

VBS200 / VBS201 / VBS202 / VBS204 – VOLUME BOOSTER SERIES



The VBS200 Volume Booster Series is designed to operate pneumatic valve actuators via a valve positioner. It is recommended for large actuators to reduce positioning time. The bypass valve is used to adjust dynamic response to provide stable operation over a wide range of actuator sizes.

FEATURES

- Booster for control and ON/OFF actuators/valves
- Particularly adapted for PST applications
- Booster controlled by valve positioner and / or by a solenoid operated valve
- Heavy duty Aluminum housing
- Adjustable Bypass Valve
- ATEX Constructive Safety

- **VBS200** remote version for any positioner
- **VBS201** integral volume booster for positioners SRD991, SRD960, SRD998, and SRI990 (directly flanged to the positioner)
- **VBS202** directly mounted to actuators acc. to VDI/VDE 3845 and with flange interface for direct mounting of solenoid valve
- **VBS204** as VBS202 but for double acting actuators

- Easy and quick installation with important saving (material and labor) due to elimination of piping and fittings (version 201 and 202)
- Tapped exhaust threaded 1/2" for connection of an Exhaust Noise Silencer or to a venting gas collection system

*Equipment should be installed, operated, serviced, and maintained only by qualified personnel.
No responsibility is assumed by Schneider Electric for any consequences arising from the use of this material.*

SPECIFICATIONS

	VBS200	VBS201	VBS202
Max. Supply Pressure	10 bar / 150 psig		
Max. Signal/Output Pressure	10 bar / 150 psig (controlled by positioner)		
Flow Capacity (Cv) Input	Cv 1.4		
Flow Capacity (Cv) Exhaust	Cv 1.4		
Signal/Output Pressure Ratio	1:1		
Housing material	Aluminum		
Diaphragm material	ECO (Epichlorhydrin rubber)		
Supply/Output Connection	G 1/2 or 1/2 NPT		
Signal Connection	G 1/4 or 1/4 NPT		
Ambient Temperature	-40°C to 85°C / -40°F to 185°F		
Weight	1 kg	1.64 kg	1.82 kg + 1.05 kg
Mounting type	remote; independent from positioner	direct side mounted to positioner	direct mounted to actuator acc. to VDI/VDE 3845

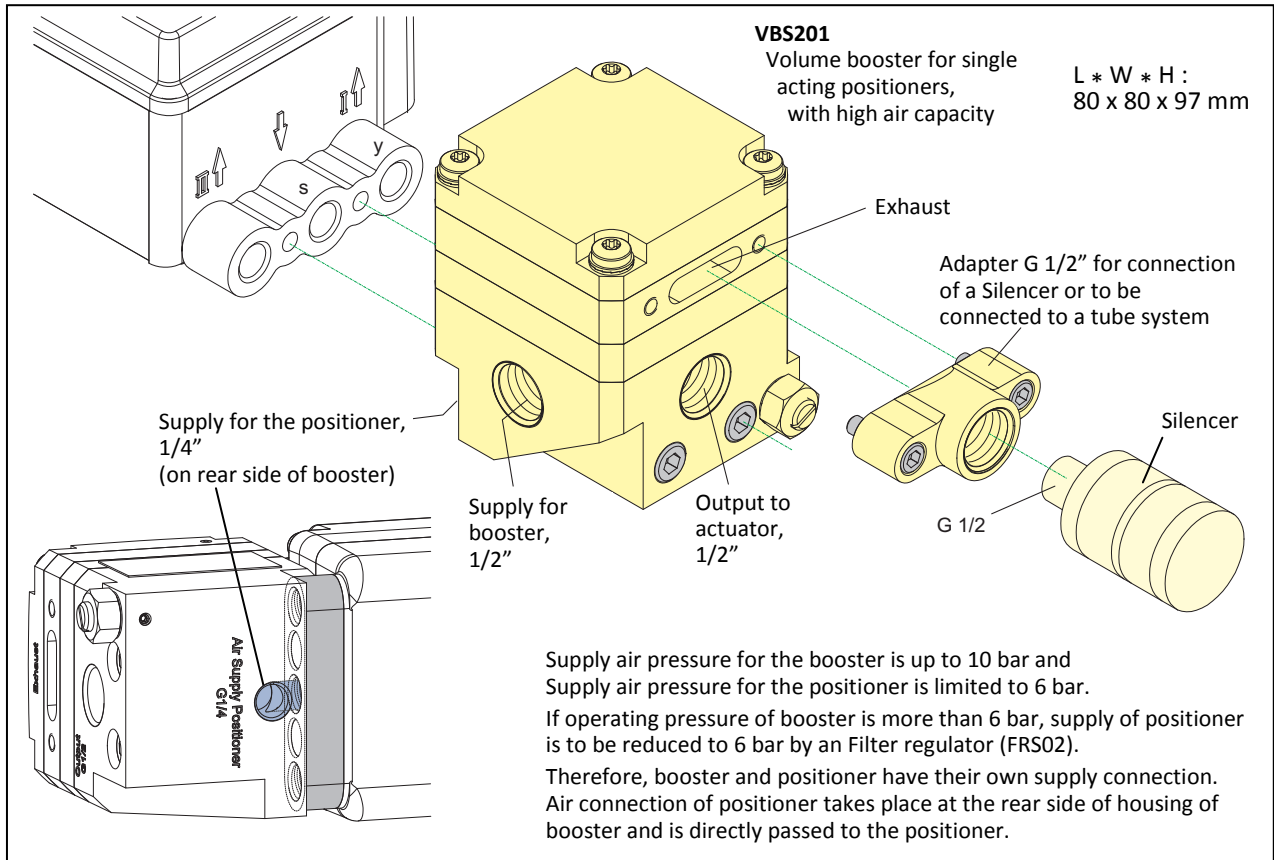
Noise The use of Silencer is strongly recommended. Operator should always wear ear protection.

MODEL CODES VBS20x

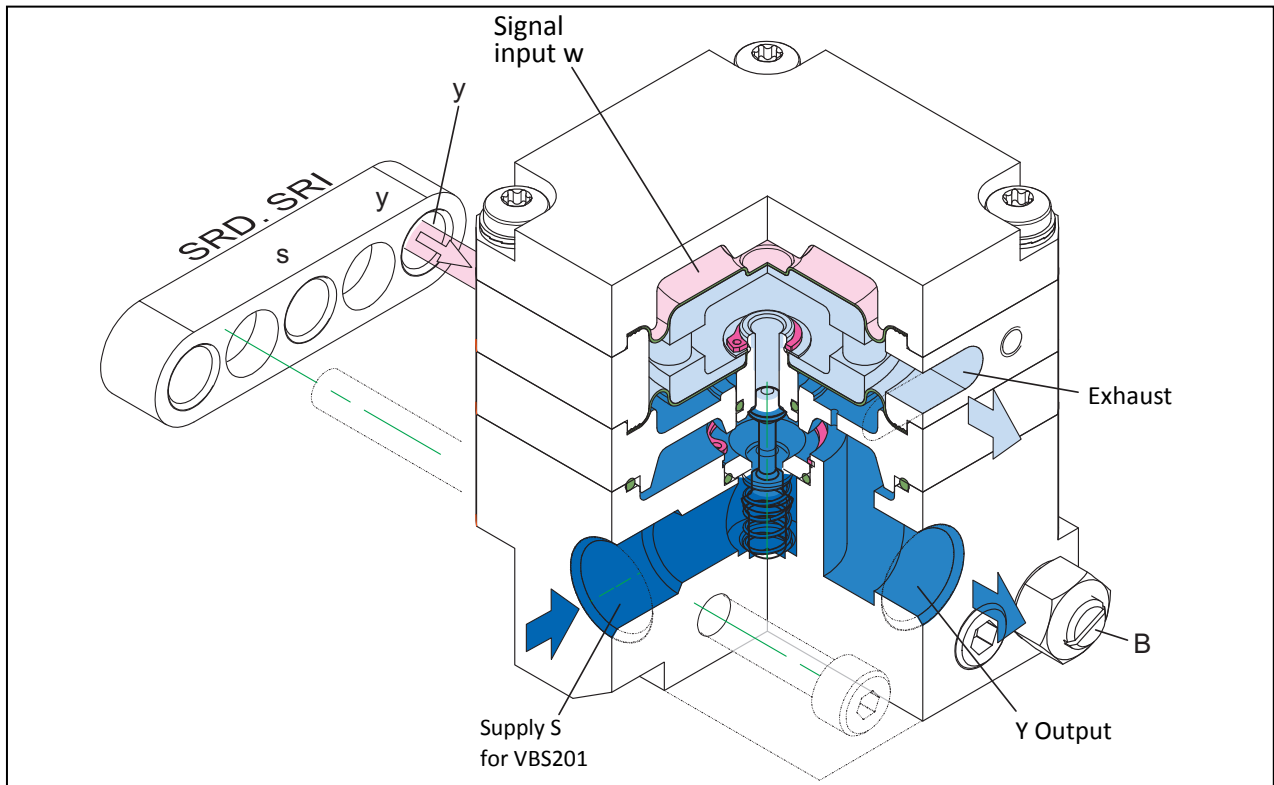
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Volume Booster	VBS				
Flow Capacity					
Cv 1.4	2				
Body Material					
Aluminum		0			
Stainless steel		1			
Mounting Type					
Remote from Positioner.....			0		
Direct side mounting to Positioners SRI990, SRD991, SRD960, SRD998.....			1		
Remote mounting acc. to VDI/VDE 3845.....			2		
Connections					
G threads.....				G	
NPT threads				N	
Options					
With tapped exhaust.....					-T
With Silencer (exhaust noise damper)					-S

DIMENSIONS AND CONNECTIONS (VBS201)

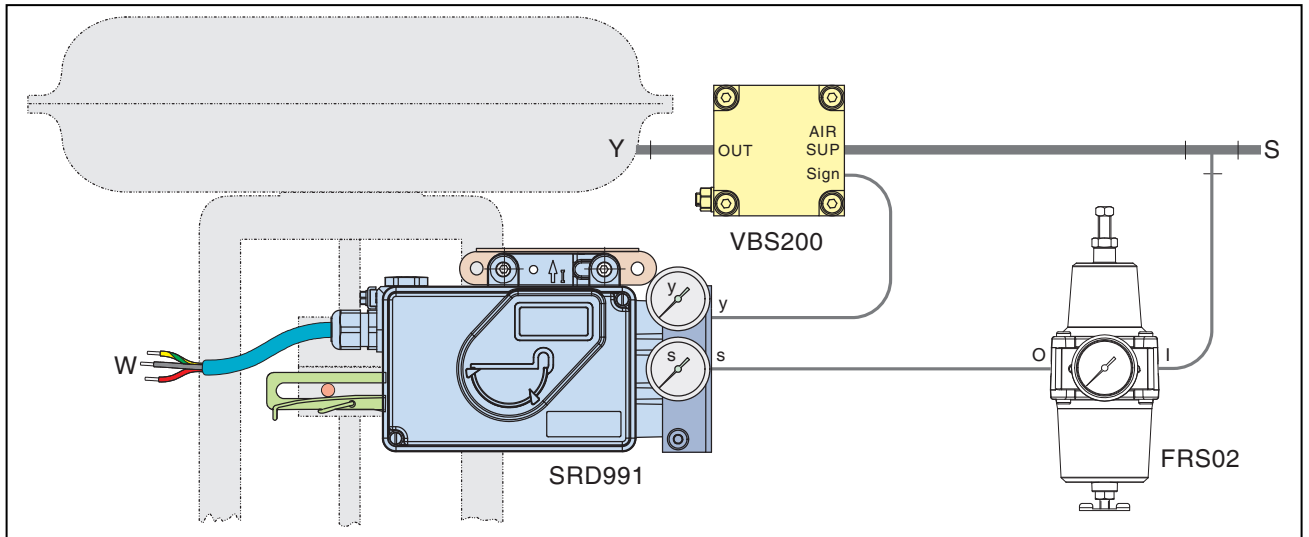


FUNCTIONAL DRAWING (VBS201)



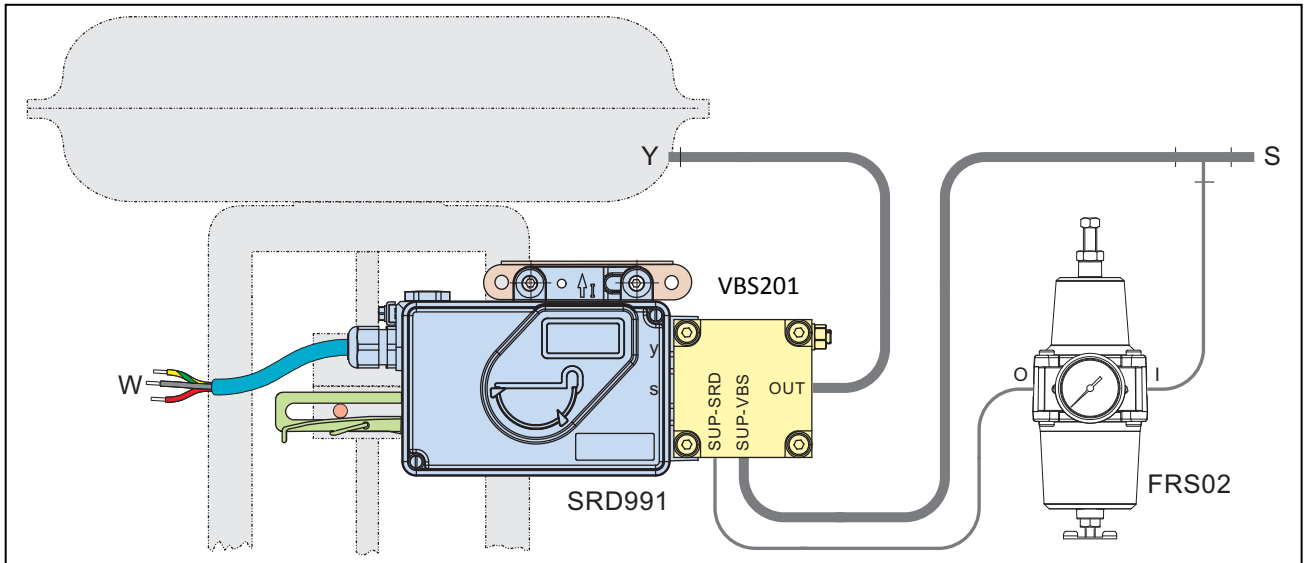
Output y of Positioner is connected to chamber w of Booster. Bypass-screw B controls the flow between input w and output Y of Booster. SRD / SRI supply is connected at the rear side of the VBS201 housing and is forwarded to the positioner.

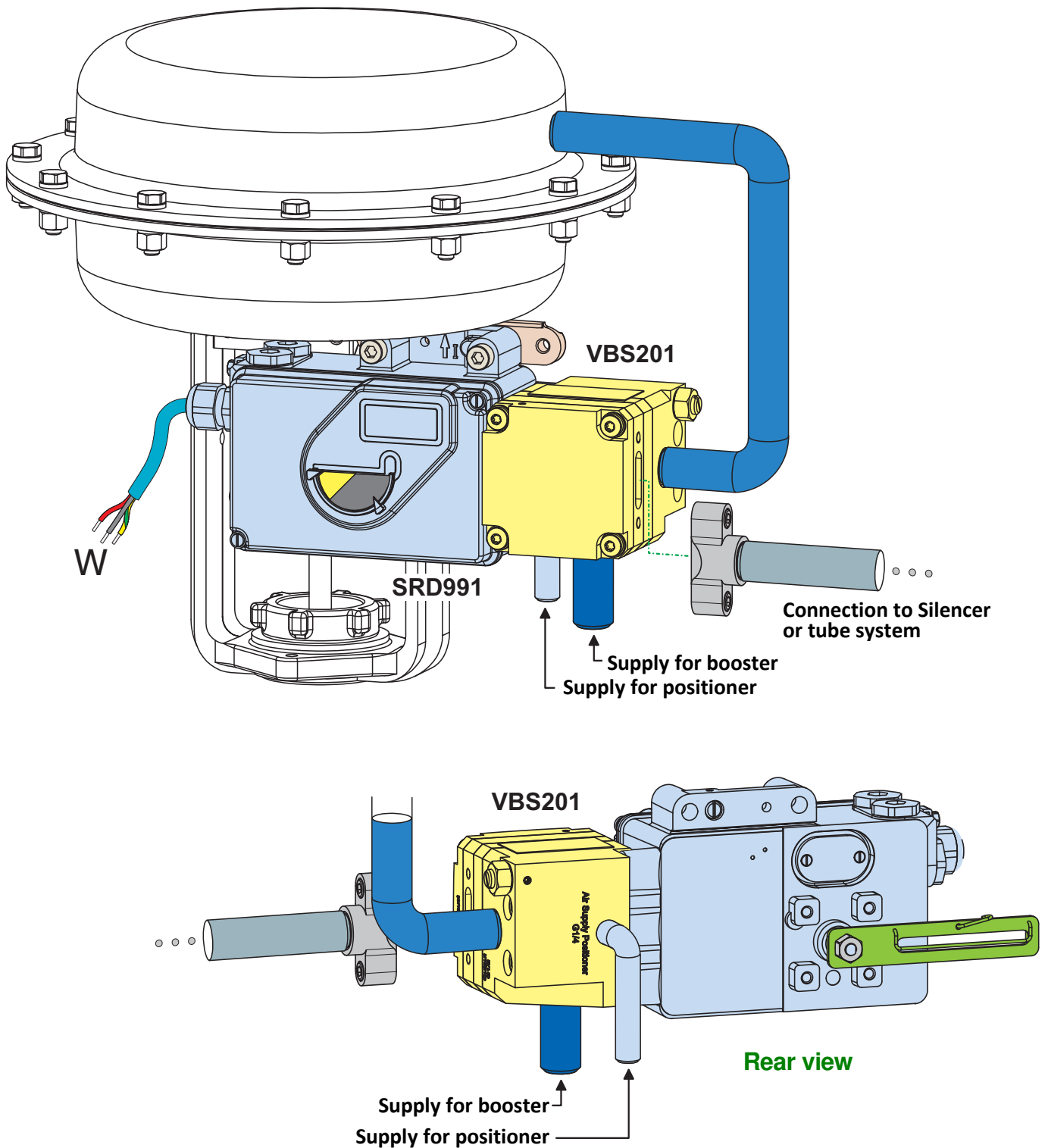
TYPICAL APPLICATION VBS200: "Remote from Positioner"



For best control performance, we recommend to make the tube length between Booster output and actuator as short as possible.

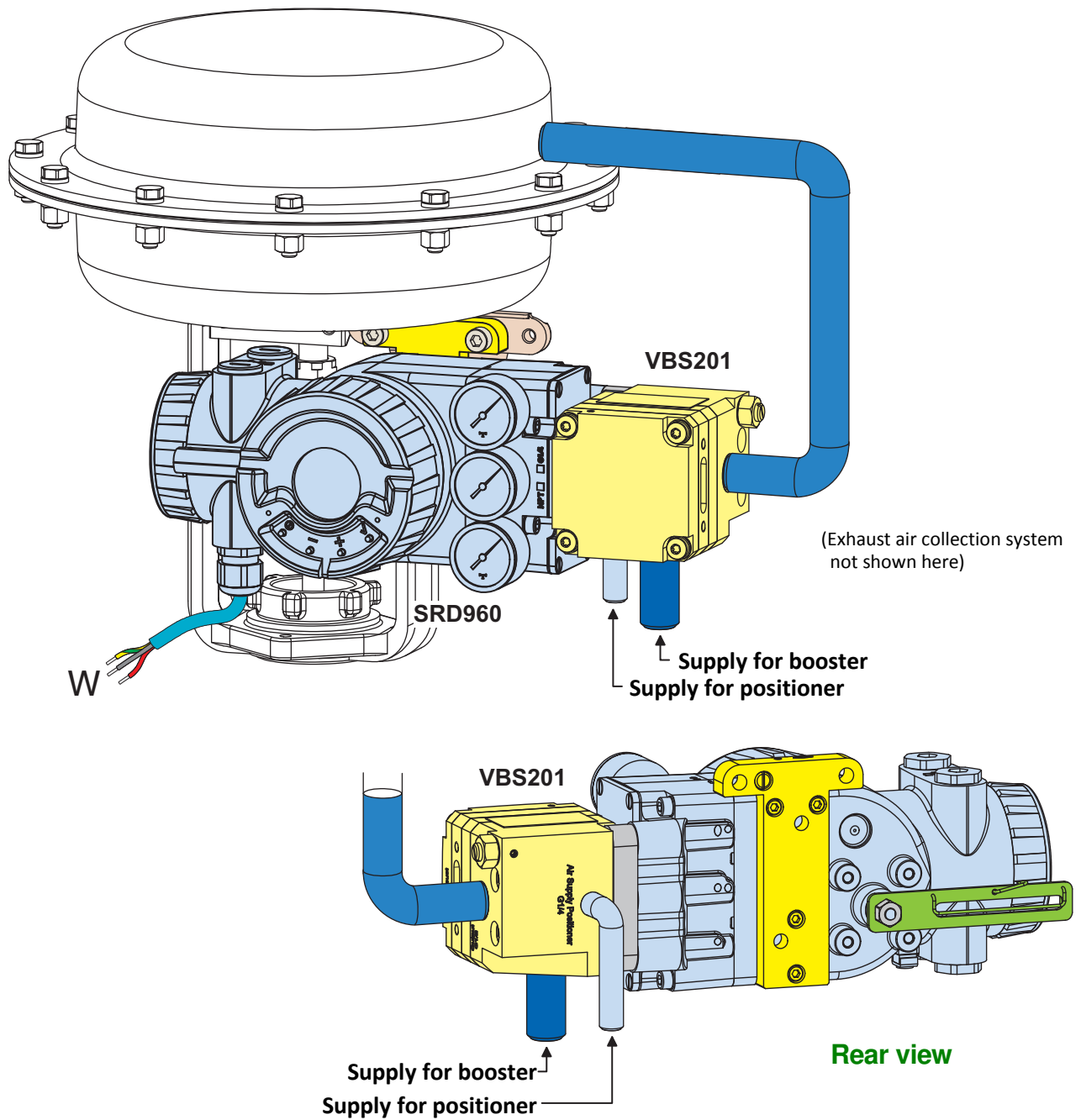
TYPICAL APPLICATION VBS201: "Direct side mounted"



EXAMPLE FOR MOUNTING VBS201 at SRD991 / SRI990, directly side mounted

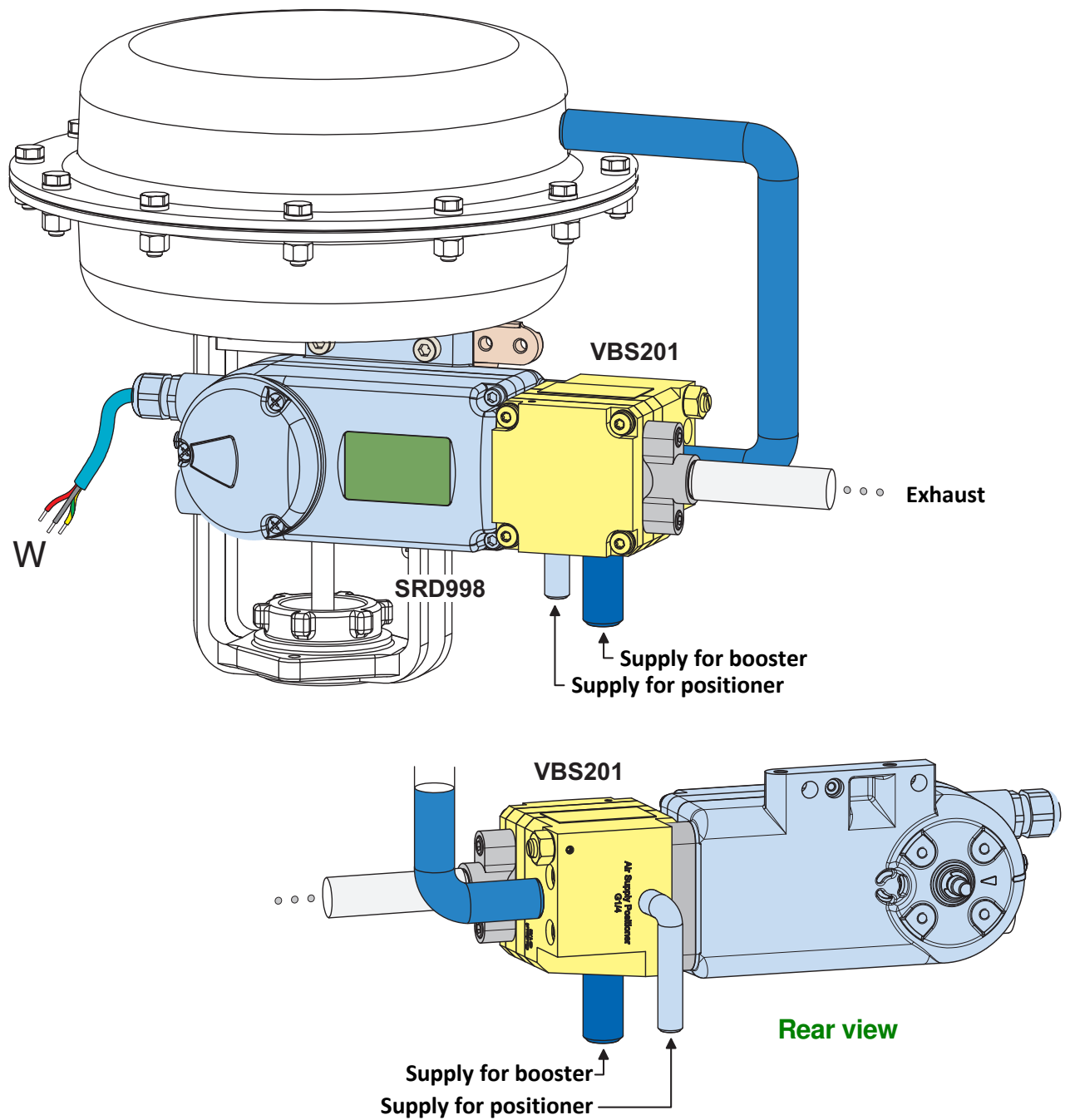
The LEX 426 602 037 manifold supplied with the VBS201 **is not used** when connecting to the SRD991 or SRI990. The enclosed 3 sealing rings are mounted between the booster and the positioner.

EXAMPLE FOR MOUNTING VBS201 at SRD960, directly side mounted



The LEX 426 602 037 manifold supplied with the VBS201 and the enclosed 3 sealing rings are mounted between the booster and the positioner when connected to the SRD960.

EXAMPLE FOR MOUNTING VBS201 at SRD998, with Exhaust collector



The manifold supplied or already mounted on the SRD998 may **not be used** here and will be removed; for this, the manifold LEX 426 602 037, supplied with the VBS201, is mounted between SRD998 and VBS201. The enclosed sealing rings are mounted between the booster and the positioner; the sealing ring with inserted filter in the middle connection (for the supply air).

TYPICAL APPLICATIONS VBS202: "VDI/VDE 3845"

The VDI / VDE 3845 regulation defines, among other things, the connection pattern of the air ducts of actuators.

The **Adapter plate** is mounted on the connection interface of the actuator and the VBS202 is mounted on the adapter plate. The adapter plate contains the bores for the air duct between the drive and the booster, as well as the connections for the supply air, the positioner and the exhaust air collection system. The piping is thus substantially simplified with the adapter plate.

On the VBS202 the **Selector plate** is mounted. This contains air ducts which open or close different ducts depending on the mounting direction.

The Selector plate is labeled on one side with a "C", rotated by 180 degrees with an "O" ("C" for "CONTROL", "O" for "ON / OFF" operation)

The VBS202 is marked with a notch **2** on the side:

When the Selector plate is mounted so that the "C" points to the notch, the control mode is set.

When the Selector plate is mounted so that the "O" points to the notch, ON/OFF mode is selected.

When turning the Selector plate, note that the coding pin **1** is screwed on the side which is located on the notch **2**. See illustration below.

With a **Solenoid Operated Valve** (SOV) mounted on the Selector plate, extended operating modes are possible. Without the Solenoid Operated Valve, the Selector plate is mounted so that the "C" points to the notch; then the **Bypass plate** is mounted thereon which bridges the air ducts to the SOV.

The following operating modes are possible with the above described components:

Operating Mode 1 (M-1): Positioner + Booster → **Control Mode**

Other operating modes with additional Solenoid Operated Valve:

Operating Mode 2 (M-2): Positioner control with upstream Solenoid Operated Valve (SOV)

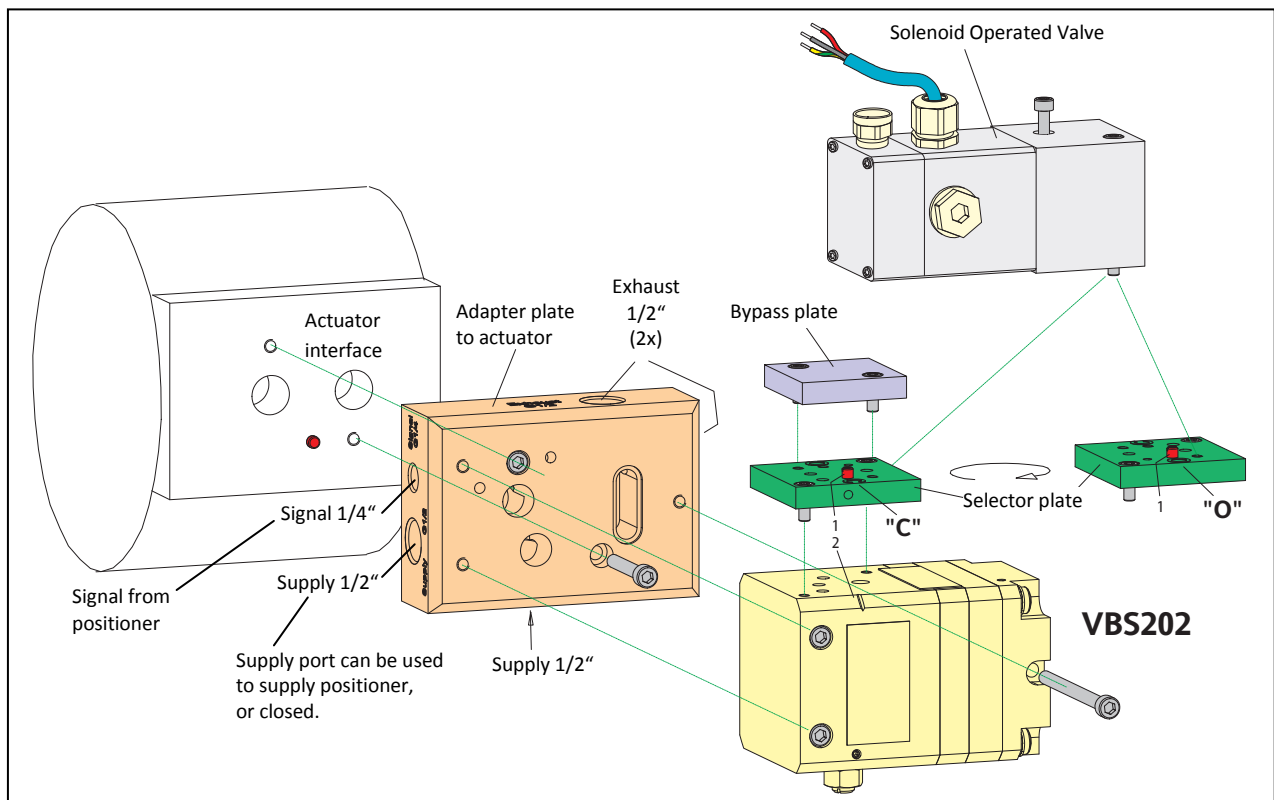
SOV=1: Positioner + Booster → **Control Mode**

SOV=0: Actuator is **Quickly Vented** to the **safety position**

Operating Mode 3 (M-3): ON/OFF operation with SOV and Booster; **without Positioner**

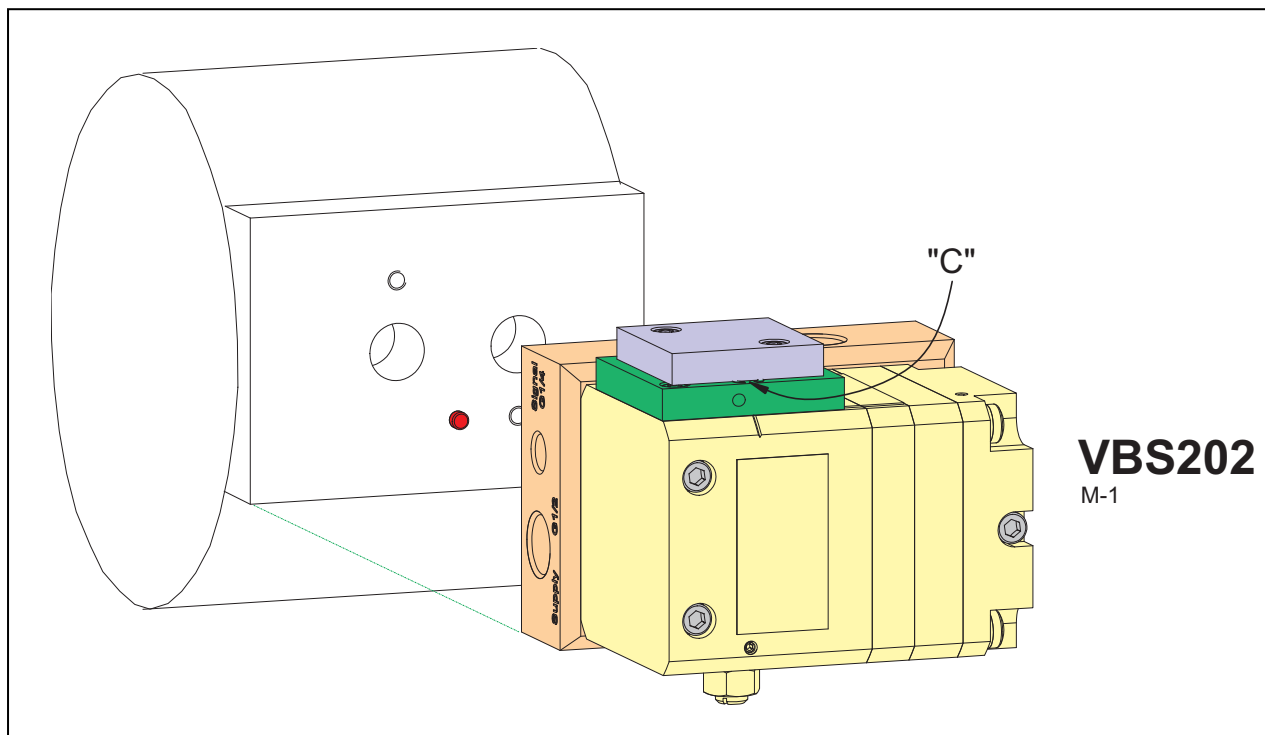
SOV=1: Actuator is **Quickly Moving** to the **working position**

SOV=0: Actuator is **Quickly Vented** to the **safety position**

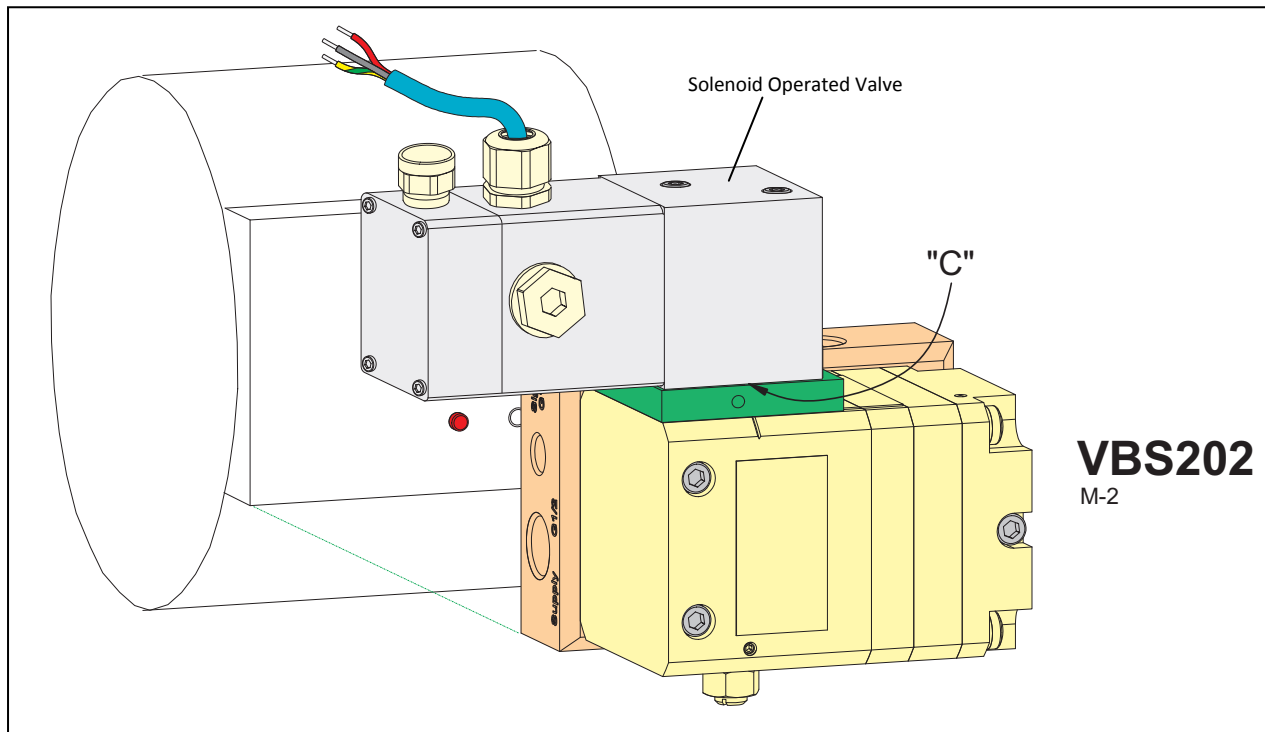


Note: The both Supply air 1/2" connections are directly connected to each other on the Adapter plate. The connection left hand Supply air 1/2" is usually looped through to supply the upstream position control. If the supply air pressure for the actuator is higher than for the positioner, an air supply station must reduce the pressure for the positioner to a permissible value.

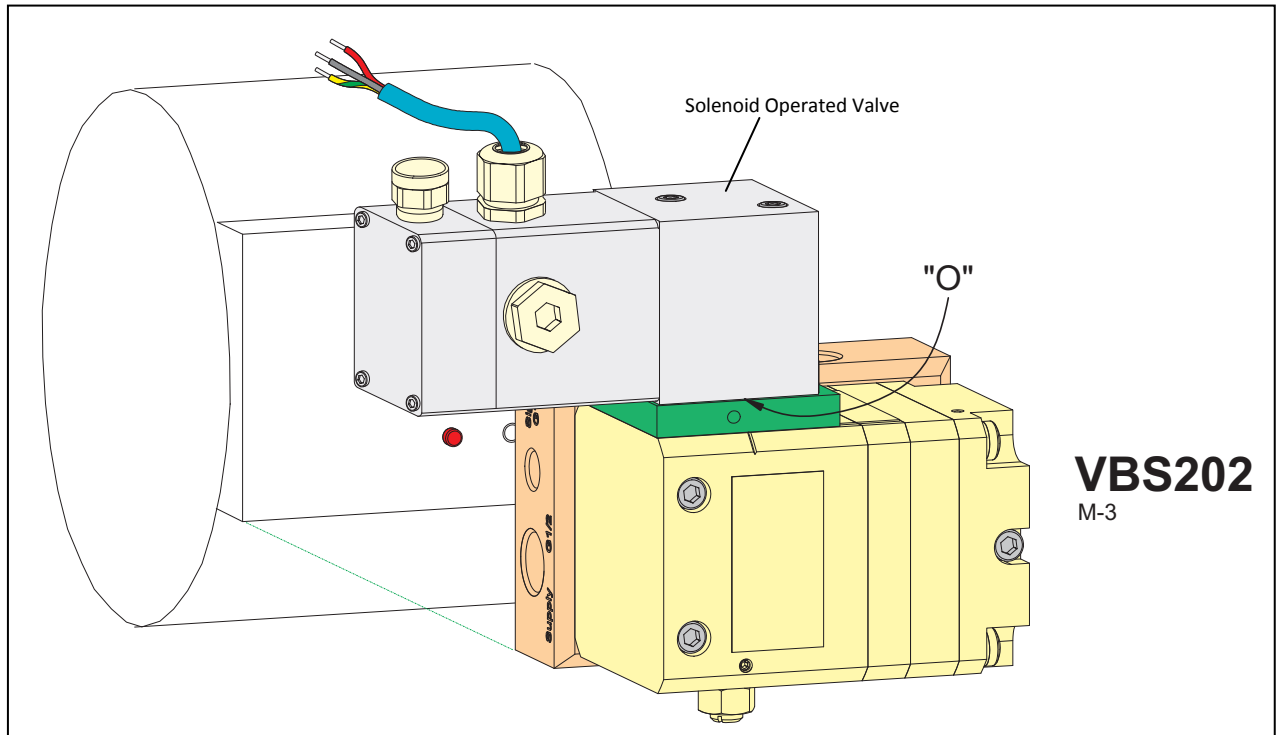
APPLICATION VBS202, Mode 1, Control



APPLICATION VBS202, Mode 2, Control // Quick release



APPLICATION VBS202, Mode 3, ON/OFF
Quick opening // Quick release




Schneider Electric Systems USA, Inc.
38 Neponset Avenue
Foxboro, MA 02035
United States of America
<http://www.schneider-electric.com>

Global Customer Support
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424

<https://pasupport.schneider-electric.com>

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