

Direct Operated Regulator for 6.0 MPa (Relieving Type)

Series VCHR

Service life: 10 million cycles

Using **NSF-H1-certified grease** on the guide ring (sliding) part.

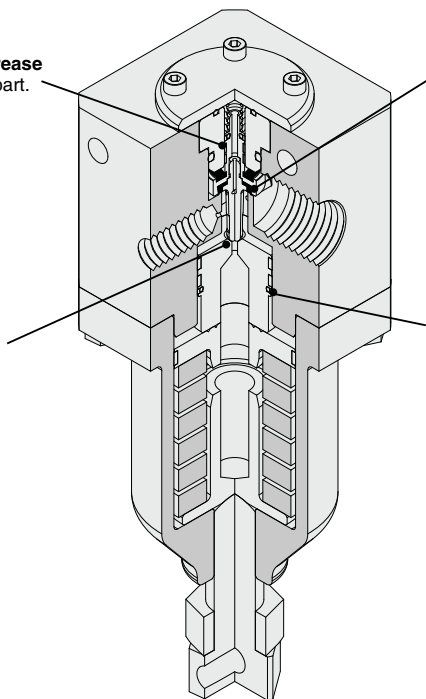
Improved durability under a high pressure environment with a **polyurethane elastomer** poppet

Adopting a **metal-sealed relief valve** to improve durability.

Special fluororesin sealant is adopted for the sliding part.



Stable responsiveness after extended disuse.
No likely to subject to a pressure.



Made to Order
(Refer to page 799 for details.)

How to Order

VCHR 30 - 06 G

Body size

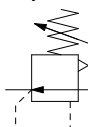
30
40

Thread type
(Conforming to ISO1179-1 on the pneumatic/hydraulic G thread)

Port size

Symbol	Port size	VCHR30	VCHR40
06	3/4	●	
10	1	●	●
14	1-1/2		●

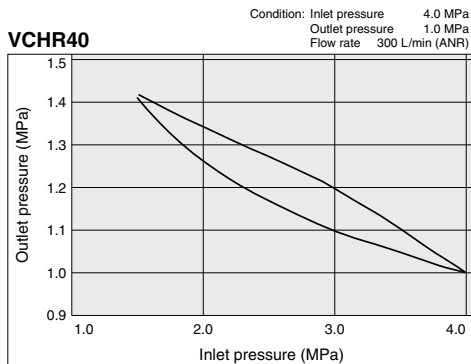
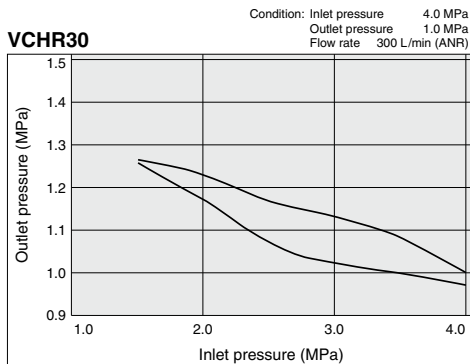
Symbol



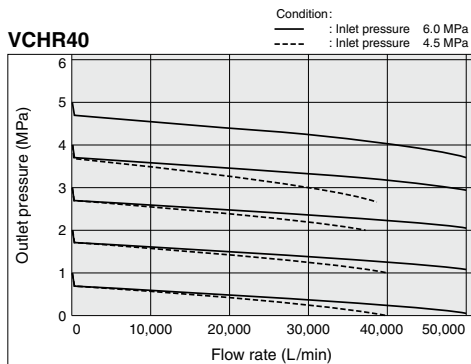
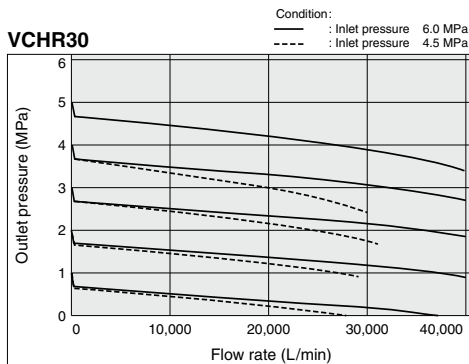
Specifications

Model	VCHR30	VCHR40
Valve construction	Piston type	
Valve material	Polyurethane elastomer	
Relief mechanism	Relieving type	
Port size	G3/4, G1	G1, G1-1/2
Thread type	Conforming to ISO1179-1 on the pneumatic/hydraulic G thread	
Fluid	Air	
Max. operating pressure	6.0 MPa	
Set pressure range	0.5 to 5.0 MPa	
Fluid temperature	-5 to 60°C	
Ambient temperature	-5 to 60°C	
Weight	4.4 kg	6.2 kg

Pressure Characteristics



Flow Characteristics



ARJ

AR425
to 935

ARX

AMR

ARM

ARP

IR

IRV

VEX

SRH

SRP

SRF

VCHR

ITV

IC

ITVX

PVQ

VEF
VEP

VER

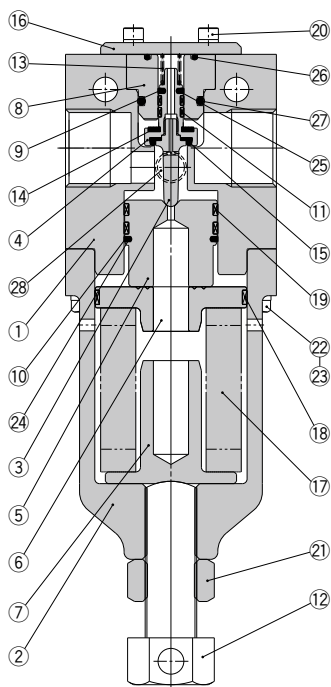
VEA

VY1

VBA
VBAT

AP100

Construction



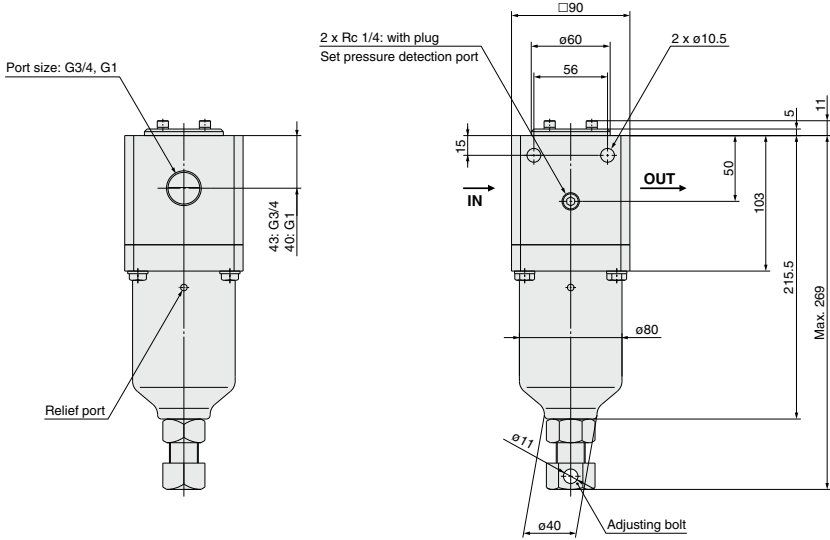
Component Parts

No.	Description	Material
1	Body	Aluminum + Hard anodized
2	Bonnet	Aluminum + Hard anodized
3	Valve	Stainless steel
4	Valve spool	Stainless steel
5	Piston	Steel + Electroless nickel plated
6	Spring guide	Steel + Electroless nickel plated
7	Spring seat	Steel + Electroless nickel plated
8	Spool guide	Aluminum + Hard anodized
9	Seal A	Resin
10	Seal B	Resin
11	Guide ring	Resin
12	Adjusting bolt	Stainless steel
13	Return spring	Stainless steel
14	Cushion	Polyurethane elastomer
15	Poppet	Polyurethane elastomer
16	Plate	Steel + Electroless nickel plated
17	Spring	Stainless steel
18	Guide ring	Resin
19	Guide ring	Resin
20	Hexagon socket head cap screw	Carbon steel
21	Hexagon nut	Carbon steel
22	Hexagon bolt	Carbon steel
23	Spring washer	Carbon steel
24	O-ring	NBR
25	O-ring	NBR
26	O-ring	NBR
27	O-ring	NBR
28	Hexagon socket head plug	Carbon steel

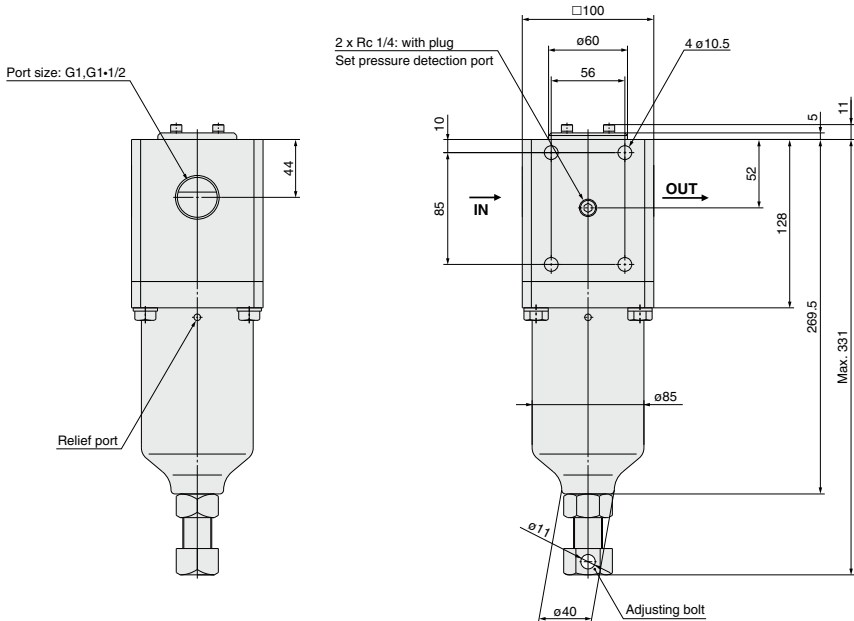
Direct Operated Regulator for 6.0 MPa (Relieving Type) *Series VCHR*

Dimensions

VCHR30



VCHR40



ARJ

AR425
to 935

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Series VCHR

Specific Product Precautions

Be sure to read before handling. Refer to front matter 43 for Safety Instructions and pages 365 to 369 for Precautions on every series.

Adjustment

Caution

1. When adjusting the outlet side pressure, moment is applied on the adjusting bolt. Support it separately so that moment is not applied to the external pipings.

Reference for Handle Moment

Unit: N·m

Set pressure	1 MPa	2 MPa	3 MPa	4 MPa	5 MPa
Torque	3	6	9	12	15

2. When adjusting the outlet side pressure, the adjusting bolt (32 mm width across flats) can be fixed with a wrench. A screwdriver of approximately 20 to 30 cm can also be used for easy adjustments, using the (ø11) hole on the width across flats.

Piping

Warning

1. When tightening a screw on the piping material, use the recommended torque, holding the female side.

Insufficient torque will cause looseness or inferior sealing. However, overtightening will cause damage to the thread. Also, tightening without holding the female side will put excessive direct stress on brackets, etc., resulting in damage, etc.

Recommended Tightening Torque

Unit: N·m

Connecting thread	3/4	1	1-1/2
Torque	28 to 30	36 to 38	48 to 50

Disassembly

Caution

1. This product cannot be disassembled since it is made of precision components with a specific tolerance.

Series VCHR Made to Order Specifications:

Contact SMC for detailed dimensions, specifications and delivery.



1 6.0 MPa piloted regulator (Air operated type)

Remote control is possible with electro-pneumatic regulator ITV.

VCHRA 30 - 06 G

Body size

30
40

Thread type

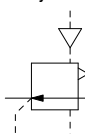
(ISO1179-1 compliant G thread for hydraulic and pneumatic equipment)

Port size

Symbol	Port size	VCHRA30	VCHRA40
06	3/4	●	
10	1	●	●
14	1-1/2		●



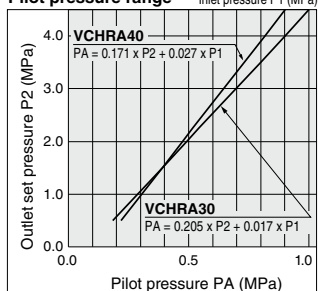
Symbol



Specifications

Model	VCHRA30	VCHRA40
Valve construction	Piston type	
Valve material	Polyurethane elastomer	
Relief mechanism	Relieving type	
Port size	G3/4, G1	G1, G1-1/2
Port size Thread standard	Conforming to ISO1179-1 on the pneumatic/hydraulic G thread	
Fluid	Air	
Max. operating pressure	6.0 MPa	
Pilot pressure range	Refer to the graph.	
Set pressure range	0.5 to 4.5 MPa	
Fluid temperature	-5 to 60°C	
Ambient temperature	-5 to 60°C	
Weight	2.9 kg	4.1 kg

Pilot pressure range



Note) Outlet pressure may fluctuate under certain conditions.

ARJ

AR425
to 935

ARX

AMR

ARM

ARP

IR

IRV

VEV

SRH

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SRF

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ITV

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VY1

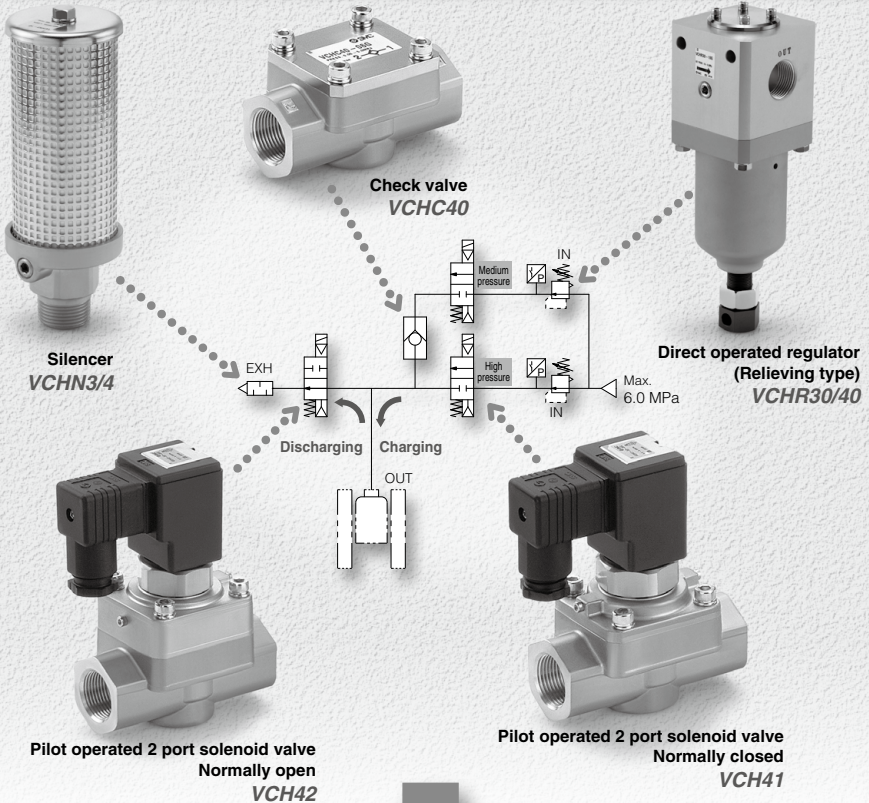
VBA
VBAT

AP100

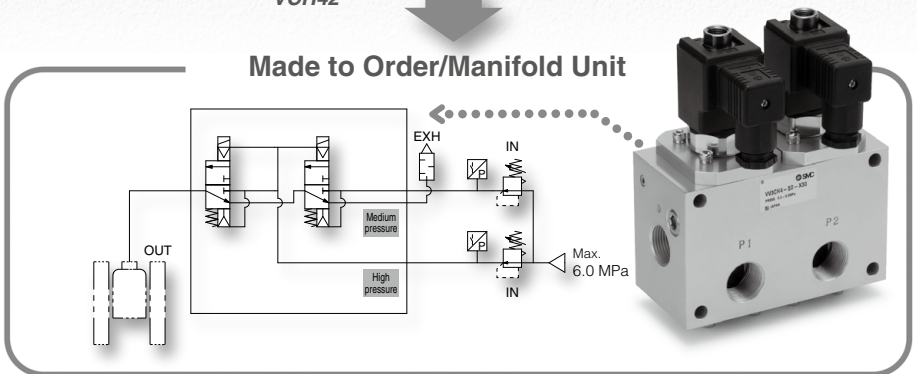
5.0 MPa

Pneumatic

Applications included air-blowing, charging fluid into a vessel, or discharging (Blow-molding equipment, etc.)



Made to Order/Manifold Unit

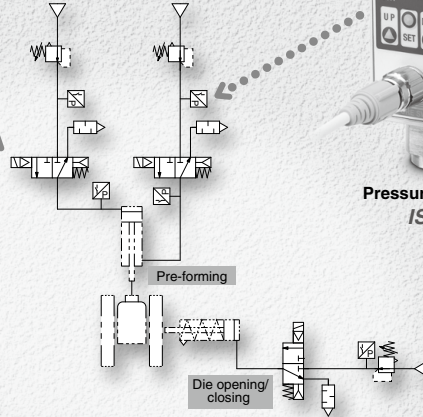


Equipment Variation



Pilot operated 3 port solenoid valve
VCH410

Example of driving a cylinder



Pressure switch
ISE75(H)

	Description	Features	Maximum operating pressure (MPa)	Series	Port size						Page
					1/4	1/2	3/4	1	1 1/4	1 1/2	
	Pilot operated 2 port solenoid valve	Service life: 10 million cycles Adopting a polyurethane elastomer poppet in a valve seat. Improved durability under a high pressure environment.	5.0	VCH41(N.C.)			●	●			Best Pneumatics No. 7
				VCH42(N.O.)			●	●			
	Check valve		5.0	VCHC40				●	●		Best Pneumatics No. 7
	Pilot operated 3 port solenoid valve		5.0	VCH410			●	●	●		Best Pneumatics No. 7
	Direct operated regulator (Relieving type)		Inlet pressure 6.0 Set pressure 0.5 to 5.0	VCHR30			●	●			P.794
				VCHR40				●	●		
	Silencer	Noise reduction 35 dB(A) (At supply pressure 4.0 MPa, back pressure 2.0 MPa) Clogging-reduction with double-layer construction	5.0 (Relief valve release pressure: 1.8 MPa)	VCHN3			●	●		Best Pneumatics No. 6	
				VCHN4			●	●	●		

Related Equipment

	Pressure switch	2-color display Metal body (Aluminum die-cast)	10.0 15.0	ISE75(H)	●						Best Pneumatics No. 6
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Made to Order

1 6.0 MPa pilot operated regulator (Air operated type) P.799

2 22.0 MPa 2 port air operated valve Best Pneumatics No. 7