

AIR-ACTUATED HIGH-PRESSURE VALVES

Type NV-series

Resato offers a complete range of air-actuated valves high pressure valves for remote on/off operations.

Special attention has been paid to the safety of the valves.

Customers all over the world have extensively tested the reliability of our products. Resato valves are used in applications ranging from waterjet cutting systems, high pressure test systems, high pressure food preservation systems to test and control systems used in the oil/gas and chemical/petrochemical industries.

One of the advantages of air-operated valves is a fixed operating air pressure. The risk of damaging a seat or needle is considerably smaller compared to hand-operated valves.

Our folio lists standard valves (hand-operated and air-operated); however, we also supply customized valve designs for specialized applications.



WORKING METHOD

Air-operated valves can be controlled by a 3-way manual pneumatic valve or by a pneumatic solenoid valve.

Air-operated valves permit process control from a remote control panel or a computer-controlled system without the necessity of piping high-pressure lines to the control panel.

As a result safety is greatly improved.

KEY FEATURES

- Excellent flow capacity performance
- Safety guaranteed by special safety cover
- Internal stem-lifting stop prevents stem blowout
- Excellent chemical resistance of seal material
- Visual indicator of needle position
- Internal stem-lifting stop, prevents stem blowout

ORDERING CODE

See ordering system in document

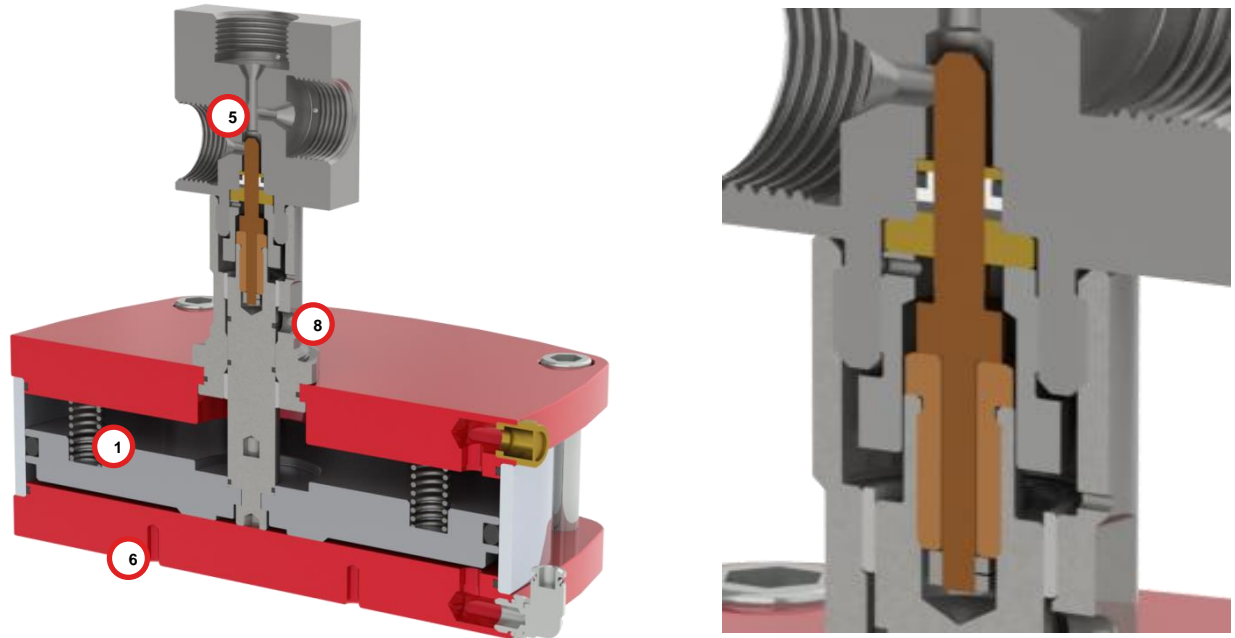
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- hpsales@resato.com
- www.resato.com

KEY SPECIFICATIONS

- Pressure up to 7 000 bar / 100 000 psi
- Suitable for fluids and gases
- Build with non-corrosive materials
- Two air actuators sizes (160 and 200 mm)

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Type NV-series



ITEM	DESCRIPTION
1	Piston enables process control at a distance
2	Internal stem-lifting stop prevents stem blowout
3	Non-rotating stem made of hardened steel
4	Self-adjusting compensating packing requires minimal pre-loading
5	Wide internal orifices ensure excellent flow capability
6	Mounting holes for easy to build in
7	Excellent chemical resistance of seal material
8	Visual indicator of needle position

AIR-ACTUATED HIGH-PRESSURE VALVES

Type NV-series

ORDERING CODE SYSTEM

Every valve code specifies connection type, body type and pressure rating.

Example valve code: **NVU2-1-42-NO160**

Valve connections

Code Connection (Metric)

NV1	M16 x 1.5	(for 6 mm or 1/4" O.D. tubing)
NV2	M20 x 1.5	(for 10 mm or 3/8" O.D. tubing)
NV3	M30 x 2	(for 14 mm or 9/16" O.D. tubing)

Code Connection (UNF)

NVU1	9/16" – 18 UNF	(for 6 mm or 1/4" O.D. tubing)
NVU2	3/4" – 16 UNF	(for 10 mm or 3/8" O.D. tubing)
NVU3	1 1/8" – 12 UNF	(for 14 mm or 9/16" O.D. tubing)

Valve body types

Code Type

1	2-way straight
2	2-way angle
3	3-way 2 on pressure

Valve pressure rating

Code Rating

21	2100 bar / 30 000 psi
42	4200 bar / 60 000 psi
70	7000 bar / 100 000 psi

Air actuator

Code

NC160	Normally closed actuator	ø160 mm
NC200	Normally closed actuator	ø200 mm
NO160	Normally open actuator	ø160 mm
NO200	Normally open actuator	ø200 mm

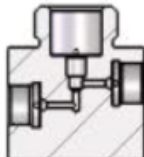
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Type NV-series

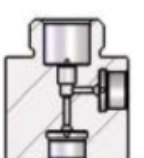
NV1 SERIES

(Connections M16x1,5 and 9/16" – 18 UNF, for tubing size 6 mm or 1/4" O.D.)

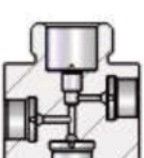
2-way straight

	M16x1.5 Ordering code	9/16"-18 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV1-1-42 NV1-1-70	NVU1-1-42 NVU1-1-70	4200 / 60 000 7000 / 100 000	NC160 / NO160 NC160 / NO160	3.5 2.2	0,08 0,07

2-way angle

	M16x1.5 Ordering code	9/16"-18 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV1-2-42 NV1-2-70	NVU1-2-42 NVU1-2-70	4200 / 60 000 7000 / 100 000	NC160 / NO160 NC160 / NO160	3.5 2.2	0,08 0,08

3-way 2 on pressure

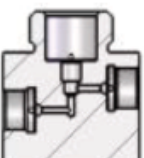
	M16x1.5 Ordering code	9/16"-18 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV1-3-42 NV1-3-70	NVU1-3-42 NVU1-3-70	4200 / 60 000 7000 / 100 000	NC160 / NO160 NC160 / NO160	3.5 2.2	0,08 / 0,08 0,07 / 0,08

*the cV values are only valid for fluids with a viscosity of 1,0mpa-s. (water)

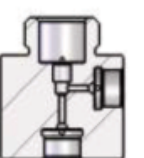
NV2 SERIES

(Connections M20x1.5 and 3/4" – 16 UNF, for tubing size 10mm or 3/8" O.D.)

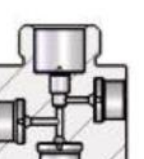
2-way straight

	M20x1.5 Ordering code	9/16"-18 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV2-1-21 NV2-1-42	NVU2-1-21 NVU2-1-42	2100 / 30 000 4200 / 60 000	NC160 / NO160 NC160 / NO160	5 3.5	0,57 0,26

2-way angle

	M20x1.5 Ordering code	3/4"-16 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV2-2-42 NV2-2-70	NVU2-2-42 NVU2-2-70	4200 / 60 000 7000 / 100 000	NC160 / NO160 NC160 / NO160	5 3.5	0,77 0,38

3-way 2 on pressure

	M20x1.5 Ordering code	3/4"-16 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C _v
	NV2-3-42 NV2-3-70	NVU2-3-42 NVU2-3-70	4200 / 60 000 7000 / 100 000	NC160 / NO160 NC160 / NO160	5 3.5	0,57 / 0,77 0,26 / 0,38

*the cV values are only valid for fluids with a viscosity of 1,0mpa-s. (water)

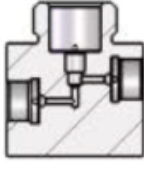
AIR-ACTUATED HIGH-PRESSURE VALVES

Type NV-series

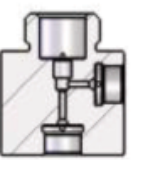
NV3 SERIES

(Connections M30x2 and 11/8"-12 UNF, for tubing size 14mm or 9/16" O.D.)

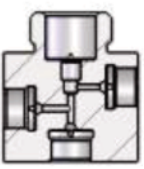
2-way straight

	M30x2 Ordering code	11/8"-12 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C_v
	NV3-1-21	NVU3-1-21	2100 / 30 000	NC200 / NO200	7,5	0,60
	NV3-1-42	NVU3-1-42	4200 / 60 000	NC200 / NO200	5	0,48

2-way angle

	M30x2 Ordering code	11/8"-12 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C_v
	NV3-2-21	NVU3-2-21	2100 / 30 000	NC200 / NO200	7,5	0,68
	NV3-2-42	NVU3-2-42	4200 / 60 000	NC200 / NO200	5	0,57

3-way 2 on pressure

	M30x2 Ordering code	11/8"-12 UNF Ordering code	Pressure rating bar/psi	Actuator Ordering code	Orifice mm	Rated * C_v
	NV3-3-21	NVU3-3-21	2100 / 30 000	NC200 / NO200	7,5	0,60 / 0,68
	NV3-3-42	NVU3-3-42	4200 / 60 000	NC200 / NO200	5	0,48 / 0,57

*the C_v values are only valid for fluids with a viscosity of 1,0mpa-s. (water)

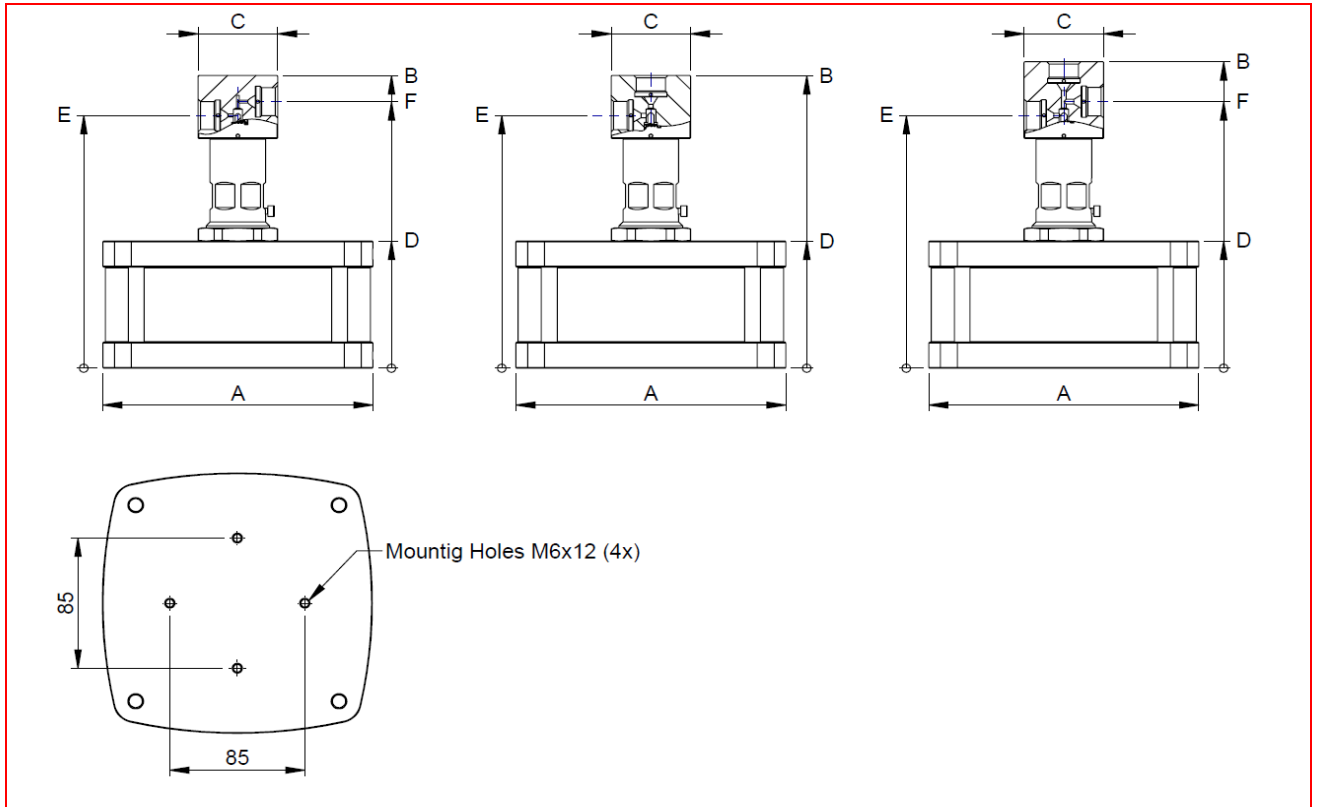
AIR OPERATING PRESSURE

Air actuator type	Type code	Piston diameter	Air drive pressure
Normally open type	NO160 / NO200	160 mm / 200 mm	5 bar/ 72.5 psi
Normally closed type	NC160 / NC200	160 mm / 200 mm	6,5 bar / 87 psi

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DIMENSIONS



NV(U)	Pressure rating bar / psi	Orifice mm	A	B	C	D	E	F	
1-1-42	4200 / 60 000	3.5	170	191	50	83	165	174	
1-1-70	7000 / 100 000	2.2					163	171	
1-2-42	4200 / 60 000	3.5					165	-	
1-2-70	7000 / 100 000	2.2					163	-	
1-3-42	4200 / 60 000	3.5		200			165	174	
1-3-70	7000 / 100 000	2.2		163			171		
2-1-21	2100 / 30 000	5		191			174		
2-1-42	4200 / 60 000	3.5						174	
2-2-21	2100 / 30 000	5						165	n.a.
2-2-42	4200 / 60 000	3.5							
2-3-21	2100 / 30 000	5	200		174				
2-3-42	4200 / 60 000	3.5	174						
3-1-21	2100 / 30 000	7.5	212	204	64	169	183		
3-1-42	4200 / 60 000	5					183		
3-2-21	2100 / 30 000	7.5					-		
3-2-42	4200 / 60 000	5					-		
3-3-21	2100 / 30 000	7.5		218			183		
3-3-42	4200 / 60 000	5						183	

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SPECIFICATIONS

BODY	All wetted parts are made of stainless steel
AIR-ACTUATED PART	Aluminium, colour anodized
REMAINING PART	Non-corrosive materials

MATERIAL CERTIFICATES

All valves are marked with Resato logo, ordering code, material specifications, pressure rating and material batch number (refers to DIN 3.1.B material certificate).

AMBIENT TEMPERATURE

Pressure ratings are based on room temperature. Please contact Resato for temperatures lower than -20°C or higher than 60°C

NACE MR-01-75

On request most valves are available to NACE MR0175/ISO 15156 for sour gas service. In this case a "SG" will be added to the ordering code.

MEDIUM TYPES

The medium types to be used are; Water, oil, emulsion of water and oil. Other than the liquids mentioned may only be used in accordance with Resato.

PACKAGING AND WEIGHT

Tertiary Packaging:	Transport box
Dimensions:	30 x 30 x 30 cm
Weight:	5 – 10 kg

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V1.1 - Please note that general data and specifications given in this brochure are subject to change without notice.
Feel free to contact our sales department if you need more definite information.