

AIR CYLINDERS

| | |
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Product Selection

- 1 Confirm the internal diameter of the cylinder**

A) Axial load thrust of the cylinder shall be confirmed according to the actual load situation of the required cylinder.

B) Load rate η of the cylinder shall be confirmed according to the action situation for the load.
 Load rate has relationship with action speed of the cylinder, which is generally recommended as:
 Under static load or low speed: $\eta \leq 0.7$
 Speed 50~500mm/s: $\eta \leq 0.5$
 When speed > 500mm/s: $\eta \leq 0.3$

C) Working pressure of the cylinder shall be confirmed according to the condition of air supply.
- 2 Confirm the cylinder stroke**

The stroke for the cylinder is pre-selected upon the operation distance of the cylinder and the stroke ratio for transmission mechanisms. To facilitate installing and debugging, the calculated stroke shall be with a proper margin. Standard strokes which can guarantee quick supply & low cost shall be selected as possible as you can.
- 3 Confirm the cylinder type**

The variety of the cylinder shall be selected according to the specific requirements of application and installation of the cylinder.
- 4 Selection of buffer way of the cylinder**

There are different buffer devices equipped to the cylinders made by our company. Customer shall choose them according to the action situation of actual load. If both the load and speed are higher, it is difficult to absorb the impact only by the buffer of the cylinder. Therefore buffer circuit must be designed or use external buffer to release the impact.
- 5 Confirm whether the cylinder has magnet**

Whether the cylinder has reed switch shall be confirmed according to the actual situation and relative inducting switch shall be selected
- 6 Selection of installation mode of the cylinder**

Installation mode of the cylinder shall be selected according to the application and installation requirements of the cylinder.
- 7 Selection of connecting mode of piston rod of the Cylinder**

After the cylinder is pre-selected, it is necessary to check the stability of piston rod (especially if the piston rod is thinner, longer and larger) of the cylinder according to different installation modes and their air consumption under actual application condition shall be checked.

Maintenance and Service



Attention

01. There should be no damage in the sliding parts of the cylinder and piston rod to prevent the air leakage caused by poor action of the cylinder and damage of the seal parts of piston rod.
02. If the cylinder is not used for long time, it shall be regularly actuated and shall be coated with oil to prevent rusting.
03. Please read the relevant content in this manual for the requirement of the cylinder to air quality & application condition, pipeline connection & lubrication.

Troubleshooting



Attention

01. Flow Control Valve shall be installed at the two sides of the cylinder.
 - a) Flow Control Valve shall be opened gradually from completely closed state when the cylinder is troubleshooted and the drive speed of the cylinder shall be gradually and slowly adjusted to the required value.
 - b) There are two ways of installing flow control valve, including exhaust throttle and inlet throttle. Exhaust throttle is mostly adopted in pneumatic system since cylinder will produce back pressure during work through exhaust throttle and make the moving speed or the adjustment of the speed steady and will avoid impact on cylinder cover caused by sudden and quick propulsion of piston rod when starting.
02. When the cylinder with buffer function is troubleshooted the cushion valve on the cylinder shall be adjusted to the state that the cylinder has no rebound from low to high level according to load and speed, what shall be noticed is whether or not to adjust the buffer to dead state in troubleshooting the stroke, otherwise there will be poor buffer or damage of seals caused by piston under high-speed situation.

Air Cylinders

Installation and Use



| | |
|---|---|
| <p>1 The axis of piston rod shall accord with moving direction of load (coaxial). Piston rod and cylinder will produce opposite force which can easily damage the internal surface of the cylinder, guide sleeve, the surface of piston rod & seals.</p> | <p>6 It tends to bend in long stroke, thus installation bracket shall be moved to the front cover.</p> |
| <p>2 The axis of piston rod shall accord with moving direction of load (coaxial). Piston rod and cylinder will produce opposite force which can easily damage the internal surface of the cylinder, guide sleeve, the surface of piston rod & seals.</p> | <p>7 The fixed cylinder shall not be connected with the rocker carrying out circular action (LB fixation). At this time, it shall be connected with swing mounting (CA/CB/TC fixation).</p> |
| <p>3 If back activity hinge is far from force supply point, piston rod will be influenced by torque force. To prevent that, middle action support shall be used to shorten the distance between support point & force supply point.</p> | <p>8 If the height between installation surface of bearing bracket & the position of bearing is too great, when cylinder works, the installation part of the support will produce great torque force, which may cause damage to installing bolt & other parts.</p> |
| <p>4 To prevent the back activity hinge is far from supply point, thus the piston rod will be influenced by torque force & change to use middle action support to shorten the long distance between support point & force supply point.</p> | <p>9 Proper installation shall be adopted considering the direction of load (flange type installation).</p> |
| <p>5 Long-Stroke cylinder shall set middle guide support to prevent natural droop of piston rod and to prevent the damage on piston rod caused by the droop of piston rod, bend of the cylinder, vibration & external load.</p> | |
| | |

Cylinders' theoretic force

Unit: N

| Bore (mm) | | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | | | | | | | | | | | | | | |
|--|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|
| Rod (mm) | | 6 | 6 | 8 | 10 | 12 | 16 | 20 | 20 | 25 | 25 | 32 | 40 | 40 | | | | | | | | | | | | | | |
| Area (mm) ² | | A | B | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Pressure (Kg/cm ²) | 1 | 113 | 85 | 201 | 173 | 314 | 261 | 491 | 412 | 804 | 691 | 1257 | 1056 | 1962 | 1649 | 3117 | 2803 | 5027 | 4536 | 7854 | 7363 | 12272 | 11310 | 17671 | 16414 | 31416 | 29453 | |
| | 2 | 11 | 9 | 20 | 17 | 34 | 26 | 49 | 41 | 80 | 69 | 126 | 106 | 196 | 165 | 312 | 280 | 503 | 454 | 785 | 736 | 1227 | 1131 | 1767 | 1641 | 3142 | 2945 | |
| | 3 | A | 23 | 17 | 40 | 35 | 63 | 53 | 98 | 82 | 161 | 138 | 211 | 330 | 561 | 907 | 1473 | 1005 | 1571 | 2454 | 2262 | 3682 | 3283 | 5301 | 5013 | 9425 | 8836 | |
| | | B | 17 | 15 | 35 | 30 | 53 | 45 | 82 | 70 | 138 | 121 | 211 | 180 | 330 | 280 | 561 | 480 | 907 | 785 | 1473 | 1262 | 3682 | 3283 | 5301 | 4924 | 8836 | |
| | 4 | A | 34 | 26 | 60 | 52 | 94 | 79 | 147 | 124 | 241 | 207 | 377 | 317 | 589 | 495 | 935 | 1508 | 2356 | 3682 | 5301 | 7068 | 9425 | 12566 | 16414 | 21991 | 29453 | |
| | | B | 26 | 23 | 52 | 45 | 79 | 67 | 124 | 106 | 207 | 176 | 317 | 276 | 495 | 422 | 841 | 706 | 1361 | 2209 | 3983 | 5666 | 7668 | 10425 | 14137 | 19453 | 26453 | |
| | 5 | A | 45 | 34 | 80 | 69 | 126 | 106 | 196 | 165 | 322 | 276 | 503 | 422 | 785 | 660 | 1247 | 1011 | 2011 | 3142 | 4909 | 7068 | 12566 | 17671 | 24137 | 32453 | 43416 | 58453 |
| | | B | 34 | 30 | 69 | 60 | 106 | 90 | 165 | 142 | 276 | 235 | 422 | 360 | 660 | 560 | 1121 | 941 | 1814 | 2945 | 4524 | 6566 | 11781 | 16414 | 22453 | 30453 | 41416 | |
| | 6 | A | 57 | 43 | 101 | 87 | 157 | 132 | 246 | 206 | 402 | 346 | 629 | 528 | 982 | 825 | 1559 | 1302 | 2514 | 3927 | 6136 | 8836 | 15708 | 21767 | 29453 | 39453 | 52416 | 70453 |
| | | B | 43 | 38 | 87 | 77 | 132 | 113 | 206 | 176 | 346 | 295 | 528 | 452 | 825 | 706 | 1402 | 1202 | 2268 | 3682 | 5655 | 8207 | 14727 | 20453 | 27453 | 36453 | 48453 | |
| | 7 | A | 68 | 51 | 121 | 104 | 188 | 158 | 295 | 247 | 482 | 415 | 754 | 634 | 1178 | 989 | 1870 | 1682 | 3016 | 4712 | 7363 | 10603 | 18850 | 26453 | 36453 | 48453 | 64453 | 86453 |
| | | B | 51 | 45 | 104 | 90 | 158 | 138 | 247 | 211 | 415 | 354 | 634 | 542 | 989 | 841 | 1682 | 1452 | 2722 | 4418 | 6786 | 9848 | 17672 | 24453 | 33453 | 44453 | 59453 | |
| | 8 | A | 79 | 59 | 141 | 121 | 220 | 185 | 344 | 288 | 563 | 484 | 880 | 739 | 1374 | 1154 | 2182 | 1962 | 3519 | 5498 | 8590 | 12370 | 21991 | 30453 | 41453 | 55453 | 74453 | 100453 |
| | | B | 59 | 52 | 121 | 106 | 185 | 160 | 288 | 247 | 484 | 415 | 880 | 739 | 1154 | 989 | 1962 | 1715 | 3175 | 5154 | 7917 | 11490 | 20617 | 28453 | 38453 | 51453 | 69453 | |
| | 9 | A | 90 | 68 | 161 | 138 | 251 | 211 | 393 | 330 | 643 | 553 | 1006 | 845 | 1570 | 1319 | 2494 | 2242 | 4022 | 6283 | 9818 | 14137 | 25133 | 34453 | 46453 | 62453 | 85453 | |
| | | B | 68 | 60 | 138 | 121 | 211 | 185 | 330 | 288 | 553 | 484 | 1006 | 845 | 1319 | 1154 | 2242 | 2011 | 3629 | 5890 | 9048 | 13131 | 23562 | 32453 | 43453 | 58453 | | |
| | 10 | A | 102 | 77 | 181 | 156 | 283 | 238 | 442 | 371 | 724 | 622 | 1131 | 950 | 1767 | 1484 | 2805 | 2523 | 4524 | 7069 | 11045 | 15904 | 28274 | 38453 | 51453 | 69453 | 94453 | |
| | | B | 77 | 69 | 156 | 138 | 238 | 207 | 371 | 322 | 622 | 542 | 1131 | 950 | 1484 | 1262 | 2523 | 2242 | 4082 | 6627 | 10179 | 14773 | 26508 | 36453 | 49453 | 67453 | | |

Compressed air consumption

Unit: l/min

| Bore (mm) | | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 |
|--|----|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| Rod (mm) | | 6 | 6 | 8 | 10 | 12 | 16 | 20 | 20 | 25 | 25 | 32 | 40 | 40 |
| Area (mm) ² | | A | B | | | | | | | | | | | |
| Operating Pressure (Kg/cm ²) | 1 | 0.039 | 0.074 | 0.115 | 0.180 | 0.298 | 0.460 | 0.719 | 1.178 | 1.903 | 3.028 | 4.693 | 6.783 | 12.114 |
| | 2 | 0.059 | 0.111 | 0.172 | 0.269 | 0.446 | 0.689 | 1.076 | 1.764 | 2.850 | 4.535 | 7.028 | 10.158 | 18.140 |
| | 3 | 0.079 | 0.148 | 0.229 | 0.359 | 0.594 | 0.918 | 1.434 | 2.350 | 3.797 | 6.042 | 9.363 | 13.533 | 24.167 |
| | 4 | 0.098 | 0.186 | 0.287 | 0.448 | 0.742 | 1.147 | 1.792 | 2.937 | 4.744 | 7.548 | 11.698 | 16.908 | 30.193 |
| | 5 | 0.118 | 0.223 | 0.344 | 0.537 | 0.890 | 1.376 | 2.149 | 3.523 | 5.690 | 9.055 | 14.032 | 20.282 | 36.220 |
| | 6 | 0.137 | 0.260 | 0.401 | 0.627 | 1.038 | 1.605 | 2.507 | 4.109 | 6.637 | 10.562 | 16.367 | 23.657 | 42.247 |
| | 7 | 0.157 | 0.297 | 0.458 | 0.716 | 1.186 | 1.834 | 2.865 | 4.695 | 7.584 | 12.068 | 18.702 | 27.032 | 48.273 |
| | 8 | 0.177 | 0.334 | 0.516 | 0.806 | 1.334 | 2.063 | 3.222 | 5.281 | 8.531 | 13.575 | 21.037 | 30.407 | 54.300 |
| | 9 | 0.196 | 0.371 | 0.573 | 0.895 | 1.482 | 2.292 | 3.580 | 5.867 | 9.478 | 15.081 | 23.372 | 33.781 | 60.327 |
| | 10 | 0.216 | 0.408 | 0.630 | 0.984 | 1.630 | 2.521 | 3.937 | 6.453 | 10.425 | 16.588 | 25.707 | 37.156 | 66.353 |

The table is for a complete cycle with 100mm stroke in one minute.

VGS Series Air Cylinder

Miniature Standard Air Cylinder



Features

Non Lubrication

Special housing and bushing enables self lubrication of piston rod.

High Quality Long Service Life

Hard anodised aluminum / SS cylinder tubes offer a high resistance to corrosion and low internal friction.

Non Standard Type

Custom cylinders are available as are non-standard strokes, rod extension and special rod threads.



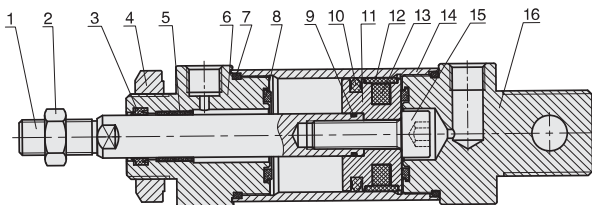
Specifications

| Model | VGS |
|--------------------------|----------------------------|
| Bore ID. (mm) | 16, 20, 25, 32, 40 |
| Medium | Air |
| Operating Pressure Range | 0.5 ~ 10Kg/cm ² |
| Proof Pressure | 15Kg/cm ² |
| Ambient Temperature | -5 ~ +60°C (No Freezing) |
| Available Speed Range | 50 ~ 800 mm/Sec |
| Sensor Switch | K-2 |

Table for Standard Stroke

| Bore | Stroke (mm) | Max.Stroke (mm) |
|------|---|-----------------|
| 16 | 25•40•50•75•80•100•125•150•175•200•250•300 | Upto 500 |
| 20 | 25•40•50•75•80•100•125•150•175•200•250•300 | Upto 650 |
| 25 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 650 |
| 32 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 650 |
| 40 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 650 |

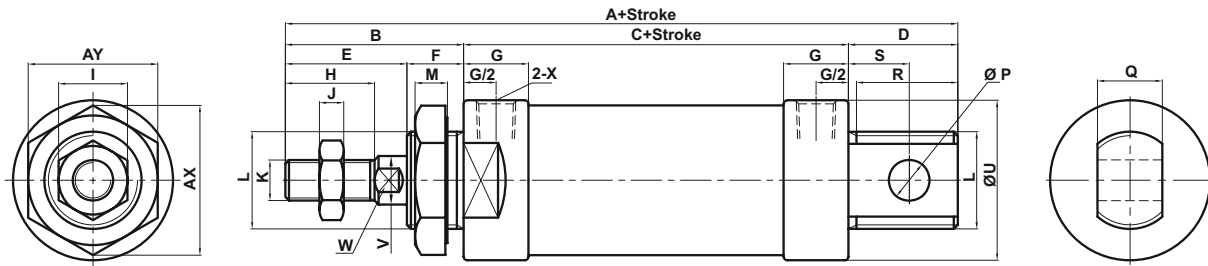
Internal Structure



| No | Part Name | Material |
|----|--------------------------|-------------------------------|
| 1 | Piston Rod | S45C Hard Chrome Carbon Steel |
| 2 | Nut | Carbon Steel |
| 3 | Piston Rod Seal | NBR |
| 4 | Nut | Carbon Steel |
| 5 | Self Lubricating Bearing | Brass |
| 6 | Head Cover | Aluminium Alloy |
| 7 | O-Ring | NBR |
| 8 | Anti-Bump Cushion | TPU |
| 9 | O-Ring | NBR |
| 10 | Piston Seal | NBR |
| 11 | Piston | Aluminium Alloy |
| 12 | Wear Ring | PTFE |
| 13 | Magnet | Plastic |
| 14 | Barrel | Aluminium Alloy / SS |
| 15 | Hexagon Cover | Carbon Steel |
| 16 | Rear Cover | Aluminium Alloy |

Basic Version - VGS

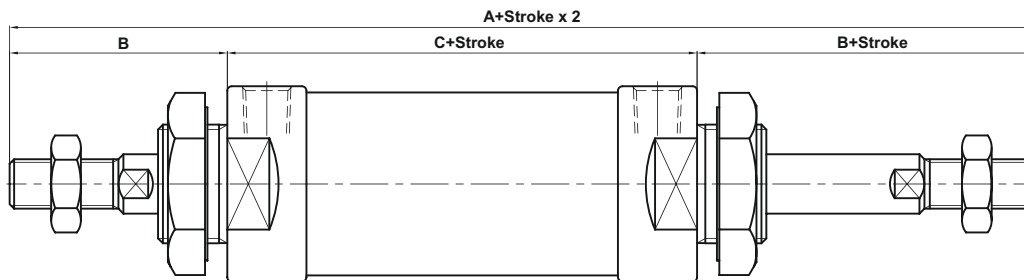
| Ordering Code | Description |
|-----------------------|---|
| VGS - Bore - Stroke | Basic Version - Double Acting, Non - Magnetic |
| VGS-S - Bore - Stroke | Basic Version - Double Acting, Magnetic |



| Code Bore | A | B | C | D | E | F | G | H | I | J | K | L | M | P | Q | R | S | U | V | W | X | AX | AY |
|--------------|-----|----|----|----|----|----|----|----|----|---|------------|-----------|---|----|----|----|----|------|----|----|-------|----|----|
| 16 | 114 | 38 | 60 | 16 | 22 | 14 | 11 | 16 | 10 | 5 | M6 x 1.0 | M16 x 1.5 | 8 | 6 | 12 | 14 | 9 | 21 | 6 | 5 | M5 | 25 | 22 |
| 20 | 131 | 40 | 70 | 21 | 28 | 12 | 16 | 20 | 12 | 6 | M8 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 29 | 8 | 6 | G1/8" | 33 | 29 |
| 25 | 135 | 44 | 70 | 21 | 30 | 14 | 16 | 22 | 17 | 6 | M10 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 34 | 10 | 8 | G1/8" | 33 | 29 |
| 32 | 141 | 44 | 70 | 27 | 30 | 14 | 16 | 22 | 17 | 6 | M10 x 1.25 | M24 x 2.0 | 8 | 10 | 16 | 25 | 15 | 39.5 | 12 | 10 | G1/8" | 37 | 32 |
| 40 | 165 | 46 | 92 | 27 | 32 | 14 | 22 | 24 | 17 | 7 | M12 x 1.25 | M30 x 2.0 | 9 | 12 | 20 | 25 | 15 | 49.5 | 16 | 14 | G1/4" | 37 | 41 |

Push/Pull Rod Version (Double Ended) - VGS-D

| Ordering Code | Description |
|-------------------------|---|
| VGS-D - Bore - Stroke | Basic Version - Double Acting, Non - Magnetic |
| VGS-D-S - Bore - Stroke | Basic Version - Double Acting, Magnetic |



| Code Bore | A | B | C |
|--------------|-----|----|----|
| 20 | 150 | 40 | 70 |
| 25 | 158 | 44 | 70 |
| 32 | 158 | 44 | 70 |
| 40 | 184 | 46 | 92 |

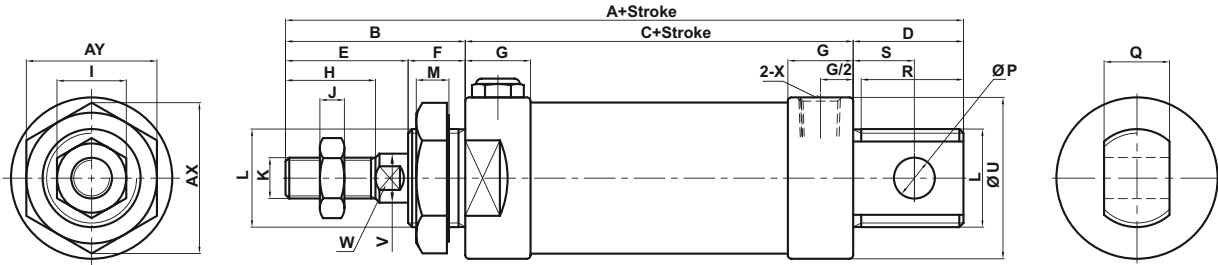
VGS Series Air Cylinder

Dimensions



Single Acting - Normally Closed - VGS-SSA

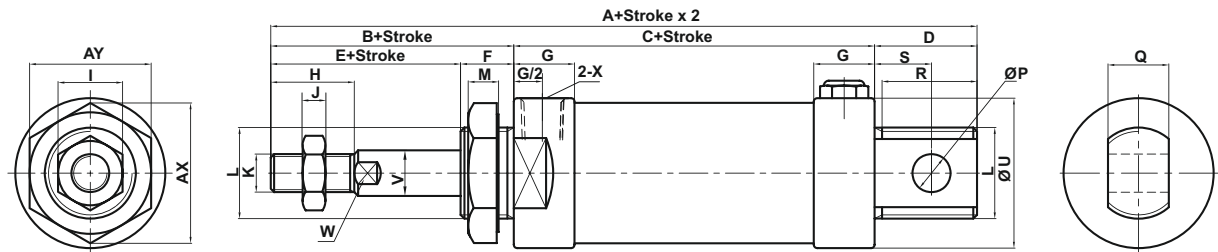
| Ordering Code | Description |
|-------------------------|---|
| VGS-SSA - Bore - Stroke | Basic Version - Single Acting, Non-Magnetic |



| Code | A | | B | C | | D | E | F | G | H | I | J | K | L | M | P | Q | R | S | U | V | W | X | AX | AY |
|------|------|--------|----|------|--------|----|----|----|----|----|----|---|------------|-----------|---|----|----|----|----|------|----|----|-------|----|----|
| | 0-50 | 51-100 | | 0-50 | 51-100 | | | | | | | | | | | | | | | | | | | | |
| 20 | 131 | 156 | 40 | 70 | 95 | 21 | 28 | 12 | 16 | 20 | 12 | 6 | M8 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 29 | 8 | 6 | G1/8" | 33 | 29 |
| 25 | 135 | 160 | 44 | 70 | 95 | 21 | 30 | 14 | 16 | 22 | 17 | 6 | M10 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 34 | 10 | 8 | G1/8" | 33 | 29 |
| 32 | 141 | 166 | 44 | 70 | 95 | 27 | 30 | 14 | 16 | 22 | 17 | 6 | M10 x 1.25 | M24 x 2.0 | 8 | 10 | 16 | 25 | 15 | 39.5 | 12 | 10 | G1/8" | 37 | 32 |
| 40 | 165 | 190 | 46 | 90 | 117 | 27 | 32 | 14 | 22 | 24 | 17 | 7 | M12 x 1.25 | M30 x 2.0 | 9 | 12 | 20 | 25 | 15 | 49.5 | 16 | 14 | G1/4" | 37 | 41 |

Single Acting - Normally Open - VGS-STA

| Ordering Code | Description |
|-------------------------|---|
| VGS-STA - Bore - Stroke | Basic Version - Single Acting, Non-Magnetic |



| Code | A | | | | B | C | | | | D | E | F | G | H | I | J |
|------|------|-------|-------|--------|----|------|-------|-------|--------|----|----|----|----|----|----|---|
| | 0-25 | 26-50 | 51-75 | 76-100 | | 0-25 | 26-50 | 51-75 | 76-100 | | | | | | | |
| 20 | 146 | 156 | 171 | 181 | 40 | 85 | 95 | 110 | 156 | 21 | 28 | 12 | 16 | 20 | 12 | 6 |
| 25 | 150 | 160 | 175 | 185 | 44 | 85 | 95 | 110 | 160 | 21 | 30 | 14 | 16 | 22 | 17 | 6 |
| 32 | 156 | 166 | 186 | 196 | 44 | 85 | 95 | 115 | 166 | 27 | 30 | 14 | 16 | 22 | 17 | 6 |
| 40 | 180 | 190 | 210 | 220 | 46 | 107 | 117 | 137 | 190 | 27 | 32 | 14 | 22 | 24 | 17 | 7 |

| Code | K | L | M | P | Q | R | S | U | V | W | X | AX | AY |
|------|------------|-----------|---|----|----|----|----|------|----|----|-------|----|----|
| 20 | M8 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 29 | 8 | 6 | G1/8" | 33 | 29 |
| 25 | M10 x 1.25 | M22 x 1.5 | 7 | 8 | 16 | 19 | 12 | 34 | 10 | 8 | G1/8" | 33 | 29 |
| 32 | M10 x 1.25 | M24 x 2.0 | 8 | 10 | 16 | 25 | 15 | 39.5 | 12 | 10 | G1/8" | 37 | 32 |
| 40 | M12 x 1.25 | M30 x 2.0 | 9 | 12 | 20 | 25 | 15 | 49.5 | 16 | 14 | G1/4" | 37 | 41 |



Features

Non Lubrication

Special housing and bushing enables self lubrication of piston rod.

High Quality Long Service Life

Hard anodised SS cylinder tubes offer a high resistance to corrosion and low internal friction.

Cylinder Mountings

Available with a comprehensive range of accessories for rigid or flexible mounting.

Non Standard Type

Custom cylinders are available as are non-standard strokes, rod extension and special rod threads.

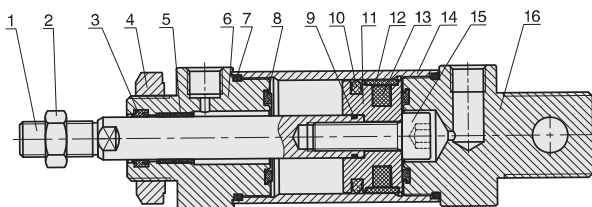
Table for Standard Stroke

| Bore | Stroke (mm) | Max.Stroke (mm) |
|------|---|-----------------|
| 8 | 10•25•40•50•80•100 | Upto 300 |
| 10 | 10•25•40•50•80•100 | Upto 300 |
| 12 | 10•25•40•50•80•100•125•150•200 | Upto 500 |
| 16 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 1000 |
| 20 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 1000 |
| 25 | 25•40•50•80•100•125•150•200•250•300•350•400•500 | Upto 1000 |

Specifications

| Model | VSNU |
|--------------------------|----------------------------|
| Bore ID. (mm) | 8, 10, 12, 16, 20, 25 |
| Medium | Air |
| Operating Pressure Range | 0.5 ~ 10Kg/cm ² |
| Proof Pressure | 15Kg/cm ² |
| Ambient Temperature | -5 ~ +60°C (No Freezing) |
| Available Speed Range | 50 ~ 800 mm/Sec |
| Sensor Switch | K-2 |

Internal Structure



| No | Part Name | Material |
|----|--------------------------|-------------------------------|
| 1 | Piston Rod | S45C Hard Chrome Carbon Steel |
| 2 | Nut | Carbon Steel |
| 3 | Piston Rod Seal | NBR |
| 4 | Nut | Carbon Steel |
| 5 | Self Lubricating Bearing | Brass |
| 6 | Head Cover | Aluminium Alloy |
| 7 | O-Ring | NBR |
| 8 | Anti-Bump Cushion | TPU |
| 9 | O-Ring | NBR |
| 10 | Piston Seal | NBR |
| 11 | Piston | Aluminium Alloy |
| 12 | Wear Ring | PTFE |
| 13 | Magnet | Plastic |
| 14 | Barrel | Aluminium Alloy / SS |
| 15 | Hexagon Cover | Carbon Steel |
| 16 | Rear Cover | Aluminium Alloy |

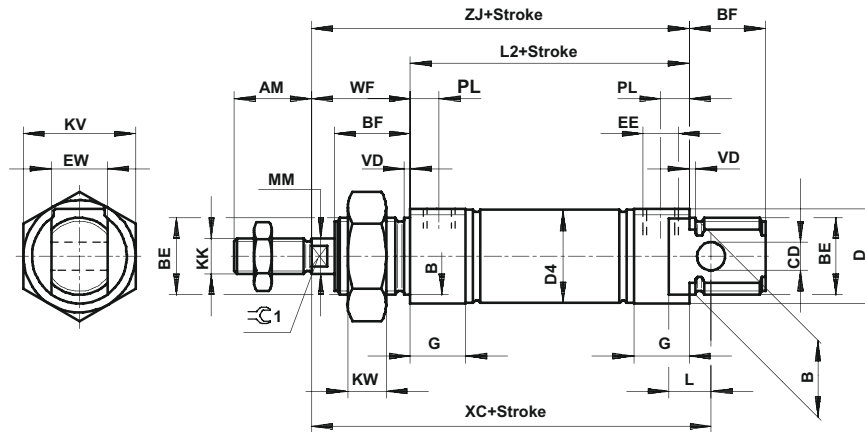
VSNU Series Air Cylinder

Dimensions



Basic Version - VSNU

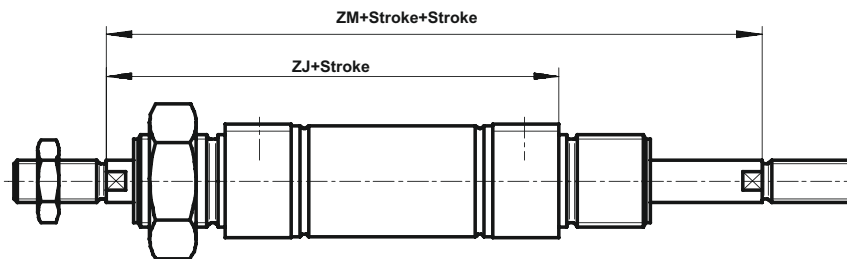
| Ordering Code | Description |
|----------------------|---|
| VSNU - Bore - Stroke | Basic Version - Double Acting, Magnetic |



| Code Bore | AM | B | BF | CD | D | D4 | EE | EW | G | KV | KK | BE | KW | L | L2 | MM | PL | VD | WF | XC | ZJ |
|-----------|----|----|----|----|----|------|------|----|----|----|------------|------------|----|----|------|----|-----|----|----|-----|------|
| 8 | 12 | 12 | 12 | 4 | 15 | 9.3 | M5 | 8 | 10 | 19 | M4 x 0.7 | M12 x 1.25 | 6 | 6 | 46 | 4 | 6 | 2 | 16 | 64 | 62 |
| 10 | 12 | 12 | 12 | 4 | 15 | 11.3 | M5 | 8 | 10 | 19 | M4 x 0.7 | M12 x 1.25 | 6 | 6 | 46 | 4 | 6 | 2 | 16 | 64 | 62 |
| 12 | 16 | 16 | 17 | 6 | 20 | 13.3 | M5 | 12 | 10 | 24 | M6 x 1.0 | M16 x 1.5 | 8 | 9 | 50 | 6 | 6 | 2 | 22 | 75 | 72 |
| 16 | 16 | 16 | 17 | 6 | 20 | 17.3 | M5 | 12 | 10 | 24 | M6 x 1.0 | M16 x 1.5 | 8 | 9 | 56 | 6 | 6 | 2 | 22 | 82 | 78 |
| 20 | 20 | 22 | 20 | 8 | 27 | 21.3 | G1/8 | 16 | 16 | 32 | M8 x 1.25 | M22 x 1.5 | 11 | 12 | 68 | 8 | 8.2 | - | 24 | 95 | 92 |
| 25 | 22 | 22 | 22 | 8 | 27 | 26.5 | G1/8 | 16 | 16 | 32 | M10 X 1.25 | M22 x 1.5 | 11 | 12 | 69.5 | 10 | 8.2 | - | 28 | 104 | 97.2 |

Push/Pull Rod Version (Double Ended) - VSNU-D

| Ordering Code | Description |
|------------------------|---|
| VSNU-D - Bore - Stroke | Basic Version - Double Acting, Magnetic |

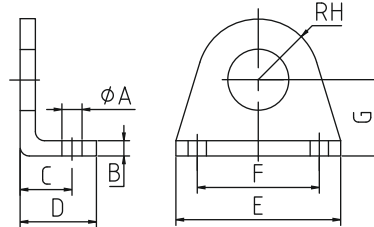


| Code Bore | ZM | ZJ |
|-----------|-------|------|
| 8 | 78.4 | 62 |
| 10 | 78.4 | 62 |
| 12 | 94 | 72 |
| 16 | 100 | 78 |
| 20 | 116 | 92 |
| 25 | 125.5 | 97.2 |

Foot Mounting - LB

| Ordering Code | Description |
|------------------|---------------|
| VSNU - LB - Bore | Foot Mounting |

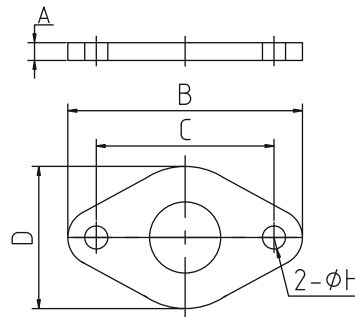
| Code Bore | A | B | C | D | E | F | G | H |
|-----------|-----|---|----|----|----|----|----|----|
| 8 | 4.5 | 3 | 11 | 16 | 35 | 25 | 16 | 10 |
| 10 | 4.5 | 3 | 11 | 16 | 35 | 25 | 16 | 10 |
| 12 | 5.5 | 4 | 14 | 20 | 42 | 32 | 20 | 13 |
| 16 | 5.5 | 4 | 14 | 20 | 42 | 32 | 20 | 13 |
| 20 | 6.6 | 5 | 17 | 25 | 54 | 40 | 25 | 20 |
| 25 | 6.6 | 5 | 17 | 25 | 54 | 40 | 25 | 20 |



Front Flange / Rear Flange - FA / FB

| Ordering Code | Description |
|------------------|--------------|
| VSNU - FA - Bore | Front Flange |
| VSNU - FB - Bore | Rear Flange |

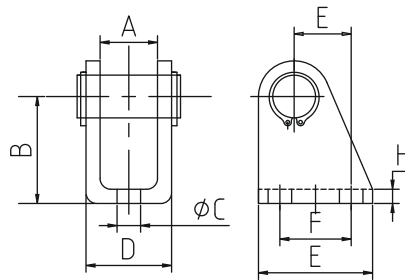
| Code Bore | A | B | C | D | E |
|-----------|---|----|----|----|-----|
| 8 | 3 | 40 | 30 | 25 | 4.5 |
| 10 | 3 | 40 | 30 | 25 | 4.5 |
| 12 | 4 | 53 | 40 | 30 | 5.5 |
| 16 | 4 | 53 | 40 | 30 | 5.5 |
| 20 | 5 | 66 | 50 | 40 | 6.5 |
| 25 | 5 | 66 | 50 | 40 | 6.5 |



Angle Mounting - LB

| Ordering Code | Description |
|-------------------|----------------|
| VSNU - SDB - Bore | Angle Mounting |

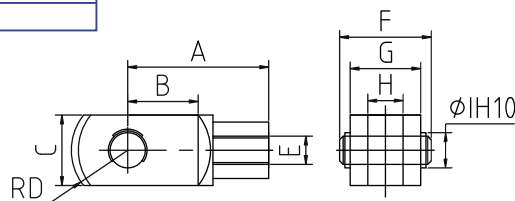
| Code Bore | A | B | C | D | E | F | G | H |
|-----------|------|----|-----|----|------|------|----|-----|
| 8 | 8.1 | 24 | 4.5 | 13 | 13.8 | 12.5 | 20 | 2.5 |
| 10 | 8.1 | 24 | 4.5 | 13 | 13.8 | 12.5 | 20 | 2.5 |
| 12 | 12.1 | 27 | 5.5 | 18 | 13 | 15 | 25 | 3 |
| 16 | 12.1 | 27 | 5.5 | 18 | 13 | 15 | 25 | 3 |
| 20 | 16.1 | 30 | 6.6 | 24 | 16 | 20 | 32 | 4 |
| 25 | 16.1 | 30 | 6.6 | 24 | 16 | 20 | 32 | 4 |



Y Pivot Mounting - Y + Clip

| Ordering Code | Description |
|-----------------|------------------|
| VSNU - Y - Bore | Y Pivot Mounting |

| Code Bore | A | B | C | D | E | F | G | H | I |
|-----------|----|----|----|-----|------------|------|----|----|----|
| 8/10 | 16 | 8 | 8 | 6.5 | M4 x 0.7 | 12.8 | 8 | 4 | 4 |
| 12/16 | 24 | 12 | 12 | 9.5 | M8 x 1.0 | 17 | 12 | 6 | 6 |
| 20 | 32 | 16 | 16 | 13 | M8 x 1.25 | 21 | 16 | 8 | 8 |
| 25 | 40 | 20 | 20 | 16 | M10 x 1.25 | 26 | 20 | 10 | 10 |



Features

Non-Lubrication

Special housing and bushing enables self lubrication of piston rod.

Wide Range

Wide range of bore sizes and strokes (32mm ~ 200mm). Available in both Single and Double Acting.

High quality long service life

Hard anodised aluminium cylinder tube offer a high resistance to corrosion & low internal friction.

Non Standard Type

Custom cylinders are available as are non-standard strokes, rod extension and special rod threads.

Cylinder Mountings

Available with comprehensive internationally recognised range of fixed and flexible mountings.



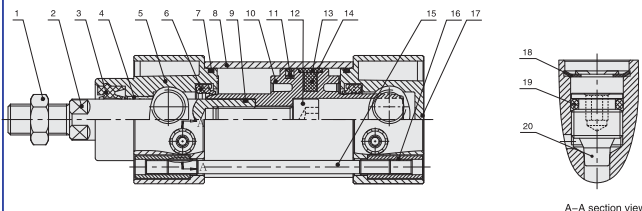
Specifications

| Model | VSC |
|--------------------------|--|
| Bore ID. (mm) | 32, 40, 50, 63, 80, 100, 125, 160, 200 |
| Medium | Air |
| Operating Pressure Range | 0.5 ~ 10Kg/cm ² |
| Proof Pressure | 15Kg/cm ² |
| Ambient Temperature | -5 ~ +60°C (No Freezing) |
| Available Speed Range | 50 ~ 500 mm/Sec |
| Sensor Switch | K-1 + Bracket PAC |

Table for standard stroke

| Bore | Stroke (mm) | Max.Stroke (mm) |
|------|---|-----------------|
| 32 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 40 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 50 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 63 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 80 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 100 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 125 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 160 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 200 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |

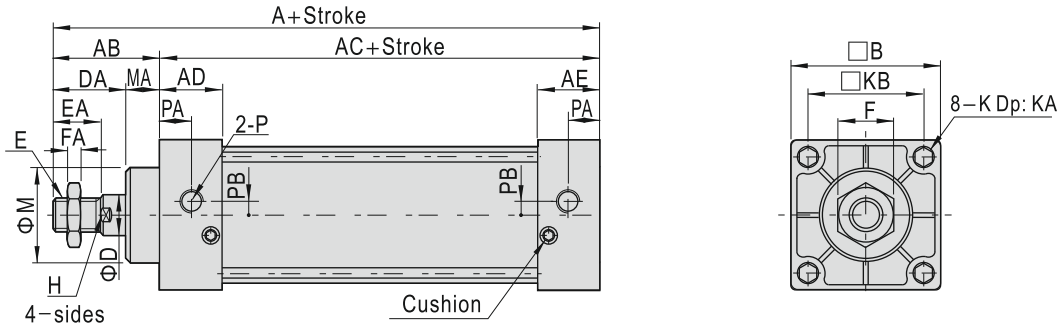
Internal Structure



| No | Part Name | Material |
|----|--------------------------|-------------------------------|
| 1 | Nut | Carbon Steel |
| 2 | Piston Rod | S45C Hard Chrome Carbon Steel |
| 3 | Piston Rod Seal | TPU |
| 4 | Self Lubricating Bearing | Brass |
| 5 | Head Cover | Aluminum Alloy |
| 6 | Cushion Seal | NBR |
| 7 | O-Ring | NBR |
| 8 | Piston | Aluminum Alloy |
| 9 | Piston Rod | NBR |
| 10 | Screw | Carbon Steel |
| 11 | Wear Ring | PTFE |
| 12 | Magnet | Plastic |
| 13 | Tie Rod | Carbon Steel |
| 14 | Tie Rod Nut | Carbon Steel |
| 15 | Rear Cover | Aluminium Alloy |
| 16 | Retainer Ring | Spring Steel |
| 17 | O-Ring | NBR |
| 18 | Nut | Brass |

Basic Version - VSC

| Ordering Code | Description |
|-----------------------|---|
| VSC - Bore - Stroke | Basic Version - Double Acting, Non - Magnetic |
| VSC-S - Bore - Stroke | Basic Version - Double Acting, Magnetic |

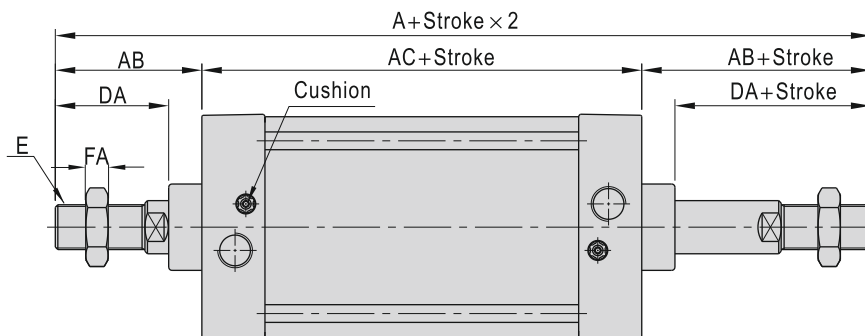


| Code Bore | A | AB | AC | AD | AE | B | D | DA | E | EA | F | FA | H | K | KA | KB | M | MA | P | PA | PB |
|-----------|-----|-----|-----|------|------|-----|----|-----|------------|----|----|----|----|------------|------|-----|----|----|------|------|-----|
| 32 | 140 | 47 | 93 | 27.5 | 27.5 | 45 | 12 | 32 | M10 x 1.25 | 22 | 17 | 6 | 12 | M6 x 1.0 | 9.5 | 33 | 28 | 15 | 1/8" | 13.7 | 5.5 |
| 40 | 142 | 49 | 93 | 27.5 | 27.5 | 50 | 16 | 34 | M12 x 1.25 | 24 | 17 | 7 | 14 | M6 x 1.0 | 9.5 | 37 | 32 | 15 | 1/4" | 13.5 | 6 |
| 50 | 150 | 57 | 93 | 27.5 | 27.5 | 62 | 20 | 42 | M16 x 1.6 | 32 | 23 | 8 | 17 | M6 x 1.0 | 9.5 | 47 | 38 | 15 | 1/4" | 13.5 | 8.5 |
| 63 | 153 | 57 | 96 | 27.5 | 27.5 | 75 | 20 | 42 | M16 x 1.5 | 32 | 23 | 8 | 17 | M8 x 1.25 | 9.5 | 56 | 38 | 15 | 3/8" | 13.5 | 9.5 |
| 80 | 182 | 75 | 108 | 33 | 33 | 94 | 25 | 54 | M20 x 1.5 | 40 | 26 | 10 | 22 | M10 x 1.5 | 11.5 | 70 | 47 | 21 | 3/8" | 16.5 | 10 |
| 100 | 188 | 75 | 108 | 33 | 33 | 112 | 25 | 54 | M20 x 1.5 | 40 | 26 | 10 | 22 | M10 x 1.5 | 11.5 | 84 | 47 | 21 | 1/2" | 16.5 | 11 |
| 125 | 226 | 104 | 122 | 38 | 38 | 140 | 32 | 70 | M27 x 2.0 | 54 | 40 | 10 | 27 | M12 x 1.75 | 15.5 | 110 | 52 | 34 | 1/2" | 16.5 | 14 |
| 160 | 291 | 123 | 168 | 48 | 48 | 180 | 40 | 91 | M36 x 2.0 | 72 | 55 | 18 | 36 | M16 x 2.0 | 17.5 | 140 | 62 | 32 | 3/4" | 25 | 15 |
| 200 | 347 | 167 | 180 | 48 | 48 | 220 | 40 | 112 | M36 x 2.0 | 72 | 55 | 18 | 36 | M16 x 2.0 | 17.5 | 175 | 62 | 55 | 3/4" | 25 | 15 |

Remark : The dimensions of magnet type cylinder are the same as non-magnetic type cylinder.

Push/Pull Rod Version (Double Ended) - VSC-D

| Ordering Code | Description |
|------------------------|---|
| VSC-D - Bore - Stroke | Basic Version - Double Acting, Non - Magnetic |
| VSC-DS - Bore - Stroke | Basic Version - Double Acting, Magnetic |



| Code Bore | A | AB | AC | DA | E | FA |
|-----------|-----|-----|-----|-----|------------|----|
| 32 | 187 | 47 | 93 | 32 | M10 x 1.25 | 6 |
| 40 | 191 | 49 | 93 | 34 | M12 x 1.25 | 7 |
| 50 | 207 | 57 | 93 | 42 | M16 x 1.6 | 8 |
| 63 | 210 | 57 | 96 | 42 | M16 x 1.5 | 8 |
| 80 | 258 | 75 | 108 | 54 | M20 x 1.5 | 10 |
| 100 | 243 | 75 | 108 | 54 | M20 x 1.5 | 10 |
| 125 | 330 | 104 | 122 | 70 | M27 x 2.0 | 10 |
| 160 | 412 | 123 | 168 | 91 | M36 x 2.0 | 18 |
| 200 | 409 | 167 | 180 | 112 | M36 x 2.0 | 18 |

Remark :
1. The dimensions of magnet type cylinder are the same as non-magnetic type cylinder.

VSC Series Air Cylinder

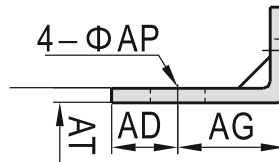
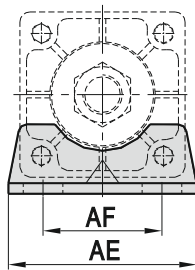
Accessories



Foot Bracket - LB

| Ordering Code | Description |
|-----------------|-----------------------|
| VSC - LB - Bore | Foot Bracket Mounting |

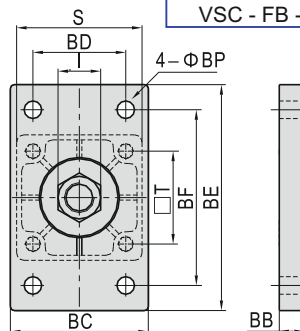
| Code Bore | AD | AE | AF | AG | AP | AT |
|-----------|------|-----|-----|------|----|----|
| 32 | 9.5 | 50 | 33 | 20.5 | 9 | 3 |
| 40 | 14.5 | 57 | 37 | 23.5 | 12 | 3 |
| 50 | 12 | 68 | 47 | 28 | 12 | 3 |
| 63 | 13 | 80 | 56 | 31 | 12 | 3 |
| 80 | 16 | 97 | 70 | 30 | 14 | 4 |
| 100 | 18 | 112 | 84 | 30 | 14 | 4 |
| 125 | 18 | 136 | 110 | 35 | 17 | 6 |
| 160 | 20 | 174 | 140 | 40 | 17 | 8 |
| 200 | 25 | 214 | 175 | 50 | 22 | 9 |



Front Flange - FA / Rear Flange - FB

| Ordering Code | Description |
|-----------------|--------------|
| VSC - FA - Bore | Front Flange |
| VSC - FB - Bore | Rear Flange |

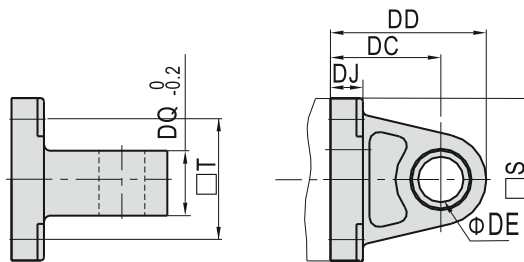
| Code Bore | BB | BC | BD | BE | BF | BP | I | S | T |
|-----------|----|-----|-----|-----|-----|----|----|-----|-----|
| 32 | 10 | 47 | 33 | 80 | 58 | 7 | 17 | 45 | 33 |
| 40 | 10 | 53 | 36 | 90 | 70 | 7 | 17 | 50 | 37 |
| 50 | 10 | 65 | 47 | 104 | 86 | 9 | 23 | 62 | 47 |
| 63 | 12 | 75 | 56 | 118 | 98 | 9 | 23 | 75 | 56 |
| 80 | 16 | 95 | 70 | 140 | 119 | 11 | 26 | 94 | 70 |
| 100 | 16 | 115 | 84 | 160 | 138 | 11 | 26 | 112 | 84 |
| 125 | 20 | 135 | 104 | 196 | 168 | 14 | 41 | 140 | 110 |
| 160 | 20 | 173 | 134 | 248 | 212 | 18 | 55 | 180 | 140 |
| 200 | 25 | 213 | 163 | 286 | 250 | 18 | 55 | 220 | 175 |



Male Clevis - CA

| Ordering Code | Description |
|-----------------|----------------------|
| VSC - CA - Bore | Male Clevis Mounting |

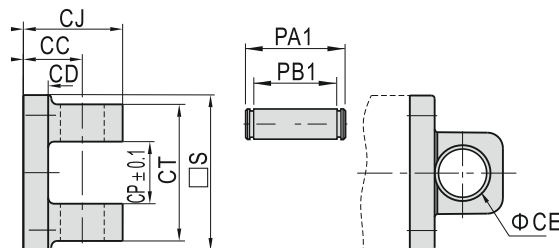
| Code Bore | DC | DD | DE | DJ | DQ | S | T |
|-----------|----|------|----|------|------|-----|-----|
| 32 | 34 | 44.5 | 12 | 9 | 16 | 45 | 33 |
| 40 | 34 | 45.5 | 14 | 9 | 20 | 50 | 37 |
| 50 | 34 | 46 | 14 | 10 | 20 | 62 | 47 |
| 63 | 34 | 46.5 | 14 | 10 | 20 | 75 | 56 |
| 80 | 48 | 64.5 | 20 | 14 | 32 | 94 | 70 |
| 100 | 48 | 65 | 20 | 14 | 32 | 112 | 84 |
| 125 | 32 | 52 | 20 | 17 | 31.7 | 140 | 110 |
| 160 | 40 | 68 | 28 | 19.5 | 39.7 | 180 | 140 |
| 200 | 60 | 90 | 28 | 23 | 39.7 | 220 | 175 |



Female Clevis - CB

| Ordering Code | Description |
|-----------------|------------------------|
| VSC - CB - Bore | Female Clevis Mounting |

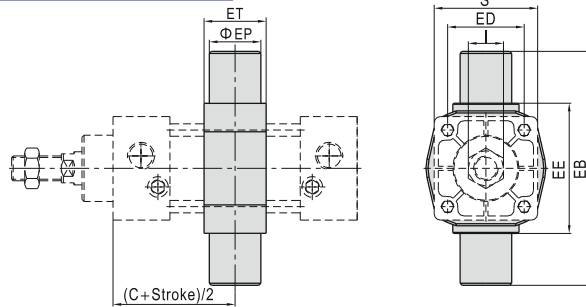
| Code Bore | S | CC | CD | CE | CJ | CP | CT | PA1 | PB1 |
|-----------|-----|----|----|----|------|------|----|------|------|
| 32 | 45 | 19 | 9 | 12 | 29.5 | 16.3 | 32 | 39 | 32.8 |
| 40 | 49 | 19 | 9 | 14 | 30.5 | 20.3 | 44 | 51 | 44.8 |
| 50 | 61 | 19 | 10 | 14 | 31 | 20.3 | 52 | 59 | 52.8 |
| 63 | 74 | 19 | 10 | 14 | 31.5 | 20.3 | 52 | 59 | 52.8 |
| 80 | 93 | 32 | 14 | 20 | 48.5 | 32.3 | 64 | 73 | 64.8 |
| 100 | 111 | 32 | 14 | 20 | 49 | 32.3 | 64 | 73 | 64.8 |
| 125 | 135 | 32 | 14 | 20 | 52 | 32.1 | 64 | 73 | 64.8 |
| 160 | 173 | 40 | 15 | 28 | 68 | 40.1 | 80 | 90.2 | 80.8 |
| 200 | 213 | 60 | 23 | 28 | 90 | 40.1 | 80 | 90.2 | 80.8 |



Trunnion Centre - TC

| Ordering Code | Description |
|-----------------|--------------------------|
| VSC - TC - Bore | Trunnion Centre Mounting |

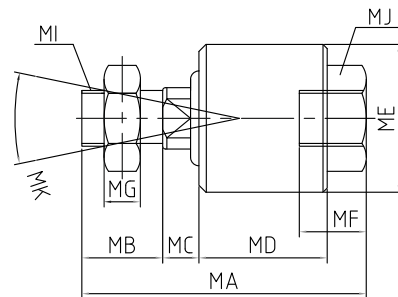
| Code Bore | C | EB | ED | EE | EP | ET | I | S |
|-----------|-----|-----|-----|-----|----|----|----|-----|
| 32 | 93 | 87 | 33 | 55 | 16 | 22 | 17 | 45 |
| 40 | 93 | 113 | 37 | 63 | 25 | 28 | 17 | 50 |
| 50 | 93 | 126 | 47 | 76 | 25 | 28 | 23 | 62 |
| 63 | 96 | 138 | 56 | 88 | 25 | 30 | 23 | 75 |
| 80 | 107 | 164 | 70 | 114 | 25 | 32 | 26 | 94 |
| 100 | 113 | 182 | 84 | 132 | 25 | 38 | 26 | 112 |
| 125 | 115 | 208 | 104 | 158 | 25 | 40 | 41 | 140 |
| 160 | 126 | 272 | 134 | 200 | 36 | 46 | 55 | 180 |
| 200 | 126 | 318 | 163 | 246 | 36 | 46 | 55 | 220 |



Floating Joint - FK

| Ordering Code | Description |
|-----------------|-------------------------|
| VSC - FK - Bore | Floating Joint Mounting |

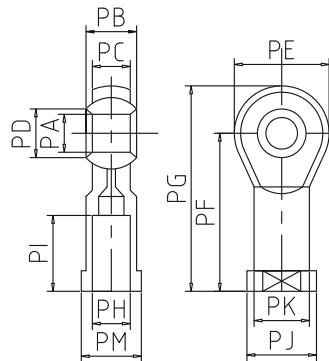
| Code Bore | MA | MB | MC | MD | ME | MF | MG | MH | MI | MK |
|-----------|-----|----|----|-----|------|------|----|----|------------|----|
| 32 | 58 | 22 | 7 | 21 | 26 | 11.5 | 7 | 10 | M10 x 1.25 | 12 |
| 40 | 58 | 22 | 8 | 21 | 28 | 11.5 | 8 | 12 | M12 x 1.25 | 12 |
| 50 | 90 | 27 | 10 | 41 | 44.5 | 20 | 10 | 17 | M16 x 1.5 | 7 |
| 63 | 90 | 27 | 10 | 41 | 44.5 | 20 | 10 | 17 | M16 x 1.5 | 7 |
| 80 | 102 | 29 | 13 | 46 | 53 | 24 | 13 | 22 | M20 x 1.5 | 10 |
| 100 | 102 | 29 | 13 | 46 | 53 | 24 | 13 | 22 | M20 x 1.5 | 10 |
| 125 | 147 | 54 | 13 | 64 | 62 | 39 | 14 | 30 | M27 x 2.0 | 9 |
| 160 | 251 | 72 | 22 | 115 | 80 | 80 | 18 | 36 | M36 x 2.0 | 4 |
| 200 | 251 | 72 | 22 | 115 | 80 | 80 | 18 | 36 | M36 x 2.0 | 4 |



Rod Eye - RE

| Ordering Code | Description |
|-----------------|------------------|
| VSC - RE - Bore | Rod Eye Mounting |

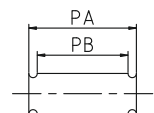
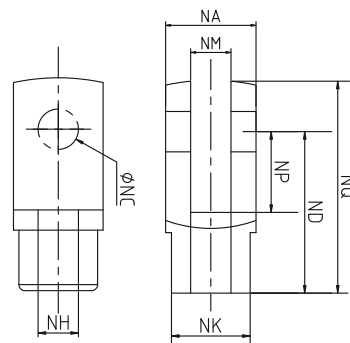
| Code Bore | PA | PB | PC | PD | PE | PF | PG | PH |
|-----------|----|----|----|----|-----|-----|------------|----|
| 32 | 11 | 26 | 10 | 21 | 43 | 56 | M10 x 1.25 | 13 |
| 40 | 12 | 30 | 12 | 24 | 50 | 65 | M12 x 1.25 | 13 |
| 50 | 15 | 38 | 16 | 33 | 64 | 83 | M16 x 1.5 | 15 |
| 63 | 15 | 38 | 16 | 33 | 64 | 83 | M16 x 1.5 | 15 |
| 80 | 18 | 46 | 20 | 40 | 77 | 100 | M20 x 1.5 | 15 |
| 100 | 18 | 46 | 20 | 40 | 77 | 100 | M20 x 1.5 | 15 |
| 125 | 37 | 70 | 30 | 51 | 110 | 145 | M27 x 2.0 | 15 |
| 160 | 43 | 80 | 35 | 56 | 125 | 165 | M36 x 2.0 | 16 |
| 200 | 43 | 80 | 35 | 56 | 125 | 165 | M36 x 2.0 | 16 |



Y Pivot Mounting - Y + Clip

| Ordering Code | Description |
|----------------|------------------|
| VSC - Y - Bore | Y Pivot Mounting |

| Code Bore | NA | NC | ND | NH | NK | NM | NP | NQ | PA | PB |
|-----------|------|----|-----|------------|----|----|----|-----|------|------|
| 32 | 19 | 10 | 40 | M10 x 1.25 | 18 | 10 | 20 | 52 | 26.2 | 20 |
| 40 | 25.4 | 12 | 48 | M12 x 1.25 | 23 | 12 | 24 | 62 | 32.8 | 26.5 |
| 50 | 32 | 16 | 64 | M16 x 1.5 | 30 | 16 | 32 | 83 | 39.3 | 33 |
| 63 | 32 | 16 | 64 | M16 x 1.5 | 30 | 16 | 32 | 83 | 39.3 | 33 |
| 80 | 44.4 | 20 | 80 | M20 x 1.5 | 39 | 20 | 40 | 105 | 53.3 | 45 |
| 100 | 44.4 | 20 | 80 | M20 x 1.5 | 39 | 20 | 40 | 105 | 53.3 | 45 |
| 125 | 55 | 25 | 110 | M27 x 2.0 | 54 | 48 | 64 | 148 | 64 | 55.6 |
| 160 | 80 | 30 | 120 | M36 x 2.0 | 54 | 40 | 35 | 150 | 91 | 81 |
| 200 | 80 | 30 | 120 | M36 x 2.0 | 54 | 40 | 35 | 150 | 91 | 81 |



Features

Non-Lubrication

Special housing and bushing enables self lubrication of piston rod.

High quality long service life

Hard anodised aluminium cylinder tube offer a high resistance to corrosion & low internal friction.

ISO-VDMA Standard specification

Conforms to ISO-6431 and VDMA 24562 specification enabling worldwide interchangeability.

Easy to insert reed switch

With four grooves on the tub, proximity and reed sensors can be easily inserted into any position.

Non-Standard type

Custom cylinders are available as are non standard strokes, rod extensions and special rod threads.



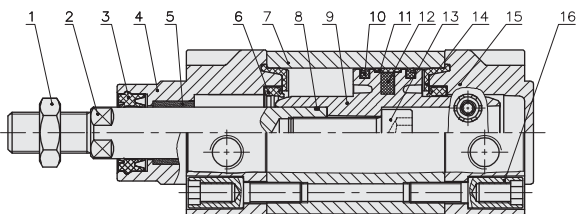
Specifications

| Model | VSC |
|--------------------------|------------------------------|
| Bore ID. (mm) | 32, 40, 50, 63, 80, 100, 125 |
| Medium | Air |
| Operating Pressure Range | 0.5 ~ 10Kg/cm ² |
| Proof Pressure | 15Kg/cm ² |
| Ambient Temperature | -5 ~ +60°C (No Freezing) |
| Available Speed Range | 50 ~ 500 mm/Sec |
| Sensor Switch | CS-1 |

Table for standard stroke

| Bore | Stroke (mm) | Max.Stroke (mm) |
|------|---|-----------------|
| 32 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 40 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 50 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 63 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 80 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 100 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |
| 125 | 25•40•50•80•100•125•150•200•250•300•320•400•500 | Upto 1900 |

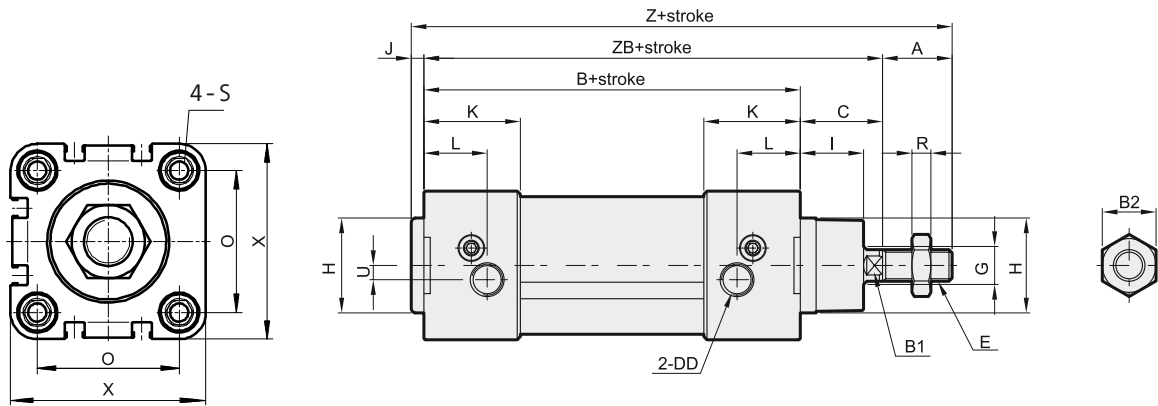
Internal Structure



| No | Part Name | Material |
|----|--------------------------|-------------------------------|
| 1 | Nut | Carbon Steel |
| 2 | Piston Rod | S45C Hard Chrome Carbon Steel |
| 3 | Piston Rod Seal | TPU |
| 4 | Head Cover | Aluminum Alloy |
| 5 | Self Lubricating Bearing | Brass |
| 6 | Cushion Seal | NBR |
| 7 | Barrel | Aluminum Alloy |
| 8 | O-Ring | NBR |
| 9 | Piston | Aluminium Alloy |
| 10 | Piston Seal | NBR / TPU |
| 11 | Wear Ring | PTFE |
| 12 | Magnet | Plastic |
| 13 | Hexagon Screw | Carbon Steel |
| 14 | Cushion Pad | TPU |
| 15 | Rear Cover | Aluminium Alloy |
| 16 | Bolt | Carbon Steel |

Basic Version - VNC

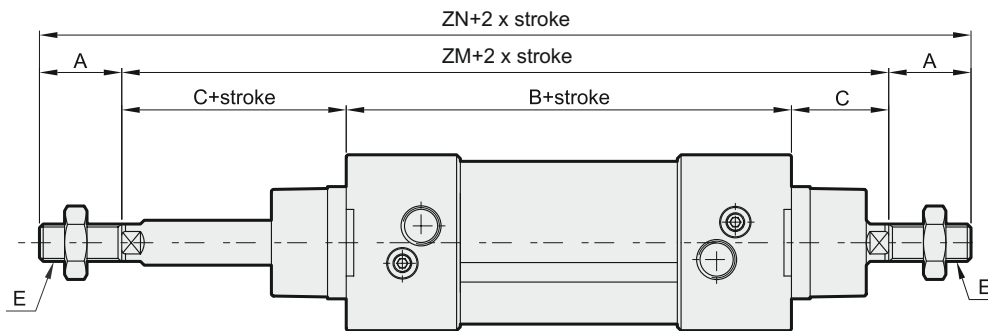
| Ordering Code | Description |
|---------------------|---|
| VNC - Bore - Stroke | Basic Version - Double Acting, Magnetic |



| Code Bore | A | B | B1 | B2 | C | DD | E | G | H | I | J | K | L | O | R | S | U | X | Z | ZB |
|--------------|----|-----|----|----|----|------|------------|----|----|------|---|------|----|------|------|------------|-----|-----|-----|-------|
| 32 | 22 | 94 | 10 | 17 | 26 | G1/8 | M10 x 1.25 | 12 | 30 | 16 | 4 | 26 | 10 | 32.5 | 5 | M6 x 1.0 | 5.2 | 45 | 146 | 104.4 |
| 40 | 24 | 105 | 13 | 19 | 30 | G1/4 | M12 x 1.25 | 16 | 35 | 20 | 4 | 29.6 | 12 | 38 | 6 | M6 x 1.0 | 6 | 54 | 163 | 121 |
| 50 | 32 | 106 | 17 | 24 | 37 | G1/4 | M16 x 1.5 | 20 | 40 | 27 | 4 | 30 | 14 | 46.5 | 8 | M8 x 1.25 | 8.5 | 64 | 179 | 129 |
| 63 | 32 | 121 | 17 | 24 | 37 | G3/8 | M16 x 1.5 | 20 | 45 | 27 | 4 | 35.6 | 16 | 56.5 | 8 | M8 x 1.25 | 10 | 75 | 194 | 141 |
| 80 | 40 | 128 | 22 | 26 | 46 | G3/8 | M20 x 1.5 | 25 | 45 | 34.7 | 4 | 35.9 | 18 | 72 | 10 | M10 x 1.5 | 8 | 93 | 218 | 157.6 |
| 100 | 40 | 138 | 22 | 26 | 51 | G1/2 | M20 x 1.5 | 25 | 55 | 38.2 | 4 | 39 | 20 | 89 | 10 | M10 x 1.5 | 10 | 110 | 233 | 170.2 |
| 125 | 54 | 160 | 27 | 41 | 65 | G1/2 | M27 x 2.0 | 32 | 60 | 46 | 6 | 44.7 | 25 | 110 | 13.5 | M12 x 1.75 | 8 | 134 | 285 | 207 |

Push/Pull Rod Version (Double Ended) - VNC-D

| Ordering Code | Description |
|-----------------------|---|
| VNC-D - Bore - Stroke | Basic Version - Double Acting, Magnetic |

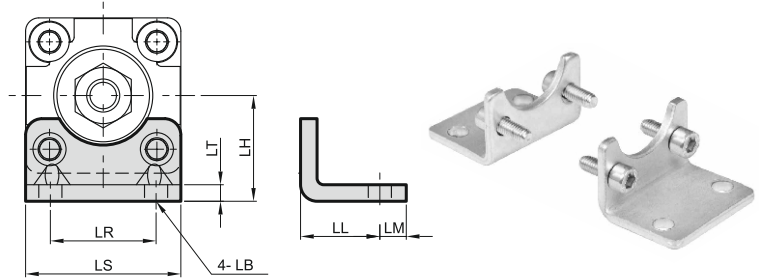


| Code Bore | A | B | C | E | ZM | ZN |
|--------------|----|-----|----|------------|-----|-----|
| 32 | 22 | 94 | 26 | M10 x 1.25 | 146 | 190 |
| 40 | 24 | 105 | 30 | M12 x 1.25 | 165 | 213 |
| 50 | 32 | 106 | 37 | M16 x 1.5 | 180 | 244 |
| 63 | 32 | 121 | 37 | M16 x 1.5 | 195 | 259 |
| 80 | 40 | 128 | 46 | M20 x 1.5 | 220 | 300 |
| 100 | 40 | 138 | 51 | M20 x 1.5 | 240 | 320 |
| 125 | 54 | 160 | 65 | M27 x 2.0 | 290 | 398 |

Foot Bracket - LB

| Ordering Code | Description |
|-----------------|-----------------------|
| VNC - LB - Bore | Foot Bracket Mounting |

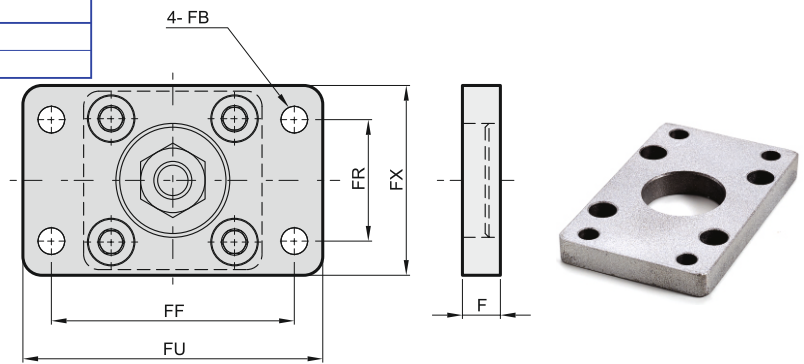
| Code Bore | LB | LH | LL | LM | LR | LS | LT | LY |
|-----------|------|----|----|----|----|-----|----|-----|
| 32 | 7 | 32 | 24 | 8 | 32 | 47 | 3 | 142 |
| 40 | 9 | 36 | 28 | 9 | 36 | 53 | 3 | 161 |
| 50 | 9 | 45 | 32 | 10 | 45 | 65 | 3 | 170 |
| 63 | 9 | 50 | 32 | 12 | 50 | 75 | 3 | 185 |
| 80 | 12 | 63 | 41 | 19 | 63 | 95 | 4 | 210 |
| 100 | 14.5 | 71 | 45 | 19 | 75 | 115 | 4 | 228 |
| 125 | 16.5 | 90 | 45 | 20 | 90 | 140 | 6 | 250 |



Front Flange - FA / Rear Flange - FB

| Ordering Code | Description |
|-----------------|--------------|
| VNC - FA - Bore | Front Flange |
| VNC - FB - Bore | Rear Flange |

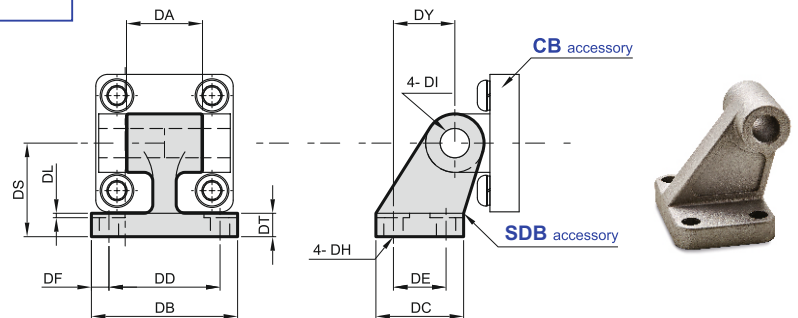
| Code Bore | F | FB | FF | FR | FU | FX |
|-----------|----|------|-----|----|-----|-----|
| 32 | 10 | 7 | 64 | 32 | 80 | 47 |
| 40 | 10 | 9 | 72 | 36 | 90 | 53 |
| 50 | 12 | 9 | 90 | 45 | 110 | 65 |
| 63 | 12 | 9 | 100 | 50 | 125 | 75 |
| 80 | 16 | 12.5 | 126 | 63 | 154 | 95 |
| 100 | 16 | 14.5 | 150 | 75 | 186 | 115 |
| 125 | 20 | 16.5 | 180 | 90 | 224 | 140 |



Angular Male Clevis - SDB (CB + Pin - Extra Purchase)

| Ordering Code | Description |
|------------------|------------------------------|
| VNC - SDB - Bore | Angular Male Clevis Mounting |

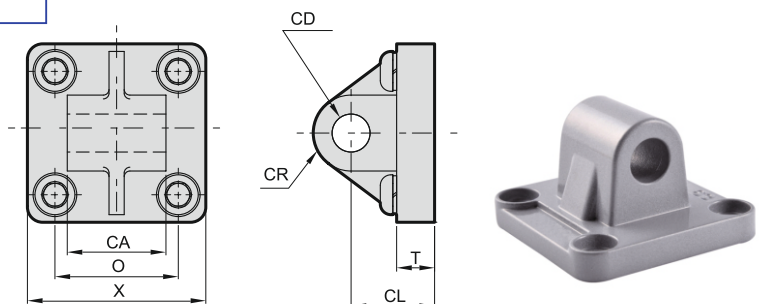
| Code Bore | DA | DB | DC | DD | DE | DH | DI | DL | DS | DT | DY |
|-----------|----|-----|----|----|----|-----|----|-----|----|----|----|
| 32 | 26 | 51 | 31 | 38 | 18 | 6.6 | 10 | 1.6 | 32 | 8 | 21 |
| 40 | 28 | 54 | 35 | 41 | 22 | 6.6 | 12 | 1.6 | 36 | 10 | 24 |
| 50 | 32 | 65 | 45 | 50 | 30 | 9 | 12 | 1.6 | 45 | 12 | 33 |
| 63 | 40 | 67 | 50 | 52 | 35 | 9 | 16 | 1.6 | 50 | 12 | 37 |
| 80 | 50 | 86 | 60 | 66 | 40 | 11 | 16 | 2.5 | 63 | 14 | 47 |
| 100 | 60 | 96 | 70 | 76 | 50 | 11 | 20 | 2.5 | 71 | 15 | 55 |
| 125 | 70 | 124 | 90 | 94 | 60 | 14 | 25 | 3.2 | 90 | 20 | 70 |



Male Clevis - CA

| Ordering Code | Description |
|-----------------|----------------------|
| VNC - CA - Bore | Male Clevis Mounting |

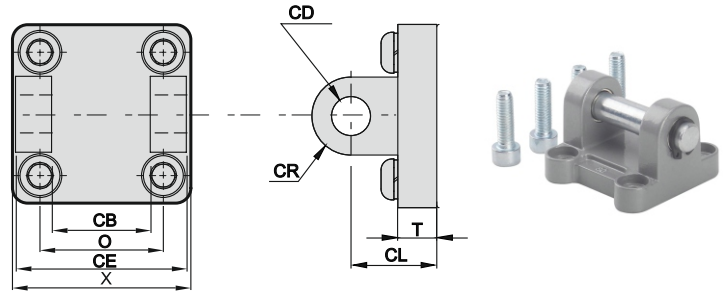
| Code Bore | CA | CD | CL | CR | O | T | X | ZT |
|-----------|------------------------------------|------------------|----|-------|------|----|-----|-----|
| 32 | 26 ^{-0.1} _{-0.3} | 10 ^{H9} | 22 | R10.5 | 32.5 | 10 | 45 | 142 |
| 40 | 28 ^{-0.1} _{-0.3} | 12 ^{H9} | 25 | R12 | 38 | 9 | 52 | 160 |
| 50 | 32 ^{-0.1} _{-0.3} | 12 ^{H9} | 27 | R14 | 46.5 | 9 | 65 | 170 |
| 63 | 40 ^{-0.1} _{-0.3} | 16 ^{H9} | 32 | R18 | 56.5 | 9 | 76 | 190 |
| 80 | 50 ^{-0.1} _{-0.3} | 16 ^{H9} | 36 | R17 | 72 | 12 | 97 | 210 |
| 100 | 60 ^{-0.1} _{-0.3} | 20 ^{H9} | 41 | R21 | 89 | 11 | 112 | 230 |
| 125 | 70 ^{-0.1} _{-0.3} | 25 ^{H9} | 50 | R24 | 110 | 15 | 140 | 275 |



Female Clevis - CB

| Ordering Code | Description |
|-----------------|------------------------|
| VNC - CB - Bore | Female Clevis Mounting |

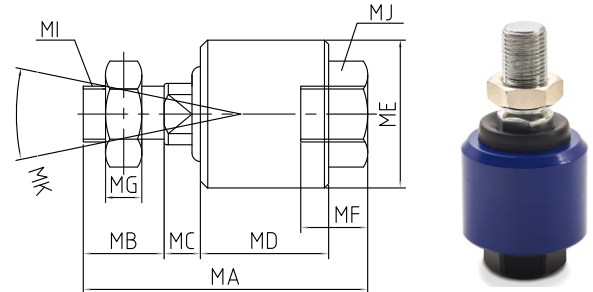
| Code Bore | CB | CD | CE | CL | CR | O | T | X |
|-----------|------------------------------------|------------------|-----|----|-------|------|----|-----|
| 32 | 26 ^{+0.3} _{-0.1} | 10 ^{H9} | 45 | 22 | R10.5 | 32.5 | 10 | 45 |
| 40 | 28 ^{+0.3} _{-0.1} | 12 ^{H9} | 52 | 25 | R12 | 38 | 9 | 52 |
| 50 | 32 ^{+0.3} _{-0.1} | 12 ^{H9} | 60 | 27 | R14 | 46.5 | 9 | 65 |
| 63 | 40 ^{+0.3} _{-0.1} | 16 ^{H9} | 70 | 32 | R18 | 56.5 | 9 | 76 |
| 80 | 50 ^{+0.3} _{-0.1} | 16 ^{H9} | 90 | 36 | R17 | 72 | 12 | 97 |
| 100 | 60 ^{+0.3} _{-0.1} | 20 ^{H9} | 110 | 41 | R21 | 89 | 11 | 112 |
| 125 | 70 ^{+0.3} _{-0.1} | 25 ^{H9} | 120 | 50 | R24 | 110 | 15 | 140 |



Floating Joint - FK

| Ordering Code | Description |
|-----------------|-------------------------|
| VNC - FK - Bore | Floating Joint Mounting |

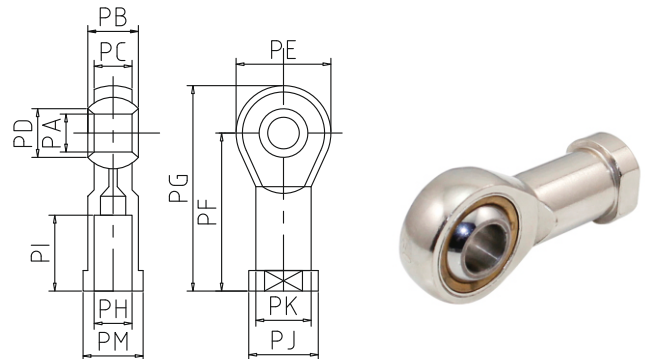
| Code Bore | MA | MB | MC | MD | ME | MF | MG | MH | MI | MK |
|-----------|-----|----|----|----|------|------|----|----|------------|----|
| 32 | 58 | 22 | 7 | 21 | 26 | 11.5 | 7 | 10 | M10 x 1.25 | 12 |
| 40 | 58 | 22 | 8 | 21 | 28 | 11.5 | 8 | 12 | M12 x 1.25 | 12 |
| 50 | 90 | 27 | 10 | 41 | 44.5 | 20 | 10 | 17 | M16 x 1.5 | 7 |
| 63 | 90 | 27 | 10 | 41 | 44.5 | 20 | 10 | 17 | M16 x 1.5 | 7 |
| 80 | 102 | 29 | 13 | 46 | 53 | 24 | 13 | 22 | M20 x 1.5 | 10 |
| 100 | 102 | 29 | 13 | 46 | 53 | 24 | 13 | 22 | M20 x 1.5 | 10 |
| 125 | 147 | 54 | 13 | 64 | 62 | 39 | 14 | 30 | M27 x 2.0 | 9 |



Rod Eye - RE

| Ordering Code | Description |
|-----------------|------------------|
| VNC - RE - Bore | Rod Eye Mounting |

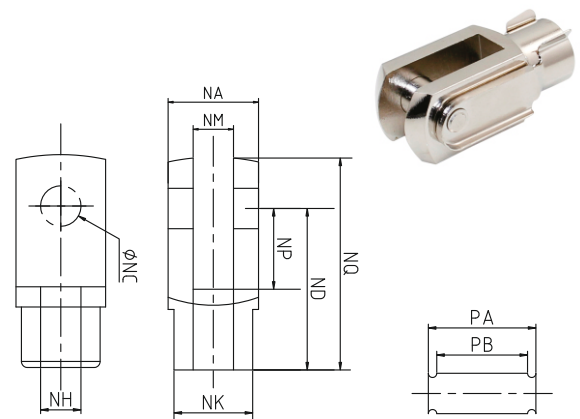
| Code Bore | PA | PB | PC | PD | PE | PF | PG | PH |
|-----------|----|----|----|----|-----|-----|------------|----|
| 32 | 11 | 26 | 10 | 21 | 43 | 56 | M10 x 1.25 | 13 |
| 40 | 12 | 30 | 12 | 24 | 50 | 65 | M12 x 1.25 | 13 |
| 50 | 15 | 38 | 16 | 33 | 64 | 83 | M16 x 1.5 | 15 |
| 63 | 15 | 38 | 16 | 33 | 64 | 83 | M16 x 1.5 | 15 |
| 80 | 18 | 46 | 20 | 40 | 77 | 100 | M20 x 1.5 | 15 |
| 100 | 18 | 46 | 20 | 40 | 77 | 100 | M20 x 1.5 | 15 |
| 125 | 37 | 70 | 30 | 51 | 110 | 145 | M27 x 2.0 | 15 |



Y Pivot Mounting - Y + Clip

| Ordering Code | Description |
|----------------|------------------|
| VNC - Y - Bore | Y Pivot Mounting |

| Code Bore | NA | NC | ND | NH | NK | NM | NP | NQ | PA | PB |
|-----------|------|----|-----|------------|----|----|----|-----|------|------|
| 32 | 19 | 10 | 40 | M10 x 1.25 | 18 | 10 | 20 | 52 | 26.2 | 20 |
| 40 | 25.4 | 12 | 48 | M12 x 1.25 | 23 | 12 | 24 | 62 | 32.8 | 26.5 |
| 50 | 32 | 16 | 64 | M16 x 1.5 | 30 | 16 | 32 | 83 | 39.3 | 33 |
| 63 | 32 | 16 | 64 | M16 x 1.5 | 30 | 16 | 32 | 83 | 39.3 | 33 |
| 80 | 44.4 | 20 | 80 | M20 x 1.5 | 39 | 20 | 40 | 105 | 53.3 | 45 |
| 100 | 44.4 | 20 | 80 | M20 x 1.5 | 39 | 20 | 40 | 105 | 53.3 | 45 |
| 125 | 55 | 25 | 110 | M27 x 2.0 | 54 | 48 | 64 | 148 | 64 | 55 |





Features

Compact

Ultra Compact, light weight & space saving cylinder.

Wide Range

Wide range of bore sizes (12mm ~ 100mm) & strokes. Available in both Single & Double Acting.

High Quality Long Service Life

Hard anodised Aluminium cylinder tubes offer a high resistance to corrosion and low internal friction.

Non Standard type

Custom cylinders are available as are non standard strokes, rod extension and special rod threads.

Table for Standard Stroke

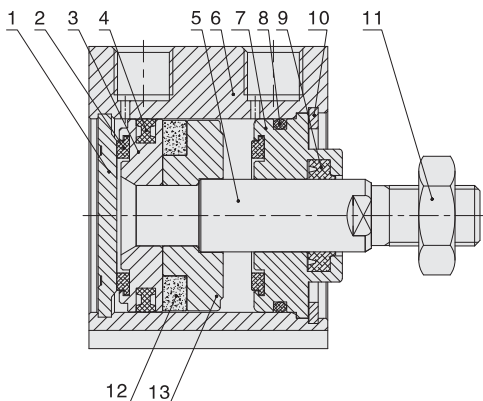
| | Bore | Stroke (mm) | Max. Stroke |
|--------------|-----------|---------------------------------------|-------------|
| Single Rod | Ø12,Ø16 | 5, 10, 15, 20, 25, 30 | 300 |
| | Ø20,25,32 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 300 |
| | Ø40,50,63 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 125 |
| Double Ended | Ø12,Ø16 | 5, 10, 15, 20, 25, 30 | 300 |
| | Ø20,25,32 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 300 |
| | Ø40,50,63 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 125 |

- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

Specifications

| Model | VDVU | | | | | | | | | |
|--|-----------------------|--------|----|---------|----|--------|----|-------|----|-----|
| Acting type | Double Acting | | | | | | | | | |
| Bore (mm) | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Port size | M5×0.8 | | | Rc1/8 | | Rc1/4 | | Rc3/8 | | |
| Medium | Air | | | | | | | | | |
| Operating pressure (Kg/cm ²) | Double acting | 0.5~10 | | 0.3~10 | | 0.2~10 | | | | |
| | Single acting | 0.2~10 | | 0.15~10 | | 0.1~10 | | - | | |
| Proof pressure | 15 Kg/cm ² | | | | | | | | | |
| Ambient temperature | 5 ~ 60 (No freezing) | | | | | | | | | |
| Available speed range | 50~500 mm/sec | | | | | | | | | |
| Sensor switch | K4 | | | | | | | | | |

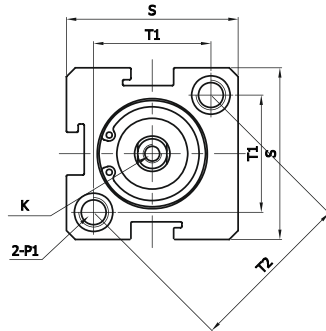
Internal Structure



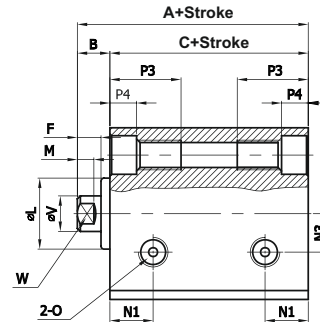
| No | Part Name | Material |
|----|-------------------|-------------------------------|
| 1 | Back Cover | Aluminium Alloy |
| 2 | Anti-Bump Cushion | NBR |
| 3 | Piston | Aluminium Alloy |
| 4 | Piston Seal | NBR |
| 5 | Piston Rod | Sc45 Hard Chrome Carbon Steel |
| 6 | Barrel | Aluminium Alloy |
| 7 | Front Cover | Aluminium Alloy |
| 8 | O-Ring | NBR |
| 9 | Piston Rod Seal | NBR |
| 10 | C Circlip | Spring Steel |
| 11 | Nut | Carbon Steel |
| 12 | Magnet | Plastic |
| 13 | Magnet Base | Aluminium Alloy |

Basic Version - VDVU-Female Thread

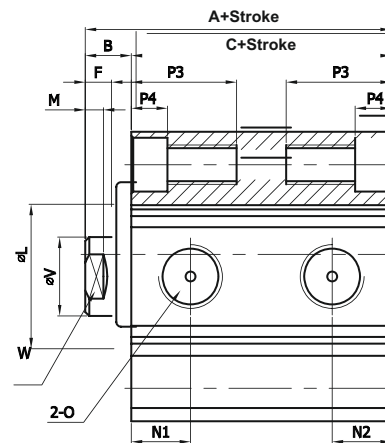
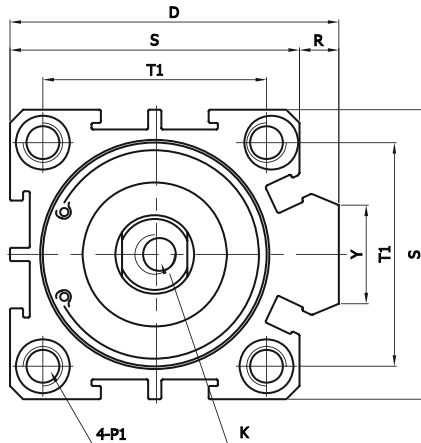
VDVU Ø12, Ø16
VDVU-S Ø12, Ø16



| Ordering Code | Description |
|----------------------------|---|
| VDVU - Bore - Stroke - F | Basic Version - Double Acting, Non - Magnetic |
| VDVU-S - Bore - Stroke - F | Basic Version - Double Acting, Magnetic |



VDVU Ø20 ~ Ø100
VDVU-S Ø20 ~ Ø100



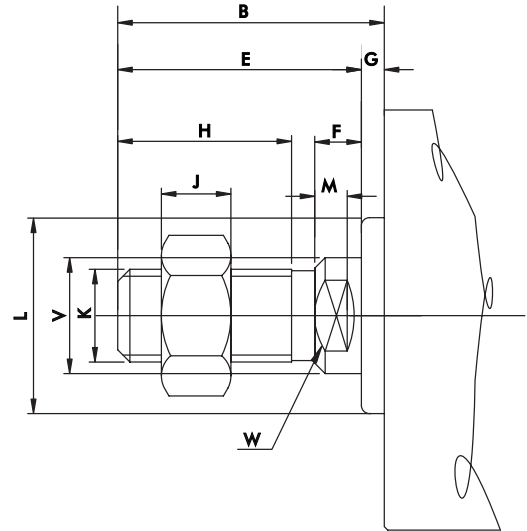
| Code | VDVU | | | VDVU-S | | | D | E | F | K | L | M | N1 | | N2 | |
|------|------|-----|------|--------|-----|------|------|----|---|-----------|------|-----|-------|-------|-------|-------|
| | A | B | C | A | B | C | | | | | | | S = 5 | S > 5 | S = 5 | S > 5 |
| 12 | 22 | 5 | 17 | 32 | 5 | 27 | - | 6 | - | M3 x 0.5 | 10.2 | 2.8 | 6.3 | 6.3 | 6.3 | 6.3 |
| 16 | 24 | 5.5 | 18.5 | 34 | 5.5 | 28.5 | - | 6 | - | M3 x 0.5 | 11 | 2.8 | 7.3 | 7.3 | 7.3 | 7.3 |
| 20 | 25 | 5.5 | 19.5 | 35 | 5.5 | 29.5 | 36 | 8 | 4 | M4 x 0.7 | 15 | 2.8 | 7.5 | 7.5 | 7.5 | 7.5 |
| 25 | 27 | 6 | 21 | 37 | 6 | 31 | 42 | 10 | 4 | M5 x 0.8 | 17 | 2.8 | 8 | 8 | 8 | 8 |
| 32 | 31.5 | 7 | 24.5 | 41.5 | 7 | 34.5 | 50 | 12 | 4 | M6 x 1.0 | 22 | 2.8 | 9 | 9 | 9 | 9 |
| 40 | 33 | 7 | 26 | 43 | 7 | 36 | 58.5 | 12 | 4 | M8 x 1.25 | 28 | 2.8 | 10 | 10 | 10 | 10 |
| 50 | 37 | 9 | 28 | 47 | 9 | 38 | 71.5 | 15 | 5 | M10 x 1.5 | 38 | 2.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 63 | 41 | 9 | 32 | 51 | 9 | 42 | 84.5 | 15 | 5 | M10 x 1.5 | 40 | 2.8 | 9.5 | 12 | 9.5 | 12 |
| 80 | 52 | 11 | 41 | 62 | 11 | 51 | 104 | 20 | 6 | M14 x 1.5 | 45 | 4 | 11.5 | 14.5 | 11.5 | 14.5 |
| 100 | 63 | 12 | 51 | 73 | 12 | 61 | 124 | 20 | 7 | M18 x 1.5 | 55 | 4 | 16 | 20.5 | 16 | 20.5 |

| Code | N3 | O | P1 | P3 | P4 | R | S | T1 | T2 | V | W | Y |
|------|-----|----------|---|----|------|-----|-----|------|----|----|----|----|
| Bore | | | | | | | | | | | | |
| 12 | 6 | M5 x 0.8 | Double side : Ø 6.5 / Thread : M5 x 0.8 / Through hole : Ø 4.2 | 12 | 4.5 | - | 25 | 16.2 | 23 | 6 | 5 | - |
| 16 | 6.5 | M5 x 0.8 | Double side : Ø 6.5 / Thread : M5 x 0.8 / Through hole : Ø 4.2 | 12 | 4.5 | - | 29 | 19.8 | 28 | 6 | 5 | - |
| 20 | - | M5 x 0.8 | Double side : Ø 6.5 / Thread : M5 x 0.8 / Through hole : Ø 4.2 | 14 | 4.5 | 2 | 34 | 24 | - | 8 | 6 | 10 |
| 25 | - | M5 x 0.8 | Double side : Ø 8.2 / Thread : M6 x 1.0 / Through hole : Ø 4.6 | 15 | 5.5 | 2 | 40 | 28 | - | 10 | 8 | 10 |
| 32 | - | 1/8" | Double side : Ø 8.2 / Thread : M6 x 1.0 / Through hole : Ø 4.6 | 16 | 5.5 | 6 | 44 | 34 | - | 12 | 10 | 15 |
| 40 | - | 1/8" | Double side : Ø 10 / Thread : M8 x 1.25 / Through hole : Ø 6.5 | 20 | 7.5 | 6.5 | 52 | 40 | - | 16 | 14 | 16 |
| 50 | - | 1/4" | Double side : Ø 11 / Thread : M8 x 1.25 / Through hole : Ø 6.5 | 25 | 8.7 | 9.5 | 62 | 48 | - | 20 | 17 | 20 |
| 63 | - | 1/4" | Double side : Ø 11 / Thread : M8 x 1.25 / Through hole : Ø 6.5 | 25 | 8.7 | 9.5 | 75 | 60 | - | 20 | 17 | 20 |
| 80 | - | 3/8" | Double side : Ø 14 / Thread : M12 x 1.75 / Through hole : Ø 9.2 | 25 | 10.5 | 10 | 94 | 74 | - | 25 | 22 | 26 |
| 100 | - | 3/8" | Double side : Ø 17.5 / Thread : M14 x 2.0 / Through hole : Ø 11.3 | 30 | 13 | 10 | 114 | 90 | - | 32 | 27 | 26 |

Basic Version - VDVU-Male Thread

| Ordering Code | Description |
|----------------------------|---|
| VDVU - Bore - Stroke - M | Basic Version - Double Acting, Non - Magnetic |
| VDVU-S - Bore - Stroke - M | Basic Version - Double Acting, Magnetic |

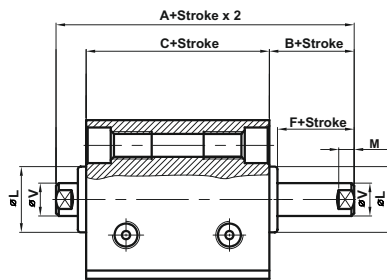
| Code Bore | B | E | F | G | H | J | K | L | M | W |
|-----------|------|----|---|-----|----|----|------------|------|-----|----|
| 12 | 17 | 16 | 4 | 1 | 10 | 4 | M5 x 0.8 | 10.2 | 2.8 | 5 |
| 16 | 17.5 | 16 | 4 | 1.5 | 10 | 4 | M5 x 0.8 | 11 | 2.8 | 5 |
| 20 | 20.5 | 19 | 4 | 1.5 | 13 | 5 | M6 x 1.0 | 15 | 2.8 | 6 |
| 25 | 23 | 21 | 4 | 2 | 15 | 6 | M8 x 1.25 | 17 | 2.8 | 8 |
| 32 | 25 | 22 | 4 | 3 | 15 | 6 | M10 x 1.25 | 22 | 2.8 | 10 |
| 40 | 35 | 32 | 4 | 3 | 25 | 8 | M14 x 1.5 | 28 | 2.8 | 14 |
| 50 | 37 | 33 | 5 | 4 | 25 | 11 | M18 x 1.5 | 38 | 2.8 | 17 |
| 63 | 37 | 33 | 5 | 4 | 25 | 11 | M18 x 1.5 | 40 | 2.8 | 17 |
| 80 | 44 | 39 | 6 | 5 | 30 | 13 | M22 x 1.5 | 45 | 4 | 22 |
| 100 | 50 | 45 | 7 | 5 | 35 | 13 | M26 x 1.5 | 55 | 4 | 27 |



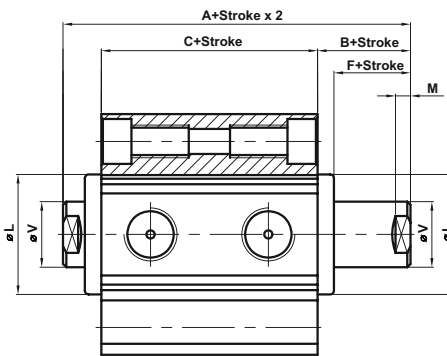
Push/Pull Rod Version (Double Ended) - VDVU-D - Female / Male Thread

| Ordering Code | Description |
|-------------------------------|---|
| VDVU-D - Bore - Stroke - F/M | Basic Version - Double Acting, Non - Magnetic |
| VDVU-DS - Bore - Stroke - F/M | Basic Version - Double Acting, Magnetic |

Ø12 - Ø16



Ø20 - Ø100



| Code Bore | VDVU-D | | | VDVU-SD | | | F | V | L | M |
|-----------|--------|-----|------|---------|-----|------|---|----|------|-----|
| | A | B | C | A | B | C | | | | |
| 12 | 27 | 5 | 17 | 37 | 5 | 27 | 4 | 6 | 10.2 | 2.8 |
| 16 | 29.5 | 5.5 | 18.5 | 39.5 | 5.5 | 28.5 | 4 | 6 | 11 | 2.8 |
| 20 | 30.5 | 5.5 | 19.5 | 40.5 | 5.5 | 29.5 | 4 | 8 | 15 | 2.8 |
| 25 | 33 | 6 | 21 | 43 | 6 | 31 | 4 | 10 | 17 | 2.8 |
| 32 | 34.5 | 7 | 24.5 | 48.5 | 7 | 34.5 | 4 | 12 | 22 | 2.8 |
| 40 | 40 | 7 | 26 | 50 | 7 | 36 | 4 | 16 | 28 | 2.8 |
| 50 | 46 | 9 | 28 | 56 | 9 | 38 | 5 | 20 | 38 | 2.8 |
| 63 | 50 | 9 | 32 | 60 | 9 | 42 | 5 | 20 | 40 | 2.8 |
| 80 | 63 | 11 | 41 | 73 | 11 | 51 | 6 | 25 | 45 | 4 |
| 100 | 75 | 12 | 51 | 85 | 12 | 61 | 7 | 32 | 55 | 4 |

Features

Compact

Ultra Compact, light weight & space saving cylinder. Ideal for use in machinery where space is limited & incorporating sensor groove which enables flush fitting of sensors.

Wide Range

Wide range of bore sizes and strokes (12mm ~ 100mm). Available in both Single and Double Acting.

High quality long service life

Hard anodised aluminium cylinder tube offer a high resistance to corrosion & low internal friction.

Non Standard Type

Custom cylinders are available as are non-standard strokes, rod extension and special rod threads.



Specifications

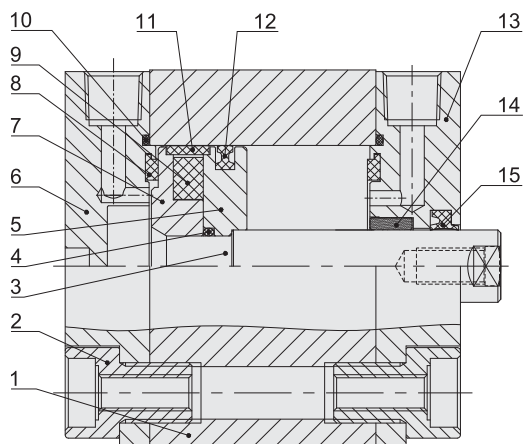
| Model | VADVU |
|--------------------------|---|
| Bore ID. (mm) | 12, 16, 20, 25, 32, 40, 50, 63, 80, 100 |
| Medium | Air |
| Operating Pressure Range | 0.5 ~ 10Kg/cm ² |
| Proof Pressure | 15Kg/cm ² |
| Ambient Temperature | -5 ~ +60°C (No Freezing) |
| Available Speed Range | 50 ~ 500 mm/Sec |
| Sensor Switch | CS-1 |

Table for Standard Stroke

| | Tube I.D. | Stroke (mm) | Max. Stroke |
|--------------|-----------|---------------------------------------|-------------|
| Single Rod | Ø12,Ø16 | 5, 10, 15, 20, 25, 30 | 300 |
| | Ø20,25,32 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 300 |
| | Ø40,50,63 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 125 |
| Double Ended | Ø12,Ø16 | 5, 10, 15, 20, 25, 30 | 300 |
| | Ø20,25,32 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 300 |
| | Ø40,50,63 | 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 | 125 |

- Stroke out of specification is also available.
- Please consult us if stroke out of specification.

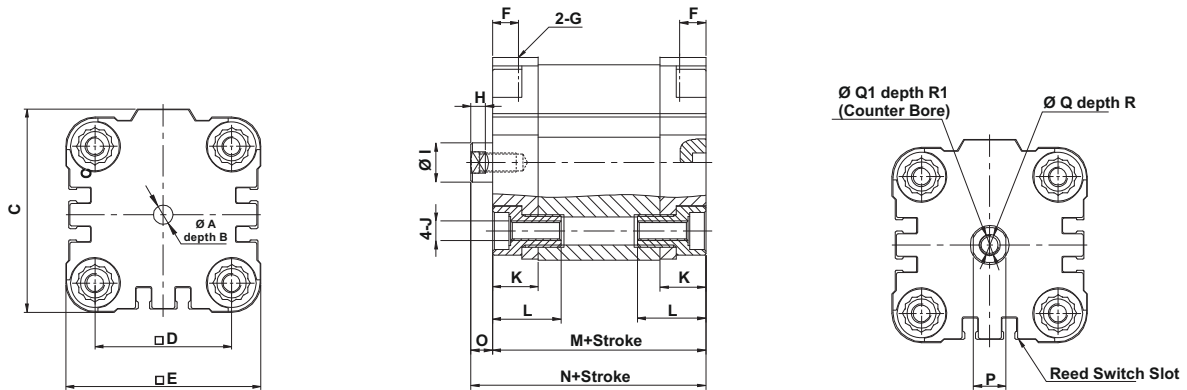
Internal Structure



| No | Part Name | Material |
|----|-------------|------------------------------------|
| 1 | Barrel | Aluminium Alloy |
| 2 | Screws | Carbon Steel |
| 3 | Piston Rod | S45C Hard Chrome Carbon Steel |
| 4 | O-Ring | NBR |
| 5 | Piston | Aluminium Alloy |
| 6 | Rear Cover | Aluminium Alloy |
| 7 | Magnet Base | Aluminium Alloy |
| 8 | Bumper | TPU |
| 9 | Magnet | Sintered NdFeb (12 ~ 32) / Plastic |
| 10 | O-Ring | NBR |
| 11 | Wear Ring | Nothing (12 ~ 32) / PTFE (Else) |
| 12 | Piston Seal | NBR |
| 13 | Head Cover | Aluminium Alloy |
| 14 | Bearing | Nothing (12 ~ 32) / Brass (Else) |
| 15 | Head Cover | TPU |

Basic Version - VADVU-Female Thread

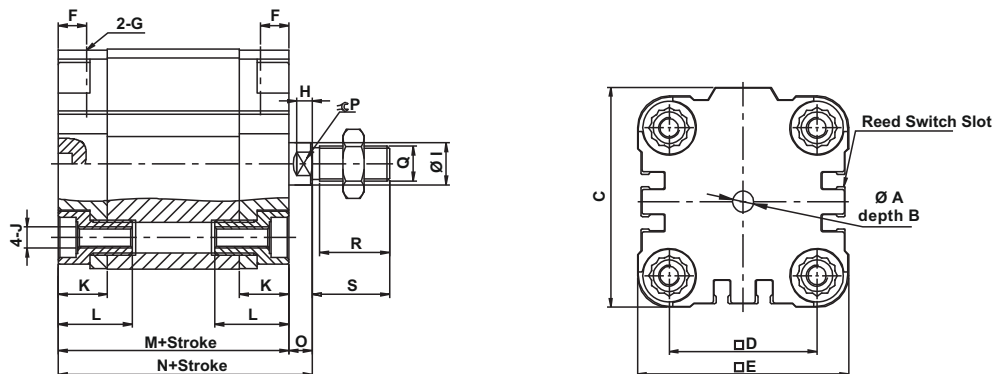
| Ordering Code | Description |
|-----------------------------|---|
| VADVU-D - Bore - Stroke - F | Basic Version - Double Acting, Magnetic |



| Code Bore | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | Q1 | R | R1 |
|-----------|---|---|------|-----|-----|------|----------|-----|----|-----------|------|------|------|------|-----|----|------------|------|----|-----|
| 12 | 6 | 4 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 6 | M4 x 0.7 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 5 | M3 x 0.5 | 3.3 | 8 | 1.5 |
| 16 | 6 | 4 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 8 | M4 x 0.7 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 6 | M4 x 0.7 | 4.5 | 10 | 1.5 |
| 20 | 6 | 4 | 37.5 | 22 | 36 | 7 | M5 x 0.8 | 3 | 10 | M5 x 0.8 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 8 | M5 x 0.8 | 5.5 | 12 | 2 |
| 25 | 6 | 4 | 41.5 | 26 | 40 | 7 | M5 x 0.8 | 4 | 10 | M5 x 0.8 | 11.5 | 18.5 | 39.5 | 45 | 5.5 | 8 | M5 x 0.8 | 5.5 | 12 | 2 |
| 32 | 6 | 4 | 52 | 32 | 50 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21.5 | 44.5 | 50.5 | 6 | 10 | M6 x 1.0 | 6.5 | 14 | 2.6 |
| 40 | 6 | 4 | 62.5 | 42 | 60 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21.5 | 45.5 | 52 | 6.5 | 10 | M6 x 1.0 | 6.5 | 14 | 2.6 |
| 50 | 6 | 4 | 71 | 50 | 68 | 8 | 1/8" | 5 | 16 | M8 x 1.25 | 14 | 22 | 45.5 | 53 | 7.5 | 13 | M8 x 1.25 | 8.5 | 16 | 3.3 |
| 63 | 8 | 4 | 91 | 62 | 87 | 8 | 1/8" | 5 | 16 | M10 x 1.5 | 15 | 24.5 | 50 | 57.5 | 7.5 | 13 | M8 x 1.25 | 8.5 | 16 | 3.3 |
| 80 | 8 | 4 | 111 | 82 | 107 | 8.5 | 1/8" | 5.5 | 20 | M10 x 1.5 | 16 | 27.5 | 56 | 64 | 8 | 17 | M10 x 1.5 | 10.5 | 20 | 4.7 |
| 100 | 8 | 4 | 133 | 103 | 128 | 10.5 | 1/4" | 7.5 | 25 | M10 x 1.5 | 19 | 32.5 | 66.5 | 76.5 | 10 | 22 | M12 x 1.75 | 12.5 | 24 | 6.1 |

Basic Version - VADVU-Male Thread

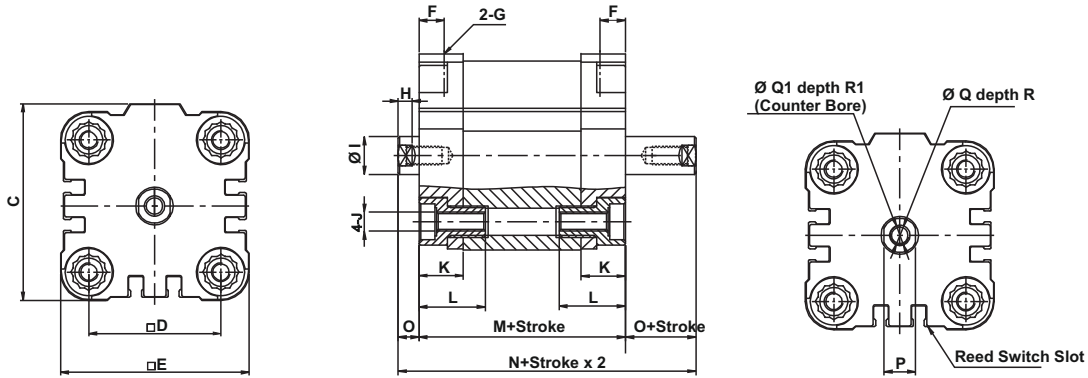
| Ordering Code | Description |
|-----------------------------|---|
| VADVU-D - Bore - Stroke - M | Basic Version - Double Acting, Magnetic |



| Code Bore | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|-----------|---|---|------|-----|-----|------|----------|-----|----|-----------|------|------|------|------|-----|----|------------|----|----|
| 12 | 6 | 4 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 6 | M4 x 0.7 | 11.5 | 18 | 38 | 42.5 | 4.5 | 5 | M6 x 1.0 | 15 | 16 |
| 16 | 6 | 4 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 8 | M4 x 0.7 | 11.5 | 18 | 38 | 42.5 | 4.5 | 6 | M8 x 1.25 | 19 | 20 |
| 20 | 6 | 4 | 37.5 | 22 | 36 | 7 | M5 x 0.8 | 3 | 10 | M5 x 0.8 | 11.5 | 18 | 38 | 42.5 | 4.5 | 8 | M10 x 1.25 | 20 | 22 |
| 25 | 6 | 4 | 41.5 | 26 | 40 | 7 | M5 x 0.8 | 4 | 10 | M5 x 0.8 | 11.5 | 18 | 39.5 | 45 | 5.5 | 8 | M10 x 1.25 | 20 | 22 |
| 32 | 6 | 4 | 52 | 32 | 50 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21 | 44.5 | 50.5 | 6 | 10 | M10 x 1.25 | 20 | 22 |
| 40 | 6 | 4 | 62.5 | 42 | 60 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21 | 45.5 | 52 | 6.5 | 10 | M10 x 1.25 | 20 | 22 |
| 50 | 6 | 4 | 71 | 50 | 68 | 8 | 1/8" | 5 | 16 | M8 x 1.25 | 14 | 21.5 | 45.5 | 53 | 7.5 | 13 | M12 x 1.25 | 22 | 24 |
| 63 | 8 | 4 | 91 | 62 | 87 | 8 | 1/8" | 5 | 16 | M10 x 1.5 | 15 | 24 | 50 | 57.5 | 7.5 | 13 | M12 x 1.25 | 22 | 24 |
| 80 | 8 | 4 | 111 | 82 | 107 | 8.5 | 1/8" | 5.5 | 20 | M10 x 1.5 | 16 | 27 | 56 | 64 | 8 | 17 | M16 x 1.5 | 30 | 32 |
| 100 | 8 | 4 | 133 | 103 | 128 | 10.5 | 1/4" | 7.5 | 25 | M10 x 1.5 | 19 | 32 | 66.5 | 76.5 | 10 | 22 | M20 x 1.5 | 38 | 40 |

Push/Pull Rod Version (Double Ended) - VADVU-D-Female Thread

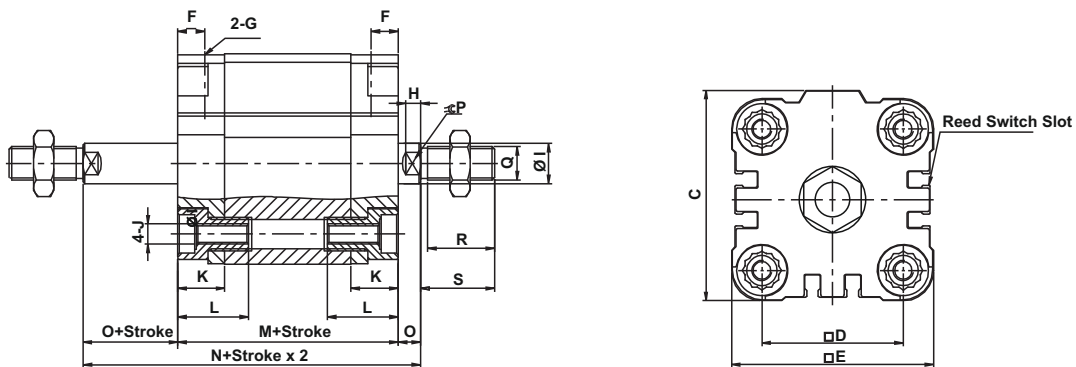
| Ordering Code | Description |
|-----------------------------|---|
| VADVU-D - Bore - Stroke - F | Basic Version - Double Acting, Magnetic |



| Bore | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | Q1 | R | R1 |
|------|------|-----|-----|------|----------|-----|----|-----------|------|------|------|------|-----|----|------------|------|----|-----|
| 12 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 6 | M4 x 0.7 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 5 | M3 x 0.5 | 3.3 | 8 | 1.5 |
| 16 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 8 | M4 x 0.7 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 6 | M4 x 0.7 | 4.5 | 10 | 1.5 |
| 20 | 37.5 | 22 | 36 | 7 | M5 x 0.8 | 3 | 10 | M5 x 0.8 | 11.5 | 18.5 | 38 | 42.5 | 4.5 | 8 | M5 x 0.8 | 5.5 | 12 | 2 |
| 25 | 41.5 | 26 | 40 | 7 | M5 x 0.8 | 4 | 10 | M5 x 0.8 | 11.5 | 18.5 | 39.5 | 45 | 5.5 | 8 | M5 x 0.8 | 5.5 | 12 | 2 |
| 32 | 52 | 32 | 50 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21.5 | 44.5 | 50.5 | 6 | 10 | M6 x 1.0 | 6.5 | 14 | 2.6 |
| 40 | 62.5 | 42 | 60 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21.5 | 45.5 | 52 | 6.5 | 10 | M6 x 1.0 | 6.5 | 14 | 2.6 |
| 50 | 71 | 50 | 68 | 8 | 1/8" | 5 | 16 | M8 x 1.25 | 14 | 22 | 45.5 | 53 | 7.5 | 13 | M8 x 1.25 | 8.5 | 16 | 3.3 |
| 63 | 91 | 62 | 87 | 8 | 1/8" | 5 | 16 | M10 x 1.5 | 15 | 24.5 | 50 | 57.5 | 7.5 | 13 | M8 x 1.25 | 8.5 | 16 | 3.3 |
| 80 | 111 | 82 | 107 | 8.5 | 1/8" | 5.5 | 20 | M10 x 1.5 | 16 | 27.5 | 56 | 64 | 8 | 17 | M10 x 1.5 | 10.5 | 20 | 4.7 |
| 100 | 133 | 103 | 128 | 10.5 | 1/4" | 7.5 | 25 | M10 x 1.5 | 19 | 32.5 | 66.5 | 76.5 | 10 | 22 | M12 x 1.75 | 12.5 | 24 | 6.1 |

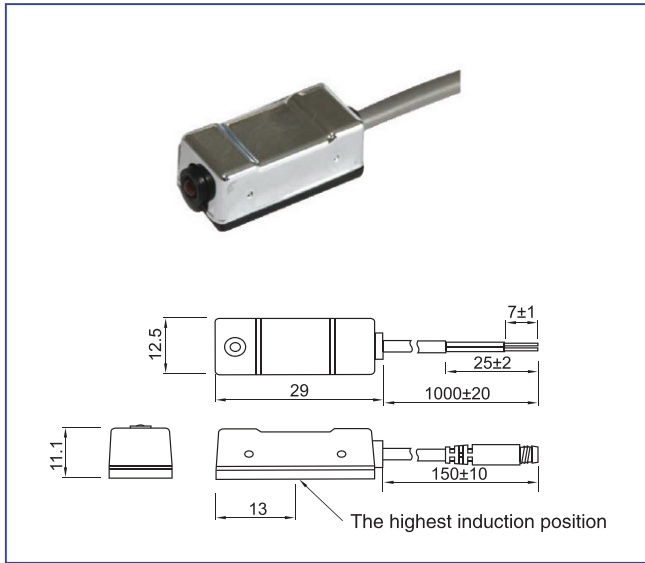
Push/Pull Rod Version (Double Ended) - VADVU-D-Male Thread

| Ordering Code | Description |
|-----------------------------|---|
| VADVU-D - Bore - Stroke - M | Basic Version - Double Acting, Magnetic |



| Code Bore | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S |
|-----------|------|-----|-----|------|----------|-----|----|-----------|------|------|------|------|-----|----|------------|----|----|
| 12 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 6 | M4 x 0.7 | 11.5 | 18 | 38 | 42.5 | 4.5 | 5 | M6 x 1.0 | 15 | 16 |
| 16 | 30 | 18 | 29 | 7 | M5 x 0.8 | 3 | 8 | M4 x 0.7 | 11.5 | 18 | 38 | 42.5 | 4.5 | 6 | M8 x 1.25 | 19 | 20 |
| 20 | 37.5 | 22 | 36 | 7 | M5 x 0.8 | 3 | 10 | M5 x 0.8 | 11.5 | 18 | 38 | 42.5 | 4.5 | 8 | M10 x 1.25 | 20 | 22 |
| 25 | 41.5 | 26 | 40 | 7 | M5 x 0.8 | 4 | 10 | M5 x 0.8 | 11.5 | 18 | 39.5 | 45 | 5.5 | 8 | M10 x 1.25 | 20 | 22 |
| 32 | 52 | 32 | 50 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21 | 44.5 | 50.5 | 6 | 10 | M10 x 1.25 | 20 | 22 |
| 40 | 62.5 | 42 | 60 | 8 | 1/8" | 4.5 | 12 | M6 x 1.0 | 14 | 21 | 45.5 | 52 | 6.5 | 10 | M10 x 1.25 | 20 | 22 |
| 50 | 71 | 50 | 68 | 8 | 1/8" | 5 | 16 | M8 x 1.25 | 14 | 21.5 | 45.5 | 53 | 7.5 | 13 | M12 x 1.25 | 22 | 24 |
| 63 | 91 | 62 | 87 | 8 | 1/8" | 5 | 16 | M10 x 1.5 | 15 | 24 | 50 | 57.5 | 7.5 | 13 | M12 x 1.25 | 22 | 24 |
| 80 | 111 | 82 | 107 | 8.5 | 1/8" | 5.5 | 20 | M10 x 1.5 | 16 | 27 | 56 | 64 | 8 | 17 | M16 x 1.5 | 30 | 32 |
| 100 | 133 | 103 | 128 | 10.5 | 1/4" | 7.5 | 25 | M10 x 1.5 | 19 | 32 | 66.5 | 76.5 | 10 | 22 | M20 x 1.5 | 38 | 40 |

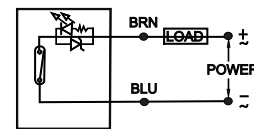
Dimensions



Specification

| Model | K-1 Two-Wire |
|-----------------------|----------------------|
| Power Supply Voltage | 5V ~ 240V AC/DC |
| Switching Current | 100mA |
| Contact Capacity | 10W Max. |
| Current Consumption | N/A |
| Internal Voltage Drop | 3.5V Max. @ 100mA DC |
| Leakage Current | N/A |
| Switching Frequency | 200Hz |
| Impact Resistance | 30G |
| Circuit Protection | N/A |
| Operating Temp. | -10°C ~ +70°C |
| Enclosure | IP64 |
| Standard | CE marking, RoHS |
| Standard Length (L) | 1 Mtr, 2Mtr |

2 wire Reed Switch Connection

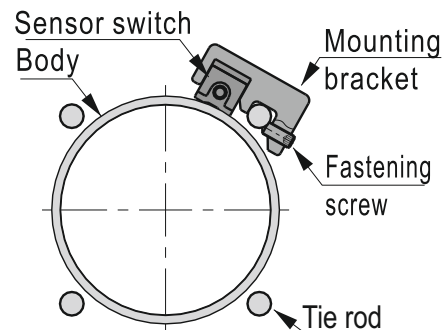


Bracket for Reed Switch K-1 (to be purchased seperately)

Model : PAC



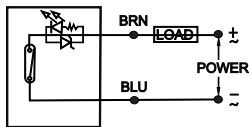
Installation for VSC Series



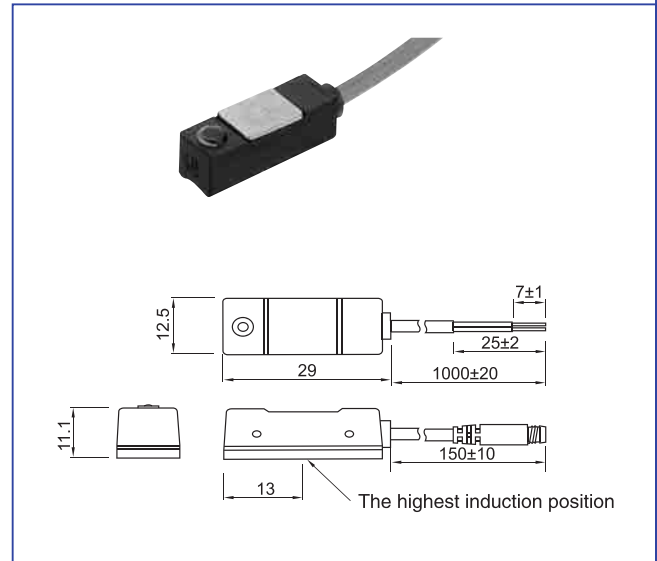
Specification

| Model | K-2 Two-Wire |
|-----------------------|----------------------|
| Power Supply Voltage | 5V ~ 240V AC/DC |
| Switching Current | 100mA |
| Contact Capacity | 10W Max. |
| Current Consumption | N/A |
| Internal Voltage Drop | 3.5V Max. @ 100mA DC |
| Leakage Current | N/A |
| Switching Frequency | 200Hz |
| Impact Resistance | 30G |
| Circuit Protection | N/A |
| Operating Temp. | -10°C ~ +70°C |
| Enclosure | IP64 |
| Standard | CE marking, RoHS |
| Standard Length (L) | 1 Mtr, 2Mtr |

2 wire Reed Switch Connection

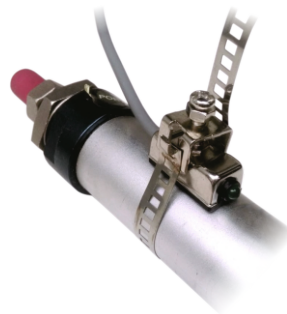


Dimensions



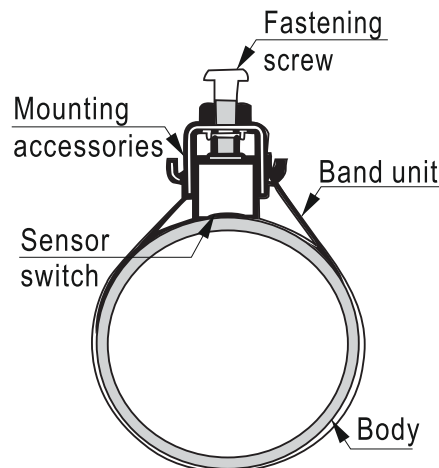
Bracket for Reed Switch K-2 (to be purchased seperately)

Model : BK

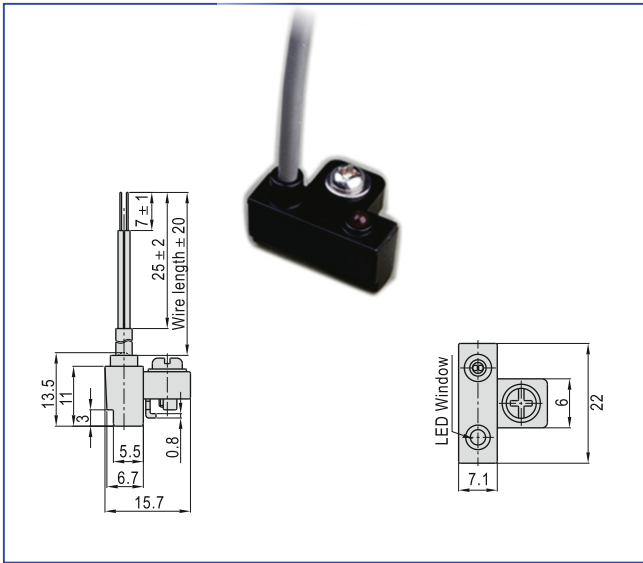


Installation for VADVU Series

For $\Phi 6 - \Phi 63$
Round Air Cylinder



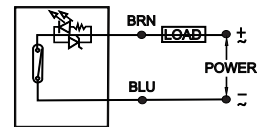
Dimensions



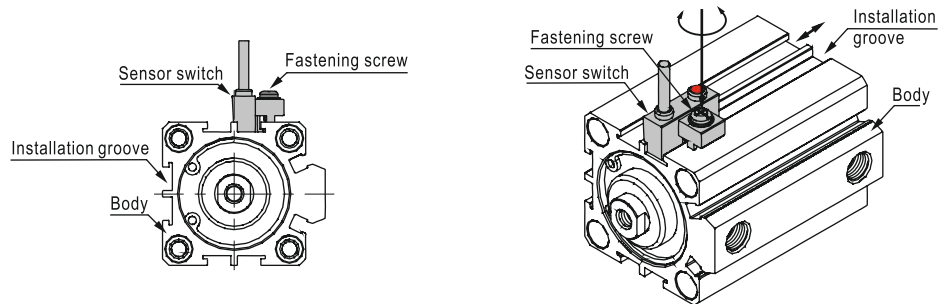
Specification

| Model | K-4 Two-Wire |
|-----------------------|----------------------|
| Power Supply Voltage | 5V ~ 240V AC/DC |
| Switching Current | 100mA |
| Contact Capacity | 10W Max. |
| Current Consumption | N/A |
| Internal Voltage Drop | 3.5V Max. @ 100mA DC |
| Leakage Current | N/A |
| Switching Frequency | 200Hz |
| Impact Resistance | 30G |
| Circuit Protection | N/A |
| Operating Temp. | -10°C ~ +70°C |
| Enclosure | IP64 |
| Standard | CE marking, RoHS |
| Standard Length (L) | 1 Mtr, 2Mtr |

2 wire Reed Switch Connection



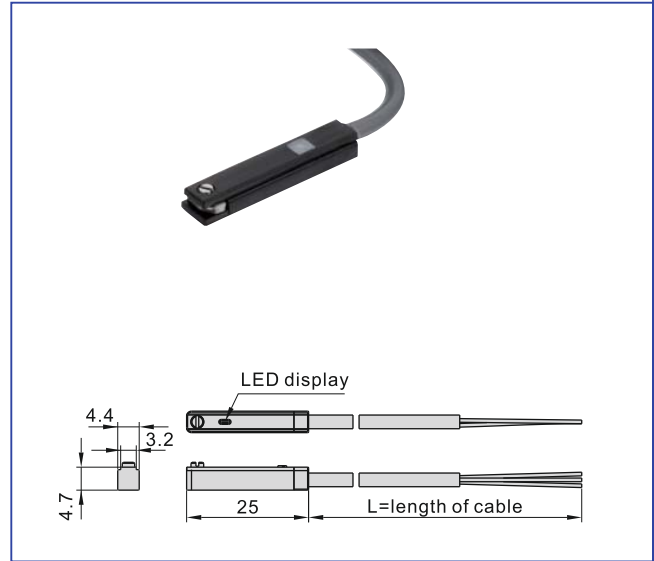
Installation for VDVU Series



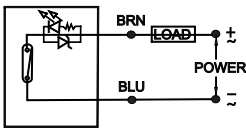
Specification

| Model | CS-1 Two-Wire | CS-3 Three-Wire |
|-----------------------|----------------------|-----------------|
| Power Supply Voltage | 5V ~ 240V AC/DC | |
| Switching Current | 100mA | |
| Contact Capacity | 10W Max. | |
| Current Consumption | N/A | |
| Internal Voltage Drop | 2.5V Max. @ 100mA DC | |
| Leakage Current | N/A | |
| Switching Frequency | 200Hz | |
| Impact Resistance | 50G | |
| Circuit Protection | N/A | |
| Operating Temp. | -10°C ~ +70°C | |
| Enclosure | Ip64 | |
| Standard | CE marking, RoHS | |
| Standard Length (L) | 2.5Mtrs | |

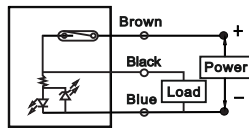
Dimensions



2 wire Reed Switch Connection

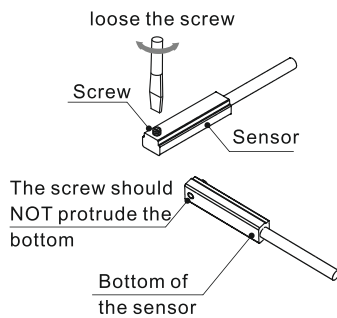


3 wire Reed Switch Connection

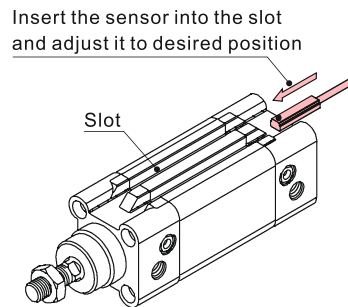


Installation for VNC Series

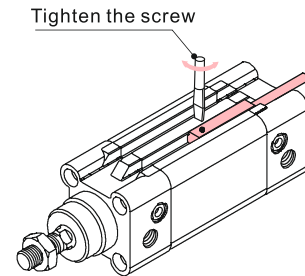
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2

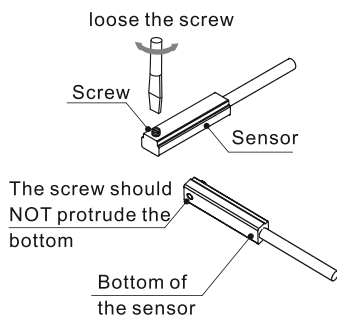


3

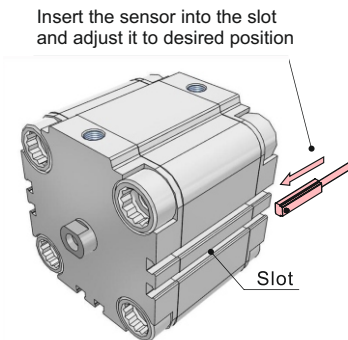


Installation for VADVU Series

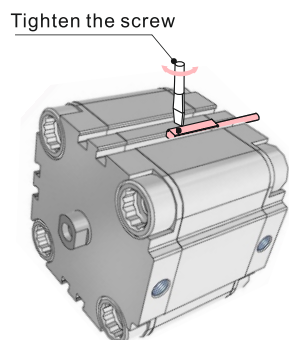
1



2



3



VAC Product Profile

01. Polyurethane (PU) & Nylon Tubing's & Recoiled Hoses.
02. One Touch Push-In Brass Fittings.
03. Two Touch Push-On Aluminium Fittings.
04. Brass Ferrule Fittings & Adopters.
05. High Pressure Hydraulic Fittings.
06. Air Control Unit's (FRLs).
07. Solenoid & Mechanical Valves.
08. Air Cylinders.
09. Air Boosters.
10. Quick Release Coupling's for Air, Water, Hydraulic & Mold Applications.
11. Air Hose Reels.
12. Spring Balancers.
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