



## DFE140

### Solenoid control sectional diverter valves

- 6 - 8 - 10 ways configuration
- Galvanized body
- Antishock valve block stackable with the diverter valve

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm<sup>2</sup>/s (46 cSt) viscosity at 40°C - (104°F) temperature.

WORKING CONDITIONS		
N. of available ways		6 - 8 - 10
Max. flow rating		80 l/min (21.1 US gpm)
Max. pressure	without drain	200 bar (2900 psi)
	with drain	315 bar (4600 psi)
Available supply voltage	VDC	see reference page 148
Nominal power		60 W
Internal leakage A(B)⇒T	Δp = 100 bar (1450 psi)	10 cm <sup>3</sup> /min (0.61 in <sup>3</sup> /min)
Fluid		Mineral based oil
Tie rod tightening		25 Nm (18.4 lbft)
Fluid temperature	with NBR (BUNA-N) seals	from -20°C to 80°C (from -4°F to 176°F)
	with FPM (VITON) seals	from -20°C to 100°C (from -4°F to 212°F)
	operating range	from 15 to 75 mm <sup>2</sup> /s (from 15 to 75 cSt)
Viscosity	min.	12 mm <sup>2</sup> /s (12 cSt)
	max.	400 mm <sup>2</sup> /s (400 cSt)
Max. level of contamination		20/18/15 - ISO 4406 - NAS 1638 - class 9
Ambient temperature for working conditions		from -20°C to 50°C (from -4°F to 122°F)

NOTE - For different working conditions please contact Sales Dept.

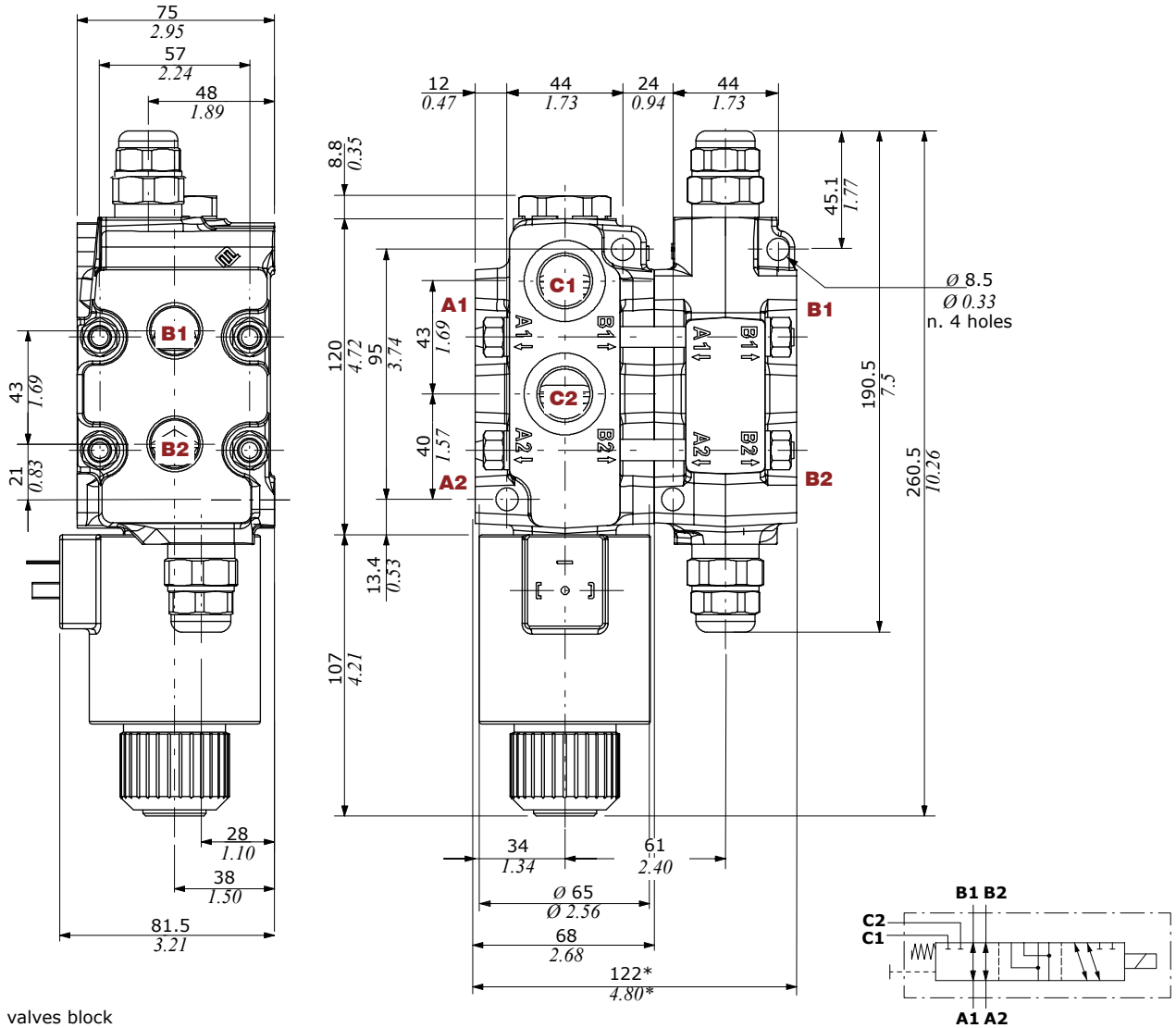
### Available threads

PORTS THREAD		
ALL PORTS	<b>BSP</b>	<b>UN-UNF</b>
<b>DFE140</b>	G 1/2	7/8-14 (SAE 10)
PILOT PORTS		
<b>L</b>	G 1/4	9/16-18 (SAE 6)

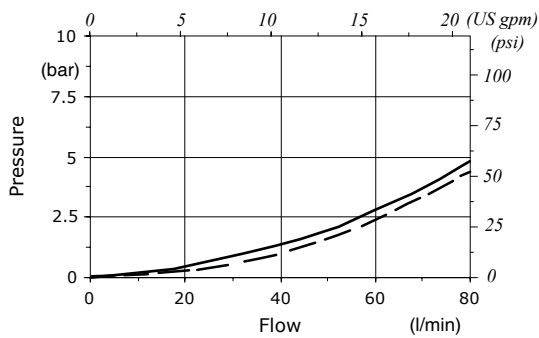
## Dimensional data - hydraulic circuit - performance data

### 6 ways

The drawing below show diverter valve in 6-way configuration with anti-shock valves block

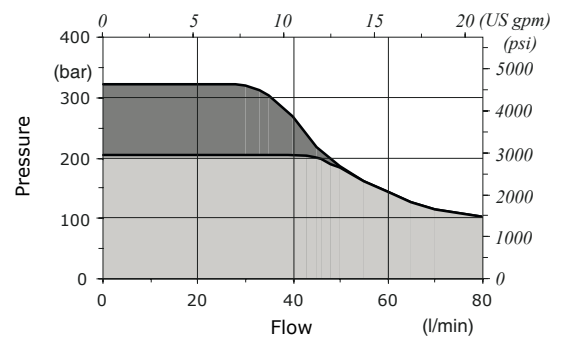


Pressure drop versus flow



— A1 → B1  
 - - A1 → C1

Minimum dynamic conditions  
 (Supply = Vn-10%, coil at 70 °C - 158 °F)

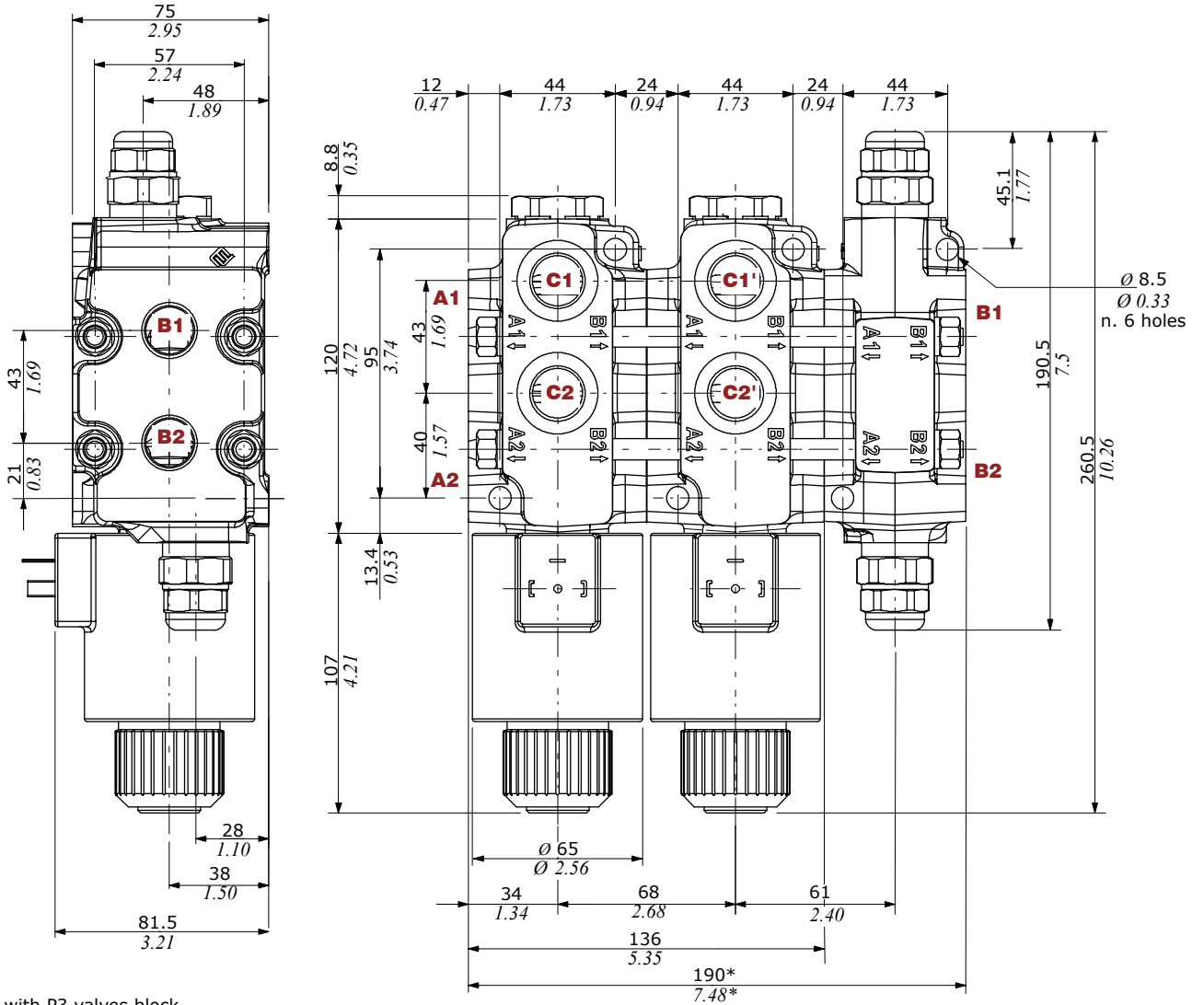


■ With drain  
 ■ Without drain

**Dimensional data - hydraulic circuit - performance data**

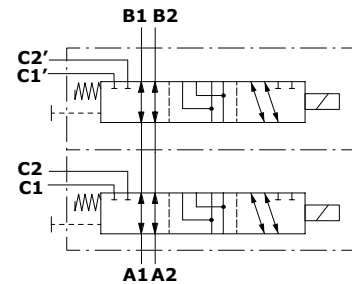
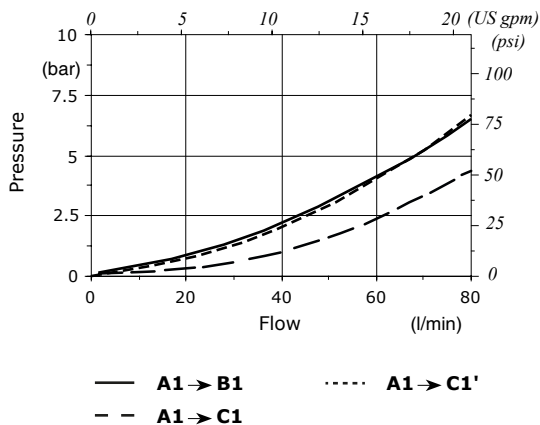
**8 ways**

The drawing below show diverter valve in 8-way configuration with anti-shock valves block



(\*) - with P3 valves block

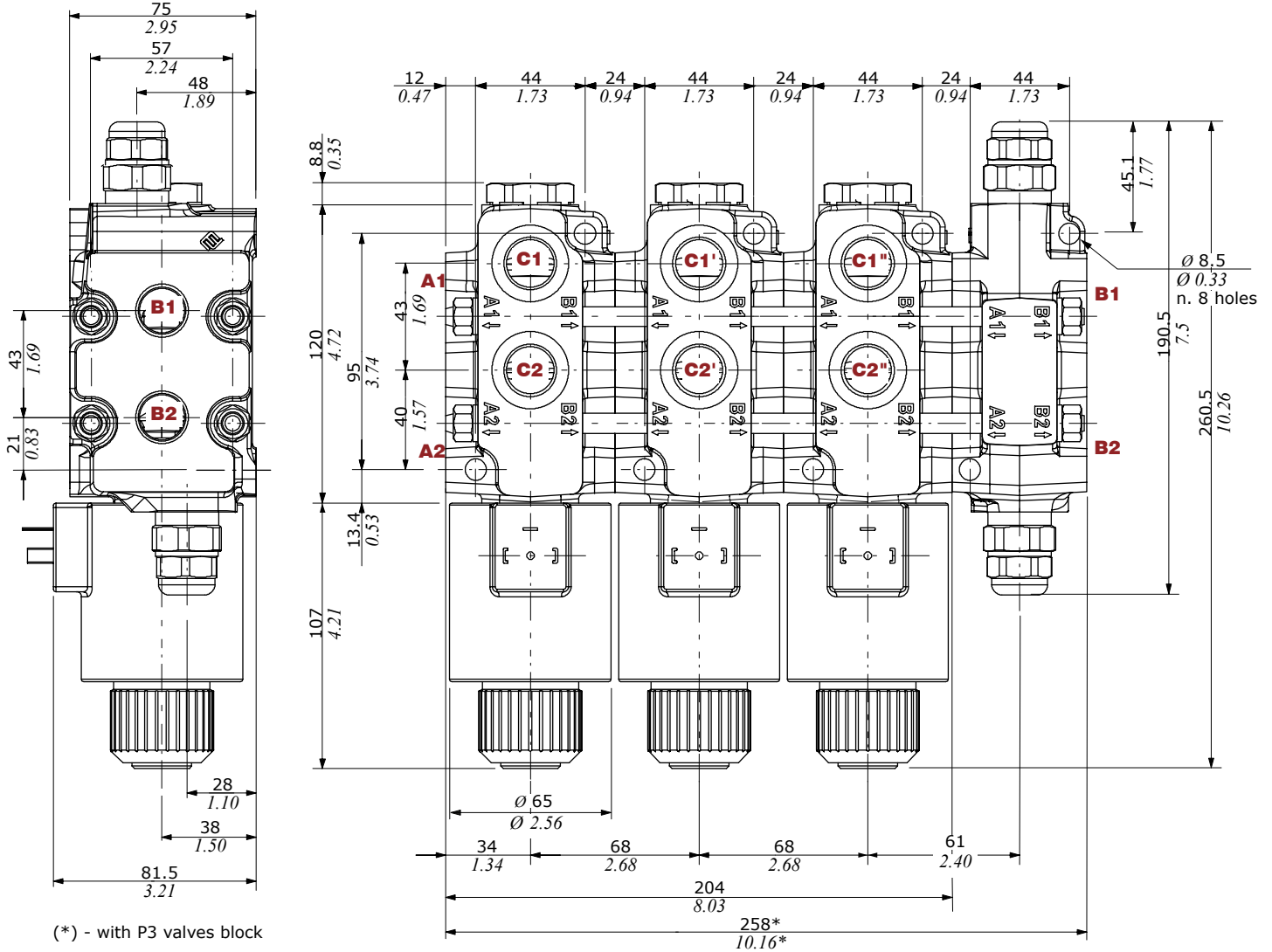
**Pressure drop versus flow**



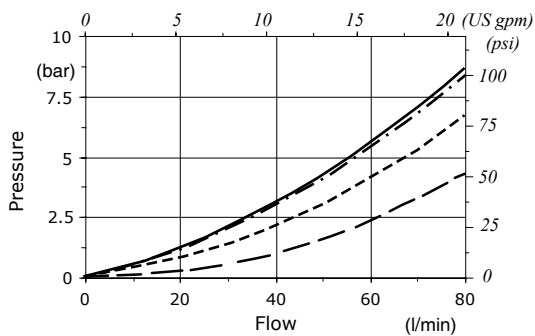
## Dimensional data - hydraulic circuit - performance data

### 10 ways

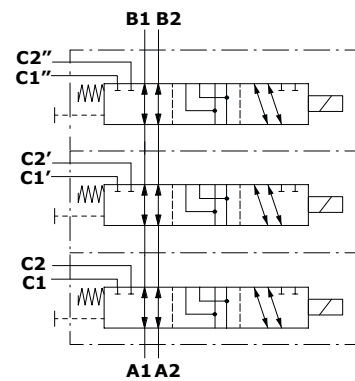
The drawing below show diverter valve in 10-way configuration with anti-shock valves block



Pressure drop versus flow

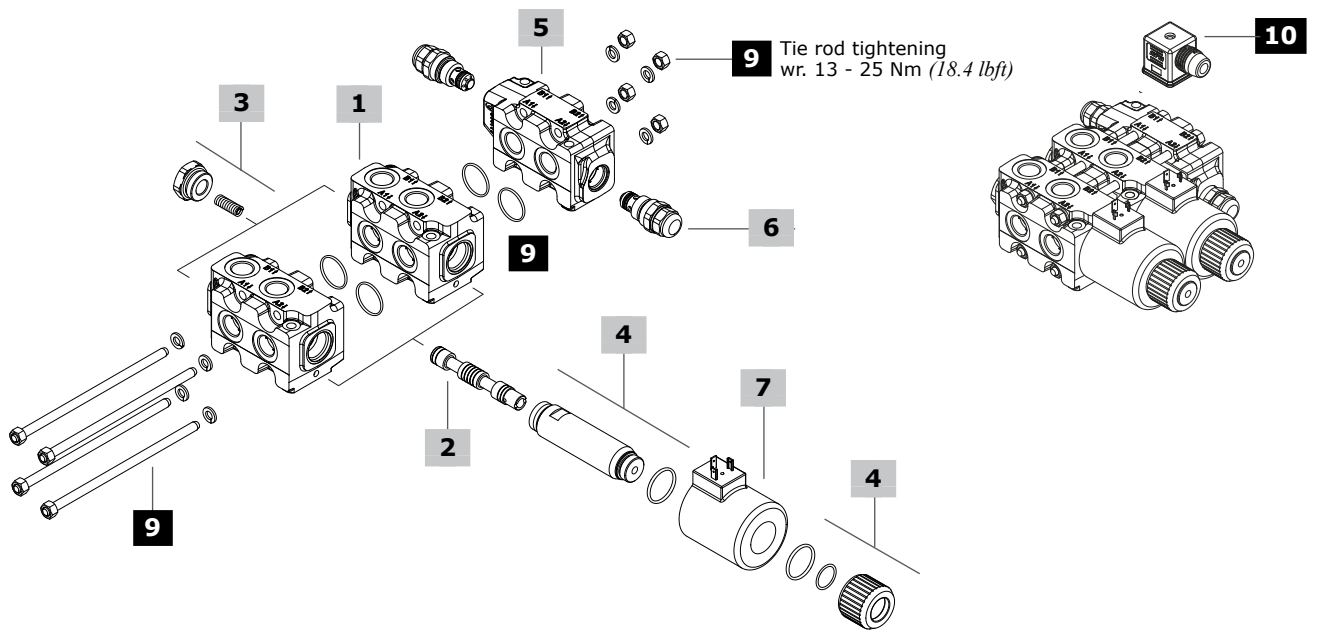
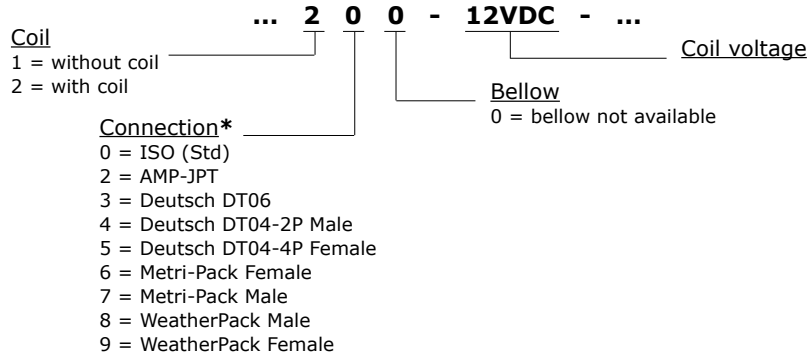
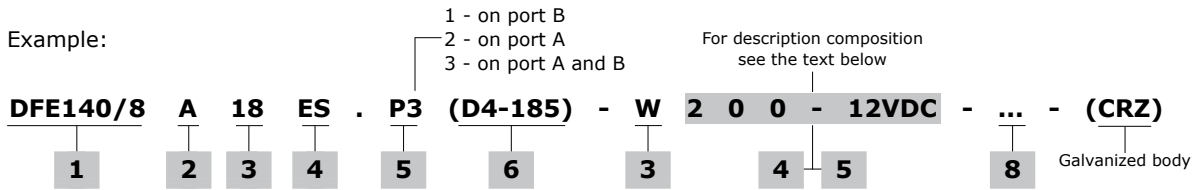


— A1 → B1      ..... A1 → C1'  
 - - A1 → C1      - · - · A1 → C1''



**Part ordering codes**

Example:



## Part ordering codes

### 1 Body kit\* page 145

TYPE	CODE	DESCRIPTION
<b>DFE140/6-8-10</b>	3CO2280302	6 ways body kit

### 2 Spools page 145

TYPE	CODE	DESCRIPTION
<b>A</b>	3CAS110640	A1/A2 in B1/B2 in pos. 1. A1/A2 in C1/C2 in pos. 2. Ports connected in transit position
<b>B</b>	3CAS110740	A1/A2 in B1/B2 in pos. 1. A1/A2 in C1/C2 in pos. 2. Ports closed in transit position
<b>H</b>	3CAS110845	A1/A2 in B1/B2 in pos. 1. A1/A2 in C1/C2 in pos. 2. Port connected to drain in transit position
<b>N</b>	3CAS110941	As type B, for right inlet

### 3 Positioner kit page 146

TYPE	CODE	DESCRIPTION
<b>18...W</b>	5TAP005	Spring return in pos. 1
<b>18...Y</b>	5GIU010*	Spring return in pos. 1, with G1/4 drain port

### 4 Solenoid kit page 146

TYPE	CODE	DESCRIPTION
<b>ES</b>	5SOL519003	Tube assembly without protective bellow

### 5 Valves block\* page 147

TYPE	CODE	DESCRIPTION
<b>P3</b>	3CO2780301	Cross-over antishock valve body

### 6 Antishock valves page 147

With fixed setting: setting is referred to valve opening

TYPE	CODE	DESCRIPTION
<b>P(D2-80)</b>	X005125095	Setting 80 bar (1150 psi)
<b>P(D2-110)</b>	X005125110	Setting 110 bar (1590 psi)
<b>P(D3-125)</b>	X005125145	Setting 125 bar (1800 psi)
<b>P(D3-140)</b>	X005125155	Setting 140 bar (2050 psi)
<b>P(D3-170)</b>	X005125190	Setting 170 bar (2450 psi)
<b>P(D4-185)</b>	X005125216	Setting 185 bar (2700 psi)
<b>P(D4-210)</b>	X005125245	Setting 210 bar (3050 psi)
<b>P(D4-240)</b>	X005125270	Setting 240 bar (3500 psi)
<b>P1T - P2T</b>	3XTAP524290	Blanking plug P1-P2

### 7 Coil

For list of available coils see pages 148

### 8 Body threading

Specify threading always when it is different from **BSP** standard

### 9 Tie rods kit and O-ring seals

CODE	DESCRIPTION
5TIR108134	For DFE140/8 diverter valves
5TIR108202	For DFE140/10 diverter valves
<b>with valves block:</b>	
5TIR108121	For DFE140/6.P3 diverter valves
5TIR108189	For DFE140/8.P3 diverter valves

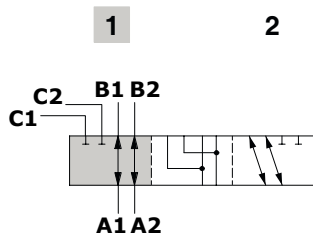
### 10 Accessories

For list of available connectors see pages 148

(\*) - Codes are referred to **BSP** thread

**Type A**

A1/A2 in B1/B2 in pos. 1.  
Ports connected in transit position

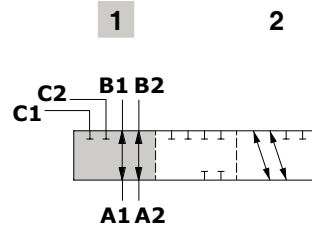


**Spool stroke**

Position 2: + 5.8 mm (0.22 in)

**Type B**

A1/A2 in B1/B2 in pos. 1.  
Ports closed in transit position

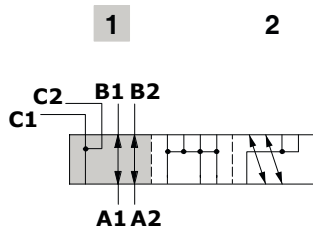


**Spool stroke**

Position 2: + 5.8 mm (0.22 in)

**Type H**

A1/A2 in B1/B2 in pos. 1.  
Port connected to drain in transit position

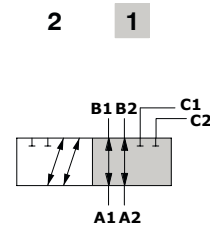


**Spool stroke**

Position 2: + 5.8 mm (0.22 in)

**Type N**

As type B, for right inlet



**Spool stroke**

Position 2: + 5.8 mm (0.22 in)

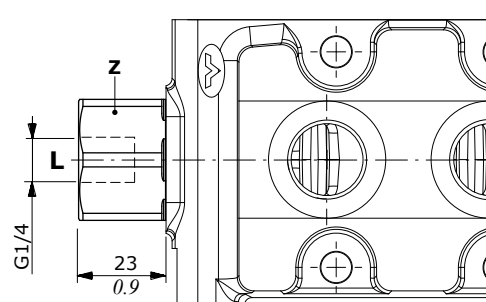
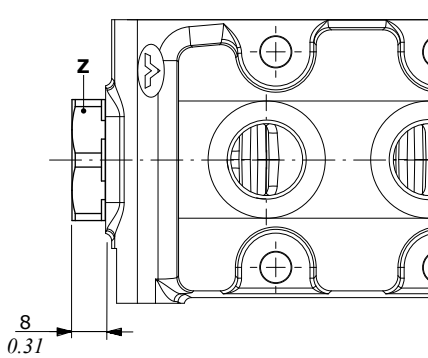
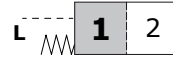
## Positioner kit

### With spring return in position 1

**Type 18W**  
With plug

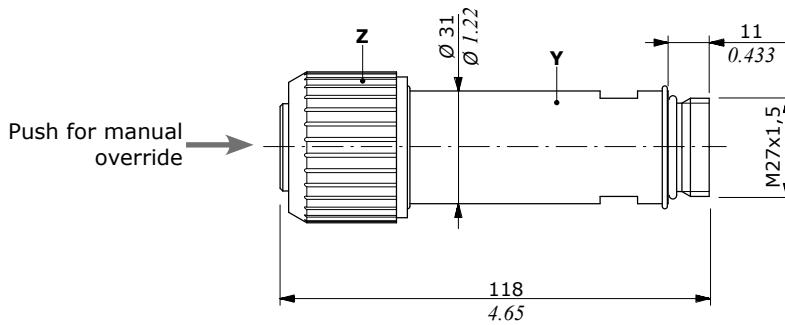
**Type 18Y**  
With G1/4 drain port

**Wrenches and tightening torque**  
Z = wrench 32 - 42 Nm (31 lbft)



## Solenoid kit

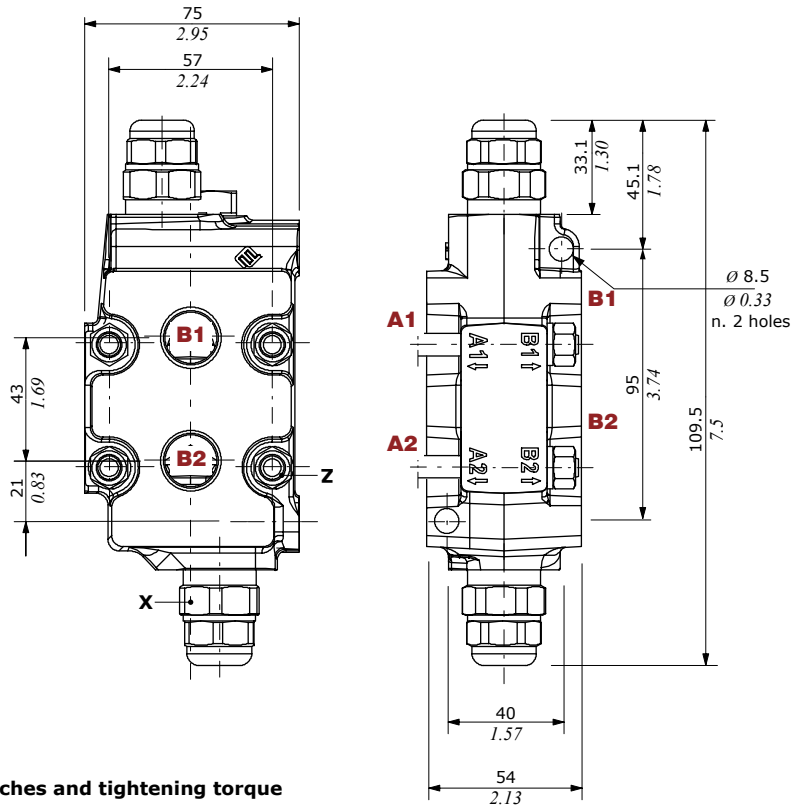
### ES tube assembly kit



**Wrenches and tightening torque**  
Y = wrench 27 - 24 Nm (17.7 lbft)  
Z = 24 Nm (17.7 lbft)



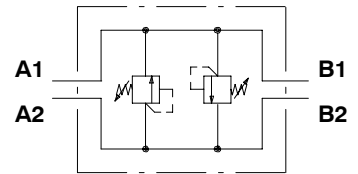
**P3 block complete with antishock valves**



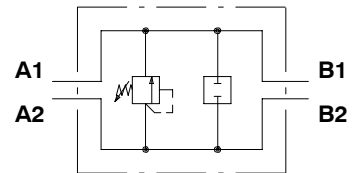
**Wrenches and tightening torque**

**X** = wrench 27 - 42 Nm (31 lbft)  
**Z** = wrench 13 - 24 Nm (17.7 lbft)

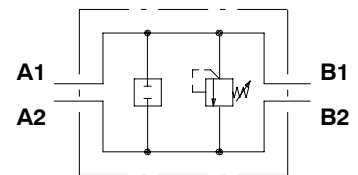
**Configuration with valve on each workport (P3)**



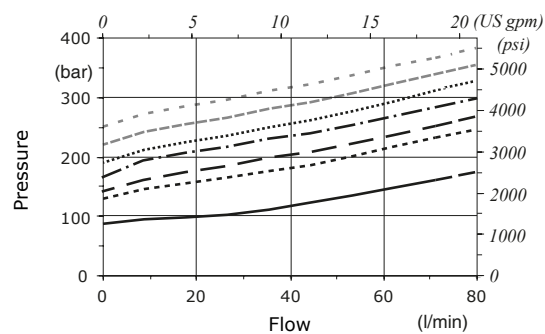
**Configuration with valve on workport A (P2)**



**Configuration with valve on workport B (P1)**



**Antishock valves performance data**



- setting - 80 bar (1150 psi)
- ..... setting - 125 bar (1800 psi)
- - - setting - 140 bar (2050 psi)
- - - setting - 170 bar (2450 psi)
- ..... setting - 185 bar (2700 psi)
- - - setting - 210 bar (3050 psi)
- ..... setting - 240 bar (3500 psi)

## Coils and accessories

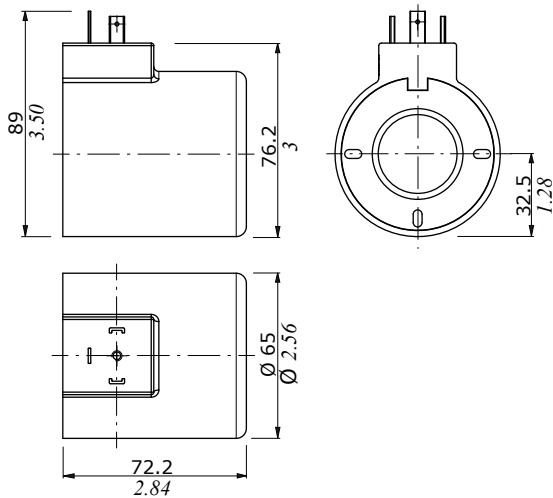
Type	Voltage	Ordering codes					Flying leads without connector
		ISO4400	Deutsch DT	AMP JPT	Packard Weatherpack	Packard Metri-pack	
<b>D19</b>	<b>12 VDC</b>	4SOL519112	4SOL519402 <sup>(6)</sup>	-	-	-	-
	<b>20 VDC</b>	4SOL519120	-	-	-	-	-
	<b>24 VDC</b>	4SOL519124	4SOL519404 <sup>(6)</sup>	-	-	-	-
	<b>94 VDC</b>	4SOL519194	-	-	-	-	-
	<b>192 VDC</b>	4SOL519292	-	-	-	-	-
<b>Mating connectors</b>		4CN1009995	5CON140031	-	-	-	-

Notes: (1) supply with AC and use only with rectifier connector - (2) with flying leads - (3) with bidirectional diode - (4) with unidirectional diode (5) integrated perpendicular type - (6) integrated parallel type

### Features

Nominal voltage tolerance:  $\pm 10\%$   
 Nominal power.....: 60 W  
                                   12/20/24/94/192 VDC  
 Nominal current.....: 5 A @ 12 VDC  
                                   : 3 A @ 20 VDC  
                                   : 2.5 A @ 24 VDC  
                                   : 2.5 A @ 94 VDC  
                                   : 0.31 A @ 192 VDC  
 Insulation.....: Class H (180°C - 356 °F)  
 Weather protection.....: IP65 - ISO4400  
                                   : IP69K - Deutsch DT  
 Insertion.....: 100%

### ISO4400 connector



### DEUTSCH DT04 connector (Parallel type)

