

# Direct Operated Regulator for 6.0 MPa (Relieving Type)

## VCHR Series

Service life: 10 million cycles

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

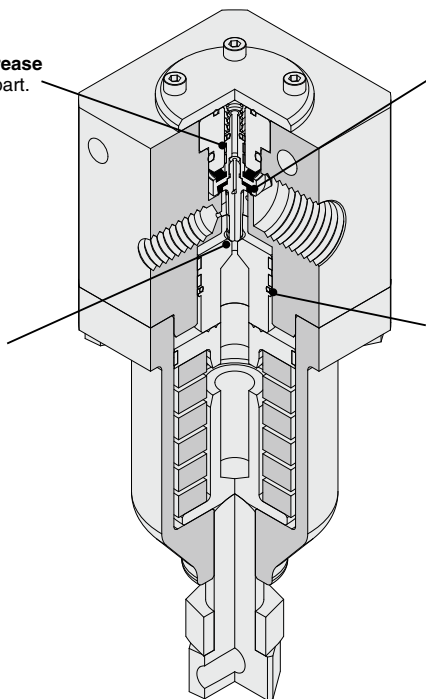
Improved durability under a high pressure environment with a **polyurethane elastomer** poppet

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 448 for details.)

### How to Order

VCHR **30** - **06** **G**

Body size

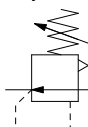
30
40

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		●

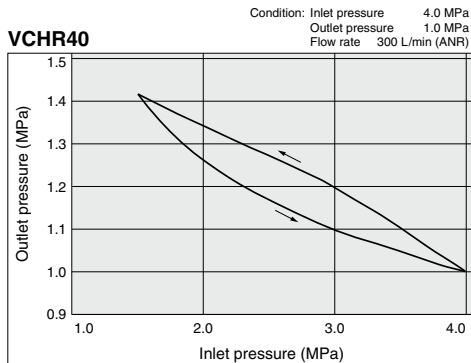
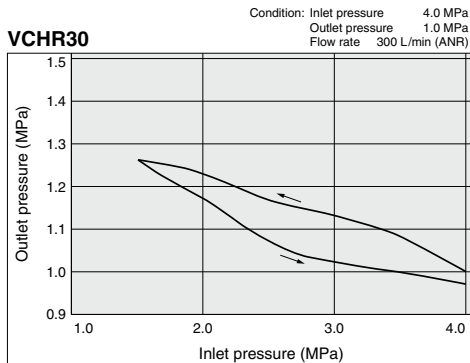
Symbol



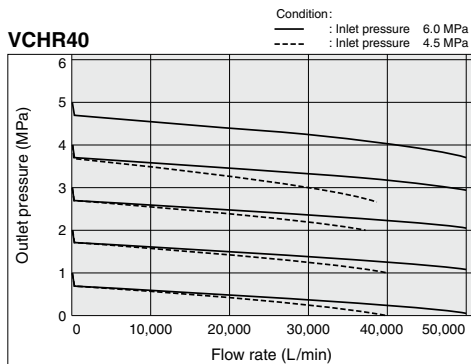
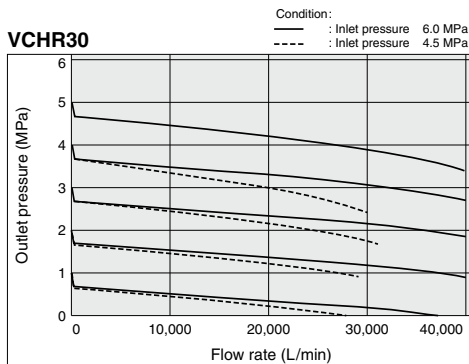
## Specifications

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 Rate Characteristics



VCH

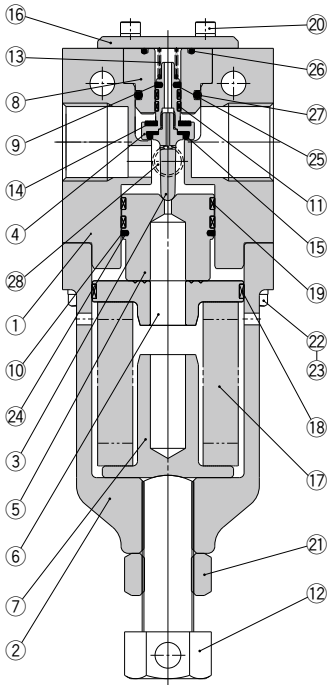
VDW

SX10

VQ

LVM

## Construction



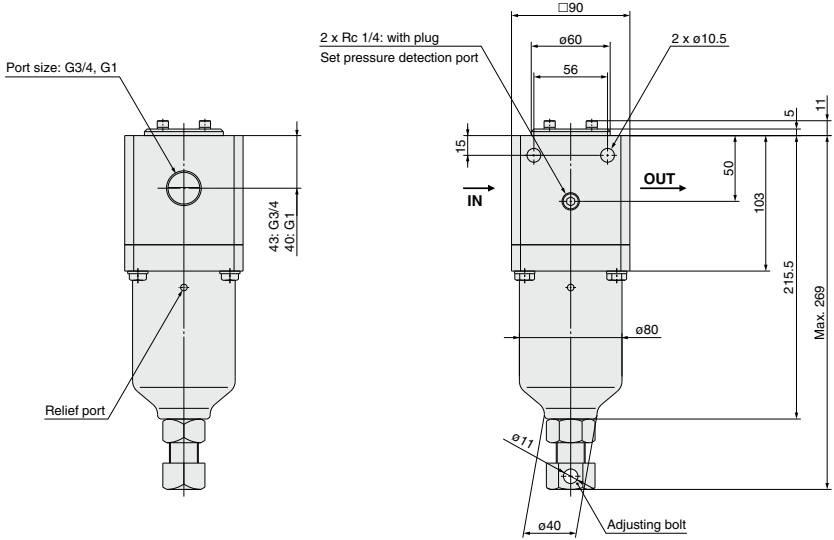
## Component Parts

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

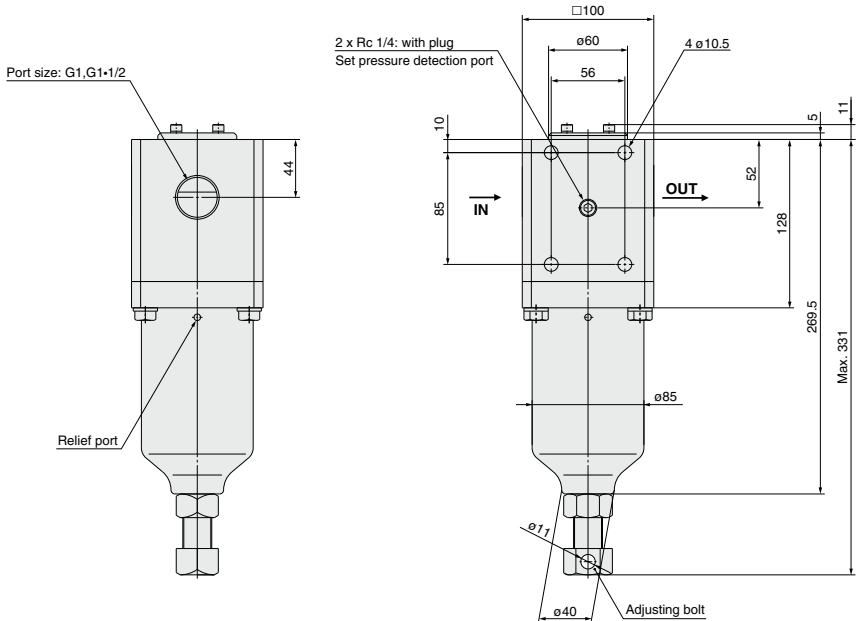
Direct Operated Regulator for 6.0 MPa  
(Relieving Type) **VCHR Series**

**Dimensions**

**VCHR30**



**VCHR40**



- VCH□
- VDW
- SX10
- VQ
- LVM

# VCHR Series

## Made to Order Specifications:

Please contact SMC for detailed dimensions, specifications and lead time.



### 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

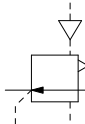
(ISO1179-1 compliant G thread for hydraulic and pneumatic equipment)

Port size

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



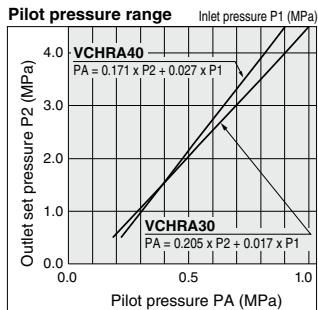
Symbol



#### 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.



# VCHR Series

## Specific Product Precautions

Be sure to read this before handling the products. Refer to back page 50 for Safety Instructions and Best Pneumatics No. 6 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.

VCH □

VDW

SX10

VQ

LVM