

Booster Regulator

VBA10A



VBA10A-02

1. Features

Power supply is not necessary. Factory air can be doubled just by connecting piping.

- **Life : Double the current product**

→Longer life due to the floating structure

- **Noise : Reduced by 13dB(A) from current product**

[Current product 80dB(A)→67dB(A)]

1)Collision noise of the directional control valve is absorbed by the damper.

2)Exhaust noise is reduced by high noise reduction type silencer.

- **Built in filter : Filter(100 mesh) built in IN port prevents foreign matter from entering**

- **Flow characteristic : Increased by 15% from current product**

[Condition IN=OUT=at 0.5MPa]

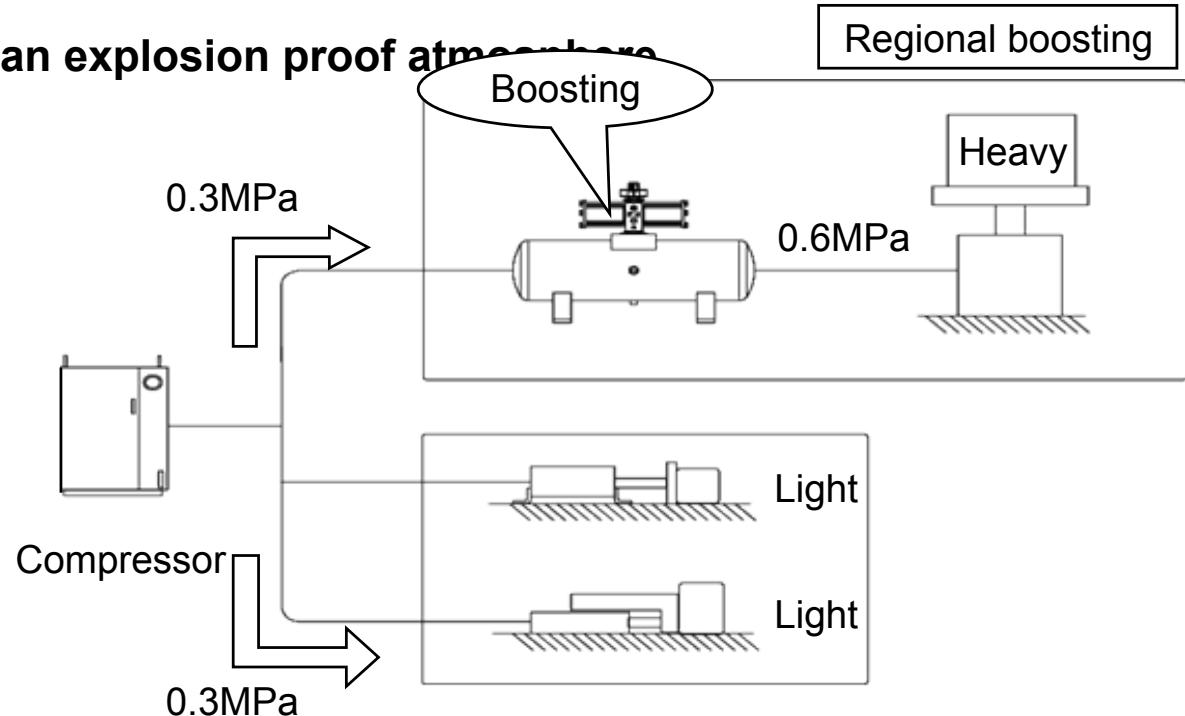
- **Operating pressure : Can be boosted up to 2MPa**

2. Objective

- Market demands longer life and the reduction of noise.**
- Worldwide sales promotion using SMC's global network.**
- Industry : Metal forming machine manufacturing industry, plastic machining machine manufacturing industry. General machine equipment manufacturing industry, Motor/motor related equipment manufacturing industry
(Used mainly for pressurizing cylinders)**

3. Applications

- Boost only the place which power becomes insufficient due to the pressure reduction at factory line.
- To apply higher pressure than the factory line pressure to specific equipment .
- To ensure lower limit pressure where the factory line pressure varies.
- Applicable when the actuator output becomes insufficient due to some reasons and large cylinder can not be used as a replacement because of space limit.
- To make the driving part compact. Reduce the cylinder size while keeping the thrust.
- To boost the pressure in an explosion proof atmosphere



4. Specifications/Function

Model		VBA10A-02
Operating fluid		Compressed air
Boosting ratio		MAX. 2
Pressure adjustment mechanism		Handle type with relieving mechanism Note 1)
Max. flow Note 2)	L/min	230
Set pressure range	MPa	0.2 to 2.0
Supply pressure range	MPa	0.1 to 1.0
Proof pressure	MPa	3
Port size Note 3)	IN, OUT, EXH	Rc1/4
	Pressure gauge port (2 places)	Rc1/8
Ambient temp. and operating fluid temp. deg.C		2 to 50(No freezing)
Orientation		Horizontal
Lubrication		Unnecessary
Full length	mm	150
Weight	kg	0.84

**15% increase
from current
product**

**Current
product: Rc1/16
More general
purpose**

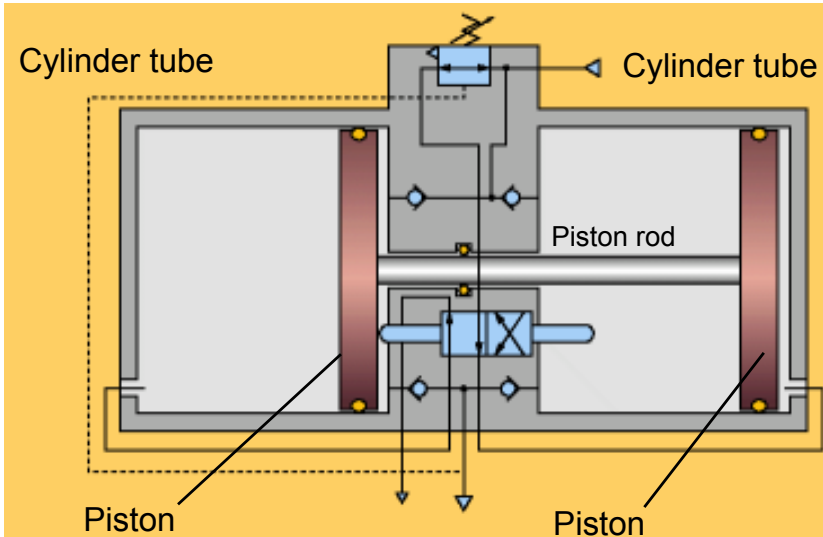
Note 1) When OUT pressure is high for the handle set pressure, excess pressure is released from the handle.

Note 2) Flow at IN=OUT=0.5MPa. Indicates the booster regulator capacity.

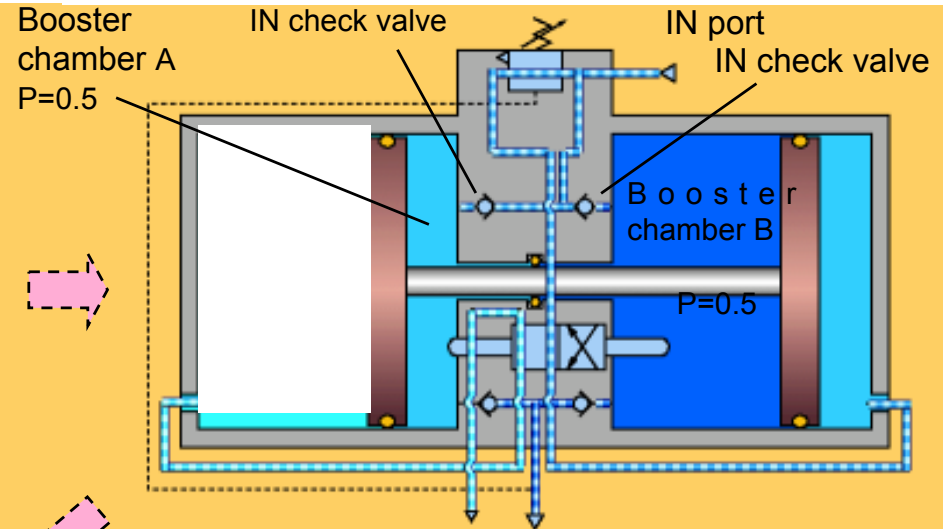
Note 3) Another part numbers are assigned for Port thread other than Rc (NPT,G,NPTF)

5. Structure

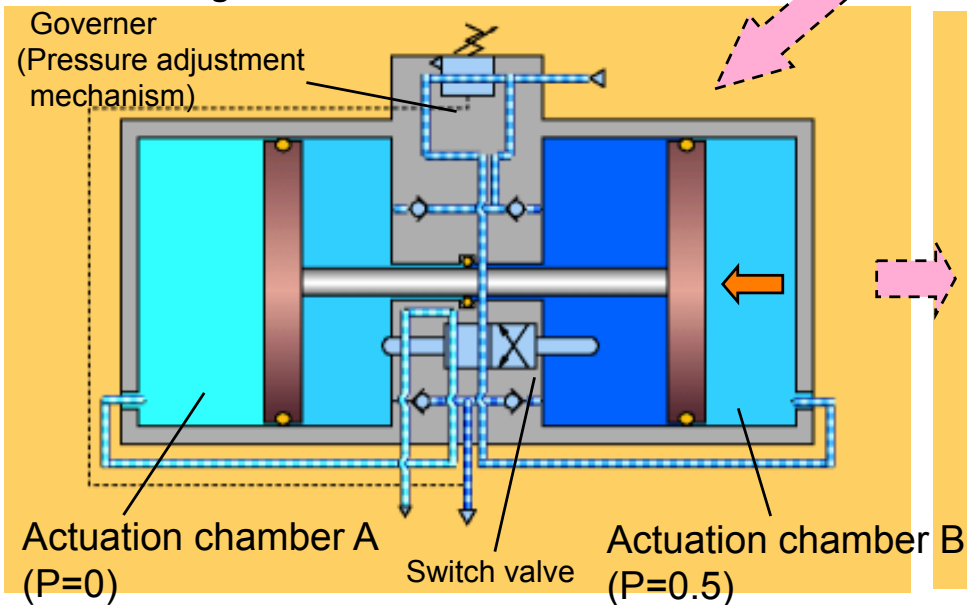
1 Initial condition



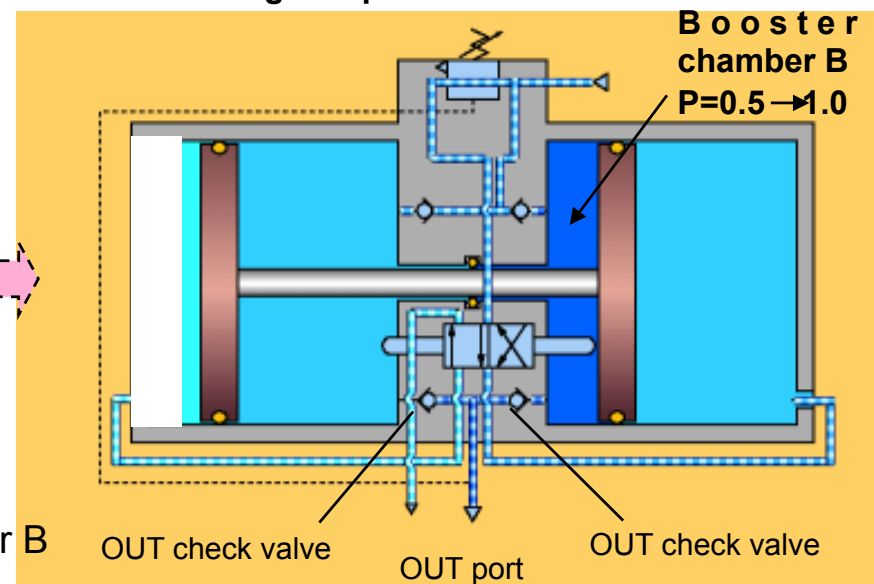
2 Operation start



3 Boosting start

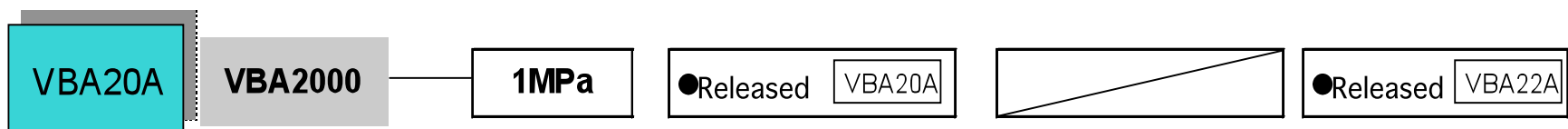
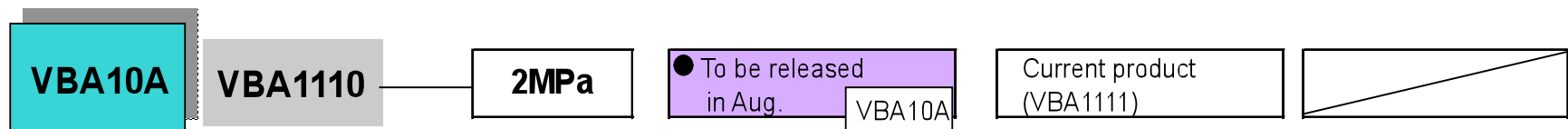


4 Boosting completed



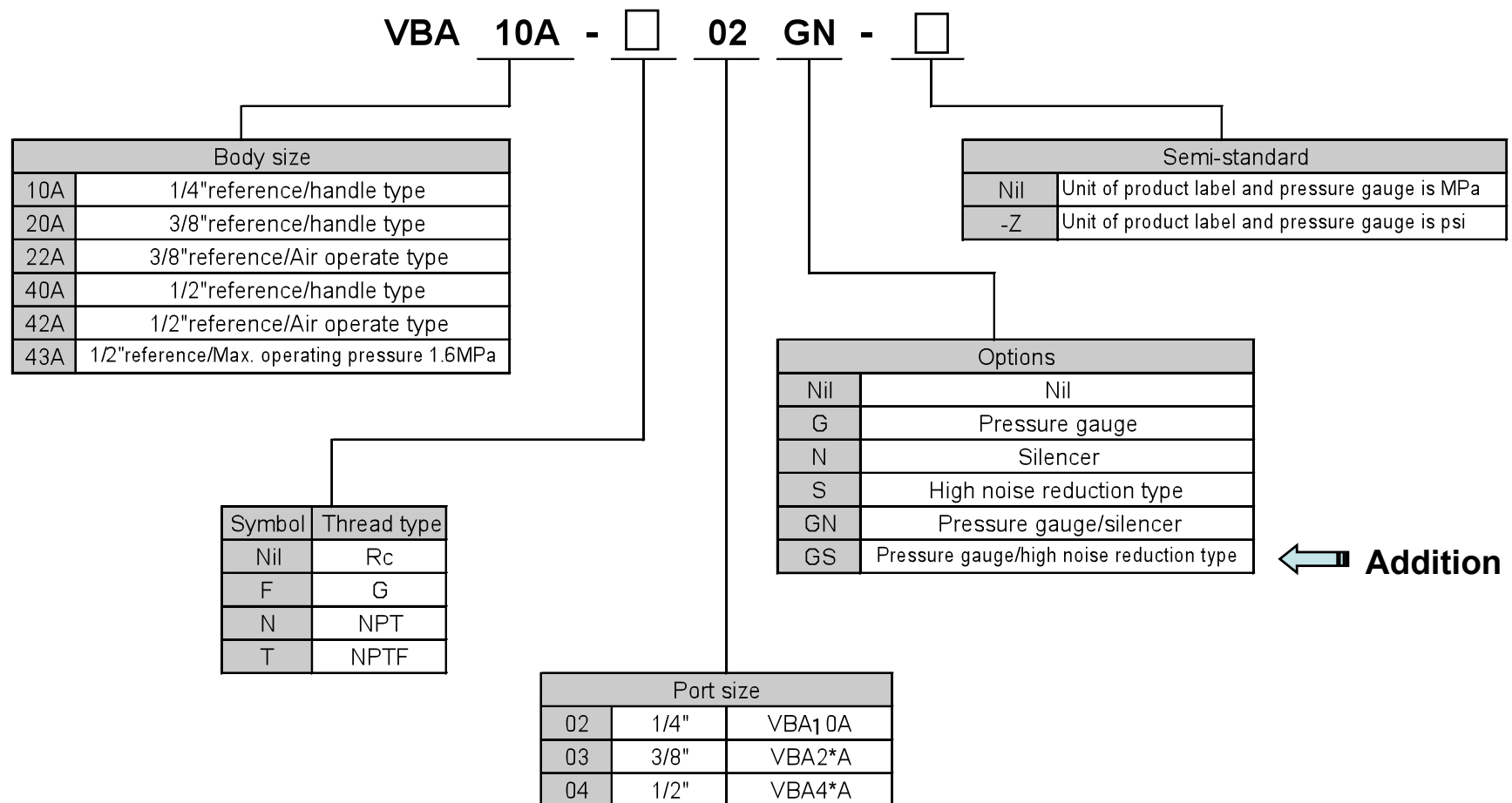
Booster Regulator/VBA series How to Order/Refresh schedule

Model no.		Max. operating pressure	Handle type		Air operate type
New no.	Current no.		Boost ratio		Boost ratio
			x2	x4	x2

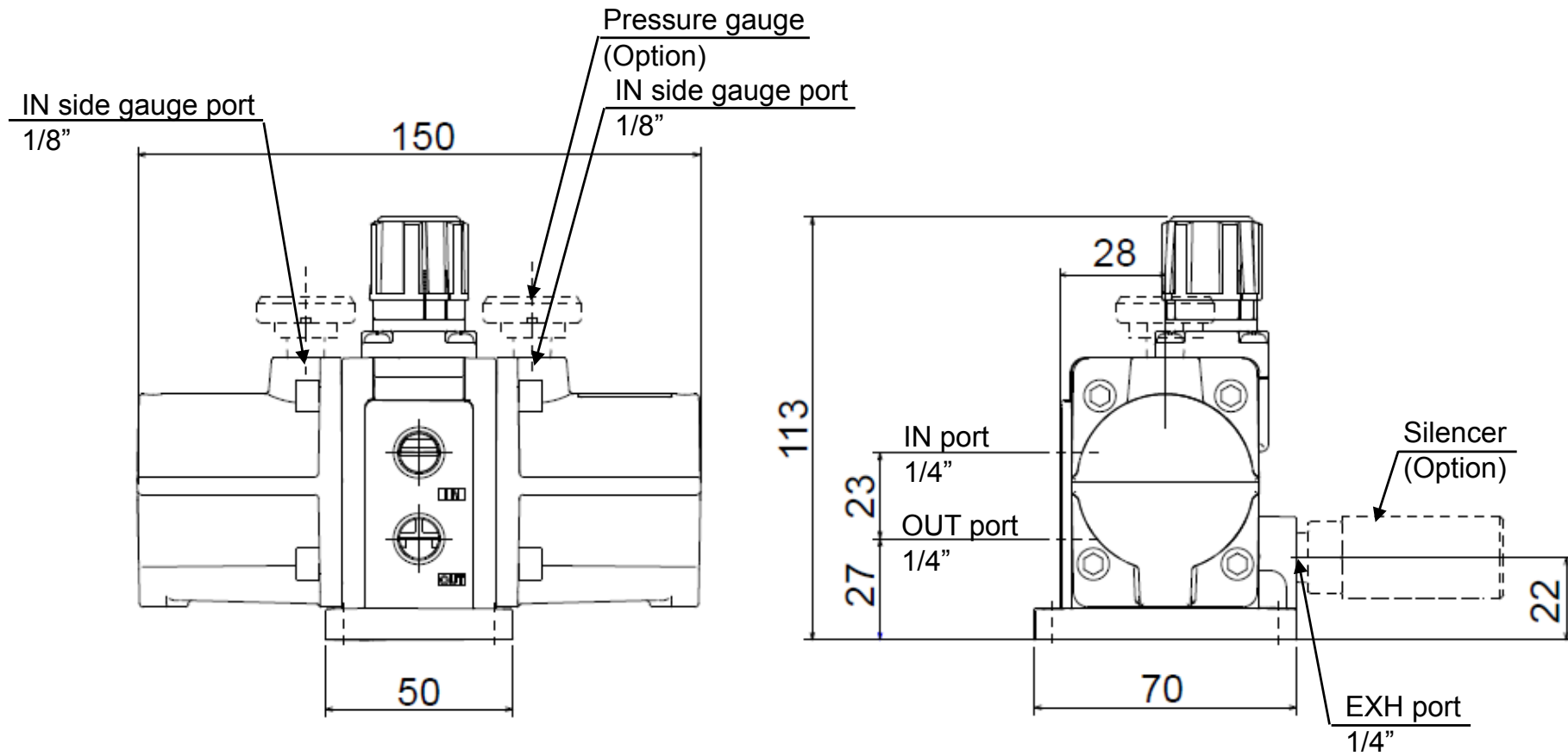


7-2. How to Order (Booster regulator)

Booster regulator VBA10A to 4*A



8. Dimensions : VBA10A-02

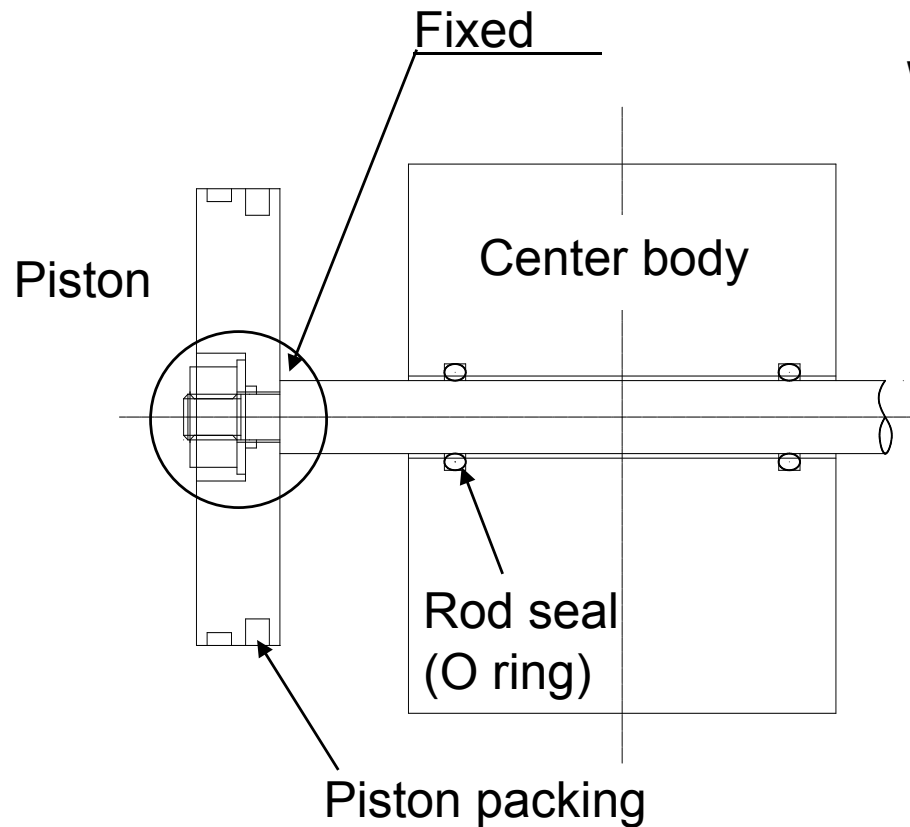


9. Precautions

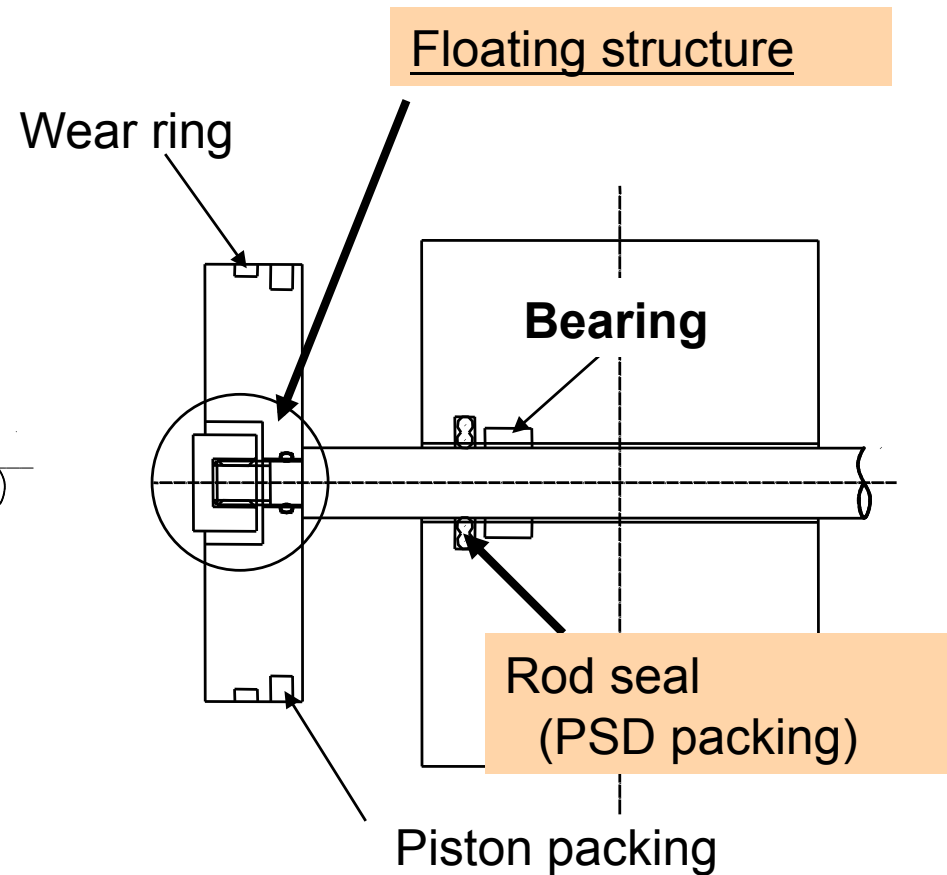
- Safety measure needs to be taken in case of the abnormality occurred to the outlet pressure.
Outlet pressure may be out of the set range due to the malfunction of machines and sudden change of the inlet pressure.
- The outlet pressure is not exhausted even if exhausting the residual pressure at the inlet due to the check valve in the booster regulator.
- To prevent operation from becoming unstable, set the outlet pressure 0.1 MPa or more lower than the inlet pressure.

10-1. Terminology

■ Improvement of life



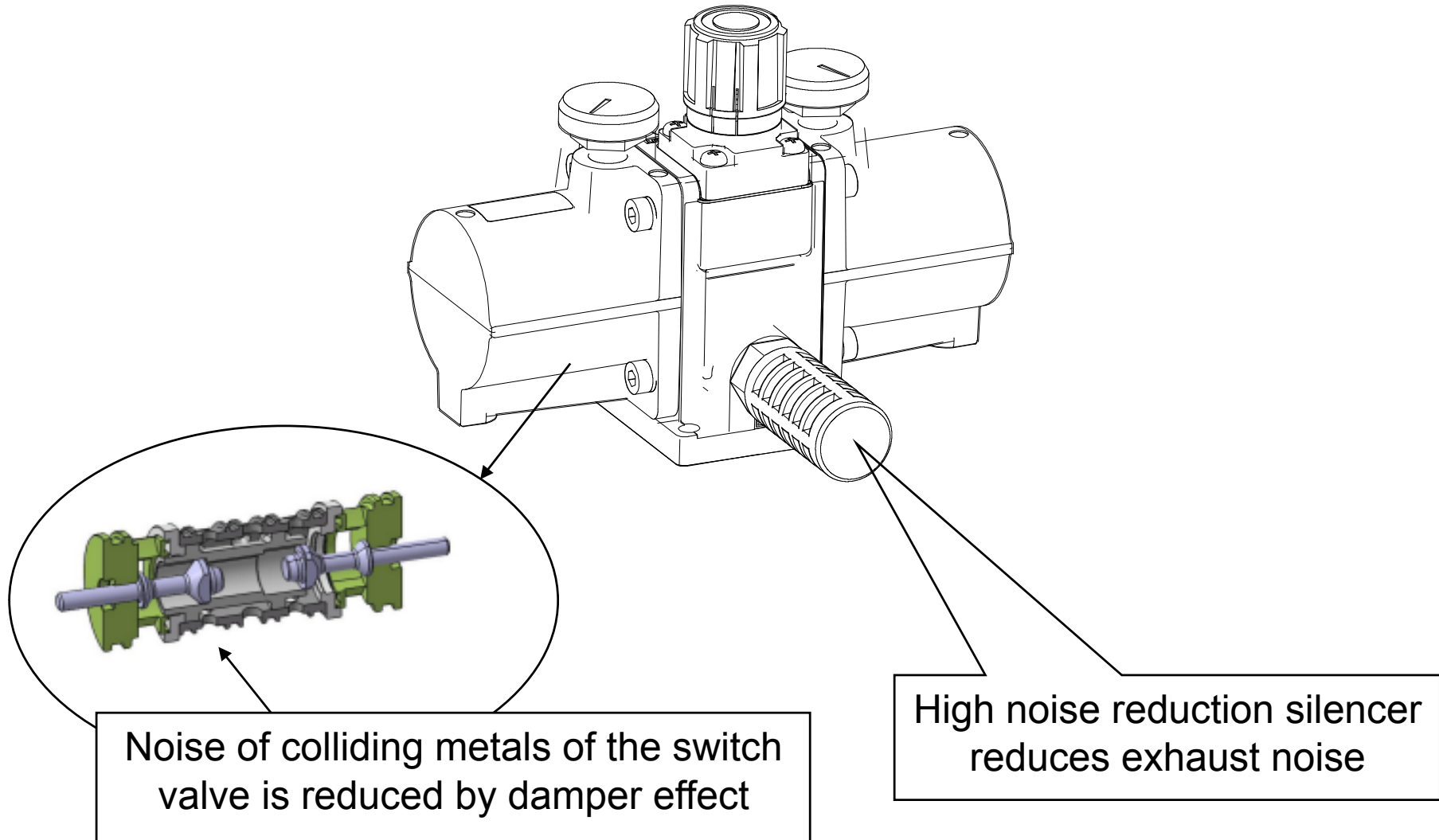
Current product



Refreshed model

10-2. Footnote

■ Improvement of noise reduction



11. Conclusion

- Longer life and lower noise than current product (VBA1110-02).
 - 1) Life is doubled
 - Floating structure
 - 2) Noise is reduced by max. 13dB(A)
 - Collision noise of the switch valve is reduced by the damper.
 - High noise reduction silencer reduces exhaust noise.
- Review of the fluid passage has improved flow characteristics by 15%. Time taken to boost the pressure in the tank is shorter, improving the response.
- Endurance against ozone environment is better than current product.