

### 3 Monoblock directional control valve DE 80



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### 3.1 General specifications

Technical specification	Metering unit system	
Max flow rate	l/min U.S.G.P.M.	<b>80</b> <b>21</b>
Max operating pressure	bar PSI	<b>300</b> <b>4350</b>
Max back pressure	bar PSI	<b>50</b> <b>700</b>
Oil temperature	°C °F	-10 to 80 14 to 180
Oil viscosity	°E cSt	2.4 to 10 16 to 75
Oil filtration	μ	≤ 30

Spool leakage at 100 bar (1450 PSI), Temp. 50° C (120° F), viscosity 27 cSt:		
Maximum	cm <sup>3</sup> /min Cu. In./min	<b>18</b> <b>1.10</b>
Middle	cm <sup>3</sup> /min Cu. In./min	<b>12</b> <b>0.73</b>
Lower values on demand (to be agreed with our Sales Dpt.)		

Number of spools	<b>1 to 6</b>
Adjustable direct operated relief valve (tamper-proof seal available on request)	<b>VP</b>
Single load hold check valve	<b>C</b>

#### 3.1.1 Weight

Version	Metering unit systems	Weight
DE 80.1	kg LBS	<b>5</b> <b>11.0</b>
DE 80.2	kg LBS	<b>7</b> <b>15.4</b>
DE 80.3	kg LBS	<b>9</b> <b>19.83</b>
DE 80.4	kg LBS	<b>10.5</b> <b>23.1</b>
DE 80.5	kg LBS	<b>12</b> <b>26.4</b>
DE 80.6	kg LBS	<b>13.6</b> <b>29.9</b>

#### 3.1.2 Material specification:

Body: High strength cast-iron.  
Spool: Hardened steel and chrome plated  
Seals: Buna "N".

#### 3.1.3 Standard features:

- 1) **Parallel - Tandem circuit**
- 2) interchangeable spools (provides minimum leakage, smooth operation)
- 3) Wide selections inlets, work ports, and outlets threaded ports.
- 4) Negative overlapping of the spool.

#### 3.1.4 Optional features available:

- 1) Open or closed centre positions, 3 or 4 way operations, 3 or 4 position (float position), full open centre (motoring spool) and other spool options.
- 2) Carry over.
- 3) Complete lever assembly
- 4) Wide range of positioners

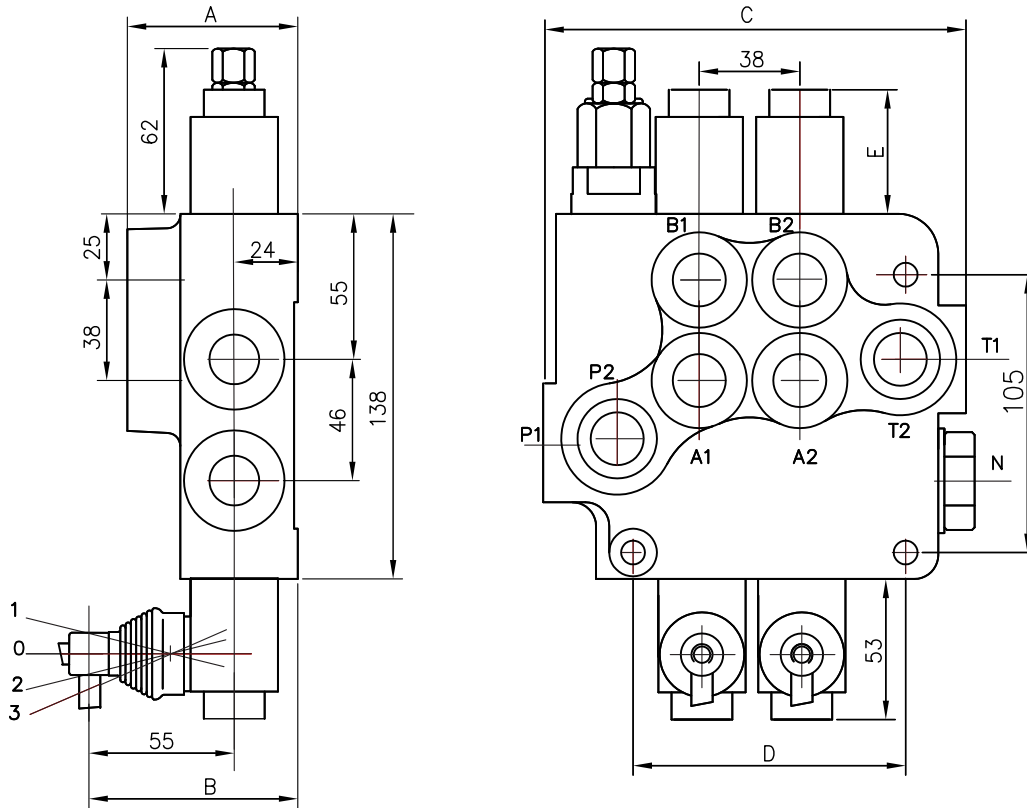
#### 3.1.5 Symbols:

**P**: inlet port  
**T**: outlet port  
**A / B**: work ports  
**H.P.C.O.**: carry-over  
**VP**: relief valve  
**P<sub>2</sub>T<sub>2</sub>**: top inlet and outlet ports  
**P<sub>1</sub>**: side inlet  
**T<sub>1</sub>**: side outlet

P: pressure line  
 T : exhaust line  
 N : centre line (by pass).

**3.2 Dimensional data**

**DE 80 1 / 2 / 3 / 4 / 5 / 6**



	A	B	C	D
DE 80.1	65	79	107	65
DE 80.2	80	94	160	103
DE 80.3	80	94	198	141
DE 80.4	80	94	242	179
DE 80.5	80	94	280	217
DE 80.6	80	94	318	255

Table 4

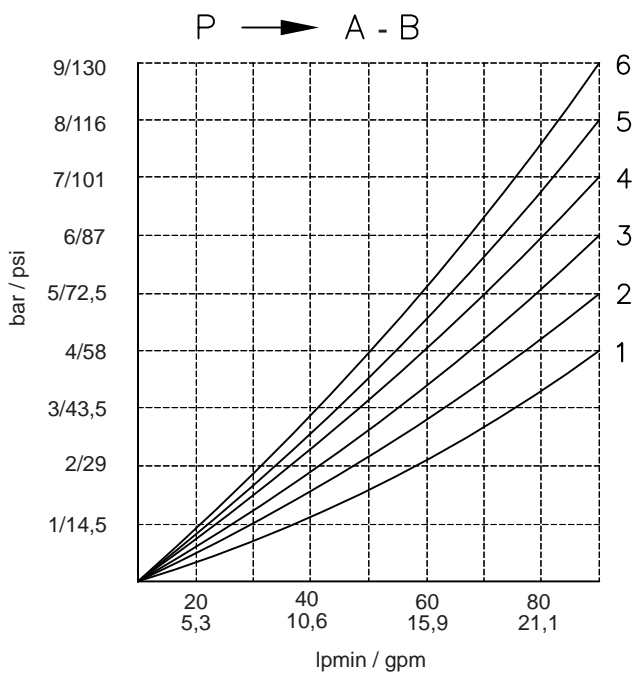
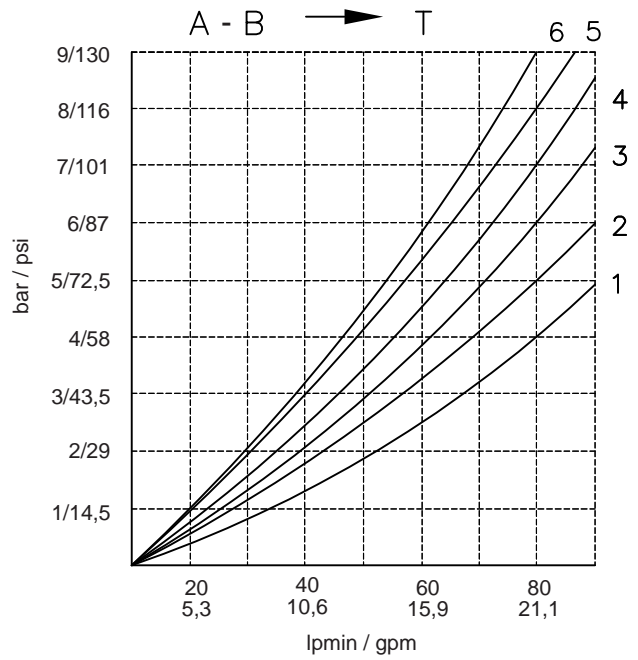
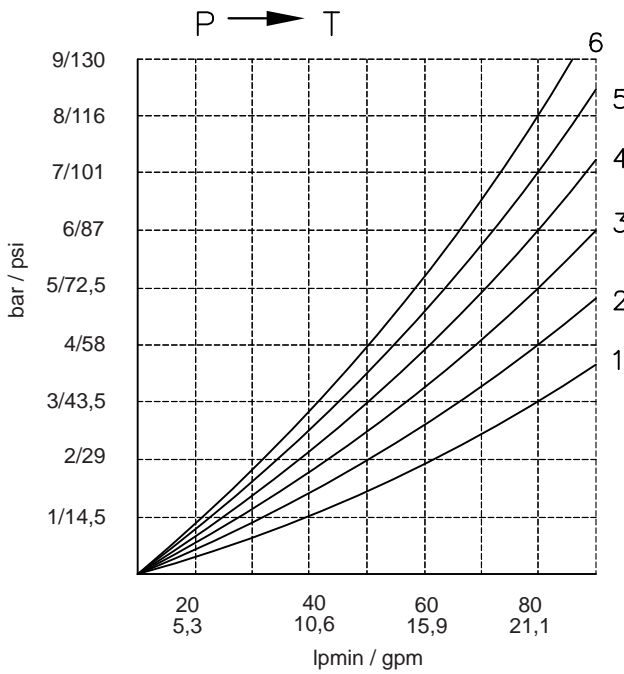
code	working ports
11	P1 - T1
12	P1 - T2
21	P2 - T1
22	P2 - T2

Spool Positioners	E
1 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11	40
2 - 3 - 12 - 14	72
13	44

Table 5

code	Port thread			
	P	A - B	T	N
M	M22 x1.5	M22 x1.5	M26 x1.5	M26 x1.5
G	1/2" BSPP	1/2" BSPP	3/4" BSPP	3/4" BSPP
S	7/8" - 14 UNF	7/8" - 14 UNF	1 1/16" - 14 UNF	1 1/16" - 14 UNF

**2.3 Performance curves**



Oil Shell Tellus T37  
 Temperature 50°C (120°F)  
 Viscosity 27 cSt

### 3.4 Spool charts

Table 11

Type	Spool positioners				
1	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
2	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
3	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
4	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>0</td><td>2</td></tr></table>	0	2		
0	2				
5	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td></tr></table>	1	0		
1	0				
6	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td></tr></table>	1	2		
1	2				
7	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td></tr></table>	1	2		
1	2				
8	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td><td>2</td></tr></table>	1	0	2	
1	0	2			
9	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td></tr></table>	1	0		
1	0				
10	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>0</td><td>2</td></tr></table>	0	2		
0	2				
11	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>2</td></tr></table>	1	2		
1	2				
12	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>1</td><td>0</td><td>2</td><td>3</td></tr></table>	1	0	2	3
1	0	2	3		
13	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>3</td><td>1</td><td>0</td><td>2</td></tr></table>	3	1	0	2
3	1	0	2		

Table 10

Type	Spool scheme
A	
B	
C	
D	
E	
F	
G	
H	
M	
N	
O	
P	
Q	
R	
S	
T	
L	

code	Microswitch option	
17		Microswitch type Omron v 165 I C5 Spool positioner 1