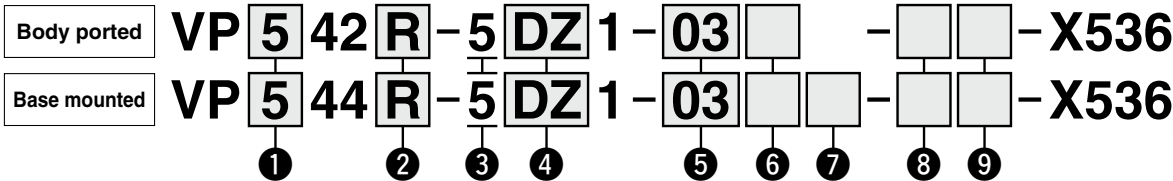


3-Port Solenoid Valve/ Residual Pressure Release Valve with Detection of Main Valve Position

VP500/700-X536, X538, X555

How to Order

Residual Pressure Release Valve



1 Series

5	VP500
7	VP700

2 Pilot

Nil	Internal pilot
R	External pilot

3 Voltage

5	24 VDC
---	--------

4 Electrical entry

DZ	DIN terminal, With light/surge voltage suppressor
YZ	DIN (EN 175301-803) terminal, With light/surge voltage suppressor

* Refer to Installation on page 22 before selecting the internal pilot type.

* Refer to page 22 for details on Y type.

5 Port size

Symbol	Port size	VP500	VP700
03	3/8	●	—
04	1/2	—	●

7 Bracket for modular connection (Modular adapter)

		VP544	VP744
Nil	None	—	
M	Yes	●	●
M1	Yes	●	—

8 Safety limit switch/ Wiring

Nil	G1/2 (Made by OMRON)
M	M12 connector (Made by OMRON)
S1	M12 connector (Made by Rockwell Automation)

9 With check valve (Only external pilot)

Symbol	Check valve	Applicable tube O.D.	Thread		
			Rc	G	NPT
Nil	None	—	●	●	●
A	Yes	ø6	●	—	—
B		ø1/4"	—	—	●

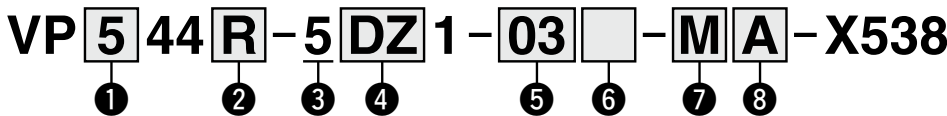
* A check valve is installed on the external pilot port.

* Refer to Piping for External Pilot Type on page 5 for selection of the check valve.

Part Nos./With Modular Adapter

Applicable model	Ordering symbol	Combinable modular adapter part no.	Applicable spacer
VP544□-5□1-03	M	E310-U03	Y300-A, Y300T-A
VP544□-5□1-03	M1	E410-U03	Y400-A, Y400T-A
VP744□-5□1-04	M	E410-U04	Y400-A, Y400T-A

Dual Residual Pressure Release Valve



1 Series

5	VP500
7	VP700

2 Pilot

Nil	Internal pilot
R	External pilot

3 Voltage

5	24 VDC
---	--------

4 Electrical entry

DZ	DIN terminal, With light/surge voltage suppressor
YZ	DIN (EN 175301-803) terminal, With light/surge voltage suppressor

* Refer to Installation on page 22 before selecting the internal pilot type.

* Refer to page 22 for details on Y type.

5 Port size

Symbol	Port size	VP500	VP700
03	3/8	●	—
04	1/2	—	●

6 Thread

Nil	Rc
F	G
N	NPT

7 Safety limit switch/ Wiring

Nil	G1/2 (Made by OMRON)
M	M12 connector (Made by OMRON)
S1	M12 connector (Made by Rockwell Automation)

8 With check valve (Only external pilot)

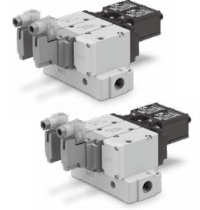
Symbol	Check valve	Applicable tube O.D.	Thread		
			Rc	G	NPT
Nil	None	—	●	●	●
A	Yes	ø6	●	—	—
B		ø1/4"	—	—	●

* For the internal pilot, the symbol is nil.

* Refer to Piping for External Pilot Type on page 5 for selection of the check valve.

How to Order

Dual Residual Pressure Release Valve with Soft Start-up Function



VP **5** 44 **□** - 5 **DZ** 1 - **03** **□** - **M** **□** **□** - X555

①
②
③
④
⑤
⑥
⑦
⑧
⑨

① Series

5	VP500
7	VP700

② Pilot

Nil	Internal pilot
R	External pilot

* Refer to Installation on page 22 before selecting the internal pilot type.

③ Voltage

5	24 VDC
---	--------

④ Electrical entry

DZ	DIN terminal, With light/surge voltage suppressor
YZ	DIN (EN 175301-803) terminal, With light/surge voltage suppressor

* Refer to page 22 for details on Y type.

⑤ Port size

Symbol	Port size	VP500	VP700
03	3/8	●	—
04	1/2	—	●

⑥ Thread

Nil	Rc
F	G
N	NPT

⑦ Safety limit switch/Wiring

Nil	G1/2 (Made by OMRON)
M	M12 connector (Made by OMRON)
S1	M12 connector (Made by Rockwell Automation)

⑧ With check valve (Only external pilot)

Symbol	Check valve	Applicable tube O.D.	Thread		
			Rc	G	NPT
Nil	None	—	●	●	●
A	Yes	ø6	●	—	—
B		ø1/4"	—	—	●

* A check valve is installed on the external pilot port.

* Refer to Piping for External Pilot Type on page 5 for selection of the check valve.

⑨ Throttle

Nil	Variable throttle
10	ø1 fixed orifice
15	ø1.5 fixed orifice
20*1	ø2 fixed orifice

*1 VP700 only

Made to Order

1 Series Compatible with Secondary Batteries

For details on 25A-, refer to the **Web Catalog** "Series Compatible with Secondary Batteries/25A- Series."

How to Order

25A-VP **□** 4 **□** **□** - 5 **DZ** 1 - **□** **□** **□** - **□** **□** **□** - X536
 X538
 X555

● Fill in according to How to Order above.

● Secondary battery compatible

* Electrical entry can be selected only for D type. Check valve type is available only when the thread type is Rc.

* There are no settings for the bracket for modular connection for the 25A-VP500/700-X536.

VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

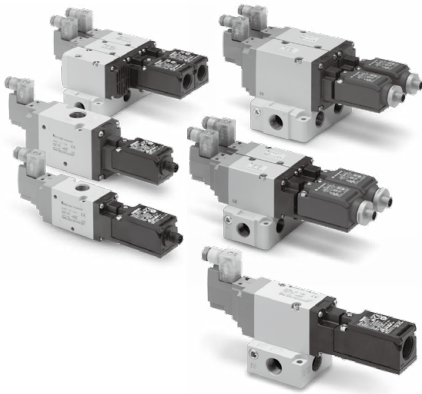
VG342

Symbols

X87

Specific Product Precautions

VP500/700-X536, X538, X555



Valve Specifications

Fluid	Air	
Type of actuation	N.C. (Spring return)	
Operation	Internal pilot	External pilot
Operating pressure range	0.25 to 0.7 MPa	0.25 to 0.7 MPa
External pilot pressure	—	0.25 to 0.7 MPa (Same as operating pressure)
Maximum operating frequency	30 cycles/minute	
Minimum operating frequency	1 cycle/week	
Operating and ambient temperatures	-10 to 50°C (No freezing)	
Ambient humidity	20 to 90% RH (No condensation)	
Manual override	None	
Pilot exhaust	Individual exhaust	
Lubrication	Not required	
Mounting orientation	Unrestricted	
Impact/Vibration resistance	150/30 m/s ²	
Enclosure	IP65	
Operating environment	Indoors	
B _{10D} (MTTFd calculation)	10,000,000 cycles	

Internal Pilot Type

⚠ Caution

Even when the inlet pressure is within the operating pressure range, restricted piping, etc., may cause reduced flow on the inlet side, leading to the valve not operating properly. Refer to Installation in the Specific Product Precautions for details.

Piping for External Pilot Type

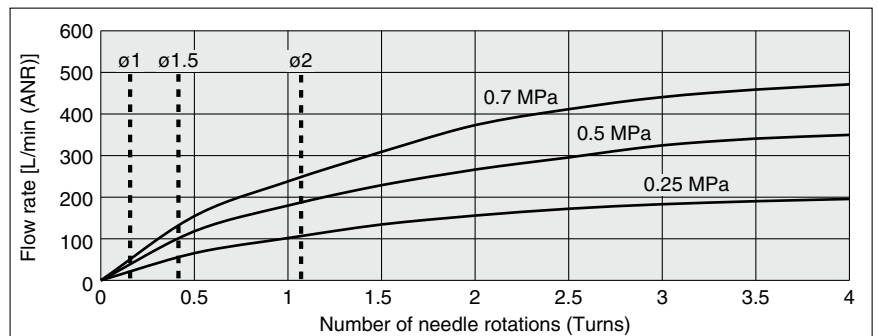
⚠ Caution

The product may not operate when the external pilot pressure is insufficient due to simultaneous operation or restricted air piping. In this case, use the check valve (AKH series) with the external pilot port, change the piping size or adjust the set pressure to provide a constant pressure of 0.25 MPa or more.

Flow-rate Characteristics / Weight

Model	Flow-rate characteristics						Weight [g]	
	1→2 (P→A)			2→3 (A→R)			M	S1
	C [dm ³ /(s·bar)]	b	Cv	C [dm ³ /(s·bar)]	b	Cv		
VP542-X536	8.9	0.16	2.2	8.9	0.20	2.1	330	350
VP544-X536	8.8	0.07	2.0	8.8	0.13	2.0	460	480
VP742-X536	15.1	0.21	3.6	15.3	0.22	3.7	570	590
VP744-X536	14.7	0.05	3.3	15.0	0.17	3.4	790	810
VP544-X538	6.5	0.08	1.3	6.7	0.10	1.3	920	960
VP744-X538	10.3	0.08	2.3	9.7	0.08	2.1	1520	1560
VP544-X555	5.2	0.06	1.1	6.7	0.10	1.3	1300	1340
VP744-X555	9.8	0.08	2.1	9.7	0.08	2.1	2180	2220

Needle Valve / Flow-rate Characteristics (VP544/744-X555)



Solenoid Specifications

Electrical entry	DIN terminal
Rated voltage	24 VDC
Allowable voltage fluctuation	±10%
Power consumption	0.45 W
Surge voltage suppressor	Varistor
Indicator	LED

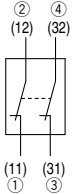
Safety Limit Switch Specifications

Manufacturer	OMRON	Rockwell Automation
Electrical wiring	G1/2, M12 connector	M12 connector
Contact resistance	25 mΩ or less	50 mΩ or less
Min. applicable load	5 VDC, 1 mA (Load resistance)	5 VDC, 5 mA (Load resistance)
Max. voltage	24 VDC	
Max. load current	50 mA	
Max. load inductance	0.5 H	
Insulation voltage	300 V	600 V
Protection against electric shock	Class II (EN 60947-5-1:2004)	

Symbols

Safety limit switch
Made by
OMRON

Symbol



Terminal/Pin Numbers (Built-in switch 2 N.C.)

M12 connector pin number	Wiring specification
①	
②	
③	
④	

G1/2 terminal number	Wiring specification
(11)	
(12)	
(31)	
(32)	

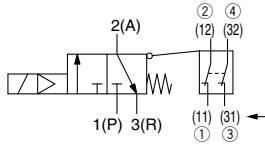
Recommended Crimped Terminals

Manufacturer	Type	Wiring size
J.S.T. Mfg. Co., Ltd.	FV0.5-3.7 (F type) V0.5-3.7 (Straight type)	AWG20 (0.5 mm ²)

J.S.T. Mfg. Co., Ltd. is a Japanese manufacturer.

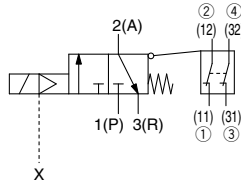
VP54□(R)/74□(R)-X536

Internal pilot

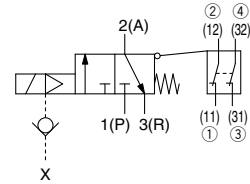


Safety limit switch terminal [N.C.]
M12 connector pin number
G1/2 terminal number

External pilot

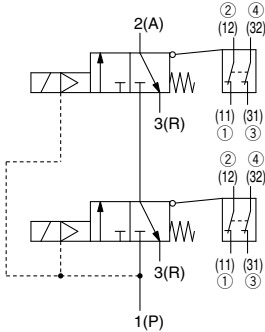


External pilot/With check valve

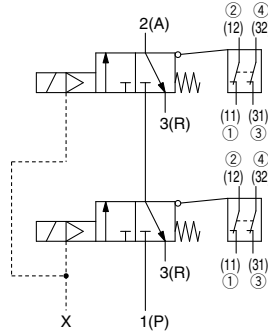


VP544(R)/744(R)-X538

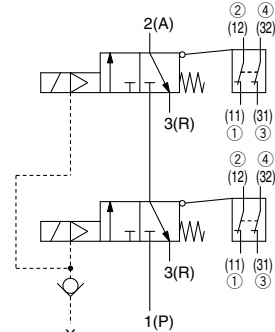
Internal pilot



External pilot

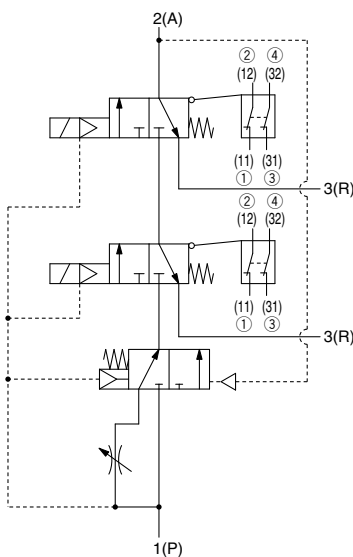


External pilot/With check valve

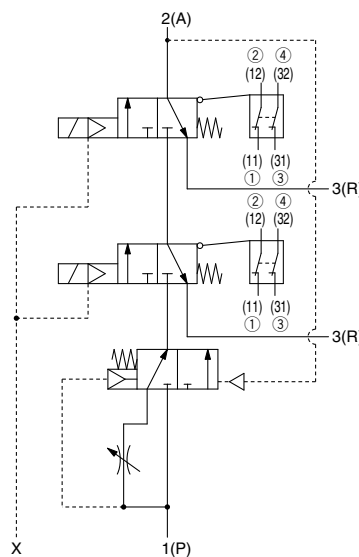


VP544(R)/744(R)-X555

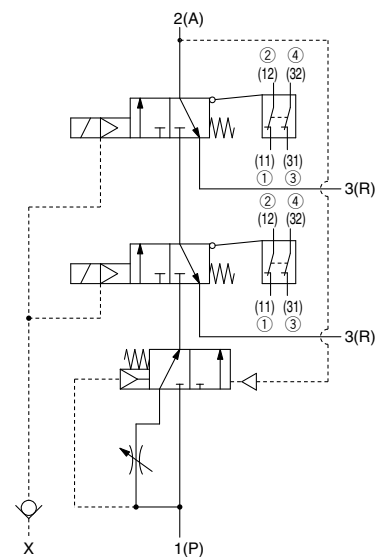
Internal pilot



External pilot



External pilot/With check valve

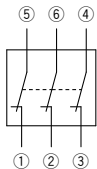


VP500/700-X536, X538, X555

Symbols

Safety limit switch
Made by
Rockwell Automation

Symbol

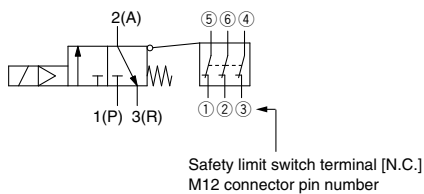


Pin Numbers (Built-in switch 3 N.C.)

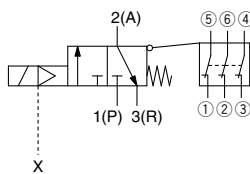
M12 connector pin number	Wiring specification
①	
⑤	
②	
⑥	
③	
④	

VP54□(R)/74□(R)-X536

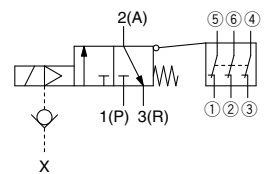
Internal pilot



External pilot

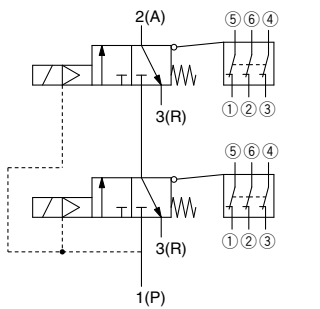


External pilot/With check valve

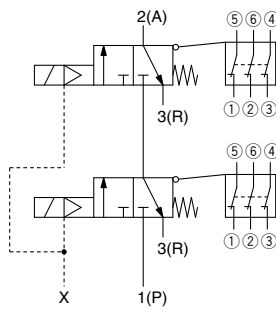


VP544(R)/744(R)-X538

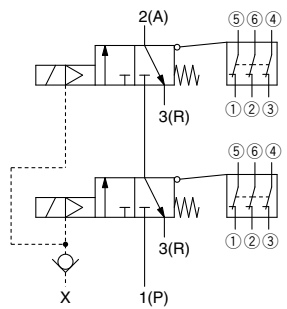
Internal pilot



External pilot

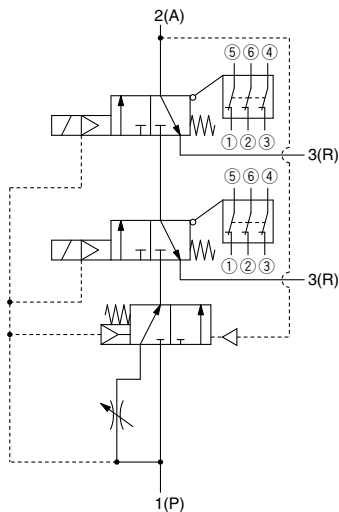


External pilot/With check valve

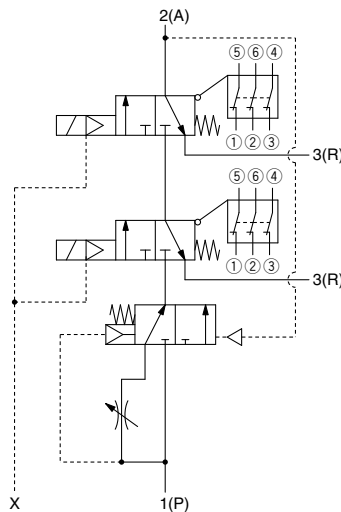


VP544(R)/744(R)-X555

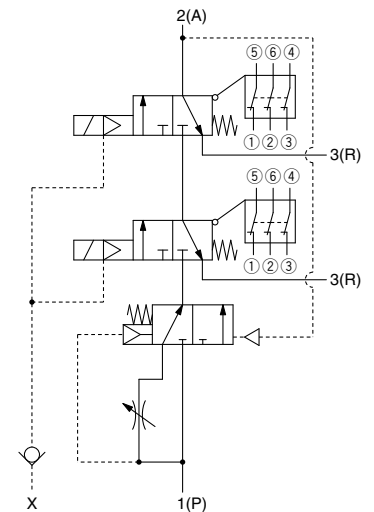
Internal pilot



External pilot



External pilot/With check valve



Dimensions

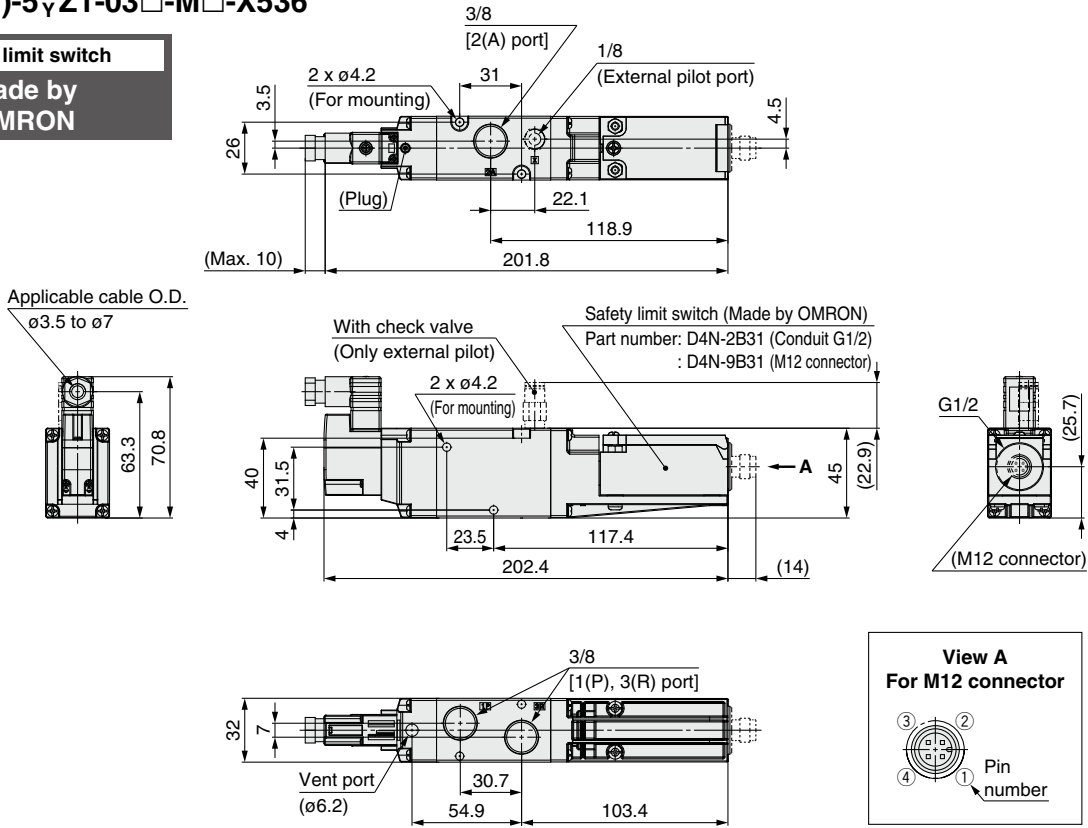
Residual Pressure Release Valve (-X536)

VP542(R)-5^D_YZ1-03□-□-X536

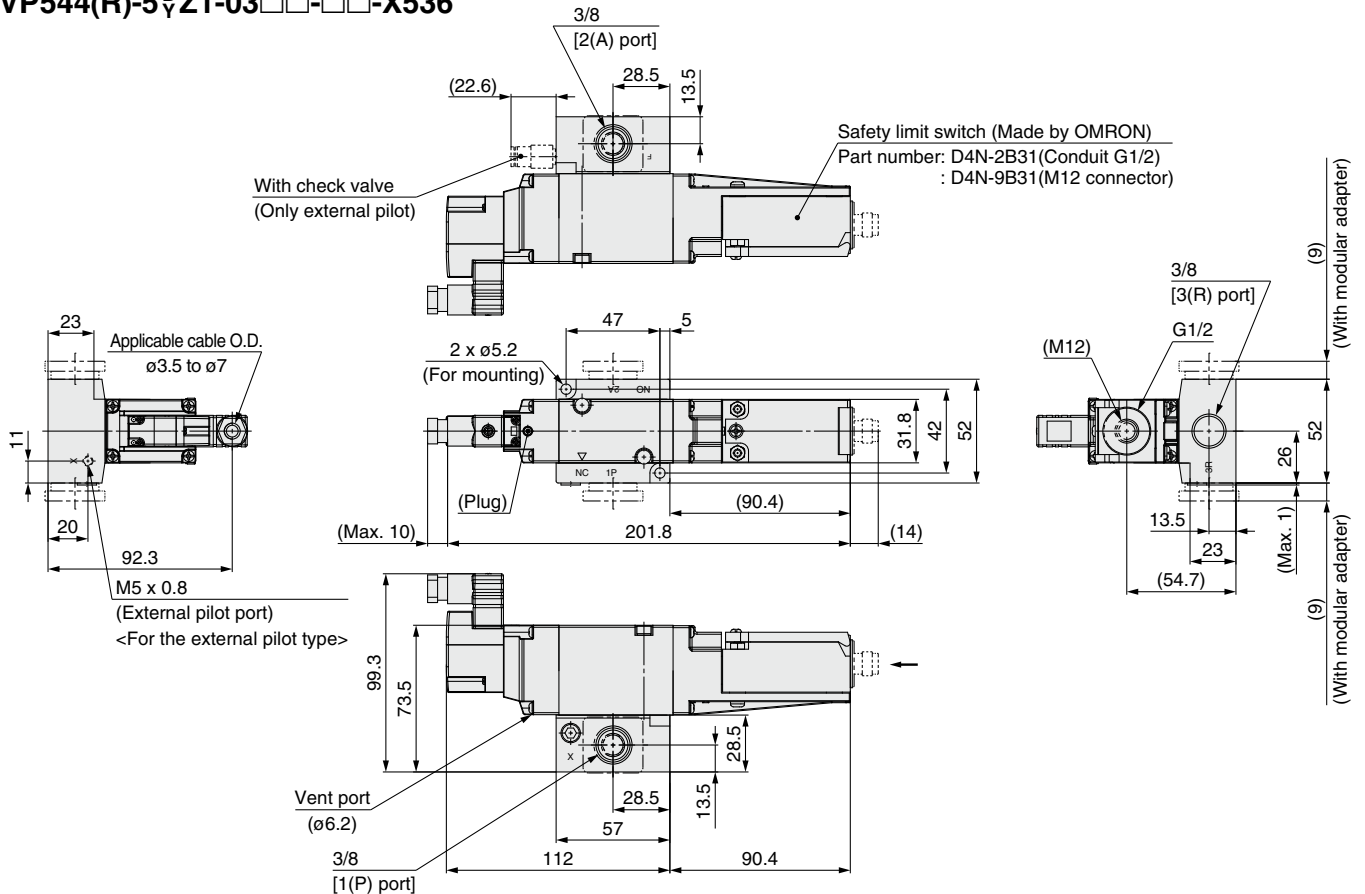
VP542(R)-5^D_YZ1-03□-M□-X536

Safety limit switch

Made by
OMRON



VP544(R)-5^D_YZ1-03□□-□□-X536



VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

VG342

Symbols

X87

Specific Product Precautions

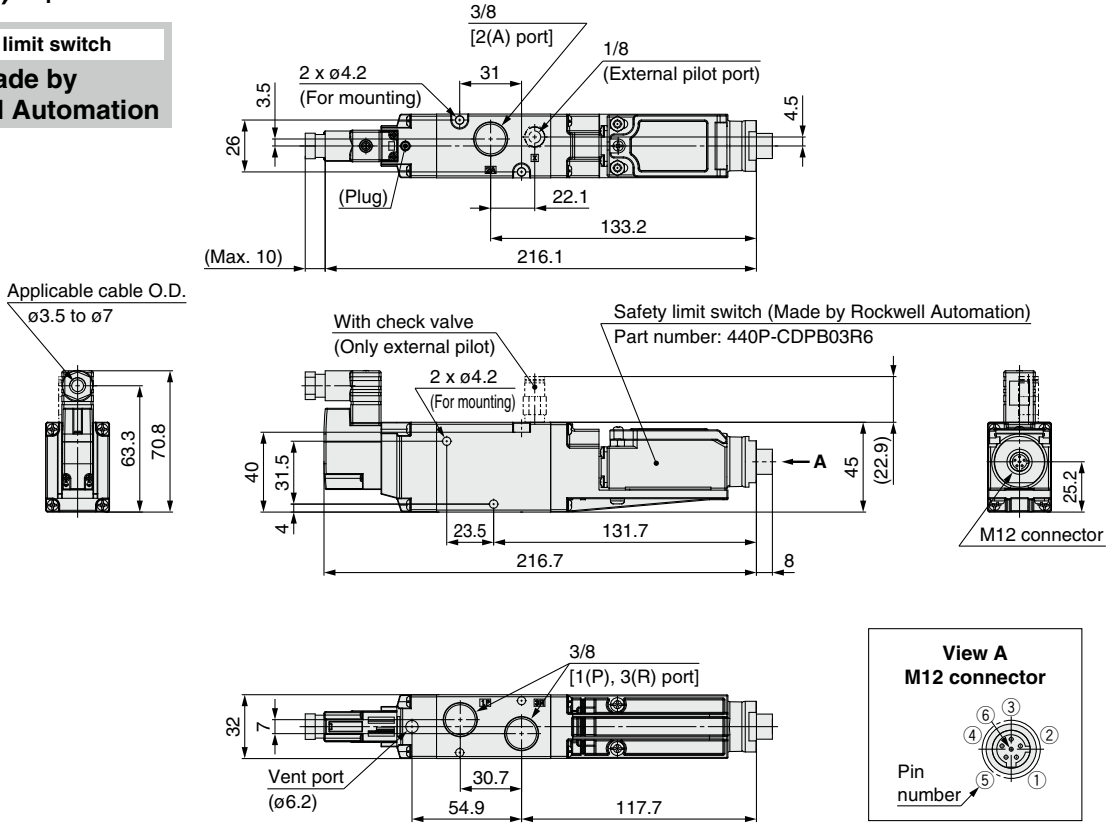
VP500/700-X536

Dimensions

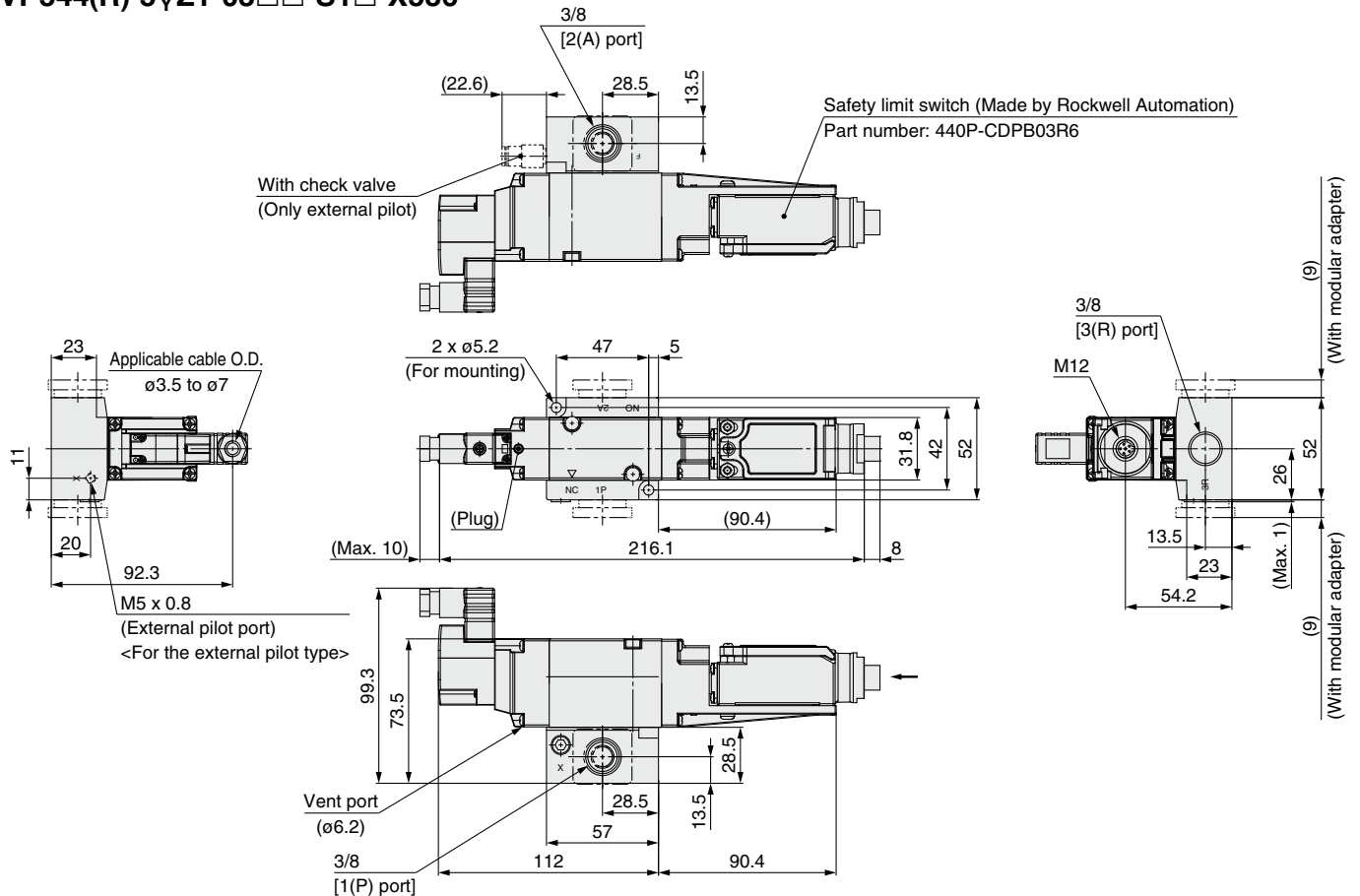
Residual Pressure Release Valve (-X536)

VP542(R)-5^DZ1-03□-S1□-X536

Safety limit switch
Made by
Rockwell Automation



VP544(R)-5^DZ1-03□-S1□-X536

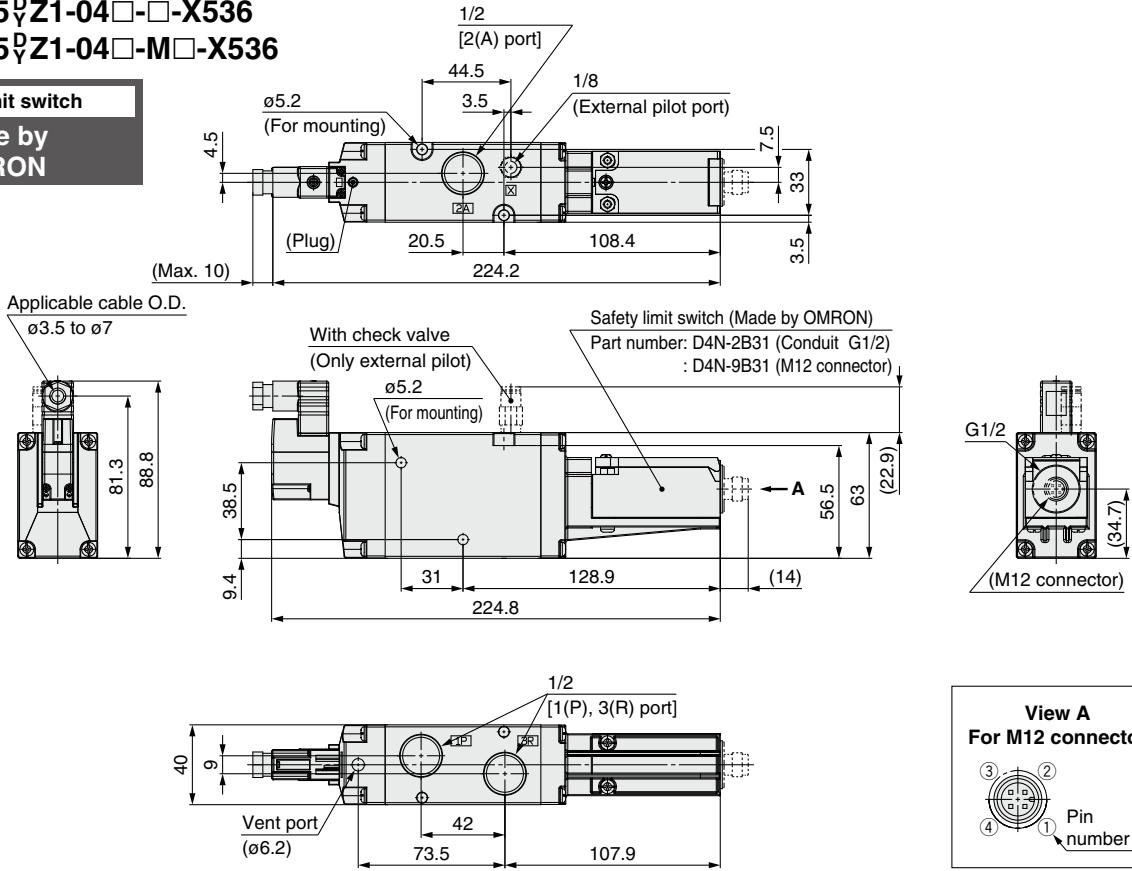


Dimensions

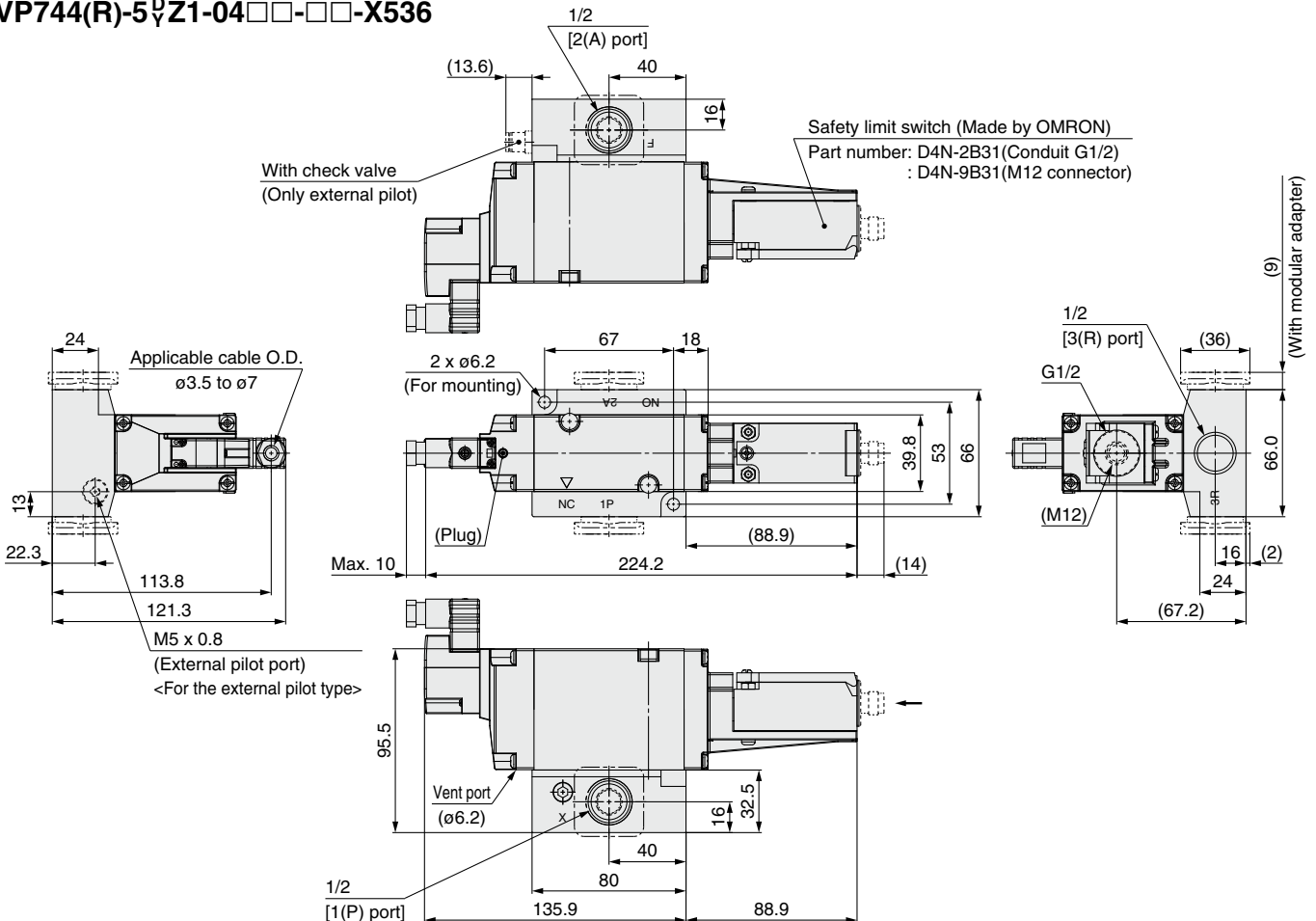
Residual Pressure Release Valve (-X536)

VP742(R)-5^D_YZ1-04□-□-X536
VP742(R)-5^D_YZ1-04□-M□-X536

Safety limit switch
Made by OMRON



VP744(R)-5^D_YZ1-04□□-□□-X536



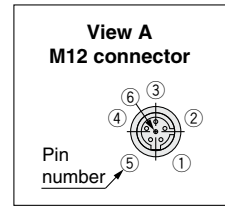
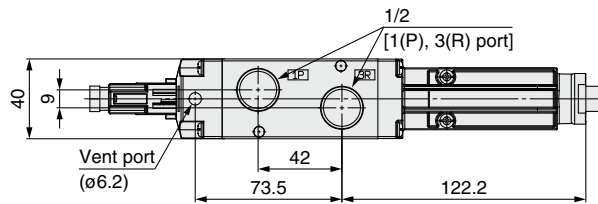
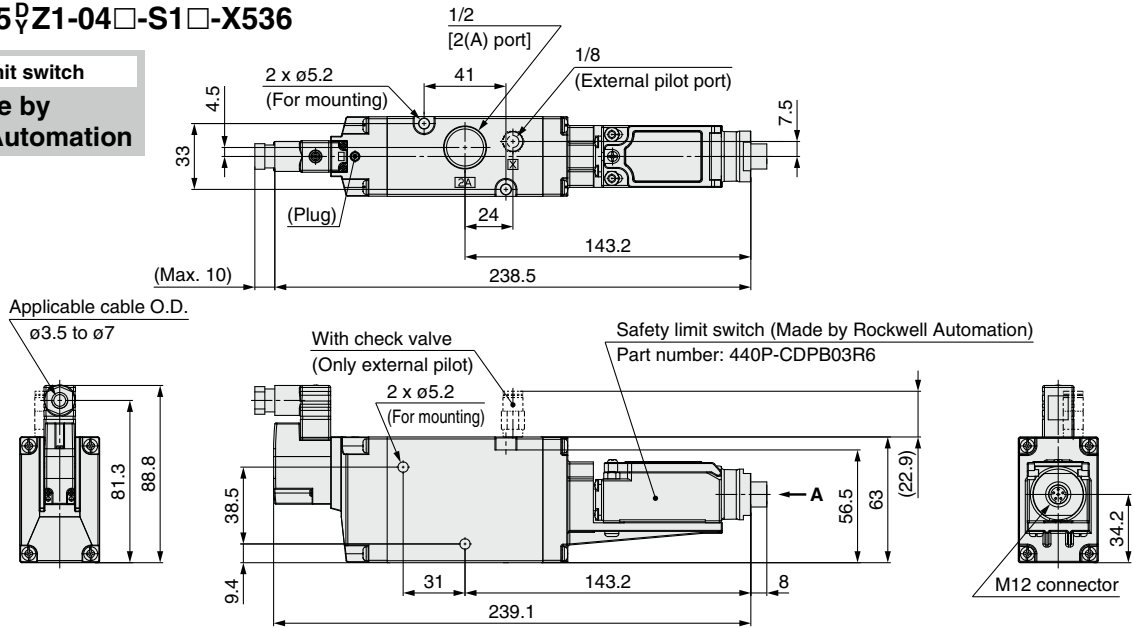
VP500/700-X536

Dimensions

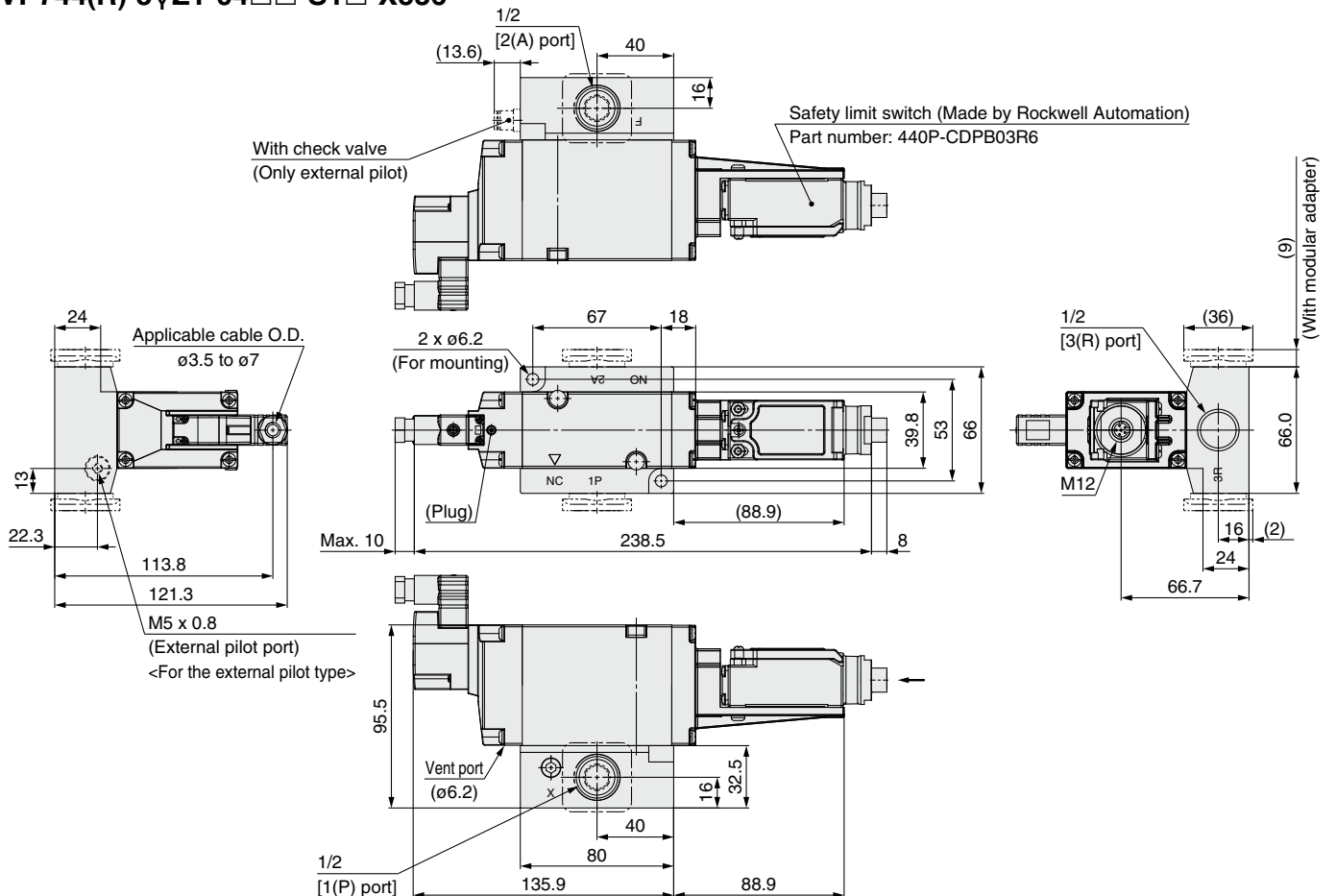
Residual Pressure Release Valve (-X536)

VP742(R)-5^PZ1-04□-S1□-X536

Safety limit switch
Made by
Rockwell Automation



VP744(R)-5^PZ1-04□□-S1□-X536



Dimensions

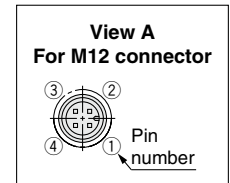
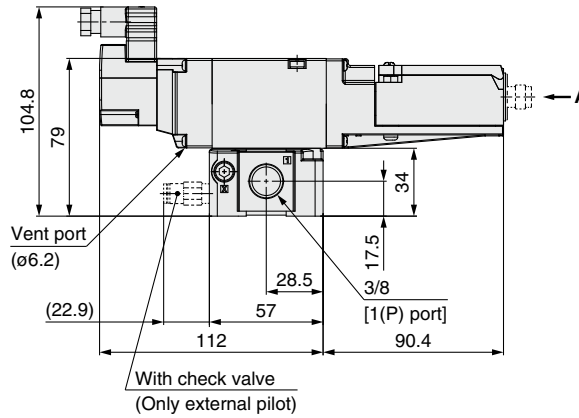
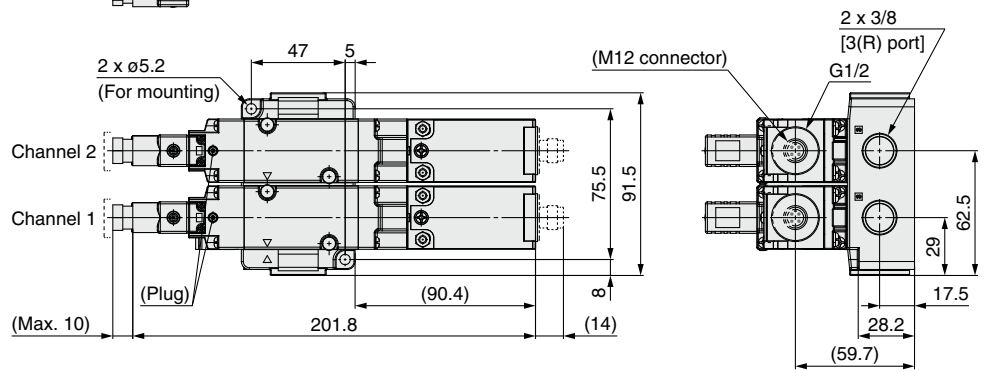
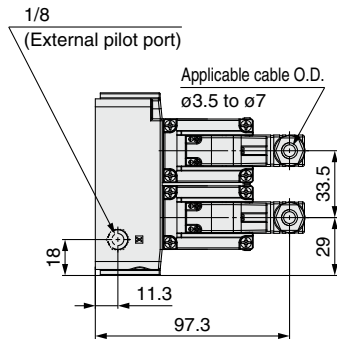
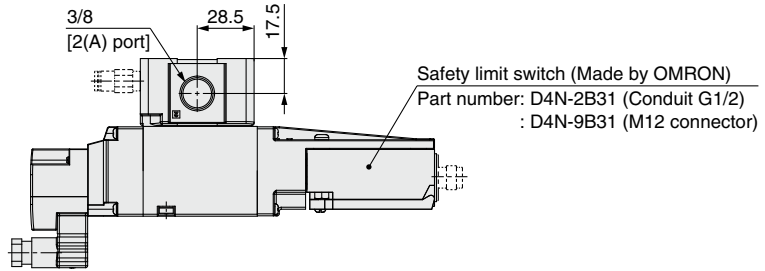
Dual Residual Pressure Release Valve (-X538)

VP544(R)-5^D_YZ1-03□-□-X538

VP544(R)-5^D_YZ1-03□-M□-X538

Safety limit switch

Made by
OMRON



VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

VG342

Symbols

X87

Specific Product Precautions

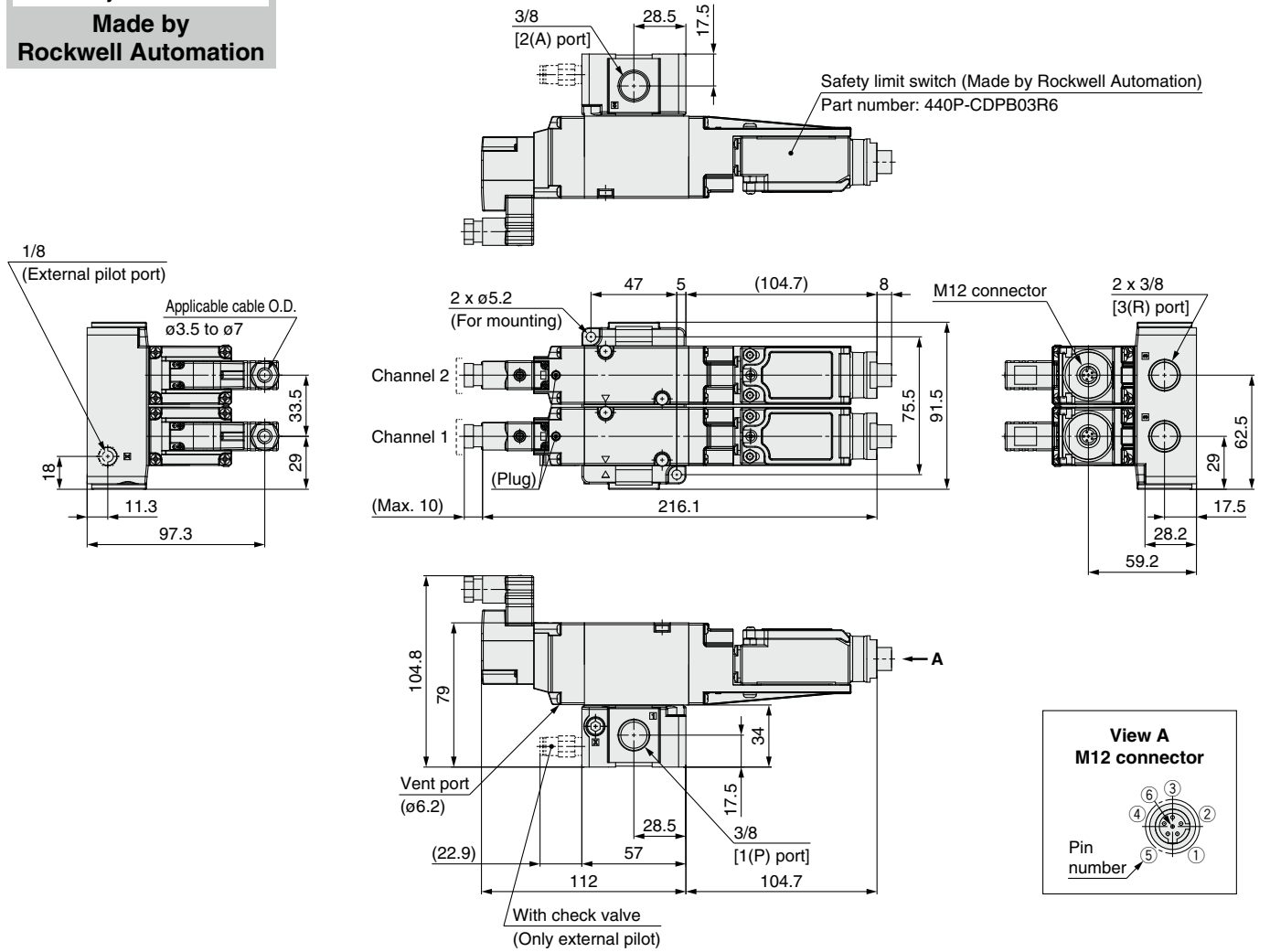
VP500/700-X538

Dimensions

Dual Residual Pressure Release Valve (-X538)

VP544(R)-5^DZ1-03□-S1□-X538

Safety limit switch
**Made by
 Rockwell Automation**



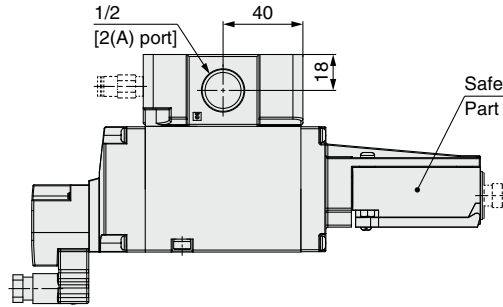
Dimensions

Dual Residual Pressure Release Valve (-X538)

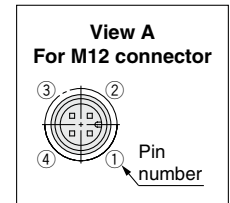
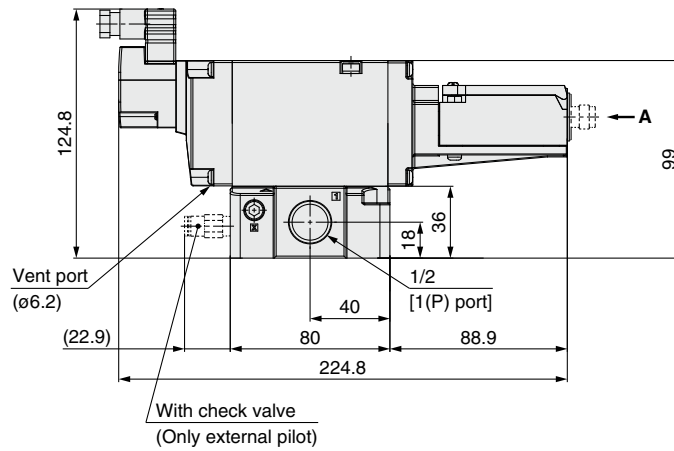
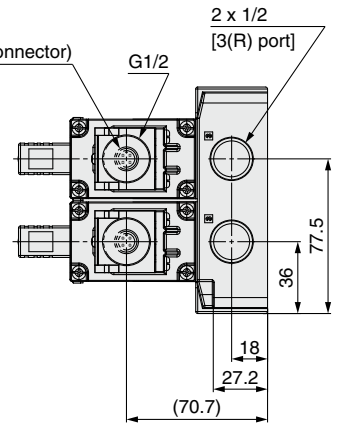
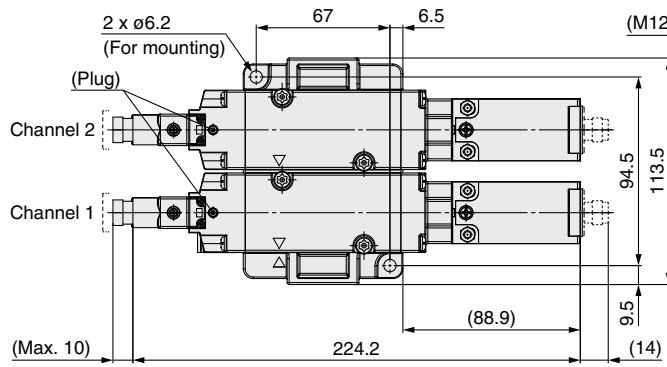
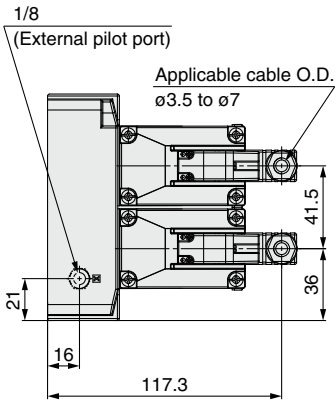
VP744(R)-5^DZ1-04□-□-X538

VP744(R)-5^DZ1-04□-M□-X538

Safety limit switch
Made by
OMRON



Safety limit switch (Made by OMRON)
Part number: D4N-2B31 (Conduit G1/2)
: D4N-9B31 (M12 connector)



VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

VG342

Symbols

X87

Specific Product Precautions

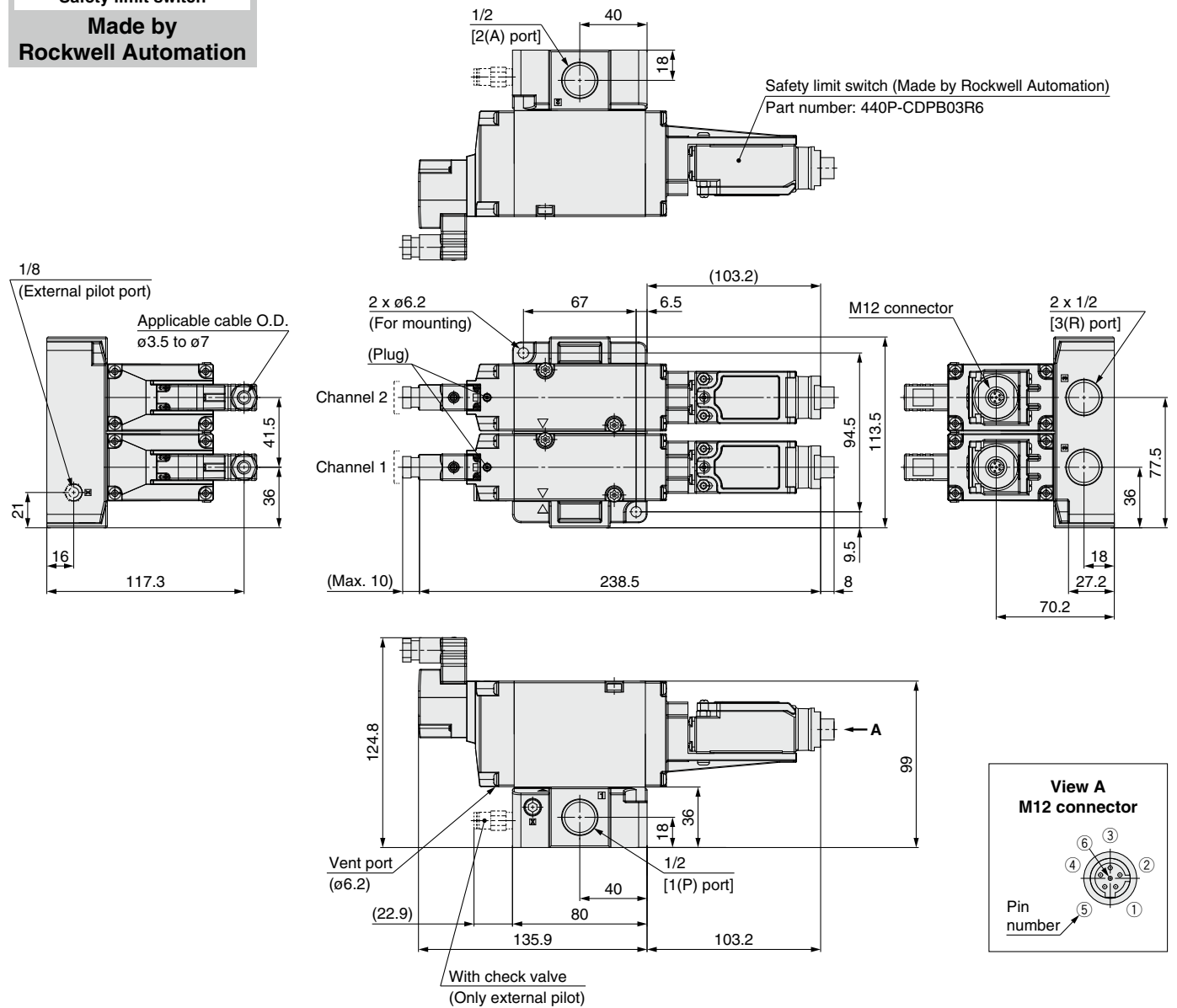
VP500/700-X538

Dimensions

Dual Residual Pressure Release Valve (-X538)

VP744(R)-5^DZ1-04□-S1□-X538

Safety limit switch
**Made by
 Rockwell Automation**



Dimensions

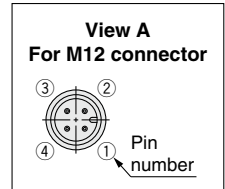
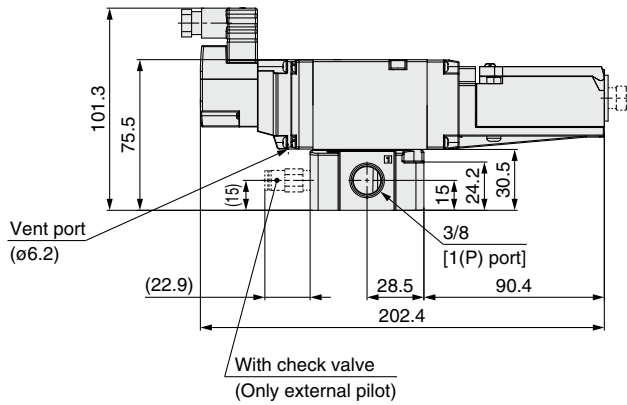
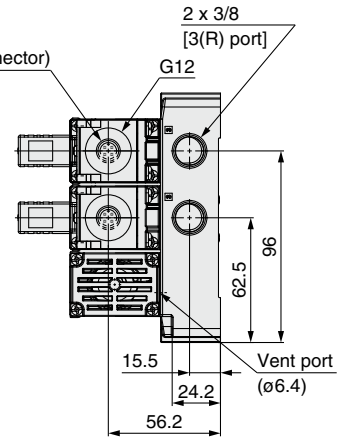
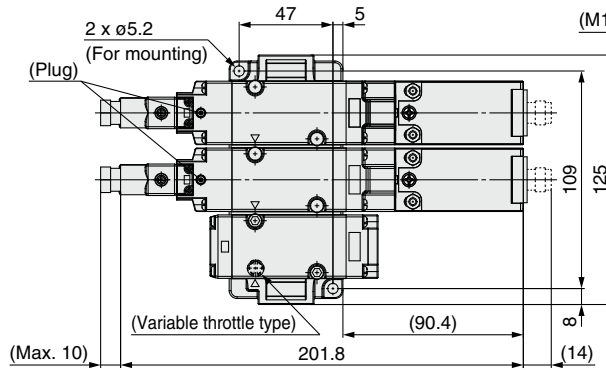
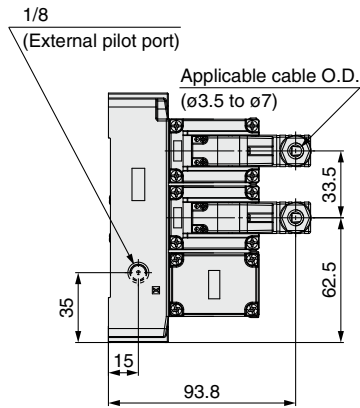
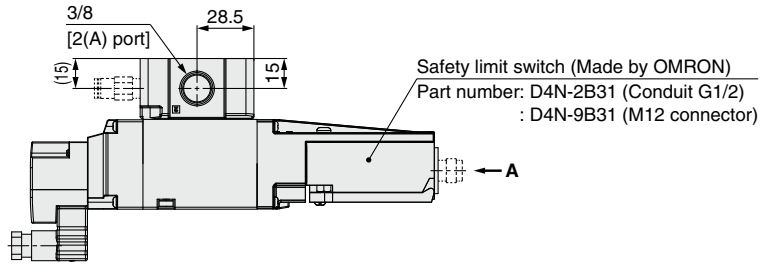
Dual Residual Pressure Release Valve with Soft Start-up Function (-X555)

VP544(R)-5^DZ1-03□-□□-X555

VP544(R)-5^DZ1-03□-M□□-X555

Safety limit switch

Made by
OMRON



VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

VG342

Symbols

X87

Specific Product Precautions

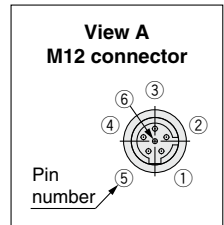
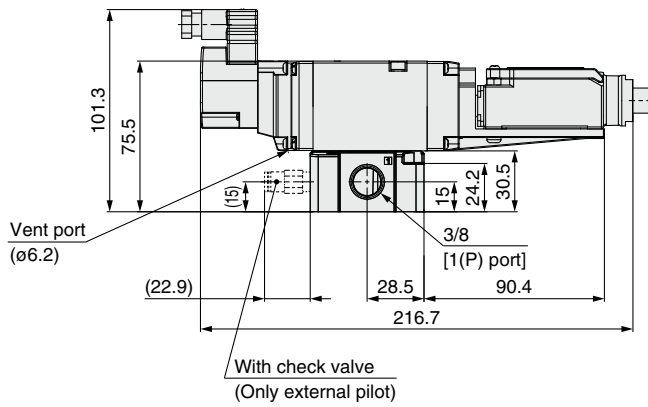
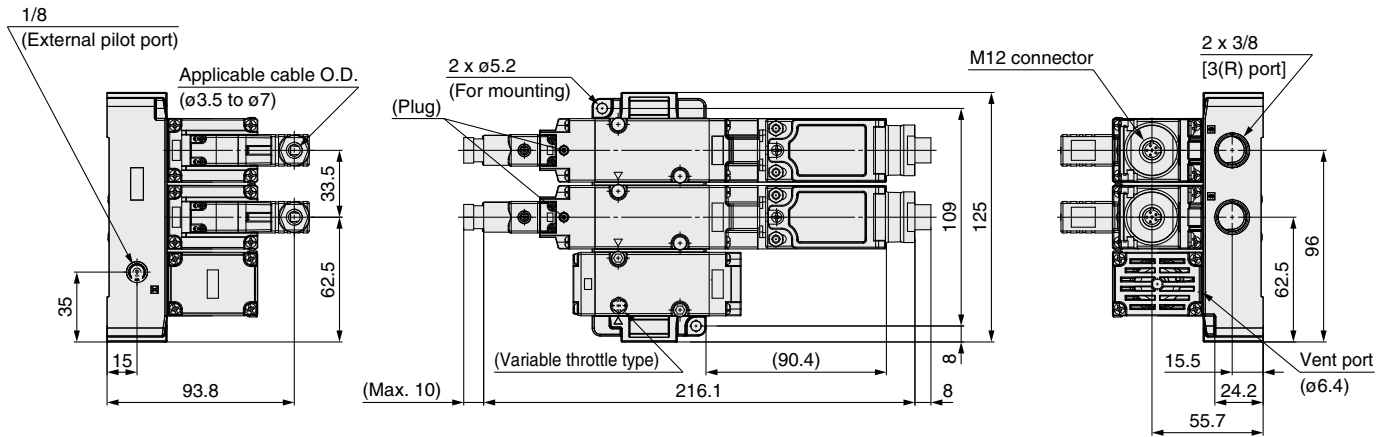
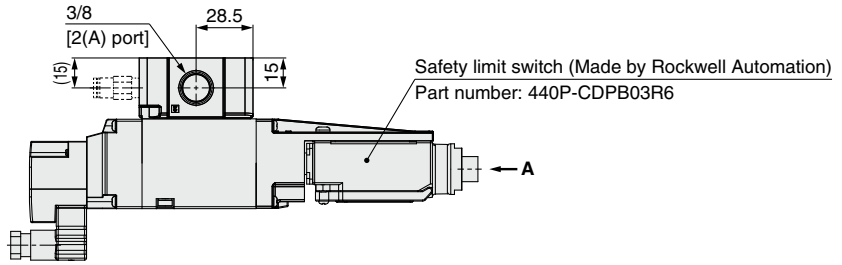
VP500/700-X555

Dimensions

Dual Residual Pressure Release Valve with Soft Start-up Function (-X555)

VP544(R)-5^DZ1-03□-S1□□-X555

Safety limit switch
 Made by
 Rockwell Automation



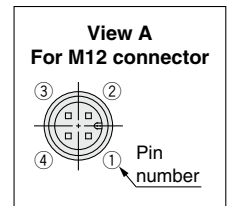
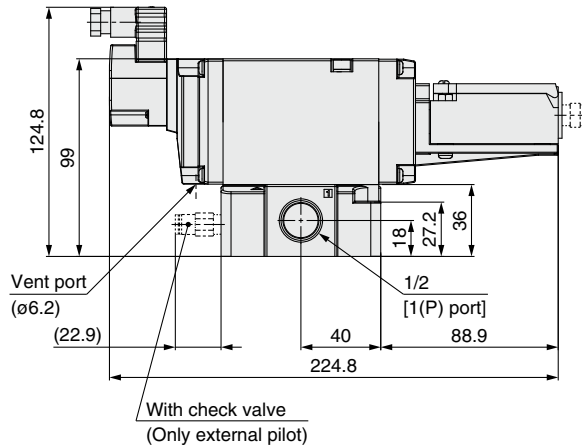
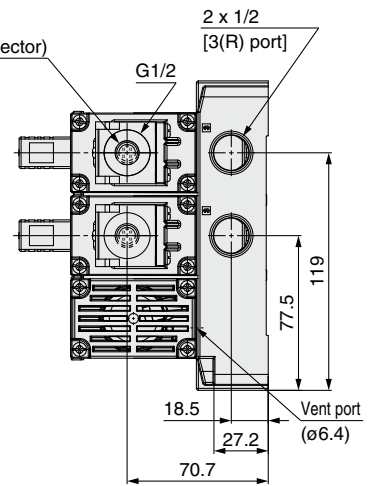
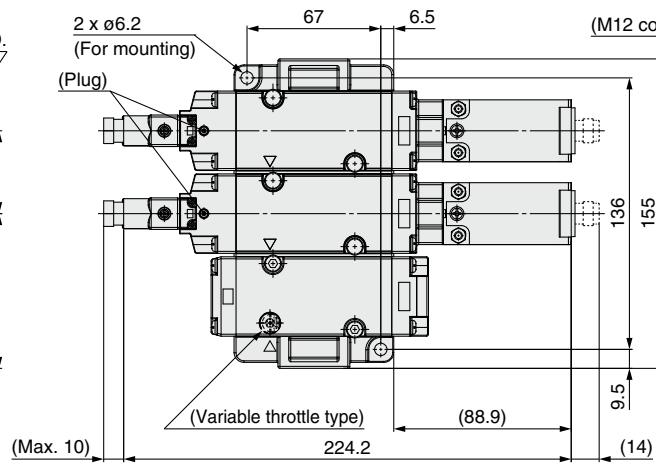
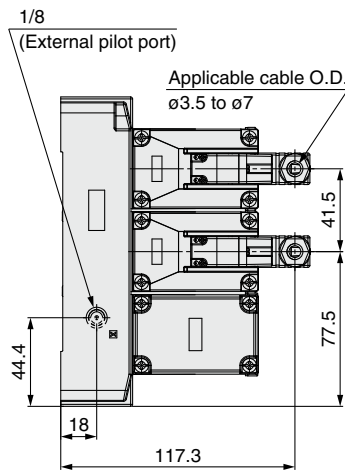
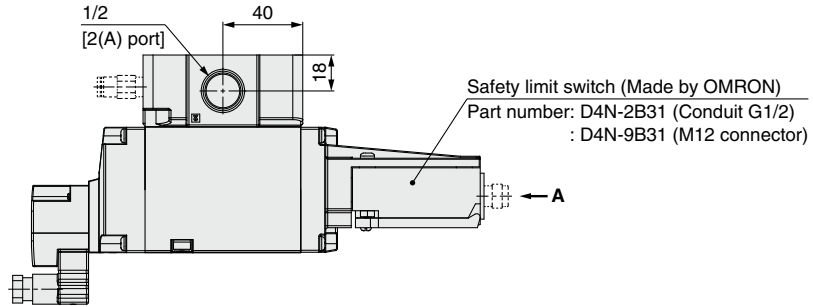
Dimensions

Dual Residual Pressure Release Valve with Soft Start-up Function (-X555)

VP744(R)-5^DZ1-04□-□□-X555

VP744(R)-5^DZ1-04□-M□□-X555

Safety limit switch
Made by
OMRON



VP500/700

Symbols

X536

X538

X555

Optional Accessories

Specific Product Precautions

VG342

Symbols

X87

Specific Product Precautions

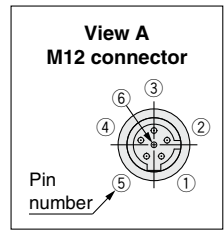
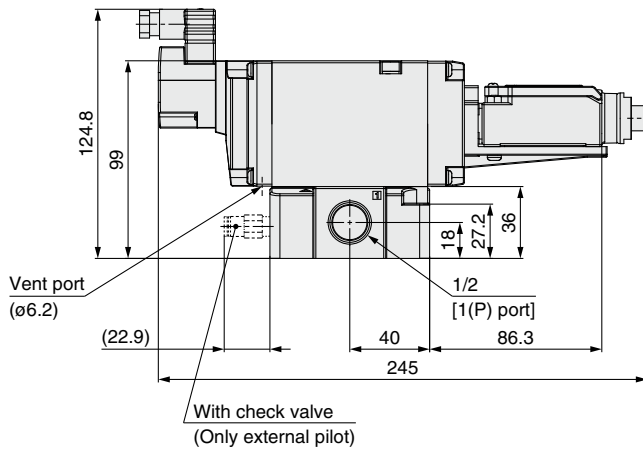
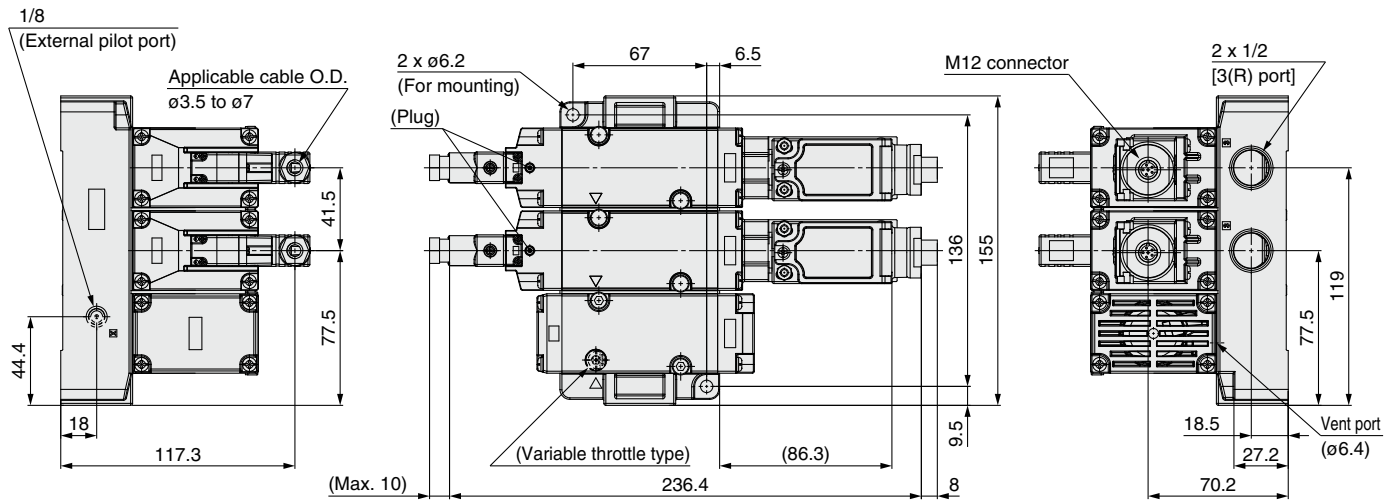
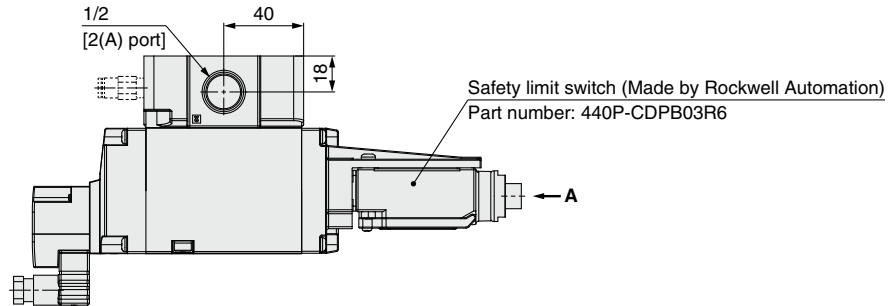
VP500/700-X555

Dimensions

Dual Residual Pressure Release Valve with Soft Start-up Function (-X555)

VP744(R)-5^DZ1-04□-S1□□-X555

Safety limit switch
 Made by
 Rockwell Automation



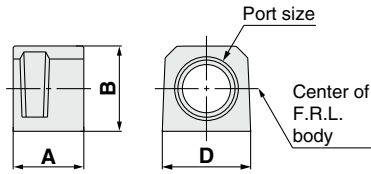
VP500/700-X536, X538, X555

Optional Accessories

For details on optional accessories, refer to the [Web Catalog](#).

Piping Adapter: 3/8, 1/2

A piping adapter allows installation/removal of the component without removing the piping and thus makes maintenance easier.

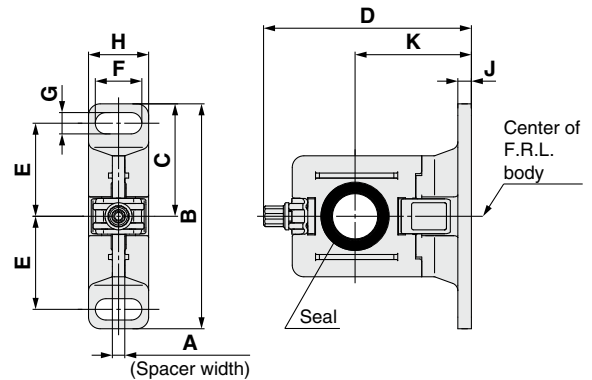


Part no. *1	Port size	A	B	D
E300-□03-A	3/8	31.8	30	30
E400-□04-A	1/2	31.8	36	36

*1 □ in part numbers indicates a pipe thread type. No indication is necessary for Rc; however, indicate N for NPT, and F for G.

* Separate interfaces are required for modular unit.

Spacer with Bracket



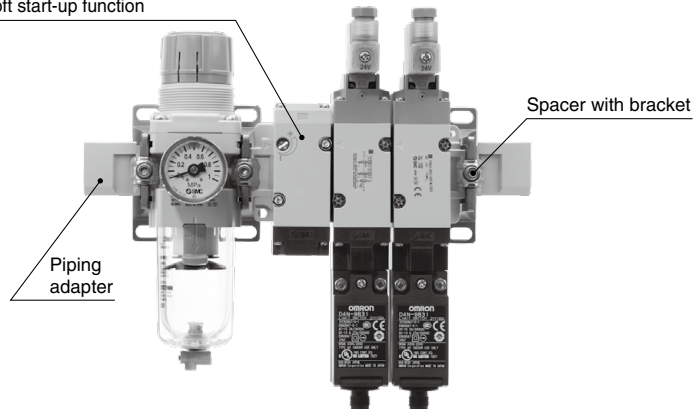
Part no.	A	B	C	D	E	F	G	H	J	K
Y300T-A	4.2	82	41	71.5	35	14	7	19	4	41
Y400T-A	5.2	96	48	86.1	40	18	9	26	5	50

Ordering Example 1*1

- Dual residual pressure release valve
VP544-5DZ1-03-X555 1 pc.
- Filter regulator
AW30-03G-A 1 pc.
- Spacer with bracket
Y300T-A 3 pcs.
- Piping adapter
E300-03-A 2 pcs.

*1 Products do not come assembled.

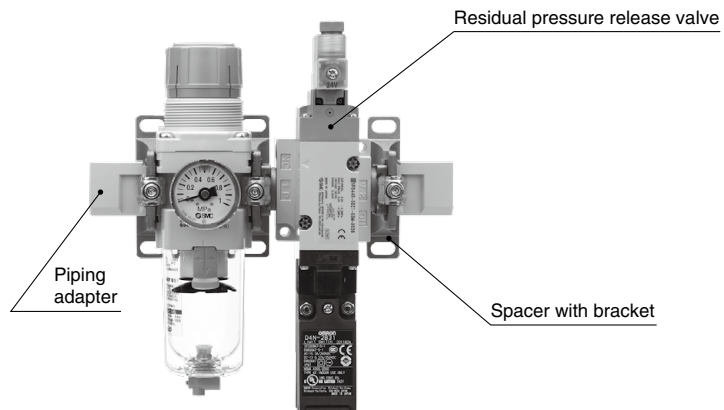
Dual residual pressure release valve
with soft start-up function



Ordering Example 2*1

- Residual pressure release valve/
Base mounted
VP544R-5DZ1-03M-X536 ... 1 pc.
- Filter regulator
AW30-03G-A 1 pc.
- Spacer with bracket
Y300T-A 3 pcs.
- Piping adapter
E300-03-A 2 pcs.

*1 Products do not come assembled.



VP500/700

Symbols

X536

X538

X555

Optional
Accessories

Specific Product
Precautions

VG342

Symbols

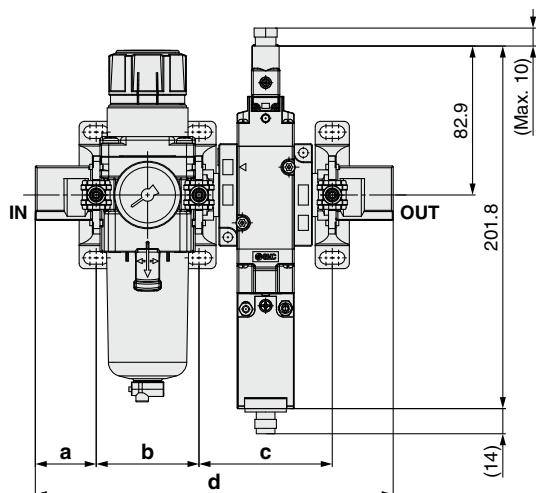
X87

Specific Product
Precautions

VP500/700-X536, X538, X555

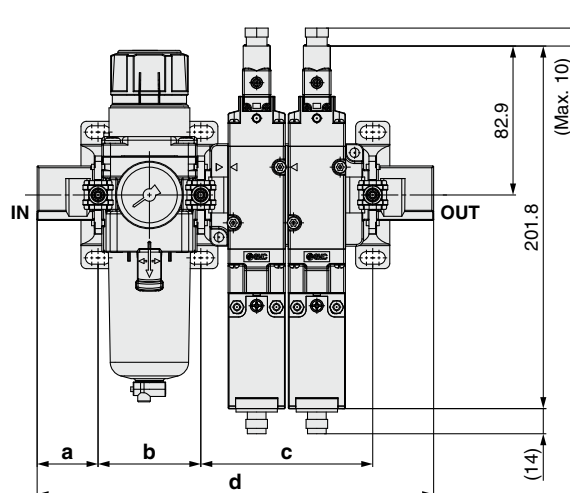
Spacer with Bracket Mounting Position

Residual Pressure Release Valve (VP544/744-X536)



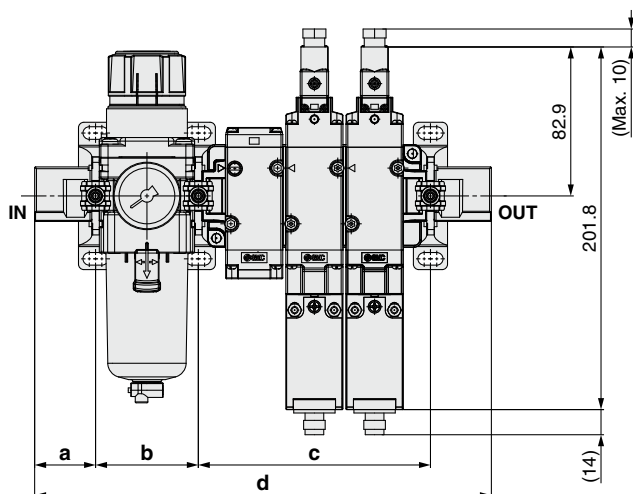
Model	a	b	c	d	Note
VP544R-5DZ1-03M□-X536	33.9	57.2	74.2	199.2	AW30-03G-A Y300T-A E300-03-A
VP744R-5DZ1-03M□-X536	34.4	75.2	89.2	233.2	AW40-04G-A Y400T-A E400-04-A

Dual Residual Pressure Release Valve (-X538)



Model	a	b	c	d	Note
VP544R-5DZ1-03-X538	33.9	57.2	95.7	220.7	AW30-03G-A Y300T-A E300-03-A
VP744R-5DZ1-04-X538	34.4	75.2	118.7	262.7	AW40-04G-A Y400T-A E400-04-A

Dual Residual Pressure Release Valve with Soft Start-up Function (-X555)



Model	a	b	c	d	Note
VP544-5DZ1-03-X555	33.9	57.2	129.2	254.2	AW30-03G-A Y300T-A E300-03-A
VP744-5DZ1-04-X555	34.4	75.2	160.2	304.2	AW40-04G-A Y400T-A E400-04-A