



Component List for Graco Trabon Lubrication Systems Products

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DOCUMENT MANAGEMENT INFORMATION

The controlled version of this document is stored on the Graco website.

www.graco.com/fcalubrificationspec

Web address reference is available on the following Fiat Powertrain SpA and Chrysler Powertrain LLC web sites:

<http://supplierinfo.fiatpowertrain.com/index.php>

<https://gsp.extra.chrysler.com/mfg/amedd/powertrain.htm>

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Any questions or comments with respect to this specification should be directed to the project engineer for the specific project in question.

Revision History

Revision Date	Version No.	Document Name	Revision Description	Paragraph Affected	Revised By
10-1-2010	1	FPT-CPT 2010 Project Book Graco Trabon	Update with 2010 review	All	L. Brown
7-1-2012	2	FPT-CPT 2012 Project Book Graco Trabon	Update with 2012 review	All	L. Brown
7-1-2013	3	FPT-CPT 2013 Project Book Graco Trabon	Removed single point lubricators, due to conflict with specification Updated contact info	3 2	L. Brown
7-1-2014	4	FPT-CPT 2014 Project Book Graco Trabon	Updated contact info Added MPP Modu-Flo pumps, Separated G3 Oil from Grease pumps, added psi switch, cycle switch and gauge	2 3	L. Brown
1-1-2015	5	FPT-CPT 2014 Project Book Graco Trabon	Deleted obsolete piston distributors. Added G1 pumps & GL injectors. Separated and clarified piston distributors models for easier selection. Added clarifying comments to other components to avoid misapplication.	3	L. Brown

6-9-2015	6	FPT-CPT 2015 Project Book Graco Trabon	Deleted red strike items from January revision Changed blue comments to black from January revision	3	L. Brown
12-1-2015	7	FPT-CPT 2015 Project Book Graco Trabon	Updated manifold part numbers and contact name	2&3	J. Koenig
3-29-2016	8	FPT-CPT 2016 Project Book Graco Trabon	Added more details to align with competitors, updated link to controlled copy, updated contact information, added BSPP outlet fittings for G-series pumps. Added "QUICK-FILL COUPLING OPTIONS" section to last page. Combined Global and NAFTA books into one document. Updated Graco Website and Contact Information.	All	J. Koenig
4-8-2016	9.0	352481C_FCA_Global_Graco_Trabon_Spec_Book	Rearranged sections to align with FCA guidelines. Added new ToC, more links to other literature, and removed some non-BSPP specs. Removed MD and MJ valves because they are not offered with BSPP ports.	All	J. Koenig
11-7-2016	10.0	352481D_FCA_Global_Graco_Trabon_Spec_Book	Added technical specifications to the drawings. Replaced MSP prox switches with Solid State version, added Solid State prox for MXP.	5	J. Koenig
7-1-2017	10.1	352481E_FCA_Global_Graco_Trabon_Spec_Book	Updated FCA contacts. Added MJ/MD version of solid state proximity switch. Updated photo of 563251.	1.2 4.2	J. Koenig

The number to the left of the decimal in the version number indicates the major version number.
The number to the right of the decimal in the version number indicates the minor version number.
The major version number will change for the following reasons:

- Information added to document.
- Information removed from document.
- Rearrangement of sections in the document.
- Revisions to the scope or purpose of the document.

The minor version number will change for the following reason:

- Minor changes that do not affect the overall scope of the document.

1. CONTACT & SUPPORT

1.1. GRACO INDUSTRIAL LUBRICATION SYSTEMS PERSONS TO CONTACT

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3. INTRODUCTION

3.1. SCOPE OF DOCUMENT

This document contains product information to be used for the selection of components for FCA Global programs. This document provides a basic guide to selecting the correct type of lubrication system for the correct application. It also provides the necessary contact information to assist in application engineering, program management review, and stocking locations for ease of purchasing.

All information contained in this document is superseded by the requirements of the FCA Global Specification.

A current, and accurate, copy of the specification can be gleaned from the following web addresses:

<http://supplierinfo.fiatpowertrain.com/index.php>

<https://gsp.extra.chrysler.com/mfg/amedd/powertrain.htm>

Terminating Series Progressive - lubrication systems for oil and grease - Series Progressive terminating (total loss) system utilizing a pump feeding a Series Progressive divider valve. This system is typically used on a single purpose machine.

Terminating Parallel (Piston Distributor/Injector) - This is a Single Line Parallel Terminating (total loss) system utilizing a pump feeding a series of Piston Distributor delivery valves. This system is typically used on a single purpose machine. For oil and fluid grease.





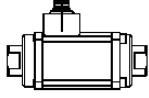
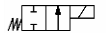
Circulating Header Line "0" Leak Series Progressive - This Series Progressive system, in conjunction with the modular "0" leak valve, is used for transfer lines and flexible machining centers. This style system simplifies the more complex circuits while providing individual zone control. In addition, continuous circulating oil through filtration provides cleaner oil.

Accessories and Feedback devices - For use with all system types for monitoring pressures, cycles and levels



Spindle Lubrication System (Multiple and Box Spindle) – Spindl-Gard® - Dry sump style system is used in place of the circulating wet sump system for multiple head spindles. Air/Oil system is used for direct lubricating and cooling rolling element bearings on precision box spindles. These systems require lubrication engineering design consideration. Mechanical layout prints for spindle are required for review with expert. **MUST CONTACT LUBRICATION SPECIALIST.**

4. LIST OF COMPONENTS

4.1. SINGLE LINE SERIES PROGRESSIVE SYSTEM VALVES

Picture	Symbol	Model	Description	Notes	Doc #
		MSP	Series Progressive divider valve with outlet volumes of 0.005-0.080 in ³ per outlet. Threaded inlet port: 1/4-19 BSPP Threaded outlet ports: 1/8-28 BSPP	Multiple combinations available based on machine design requirements. See section 4.1.1 for example ordering codes	MSP
		ZMSP	Series Progressive Zone Control divider valve with outlet volumes of 0.005-0.080 in ³ per outlet (Oil only). Threaded inlet port: 1/4-19 BSPP Threaded outlet ports: 1/8-28 BSPP	Multiple combinations available based on machine design requirements. For zoned system.	L10105
		557227	Inline BSPP ported Zero-leak valve assembly, 24vdc Threaded inlet port: G1/4 Threaded outlet port: G1/4 Electrical connection: M12 male	For use with up to NLGI #2 grease. For zoned shut off systems.	Zone Valves












4.2. SINGLE LINE SERIES PROGRESSIVE SYSTEM PUMPS & ACCESSORIES

Picture	Symbol	Model	Description	Notes	Doc #
		563256	Performance indicator for monitoring 1500psi spikes in series progressive grease systems. For use with MSP divider valves.	Required for master valve in every outlet.	L15401



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




		563254	Performance indicator for monitoring 750 psi spikes in series progressive oil systems. For use with MSP divider valves.	Required for master valve in every outlet	L15401
		17L983	Solid State proximity switch for cycle monitoring of series progressive system master valve. For use with MSP divider valves.	24 volt PNP, 4-pin M12 (Eurofast) connector. For LED visual indication, use with cable 24Z720.	Prox
		17L880	Solid State proximity switch for cycle monitoring of series progressive system master valve. For use with MXP divider valves.	24 volt PNP, 4-pin M12 (Eurofast) connector. For LED visual indication, use with cable 24Z720.	Prox
		17M380	Solid State proximity switch for cycle monitoring of series progressive system master valve. For use with MJ or MD divider valves.	24 volt PNP, 4-pin M12 (Eurofast) connector. For LED visual indication, use with cable 24Z720.	Prox
		563272	Mechanical cycle switch for cycle monitoring of MSP and MXP series progressive valves.	Mechanical dry contacts. Only use if proximity switch application is impossible. Requires MSP, MJ, or MXP valve with cycle pin.	Cycle
		563251	"No Weep" magnetic visual cycle indicator with O-ring seal	For use with MSP valves for visual cycle indication only.	L10102
		557713	0-3000psi/mpa pressure gauge. Must be used in all systems.	Pressure and Mpa gauge. Must apply visual colored stickers in accordance with FCA Global specification.	Gauges







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		<p>96G050 96G051 96G052</p>	<p>G3 Oil Series. 2, 4, and 8 Liter reservoir options, expandable up to 16 Liter. 24vdc motor, low level, fill cap with strainer. Female threaded outlet port: 1/4-19 BSPP.</p>	<p>For oil. Works with series progressive or parallel systems. Includes low level switch.</p> <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	<p>G3 Pump</p>
		<p>96G182 96G184 96G189</p>	<p>G3 Grease Series. 2, 4, and 8 Liter reservoir options, expandable up to 16 Liter. 24vdc motor, low level, pressure-fill. Female threaded outlet port: 1/4-19 BSPP.</p>	<p>For grease up to NLGI #2. Works with series progressive or parallel systems. Includes low level switch.</p> <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	<p>G3 Pump</p>
		<p>94G045 94G046 94G047</p>	<p>G1 Oil Series. 2, 4, and 8 Liter reservoir options. 24vdc motor, low level, fill cap with strainer. Female threaded outlet port: 1/4-19 BSPP.</p>	<p>For oil. Works with series progressive or parallel systems. Includes low level switch.</p> <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	<p>G1 Pump</p>






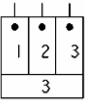

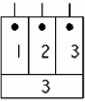

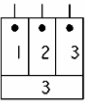

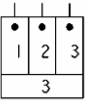


		<p>94G039 94G040 94G041</p>	<p>G1 Grease Series. 2, 4, and 8 Liter reservoir options. 24vdc motor, low level, pressure-fill. Female threaded outlet port: 1/4-19 BSPP.</p>	<p>For grease up to NLGI #2. Works with series progressive or parallel systems. Includes low level switch.</p> <ul style="list-style-type: none"> • Series progressive systems require BSPP outlet fitting 571071. • Parallel systems require BSPP vent valve 24M482, plus cable 24N402. • Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	<p>G1 Pump</p>
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4.3. SINGLE LINE PARALLEL (MANIFOLD MOUNTED PISTON DISTRIBUTORS)

Picture	Symbol	Model	Description	Notes	Doc #
		15X667	2 port PD Aluminum manifold, for accepting self-contained piston distributors	M10x1 mainline ports (qty. 2), M8x1 ports for PDs (qty. 2)	313759B
		15X668	3 port PD Aluminum manifold, for accepting self-contained piston distributors	M10x1 mainline ports (qty. 2), M8x1 ports for PDs (qty. 3)	313759B
		15X670	5 port PD Aluminum manifold, for accepting self-contained piston distributors	M10x1 mainline ports (qty. 2), M8x1 ports for PDs (qty. 5)	313759B









4.4. SINGLE LINE PARALLEL (CAST BODY PISTON DISTRIBUTORS)

Picture	Symbol	Model	Description	Notes	Doc #
		3400 3500 3900	Self-contained piston distributor for manifold mount. Output range .01 - 1.5 cc volumes	Oil only Fluid outlet ports: M8x1 Fluid inlet ports: M8x1, M10x1, M12x1, and M14x1.5 options available	Oil PDs
		3410 3510 3910	Self-contained piston distributor for manifold mount. Output range .01 - .3 cc volumes	Fluid grease only Fluid outlet ports: M8x1 Fluid inlet ports: M8x1, M10x1, M12x1, and M14x1.5 options available	Grease PDs
		3400	Cast piston distributor 2,3 or 5 station manifold – output range 0.01 - 0.16 cc	Oil only Fluid outlet ports: M8x1 Fluid inlet ports: M10x1	Oil PDs
		3410	Cast piston distributor 2,3 or 5 station manifold – output range 0.01 - 0.10 cc	Fluid grease Fluid outlet ports: M8x1 Fluid inlet ports: M10x1	Grease PDs
		3500	Cast piston distributor 2,3,or 5 station manifold– output range 0.10 - 0.60 cc	Oil only Fluid outlet ports: M8x1 Fluid inlet ports: M12x1	Oil PDs
		3510	Cast piston distributor 2,3,or 5 station manifold– output range 0.10 - 0.30 cc	Fluid grease Fluid outlet ports: M8x1 Fluid inlet ports: M12x1	Grease PDs




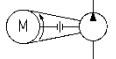

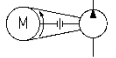

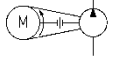

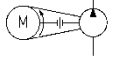

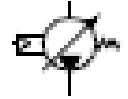
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		3900	Cast piston distributor 2,3 or 5 station manifold – output range 0.20 – 1.50 cc	Oil Only Fluid outlet ports: M8x1 Fluid inlet ports: M12x1	Oil PDs
		3910	Cast piston distributor 2,3 or 5 station manifold – output range 0.10 – 0.30 cc	Fluid grease Fluid outlet ports: M8x1 Fluid inlet ports: M12x1	Grease PDs
		24F544 24F545 24F546 24F548	GL-43 Series oil injector 1, 2, 3, or 4 station manifold – output range adjustable 0.016 – 0.131 cc	For higher pressure oil injection. For use with G1 and G3 pumps and vent valves, or larger volume barrel pumps.	Oil Injector
		24F509 24F510 24F511 24F512	GL-32 Series grease injector 1, 2, 3, or 4 station manifold – output range adjustable 0.016 – 0.131 cc	For higher pressure grease injection through an NLGI#2. For use with G1 and G3 pumps and vent valves, or larger volume barrel pumps.	Grease Injector









4.5. SINGLE LINE PARALLEL PUMP PACKAGES AND ACCESSORIES

Picture	Symbol	Model	Description	Notes	Doc #
		15U858	Gear pump 230/480vac 60Hz, 400vac 50Hz, 3 liter translucent reservoir, 0.5L/min, dual level switch	For total loss oil piston distributor systems. Refill connection Ø 10 mm pipe. When used by NAFTA, Quick-fill to be ordered separately.	PD Pump
		15U860	Gear pump 230/480vac 60Hz, 400vac 50Hz, 6 liter translucent reservoir, 0.5L/min, dual level switch	For total loss oil piston distributor systems. Refill connection Ø 10 mm pipe. When used by NAFTA, Quick-fill to be ordered separately.	PD Pump
		557547	3 liter reservoir, 0.2L/m gear pump/motor 230/480vac, 400vac 50Hz, (2) low-level switches with 4-pin micro	For total loss fluid grease piston distributor systems. Refill connection Ø 10 mm pipe. When used by NAFTA, Quick-fill to be ordered separately.	PD Pump
		122598	6 liter reservoir, 0.2L/m gear pump/motor 230/480vac, 400vac 50Hz, (2) low-level switches with 4-pin micro	For total loss fluid grease piston distributor systems. Refill connection Ø 10 mm pipe. When used by NAFTA, Quick-fill to be ordered separately.	PD Pump
		A-01	2 or 5 Liter oil reservoirs. Pneumatic pump package for piston distributor lube systems.	Oil only. Refill: screw-on cap. When used by NAFTA, Quick-fill to be ordered separately.	L12601



FIAT CHRYSLER AUTOMOBILES

GLOBAL POWERTRAIN




		96G050 96G051 96G052	G3 Oil Series. 2, 4, and 8 Liter reservoir options, expandable up to 16 Liter. 24vdc motor, low level, fill cap with strainer. Female threaded outlet port: 1/4-19 BSPP.	For oil. Works with series progressive or parallel systems. Includes low level switch. <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	G3 Pump
		96G182 96G184 96G189	G3 Grease Series. 2, 4, and 8 Liter reservoir options, expandable up to 16 Liter. 24vdc motor, low level, pressure-fill. Female threaded outlet port: 1/4-19 BSPP.	For grease up to NLGI #2. Works with series progressive or parallel systems. Includes low level switch. <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately.</p>	G3 Pump
		94G045 94G046 94G047	G1 Oil Series. 2, 4, and 8 Liter reservoir options. 24vdc motor, low level, fill cap with strainer. Female threaded outlet port: 1/4-19 BSPP.	For oil. Works with series progressive or parallel systems. Includes low level switch. <ul style="list-style-type: none"> Series progressive systems require BSPP outlet fitting 571071. Parallel systems require BSPP vent valve 24M482, plus cable 24N402. Must add FCA Global specified gauge, filter. <p>When used by NAFTA, Quick-fill to be ordered separately..</p>	G1 Pump







FIAT CHRYSLER AUTOMOBILES

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


		94G039 94G040 94G041	G1 Grease Series. 2, 4, and 8 Liter reservoir options. 24vdc motor, low level, pressure-fill. Female threaded outlet port: 1/4-19 BSPP.	For grease up to NLGI #2. Works with series progressive or parallel systems. Includes low level switch. <ul style="list-style-type: none">• Series progressive systems require BSPP outlet fitting 571071.• Parallel systems require BSPP vent valve 24M482, plus cable 24N402.• Must add FCA Global specified gauge, filter. When used by NAFTA, Quick-fill to be ordered separately.	G1 Pump
		24M482	G1 Standard or G3 Standard pump vent valve kit. Normally Open, 24VDC, adjustable relief 500-3500psi (Requires 24N402 cable). Female threaded outlet port: 1/4-19 BSPP.	For grease or oil on single line parallel circuits ONLY.	Vent Valves



4.6. AIR-OIL LUBRICATION SYSTEMS

Picture	Symbol	Model	Description	Notes	Doc #
		SPG-E24	24vdc pump/motor package with integration of Piston Distributors and air mixing valve technology.	For high speed spindle applications. Requires consultation from specialist.	Hi Speed Spindle
		Custom	Integration of Series Progressive valves and mixing valve technology. Application specific.	For spindle lubrication. Requires consultation from specialist.	L20110
		AO series	Air Oil Series Progressive mixing valve technology. Includes air pressure switch.	For spindle lubrication. Application specific. Requires consultation from specialist.	Air/Oil

4.7. FILTRATION FOR LUBRICATION SYSTEMS

Picture	Symbol	Model	Description	Notes	Doc #
		563515	Fill/Return line filter with 25 micron filter element. Fluid inlet port: 1/4-19 BSPP female Fluid outlet port: 1/4-19 BSPP female	Oil series progressive only.	L15200
		564004	High-pressure in-line oil filter assembly with 10 micron element. Fluid inlet port: 3/4-14 BSPP Fluid outlet port: 3/4-14 BSPP	Oil only. Includes visual/electrical element condition indicator. HF2 style element.	L15200
		564406	Pressure line grease strainer - 100 mesh Fluid inlet port: 1/4-19 BSPP female Fluid outlet port: 1/4-19 BSPP female	Grease series progressive only.	L15200

4.8. QUICK-FILL COUPLING OPTIONS/SUGGESTIONS



Parker Series FEM				
Port Size	Nipple	Dust Cap	Coupler	Dust Plug
1/8" BSPP				
1/4" BSPP	FEM-252-4FB	FR-25	FEM-251-4FB	FR-25
3/8" BSPP	FEM-372-6FB	NR-37	FEM-371-6FB	NR-50
1/2" BSPP	FEM-372-8FB	NR-37	FEM-371-8FB	NR-50
3/4" BSPP	FEM-622-12FB		FEM-621-12FB	

Parker Series 60			
Nipple	Dust Cap	Coupler	Dust Plug
H1-63-BSPP	H1-66M	H1-62-BSPP	H1-65M
H2-63-BSPP	H2-66M	H2-62-BSPP	H2-65M
H3-63-BSPP	H3-66M	H3-62-BSPP	H3-65M
H4-63-BSPP	H4-66M	H4-62-BSPP	H4-65M
H6-63-BSPP	H6-66M	H6-62-BSPP	H6-65M

Parker Series FF			
Nipple	Dust Cap	Coupler	Dust Plug
FF-372-6FB	NR-37	FF-371-6FB	NR-50

For FCA NAFTA Plants: For approved lubricants reference to the FCA NAFTA website to obtain latest revision of the FCA NAFTA - NPM – Chemicals.

5. TECHNICAL INFORMATION AND DRAWINGS

5.1. MSP

5.1.1. EXAMPLE ORDERING CODES

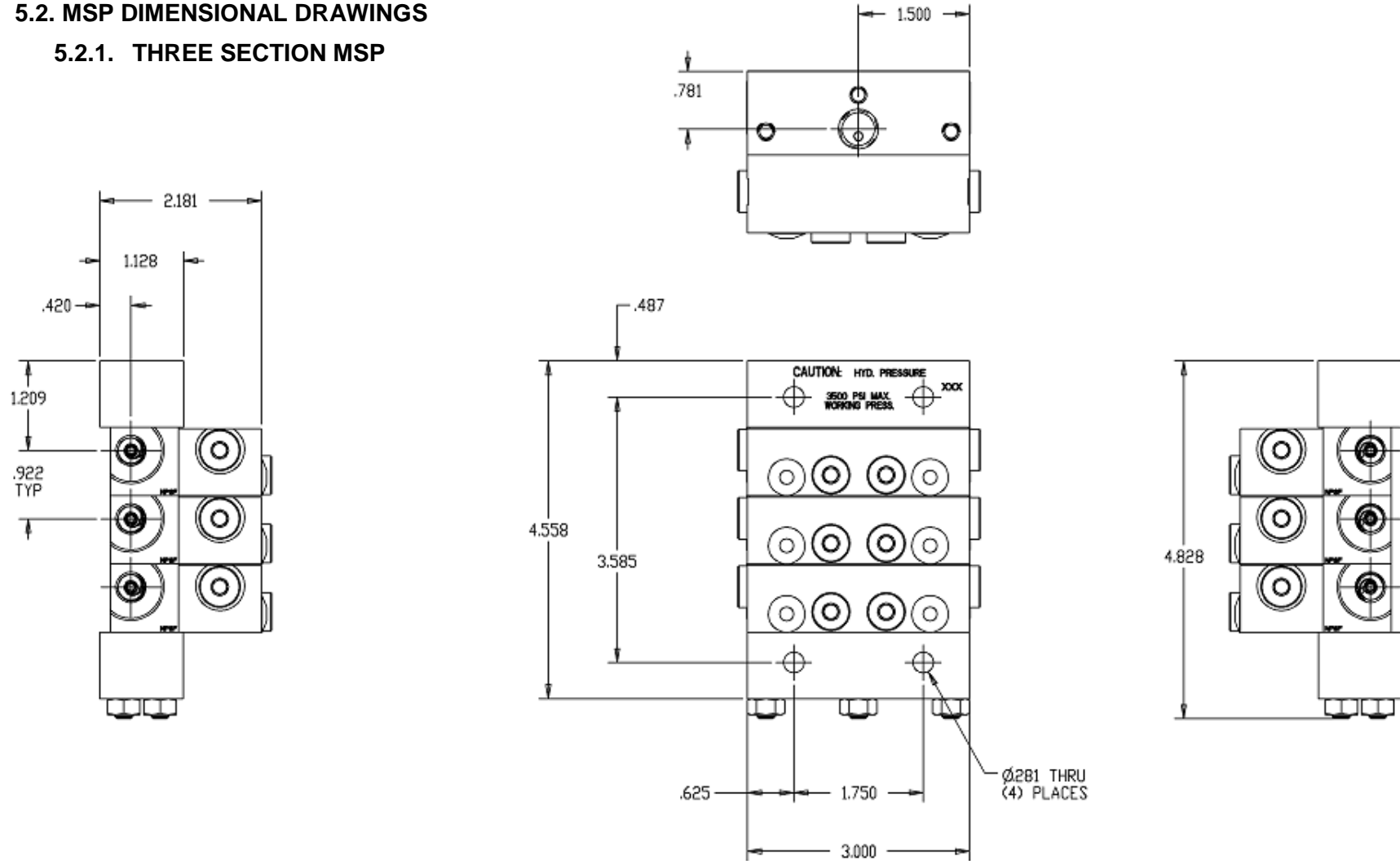
- **3 section:** MSP-3-XXX-XXX-XXX
- **4 section:** MSP-4-XXX-XXX-XXX-XXX
- **5 section:** MSP-5-XXX-XXX-XXX-XXX-XXX
- **6 section:** MSP-6-XXX-XXX-XXX-XXX-XXX-XXX
- **7 section:** MSP-7-XXX-XXX-XXX-XXX-XXX-XXX-XXX
- **8 section:** MSP-8-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX
- **9 section:** MSP-9-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX-XXX
- “-XXX-“ is replaced by the valve sizes and types required (10T, 20S, etc.)
- CAD files in formats dxf, igs, and stp available on request

TORQUE SPECIFICATIONS	
Tie Rod Nut	5-8 ft lbs
Valve Block Mtg. Screw	8-9 ft lbs
Indicator Port Plug	8-9 ft lbs
Inlet Bleed Screw (MH inlet only)	1-2 ft lbs
Piston Enclosure Plug	12-15 ft lbs
ASSEMBLY NET WEIGHT: lbs (kg)	
3 section	5.9 (2.7)
4 section	7.3 (3.3)
5 section	8.7 (4.0)
6 section	10.2 (4.6)
7 section	11.6 (5.6)
8 section	13.0 (5.9)

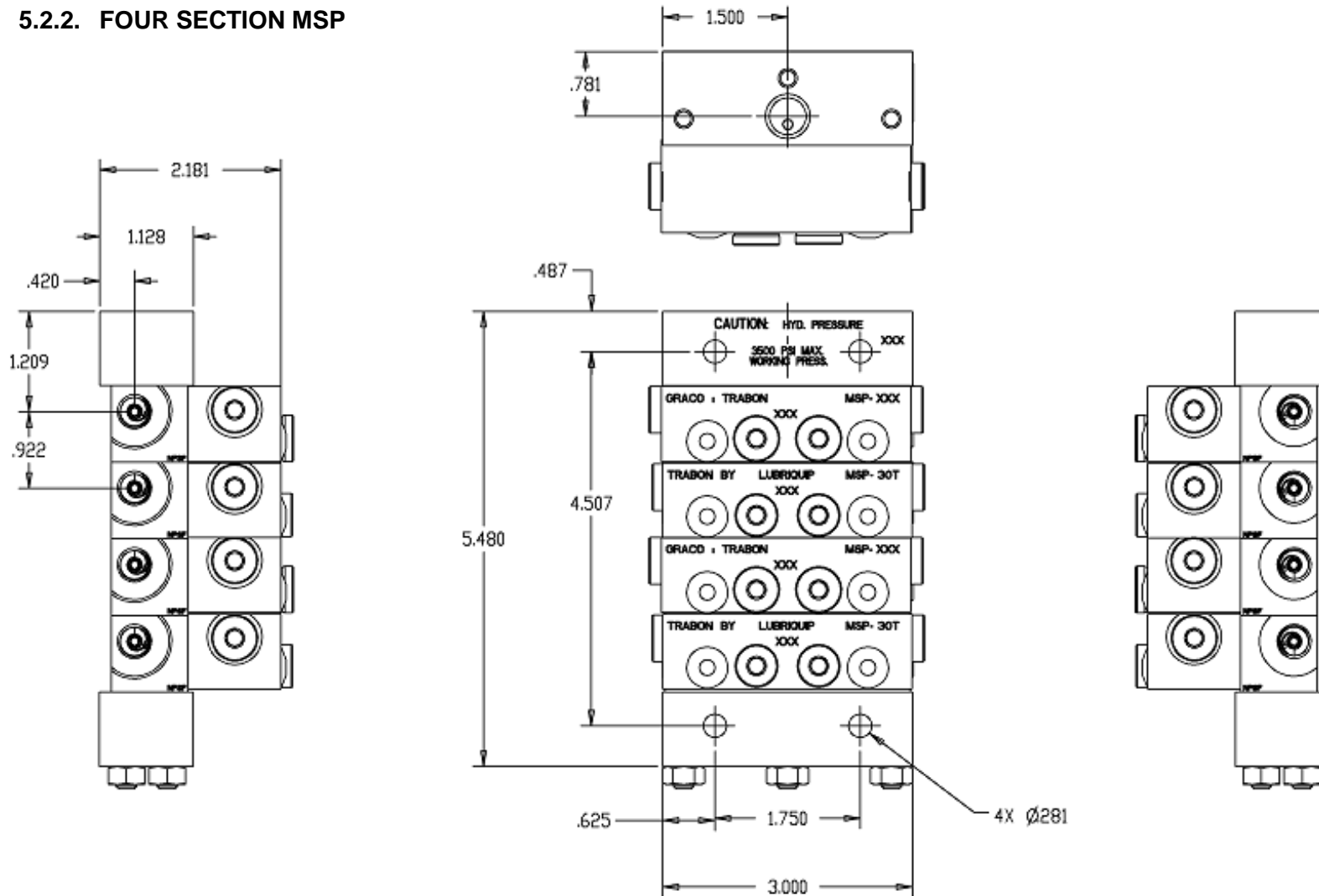
MSP DIVIDER SPECIFICATIONS (when used with standard inlet section)	
Standard Material	Corrosion Protected Steel
Optional Material	Stainless Steel
O-Ring Seals	90 Durometer Fluoroelastomer (FKM)
Max Cycle Rate (w/o cycle ind)	200 CPM
Pressure (max)	3500 psi (241 bar)
Temperature (max)	FKM Seals - 350°F (177°C)
Lubricant	Oil or Grease, up to NLGI #2

5.2. MSP DIMENSIONAL DRAWINGS

5.2.1. THREE SECTION MSP



5.2.2. FOUR SECTION MSP

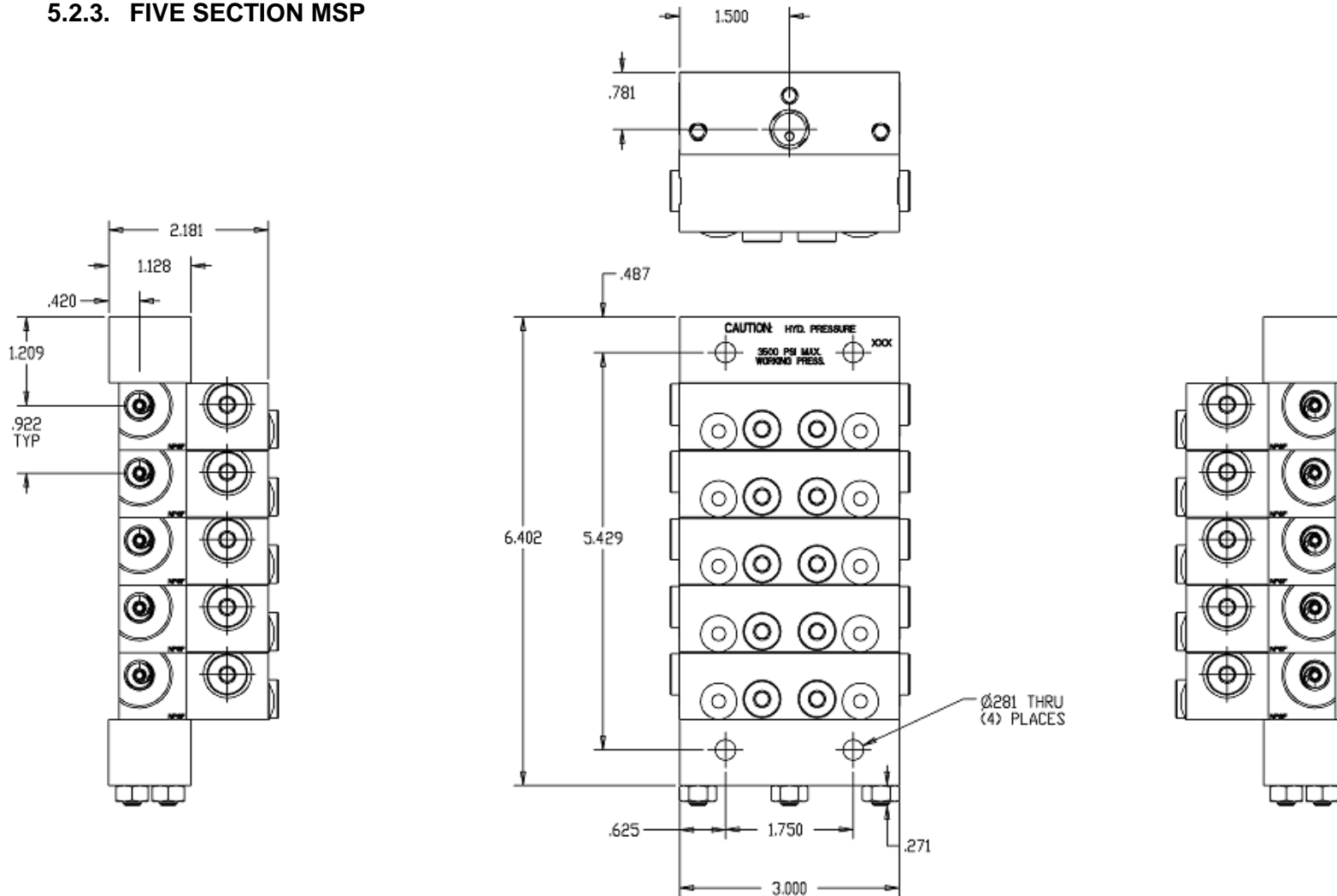




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5.2.3. FIVE SECTION MSP



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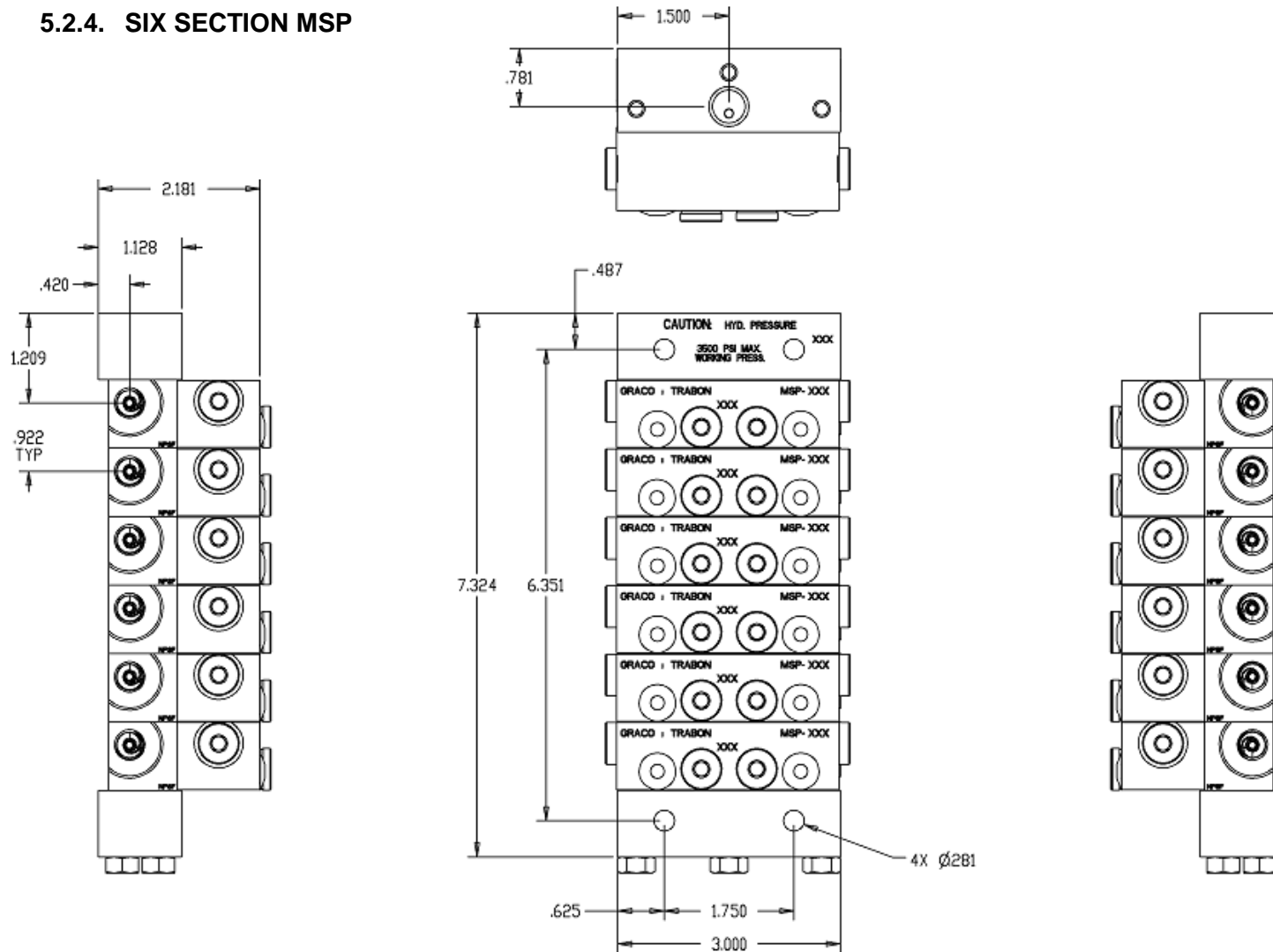
Original Date: 1-Oct-2010

Revision History: 31-Jul-17

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5.2.4. SIX SECTION MSP

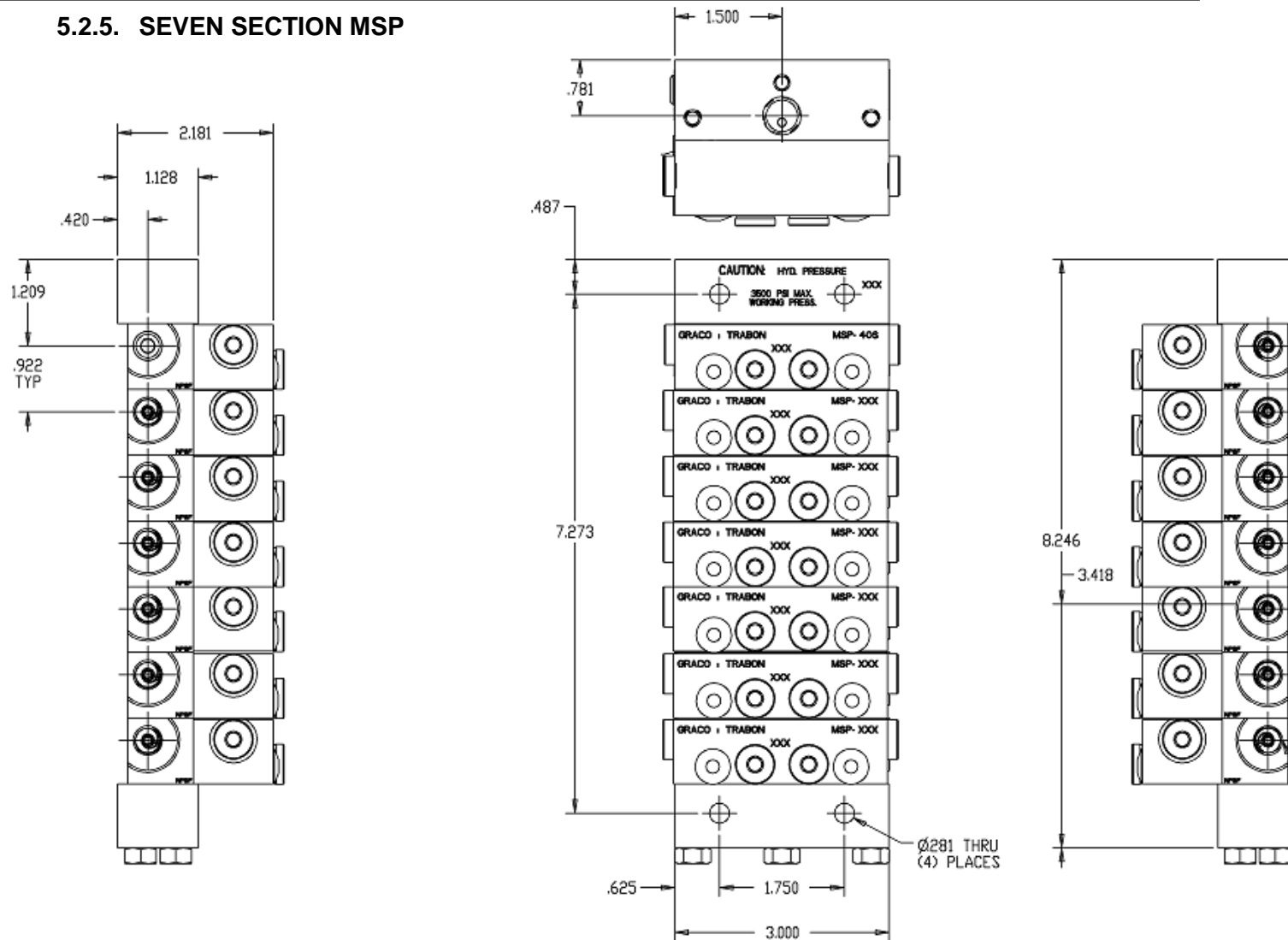




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5.2.5. SEVEN SECTION MSP



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Version 10.1

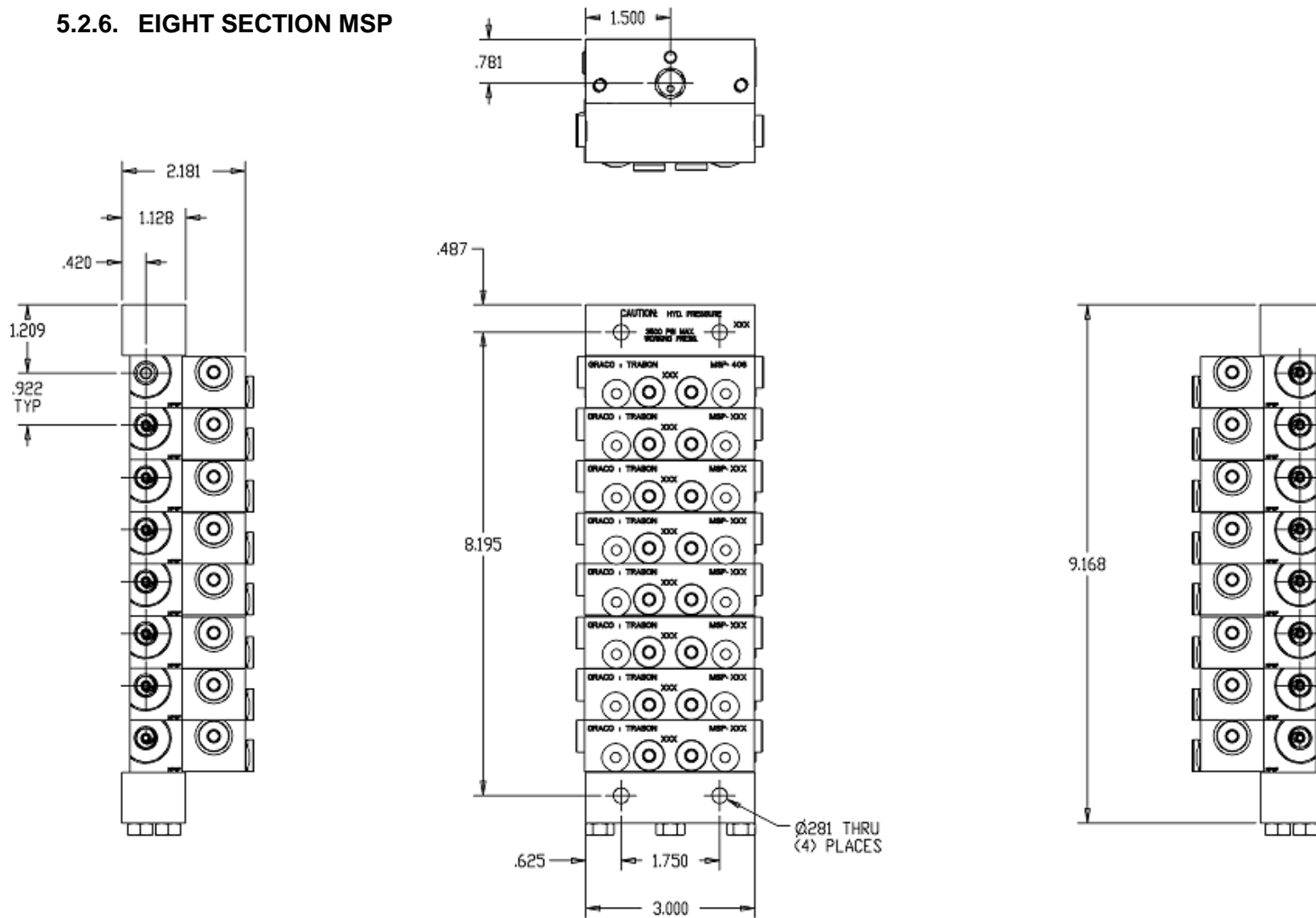
Original Date: 1-Oct-2010

Revision History: 31-Jul-17

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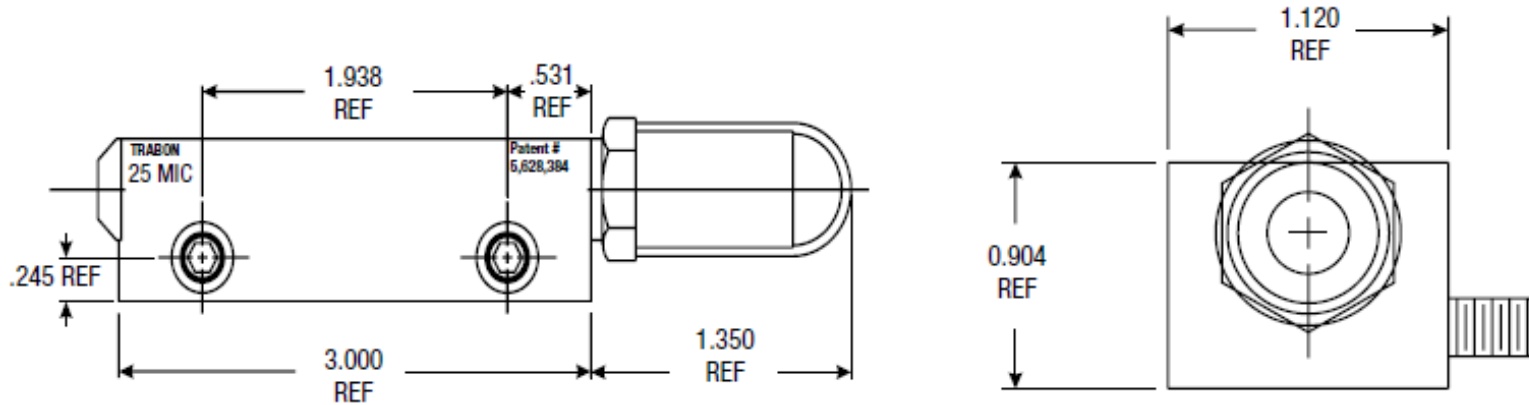


5.2.6. EIGHT SECTION MSP



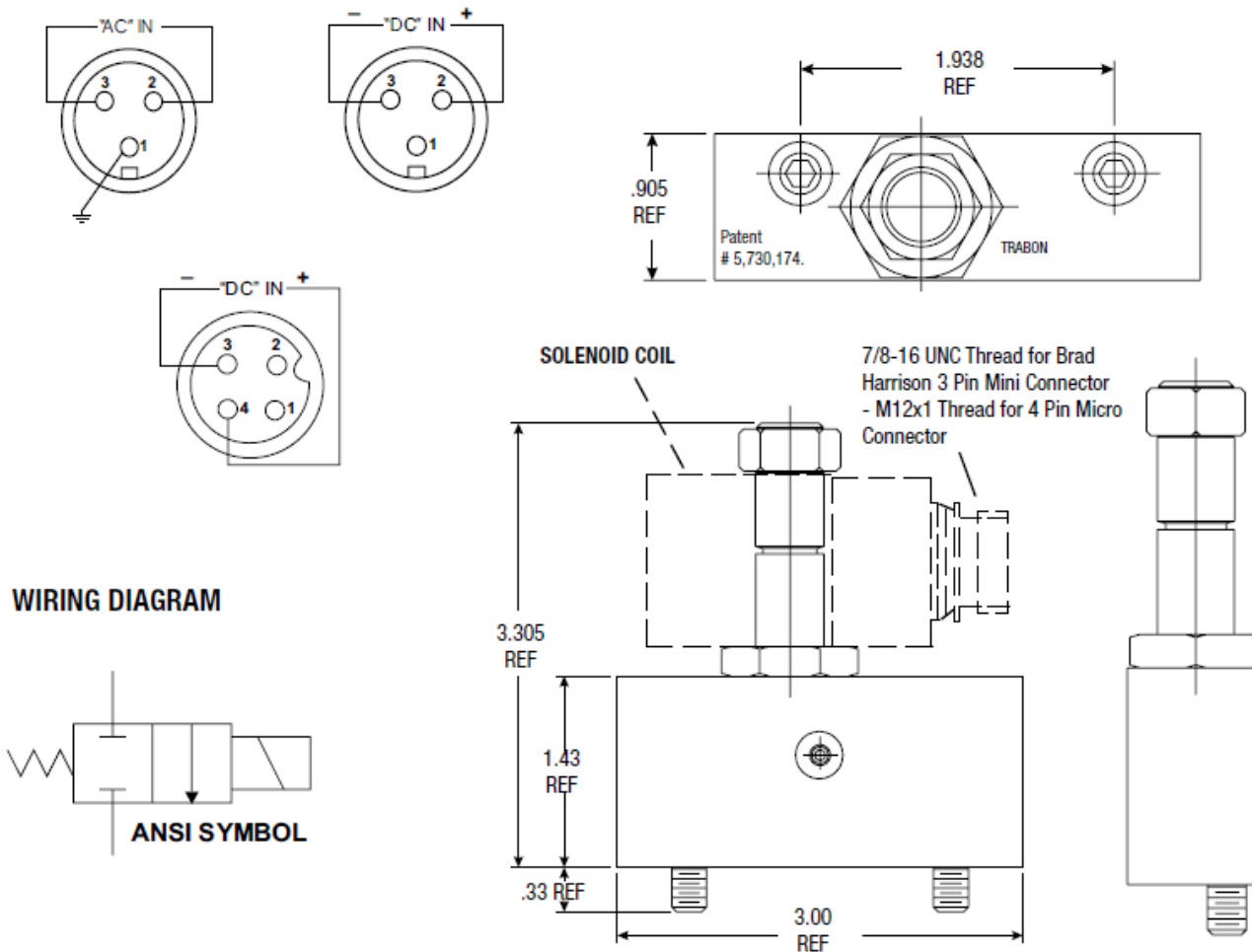
5.3. ZMSP

5.3.1. ZERO LEAK MODULAR FILTER SECTION



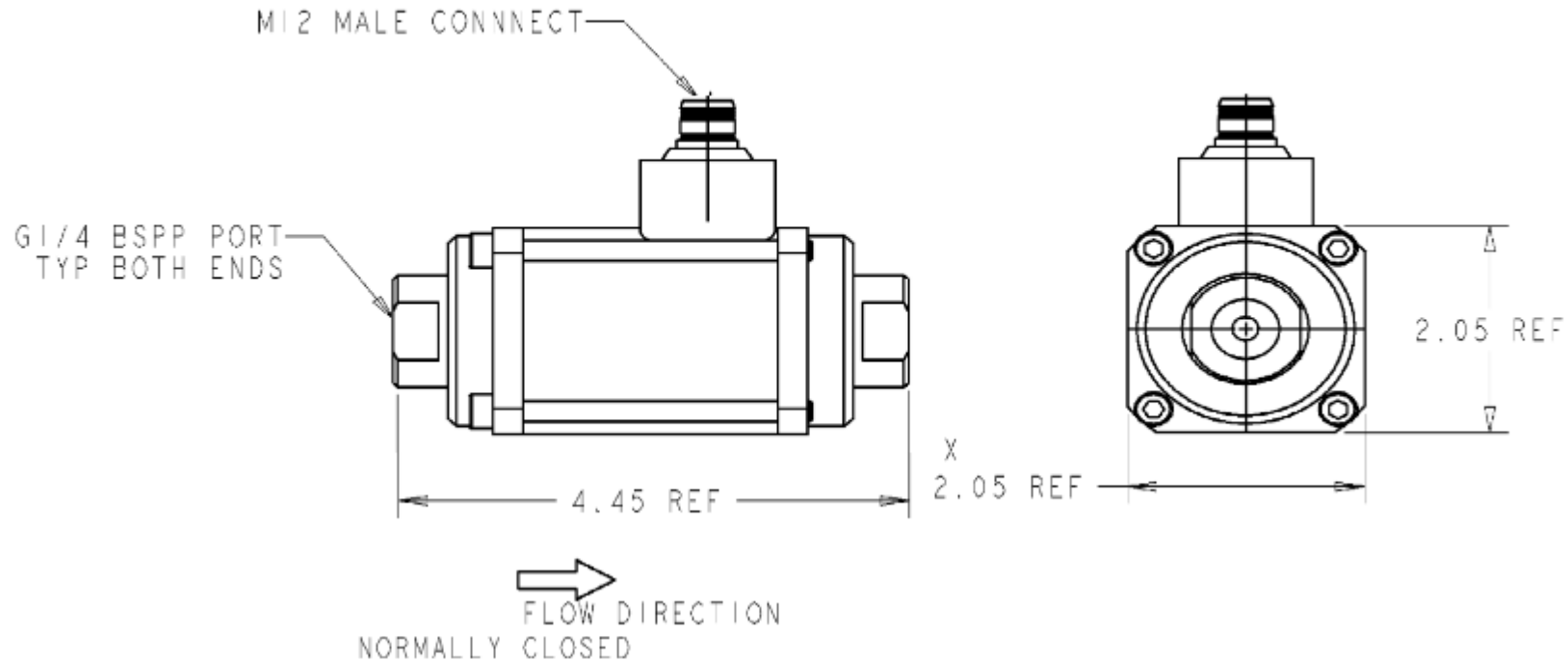
SPECIFICATION	
Standard Material	Plated Steel
Pressure (max)	3,000 psi (207 bar)
Max Flow Rate	9 cu in per minute
Filter Rating	25 microns nominal $\beta_{25} = 2.0$ (50% Efficiency) $\beta_{50} = 7.0$ (86% Efficiency)
Lubricant	Oil, ISO VGA 32-220
Torque:	
Filter Block Mounting Screw	8-9 ft-lbs 556513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

5.3.2. ZERO LEAK MODULAR VALVE SECTION



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)

5.4. GREASE ZONE VALVE 557227

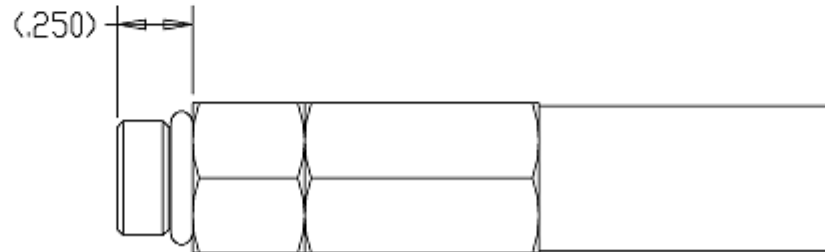
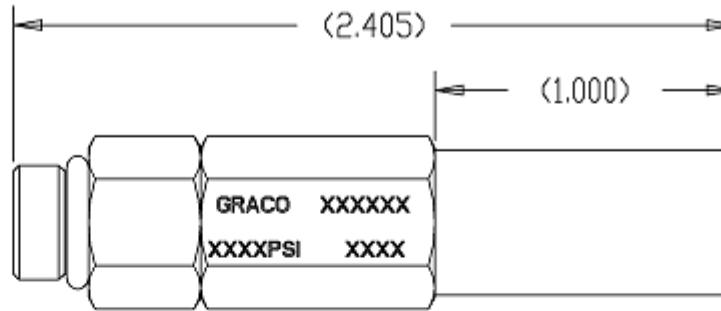
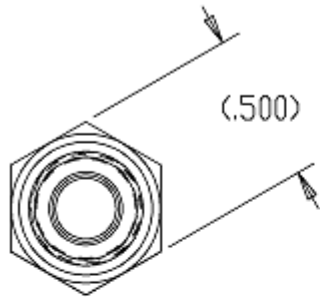


SPECIFICATIONS

2 POSITION - 2 WAY COAXIAL VALVE - SELF ACTING CONTROL

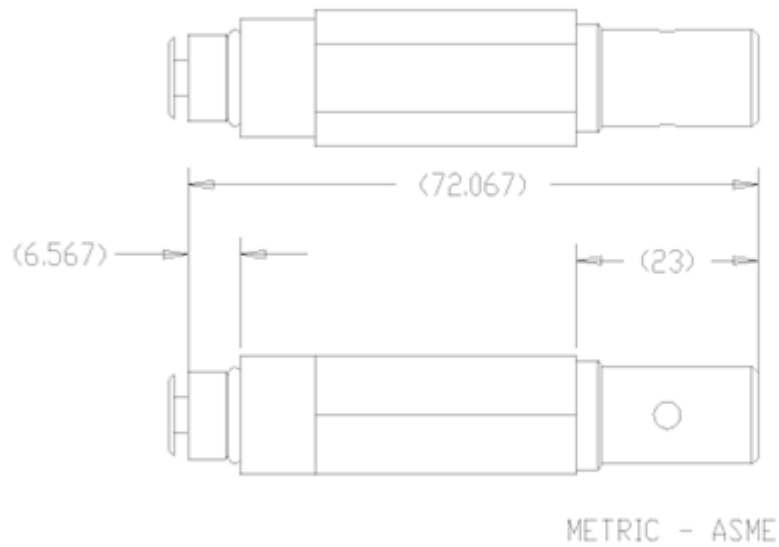
MAX CONTINUOUS RUNNING PRESSURE	- 0-150 BAR (0-2,175 PSI)
MAX INTERMITTANT PRESSURE	- 0-200 BAR (0-2,900 PSI)
MATERIAL	- STAINLESS STEEL
PORTS	- 1/4 BSPP PORTS
CONNECTOR SIZE	- M12
SEALS	- TEFLON
VOLTAGE	- 24VDC, 45W, 13 Ohm
OPTION	- LED

5.5. PERFORMANCE INDICATORS 563256 & 563254

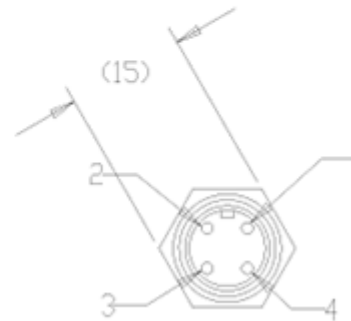


Specifications	
Materials	Zinc-plated steel with FKM o-ring, and aluminum indicator pin.
Pressure Rating	
563254	750 psi (+/- 90)
563256	1500 psi (+/- 180)

5.6. PROXIMITY SWITCH 24K415



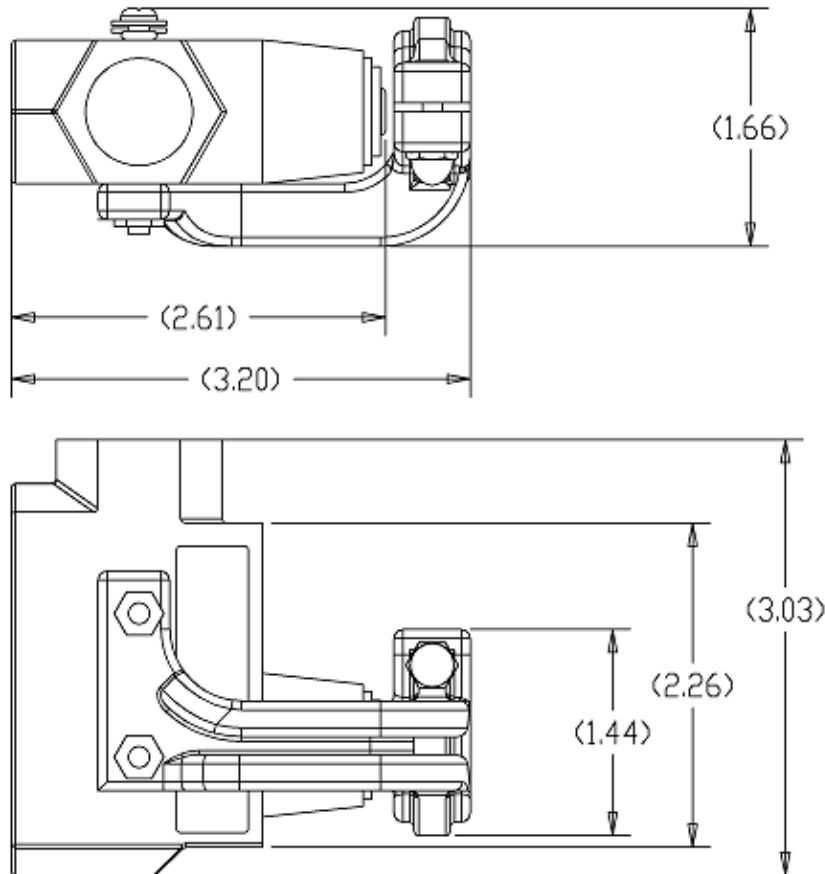
PIN	PIN NAME
1	+VDC
2	-
3	-VDC
4	NO



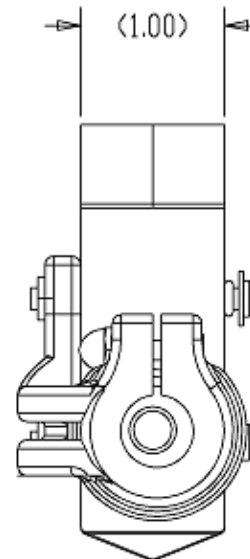
Technical Data

Electrical Design	DC PNP
Output	Normally open
Operating Voltage	10 - 36 VDC
Maximum Operating Pressure	5100 psi (35.1 MPa, 351 bar)
Ambient Temperature Range	-13° to 176°F (-25° to 80°C)
Current Rating	100 mA
Voltage Drop	<2.5 V
Current Consumption	<15 mA
Maximum Switching Frequency	100 Hz
Connection	M12
Thread type	7/16 inch
Sensing range	1.5 mm (f)
Display	Power Indicator: LED yellow
Wetted Parts	steel, chromium-plated, PBT
Weight	1.8 oz (0.053 kg)
Enclosure	(Ingression Protection) IP67

5.7. MECHANICAL CYCLE SWITCH 563272



ELECTRICAL RATING
 15 AMP - 125,250,480 VAC
 1/2 AMP - 125 VDC
 1/4 AMP - 250 VDC
 @ 24 VDC 6 AMPS NON-INDUCTIVE
 CONTACT ARRANGEMENT SPDT
 NEMA 1 ONLY





FIAT CHRYSLER AUTOMOBILES

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5.8. G3 AND G1 SERIES GREASE PUMPS

5.8.1. TECHNICAL DATA

Pump Output Pressure	5100 psi (35.1 MPa, 351.6 bar)
Fill Inlet Pressure	5000 psi (34.4 MPa, 344.7 bar)
Power	
24 VDC	18 - 32 VDC; 2.5 A current, 60 W, inrush/locked rotor 6 A
Outputs - Low Level (Dry Contact)	
Contact Rating	10 Watts Maximum
Switch Rating	200 VDC Maximum
Switching Current	0.5 A Maximum
Carry Current	1.2 A Maximum
Fluid	
Grease Models	Grease NLGI 000 - #2
Oil Models	At least 40 cSt oil.
Pumps	Up to 3 (G3 models only)
Pump Output	0.12 in. ³ (2 cm ³) / minute per outlet - 2 spacers 0.18 in. ³ (3 cm ³) / minute per outlet - 1 spacer 0.25 in. ³ (4 cm ³) / minute per outlet - 0 spacers
Pump Outlet	1/4 Female
Reservoir Size	2, 4, 8, 12, 16 Liters
IP Rating	IP69K
Ambient Temps	-40°F - 158°F (-40°C to 70°C)
Wetted Parts	nylon 6/6 (PA), amorphous polyamide, T5004-060, zinc plated steel, carbon steel, alloy steel, stainless steel, nitrile rubber (buna-N), bronze, nickel plated alnico, chemically lubricated acetal, aluminum, PTFE
Sound Data	<60 dB

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Version 10.1

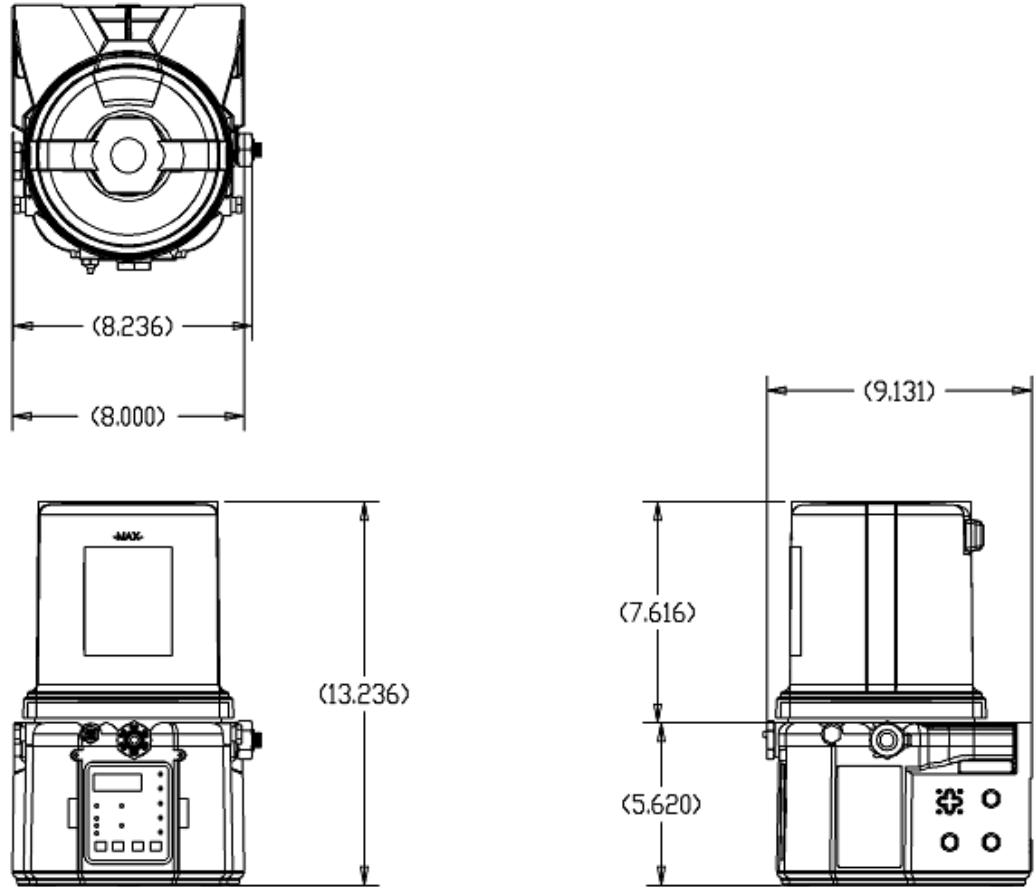
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Revision History: 31-Jul-17

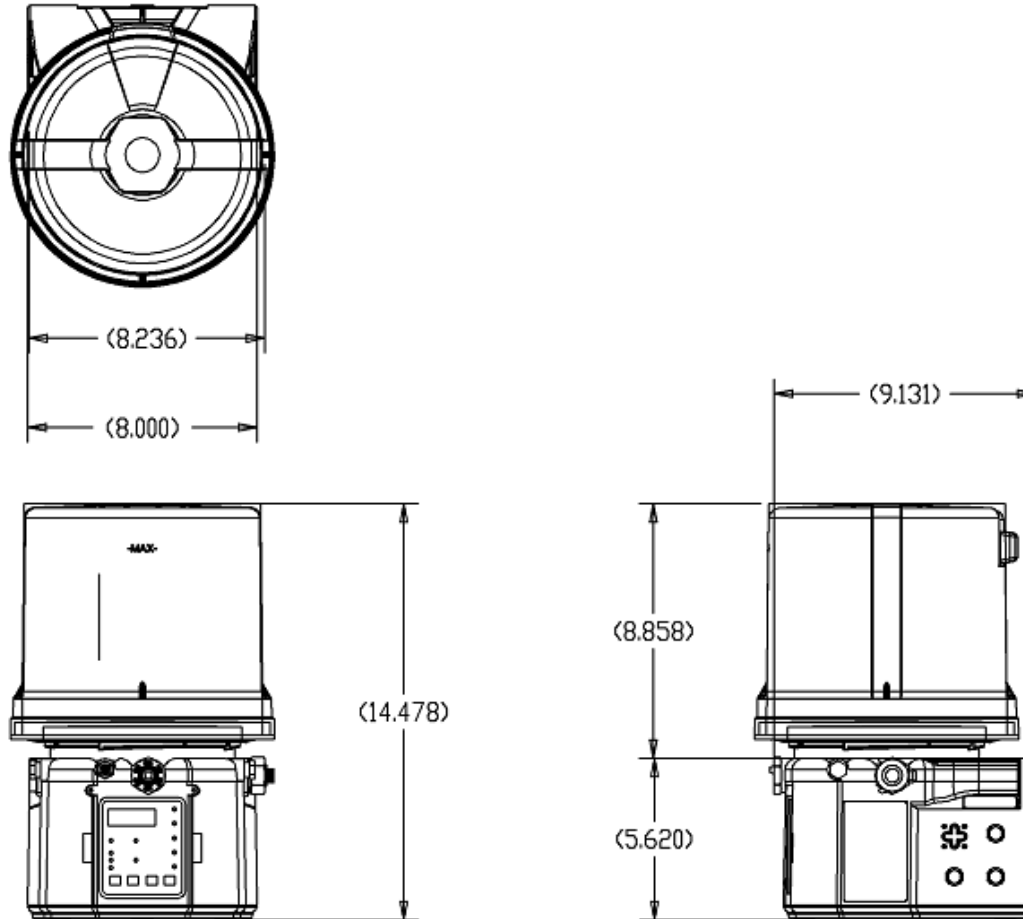
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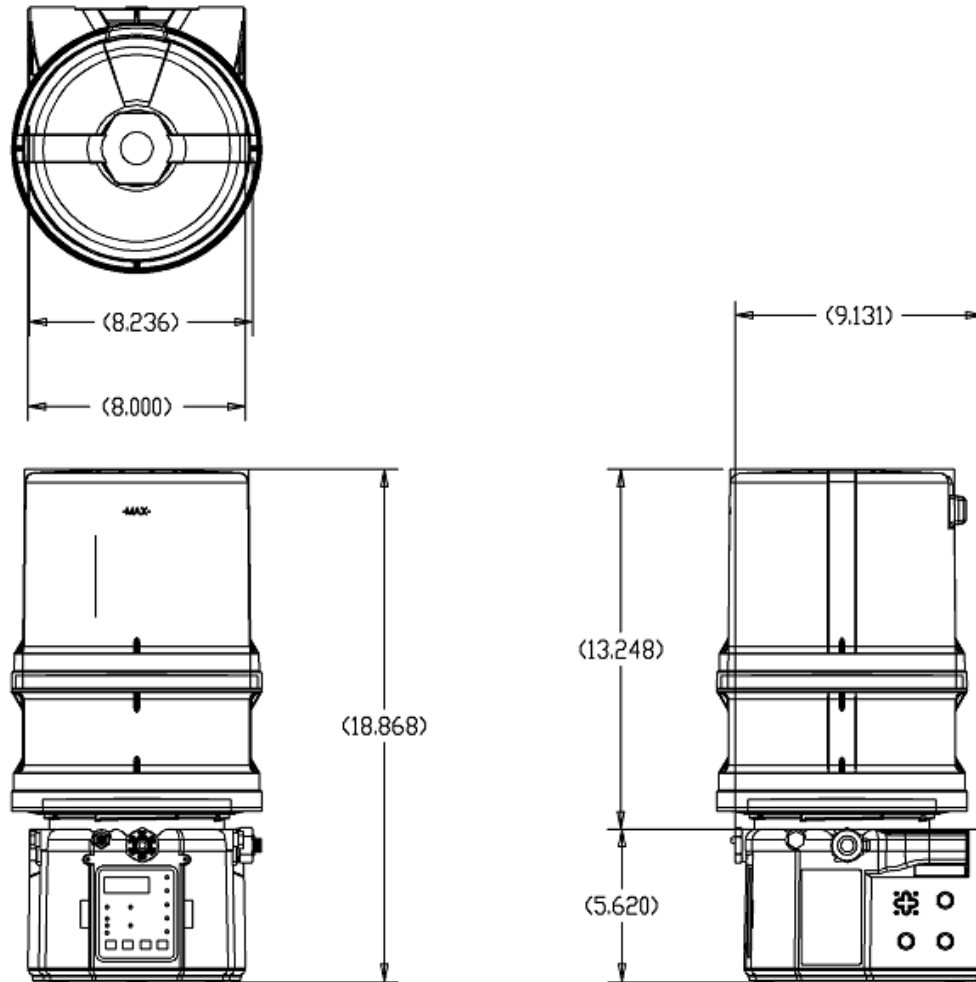
5.8.2. G3/G1 PUMP WITH 2 LITER RESERVOIR



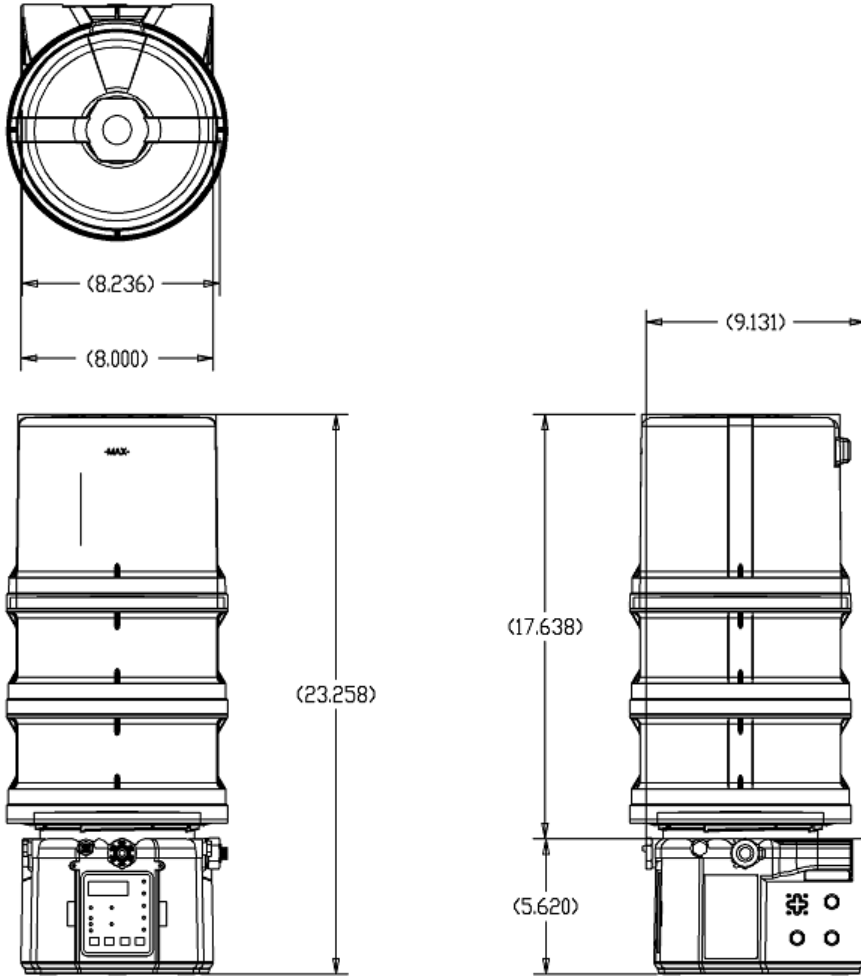
5.8.3. G3/G1 PUMP WITH 4 LITER RESERVOIR



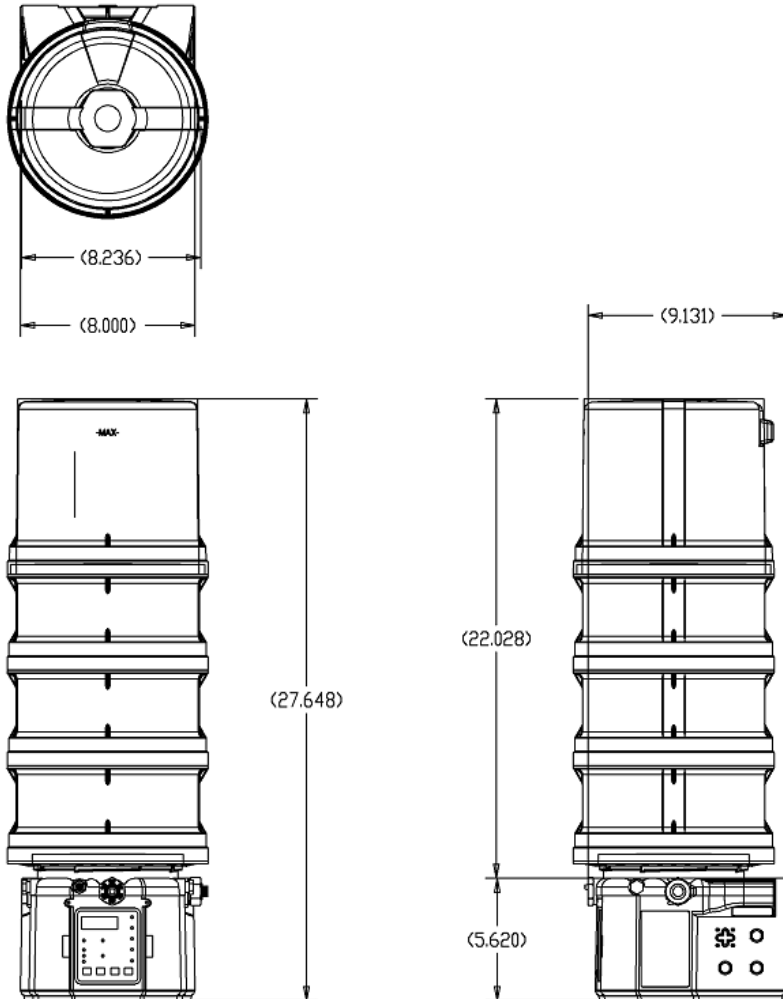
5.8.4. G3/G1 PUMP WITH 8 LITER RESERVOIR



5.8.5. G3/G1 PUMP WITH 12 LITER RESERVOIR

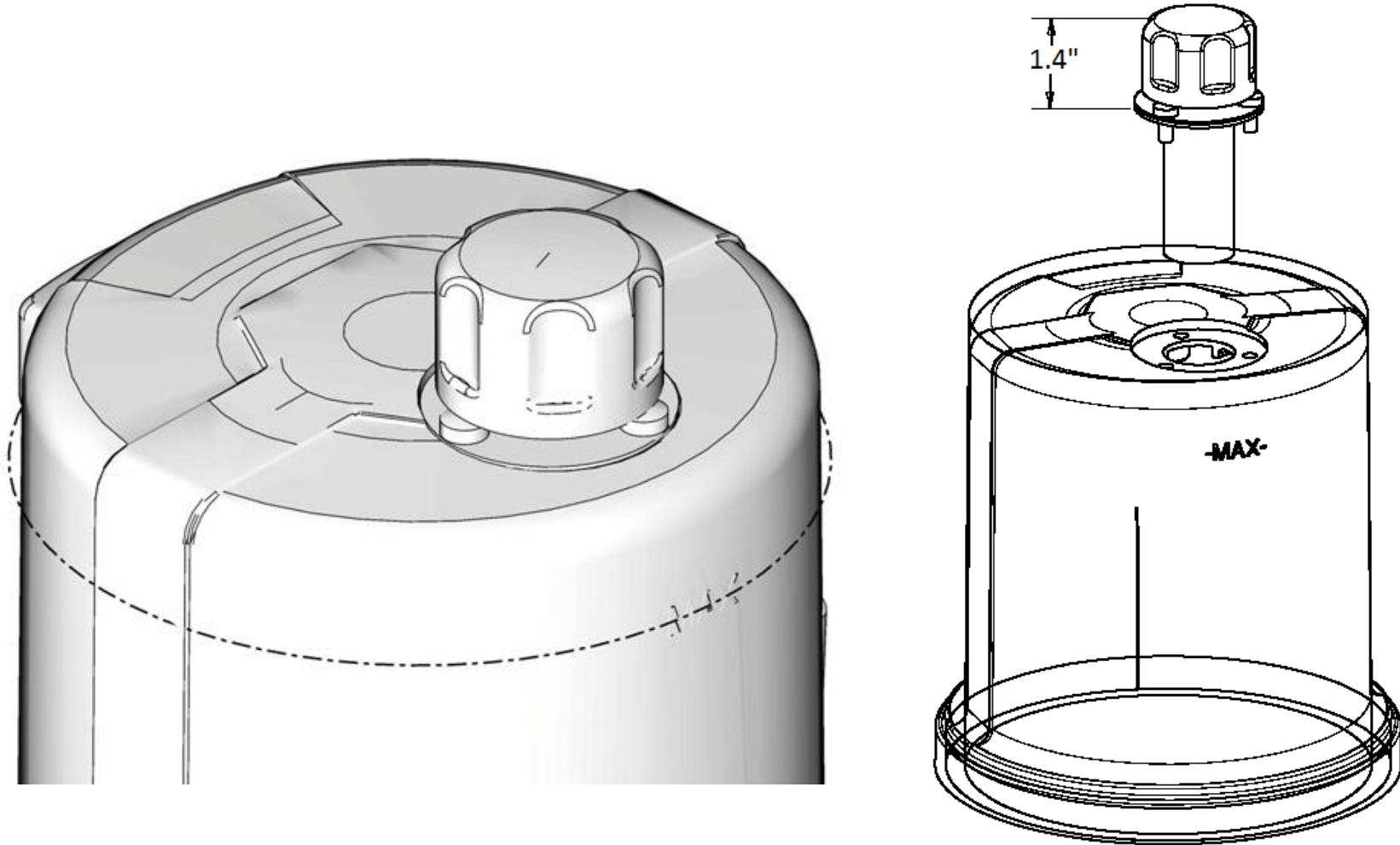


5.8.6. G3/G1 PUMP WITH 16 LITER RESERVOIR

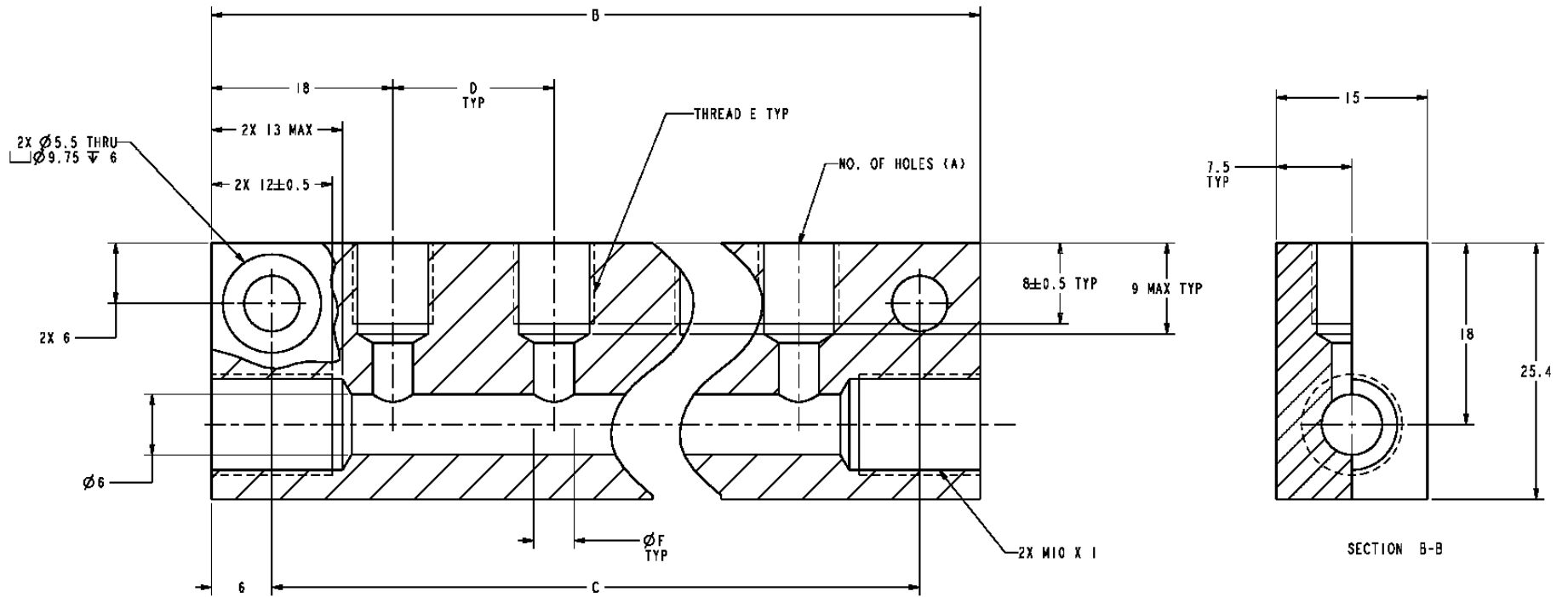


5.9. G3 AND G1 SERIES OIL PUMPS

SAME DIMENSIONS AS GREASE RESERVOIRS (ABOVE), WITH ADDITION OF OIL FILL CAP:



5.10. SINGLE LINE PARALLEL MANIFOLDS FOR PISTON DISTRIBUTORS

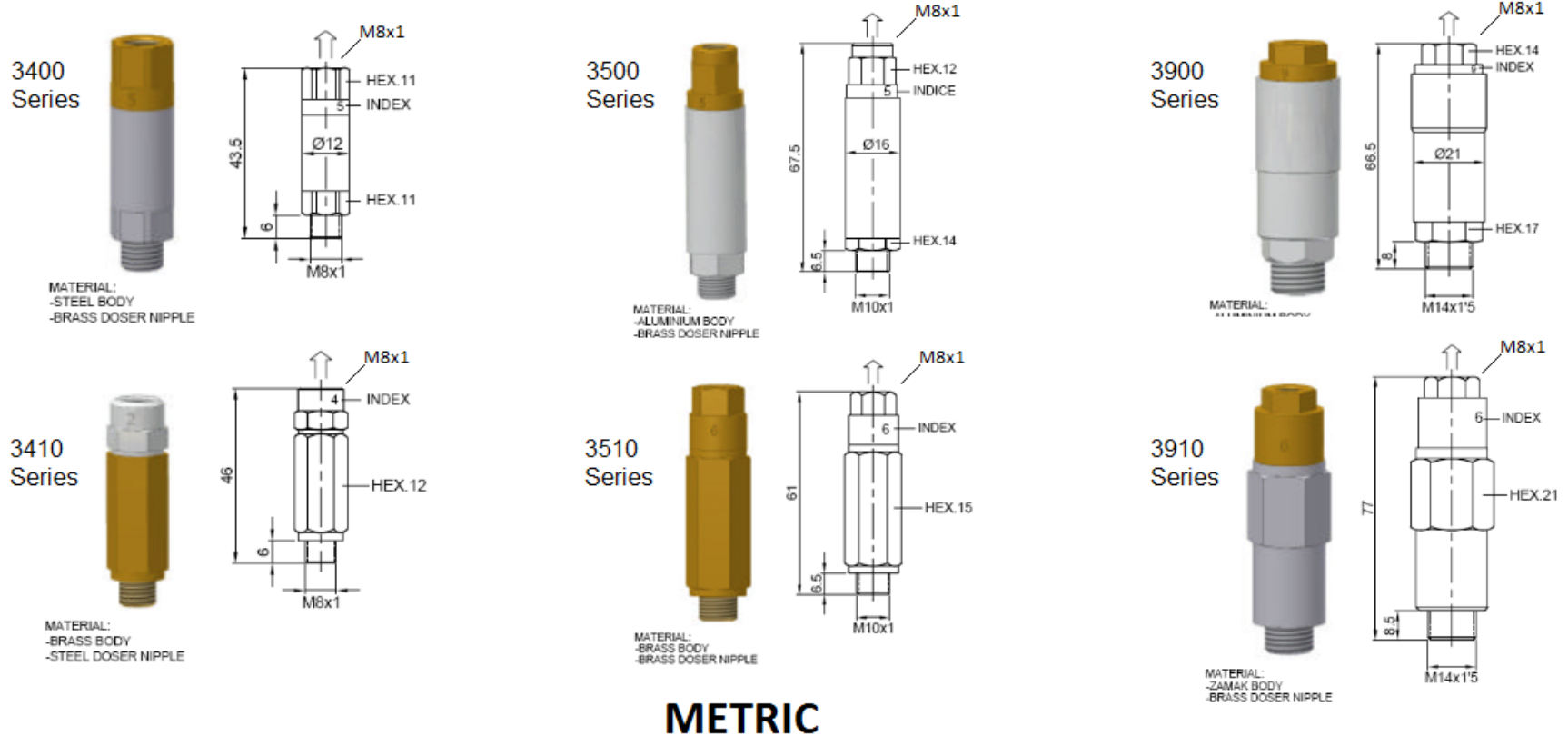


PART NO.	DESCRIPTION	NO. OF HOLES (A)	B	C	D	THREAD E	ØF
15X667	MANIFOLD, PD, M10 / M8 2 STATION	2	52	40	16	M8 X 1	4
15X668	MANIFOLD, PD, M10 / M8 3 STATION	3	68	56	16	M8 X 1	4
15X670	MANIFOLD, PD, M10 / M8 5 STATION	5	100	88	16	M8 X 1	4

METRIC

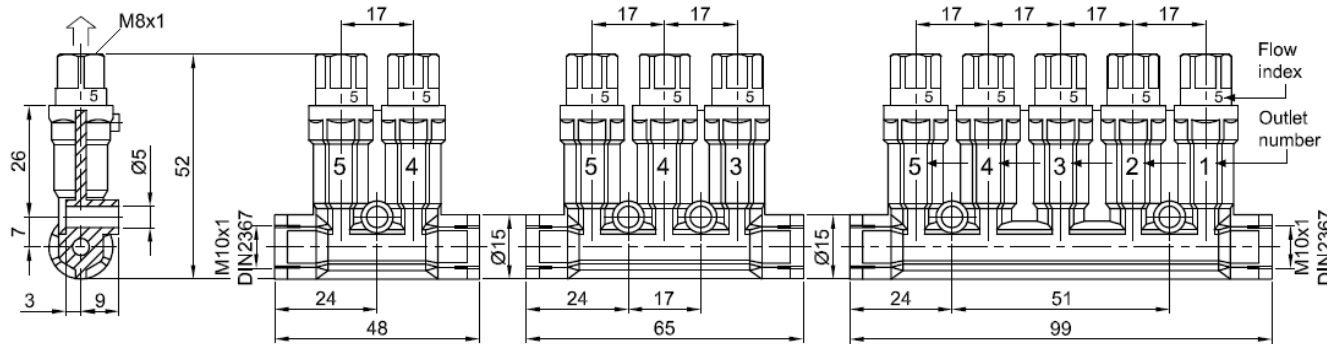
MATERIAL: 6061 ALUMINUM ALLOY

5.11. SINGLE LINE PARALLEL PISTON DISTRIBUTORS, SELF-CONTAINED



5.12. SINGLE LINE PARALLEL CAST BODY PISTON DISTRIBUTORS

3400 Series for Oil

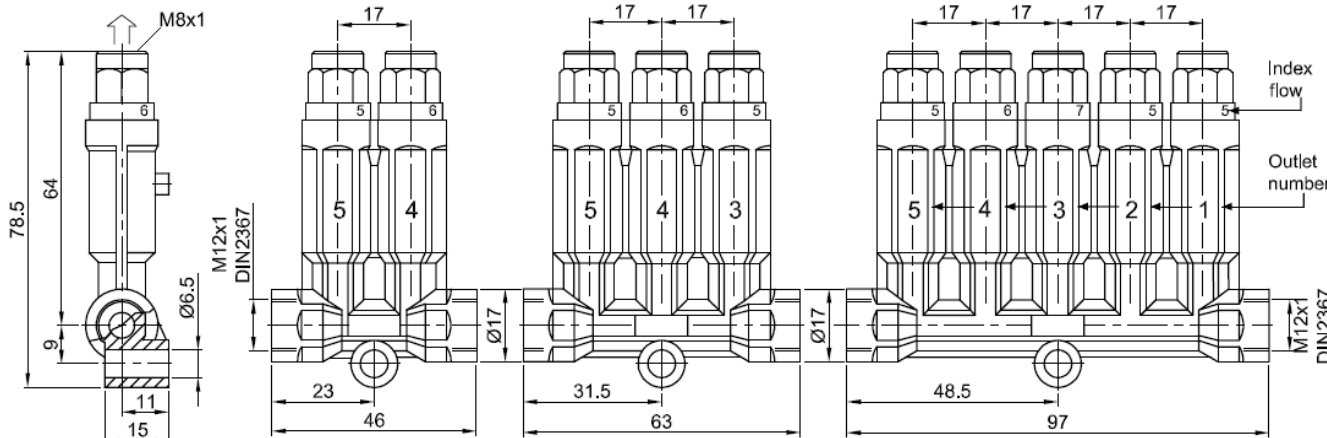


Specifications

Operating Pressure: 10 - 45 bar
 Medium: Oil
 Viscosity: 32 to 2000 cSt
 Temperature Range: +0°C to +70°C
 Perm. Residual Pressure: Max. 1.5 bar

METRIC

3500 Series for Oil



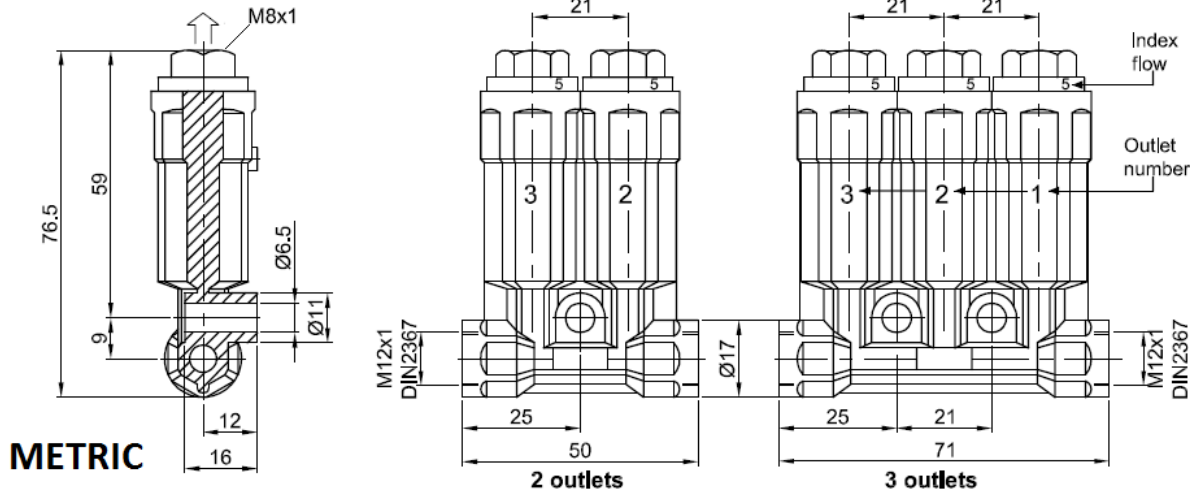
Specifications

Operating Pressure: 10 - 45 bar
 Medium: Oil
 Viscosity: 32 to 2000 cSt
 Temperature Range: +0°C to +70°C
 Perm. Residual Pressure: Max. 1.5 bar



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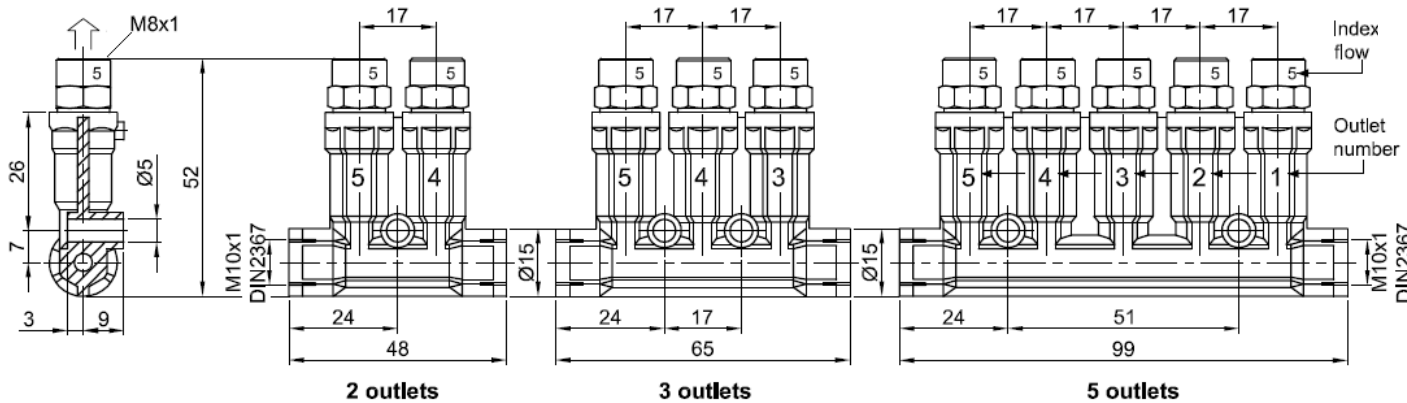
3900 Series for Oil



Specifications

Operating Pressure: 10 - 45 bar
Medium: Oil
Viscosity: 32 to 2000 cSt
Temperature Range: +0°C to +70°C
Perm. Residual Pressure: Max. 1.5 bar

3410 Series for Fluid Grease



Specifications

Operating Pressure: 10 - 45 bar
Medium: Grease NLGI 000, 00
Temperature Range: +0°C to +60°C
Perm. Residual Pressure: Max. 1.5 bar

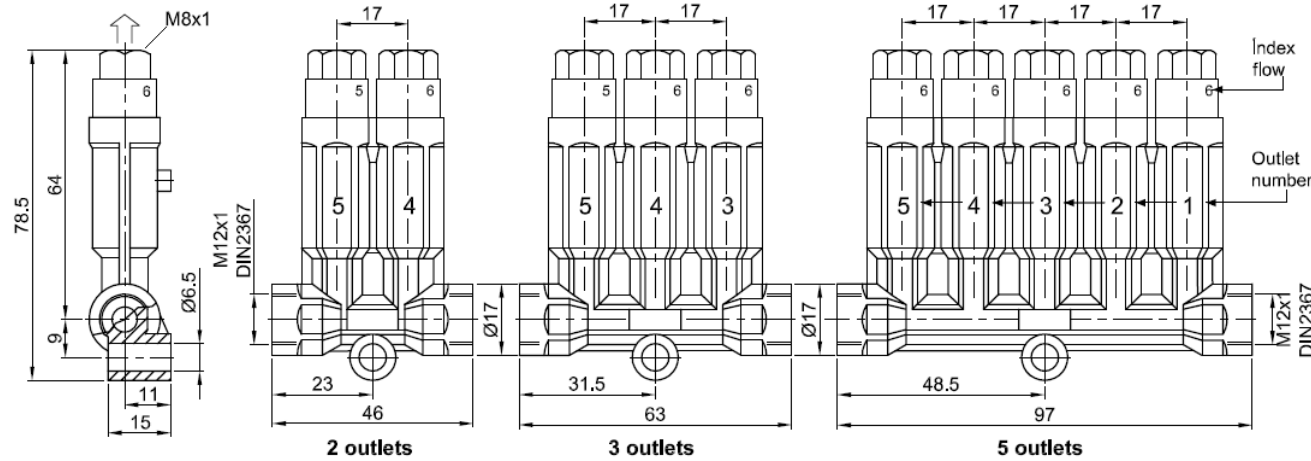




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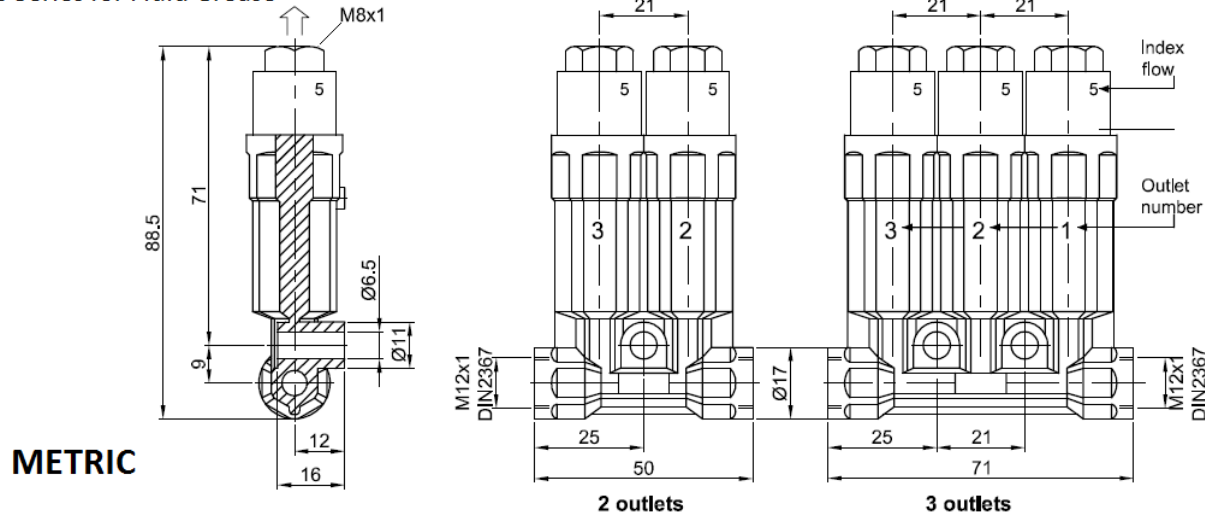
3510 Series for Fluid Grease



Specifications

Operating Pressure: 10 - 45 bar
 Medium: Grease NLGI 000, 00
 Temperature Range: +0°C to + 60°C
 Perm. Residual Pressure: Max. 1.5 bar

3910 Series for Fluid Grease



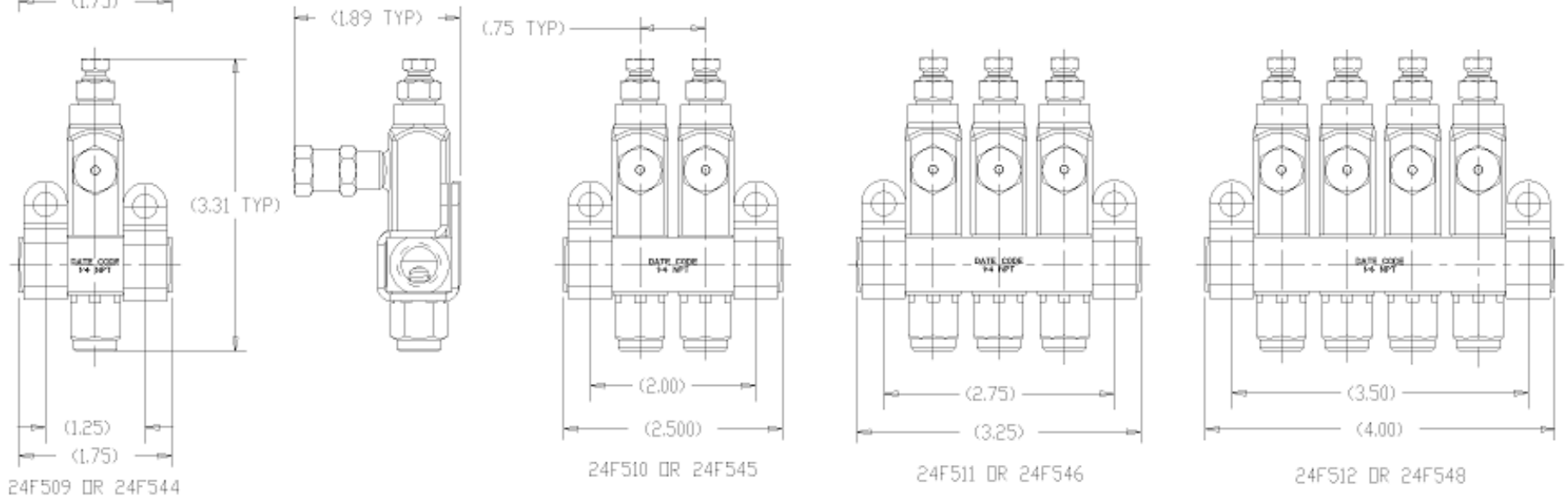
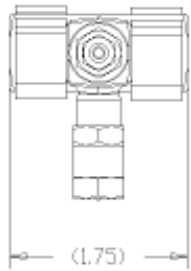
Specifications

Operating Pressure: 10 - 45 bar
 Medium: Grease NLGI 000, 00
 Temperature Range: +0°C to + 60°C
 Perm. Residual Pressure: Max. 1.5 bar



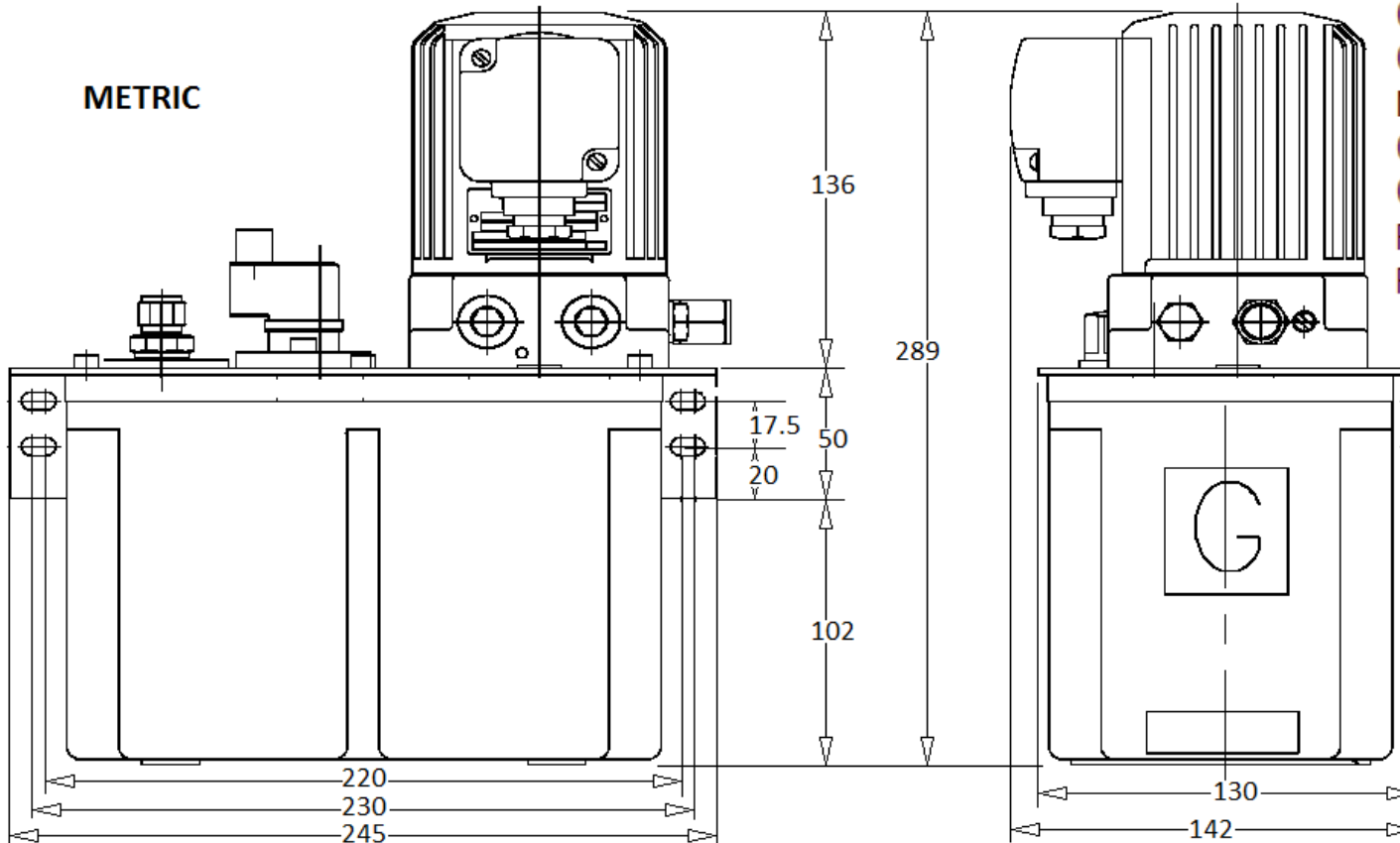
5.13. GL-32 & GL-43 INJECTORS

Technical Data	GL-43	GL-32
Maximum Operating Pressure	1000 psi (6.89 MPa, 68.9 bar)	3500 psi (24 MPa, 241 bar)
Minimum Operating Pressure	750 psi (5.17 MPa, 51.7 bar)	1200 psi (8.3 MPa, 83 bar)
Suggested Operating Pressure	850 psi (5.86 MPa, 58.6 bar)	2500 psi (17 MPa, 172 bar)
Reset Pressure	150 psi (1.03 MPa, 10.3 bar)	200 psi (1.4 MPa, 14 bar)
Recommended Fluids	Minimum SAE 10 weight oil*	Grease N.L.G.I. grades #000 - #2*
Output Volume per Cycle	adjustable: 0.001 - 0.008 in.3 (0.016 - 0.131 cc)	
Wetted Parts	carbon steel, stainless steel, copper, fluoroelastomer	



5.14. INJECTO-FLO PUMPS

5.14.1. THREE LITER RESERVOIR



Max Output Volume Per Minute

Oil 30.50 in³ (500 cm³)

Grease 12.20 in³ (200 cm³)

Max Pressure

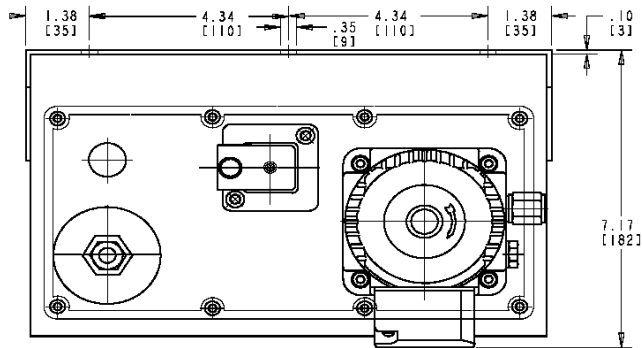
Oil 360 psi (25 bar)

Grease 580 psi (40 bar)

Power 230 VAC

Reservoir Plastic, Rectangular

5.14.2. SIX LITER RESERVOIR



Max Output Volume Per Minute

Oil 30.50 in³ (500 cm³)

Grease 12.20 in³ (200 cm³)

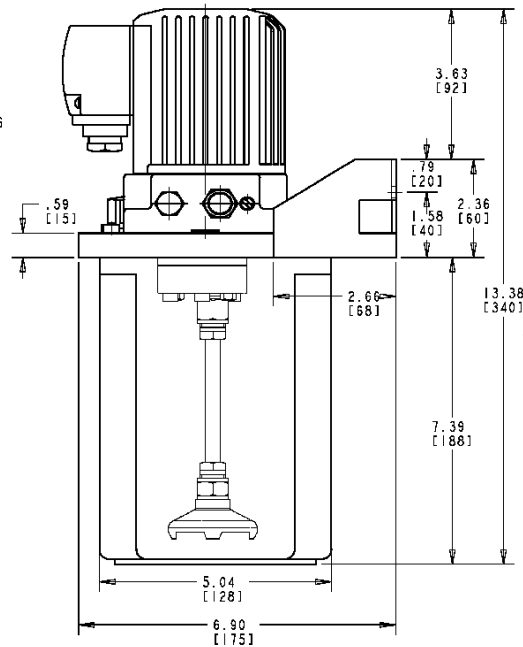
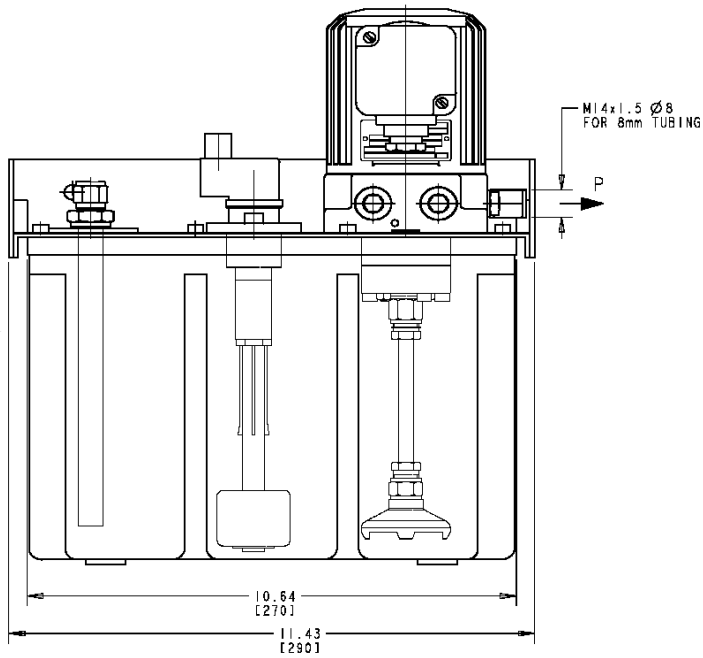
Max Pressure

Oil 360 psi (25 bar)

Grease 580 psi (40 bar)

Power 230 VAC

Reservoir Plastic, Rectangular



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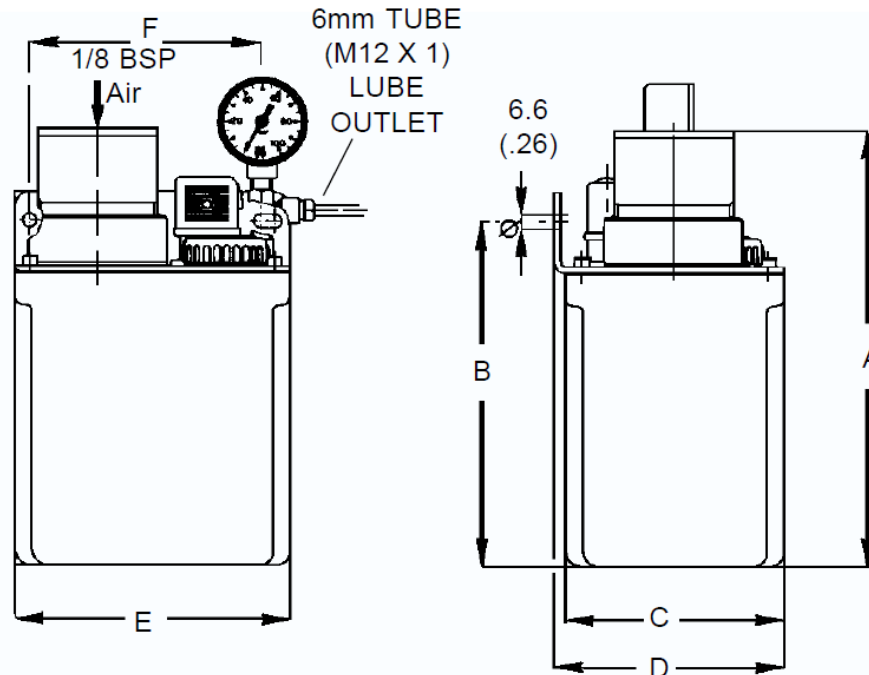
Original Date: 1-Oct-2010

Revision History: 31-Jul-17

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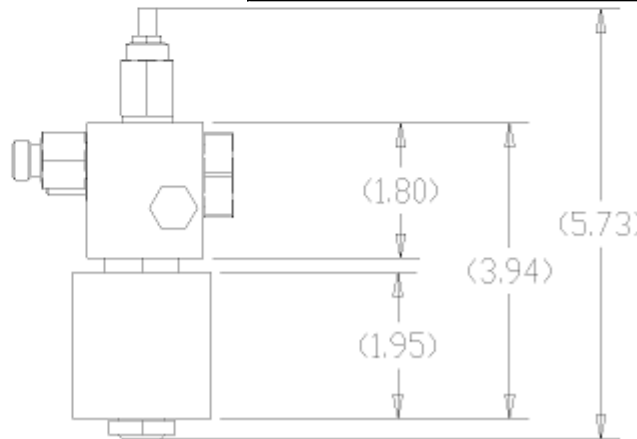
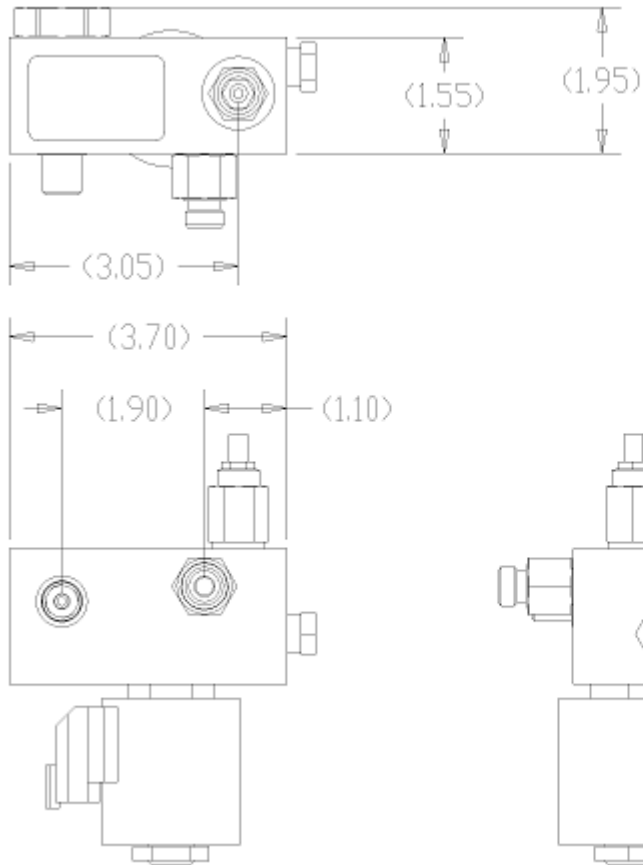
5.14.3. AO-1



RESERVOIR						
CAPACITY	A	B	C	D	E	F
2 liters (4pt)	237.0 (9.33)	186.0 (7.32)	118.0 (4.65)	123.0 (4.84)	148.0 (5.83)	125.0 (4.92)
5 liters (10pt)	232.0 (9.13)	181.0 (7.13)	—	152.0 (5.98)	236.0 (9.29)	167.0 (6.57)

Lubricants	Oil 50-1000 cSt
Output per Stroke (single shot only)	13 cc
Max Output Pressure	30 bar
Ratio	4.5:1
Air Operating Pressure	4-7 bar
Operating Temperature	-10° C to 80° C
Strainer	250 micron
Reservoir Options	2 Liter Nylon
	5 Liter Metal
Minimum On-Time	5 seconds
Minimum Off-Time	15 seconds
Maximum Cycles per Minute	4
Low Level Rating	1.5A@250VAC-150VDC

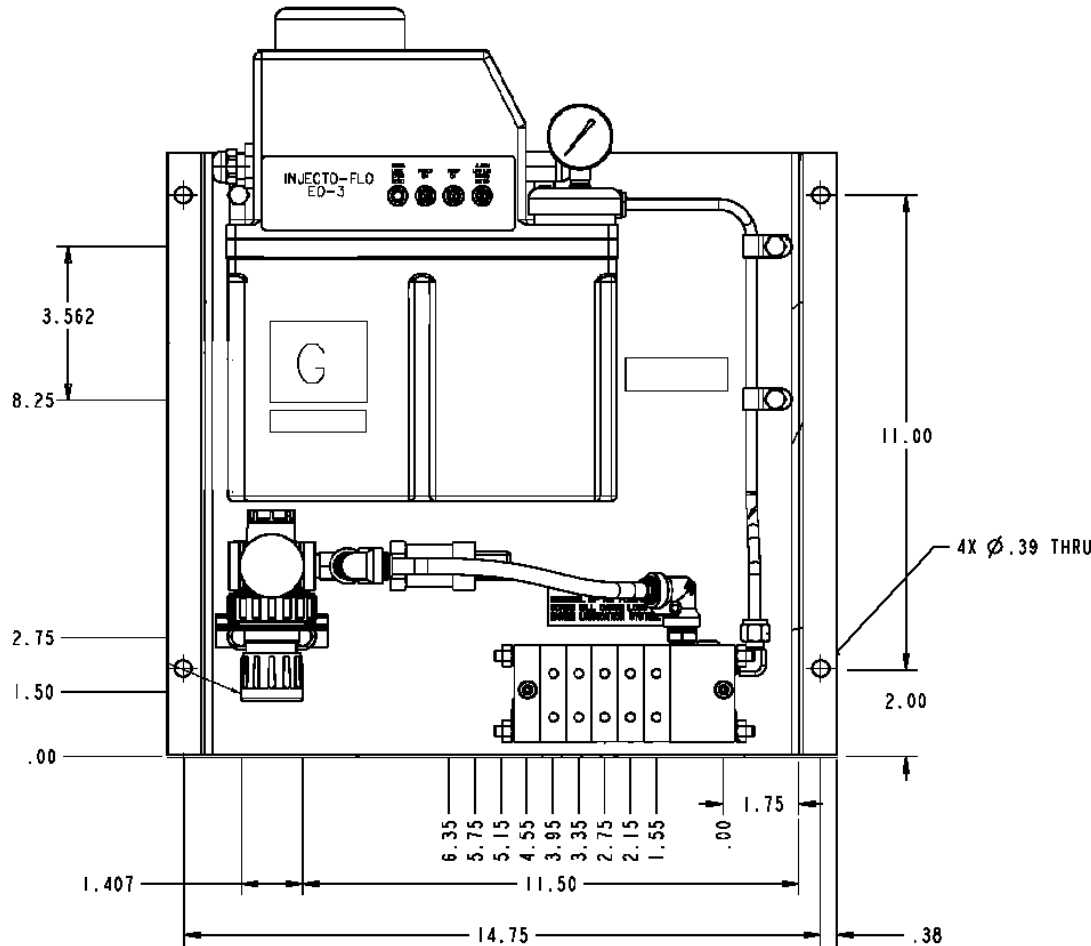
5.15. G3/G1 VENT VALVE 24M482



DIRECT MOUNT VENT VALVE FOR G3 PUMPS

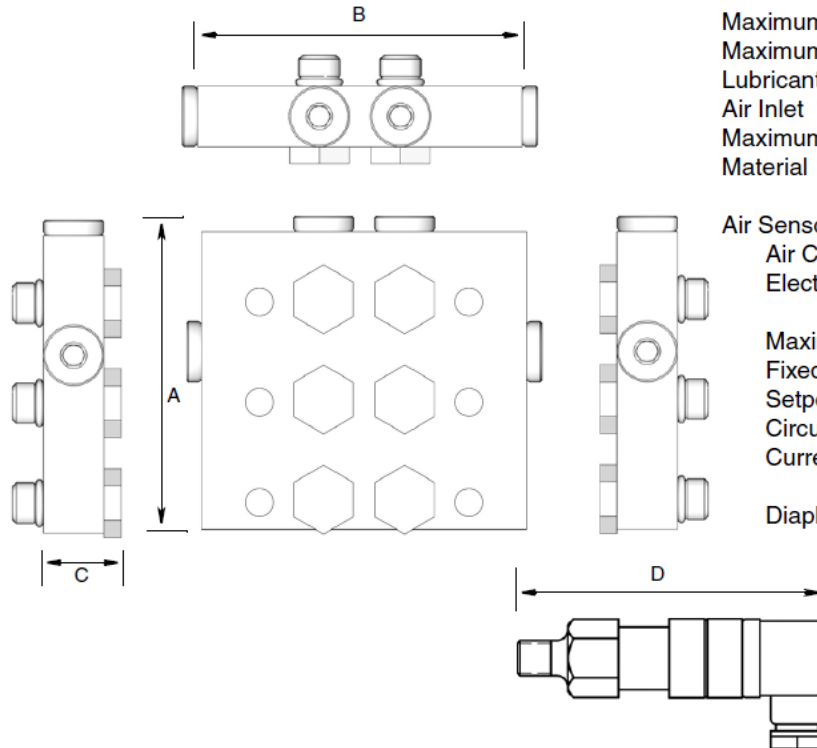
	US	Metric
Maximum working pressure	3500 psi	241 bar
Pressure Relief Valve		
Factory Set Pressure	4000 psi + 10%	275.8 bar + 10%
Reset Pressure	80% of pressure	
Relief Rate	0.13 gallons/sec @3000 psi	0.57 liters/sec @207 bar
Solenoid Valve		
Flow	Up to 5 gpm	Up to 18.9 lpm
Wetted materials	zinc plated steel, carbon steel, 6061 T6 aluminum, fluoroelastomer, polyurethane	
Weight	37.72 oz.	1069.5 grams
Solenoid Coil	24 Volt DC	
Resistance (DC) @ 68°F (20°C)	28.8 Ohms	
Initial Current Draw	0.83 Amps	

5.16. SPINDL-GARD SPG-E24



High Speed Spindl-Gard™ Lubrication System with Electric Pump		
	US	Metric
Pump Output	8.5 in ³ / min.	140 cm ³ /min
Motor Power	1/18 hp	
Pressure Relief Setting	350 psi	34 bar
Output Block Regulator	30 - 60 psi	2.07 - 4.14 bar
Lubricant	Oils up to 2500 SUS (ISO 460)	
Seals Used	Buna-N	
Plastic Reservoir	0.8 gal.	3 Liter
Low Level	NC (held open) 115/230 VAC, 10 watt load	
Voltage	24 VDC	
Air Cleanliness Requirements		
	5 micron 40°F Dew point	5 micron 4°C Dew point
Operating Temperature	40°F - 120°F	4°C - 49°C
Lube Output/cycle	0.005, 0.0015, 0.0030 in ³	0.025, 0.049, 0.082 cc
Pressure Switch Set Points		
Air (N.C.)	25 psi nonadjustable	1.7 bar nonadjustable
Oil (N.O)	320 psi nonadjustable	22 bar nonadjustable
Delivery Tube Length Required		
Minimum	24 inches	0.6 mm
Maximum	50 feet	15.24 m
Lubrication Filtration Requirements		
Filter to a minimum level recommended by the Society of Automotive Engineers (SAE) which corresponds to the ISO Standard 4406		

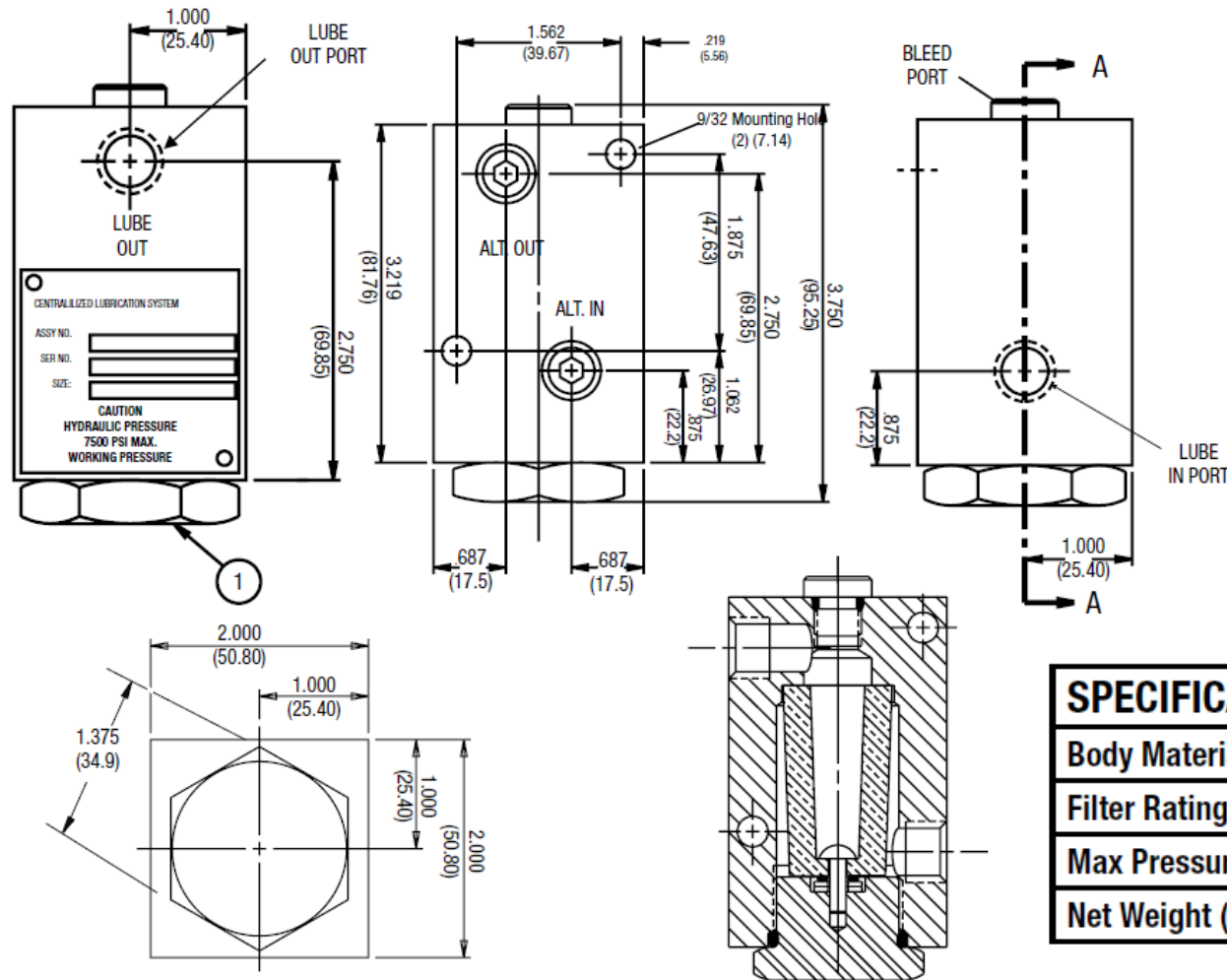
5.17. AO SERIES AIR/OIL MANIFOLDS FOR MSP VALVES



Maximum Air Working Pressure	250 psi (1.7 MPa, 17 bar)
Maximum Fluid Working Pressure	250 psi (1.7 MPa, 17 bar)
Lubricant	Oils up to ISO 460 (2500 sus)
Air Inlet	1/8 NPT female
Maximum Operating Temperature	200° F (93° C)
Material	anodized aluminum, zinc plated steel, stainless steel, chrome alloy steel, fluorocarbon
Air Sensor	
Air Connection	1/8 NPT male
Electrical Connection	DIN43650A, PIN 1 - COM, PIN 2 - Not used, PIN3 - Normally Open
Maximum Pressure	250 psi (1.7 MPa, 17 bar)
Fixed Setpoint	35 psi (.24 MPa, 2.4 bar)
Setpoint Direction	Falling
Circuit Form	SPST-NO (below 35 psi)
Current Rating	5A @ 250 VAC 5A @ 30 VDC (resistive)
Diaphragm Material	Buna-N

Model	Dimension A inch (mm)	Dimension B inch (mm)	Dimension C inch (mm)	Dimension D inch (mm)
24B237	2.89 (73.4)	3.00 (76.2)	.718 (18.2)	3.75 (95.3)
24B239	3.815 (96.9)	3.00 (76.2)	.718 (18.2)	3.75 (95.3)
24B240	4.74 (120.39)	3.00 (76.2)	.718 (18.2)	3.75 (95.3)
24B241	5.665 (143.89)	3.00 (76.2)	.718 (18.2)	3.75 (95.3)

5.18. HIGH PRESSURE FILTER 563515



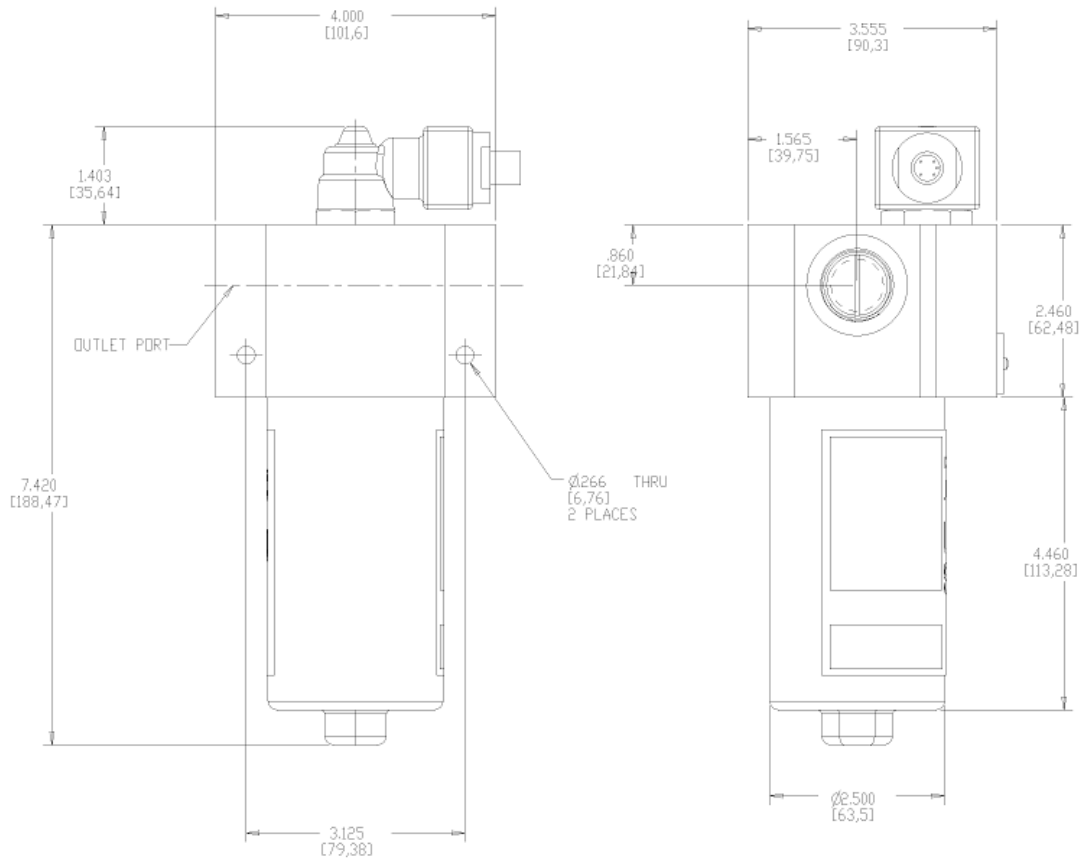
SPECIFICATIONS	
Body Material	Plated Steel
Filter Rating (Nominal Filtration)	25 microns
Max Pressure	7500 psi (510 bar)
Net Weight (approx.)	3 lbs (1.4 kg)



FIAT CHRYSLER AUTOMOBILES

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5.19. HIGH PRESSURE FILTER 564004



SPECIFICATIONS	
Pressure Ratings	
Max Allowable Operating Pressure	3000 psi (207 bar)
Rated Fatigue Pressure	2000 psi (138 bar)
Design Safety Factor	3:1
Operating Temperature	
Fluorocarbon	-15°F to 275°F (-26°C to 135°C)
Element Collapse Rating	350 psi (24.1 bar)
Materials	
Bowl	Impacted Aluminum (anodized 6061-T6)
Head	Extruded Aluminum (anodized 6061-T6)
Element Condition Indicators	
Visual	360° green/red
Electrical/Visual	5A @ 240 VAC, 3A @ 28 VDC
Weights (approx)	3.5 lb (1.6 kg)

File Name: 352481E_FCA_Global_Graco_Trabon_Spec_Book.docx

Version 10.1

Original Date: 1-Oct-2010

Revision History: 31-Jul-17

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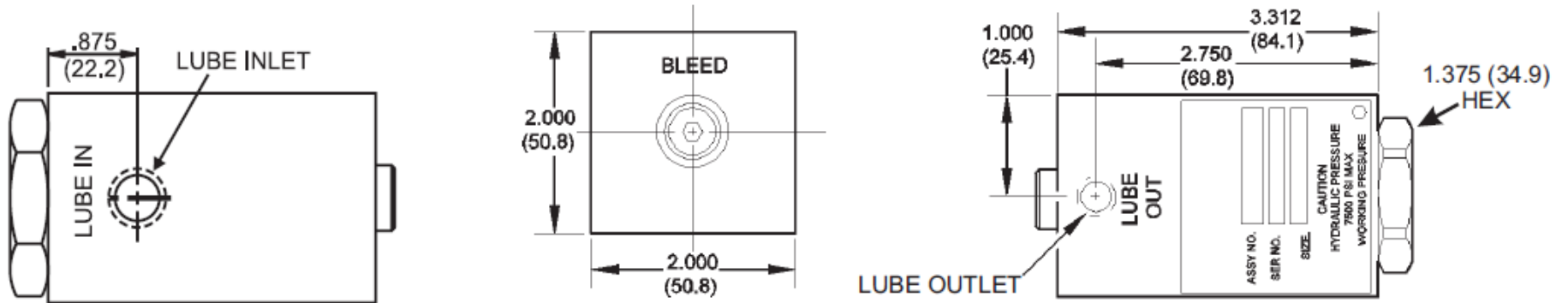




FIAT CHRYSLER AUTOMOBILES

GLOBAL POWERTRAIN

5.20. GREASE STRAINER 564406



STEEL BLOCK STRAINER WITH BLEED PORT

Rated Pressure	7500 psi (517 bar)
Net Weight (approx.)	3 lbs (1.4 kg)
Grease Strainer with 100-mesh (149 micron) screen 1/4 BSPP Ports	

