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 mm²/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 cm³/min *(0.42 in³/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 mm²/s *(from 15 to 75 cSt)*
	min.	12 mm²/s *(12 cSt)*
	max.	400 mm²/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

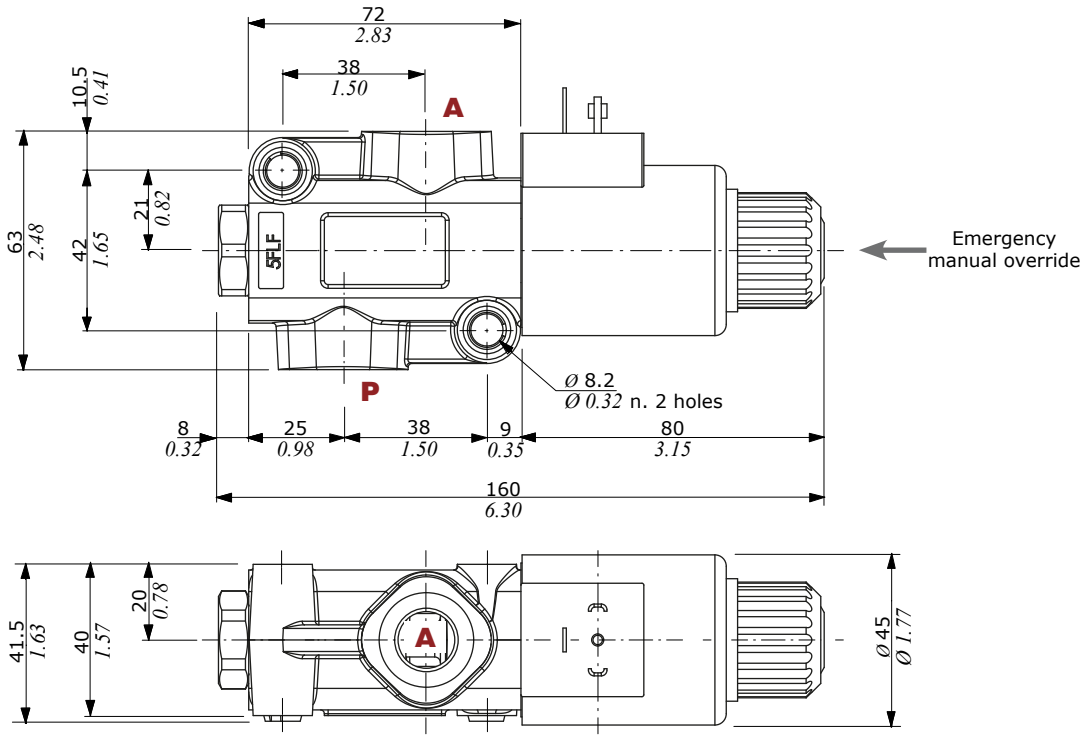
PORTS THREAD			
ALL PORTS	**BSP**	**UN-UNF**	**METRIC*** (ISO 9974-1)
DFE052	G 3/8	3/4-16 (SAE 8)	M18x1.5
PILOT PORTS			
L	G 1/4	9/16-18 (SAE 6) 7/16-20 (SAE 4)**	M12x1.5

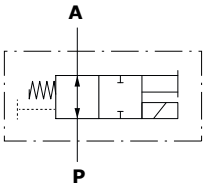
(**): for DFE052/8 diverter valves

(*) Optional threads for availability contact Sales Department

Dimensional data - hydraulic circuit - performance data

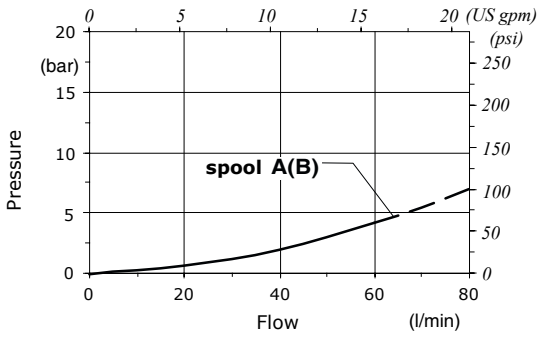
2 ways





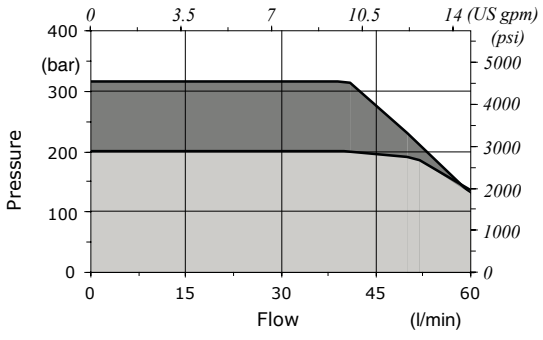
Pressure drop versus flow

P → A



Minimum dynamic conditions

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

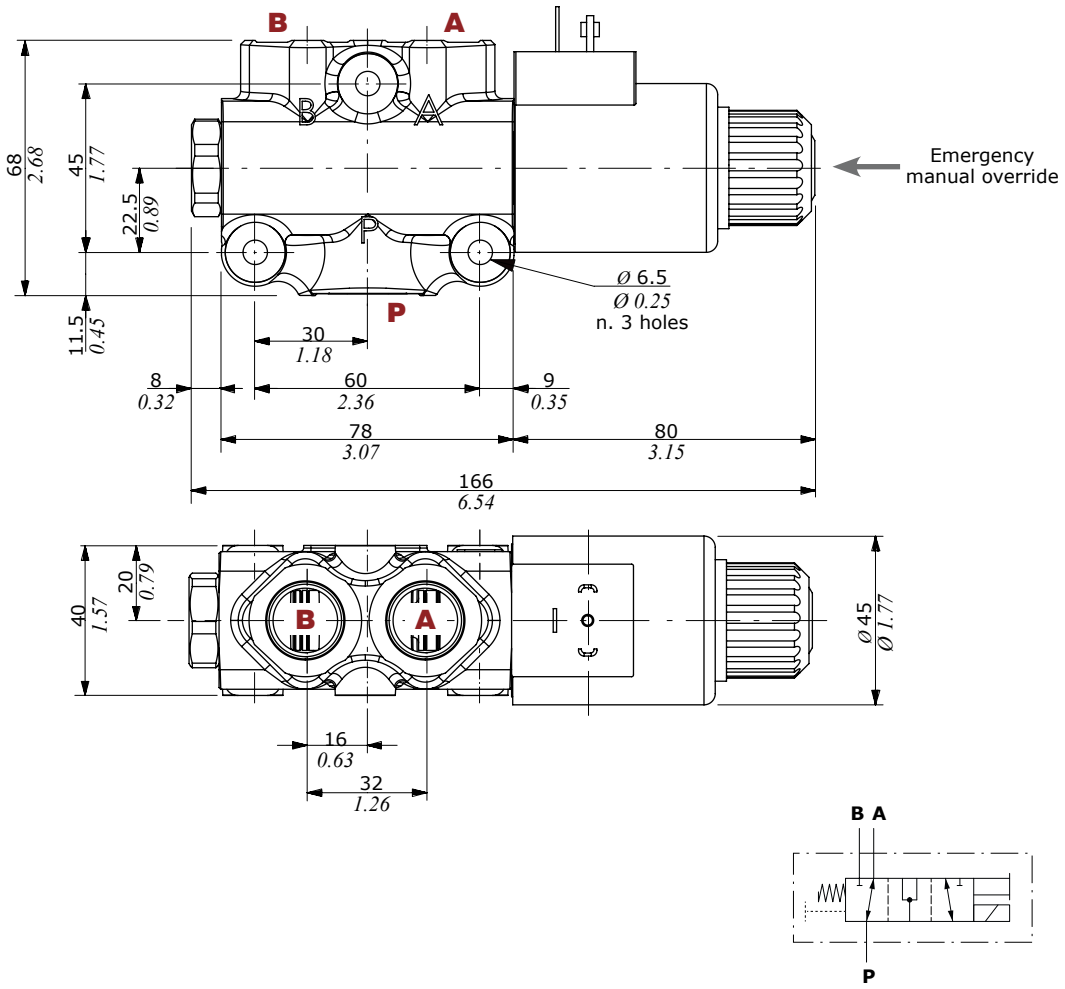


With drain

Without drain

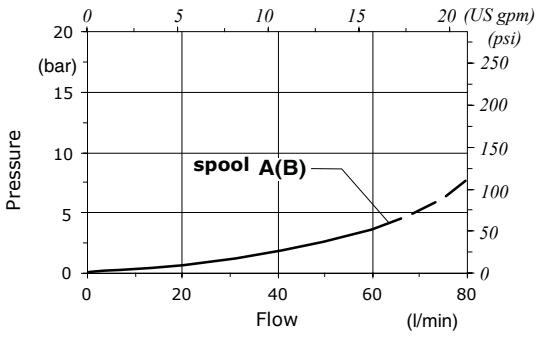
Dimensional data - hydraulic circuit - performance data

3 ways



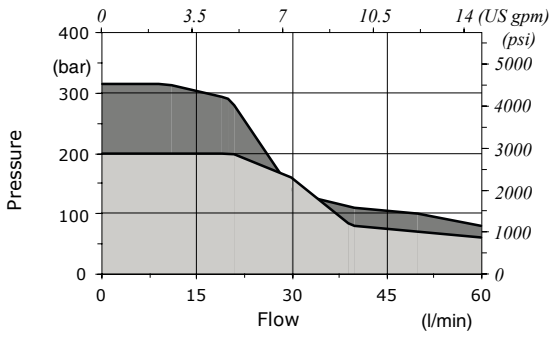
Pressure drop versus flow

P → A(B)



Minimum dynamic conditions

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

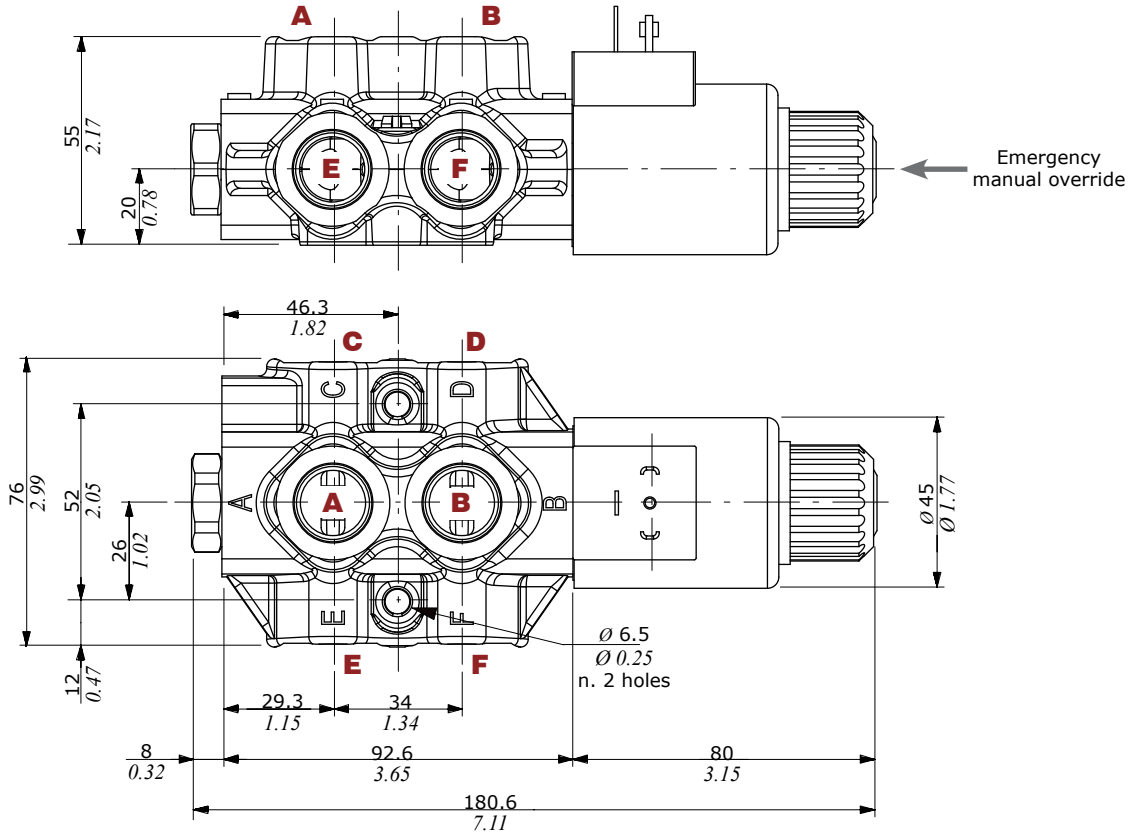


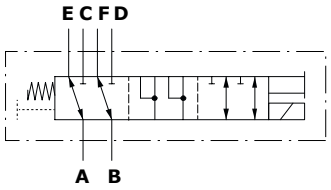
With drain

Without drain

Dimensional data - hydraulic circuit - performance data

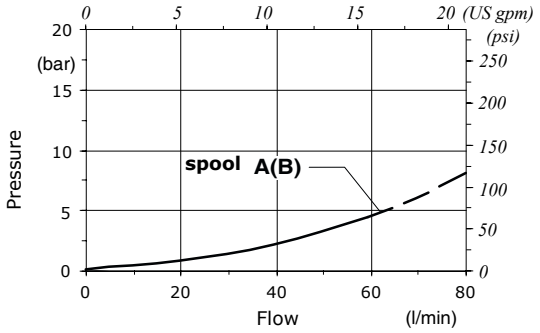
6 ways





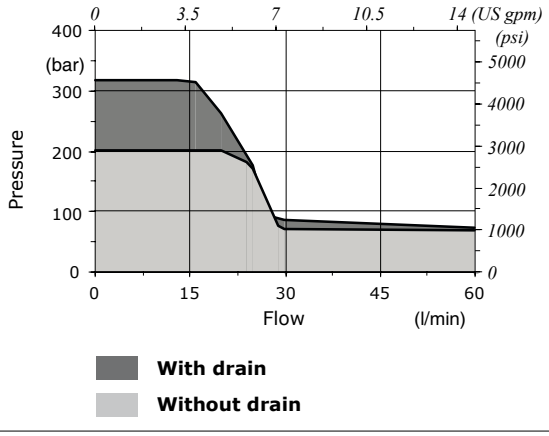
Pressure drop versus flow

A → C(E)



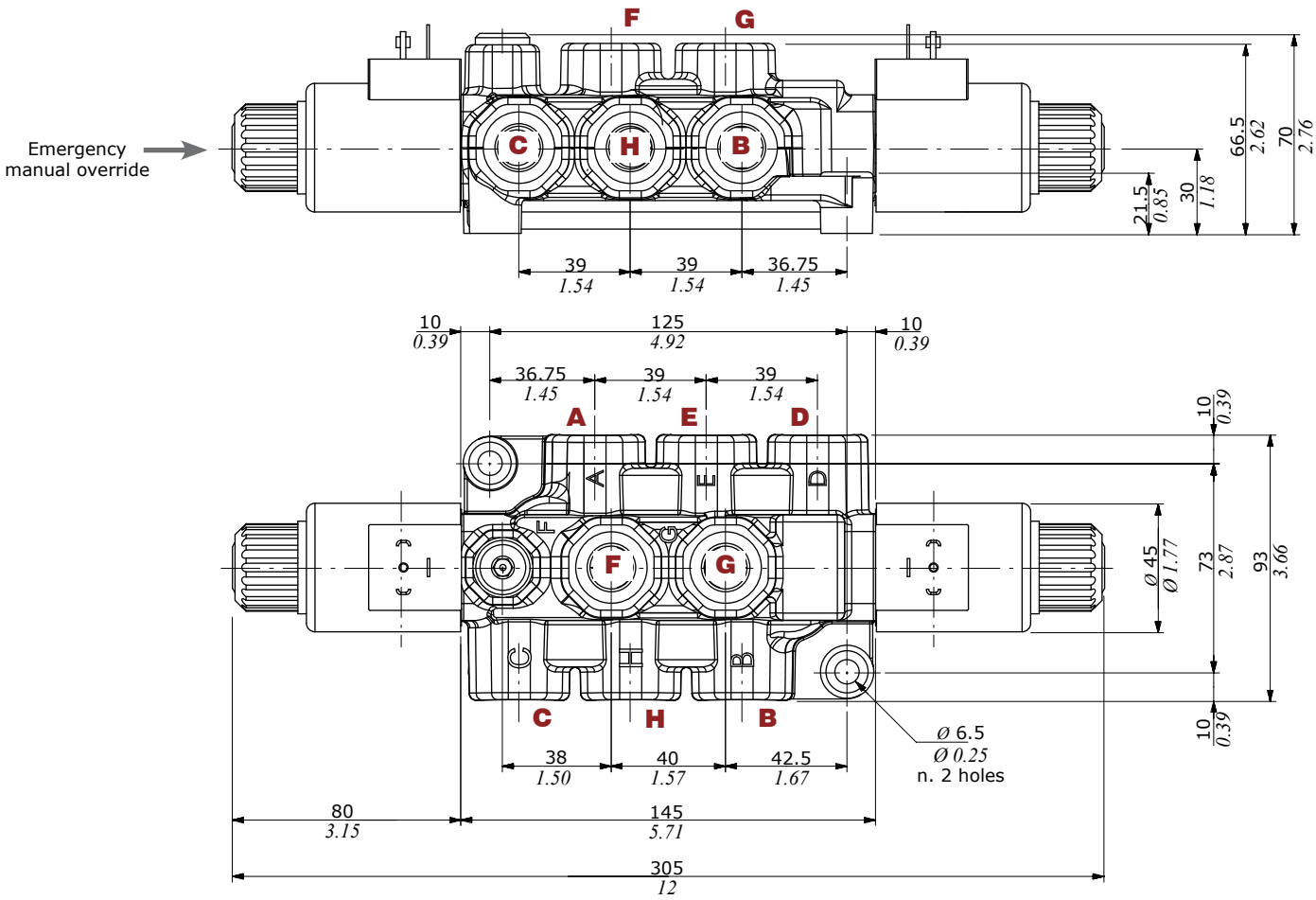
Minimum dynamic conditions

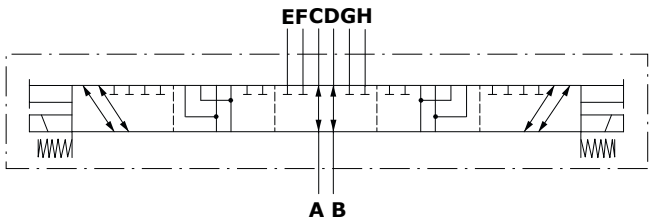
(Supply = Vn-10%, coil at 70 °C - *158 °F*)



Dimensional data - hydraulic circuit - performance data

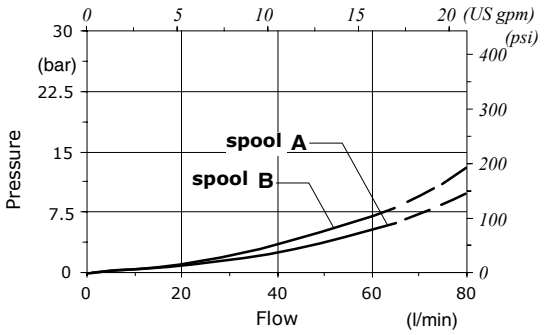
8 ways





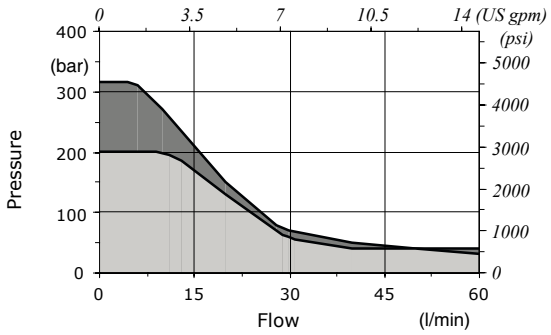
Pressure drop versus flow

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

... 2 0 (300) DB 2 - 12VDC - ...

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

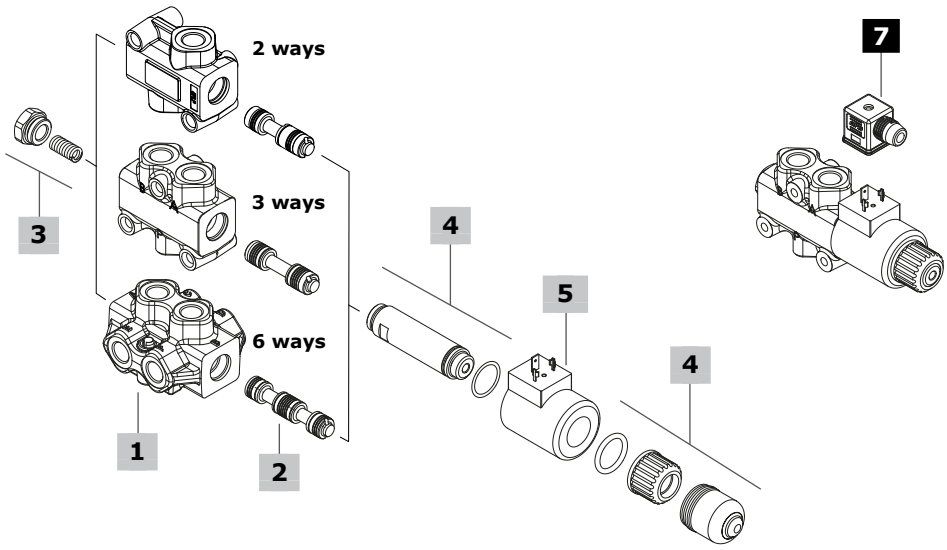
Lenght cables
(only if it's present)
Lenght is in mm

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*

TYPE	CODE	DESCRIPTION
DFE052/2	3CO2220321Z	2 ways body kit
DFE052/3	3CO2221325Z	3 ways body kit
DFE052/6	3CO2222326Z	6 ways body kit

2 Spools page 82

TYPE	CODE	DESCRIPTION
for DFE052/2:		
A	3CAS105245	Open port in neutral
B	3CAS105145	Closed port in neutral
for DFE052/3:		
A	3CAS105345	Flow in A in neutral. Ports connected in transit position
B	3CAS105445	Flow in A in neutral. Ports closed in transit position
D	3CAS105546	Closed ports in neutral and connected in transit position
for DFE052/6:		
A	3CAS105645	Flow in E and F. C and D closed in pos. 1 Ports connected in transit position
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

3 Positioner kit page 83

TYPE	CODE	DESCRIPTION
18...W	5TAP001	Spring return in pos. 1
18...Y	5GIU001*	Spring return in pos. 1, with G1/4 drain port

4 Solenoid kit page 84

TYPE	CODE	DESCRIPTION
ES	5SOL515000	Tube assembly without protective bellow
-	4ACC515	Optional tube assembly protective bellow

5 Coil

For list of available coils see pages 85

6 Body threading

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

7 Accessories

For list of available connectors see pages 85

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

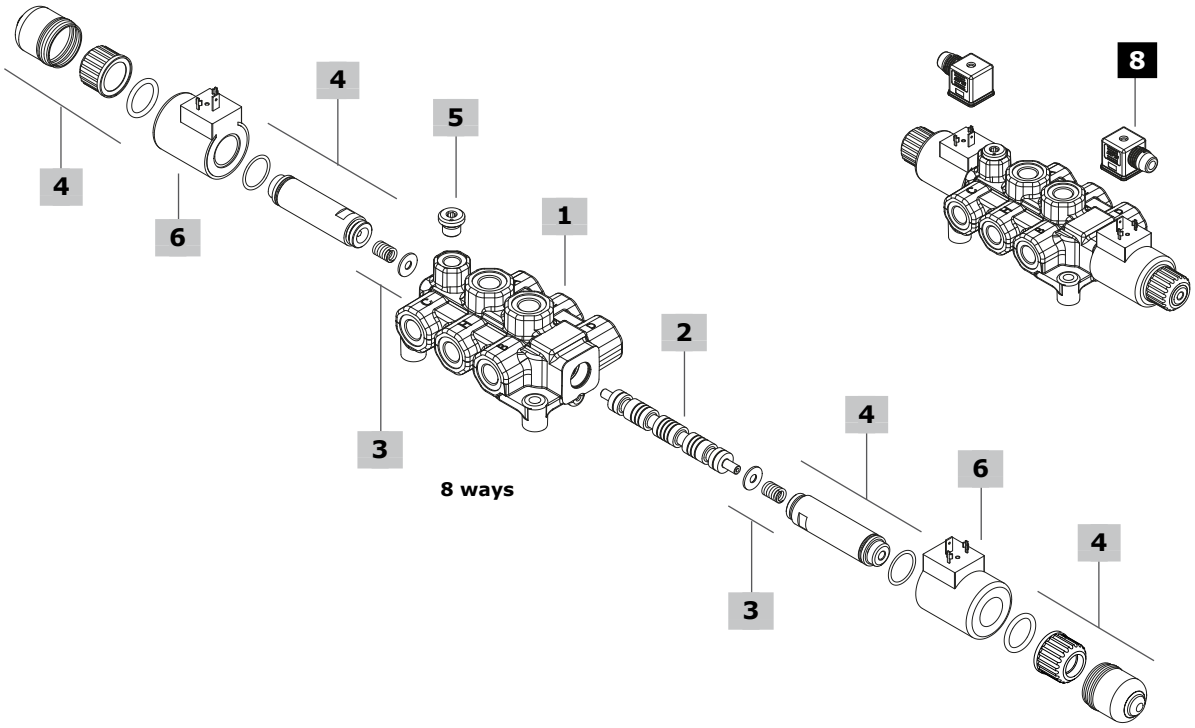
Part ordering codes

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



1 Body kit*

TYPE	CODE	DESCRIPTION
DFE052/8	3CO2224350MZ	8 ways body kit

2 Spools page 83

TYPE	CODE	DESCRIPTION
A	3CAS105A70M	Flow in C and D. E, F, G and H closed in pos. 0. Ports connected in transit position
B	3CAS105B70M	Flow in C and D. E, F, G and H closed in pos. 0. Ports closed in transit position
I	3CAS105I70M	Flow in C and D. E, F, G and H closed in pos. 0.

3 Positioner kit page 84

TYPE	CODE	DESCRIPTION
8 (ES)	5V080528	Spring return in pos. 0

4 Solenoid kit page 84

TYPE	CODE	DESCRIPTION
ES	5SOL515000	Tube assembly without protective bellow
-	4ACC515	Optional tube assembly protective bellow

5 Drain* page 84

TYPE	CODE	DESCRIPTION
W	3XTAP719150	Without drain, with plug G1/4
Y	-	With G1/4 drain port

6 Coil

For list of available coils see pages 85

7 Body threading

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

8 Accessories

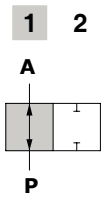
For list of available connectors see pages 85

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

Spool circuits

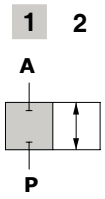
2 ways

Type A
Open port in neutral position



Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

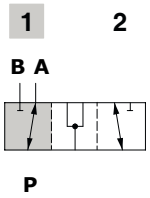
Type B
Closed port in neutral position



Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

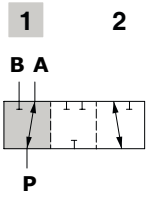
3 ways

Type A
Ports connected
in transit position



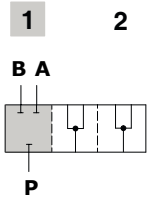
Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

Type B
Ports closed
in transit position



Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

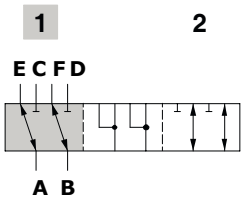
Type D
Closed ports in neutral and
connected in transit position



Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

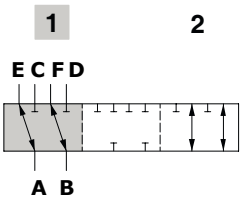
6 ways

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



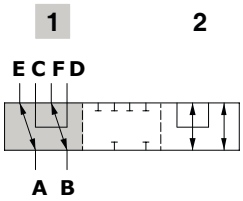
Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

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



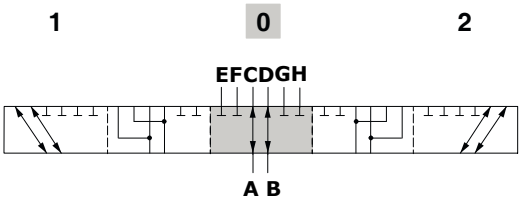
Spool stroke
Position 2: - 4 mm *(- 0.15 in)*

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

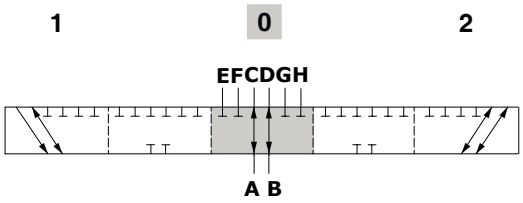


Spool stroke

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

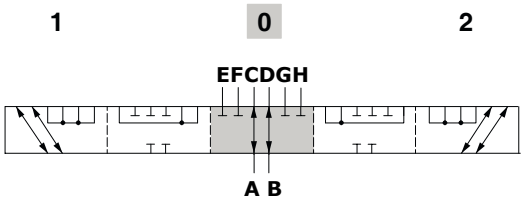


Spool stroke

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

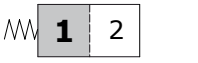
Type 18W

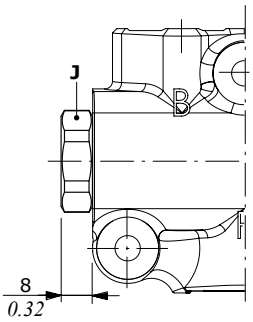
With plug

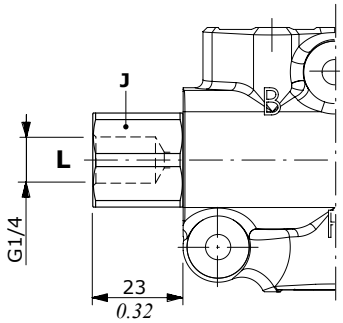
Type 18Y

With G1/4 drain port

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

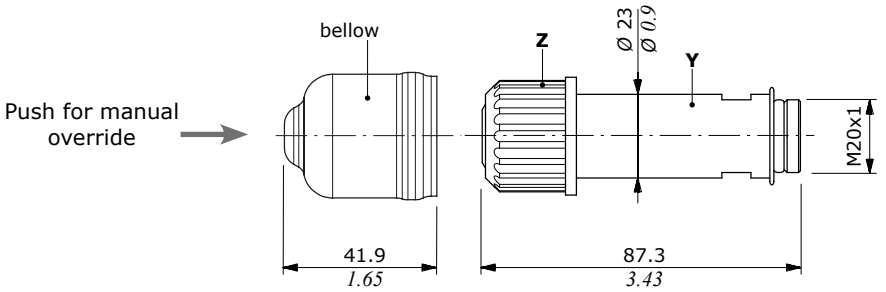






Solenoid kit

ES tube assembly kit

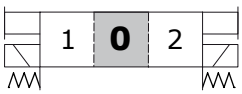


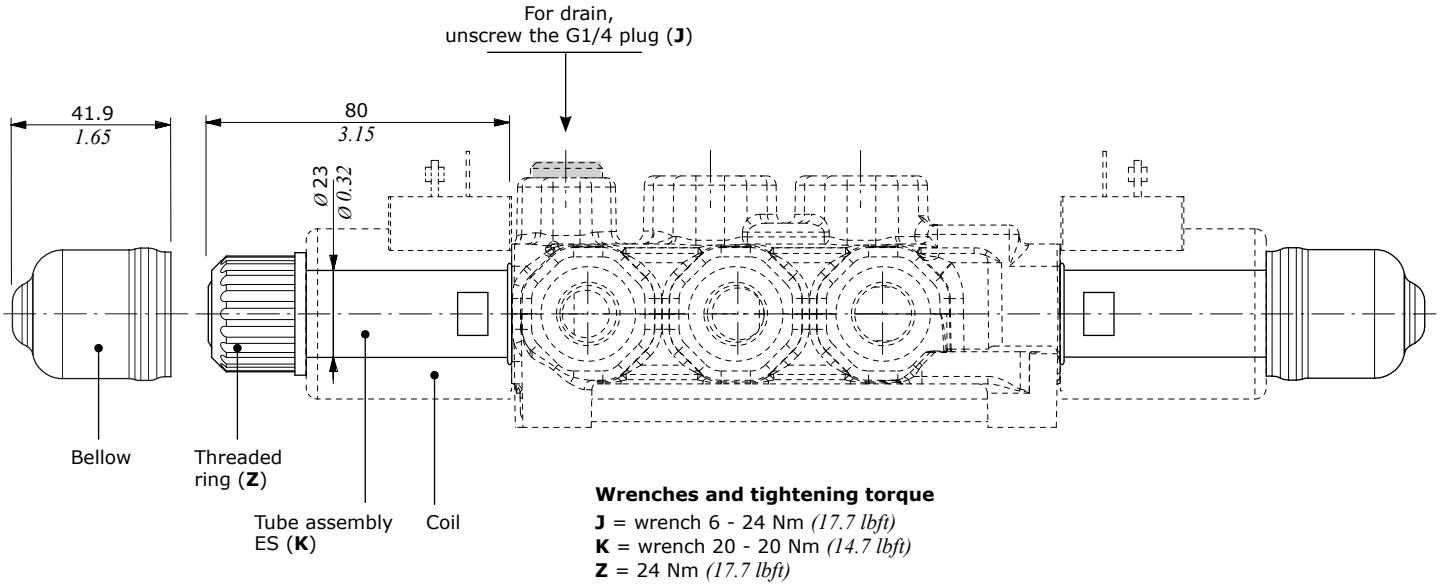
Wrenches and tightening torque
Y = wrench 20 - 20 Nm *(14.7 lbft)*
Z = 24 Nm *(17.7 lbft)*

Positioner kit and solenoid kit - DFE052/8

With spring return in position 0

Tipo 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

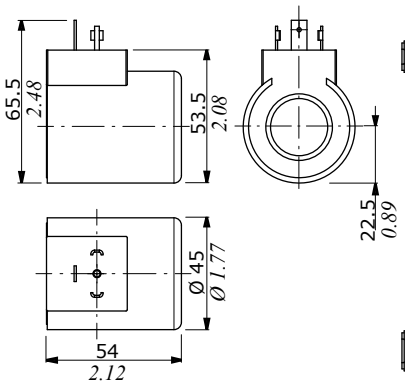
Type	Voltage	Ordering codes – Connector types					
		ISO4400	Deutsch DT	AMP JPT	Packard Weatherpack	Packard Metri-pack	Flying leads without connector
D15	**12 VDC**	4SOL515012	4SOL515011[2] 4SOL515014A[3-6]	4SOL515016[5]	-	-	-
	14 VDC	-	4SOL515014B[3-6]	4SOL515016A[5]	-	-	-
	24 VDC	4SOL515024	4SOL515025A[3-6] 4SOL515021[2]	-	-	-	-
	48 VDC	4SOL515048	-	4SOL515049[2]	-	-	-
	98 VDC	4SOL515098	-	-	-	-	-
	110 VDC	4SOL515110	-	-	-	-	-
	Mating connectors						
		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

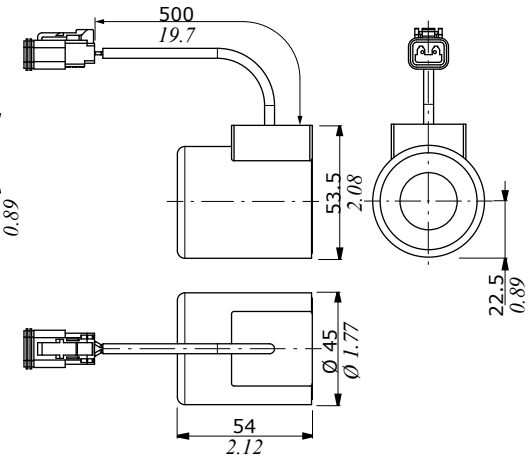
Features

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%

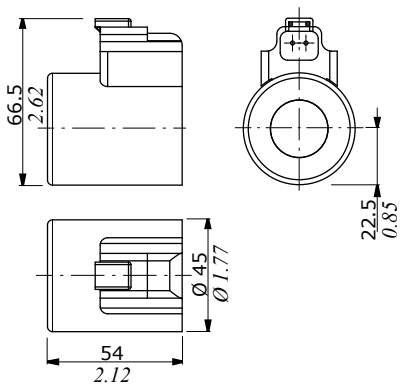
ISO4400 connector



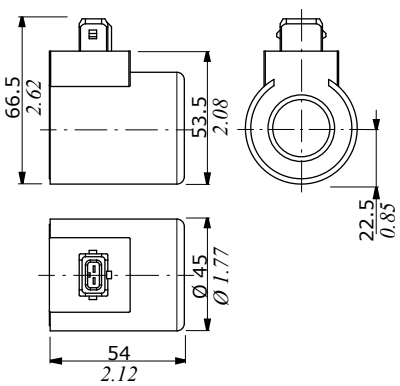
Flying leads with DEUTSCH DT04 connector



DEUTSCH DT04 connector
(Parallel type)



AMP JPT connector
(Perpendicular type)



Flying leads with AMP JPT connector