

# Trabon® MSP Modular Zero-Leak Valve & MSP Modular Filter

## MSP MODULAR ZERO-LEAK VALVE SECTION

### DESCRIPTION

The MSP Zero-Leak Valve Section functions as an inlet shut-off valve for use in oil only zoned header line systems up to 3,000 psi. Typical applications include automotive transfer lines, conveyor lines, flexible machining centers and also complete plant lubrication systems.

Its three-piece design utilizes a base block, a valve block containing the two-way valve, and solenoid coil which is energized by the lube system controller. The base plate is dedicated for use with the new inlet Zero-Leak valve and modular filter only, and is compatible with the MSP stackable sub-plate section. It is installed directly in the divider valve assembly with the metering valve sections and secured by tie rods. The cartridge valve block is bolted to the base plate. The Zero-Leak Valve Section is normally installed below the MSP Modular 25 micron Filter Section Part Number 563480 (527-005-760) described below.

The MSP Zero-Leak Valve Section is supplied Normally Closed to flow. The valve is bubble tight at normal header line pressures. When the solenoid coil is energized by the system controller during a lube cycle, the valve opens, allowing oil to flow through the filter and downstream divider valve sections and on to the lube points.

### FEATURES/BENEFITS

- Zoned lubrication systems enable customized, exact control for each individual zone, prevent over lubrication, reduce plumbing and installation costs, and allow a smaller pump and reservoir to serve an extended system.
- With a zoned header line system, lubrication zones are easily added or removed. Zones may be individually controlled and monitored to verify that the system's performance fulfills the system design requirements.
- The base plate/valve block design allows the removal and replacement of the shut-off valve module without disturbing line connections and introducing air or other contamination into the system.



- Standard end section for a Zero-Leak valve equipped MSP feeder assembly is an SPP "bottom-feed" section with special leak-proof hydraulic fitting. The manual feed capability facilitates time-efficient maintenance actions by not requiring entire lubrication system to be operated when one zone and its feeders' operation is being evaluated. System-fill and air purging procedures can also be more efficiently accomplished by using the bottom feed sections lube fitting.

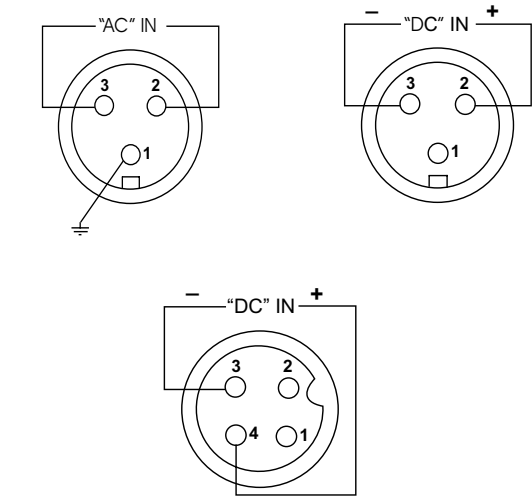
### OPERATION

The MSP Zero-Leak Valve Section starts and stops the flow of oil to other sections of the divider valve in which it is installed (and in any secondary divider valve to which it may be connected). The solenoid coil surrounds a ferromagnetic plunger which is connected to a needle valve. The needle valve is held normally closed against its seat by header line pressure.

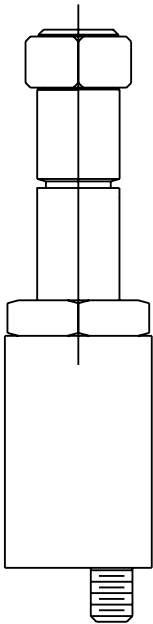
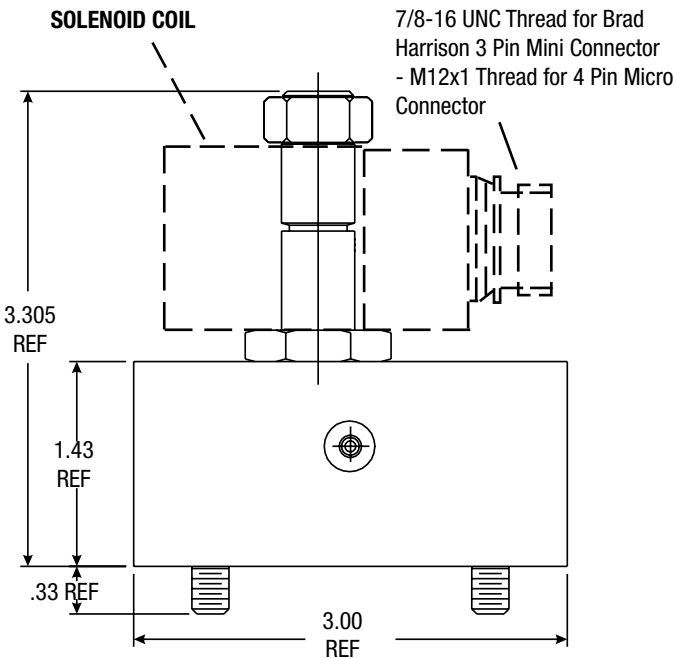
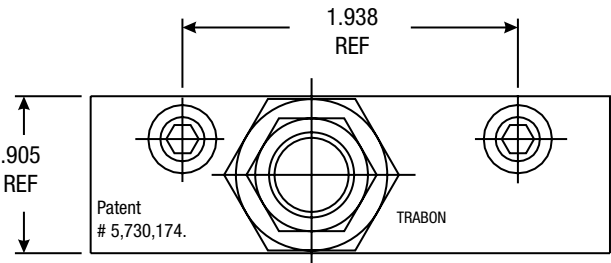
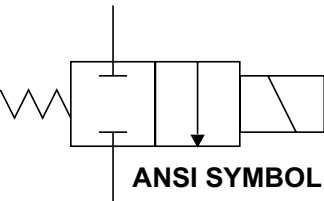
When the lube cycle program calls for lubrication of the points supplied by the divider valve stack, an electrical signal from the system controller (Trabon Multi-Purpose Controller or machine PLC) energizes the coil which lifts the needle off its seat. This allows oil to flow through the downstream metering sections to the connected lube points. Once the zone or zone section has received the proper amount of oil (determined by monitoring divider valve cycles), the solenoid is de-energized, allowing the needle valve to return to its seat and shutting off flow to the entire divider valve assembly.

SPECIFICATION	
Position	Normally Closed
Material	Plated Steel
Pressure (max)	3,000 psi (207 bar)
Operating Temperature	-20°F to +130°F (-29°C to +54°C)
Lubricant	Oil, ISO VGA 32-200
Electrical Rating:	
(AC)	104-125 VAC at 55-65 Hz, 13 watts at 115 VAC, 0.130A Holding Current, Continuous Duty Coil, Class H Insulation
(DC)	20-28 VDC, 13 watts at 24 VDC, Continuous Duty Coil, 0.500A Holding Current, Class H Insulation
Filtration	Use in conjunction with Modular 25 Micron Modular Filter Section P/N 563480 (527-005-760)
Torque	Valve Block Mounting Screw P/N 556514 (419-140-080)

COMPONENT ORDERING		
Description	Part No.	Old Part No.
MSP Zero-Leak Solenoid Valve Base Plate	563479	527-005-740
MSP Zero-Leak (w/o Manual Override) Solenoid Valve Section, w/o Coil	563481	527-005-770
3 Pin Mini Connector Adaptor w/Indicator Light - 120 VAC	558893	492-240-171
Solenoid Coil - 120 VAC (3 Pin Mini)	557226	492-120-206
Solenoid Coil - 24 VDC (3 Pin Mini)	557225	492-120-205
Solenoid Coil - 24 VDC (4 Pin Micro)	558886	492-120-240
Brad Harrison Mating Cables:		
6 ft (3 Pin) Mini-Straight	558021	570-999-080
12 ft (3 Pin) Mini-Straight	558022	570-999-090
"Bottom-Feed" End Section w/ Port Plug	563279	510-770-332
"Bottom-Feed" End Section w/ Hydraulic Fitting	563280	510-770-490
"Bottom-Feed" Hydraulic Fitting	556429	412-700-490
"Bottom-Feed" Port Plug	557349	503-485-000



WIRING DIAGRAM



## MSP MODULAR FILTER SECTION

### DESCRIPTION

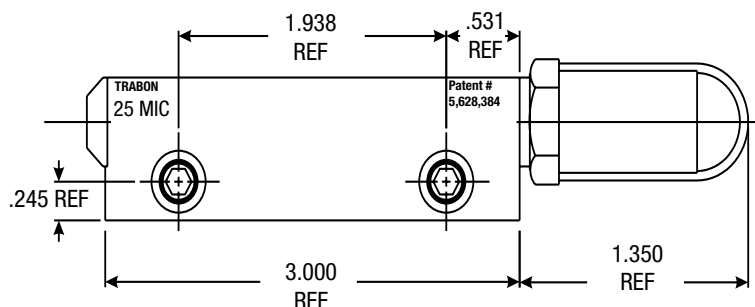
The MSP Modular Filter Section is a high-pressure, in-line oil-only filter which prevents solid contaminants as small as 25 microns from entering into the modular Zero-Leak Valve and downstream lubrication points. (While filters at the pump are useful in trapping contaminants in the supplied lubricant, they cannot catch contaminants introduced downstream by the main line tubing which may affect the operation of lube system components, or contaminate the bearings and other lube points.

Its two-piece design utilizes a base plate and a replaceable filter block containing the 25 micron filter element. The base plate is compatible with the MSP stackable sub-plate design. It is installed as the first section within the divider valve stack along with the metering valve sections which are held together by tie rods.

A pressure-differential indicator is included to indicate when the modular filter section should be replaced.

### FEATURES/BENEFITS

- The filter provides additional filtering protection when installed immediately upstream of the new MSP Zero-Leak Valve Section described above; usage is recommended in conjunction with each Zero-Leak Section.
- The capability to include the MSP Modular Filter Section within the divider valve stack eliminates the need for separate mounting and plumbing connections.
- The base plate/filter block design allows the removal and replacement of the MSP Modular Filter Section without disturbing line connections and introducing air or other contamination into the lubrication lines.
- A filter section can be used during initial purging and cleaning of a new system, then replaced with a clean filter section for normal operation.
- The pressure-differential indicator/monitor detects that the filter cannot accept further contaminants and notifies the user to replace the filter to prevent interference with normal system operation.



### OPERATION

The filter section is designed so that all oil entering the inlet must pass through the filter. Filter elements are replaced via replacement of the entire Modular Filter Section Block.

A spring-loaded sensing piston within the filter block operates in a bore which connects the inlet side of the filter element to the outlet side. As the pressure difference between the inlet side and the outlet side increases due to accumulation of filtered contaminants, the pressure differential overcomes the spring force and the piston shifts position. The cleanliness state of the filter is visually indicated by a red indicator pin.

When the indicator pin is extended, the filter section must be replaced with a new filter block.

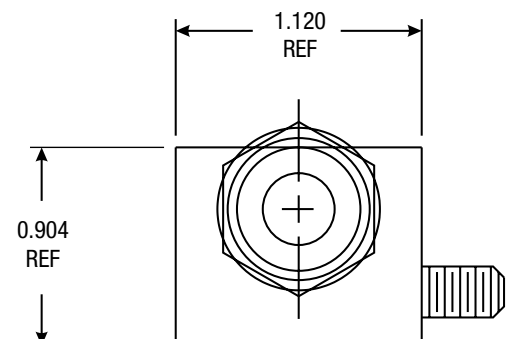
### SPECIFICATION

<b>Standard Material</b>	Plated Steel
<b>Pressure (max)</b>	3,000 psi (207 bar)
<b>Max Flow Rate</b>	9 cu in per minute
<b>Filter Rating</b>	25 microns nominal $\beta_{25} = 2.0$ (50% Efficiency) $\beta_{50} = 7.0$ (86% Efficiency)
<b>Lubricant</b>	Oil, ISO VGA 32-220
<b>Torque:</b>	
<b>Filter Block Mounting Screw</b>	8-9 ft-lbs 556513 (419-140-070)

### COMPONENT ORDERING

Description	Part No.	Old Part No.
MSP Modular Filter Base Plate	563479	527-005-740
MSP Modular Filter Block	563480	527-005-760

For standard MSP components, refer to bulletin 10102



## ORDERING INFORMATION

For MSP Divider Valve Assembly with Standard MSP Inlet Section, Modular Zero-Leak Valve and Filter Sections + SPP (Bottom-Feed) End Section P/N 563280 (510-770-490) with Manual Hydraulic Fitting P/N 556429 (412-700-490).

### MENU CODE

XXXX	-	XX	-	XX	-	XXX	-	X	-	X	-	XX	-	X	-	XX
<b>DIVIDER VALVE</b> ZMSP - W/BUNA-N O-RINGS																
<b>MANUAL OVERRIDE</b> WO - WITHOUT																
<b>SOLENOID COIL TYPE</b> AC - 120 VAC, 3 PIN MINI - 557226 - (492-120-206) DC - 24 VDC, 3 PIN MINI - 557225 - (492-120-205)																
<b>INLET/OUTLET PORT THREAD OPTIONS</b> NPT - 1/4-18 NPSF INLET, 1/8-27 NPSF OUTLETS BSP - 1/4-19 BSPP INLET, 1/8-28 BSPP OUTLETS SAE - 7-16-20 UNF-28 INLET, 7/16-20 UNF-28 OUTLETS MET - ISO 6149-1-1 M12 X 1.5 INLET, ISO 3149-1-M10 X OUTLETS																
<b>*DIVIDER VALVE ACCESSORY OPTIONS</b> P - PERFORMANCE INDICATOR IN ALL WORKING OUTLETS B - PERFORMANCE INDICATORS AND CHECK VALVES IN ALL WORKING OUTLETS C - EXTERNAL CHECK VALVES IN ALL WORKING OUTLETS																
<b>NUMBER OF SECTIONS</b> 3 - THREE 4 - FOUR 5 - FIVE 6 - SIX 7 - SEVEN 8 - EIGHT																
<b>NOTE: MODULAR ZERO LEAK AND MODULAR FILTER TAKE THE FIRST AND SECOND SECTION POSITION. THIS LIMITS THE AVAILABLE WORKING SECTIONS TO SIX.</b>																
<b>VALVE CAPACITY</b> BP - BYPASS 05 - .005 cu.in. 10 - .010 cu.in. 15 - .015 cu.in. 20 - .020 cu.in. 25 - .025 cu.in. 30 - .030 cu.in. 35 - .035 cu.in. 40 - .040 cu.in.																
<b>TYPE OF VALVE SECTION</b> T - TWIN VALVE S - SINGLE VALVE - RH OUTLET L - SINGLE VALVE - LH OUTLET B - TWIN VALVE W/CYCLE PIN RIGHT C - SINGLE VALVE W/ CYCLE PIN RIGHT - RH OUTLET D - SINGLE VALVE W/CYCLE PIN RIGHT - LH OUTLET H - TWIN VALVE W/CYCLE PIN LEFT J - SINGLE VALVE W/CYCLE PIN LEFT - RH OUTLET K - SINGLE VALVE W/CYCLE PIN LEFT - LH OUTLET																
<b>*CROSSPORTING OPTIONS</b> CR - CROSSPORT RIGHT HAND SIDE CL - CROSSPORT LEFT HAND SIDE CB - CROSSPORT BOTH SIDES *OMIT WHEN NOT REQUIRED																

Graco endorses the SAE recommendation of ISO 18/14 (ISO 4406) oil cleanliness for most bearing applications. Some high speed bearing may require cleaner oil. Consult the bearing manufacturer for recommendation.

(All crossporting will use crossport plates - no internal drilling)

All written and visual data contained in this document are based on the latest product information available at the time of publication. Graco reserves the right to make changes at any time without notice.

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