



## SHUTTLE VALVES

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## PRODUCT CATALOG

# Shuttle Valves Heavy-Duty 19 Series

## Product Overview

### Shuttle Function

ROSS shuttle valves function is to allow pressure in a line to be obtained from alternative sources.



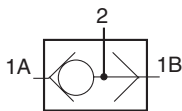
Standard	High-Flow
	

Illustration examples.

### Valve Schematic



ROSS shuttle valves or double check valves have two inlets and one outlet. The first inlet to be pressurized is connected to the outlet, and the second inlet is then closed. Thus, a pneumatic device connected to the shuttle outlet can be operated by either of two control valves connected to the shuttle inlets. Automatically blocks one inlet passage when pressure is applied to the second inlet. Pressure to either inlet is channeled to one outlet port.

### VALVE FEATURES

<b>Poppet Design</b>	Dirt-tolerant, self-cleaning poppet design. Available in alternate materials for extreme temperature applications.
<b>Tight-Seal Design</b>	Provides efficiency and durability
<b>Low Cracking Pressure</b>	Air tight seal ensures no leakage from the valve
<b>Positive Locking</b>	Available in Low-Profile High-Capacity valves, prevents change of adjustment knob due to vibration or tampering
<b>Rugged Construction</b>	Made with corrosion-resistant materials

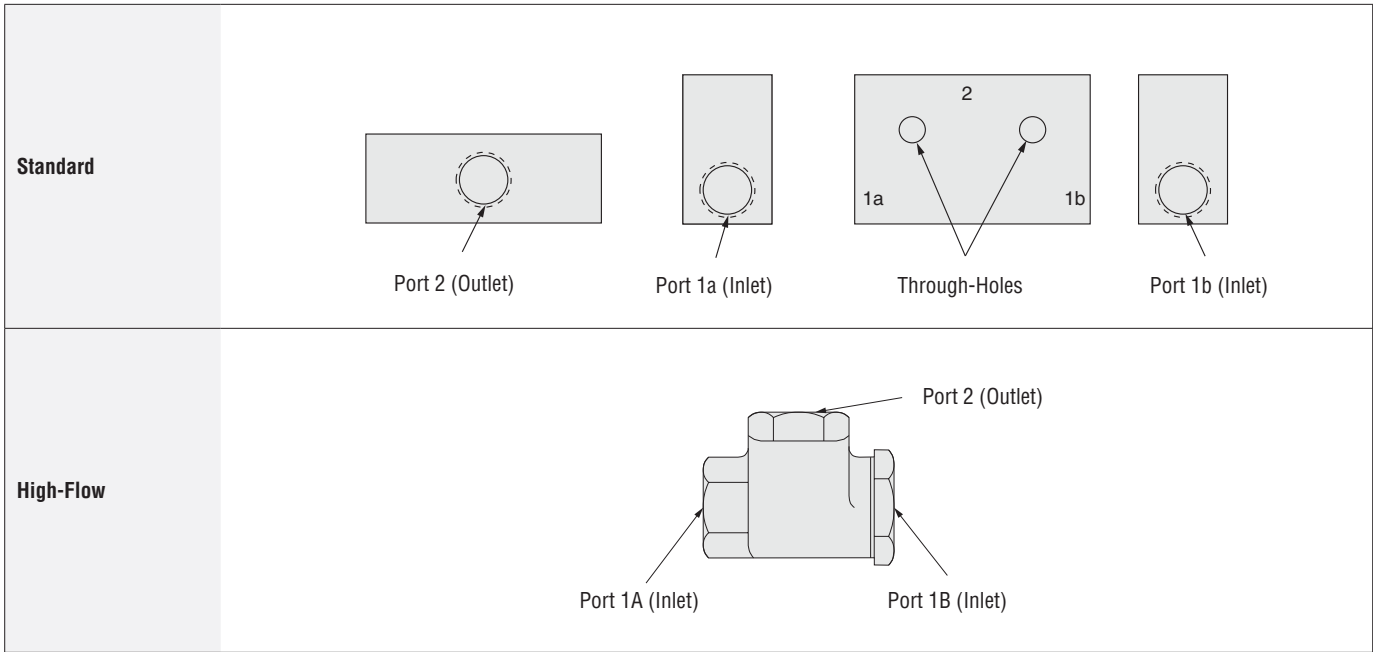
STANDARD SPECIFICATIONS			
GENERAL	Function	2-Way Valve	
	Construction Design	Poppet	
	Actuation	Pneumatic	
	Mounting	Type	Inline
		Orientation	Any
	Connection	Threaded Port	NPT
G			
OPERATING CONDITIONS	Temperature	Ambient	-40° to 175°F (-40° to 80°C)
		Media	
		For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice.	
		For temperatures below -40°F (-40°C), consult ROSS.	
	Flow Media	Filtered air	
	Operating Pressure	150 psi (10 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	
IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.			

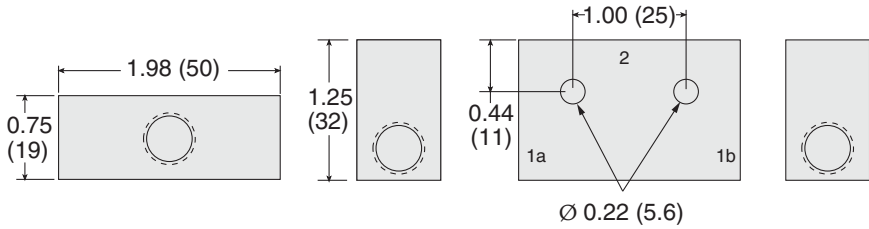
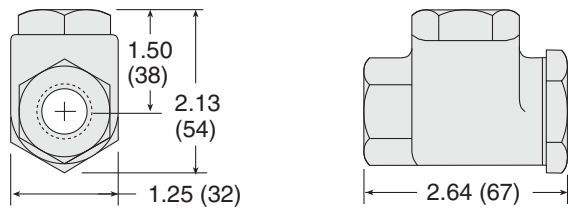
PRODUCT CREDENTIALS
<p>Declaration of Conformity</p> <p><b>ERC</b></p>

# Ordering Information

SHUTTLE VALVES				2-Way Valves
Valve Style	Body Size	Port Size	Valve Model Number	
		In-Out	NPT Thread	G Thread
Standard	1/4	1/8	1968E1006	D1968E1006
		1/4	1968E2006	D1968E2006
High-Flow	3/8	1/4	1968D2003	D1968D2003
		3/8	196D3003	D1968D3003

Size		Flow C <sub>v</sub> (NI/min)	Weight ≈ lb (kg)
Body	Port 1, 2	1-2	
1/4	1/8	0.8 (790)	0.15 (0.07)
	1/4		
3/8	1/4	2.0 (2000)	0.8 (0.4)
	3/8	3.0 (3000)	



DIMENSIONS		Inches (mm)
Body Size 1/4		
Standard		
	Body Size 3/8	
High-Flow		
	Downloadable CAD models available.	



# CAUTIONS, WARNINGS And STANDARD WARRANTY



ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the “ROSS Global Family”.

## 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 Global Family 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 Global Family 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 Global Family location.
4. Each ROSS Global Family Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Global Family 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 Global Family recommends a filter with a 5-micron rating for normal applications.
2. All standard ROSS Global Family 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 Global Family 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 Global Family's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Global Family 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 Global Family freight prepaid.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GLOBAL FAMILY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GLOBAL FAMILY MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GLOBAL FAMILY LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GLOBAL FAMILY MAY EXTEND THE LIABILITY OF THE ROSS GLOBAL FAMILY AS SET FORTH HEREIN.



GLOBAL LOCATIONS

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