LIONOIL
ANTWERP LION OIL WORKS N.V.
Vlaamsekaai 2-5 B-2000 Antwerpen
T.: +32 (0)3 237 00 45 F.: +32 (0)3 216 21 92

PROGRESSIVE DIVIDER VALVES

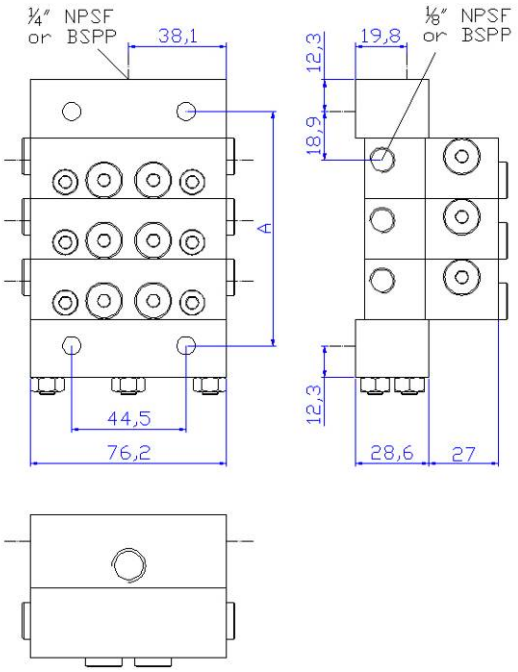
MSP MODULAR DIVIDER VALVE

Maximum flexibility and reliability

The progressive divider valves are the core of our progressive lubrication systems. In the MSP modular divider, a quantity of lubricant is exactly measured in the measuring elements, to be followed by a point by point lubrication. With MSP divider valves monitoring of the complete system is possible with just 1 switch.

- Oil- and grease
- Up to 240 bar
- Up to 20 points per divider valve
- Buna-N or Viton seals
- NPSF or BSPP connections (SAE as option)
- Integrated check valves
- Modular concept
- Easy monitoring

Trabon® MANUFACTURED BY GRACO



Specifications

Lubricant	oil or grease
P_{max}	240 bar (3500 PSI)
Max. flow ratio	32 :1 (in 1 unit)
Max. Cycle speed	200/min
	60/min (cycle pin)
Material	
- Body	steel (corrosion protected)
- Seals	Buna-n
	Viton (option)
T_{max}	93°C (Buna-N)
	163°C (Viton)
Torque specifications	
- Tie rod nut	7-9 Nm
- Mounting screw sections	12-13 Nm
- Indicator port plug (front)	12-13 Nm
- Inlet bleed screw	1,5-3 Nm
- Piston enclosure plug	17-22 Nm

Seize and weights

	MSP3	MSP4	MSP5	MSP6	MSP7	MSP8	MSP9	MSP10
A (mm)	90.9	114.3	137.7	161.1	184.6	207.98	231.4	254.8
m (kg)	2.7	3.3	4.0	4.6	5.3	5.9	6.6	7.2

BTW BE 0457 940 562 RPR Antwerpen www.lionoil.be
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Cycle-indicators

These mechanical and electrical units sense the divider valve piston's action, and transform it into a mechanical or electrical signal for accurate control and monitoring of lube cycles.

Cycle-indicator pin

Valve sections 20 up to 40 are available with a factory-installed indicator pin which moves in and out as lubricant passes through the valve. One movement per cycle.

Magnetic visual cycle-indicator

A magnetic red marked piston slides in a black sleeve visible through a clear sleeve. The magnet moves with the cycling piston, providing a clear indication of lube cycles.

Cycle-indicator switch

Used in conjunction with the cycle indicator pin at cycle rates not exceeding 60 cpm, it provides an electrical signal to the system controller which counts cycles to monitor and verify completion of the lube cycle.

Field-sensitive proximity switch

A ceramic-magnet switch for grease or oil systems up to 200 cpm at pressure up to 3,500 psi (241 bar), accurately signals piston cycles, and is ideal for high-cycle applications.

Field-sensitive proximity switch IECEx

A ceramic-magnet switch certified IECEx for use in hazardous areas.

IECEx	Ex ia IIC T6 Ga Ex ia IIIC T85°C Da

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System protection / performance indicators

These vital safeguards react to excess lube pressure when points or lines become blocked. Installed in indicator ports on the working piston sections, they quickly identify the affected lines.

Automatic Relief-to-Atmosphere Indicator

Spring-loaded piston unseats when blockage occurs, venting lubricant to atmosphere each time the piston cycles. This allows system to lubricate unaffected points. When the blockage is cleared, the indicator reseats automatically

Manual Reset Indicator with Memory

System blockage triggers a spring-loaded piston to display an indicator. Since there is no relief, pressure backs up in the system and the system stops, allowing a controller to alarm. After correcting the problem, the indicator pin is reset manually. This creates a visual notice of a temporarily overpressure.

Rupture indicator

The high pressure from lube line blockage causes a disc to rupture. They are available as reset- or relieve-indicator. The high pressure backs up through the system and can be a trigger for the controls. When the fault is corrected, the disc must be replaced. Rupture indicators, as the rupture-disks in different pressure-ranges, are only available on special request.

Order-references MSP-divider

Base	NPSF	BSPP
Inlet	2018-0798	2018-0813
Inlet with bleeding	2018-0791	-
Subplate	2018-0790	2018-0814
End-section	2018-0799	
Crossport right	2018-0829	
Crossport left	2018-0830	
Crossport both	2018-0831	

Elements	Flow/ output (cm^3)	Orderref.	Orderref. Cyclepin (right)
5T	0.082	2018-0320	-
5S	0.164	2018-0312	-
10T	0.164	2018-0321	-
10S	0.328	2018-0313	-
15T	0.246	2018-0322	-
15S	0.492	2018-0314	-
20T	0.328	2018-0323	2018-0336
20S	0.656	2018-0315	2018-0328
25T	0.410	2018-0324	2018-0337
25S	0.820	2018-0316	2018-0329
30T	0.492	2018-0325	2018-0338
30S	0.983	2018-0317	2018-0330
35T	0.574	2018-0326	2018-0339
35S	1.148	2018-0318	2018-0331
40T	0.656	2018-0327	2018-0340
40S	1.311	2018-0319	2018-0332
BYPASS	0.000	2018-0285	-

Acc. MSP divider	Orderref.
Tie rod MSP3	2018-0800
Tie rod MSP4	2018-0801
Tie rod MSP5	2018-0802
Tie rod MSP6	2018-0803
Tie rod MSP7	2018-0804
Tie rod MSP8	2018-0805
Tie rod MSP9	2018-0806
Tie rod MSP10	2018-0807
Nut tie rod	2018-0451
Valve block mounting screw	2018-0463
Piston enclosure plug	2018-0788
Indicator port plug	2018-0886
MSP O-seal BUNA-N	2018-0469
MSP O-seal VITON	2018-0795
Mounting screw section + crossport	2018-0464

Order-references control-options

Description	Orderref.
Cycle pin	See table above
Cycle switch	2018-0686
Magnetic cycle indicator	2018-0665
***** Field sensitive proximity switches *****	
Field sensitive proximity switches 3 pin	2018-0816
Field sensitive proximity switches 3 pin + LED 24VDC	2018-0837
Connection cable 3 pin length = 1.9 m	2018-0960
Connection cable 3 pin length = 3.7 m	2018-0962
***** IECEx cycle switches *****	
FSM IECEx cycle switch	2032-0215

Description	Orderref.
***** Relief-indicators *****	
50 bar (750 psi)	2018-0560
70 bar (1000 psi)	2018-0561
105 bar (1500 psi)	2018-0563
140 bar (2000 psi)	2018-0564
170 bar (2500 psi)	2018-0564
205 bar (3000 psi)	2018-0566
***** Reset-indicators *****	
15 bar (250 psi)	2018-0648
35 bar (500 psi)	2018-0649
50 bar (750 psi)	2018-0650
70 bar (1000 psi)	2018-0651
105 bar (1500 psi)	2018-0653
140 bar (2000 psi)	2018-0654
170 bar (2500 psi)	2018-0655
205 bar (3000 psi)	2018-0673

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Order-references complete dividers

XXX – XXX – XX – X – X – XX – X-(XX)

Series of feeder

MSP	Standard divider
MSV	Viton seals

Inlet / Outlet connection type

NPT	Dryseal Pipe Thread
BSP	British Parallel met O-ring

Type inlet

MS	Standard inlet
MH	Inlet with purge
SD	Inlet with shunt/shut-off 24VDC
ZF	Zero-leak 24VDC

Accessories

X	No accessories
P	Performance indicators in all outlets
B	Performance indicators + suppl. check valves on all outlets
C	Suppl.check valves on all outlets

Sections

3	Three	7	Seven
4	Four	8	Eight
5	Five	9	Nine
6	Six	10	Ten

Valve capacities

BP	Bypass	
05	.005 cu.in	(.082 cm³)
10	.010 cu.in	(.164 cm³)
15	.015 cu.in	(.246 cm³)
20	.020 cu.in	(.328 cm³)
25	.025 cu.in	(.410 cm³)
30	.030 cu.in	(.492 cm³)
35	.035 cu.in	(.574 cm³)
40	.040 cu.in	(.656 cm³)

Type of valve block

T	Double outlet
S	Single outlet (right)
L	Single outlet (left)
B	Double outlet + cycle pin right
C	Single outlet right + cycle pin right
D	Single outlet left + cycle pin right
E	Double outlet + proximity switch right
F	Single outlet right + proximity switch right
G	Single outlet left + proximity switch right
H	Double outlet + cycle pin left
J	Single outlet right + cycle pin left
K	Single outlet left + cycle pin left
M	Double outlet + proximity switch left
N	Single outlet right + proximity switch left
P	Single outlet left + proximity switch left

Crossport options

CR	Crossport right
CL	Crossport left
CB	Crossport both

* omit when not required

Notes

- Right/Left Hand determined when viewing front of divider valve assembly. (Divider valve assembly placed on flat surface with inlet at top.)
- Valves are specified starting from inlet section.
- When a valve is crossported, its outlet is plugged and diverted to the next valve away from inlet.
- The last valve in a divider assembly, farthest from inlet, cannot be crossported.
- Single valves can be crossported on one side only.
- When a valve is a single, only one outlet in its subplate can be used, the other outlet must be plugged.
- Cycle pins are available on MS (20, 25, 30, 35, and 40) valves only.
- All divider valve assemblies must have a minimum of 3 working valves.
- A bypass block cannot be supplied on a divider valve with 3 subplates.
- A bypass block is not a working valve.
- For ATEX applications, contact us.