

M2500G Series Divider Valve Manifold Progressive Systems



GENERAL

M2500G Series Divider Valve Manifolds are the principal components of a progressive lubricating system. Modular construction makes these blocks easy to install, modify and maintain, without removing any tubing.

Progressive movement lubricant divider blocks operate in a pre-arranged sequence for easy monitoring of system operation through a moving indicator pin. Normally, the pin transmits a signal to the system controller through an electrical limit switch at the end of a complete lubrication cycle.

Up to 20 bearings can be lubricated from one manifold assembly, and up to 20 manifolds can be included in a simple system. Cyclic discharge from a lubricator forces sequential movement of the pistons inside the divider block, which displaces fixed volumetric amounts of lubricant to each point connected to the system network.



FEATURES

- + Zinc-Nickel plated steel body ensures longer life in nasty environments. 1000 hour salt spray proven. 4 times harder finish than comparable zinc plate.
- + Viton O-rings standard to protect against high heat and synthetic lubricants.
- + Form, fit and functionality interchangeable with all major competitive brands.
- + Tight toleranced - precision machined product.
- + SAE straight thread, NPSF or BSPP - all standard.
- + Integral or in-line solenoid valve for zone control.
- + Easy to assemble and replace valves without removing tube.
- + Three to ten section valve manifolds available.

TECHNICAL DATA

| | |
|-----------------------------------|--|
| Material | Steel (zinc-nickel plated) |
| Maximum Operating Pressure | 400 bar (5,800 psi) |
| Discharge per cycle | .005 cu. in (.08 cc) to .080 cu. in. (1.31 cc) |
| Seals | Viton O-rings (70 durometer) |
| Maximum Temperature | 350°F (163°C) |
| Lubricant | SAE 10 oil to NLGI #2 grease |

APPROXIMATE WEIGHT OF COMPLETE DIVIDER VALVE ASSEMBLY

| Valve Assembly | Weight |
|-----------------------|------------------|
| 3 Section Divider | 2.8 kg (6.2 lb) |
| 4 Section Divider | 3.5 kg (7.6 lb) |
| 5 Section Divider | 4.1 kg (9.1 lb) |
| 6 Section Divider | 4.8 kg (10.5 lb) |
| 7 Section Divider | 5.4 kg (11.9 lb) |
| 8 Section Divider | 6.1 kg (13.4 lb) |
| 9 Section Divider | 6.7 kg (14.8 lb) |
| 10 Section Divider | 7.4 kg (16.2 lb) |

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HOW TO ORDER

Completely assembled single line modular valve manifolds can be ordered as follows:

First, select the manifold base assembly from the table. This assembly includes the inlet section, valve base sections, end section, tie rods, nuts and O-rings; the valve sections are installed on it. Each valve section and bypass section requires a base section and every manifold must have at least three operating valve sections.

VALVE SECTION

| Inlet Type | Number of Sections | #4SAE | Discharge Ports | |
|------------|--------------------|-----------|-----------------|-------------|
| | | | 1/8-27 NPSF | 1/8-28 BSPP |
| Standard | 3 | M2500A3G | M2500B3G | M2500C3G |
| | 4 | M2500A4G | M2500B4G | M2500C4G |
| | 5 | M2500A5G | M2500B5G | M2500C5G |
| | 6 | M2500A6G | M2500B6G | M2500C6G |
| | 7 | M2500A7G | M2500B7G | M2500C7G |
| | 8 | M2500A8G | M2500B8G | M2500C8G |
| | 9 | M2500A9G | M2500B9G | M2500C9G |
| | 10 | M2500A10G | M2500B10G | M2500C10G |

Add **Z** to the standard code for Zone-Oil MCZ2501 or **X** for Zone-Grease MCZ2501, e.g. M2500A7GZ for 7 section Zone-Oil.

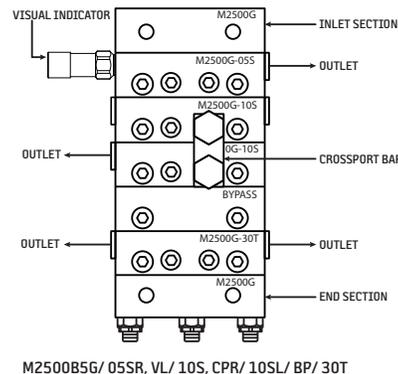
Next, specify the valve size, outlet type and optional accessories or bypass sections. Begin at the first section after the inlet and continue towards the end section. Choose one from each column on the chart below.

| Valve Size | | Outlet | Optional Accessories |
|------------|----|-----------------------------|-------------------------------|
| 05 | 25 | T- Twin | V- Visual indicator |
| 10 | 30 | S- Single; no outlet | PP- Pin-type piston indicator |
| 15 | 35 | SL- Single; outlet to left | CS- Cycle switch* |
| 20 | 40 | SR- Single; outlet to right | CP- Crossport |

Add **L** or **R** to the above codes to specify the location of each accessory. If bypass section is required, use **BP** in part number.

EXAMPLE

| Specifications | Code |
|---|----------|
| 5 section manifold, NPSF ports, standard inlet | M2500B5G |
| 05 single, outlet to right, visual indicator left | 05SR, VL |
| 10 single, no outlet, crossport right | 10S, CPR |
| 10 single, outlet to left | 10S, SL |
| Bypass section | BP |
| 30 twin, outlets left and right | 30T |



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M2500G VALVE COMPONENTS

Assembled valve manifolds contain:

Inlet section + Base section + Valve sections + End section + Tie rod kit

INLET SECTION (ONE REQUIRED)

| Inlet Port | Standard Part Number | Zone Oil Part Number | Zone Grease Part Number |
|-------------------------|----------------------|----------------------|-------------------------|
| 1/4" OD Tubing (#4 SAE) | MCI2504AG | --- | 37500A |
| 1/4"-18 NPSF | MCI2504BG | --- | 37500B |
| 1/4"-19 BSPP | MCI2504CG | MCI2504ZC3G | 37500C |

See page 6 for Zone valve options.

BASE SECTION (THREE TO TEN REQUIRED)

| Outlet Discharge Port | Part Number |
|-------------------------|-------------|
| 1/4" OD Tubing (#4 SAE) | MCBA2502AG |
| 1/8"-27 NPSF | MCBA2502BG |
| 1/8"-28 BSPP | MCBA2502CG |

NOTE:

Torque Specifications:

Tie Rod Nuts: 5-8 ft lbs.
 Outlet Port Ftg: 8-9 ft lbs.
 Piston Enclosure Plugs:
 12-15 ft lbs.
 Valve Mounting Screws:
 8-9 ft lbs.

VALVE SECTIONS (THREE TO TEN REQUIRED)

| Valve Size | Discharge cu. in. (cc) | | Part Number | | | |
|--------------|------------------------|---------------|--------------|-------------------------------|---------------|-------------------------------|
| | Twin Outlet | Single Outlet | Twin Outlet | | Single Outlet | |
| | | | Standard | With Cycle Pin | Standard | With Cycle Pin |
| 05 | .005 (.08) | .010 (.16) | MCVA250105TG | --- | MCVA250105SG | --- |
| 10 | .010 (.16) | .020 (.33) | MCVA250110TG | --- | MCVA250110SG | --- |
| 15 | .015 (.25) | .030 (.49) | MCVA250115TG | --- | MCVA250115SG | --- |
| 20 | .020 (.33) | .040 (.66) | MCVA250120TG | MCVA250120TPG* M25U20TPC** | MCVA250120SG | MCVA250120SPG* M25U20SPG** |
| 25 | .025 (.41) | .050 (.82) | MCVA250125TG | MCVA250125TPG* M25U25TPC** | MCVA250125SG | MCVA250125SPG* M25U25SPG** |
| 30 | .030 (.49) | .060 (.98) | MCVA250130TG | MCVA250130TPG* M25U30TPC** | MCVA250130SG | MCVA250130SPG* M25U30SPG** |
| 35 | .035 (.57) | .070 (1.15) | MCVA250135TG | MCVA250135TPG* M25U35TPC** | MCVA250135SG | MCVA250135SPG* M25U35SPG** |
| 40 | .040 (.66) | .080 (1.31) | MCVA250140TG | MCVA250140TPG* M25U40TPC** | MCVA250140SG | MCVA250140SPG* M25U40SPG** |
| Bypass valve | - | - | MCVA2501BPG | | | |

*Standard 17324/33583 switch can be fitted. ** Prox 66925 series switches can be fitted. (see page 5 for options)

END SECTION (ONE REQUIRED)

| Port Style | Standard Part Number | With 1/8"NPT Port |
|-----------------------|----------------------|-------------------|
| Outlet Discharge Port | MCEA2503G | 37484 |

TIE ROD KIT (ONE REQUIRED)

Individual kits are available for three to ten sections. Kits include tie rods and locknuts (See Valve Service, page 4.)

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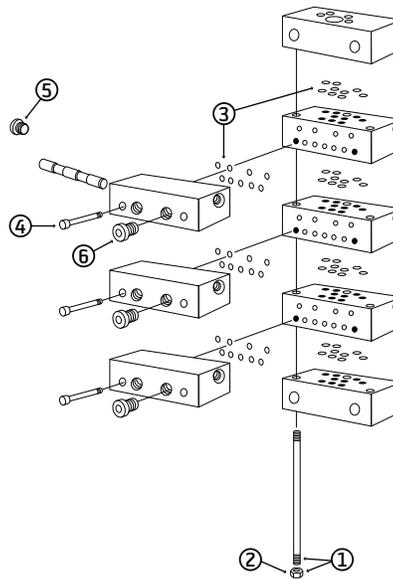
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SERVICE PARTS

| Item | Description | Part Number | |
|------|---------------------------|-------------|------------|
| 1 | Tie rod kit* | 3 section | MCRK25053G |
| | | 4 section | MCRK25054G |
| | | 5 section | MCRK25055G |
| | | 6 section | MCRK25056G |
| | | 7 section | MCRK25057G |
| | | 8 section | MCRK25058G |
| | | 9 section | MCRK25059G |
| | 10 section | MCRK250510G | |
| 2 | Tie rod nut | U251A | |
| 3 | Viton O-rings | U1720005S | |
| 4 | Valve mounting screws | U212A6 | |
| 5 | Valve Section Piston Plug | 64161S001 | |
| 6 | Alternate outlet plug | 64161S002 | |

*Note: Includes 3 tie rods & 3 locknuts



ACCESSORIES

CROSS PORT

| | |
|----------------|--------|
| Cross Port Kit | 37083G |
|----------------|--------|

RAPTURE DISC INDICATOR

These indicators burst at a selected pressure to automatically relieve excessive system pressure. They are installed in an alternate outlet port. All indicators are assembled with one rupture disc. Five extra discs are included.

| Description | Burst Pressure | Disc Color | Replacement Disc Kit* | Part Number |
|------------------------|----------------|------------|-----------------------|-------------|
| Rapture Disc Indicator | 1450 psi | Yellow | FT15423YWK | 10412YW |
| | 1750 psi | Red | FT15423RDK | 10412RD |
| | 3250 psi | Purple | FT15423PRK | 10412PR |

*Note: Discs are sold in packs of 10 pieces

PRESSURE INDICATOR

These indicators are spring-loaded and can only be reset when system pressure decreases. The indicator's memory pin remains extended until manually reset. They are installed in the alternative outlet port.

| Description | Pressure Rating | Non-Relieving | Pressure Rating | Relieving |
|---------------------|-----------------|---------------|-----------------|-----------|
| Pressure Indicators | 600 psi | 20356 | 600 psi | - |
| | 1200 psi | 203512 | 1000 psi | 213510 |
| | 1600 psi | 203516 | 1500 psi | 213515 |
| | 2200 psi | 203522 | 2000 psi | 213520 |

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ACCESSORIES CONT.

CYCLE INDICATORS / CYCLE SWITCHES

Manifold cycle indicators provide a means of monitoring lube flow thru the system - a pin cycles in and out when lubricant is flowing. Movement of the pin is caused by the piston (the two are pinned together) so that when the piston, and thus the entire manifold, cycles once, the pin moves in and out once. The switches can be wired to warn of system trouble. They can feed electric pulses to a control device such as SS2200 or SC400 controller or customer PLC.

ELECTRICAL CYCLE SWITCHES

17324 with 1/2-14 NPSM conduit connector
33583 Bracket (required with switch)
 (Order both parts separate)

Couples to any M2500G metering valve having a cycle indicator pin and provides an electrical signal each time the divider valve operates. SPDT switch is rated 15 amps @ 125/250 VAC, .5amps @ 125VDC.



MCSA2503 w/automotive type 3 pin connector

Because they use a magnet to sense piston position, entry of contaminants into the system is prevented. These cycle switches may be installed in the end of M2500G valve size '15' and larger. The SPDT switch is rated at 250 VAC/28 VDC-5 Amps. (See Automotive-Type Connectors below)



PROX CYCLE SWITCHES

66925-1311 PNP prox cycle switch
66925S003 NPN prox cycle switch

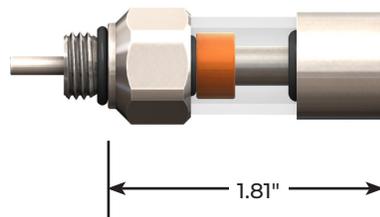
Couples to any M2500G metering valve having a prox cycle indicator pin and provides an electrical signal each time the divider valve operates. N/O contact, operating vltage 10 to 30VDC, output current 200mA.



VISUAL INDICATOR

37786

Visual cycle indicator for monitoring. Reflective orange indicator is visible for over 30 feet. Couples to any M2500G metering valve. Pin reduces output of valve by 0.0038cu.(0.06cc)



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ACCESSORIES CONT.

M12 4-POLE ELECTRICAL CONNECTORS WITH CABLE

These connectors, made to M12 specifications, are used with the 66925 switches.

76928-2863 - Straight, 10 meters long
76928-2833 - 90°, 10 meters long



AUTOMOTIVE-TYPE ELECTRICAL CONNECTORS WITH CABLE

These cable assemblies are yellow PVC insulated STO and are used with the MCSA2503/ switches.

MCC2505A - Straight, 6 feet long
MCC2505B - Straight, 12 feet long



INTEGRAL ZONE VALVES

HOW TO ORDER GREASE VALVES

Integral Zone Valves



Zone Valve - System Type
 MCZ2503B— Grease

Seal Material
 00— Nitrile
 V0— Viton

Voltage
 11— 115 VAC 50/60 Hz
 22— 230 VAC 50/60 Hz
 24— 24 VDC

Electrical Connector
 DL— Conduit (1/2NPSM)
 HC— Hirschmann/DIN
 BH— Automotive



Note: All Zone Control Valves are sent standard as normally closed. Contact factory if normally open is required.

HOW TO ORDER OIL VALVES

| | P.N. | VOLTAGE | SEALS | ELEC CONN |
|-----|-----------|---------|-------|----------------|
| OIL | 38152M115 | 24VDC | VITON | Hirschmann/DIN |
| | 38152M116 | 115VAC | VITON | Hirschmann/DIN |
| | 38152M117 | 230VAC | VITON | Hirschmann/DIN |

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