Optimise air consumption during stops
Stand-by valve
VEX-X115 Series
Main features

- **VEX-X115 Series: The concept**
  VEX-X115 Series is capable of modulating the pressure according to 3 different levels:
  - Operating pressure
  - Stand-by mode - Reduces pressure to a chosen value during short pauses
  - Shut off mode - Shuts off the air completely over long stops.

  Accommodating the pressure to the actual machine needs provides considerable air savings in terms of air generation and air usage, including air leaks.

- **Modular connection**
  Easy installation in FRL units.

- **Compatible communication protocols:**
  - DeviceNet™
  - CC-Link
  - PROFIBUS

- **Independent operation – PLC not necessarily required**
  VEX-X115 Series can operate autonomously, by connecting a flow switch to it. The flow switch ensures the pressure is reduced automatically.

Practical example

Let’s assume we have an automatic machine with static leakage.

<table>
<thead>
<tr>
<th>Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td>0.7 MPa</td>
</tr>
<tr>
<td>Equivalent leakage size (Ø)</td>
<td>4 mm</td>
</tr>
<tr>
<td>Operation hours</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>Operation days</td>
<td>250 days/year</td>
</tr>
<tr>
<td>Air cost</td>
<td>0.02 €/Nm³</td>
</tr>
</tbody>
</table>

Operation time distribution

| Production time | 60 % of the total |
| Pause time | 40 % of the total |

Yearly cost of leakage: **7531 €/year**

Yearly cost of leakage at pauses: **3012.4 €/year**

**Stand-by valve**
Pressure at pauses is reduced to 0.3 MPa

**23 % saving 1721 €**
## Product variations

<table>
<thead>
<tr>
<th></th>
<th>Port sizes (P, A ports)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/2</td>
</tr>
<tr>
<td>VEX130</td>
<td>●</td>
</tr>
<tr>
<td>VEX150</td>
<td>●</td>
</tr>
<tr>
<td>VEX170</td>
<td>●</td>
</tr>
<tr>
<td>VEX190</td>
<td>●</td>
</tr>
</tbody>
</table>

### How to order

**VEX1**[00] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - X115-Q

1. **Body size**
   - 3
   - 5
   - 7
   - 9

2. **Port size (P, A port)**
   - 04 1/2"
   - 06 3/4"
   - 10 1"
   - 12 1 1/4"
   - 14 1 1/2"
   - 20 2"

3. **Thread type**
   - Rc
   - T NPTF
   - F G
   - N NPT

4. **Option (packed with it)**
   - B Bracket
   - P Plug for port 3 (R)
   - V Valve (VT307-SD1-02)

5. **ITV model**
   - [ ] ITV1000 type
   - [ ] ITV2000 type
   - [ ] ITV1000 type
   - [ ] ITV2000 type

6. **Input signal**
   - 0 Current 4 to 20 mA (sink type)
   - 1 Current 0 to 20 mA (sink type)
   - 2 Voltage 0 to 5 VDC
   - 3 Voltage 0 to 10 VDC
   - 40 Preset input type (Negative common)
   - 52 16 points preset input (switch output/NPN output)
   - 53 16 points preset input (switch output/PNP output)
   - CC CC-Link
   - DE DeviceNet™
   - PR PROFIBUS DP
   - RC RS-232C communication

1) IO-Link compatible version is also available. Ask our salesmen for more information.

7. **Monitor output**
   - 1 Analogue input – DC 1 to 5 V
   - 2 Switch output – NPN output
   - 3 Switch output – PNP output
   - 4 Analogue output – DC 4 to 20 mA (sink type)
   - [ ] Without monitor output (preset input type)

8. **Cable connector type**
   - S Straight type 3 m
   - L Right angle type 3 m
   - N Without cable connector

9. **Pressure display unit**
   - [ ] MPa
   - 2 kgf/cm²
   - 3 bar
   - 4 PSI
   - 5 kPa

10. **Installation direction of ITV**
    - [ ] Digital pressure display R port side
    - [ ] Digital pressure display bracket mounting side

### Technical information

- **Symbol**
- **Pressure display unit**
- **Port sizes (P, A ports)**
- **Body size**
- **Port size (P, A port)**
- **ITV model**
- **Input signal**
- **Monitor output**
- **Cable connector type**
- **Pressure display unit**
- **Installation direction of ITV**
Flow characteristics

VEX130 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa

VEX150 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa

VEX170 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa

VEX190 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa

Specifications

<table>
<thead>
<tr>
<th>VEX130</th>
<th>VEX150</th>
<th>VEX170</th>
<th>VEX190</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot type</td>
<td>Internal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply pressure</td>
<td>(Set pressure) +0.1 MPa to 1 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting pressure</td>
<td>0.01 to 0.9 MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>24 VDC ±10 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current consumption (24VDC)</td>
<td>&lt;0.12 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electro-pneumatic regulator</td>
<td>ITV105</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Input Signal (impedance)</td>
<td>Current type</td>
<td>4-20 mADC, 0-20 mADC (250 kΩ) 1)</td>
<td></td>
</tr>
<tr>
<td>Voltage type</td>
<td>0-5 VDC, 0-10 VDC (6.5 kΩ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preset input</td>
<td>4 points (negative common), 16 points (no common polarity) (4.7 kΩ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital input</td>
<td>10 bit (4.7 kΩ)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linearity 2)</td>
<td>±1.0 % F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hysteresis 2)</td>
<td>0.5 % F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability 2)</td>
<td>± 0.5 % F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity 2)</td>
<td>0.2 % F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>0 to 50 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure display Accuracy</td>
<td>±2 % F.S. or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min unit</td>
<td>0.001 MPa, 0.01 kgf/cm², 0.01 bar, 1 PSI, 1kPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection enclosure</td>
<td>Main unit: IP65, cable connector: IP67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) Value for the state with no over current.
2) Guide value, not guaranteed.
3) Make sure you read specific product precautions before handling, in ITV catalogue at www.smc.eu.

Cable connectors

Please order the cable separately.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Connection</th>
<th>Connector type</th>
<th>Length [m]</th>
</tr>
</thead>
<tbody>
<tr>
<td>P398020-500-3</td>
<td>Power supply</td>
<td>M12, 4 pins</td>
<td>3</td>
</tr>
<tr>
<td>P398020-502-3</td>
<td>Input signal</td>
<td>M12, 5 pins</td>
<td></td>
</tr>
</tbody>
</table>
**Stand-by valve**

**VEX-X115 Series**

**Dimensions**

**VEX130**

- Bracket for install
- Electro-pneumatic regulator (ITV1050-0
- Pressure gauge (option) (G36-10-01 installed example)
- Setting part

**VEX150**

**ITV 1000 type**

- Bracket for install
- Electro-pneumatic regulator (ITV1050-0
- Setting part
- Pressure gauge (option) (G36-10-01 installed example)
- Setting part
VEX150
ITV 2000 type

Electro-pneumatic regulator
ITV2050-L52408/L52408-026
Digital pressure display

M12 x 1 Cable connection screw (plug type)
2 x M6 x 1 x 9 For bracket

Rc1/4
ExH. Port

G1/8
(Pilot port)
R10.0
(Depth 1.5)

VEX170

Digital pressure display

Electro-pneumatic regulator
ITV2050-L52408/L52408-026

G1/4
(P1 Pilot port)
For VEX1701

R10.0
(Depth 1.5)

G1/2
(1(P), 2(A), 3(R) Port)

Main valve

(4-M5 x 0.8)

Setting part
Stand-by valve

VEX-X115 Series

**Energy saving related products**

**VEX190**

- **Automatic leakage detection system**
  - ALDS Series
  - Detect and locate leaks.

- **Digital flow switches**
  - PF3A & PFMC Series
  - Monitor main line consumption.

- **Air amplifier**
  - ZH-X185 Series
  - Multiply the flow.

- **Air saving speed controllers**
  - AS-R/AS-Q Series
  - Reduce the pressure introduced in the actuators at return strokes only.

- **Booster regulator**
  - VBA Series
  - Increase pressure only where it is needed.

- **Vacuum unit**
  - ZK2 Series
  - Generate vacuum and maintain it with the minimum supply air.