



HEAVY-DUTY FOOT OPERATED VALVES 36 & RM SERIES

PRODUCT CATALOG



Foot Operated Pedal and Treadle Valves RM & 36 Series

Product Overview

Foot Operated Valves

ROSS foot operated valves are designed to provide foot actuation in a valve especially suited for remote pilot service. Foot operated poppet valves for small, fast, single or double-acting cylinder or pneumatic actuator applications on machines, jigs, fixtures, etc.

Heavy-Duty Pedal Valve	Heavy-Duty Treadle Valve	Pedal Valve with Guard
		

Illustration examples.

VALVE FEATURES

Poppet Design	Reliable poppet construction
Simple Design	Easy to operate
Mounting	Offer flexible and easy installation options
Rugged Construction	Dependable and long life, with minimum maintenance required

STANDARD SPECIFICATIONS					
GENERAL	Function	3/2, 4/2, and 5/2 Valve; Normally Closed			
	Construction Design	Poppet			
	Actuation	Pneumatic; Foot Pedal or Tradle			
	Valve Return Method	Pedal Valve	Spring Return		
		Treadle Valve	Detented		
		Pedal Valve with Guard	with Lock	Spring Return	
			without Lock	Detented	
Mounting	Inline, Bottom mounting				
Connection	Threaded	NPT, G			
OPERATING CONDITIONS	Temperature	Heavy-Duty Valves	Ambient	-30° to 175°F (-34° 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 -30° F (-34° C), consult ROSS.		
		Pedal Valve with Guard	Ambient	23° to 140°F (-5° to 60°C)	
			Media		
			For temperatures below 40°F (4°C) air must be free of water vapor to prevent formation of ice.		
	Flow Media	Filtered air			
	Operating Pressure	Pedal Valve	5 to 150 psi (0.3 to 10 bar)		
		Treadle Valve			
		Pedal Valve with Guard	0 to 120 psig (0 to 8.2 bar)		
	CONSTRUCTION MATERIAL	Valve Body	Cast Aluminum		
		Poppet	Stainless Steel		
Seals		Buna-N			
Guard (Pedal Valve with Guard only)		Plastic			
IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.					

PRODUCT CREDENTIALS
<p>EAC Conformity Declaration</p> <p>EAC</p>

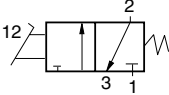
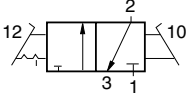
Ordering Information

3/2 Heavy Duty Valves

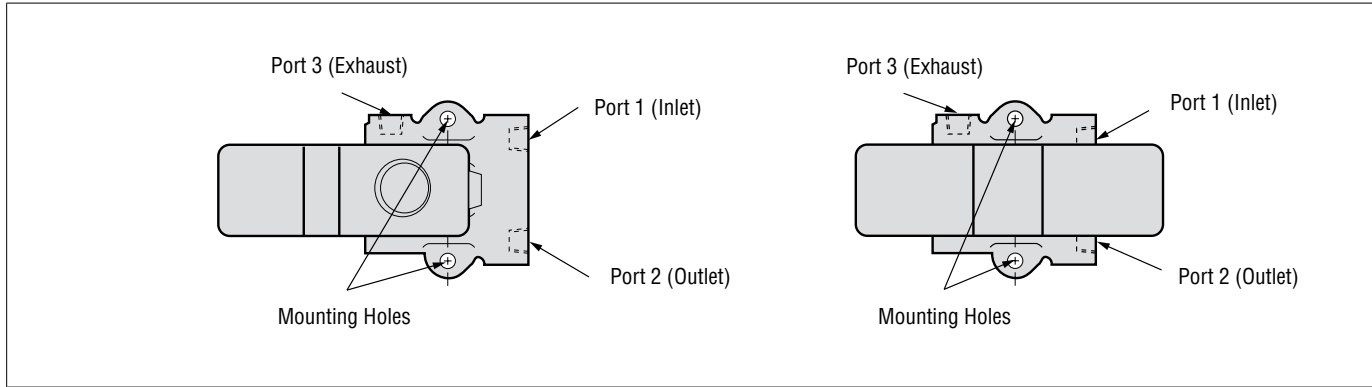
Foot Operated Valves				3-Way 2-Position Valves	
Port Size		Actuator Type	Valve Model Number		
In-Out	Exhaust		NPT Thread		G Thread
1/4	1/4		Pedal	3643A2002	D3643A2002
		Treadle	3643A2001	D3643A2001	

Size		Flow C _v (NI/min)	Average Response Constants*		Weight lb (kg)
Port 1, 2	Port 3		F		
			1-2	2-3	
1/4	1/4	1.2 (1200)	1.66	1.43	1.3 (0.6)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Schematic	
Pedal	Treadle
	

Note: The 3/2 treadle valves are not designed to be used to actuate clutch/brake mechanisms on mechanical power presses.

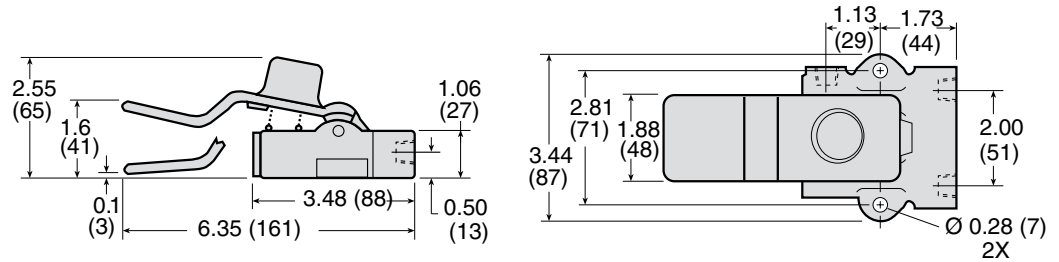


3/2 Heavy Duty Valves

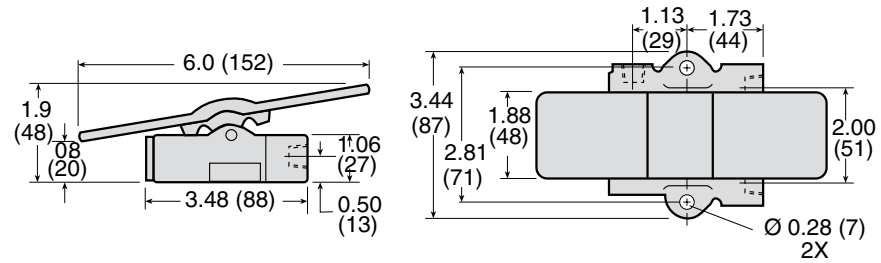
DIMENSIONS

Inches (mm)

Pedal Valve



Treadle Valve



Downloadable CAD models available.

Ordering Information

4/2 Heavy Duty Valves

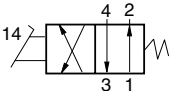
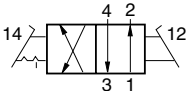
FOOT OPERATED VALVES

4-Way 2-Position Valves

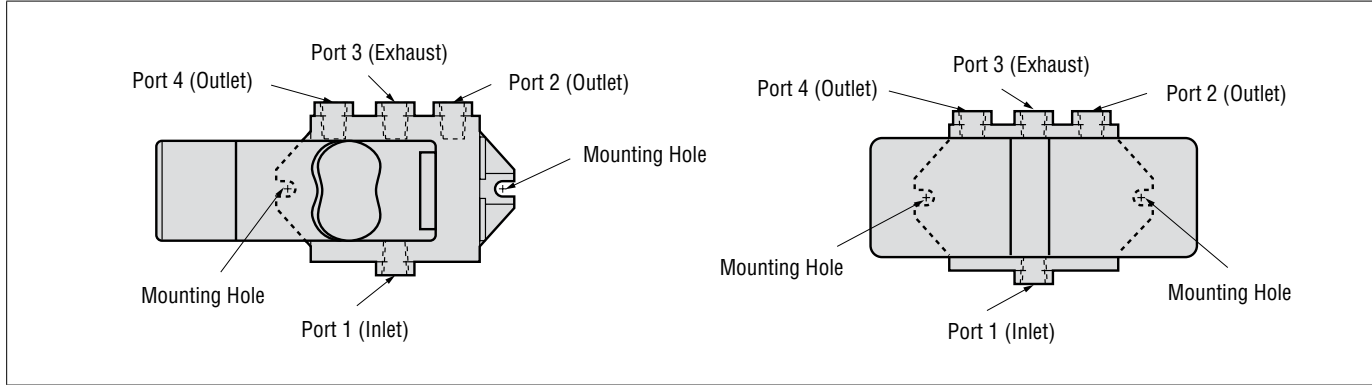
Port Size		Actuator Type	Valve Model Number	
In-Out	Exhaust		NPT Thread	G Thread
1/4	1/4	Pedal	3646A2002	D3646A2002
		Treadle	3646A2001	D3646A2001

Size		Flow C _v (NI/min)	Average Response Constants*		Weight lb (kg)
Port 1, 2	Port 3		F		
			1-2, 1-4	4-3, 2-3	
1/4	1/4	1.2 (1200)	1.66	1.43	1.3 (0.6)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. F values are given in the chart above. M values for manually operated valves depend on the speed of actuation, and may be taken as zero for most practical applications.

Valve Schematic	
Pedal	Treadle
	

Note: The 4/2 treadle valves are not designed to be used to actuate clutch/brake mechanisms on mechanical power presses.

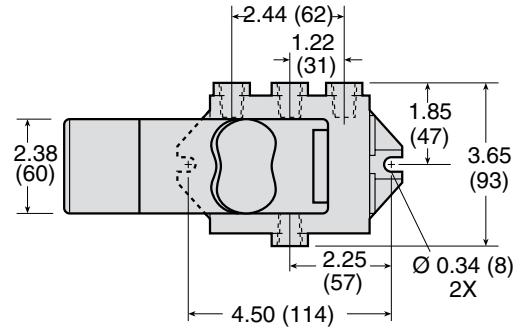
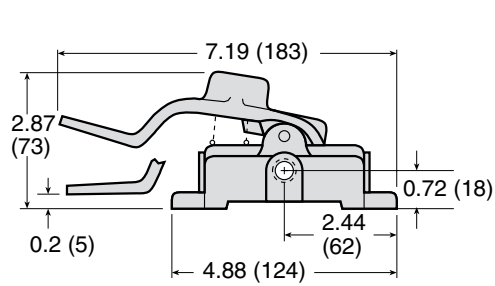


4/2 Heavy Duty Valves

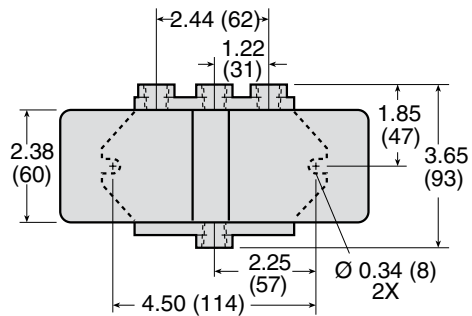
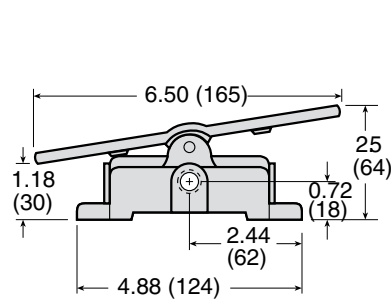
DIMENSIONS

Inches (mm)

Pedal Valve



Treadle Valve



Downloadable CAD models available.

Ordering Information

5/2 Foot Pedal with Guard Valves

SELECTOR SWITCH VALVES

5-Way 2-Position Valves

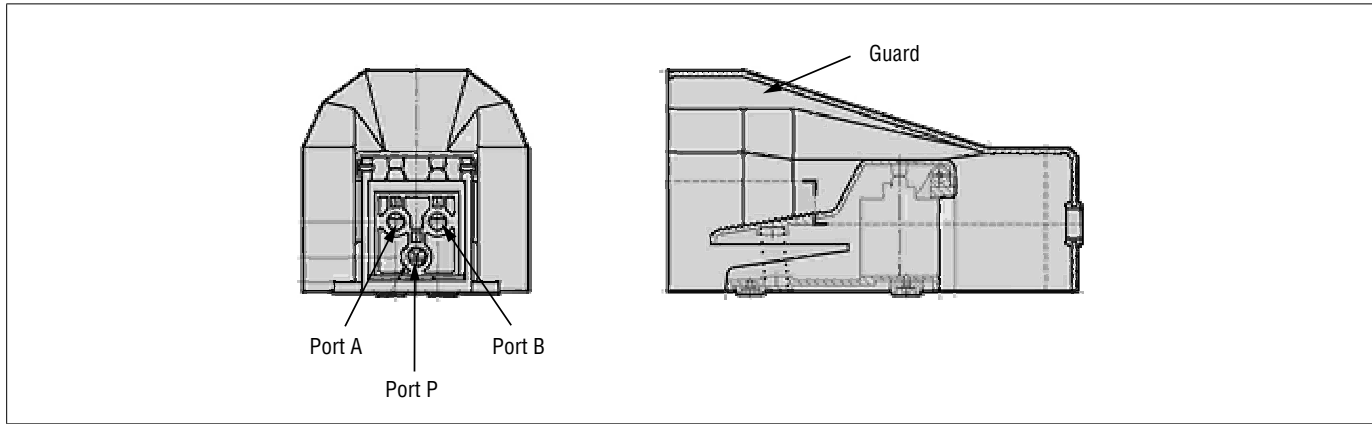
Port Size	Actuator Type	Valve Model Number
In-Out		NPT Thread
1/4	Non-locking foot pedal	RM4F210-08G
	Locking foot pedal	RM4F210-08LG

Size	Flow C _v (NI/min)	Weight lb (kg)
Port A, B, P		
1/4	0.5 (490)	2.1 (0.9)

Valve Schematic	
Spring Return without Lock	Detented with Lock

Convertible to a 3-Way function.

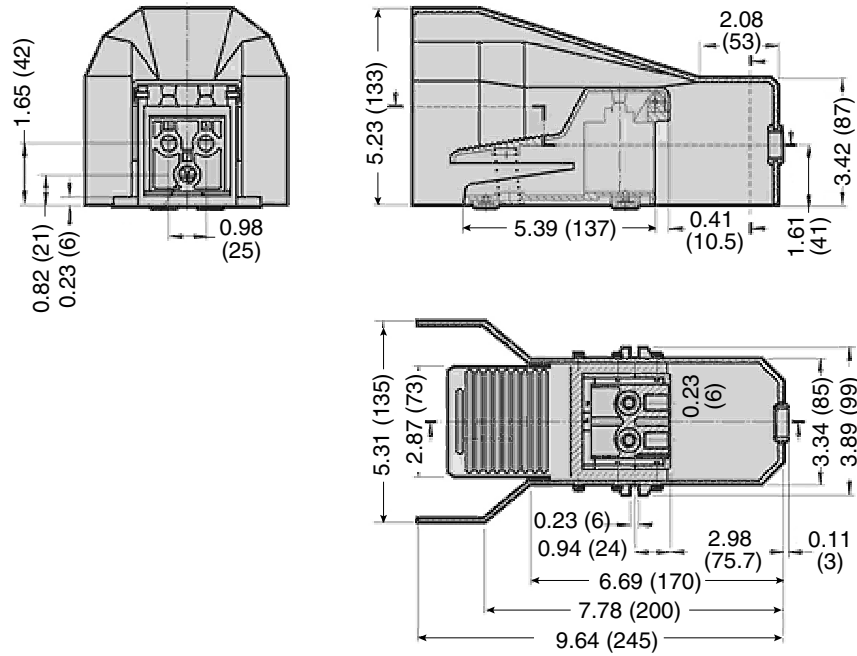
Note: Designed to meet OSHA 1910.217 Mechanical power presses, with protective guard to prevent accidental actuation.



5/2 Foot Pedal with Guard Valves

DIMENSIONS

Inches (mm)



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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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.