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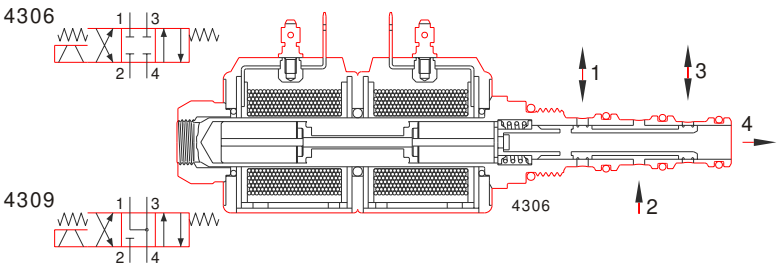
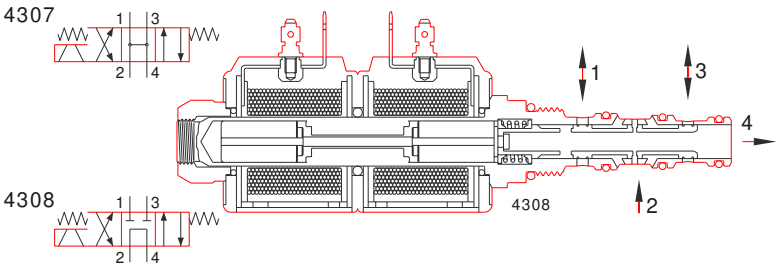
Duble solenoid valves.

They are duble solenoid valves with four-way and three-positions, manufactured in sizes 20, 30 and 50 and in several circuits; are used in pilot systems and compact applications settled in manifolds.
The solenoid ETD series utilize power coils and are suitable for working till 315 bar.
The duty current coils (12-24 Volt) can be directly fed; otherwise for alternate current coils (24-110-220 Volt 50/60 Hz) a connector with rectifier bridge is required, which can be supplied on request.

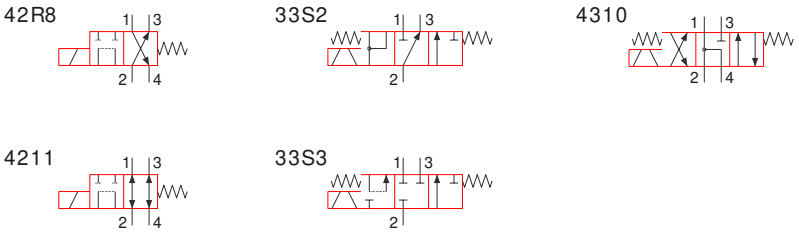
Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
ETD../ 43.. series - four-way type centre closed.	**ETD 20/ 4306**	15	315	09.130
	ETD 30/ 4306	30	315	09.140
	ETD 50/ 4306	60	315	09.150
	ETD 20/ 4309	15	315	09.130
	ETD 30/ 4309	30	315	09.140
	ETD 50/ 4309	60	315	09.150
ETD../ 42.. series - four-way type centre open.	**ETD 20/ 4307**	12	315	09.160
	ETD 30/ 4307	25	315	09.170
	ETD 50/ 4307	45	315	09.180
	ETD 20/ 4308	12	315	09.160
	ETD 30/ 4308	25	315	09.170
	ETD 50/ 4308	45	315	09.180





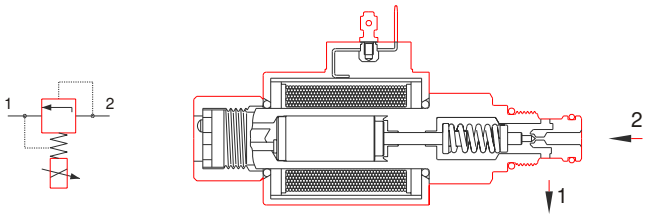
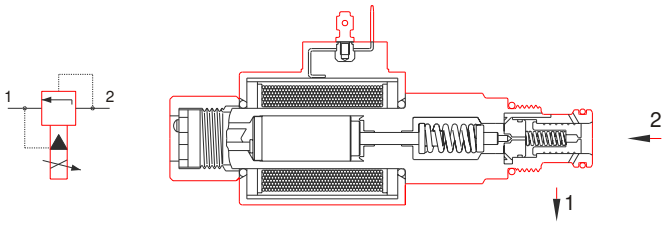
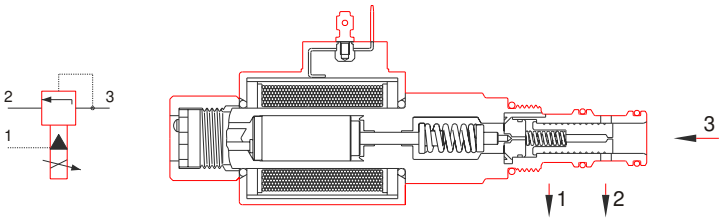
Special circuits supplied on request.

On Customers request and for large quantity, solenoid valves with not standard circuits can be supplied.
The circuits under mentioned are models already manufactured.



Pressure relief valves.

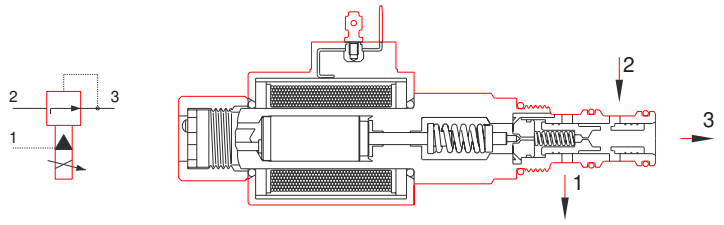
These are proportional solenoid valves manufactured in several sizes and with different functions. They distingiush themselves for their good peculiar features and their first rate connection between quality an price.
The special constructive shape allows the first setting regulation range during the assembling phase with an infinitude of regulation chances. They can be indifferently assembled with Flucom's Electronic Card or with any other normalized.

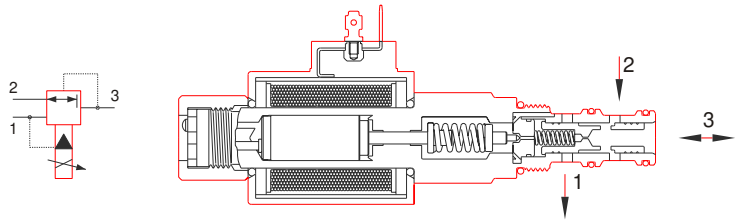
Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
PPS 20 series - direct acting type. Normally used for piloting dual stage valves, this pilot valve is available only in size 20 and with several regulation ranges. 	**PPS 20/ ...**	1.5	350	10.010
PPI series - pilot operated type. Pilot operated valves, available in several sizes and with different regulation ranges, are normally used for proportional pressure change in installations with high flows. 	**PPI 30/ ...**	70	350	10.020
	PPI 50/ ...	160	350	10.030
	PPI 70/ ...	320	350	10.040
PPY series - pilot operated type. Pilot operated valves, available in several sizes and with different regulation ranges, are not sensitive to possible back pressures thanks to drain line 1 which is indipendently connected with retourn line (T). 	**PPY 30/ ...**	70	350	10.050
	PPY 50/ ...	160	350	10.060
	PPY 70/ ...	320	350	10.070

Pressure reducing valves.

These are proportional pressure reducing valves manufactured in several sizes, acting as reducing or reducing-relieving valve. They distinguish themselves for their first rate connection between quality and price.
The special constructive shape allows the first setting regulation range during the assembling phase with an infinitude of regulation chances. They can be indifferently assembled with Flucom's Electronic Card or with any other normalized.

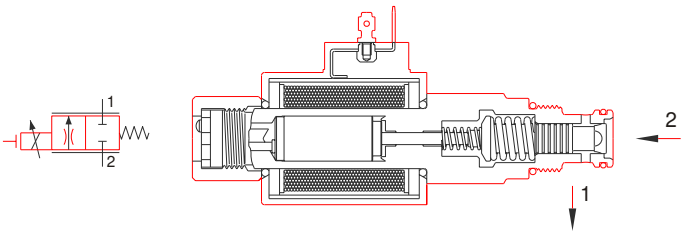
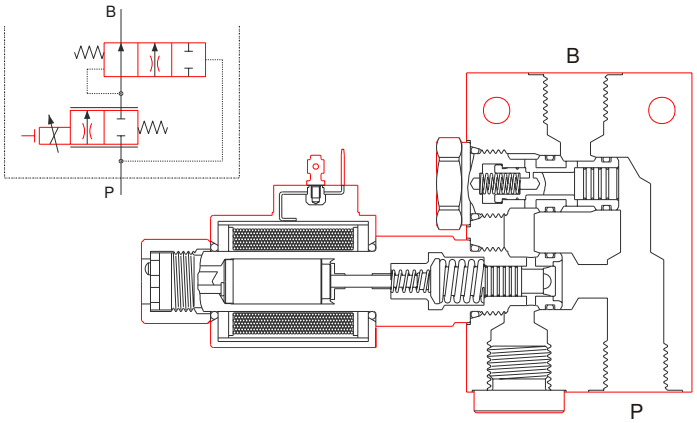
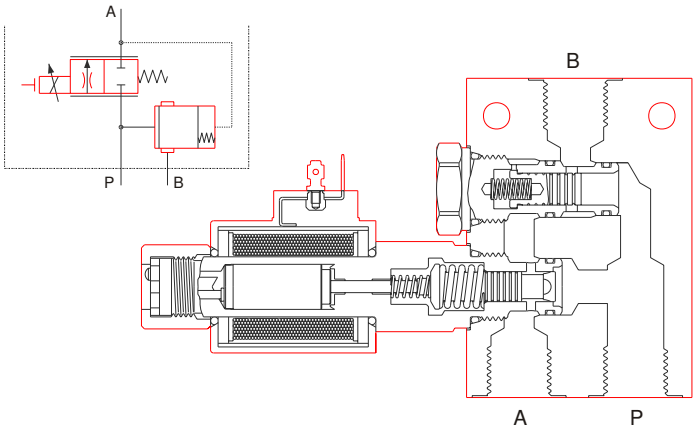
Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
PLY series - pilot operated type. Pilot operated valves available in several sizes and with different regulation ranges, are normally used as unidirectional proportional pressure reducing valves.	**PLY 30/ ...**	40	420/210	10.080
	PLY 50/ ...	90	420/210	10.090
	PLY 70/ ...	160	420/210	10.100
PLP series - pilot operated type. They have the same features of PLY series but in addition they act as pressure relief valve with flow from 3 to 1.	**PLP 30/ ...**	40	420/210	10.130
	PLP 50/ ...	90	420/210	10.140
	PLP 70/ ...	160	420/210	10.150





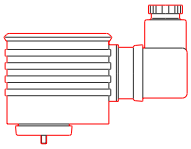
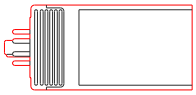
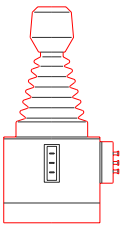
Flow controls.

Proportional solenoid valves PPS series are flow regulator not compensated, normally closed, which is contrlled by a remote electronic card. While the valve is not energized the flow in both directions is not allowed.
Operating on potentiometer throught electronic card allow to act on proportional solenoid and it's possible to obtain an infinitude of different regulations with great precision and repeatability.

Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
PSS series Direct acting are available with two range of adjustment; are provided with a manual override an back side and a screw for the initial air vent-hole.  	**PSS 30/ ...**	30/60	315	10.160
PPQ 30/ 2.. series Pressure compensated proportional two way flow regulator nolmally closed. This combination valve uses a PSS 30 proportional valve and an ELP 30/Q2 compensator.  	**PPQ 30/ 2..**	30/60	315	10.170
PPQ 30/ 3.. series Pressure compensated proportional three way flow regulator that is by-pass style. This combination valve uses a PSS 30 proportional valve and an ELP 30/Q1 logic element.  	**PPQ 30/ 3..**	30/60	315	10.180

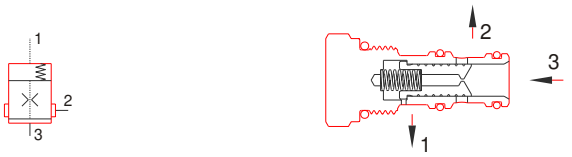
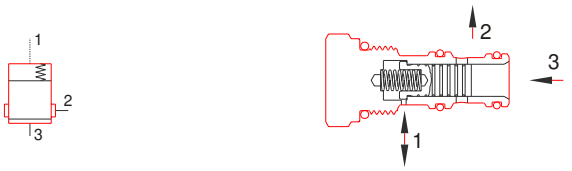
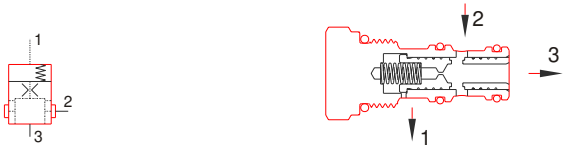
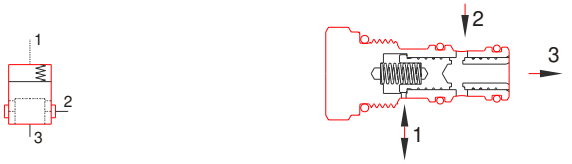
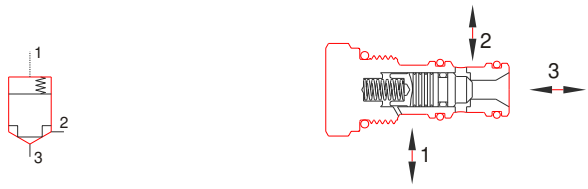
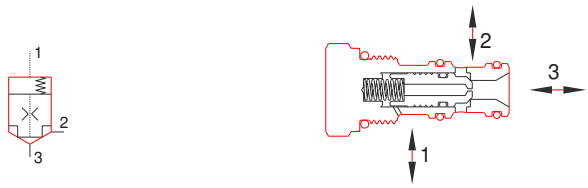
Electronic Controller.

The proportional solenoid valves must be piloted only from an electronic card. Are available a normalized standard series of electonics components, on request are available also personalized complete systems.

Type	Code	Voltage (Volt)	Functions	Technical schedule
VPC 	**VPC-12-DIN**	12	Connector DIN 43650 Minimum current set Maximum current set Rise ramp set Fall ramp set Dither External potentiometer	10.250
	VPC-24-DIN	24		
VPO 	**VPO-12-OCTAL**	12	Connector OCTAL 8 Minimum current set Maximum current set Rise ramp set Fall ramp set Dither External potentiometer	10.258
	VPO-24-OCTAL	24		
VPM	**VPM-12-D**	12	Box Minimum current set Maximum current set Rise ramp set Fall ramp set Dither (optional) Integrated potentiometer	10.260
	VPM-24-D	24		
MEI-MEX 	**MEI-M**	12/24	One axis ON-OFF	10.800
	MEX-M	12/24	Two axis ON-OFF	10.800
	MEI-PM	12/24	One axis proportional	10.900
	MEX-PM	12/24	Two axis proportional	10.900

Pressure, flow and directional control logic valves.

These are locic elements used to pressure, flow and oiltight directional control. They are divided into two categories: as pressure and flow control they have a ratio between areas of 1:1; as directional control they have a ratio of 1:1.8. They always need piloting valves which acting on chamber 1, besides made them functioning, allow their regulation. The version used to flow control must be combined with a needle valve in order to breed a pressure drop of about 7 bar.

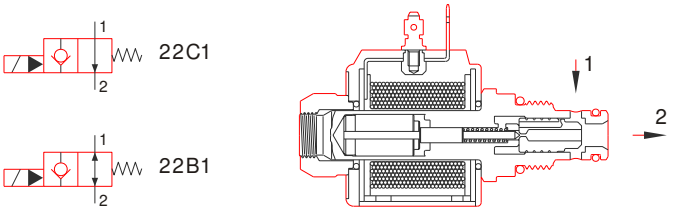
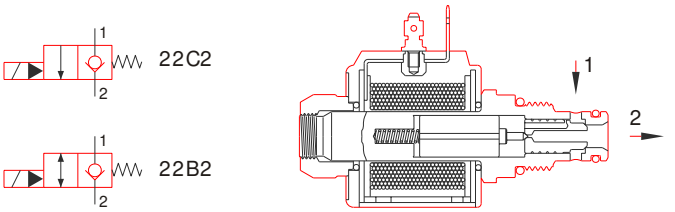
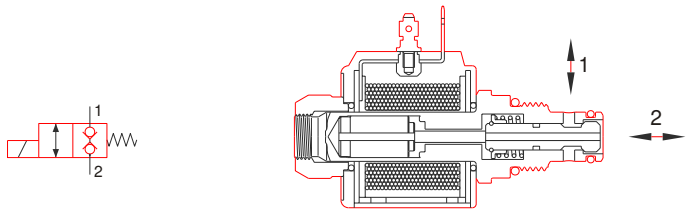
Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
ELP ../ P1 series - with area ratio 1:1 for pressure control. 	**ELP 30/ P1**	80	350	11.010
	ELP 50/ P1	160	350	11.020
	ELP 70/ P1	320	350	11.030
ELP ../ Q1 series - with area ratio 1:1 for flow control. 	**ELP 30/ Q1**	80	350	11.010
	ELP 50/ Q1	160	350	11.020
	ELP 70/ Q1	320	350	11.030
ELP ../ P3 series - with area ratio 1:1 to reduce pressure. 	**ELP 30/ P3**	50	350	11.040
	ELP 50/ P3	100	350	11.050
	ELP 70/ P3	200	350	11.060
ELP ../ Q3 series - with area ratio 1:1 for compensating flow control. 	**ELP 30/ Q3**	50	350	11.040
	ELP 50/ Q3	100	350	11.050
	ELP 70/ Q3	200	350	11.060
ELP ../ D2 series - with area ratio 1:1.8 for directional control. 	**ELP 30/ D2**	60	350	11.070
	ELP 50/ D2	120	350	11.080
	ELP 70/ D2	250	350	11.090
ELP ../ D3 series - with area ratio 1:1.8 for directional control. 	**ELP 30/ D3**	60	350	11.070
	ELP 50/ D3	120	350	11.080
	ELP 70/ D3	250	350	11.090

Special version supplied on request.

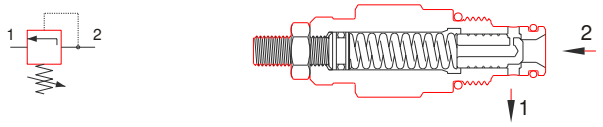
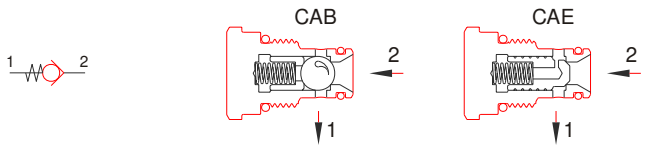
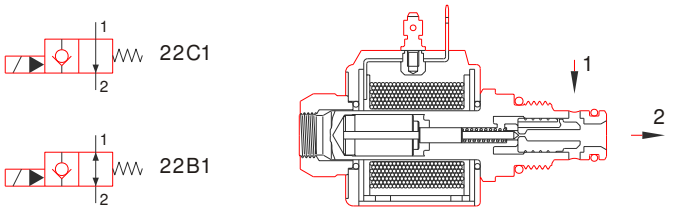
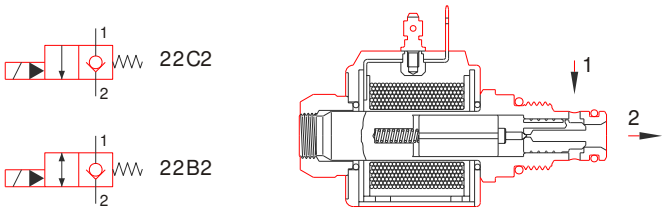
On request we can be supply following versions:

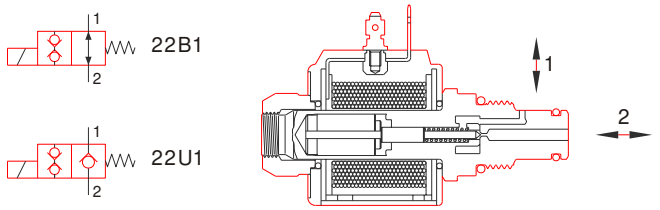
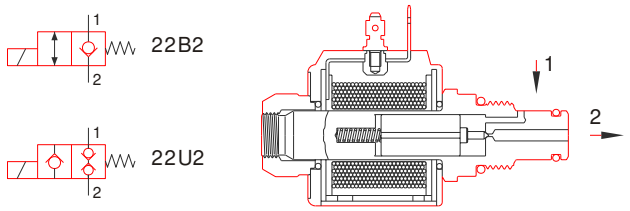
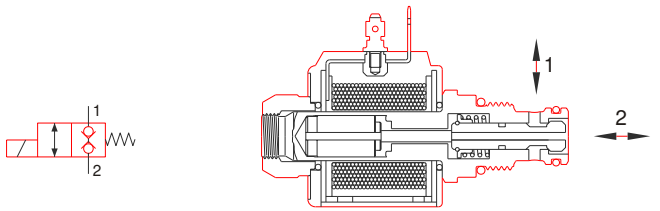
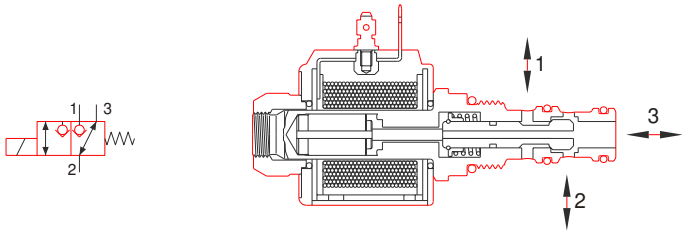
- External adjusting for setting from 3.5 to 14 bar.
- Not standard calibrated holes.
- Priority compensators.
- Load sensing compensators.

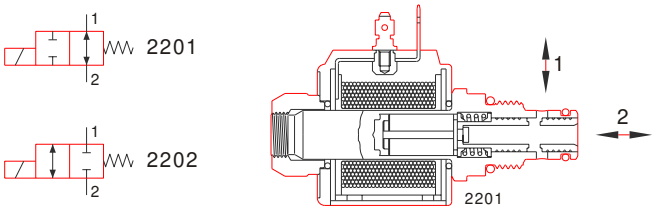
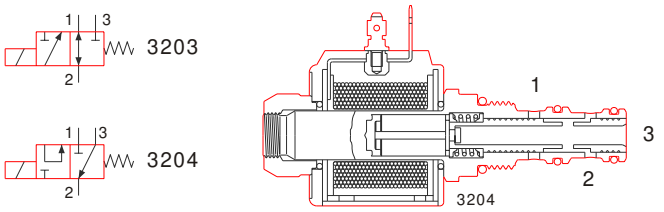
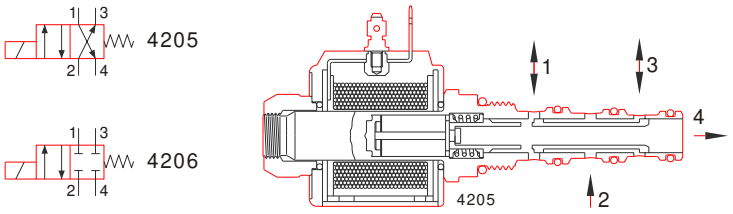
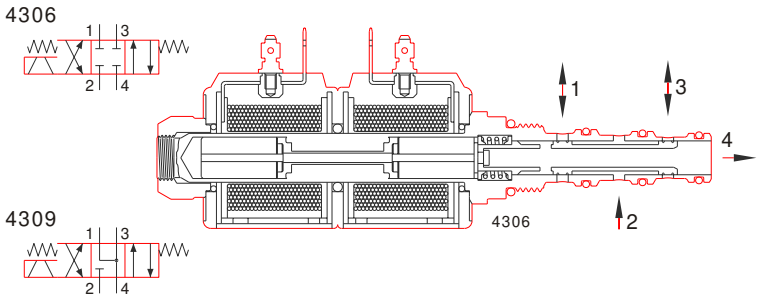
These are valves in several sizes and functions, which do not belong to Flucom normalized range and stand out from the others owing to their different setting cavity dimensions. The series 32 (M 20x1.5) is in accordance with standardization of many European firms.

Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
ECP 32/22C1-B1 Normally open, they stop flow passage from 1 to 2 when energized. The reverse flow is allowed only in version B1. 	**ECP 32/22C1** **ECP 32/22B1**	30	210	12.100
EPP-ECP 32/22C2-B2 Normally closed, they allow flow passage from 1 to 2 when energized. The reverse flow is allowed only in version B2. 	**EPP 32/22C2** **EPP 32/22B2**	40	350	12.090
	ECP 32/22C2 **ECP 32/22B2**	30	210	12.100
ECD 32/2202 Normally closed in both directions, they allow the free passage flow when energized. 	**ECD 32/2202**	25	315	12.110

These are valves in several sizes and functions, which do not belong to Flucom normalized range and stand out from the others owing to their different setting cavity dimensions. The 28 and 29 series are in accordance with SAE standardization.

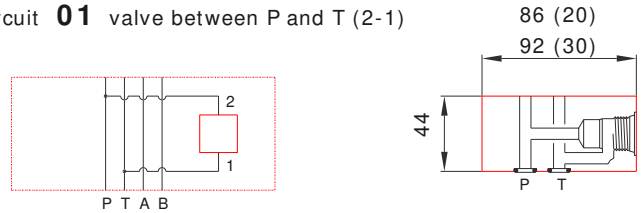
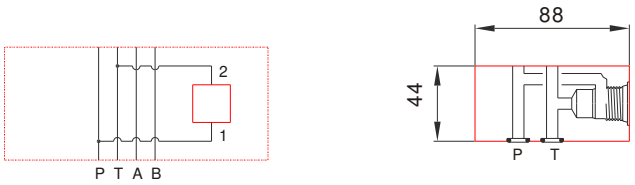
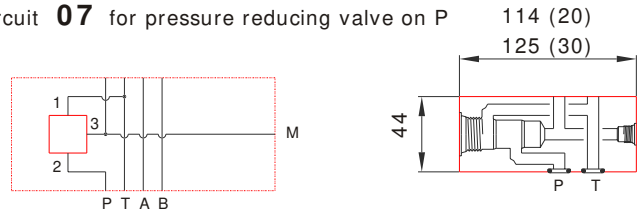
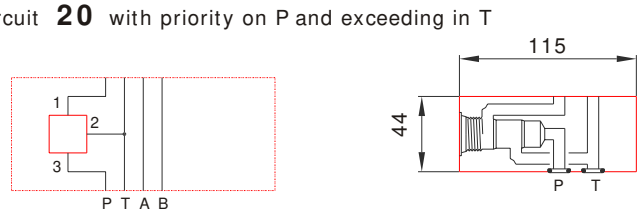
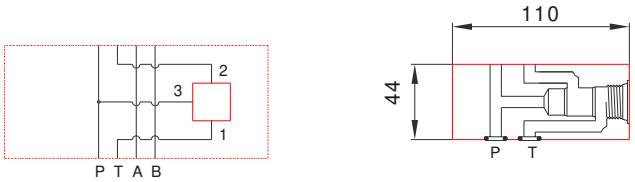
Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
LPE 28 series - guided conical poppet-type. They have't a pressure peack, the pressure-flow trend is good. Generally are used as main pressure relief valve for continuous service or in dual cross-over valves in frequent intermittences applications. 	**LPE 28**	30	210	12.130
CAB 28 series, ball-type. **CAE 28** series, guided conical poppet-type. 	**CAB 28**	30	210	12.150
	CAE 28	40	420	12.151
ECP 28/22C1-B1 Normally open, they stop flow passage from 1 to 2 when energized. The reverse flow is allowed only in version B1. 	**ECP 28/22C1** **ECP 28/22B1**	30	210	12.160 12.161
ECP 28/22C2-B2 Normally closed, they allow flow passage from 1 to 2 when energized. The reverse flow is allowed only in version B2. 	**ECP 28/22C2** **ECP 28/22B2**	30	210	12.160 12.161

Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
ECD 28/22..1 normally open. 	**ECD 28/22B1**	1.2	210	12.170
	ECD 28/22U1	1.2	210	12.170
ECD 28/22..2 normally cosed. 	**ECD 28/22B2**	1.2	210	12.170
	ECD 28/22U2	1.2	210	12.170
ECD 29/2202 series - bidirectional type. Normally closed in both directions, when energized they allow the flow free passage. 	**ECD 29/2202**	10	210	08.180
ECD 28/3204 series - switching over type. They allow to switch over the flow, tight insulating chamber 1 or 3 by turns. The flow is allowed in all directions. 	**ECD 28/3204**	5	210	12.190

Main features	Type	Q max. (l/min.)	P max. (bar)	Technical schedule
ETD 28/22.. series - two-ways type. Normally open or closed, have better performances with flow from 1 to 2, in the opposite direction it's necessary to limit flow. 	**ETD 28/2201**	15	210	12.210
	ETD 28/2202	15	210	12.210
ETD 28/32.. series - three-way type. Manufactured with two different circuits in order to obtain highest performances. With flow direction opposit to symbols it's necessary to limit flow and max. pressure. 	**ETD 28/3203**	15	210	12.220
	ETD 28/3204	15	210	12.220
ETD 28/42.. series - four-way type centre closed. 	**ETD 28/4205**	15	315	12.230
	ETD 28/4206	15	315	12.230
ETD 28/43.. series - four-way type centre closed. 	**ETD 28/4306**	15	315	12.250
	ETD 28/4309	15	315	12.250

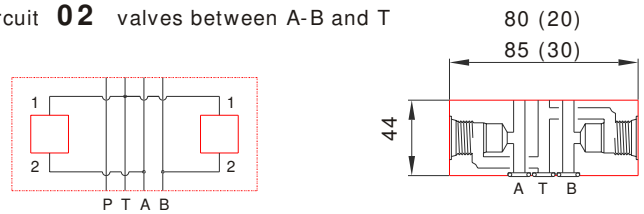
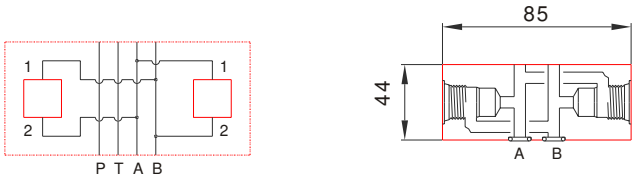
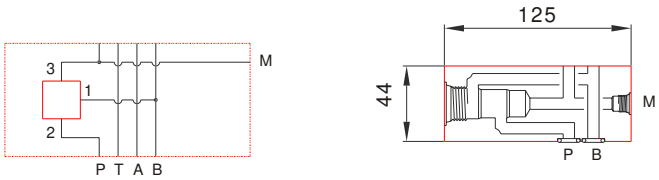
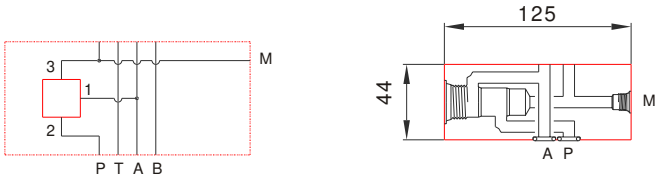
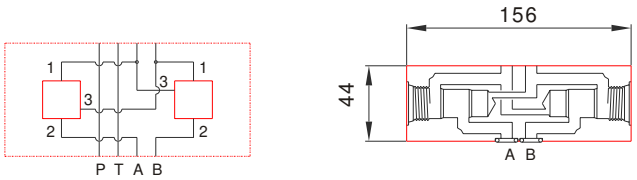
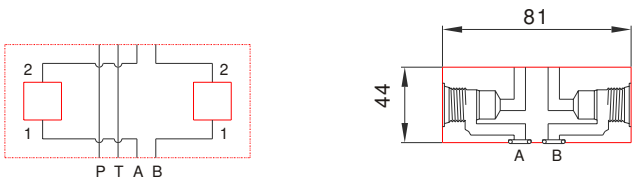
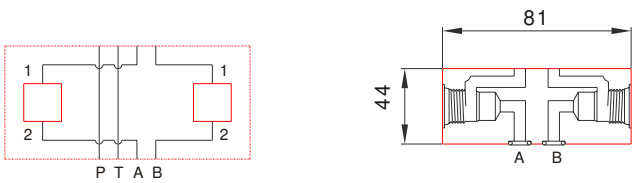
P and T line regulation and interception.

It is a series of blocks for sandwich assembling on connection surface CETOP R35 H-4.2-4-03, available in several executions for two or three way valve size 20 and 30, they offer a wide range uses.
Here are rappresented the standard versions without the respective valves which may be supplied on request.

Connecting scheme	Type	Valve cavity	Technical schedules
Circuit **01** valve between P and T (2-1) 	**20 CFT 01** **30 CFT 01**	S 20/2 S 30/2	13.010 13.010
Circuit **61** valve between P and T (1-2) 	**30 CFT 61**	S 30/2	13.020
Circuit **58** valve in pipe P	**30 CFT 58**	S 30/2	13.030
Circuit **60** valve in pipe T	**30 CFT 60**	S 30/2	13.040
Circuit **07** for pressure reducing valve on P 	**20 CFT 07** **30 CFT 07**	S 20/3 S 30/3	13.050 13.050
Circuit **20** with priority on P and exceeding in T 	**30 CFT 20**	S 30/3	13.060
Circuit **24** overcenter on T 	**30 CFT 24**	S 30/3	13.070

A and B line regulation and interception.

It is a series of blocks for sandwich assembling on connection surface CETOP R35 H-4.2-4-03, available in several executions for two or three way valves in size 20 and 30, they offer a wide range of uses.
Here are rappresented the standard version without the respective valves, which may be supplied separately.
For complet groups' dimensions and features see technical schedules.

Connecting scheme	Type	Valve cavity	Technical schedules
Circuit **02** valves between A-B and T 	**20 CFT 02** **30 CFT 02**	S 20/2 S 30/2	13.110 13.110
Circuit **03** valves between A and B 	**30 CFT 03**	S 30/2	13.120
Circuit **08** pressure reducing valve on A 	**30 CFT 08**	S 30/3	13.030
Circuit **09** pressure reducing valve on B 	**30 CFT 09**	S 30/3	13.140
Circuit **25** overcenter on A and B 	**30 CFT 25**	S 30/3	13.150
Circuit **33** valves on pipe A and B (1-2) 	**30 CFT 33**	S 30/2	13.160
Circuit **34** valves on pipe A and B (2-1) 	**30 CFT 34**	S 30/2	13.170

FLUCOM ITALY

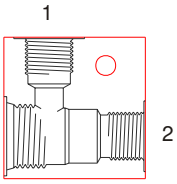
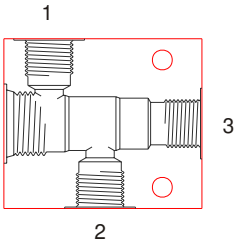
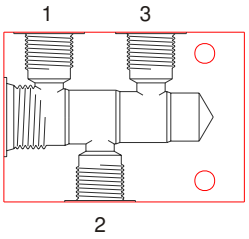
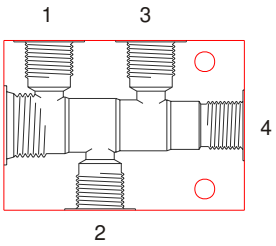
FLUCOM STANDARD BODIES

20 - 30 - 50 - 70 Series B type ports

16.000

01.98

This series of bodies, realized in alluminium alloy and anodized includes all standard versions normally available.
On request they can be supplied in galvanized or phosphated steel and with different uses.
For out standard uses choiche please see technical schedule 17.010 (D - I - S type ports).

	Type	Valve cavity	Ports	Technical schedule
Body **LO** type **- 2** way	**20-LO-B05**	S 20/2	G 1/4 (B05)	16.010
	20-LO-B06	S 20/2	G 3/8 (B06)	16.010
	30-LO-B06	S 30/2	G 3/8 (B06)	16.010
	**30-LO-B08**	S 30/2	G 1/2 (B08)	16.010
	50-LO-B08	S 50/2	G 1/2 (B08)	16.010
	50-LO-B12	S 50/2	G 3/4 (B12)	16.010
	70-LO-B16	S 70/2	G 1 (B16)	16.010
	70-LO-B20	S 70/2	G 1.1/4 (B20)	16.010
Body **C3** type **- 3** way	**20-C3-B05**	S 20/3	G 1/4 (B05)	16.010
	20-C3-B06	S 20/3	G 3/8 (B06)	16.010
	30-C3-B06	S 30/3	G 3/8 (B06)	16.010
	**30-C3-B08**	S 30/3	G 1/2 (B08)	16.010
	50-C3-B08	S 50/3	G 1/2 (B08)	16.010
	50-C3-B12	S 50/3	G 3/4 (B12)	16.010
	70-C3-B16	S 70/3	G 1 (B16)	16.010
	70-C3-B20	S 70/3	G 1.1/4 (B20)	16.010
Body **CC** type **- 3** way	**30-CC-B05**	S 30/4	G 1/4 (B05)	16.011
	30-CC-B06	S 30/4	G 3/8 (B06)	16.011
	**30-CC-B08**	S 30/4	G 1/2 (B08)	16.011
	50-CC-B08	S 50/4	G 1/2 (B08)	16.011
	50-CC-B12	S 50/4	G 3/4 (B12)	16.011
Body **C4** type **- 4** way	**20-C4-B05**	S 20/4	G 1/4 (B05)	16.011
	20-C4-B06	S 20/4	G 3/8 (B06)	16.011
	**30-C4-B06**	S 30/4	G 3/8 (B06)	16.011
	30-C4-B08	S 30/4	G 1/2 (B08)	16.011
	50-C4-B08	S 50/4	G 1/2 (B08)	16.011
	50-C4-B12	S 50/4	G 3/4 (B12)	16.011

FLUCOM ITALY

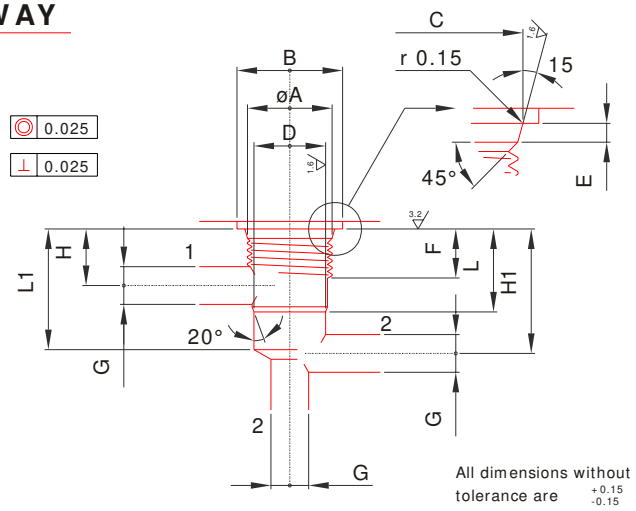
FLUCOM STANDARD CAVITIES

20 - 30 - 50 - 70 Series

17.000

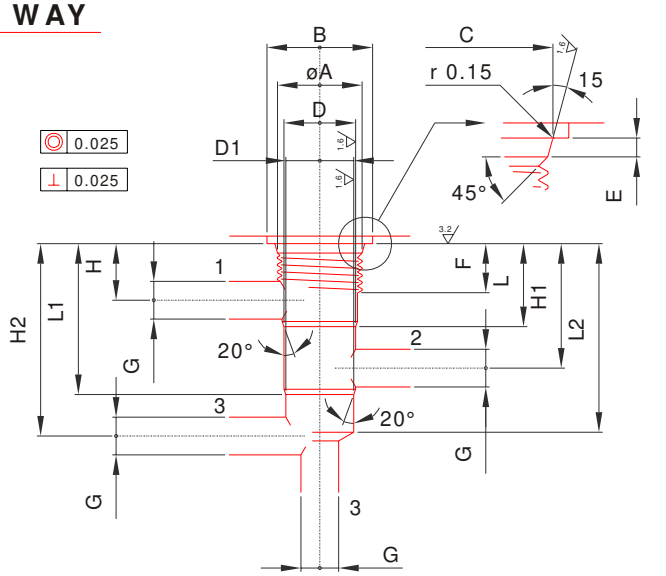
01.98

2 WAY



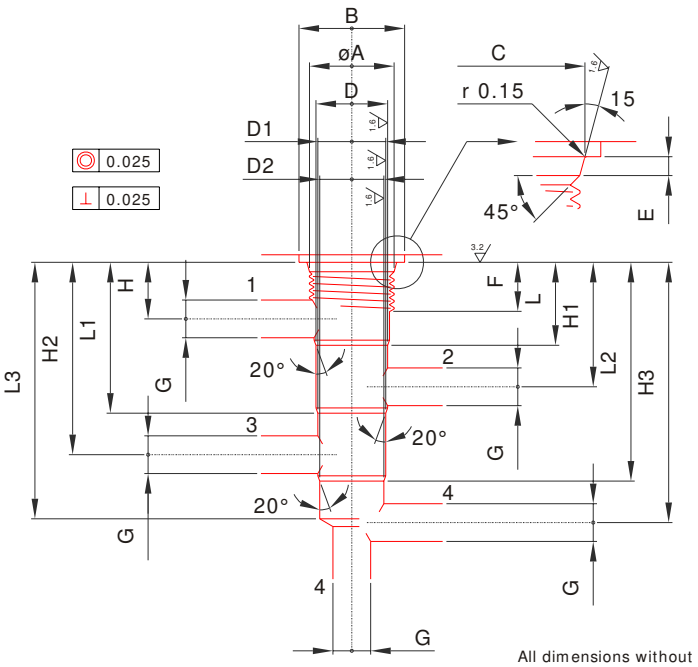
	S 20/ 2	S 30/ 2	S 50/ 2	S 70/ 2
A	M 18x1.5	M 22x1.5	M 33x2	M 42x2
B	23	28	40	50
C	19.8 $^{+0.10}_{-0}$	23.8 $^{+0.10}_{-0}$	35.4 $^{+0.10}_{-0}$	44.4 $^{+0.10}_{-0}$
D	15 $^{+0.027}_{-0}$	19 $^{+0.033}_{-0}$	28 $^{+0.033}_{-0}$	38 $^{+0.039}_{-0}$
E	2.6 $^{+0.20}_{-0.20}$	2.6 $^{+0.20}_{-0.20}$	3.1 $^{+0.40}_{-0}$	3.3 $^{+0.20}_{-0}$
F	11	13	16	19
G	8	10.5	15	20
H	13	15	21	26
H1	28	33	46	57
L	18.5	22	32	39
L1	27	32	42	52

3 WAY



	S 20/ 3	S 30/ 3	S 50/ 3	S 70/ 3
A	M 18x1.5	M 22x1.5	M 33x2	M 42x2
B	23	28	40	50
C	19.8 $^{+0.10}_{-0}$	23.8 $^{+0.10}_{-0}$	35.4 $^{+0.10}_{-0}$	44.4 $^{+0.10}_{-0}$
D	15 $^{+0.027}_{-0}$	19 $^{+0.033}_{-0}$	28 $^{+0.033}_{-0}$	38 $^{+0.039}_{-0}$
D1	14 $^{+0.027}_{-0}$	18 $^{+0.027}_{-0}$	27 $^{+0.033}_{-0}$	36 $^{+0.039}_{-0}$
E	2.6 $^{+0.20}_{-0.20}$	2.6 $^{+0.20}_{-0.20}$	3.1 $^{+0.40}_{-0}$	3.3 $^{+0.20}_{-0}$
F	11	13	16	19
G	8	10.5	15	20
H	13	15	21	26
H1	28	33	46	57
H2	43	51	71	88
L	18.5	22	32	39
L1	33.5	40	56	70
L2	42	50	66	83

4 WAY



	S 20/ 4	S 30/ 4	S 50/ 4	S 70/ 4
A	M 18x1.5	M 22x1.5	M 33x2	M 42x2
B	23	28	40	50
C	19.8 $^{+0.10}_{-0}$	23.8 $^{+0.10}_{-0}$	35.4 $^{+0.10}_{-0}$	44.4 $^{+0.10}_{-0}$
D	15 $^{+0.027}_{-0}$	19 $^{+0.033}_{-0}$	28 $^{+0.033}_{-0}$	38 $^{+0.039}_{-0}$
D1	14 $^{+0.027}_{-0}$	18 $^{+0.027}_{-0}$	27 $^{+0.033}_{-0}$	36 $^{+0.039}_{-0}$
D2	13 $^{+0.027}_{-0}$	17 $^{+0.027}_{-0}$	26 $^{+0.033}_{-0}$	34 $^{+0.039}_{-0}$
E	2.6 $^{+0.20}_{-0.20}$	2.6 $^{+0.20}_{-0.20}$	3.1 $^{+0.40}_{-0}$	3.3 $^{+0.20}_{-0}$
F	11	13	16	19
G	8	10.5	15	20
H	13	15	21	26
H1	28	33	46	57
H2	43	51	71	88
H3	58	69	96	119
L	18.5	22	32	39
L1	33.5	40	56	70
L2	48.5	58	80	101
L3	57	68	90	114

FLUCOM ITALY

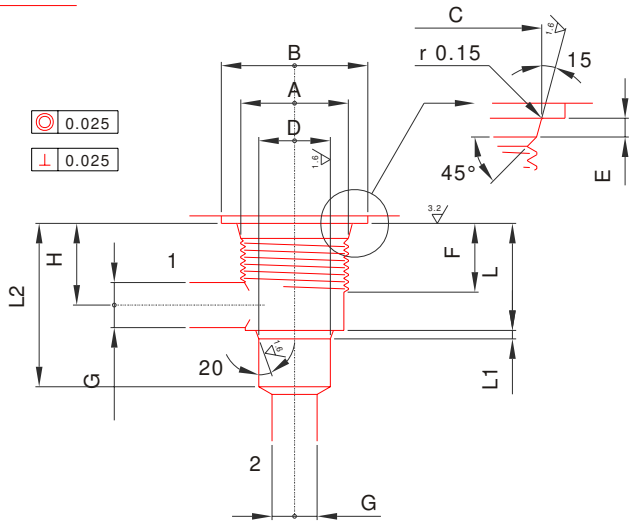
OTHER CAVITIES

28 - 29 - 32 Series

17.001

01.98

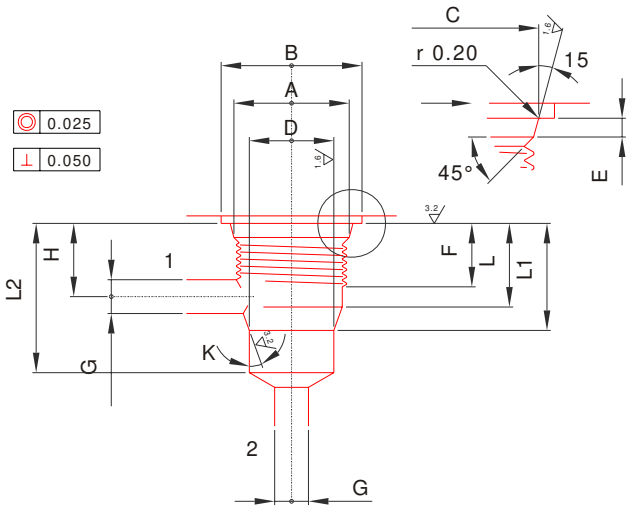
2 WAY



All dimensions without tolerance are $^{+0.15}_{-0.15}$

	S 28/ 2		
A	3/4-16 UNF		
B	25		
C	$20.6\ ^{+0.10}_{-0}$		
D	$12.7\ ^{+0.05}_{-0}$		
E	$2.6\ ^{+0.30}_{-0}$		
F	12		
G	8.5		
H	14		
L	$18.5\ ^{+0.15}_{-0.15}$		
L1	$1\ ^{+0.15}_{-0.15}$		
L2	$29\ ^{+0.50}_{-0}$		

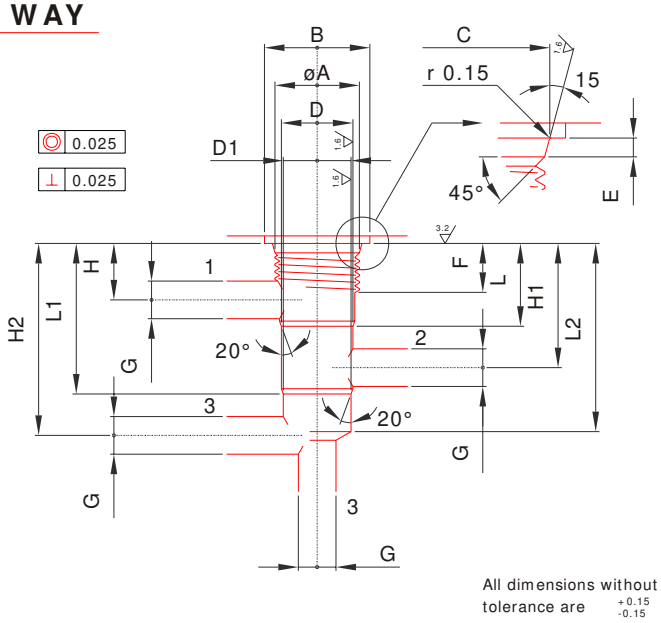
2 WAY



All dimensions without tolerance are $^{+0.15}_{-0.15}$

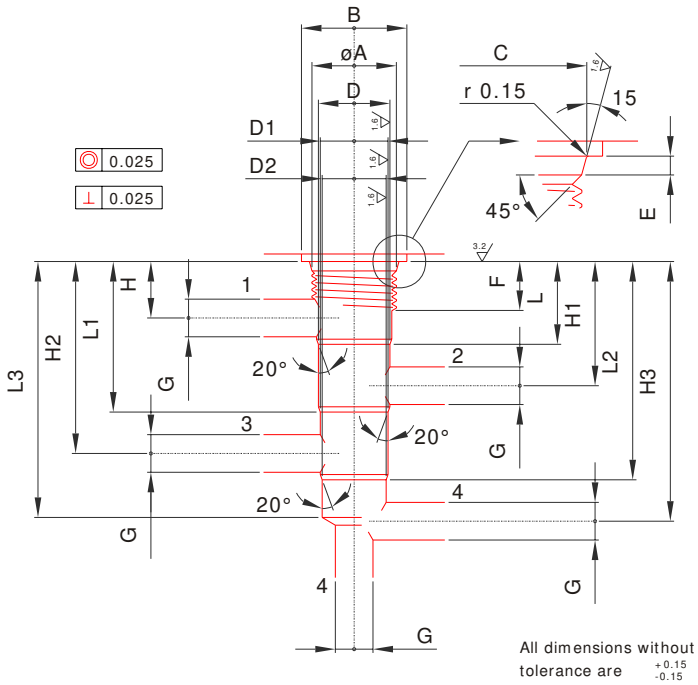
	S 29/ 2	S 32/ 2P	S 32/ 2B
A	3/4-16 UNF	M 20x1.5	M 20x1.5
B	25	24	28
C	$20.6\ ^{+0.10}_{-0}$	$21.4\ ^{+0.20}_{-0}$	$22.2\ ^{+0.10}_{-0}$
D	$15.87\ ^{+0.05}_{-0}$	$15\ ^{+0.027}_{-0}$	$15\ ^{+0.027}_{-0}$
E	$2.6\ ^{+0.30}_{-0}$	$3.2\ ^{+0.20}_{-0}$	$3.2\ ^{+0.20}_{-0}$
F	14	12	12
G	8	6	6
H	13	13	13
L		14.5	14.5
L1	20.5		
L2	29	26.5	26.5
K	20°	30°	35

3 WAY



	S 28/ 3		
A	3/4-16 UNF		
B	25		
C	20.6 $^{+0.10}_{-0}$		
D	15.87 $^{+0.05}_{-0}$		
D1	14.27 $^{+0.05}_{-0}$		
E	2.6 $^{+0.30}_{-0}$		
F	12.5		
G	6		
H	15		
H1	29		
H2	44		
L	20.5		
L1	34.5		
L2	50		

4 WAY



	S 28/ 4		
A	3/4-16 UNF		
B	25		
C	20.6 $^{+0.10}_{-0}$		
D	15.87 $^{+0.05}_{-0}$		
D1	14.27 $^{+0.05}_{-0}$		
D2	12.70 $^{+0.05}_{-0}$		
E	2.6 $^{+0.30}_{-0}$		
F	12.5		
G	6		
H	15		
H1	29		
H2	43		
H3	58		
L	20.5		
L1	34.5		
L2	49		
L3	60		

FLUCOM ITALY

FLUCOM PORTS

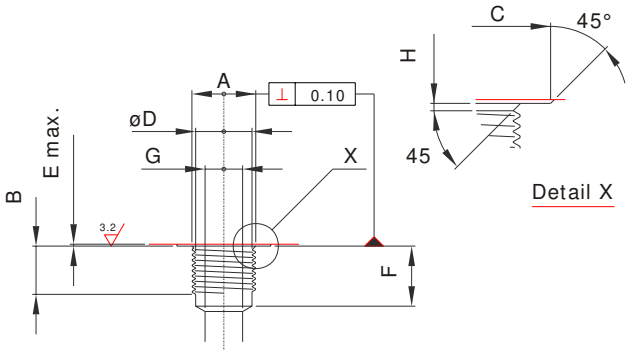
B - D - I - S Type

17.010

01.98

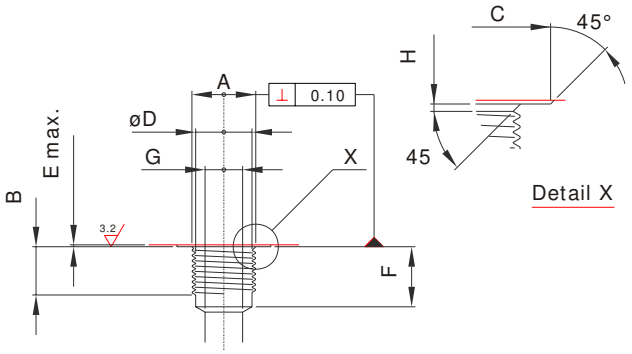
On standard bodies are normally provided with ports B (UNI 338-66).
Also bodies with ports D - I - S type can be supplied on request.

B Type (UNI 338-66)



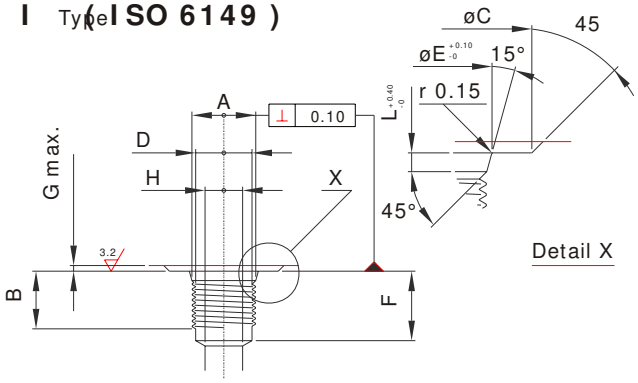
Code	A	B	C	D	E	F	G	H
B04	G 1/8	8	16.5	8.50	1.5	12	4	0.75
B05	G 1/4	12	21.2	11.50	1.5	16	6.5	1.00
B06	G 3/8	12	24.5	15.00	1.5	16	9.5	1.00
B08	G 1/2	14	29.2	18.75	2.0	19	13	1.25
B12	G 3/4	16	35.6	24.25	2.0	23	19	1.25
B16	G 1	18	43.5	30.50	3.0	26	25	1.50
B20	G 1.1/4	20	53	39.00	3.0	29	32	1.50

D Type (UNI 4534-64)



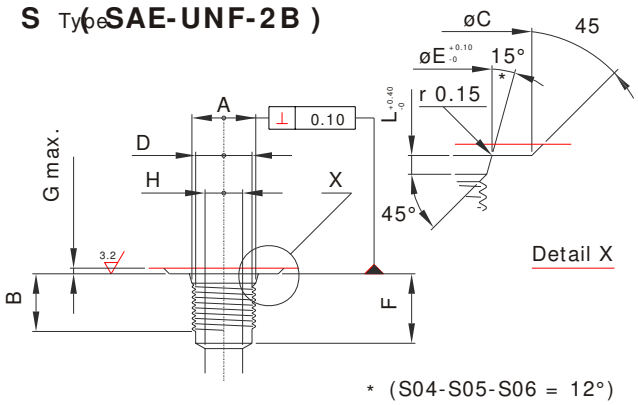
Code	A	B	C	D	E	F	G	H
D04	M 12x1.5	12	21.2	10.25	1.5	16	4	1.00
D05	M 14x1.5	12	22.8	12.25	1.5	16	6.5	1.00
D06	M 18x1.5	12	26	16.25	2.0	16	9.5	1.00
D08	M 22x1.5	14	32.4	20.25	2.0	19	13	1.00
D12	M 26x1.5	16	35.6	24.25	2.0	23	19	1.00
D16	M 33x2	18	43.5	30.50	3.0	26	25	1.50
D20	M 42x2	20	53	39.50	3.0	29	32	1.50

I Type (ISO 6149)



Code	A	B	C	D	E	F	G	H	L
I04	M 12x1.5	11.5	22	10.25	13.8	14	1.5	4	2.4
I05	M 14x1.5	11.5	25	12.25	15.8	14	1.5	6.5	2.4
I06	M 18x1.5	14.5	29	16.25	19.8	16.5	2	9.5	2.4
I08	M 22x1.5	15.5	34	20.25	23.8	18	2	13	2.4
I12	M 27x2	19	40	24.50	29.4	22	2	19	3.1
I16	M 33x2	19	46	30.50	35.4	22	2.5	25	3.1
I20	M 42x2	19.5	56	39.50	44.4	22.5	2.5	32	3.1

S Type (SAE-UNF-2B)



* (S04-S05-S06 = 12°)

Code	A	B	C	D	E	F	G	H	L
S04	7/16-20	12	21	9.8	12.4	14	1.5	4	2.4
S05	1/2-20	12	23	11.4	14	14	1.5	6.5	2.4
S06	9/16-18	13	25	12.8	15.6	16	2	9.5	2.5
S08	3/4-16	15	30	17.4	20.6	18	2	13	2.5
S12	1.1/16-12	19	41	24.7	29.2	23	2	19	3.3
S16	1.5/16-12	19	49	31	35.5	23	2.5	25	3.3
S20	1.5/8-12	19	58	39	43.5	23	2.5	32	3.3