



AIR FLOW CONTROL HEAVY-DUTY CHECK VALVES

PRODUCT CATALOG



Check Valves Heavy-Duty 19 Series

Product Overview

Check Function

ROSS check valves function is to open with fluid movement and pressure, and close to prevent backflow of the pressure to upstream equipment.

Low-Profile	Mid-Range	High-Capacity
		

Illustration examples.

Valve Schematic



ROSS check valves are self-actuating and designed to provide free air flow in one direction, and to be closed to flow in the opposite direction.

VALVE FEATURES

Poppet Design	Dirt-tolerant, self-cleaning poppet design. Available in alternate materials for extreme temperature applications.
Soft-Seal Design	Provides quiet operation
Low Cracking Pressure	Air tight seal ensures no leakage from the valve
Positive Locking	Available in Low-Profile High-Capacity valves, prevents change of adjustment knob due to vibration or tampering
Easy Maintenance	Can be serviced inline
Rugged Construction	Made with corrosion-resistant materials

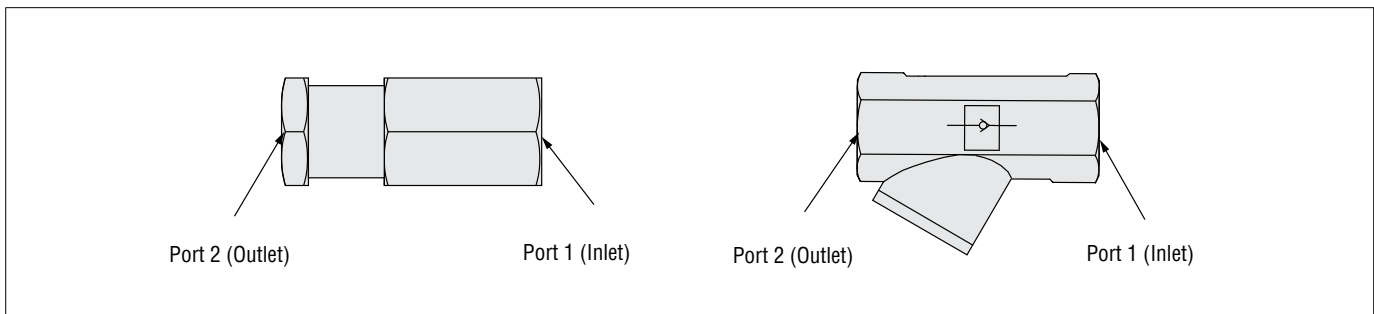
STANDARD SPECIFICATIONS			
GENERAL	Function	One-Way Valve	
	Construction Design	Poppet	
	Actuation	Pneumatic	
	Mounting	Type	Inline
		Orientation	Any
Connection	Threaded	NPT, G	
OPERATING CONDITIONS	Temperature	Ambient	-40° to 175°F (-40° to 80°C)
		Media	
		<i>For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice.</i>	
	<i>For temperatures below -40°F (-40°C), consult ROSS.</i>		
	Flow Media	Filtered air	
Operating Pressure	150 psi (10.3 bar)		
	Signal Pressure	Must be equal to or greater than inlet	
CONSTRUCTION MATERIAL	Valve Body	Cast Aluminum	
	Poppet	Acetal and Stainless Steel	
	Seals	Buna-N	
<p>IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.</p>			

PRODUCT CREDENTIALS
<p>EAC Conformity Declaration</p> <p style="text-align: center;">EAC</p>

Ordering Information

CHECK VALVES			One-Way Valves	
Valve Style	Body Size	Port Size	Valve Model Number	
		In-Out	NPT Thread	G Thread
Low-Profile	1/4	1/8	1968D1005	D1968D1005
		1/4	1968D2005	D1968D2005
Mid-Range	1/4	1/4	1968D2001	D1968D2001
	3/8	3/8	1968D3001	D1968D3001
		1/2	1968D4001	D1968D4001
High-Capacity	3/4	1/2	1968A4107	D1968A4107
		3/4	1968A5107	D1968A5107
		1	1968A6117	D1968A6117
	1-1/4	1	1968A6107	D1968A6107
		1-1/4	1968A7107	D1968A7107
		1-1/2	1968A8117	D1968A8117
	2	1-1/2	1968A8107	D1968A8107
		2	1968A9107	D1968A9107
		2-1/2	1968A9117	D1968A9117

Valve Style	Size		Flow C _v (NI/min)	Weight lb (kg)
	Body	Port 1, 2	1-2	
Low-Profile	1/4	1/8	0.5 (490)	0.5 (0.2)
		1/4	0.5 (490)	
Mid-Range	1/4	1/4	2.9 (2900)	0.5 (0.2)
	3/8	3/8	3.7 (3600)	
		1/2	3.9 (3800)	
High-Capacity	3/4	1/2	5.2 (5100)	0.9 (0.4)
		3/4	8.6 (8500)	
		1	8.3 (8200)	
	1-1/4	1	17 (17000)	2.0 (0.9)
		1-1/4	22 (22000)	
		1-1/2	22 (22000)	
	2	1-1/2	50 (49000)	4.7 (2.1)
		2	50 (49000)	
		2-1/2	50 (49000)	



DIMENSIONS		Inches (mm)
Low-Profile	Body Size 1/4	
Mid-Range	Body Size 1/4	Body Size 3/8
High-Capacity	Body Size 3/4	
	Body Size 1-1/4	
Body Size 2		

Downloadable CAD models available.

CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the "ROSS Group".

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).
2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.
3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.
4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.
3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with

phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.
2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

WARNINGS: Failure to follow these instructions can result in personal injury and/or property damage.

SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.
3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

WARNINGS:

Failure to follow these instructions can result in personal injury and/or property damage.

STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

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AMERICAS	ROSS CONTROLS	USA	Tel: +1-248-764-1800	www.rosscontrols.com
	ROSS CONTROLS CANADA Ltd.	Canada	Tel: +1-416-251-7677	www.rosscanada.com
	ROSS DO BRASIL LTDA	Brazil	Tel: +55-11-4335-2200	www.rosscontrols.com.br
EUROPE	ROSS EUROPA GmbH	Germany	Tel: +49 (0)6103-7597-100	www.rosseuropa.com
	ROSS FRANCE SAS	France	Tel: +33-(0)1-49-45-65-65	www.rossfrance.com
	ROSS PNEUMATROL Ltd.	United Kingdom	Tel: +44 (0)1254 872277	www.rossuk.co.uk
ASIA & PACIFIC	ROSS CONTROLS INDIA Pvt. Ltd.	India	Tel: +91-44-2624-9040	www.rosscontrolsindia.com
	ROSS CONTROLS (CHINA) Ltd.	China	Tel: +86-21-6915-7961	www.rosscontrolschina.com
	ROSS ASIA K.K.	Japan	Tel: +81-42-778-7251	www.rossasia.co.jp
	AUTOMATIC VALVE INDUSTRIAL LLC	USA	Tel: +1-248-474-6700	www.automaticvalve.com
	ROSS DECCO COMPANY	USA	Tel: +1-248-764-1800	www.rossdecco.com
	ROSS PNEUMATROL Ltd.	United Kingdom	Tel: +44 (0)1254 872277	www.pneumatrol.com
	manufactIS GmbH	Germany	Tel: +49 (0)2013-16843-0	www.manufactis.net

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To meet your requirements across the globe, ROSS distributors are located throughout the world. Through ROSS or its distributors, guidance is available for the selection of ROSS products, both for those using fluid power components for the first time and those designing complex systems.

Other literature is available for engineering, maintenance, and service requirements.

If you need products or specifications not shown in this catalog, please visit ROSS' website, contact ROSS or your ROSS distributor. The ROSS Support Team will be happy to assist you in selecting the best product for your application.