



Diverter Valves

Section 17

SECTION 17

DIVERTER VALVES



Hydraulic scheme	Valve description	Valve type	Rated flow (l/min)	Max. pressure (bar)	Installation	Main port size or cavity type	Page
	ESCB-025	Three ports	25	250-310	In line	G 1/4"	17.01. 010
	ESCB-050	Three ports	50	250-310	In line	G 3/8"	17.01. 020
	ESCB-090	Three ports	90	250-310	In line	G 1/2"	17.01. 030
	ELFB-025	Six ports single	25	250-310	In line	G 1/4"	17.02. 040
	ELFB-050	Six ports single	50	250-310	In line	G 3/8"	17.02. 050
	ELFB-090	Six ports single	90	250-310	In line	G 1/2"	17.02. 060
	ESFB-025	Six ports single and bankable	25	250-310	In line/Flanged	G 1/4"	17.03. 070
	ESFB-050	Six ports single and bankable	50	250-310	In line/Flanged	G 3/8"	17.03. 080
	ESFB-090	Six ports single and bankable	90	250-310	In line/Flanged	G 1/2"	17.03. 090
	ELFB-400	Six ports single	400	210-420	In line	G 3/4" - 1" SAE 6000	17.04. 100

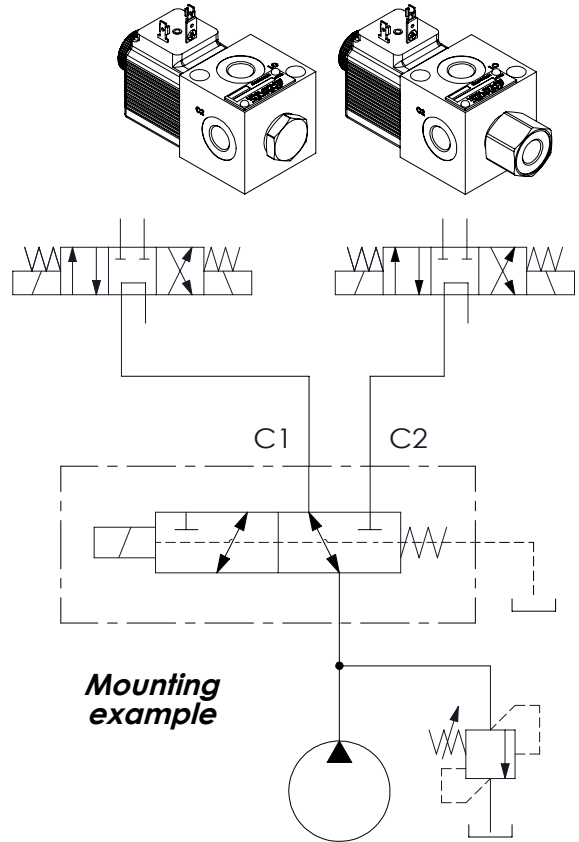
FLOW DIVERTERS

ESCB-025

3 WAYS FLOW DIVERTERS



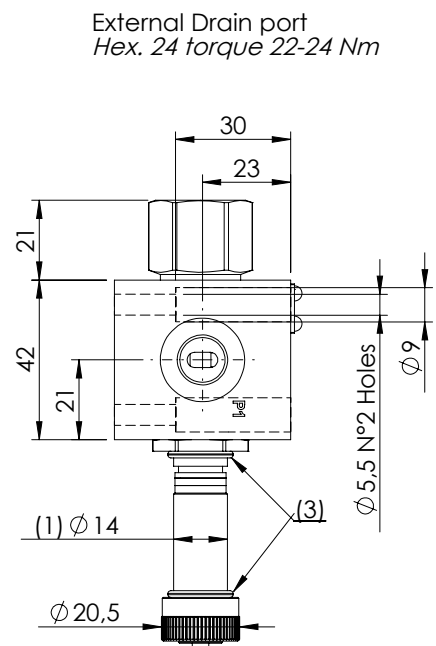
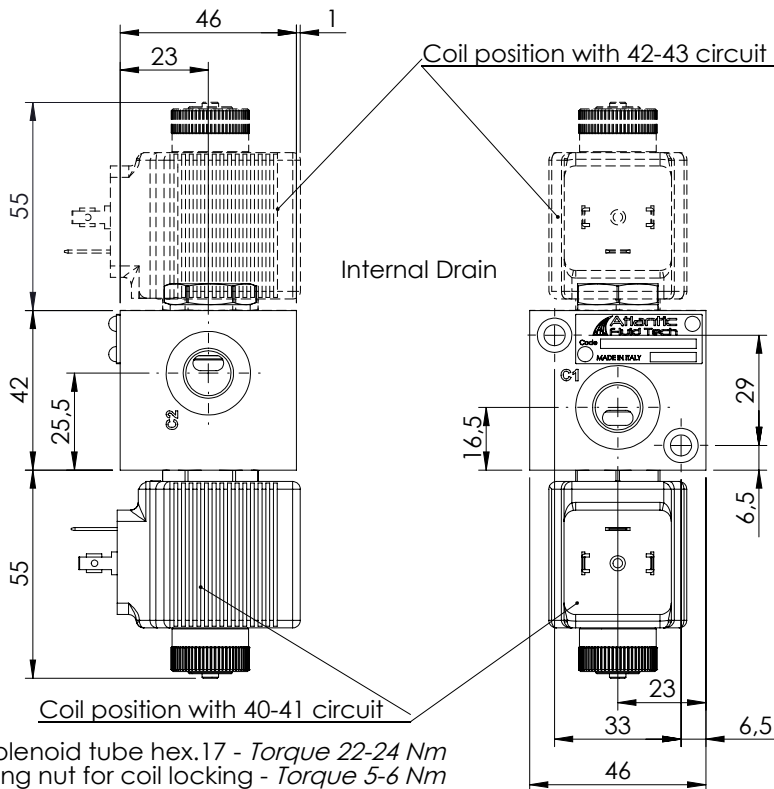
**	Circuit	Transit position
40		
41		
42		
43		



Technical data

Rated flow	l/min	25
Operating pressure	with internal drain "N"	bar 250
	with external drain "E"	bar 310
Valve weight	Kg	0,80

OVERALL DIMENSIONS



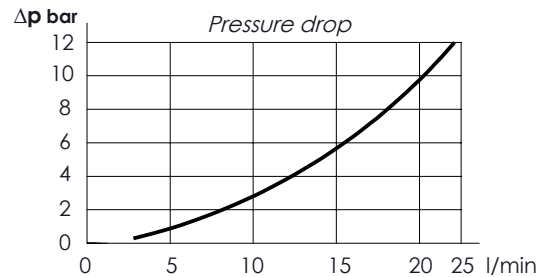
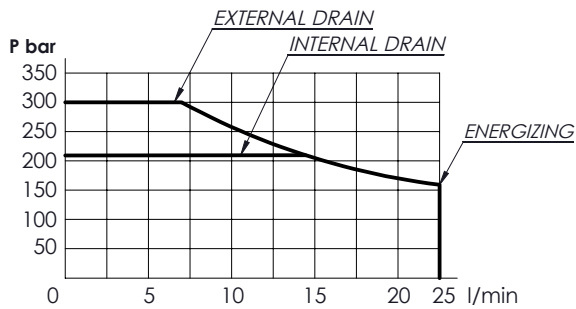
- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø14,00x1,78

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Maximum performance



Internal leakage on C ports : MAX 15 cm³/min - Mineral oil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic <p>(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure</p>	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G14	1/4" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ESCB - 025 - * * A * - ** - *** - * ** *

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)	
-	Without coil			
A	12 DC	5,53	26	2,17
B	24 DC	22,1	26	1,08
Other voltages available on request				

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M14 IP65
AJ	AMP JUNIOR Class H	M14 IP65
DT	DEUTSCH DT04-2P-L Class H	M14 IP69

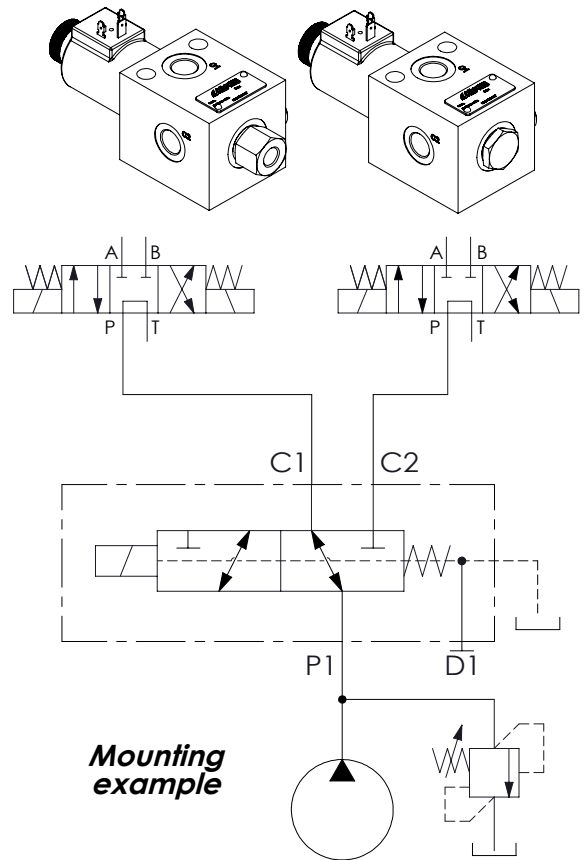
FLOW DIVERTERS

ESCB-050

3 WAYS FLOW DIVERTERS



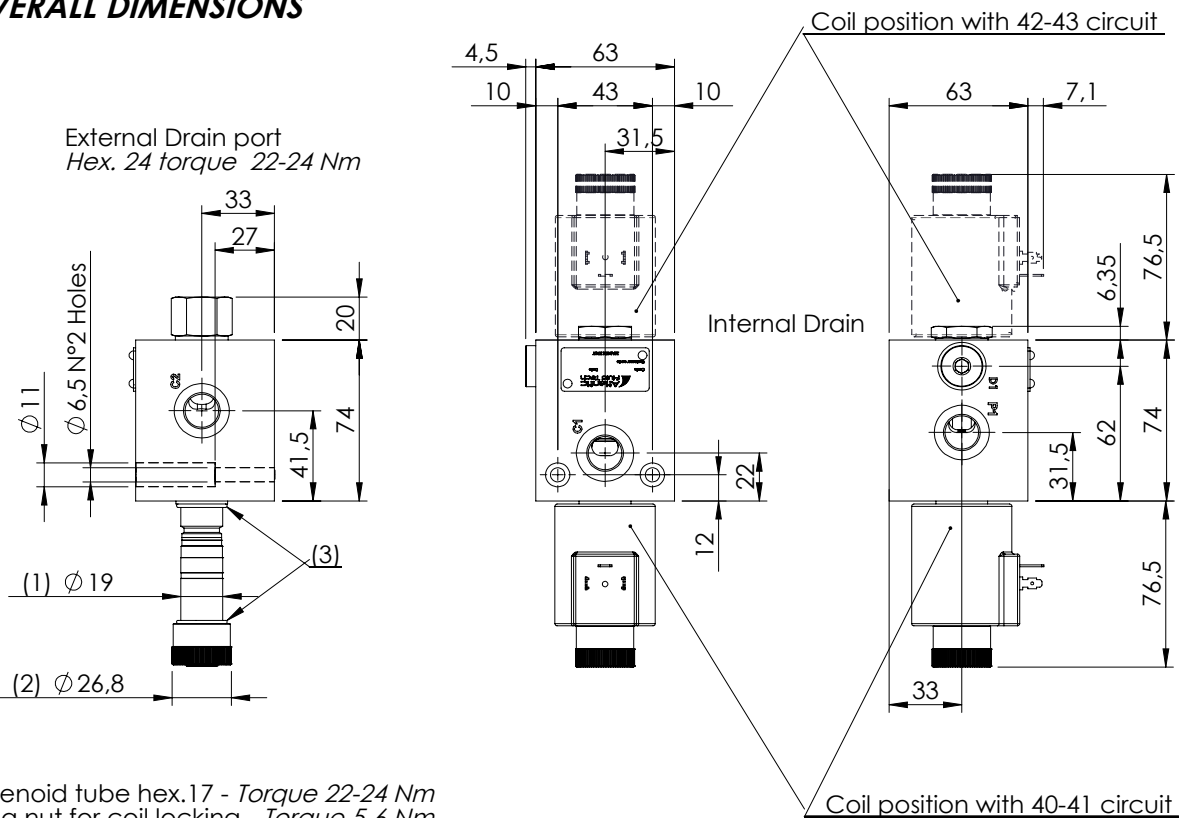
**	Circuit	Transit position
40		
41		
42		
43		



Technical data

Rated flow	l/min	50
Operating pressure	with internal drain "N"	bar 250
	with external drain "E"	bar 310
Valve weight	Kg	2,6

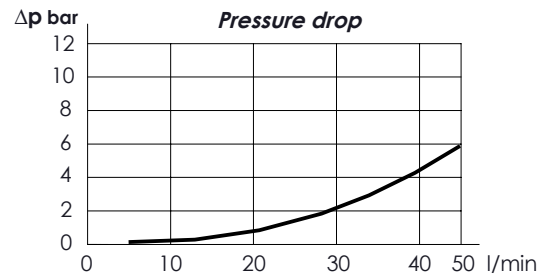
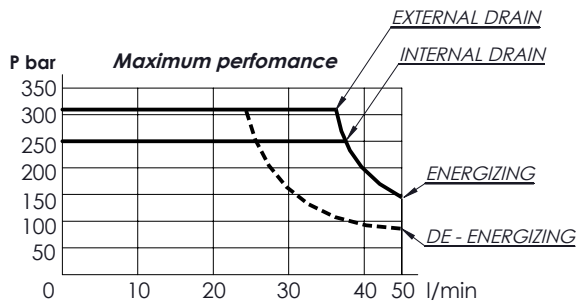
OVERALL DIMENSIONS



- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø18,77 x1,78

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports : MAX **25** cm³/min - Mineral oil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic <p>(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure</p>	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G38	3/8" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ESCB - 050 - * * C * - ** - * - * ** ***

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	4,36	33	2,75
B 24 DC	17,45	33	1,37
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR DIN 43650 - ISO 4400 Class H	M8	IP65
AJ AMP JUNIOR Class H	M8	IP65
DT DEUTSCH DT04-2P-L Class H	M8	IP69

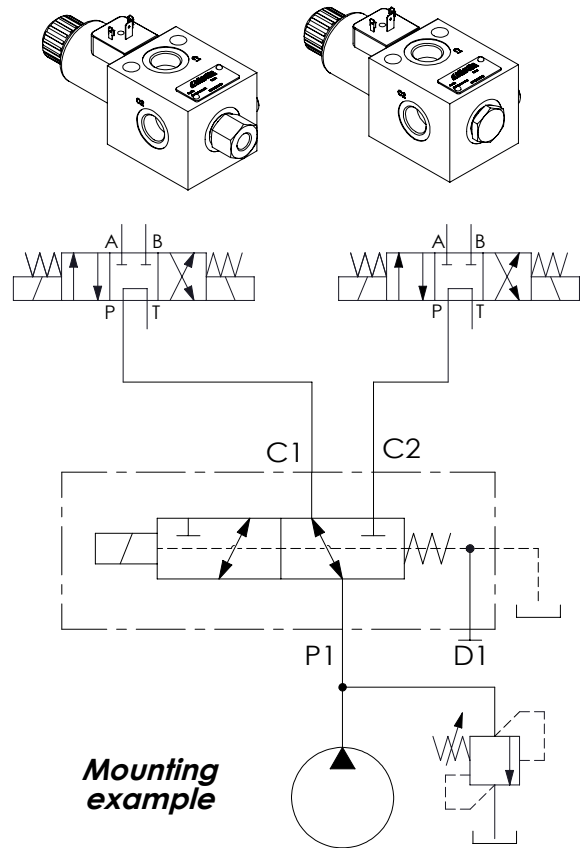
FLOW DIVERTERS

ESCB-090

3 WAYS FLOW DIVERTERS

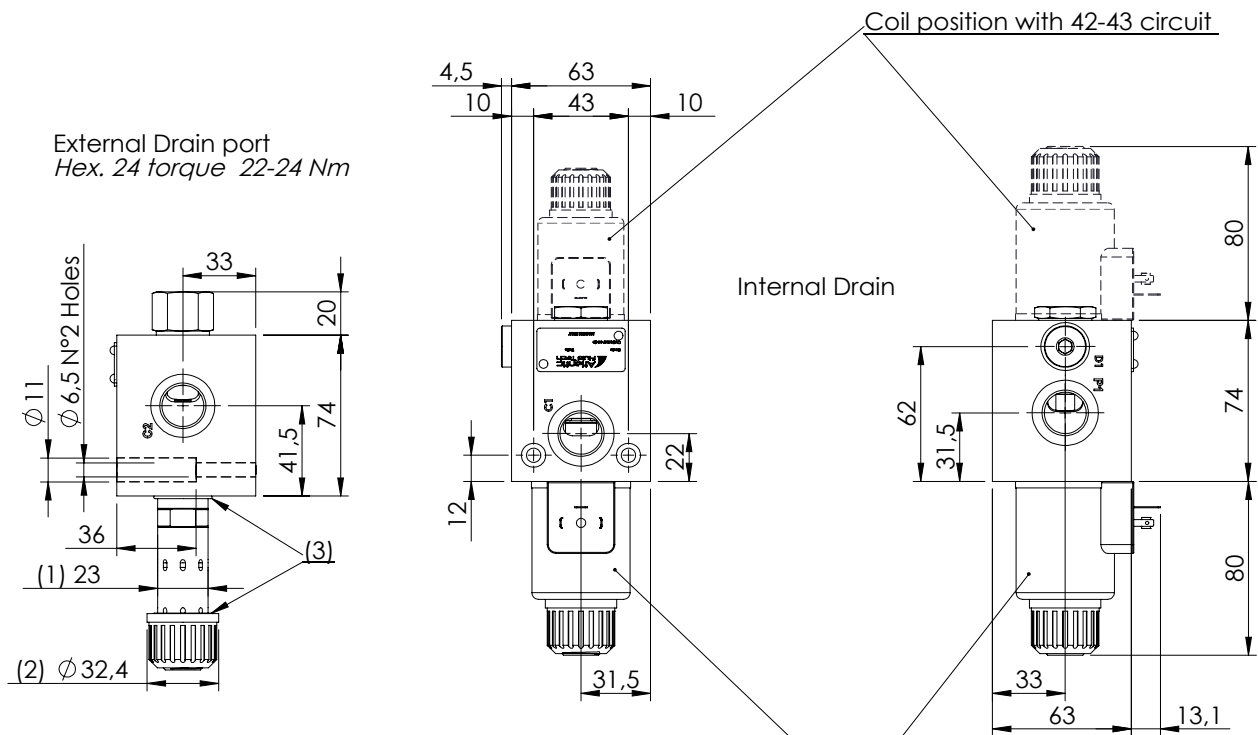


**	Circuit	Transit position
40		
41		
42		
43		



Technical data		
Rated flow	l/min	90
Operating pressure	with internal drain "N"	bar 250
	with external drain "E"	bar 310
Valve weight	Kg	2,4

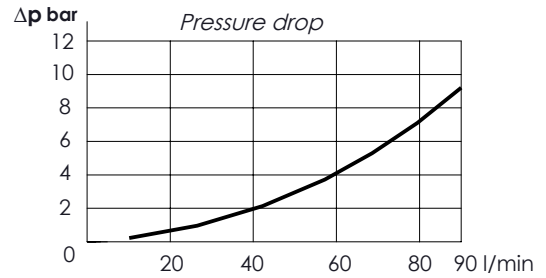
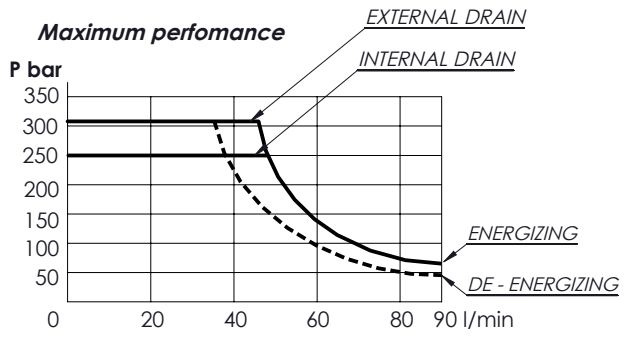
OVERALL DIMENSIONS



- (1) Solenoid tube hex.20 - Torque 18-22 Nm
- (2) Ring nut for coil locking - Torque 7-8 Nm
- (3) O-Ring $\varnothing 21,95 \times 1,78 - 22,22 \times 2,62$ (smaller one near manifold)

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports : MAX 25 cm³/min - Mineral oil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic 	
(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G12	1/2" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ESCB - 090 - * * E * - ** - * - * ** ***

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	3,27	44	3,67
B 24 DC	13,09	44	1,83
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR DIN 43650 - ISO 4400 Class H	M11	IP65
AJ AMP JUNIOR Class H	M11	IP65
DT DEUTSCH DT04-2P-L Class H	M11	IP69

FLOW DIVERTERS

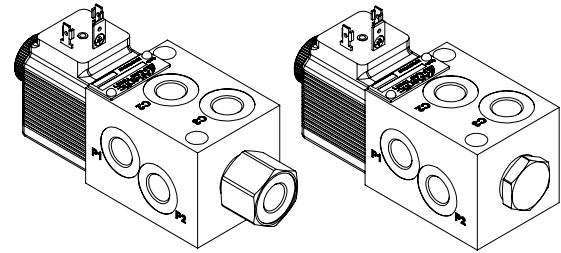
ELFB-025

6 WAYS SINGLE IN LINE
FLOW DIVERTERS

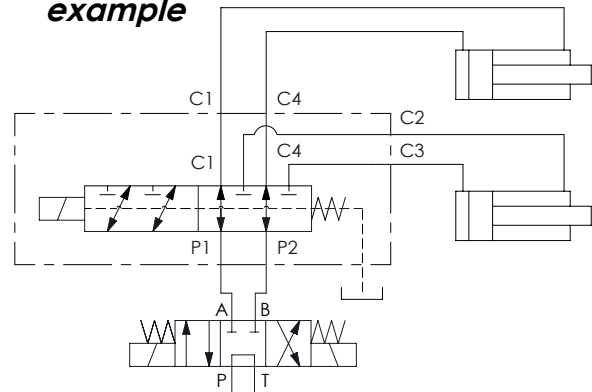


**	Circuit	Transit position
01		
02		
03		

*Only external drain



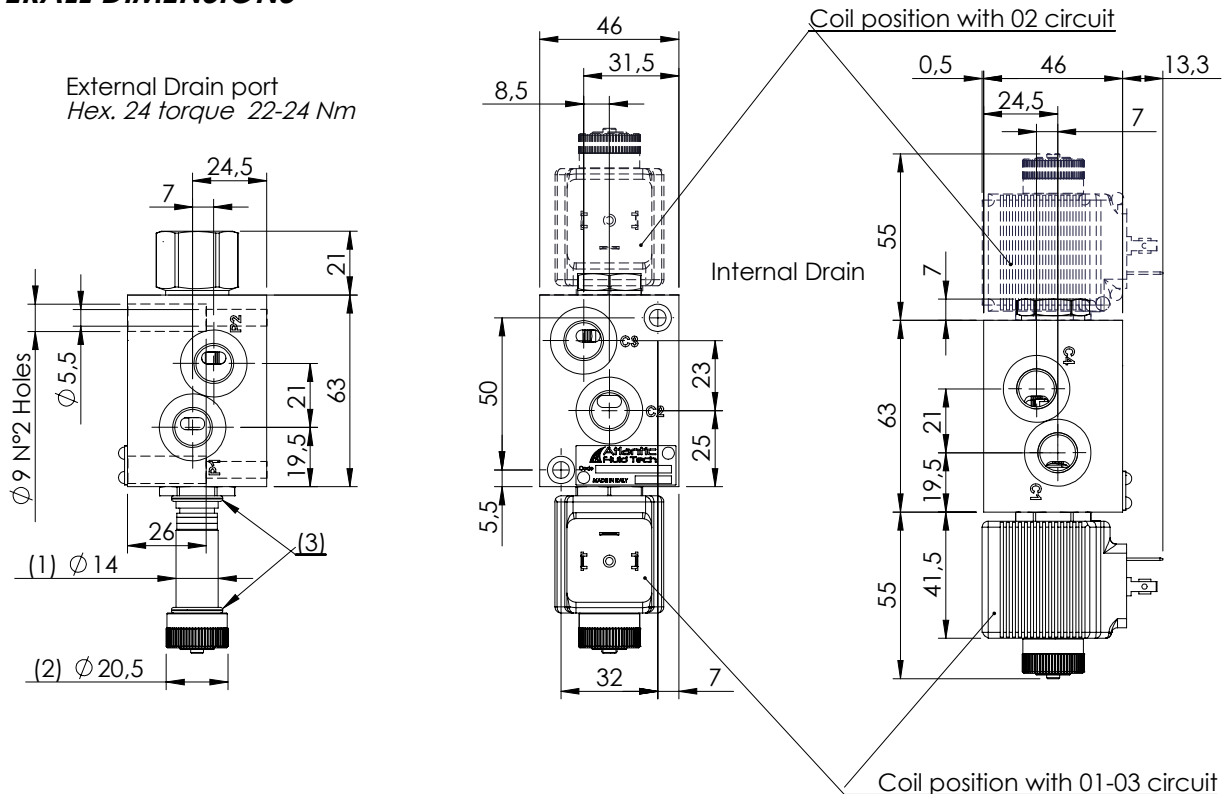
Mounting example



Technical data

Rated flow		l/min	25
Operating pressure	with internal drain "N"	bar	250
	with external drain "E"	bar	310
Valve weight		Kg	1,1

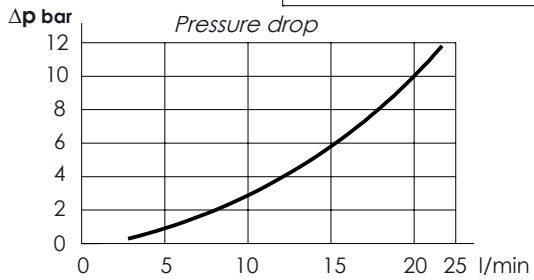
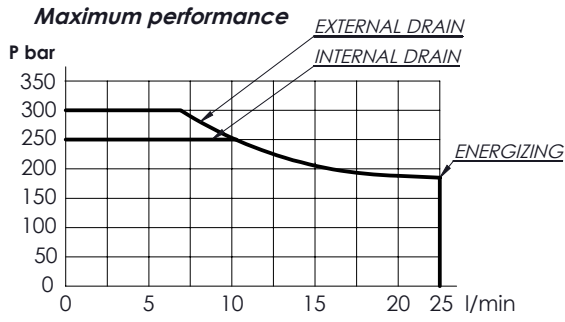
OVERALL DIMENSIONS



- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø 14,00 x 1,78

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports : MAX 15 cm3/min Mineral oil with 32 cSt viscosity, at 40° C and 100 bar pressure

*	OPERATED	<i>Circuit</i>
E	Electric 	
N	Hydraulic/pneumatic 	
	(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure	

*	MANUAL OVERRIDE
S	Standard
P	Push-button
V	Screw
N	Without manual override

*	DRAIN	<i>Circuit</i>
N	Internal	
E	External	

PORTS		
***	Main (C)	Drain (D)
G14	1/4" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ELFB - 025 - * * A * - ** - * - * ** ***

*	Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil			
A	12 DC	5,53	26	2,17
B	24 DC	22,1	26	1,08
Other voltages available on request				

*	COIL	Type	Protection class
-	Without coil		
HR	DIN 43650 - ISO 4400 Class H	M14	IP65
AJ	AMP JUNIOR Class H	M14	IP65
DT	DEUTSCH DT04-2P-L Class H	M14	IP69

FLOW DIVERTERS

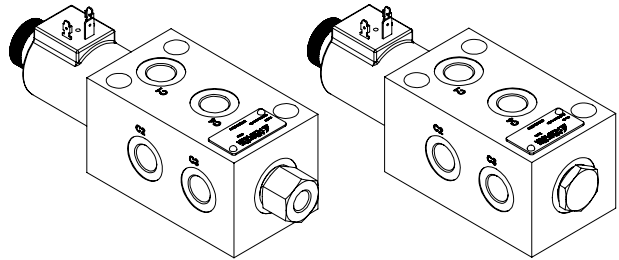
ELFB-050

**6 WAYS SINGLE IN LINE
FLOW DIVERTERS**

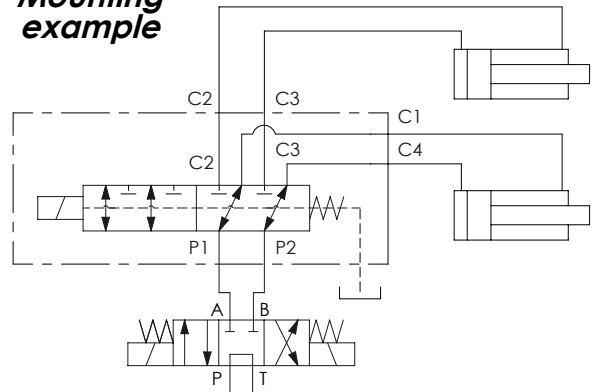


**	Circuit	Transit position
02		
03		

*Only external drain



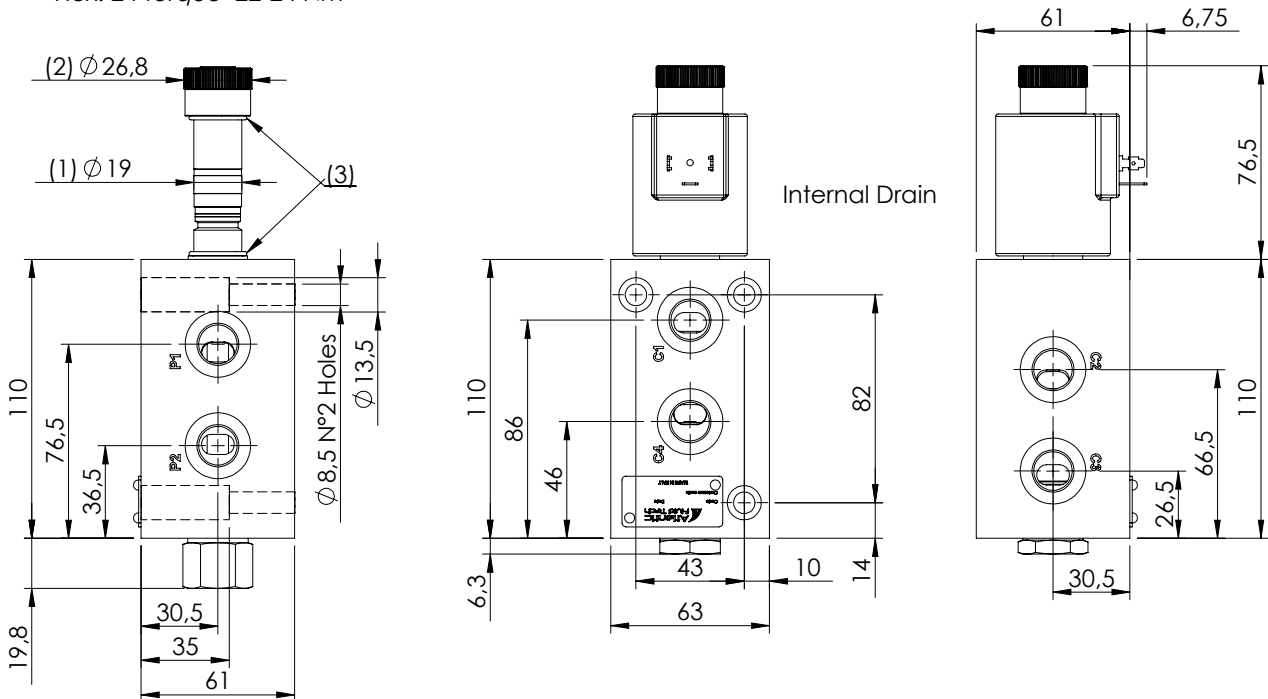
**Mounting
example**



Technical data			
Rated flow	l/min		50
Operating pressure	with internal drain "N"	bar	250
	with external drain "E"	bar	310
Valve weight	Kg		3,4

OVERALL DIMENSIONS

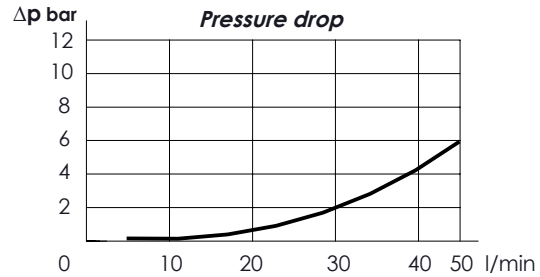
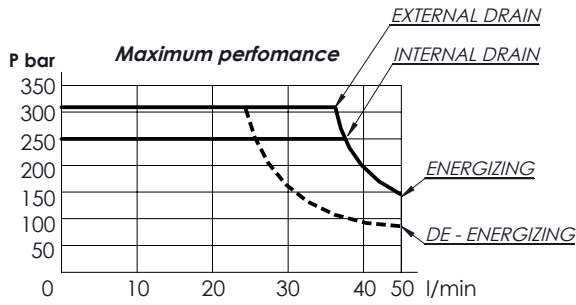
External Drain port
Hex. 24 torque 22-24 Nm



- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø18,77 x 1,78

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports :MAX 25 cm3/min Mineraloil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic 	

(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm
With external drain Pilot Pressure Min. 5 bar
With internal drain Pilot Pressure is 1/10 of the working pressure

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G38	3/8" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ELFB - 050 - ** C * - ** - * - * ** ***

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	4,36	33	2,75
B 24 DC	17,45	33	1,37
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR DIN 43650 - ISO 4400 Class H	M8	IP65
AJ AMP JUNIOR Class H	M8	IP65
DT DEUTSCH DT04-2P-L Class H	M8	IP69

FLOW DIVERTERS

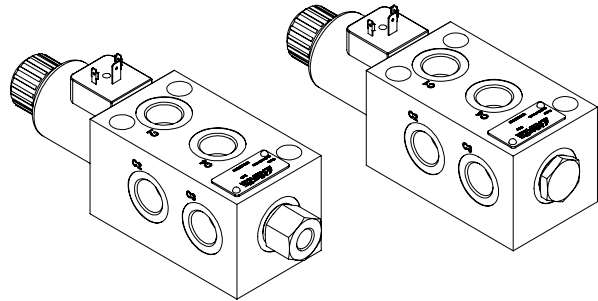
ELFB-090

**6 WAYS SINGLE IN LINE
FLOW DIVERTERS**

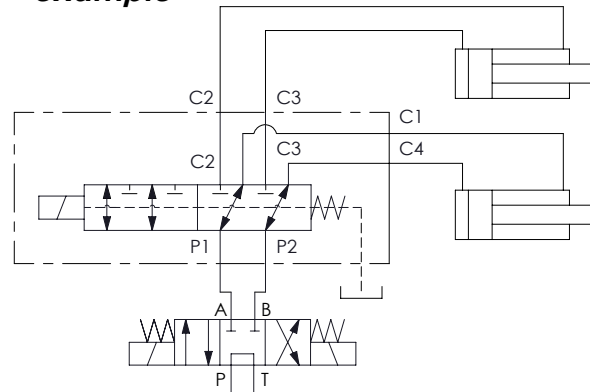


**	Circuit	Transit position
02		
03		

*Only external drain

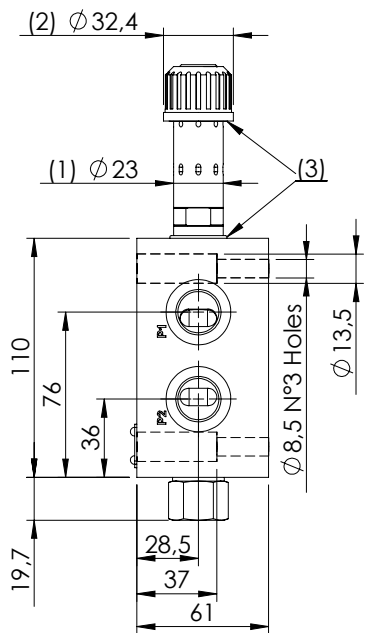


**Mounting
example**

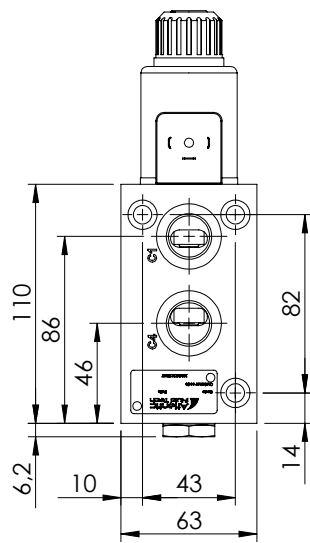


Technical data			
Rated flow	l/min		90
Operating pressure	with internal drain "N"	bar	250
	with external drain "E"	bar	310
Valve weight	Kg		3,2

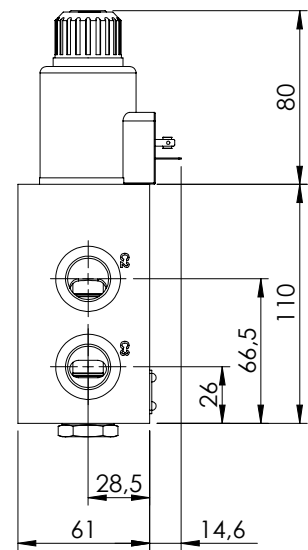
OVERALL DIMENSIONS



External Drain port
Hex. 24 torque 22-24 Nm



Internal Drain



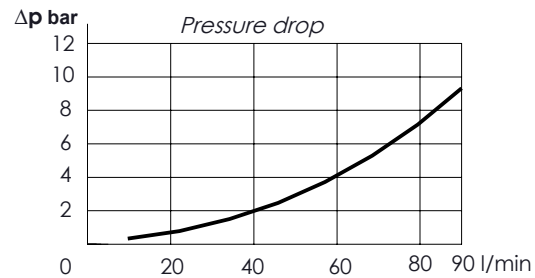
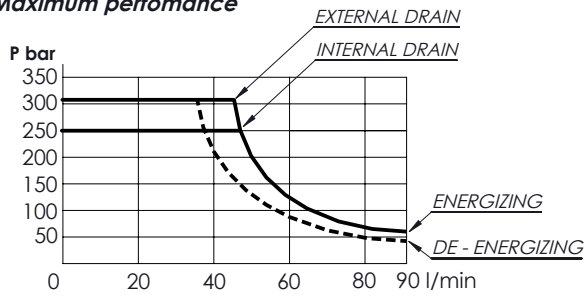
- (1) Solenoid tube hex.20 - Torque 18-22 Nm
- (2) Ring nut for coil locking - Torque 7-8 Nm
- (3) O-Ring Ø 21,95 x 1,78 - 22,22 x 2,62 (smaller one near manifold)

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Maximum performance



Internal leakage on C ports :MAX 25 cm³/min Mineraloil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic <p>(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure</p>	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G12	1/2" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

ELFB - 090 - * * E * - ** - * - * ** ***

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	3,27	44	3,67
B 24 DC	13,09	44	1,83
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M11 IP65
AJ	AMP JUNIOR Class H	M11 IP65
DT	DEUTSCH DT04-2P-L Class H	M11 IP69

FLOW DIVERTERS

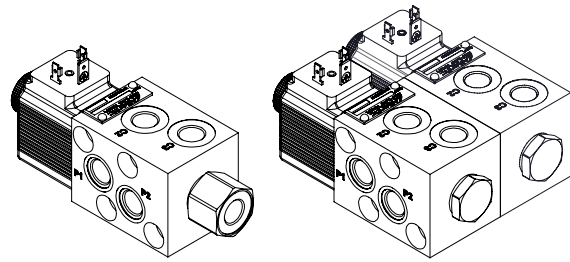
ESFB-025

6 WAYS SINGLE & BANKABLE
FLOW DIVERTERS

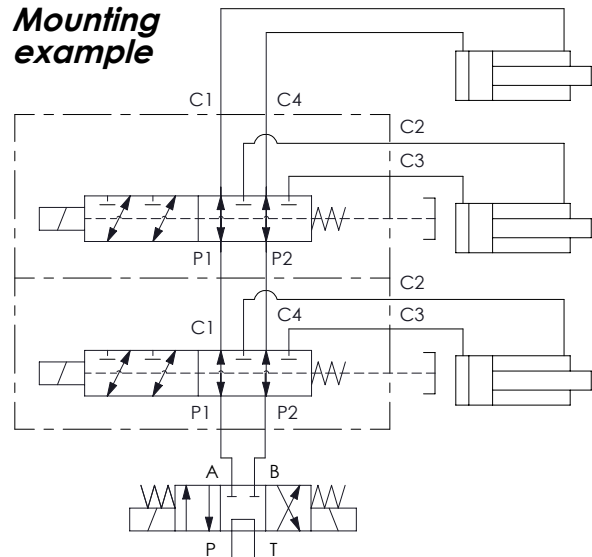


**	Circuit	Transit position
01		
02		
03		

*Only external drain



Mounting example

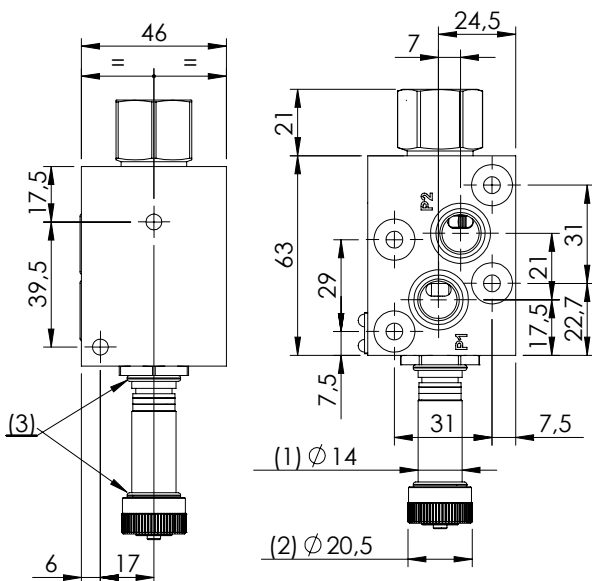


Technical data

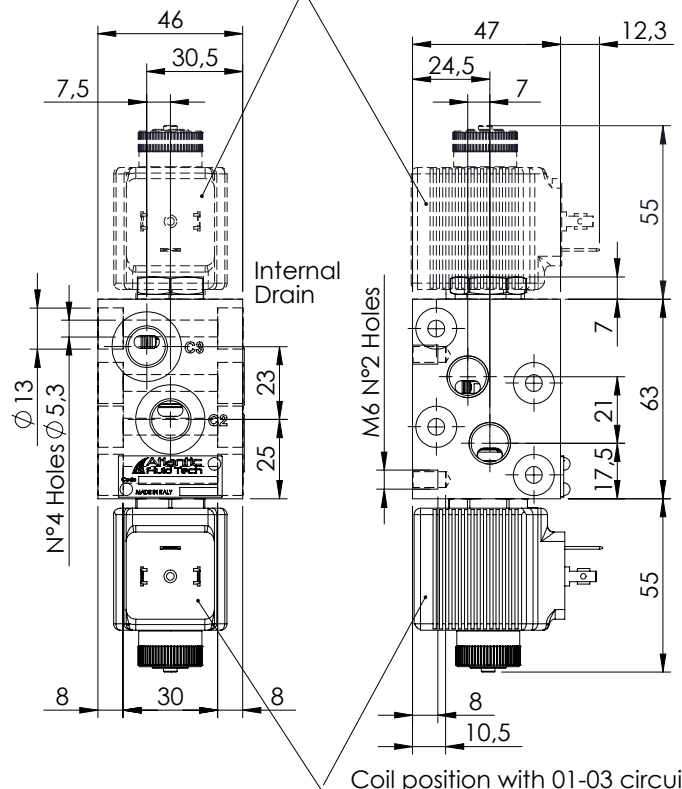
Rated flow		l/min	25
Operating pressure	with internal drain "N"	bar	250
	with external drain "E"	bar	310
Valve weight		Kg	1

OVERALL DIMENSIONS

External Drain port
Hex. 24 torque 22-24 Nm



Coil position with 02 circuit

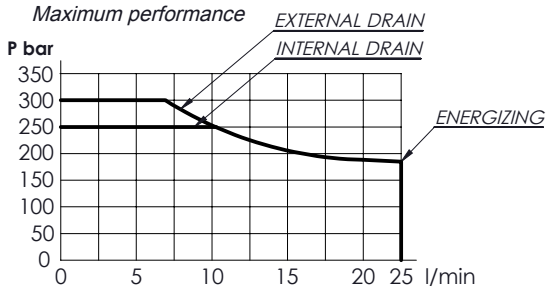


Coil position with 01-03 circuit

- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø 14,00 x 1,78

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports :
 MAX 15 cm³/min
 Mineral oil with 32 cSt
 viscosity, at 40° C and
 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic 	

(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm
 With external drain Pilot Pressure Min. 5 bar
 With internal drain Pilot Pressure is 1/10 of the working pressure

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G14	1/4" Gas	1/4" Gas

Other port sizes available

N - Seals in NBR
 V - Seals in VITON

ESFB - 025 - * * A * - ** - * - * ** * ****

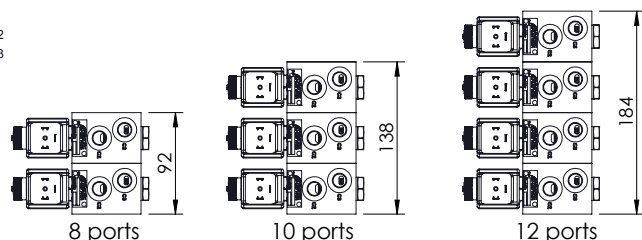
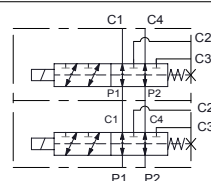
* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	5,53	26	2,16
B 24 DC	22,1	26	1,08

Other voltages available on request

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M14 IP65
AJ	AMP JUNIOR Class H	M14 IP65
DT	DEUTSCH DT04-2P-L Class H	M14 IP69

TYPE OF MOUNTING

* Port number	Screw Tie rods	Installation torque
-	-	-
08	M5x92	5-6 Nm
10	M5x138	5-6 Nm
12	M5x184	5-6 Nm
14	-	-



FLOW DIVERTERS

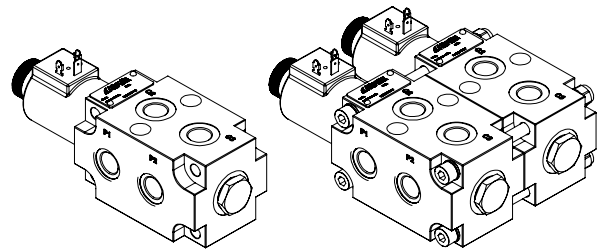
ESFB-050

**6 WAYS SINGLE & BANKABLE
FLOW DIVERTERS**

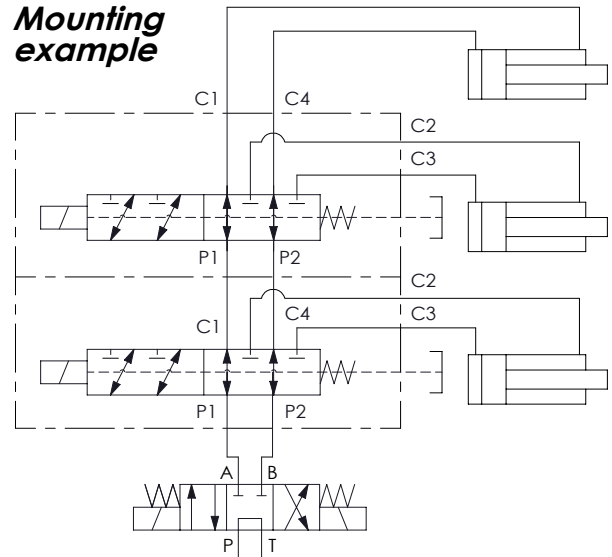


**	Circuit	Transit position
01		
02		
03		

*Only external drain



Mounting example

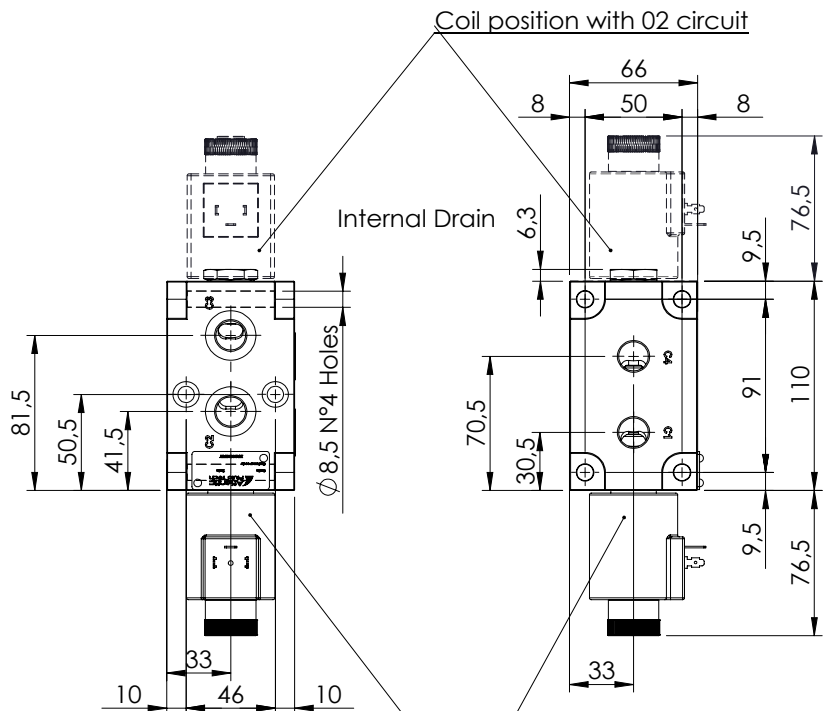
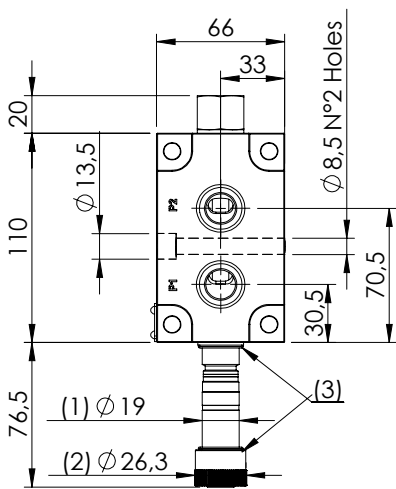


Technical data

Rated flow	l/min	50
Operating pressure	with internal drain "N"	bar 250
	with external drain "E"	bar 310
Valve weight	Kg	3,6

OVERALL DIMENSIONS

External Drain port
Hex. 24 torque 22-24 Nm

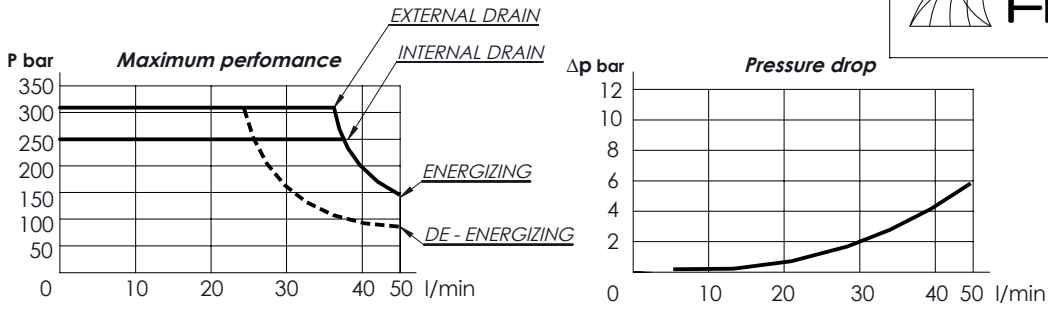


- (1) Solenoid tube hex.17 - Torque 22-24 Nm
- (2) Ring nut for coil locking - Torque 5-6 Nm
- (3) O-Ring Ø 18,77 x 1,78

Coil position with 01-03 circuit

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports :
 MAX 25 cm³/min
 Mineral oil with 32 cSt
 viscosity, at 40° C and
 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic <p>(4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure</p>	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D)
G38	3/8" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

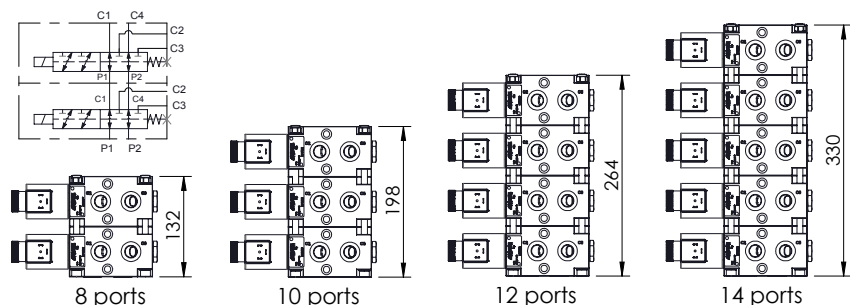
ESFB - 050 - * * C * - ** - * - * ** * ****

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A 12 DC	4,36	33	2,75
B 24 DC	17,45	33	1,37
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M8 IP65
AJ	AMP JUNIOR Class H	M8 IP65
DT	DEUTSCH DT04-2P-L Class H	M8 IP69

TYPE OF MOUNTING

* Port number	Screw Tie rods	Installation torque
-	-	-
08	M8x130	15-17 Nm
10	M8x196	15-17 Nm
12	M8x262	15-17 Nm
14	M8x328	15-17 Nm



FLOW DIVERTERS

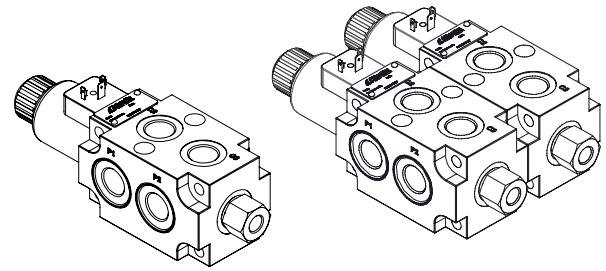
ESFB-090

6 WAYS SINGLE & BANKABLE
FLOW DIVERTERS

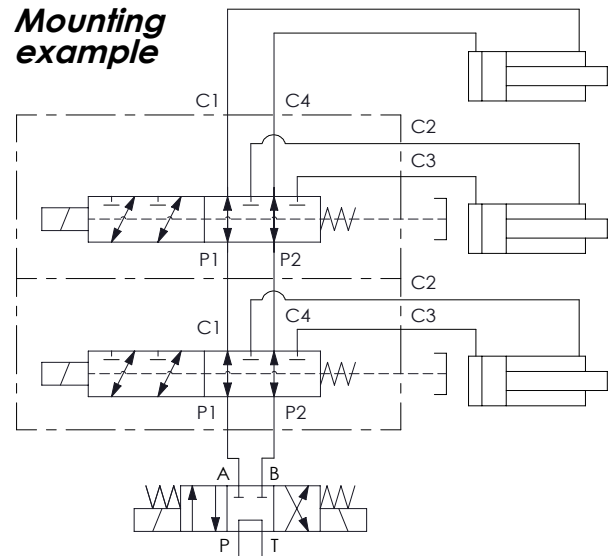


**	Circuit	Transit position
01		
02		
03		

*Only external drain



Mounting example

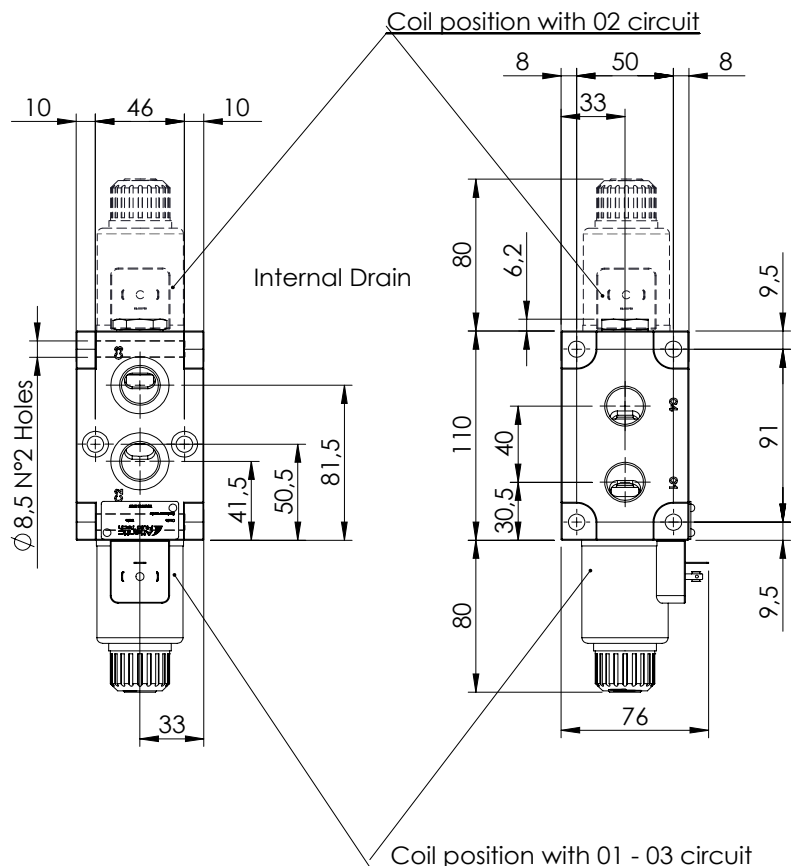
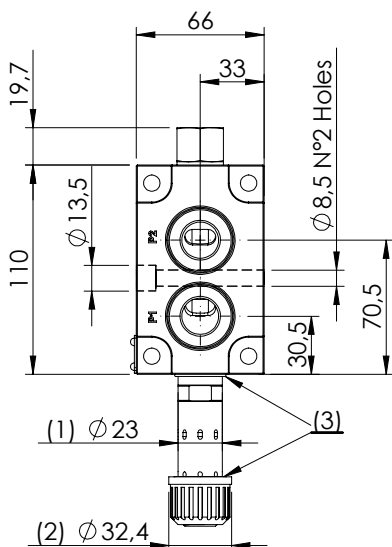


Technical data

Rated flow	l/min	90
Operating pressure	with internal drain "N"	bar 250
	with external drain "E"	bar 310
Valve weight	Kg	3,4

OVERALL DIMENSIONS

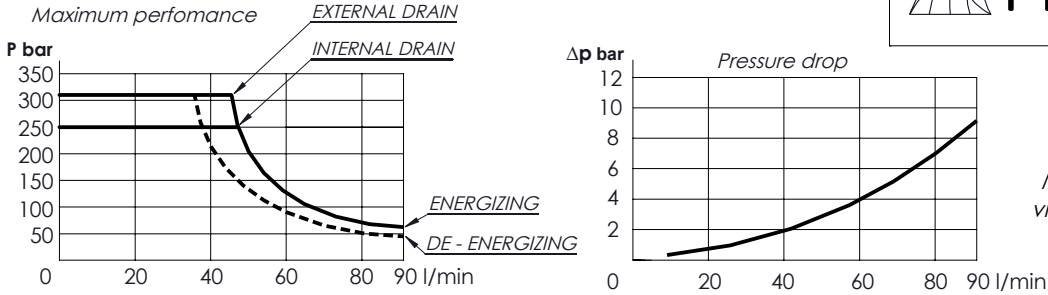
External Drain port
Hex. 24 torque 22-24 Nm



- (1) Solenoid tube hex.20 - Torque 18-22 Nm
- (2) Ring nut for coil locking - Torque 7-8 Nm
- (3) O-Ring Ø 21,95 x 1,78 - 22,22 x 2,62 (smaller one near manifold)

Characteristic curves

Measured with hydraulic fluid ISO-VG32 at 45° ± 5°C



Internal leakage on C ports :
MAX 25 cm³/min
 Mineral oil with 32 cSt viscosity, at 40° C and 100 bar pressure

* OPERATED	Circuit
E Electric 	
N Hydraulic/pneumatic (4) Hydraulic or pneumatic pilot connector: hex 30 mm - Torque 20-22 Nm With external drain Pilot Pressure Min. 5 bar With internal drain Pilot Pressure is 1/10 of the working pressure	

* MANUAL OVERRIDE	Circuit
S Standard 	
P Push-button 	
V Screw 	
N Without manual override	

* DRAIN	Circuit
N	Internal
E	External

PORTS		
***	Main (C)	Drain (D)
G12	1/2" Gas	1/4" Gas
Other port sizes available		

N - Seals in NBR
V - Seals in VITON

CIRCUIT

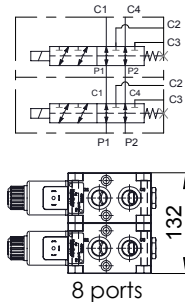
ESFB - 090 - * * E * - ** - * - * ** * ****

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)
-	Without coil		
A	12 DC	3,27	44
B	24 DC	13,09	44
Other voltages available on request			

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M11 IP65
AJ	AMP JUNIOR Class H	M11 IP65
DT	DEUTSCH DT04-2P-L Class H	M11 IP69

TYPE OF MOUNTING

* Port number	Screw Tie rods	Installation torque
-	6	-
08	8 M8x130	15-17 Nm
10	10 M8x196	15-17 Nm
12	12 M8x262	15-17 Nm
14	14 M8x328	15-17 Nm



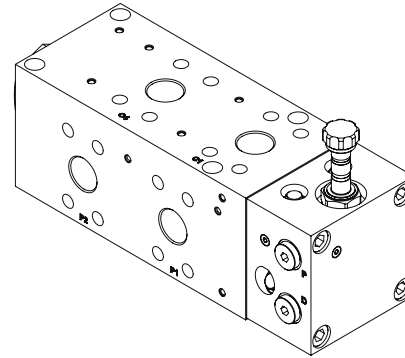
FLOW DIVERTERS

ELFB-400

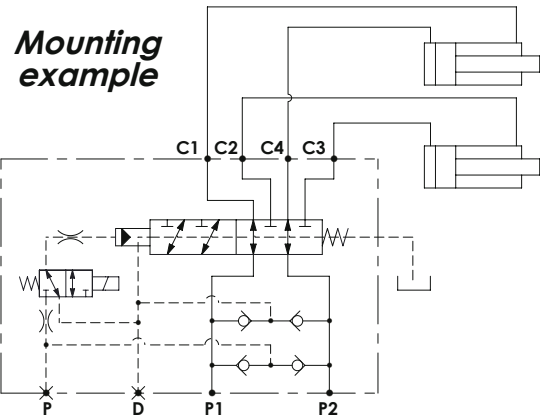
**6 WAYS SINGLE IN LINE
FLOW DIVERTERS**



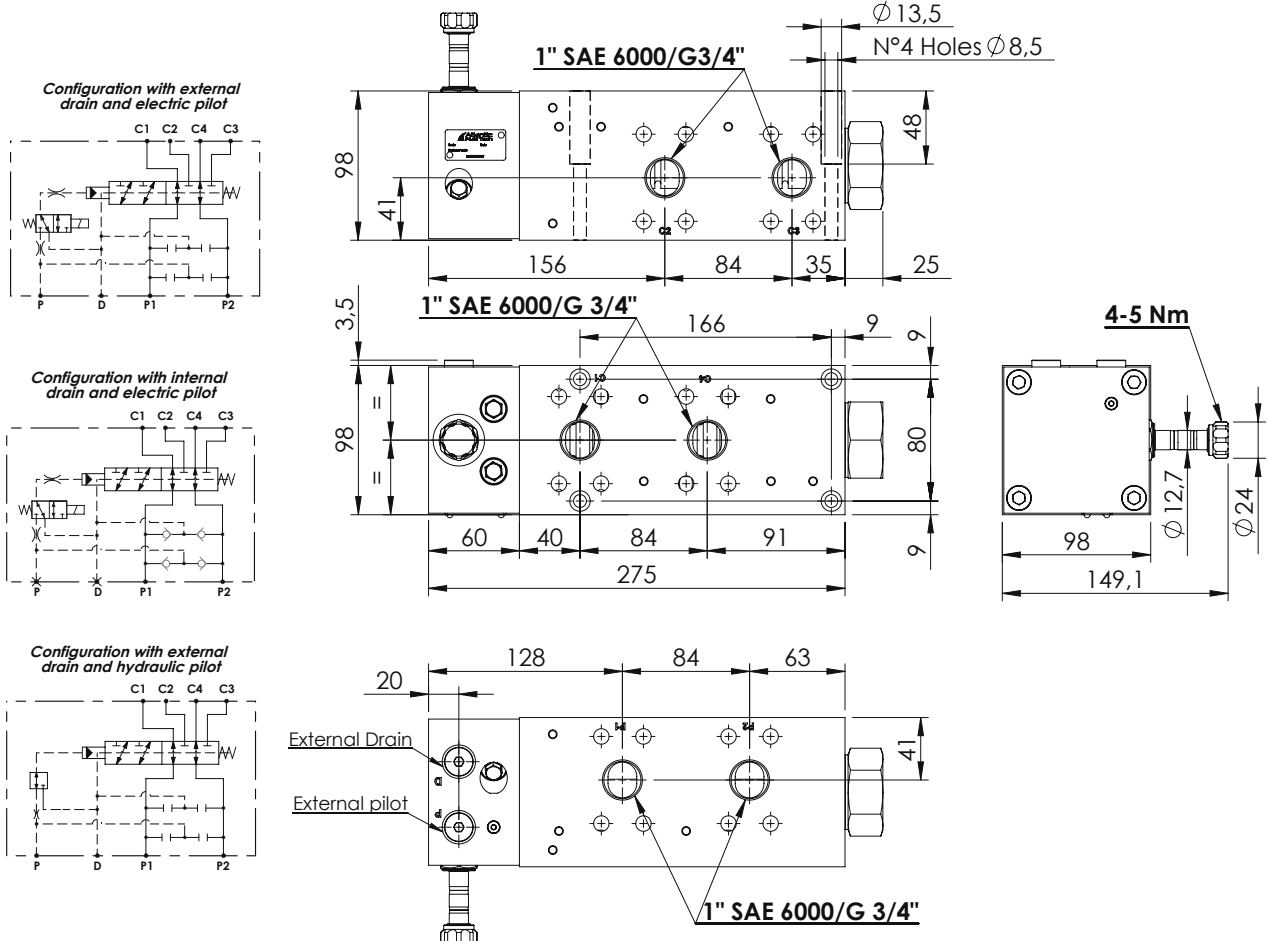
**	Circuit	Transit position
01		



Technical data			
Rated flow		l/min	400
Operating pressure	with internal drain "N"	bar	210
	with external drain "E"	bar	420
Minimum pilot pressure		bar	20
Valve weight		Kg	17,2
Standard Ports		1" SAE 6000	



OVERALL DIMENSIONS

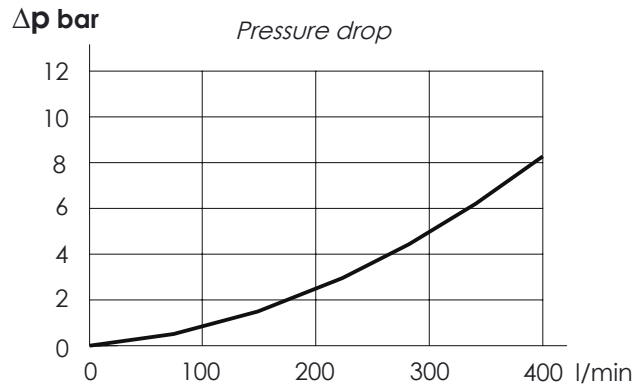
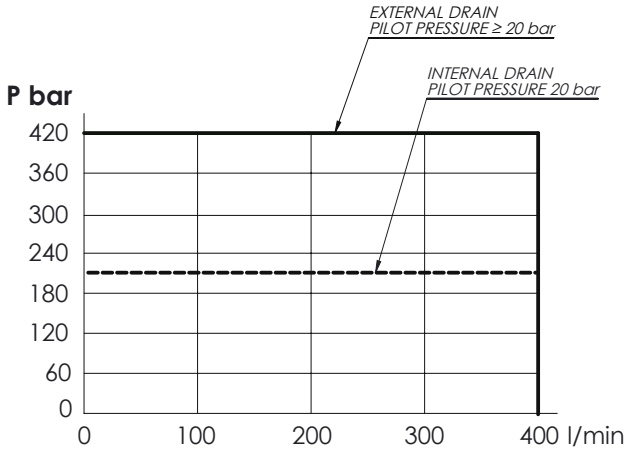


Characteristic curves

With pressure and flow in P1 or P2 and C4 and C1 without pressure



Maximum performance



* OPERATED	Circuit
H Hydraulic 	
E Electric 	
Max. pilot pressure with external drain: 250 bar	

* DRAIN	Circuit
N Internal	
E External	

PORTS		
***	Main (C)	Drain (D) Pilot (P)
S10 G34	1" SAE 6000 G3/4"	1/4" Gas
Special port sizes available		

V - Seals in VITON

CIRCUIT

ELFB - 400 - * S F * - 01 - * - * ** ***

* Voltage (V)	Resistance (Ω) ± 7%	Power (W)	Current (A)	
-	Without coil			
A	12 DC	7,2	20	1,67
B	24 DC	28,7	20	0,84
Special voltages available on request				

* COIL	Type	Protection class
-	Without coil	
HR	DIN 43650 - ISO 4400 Class H	M7 IP65
AJ	AMP JUNIOR Class H	M7 IP65
DT	DEUTSCH DT04-2P-L Class H	M7 IP69