



## DFE052

### Solenoid control monoblock diverter valves

- 2 - 3 - 6 - 8 ways configuration
- Galvanized body

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		2 - 3 - 6 - 8
Max. flow rating		60 l/min (15.8 US gpm)
Max. pressure	without drain	200 bar (2900 psi)
	with drain	315 bar (4600 psi)
Available supply voltage	VDC	see reference page 85
Nominal power		38 W
Internal leakage A(B)⇒T	Δp = 100 bar (1450 psi)	7 cm <sup>3</sup> /min (0.42 in <sup>3</sup> /min)
Fluid		Mineral based oil
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)
Viscosity	operating range	from 15 to 75 mm <sup>2</sup> /s (from 15 to 75 cSt)
	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

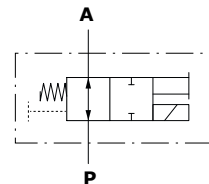
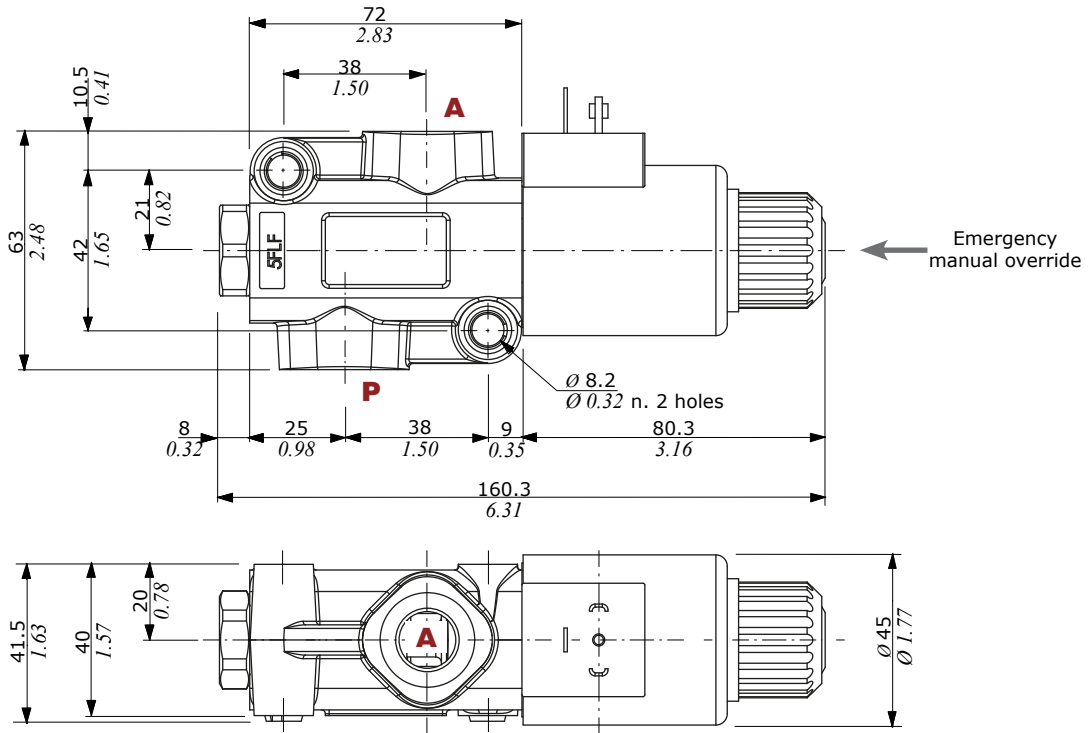
PORTS THREAD			
ALL PORTS	BSP	UN-UNF	METRIC* (ISO 9974-1)
<b>DFE052</b>	G 3/8	3/4-16 (SAE 8)	M18x1.5
PILOT PORTS			
<b>L</b>	G 1/4	9/16-18 (SAE 6) 7/16-20 (SAE 4)**	M12x1.5

(\*\*): for DFE052/8 diverter valves

(\*): Optional threads  
for availability contact Sales  
Department

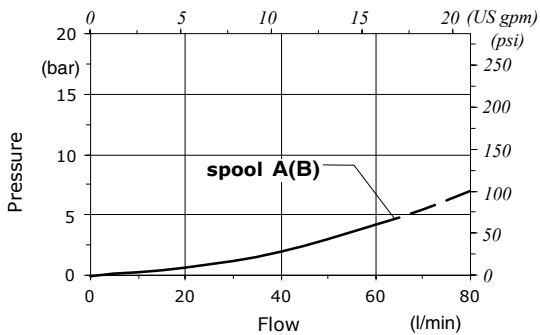
## Dimensional data - hydraulic circuit - performance data

### 2 ways



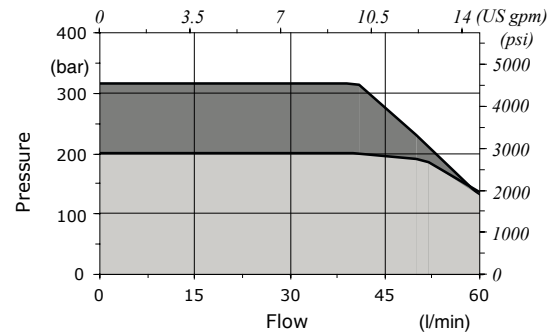
**Pressure drop versus flow**

**P → A**



**Minimum dynamic conditions**

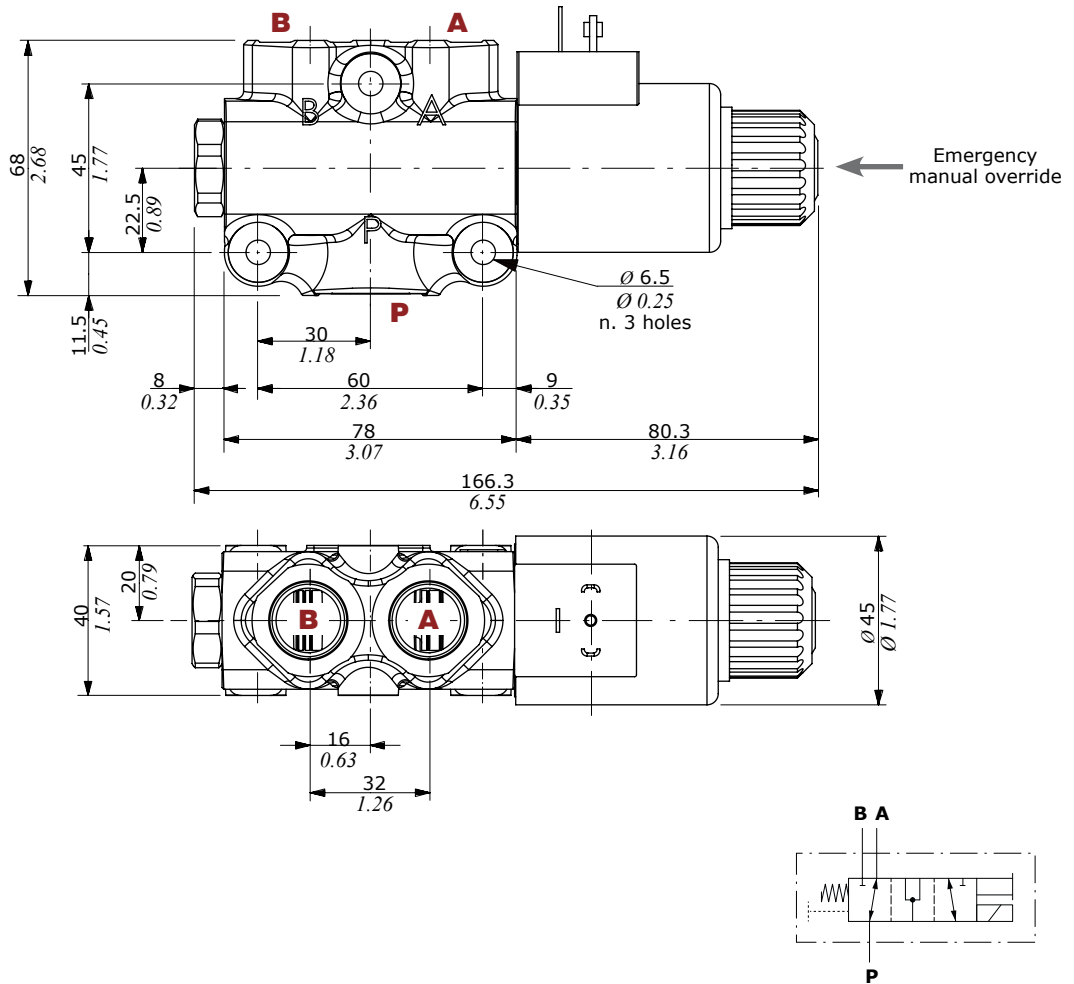
(Supply = Vn-10%, coil at 70 °C - 158 °F)



**With drain**  
 **Without drain**

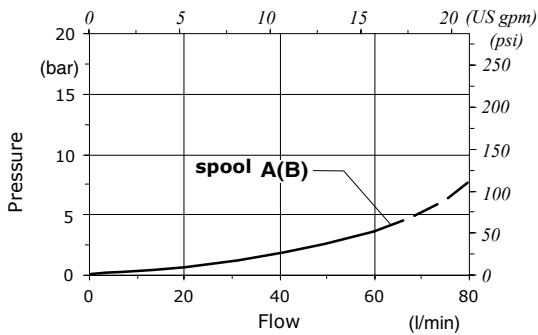
**Dimensional data - hydraulic circuit - performance data**

**3 ways**



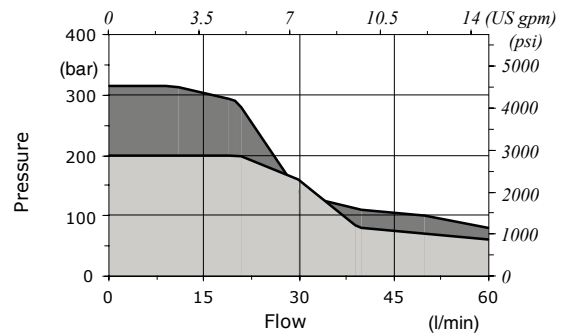
**Pressure drop versus flow**

**P → A(B)**



**Minimum dynamic conditions**

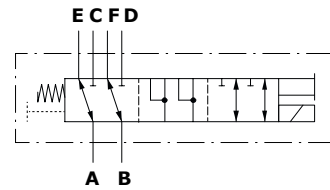
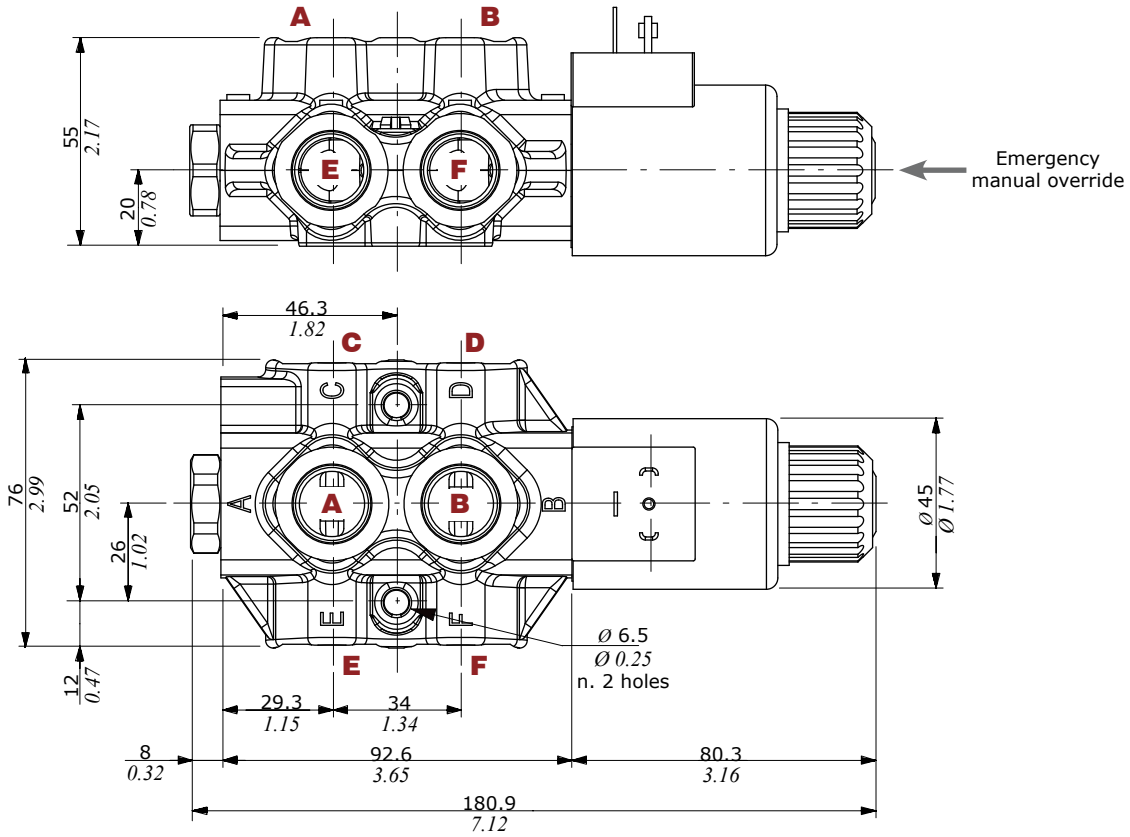
(Supply = Vn-10%, coil at 70 °C - 158 °F)



■ **With drain**  
 ■ **Without drain**

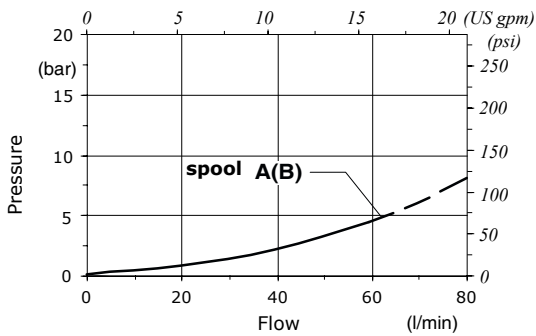
## Dimensional data - hydraulic circuit - performance data

### 6 ways



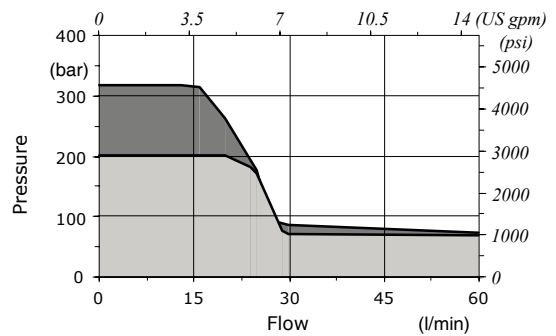
**Pressure drop versus flow**

**A → C(E)**



**Minimum dynamic conditions**

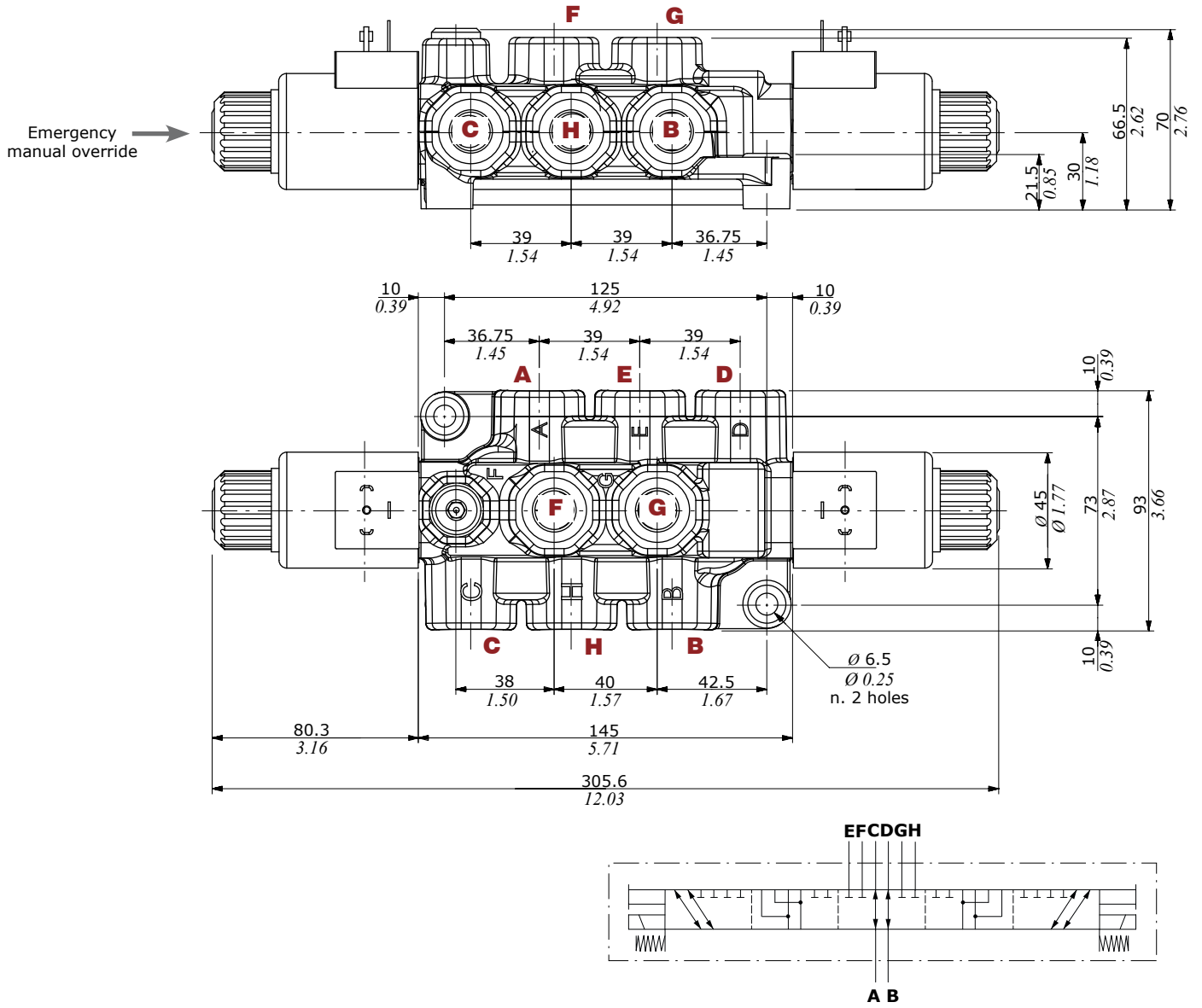
(Supply = Vn-10%, coil at 70 °C - 158 °F)



**With drain**  
 **Without drain**

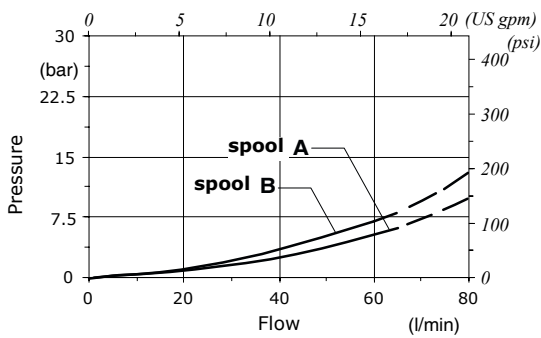
**Dimensional data - hydraulic circuit - performance data**

**8 ways**



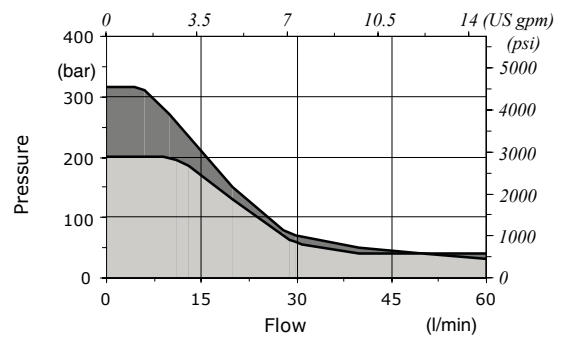
**Pressure drop versus flow**

**A → C**



**Minimum dynamic conditions**

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



■ **With drain**  
 ■ **Without drain**

## Part ordering codes

Example:

For description composition see the text below

**DFE052/3 A 18 ES - W 2 0 2 - 12VDC - ... - (CRZ)**

1 2 3 4 3 4 5 6 Galvanized body

**Coil**  
1 = without coil  
2 = with coil

**Connection\***  
0 = ISO (Std)  
2 = AMP-JPT  
3 = Deutsch DT06  
4 = Deutsch DT04-2P Male  
5 = Deutsch DT04-4P Female  
6 = Metri-Pack Female  
7 = Metri-Pack Male  
8 = WeatherPack Male  
9 = WeatherPack Female

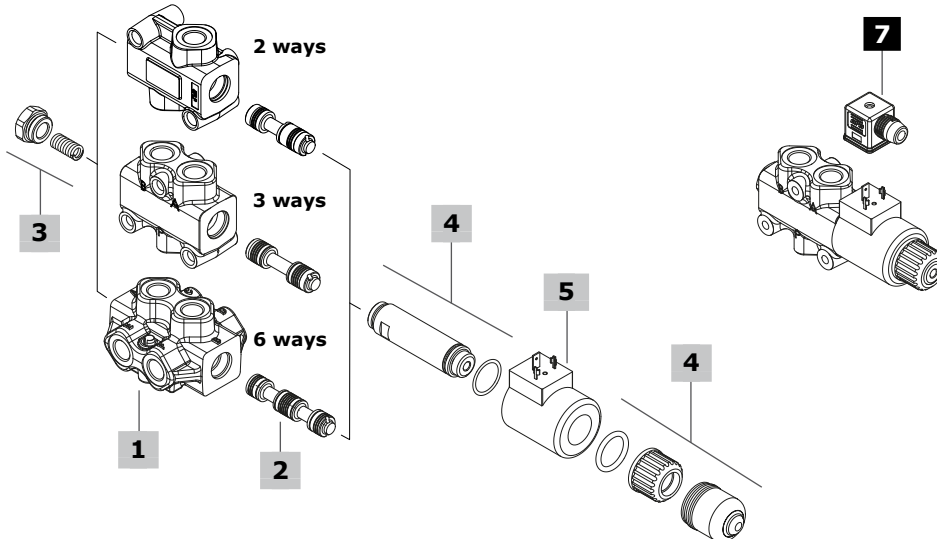
**Length cables**  
(only if it's present)  
Length is in mm

**Diode\***  
(text omitted if diode is not present)  
DB = bidirectional diode

**Bellow**  
1 = without bellow  
2 = with bellow

**Coil voltage**

(\*) - For diodes and connector options see coils table on page 85



1 Body kit*			3 Positioner kit			page 83
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION	
DFE052/2	3CO2220321Z	2 ways body kit	18...W	5TAP001	Spring return in pos. 1	
DFE052/3	3CO2221325Z	3 ways body kit	18...Y	5GIU001*	Spring return in pos. 1, with G1/4 drain port	
DFE052/6	3CO2222326Z	6 ways body kit				
2 Spools			4 Solenoid kit			page 84
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION	
<b>for DFE052/2:</b>			ES	5SOL515000	Tube assembly without protective bellow	
A	3CAS105245	Open port in neutral	-	4ACC515	Optional tube assembly protective bellow	
B	3CAS105145	Closed port in neutral				
<b>for DFE052/3:</b>			5 Coil			
A	3CAS105345	Flow in A in neutral. Ports connected in transit position	For list of available coils see pages 85			
B	3CAS105445	Flow in A in neutral. Ports closed in transit position	6 Body threading			
D	3CAS105546	Closed ports in neutral and connected in transit position	Specify threading always when it is different from <b>BSP</b> standard			
<b>for DFE052/6:</b>			7 Accessories			
A	3CAS105645	Flow in E and F. C and D closed in pos. 1. Ports connected in transit position	For list of available connectors see pages 85			
B	3CAS105746	Flow in E and F. C and D closed in pos. 1. Ports closed in transit position				
H	3CAS105845	D<->C in pos. 1, F<->E in pos. 2. Ports closed in transit position				

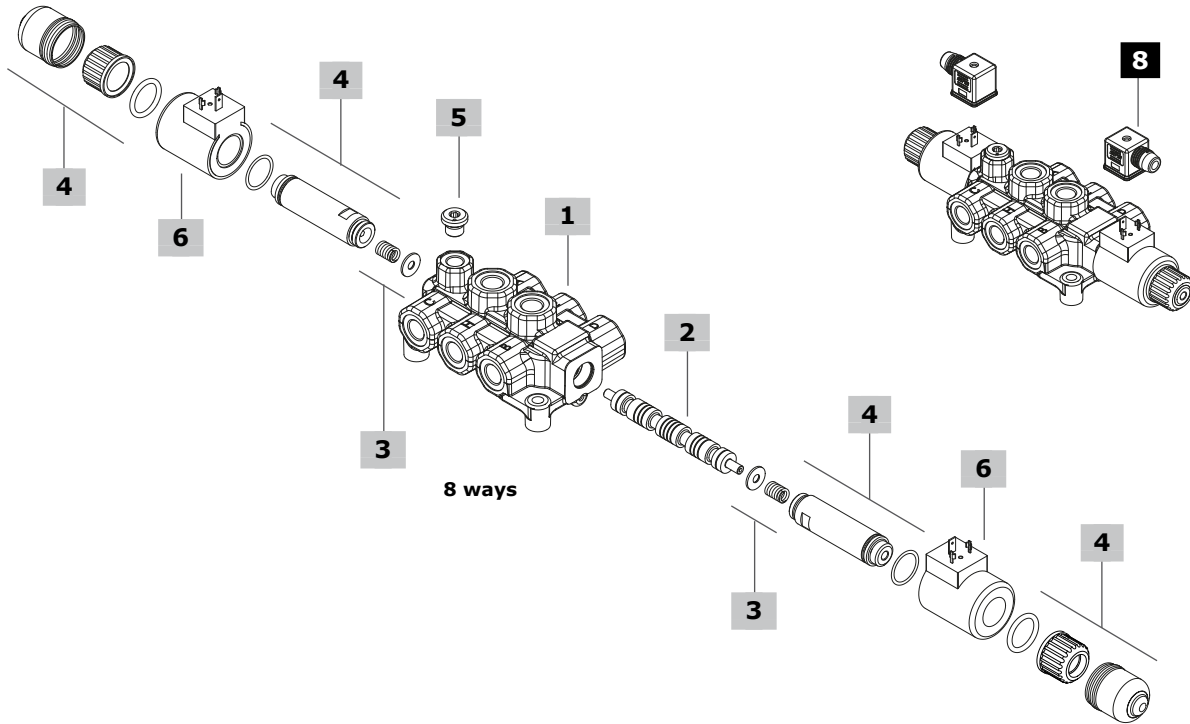
(\*) - Codes are referred to **BSP** thread

**Part ordering codes**

For description composition  
see the text on previous page

**DFE052/8**   **B**   **8**   **ES3**   -   **W**   **2 0 2 - 12VDC**   -   ...   -   **(CRZ)**

1            2   3   4            5            4   6            7            Galvanized body



<b>1 Body kit*</b>			<b>4 Solenoid kit</b> <span style="float: right;"><b>page 84</b></span>		
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION
<b>DFE052/8</b>	3CO2224350MZ	8 ways body kit	<b>ES</b>	5SOL515000	Tube assembly without protective bellow
			-	4ACC515	Optional tube assembly protective bellow
<b>2 Spools</b> <span style="float: right;"><b>page 83</b></span>			<b>5 Drain*</b> <span style="float: right;"><b>page 84</b></span>		
TYPE	CODE	DESCRIPTION	TYPE	CODE	DESCRIPTION
<b>A</b>	3CAS105A70M	Flow in C and D. E, F, G and H closed in pos. 0. Ports connected in transit position	<b>W</b>	3XTAP719150	Without drain, with plug G1/4
<b>B</b>	3CAS105B70M	Flow in C and D. E, F, G and H closed in pos. 0. Ports closed in transit position	<b>Y</b>	-	With G1/4 drain port
<b>I</b>	3CAS105I70M	Flow in C and D. E, F, G and H closed in pos. 0.	<b>6 Coil</b>		
<b>3 Positioner kit</b> <span style="float: right;"><b>page 84</b></span>			For list of available coils see pages 85		
TYPE	CODE	DESCRIPTION	<b>7 Body threading</b>		
<b>8 (ES)</b>	5V080528	Spring return in pos. 0	Specify threading always when it is different from <b>BSP</b> standard		
			<b>8 Accessories</b>		
			For list of available connectors see pages 85		

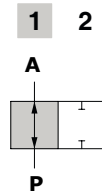
(\*) - Codes are referred to **BSP** thread

Spool circuits

**2 ways**

**Type A**

Open port in neutral position

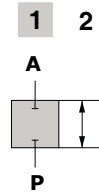


**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**Type B**

Closed port in neutral position



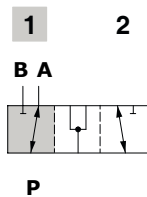
**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**3 ways**

**Type A**

Ports connected in transit position

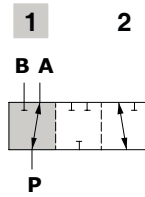


**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**Type B**

Ports closed in transit position

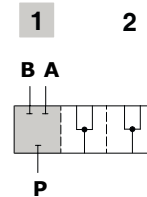


**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**Type D**

Closed ports in neutral and connected in transit position



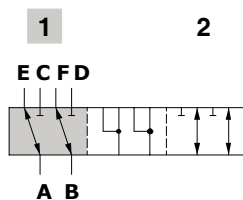
**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**6 ways**

**Type A**

Flow in E and F. C and D closed in pos. 1  
Ports connected in transit position

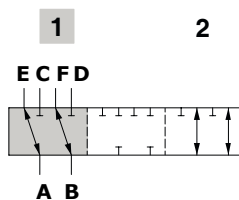


**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**Type B**

Flow in E and F. C and D closed in pos. 1  
Ports closed in transit position

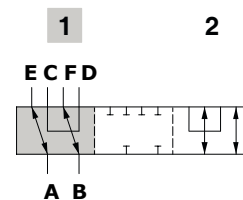


**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

**Type H**

D<->C in pos. 1, F<->E in pos. 2  
Ports closed in transit position



**Spool stroke**

Position 2: - 4 mm (- 0.15 in)

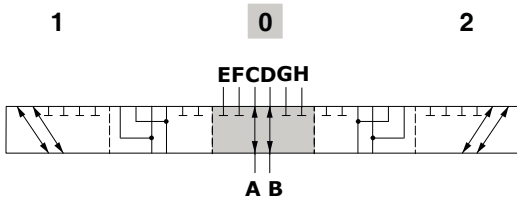


**Spool circuits**

**8 ways**

**Type A**

Flow in C and D. E, F, G and H closed in pos. 0. Ports connected in transit position

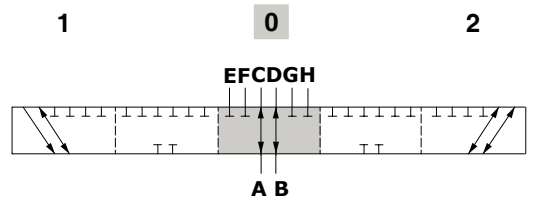


**Spool stroke**

Position 1: + 3.4 mm (0.13 in)  
Position 2: - 3.4 mm (- 0.13 in)

**Type B**

Flow in C and D. E, F, G and H closed in pos. 0. Ports closed in transit position

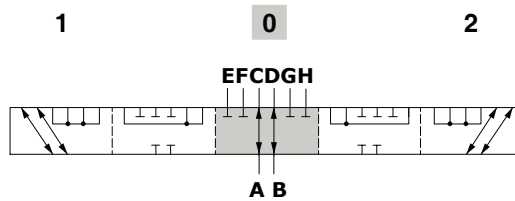


**Spool stroke**

Position 1: + 3.4 mm (0.13 in)  
Position 2: - 3.4 mm (- 0.13 in)

**Type I**

Flow in C and D. E, F, G and H closed in pos. 0.



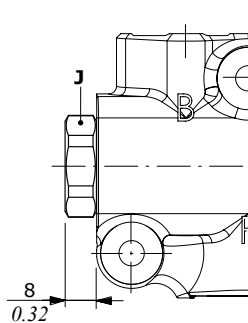
**Spool stroke**

Position 1: + 3.4 mm (0.13 in)  
Position 2: - 3.4 mm (- 0.13 in)

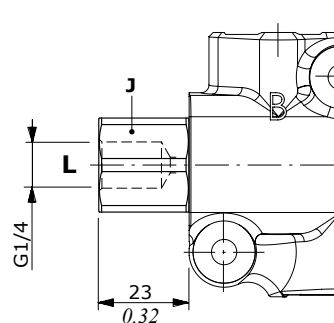
**Positioner kit**

**With spring return in position 1**

**Type 18W**  
With plug



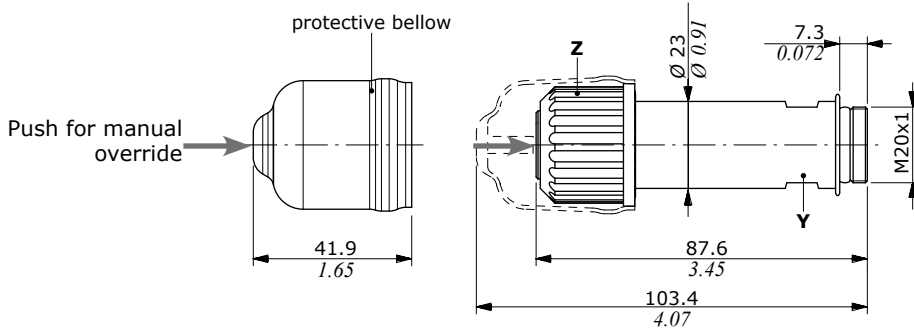
**Type 18Y**  
With G1/4 drain port



**Wrenches and tightening torque**  
J = wrench 24 - 24 Nm (17.7 lbft)

## Solenoid kit

### ES tube assembly kit



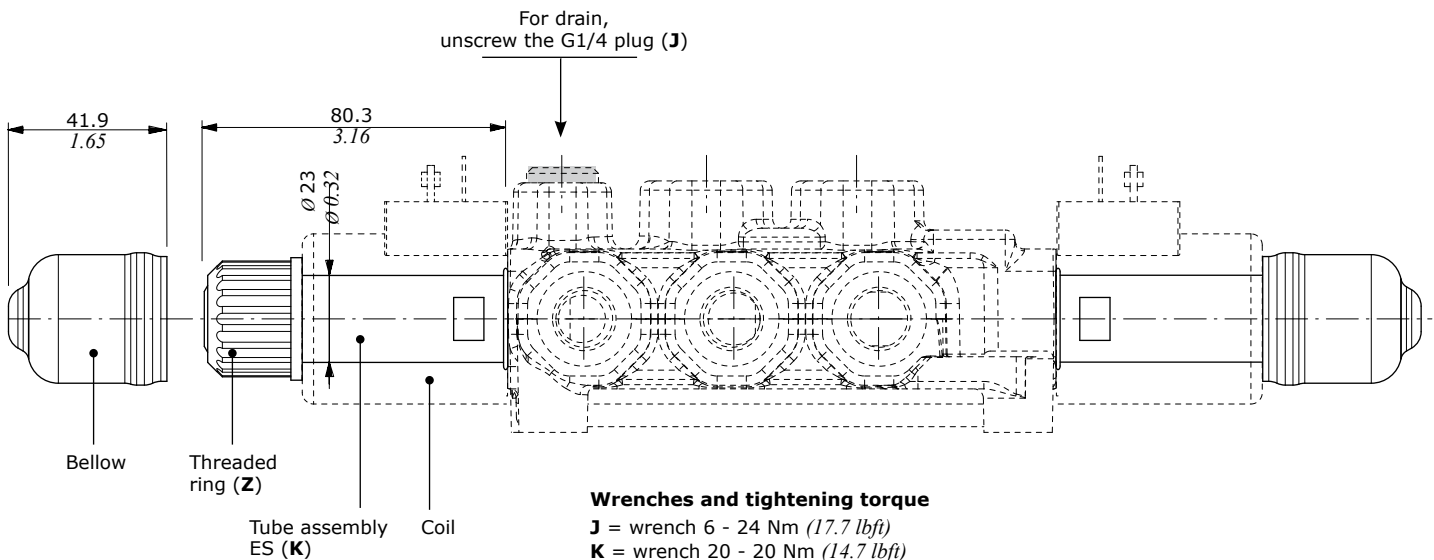
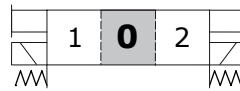
#### Wrenches and tightening torque

Y = wrench 20 - 20 Nm (14.7 lbft)  
 Z = 24 Nm (17.7 lbft)

## Positioner kit and solenoid kit - DFE052/8

### With spring return in position 0

#### Type 8ES3



#### Wrenches and tightening torque

J = wrench 6 - 24 Nm (17.7 lbft)  
 K = wrench 20 - 20 Nm (14.7 lbft)  
 Z = 24 Nm (17.7 lbft)

**Coils and accessories**

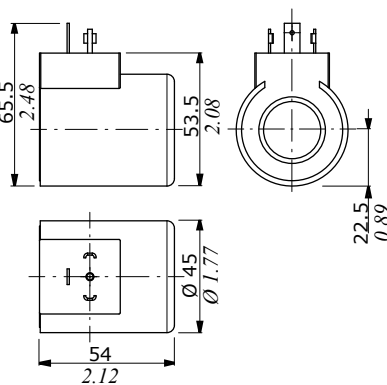
Type	Voltage	Ordering codes					
		Connector types					
		ISO4400	Deutsch DT	AMP JPT	Packard Weatherpack	Packard Metri-pack	Flying leads without connector
<b>D15</b>	<b>12 VDC</b>	4SOL515012	4SOL515011 <sup>(2)</sup> 4SOL515014A <sup>(3-6)</sup>	4SOL515016 <sup>(5)</sup>	-	-	-
	<b>14 VDC</b>	-	4SOL515014B <sup>(3-6)</sup>	4SOL515016A <sup>(5)</sup>	-	-	-
	<b>24 VDC</b>	4SOL515024	4SOL515025A <sup>(3-6)</sup> 4SOL515021 <sup>(2)</sup>	-	-	-	-
	<b>48 VDC</b>	4SOL515048	-	4SOL515049 <sup>(2)</sup>	-	-	-
	<b>98 VDC</b>	4SOL515098	-	-	-	-	-
	<b>110 VDC</b>	4SOL515110	-	-	-	-	-
<b>Mating connectors</b>		4CN1009995	5CON140031	5CON003	-	-	-

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

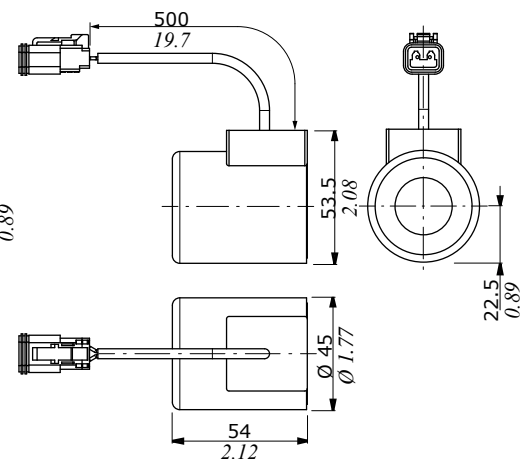
**Features**

- Nominal voltage tolerance: ±10%
- Nominal power.....: 38 W
- 12/14/24/48/98/110 VDC
- Nominal current.....: 3.16 A @ 12 VDC
- : 2.9 A @ 14 VDC
- : 1.58 A @ 24 VDC
- : 0.79 A @ 48 VDC
- : 0.41 A @ 98 VDC
- : 0.35 A @ 110 VDC
- Insulation.....: Class H (180°C - 356°F)
- Weather protection.....: IP65 - ISO4400
- : IP69K - Deutsch DT
- : IP65 - AMP JPT
- Insertion.....: 100%

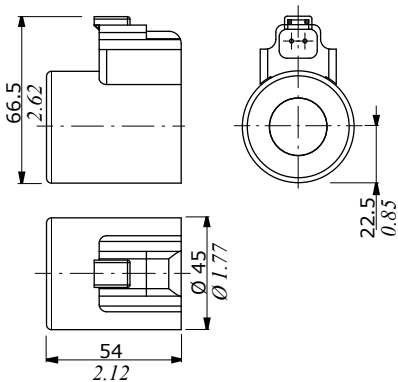
**ISO4400 connector**



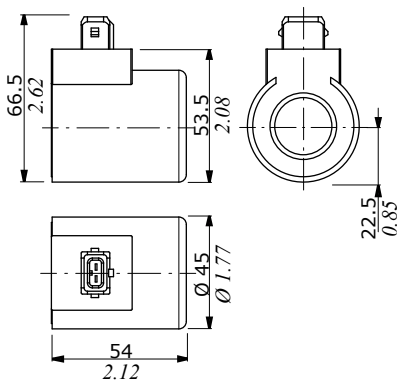
**Flying leads with DEUTSCH DT04 connector**



**DEUTSCH DT04 connector (Parallel type)**



**AMP JPT connector (Perpendicular type)**



**Flying leads with AMP JPT connector**

