

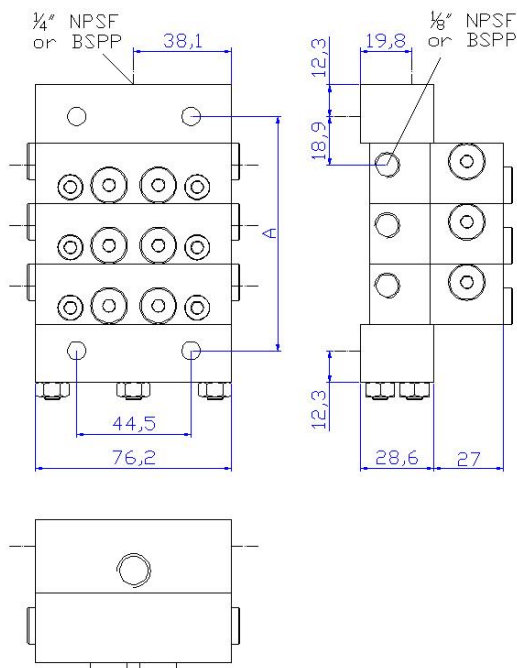
PROGRESSIVE DIVIDER VALVES

MSP MODULAR DIVIDER VALVE

Maximum flexibility and reliability

The progressive divider valves form the core of our progressive lubrication systems. In the MSP a quantity of lubricant is exactly measured in the measuring elements, to be followed by a point by point lubrication. The MSP divider valves make a complete control and feedback possible. They can be used for grease- and for oil-lubrication

- Oil- and grease-lubrication
- Working pressure up to 240 bar
- Up to 20 points per divider valve
- O-seal Buna-N or Viton
- NPSF or BSPP connections (SAE as option)
- Integrated check valves
- Modular concept
- Complete control possible



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



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

Six steel balls in a clear sleeve follow a magnet which moves with the cycling piston, providing a clear visual 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. In combination with a zener-barrier, this switch can be used as an intrinsically safe device in an ATEX-environment.



DNFT – ATEX cycle-switch

This cycle-switch is ATEX certified for use in situation with explosion hazard, in combination with a special electrical connection box.



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	BSPF
Inlet	527-001-800	527-003-130
Inlet with bleeding	527-000-321	-
Subplate	527-000-311	527-003-140
End-section	527-001-900	
Crossport right	527-005-320	
Crossport left	527-005-330	
Crossport both	527-005-340	

Elements	Flow/output (cm³)	Orderref.	Orderref. Cyclepin (right)
5T	0.082	106-100-175	-
5S	0.164	106-100-015	-
10T	0.164	106-100-185	-
10S	0.328	106-100-025	-
15T	0.246	106-100-195	-
15S	0.492	106-100-035	-
20T	0.328	106-100-205	106-100-935
20S	0.656	106-100-045	106-100-735
25T	0.410	106-100-215	106-100-945
25S	0.820	106-100-055	106-100-745
30T	0.492	106-100-225	106-100-955
30S	0.983	106-100-065	106-100-755
35T	0.574	106-100-235	106-100-965
35S	1.148	106-100-075	106-100-765
40T	0.656	106-100-245	106-100-975
40S	1.311	106-100-085	106-100-775
BYPASS	0.000	106-000-010	-

Acc. MSP divider	Orderref.
Tie rod + nut MSP3	527-001-930
Tie rod + nut MSP4	527-001-940
Tie rod + nut MSP5	527-001-950
Tie rod + nut MSP6	527-001-960
Tie rod + nut MSP7	527-001-970
Tie rod + nut MSP8	527-001-980
Tie rod + nut MSP9	527-002-100
Tie rod + nut MSP10	527-002-110
Nut tie rod	410-440-010
Valve block mounting screw	419-140-070
Piston enclosure plug	527-000-232
Piston enclosure O-seal	422-210-040
Indicator port plug	527-300-840
Indicator port O-seal	422-210-030
MSP O-seal BUNA-N	422-010-060
MSP O-seal VITON	527-000-810
Mounting screw section + crossport	419-140-080

Order-references control-options

Description	Orderref.
Cycle pin	See table above
Cycle switch	510-599-000
Magnetic cycle indicator	509-932-522
*** Field sensitive proximity switches ***	
Field sensitive proximity switches 3 pin	527-003-251
Field sensitive proximity switches 3 pin + LED 24VDC	527-005-690
Connection cable 3 pin length = 1.9 m	570-999-080
Connection cable 3 pin length = 3.7 m	570-999-090
Field sensitive proximity switches 5 pin	106-100-025
Field sensitive proximity switches 5 pin + LED 24VDC	527-005-670
Connection cable 5 pin length = 1.9 m	570-999-160
*** DNFT – ATEX cycle switches ***	
DNFT + led cycle indicator	dnft-led
DNFT + led cycle indicator – programmable	dnft-led-ps
DNFT + led cycle indicator + counter	dnft-prg
DNFT + led cycle indicator + counter - programmable	dnft-prg-ps

Description	Orderref.
*** Relief-indicators ***	
50 bar (750 psi)	508-310-415
70 bar (1000 psi)	508-310-425
85 bar (1250 psi)	508-310-435
105 bar (1500 psi)	508-310-445
140 bar (2000 psi)	508-310-455
170 bar (2500 psi)	508-310-465
205 bar (3000 psi)	508-310-475
*** Reset-indicators ***	
15 bar (250 psi)	509-931-010
35 bar (500 psi)	509-931-020
50 bar (750 psi)	509-931-030
70 bar (1000 psi)	509-931-040
105 bar (1500 psi)	509-931-050
140 bar (2000 psi)	509-931-060
170 bar (2500 psi)	509-931-070
205 bar (3000 psi)	509-932-831



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 cm ³)
10	.010 cu.in	(.164 cm ³)
15	.015 cu.in	(.246 cm ³)
20	.020 cu.in	(.328 cm ³)
25	.025 cu.in	(.410 cm ³)
30	.030 cu.in	(.492 cm ³)
35	.035 cu.in	(.574 cm ³)
40	.040 cu.in	(.656 cm ³)

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.

