

TaskMaster® Pneumatic Directional Control Valves



TaskMaster® Valve, 4-Way Directional Control

Technical data and features



4 Way / 2 & 3 Position 1/4" & 3/8" NPTF Solenoid, Air Pilot & Lever Operated

TECHNICAL DATA:

Port Sizes: 1/4" & 3/8" NPTF

Working Pressure: Valve inlet: 200 psi (13.8 bar) maximum with external pilot
150 psi (10.3 bar) maximum with internal pilot

Minimum Pilot Pressure: 2 position: 15 psi (1 bar)
Spring return models: 25 psi (1.7 bar)

Flow: C_v 1.0 (1000 NI/min)

Temperature Range: -20°F to +160°F (-29°C to 71°C)

Media: Air and inert gases (In service higher than 18 cycles per minute or with continuous air flow, a lubricator is recommended.)

Materials: Body, subplate and operators: Die cast anodized aluminum
Spool: Machined from high-tensile anodized aluminum
Seals: Buna-N specially treated

Manual Override: Non-Locking

ELECTRICAL DATA:

Standard Voltage (all coils are rated for continuous duty)	Power Consumption	
	Inrush	Holding
24, 120, 240 VAC 60 Hz	33 VA	22 VA
12, 24 VDC	12 W	

Molded Coil: Standard

Lead Length: 24"

Approximate Weights:

Single Solenoid	2.63 lbs. (1.19 kg)
Double Solenoid	3.38 lbs. (1.53 kg)
3-Position Double Solenoid	3.88 lbs. (1.76 kg)
Single Air Pilot	2.13 lbs. (0.97 kg)
Double Air Pilot	2.13 lbs. (0.97 kg)
3-Position Double Air Pilot	2.63 lbs. (1.19 kg)
2-Position Lever	2.50 lbs. (1.13 kg)
3-Position Lever	2.38 lbs. (1.08 kg)



Features:

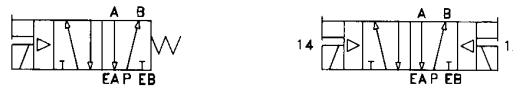
- **Subbase mounted** four-way valves for two and three position (spring centered) closed center operation and a selection of three operators.
- **Three-way function** can be obtained by plugging one delivery port to provide either normally open or closed operation.
- **Unique subbase** is designed to be mounted to the customer's equipment with only two mounting bolts, which saves labor and material during installation.
- **Separate tapped exhaust ports**, in the subbase, for each delivery port allow exhaust air to be piped away for safety or noise reduction purposes and permit use of exhaust restrictors for cylinder speed control.
- **Minimum number of wearing parts.** Lessens the chance of equipment downtime and reduces the cost of repair.
- **Low pilot pressure.** A low (15 psi without springs—25 psi with springs) pilot pressure rating assures reliable operation. Fluctuating line pressures within the plant do not affect operation.
- **Continuous-duty solenoid.** Won't burn out...even when energized for extended periods. Pilot operated for fast response. Non-locking manual override is standard.
- **Lightweight aluminum spool.** Aluminum spool is precision finished for faster response and optimum dependability.
- **Low friction spool bore.** Bore is roller burnished for lower spool friction and longer seal life.
- **No-leak seals.** Specially treated Buna-N seals assure low friction and long wear without leakage.
- **Easier maintenance.** Simplified design offers quick access for maintenance through 3-bolt valve portion mounting and easy end cover removal.
- **U.L. listed.**

TaskMaster® Valve, 4-Way Directional Control

Solenoid operated models, 2 & 3 Position, 1/4" & 3/8" NPTF

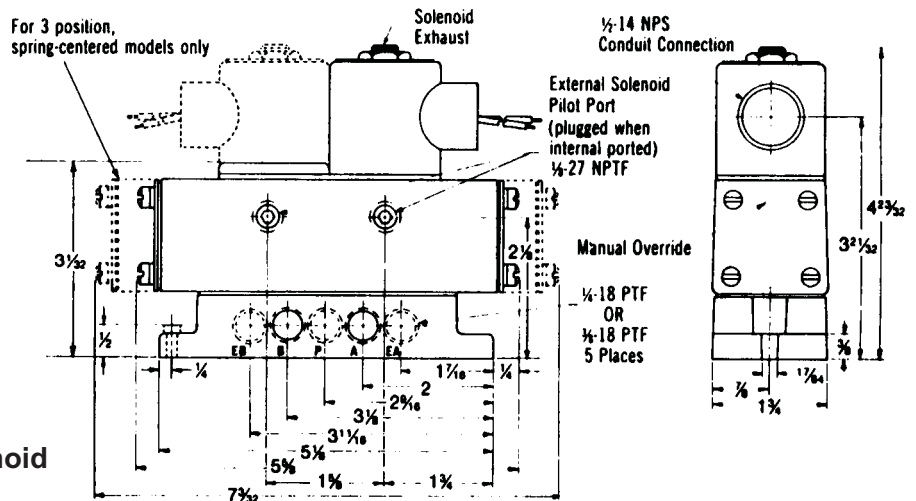


Solenoid Operated, 2 Position Subbase Mounted Single or Double Solenoid Operated

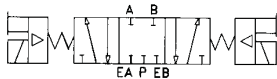


Port Size (120VAC version) See Coil Voltages Note	Single Solenoid		Double Solenoid	
	Internal	External	Internal	External
With 1/4" subbase	R431008475 (PJ-022711-00000)	R431008471 (PJ-021711-00000)	R431008479 (PJ-022771-00000)	R431008474 (PJ-021771-00000)
With 3/8" subbase	R431008491 (PJ-032711-00000)	R431008488 (PJ-031711-00000)	R431008495 (PJ-032771-00000)	R431008490 (PJ-031771-00000)
Valve less subbase	R431008459 (PJ-012711-00000)	R431008456 (PJ-011711-00000)	R431008462 (PJ-012771-00000)	R431009192 (PJ-011771-00000)

Model code (and old part number) shown in parenthesis.



3 Position Subbase Mounted Spring-Centered Double Solenoid Operated, Closed Center



Port Size	Part No.	Model No.
With 1/4" subbase	R431008482	PJ-025771-00000
With 3/8" subbase	R431008499	PJ-035771-00000
Less subbase	R431008466	PJ-015771-00000

Explosion Proof Valves

Port Size	Part No.	Model No.
1/4" - 120VAC, like PJ22711	R431005866	P -061772-00000
1/4" - 120VAC, like PJ12711	R431009194	P -060887-K0000
1/4" - 24VDC, like PJ12715	R431005602	P -060887-00004

Coil Voltages:

The coil voltage of a solenoid operator is identified by the last digit of the valve model code. The last digit of all solenoid valve model codes listed identifies a 120VAC, 60 Hz coil. Solenoid valves with other ratings may be ordered by using the table at right and substituting the appropriate digit in the model code (not part number beginning with R).

Other Notes:

Solenoid pilot pressure must be a minimum of 25 psi with return springs, 15 psi less return springs and a maximum of 150 psi. A flush, non-locking manual override is standard for manual operation when the electric power is off. Other optional features are available upon request such as high pressure (200 psi) solenoids.

Coil Voltages		*Last Digit in Model Code
**Primary	**Secondary	
120VAC, 60 Hz	38VDC	1
240VAC, 60 Hz	70VDC	2
480VAC, 60 Hz	145VDC	3
12VDC	42VAC, 60 Hz	4
24VDC	86VAC, 60Hz	5

*See valve model codes. (Does not apply to Hopper Dump Valve version P-060681-00001 or explosion proof models.)

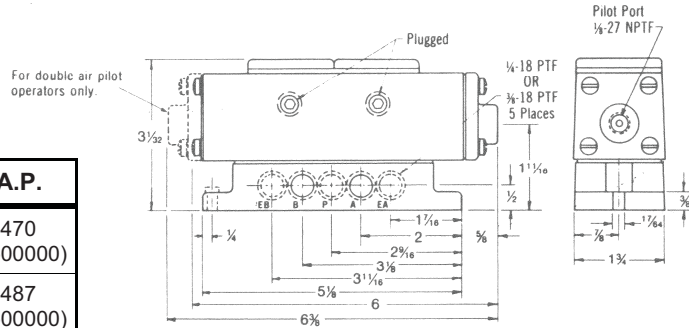
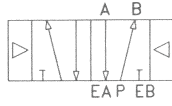
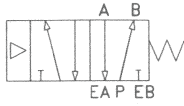
**Primary and secondary voltages will be stenciled on the solenoid data plate.

TaskMaster[®] Valve, 4-Way Directional Control

Air pilot and lever operated models



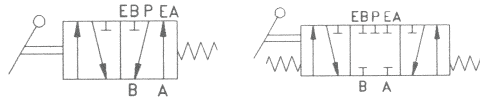
2 Position Subbase Mounted Single or Double Air Pilot Operated



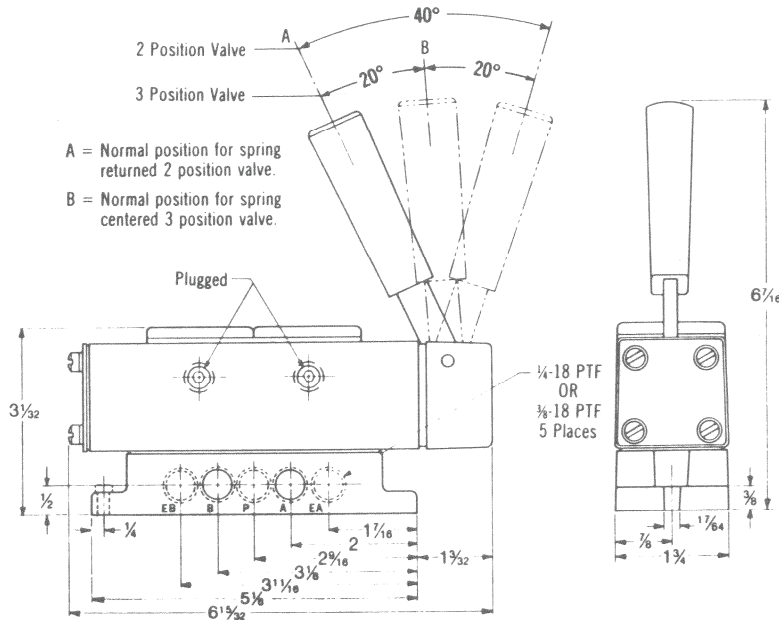
Port Size	Single A.P.	Double A.P.
With 1/4" subbase	R431008469 (PJ-021610-00000)	R431008470 (PJ-021660-00000)
With 3/8" subbase	R431008486 (PJ-031610-00000)	R431008487 (PJ-031660-00000)
Less subbase	R431008454 (PJ-011610-00000)	PJ-015771-00000 (PJ-011660-00000)

Model code (and old part number) shown in parenthesis.

2 and 3 Position Subbase Mounted Lever Operated



Port Size	2 Pos. with Spring	2 Pos. w/o Spring	3 Pos. Spring Ctr.
With 1/4" subbase	R431008468 (PJ-020210-00000)	R431008467 (PJ-020200-00000)	R431008481 (PJ-023210-00000)
With 3/8" subbase	R431008485 (PJ-030210-00000)	R431008484 (PJ-030200-00000)	R431008498 (PJ-033210-00000)
Less subbase	R431009175 (PJ-010210-00000)	R431008453 (PJ-010200-00000)	R431008465 (PJ-013210-00000)



TaskMaster[®] Valve, 4-Way Directional Control

Hopper dump valve; repair kits, subplates and parts

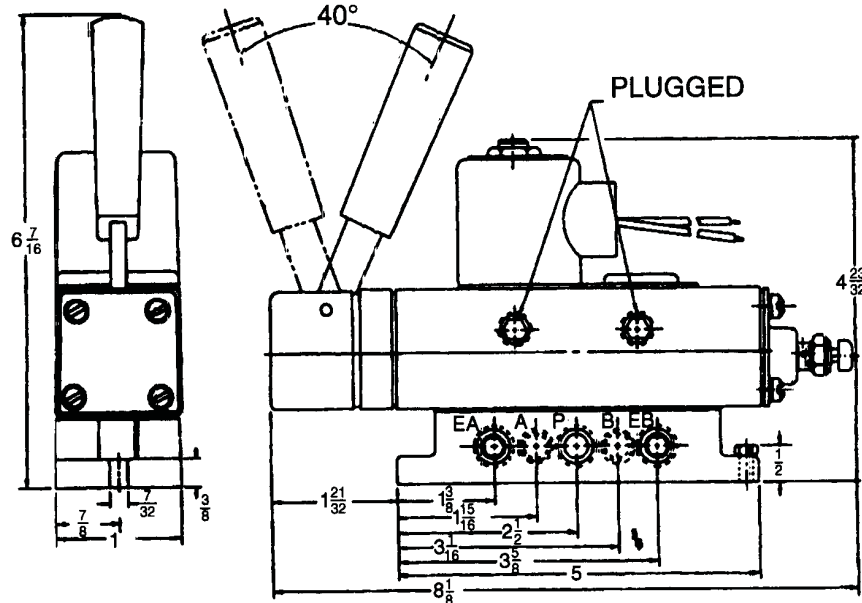
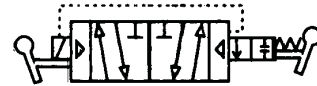


Hopper Dump Valve

Part No. R431005556 (old P -060681-00001)
Part No. R431005557 (old P -060681-00002)*

This unique version is typically used for operating hoppers on many types of trailers hauling different types of aggregate. The valve has solenoid and handle operators. The solenoid permits remote operation of the valve. The handle operates in conjunction with a bleeder button which depressurizes the air spring return allowing the handle to be moved. Manual operation can only be obtained with the solenoid de-energized.

*Higher flow due to plugs omitted from EA and EB ports.



Note: All subbase ports are 3/8" NPT.

Repair Kits, Subplates and Miscellaneous Parts

Repair Kits/Parts

Part No.	Description
R431005395	Valve body kit
R431006634	Valve body kit, Viton
R431005396	Operator kit
R431005397	Operator kit, Viton
R431005645	Solenoid repair kit (includes plunger, spring & gasket)
R431006057	Solenoid exhaust filter
R431006858	Solenoid sleeve (armature)

Solenoid Operators and Kits

Last Digit*	Coil Voltage	Part Numbers		
		Solenoid Operator Kit		Solenoid
		Ext. Pilot	Internal Pilot	
1	120VAC, 60 Hz	R431005146	R431005137	R431002779
2	240VAC, 60 Hz	R431005149	R431005143	R431002780
3	480VAC, 60 Hz	—	R431005144	R431002781
4	12VDC	R431005147	R431005140	R431002783
5	24VDC	R431005148	R431005142	R431002782

Subplates

Part No.	Description
R431005110	1/4" NPT subplate
R431005109	3/8" NPT subplate

Coils

Last Digit*	Part no.	Coil Voltage
1	R431005915 (P -061920-00000)	120VAC, 60 Hz
2	R431005916 (P -061920-00001)	240VAC, 60 Hz
3	R431005917 (P -061920-00002)	480VAC, 60 Hz
4	R431005919 (P -061920-00004)	12VDC
5	R431005918 (P -061920-00003)	24VDC

*Last digit in model code. (Does not apply to Hopper Dump Valve version P -060681-00001 or explosion proof models.)

NOTICES TO PRODUCT USERS

1. WARNING: FLUID MEDIA

Bosch Rexroth pneumatic devices are designed and tested for use with filtered, clean, dry, chemical free air at pressures and temperatures within the specified limits of the device. For use with media other than air or for human life support systems, Bosch Rexroth must be consulted. Hydraulic cylinders are designed for operation with filtered, clean, petroleum based hydraulic fluid; operation using fire-resistant or other special types of fluids may require special packing and seals. Consult the factory.

2. WARNING: MATERIAL COMPATIBILITY

Damage to product seals or other parts caused by the use of non-compatible lubricants, oil additives or synthetic lubricants in the air system compressor or line lubrication devices voids Bosch Rexroth's warranty and can result in product failure or other malfunction. See lubrication recommendations below.

AIR LINE LUBRICANTS! In service higher than 18 cycles per minute or with continuous flow of air through the device, an air line lubricator is recommended. * (Do not use line lubrication with vacuum products.) However, the lubricator must be maintained since the oil will wash out the grease, and lack of lubrication will greatly shorten the life expectancy. The oils used in the lubricator must be compatible with the elastomers in the device. The elastomers are normally BUNA-N, NEOPRENE, VITON, SILICONE and HYTREL. Bosch Rexroth recommends the use of only petroleum-based oils without synthetic additives, and with an aniline point between 180° and 210° F.

COMPRESSOR LUBRICANTS! All compressors (with the exception of special "oil free" units) pass oil mist or vapor from the internal crankcase lubricating system through to the compressed air. Since even small amounts of non-compatible lubricants can cause severe seal deterioration (which could result in component and system failure) special care should be taken in selecting compatible compressor lubricants. It is recommended that users review the National Fluid Power Association "Recommended Guide Lines For Use Of Synthetic Lubricants In Pneumatic Fluid Power Systems" (NFPA T1-1978).

3. WARNING: INSTALLATION AND MOUNTING

The user of these devices must conform to all applicable electrical, mechanical, piping and other codes in the installation, operation or repair of these devices.

INSTALLATION! Do not attempt to install, operate or repair these devices without proper training in the technique of working on pneumatic or hydraulic systems and devices, unless under trained supervision. Compressed air and hydraulic systems contain high levels of stored energy. Do not attempt to connect, disconnect or repair these products when system is under pressure. Always exhaust or drain the pressure from system before performing any service work. Failure to do so can result in serious personal injury.

MOUNTING! Devices should be mounted and positioned in such manner that they cannot be accidentally operated.

4. WARNING: APPLICATION AND USE OF PRODUCTS

The possibility does exist for any device or accessory to fail to operate properly through misuse, wear or malfunction. The user must consider these possibilities and should provide appropriate safe guards in the application or system design to prevent personal injury or property damage in the event of malfunction.

5. WARNING: CONVERSION, MAINTENANCE AND REPAIR

When a device is disassembled for conversion to a different configuration, maintenance or repair, the device must be tested for leakage and proper operation after being reassembled and prior to installation.

MAINTENANCE AND REPAIR! Maintenance periods should be scheduled in accordance with frequency of use and working conditions. All Bosch Rexroth products should provide minimum of 1,000,000 cycles of maintenance free service when used and lubricated as recommended. However, these products should be visually inspected for defects and given an "in system" operating performance and leakage test once a year. Where devices require major repair as result of the one million cycles, one year, or routine inspection, the device must be disassembled, cleaned, inspected, parts replaced as required, rebuilt and tested for leakage and proper operation prior to installation. See individual catalogs for specific cycle life estimates.

6. PRODUCT CHANGES

Product changes including specifications, features, designs and availability are subject to change at any time without notice. For critical dimensions or specifications, contact factory.

*Many Bosch Rexroth pneumatic components can operate with or without air line lubrication; see individual sales catalogs for details.

--Refer to the appropriate service catalog for parts and service information.

LIMITATIONS OF WARRANTIES & REMEDIES

Bosch Rexroth warrants its products sold by it to be free from defects in material and workmanship to the following:

For twelve months after shipment Bosch Rexroth will repair or replace (F.O.B. our works), at its option, any equipment which under normal conditions of use and service proves to be defective in material or workmanship at no charge to the purchaser. No charge will be made for labor with respect to defects covered by this Warranty, provided that the work is done by Bosch Rexroth or any of its authorized service facilities. However, this Warranty does not cover expenses incurred in the removal and reinstallation of any product, nor any downtime incurred, whether or not proved defective.

All repairs and replacement parts provided under this Warranty policy will assume the identity, for warranty purposes, of the part replaced, and the warranty on such replacement parts will expire when the warranty on the original part would have expired. Claims must be submitted within thirty days of the failure or be subject to rejection.

This Warranty is not transferable beyond the first using purchaser. Specifically, excluded from this Warranty are failures caused by misuse, neglect, abuse, improper operation or filtration, extreme temperatures, or unauthorized service or parts. This Warranty also excludes the use of lubricants, fluids or air line additives that are not compatible with seals or diaphragms used in the products. This Warranty sets out the purchaser's exclusive remedies with respect to products covered by it, whether for negligence or otherwise. Neither, Bosch Rexroth nor any of its affiliates will be liable for consequential or incidental damages or other losses or expenses incurred by reason of the use or sale of such products. Our liability (except as to title) arising out of the sale, use or operation of any product or parts, whether on warranty, contract or negligence (including claims for consequential or incidental damage) shall not in any event exceed the cost of replacing the defective products and, upon expiration of the warranted period as herein provided, all such liability is terminated. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. No attempt to alter, amend or extend this Warranty shall be effective unless authorized in writing by an officer of Bosch Rexroth Corporation.

Bosch Rexroth reserves the right to discontinue manufacture of any product, or change product materials, design or specifications without notice.

Bosch Rexroth Corporation

Pneumatics
1953 Mercer Road
Lexington, KY 40511-1021
Telephone (859) 254-8031
Facsimile (859) 254-4188
pneumatics@boschrexroth-us.com
www.boschrexroth-us.com/brp

USA

Bosch Rexroth Corporation
Corporate Headquarters
5150 Prairie Stone Parkway
Hoffman Estates, IL 60192-3707
Telephone (847) 645-3600
Facsimile (847) 645-6201

Bosch Rexroth Corporation
Electric Drives and Controls
5150 Prairie Stone Parkway
Hoffman Estates, IL 60192-3707
Telephone (847) 645-3600
Facsimile (847) 645-6201

Bosch Rexroth Corporation
Hydraulics
2315 City Line Road
Bethlehem, PA 18017-2131
Telephone (610) 694-8300
Facsimile (610) 694-8467

8 Southchase Court
Fountain Inn, SC 29644-9018
Telephone (864) 967-2777
Facsimile (864) 967-8900

Bosch Rexroth Corporation
Linear Motion and Assembly
Technologies
14001 South Lakes Drive
Charlotte, NC 28273
Telephone (800) 438-5983
Facsimile (704) 583-0523

Bosch Rexroth

Regional Sales Offices:

Central

Bosch Rexroth Corporation
5150 Prairie Stone Parkway
Hoffman Estates, IL 60192-3707
Telephone (847) 645-3600
Facsimile (574) 472-8788

Great Lakes

Bosch Rexroth Corporation
2730 Research Drive
Rochester Hills, MI 48309
Telephone (248) 267-4000
Facsimile (248) 853-2033

Northeast

Bosch Rexroth Corporation
99 Rainbow Road
East Granby, CT 06026
Telephone (860) 844-8377
Facsimile (860) 844-8595

Bosch Rexroth Corporation
2315 City Line Road
Bethlehem, PA 18017-2131
Telephone (610) 694-8300
Facsimile (610) 694-8467

Other North America

Bosch Rexroth Canada
3426 Mainway Drive
Burlington, Ontario L7M 1A8
Telephone (905) 335-5511
Facsimile (905) 335-4184
www.boschrexroth.ca

Bosch Rexroth, S.A. de C.V.
Calle Neptuno # 72
Unidad Industrial Vallejo
CP 07700 Mexico, D.F.
Telephone (555) 754-1711
Facsimile (555) 752-5943

Southeast

Bosch Rexroth Corporation
14001 South Lake Drive
Charlotte, NC 28273
Telephone (800) 438-5983
Facsimile (704) 583-0523

Southwest

Bosch Rexroth Corporation
1520 Selene Drive, Suite 104
Carrollton, TX 75006
Telephone (972) 245-6718
Facsimile (972) 242-2850

West

Bosch Rexroth Corporation
7901 Stoneridge Drive, Suite 220
Pleasanton, CA 94588
Telephone (925) 227-1074
Facsimile (925) 227-1081

Bosch Rexroth Corporation
13766 Alton Parkway, Suite 147
Irvine, CA 92618-1622
Telephone (949) 609-1640
Facsimile (888) 873-3434

Further contacts

www.boschrexroth.com/
addresses

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