Instruction Sheet

Plus Two Multi-Purpose Valve (MPV)

302-040

SUPERSEDES: April 1, 2010

EFFECTIVE: September 4, 2018

Plant ID No. 001-3881

CAUTION: THIS VALVE IS A CHECK VALVE. DEPRESSURIZE BOTH SIDES OF VALVE BEFORE SERVICING THIS PRODUCT OR ATTACHED PIPING.

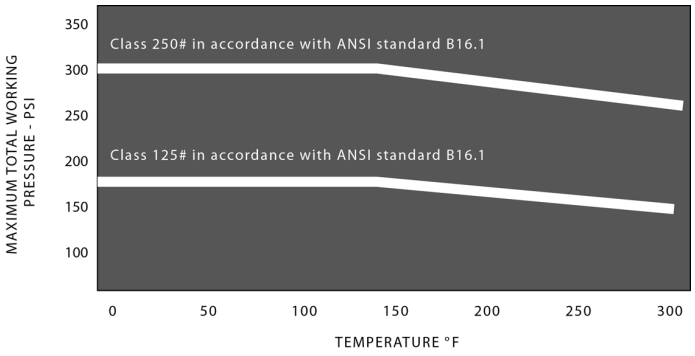
WARNING: FAILURE TO COMPLY WITH THESE INSTRUCTIONS REGARDING THIS VALVE CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE.

INTRODUCTION/APPLICATION

The Taco Plus Two Multi-Purpose Valve incorporates all of the functions required on the discharge side of a pump in a Hydronic System into one valve. It is a spring loaded non slam check valve, a shut off valve, a flow control valve and a flow metering valve.

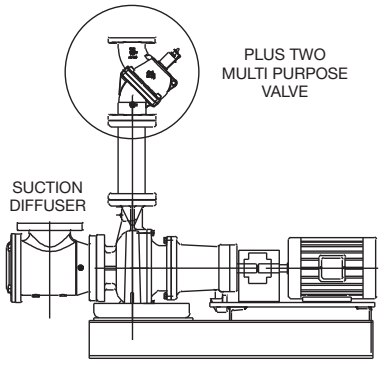
Each valve has a calibrated nameplate for system balancing (approximate). All valves are equipped with metering ports for taking differential pressure readings that can be used with corresponding flow charts for more accurate system balance.

OPERATING LIMITATIONS

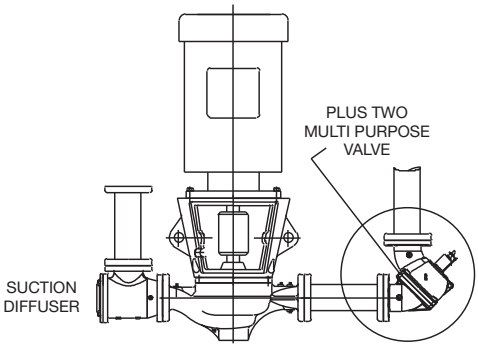


INSTALLATION

1. It is critical that the Taco Plus Two Multi-Purpose Valve is always installed with the shaft facing upwards as indicated in the diagrams.
2. The Taco Plus Two Multi-Purpose Valve should be mounted to a spool piece on the discharge side of the pump. It is recommended that a spool piece of 12" be used on pumps with a discharge size of 1.5" through 6" and a 24" spool piece be used for discharge sizes 8" through 12".
3. In order to prevent any objectionable system noise, mounting of the valve directly to the pump ***is not*** recommended.
4. Provide sufficient clearance around the valve to facilitate removal or repair.
5. Valve should be installed in the direction of the flow arrows on the valve body.
6. The valve body is not designed to support the weight of the system piping. Pipe hangers must be used and properly installed in accordance with accepted industry standards/practice. Pipe supports should be provided under the valve bodies.



BASE MOUNTED SINGLE SUCTION PUMP



VERTICAL IN – LINE PUMP

FIELD CONVERSION
(straight to angle pattern)

WARNING: Valve components can be very heavy, employ proper lifting equipment when working on valves. Failure to follow these instructions can result in serious personal injury or death and property damage.

1. Open valve a minimum of one complete turn.
2. Remove the body bolts.

   1.5" through 2.5" size valves require a $\frac{5}{16}$" allen key.
   3" valve requires a $\frac{3}{8}$" allen key.
   4" valve requires a $\frac{1}{2}$" allen key.
   5" and 6" valves require $\frac{5}{8}$" allen key.
   8" through 12" valves are $\frac{3}{4}$" **hex cap bolts**.
3. Rotate one half of valve body 180° while ensuring that

the body “O” ring and the “soft seat” remain in position (inspect the body “O” ring and the “soft seat” for any nicks or cuts and replace as necessary).

4. Reinstall the body bolts and torque to 50 ft lbs.

REPLACING STEM PACKING

WARNING: Hot system fluid leaking from valves can cause burns. Avoid contact with leaking system fluid when servicing any valve. Failure to follow this instruction can result in serious personal injury or death and property damage.

CAUTION: Safety glasses should be worn.

If a leak develops at the stem packing nut, turn nut clockwise until the leak stops.

If the leak persists you will need to replace the stem packing, this may be accomplished while valve is under full system pressure.

1. Record valve setting utilizing memory clip.
2. Remove retaining rings and calibration name plate.
3. Turn valve stem counter-clockwise until the valve is fully open and will not turn any further.
4. Remove packing nut, located at base of stem by turning counter clockwise.
5. Remove old packing and replace it with two new packing rings with the ring joints positioned 180 degrees apart.
6. Replace packing nut and tighten as required.
7. Reinstall calibration name plate and retaining rings.
8. Reposition valve stem per recorded setting in step one.

WARNING: Hot water leakage can occur from readout valves during hookup of readout kit. Follow the instructions in instruction manuals supplied with readout kits for safe use. Keep eyes protected with safety glasses. Make sure that readout valves are not leaking before removing safety cap. Failure to follow this instruction can result in serious personal injury or death and property damage.

FLOW METER OPERATION

1. Remove caps from the valves at the HI and LO pressure taps.
2. Connect the high pressure hose (red) of the differential pressure gauge to the upstream of HI pressure connection on the MPV and the low pressure hose (green) to the downstream of LO pressure connection.

   Note: Hose ends to be connected require valve depressors. Check opposite end of hose if not visible inside hose end. Valves are opened automatically as the hose end is screwed on.
3. Prepare the differential pressure gauge as per instructions in the Gauge Kit.
4. The flow can be determined by reading the differential pressure indicated at the gauge, noting the valve opening from the scale and pointer and transferring this data to the Flow Chart (published separately).
5. When flow readings are complete, follow directions supplied with differential pressure gauge.
6. Replace metal caps on valves at the HI and LO pressure taps.

NOTE: In order to achieve optimal accuracy when using any differential pressure flow measuring device, it is recommended that a minimum of 10 diameters of straight pipe (sized to the device) be installed upstream of the device and a minimum of 5 diameters of straight pipe be installed downstream of the device.

LIMITED WARRANTY STATEMENT

Taco, Inc. will repair or replace without charge (at the company’s option) any product or part which is proven defective under normal use within one (1) year from the date of start-up or one (1) year and six (6) months from date of shipment (whichever occurs first).

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local Taco stocking distributor or Taco in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local Taco stocking distributor or Taco. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

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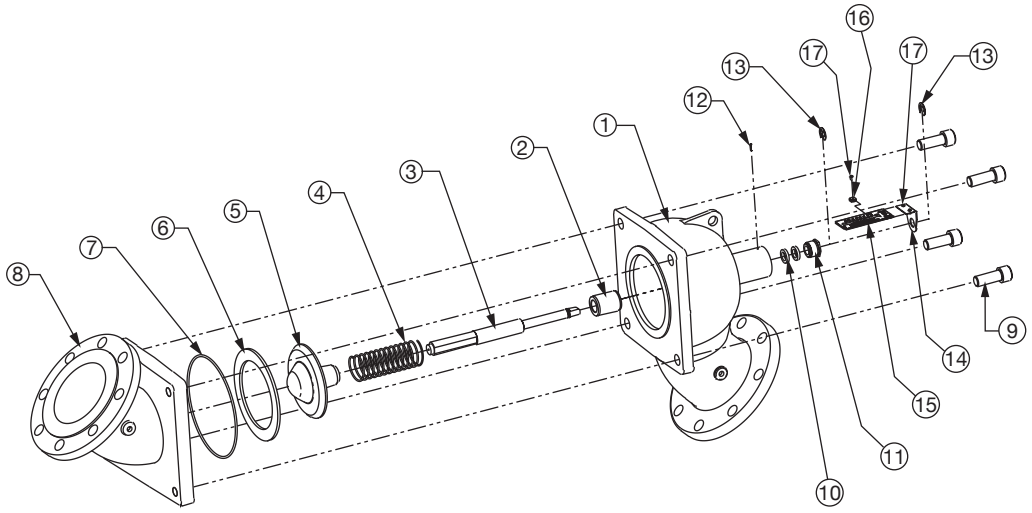
Replacement Parts List

304-420

Plus Two Multi Purpose Valve

SUPERSEDES: December 10, 2015

EFFECTIVE: February 28, 2019



MODEL NUMBER	SIZE Inches	PACKING KIT	SEAL KIT	DISC KIT	SPRING	SPINDLE KIT	BRACKET KIT	MEMORY KIT	PRESSURE TAP KIT
MPV 015-4	1.5	759-423RP	759-488RP	759-484SRP	759-490RP	759-485RP	759-571RP	759-561RP	759-252RP
MPV 020-4	2						759-571RP	759-591RP	759-252RP
MPV 025-4	2.5	759-423RP	759-515RP	759-512SRP		759-513RP	759-571RP	759-592RP	759-252RP
MPV 030-4	3	759-423RP	759-564RP	759-447SRP	759-425RP	759-419RP	759-571RP	759-593RP	759-252RP
MPV 040-4	4	759-423RP	759-454RP	759-451SRP	759-453RP	759-450RP	759-571RP	759-594RP	759-252RP
MPV 050-4	5	759-468RP	759-539RP	759-522SRP	759-491RP	759-527RP	759-572RP	759-595RP	759-252RP
MPV 060-4	6	759-468RP	759-473RP	759-465SRP	759-472RP	759-466RP	759-572RP	759-596RP	759-252RP
MPV 080-4	8	759-495RP	759-540RP	759-523SRP	759-492RP	759-528RP	759-573RP	759-597RP	759-252RP
MPV 100-4	10	759-495RP	759-541RP	759-524SRP	759-493RP	759-529RP	759-573RP	759-598RP	759-252RP
MPV 120-4	12	759-495RP	759-542RP	759-525SRP	759-494RP	759-530RP	759-573RP	759-599RP	759-252RP
MPV 140-4	14	759-632RP	759-630RP	759-627RP	759-636RP	759-628RP	759-635RP	759-634RP	759-252RP

Kits apply to 125 lb., 250lb. And grooved valves. Kits require these items:

	PACKING KIT	SEAL KIT	DISC KIT	SPRING	SPINDLE KIT	BRACKET KIT	MEMORY KIT	PRESSURE TAP KIT
KIT CONTENTS	10 - Packing	6 - O Ring	5 - Seat Disc	4 - Spring	3 - Spindle	12 - Spring Pin	15 - Calibration Plate	Valve
	11 - Packing Nut	7 - Seat Seal				13 - Retaining Ring	16 - Memory Indicator	
						14 - Bracket	17 - Screw	
						17 - Screw		

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