

# Power Valve: Regulator Valve

## Series VEX1

### Large capacity relief regulator

Rapid tank internal pressure setting, air blow, constant pressure supply and driving, balance and driving, 2 steps directional control setting and multiple steps pressure control



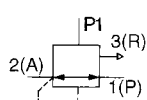
Air operated



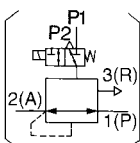
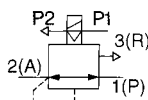
External pilot solenoid

### JIS Symbol

Air operated



External pilot solenoid



### Specifications

| Model                   |              | VEX110□- <sup>01</sup> <sub>02</sub>                            |     | VEX120□- <sup>01</sup> <sub>02</sub> |     | VEX130□- <sup>02</sup> <sub>03 04</sub> |     |                 |     | VEX150□- <sup>04</sup> <sub>06 10</sub> |    |       | VEX170□- <sup>10</sup> <sub>12</sub> |       | VEX190□- <sup>14</sup> <sub>20</sub> |  |
|-------------------------|--------------|-----------------------------------------------------------------|-----|--------------------------------------|-----|-----------------------------------------|-----|-----------------|-----|-----------------------------------------|----|-------|--------------------------------------|-------|--------------------------------------|--|
| Operation type          |              | Air operated, External pilot solenoid                           |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Fluid                   |              | Air                                                             |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Max. operating pressure |              | 1.0 MPa                                                         |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Set pressure range      | Air operated | 0.05 to 0.9 MPa                                                 |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
|                         | Solenoid     | 0.05 to 0.7 MPa                                                 |     |                                      |     |                                         |     | 0.05 to 0.9 MPa |     |                                         |    |       |                                      |       |                                      |  |
| Ambient and fluid temp. |              | 0 to 50°C (Air operated: 0 to 60°C) No condensation             |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Hysteresis              |              | 0.03 MPa                                                        |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Repeatability           |              | 0.01 MPa                                                        |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Sensitivity             |              | 0.01 MPa                                                        |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Mounting                |              | Free                                                            |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Lubrication             |              | Not required (Use turbine oil Class 1 ISO VG32, if lubricated.) |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
| Port size               | Port         | 01                                                              | 02  | 01                                   | 02  | 02                                      | 03  | 04              | 04  | 06                                      | 10 | 10    | 12                                   | 14    | 20                                   |  |
|                         | 1(P)         |                                                                 |     |                                      |     |                                         |     |                 |     |                                         |    |       |                                      |       |                                      |  |
|                         | 2(A)         | 1/8                                                             | 1/4 | 1/8                                  | 1/4 | 1/4                                     | 3/8 | 1/2             | 1/2 | 3/4                                     | 1  | 1     | 1 1/4                                | 1 1/2 | 2                                    |  |
|                         | 3(R)         |                                                                 |     |                                      |     |                                         |     |                 |     |                                         |    | 1 1/4 |                                      | 2     |                                      |  |
| Mass (kg)               | Air operated | 0.1                                                             |     | 0.2                                  |     | 0.4                                     |     |                 | 1.3 |                                         |    | 1.9   |                                      | 3.9   |                                      |  |
|                         | Solenoid     | 0.2                                                             |     | 0.3                                  |     | 0.5                                     |     |                 | 1.4 |                                         |    | 2.0   |                                      | 4.0   |                                      |  |

Note) Non-lubricated specifications are not available for this product.

### Pilot Solenoid Valve Specifications

| Model                  | VEX1101 / 1201 / 1301 | VEX1501 / 1701 / 1901                                       |
|------------------------|-----------------------|-------------------------------------------------------------|
| Pilot valve            | VK334-□□□             | VO307-□□□                                                   |
| Electrical entry       | Grommet, DIN terminal | Grommet, Grommet terminal, Conduit terminal, DIN terminal   |
| Coil rated voltage (V) | AC(50/60Hz)<br>DC     | 100V, 110V, 200V, 220V, 240V<br>6V, 12V, 24V, 48V           |
| Allowable voltage      | ±10% of rated voltage |                                                             |
| Apparent power         | AC                    | 9.5VA/50Hz, 8VA/60Hz                                        |
|                        | Inrush<br>Holding     | 12.7VA(50Hz), 10.7VA(60Hz)<br>7VA/50Hz, 5VA/60Hz            |
| power                  | DC                    | 4 W (Without indicator light), 4.3 W (With indicator light) |
| Manual override        | Non-locking push type |                                                             |

### Option

| Description                     |   | Part no.                             |                                      |                                         |                                         |                                      |                                      |
|---------------------------------|---|--------------------------------------|--------------------------------------|-----------------------------------------|-----------------------------------------|--------------------------------------|--------------------------------------|
|                                 |   | VEX110□- <sup>01</sup> <sub>02</sub> | VEX120□- <sup>01</sup> <sub>02</sub> | VEX130□- <sup>02</sup> <sub>03 04</sub> | VEX150□- <sup>04</sup> <sub>06 10</sub> | VEX170□- <sup>10</sup> <sub>12</sub> | VEX190□- <sup>14</sup> <sub>20</sub> |
| Bracket (With bolt and washer)  | B | VEX1-18-1A                           | —                                    | VEX3-32A                                | VEX5-32A                                | VEX7-32A                             | VEX9-32A                             |
|                                 | F | VEX1-18-2A                           | —                                    | —                                       | —                                       | —                                    | —                                    |
| Pressure gauge <sup>Note)</sup> | G | G27-10-01                            |                                      | G36-10-01                               |                                         | G46-10-01                            |                                      |



Note) When requiring a gauge different than that mentioned above, specify the model number.  
Option is packed with it.  
(Refer to Best Pneumatics No. 6.)  
Example: VEX1300-03  
G36-4-01

## How to Order

**VEX 1 3 0 1 - 03 [ ] [ ] D [ ] - B**

Regulator valve

**Operation type**

|   |                         |
|---|-------------------------|
| 0 | Air operated            |
| 1 | External pilot solenoid |

**Thread type**

|     |      |
|-----|------|
| Nil | Rc   |
| F   | G    |
| N   | NPT  |
| T   | NPTF |

**Rated voltage (Only with solenoid)**

|    |                    |
|----|--------------------|
| 1  | 100 VAC (50/60 Hz) |
| 2  | 200 VAC (50/60 Hz) |
| 3* | 110 VAC (50/60 Hz) |
| 4* | 220 VAC (50/60 Hz) |
| 5  | 24 VAC             |
| 6* | 12 VAC             |
| 7* | 240 VAC (50/60 Hz) |
| 9* | Other              |

\* Option

**Option**

|     |                     |
|-----|---------------------|
| Nil | None                |
| B   | Bracket             |
| F   | Foot (VEX110□ only) |
| G   | Gauge               |

• When specifying more than one option, combine symbols alphabetically.

**Light/Surge voltage suppressor (Only with solenoid)**

|     |                                                      |
|-----|------------------------------------------------------|
| Nil | None                                                 |
| S   | With surge voltage suppressor (For grommet only)     |
| Z   | With light/surge voltage suppressor (Except grommet) |

**Sub-plate and gasket part no.**

Sub-plate: VEX1 - 9 - 1 [ ] [ ] P

Port size: Symbol A 1/8, B 1/4

Thread type: Symbol Nil Rc, F G, N NPT, T NPTF

Base gasket: VEX1 - 11 - 2

**Body size**

**Port size**

**Electrical entry (Only with solenoid)**

| Body size   | Port size    |            |       | Electrical entry  |                                                                                                                                                                                       |     |
|-------------|--------------|------------|-------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|             | Port         | 1(P), 2(A) | 3(R)  |                   |                                                                                                                                                                                       |     |
| Body ported | 1            | 01         | 1/8   | 1/8               | <b>G</b> — Grommet (Lead wire length 300 mm)<br><b>H</b> — Grommet (Lead wire length 600 mm)<br><b>D</b> — DIN terminal<br><b>DO</b> — DIN terminal (Without connector)               |     |
|             |              | 02         | 1/4   | 1/4               |                                                                                                                                                                                       |     |
|             |              | 03         | 3/8   | 3/8               |                                                                                                                                                                                       |     |
|             |              | 04         | 1/2   | 1/2               |                                                                                                                                                                                       |     |
|             | 3            | 04         | 1/2   | 1/2               | <b>G</b> — Grommet (Lead wire length 300 mm)<br><b>H</b> — Grommet (Lead wire length 600 mm)<br><b>E</b> — Grommet terminal<br><b>T</b> — Conduit terminal<br><b>D</b> — DIN terminal |     |
|             |              | 06         | 3/4   | 3/4               |                                                                                                                                                                                       |     |
|             |              | 10         | 1     | 1                 |                                                                                                                                                                                       |     |
|             |              | 12         | 1 1/4 | 1 1/4             |                                                                                                                                                                                       |     |
|             | 5            | 14         | 1 1/2 | 2                 | <b>G</b> — Grommet (Lead wire length 300 mm)<br><b>H</b> — Grommet (Lead wire length 600 mm)<br><b>D</b> — DIN terminal<br><b>DO</b> — DIN terminal (Without connector)               |     |
|             |              | 20         | 2     | 2                 |                                                                                                                                                                                       |     |
|             |              | 7          | Nil   | Without sub-plate |                                                                                                                                                                                       | Nil |
|             |              |            | 01    | 1/8               |                                                                                                                                                                                       | 1/8 |
| 9           | 02           | 1/4        | 1/4   |                   |                                                                                                                                                                                       |     |
|             | Base mounted | 01         | 1/8   | 1/8               |                                                                                                                                                                                       |     |
|             |              | 02         | 1/4   | 1/4               |                                                                                                                                                                                       |     |

### ⚠ Caution

Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.