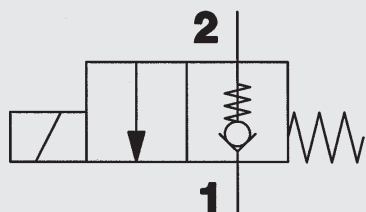


Solenoid Directional Valve SAE 8-Cartridge - 350 bar 2/2-Normally Closed

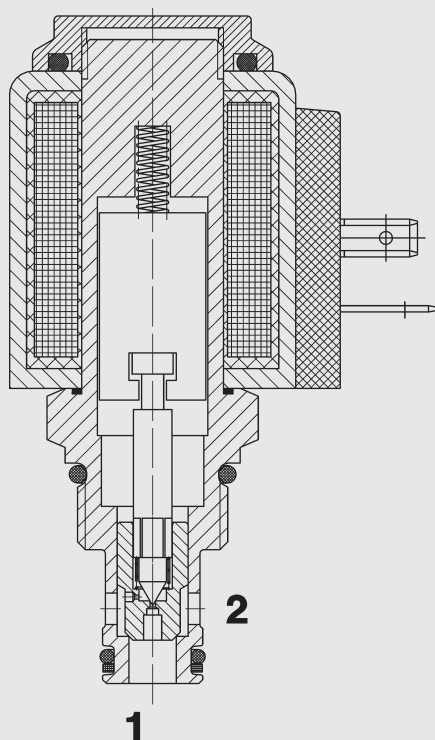
WS08Z-01

Poppet Type - Pilot Operated



38 l/min
350 bar

FUNCTION



In the de-energized mode, the valve blocks flow from port 2 to 1 and acts as a check allowing flow from 1 to 2.

When energized, the valve allows flow from port 2 to 1. Flow from 1 to 2 is severely restricted in this mode.

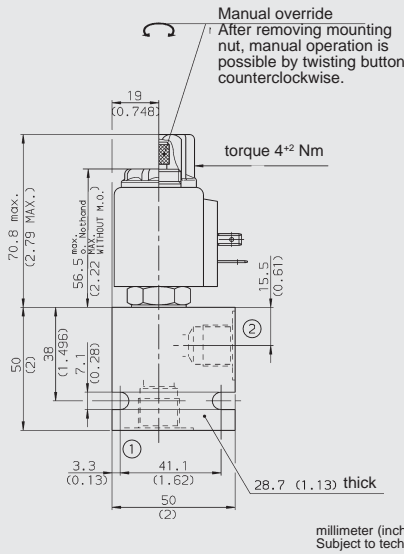
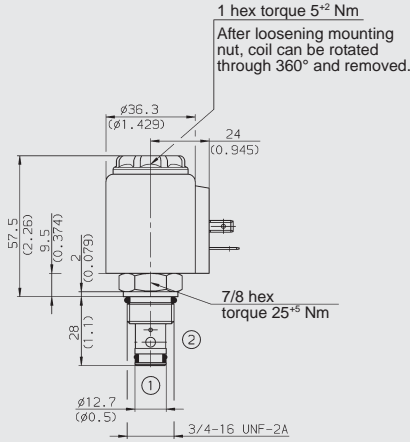
FEATURES

- All surfaces zinc-plated and corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Wide variety of coils and connectors available
- Rigid design using one-piece body minimizes the effect of eccentricities in cavity and maximizes reliability
- Excellent switching performance by high power solenoid
- Low pressure drop due to CFD optimized flow path

SPECIFICATIONS

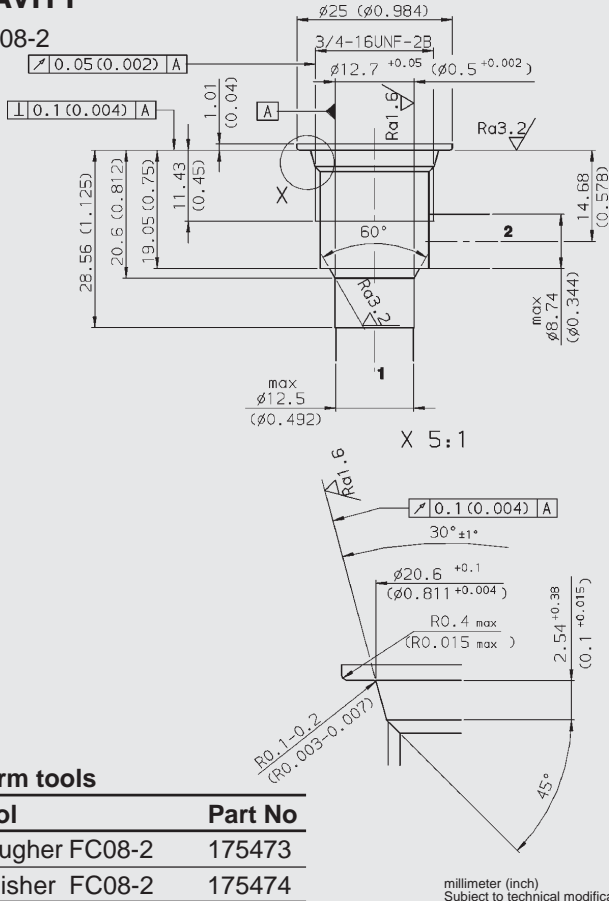
Operating pressure:	350 bar
Proof pressure:	520 bar
Nominal flow:	38 l/min
Internal leakage:	leakage free (less than 5 drops/min) max. at 350 bar
Media operating temp. range:	- 20 °C to + 120 °C
Ambient temp. range:	- 20 °C to + 60 °C
Fluids:	Mineral-based or synthetics with lubricating properties
Viscosity:	7.4 to 420 cSt
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
Installation:	optional
Material:	Valve body: high tensile steel Piston: hardened and ground steel Seals: NBR (Standard) FKM (Option) Coil: Steel/Polyamide
Cavity:	FC08-2
Weights:	Valve complete: 0.33 kg Coil only: 0.19 kg
Response time:	Energized: 35 ms De-energized: 50 ms typical 24 V DC-coil
Type of voltage:	DC solenoid, AC voltage is rectified using a bridge rectifier built into the coil
Current draw at 20 °C:	1.5 amps at 12 V DC 0.8 amps at 24 V DC
Pull-in voltage:	± 15 % of nominal voltage
Coil duty rating:	Continuous up to 115 % of nominal voltage at 60 °C ambient temperature

DIMENSIONS



CAVITY

FC08-2



Form tools

Tool	Part No
Rougher FC08-2	175473
Finisher FC08-2	175474

MODEL CODE

WS08Z-01 M - C - N - 24 DG

Basic Model

Option

Omission = No option
M = Manual override

Body and Ports*

C = Cartridge Only
SB3 = 3/8 BSP ports, steel body
AB3 = 3/8 BSP ports, aluminium body

Seals

N = NBR (standard)
V = FKM (optional)

Coil Voltage

DC

12 = 12 V DC
24 = 24 V DC

AC (internally full wave rectified)

115 = 115 V AC
230 = 230 V AC
other voltages on request

Coil Connector

DC: DG = Connector to EN 175301-803
DK = Kostal threaded connector
DL = with 2 flying leads: 0.75 mm²
DN = Deutsch connector, 2 pole
DT = AMP Junior Timer connector, 2 pole radial
AC: AG = Connector to EN 175301-803
other connectors on request

Standard models

Model code	Part no.
WS08Z-01-C-N-24DG	561579
WS08Z-01-C-N-230AG	3043403

other models on request

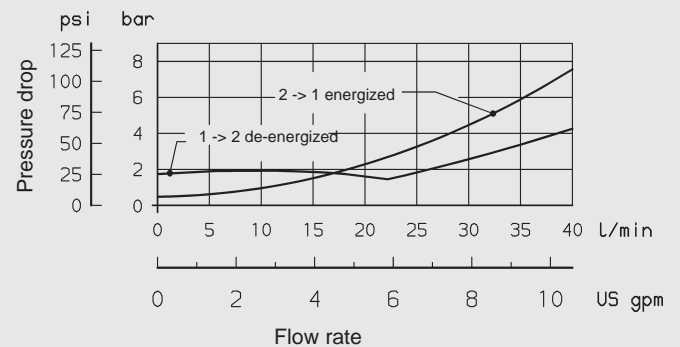
* Inline connection housings

Code	Part No	Material	Ports	Pressure
FH082-SB3	560919	Steel, zinc-plated	3/8 BSP	420 bar
FH082-AB3	3011423	Aluminium, clear anodized	3/8 BSP	245 bar

other housings on request

PERFORMANCE (Cartridge Only)

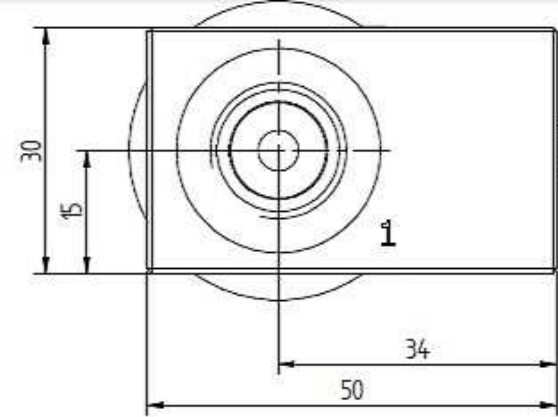
Measured at 34 mm²/s
T_{Oil} = 46 °C



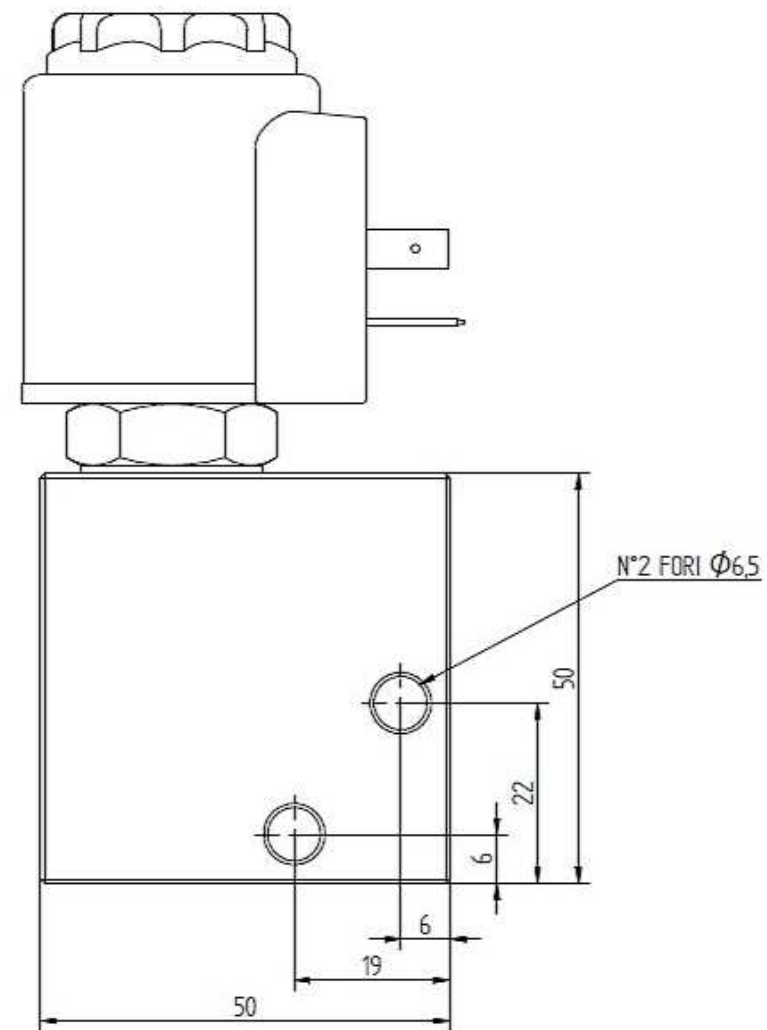
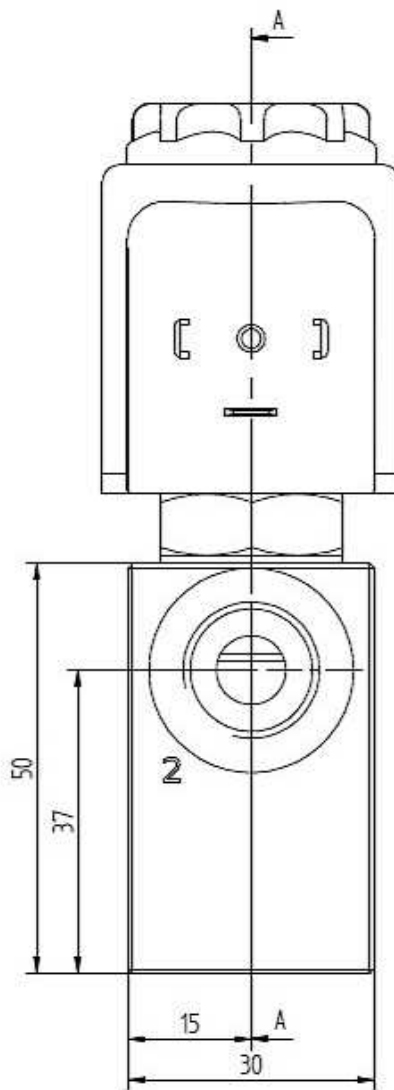
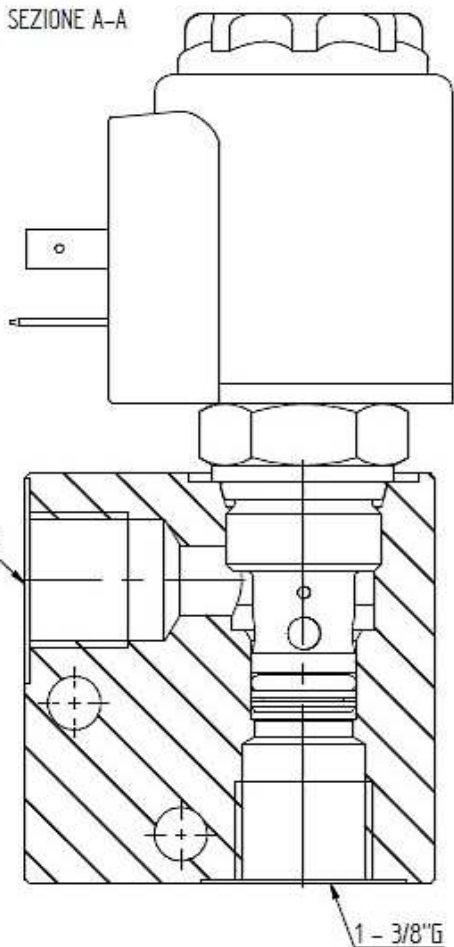
NOTE

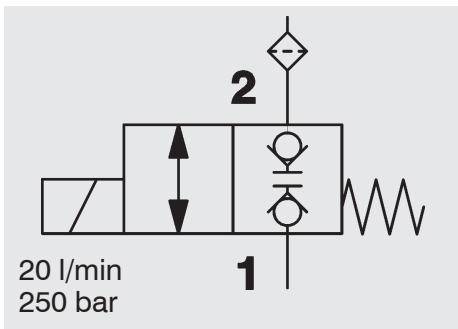
The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.

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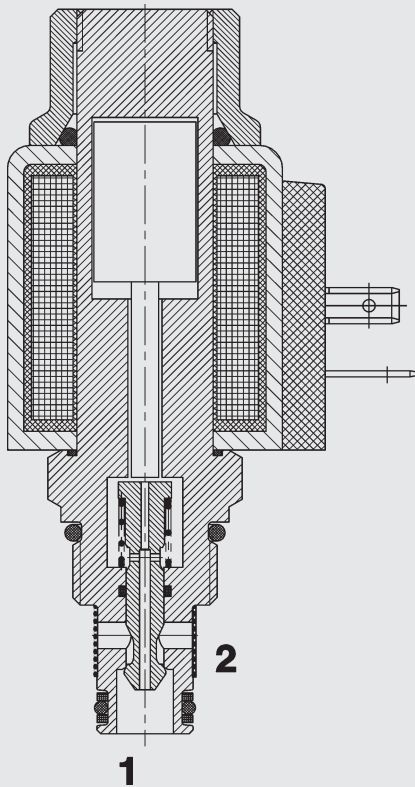


SEZIONE A-A





FUNCTION



In the de-energized mode, the valve blocks flow in both directions.

When energized, the valve allows flow in both directions.

Solenoid Directional Valve SAE 8-Cartridge - 250 bar 2/2 Normally Closed (double blocking) Screen Filter

WS08W-30

Poppet Type - Direct Operated

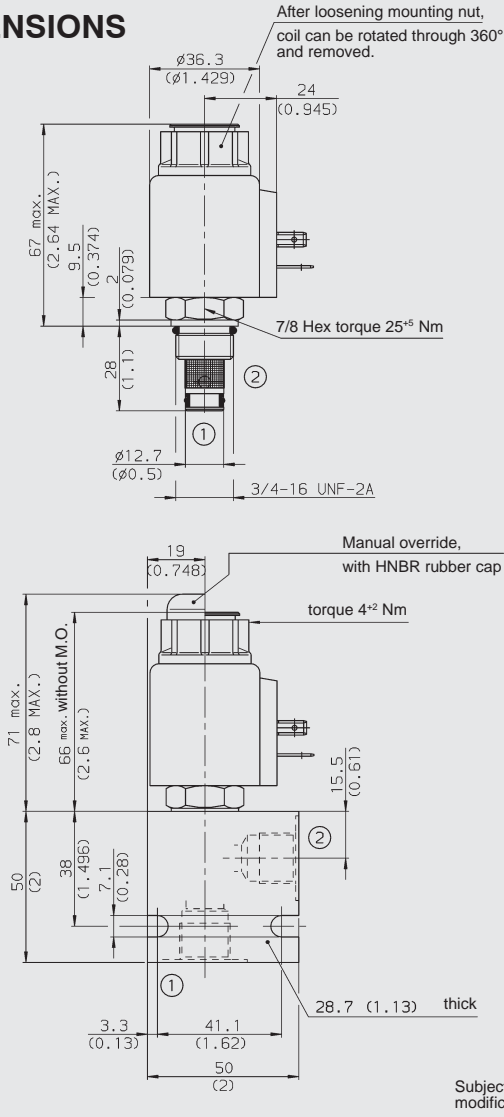
FEATURES

- Excellent switching performance by high power solenoid
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and to extend service life
- Rigid design using one-piece body minimizes the effect of eccentricity and maximizes reliability
- All surfaces zinc-plated and corrosion-proof
- Waterproof design standard
- Wide variety of connectors available
- Low pressure drop by CFD optimized flow-path
- In flow direction 2 to 1 internal valve parts protected against coarse contaminant particles by screen filter

SPECIFICATIONS

Operating pressure:	250 bar
Nominal flow:	20 l/min
Internal leakage:	leakfree (less than 5 drops/min) at 250 bar
Media operating temp. range:	-20 °C to +120 °C
Ambient temp. range:	-20 °C to +60 °C
Coil duty rating:	Continuous from 85% to 115% of nominal voltage
Current draw at 20 °C:	1.5 amps at 12 V DC 0.8 amps at 24 V DC
Minimum pull-in voltage:	85 % of nominal
Response time:	Energized: 35 ms De-energized: 50 ms typical 24 V DC-coil
Fluids:	Mineral-based or synthetics with lubricating properties
Viscosity:	7.4 to 420 cSt
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
Screen filter:	300 µm mesh size
Installation:	No orientation restrictions
Material:	Valve body: carbon steel Piston: carbon steel Seals: NBR (standard) FKM (Option) Coil: Steel/Polyamide
Cavity:	FC08-2
Weights:	Valve complete: 330 g Coil only: 190 g

DIMENSIONS



MODEL CODE

WS08W-30 M - C - N - 24 DG

Basic Model

Option

Omission = No Option
M = Manual Override

Body & Ports*

C = Cartridge only
SB3 = 3/8 BSP ports, steel body
SS6 = SAE-6 ports, steel body
AB3 = 3/8 BSP ports, aluminium body
AS6 = SAE-6 ports, aluminium body

Seals

N = NBR
V = FKM

Coil Voltage

DC

10 = 10 V DC
12 = 12 V DC
24 = 24 V DC
36 = 36 V DC
48 = 48 V DC
110 = 110 V DC available with DG termination only

AC (internally full wave rectified)

24 = 24 V AC
115 = 115 V AC
230 = 230 V AC

Coil Connector

DC: DG = DIN Connector (DIN 43650)
DS = Dual Spade SAEJ858a
DL = Leadwires (2) - 457 mm (18") long
DW = Weather Pack Connector on leadwires - 241 mm (9.5") long
DK = Kostal connector
DT = 2-pole AMP Junior Timer plug

AC: AG = DIN Connector (DIN 43650)

*Standard Line Bodies:

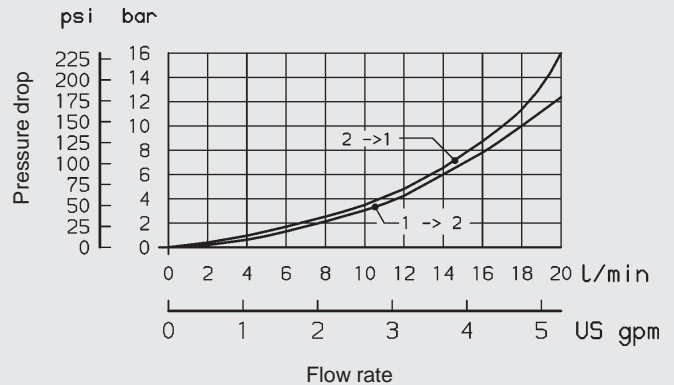
Code	Stock no.	Material	Ports	Pressure
FH082-SB3	560919	Steel, zinc-plated	3/8 BSP	420 bar
FH082-SS6	560917	Steel, zinc-plated	SAE-6	420 bar
FH082-AB3	3011423	Aluminium, clear anodized	3/8 BSP	245 bar
FH082-AS6	3011409	Aluminium, clear anodized	SAE-6	245 bar

Standard models

Model code	Stock no.
WS08W-30-C-N-24DG	3132864
WS08W-30-C-N-230AG	3132865

PERFORMANCE

measured at 33 cSt
T_{oil} = 46 °C



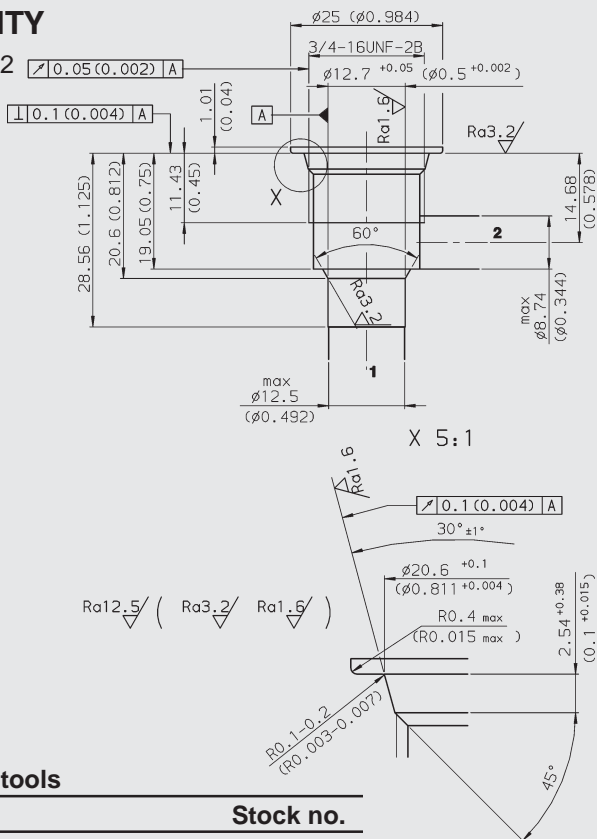
NOTE

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

CAVITY

FC08-2

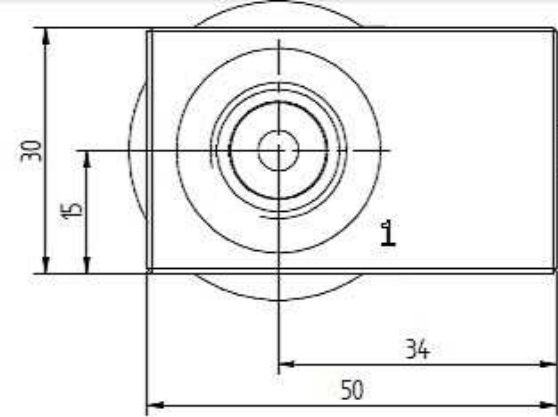


Form tools

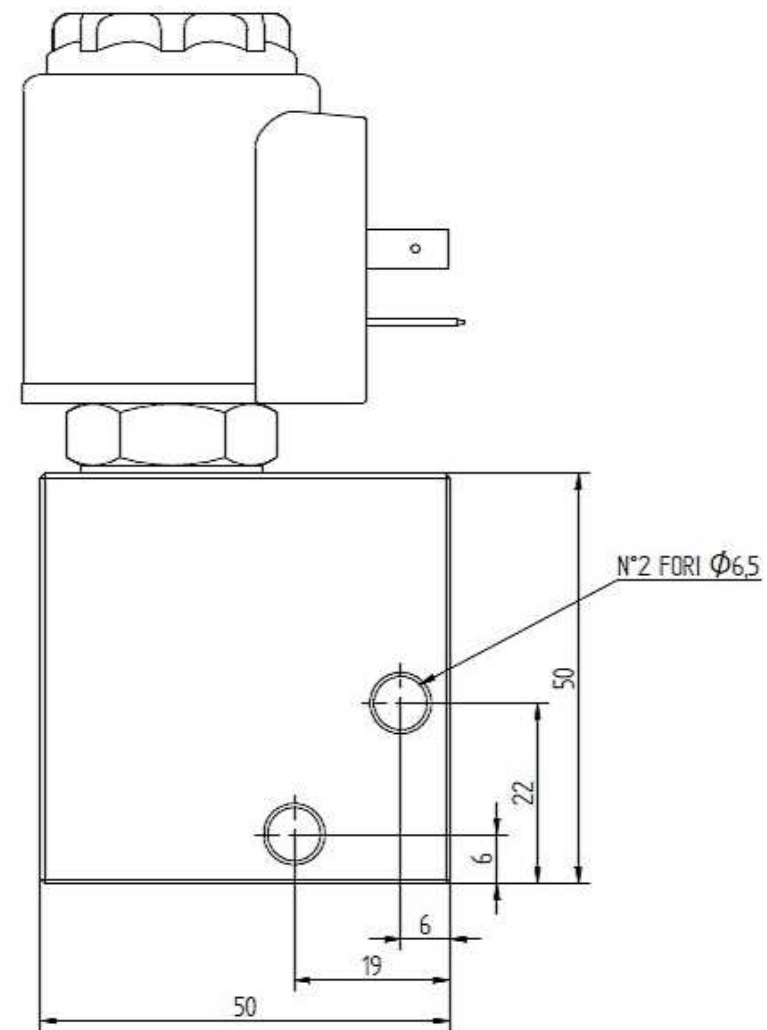
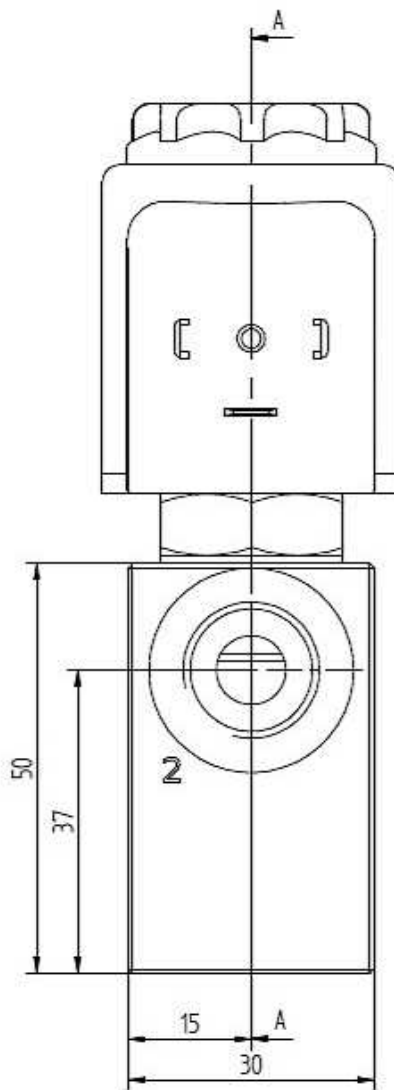
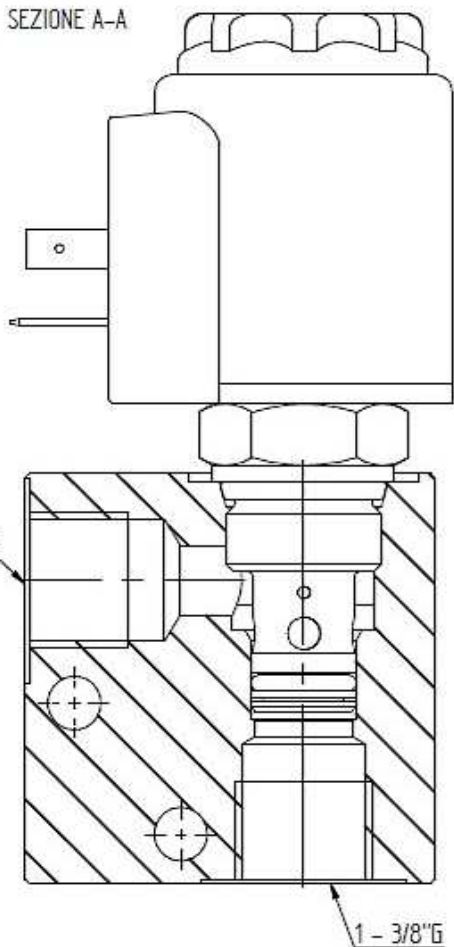
Tools	Stock no.
Rougher FC08-2	175473
Finisher FC08-2	175474

Subject to technical modifications

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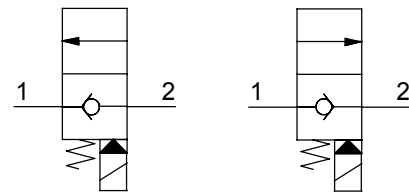


SEZIONE A-A



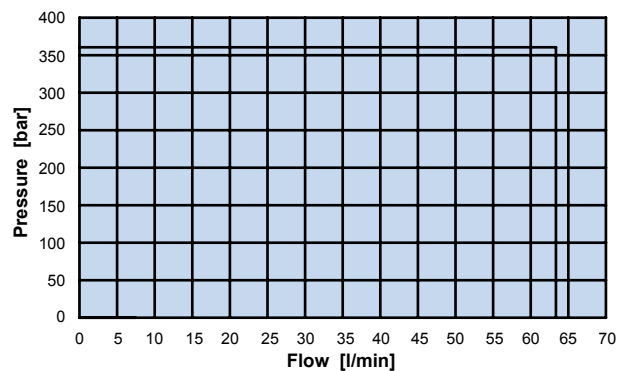
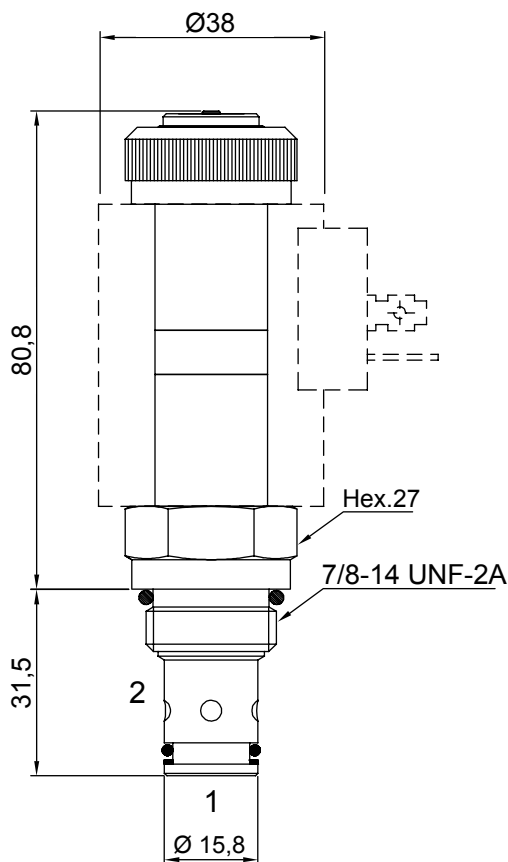
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **60 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C230000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9801** to be ordered separately



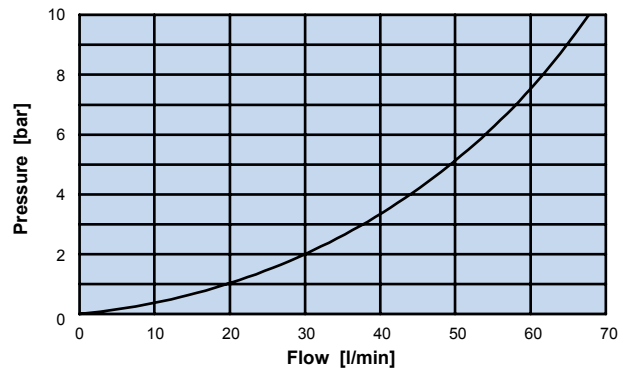
Scheme 0

Scheme 1



Application limits from 2 to 1 and 1 to 2

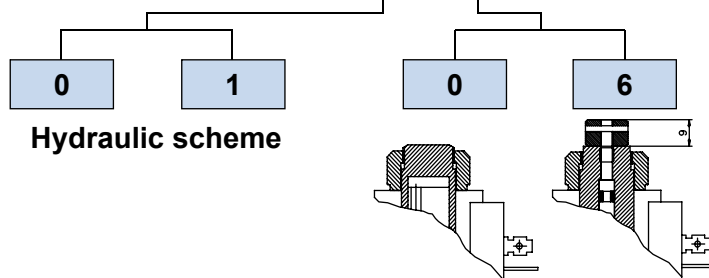
87



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 5 3 1 **0** **0 0**



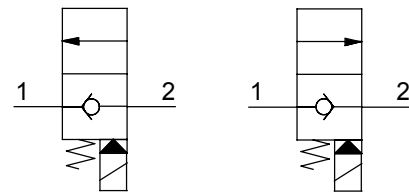
Hydraulic scheme

No emergency Unscrew type



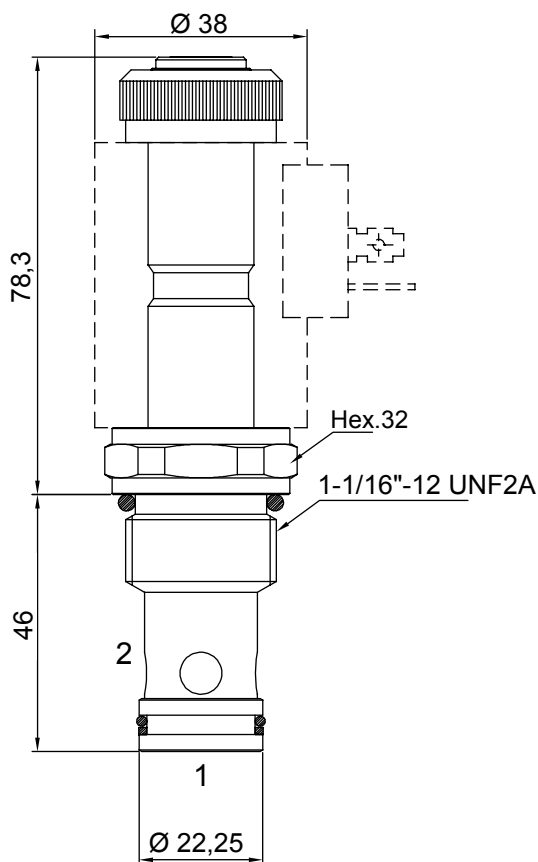
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **150 l/min**
- Max working pressure. **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C240000**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque. **5 Nm**
- Weight (with coil). **0,58 Kg**
- Coil **CT-9801** to be ordered separately

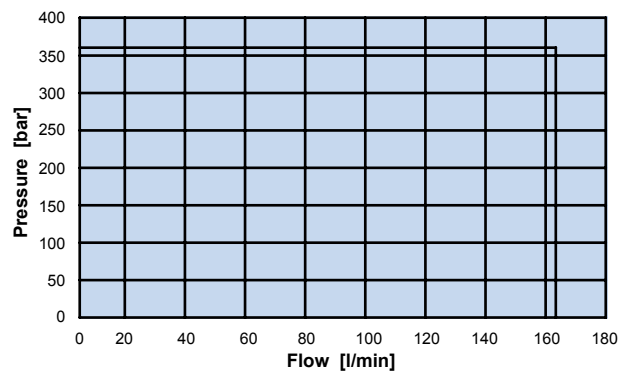


Scheme 0

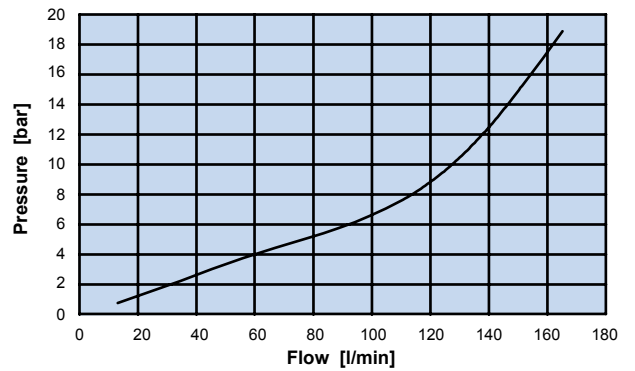
Scheme 1



88



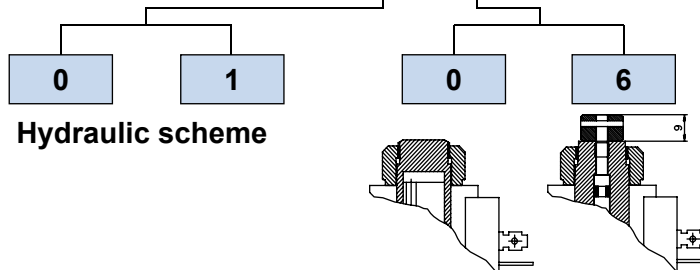
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 5 4 1 [] 0 [] 0 0

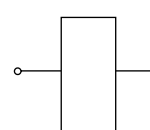


Hydraulic scheme

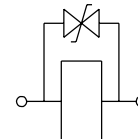
No emergency Unscrew type

- Wire insulation class.....H (>185°C)
- ED.....100%
- Coil power at 20° C.....24 W
- Ambient temperature.....-20 +40° C
- Weight.....0,28 Kg

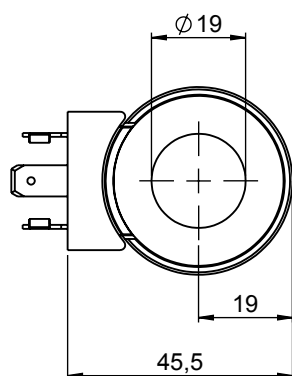
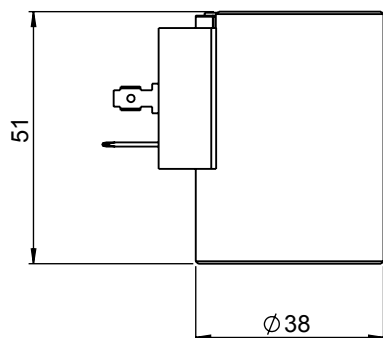
ELECTRIC CIRCUITS



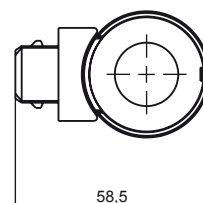
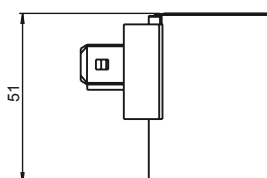
STANDARD



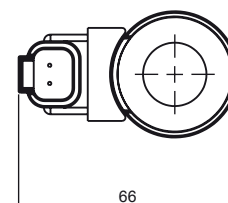
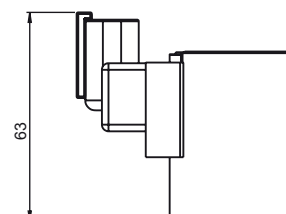
WITH DIODE
(BI-DIRECTIONAL)



AMP - JUNIOR



DEUTSCH DT4

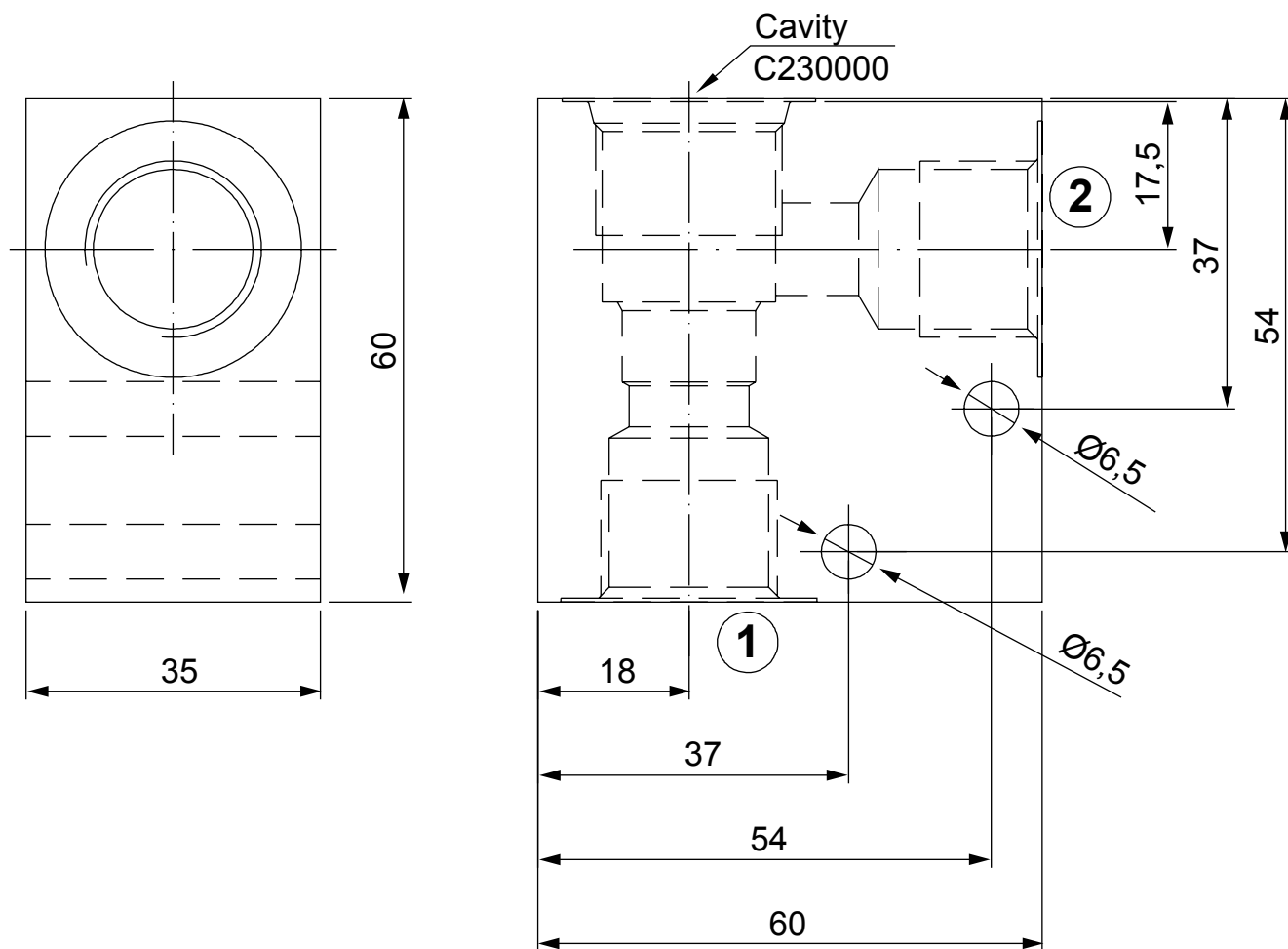


CONNECTOR	PROTECTION CLASS	COIL THERMAL INSULATION CLASS	VOLTAGE [V]	RESISTANCE [Ω]	CIRCUIT	ORDERING CODE
DIN 43650	IP65*	H	12 V dc	6,8	STANDARD	098011190
DIN 43650	IP65*	H	24 V dc	24	STANDARD	098012190
DIN 43650	IP65*	H	26 V dc	27,1	STANDARD	098012191
DIN 43650	IP65*	H	220 V Rac**	1470	STANDARD	098016190
DEUTSCH DT 4	IP67	F	12 V dc	6,8	WITH DIODE	098111190
DEUTSCH DT 4	IP67	F	24 V dc	24	WITH DIODE	098112190
AMP - JUNIOR	IP65*	F	12 V dc	6,8	WITH DIODE	098211190
AMP - JUNIOR	IP65*	F	24 V dc	24	WITH DIODE	098212190

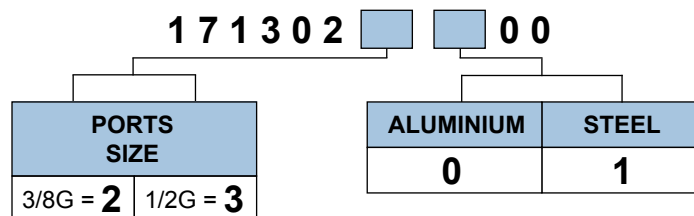
* Protection index with standard connector

** Rectifier not included - Power 25W

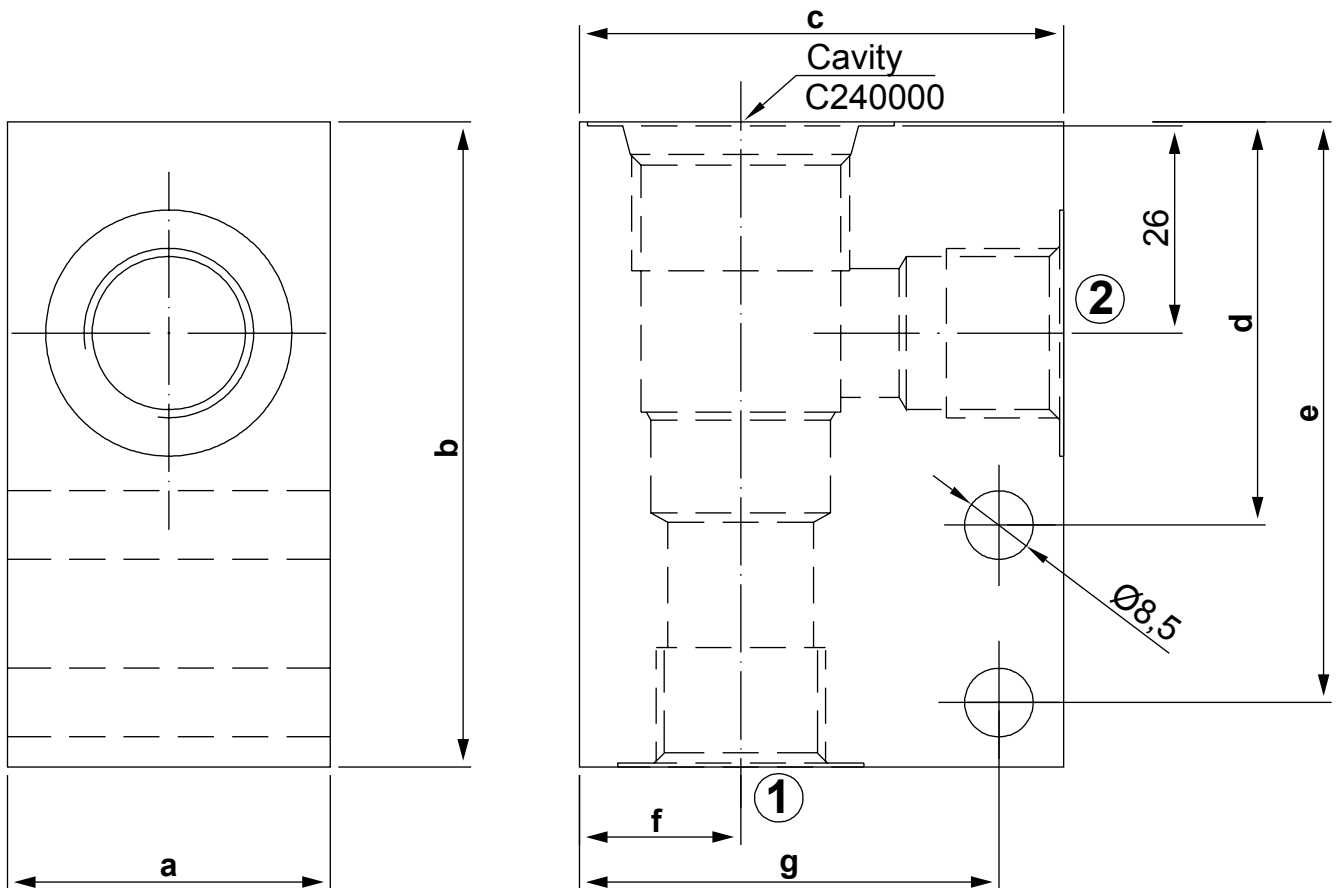
STANDARD BODY FOR LINE MOUNTING



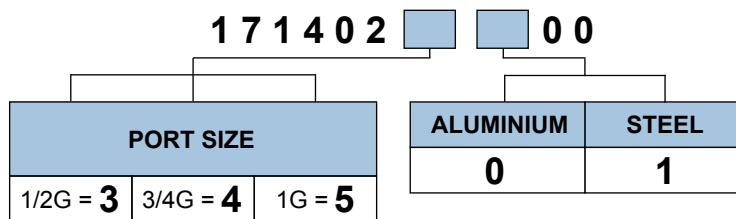
Ordering code



STANDARD BODY FOR LINE MOUNTING



Ordering code



	a	b	c	d	e	f	g
1/2G = 3	40	80	60	50	72	20	52
3/4G = 4	40	80	60	50	72	20	52
1G = 5	50	85	70	55	77	25	62