



Expertise – Passion – Automation



Optimise air consumption during stops

Stand-by valve
VEX-X115 Series

Stand-by valve VEX-X115 Series



- ▶ Reduce air consumption during short stops or shut it off during long ones. With one product
- ▶ Extend the life of the pneumatic components – Lower pressure, lower stress
- ▶ Choose how to operate it yourself – Controlled by a flow switch or through fieldbus inputs.



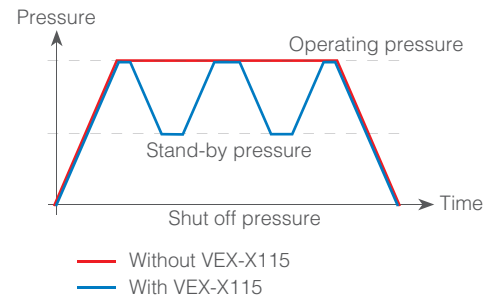
Main features

▶ VEX-X115 Series: The concept

VEX-X115 Series is capable of modulating the pressure according to different levels:

- Operating pressure
- Stand-by mode - Reduces pressure to a chosen value during short pauses

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.

Conditions

| | |
|-----------------------------|------------------------|
| Pressure | 0.7 MPa |
| Equivalent leakage size (Ø) | 4 mm |
| Operation hours | 24 hours/day |
| Operation days | 250 days/year |
| Air cost | 0.02 €/Nm ³ |

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 €

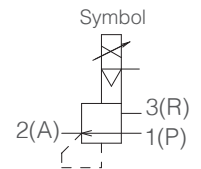
Product variations

| | Port sizes (P, A ports) | | | | | |
|--------|-------------------------|-----|---|-------|-------|---|
| | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 |
| VEX130 | ● | | | | | |
| VEX150 | ● | ● | ● | | | |
| VEX170 | | | ● | ● | | |
| VEX190 | | | | | ● | ● |

Technical information

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)

| | |
|---|----------------------|
| — | W/O option |
| B | Bracket |
| P | Plug for port 3 (R) |
| V | Valve (VT307-5D1-02) |

* When specifying more than one option, order symbols alphabetically.

⑤ ITV model

| | | VEX130 | VEX150 | VEX170 | VEX190 |
|---|--------------|--------|--------|--------|--------|
| — | ITV1000 type | ● | | | |
| | ITV2000 type | | | ● | ● |
| 1 | ITV1000 type | | ● | | |
| 2 | 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

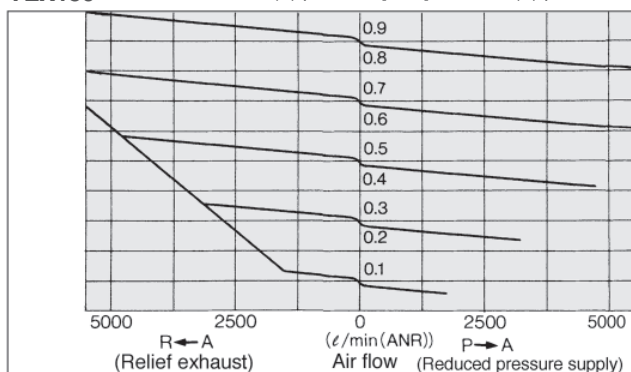
| | |
|---|---------------------|
| — | MPa |
| 2 | kgf/cm ² |
| 3 | bar |
| 4 | PSI |
| 5 | kPa |

⑩ Installation direction of ITV

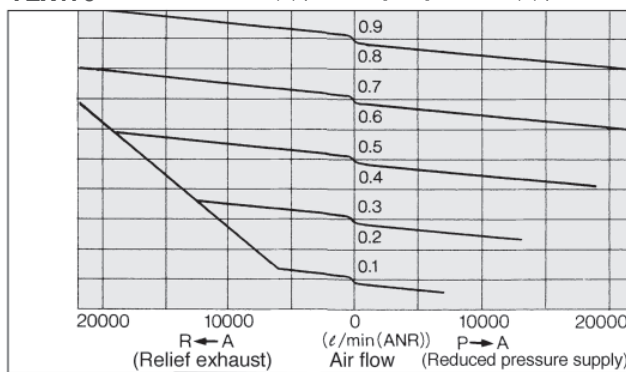
| | | VEX130 | VEX150 | VEX170 | VEX190 |
|---|--|--------|--------|--------|--------|
| — | Digital pressure display R port side | ● | ● | ● | ● |
| R | Digital pressure display bracket mounting side | | ● | ● | ● |

Flow characteristics

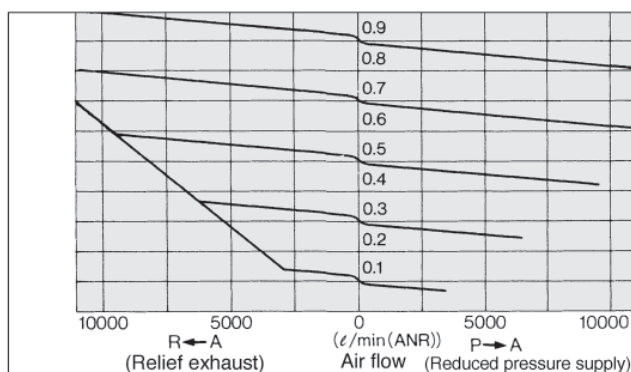
VEX130 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa



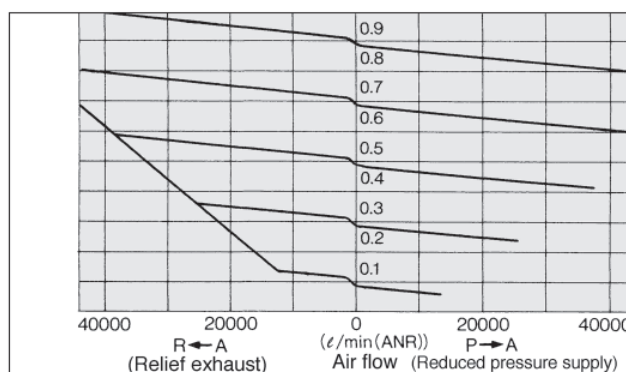
VEX170 Port 2 (A) pressure [MPa] Port 1 (P) pressure 1.0 MPa



VEX150 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

| | VEX130 | VEX150 | VEX170 | VEX190 |
|--------------------------------------|--|---|--------|--------|
| Pilot type | Internal | | | |
| Supply pressure | (Set pressure) +0.1 MPa to 1 MPa | | | |
| Setting pressure | 0.01 to 0.9 MPa | | | |
| Power supply voltage | 24 VDC ±10 % | | | |
| Current consumption (24VDC) | <0.12 A | | | |
| Electro-pneumatic regulator | ITV105 | | — | — |
| | — | ITV205 | | — |
| Input Signal (impedance) | Current type | 4-20 mA DC, 0-20 mA DC (250 kΩ) ¹⁾ | | |
| | Voltage type | 0-5 VDC, 0-10 VDC (6.5 kΩ) | | |
| | Preset input | 4 points (negative common), 16 points (no common polarity) (4.7 kΩ) | | |
| | Digital input | 10 bit (4.7 kΩ) | | |
| Linearity²⁾ | ±1.0 % F.S. or less | | | |
| Hysteresis²⁾ | 0.5 % F.S. or less | | | |
| Repeatability²⁾ | ±0.5 % F.S. or less | | | |
| Sensitivity²⁾ | 0.2 % F.S. or less | | | |
| Ambient and fluid temperature | 0 to 50 °C | | | |
| Pressure display | Accuracy | ±2 % F.S. or less | | |
| | Min unit | 0.001 MPa, 0.01 kgf/cm ² , 0.01 bar, 1 PSI, 1kPa | | |
| Protection enclosure | Main unit: IP65, cable connector: IP67 | | | |

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.

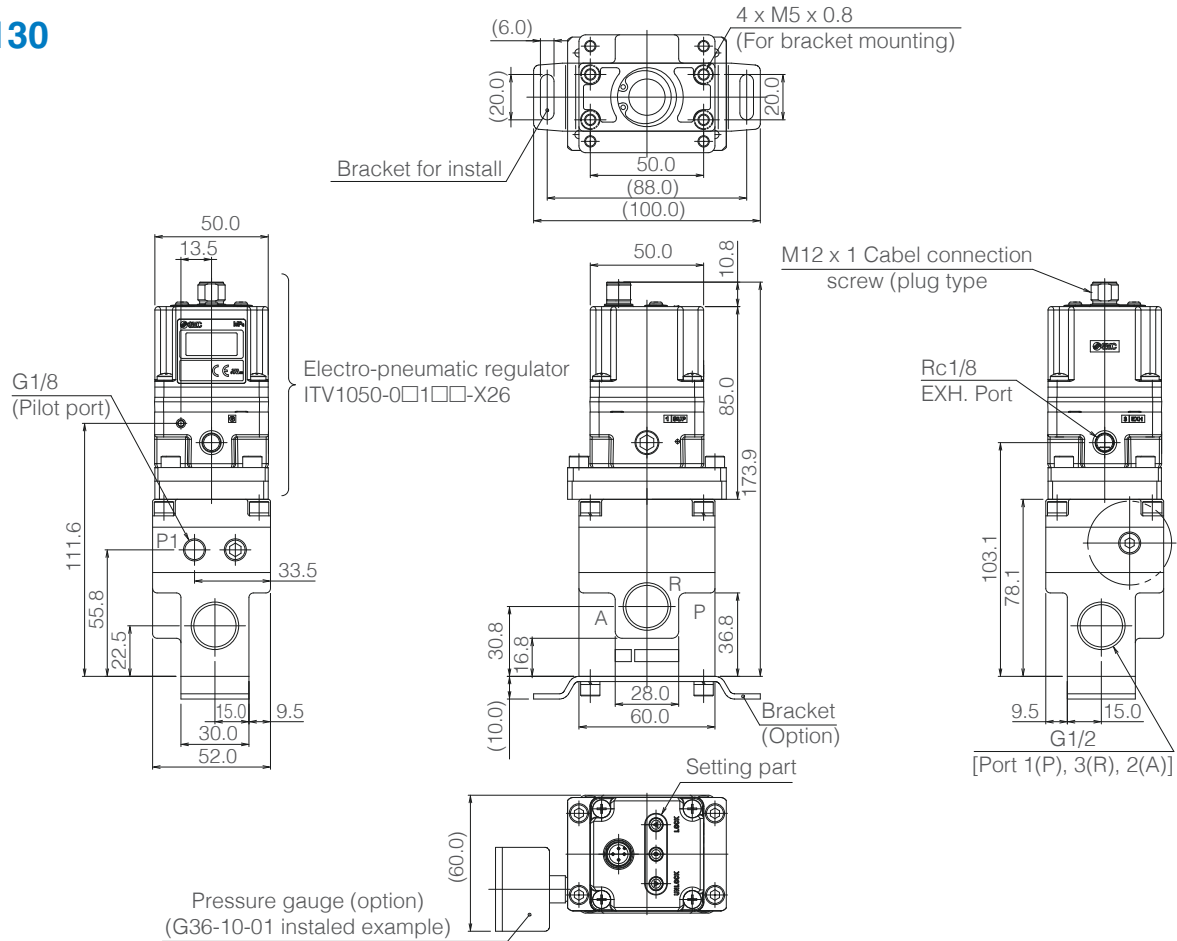
Cable connectors

Please order the cable separately.

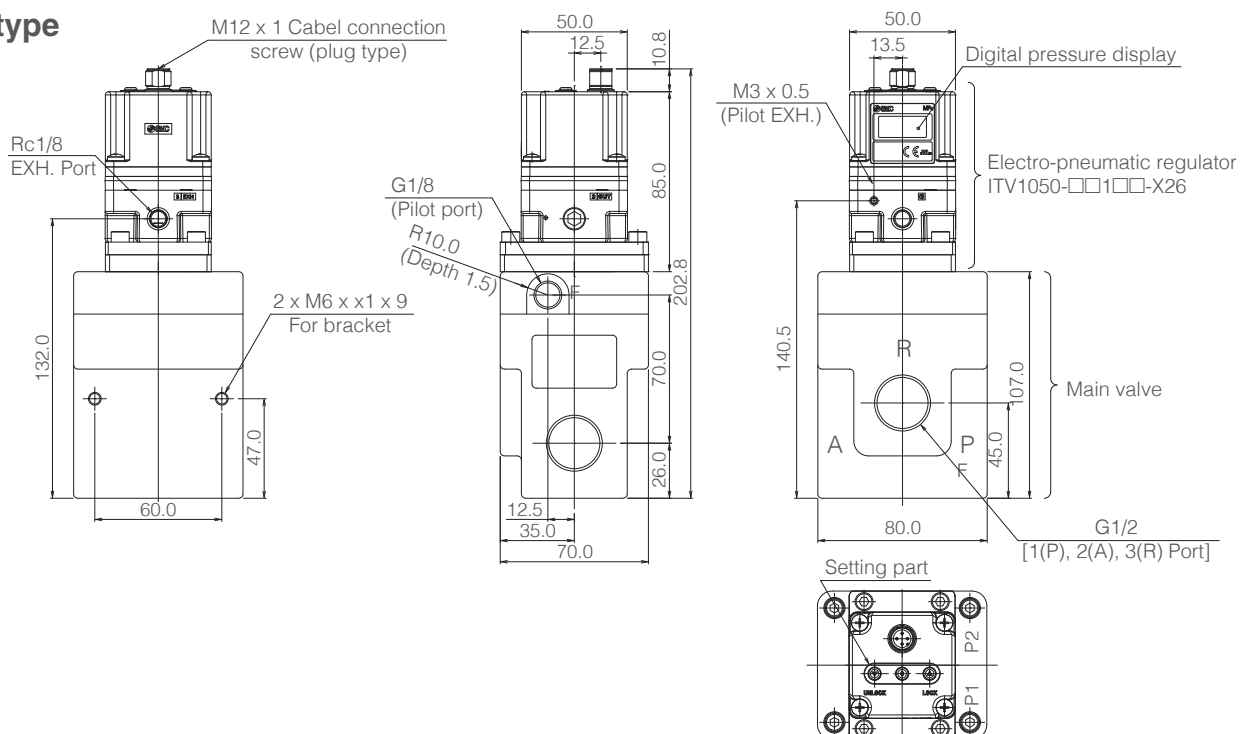
| Part number | Connection | Connector type | Length [m] |
|---------------|--------------|----------------|------------|
| P398020-500-3 | Power supply | M12, 4 pins | 3 |
| P398020-502-3 | Input signal | M12, 5 pins | |

Dimensions

VEX130

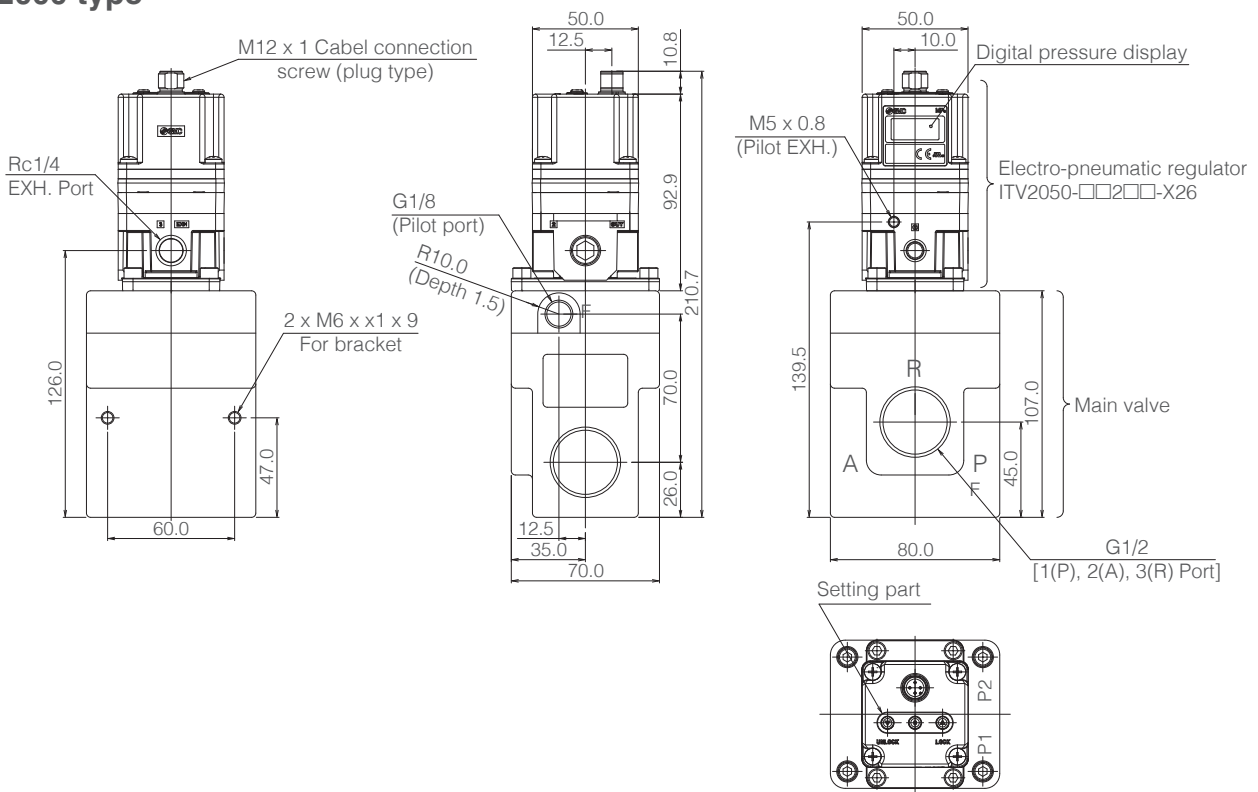


VEX150 ITV 1000 type

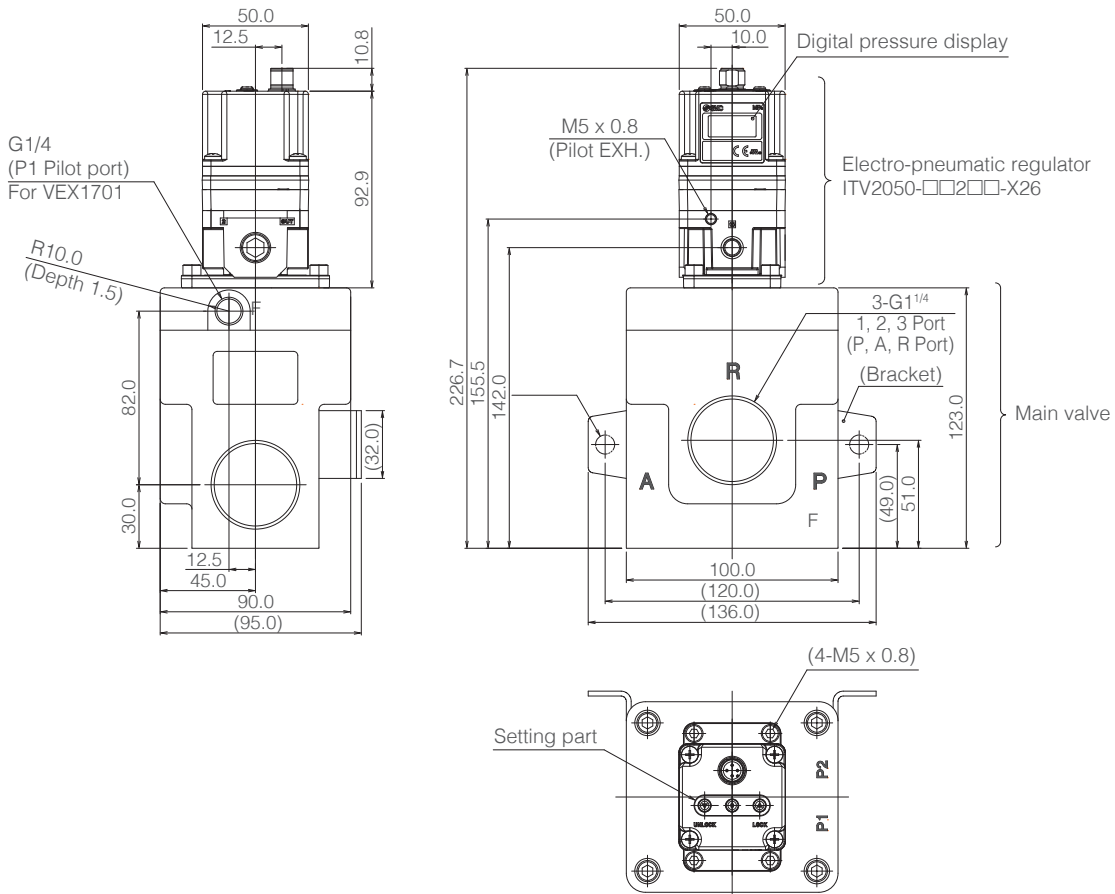


VEX150

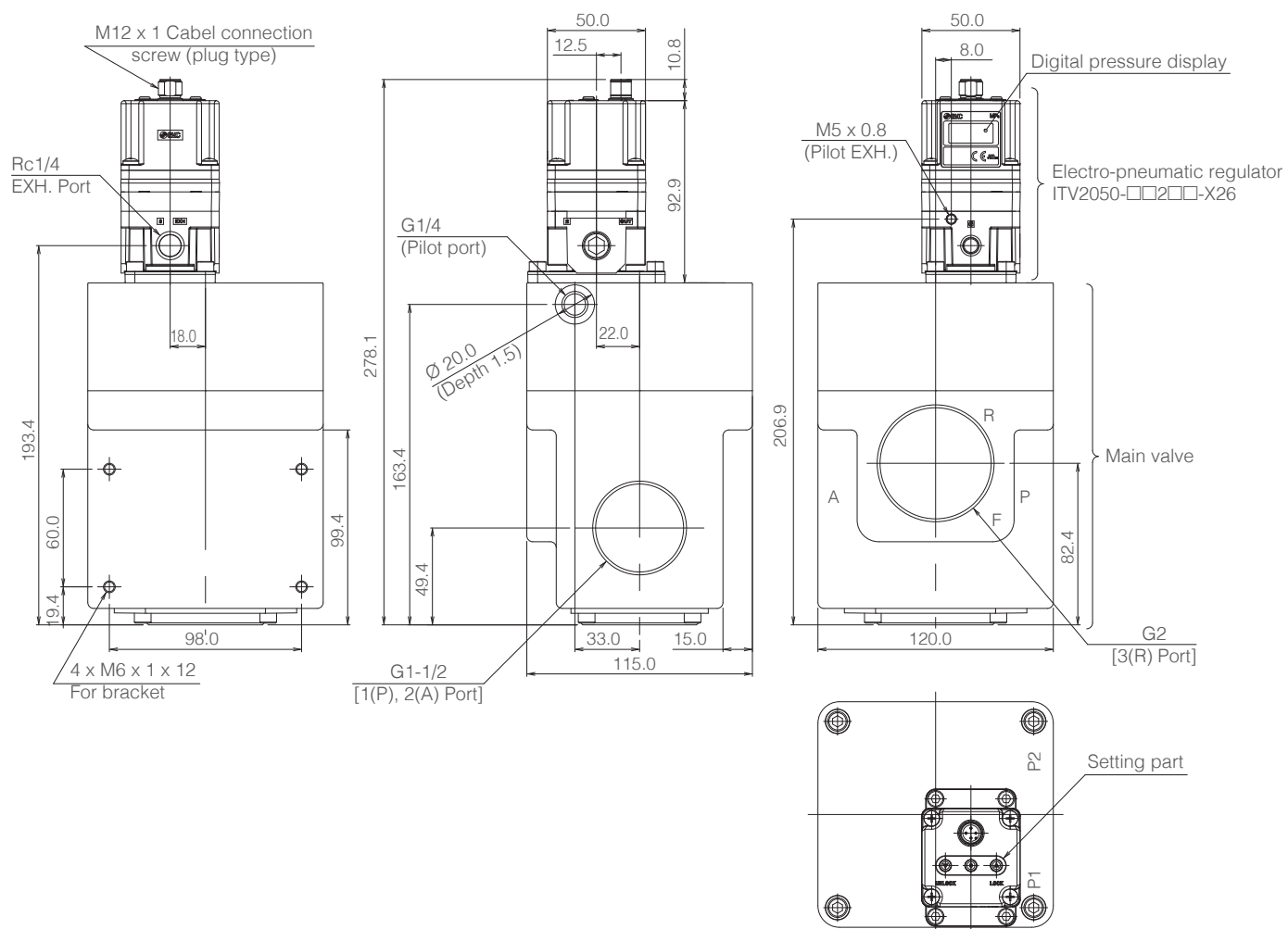
ITV 2000 type



VEX170



VEX190



Energy saving related products



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.



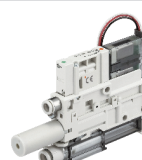
Air saving speed controllers
AS-R/AS-Q Series

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

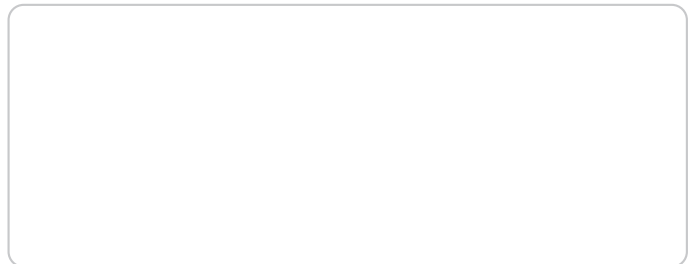
Generate vacuum and maintain it with the minimum supply air.



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