | 15 | 16.5 | 20 | 24 |
| ØPB | | 13 | 14.5 | 20 | 23 | 28 | 34 | 43 | 53 |
| ØPC H8 | | 6H8 | 6H8 | 8 | 10 | 12 | 12 | 16 | 20 |
| PA | | 7 | 8 | 10 | 12 | 14 | 16 | 22 | 26 |
| z | | 16 | 18 | 22 | 24 | 30 | 32 | 37 | 45 |
| Hyd-port | | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/4" | G1/4" | G3/8" |

Specification Table :

| | | | | | | | | | |
|-----------------------------------|-------------|------|------|------|------|------|------|-------|-------|
| Lock cvl.Area cm | 2.6 | 3.07 | 5 | 8 | 14 | 19.7 | 31.2 | 40.7 | |
| Full strocke mm | 18 | 20 | 22 | 24 | 24 | 31 | 32 | 42 | |
| (90°rotation) mm (90°rotion) | 10 | 12 | 12 | 14 | 14 | 19 | 20 | 26 | |
| locking stroke mm | 8 | 8 | 10 | 10 | 10 | 17 | 12 | 16 | |
| cyl.volume | lock cm3 | 4.8 | 7.3 | 7 | 13.2 | 25.2 | 42.3 | 102.6 | 151 |
| | Release cm3 | 7.2 | 10.9 | 12.5 | 20.9 | 37.1 | 68.7 | 127.8 | 199.5 |
| Max. pressure (Mpa) | 7 | | | | | | | | |
| Min. pressure (Mpa) | 1.5 | | | | | | | | |
| design pressure (Mpa) | 10.5 | | | | | | | | |
| Temperature (OC) | 0-70 | | | | | | | | |
| weight (kg) | 0.7 | 0.9 | 1.3 | 1.8 | 2.7 | 4.2 | 5.5 | 9 | |

Machining Dimension Table For Mounting Clamp :

| MODEL NO | 90° RH | SC02 361-RP | SC02 401-RP | 481-RP | 551-RP | 651-RP | 751-RP | 901-RP | 1051-RP |
|----------|--------|-------------|-------------|--------|--------|--------|--------|--------|---------|
| | 90° LH | SC02 362-LP | SC02 402-LP | 482-LP | 552-LP | 652-LP | 752-LP | 902-LP | 1052-LP |
| K | | 31.5 | 34 | 40 | 47 | 55 | 63 | 75 | 88 |
| B | | M4 | M5 | M5 | M6 | M6 | M8 | M10 | M12 |
| C+0.2 | | 36 | 40 | 48 | 55 | 65 | 75 | 90 | 105 |
| D | | 31 | 35 | 45 | 50 | 60 | 70 | 85 | 100 |
| E | | 23.5 | 26 | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| F | | 16 | 18 | 22 | 24 | 30 | 32 | 37 | 45 |
| G | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |

Swing Cylinder (Bottom Mounting)

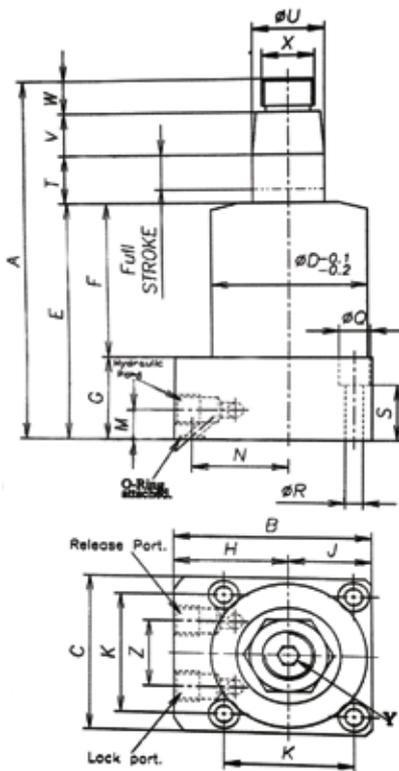
Double Acting



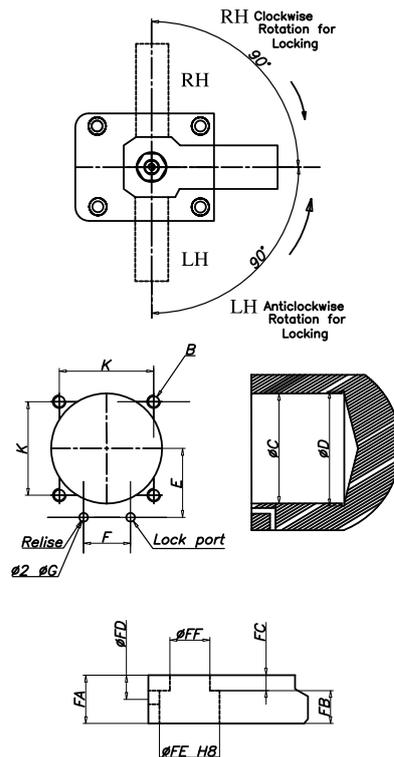
Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
150 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:



Application Sample:



Clamp lever dimension table (with sleeve):

| MODEL No | 361 | 401 | 481 | 551 | 651 | 751 | 901 | 1051 |
|----------|------|------|------|------|------|------|------|------|
| | 362 | 402 | 482 | 552 | 652 | 752 | 902 | 1052 |
| FA | 12 | 16 | 19 | 25 | 25 | 32 | 38 | 45 |
| FB | 10 | 12 | 16 | 18.5 | 20.8 | 26 | 32 | 38 |
| FC | 2.5 | 3 | 4 | 4 | 4 | 5 | 5 | 6 |
| FD | 4.3 | 5.3 | 6.3 | 6.3 | 7.5 | 8.5 | 9.5 | 10.5 |
| FE | 17 | 20 | 25 | 28 | 34 | 40 | 49 | 60 |
| FF | 13.9 | 16.7 | 20.6 | 23 | 28 | 32.9 | 41.8 | 51.2 |
| FG | 4 | 5 | 5 | 5 | 6 | 6 | 6 | 8 |

External Dimension Table: _____

All dimensions in mm

| MODEL NO | 90° RH | SB03-361-R | SB03-401--R |
|-----------------|--------|------------|-------------|
| | 90° LH | SB03-362-L | SB03-402--L |
| Bore Dia | | Ø22 | Ø25 |
| A | | 116 | 127 |
| B | | 50 | 55 |
| C | | 41 | 46 |
| D | | 36 | 40 |
| E | | 72 | 78 |
| F | | 48.5 | 50 |
| G | | 25 | 28 |
| H | | 29.5 | 32 |
| J | | 20.5 | 23 |
| K | | 31.5 | 34 |
| ØL | | 69 | 74 |
| M | | 14 | 19 |
| N | | 23.5 | 26 |
| P | | 3 | 3 |
| Q | | 7.5 | 9.5 |
| R | | 4.5 | 5.5 |
| S | | 18 | 17 |
| T | | 22.5 | 22 |
| ØU | | 14 | 16 |
| V | | 9 | 12 |
| W | | 7 | 15 |
| X | | M10 | M12 |
| Y(hex Xdepth) | | 4X5 | 4X5 |
| Z | | 16 | 18 |
| Hvd.port | | G1/8" | G1/8" |
| Taper angle | | 6° | 6° |

Specification Table : _____

| | | | |
|-------------------------------|-------------|------|------|
| Lock cyl.area (cm) | 2.03 | 2.36 | |
| full stroke (90 rotation) mm | 18 | 20 | |
| swine stroke (90 rotation) mm | 10 | 12 | |
| locking stroke mm | 8 | 8 | |
| cyl.volume | lock cm3 | 2.6 | 3.07 |
| | Release cm3 | 4.9 | 6.38 |
| Max.operating pressure (Mpa) | 7 | | |
| Min.operating pressure (Mpa) | 1.5 | | |
| design pressure (Mpa) | 10.5 | | |
| Temperature (OC) | 0-70 | | |
| weight (kg) | 0.8 | 1 | |

Machining Dimension Table For Mounting Clamp : _____

| MODEL | 90° RH | SB03-361-R | SB03-401-R |
|-------|--------|------------|------------|
| | 90° LH | SB03-362-L | SB03-402-L |
| K | | 31.5 | 34 |
| B | | M4 | M5 |
| C+0.2 | | 36 | 40 |
| D | | 31 | 35 |
| E | | 23.5 | 26 |
| F | | 16 | 18 |
| G | | 3 | 3 |

Swing Cylinder (Bottom Mounting)

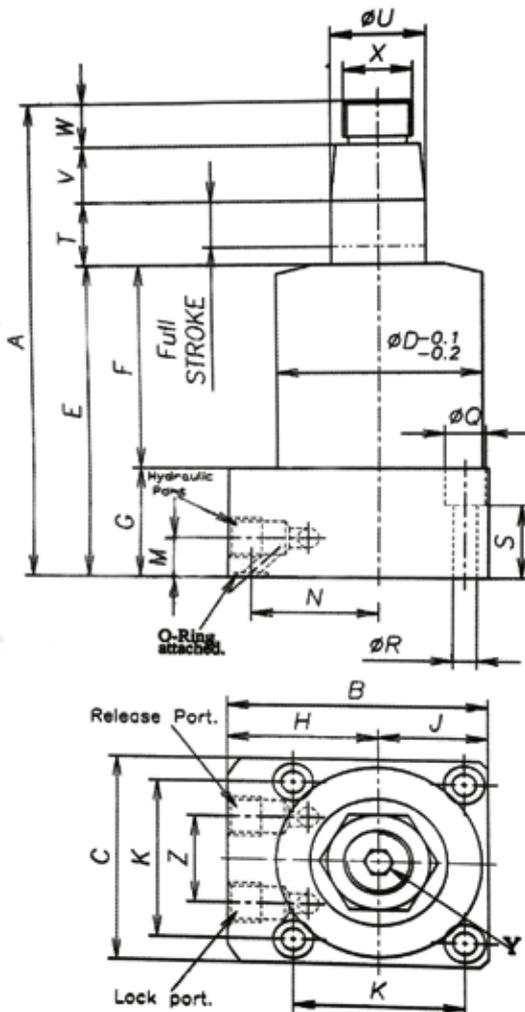
Double Acting



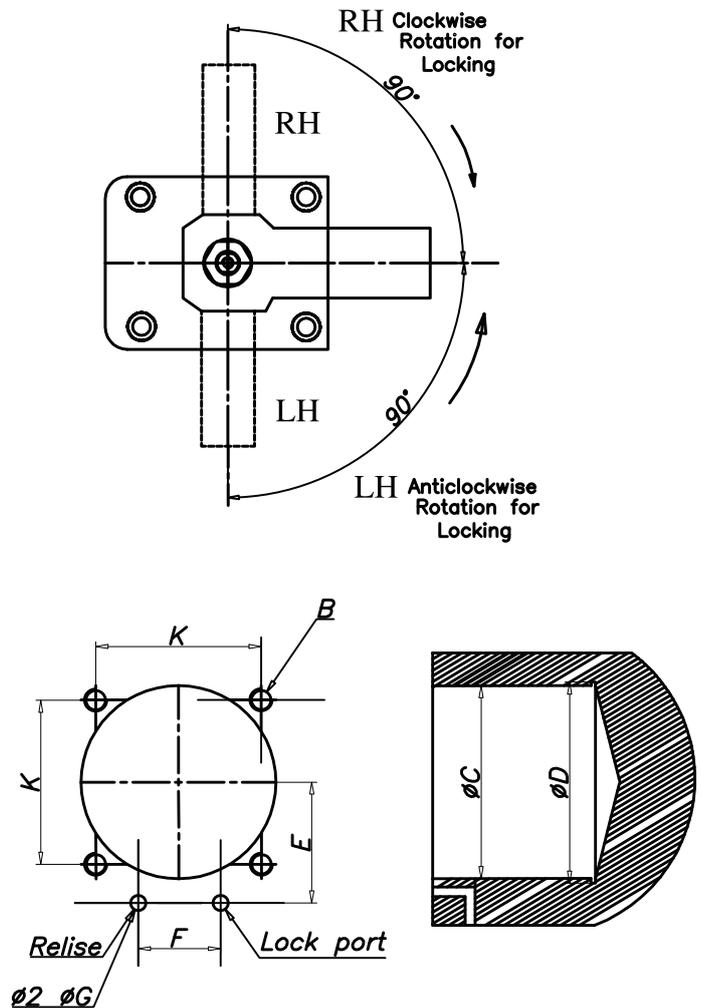
Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure) 150 MPa (maximum operating pressure) 70 bar N (pushing force)

Outline Dimension:



Application Sample:



External Dimension Table:

All dimensions in mm

| MODEL NO | 90° RH | SB03-481-R | SB03-551-R | SB03-651-R | SB03-751-R | SB03-901-R | SB03-1051-R |
|------------------|--------|------------|------------|------------|------------|------------|-------------|
| | 90° LH | SB03-482-L | SB03-552-L | SB03-652-L | SB03-752-L | SB03-902-L | SB03-1052-L |
| BORE-DIA | | Ø35 | Ø40 | Ø50 | Ø55 | Ø75 | Ø85 |
| A | | 136 | 159 | 163 | 194.5 | 215 | 262 |
| B | | 61 | 69 | 81 | 92 | 107 | 127 |
| C | | 52 | 60 | 70 | 80 | 95 | 120 |
| D | | 48 | 55 | 65 | 75 | 90 | 105 |
| E | | 86.5 | 96 | 97.5 | 114.5 | 125 | 153 |
| F | | 58.5 | 67 | 68 | 77.5 | 84 | 100 |
| G | | 28 | 30 | 30 | 37 | 40 | 53 |
| H | | 35 | 39 | 46 | 52 | 59.5 | 67 |
| J | | 26 | 30 | 35 | 40 | 47.5 | 60 |
| K | | 40 | 47 | 55 | 63 | 75 | 88 |
| L | | 83 | 88 | 106 | 116 | 136 | 152 |
| M | | 16 | 18 | 18 | 15 | 24 | 31 |
| N | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| P | | 3 | 3 | 3 | 3 | 3 | 4 |
| Q | | 9.5 | 11 | 11 | 14.5 | 17.5 | 20 |
| R | | 5.5 | 6.6 | 6.6 | 9 | 11 | 14 |
| S | | 18.5 | 17 | 18 | 22 | 22 | 24.5 |
| T | | 25 | 29 | 28 | 36 | 36 | 46 |
| U | | 22 | 25 | 30 | 36 | 45 | 55 |
| V | | 14 | 20 | 20 | 26 | 32 | 38 |
| W | | 15 | 15 | 18 | 18 | 22 | 25 |
| X | | M16X15 | M16X15 | M20X1.5 | M30X1.5 | M36X1.5 | M45x1.5 |
| Y (hex Xdepth) | | 5X6 | 5X8 | 6X8 | 6X10 | 8X10 | 10X10 |
| Z | | 22 | 24 | 30 | 32 | 37 | 45 |
| Hvd.port | | G1/8" | G1/8" | G1/8" | G1/4" | G1/4" | G3/8" |
| Taper angle | | 6° | 6° | 6° | 6° | 11° | 11° |

Specification Table :

| | | | | | | |
|-----------------------------------|-------------|------|------|------|------|-------|
| Lock cvl.Area cm | 5 | 8 | 14 | 19.7 | 31.2 | 40.7 |
| Full stroke mm | 22 | 24 | 24 | 31 | 32 | 42 |
| (90'rotation) mm (90'rotion) | 12 | 14 | 14 | 19 | 20 | 26 |
| locking stroke mm | 10 | 10 | 10 | 12 | 12 | 16 |
| cyl.volume | lock cm3 | 7 | 13.2 | 25.2 | 42.3 | 102.6 |
| | Release cm3 | 12.5 | 20.9 | 37.1 | 68.7 | 127.8 |
| Max. pressure (Mpa) | 7 | | | | | |
| Min. pressure (Mpa) | 1.5 | | | | | |
| design pressure (Mpa) | 10.5 | | | | | |
| Temperature (OC) | 0.7 | | | | | |
| weight (kg) | 1.3 | 1.8 | 2.7 | 4.2 | 5.5 | 9 |

Machining Dimension Table For Mounting Clamp :

| MODEL NO | 90° RH | 481-R | 551-R | 351-R | 751-R | 901-R | 1051-R |
|----------|--------|-------|-------|-------|-------|-------|--------|
| | 90° LH | 482-L | 552-L | 652-L | 752-L | 902-L | 1052-L |
| K | | 40 | 47 | 55 | 63 | 75 | 88 |
| B | | M5 | M6 | M6 | M8 | M10 | M12 |
| C+0.2 | | 48 | 55 | 65 | 75 | 90 | 105 |
| D | | 45 | 50 | 60 | 70 | 85 | 100 |
| E | | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| F | | 22 | 24 | 30 | 32 | 37 | 45 |
| G | | 3 | 3 | 3 | 3 | 3 | 4 |

Swing Cylinder (Bottom Mounting P Type)

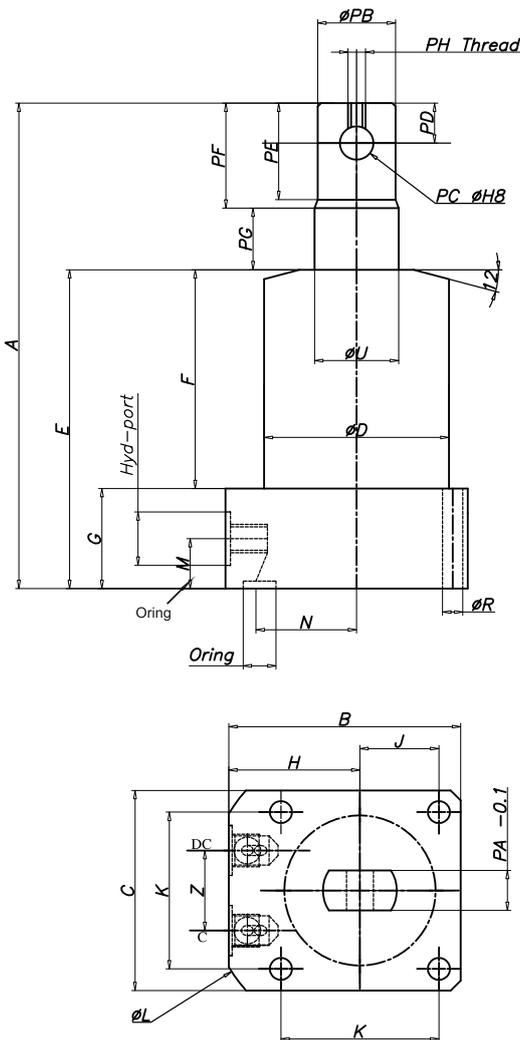
Double Acting



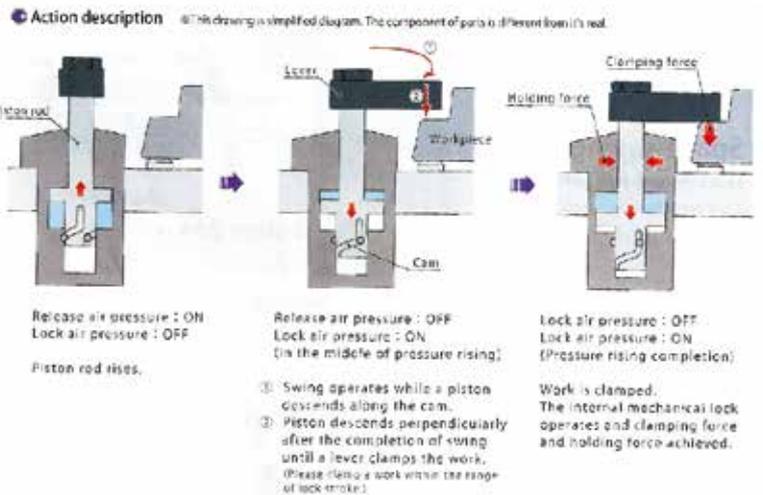
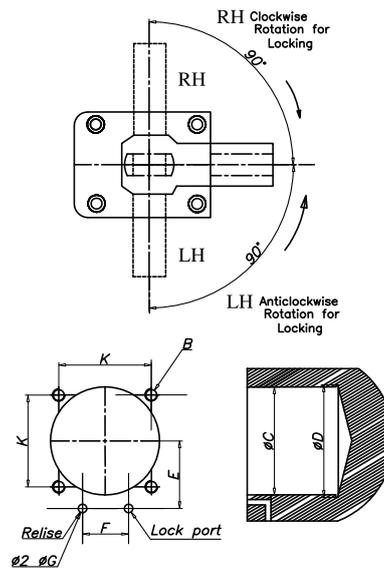
Features:

- This is a double acting cylinder with swing clamp.
- It is a Chromium plated piston rod with alloy steel body.
- It can be used with the rotation of 90°.
- These cylinders can be used for clamping of clock wise (RH) & counter clock wise direction (LH).
- It can be used in the range of 1 MPa (minimum operating pressure)
150 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:



Application Sample:



External Dimension Table:

All dimensions in mm

| MODEL NO | 90° RH | SB03 361-RP | SB03 401-RP | SB03 481-RP | SB03 551-RP | SB03 651-RP | SB03751-RP | SB03901-RP | SB03 1051-RP |
|-----------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | 90° LH | SB03 362-LP | SB03 422-LP | SB03 482-LP | SB03 552-LP | SB03-652-LP | SB03 752-LP | SB03-902-LP | SB03 1052-LP |
| BORE-DIA | | Ø22 | Ø25 | Ø35 | Ø40 | Ø50 | Ø55 | Ø75 | Ø85 |
| A | | 112 | 119 | 126 | 141.5 | 156 | 189 | 205.5 | 254 |
| B | | 50 | 55 | 61 | 69 | 81 | 92 | 107 | 127 |
| C | | 41 | 46 | 52 | 60 | 70 | 80 | 95 | 120 |
| ØD | | 36 | 40 | 48 | 55 | 65 | 75 | 90 | 105 |
| E | | 73.5 | 78 | 86.5 | 96 | 97 | 114.5 | 125 | 153 |
| F | | 48.5 | 50 | 58.5 | 67 | 68 | 77.5 | 84 | 100 |
| G | | 25 | 25 | 28 | 30 | 30 | 37 | 40 | 53 |
| H | | 29.5 | 32 | 35 | 39 | 46 | 52 | 59.5 | 67 |
| J | | 20.5 | 23 | 26 | 30 | 35 | 40 | 47.5 | 60 |
| K | | 31.4 | 34 | 40 | 47 | 55 | 63 | 75 | 88 |
| ØL | | 69 | 74 | 83 | 88 | 106 | 116 | 136 | 152 |
| M | | 14.5 | 19 | 16 | 18 | 18 | 24 | 24 | 31 |
| N | | 23.5 | 26 | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| P | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| Q | | 7.5 | 9 | 9.5 | 11 | 11 | 14.5 | 17.5 | 20 |
| R | | 4.5 | 5.5 | 5.5 | 6.6 | 6.6 | 9 | 11 | 14 |
| S | | 16 | 15 | 18.5 | 17 | 18 | 22 | 22 | 24.5 |
| U | | 14 | 16 | 22 | 25 | 30 | 36 | 45 | 55 |
| PG | | 21 | 21 | 25 | 29 | 28 | 32 | 33.5 | 46 |
| PF | | 17 | 20 | 25 | 30.5 | 32 | 41.5 | 46 | 56.5 |
| PE | | 16 | 18 | 23.5 | 29 | 30.5 | 38.5 | 44.5 | 53.5 |
| PH thresd | | M3 | M3 | M4 | M5 | M6 | M6 | M8 | M8 |
| PD | | 7 | 9 | 10 | 12 | 15 | 16.5 | 20 | 24 |
| ØPB | | 13 | 14.5 | 20 | 23 | 28 | 34 | 43 | 53 |
| Ø PC H8 | | 6H8 | 6H8 | 8 | 10 | 12 | 12 | 16 | 20 |
| PA | | 7 | 8 | 10 | 12 | 14 | 16 | 22 | 26 |
| Z | | 16 | 18 | 22 | 24 | 30 | 32 | 37 | 45 |
| Hyd-port | | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/4" | G1/4" | G3/8" |

Dimension Specification Table:

| | | | | | | | | | |
|---------------------|-------------|-----|------|------|------|------|------|-------|-------|
| Lock cvl.Area cm | | 2.6 | 3.07 | 5 | 8 | 14 | 19.7 | 31.2 | 40.7 |
| Full stroke mm | | 18 | 20 | 22 | 24 | 24 | 31 | 32 | 42 |
| (90°rotation) mm | | 10 | 12 | 12 | 14 | 14 | 19 | 20 | 26 |
| (90°rotation) | | | | | | | | | |
| locking stroke mm | | 8 | 8 | 10 | 10 | 10 | 17 | 12 | 16 |
| cyl.volume | lock cm3 | 4.8 | 7.3 | 7 | 13.2 | 25.2 | 42.3 | 102.6 | 151 |
| | Release cm3 | 7.2 | 10.9 | 12.5 | 20.9 | 37.1 | 68.7 | 127.8 | 199.5 |
| mpa | | | | | | | 7 | | |
| Min. pressure Mpa | | | | | | | 1.5 | | |
| design pressure Mpa | | | | | | | 10.5 | | |
| Temperature OC | | | | | | | 0-70 | | |
| weight kg | | 0.7 | 0.9 | 1.3 | 1.8 | 2.7 | 4.2 | 5.5 | 9 |

Machining Dimension Table For Mounting Clamp:

| MODEL No | 90° RH | 361-RP | 401-RP | 481-RP | 551-RP | 651-RP | 751-RP | 901-RP | 1051-RP |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| | 90° LH | 362-LP | 402-LP | 482-LP | 552-LP | 652-LP | 752-LP | 902-LP | 1052-LP |
| K | | 31.5 | 34 | 40 | 47 | 55 | 63 | 75 | 88 |
| B | | M4 | M5 | M5 | M6 | M6 | M8 | M10 | M12 |
| C+0.2 | | 36 | 40 | 48 | 55 | 65 | 75 | 90 | 105 |
| D | | 31 | 35 | 45 | 50 | 60 | 70 | 85 | 100 |
| E | | 23.5 | 26 | 30 | 33.5 | 39.5 | 45 | 52.5 | 60 |
| F | | 16 | 18 | 22 | 24 | 30 | 32 | 37 | 45 |
| G | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |

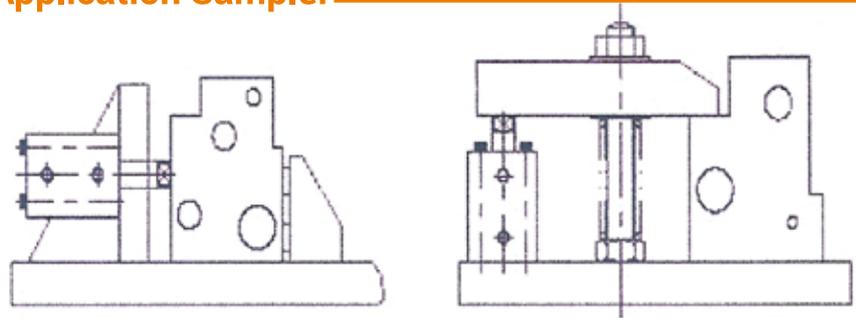
Block Cylinder



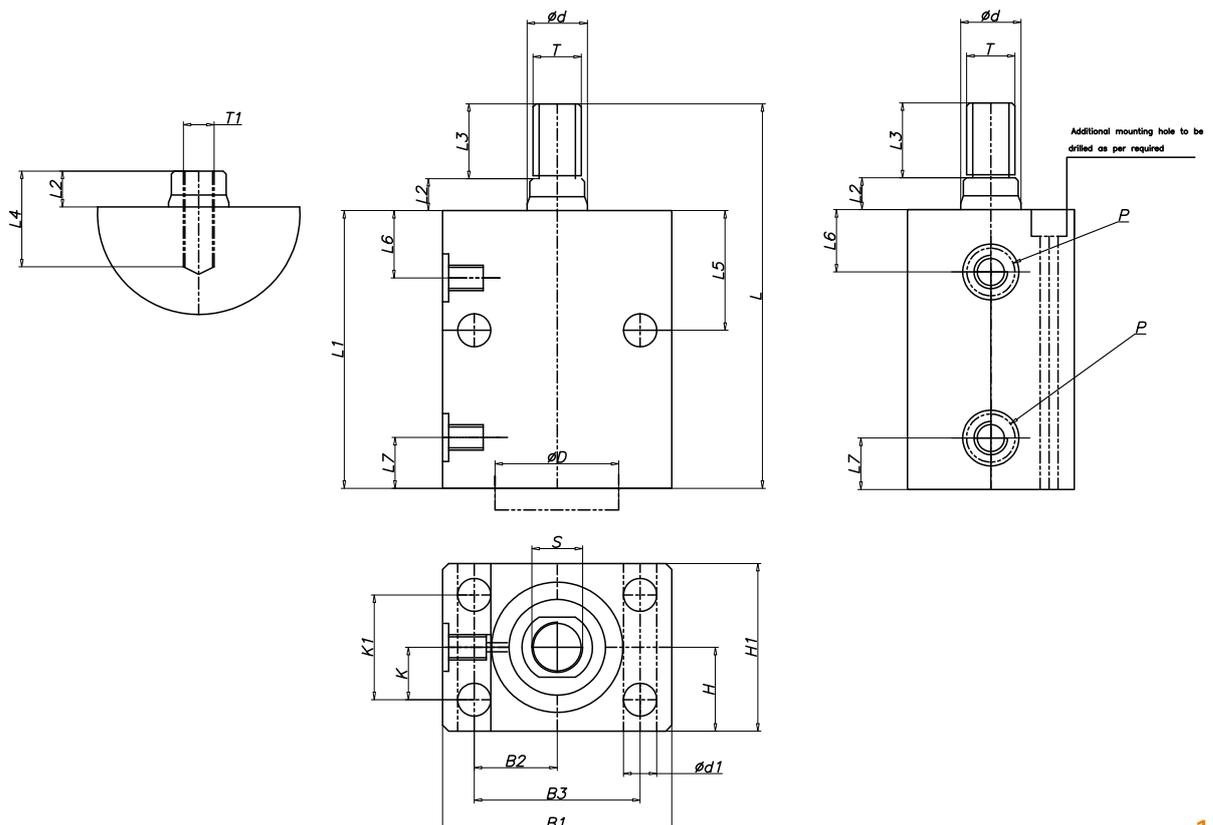
Features:

- This is a double acting cylinder with universal mounting.
- It is a Chromium plated piston alloy steel body with male & female threaded piston ends.
- It can be used with the stroke range : 10 /16 /25 /50 /75 /100
- It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Application Sample:



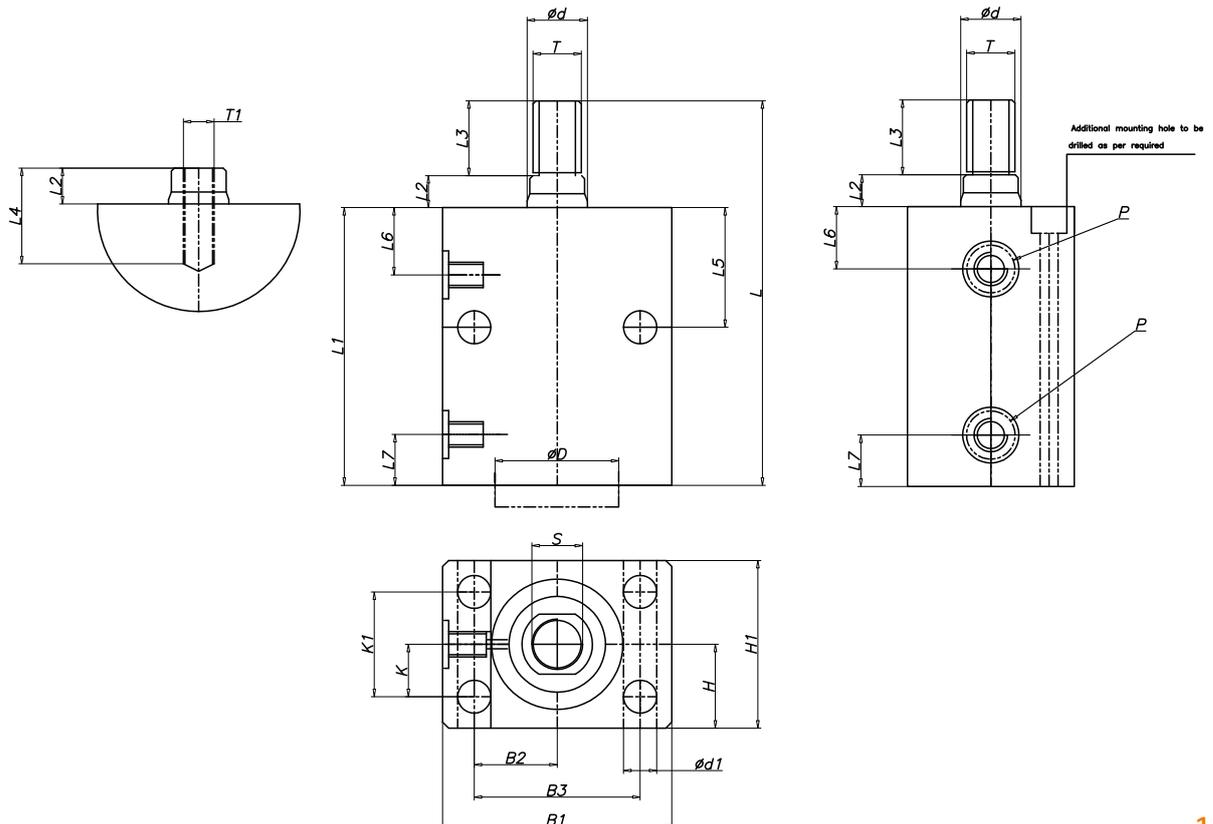
Outline Dimension :



Dimension Tabale :

All dimensions in mm

| Model No | Male thread | BC04 16-16M | BC04 16-25M | BC04 16-50M | BC04 20-16M | BC04 20-25M | BC04 20-50M | BC04 25-16M | BC04 25-25M | BC04 25-50M | BC04 32-25M | BC04 32-50M | BC04 32-75M | BC04 40-25M | BC04 40-50M | BC04 40-75M | BC04 50-25M | BC04 50-50M | BC04 50-75M | BC04 50-100M |
|---------------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | Female thread | BC04 16-16F | BC04 16-25F | BC04 16-50F | BC04 20-16F | BC04 20-25F | BC04 20-50F | BC04 25-16F | BC04 25-25F | BC04 25-50F | BC04 32-25F | BC04 32-50F | BC04 32-75F | BC04 40-25F | BC04 40-50F | BC04 40-75F | BC04 50-25F | BC04 50-50F | BC04 50-75F | BC04 50-100F |
| PistonØD | | 16 | | | 20 | | | 25 | | | 32 | | | 40 | | | 50 | | | |
| RecØd | | 10 | | | 12 | | | 16 | | | 20 | | | 25 | | | 32 | | | |
| Ød1 | | 7 | | | 9 | | | 9 | | | 11 | | | 11 | | | 13 | | | |
| Stroke, s | | 16 | 25 | 50 | 16 | 25 | 50 | 16 | 25 | 50 | 25 | 50 | 75 | 25 | 50 | 75 | 25 | 50 | 75 | 100 |
| L1 | | 60 | 69 | 94 | 66 | 75 | 100 | 66 | 75 | 100 | 80 | 105 | 130 | 80 | 105 | 130 | 95 | 120 | 145 | 170 |
| L2 | | 8 | | | 10 | | | 10 | | | 12 | | | 12 | | | 14 | | | |
| L3 | | 15 | | | 16 | | | 18 | | | 22 | | | 28 | | | 36 | | | |
| L4 | | 16 | | | 16 | | | 19 | | | 21 | | | 25 | | | 25 | | | |
| L5 | | 30 | | | 35 | | | 35 | | | 40 | | | 40 | | | 50 | | | |
| L6 | | 16 | | | 19 | | | 19 | | | 22.5 | | | 22.5 | | | 30.5 | | | |
| L7 | | 14 | | | 16.5 | | | 16.5 | | | 17 | | | 17 | | | 17 | | | |
| B1 | | 51 | | | 61 | | | 66 | | | 76 | | | 86 | | | 101 | | | |
| B2 | | 18 | | | 22.5 | | | 25 | | | 27.5 | | | 31.5 | | | 38 | | | |
| B3 | | 36 | | | 45 | | | 50 | | | 55 | | | 63 | | | 76 | | | |
| H | | 17.5 | | | 20 | | | 22.5 | | | 27.5 | | | 31.5 | | | 38 | | | |
| H1 | | 36 | | | 41 | | | 46 | | | 56 | | | 64 | | | 77 | | | |
| k | | 18 | | | 12.5 | | | 15 | | | 17.5 | | | 31.5 | | | 22.5 | | | |
| k1 | | 23 | | | 25 | | | 30 | | | 35 | | | 43 | | | 45 | | | |
| P.hvdort | | G1/8" | | | G1/8" | | | G1/8" | | | G1/8" | | | G1/4" | | | G1/4" | | | |
| A/F | | 8 | | | 10 | | | 13 | | | 17 | | | 23 | | | 26 | | | |
| T | | M8x1.5 | | | M10x1.5 | | | M14x1.5 | | | M16x1.5 | | | M20x1.5 | | | M24x1.5 | | | |
| T1 | | M6 | | | M6 | | | M10 | | | M12 | | | M16 | | | M20 | | | |
| Pushing force | | 2 | | | 2.2 | | | 3.43 | | | 5.63 | | | 8.79 | | | 13.74 | | | |
| 70 bar | KN | | | | | | | | | | | | | | | | | | | |
| Puling force | | 1.00 | | | 1.41 | | | 2.03 | | | 3.43 | | | 5.63 | | | 8.12 | | | |
| 70 bar | KN | | | | | | | | | | | | | | | | | | | |



Block Cylinder

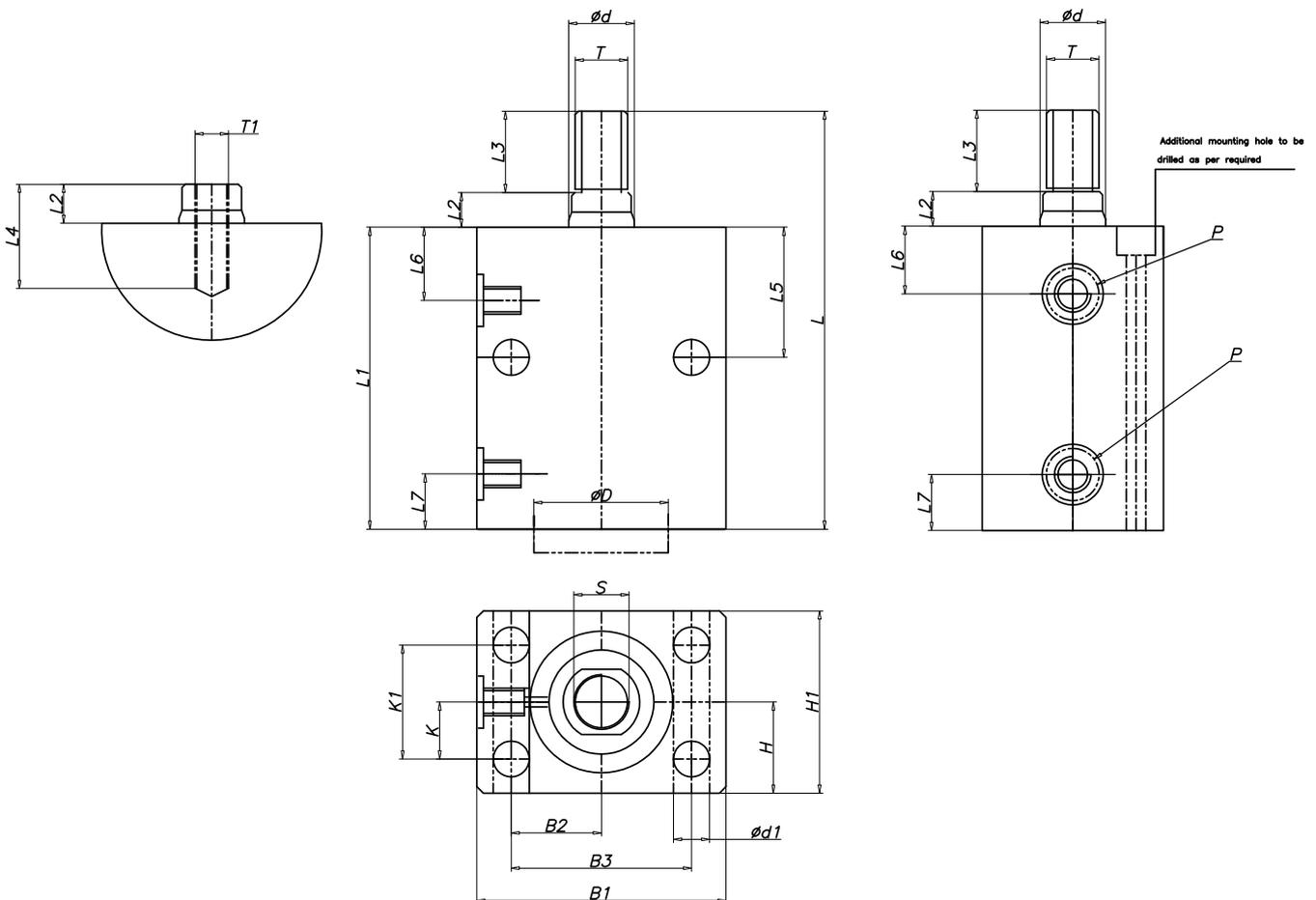
Double Acting



Features:

- This is a double acting cylinder with universal mounting.
- It is a Chromium plated Piston alloy steel body with male & female threaded piston ends.
- It can be used with the stroke range : 25 /50 /75 /100
- These cylinders can be used for direct clamping as well as positioning & support
- It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:

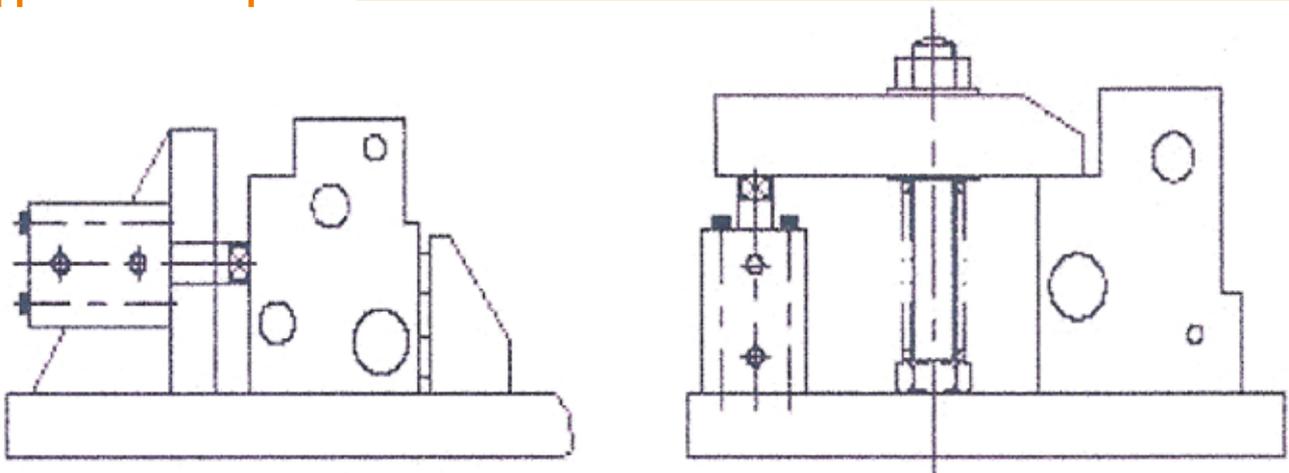


Dimension Tabale :

All dimensions in mm

| Model No | Male thread | BC04 65-25M | BC04 65-50M | BC04 65-75M | BC04 65-100M | BC04 75-25M | BC04 75-50M | BC04 75-75M | BC04 75-100M | BC04 80-25M | BC04 80-50M | BC04 80-75M | BC04 80-100M | BC04 100-25M | BC04 100-50M | BC04 100-75M | BC04 100-100M |
|---------------|---------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| | Female thread | BC04 65-25F | BC04 65-50F | BC04 65-75F | BC04 65-100F | BC04 75-25F | BC04 75-50F | BC04 75-75F | BC04 75-100F | BC04 80-25F | BC04 80-50F | BC04 80-75F | BC04 80-100F | BC04 100-25F | BC04 100-50F | BC04 100-75F | BC04 100-100F |
| Piston Ø D | 65 | | | | 75 | | | | 80 | | | | 100 | | | | |
| Rod Ød | 40 | | | | 45 | | | | 50 | | | | 60 | | | | |
| Ød1 | 13 | | | | 17 | | | | 22 | | | | 22 | | | | |
| Stroke, S | 25 | 50 | 75 | 100 | 25 | 50 | 75 | 100 | 25 | 50 | 75 | 100 | 25 | 50 | 75 | 100 | |
| L1 | 100 | 125 | 150 | 175 | 100 | 125 | 150 | 175 | 105 | 130 | 155 | 180 | 105 | 130 | 155 | 180 | |
| L2 | 15 | | | | 15 | | | | 16 | | | | 16 | | | | |
| L3 | 36 | | | | 36 | | | | 40 | | | | 40 | | | | |
| L4 | 28 | | | | 28 | | | | 40 | | | | 42 | | | | |
| L5 | 50 | | | | 50 | | | | 60 | | | | 65 | | | | |
| L6 | 31.5 | | | | 30 | | | | 37 | | | | 37 | | | | |
| L7 | 20 | | | | 20 | | | | 23 | | | | 23 | | | | |
| B1 | 126 | | | | 146 | | | | 141 | | | | 161 | | | | |
| B2 | 50 | | | | 55 | | | | 55 | | | | 65 | | | | |
| B3 | 100 | | | | 110 | | | | 110 | | | | 130 | | | | |
| H | 44 | | | | 54 | | | | 60 | | | | 70 | | | | |
| H1 | 89 | | | | 109 | | | | 121 | | | | 141 | | | | |
| k | 30 | | | | 30 | | | | 40 | | | | 50 | | | | |
| k1 | 60 | | | | 60 | | | | 80 | | | | 100 | | | | |
| P.hvdoort | G1/4 | | | | G3/8 | | | | G1/2 | | | | G1/2 | | | | |
| A/F | 36 | | | | 41 | | | | 45 | | | | 55 | | | | |
| T | M30x1.5 | | | | M36x1.5 | | | | M40x1.5 | | | | M45x1.5 | | | | |
| T1 | M24 | | | | M30x1.5 | | | | M36x1.5 | | | | M40x1.5 | | | | |
| Pushing force | 21.48 | | | | 28.5 | | | | 35.19 | | | | 54.98 | | | | |
| 70 bar KN | | | | | | | | | | | | | | | | | |
| Puling force | 12.68 | | | | 17.37 | | | | 21.44 | | | | 35.19 | | | | |
| 70 bar KN | | | | | | | | | | | | | | | | | |

Application Sample:



Compact Cylinder

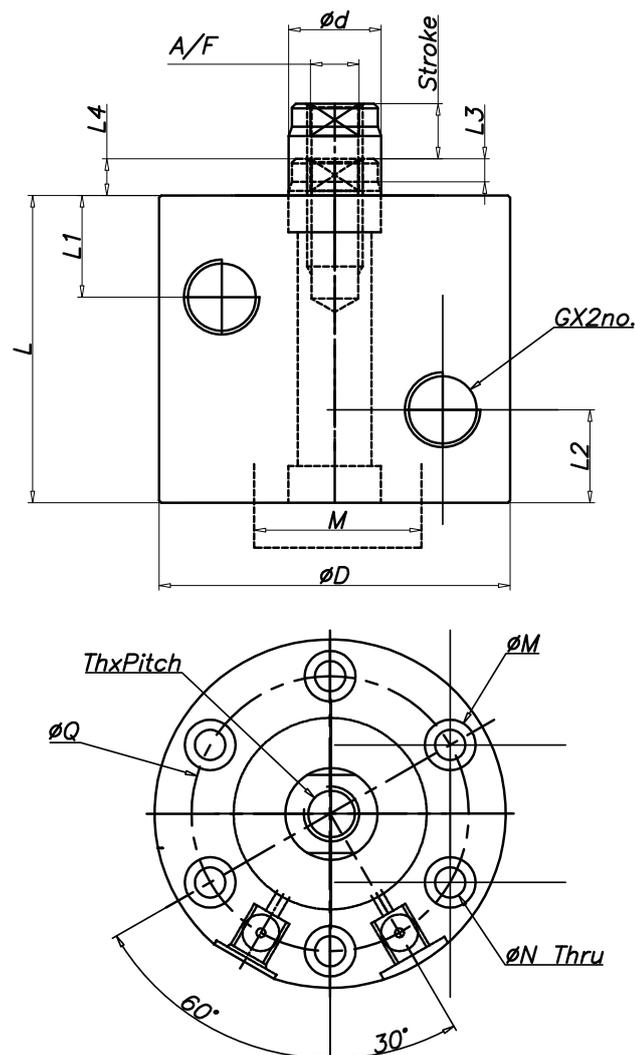
Double Acting



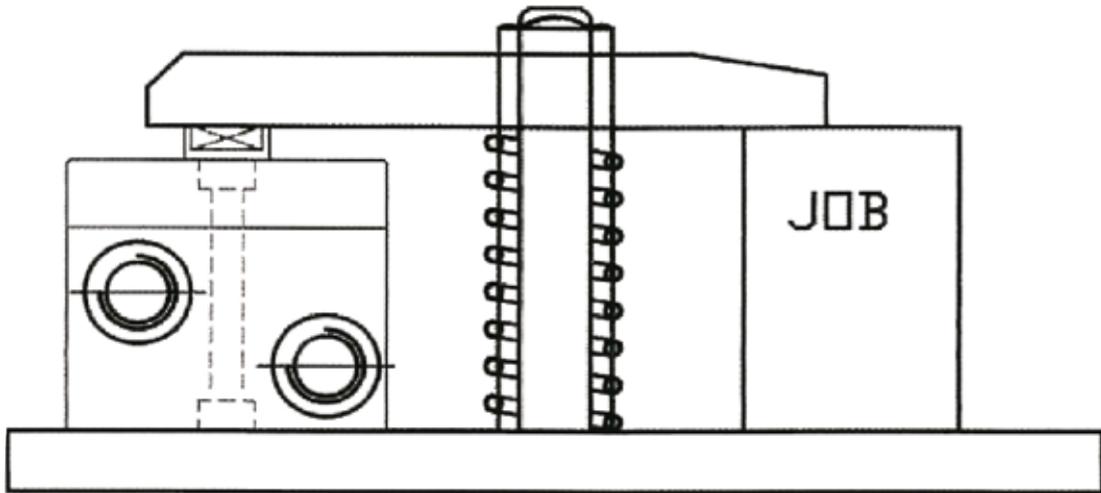
Features:

- This is a manifold mounting cylinder with compact design.
- It is a space saving & easy mounting with male & female threaded piston ends.
- These cylinders are provided with universal mounting.
- These cylinders are threaded directly into manifold, clamping, pushing, pulling, ejection & riverting operations.
- It can be used in the range of 1 MPa (minimum operating pressure)
15 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:



Application Sample: _____



Dimension Tabale : _____

All dimensions in mm

| Model No | CC05 4525 | CC05 6525 | CC05 7625 | CC05 9525 |
|-----------------------|--------------|--------------|--------------|--------------|
| Bore Ø M | Ø22 | Ø32 | Ø40 | Ø50 |
| Pushing force KN | 3.8 | 8 | 12.5 | 19.63 |
| Pulling force KN | 0.8 | 2.1 | 3.1 | 5.3 |
| Threadxpitch | M6x10 deep | M10x18 deep | M12x20 deep | M16x25 deep |
| L 4 | 7 | 7 | 8 | 9 |
| d | 12 | 16 | 20 | 25 |
| D | 45 | 65 | 76 | 95 |
| G | 1/8" | 1/8" | 1/8" | 1/4" |
| A/F | 10 | 14 | 17 | 22 |
| L 1 | 16.5 | 16.5 | 17.5 | 22.5 |
| L 2 | 12 | 12 | 12 | 12 |
| L 3 | 4 | 4 | 4 | 4 |
| ØN | 4.5 | 6.6 | 6.6 | 9 |
| ØMxdeep | 8x5.0 | 11x7.0 | 11x7.0 | 14.5x9.0 |
| ØQ (PCD) | 35 | 50 | 60 | 75 |
| Stroke | 25 | 25 | 25 | 25 |
| L | 63 | 63 | 67 | 73 |
| Oil volume pushing CC | 8cc | 20cc | 31cc | 49cc |
| Oil volume pulling CC | 5cc | 15cc | 24cc | 37cc |

Threaded Body Cylinder

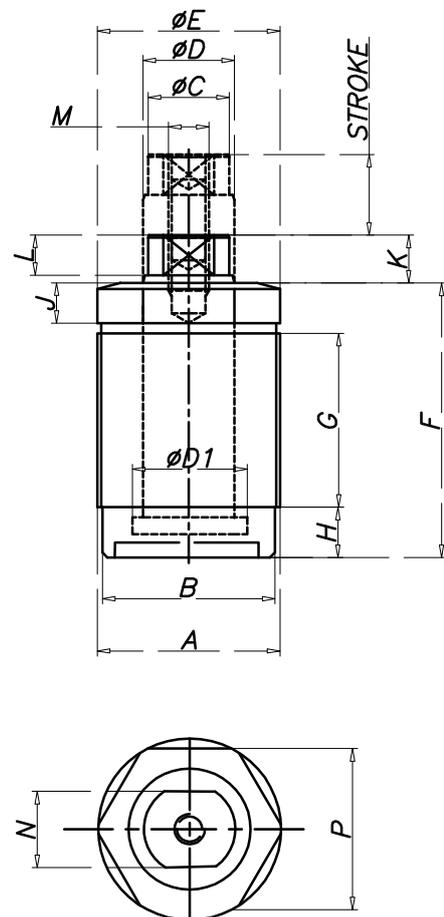
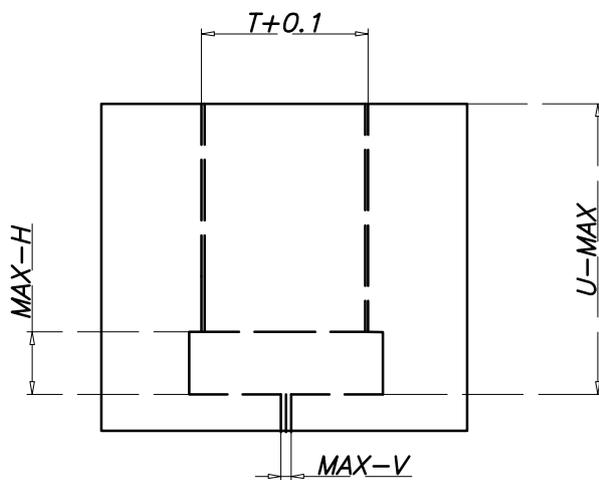
Single Acting



Features:

- It is a manifold mounting spring return type cylinder with compact design.
- It is a space saving mounting with male & female threaded piston ends.
- These cylinders are threaded directly into manifold, pushing, pulling, ejection & reverting operations.
- It can be used for direct clamping as well as positioning & support.
- The range of use 0.5 MPa (minimum operating pressure)
7 MPa (maximum operating pressure)
70 bar N (pushing force)

Application Sample:



Dimension Tabal:

All dimensions in mm

| Model No | TC06 M16 | | | TC06 M22 | | | TC06 M24 | | | TC06 M30 | | | TC06 M36 | | | TC06 M45 | | | TC06 M55 | | | TC06 M65 | | | TC06 M80 | | | | |
|---------------------|----------|----|----|----------|----|----|----------|----|------|----------|----|------|----------|------|------|----------|----|------|----------|----|----|----------|----|------|----------|----|-----|---|---|
| | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M |
| A (Nominal x Pitch) | M16X1.5 | | | M22X1.5 | | | M24X1.5 | | | M30X1.5 | | | M36X1.5 | | | M45X1.5 | | | M55X2 | | | M65X2 | | | M80X2 | | | | |
| B | 14.3 | | | 20.3 | | | 22.3 | | | 28.3 | | | 34.3 | | | 43.3 | | | 52.6 | | | 62.6 | | | 77.6 | | | | |
| C | 7.5 | | | 11.2 | | | 13 | | | 17 | | | 19 | | | 28 | | | 34.5 | | | 42 | | | 52 | | | | |
| D | 7 | | | 12 | | | 14 | | | 18 | | | 22.4 | | | 30 | | | 35.5 | | | 45 | | | 55 | | | | |
| D1Ø | 11 | 11 | 11 | 15 | 15 | 15 | 16 | 16 | 16 | 20 | 20 | 20 | 25 | 25 | 25 | 33 | 33 | 33 | 35 | 35 | 35 | 45 | 45 | 45 | 50 | 50 | 50 | | |
| E | 16 | | | 21.2 | | | 24.5 | | | 30 | | | 35.5 | | | 45 | | | 55 | | | 66 | | | 80 | | | | |
| F | 35 | 39 | 45 | 28 | 36 | 49 | 32.5 | 40 | 56.5 | 35 | 44 | 63.5 | 41.5 | 62.5 | 75.5 | 47 | 60 | 82.5 | 52 | 67 | 89 | 62 | 78 | 113 | 69 | 87 | 118 | | |
| G | 24 | 28 | 34 | 13 | 21 | 34 | 17.5 | 25 | 41.5 | 18 | 27 | 46.5 | 23.5 | 36.5 | 57.5 | 23 | 36 | 58.5 | 27 | 43 | 65 | 35 | 51 | 80.5 | 42 | 60 | 91 | | |
| H | 6 | | | 8 | | | 8 | | | 9 | | | 10 | | | 12 | | | 12 | | | 13 | | | 13 | | | | |
| J | 5 | | | 7 | | | 7 | | | 8 | | | 8 | | | 12 | | | 12 | | | 14 | | | 14 | | | | |
| K | 6 | | | 7 | | | 7 | | | 8.5 | | | 9.5 | | | 12 | | | 13 | | | 16 | | | 19 | | | | |
| L | 4 | | | 5.5 | | | 5.5 | | | 7 | | | 8 | | | 10 | | | 11 | | | 13 | | | 16 | | | | |
| M (Nominal x depth) | M5X8 | | | M6X7 | | | M6X7 | | | M8X10 | | | M8X10 | | | M10X11 | | | M12X12 | | | M16X16 | | | M20X20 | | | | |
| N | 7 | | | 10 | | | 10 | | | 14 | | | 17 | | | 24 | | | 30 | | | 36 | | | 41 | | | | |
| P | 16 | | | 22 | | | 24 | | | 30 | | | 36 | | | 41 | | | 50 | | | 60 | | | | | | | |
| T | 14.5 | | | 20.5 | | | 22.5 | | | 28.5 | | | 34.5 | | | 43.5 | | | 53 | | | 63 | | | 78 | | | | |
| MIN.U | 12 | | | 14 | | | 14 | | | 15 | | | 16 | | | 18 | | | 20 | | | 25 | | | 25 | | | | |
| MIN.U | 23 | 29 | 38 | 20 | 28 | 41 | 24 | 32 | 48 | 26 | 65 | 54 | 32 | 45 | 66 | 34 | 47 | 69 | 38 | 53 | 76 | 47 | 63 | 92 | 54 | 72 | 103 | | |
| MAX.V | 3 | | | 3 | | | 3 | | | 6 | | | 6 | | | 8 | | | 8 | | | 8 | | | 8 | | | | |

Stroke & Load Details:

| Model No | TC06-M16 | | | TC06-M22 | | | TC06-M24 | | | TC06-M30 | | | TC06-M36 | | | TC06-M45 | | | TC06-M55 | | | TC06-M65 | | | TC06-M80 | | | | |
|--|----------------|----|-----|-----------------|-----|-----|----------------|-----|-----|----------------|-----|-----|----------------|-----|-----|----------------|----|------|----------------|----|------|---------------|----|------|--------------|------|----|---|---|
| | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M | L | S | M |
| stroke mm | 6 | 10 | 16 | 6 | 10 | 16 | 8 | 12 | 20 | 8 | 12 | 20 | 10 | 16 | 25 | 10 | 16 | 25 | 10 | 20 | 32 | 16 | 25 | 40 | 16 | 25 | 40 | | |
| Cylinder area cm ² | 0.95 | | | 1.1 | | | 1.5 | | | 2.5 | | | 3.9 | | | 7.1 | | | 9.9 | | | 15.9 | | | 23.8 | | | | |
| Cylinder volume cm ³ | 0.6 | 1 | 1.5 | 0.7 | 1.1 | 1.8 | 1.2 | 1.8 | 3.1 | 2 | 3.1 | 5.1 | 3.9 | 6.3 | 9.9 | 7.1 | 11 | 17.7 | 12 | 20 | 31.7 | 25 | 40 | 63.6 | 38 | 59.4 | 95 | | |
| Release spring force (N) | 12.4-24.0 | | | 26.0-24.0 | | | 33.0-61.0 | | | 50.0-99.0 | | | 79.0-150 | | | 157-319 | | | 236-452 | | | 353-657 | | | 564-1040 | | | | |
| supply pressure; (7Mpa) force in KN | 0.665 | | | 0.75 | | | 1.01 | | | 1.66 | | | 2.59 | | | 4.6 | | | 6.44 | | | 10.4 | | | 15.5 | | | | |
| Calculation formula - KN | (0.01 p)-0.024 | | | (0.11 3p)-0.041 | | | (0.154p)-0.060 | | | (0.254p)-0.099 | | | (0.394p)-0.150 | | | (0.707p)-0.319 | | | (0.990p)-0.452 | | | (1.59p)-0.657 | | | (2.38p)-1.04 | | | | |
| Max.operating pressure (Mpa) | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Min.operating pressure (Mpa) | 0.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Threaded Body Cylinder (Hexgaon Manifold Mount)

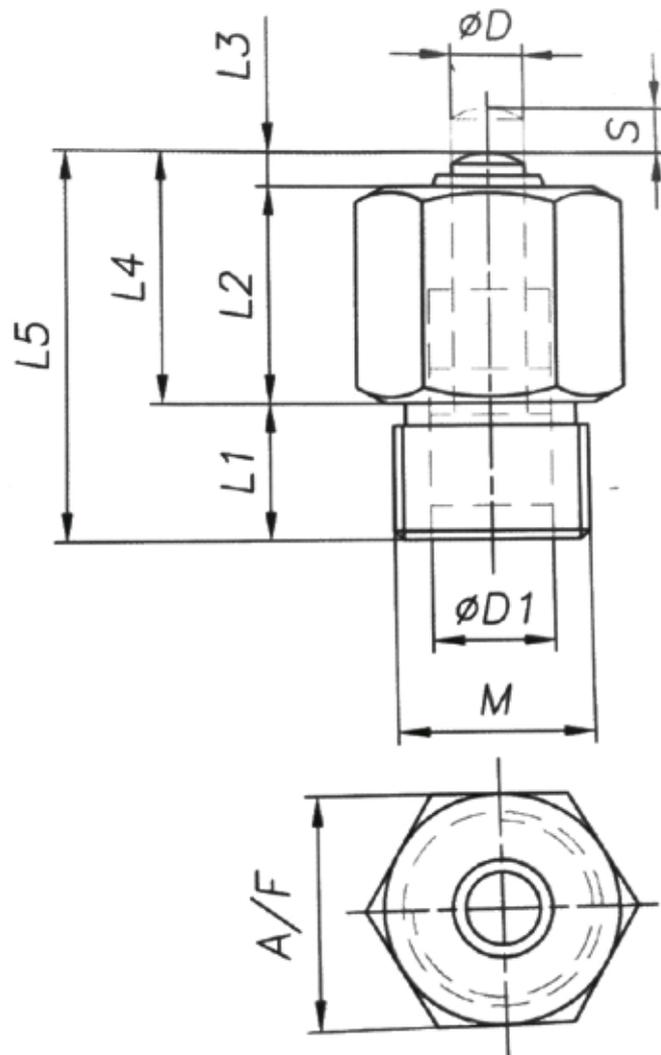
Single Acting



Features:

- This is a manifold mounting cylinder with compact design.
- It is a space saving mounting with male & female threaded plunger ends.
- These cylinders are threaded directly into manifold, pushing, pulling, ejection & riverting operations.
- It can be used in the range of 0.5 MPa (minimum operating pressure)
7 MPa (maximum operating pressure)
70 bar N (pushing force)

Outline Dimension:

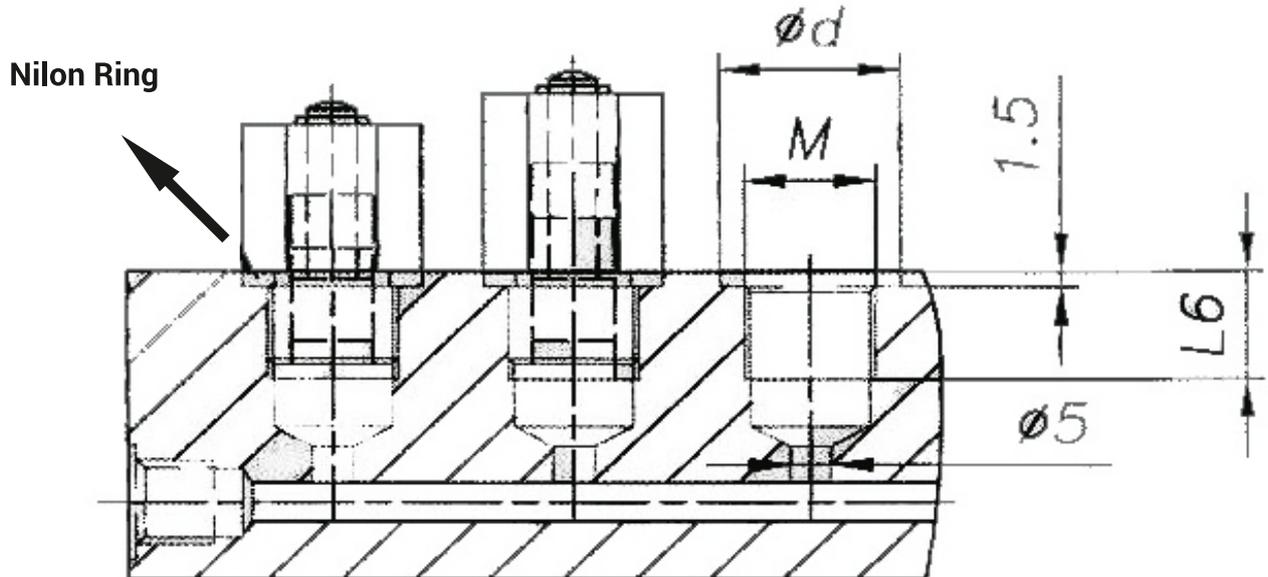


Dimension Tabale : _____

All dimensions in mm

| Model No | TMC07 M16-S | TMC07 M16-M | TMC07 M20-S | TMC07 M20-M | TMC07 M24-S | TMC07 M24-M | TMC07 M30-S | TMC07 M30-M | TMC07 M36-S | TMC07 M36-M |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Rod \varnothing D | 6 | | 8 | | 10 | | 12 | | 16 | |
| Piston \varnothing D1 | 10 | | 12 | | 16 | | 20 | | 25 | |
| Stroke - S | 4 | 8 | 4 | 8 | 6 | 10 | 8 | 12 | 12 | 16 |
| M | M16X1.5 | | M20X1.5 | | M24X1.5 | | M30X1.5 | | M36X1.5 | |
| L1 | 12 | | 12 | | 14 | | 18 | | 21 | |
| L2 | 19 | 23 | 19 | 23 | 21 | 25 | 27 | 31 | 33 | 37 |
| L3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| L4 | 22 | 26 | 22 | 26 | 24 | 28 | 30 | 34 | 36 | 40 |
| L5 | 34 | 38 | 34 | 38 | 38 | 42 | 48 | 52 | 57 | 61 |
| L6 | 14 | | 14 | | 16 | | 23 | | 23 | |
| A/F | 19 | | 24 | | 27 | | 36 | | 41 | |
| \varnothing d | 22 | | 28 | | 32 | | 42 | | 48 | |

Typical Mounting: _____



Work Support (Threaded Body)

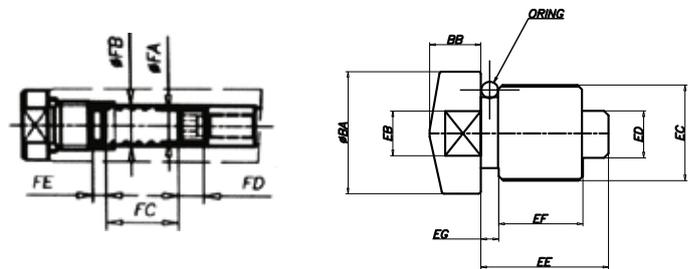
Single Acting



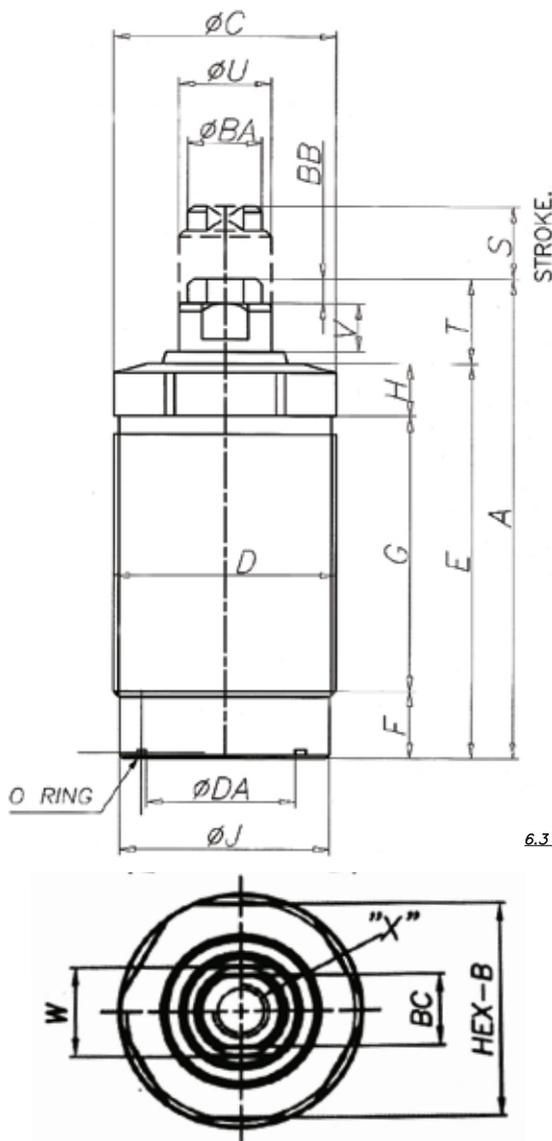
Features:

- This is a threaded body with compact design of single acting.
- It is a wide operating pressure range.
- This work support is a hydraulic advance with manifold mounting & also, spring advance
- It can be used in the range of 7 Mpa
- Maximam operating pressure 70bar Max

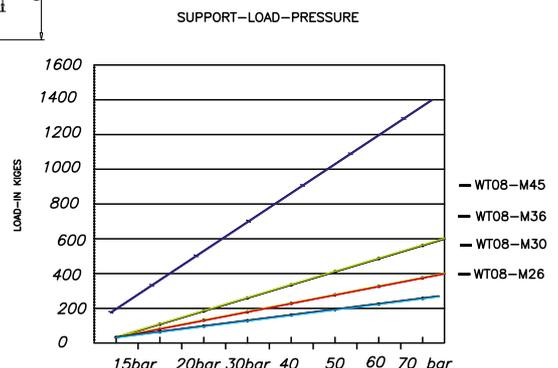
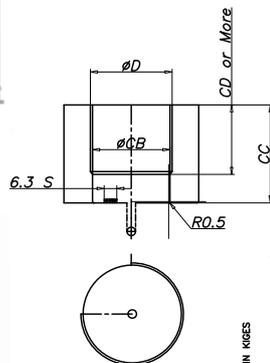
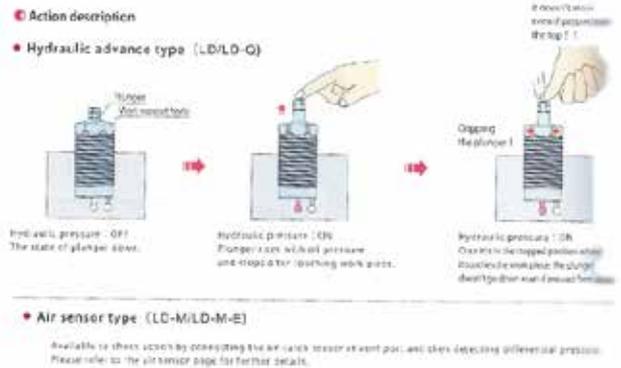
Plunger Spring & Contact Bolt Dimensions:



Outline Dimension:



Application Sample:



External Dimension Table:

All dimensions in mm

| Model NO | WT08-M26 | WT08-M30 | WT08-M36 | WT08-M45 |
|---------------------------------|-------------|-------------|--------------|------------|
| Support force 7Mpa (KN) | 3 | 3.8 | 4.5 | 9.5 |
| Support force formula Mpa | 0.53XP-0.68 | 0.67XP-0.91 | 0.825XP-1.25 | 1.7XP-2.28 |
| Plunger stroke.s (mm) | 6 | 8 | 8 | 10 |
| Plunger rising force.l (N) | 2.8~4.1 | 3.6~5.7 | 4.7~7.8 | 5.8~9.7 |
| Plunger rising force. H (N) | 3.8~5.9 | 4.9~8 | 6.2~11 | 7.9~13.6 |
| cylinder volume (cm) | 0.6 | 0.9 | 1.3 | 2 |
| Min.pressure | 2.0Mpa | | | |
| Max. pressure | 7.0Mpa | | | |
| weight (k g) | 0.2 | 0.25 | 0.35 | 0.75 |
| A | 66 | 74 | 80 | 80 |
| B | 24 | 27 | 32 | 41 |
| C | 26 | 30 | 36 | 45 |
| D | M26x1.5 | M30x1.5 | M36x1.5 | M45x1.5 |
| E | 54.5 | 65 | 68 | 69 |
| F | 7 | 8 | 9 | 10 |
| G | 40 | 44 | 50 | 49 |
| H | 8 | 9 | 9 | 10 |
| ØJ | 24.6 | 28.4 | 34 | 43 |
| T | 9.5 | 9.5 | 12.5 | 11.5 |
| ØU | 10 | 12 | 15 | 16 |
| V | 5 | 5 | 5.5 | 6 |
| W | 8 | 10 | 13 | 14 |
| X | M6 | M8 | M10 | M10 |
| ØCB | 9.5 | 11.5 | 12.5 | 12.5 |
| BB | 4 | 4 | 4 | 4 |
| BC | 8 | 10 | 12 | 13 |
| ØCB | 24.5 | 28.5 | 34.5 | 43.5 |
| CC | 16~47 | 17~50 | 18~48 | 21~58 |
| CD | CC-7 | CC-7 | CC-8 | CC-8 |
| ØDAx thick | 012X2 | 014X2 | 014X2 | 020X2 |

Pad Dimensions:

| | | | | |
|--------------------------|-------|-----|-------|-------|
| ØEB | 4.9 | 6 | 8.2 | 10 |
| EC | M6 | M8 | M10 | M10 |
| ØED | 2.5 | 5 | 5 | 5.5 |
| EE | 9 | 10 | 10 | 10 |
| EG | 2 | 2 | 2 | 2 |
| O-RING | 5X1.5 | 4X2 | 8X1.5 | 8X1.5 |
| ØFA | 2.6 | 5 | 5.8 | 5.8 |
| ØFB | 3.6 | 6 | 8.5 | 8.5 |
| FC | 11.5 | 13 | 10 | 12 |
| FD | 4 | 4 | 8 | 8 |
| FE | 2 | 2 | 2 | 2 |
| Mounting torque (Nm) | 31.5 | 50 | 63 | 80 |

Work Support (Flange Body)

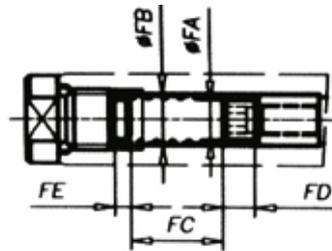
Single Acting



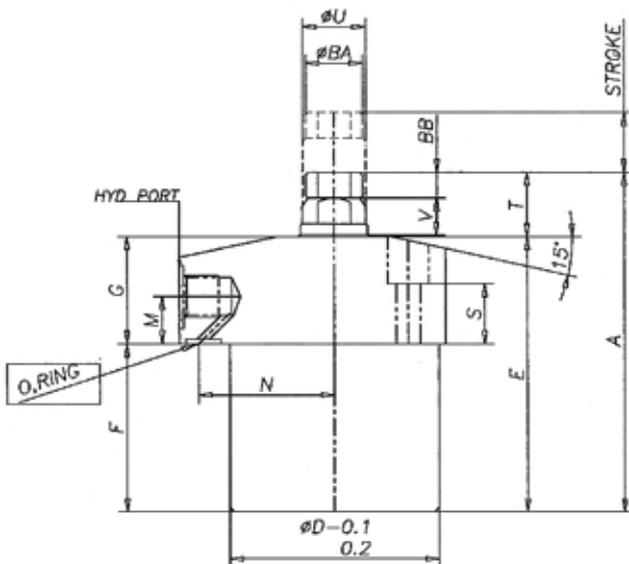
Features:

- This is a flange body with compact design of single acting.
- It is a low operating pressure range.
- This work support is a hydraulic advance with flange mounting & With Spring Advance
- It can be used in the range of 7 Mpa
- Maximam operating pressure 70bar Max

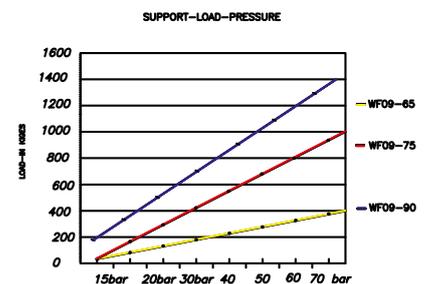
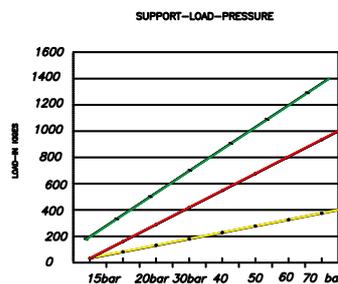
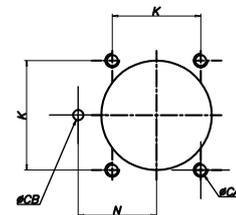
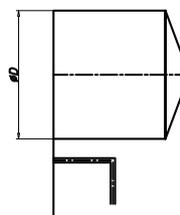
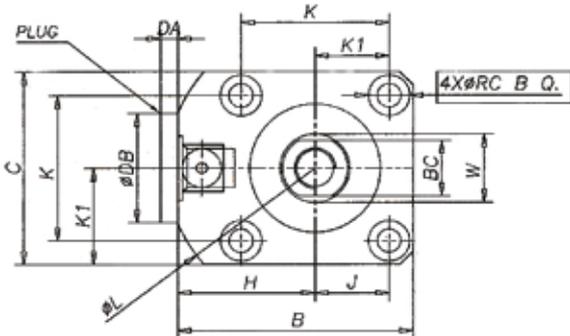
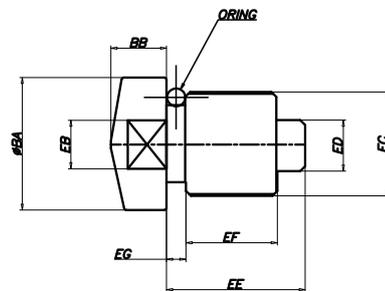
Plunger Spring & Contact Bolt Dimensions:



Outline Dimension:



Application Sample:



External Dimension Table:

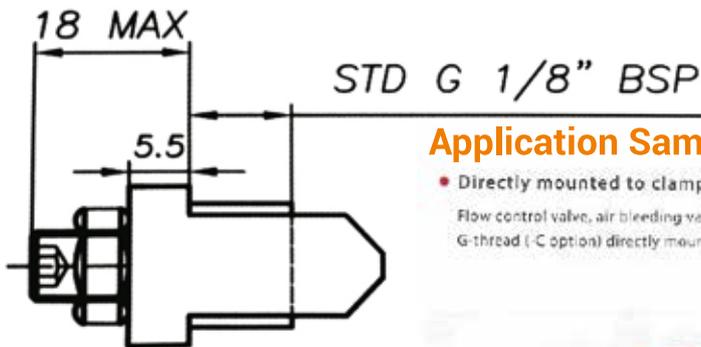
All dimensions in mm

| Model NO | | WF09-40 | WF09-48 | WF09-55 | WF09-65 | WF09-75 | WF09-90 |
|--|-----|--------------|-------------|-------------|------------|-------------|------------|
| Support force 7Mpa (KN) 10 | | 4.5 | 9.5 | 14 | 21 | 33 | 45 |
| Support force formula Mpa (KN) | | 0.825XP-1.25 | 1.55XP-1.25 | 2.36XP-2.28 | 3.83XP-5.7 | 5.60XP-6.13 | 7.5XP-6.87 |
| plunger stroke, ST (mm) | | 8 | 10 | 12 | 14 | 16 | 20 |
| cylinder volume (cm) | | 12 | 2 | 3.3 | 4.8 | 8.9 | 13.1 |
| plunger spring force | L N | 2.8~4.1 | 3.6~5.7 | 4.7~7.8 | 9.8~14.6 | 124~18.8 | 14.6~210 |
| | H N | 3.8~5.9 | 4.9~8.0 | 6.2~11 | 16.8~22.0 | 18.7~31.9 | 214~34.2 |
| Max. pressure (Mpa) | | 7 | | | | | |
| Min. pressure (Mpa) | | 2 | | | | | |
| design pressure Mpa | | 10.5 | | | | | |
| Temperature OC | | 0.7 | | | | | |
| weight | kg | 0.6 | 0.8 | 14 | 2.2 | 3.6 | 6 |
| A | | 78 | 77 | 103 | 101 | 126 | 140 |
| B | | 54 | 61 | 69 | 81 | 92 | 107 |
| C | | 45 | 51 | 60 | 70 | 80 | 95 |
| ØD | | 40 | 48 | 55 | 65 | 75 | 90 |
| E | | 64 | 64 | 73 | 85 | 107 | 128 |
| F | | 39 | 39 | 48 | 56 | 72 | 88 |
| G | | 25 | 25 | 30 | 29 | 35 | 40 |
| H | | 31.5 | 35.5 | 39 | 46 | 52 | 59.5 |
| J | | 22.5 | 25.5 | 30 | 35 | 40 | 47.5 |
| K | | 34 | 40 | 47 | 55 | 63 | 75 |
| K1 | | 17 | 20 | 23.5 | 27.5 | 31.5 | 37.5 |
| ØL | | 68 | 73 | 83 | 94 | 106 | 126 |
| M | | 11 | 11 | 11 | 11 | 13 | 13 |
| N | | 26 | 30 | 33.5 | 39.5 | 45 | 52.5 |
| O | | 9.5 | 9.5 | 11 | 11 | 14.5 | 17.5 |
| R | | 5.5 | 5.5 | 6.6 | 6.6 | 9 | 11 |
| S | | 15 | 15 | 17 | 17 | 17 | 18 |
| T | | 14 | 12 | 16 | 16 | 19 | 22 |
| ØU | | 15 | 16 | 20 | 22 | 25 | 32 |
| V | | 6 | 6 | 8 | 9 | 9 | 10 |
| w | | 13 | 14 | 18 | 19 | 22 | 24 |
| X | | M10 | M10 | M12 | M12 | M16 | M16 |
| Hyd-port | | G1/8" | G1/8" | G1/8" | G1/8" | G1/4" | G1/4" |
| o-ring | | 4X2 | 4X2 | 4X2 | 6X2 | 6X2 | 6X2 |
| Contact bolt | ØBA | 12.5 | 12.5 | 16.5 | 16.5 | 21.5 | 30 |
| | BB | 4 | 4 | 6 | 6 | 9 | 9 |
| | BC | | 1111 | 14 | 15 | 20 | 28 |
| | ØEB | 7.5 | 7.5 | 10 | 10 | 13.5 | 13.5 |
| | EC | M10 | M10 | M12 | M12 | M16 | M16 |
| | ØED | 5.5 | 6.5 | 6 | 6 | 9 | 10 |
| | EE | 11 | 10 | 10 | 13 | 16 | 16 |
| | EF | 2 | 2 | 2.5 | 2 | 3 | 3 |
| Mounting dimension | CA | M5 | M5 | M6 | M6 | M8 | M10 |
| | ØCB | 2 | 2.5 | 2.5 | 3 | 5 | 5 |
| with plug | DA | 3.5 | | | 3.5 | 4.5 | 4.5 |
| | ØDB | 14 | | | 14 | 18 | 18 |
| Plunger spring housing dimension | ØFA | 5.8 | 5.8 | 6 | 6.4 | 10 | 10 |
| | ØFB | 8.5 | 8.5 | 10.2 | 10.2 | 14 | 14 |
| | FC | 9.5 | 10 | 12 | 21 | 16 | 44 |
| | FD | 8 | 6 | 6 | 6 | 12 | 12 |
| | FE | 2 | 2 | 2 | 2 | 2 | 2 |
| | FF | 19.5 | 7.5 | 20 | 29.5 | 30 | 38.5 |



Features:

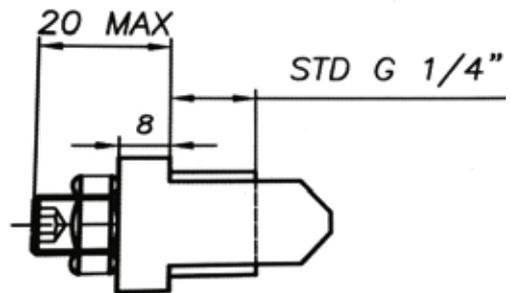
- This is a alloy steel body type with compact design.
- It can be directly mounted on to individual elements like cylinders or work supports.
- It is hydraulic & internal mounting.
- These valves do not required external speed control.
- It can be individual adjustment & very easy.
- It is available in G1/8, G1/4, sizes. & 101pm (maximum flow allowed)



Application Sample

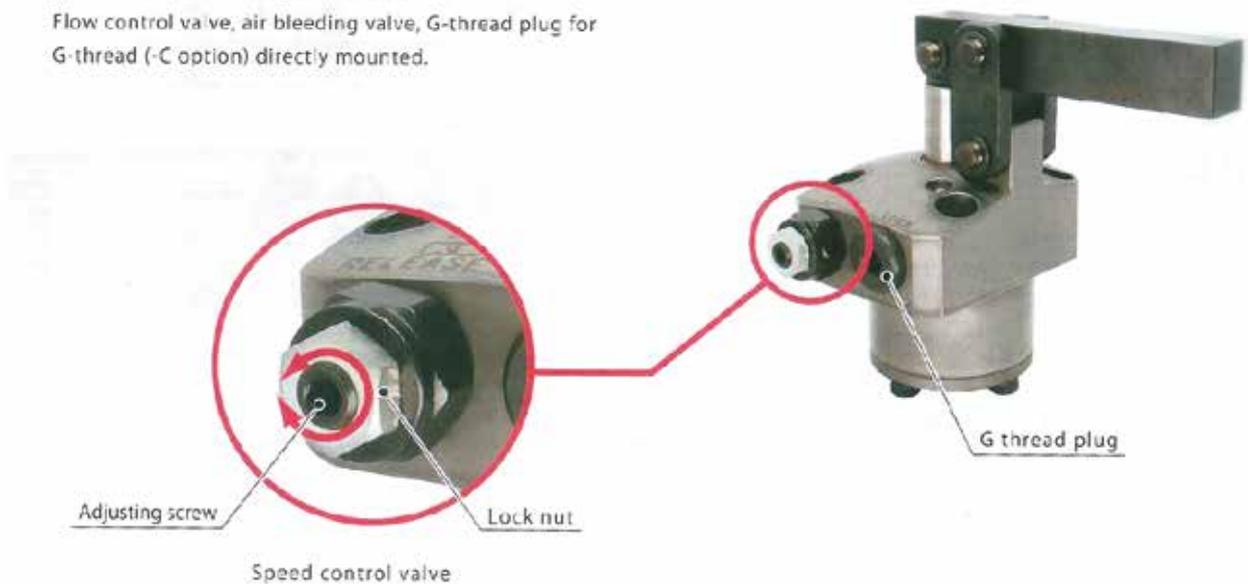
- Directly mounted to clamps
- Flow control valve, air bleeding valve, G-thread plug for G-thread (C option) directly mounted.





Application Sample

- Directly mounted to clamps
Flow control valve, air bleeding valve, G-thread plug for G-thread (-C option) directly mounted.



Speed control valve

Model

Model



Speed control valve

Model



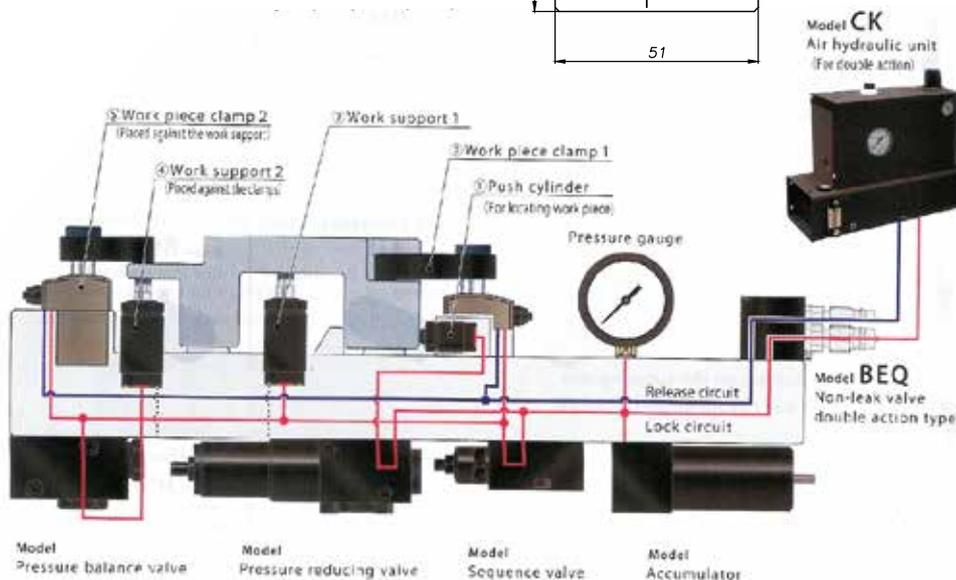
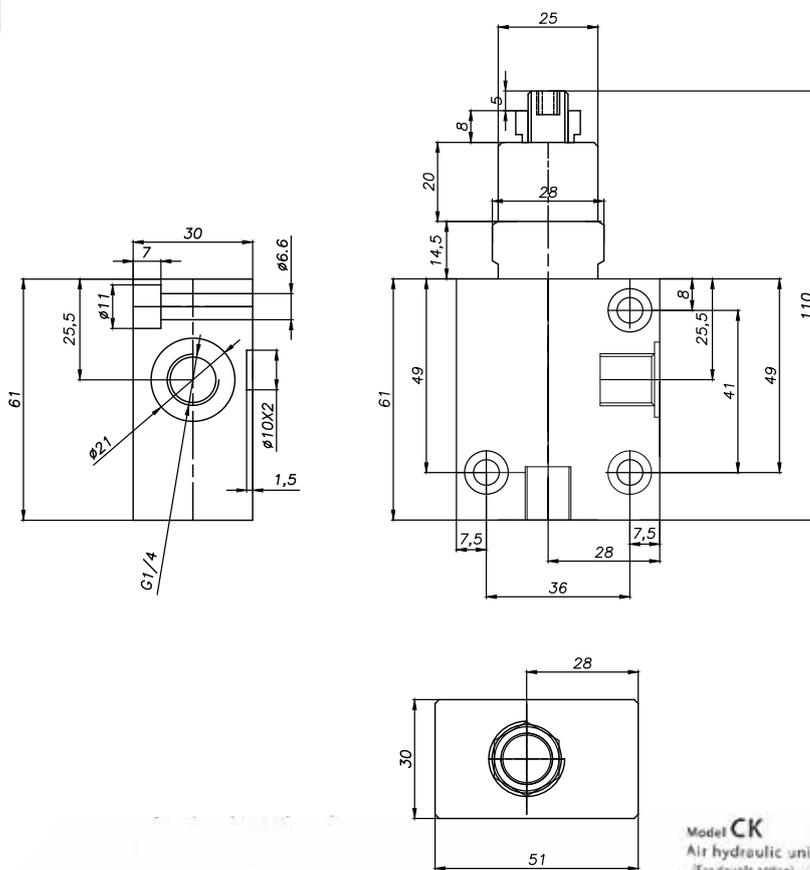
G thread plug

Model



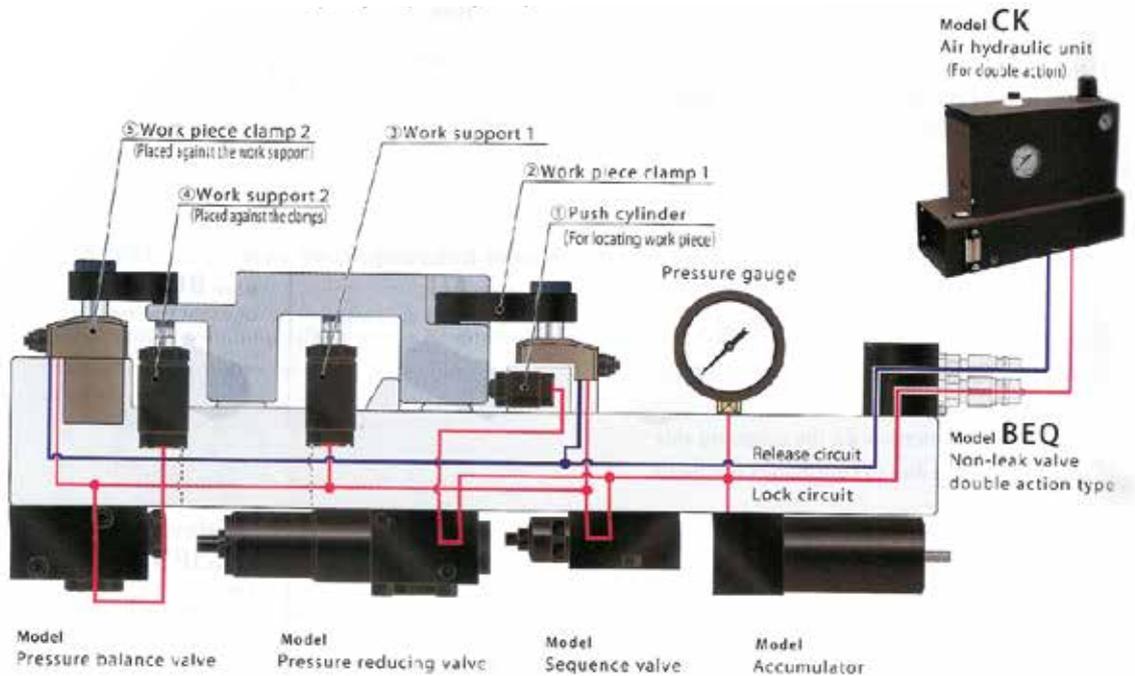
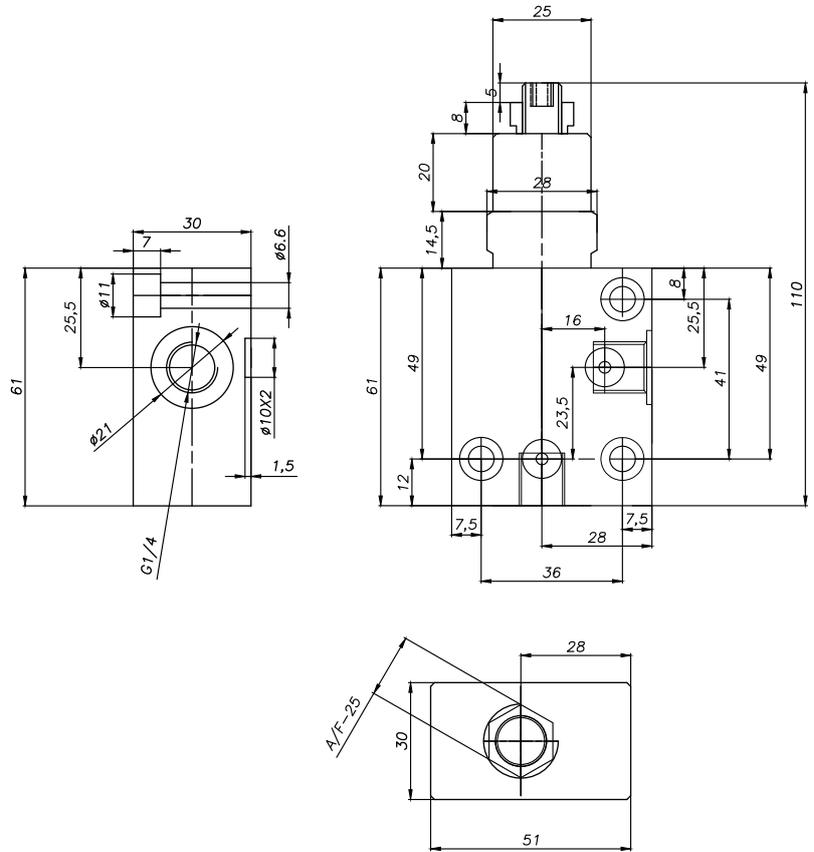
Features:

- This is a cartridge type with compact design.
- It is a G1/4 port with alloy steel body.
- It is hydraulic & space saving mounting.
- These valves can be used for external piping option.
- It can be used in the range of 1 MPa (minimum operating pressure)
10 Mpa (maximum operating pressure)
70 bar N (pushing force)



Sequence Valve

Product Code: SV11- IN03



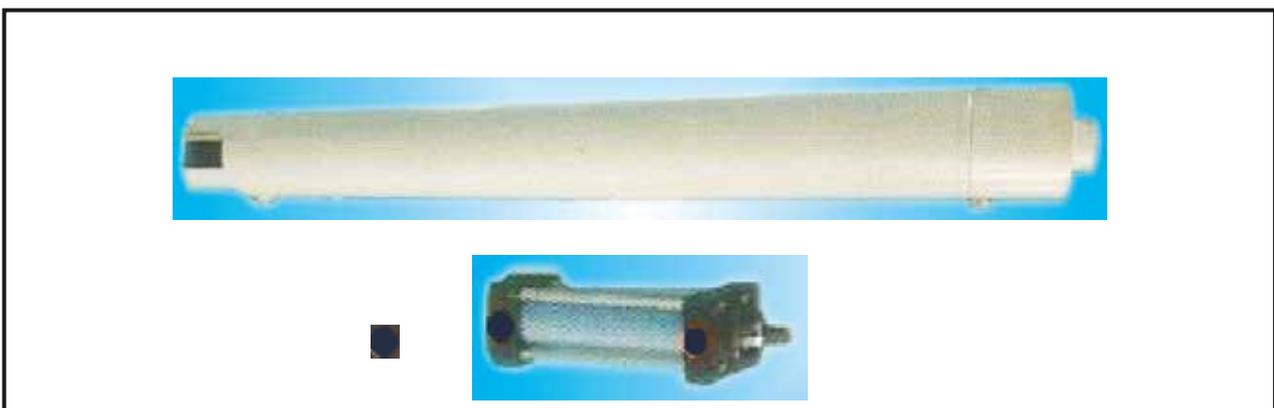
Tie Rod Cylinder

Basic Cylinder

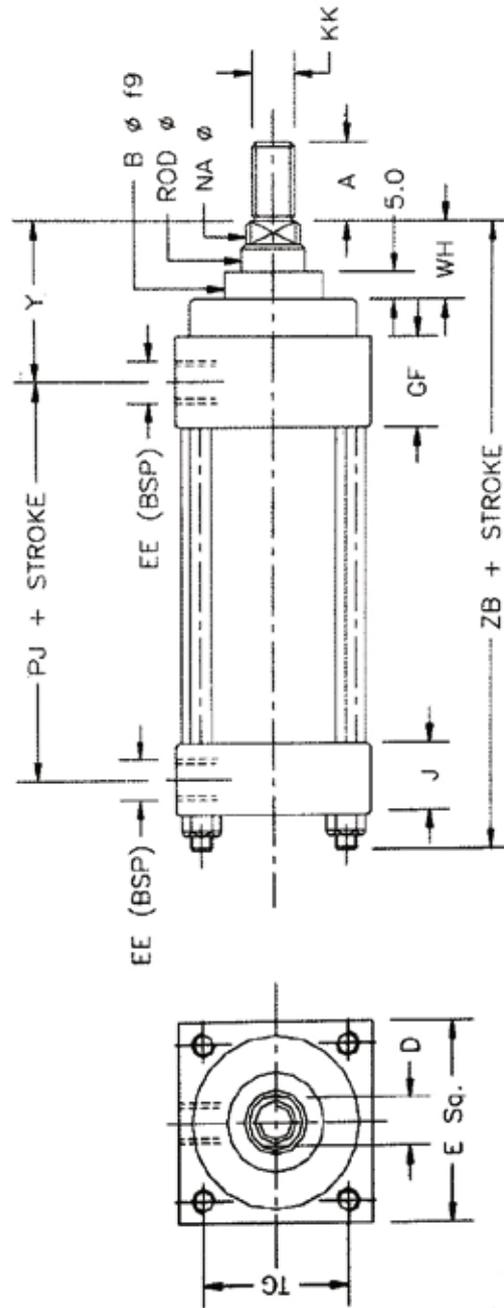


Features:

- This is hydraulic basic cylinder with cushioning from 63 mm bore onwards.
- It is used for bronze filled telfon seals with minimum speed & without stick-slip (5mm/min).
- It can be used in the range of 160 bar (maximum operating pressure)
 - 12 m/min (maximum reciprocating speed)
 - 3-5 bar (break away pressure)
 - 20mm (standard cushioning length)
 - 400mm/min or less(minimum cushioning speed)



Out line Dimension :



External Dimension Table:

All dimensions in mm

| Bore | ROD | A | B | D | E | EE | GF | J | KK | NA | PJ | TG | WH | Y | ZB | | | | | | |
|------|-----|----|----|----|----|------|----|----|----------|------|----|------|---------|---------|-----|----|-----|------|----|----|-----|
| 25 | 12 | 14 | 24 | 10 | 40 | 1/4" | 35 | 20 | M10X1.25 | 11 | 53 | 28.3 | 15 | 50 | 121 | | | | | | |
| 40 | 18 | 28 | 18 | 28 | 30 | 42 | 15 | 22 | 63 | 3/8" | 39 | 30 | M14X1.5 | M20X1.5 | 17 | 26 | 73 | 41.7 | 25 | 62 | 166 |
| 50 | 22 | 36 | 22 | 36 | 34 | 50 | 18 | 30 | 75 | 1/2" | 40 | 32 | M16X1.5 | M27X2 | 21 | 34 | 74 | 52.3 | 25 | 67 | 176 |
| 63 | 28 | 45 | 28 | 45 | 42 | 60 | 22 | 36 | 90 | 1/2" | 37 | 32 | M20X1.5 | M33X2 | 26 | 43 | 80 | 64.3 | 32 | 71 | 185 |
| 80 | 36 | 56 | 36 | 56 | 50 | 72 | 30 | 46 | 115 | 3/4" | 44 | 38 | M27X2 | M42X2 | 34 | 54 | 93 | 82.7 | 31 | 77 | 212 |
| 100 | 45 | 70 | 45 | 63 | 60 | 88 | 36 | 60 | 130 | 3/4" | 43 | 38 | M33X2 | M48X2 | 43 | 68 | 101 | 96.9 | 35 | 82 | 225 |

Tie Rod Cylinder

Basic Cylinder

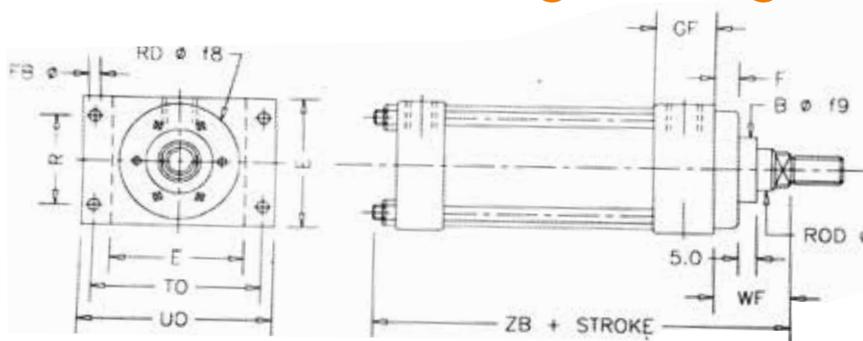
Features:

- This is hydraulic basic cylinder with cushioning from 63 mm bore onwards.
- It is used for bronze filled telfon seals with minimum speed & without stick-slip (5mm/min).
- These are high finish on cylinder tube for long seal life.
- All cylinders confirm to ISO standards.
- It can be used in the range of 0.5 MPa (minimum operating pressure)
16MPa (maximum operating pressure)
Ø63 (cushioning from high bore)

Applications:

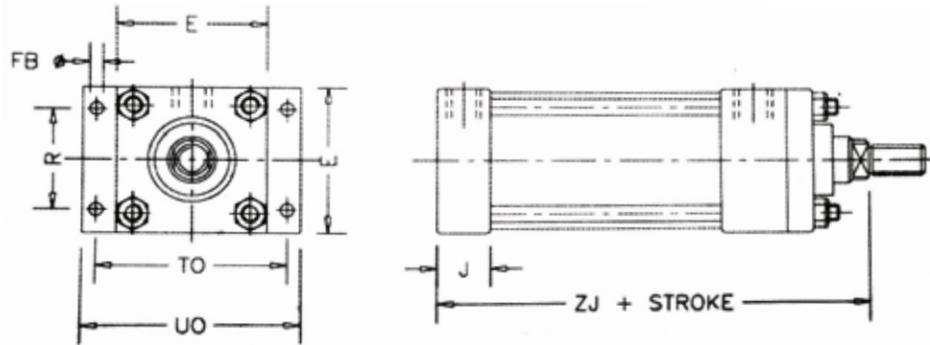
- It is used for clamp work pieces (push or pull method).
- Used for design (direct mounting on th application).
- These are used for various combination of endings & mounting.
- Used for international quality seals with hard chrome plated & ground piston.
- It can clamp a wide range of components (used in assembly auto machine).

ME5 - Head Mounting Rectangular :



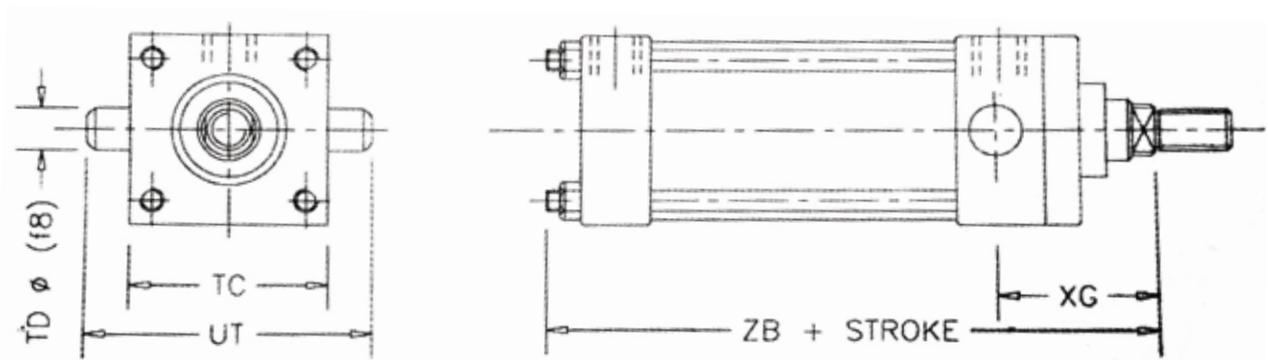
| BORE | ROD | | F | FB | R | RD | | TO | UO | WF |
|------|-----|----|----|-----|----|----|-----|-----|-----|----|
| 25 | 12 | | 10 | 5.5 | 27 | 38 | | 51 | 65 | 25 |
| 40 | 18 | 28 | 10 | 11 | 41 | 62 | 62 | 87 | 110 | 35 |
| 50 | 22 | 36 | 16 | 14 | 52 | 74 | 74 | 105 | 130 | 41 |
| 63 | 28 | 45 | 16 | 14 | 65 | 75 | 88 | 117 | 145 | 48 |
| 80 | 36 | 56 | 20 | 18 | 83 | 82 | 105 | 149 | 180 | 51 |
| 100 | 45 | 70 | 22 | 18 | 97 | 92 | 125 | 162 | 200 | 57 |

ME6 - Cap Mounting Rectangular :



| BORE | E | FB | J | R | TO | UO | ZJ |
|------|-----|-----|----|----|-----|-----|-----|
| 25 | 40 | 5.5 | 20 | 27 | 51 | 65 | 114 |
| 40 | 63 | 11 | 30 | 41 | 87 | 110 | 153 |
| 50 | 75 | 14 | 32 | 52 | 105 | 130 | 159 |
| 63 | 90 | 14 | 32 | 65 | 117 | 145 | 168 |
| 80 | 115 | 18 | 38 | 83 | 149 | 180 | 190 |
| 100 | 100 | 18 | 38 | 97 | 162 | 200 | 203 |

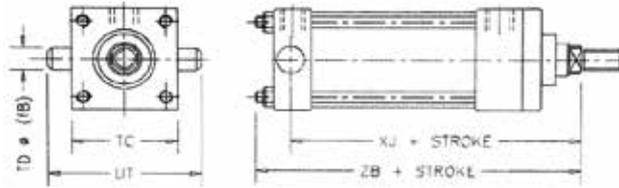
MT1 - Head Mounting integral Trunnion :



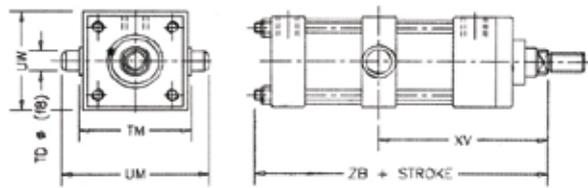
| BORE | TC | TD | UT | XG | ZB |
|------|-----|----|-----|----|-----|
| 25 | 38 | 12 | 58 | 44 | 121 |
| 40 | 63 | 20 | 95 | 57 | 166 |
| 50 | 76 | 25 | 116 | 64 | 176 |
| 63 | 89 | 32 | 139 | 70 | 185 |
| 80 | 114 | 40 | 178 | 76 | 212 |
| 100 | 127 | 50 | 207 | 71 | 225 |

Tie Rod Cylinder

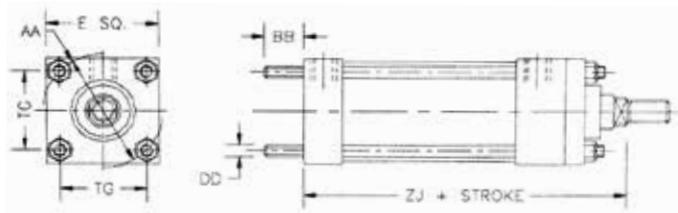
MT2 - Cap Mounting Integral Trunnion



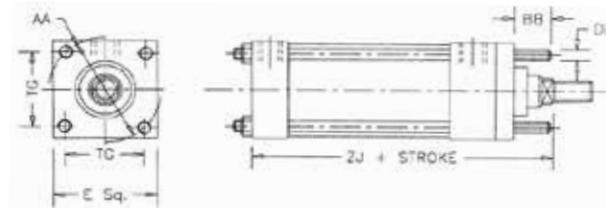
MT4 - Mounting with Intermediate Fixed Trunnion



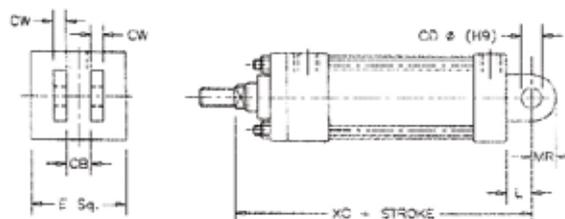
MX2- Cap Mounting Tie Rods Extended



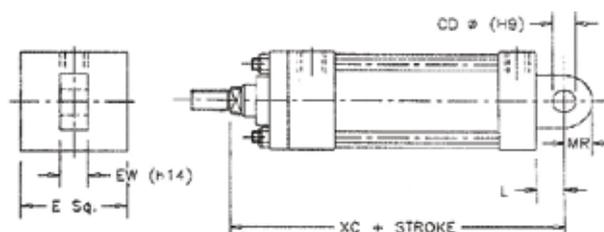
MX3- Head Mounting Tie Rods Extended



MP1- Cap Mounting Fixed Clevis



MP3- Cap Mounting Fixed Eye



External Dimension Table:

All dimensions in mm

| BORE | TC | TD | UT | XJ | ZB |
|------|-----|----|-----|-----|-----|
| 25 | 38 | 12 | 58 | 101 | 121 |
| 40 | 63 | 20 | 95 | 134 | 166 |
| 50 | 76 | 25 | 116 | 140 | 176 |
| 63 | 89 | 32 | 139 | 149 | 185 |
| 80 | 114 | 40 | 178 | 168 | 212 |
| 100 | 127 | 50 | 207 | 187 | 225 |

| BORE | TD | TM | UM | UW | XV | ZB |
|------|----|-----|-----|-----|-----------------|-----|
| 25 | 12 | 48 | 68 | 63 | To be specified | 121 |
| 40 | 20 | 76 | 108 | 92 | | 166 |
| 50 | 25 | 89 | 129 | 112 | | 176 |
| 63 | 32 | 100 | 150 | 126 | | 185 |
| 80 | 40 | 127 | 191 | 160 | | 212 |
| 100 | 50 | 140 | 220 | 180 | | 225 |

| BORE | AA | BB | DD | E | TG | ZJ |
|------|-----|----|------------|-----|------|-----|
| 25 | 40 | 19 | M 5X0.8 | 40 | 28.3 | 114 |
| 40 | 59 | 35 | M 8X1.0 | 63 | 41.7 | 153 |
| 50 | 74 | 46 | M 12X1.25 | 75 | 52.3 | 159 |
| 63 | 91 | 46 | M 12.X1.25 | 90 | 64.3 | 168 |
| 80 | 117 | 59 | M 16X1.5 | 115 | 82.7 | 190 |
| 100 | 137 | 59 | M 16X.1.5 | 130 | 96.9 | 203 |

| BORE | AA | BB | DD | E | TG | ZJ |
|------|-----|----|------------|-----|------|-----|
| 25 | 40 | 19 | M 5X0.8 | 40 | 28.3 | 114 |
| 40 | 59 | 35 | M 8X1.0 | 63 | 41.7 | 153 |
| 50 | 74 | 46 | M 12X1.25 | 75 | 52.3 | 159 |
| 63 | 91 | 46 | M 12.X1.25 | 90 | 64.3 | 168 |
| 80 | 117 | 59 | M 16X1.5 | 115 | 82.7 | 190 |
| 100 | 137 | 59 | M 16X.1.5 | 130 | 96.9 | 203 |

| BORE | A | | CB | CD | CW | E | L | MR | XC |
|------|----|----|----|----|----|-----|----|----|-----|
| 25 | 14 | | 12 | 10 | 6 | 40 | 13 | 12 | 127 |
| 40 | 18 | 28 | 20 | 14 | 10 | 63 | 19 | 17 | 172 |
| 50 | 22 | 36 | 30 | 20 | 15 | 75 | 32 | 29 | 191 |
| 63 | 28 | 45 | 30 | 20 | 15 | 90 | 32 | 29 | 200 |
| 80 | 36 | 56 | 40 | 28 | 20 | 115 | 39 | 34 | 229 |
| 100 | 45 | 63 | 50 | 36 | 25 | 130 | 54 | 50 | 257 |

| BORE | A | | CD | E | EW | L | MR | XC |
|------|----|----|----|-----|----|----|----|-----|
| 25 | 14 | | 10 | 40 | 12 | 13 | 12 | 127 |
| 40 | 18 | 28 | 14 | 63 | 20 | 19 | 17 | 172 |
| 50 | 22 | 36 | 20 | 75 | 30 | 32 | 29 | 191 |
| 63 | 28 | 45 | 20 | 90 | 30 | 32 | 29 | 200 |
| 80 | 36 | 56 | 28 | 115 | 40 | 39 | 34 | 229 |
| 100 | 45 | 63 | 36 | 130 | 50 | 54 | 50 | 257 |

Low Rpm Hydraulic Rotary Union

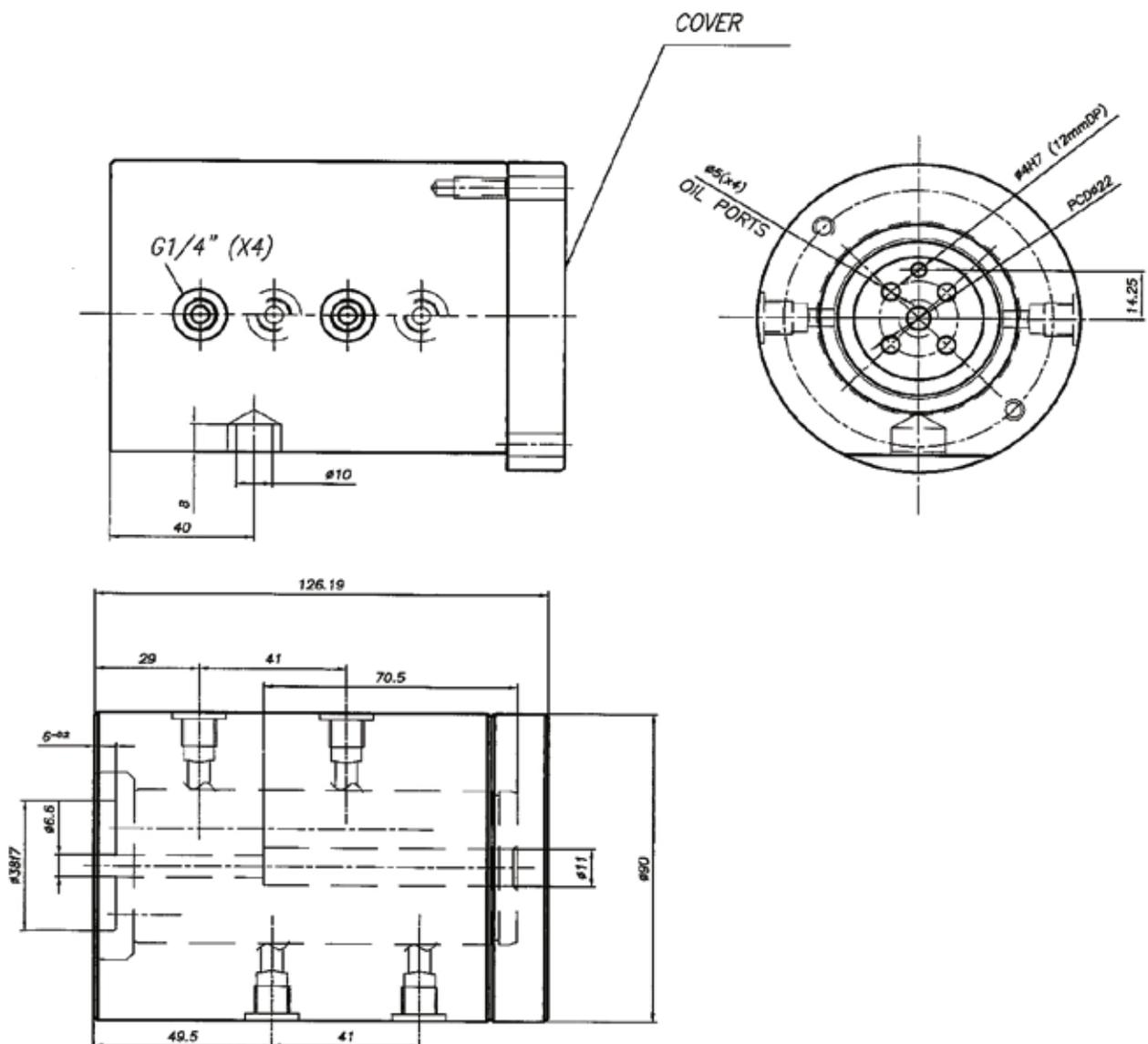


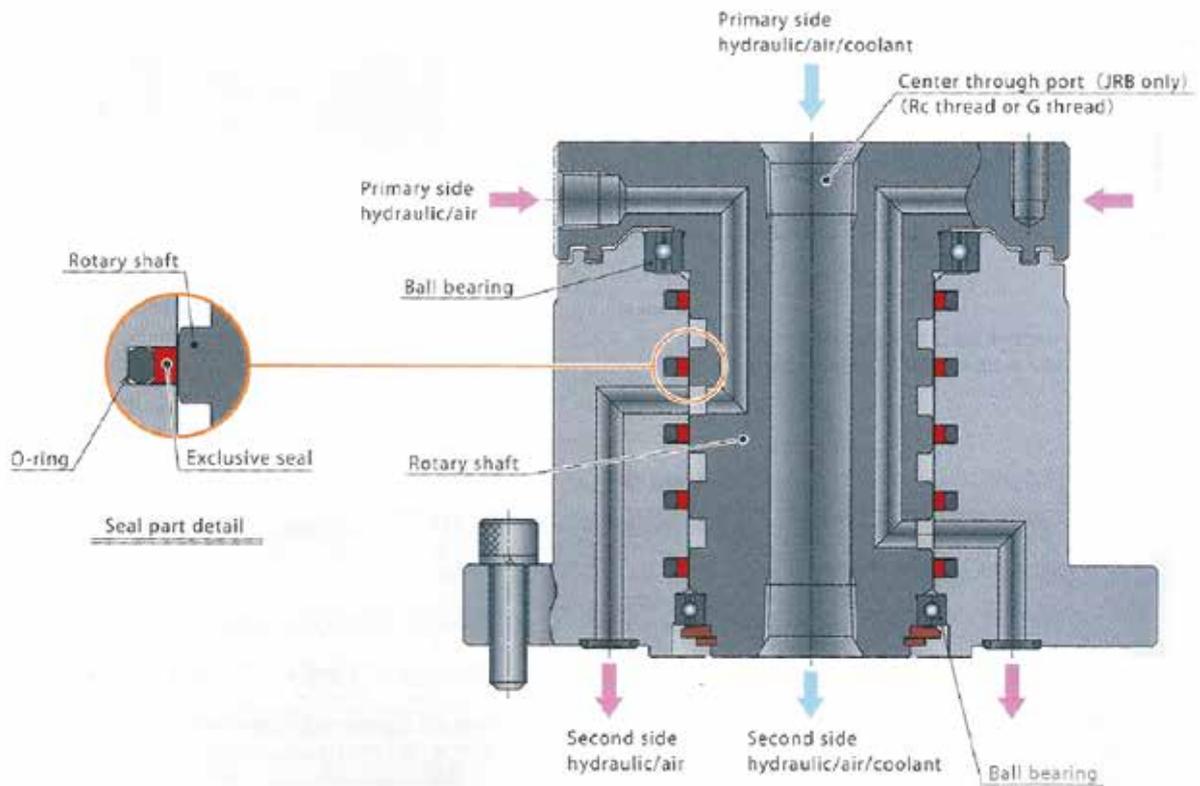
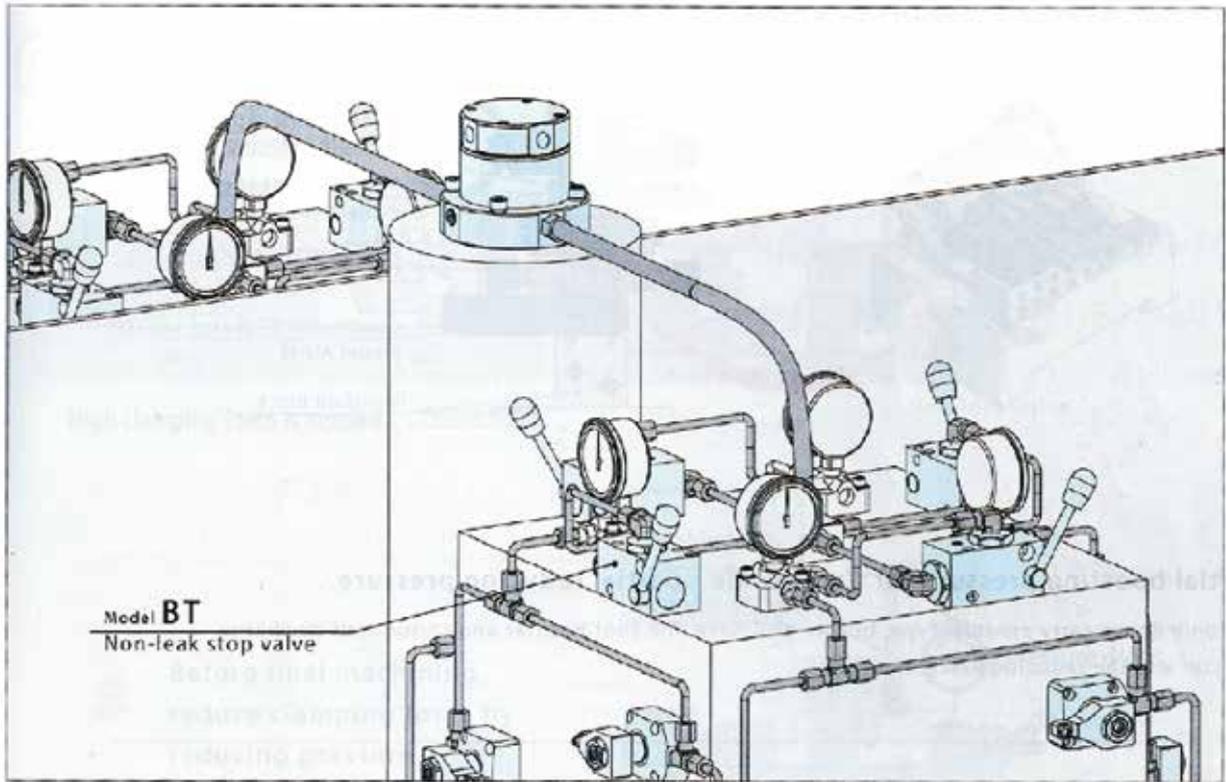
Features:

- This is hydraulic 4 port type with compact design.
- It is a G1/4 port housing with alloy steel body.
- These distributors can be mounted through single screw from back side.
- It can be used in the range of 1-30 MPa (maximum operating pressure)
18lpm (maximum flow allowed)
15 mpa
70 bar N (pushing force)

Applications:

- It is used for clamp & de-clamp oil connections through rotating medium.
- Used for air & oil connections in parallel.
- It can be available in 2 port(min) to 12 port (max) design.







Pull Down Cylinder

Product Code - PDSC-15





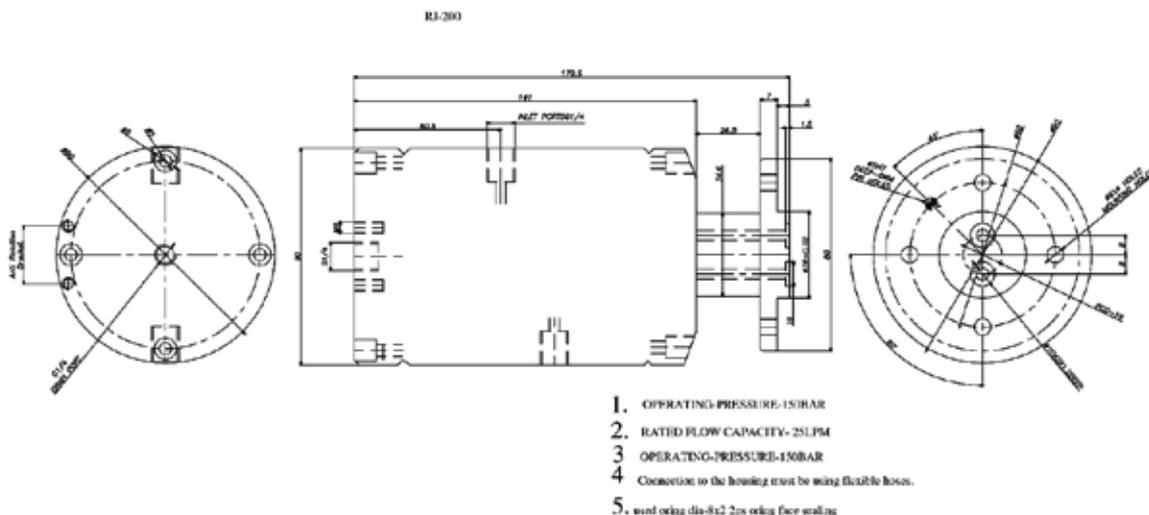
Rotary

Rotary Joints convey Fluid Under Pressure fro a stationary source to a rotating system or vice versa. They are also referenda Rotating unions, Rotary couplings, Swivel Joints etc.

We also provide Customised solutions for individual applications based on the specific operating parameters demanded by each customer designs / application.

Applications

- Earth moving Equipments
- Material Handling Equipments
- Machine Tools
- Hydro Electric Turbines
- Special Purpose Machines
- Robotics & Automation
- Mobile Cranes
- Wagon Tipplers
- Test Rigs & Simulators
- Automation
- Mining Equipments.





Rotary

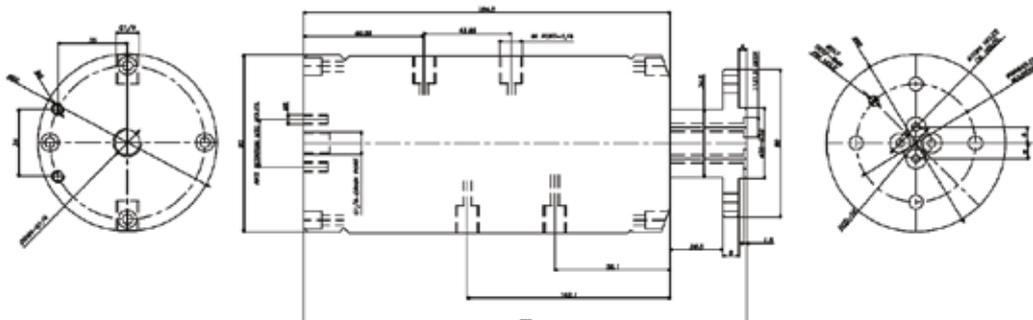
Rotary Joints Rotary Joints convey Fluid Under Pressure fro a stationary source to a rotating system or vice versa. They are also referenda Rotating unions, Rotary couplings, Swivel Joints etc.

We also provide Customised solutions for individual applications based on the specific operating parameters demanded by each customer designs / application.

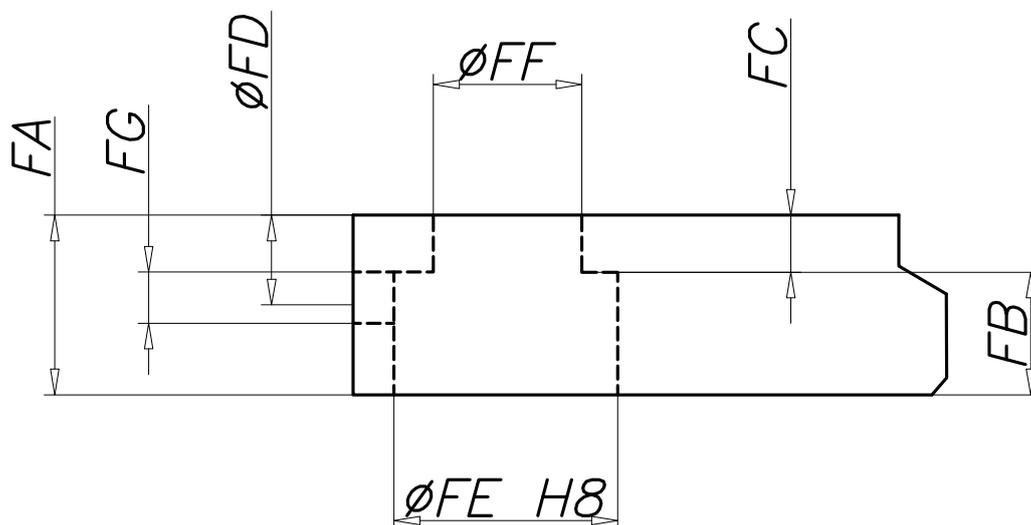
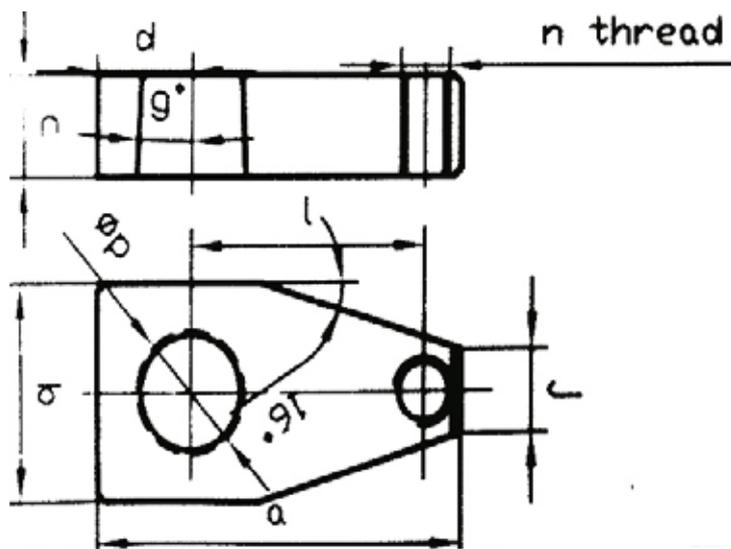
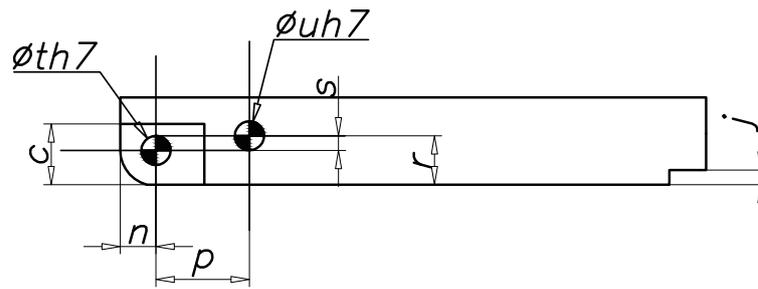
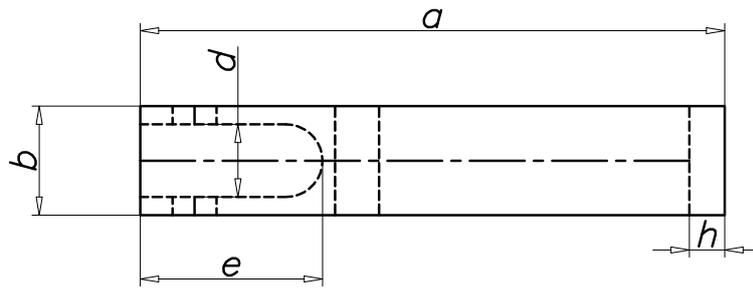
Applications

- Earth moving Equipments
- Material Handling Equipments
- Machine Tools
- Hydro Electric Turbines
- Special Purpose Machines
- Robotics & Automation
- Mobile Cranes
- Wagon Tiplers
- Test Rigs & Simulators
- Automation
- Mining Equipments.

HEIGH -RPM-RJ-400



ACCESSORIES



Clamp Arm table Standard:

| Model | 90RH | TC01 - 360 | TC01 - 400 | TC01 - 480 | TC01-550 | TC01-650 | TC01-750 | TC01 -900 | TC01 - 105 |
|-------|------|------------|------------|------------|----------|----------|----------|-----------|------------|
| | 90LH | | | | | | | | |
| a | | 70 | 75 | 85 | 90 | 105 | 110 | 150 | 200 |
| b | | 10 | 12 | 12 | 16 | 19 | 22 | 25 | 32 |
| c | | 13 | 14 | 16 | 20 | 25 | 32 | 38 | 45 |
| d | | 5 | 6 | 6 | 8 | 10 | 11 | 13 | 16 |
| e | | 13 | 14.5 | 16 | 17 | 22 | 26 | 31 | 36 |
| g | | 10 | 12 | 13 | 17 | 18 | 22 | 26 | 31 |
| h | | 10.5 | 13 | 13 | 17 | 22 | 25 | 31 | 38 |
| j | | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 6 |
| n | | 4.5 | 5.5 | 6 | 6 | 8 | 10 | 11 | 13 |
| p | | 14.5 | 16 | 18.5 | 21 | 24.5 | 30 | 36 | 44 |
| r | | 4.5 | 5.5 | 6 | 6 | 8 | 10 | 11 | 13 |
| s | | 2.5 | 2.5 | 3.5 | 6 | 7.5 | 9.5 | 13 | 16 |
| Øt | | 5 | 6 | 6 | 6 | 8 | 10 | 12 | 15 |
| Øu | | 5 | 6 | 6 | 6 | 10 | 12 | 15 | 18 |

Clamp arm table without sleeve Standard:

| Model | 90RH | SC02- 361 R | SC02- 401 R | SC02- 481 R | SC02- 551 R | SC02- 651 R | SC02- 751 R | SC02- 901 R | SC02- 1051 R |
|-------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | 90LH | SC02- 362 L | SC02- 402 L | SC02- 482 L | SC02- 552 L | SC02- 652 L | SC02- 752 L | SC02- 902 L | SC02- 1052 L |
| a | | 50 | 56.5 | 65.5 | 77 | 91.5 | 105 | 127 | 152 |
| b | | 26 | 28 | 35 | 38 | 50 | 58 | 75 | 90 |
| c | | 11 | 13 | 16 | 22 | 22 | 28 | 34 | 40 |
| d | | 13 | 14 | 17.5 | 19 | 25 | 29 | 38 | 45 |
| g | | 3 | 3 | 3 | 3 | 3 | 5.5 | 5.5 | 5.5 |
| l | | 32 | 36.5 | 42 | 50 | 56.5 | 65 | 75 | 90 |
| j | | 10 | 12 | 12 | 17 | 19 | 22 | 27 | 32 |
| n | | M5 | M6 | M6 | M8 | M8 | M10 | M12 | M16 |
| Øp | | 15 | 18 | 22 | 25 | 30 | 36 | 45 | 55 |

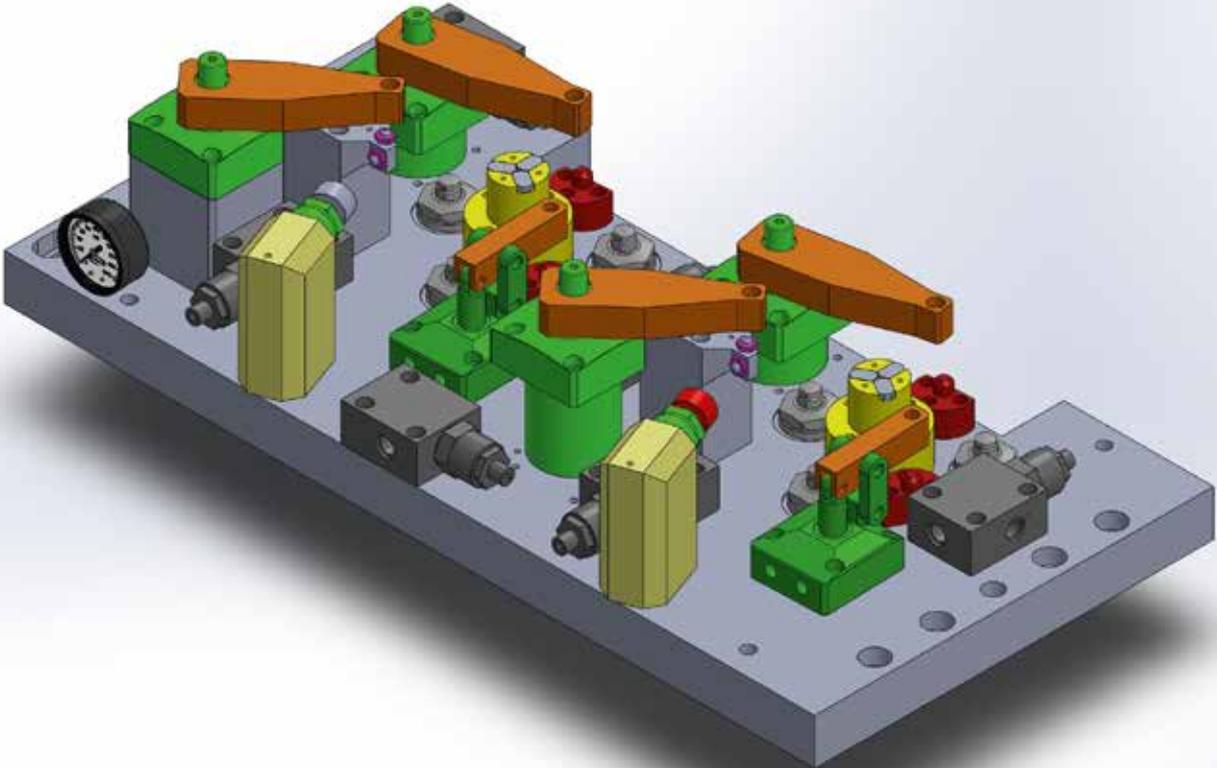
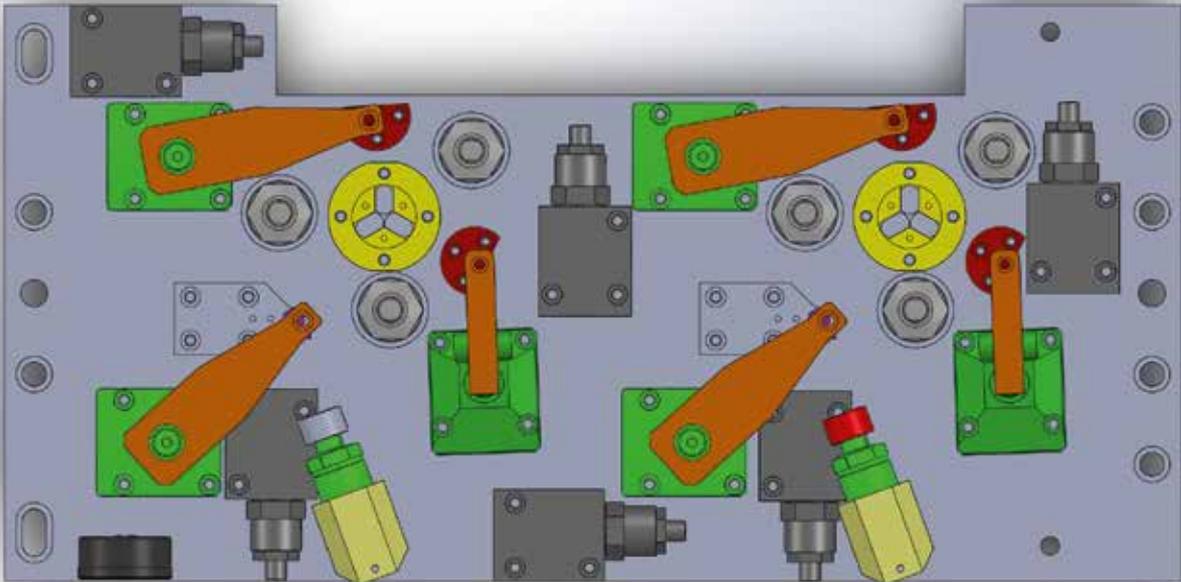
Clamp arm table with sleeve Standard:

| Model | 90RH | SB03- 361 R | SB03- 401 R | SB03- 481 R | SB03- 551 R | SB03- 651 R | SB03- 751 R | SB03- 901 R | SB03- 1051 R |
|-------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | 90LH | SB03- 362 L | SB03- 402 L | SB03- 482 L | SB03- 552 L | SB03- 652 L | SB03- 752 L | SB03- 902 L | SB03- 1052 L |
| FA | | 12 | 16 | 19 | 25 | 25 | 32 | 38 | 45 |
| FB | | 9.5 | 13 | 15 | 21 | 21 | 27 | 33 | 39 |
| FC | | 2.5 | 3 | 4 | 4 | 4 | 5 | 5 | 6 |
| FD | | 4.3 | 5.3 | 6.3 | 6.3 | 7.5 | 8.5 | 9.5 | 10.5 |
| ØFE | | 17 | 20 | 25 | 28 | 34 | 40 | 49 | 60 |
| FF | | 13.9 | 16.7 | 20.6 | 23 | 28 | 32.9 | 14.8 | 51.2 |
| FG | | 4 | 5 | 5 | 6 | 6 | 8 | 8 | 8 |

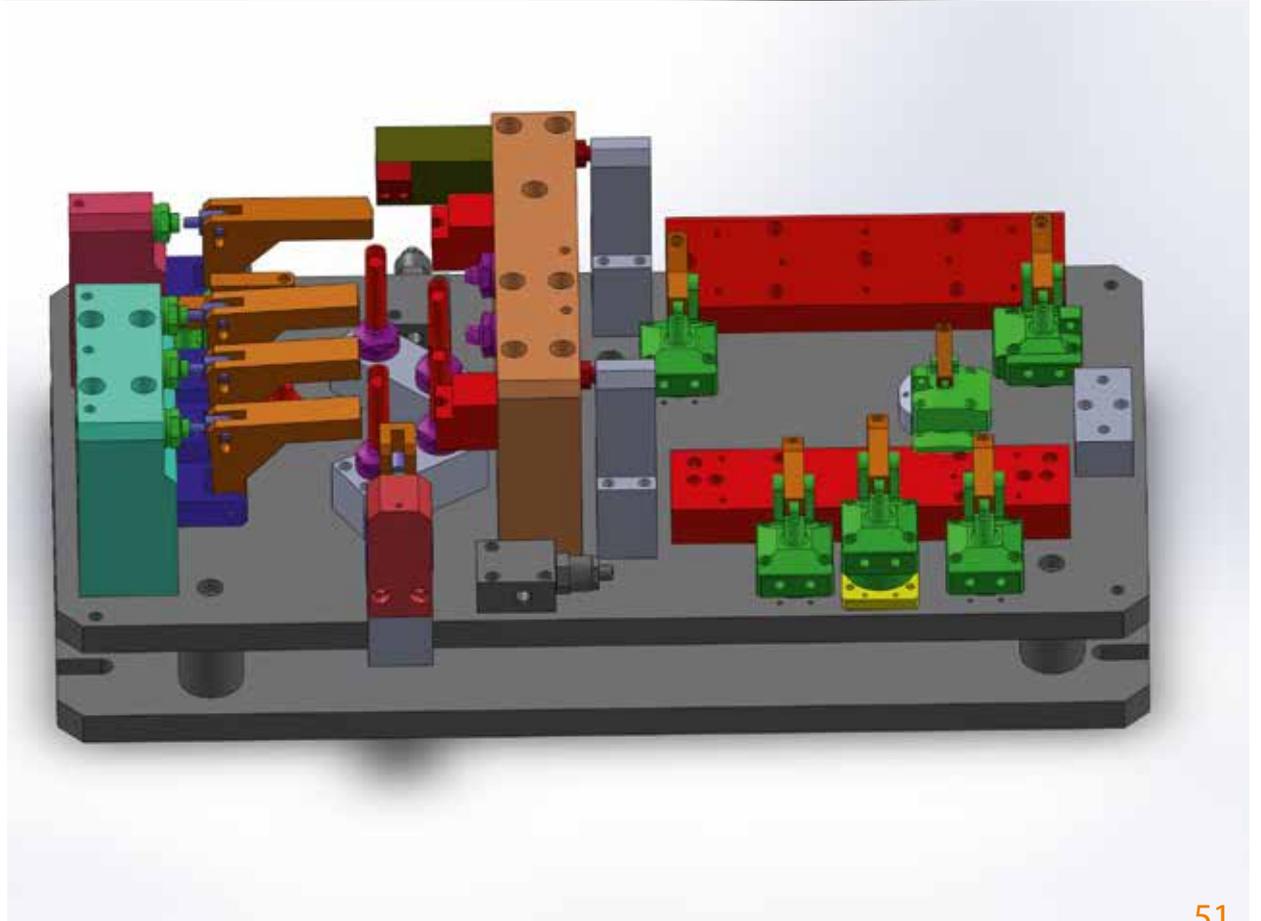
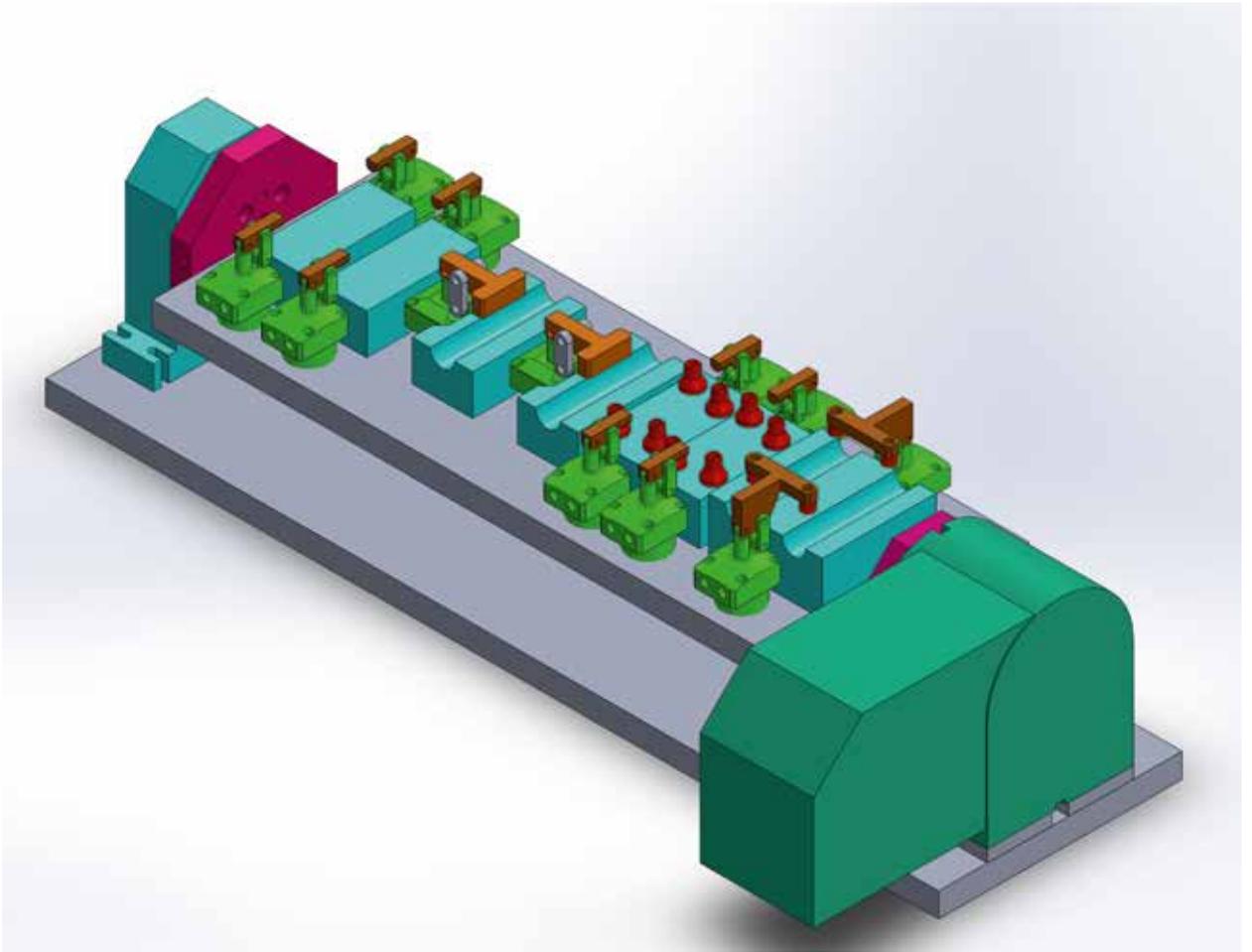
CLAMPING CYLINDERS



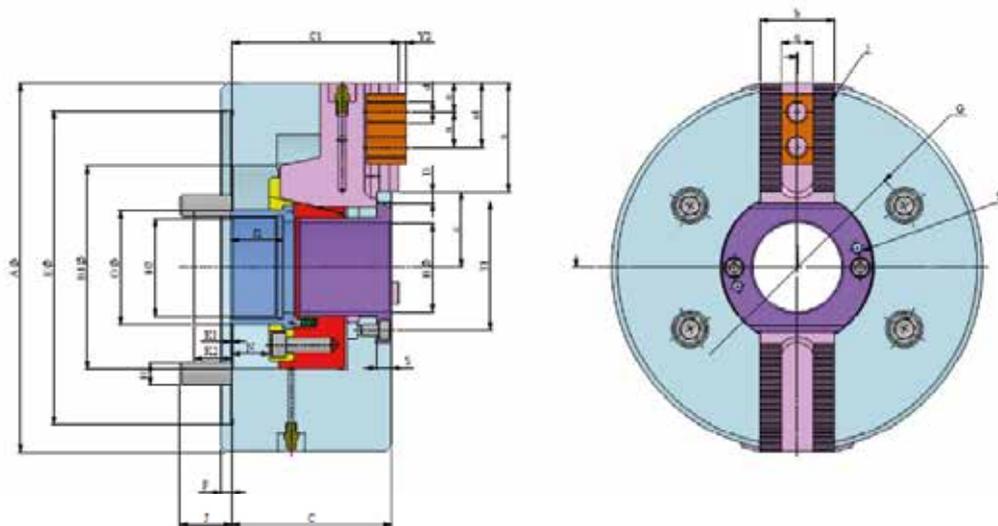
APPLICATIONS



APPLICATIONS

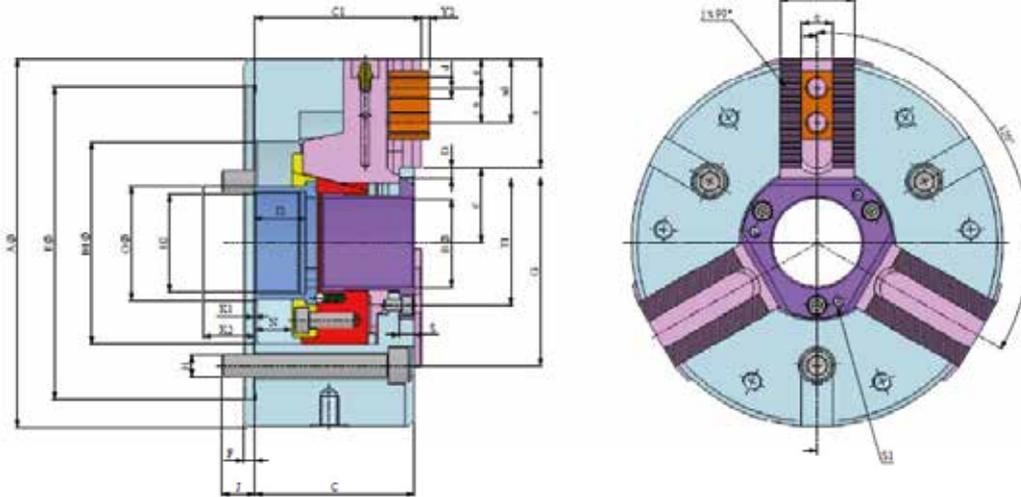


STANDARD POWER CHUCK



| Dimensions / Performance data 2B - PH | | | 135 | 165 | 200 | 250 | 315 | 400 | 500 |
|---------------------------------------|---------------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Type 2 PH / Chuck Size | | | 135 | 165 | 200 | 250 | 315 | 400 | 500 |
| Dimensions | | | | | | | | | |
| Outer diameter | A0 | mm | 135 | 165 | 200 | 250 | 315 | 400 | 500 |
| Bore | B10 ^{+0.1} | mm | 81 | 90 | 110 | 132 | 155 | 210 | 250 |
| Mounting recess | EO H6 | mm | 110 | 140 | 170 | 220 | 300 | 380 | 380 |
| Actuator-Ø | F | mm | | | | | | | |
| Mounting bolts | H | | M10 | M10 | M12 | M16 | M20 | M24 | M24 |
| Thread mounting | H2 | | M36 x 1.5 | M42 x 1.5 | M55 x 2 | M72 x 2 | M92 x 2 | M133 x 2 | M172 x 3 |
| Puller thread protective sleeve | S | | M4 | M5 | M6 | M6 | M6 | M8 | M8 |
| Chuck width | C | mm | 56.2 | 77 | 85 | 88 | 85 | 120 | 120 |
| Chuck width | C1 | mm | 58 | 82 | 89 | 92 | 92 | 125 | 125.5 |
| Thread length of mounting bolts | J | mm | 15 | 14 | 18 | 24 | 31 | 31 | 36 |
| Thread length of actuator | J2 | mm | 17 | 27 | 28 | 28 | 28 | 28 | 28 |
| Basejaw protr. over chuck face | S | mm | 6 | 8 | 8 | 8 | 8 | 12 | 12 |
| Actuator stroke | N | mm | 10 | 15 | 20 | 20 | 20 | 30 | 30 |
| Pitch circle - Ø of mounting bolts | G ^{+0.1} | mm | 82.6 | 104.8 | 133.4 | 171.4 | 235 | 330.2 | 330.2 |
| Pitch circle - Ø of protective sleeve | T1 ^{+0.1} | mm | 44 | 54 | 68 | 86 | 104 | 145 | 185 |
| Jaw stroke | D | mm | 2.7 | 3.15 | 5.3 | 5.3 | 5.3 | 8 | 8 |
| Position of Jaw min | c | mm | 25.15 | 28.65 | 35.7 | 43.7 | 54.2 | 74 | 92 |
| Position of Jaw max | c | mm | 27.85 | 31.8 | 41 | 49 | 59.5 | 82 | 100 |
| Jaw mounting bolts | d | | M8 | M10 | M12 | M16 | M16 | M20 | M20 |
| Distance of Jaw mounting bolts | e | mm | 8 | 9 | 9 | 10 | 10 | 15 | 15 |
| Distance of Jaw mounting bolts | n1 | mm | 30 | 38.5 | 50 | 60 | 85 | 103 | 130 |
| Minimum distance | n | mm | 14 | 19 | 19 | 25 | 25 | 34 | 34 |
| Distance T-nut and serration | Y2 | mm | 2 | 3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Length of serration | a | mm | 41 | 50.7 | 59 | 76 | 98 | 118 | 150 |
| Jaw width | b | mm | 23 | 35 | 40 | 45 | 50 | 60 | 60 |
| Slot with Imperial | q H7 | mm | 10 | 12 | 17 | 21 | 21 | 25.5 | 25.5 |
| Slot with metric | q H7 | mm | 10 | 12 | 17 | 21 | 21 | 25.5 | 25.5 |
| Pitch of serration / Imperial | j | | 1/16" x 90° | 3/32" x 90° | 3/32" x 90° |
| Pitch of serration / Metric | j | | 1.5 x 60° |
| Performance data | | | | | | | | | |
| Max. Drawbar pull | | kgf | 1133 | 1333 | 2660 | 4000 | 4000 | 6000 | 6000 |
| Max. Gripping force | | kgf | 2400 | 3600 | 5330 | 8000 | 8660 | 13333 | 14000 |
| Rpm max | | f/min | 7000 | 5000 | 5000 | 4000 | 3200 | 2500 | 2000 |
| Weight | | kg | 10 | 13.7 | 16 | 26 | 38 | 94 | 132 |
| Flywheel effect GD2 | | kpm2 | 0.15 | 0.2 | 0.38 | 0.8 | 2.6 | 8.4 | 24.8 |

STANDARD POWER CHUCK



| Dimensions / Performance data 3B - PH | | | | | | | | | |
|---------------------------------------|---------------------|----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Type 3 PH / Chuck Size | | | 135 | 165 | 200 | 250 | 315 | 400 | 500 |
| Dimensions | | | | | | | | | |
| Outer diameter | AO | mm | 135 | 165 | 200 | 250 | 315 | 400 | 500 |
| Bore | B10 ^{+0.1} | mm | 81 | 90 | 110 | 132 | 155 | 210 | 250 |
| Mounting recess | E0 H6 | mm | 110 | 140 | 170 | 220 | 300 | 380 | 380 |
| Actuator-Ø | F | mm | | | | | | | |
| Mounting bolts | H | | M10 | M10 | M12 | M16 | M20 | M24 | M24 |
| Thread mounting | H2 | | M36 x 1.5 | M42 x 1.5 | M55 x 2 | M72 x 2 | M92 x 2 | M133 x 2 | M172 x 3 |
| Puller thread protective sleeve | S | | M4 | M5 | M6 | M6 | M6 | M8 | M8 |
| Chuck width | C | mm | 56.2 | 77 | 85 | 88 | 85 | 120 | 120 |
| Chuck width | C1 | mm | 58 | 82 | 89 | 92 | 92 | 125 | 125.5 |
| Thread length of mounting bolts | J | mm | 15 | 14 | 18 | 24 | 31 | 31 | 36 |
| Thread length of actuator | J2 | mm | 17 | 27 | 28 | 28 | 28 | 28 | 28 |
| Basejaw protr. over chuck face | S | mm | 6 | 8 | 8 | 8 | 8 | 12 | 12 |
| Actuator stroke | N | mm | 10 | 15 | 20 | 20 | 20 | 30 | 30 |
| Pitch circle - Ø of mounting bolts | C ^{+0.1} | mm | 82.6 | 104.8 | 133.4 | 171.4 | 235 | 330.2 | 330.2 |
| Pitch circle - Ø of protective sleeve | T1 ^{+0.1} | mm | 44 | 54 | 68 | 86 | 104 | 145 | 185 |
| Jaw stroke | D | mm | 2.7 | 3.15 | 5.3 | 5.3 | 5.3 | 8 | 8 |
| Position of Jaw min | c | mm | 25.15 | 28.65 | 35.7 | 43.7 | 54.2 | 74 | 92 |
| Position of Jaw max | c | mm | 27.85 | 31.8 | 41 | 49 | 59.5 | 82 | 100 |
| Jaw mounting bolts | d | | M8 | M10 | M12 | M16 | M16 | M20 | M20 |
| Distance of Jaw mounting bolts | e | mm | 8 | 9 | 9 | 10 | 10 | 15 | 15 |
| Distance of Jaw mounting bolts | n1 | mm | 30 | 38.5 | 50 | 60 | 85 | 103 | 130 |
| Minimum distance | n | mm | 14 | 19 | 19 | 25 | 25 | 34 | 34 |
| Distance T-nut and serration | Y2 | mm | 2 | 3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Length of serration | a | mm | 41 | 50.7 | 59 | 76 | 98 | 118 | 150 |
| Jaw breath | | | | | | | | | |
| Jaw width | b | mm | 23 | 35 | 40 | 45 | 50 | 60 | 60 |
| Slot with Imperial | q H7 | mm | 10 | 12 | 17 | 21 | 21 | 25.5 | 25.5 |
| Slot with metric | q H7 | mm | 10 | 12 | 17 | 21 | 21 | 25.5 | 25.5 |
| Pitch of serration Imperial | j | | 1/16" x 90° | 3/32" x 90° | 3/32" x 90° |
| Pitch of serration Metric | j | | 1.5 x 60° |
| Performance data | | | | | | | | | |
| External Clamping Max / Min | | | 135 / 25 | 165 / 32 | 200 / 25 | 250 / 28 | 315 / 42 | 400 / 45 | 500 / 74 |
| Internal Clamping Max / Min | | | 135 / 50 | 165 / 62 | 200 / 70 | 250 / 76 | 315 / 84 | 400 / 105 | 500 / 138 |
| Max. Drawbar pull | kgf | | 1700 | 2000 | 4000 | 6000 | 6000 | 9000 | 9000 |
| Max. Gripping force | kgf | | 3600 | 5400 | 8000 | 12000 | 13000 | 20000 | 21000 |
| Rpm max | 1/min | | 7000 | 5000 | 5000 | 4000 | 3200 | 2500 | 2000 |
| Weight | kg | | 10 | 13.7 | 16 | 26 | 38 | 94 | 132 |
| Flywheel effect GD2 | kpm2 | | 0.15 | 0.2 | 0.38 | 0.8 | 2.6 | 8.4 | 24.8 |
| Max top jaw weight | kg | | 1.25 | 1.5 | 1.7 | 3.5 | 4 | 7.5 | 7.5 |

POWER CHUCK & PNEUMATIC CHUCK



High Speed Rotary:

There is no filter provided with this product to prevent foreign materials & contaminants from getting into the hydraulic system & pipes.

Cautions for Use:

1. The product should be operated by persons with the necessary knowledge & experience.
2. Do not take the equipment apart or modify it. If the equipment is taken apart or modified the warranty will be void, even within the warranty period.

Warranty:

Warranty period.

The product warranty period is for 1.5 years after shipment from our plant or 1 year of use, whichever is shorter.

Warranty scope.

Defects or failures caused by the following are not covered.

1. Proper maintenance & inspections were not performed.
2. The product was used in an imperfect state at the decision of the user.
3. The user did not use or handle the product properly. (including damages caused by a third party)
4. The cause was due to some factor other than our product.
5. The product was modified or repaired by another company or was modified or repaired without our approval or confirmation.
6. The damage or defect was caused by natural disaster or accident through no fault of our own.
7. Parts & replacements necessary due to wear & tear. (rubber, plastic, sealant, ceratin electrical components, etc.)



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