

Pressure Relief Valves

Compressed air Relief Valves from 1/8" to 1-1/2" port size.
 Water Relief Valve in 1/8" and 1/4" port.
 Tank Relief Valve in 1/8" and 1/4" port size.

V07 Miniature Pressure Relief Valve 1/8" and 1/4" Port Sizes	ALE-15-2
V72 Excelon Pressure Relief Valve 1/4" and 3/8" Port Sizes	ALE-15-4
V74 Excelon Pressure Relief Valve 3/8", 1/2", and 3/4" Port Sizes	ALE-15-6
V64 Olympian Plus Pressure Relief Valve 1/4", 3/8", 1/2", and 3/4" Port Sizes	ALE-15-8
V68H Olympian Plus Pressure Relief Valve 3/4", 1", 1-1/4", and 1-1/2" Port Sizes	ALE-15-10
16-004 Miniature Brass Body Tank Relief Valve 1/8" and 1/4" Port Sizes	ALE-15-12
V06 Miniature Brass Body Relief Valve for Water and Compressed Air 1/8" and 1/4" Port Sizes	ALE-15-14
Function and Sizing	ALE-15-16



V07



V72G



V74G



V64H



V68H



16-004



V06

**07 Series Pressure Relief Valve
1/8" and 1/4" Port Sizes**

- Compact design
- Low torque, non-rising adjusting knob
- Helps protect air operated equipment from over pressure by retarding excessive pressure build up
- Snap action knob locks pressure setting when pushed in
- Can be factory preset
- Can be disassembled without the use of tools or removal from the air line



Ordering information. Models listed include PTF threads and 5 to 100 psig (0.3 to 7 bar) relief pressure adjustment range.

Port Size	Model Number	Weight lbs (kg)
1/8"	V07-100-NNKA	0.28 (0.13)
1/4"	V07-200-NNKA	0.28 (0.13)

Alternative Models

Port Size	Substitute
1/8"	1
1/4"	2

Option	Substitute
Not applicable	0

Option	Substitute
Not applicable	0

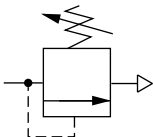
V 0 7 - ★ ★ ★ - ★ ★ ★ ★

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Relief Pressure Adjustment Ranges	Substitute
1 to 10 psig (0.1 to 0.7 bar)	A
5 to 50 psig (0.3 to 3.5 bar)	E
5 to 100 psig (0.3 to 7 bar)	K
5 to 150 psig (0.3 to 10 bar)	M

Gauges	Substitute
With	G
Without	N

Factory Preset Relief Pressure	Substitute
Not factory preset	N
Factory set, non adjustable relief pressure. Also specify desired relief pressure on order.	P

ISO Symbol


See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure: 300 psig (20 bar)
 Operating temperature: -30° to 150°F (-34° to 65°C) *
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

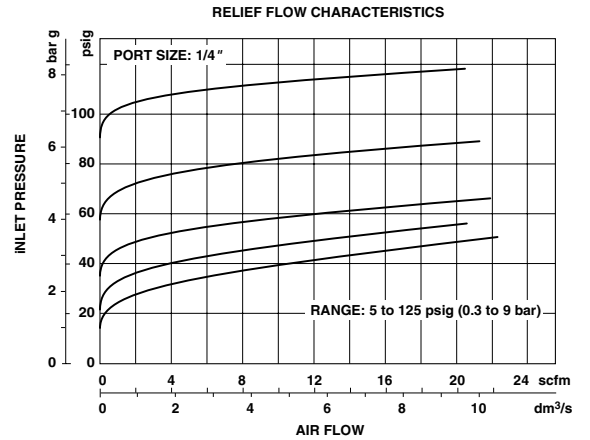
Gauge ports:

- 1/8" PTF with PTF main ports
- 1/8" ISO Rc with ISO Rc main ports
- 1/8" ISO Rc with ISO G main ports

Materials:

- Body: Zinc
- Bonnet: Acetal
- Valve seat: Polyphenylene
- Elastomers: Nitrile

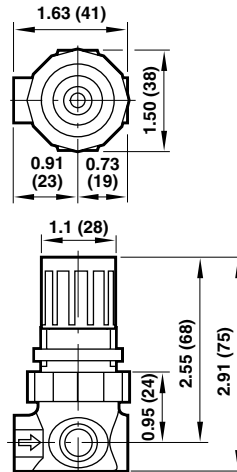
Typical Performance Characteristics



Service Kits

Item	Type	Part number
Service kits	Diaphragm and valve seat seal	3407-80
	Valve seat and valve seat seal	3439-11
	Diaphragm seat and seal	3407-19

All Dimensions in Inches (mm)



Panel mounting hole diameter: 1.19" (30 mm)
 Maximum panel thickness: 0.25" (6 mm)

- Excelon design allows in-line or modular installation
- Push to lock adjusting knob with tamper resistant accessory
- Helps protect air operated equipment from over pressure by retarding excessive pressure build up
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications
- Relief port located on bottom allows easy installation



Ordering Information. Models listed include PTF threads, knob adjustment, and a 5 to 150 psig (0.3 to 10 bar) outlet pressure adjustment range*.

Port Size	Model	Weight lb (kg)
1/4"	V72G-2AK-NMN	0.73 (0.33)
3/8"	V72G-3AK-NMN	0.73 (0.33)

Alternative Models

Port Size	Substitute
1/4"	2
3/8"	3

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

* Relief valve can be adjusted to pressures in excess of and less than those specified. Do not use these units to control pressures outside of the specified ranges.

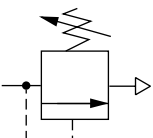
V 7 2 G - ★ ★ ★ - N ★ ★

Gauge	Substitute
With	G
Without	N

Outlet Pressure Adjustment Range*	Substitute
5 to 30 psig (0.3 to 2 bar)	C
5 to 60 psig (0.3 to 4 bar)	F
5 to 150 psig (0.3 to 10 bar)	M

Adjustment	Substitute
Knob	K
T-bar	T

ISO Symbol



See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure: 300 psig (20 bar)

Operating Temperature*: -30° to 150°F (-34° to 65°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Gauge Ports:

1/8" PTF with PTF main ports

1/8" ISO Rc with ISO Rc main ports

1/8" ISO Rc with ISO G main ports

Exhaust Port:

1/4" PTF with PTF main ports

1/4" ISO Rc with ISO Rc main ports

1/4" ISO Rc with ISO G main ports

Materials

Body: Zinc

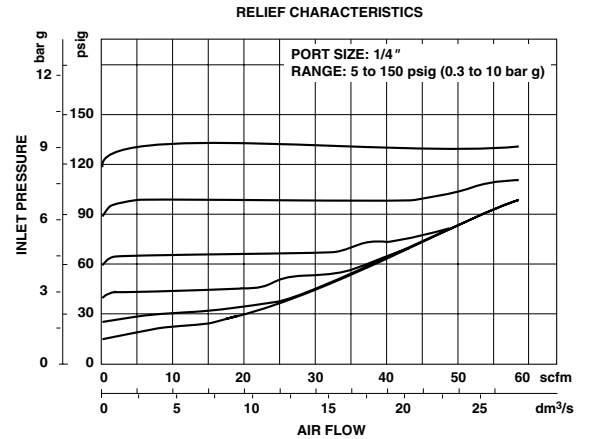
Bonnet: Acetal

Valve: Brass

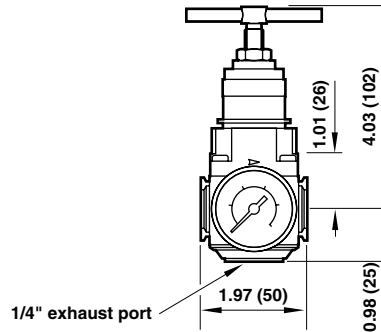
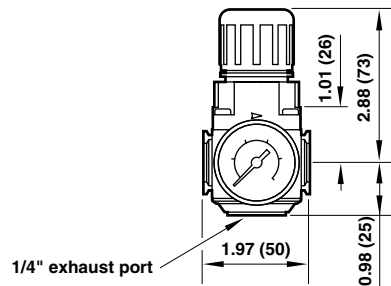
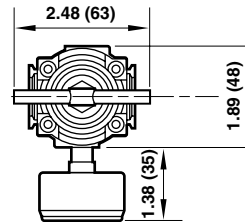
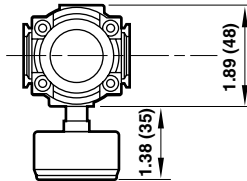
Elastomers: Neoprene

Bottom Plug: Acetal

Typical Performance Characteristics



All Dimensions in Inches (mm)



Panel mounting hole diameter: 1.57" (40 mm)
Maximum panel thickness: 0.16" (4 mm)

**74 Series Pressure Relief Valve
3/8", 1/2", 3/4" Port Sizes**

- Excelon design allows in-line or modular installation
- Push to lock adjusting knob with tamper resistant accessory
- Easily disassembled for servicing without removal from air line
- Helps protect air operated equipment from over pressure by retarding excessive pressure build up
- Modular installations with Excelon 72, 73, and 74 series can be made to suit particular applications



Ordering Information. Models listed include PTF threads, knob adjustment, and a 5 to 150 psig (0.3 to 10 bar) relief pressure adjustment range*.

Port Size	Model	Weight lb (kg)
3/8"	V74G-3AK-NMN	0.69 (1.53)
1/2"	V74G-4AK-NMN	0.68 (1.50)
3/4"	V74G-6AK-NMN	0.67 (1.47)

Alternative Models

Port Size	Substitute
3/8"	3
1/2"	4
3/4"	6

Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Adjustment	Substitute
Knob	K
T-bar	T

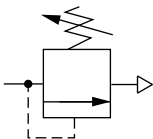
V 7 4 G - ★ ★ ★ - N ★ ★

Gauge	Substitute
With	G
Without	N

Relief Pressure Adjustment Range*	Substitute
5 to 60 psig (0.3 to 4 bar)	F
5 to 150 psig (0.3 to 10 bar)	M
10 to 250 psig (0.7 to 17 bar)**	S

* Relief valve can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

** Units with 250 psig (17 bar) relief pressure range are available only with the T-bar adjustment; therefore substitute **T** at the 7th position and **S** at the 9th position.

ISO Symbol


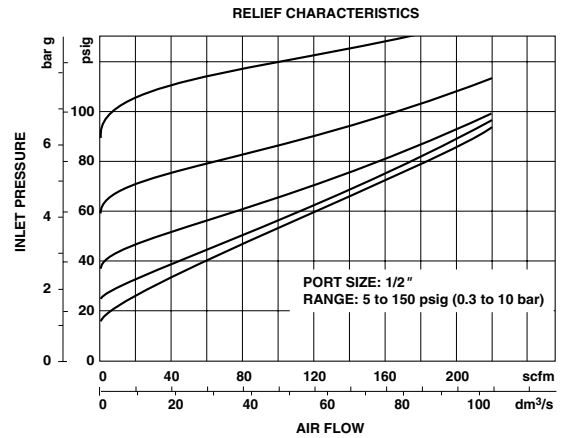
See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air
 Maximum pressure: 300 psig (20 bar)
 Operating temperature*: -30° to 175°F (-34° to 80°C)
 * Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Gauge ports:
 1/4" PTF with PTF main ports
 Rc1/4 with ISO Rc main ports
 Rc1/8 with ISO G main ports
 Materials
 Body: Aluminum
 Bonnet: Aluminum
 Valve: Aluminum and Nitrile
 Elastomers: Nitrile
 Bottom plug: Acetal

Typical Performance Characteristics

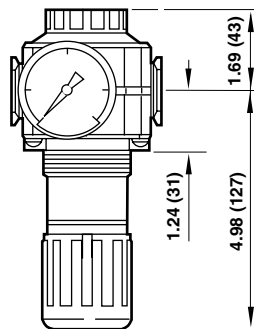
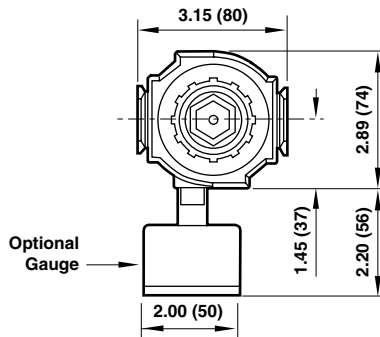


Service Kits

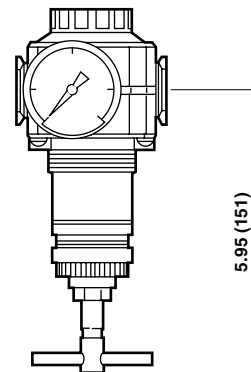
Item	Type	Part Number
Service kit	Diaphragm & Seal	4384-700

Service kit includes diaphragm, bottom plug o-ring.

All Dimensions in Inches (mm)



Panel mounting hole diameter: 2.06" (52 mm)
 Maximum panel thickness: 0.25" (6 mm)



Olympian Plus Pressure Relief Valve
1/4", 3/8", 1/2", 3/4" Port Sizes

- Olympian Plus plug in design
- Helps protect air operated equipment from over pressure by retarding excessive pressure build up
- High relief capacity
- Threaded relief port for silencer or piped exhaust
- Relief port located on bottom allows easy installation



Ordering Information. Models listed include PTF threads, 5 to 150 psig (0.3 to 10 bar) operating pressure range* without gauge.

Port Size	Model	Weight lb (kg)
1/4"	V64H-2AD-RMN	3.73 (1.68)
3/8"	V64H-3AD-RMN	3.69 (1.66)
1/2"	V64H-4AD-RMN	3.62 (1.63)
3/4"	V64H-6AD-RMN	4.42 (1.99)

For replacement relief valve (without yoke) substitute 'N' at the 5th and 6th digits eg: V64H-NND-RMN.

Alternative Models

V 6 4 H - ★ ★ ★ - R ★ ★

Port Size	Substitute
1/4"	2
3/8"	3
1/2"	4
3/4"	6

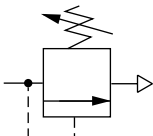
Threads	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G

Gauge	Substitute
With	G
Without	N

Outlet Pressure Adjustment Range*	Substitute
5 to 60 psig (0.3 to 4 bar)	F
15 to 150 psig (1 to 10 bar)	M
10 to 250 psig (0.7 to 17 bar)	S

Adjustment	Substitute
Slotted screw	D

* Relief valve can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

ISO Symbol


See Section ALE-25 for Accessories



Technical Data

Fluid: Compressed air

Maximum pressure: 300 psig (20 bar)

Operating temperature*: -30° to 175°F (-34° to 80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).

Gauge ports:

1/8" PTF with PTF main ports

1/8" ISO Rc with ISO Rc main ports

1/8" ISO Rc with ISO G main ports

Exhaust port:

1/2" PTF with PTF main ports

1/2" ISO Rc with ISO Rc main ports

1/2" ISO Rc with ISO G main ports

Materials

Body: Zinc

Bonnet: Zinc

Bottom plug: Aluminum alloy

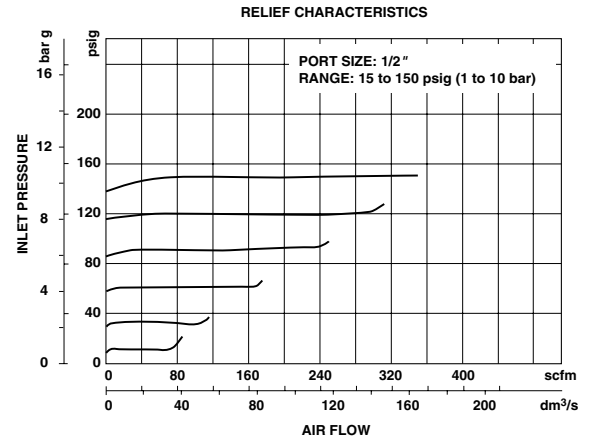
Yoke: Zinc

Adjusting screw: Steel

Valve: Brass

Elastomers: Synthetic rubber

Typical Performance Characteristics

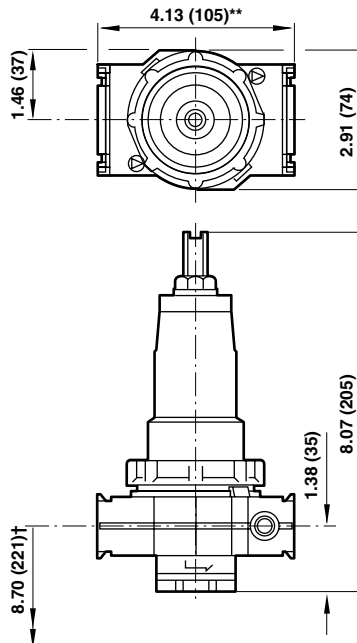


Service Kits

Item	Type	Part Number
Service kit	All models	4384-200
Gasket kit	All models	V13-GK

Service kit includes port and bottom plug o-rings, gasket, slip ring, valve assembly, valve spring, diaphragm, diaphragm stop and pilot valve assembly.

All Dimensions in Inches (mm)



Panel mounting hole diameter: 2.06" (52 mm)

Maximum panel thickness: 0.16" (4 mm)

** 6.18" (157 mm) for models with 3/4" ports

† Minimum clearance required to remove unit.

**Olympian Pressure Relief Valve
3/4", 1", 1-1/4", 1-1/2", Port Sizes**

- Olympian plug in system
- Helps protect compressed air systems from over pressure by retarding excessive pressure build up
- Integral pilot design provides superior sensitivity, accuracy, and quick response to over pressure conditions
- High relief flow
- Threaded relief port for silencer or piped exhaust



Ordering Information. Models listed include PTF threads, 1 to 10 bar (15 to 150 psig) operating adjustment range* without gauge.

Port Size	Model	Weight lb (kg)
3/4"	V68H-6AD-RMN	4.91 (2.21)
1"	V68H-8AD-RMN	4.89 (2.20)
1-1/4"	V68H-AAD-RMN	4.93 (2.22)
1-1/2"	V68H-BAD-RMN	5.02 (2.26)

Alternative Models

Port Size	Substitute
3/4"	6
1"	8
1-1/4"	A
1-1/2"	B
None	N

Thread	Substitute
PTF	A
ISO Rc taper	B
ISO G parallel	G
No Yoke (N in 5th position) Rc gauge and exhaust ports.	N
No Yoke (N in 5th position). PTF gauge and exhaust ports.	A

Adjustment	Substitute
Slotted screw	D

V

6

8

H

-

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R

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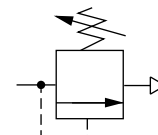
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Gauge	Substitute
With	G
Without	N

Outlet Pressure Adjustment Range*	Substitute
0 to 60 psig (0.4 to 4 bar)	F
15 to 150 psig (1 to 10 bar)	M
10 to 250 psig (0.7 to 17 bar)	S

* Relief valve can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

ISO Symbol




Technical Data

Fluid: Compressed air

Maximum pressure: 300 psig (20 bar)

Operating temperature*: 0° to +175°F (-20° to +80°C)

* Air supply must be dry enough to avoid ice formation at temperatures below +35°F (+2°C).

Gauge ports:

1/8 PTF with PTF yoke ports

Rc1/8 with ISO Rc yoke ports

Rc1/8 with ISO G yoke ports

Exhaust port:

1" PTF with PTF yoke ports

Rc1 with ISO Rc yoke ports

Rc1 with ISO G yoke ports

Materials:

Body: Aluminum

Intermediate body: Aluminum

Bonnet: Aluminum

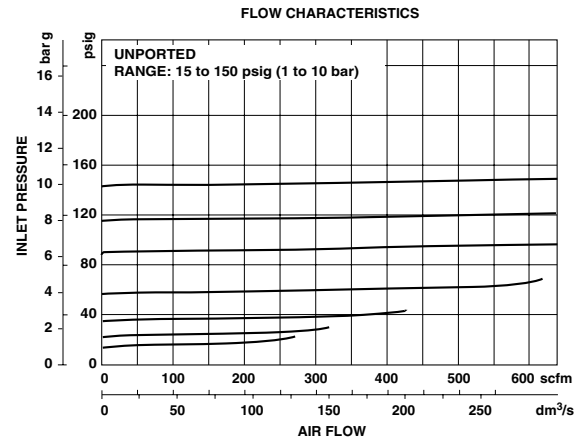
Bottom plug: Aluminum

Adjusting screw: Steel

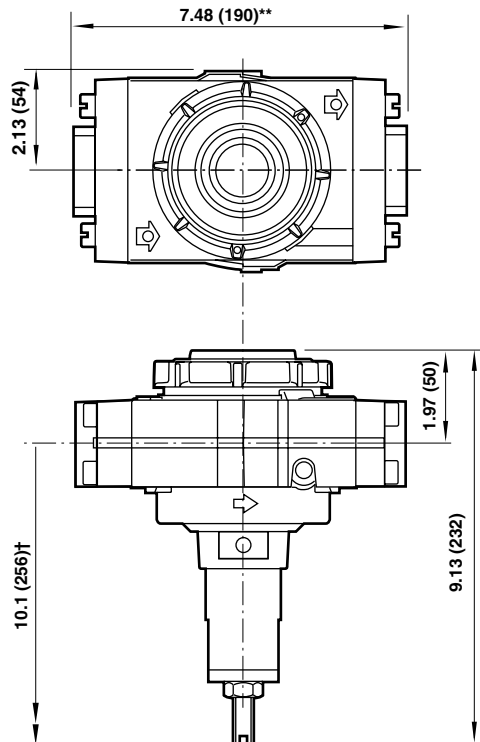
Elastomers: Synthetic rubber

Yoke: Aluminum

Typical Performance Characteristics



All Dimensions in Inches (mm)



** Add 0.39" (10mm) 1-1/4" and 1-1/2" models.
† Minimum clearance required to remove unit.

**Miniature Brass Body Tank Relief Valve
Compressed Air Service
1/8" and 1/4" PTF Port Sizes**

- Used in low-volume air tanks to retard excessive pressure buildup
- If pressure exceeds the relief pressure setting, the valve opens and air from the tank is vented to atmosphere. Valve closes when pressure is reduced to the relief pressure setting.
- Compact design, corrosion resistant construction
- Constructed of brass and stainless steel for compressed air and water service
- Available with adjustable or non-adjustable, factory preset, relief pressure setting


Ordering information

Port Size	Model Numbers - Relief Pressure Adjustment Ranges *				Weight lbs (kg)
	25 to 50 psig (1.7 to 3.5 bar)	25 to 75 psig (1.7 to 5.2 bar)	70 to 150 psig (5 to 10.4 bar)	125 to 300 psig (8.6 to 20.7 bar)	
1/8"	16-004-001	16-004-002	16-004-003	16-004-004	0.11 (0.05)
1/4"	16-004-009	16-004-010	16-004-011	16-004-012	0.11 (0.05)

Alternative Models

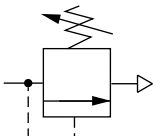
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Factory set, non adjustable pressure	Add **
Locktite adjusting cap	Z

Factory Set Relief Pressure Setting	Add **
Insert desired relief pressure setting in psig	025 through 300

* Relief valves can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

** Example: 16-004-001-**Z025**
Locking method: Locktite cap
Relief pressure setting: 25 psig

ISO Symbol


See Section ALE-25 for Accessories



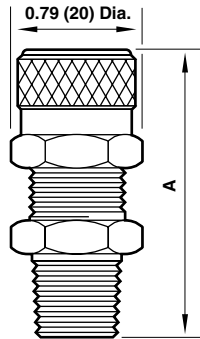
Technical Data

Fluid: Compressed air and water
 Maximum pressure: 300 psig (20 bar)
 Operating temperature*: -30° to 200°F (-34° to 93°C)
 *Air supply must be dry enough to avoid ice formation at temperatures below 35°F (2°C).
 Repeatability: ± 20% of relief pressure setting

Materials

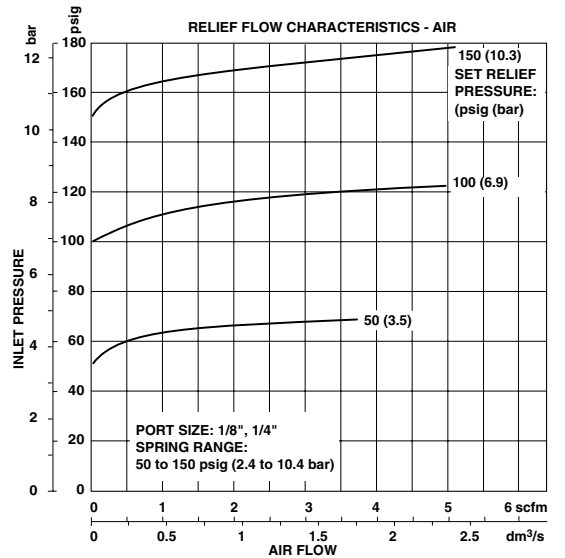
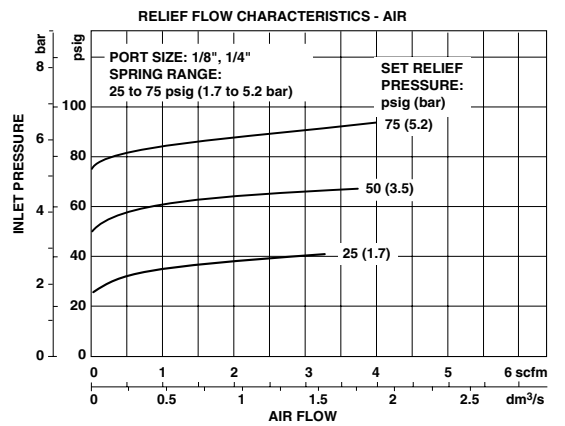
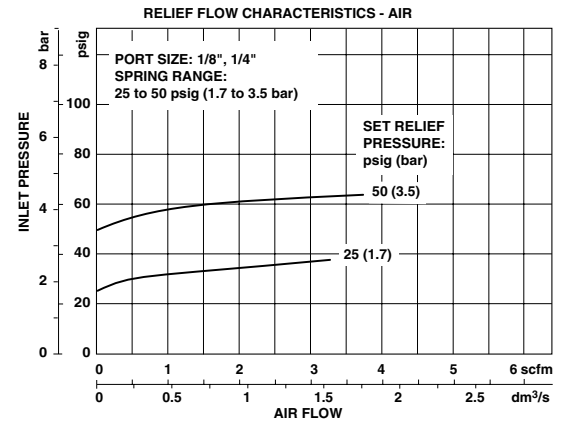
- Body, cap, springrest: Brass
- Valve: Brass and nitrile
- Regulating spring: Stainless steel

All Dimensions in Inches (mm)



A: 1.56 (62) for 1/8" pipe size
 1.75 (44) for 1/4" pipe size

Typical Performance Characteristics



**Miniature Brass Body Relief Valve
Water and Compressed Air Service
1/8" and 1/4" PTF Port Sizes**

- Helps protect water systems from excessive pressure buildup by venting water when pressure exceeds setting of the relief valve. Relief valve closes when pressure is reduced to the relief pressure setting.
- Compact design, corrosion resistant construction
- Brass body with choice of plastic or brass bonnet
- Plastic bonnet equipped with low torque, non-rising pressure adjusting knob. Snap action knob locks pressure setting when pushed in
- Brass bonnet equipped with pressure adjusting screw and locknut
- Can be disassembled without the use of tools or removal from the air line
- Can be factory preset



Ordering information. Models listed include PTF threads, plastic bonnet with knob adjustment, and 5 to 100 psig (0.3 to 7 bar) relief pressure adjustment range.† A gauge is not included.

Port Size	Model Number	Weight lbs (kg)
1/8"	V06-121-NNKA	0.2 (0.09)
1/4"	V06-221-NNKA	0.2 (0.09)

Alternative Models

V 0 6 - ★ ★ ★ - ★ ★ ★ ★

Port Size	Substitute
1/8"	1
1/4"	2

Bonnet	Substitute
Plastic	21
Brass	22

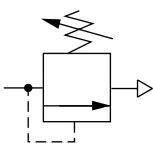
Factory Set Relief Pressure	Substitute
Not factory set	N
Factory set, non adjustable relief pressure. Also specify desired relief pressure on order.	P

Threads	Substitute
PTF	A

Relief Pressure Adjustment Range†	Substitute
1 to 10 psig (0.1 to 0.7 bar)	A
5 to 50 psig (0.3 to 3.5 bar)	E
5 to 100 psig (0.3 to 7 bar)	K

Gauges	Substitute
With	G
Without	N

† Relief valve can be adjusted to pressures in excess of, and less than, those specified. Do not use these units to control pressures outside of the specified ranges.

ISO Symbol


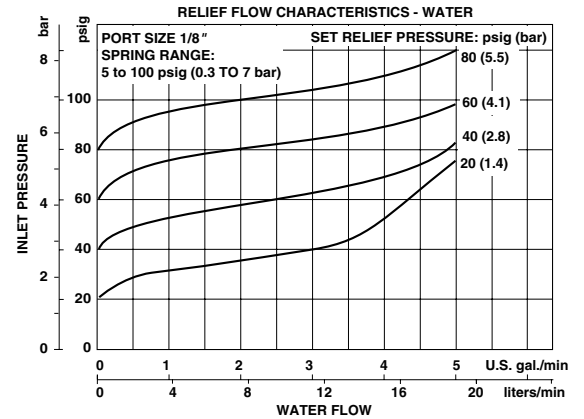
See Section ALE-25 for Accessories



Technical Data

Fluid: Water and compressed air
 Maximum pressure: 400 psig (27.6 bar)
 Operating temperature:
 Plastic bonnet: 35° to 150°F (2° to 65°C)
 Brass bonnet: 35° to 175°F (2° to 79°C)
 Gauge ports: 1/8" PTF
Materials
 Body: Brass
 Bonnet
 Standard: Acetal resin
 Optional: Brass
 Valve seat: Acetal resin
 Elastomers: Nitrile

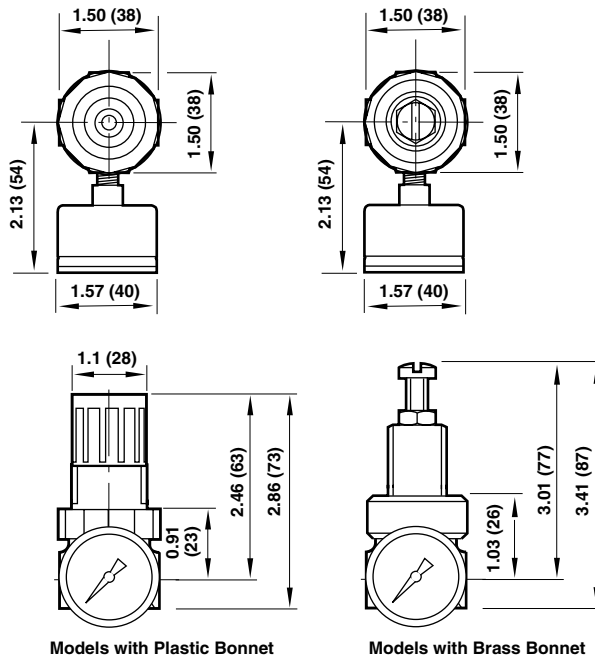
Typical Performance Characteristics



Service Kits

Item	Type	Part number
Service kit	Valve seat and seal	3439-11
	Diaphragm	3440-03

All Dimensions in Inches (mm)



Panel mounting hole diameter:
 Models with plastic bonnet: 1.19" (30 mm)
 Models with brass bonnet: 0.81" (21mm)
 Maximum panel thickness: 0.25" (6 mm)



Pressure Relief Valves - Function and Sizing

1.1.2 How do they Work?

The inlet port is connected to the system and the valve limits the downstream pressure by exhausting when the system pressure exceeds the preset pressure of the valve. The valve is normally closed, only opening when unusual system conditions prevail.

1.1.3 Are they Safety Valves?

No. Safety valves are covered by a variety of national standards eg BS 1123. Norgren relief valves are not designed to these standards.

1.2 SIZING

1.2.1 How do I Size a Relief Valve?

If the relief valve is to be fitted to prevent excess pressure then it needs to be sized to cope with the maximum flow that the system can see - often the output flow capacity of the compressor.

The relief valve needs to be able to cope with this flow within acceptable pressure limits. See catalogue data sheets for relief flow characteristics.

1.2.2 Should the Relief Valve be the same Size as the Regulator?

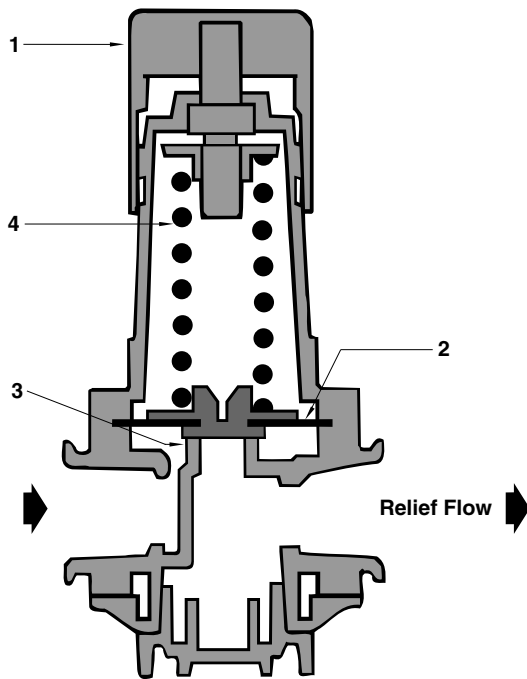
Not necessarily. In general the failure flow of a regulator will require use of a relief valve of larger basic size. Detailed graphs are available for sizing - please call Application Engineering.

1.2.3 What is Failure Flow?

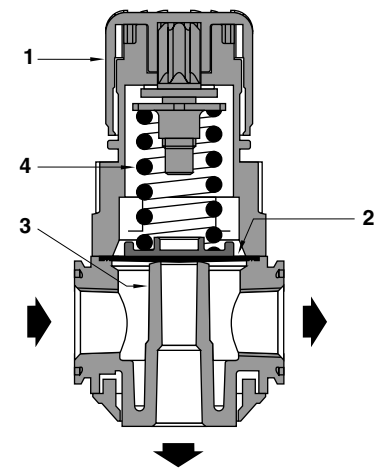
This is the maximum flow that will pass through a regulator in the event of its total failure.

It varies with system pressure and the test results on all Norgren regulators are available from Application Engineering.

The failure flow is used for sizing relief valves downstream of regulators.



"T" Installation (Type V07, V74, 16-001)



Relief Flow
Inline Installation (Type V72 Only)