

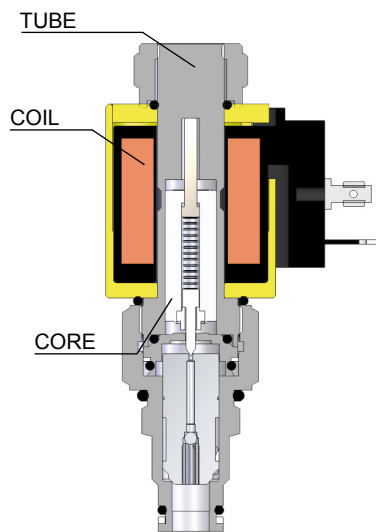
ELECTRIC CARTRIDGES VALVES ON/OFF

DIRECTIONAL VALVES

INTRODUCTION

The hydraulic circuits of mobile machinery, are often equipped with automatic devices or remote controls that require the use of electro hydraulic systems to generate hydraulic power from an electric signal.

The components capable of doing this are called electric valves or solenoid valves. These valves are hydraulic components that by using a specific mechanical devices can obtain linear movements using the force generated by a magnetic field of a coil fed with current.



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NEM production of solenoid cartridge valves is based on SAE cavity and can cover most of the available circuit: 2 and 3 way 2 positions direct acting lock valves, 2 way 2 position pilot operated lock valves and spool valves 2, 3 and 4 way.

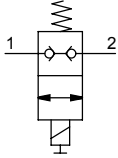
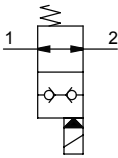
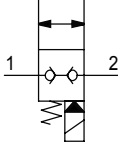
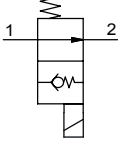
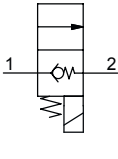
The main characteristics of NEM solenoid cartridge valves is the design and construction of the “Tube”: without any kind of welding, the working principle is based on the tube magnetic saturation, it makes the valve stronger and reliable at high pressures, with an excellent electromagnetic performance.

Each NEM solenoid cartridge valve has a dedicated coil (to be ordered as separate item). The coil has to be selected through the specifications available on the technical sheet, with respect to required voltage and type of connector.



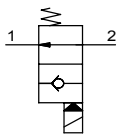
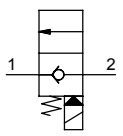
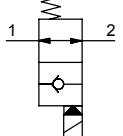
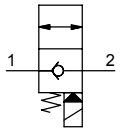
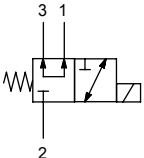
DIRECTIONAL VALVES

2 WAYS DIRECTIONAL CONTROL VALVES ON/OFF

		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE
	CT-502 NC	20	250	SAE-08	C220000	5.01.001
	CT-503 NC	30	350	SAE-10	C230000	5.01.002
	CT-512 NA	40	350	SAE-08	C220000	5.01.003
	CT-513 NA	60	350	SAE-10	C230000	5.01.004
	CT-514 NA	150	350	SAE-12	C240000	5.01.005
	CT-512 NC	40	350	SAE-08	C220000	5.01.006
	CT-513 NC	60	350	SAE-10	C230000	5.01.007
	CT-514 NC	150	350	SAE-12	C240000	5.01.008
	CT-532 NA	2	350	SAE-08	C220000	5.01.009
	CT-532 NC	2	350	SAE-08	C220000	5.01.010

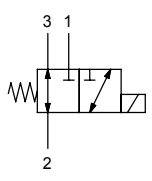
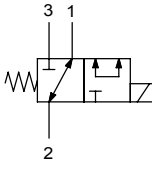
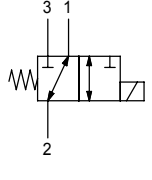
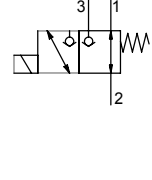
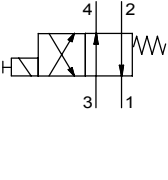
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DIRECTIONAL VALVES

		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE
	CT-552 NA	30	300	SAE-08	C220000	5.01.011/A
	CT-552 NA	40	350	SAE-08	C220000	5.01.011/B
	CT-553 NA	60	350	SAE-10	C230000	5.01.012
	CT-554 NA	150	350	SAE-12	C240000	5.01.013
	CT-565 NA	200	250	SAE-16	C250000	5.01.014
	CT-552 NC	30	300	SAE-08	C220000	5.01.015/A
	CT-552 NC	40	350	SAE-08	C220000	5.01.015/B
	CT-553 NC	60	350	SAE-10	C230000	5.01.016
	CT-554 NC	150	350	SAE-12	C240000	5.01.017
	CT-565 NC	200	350	SAE-16	C250000	5.01.018
	CT-562 NA	30	300	SAE-08	C220000	5.01.019/A
	CT-562 NA	40	350	SAE-08	C220000	5.01.019/B
	CT-563 NA	60	350	SAE-10	C230000	5.01.020
	CT-564 NA	150	350	SAE-12	C240000	5.01.021
	CT-562 NC	30	300	SAE-08	C220000	5.01.022/A
	CT-562 NC	40	350	SAE-08	C220000	5.01.022/B
	CT-563 NC	60	350	SAE-10	C230000	5.01.023
	CT-564 NC	150	350	SAE-12	C240000	5.01.024
3 WAYS DIRECTIONAL CONTROL VALVES ON/OFF						
	CT-402.1	15	250	SAE-08	C320000	5.01.025

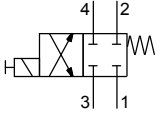
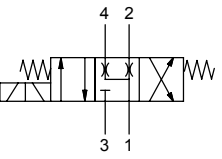
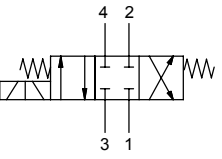
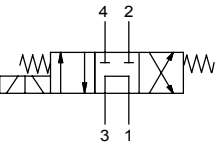
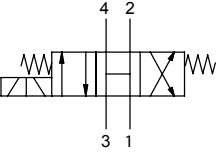


DIRECTIONAL VALVES

		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE
	CT-402.3 BP	5	50	SAE-08	C320000	5.01.026
	CT-402.3	15	250	SAE-08	C320000	5.01.027
	CT-402.4	15	250	SAE-08	C320000	5.01.028
	CT-402.2	13,5	250	SAE-08	C320000	5.01.029
	CT-403.2	20	250	SAE-10	C330000	5.01.030
	CT-404.2	55	250	SAE-12	C340000	5.01.031
	CT-423.2	30	350	SAE-10	C330000	5.01.032
4 WAYS DIRECTIONAL VALVES ON/OFF						
	CT-412.2	10	210	SAE-08	C420000	5.01.033
	CT-413.2	25	250	SAE-10	C430000	5.01.034

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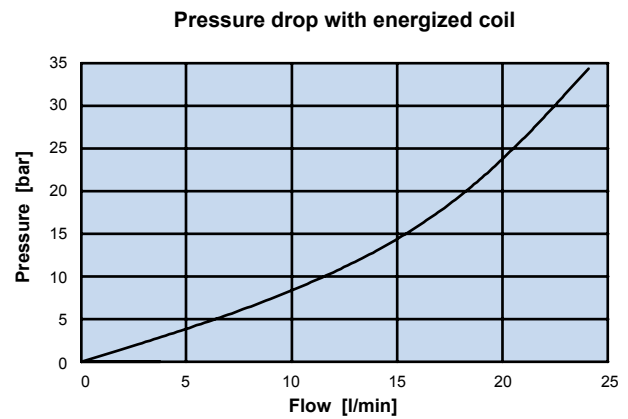
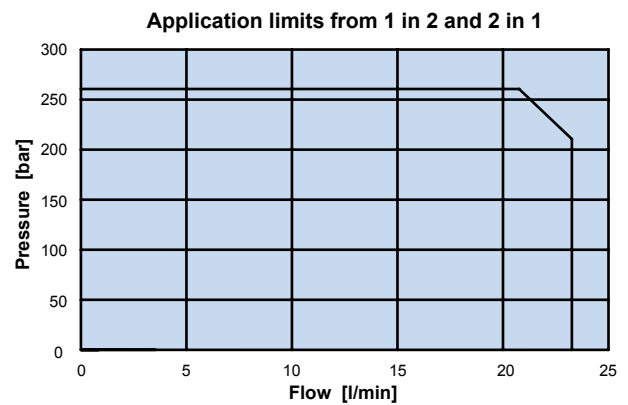
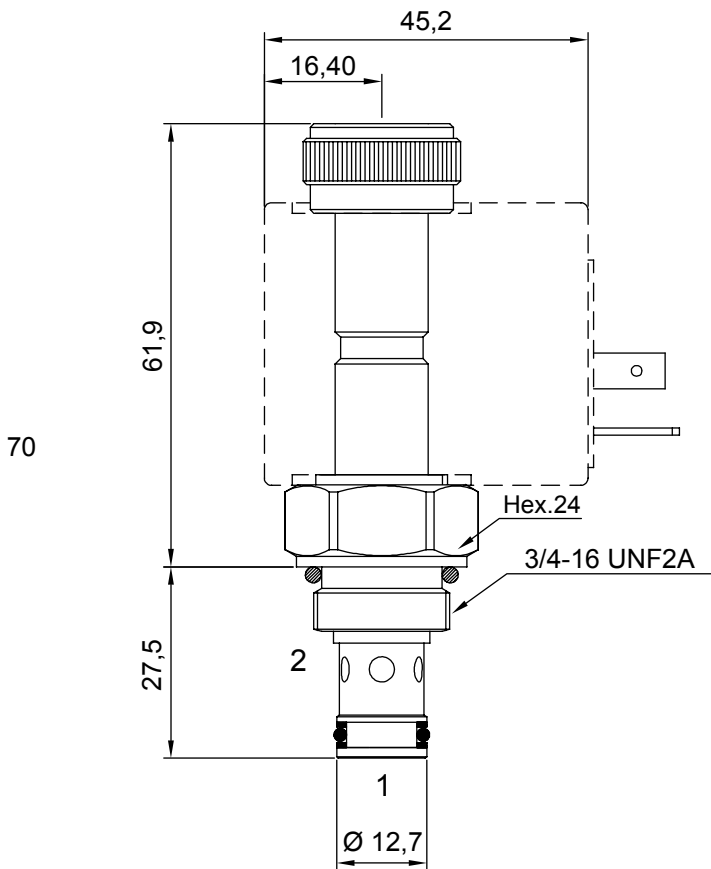
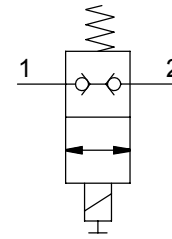
DIRECTIONAL VALVES

		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE	
	CT-412.3	10	210	SAE-08	C420000	5.01.033	
	CT-413.3	25	250	SAE-10	C430000	5.01.034	
	CT-462.1	10	210	SAE-08	C420000	5.01.035	
	CT-463.1	25	250	SAE-10	C430000	5.01.036	
	CT-462.2	10	210	SAE-08	C420000	5.01.037	
	CT-463.2	25	250	SAE-10	C430000	5.01.038	
	CT-462.3	10	210	SAE-8	C420000	5.01.039	
	CT-463.3	25	250	SAE-10	C430000	5.01.040	
	CT-462.4	10	250	SAE-8	C420000	5.01.041	
	CT-463.4	25	250	SAE-10	C430000	5.01.042	



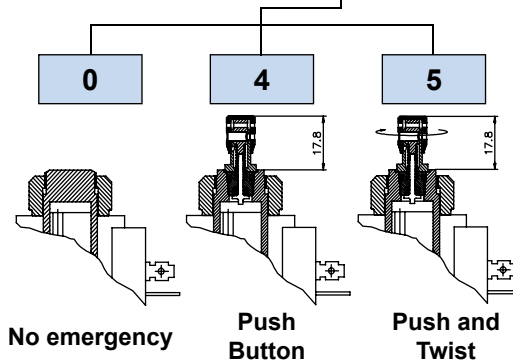
2 WAYS 2 POSITIONS ELECTRIC VALVE DIRECT ACTING POPPET OPERATED NC

- Flow **20 l/min**
- Max working pressure **250 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Coil **CT-9400** to be ordered separately



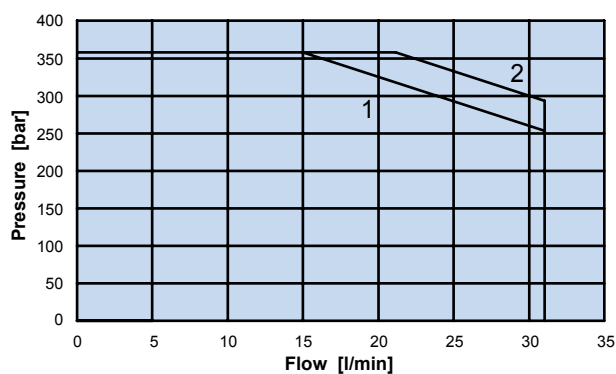
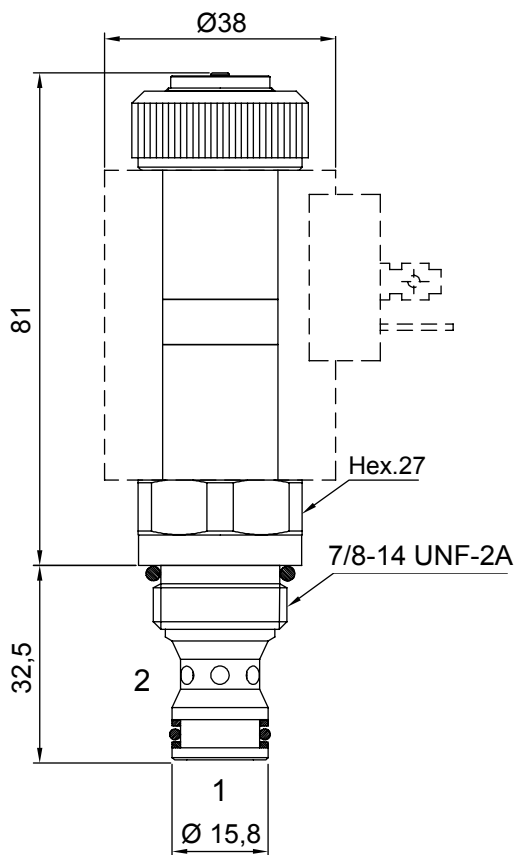
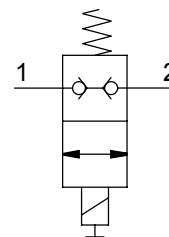
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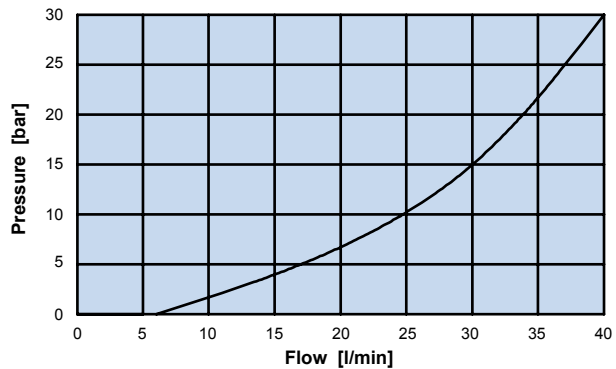
2 WAYS 2 POSITIONS ELECTRIC VALVE DIRECT ACTING POPPET OPERATED NC

- Flow **30 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavità **C230000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9800** to be ordered separately



1 = Limits from 2 to 1
2 = Limits from 1 to 2

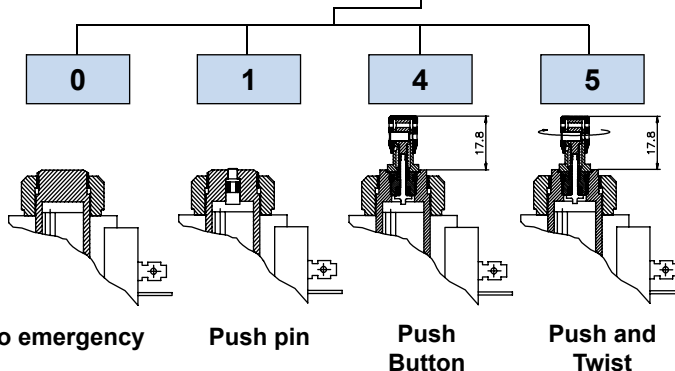
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Pressure drop with energized coil

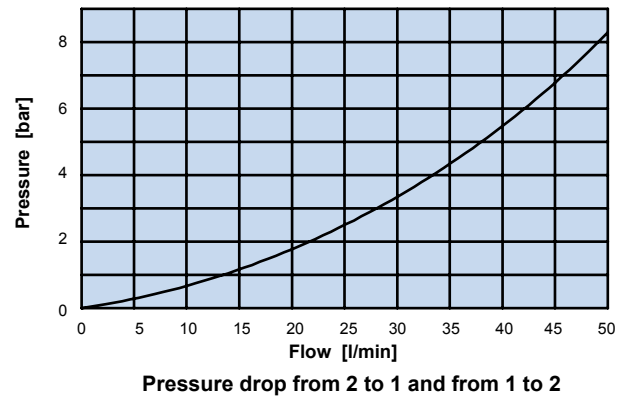
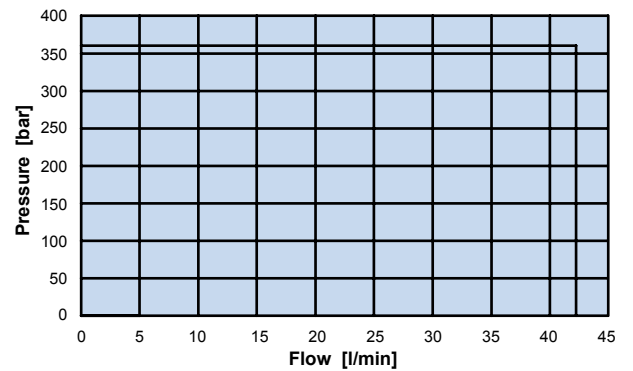
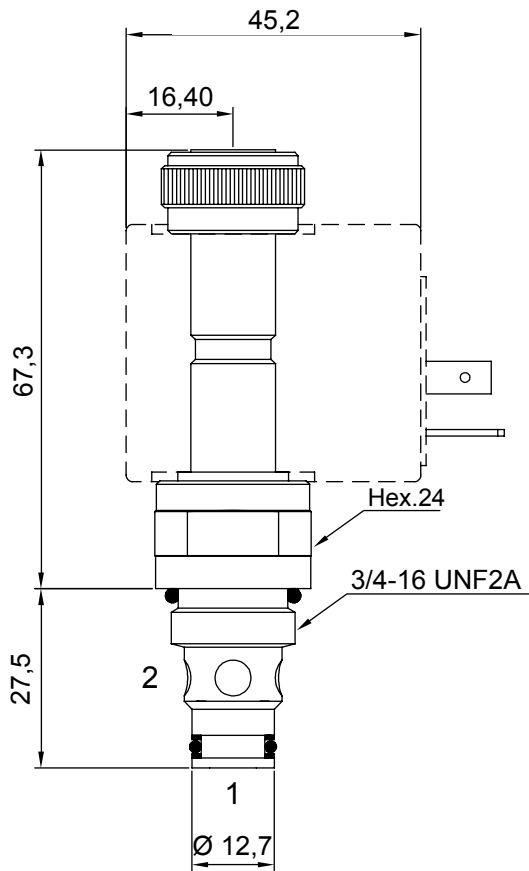
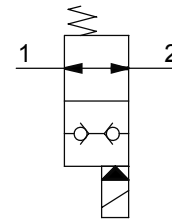
Ordering code

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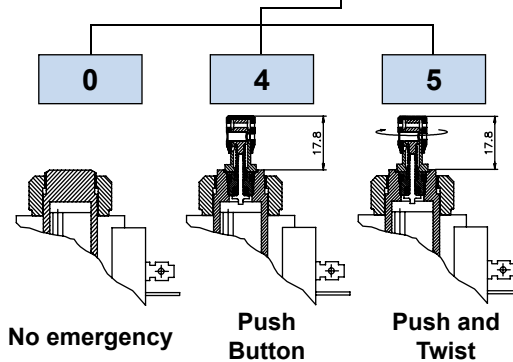
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow **40 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Coil **CT-9400** to be ordered separately



Ordering code

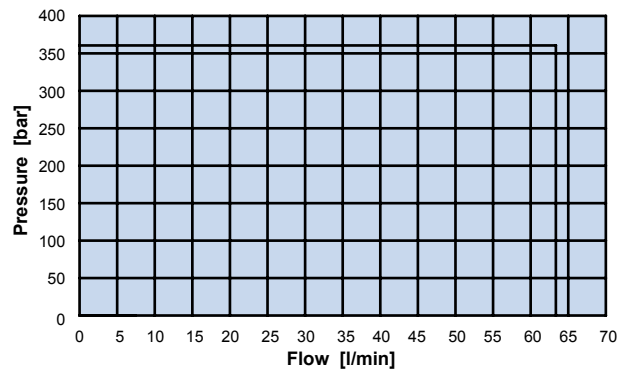
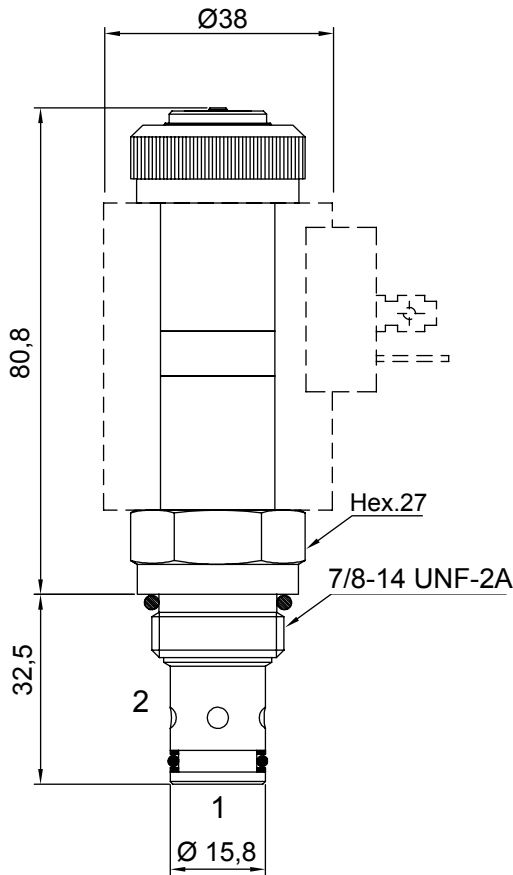
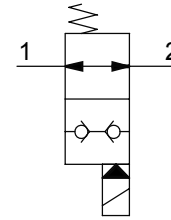
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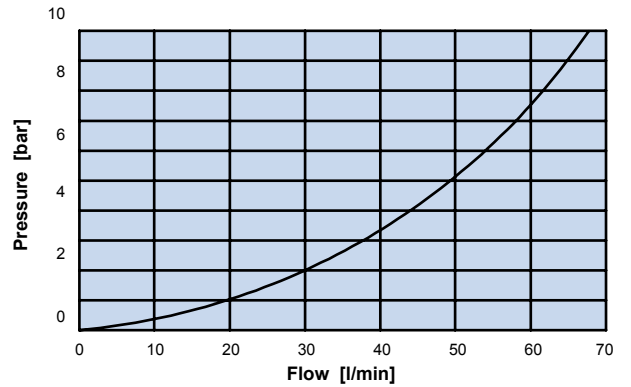
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2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- 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



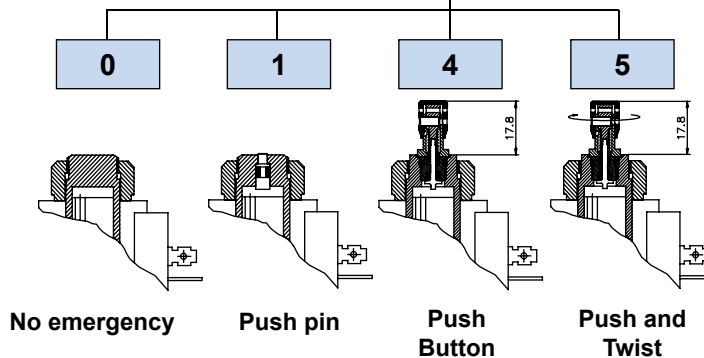
Application limits from 2 to 1 and 1 to 2 73



Pressure drop from 2 to 1 and from 1 to 2

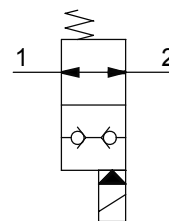
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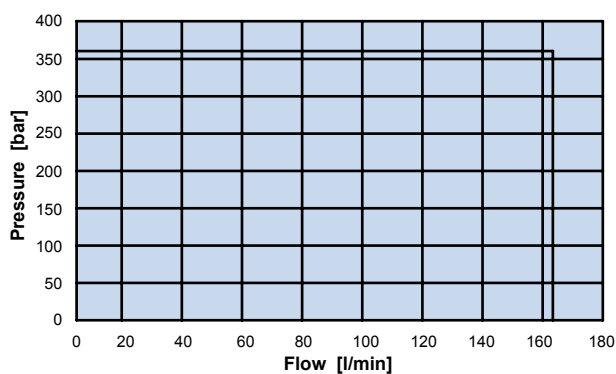
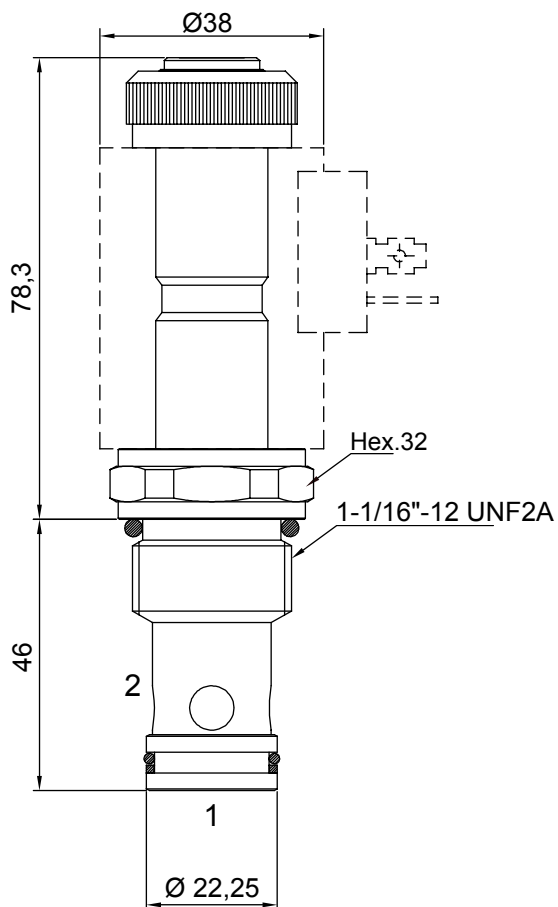


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

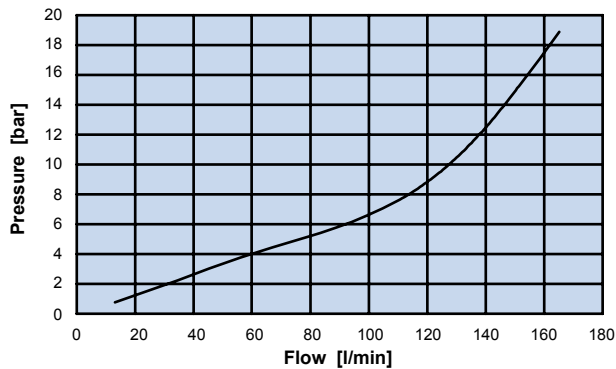
- Flow **150 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C240000**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,58 Kg**
- Coil **CT-9801** to be ordered separately



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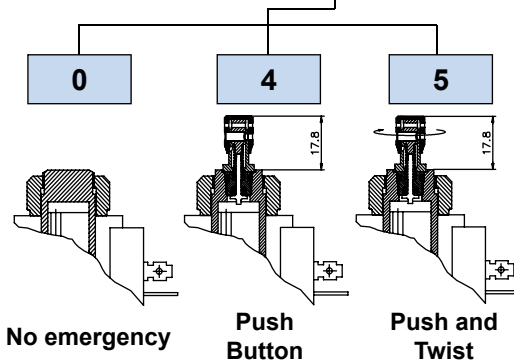
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

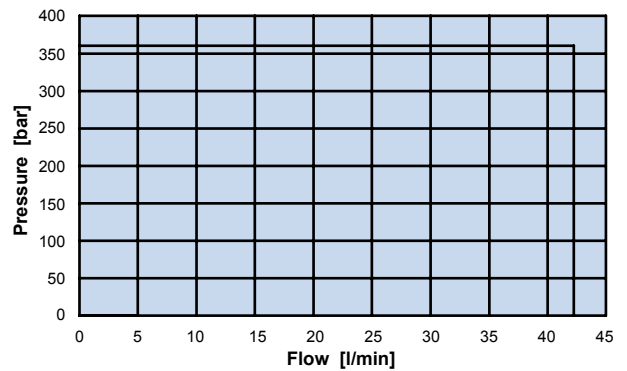
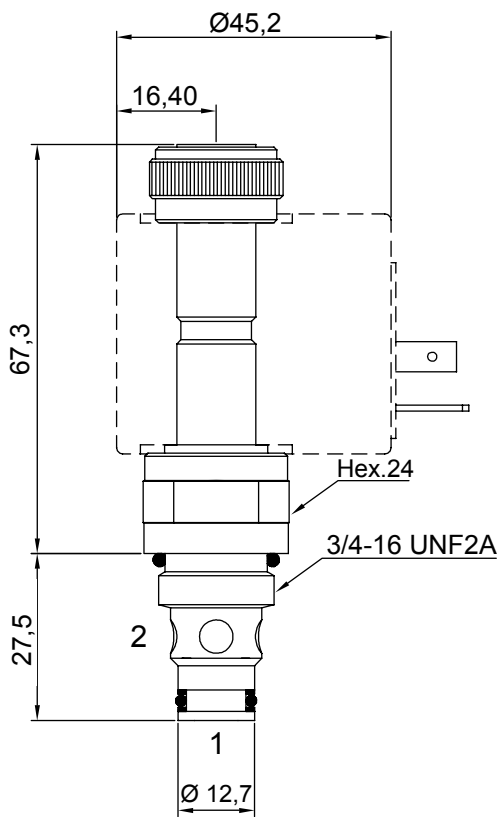
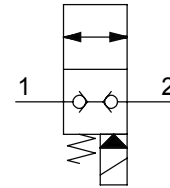
Ordering code

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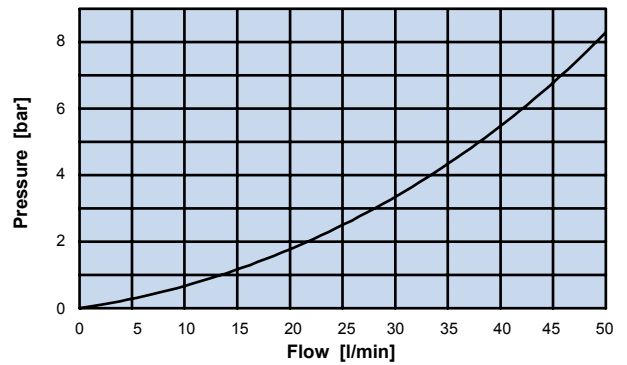
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **40 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Coil **CT-9400** to be ordered separately



Application limits from 2 to 1 and 1 to 2

75



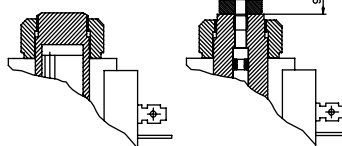
Pressure drop from 2 to 1 and from 1 to 2

Ordering code

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0

6

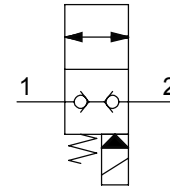


No emergency Unscrew type

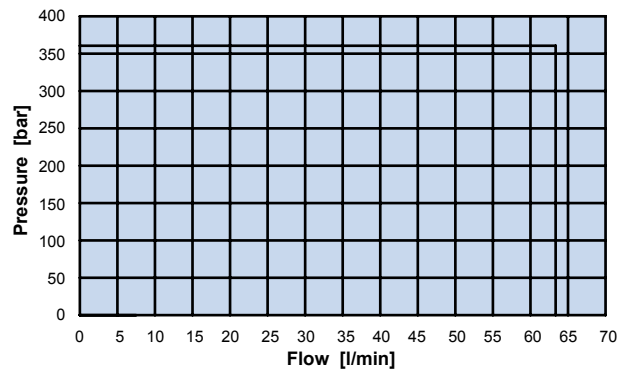
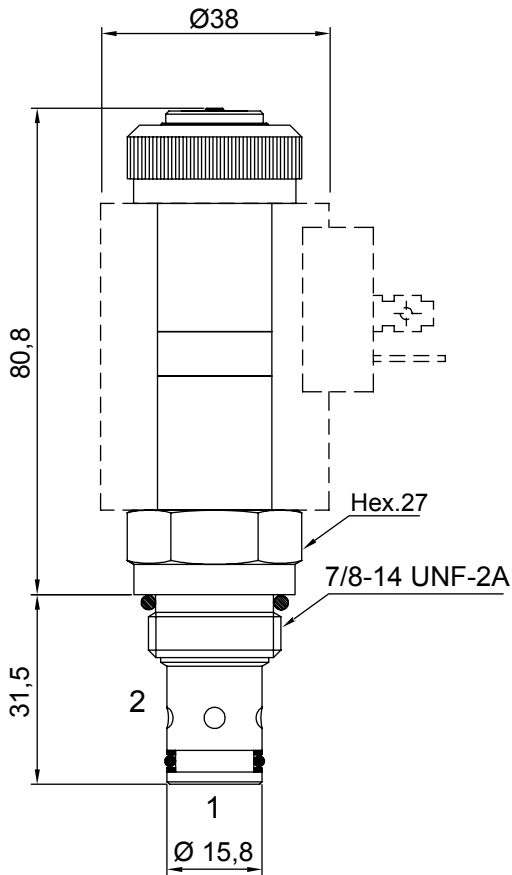


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

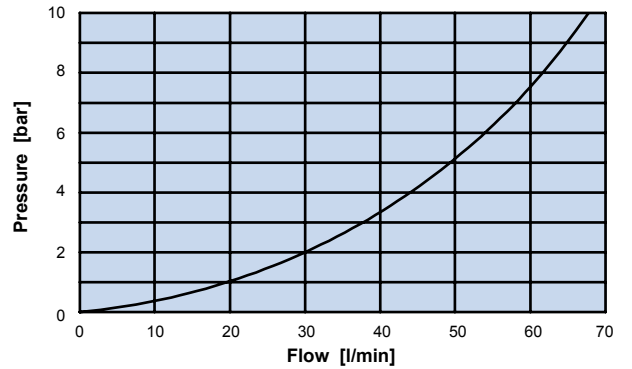
- Flow **60 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C230000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9801** to be ordered separately



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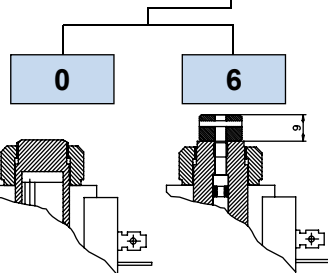
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

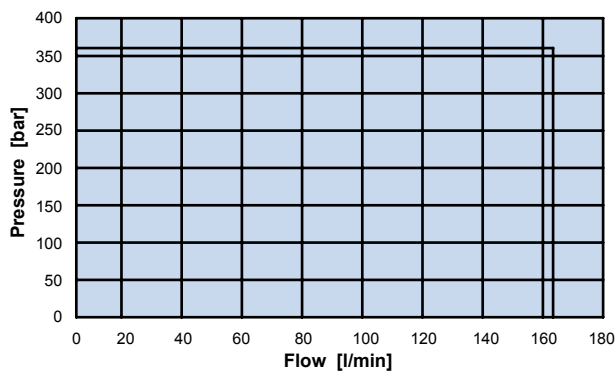
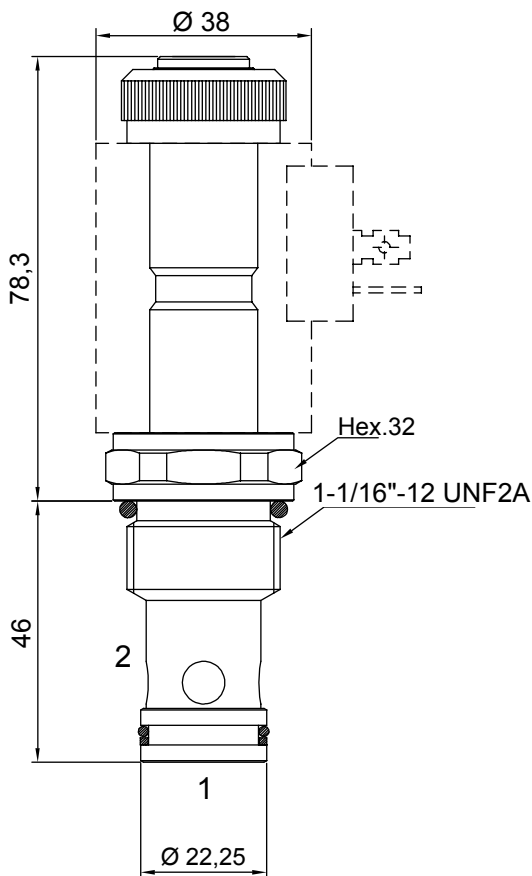
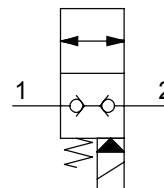
0 5 1 3 1 0 0 [] 0 0



No emergency Unscrew type

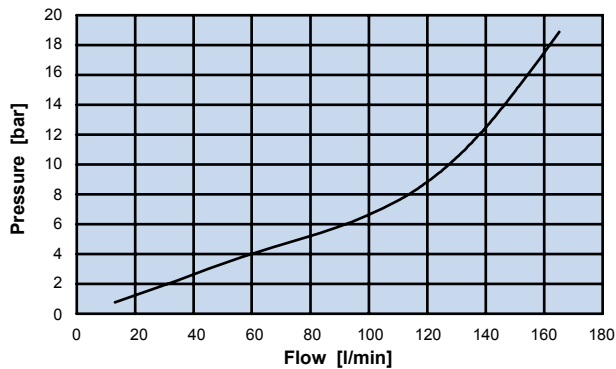
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- 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



Application limits from 2 to 1 and 1 to 2

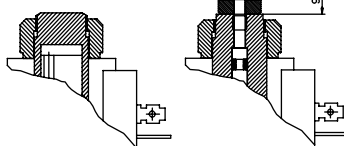
77



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 1 4 1 0 0 [] 0 0

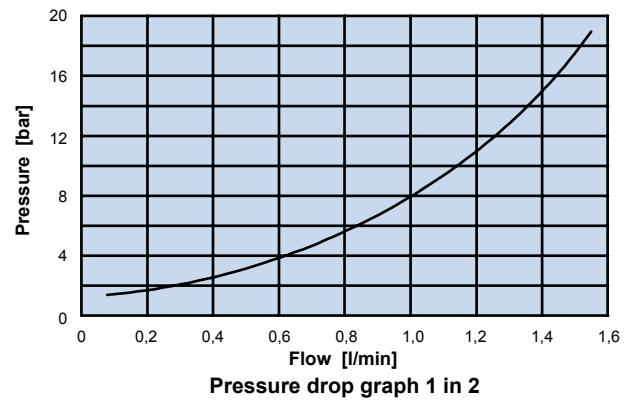
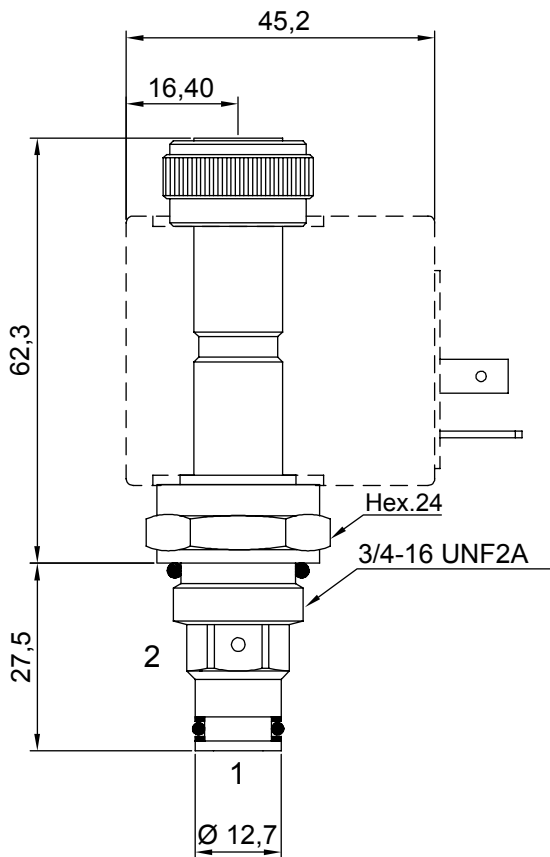
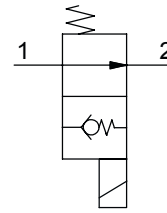


No emergency Unscrew type



2 WAYS 2 POSITIONS ELECTRIC VALVE, DIRECT ACTING NO

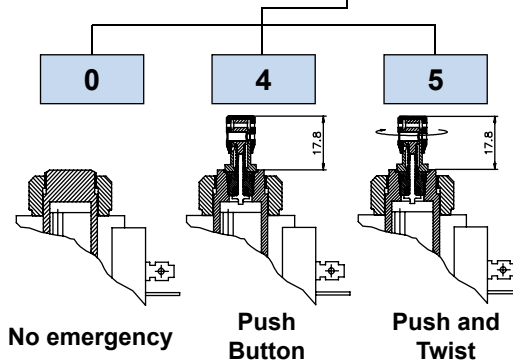
- Flow **2 l/min**
- Max working pressure in 1. **350 bar**
- Max working pressure in 2. **20 bar**
- Leakage. **0,25 cc/min**
- Seals. **NBR**
- Cavity **C220000**
- Cartridge tightening torque. **30 Nm**
- Ring nut tightening torque. **5 Nm**
- Weight (with coil). **0,32 Kg**
- Coil **CT-9400** to be ordered separately



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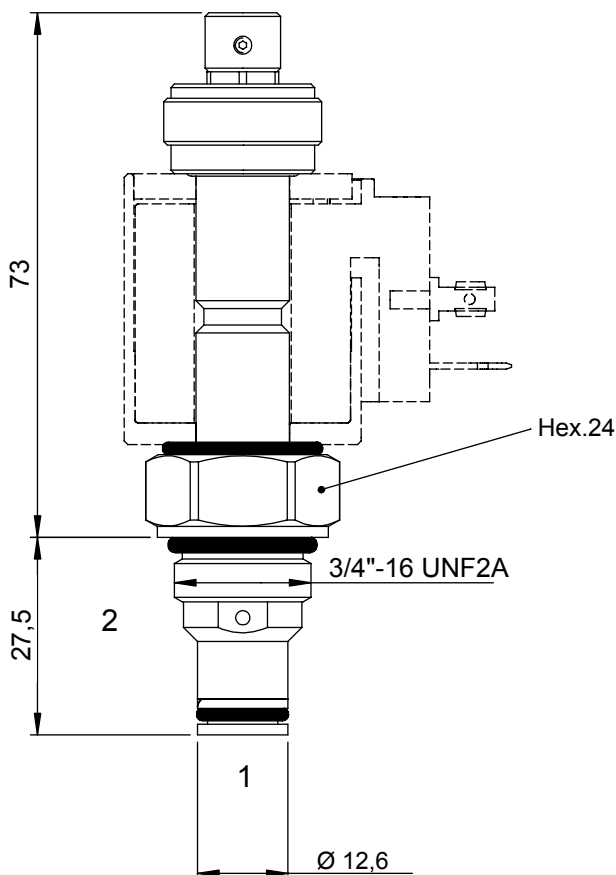
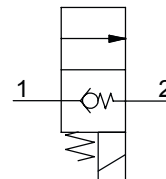
Ordering code

0 5 3 2 0 1 0 [] 0 0



2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **2 l/min**
- Max working pressure in 1 **350 bar**
- Max working pressure in 2 **20 bar**
- Cavity **C220000**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight **0,32 Kg**
- Coil **CT-9400** to be ordered separately

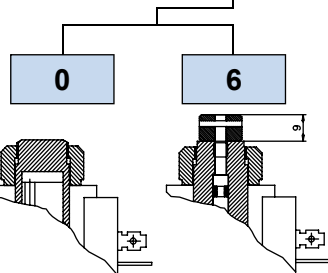


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Note:
- Cracking pressure with de-energized coil 1 to 2 at 380 bar.

Ordering code

0 5 3 2 1 1 0 [] 0 0

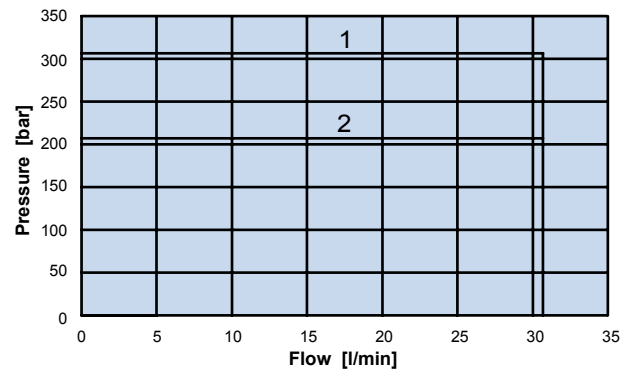
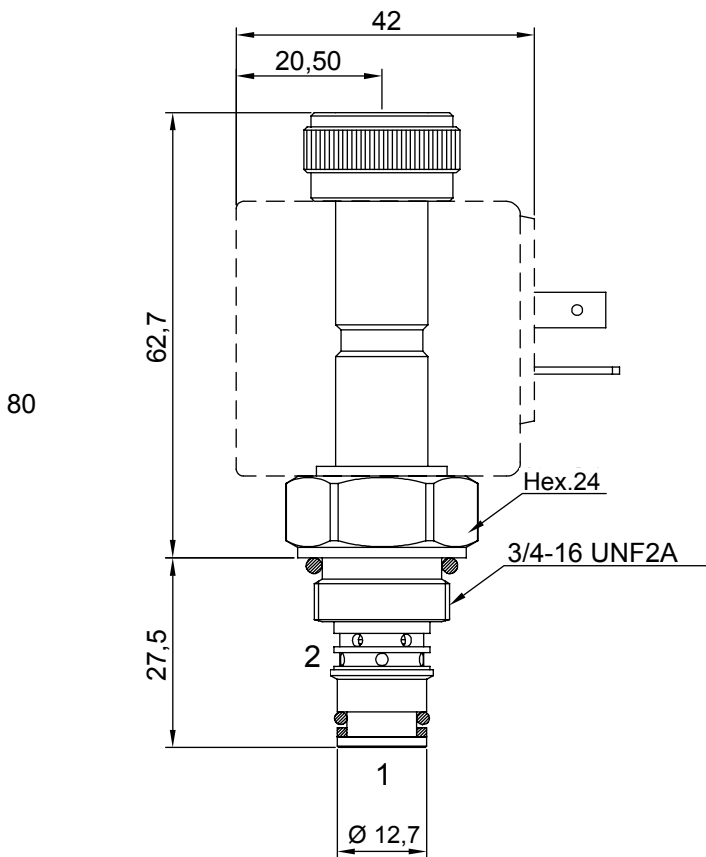
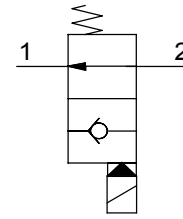


No emergency Unscrew type

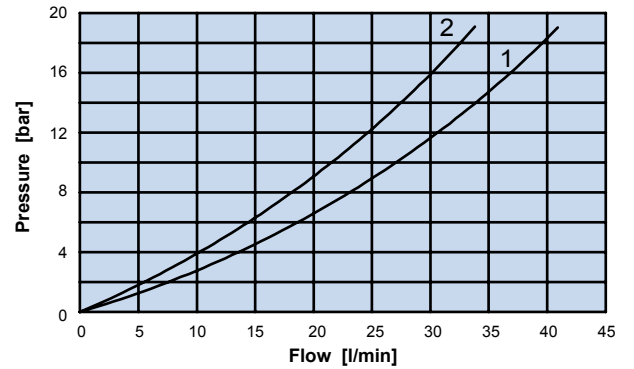


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow **30 l/min**
- Max working pressure **300 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Filter **280 microm**
- Coil **CT-9300** to be ordered separately



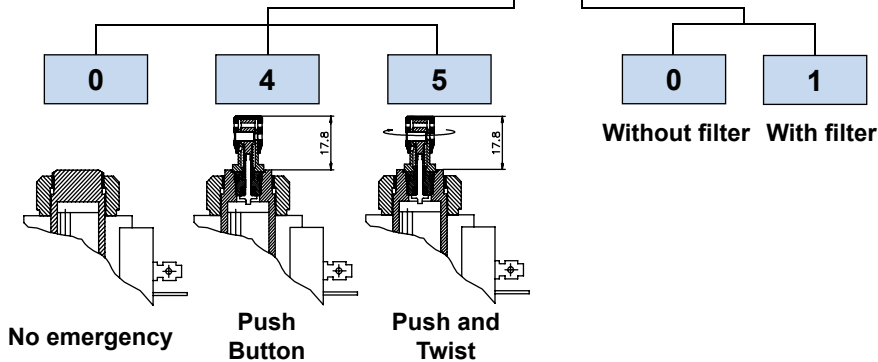
1 = Application limits from 2 to 1
2 = Application limits from 1 to 2



1 = Pressure drop from 2 to 1 without filter
2 = Pressure drop from 2 to 1 with filter

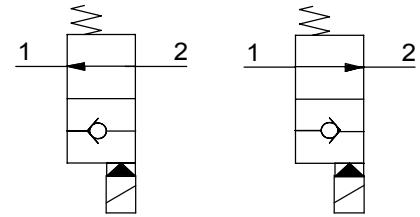
Ordering code

0 5 5 2 5 0 0 **0**



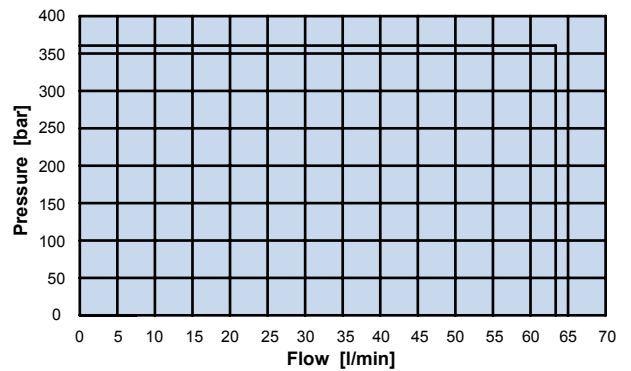
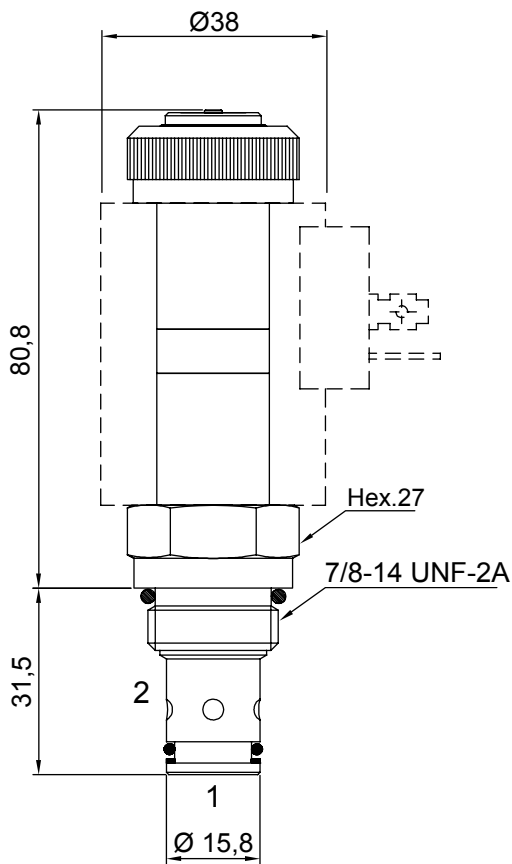
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- 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

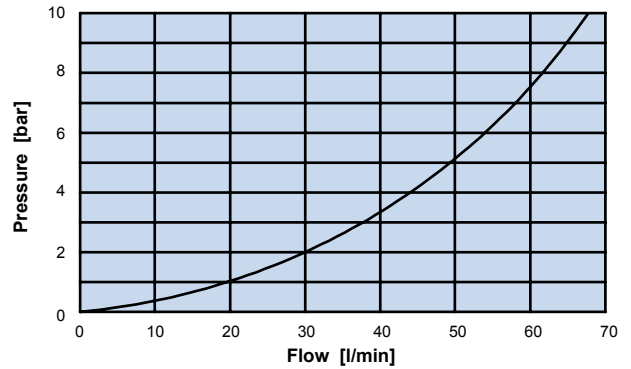


Scheme 0

Scheme 1



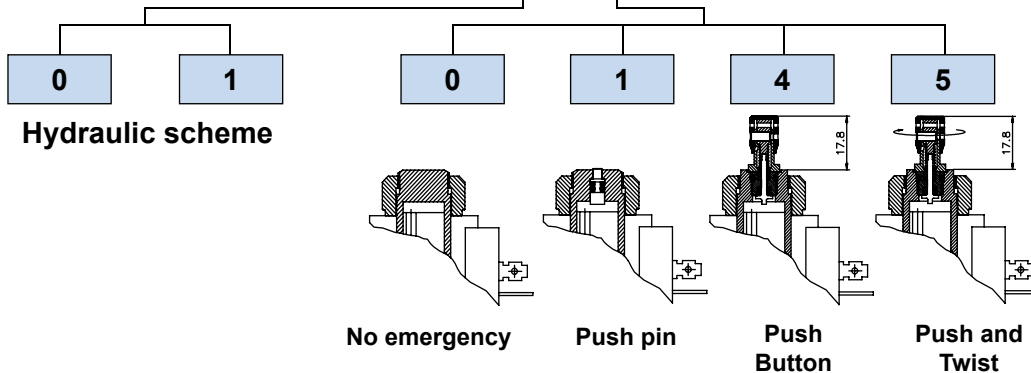
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

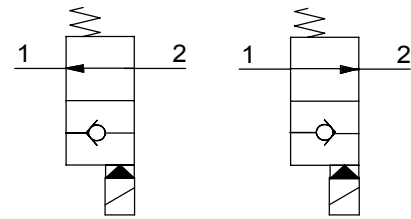
0 5 5 3 0 0 0 0



82

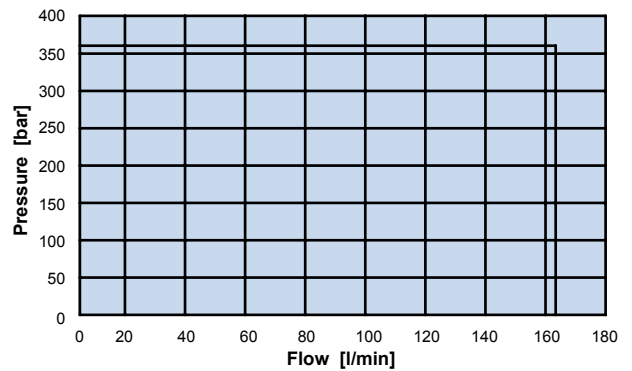
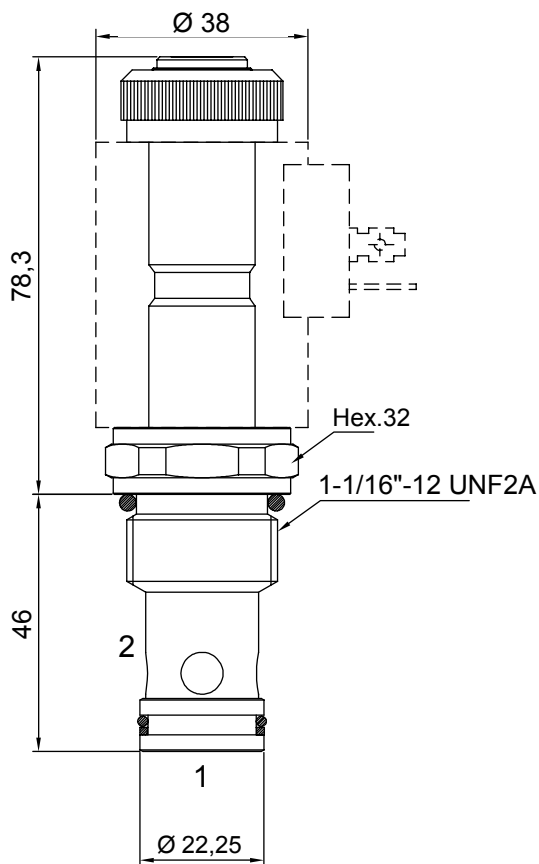
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- 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) 0,56 Kg
- Coil **CT-9801** to be ordered separately



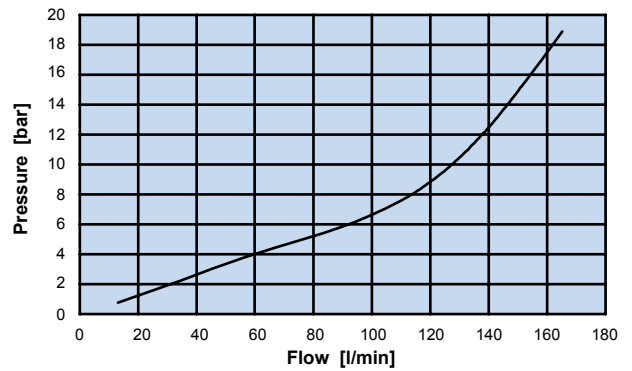
Scheme 0

Scheme 1



Application limits from 1 in 2 and 2 in 1

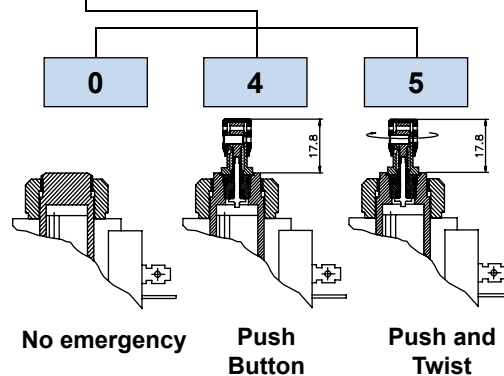
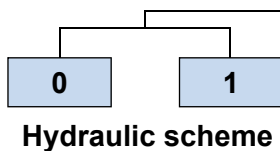
83



Pressure drop with energized coil

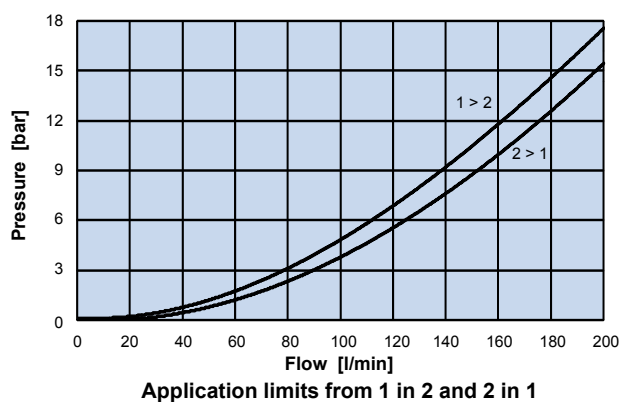
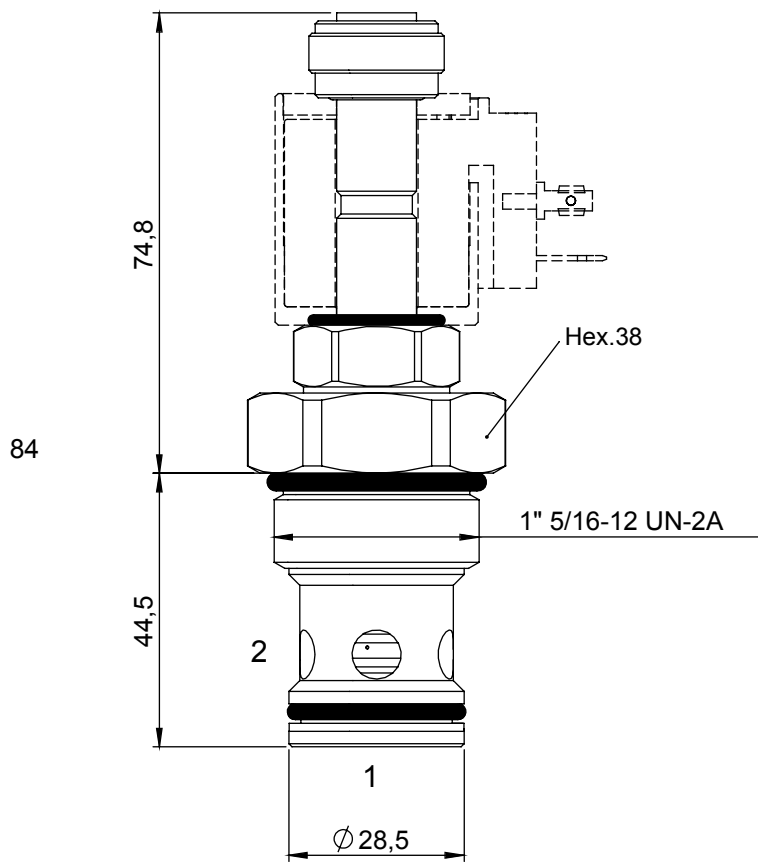
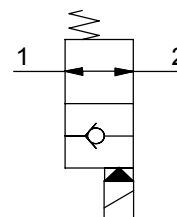
Ordering code

0 5 5 4 0 **0** **0 0**



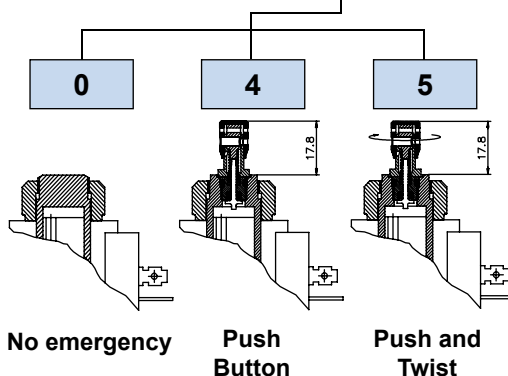
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow.....**200 l/min**
- Max working pressure.....**350 bar**
- Leakage.....**0,25 cc/min**
- Seals.....**NBR**
- Cavity.....**C250000**
- Cartridge tightening torque.....**65 Nm**
- Ring nut tightening torque.....**5 Nm**
- Weight (with coil).....**0,58 Kg**
- Coil **CT-9400** to be ordered separately



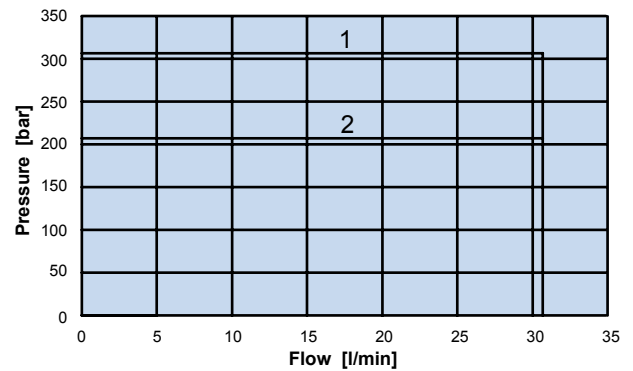
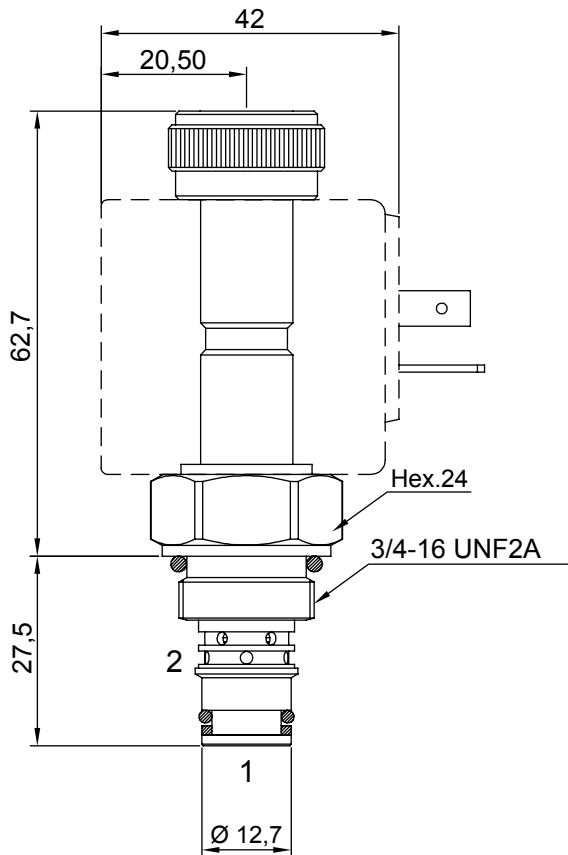
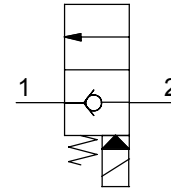
Ordering code

0 5 6 5 0 0 0 0 0 0



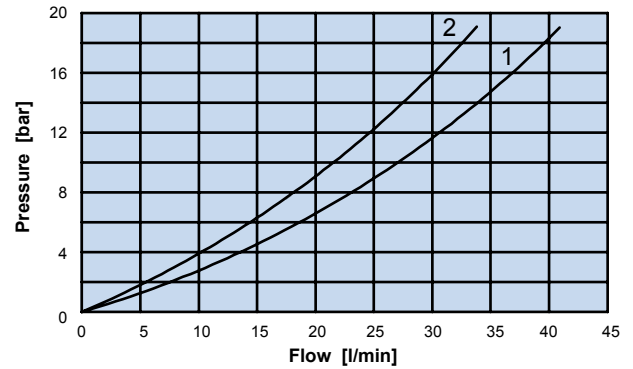
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **30 l/min**
- Max working pressure **300 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Filter **280 microm**
- Coil **CT-9300** to be ordered separately



1 = Application limits from 2 to 1 without filter
2 = Application limits with filter

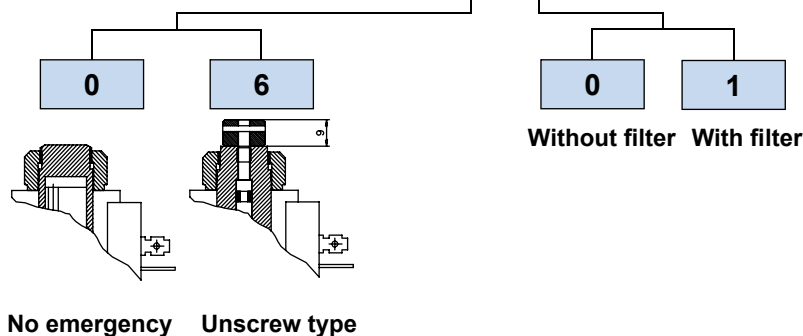
85



1 = Pressure drop from 2 to 1 without filter
2 = Pressure drop from 2 to 1 with filter

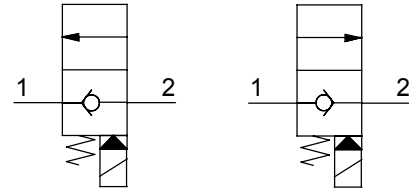
Ordering code

0 5 5 2 6 0 0 **0**



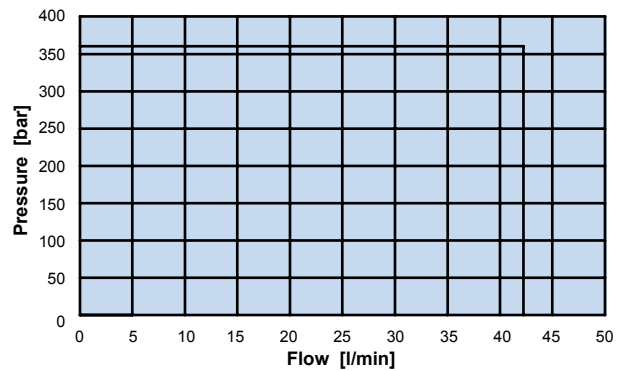
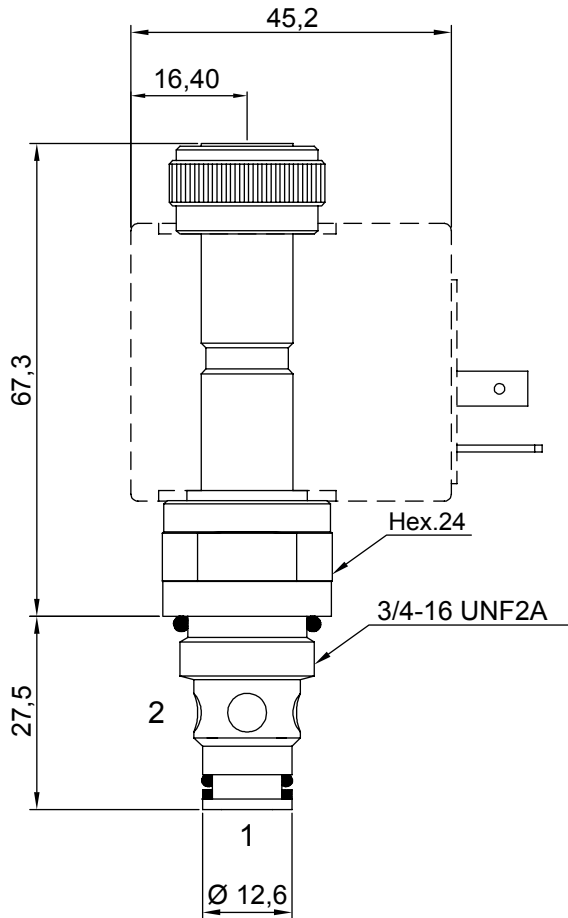
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow **40 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Coil **CT-9400** to be ordered separately

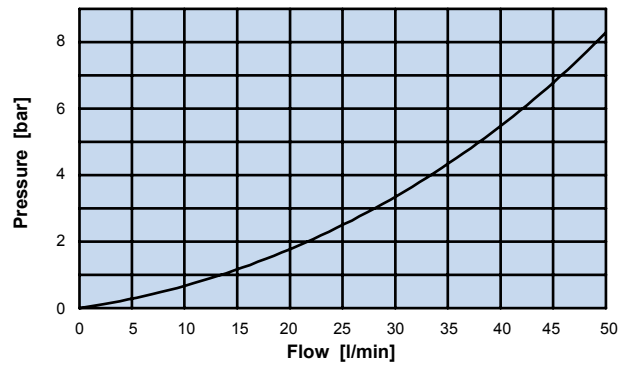


Scheme 0

Scheme 1



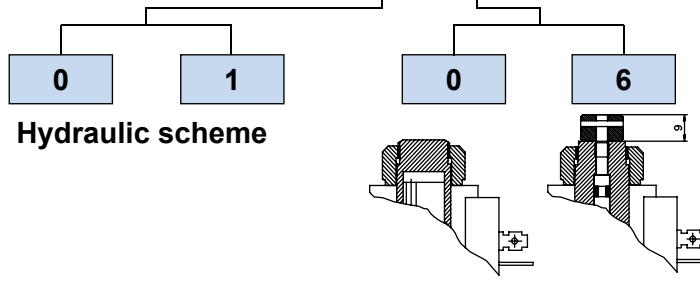
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 5 2 1 **0** **0 0**

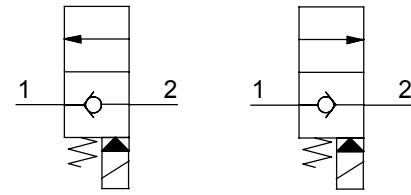


Hydraulic scheme

No emergency Unscrew type

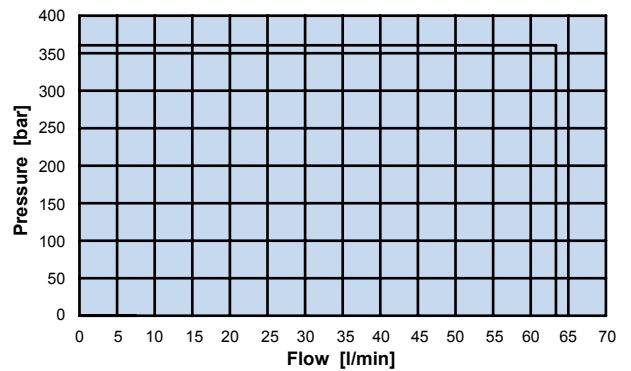
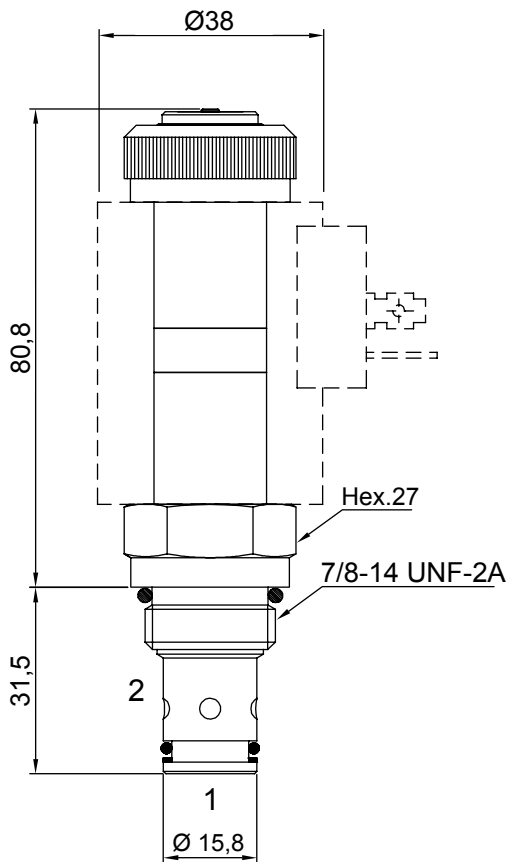
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- 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



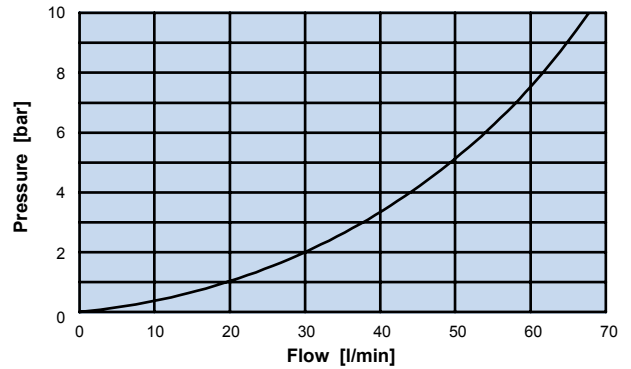
Scheme 0

Scheme 1



Application limits from 2 to 1 and 1 to 2

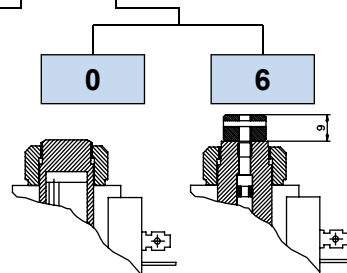
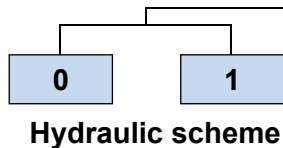
87



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

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

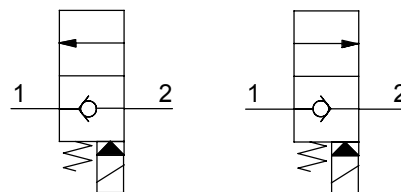


No emergency Unscrew type



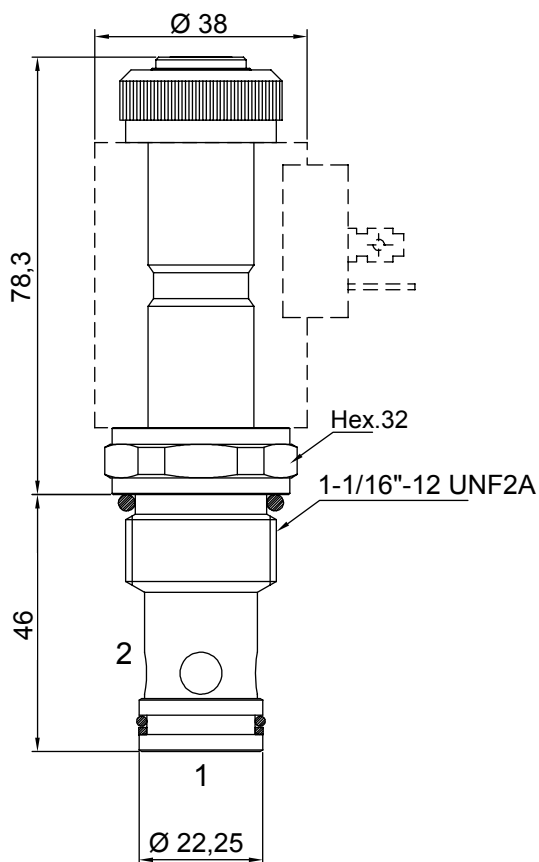
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- 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

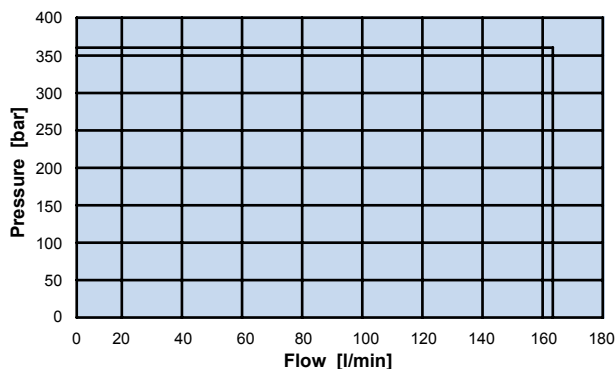


Scheme 0

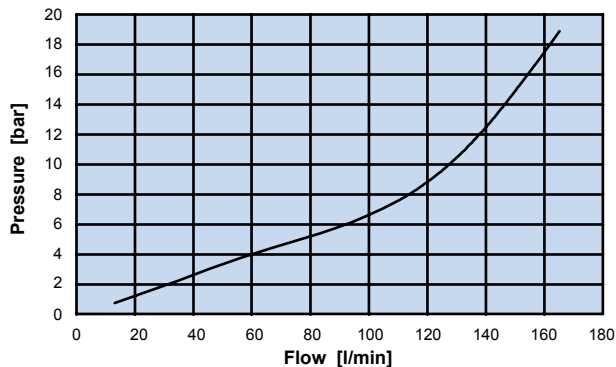
Scheme 1



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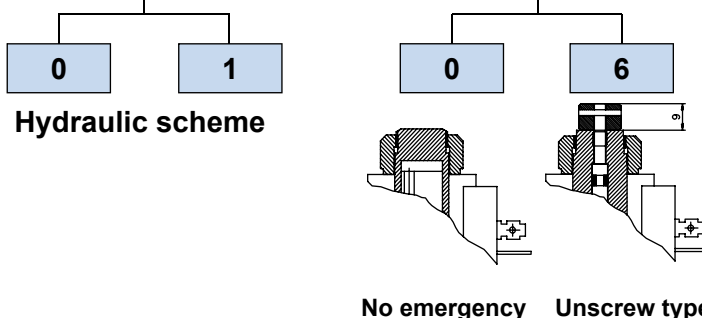
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

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

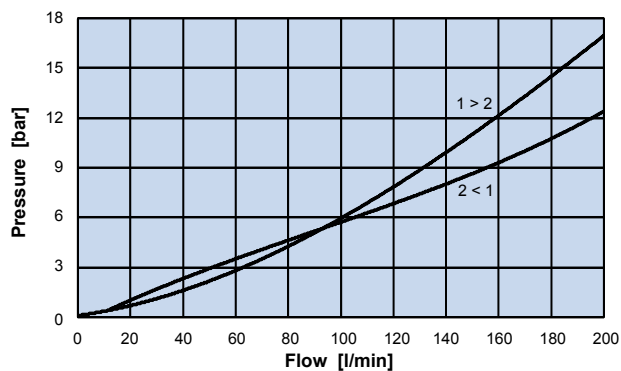
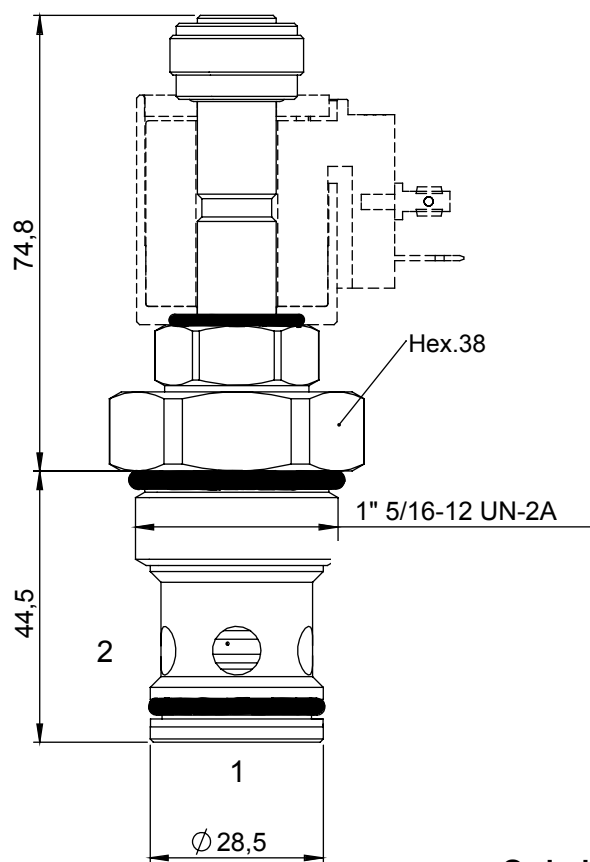
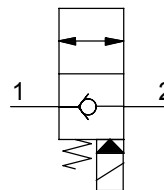


Hydraulic scheme

No emergency Unscrew type

2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **200 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C250000**
- Cartridge tightening torque **65 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,58 Kg**
- Coil **CT-9400** to be ordered separately

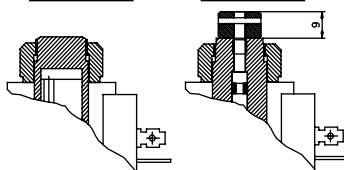


89

Ordering code

0 5 6 5 1 0 0 [] 0 0

0 **6**

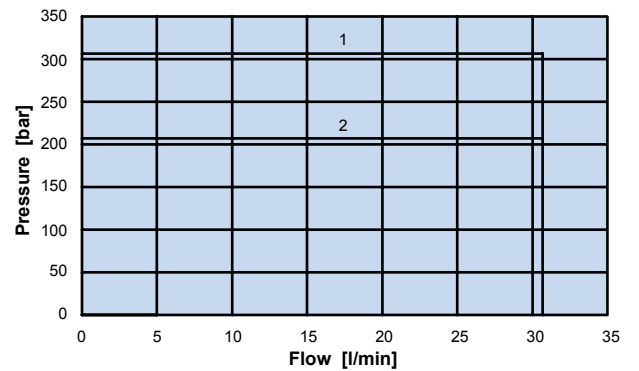
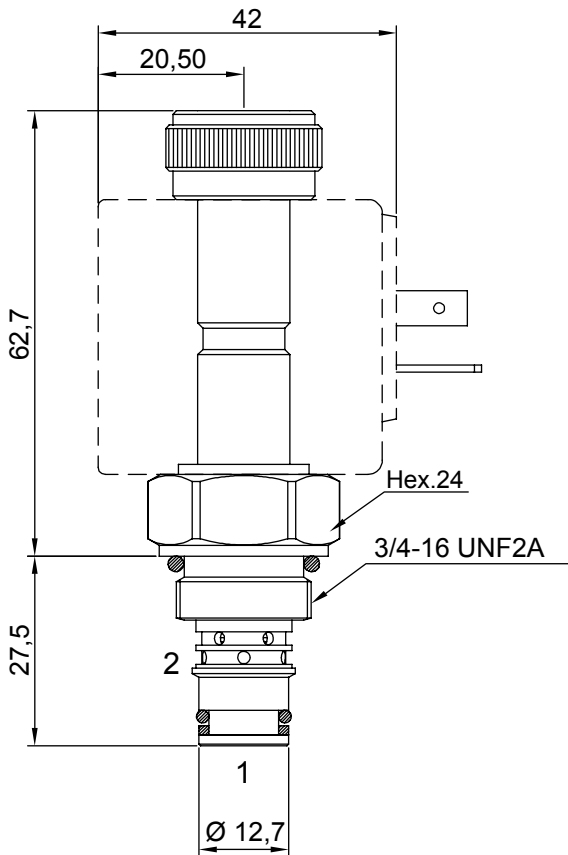
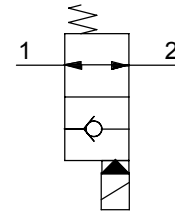


No emergency Unscrew type

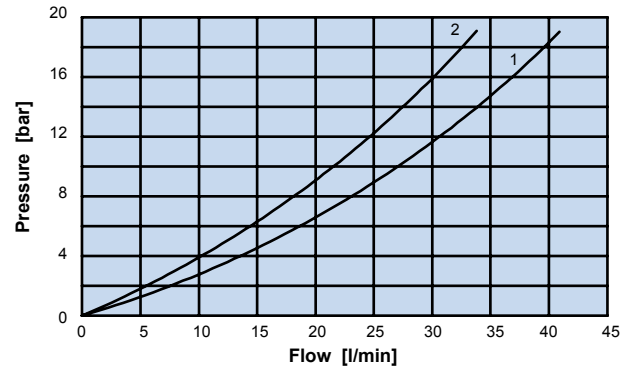


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow **30 l/min**
- Max working pressure **300 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Filter **280 microm**
- Coil **CT-9300** to be ordered separately



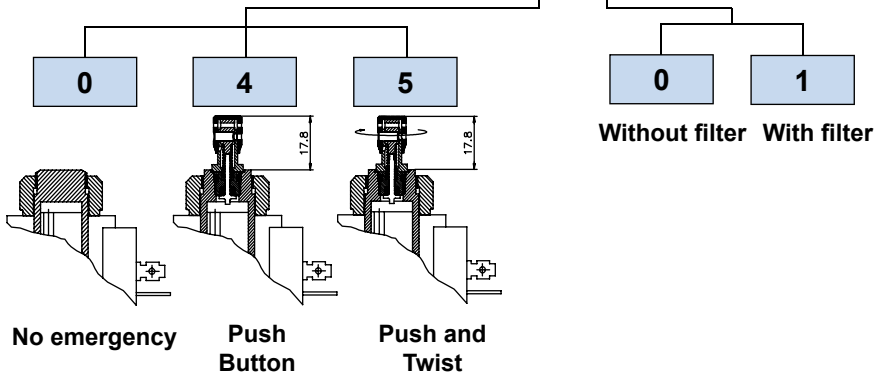
1 = Application limits from 2 to 1
2 = Application limits from 1 to 2



1 = Pressure drop from 2 to 1 without filter
2 = Pressure drop from 2 to 1 with filter

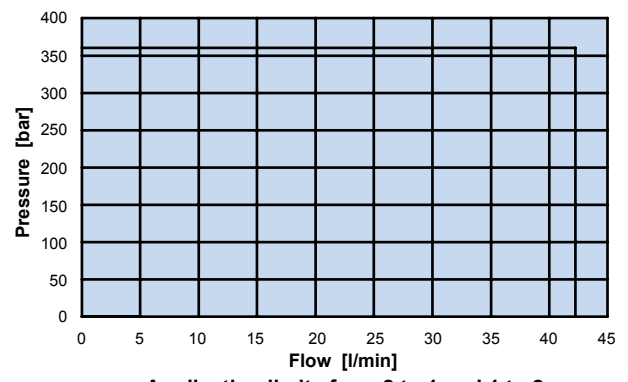
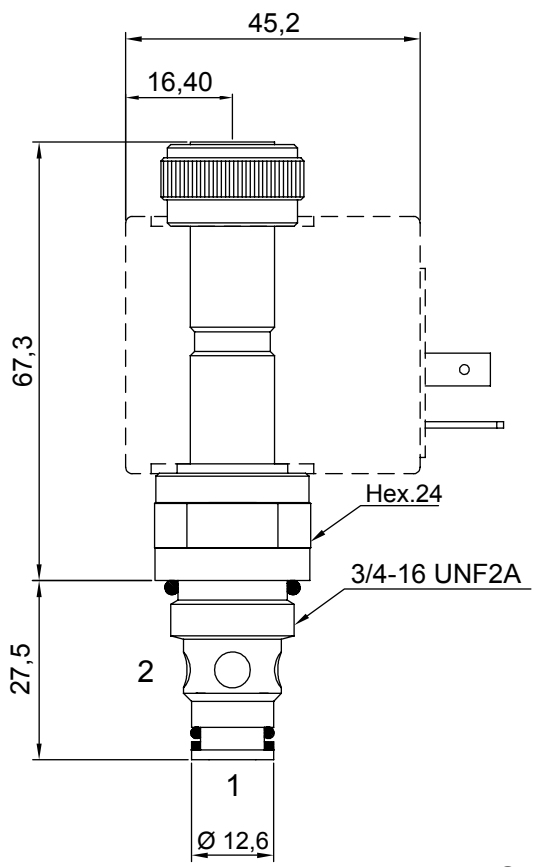
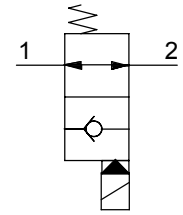
Ordering code

0 5 6 2 5 0 0 **0**

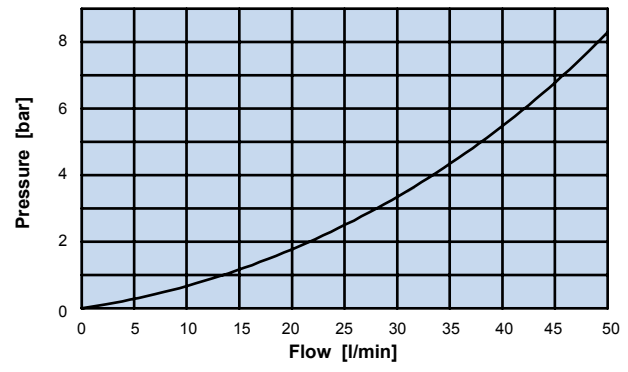


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- Flow **40 l/min**
- Max working pressure **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Coil **CT-9400** to be ordered separately



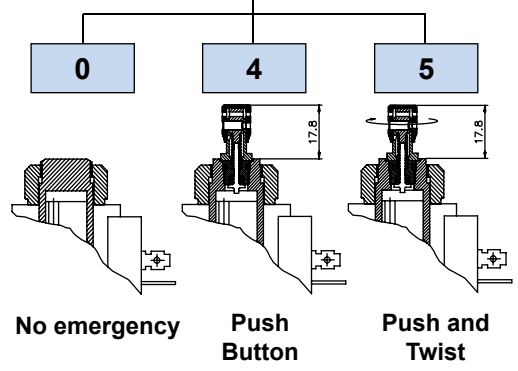
Application limits from 2 to 1 and 1 to 2 91



Pressure drop from 2 to 1 and from 1 to 2

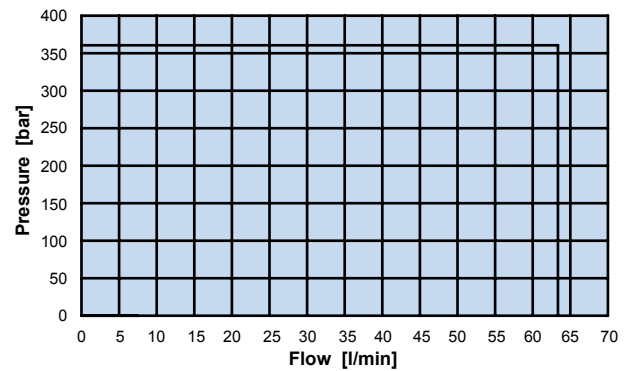
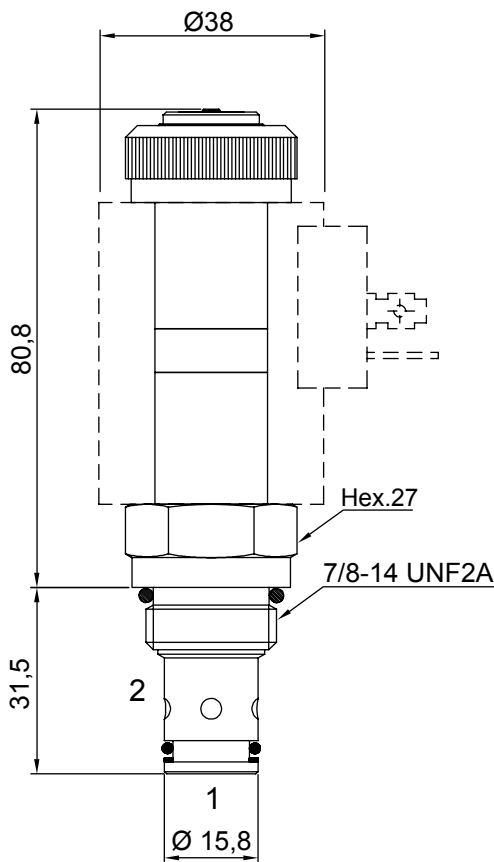
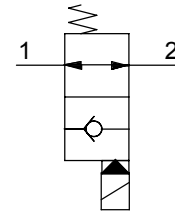
Ordering code

0 5 6 2 0 0 0 0 0

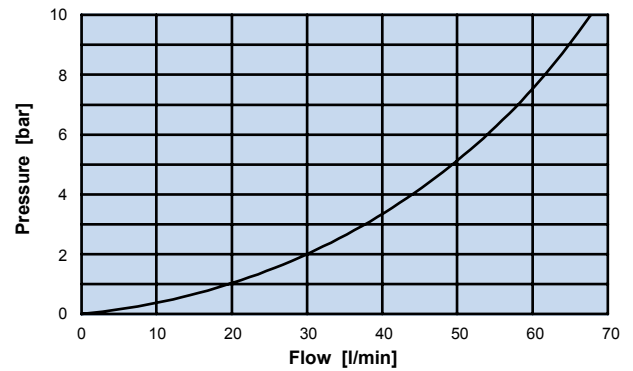


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- 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



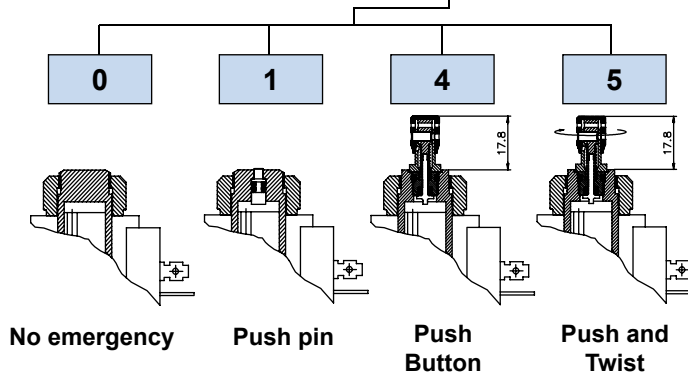
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

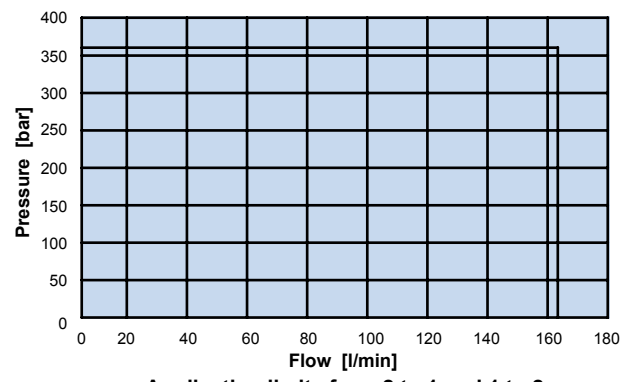
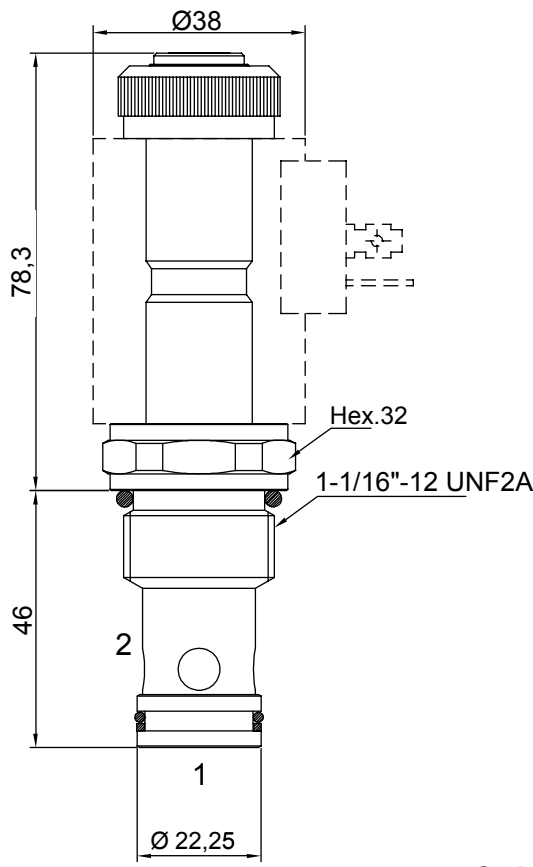
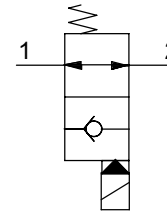
Ordering code

0 5 6 3 0 0 0 0 0 0

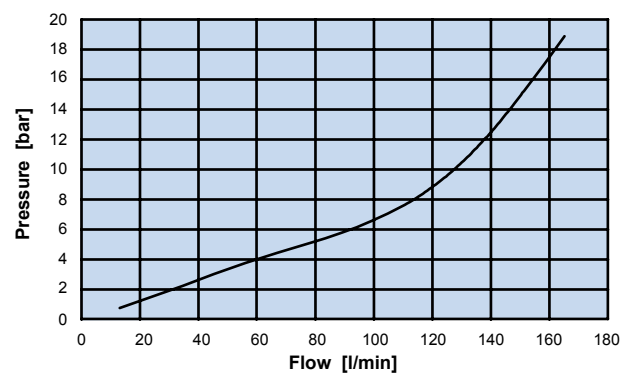


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NO

- 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



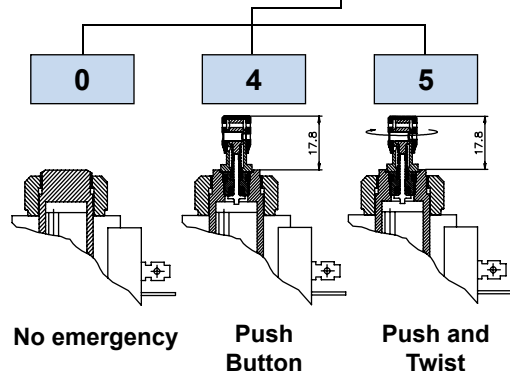
Application limits from 2 to 1 and 1 to 2 93



Pressure drop from 2 to 1 and from 1 to 2

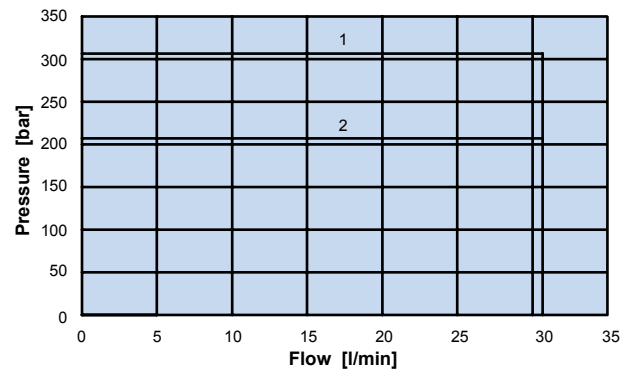
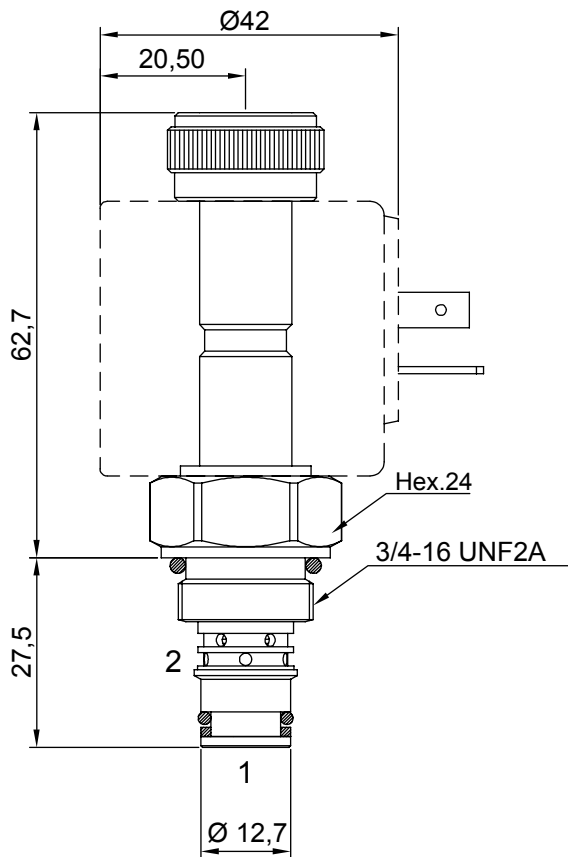
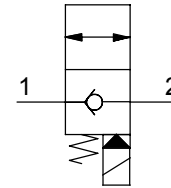
Ordering code

0 5 6 4 0 0 0 0 0 0

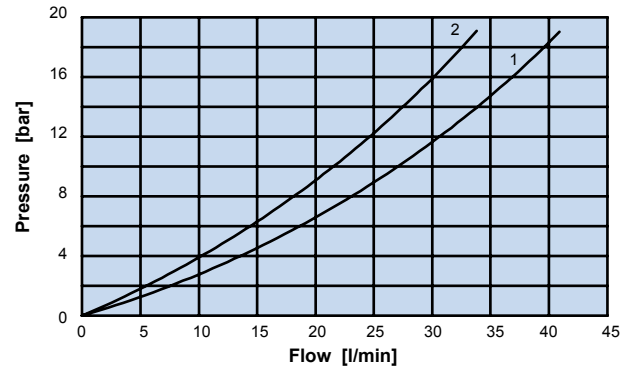


2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **30 l/min**
- Max working pressure **300 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,32 Kg**
- Filter **280 microm**
- Coil **CT-9300** to be ordered separately



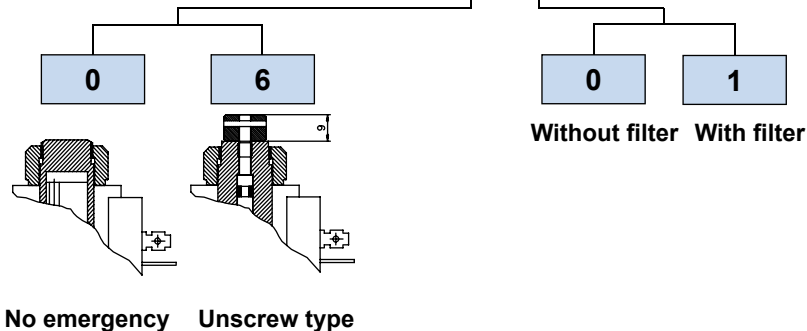
1 = Application limits from 2 to 1
2 = Application limits from 1 to 2



1 = Pressure drop from 2 to 1 without filter
2 = Pressure drop from 2 to 1 with filter

Ordering code

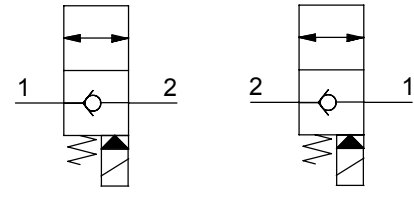
0 5 6 2 6 0 0 [] [] **0**



94

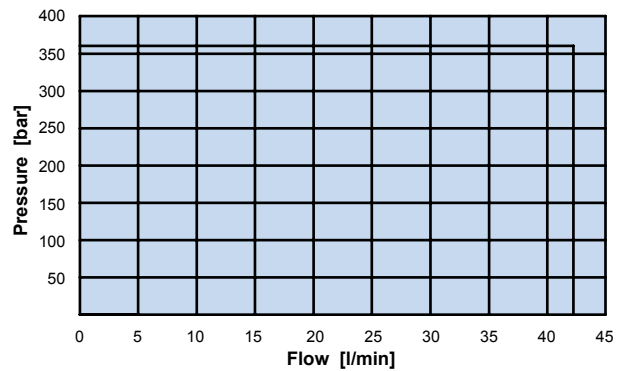
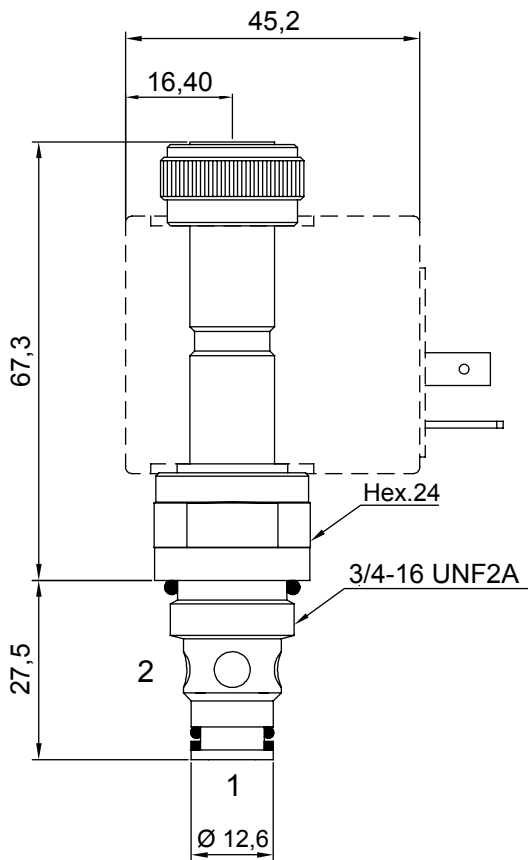
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- Flow **40 l/min**
- Max working pressure..... **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C220000**
- Cartridge tightening torque..... **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,32 Kg**
- Coil **CT-9400** to be ordered separately



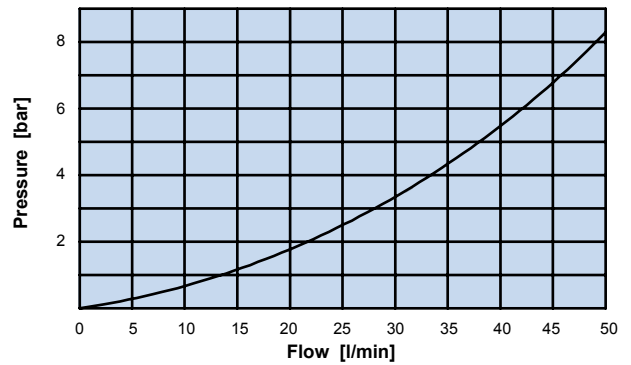
Scheme 0

Scheme 1



Application limits from 2 to 1 and 1 to 2

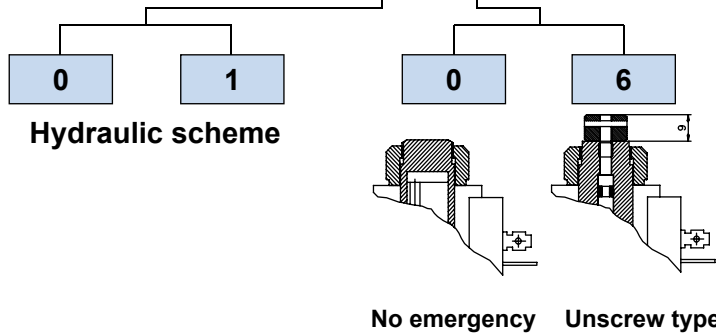
95



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 6 2 1 [] 0 [] 0 0



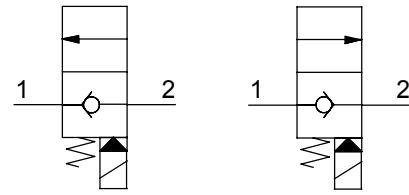
Hydraulic scheme

No emergency Unscrew type



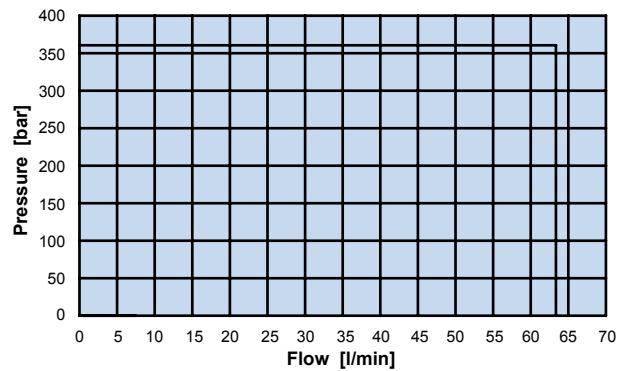
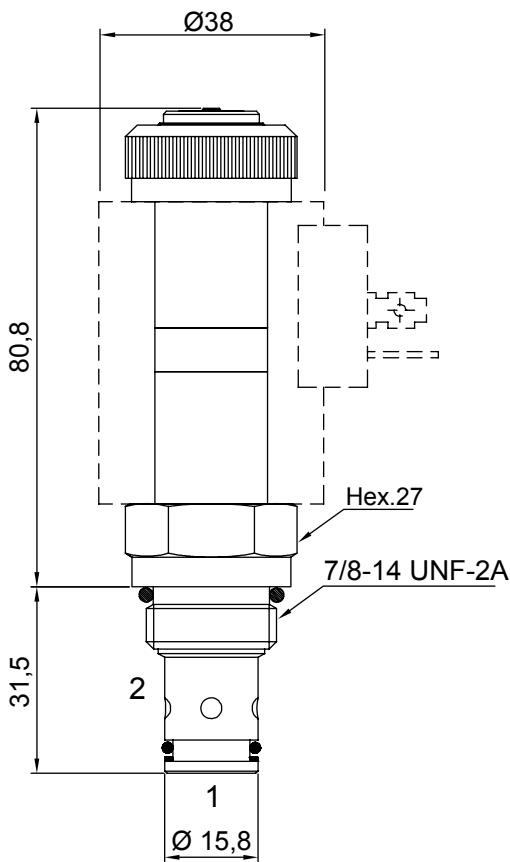
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- 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

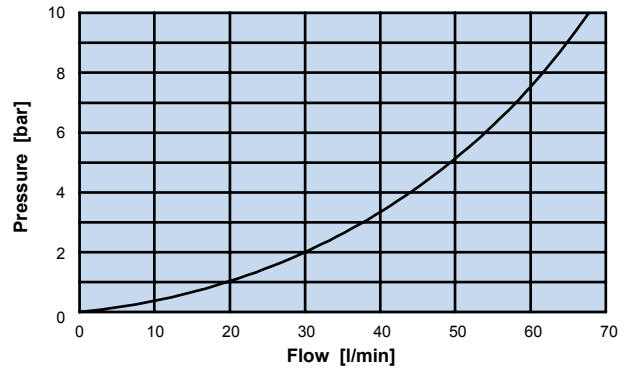


Scheme 0

Scheme 1



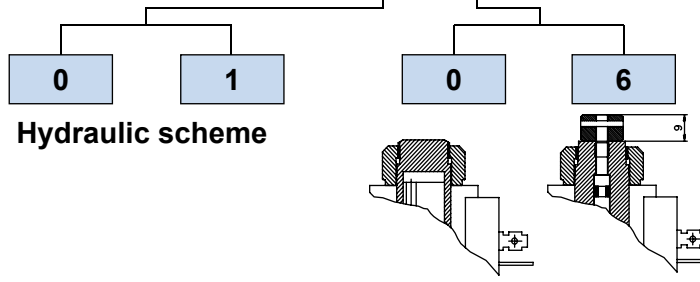
Application limits from 2 to 1 and 1 to 2



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 6 3 1 [] 0 [] 0 0

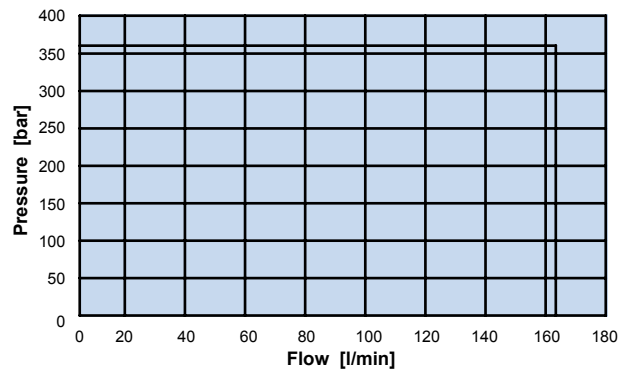
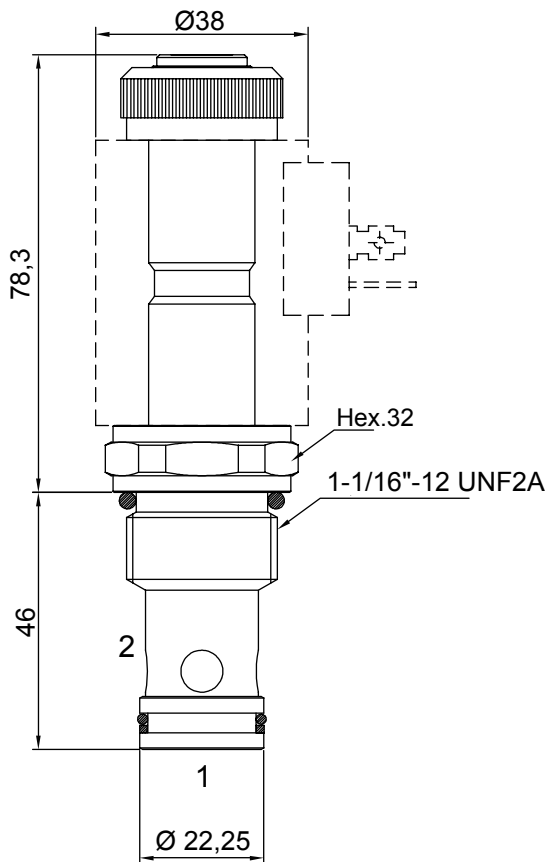
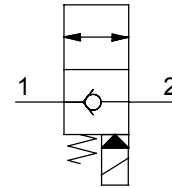


Hydraulic scheme

No emergency Unscrew type

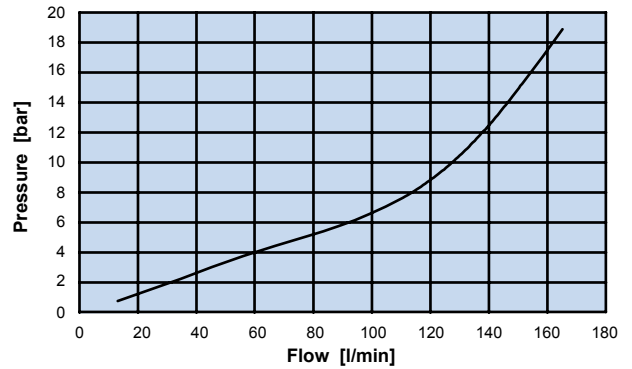
2 WAYS 2 POSITIONS ELECTRIC VALVE, PILOT POPPET OPERATED NC

- 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



Application limits from 2 to 1 and 1 to 2

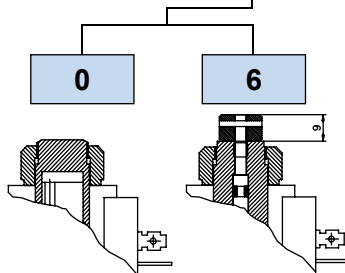
97



Pressure drop from 2 to 1 and from 1 to 2

Ordering code

0 5 6 4 1 0 0 [] 0 0

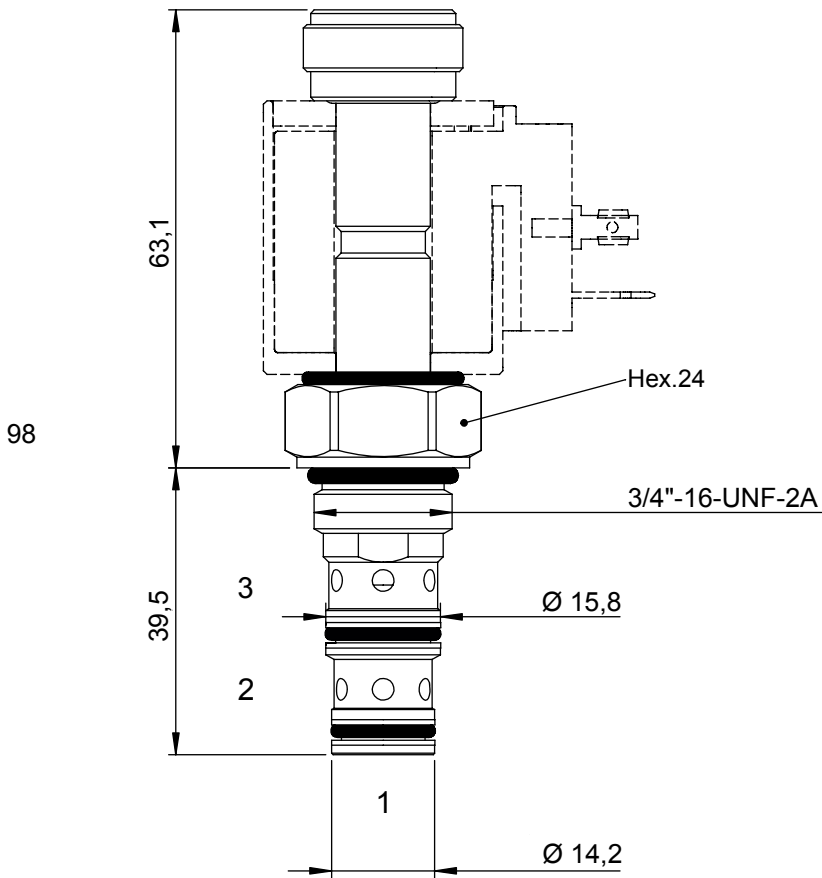
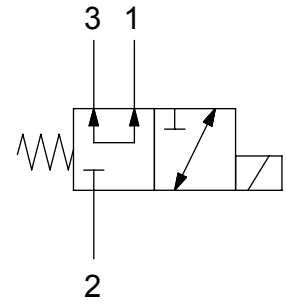


No emergency Unscrew type

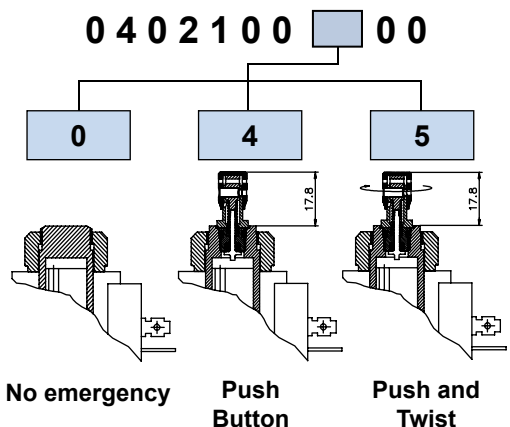


3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Max working flow (P in port 1) **6 l/min**
- Max working flow (P in port 2) **15 l/min**
- Max working flow (P in port 3) **5,5 l/min**
- Max working pressure **250 bar**
- Cavity **C320000**
- Max Leakage at 250 bar **40 cc/min**
- Seals **NBR**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,35 Kg**
- Coil **CT-9400** to be ordered separately

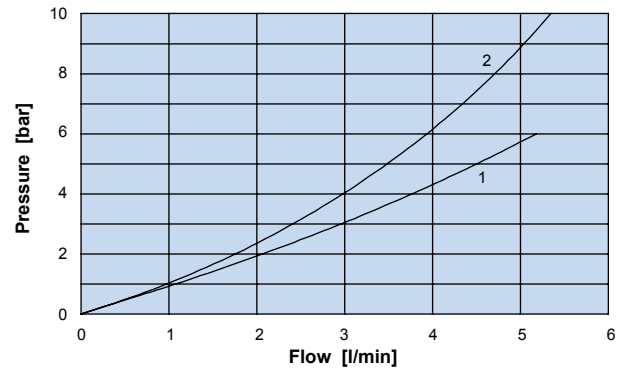
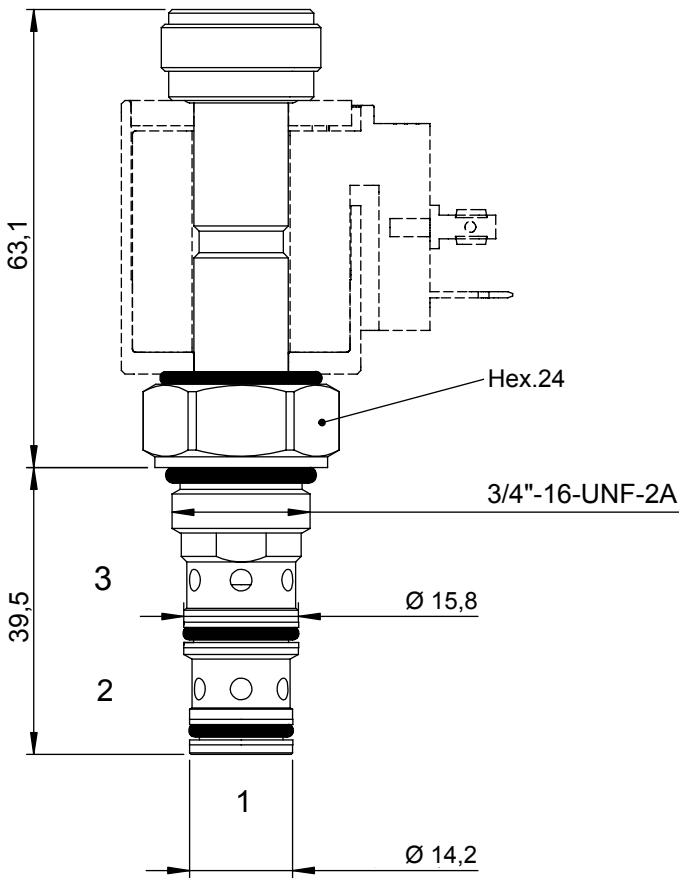
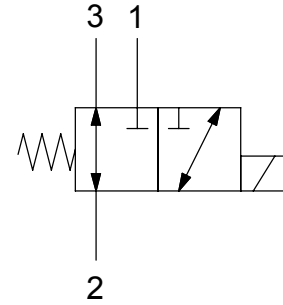


Ordering code



3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING - LOW PRESSURE -

- Flow **5 l/min**
- Max working pressure..... **50 bar**
- Leakage **.20 cc/min**
- Seals **NBR**
- Cavity **C320000**
- Cartridge tightening torque..... **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **.0,35 Kg**
- Coil **CT-9400** to be ordered separately



1 = Pressure drop from 2 in 1
2 = Pressure drop from 3 in 1

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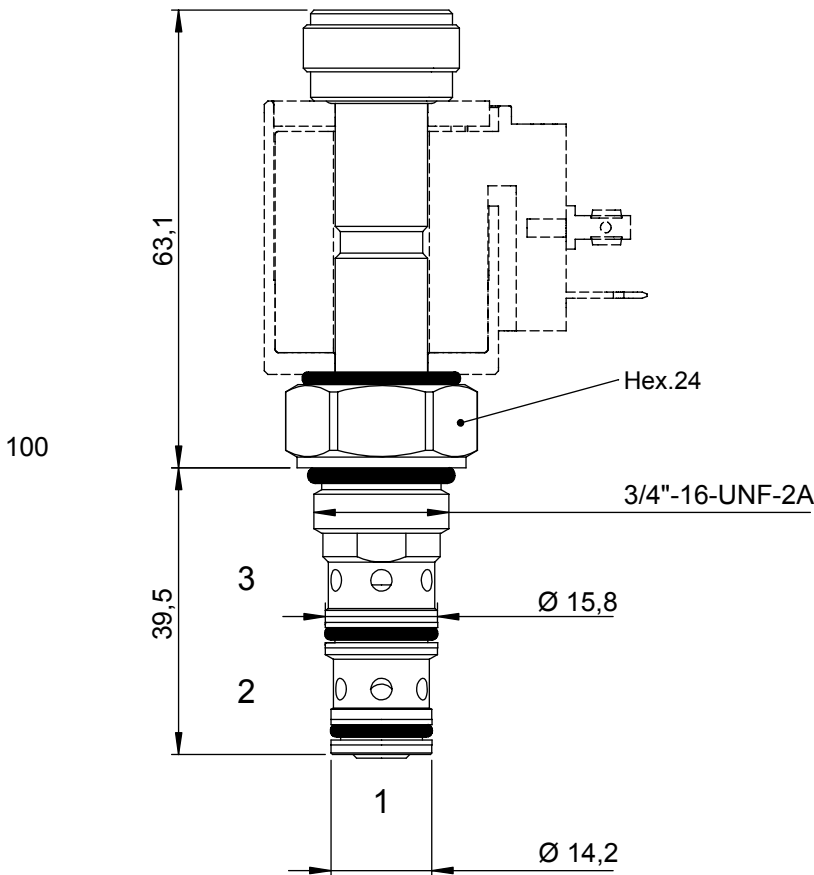
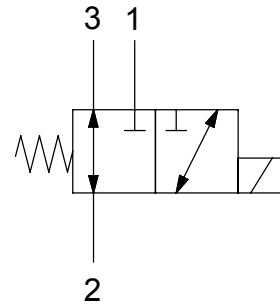
Ordering code

0 4 0 2 3 1 0 0 0 1



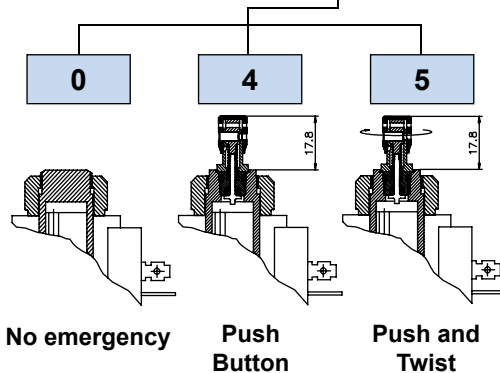
3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Max working flow (P in port 1) 7 l/min
- Max working flow (P in port 2) 15 l/min
- Max working flow (P in port 3) 15 l/min
- Max working pressure 250 bar
- Cavity C320000
- Max Leakage at 250 bar 40 cc/min
- Seals NBR
- Cartridge tightening torque 30 Nm
- Ring nut tightening torque 5 Nm
- Weight (with coil) 0,35 Kg
- Coil **CT-9400** to be ordered separately



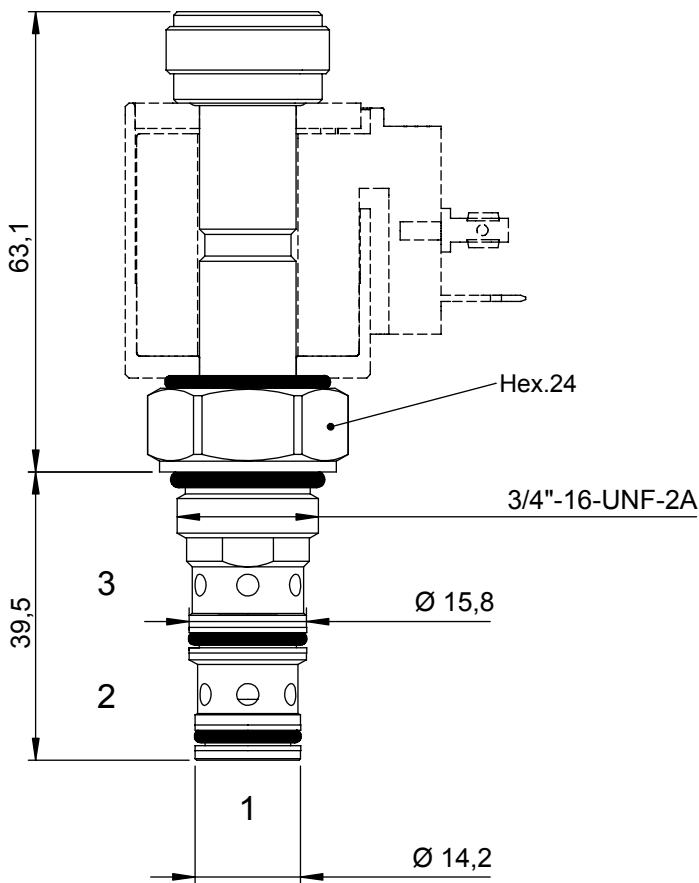
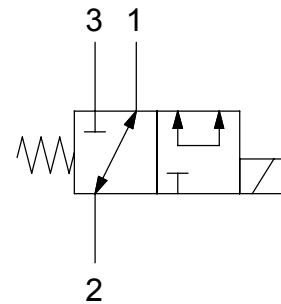
Ordering code

0 4 0 2 3 0 0 [] 0 0



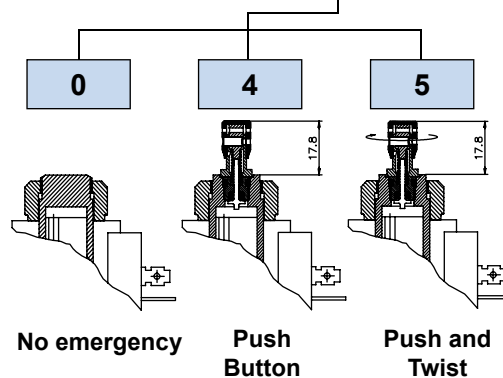
3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Max working flow (P in port 1) 7 l/min
- Max working flow (P in port 2) 15 l/min
- Max working flow (P in port 3) 15 l/min
- Max working pressure 250 bar
- Cavity C320000
- Max Leakage at 250 bar 40 cc/min
- Seals NBR
- Cartridge tightening torque 30 Nm
- Ring nut tightening torque 5 Nm
- Weight (with coil) 0,35 Kg
- Coil **CT-9400** to be ordered separately



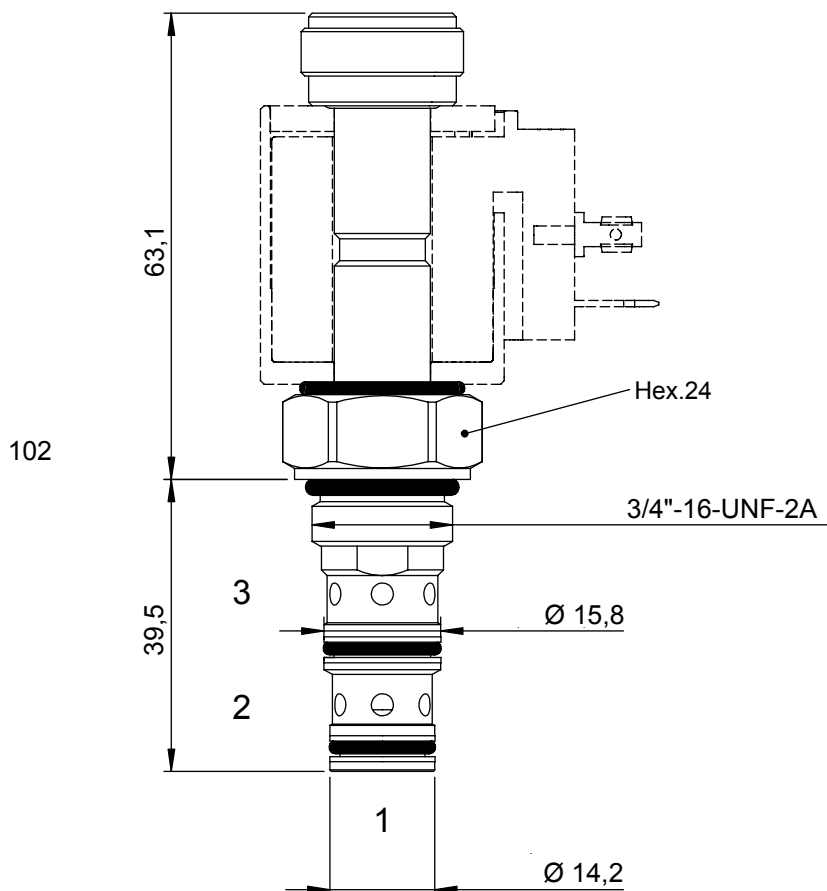
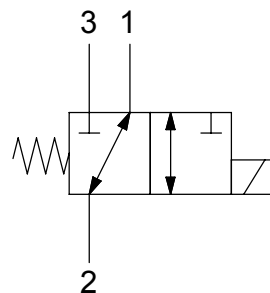
Ordering code

0 4 0 2 4 0 0 0 0



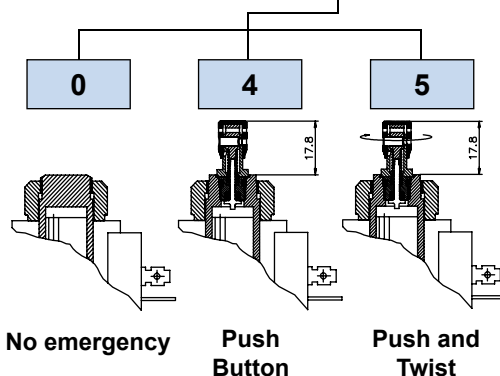
3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Max working flow (P in port 1) 7 l/min
- Max working flow (P in port 2) 13,5 l/min
- Max working flow (P in port 3) 5,5 l/min
- Max working pressure 250 bar
- Cavity C320000
- Max Leakage at 250 bar 40 cc/min
- Seals NBR
- Cartridge tightening torque 30 Nm
- Ring nut tightening torque 5 Nm
- Weight (with coil) 0,35 Kg
- Coil **CT-9400** to be ordered separately



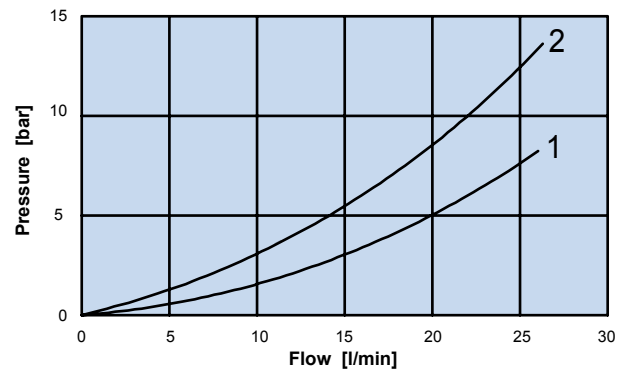
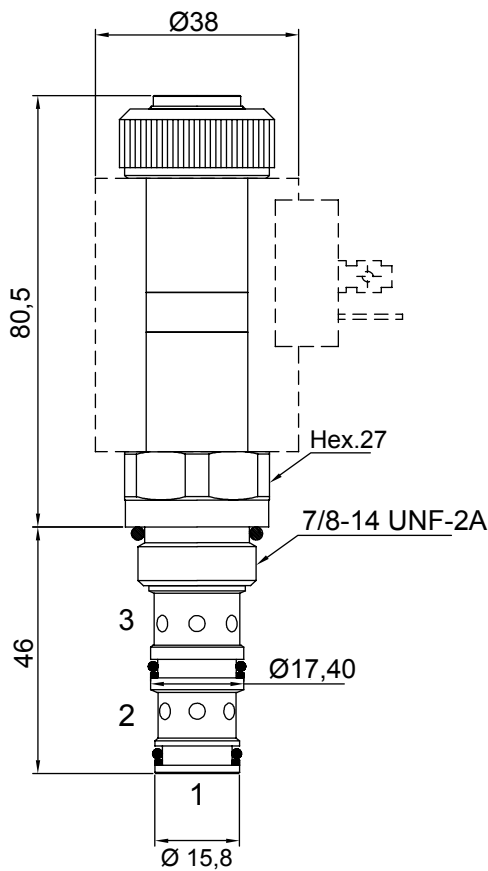
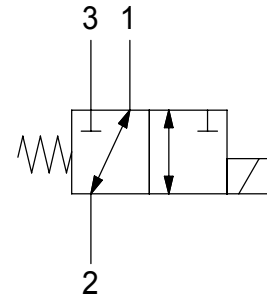
Ordering code

0 4 0 2 2 0 0 0 0



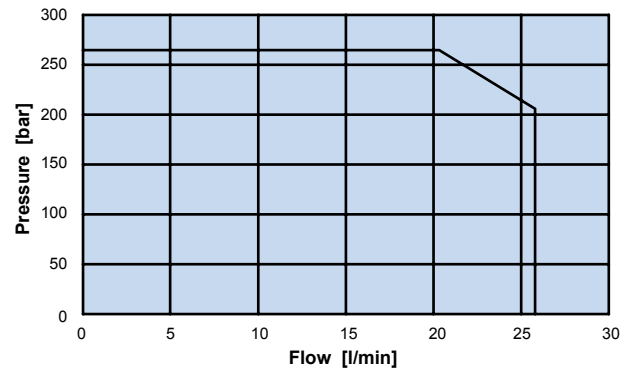
3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Flow **20 l/min**
- Max working pressure..... **250 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C330000**
- Cartridge tightening torque..... **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,56 Kg**
- Coil **CT-9801** to be ordered separately



1 = Pressure drop from 2 in 1
2 = Pressure drop from 3 in 2

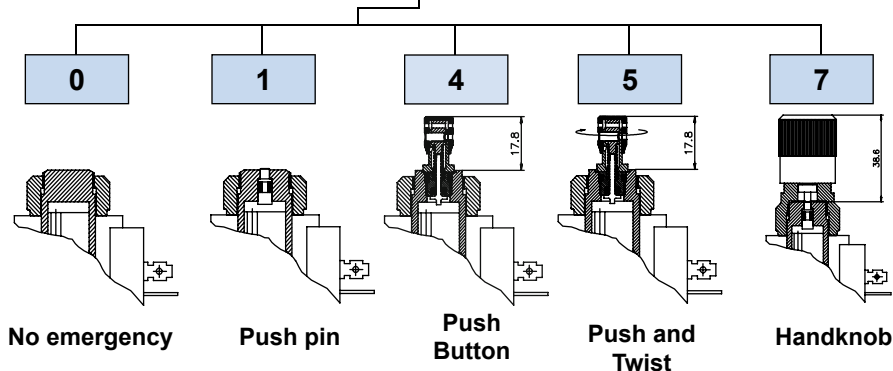
103



Application limits from 2 in 1 and 2 in 3

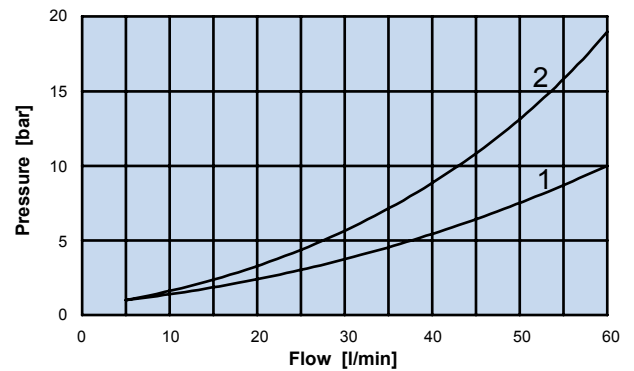
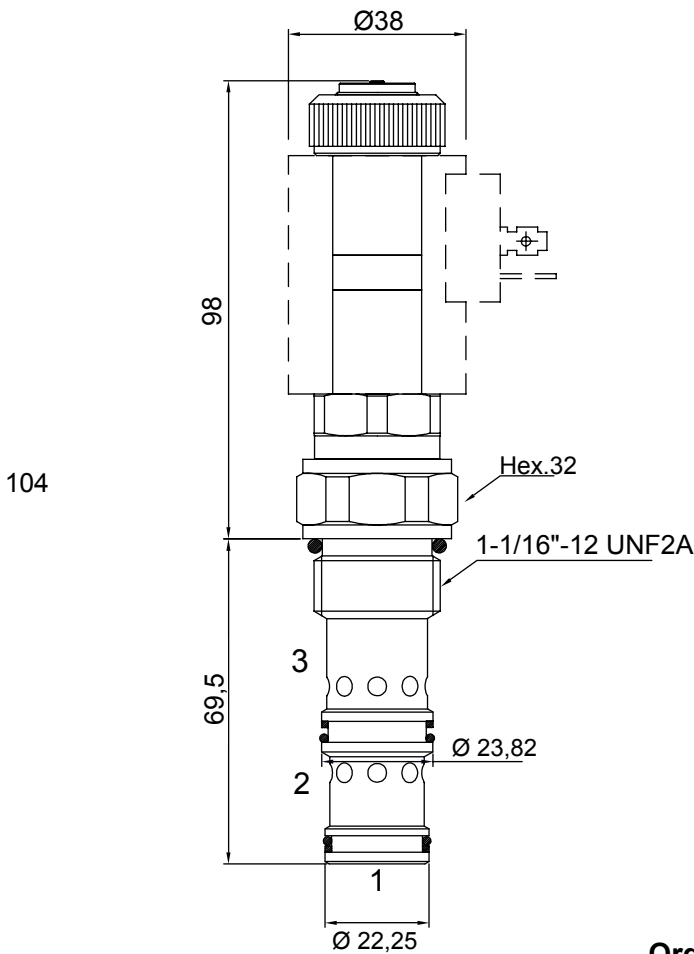
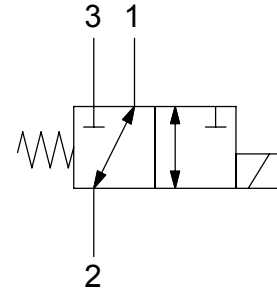
Ordering code

0 4 0 3 2 0 0 0 0

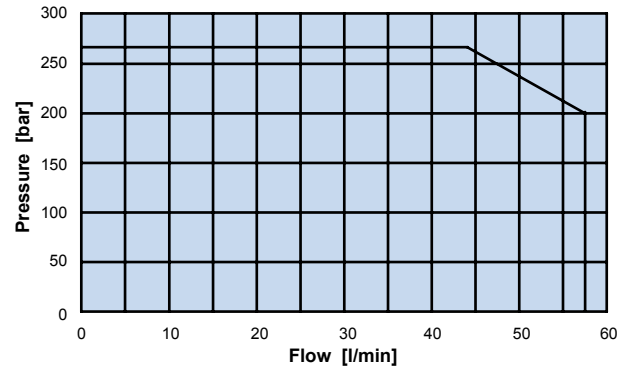


3 WAYS 2 POSITIONS ELECTRIC SPOOL VALVE, DIRECT ACTING

- Flow **50 l/min**
- Max working pressure in 1:2:3 **350 bar**
- Leakage **150 cc/min**
- Seals **NBR**
- Cavity **C340000**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,70 Kg**
- Coil **CT-9800** to be ordered separately



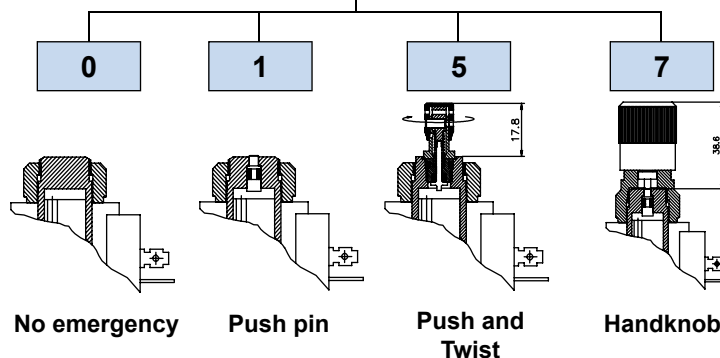
1 = Pressure drop from 2 in 1
2 = Pressure drop from 3 in 2



Application limits from 2 in 1 and 2 in 3

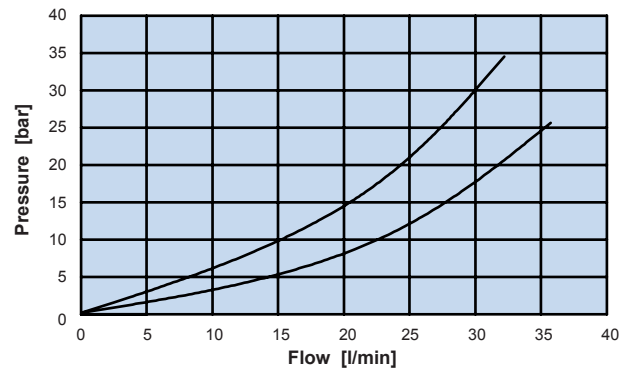
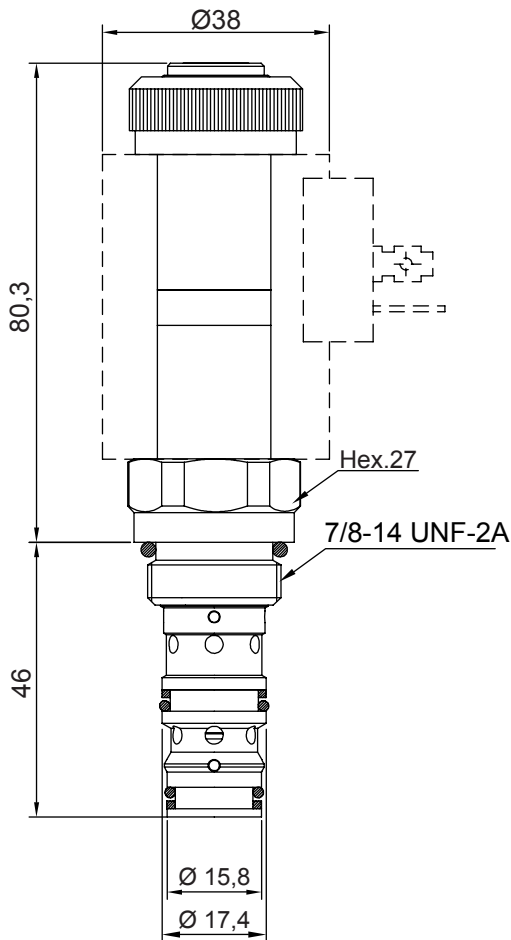
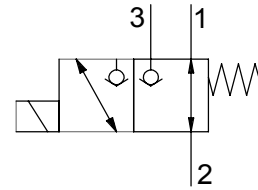
Ordering code

0 4 0 4 2 0 0 [] 0 0



3 WAYS 2 POSITIONS ELECTRIC ON/OFF POPPET VALVE DIRECT ACTING

- Flow **30 l/min**
- Max working pressure in 3:2:1 **350 bar**
- Leakage **0,25 cc/min**
- Seals **NBR**
- Cavity **C330000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9800** to be ordered separately

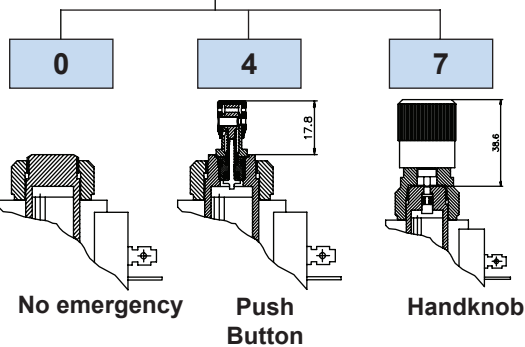


1 = Pressure drop from 2 to 3 and 3 to 2
2 = Pressure drop from 1 to 2 and 2 to 1

105

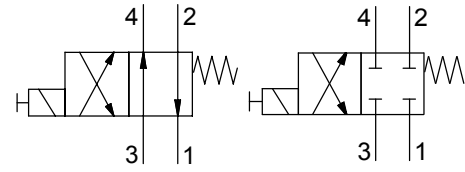
Ordering code

0 4 2 3 2 0 0 [] 0 0



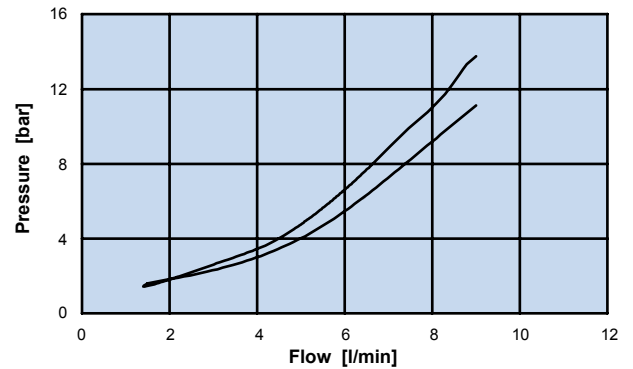
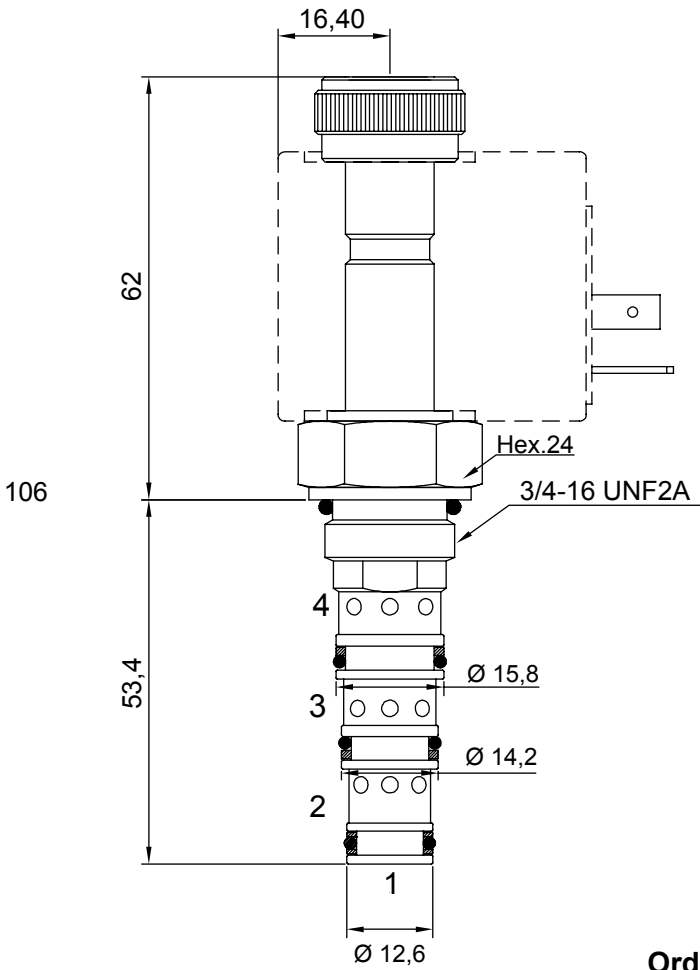
4 WAYS 2 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **10 l/min**
- Max working pressure **210 bar**
- Leakage **60 cc/min**
- Seals **NBR**
- Cavity **C420000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,35 Kg**
- Coil **CT-9400** to be ordered separately

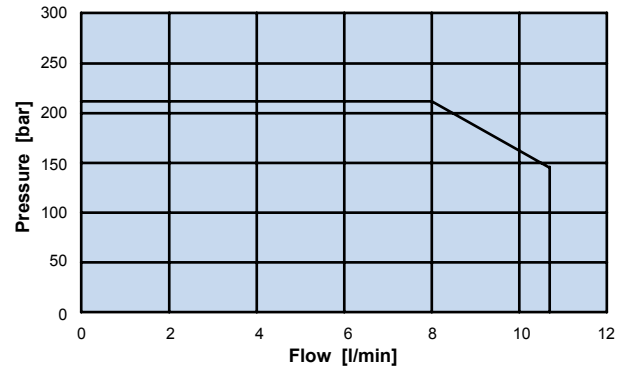


Scheme 2

Scheme 3



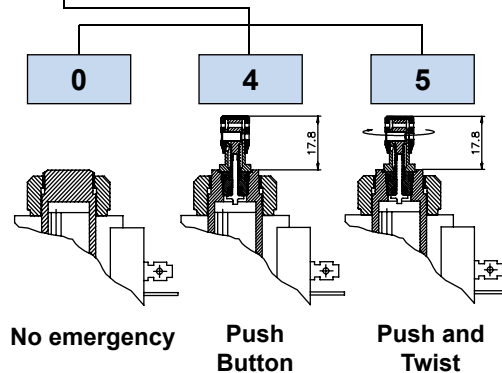
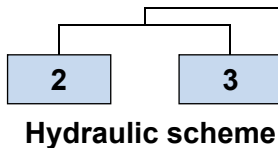
1 = Pressure drop from 2/4 to 3
2 = Pressure drop from 3 to 2/4



Application limits from 3 in 2/4

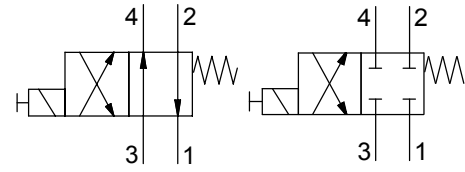
Ordering code

0 4 1 2 [] 0 0 [] 0 0

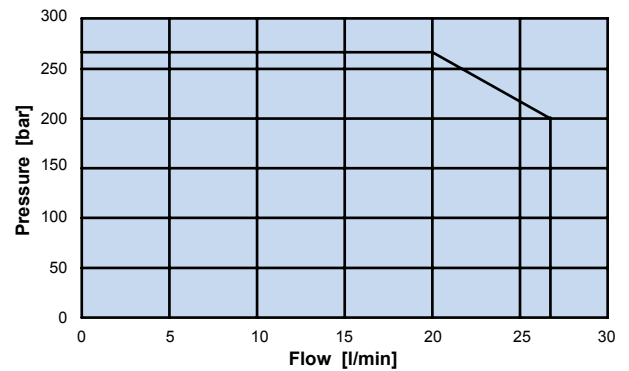
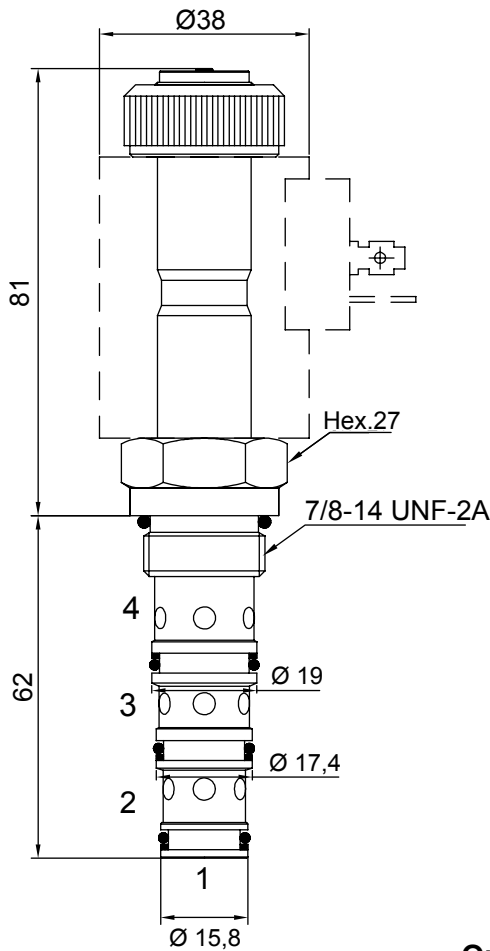


4 WAYS 2 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **25 l/min**
- Max working pressure **250 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9801** to be ordered separately

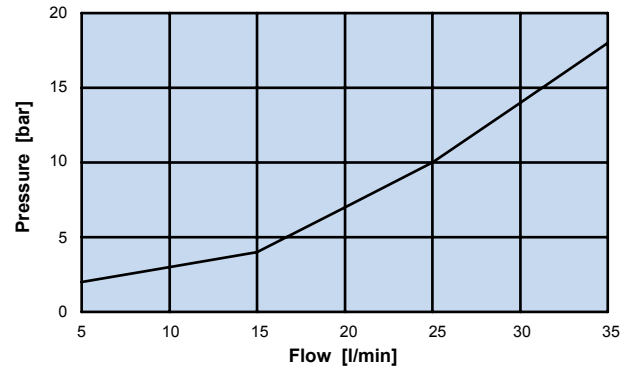


Scheme 2 **Scheme 3**



Application limits from 3 in 2/4

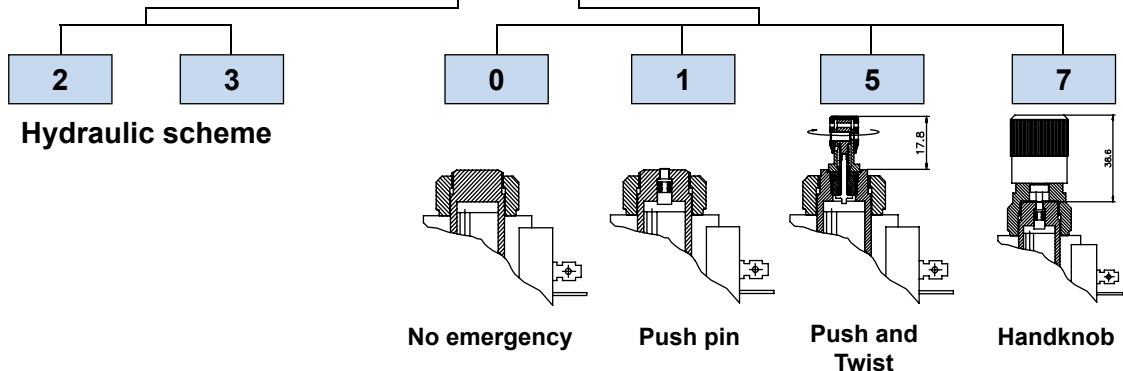
107



Pressure drop from 3 to 2/4

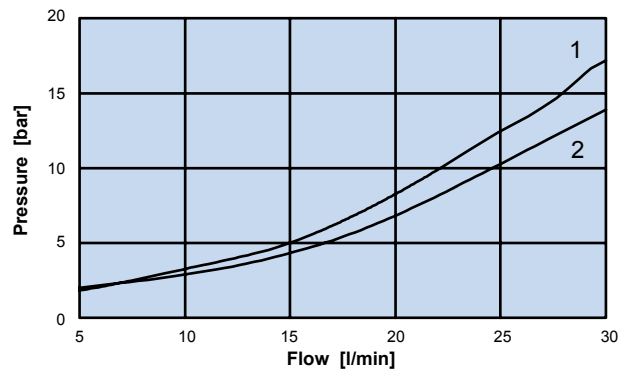
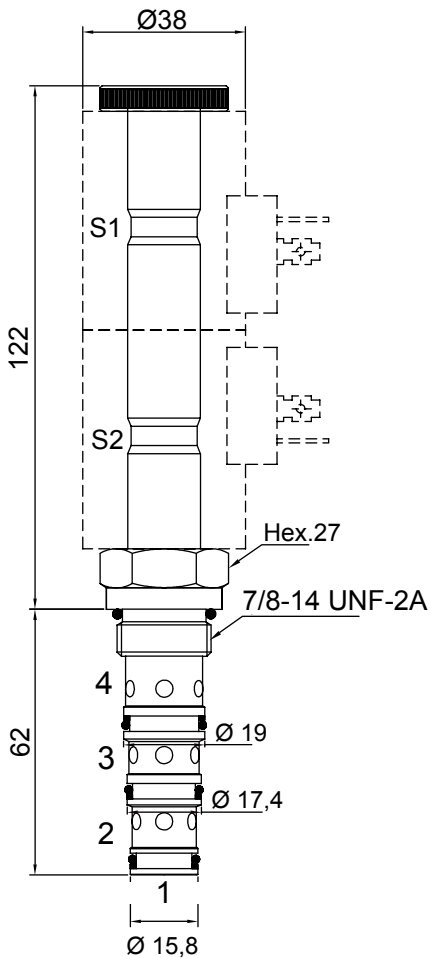
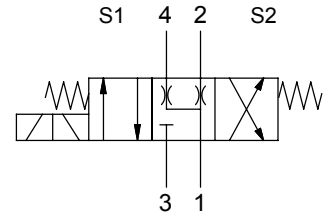
Ordering code

0 4 1 3 **0 0** **0 0**



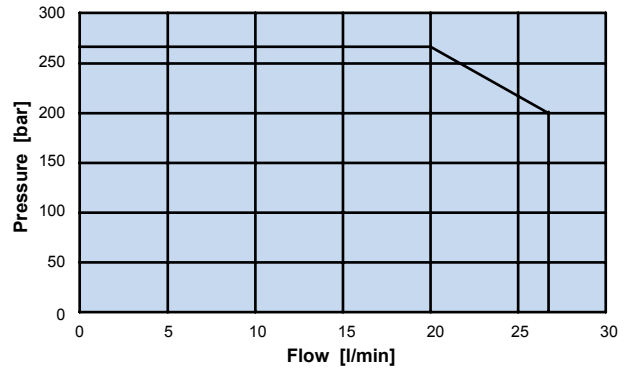
4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **25 l/min**
- Max working pressure in 2:3:4 **250 bar**
- Max working pressure in 1 **20 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,9 Kg**
- Coil **CT-9801** to be ordered separately



1 = Pressure drop graph from 3 to 2 or 4
2 = Pressure drop graph from 2 or 4 in 1

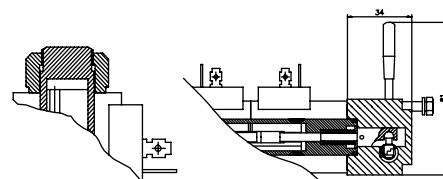
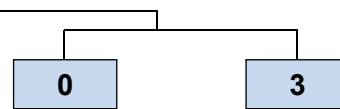
109



Application limits from 3 to 4 or 2

Ordering code

0 4 6 3 1 0 0 0 0



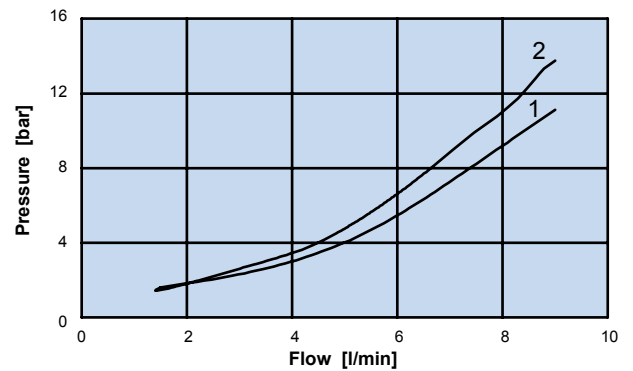
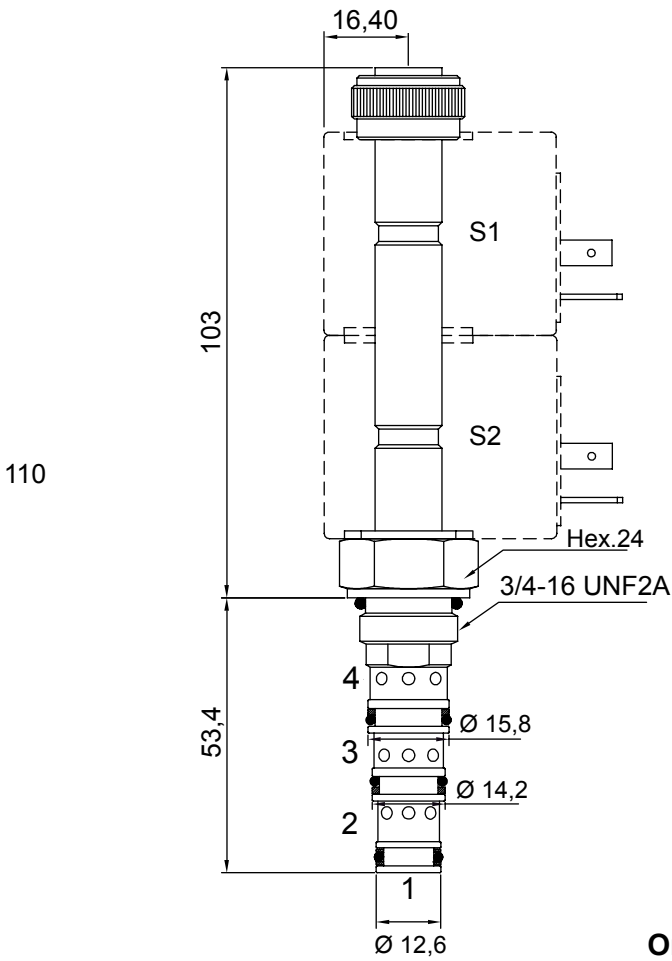
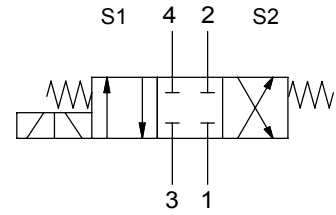
No emergency

Safety lever

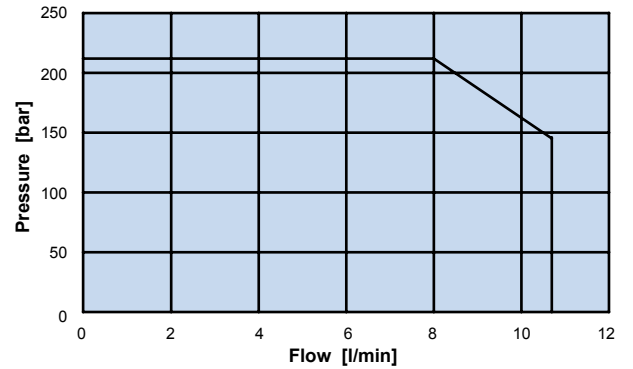


4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **10 l/min**
- Max working pressure in 2:3:4 **210 bar**
- Max working pressure in 1 **20 bar**
- Leakage **60 cc/min**
- Seals **NBR**
- Cavity **C420000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,70 Kg**
- Coil **CT-9400** to be ordered separately



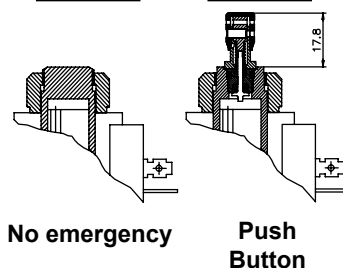
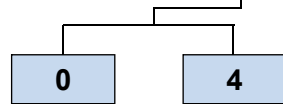
1 = Pressure drop from 2/4 to 3
2 = Pressure drop from 3 to 2/4



Application limits from 3 in 2/4

Ordering code

0 4 6 2 2 0 0 0 0

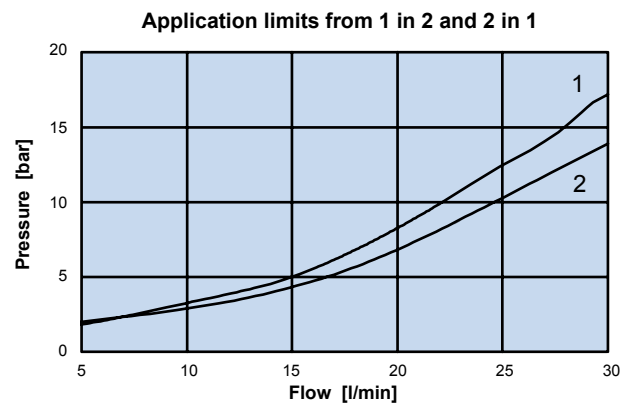
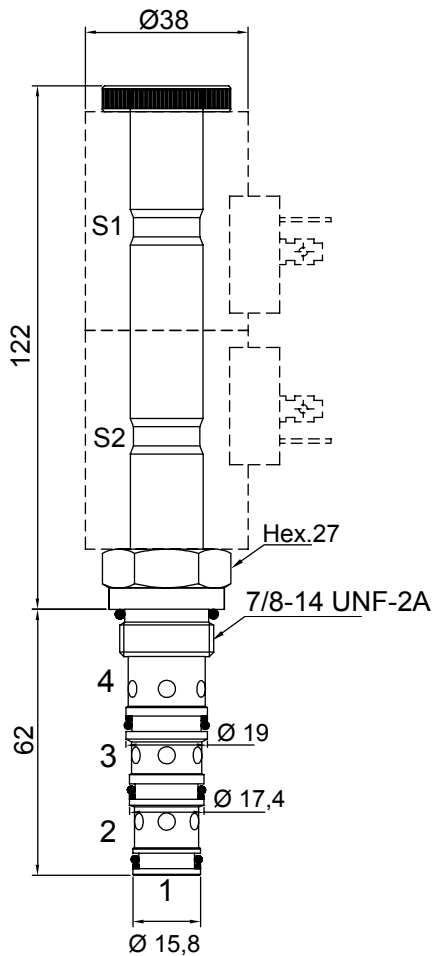
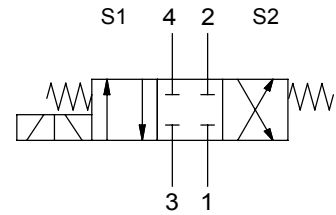


No emergency

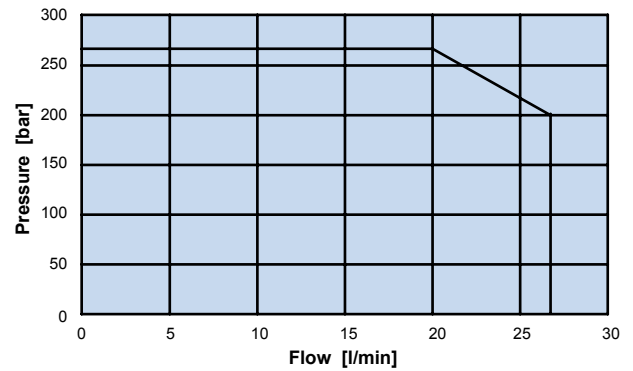
Push Button

4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **25 l/min**
- Max working pressure in 2:3:4 **250 bar**
- Max working pressure in 1 **20 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,9 Kg**
- Coil **CT-9801** to be ordered separately



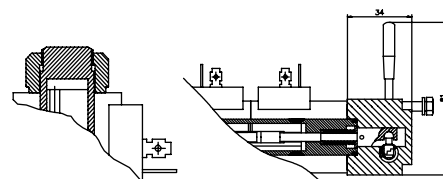
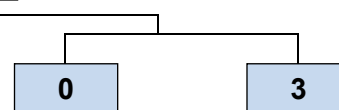
1 = Pressure drop graph from 3 to 2 or 4
2 = Pressure drop graph from 2 or 4 in 1



Application limits from 3 to 4 or 2

Ordering code

0 4 6 3 2 0 0 0 0



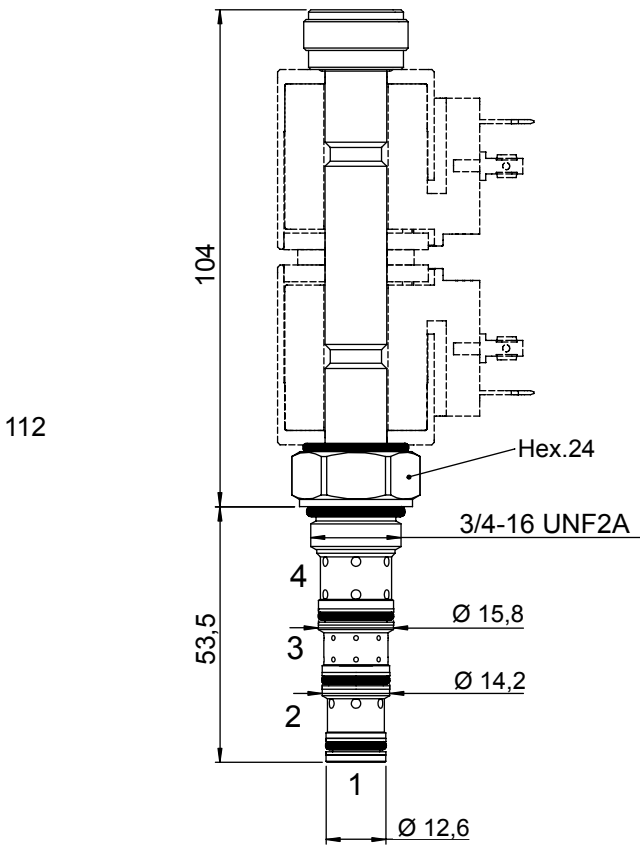
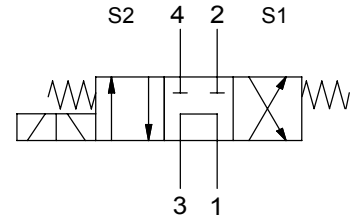
No emergency

Safety lever



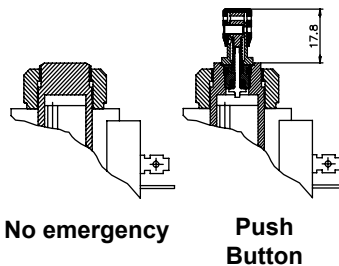
4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **10 l/min**
- Max working pressure in 2:3:4 **210 bar**
- Max working pressure in 1 **20 bar**
- Leakage **40 cc/min**
- Seals **NBR**
- Cavity **C420000**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,20 Kg**
- Coil **CT-9400** to be ordered separately



Ordering code

0 4 6 2 3 0 0 [] 0 0

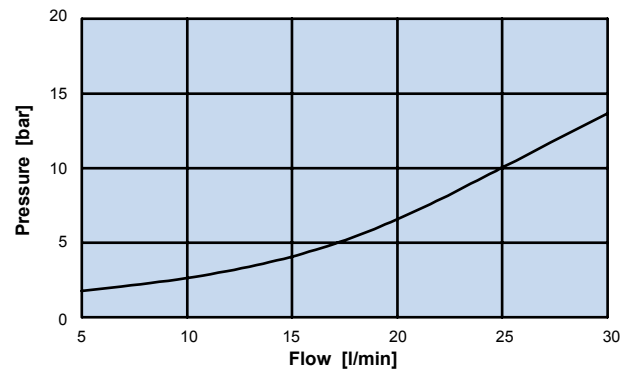
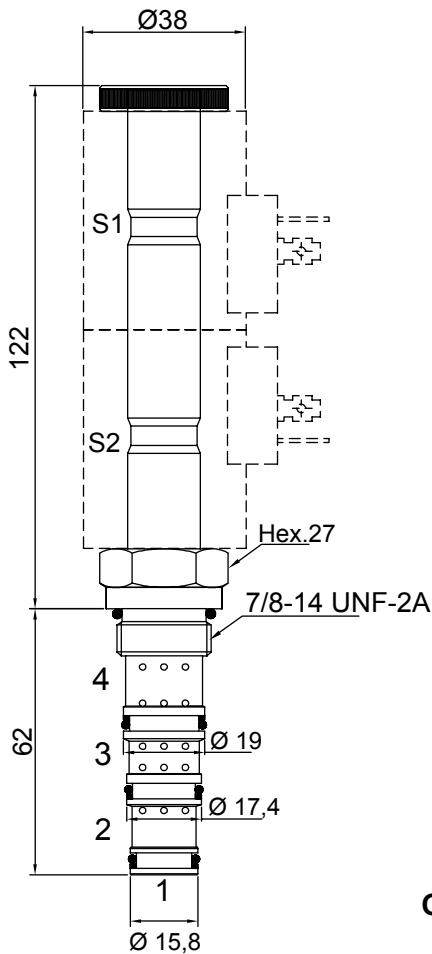
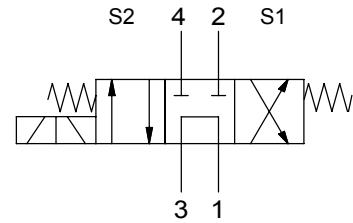


No emergency

Push Button

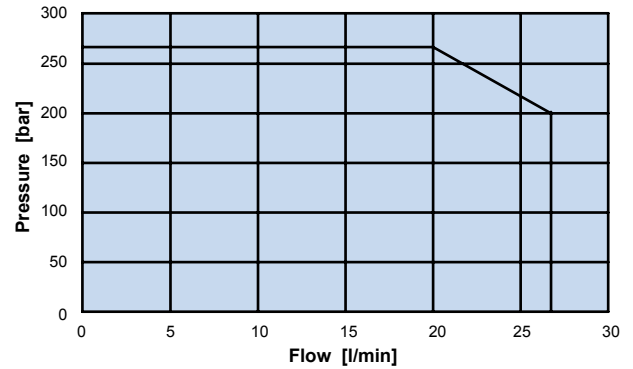
4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **25 l/min**
- Max working pressure in 2:3:4 **250 bar**
- Max working pressure in 1 **20 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,9 Kg**
- Coil **CT-9801** to be ordered separately



1 = Pressure drop graph from 3 to 1

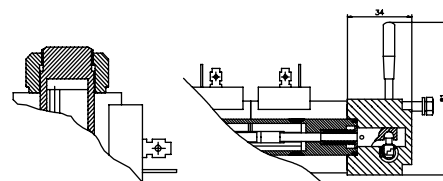
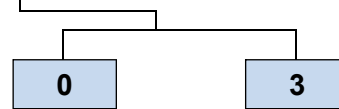
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Application limits from 3 to 4 or 2

Ordering code

0 4 6 3 3 0 0 0 0



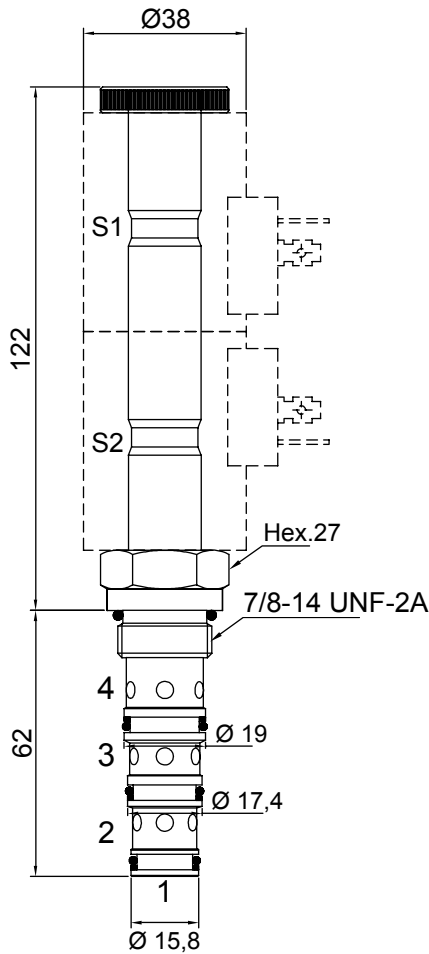
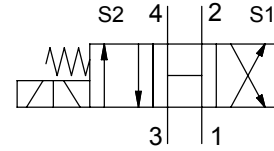
No emergency

Safety lever



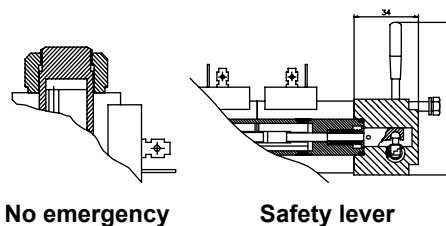
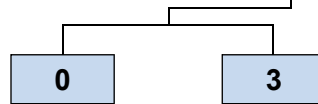
4 WAYS 3 POSITIONS ELECTRIC ON/OFF SPOOL VALVE DIRECT ACTING

- Flow **25 l/min**
- Max working pressure in 2:3:4 **250 bar**
- Max working pressure in 1 **20 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,9 Kg**
- Coil **CT-9801** to be ordered separately



Ordering code

0 4 6 3 4 0 0 **0 0**



ELECTRIC CARTRIDGES
PROPORTIONAL VALVES

PROPORTIONAL VALVES

PROPORTIONAL PRESENTATION

NEM is pleased to present its new line of proportional flow pressure regulators.

These new valves are equipped, with proportional solenoid controls and provide for continuous flow and pressure controls by adjustment of the valve openings to the different values resulting from the amount of energy to the solenoids.

The proportional cartridges are seated in standard cavities and can be connected to various types of compensators to obtain schemes as shown further on in this catalogue. Proportional flow control cartridge must be operated by the discharge tube.

Following is a glossary of technical terms as used in this catalogue.

Current: electrons flow produced by voltage across a coil whose power is proportional to the crossing current and the number of coils. Common abbreviation is I.

No load current: power consumed by the proportional controller when no coil output is available.

Threshold current (or polarization): point where increasing input current causes a flow or pressure variation

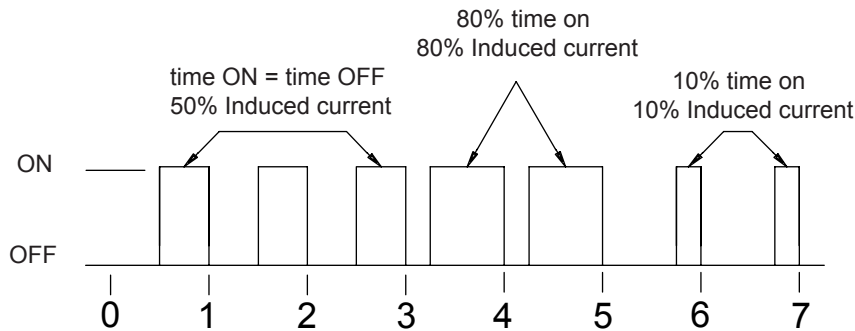
Maximum working current: is the point where input current no longer results into a flow pressure variation.

I min - I max: is the minimum and maximum control current fed to the solenoid of the proportional cartridge.

Hysteresis: is the measure of the output current difference between increasing and decreasing current in the solenoid. Example: when current is increasing you need 1200 mA current to produce a 3L/min flow. When current is decreasing, you need 1140 mA current to get the same flow. So there is a 60 mA difference in input current to achieve 3 gpm flow depending on whether current is increasing or decreasing. If I max = 1600mA, and Imin = 350 mA the total input difference is = 1250 mA. $Hysteresis = (60/1250)100 = 4.8\%$.

Pulse with modulation (PWM): amount method used to vary the average current induced in a coil by a square wave of fixed frequency and variable time ratios.

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Proportional controller or amplifier: electronic device converting a low - power input signal into an output signal capable of operating the valve. This output signal can be modified to include PWM ramping or dither.

Ramping: a system for adjustment of output current variation of a proportional control.

Compensator: hydraulic device combined to proportional control valves to provide fixed outlet flow when pressure change.

Voltage: current flow potential in an electric circuit. It is measured in units called volts (and is sometimes abbreviated V). Generally, higher voltage will induce a higher current.



PROPORTIONAL VALVES

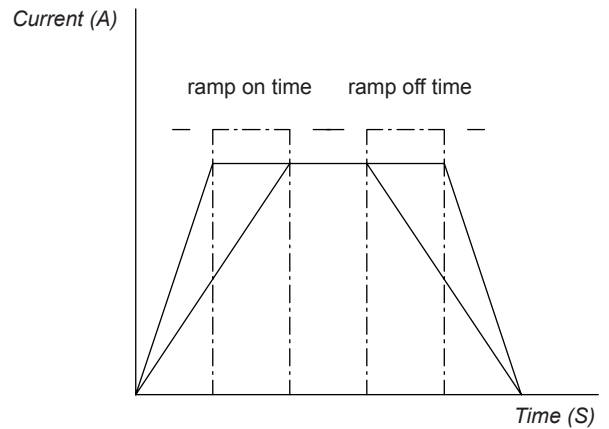
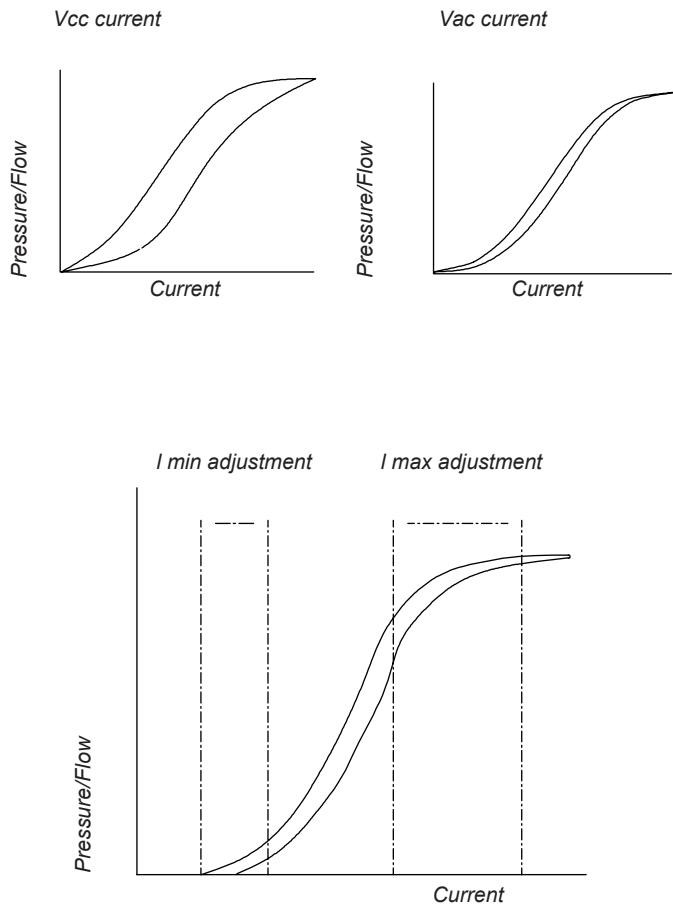
ELECTRIC CONTROL REQUIREMENTS

NEM spa offers a range of electro proportional controls equipped with 12 and 24 Vcc coils. On going test indicates that a current from 110 to 150 Hz significantly improves the valve performance, as against operation with straight Vcc. The graphs on the side show how the addition of PWM noticeably reduces hysteresis. This feature is available from virtually all standard controls manufacturers at low cost. For valves, hysteresis is represented by a double tracking curve where as the lower and upper track show decreasing and increasing current respectively. These valves are not designed for rapid operation rates. Please consult the factory if relatively fast valve response is required. One way of enhancing operation rates is to add a control function for (I min - I max) adjustment. This function will allow control across the full range. Again, this feature is widely available on commercial products. Many commercially available controllers also include ramping control.

TYPICAL HYSTERESIS

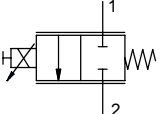
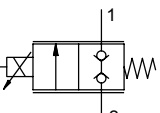
RAMP SLOPE CONTROL

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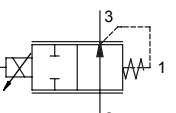
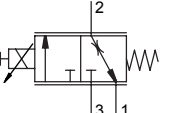


PROPORTIONAL VALVES

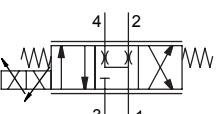
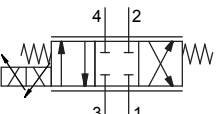
2 WAYS DIRECTIONAL PROPORTIONAL CONTROL VALVES

		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE
	CT-343 NC	30	350	SAE-10	C230000	6.01.001
	CT-344 NC	100	350	SAE-12	C240001	6.01.002
	CT-523 NC	40	250	SAE-10	C230000	6.01.003

3 WAYS DIRECTIONAL PROPORTIONAL CONTROL VALVES

	CT-353 NA	30	350	SAE-10	C330000	6.01.004
	CT-353 NC	30	350	SAE-10	C330000	6.01.005
	CT-354 NC	70	350	SAE-12	C340000	6.01.006

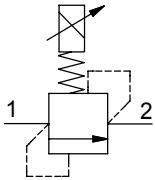
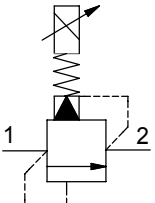
4 WAYS DIRECTIONAL PROPORTIONAL CONTROL VALVES

	CT-473.1	30	250	SAE-10	C430000	6.01.007
	CT-473.2	30	250	SAE-10	C430000	6.01.007



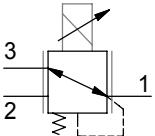
PROPORTIONAL VALVES

PRESSURE RELIEF VALVES

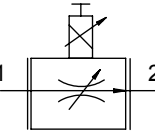
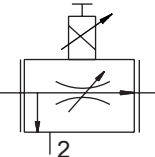
		Flow l/min	Pmax bar	SIZE	CAVITY	PAGE
	CT-052	2	350	SAE-08	C220000	6.01.008
	CT-063	60	350	SAE-10	C230000	6.01.009

PRESSURE REDUCING VALVES

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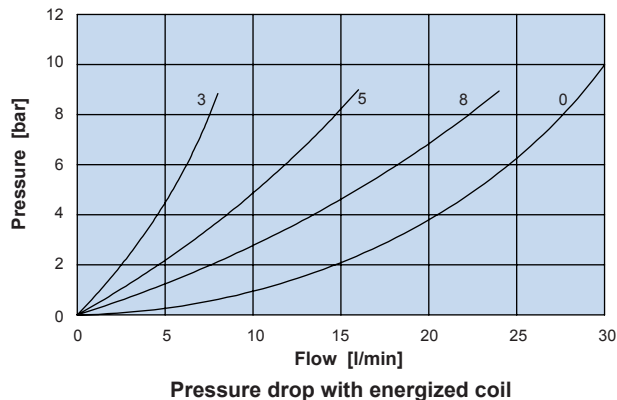
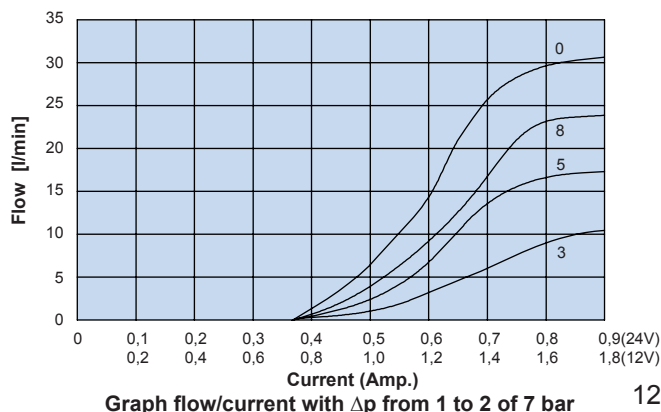
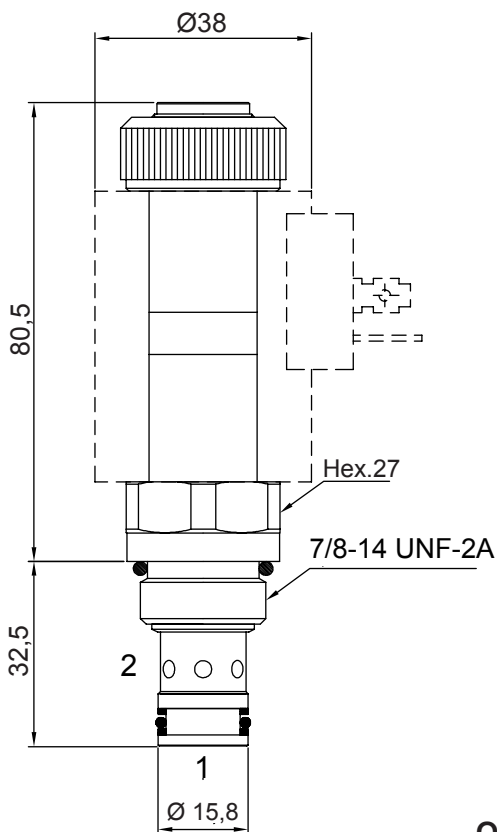
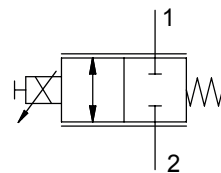
	CT-172	4	210	SAE-8	C320000	6.01.010

FLOW CONTROL VALVES

	CT-333 NC	30	350	SAE-10	C230000	6.01.011
	CT-334 NC	50	350	SAE-12	C240000	6.01.012
	CT-363 NC	50	250	SAE-10	C330000	6.01.013
	CT-364 NC	80	250	SAE-12	C340000	6.01.014

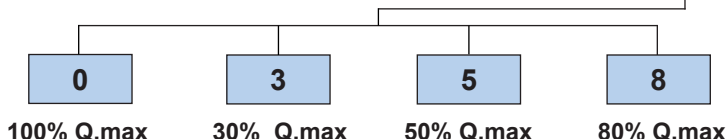
FLOW CONTROL VALVE WITH ELECTRIC PROPORTIONAL CONTROLS NC

- Flow **30 l/min**
- Max working pressure in 1:2 **350 bar**
- Application limits with Δp max from 1 to 2 **15 bar**
- Leakage **150 cc/min**
- Seals **NBR e PTFE**
- Cavity **C230000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **4 Nm**
- Weight (with coil) **0,48 Kg**
- Coil **CT-9800** to be ordered separately

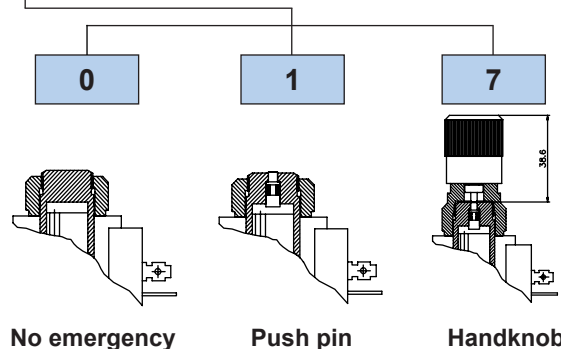


Ordering code

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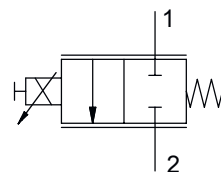


Flow range

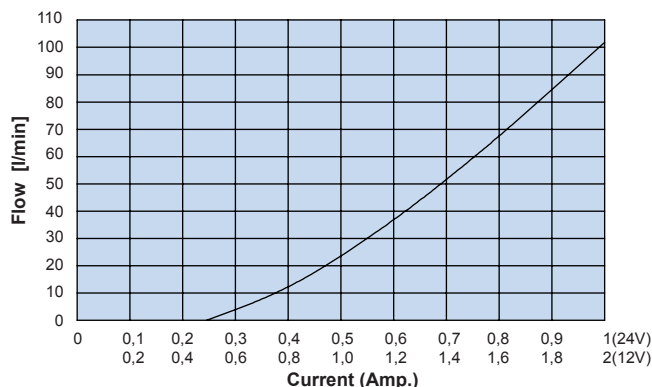
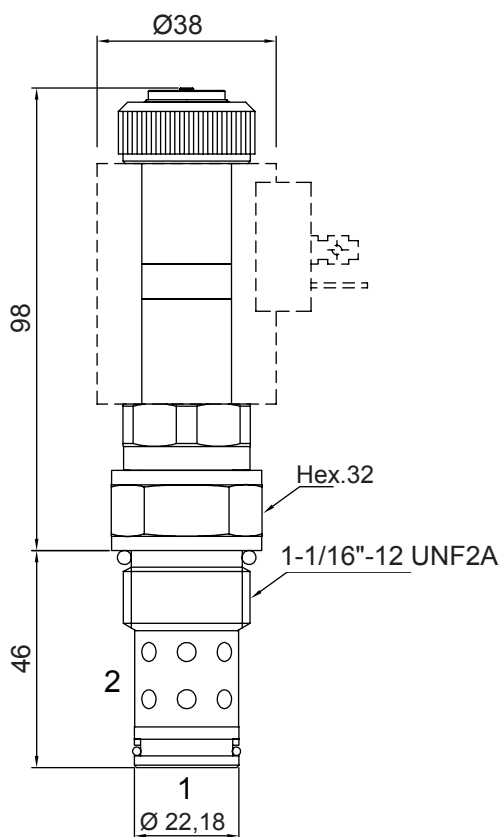


FLOW CONTROL VALVE WITH ELECTRIC PROPORTIONAL CONTROLS NC

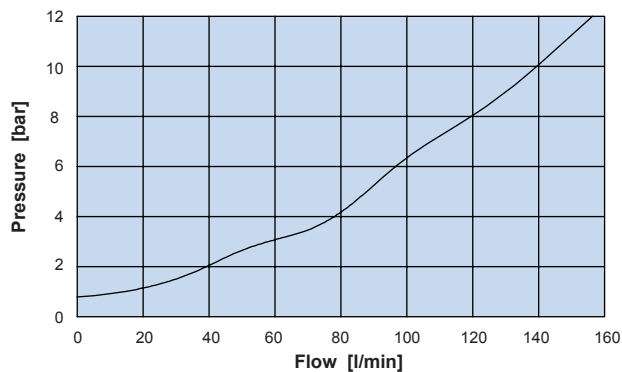
- Flow **100 l/min**
- Max working pressure in 1:2 **350 bar**
- Application limits with Δp max from 1 to 2 **10 bar**
- Leakage **150 cc/min**
- Seals **NBR e PTFE**
- Cavity **C240001**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis **5%**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque **4 Nm**
- Weight (with coil) **0,61 Kg**
- Coil **CT-9800** to be ordered separately



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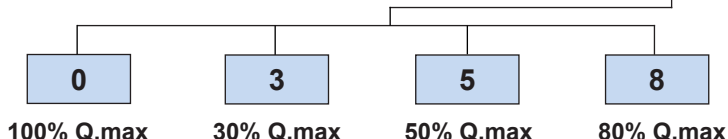
Graph flow/current with Δp from 1 to 2 of 5 bar



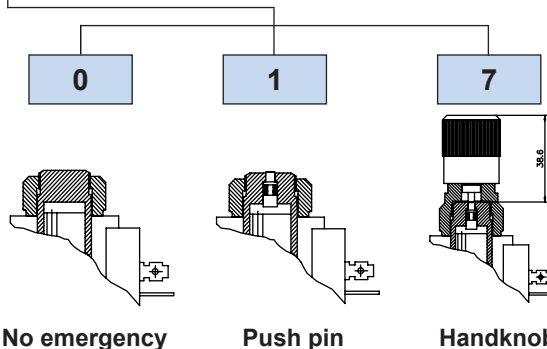
Pressure drop from 1 to 2

Ordering code

0 3 4 4 1 [] 0 [] 0 1



Flow range



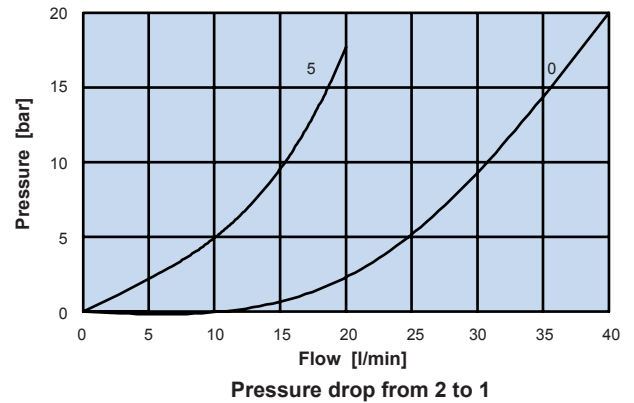
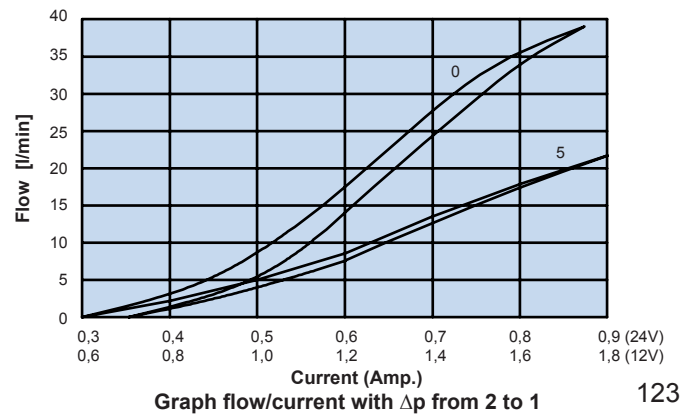
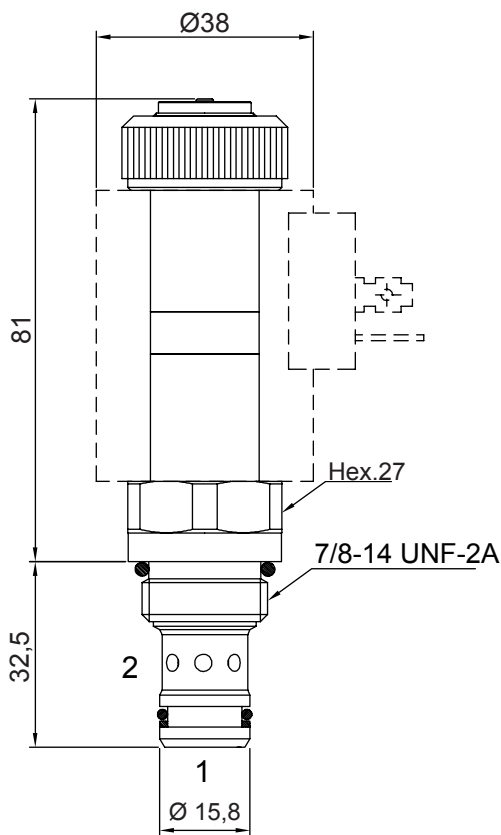
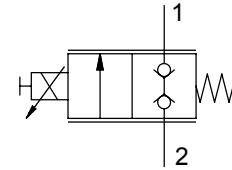
No emergency

Push pin

Handknob

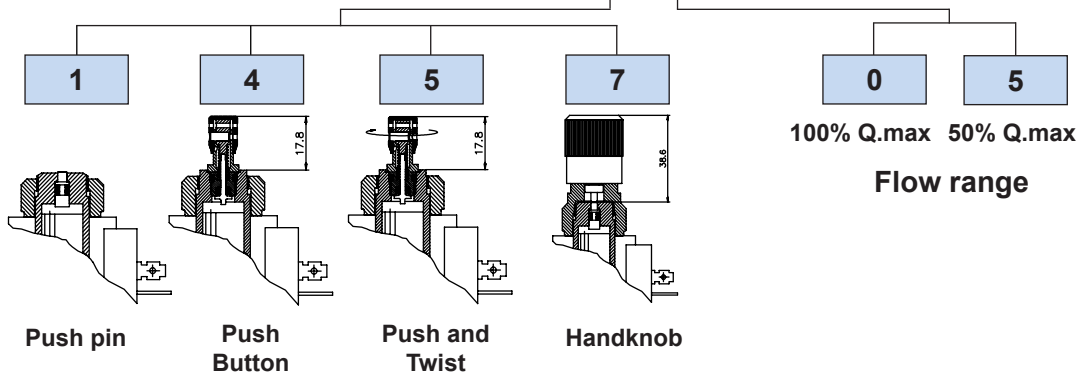
**2 WAYS ELECTRIC PROPORTIONAL FLOW CONTROL VALVE.
DIRECT ACTED POPPET OPERATED, NC**

- Flow **40 l/min**
- Max working pressure in 1:2... **250 bar**
- Leakage **0,25 cc/min**
- Seals..... **NBR**
- Cavity **C230000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis..... **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,53 Kg**
- Coil **CT-9800** to be ordered separately



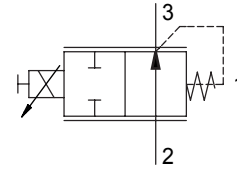
Ordering code

0 5 2 3 1 0 0 **0**

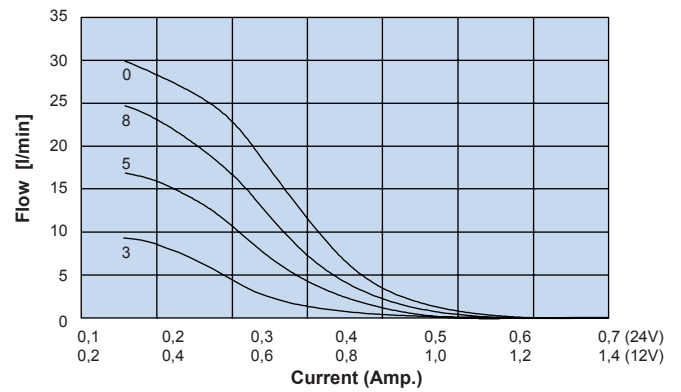
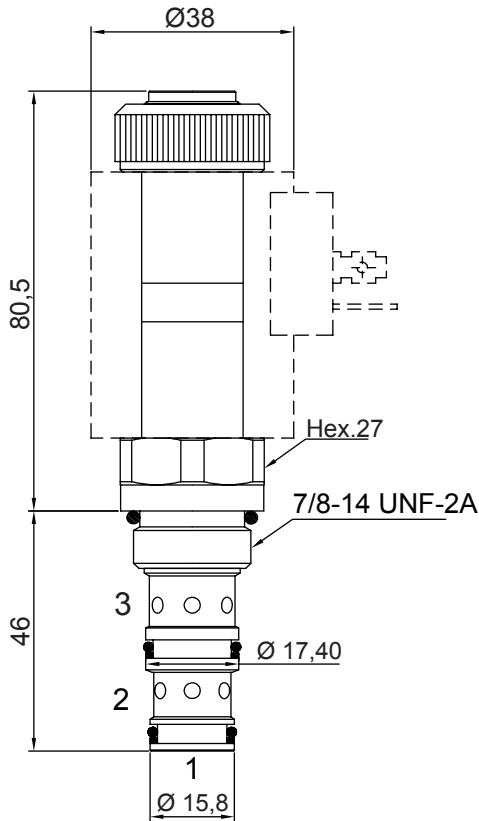


FLOW CONTROL VALVE WITH ELECTRIC PROPORTIONAL CONTROLS NC

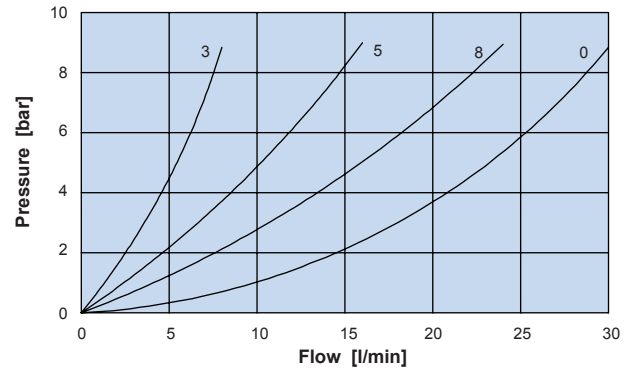
- Flow **30 l/min**
- Max working pressure in 1:2:3 **350 bar**
- Application limits with Δp max from 2 to 3 **15 bar**
- Leakage **150 cc/min**
- Seals **NBR**
- Cavity **C330000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **4 Nm**
- Weight (with coil) **0,56 Kg**
- Coil **CT-9800** to be ordered separately



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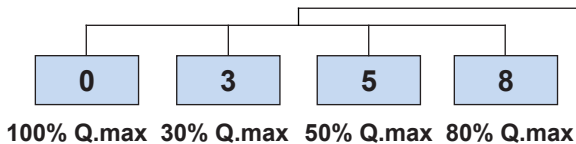
Graph flow/current with Δp from 2 to 3 of 7 bar



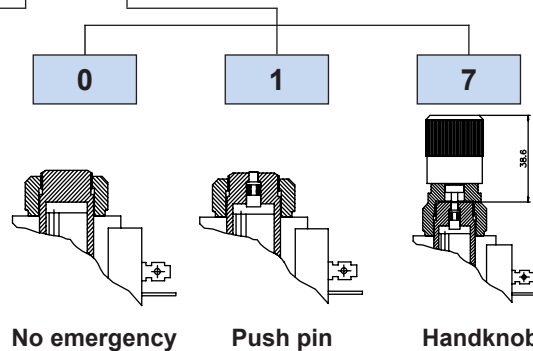
Pressure drop with de-energized coil

Ordering code

0 3 5 3 4 0 0 1



Flow range



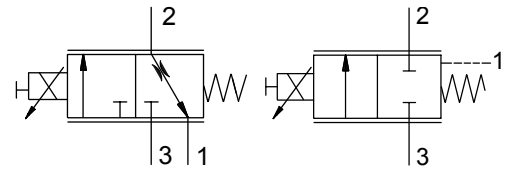
No emergency

Push pin

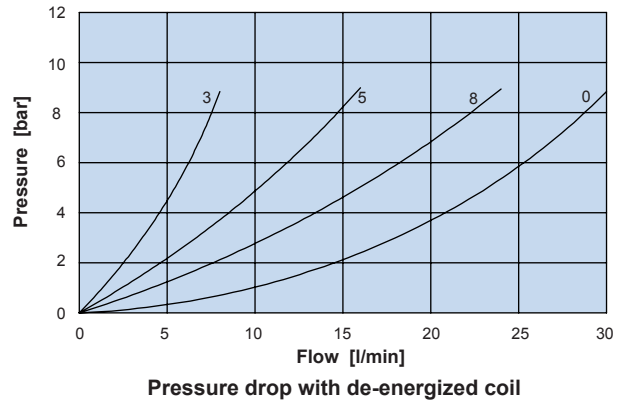
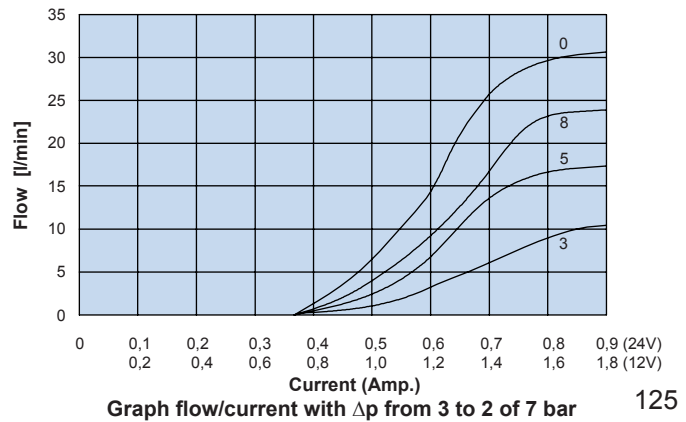
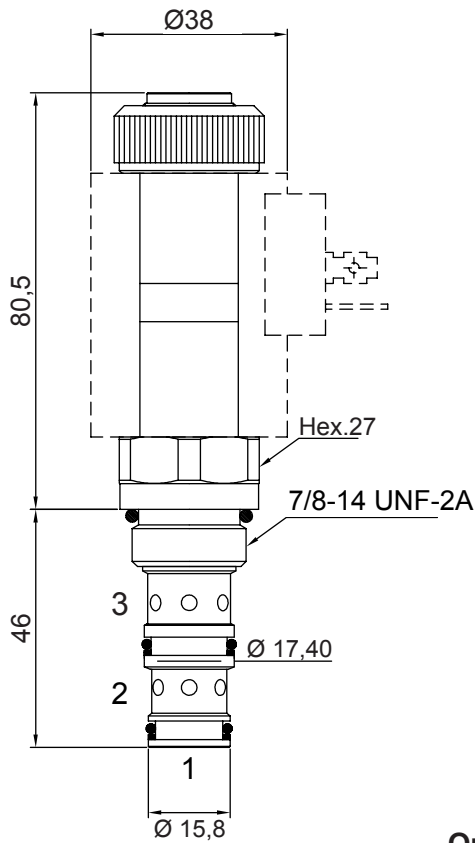
Handknob

FLOW CONTROL VALVE WITH ELECTRIC PROPORTIONAL CONTROLS NC

- Flow **30 l/min**
- Max working pressure in 1:2:3. **350 bar**
- Application limits with Δp max from 3 to 2. **15 bar**
- Leakage **150 cc/min**
- Seals **NBR e PTFE**
- Cavity **C330000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis. **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil). **0,56 Kg**
- Coil **CT-9800** to be ordered separately



Scheme 0 **Scheme 1**

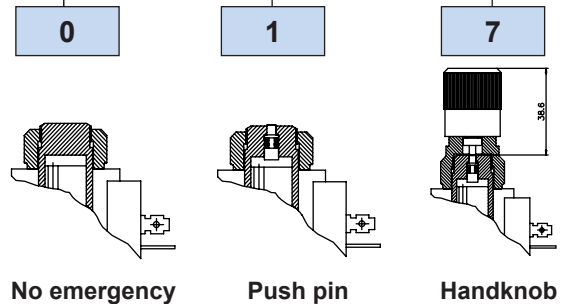


Ordering code

0 3 5 3 [] [] **0** [] **0 1**

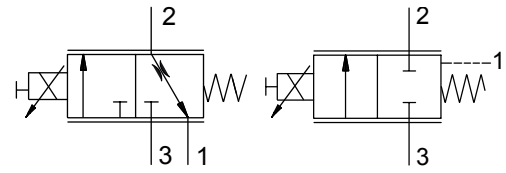
0 **1**
Hydraulic scheme

0 **3** **5** **8**
100% Q.max **30% Q.max** **50% Q.max** **80% Q.max**
Flow range



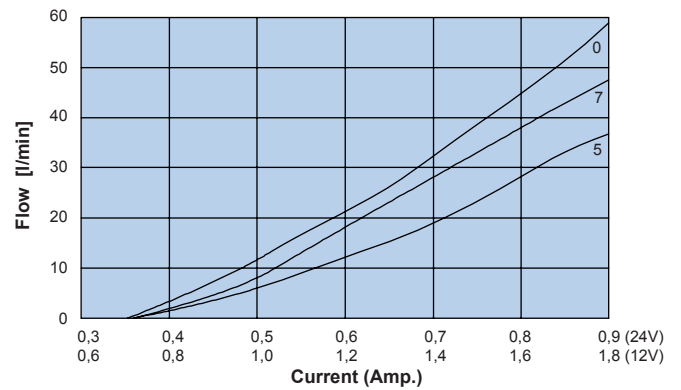
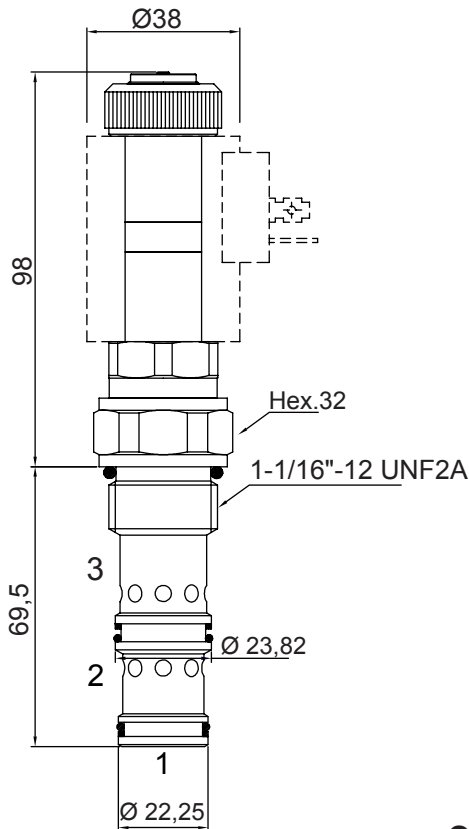
FLOW CONTROL VALVE WITH ELECTRIC PROPORTIONAL CONTROLS NC

- Flow **70 l/min**
- Max working pressure..... **350 bar**
- Max working pressure in 1..... **10 bar**
- Application limits with Δp max from 3 to 2..... **15 bar**
- Leakage **250 cc/min**
- Seals..... **NBR**
- Cavity **C340000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis..... **5%**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,70 Kg**
- Coil **CT-9800** to be ordered separately

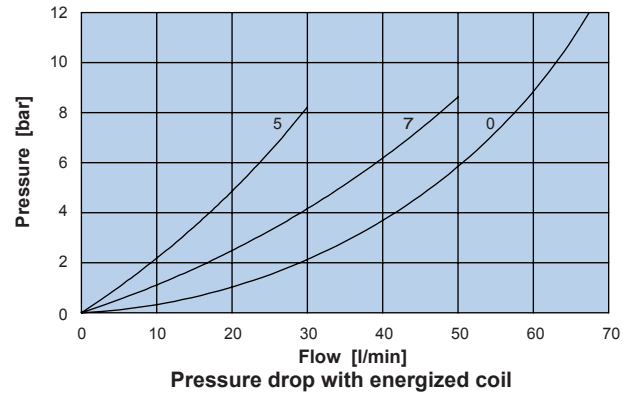


Scheme 0 **Scheme 1**

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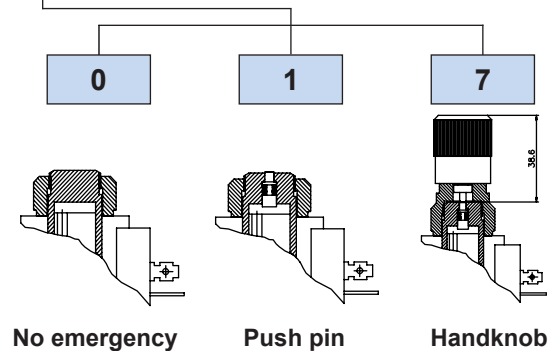
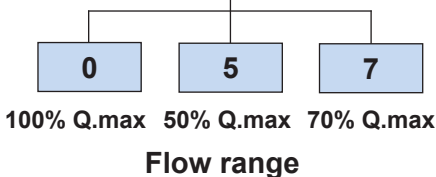
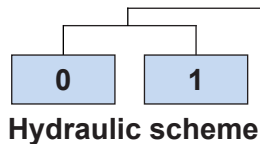
Graph flow/current with Δp from 3 to 2 of 7 bar
Graph 0 with Δp from 3 to 2 of 11 bar



Pressure drop with energized coil

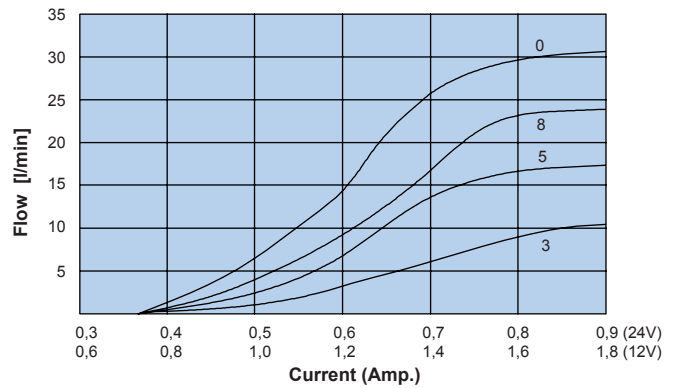
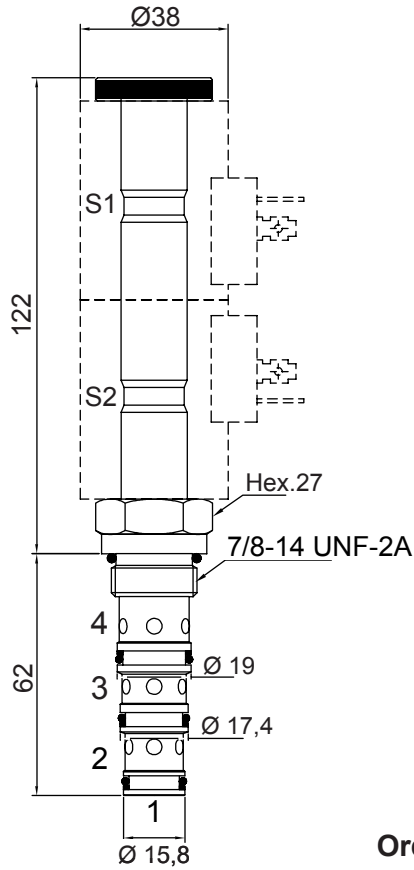
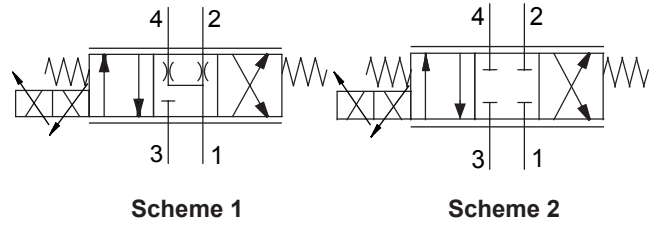
Ordering code

0 3 5 4 **0** **0 1**

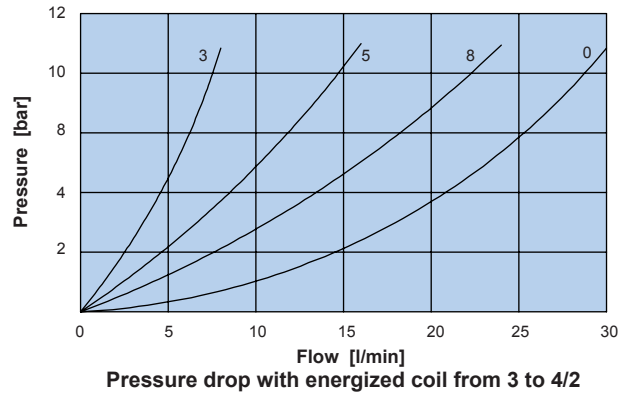


4 WAYS DIRECT ACTING ELECTRIC SPOOL VALVE DIRECT ACTING

- Flow **30 l/min**
- Max working pressure in 2:3:4. **250 bar**
- Max working pressure in 1. **20 bar**
- Application limits with Δp max from 3 to 4/2 **15 bar**
- Leakage **100 cc/min**
- Seals **NBR**
- Cavity **C430000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis. **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil). **0,9 Kg**
- Coil **CT-9800** to be ordered separately



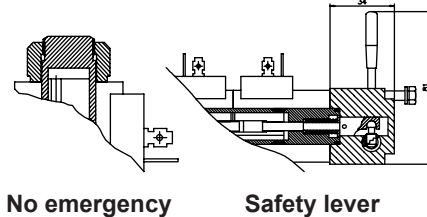
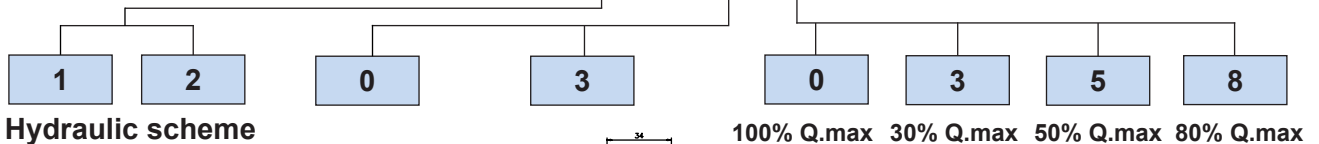
Graph flow/current with Δp from 3 to 4/2 of 7 bar 127
Graph 0 with Δp of 11 bar



Pressure drop with energized coil from 3 to 4/2

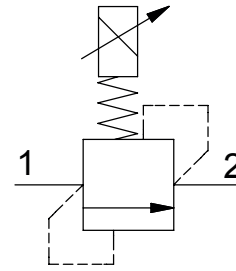
Ordering code

0 4 7 3 0 0 0

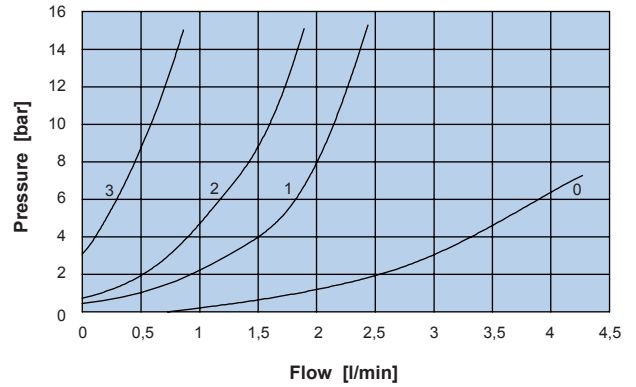
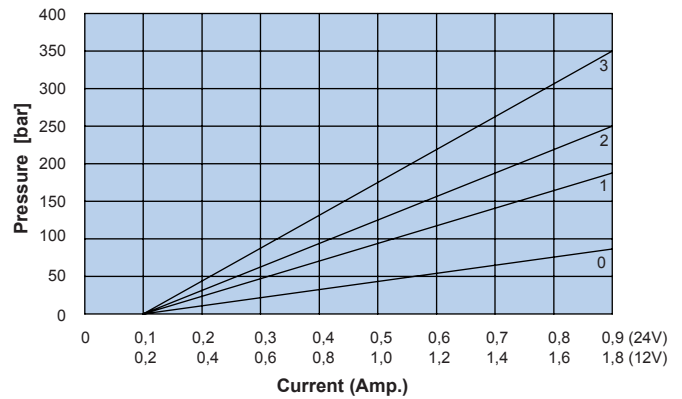
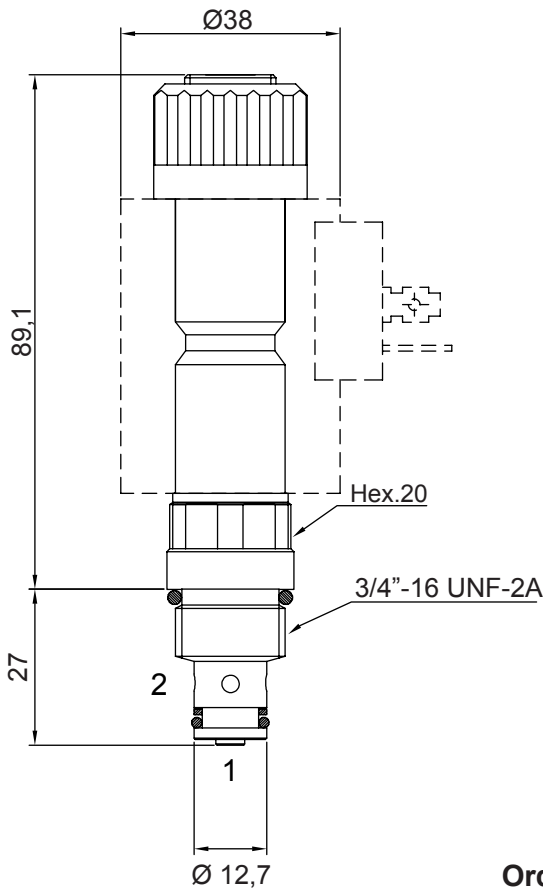


PRESSURE RELIEF VALVE DIRECT ACTING PROPORTIONAL ELECTRIC CONTROL

- Flow **2 l/min**
- Max working pressure in 1. **350 bar**
- Max working pressure in 2. **20 bar**
- Seals. **NBR e PTFE**
- Cavity **C220000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis. **.5%**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **4 Nm**
- Weight (with coil). **0,46 Kg**
- Coil **CT-9800** to be ordered separately



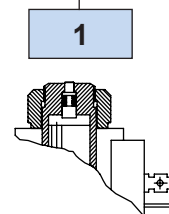
128



Ordering code

0 0 5 2 0 [] 0 [] 0 0

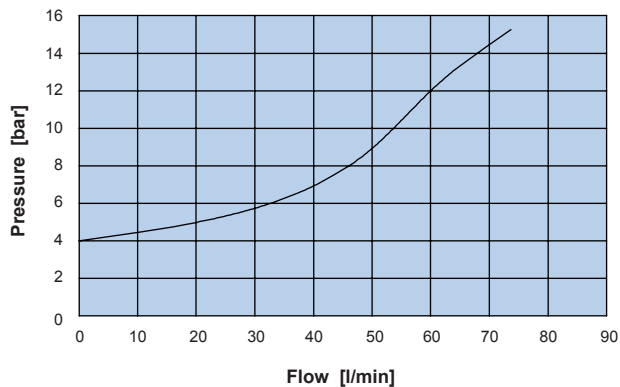
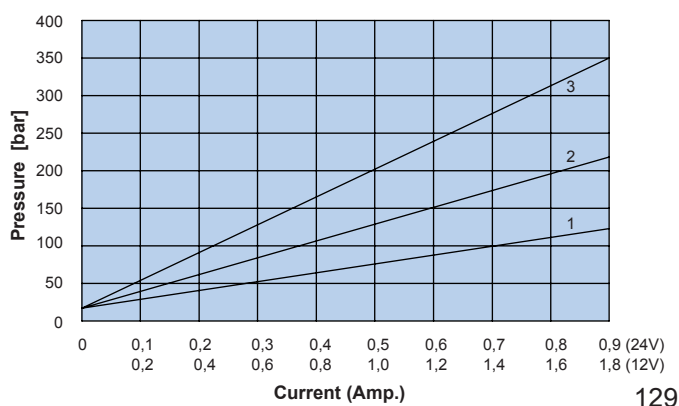
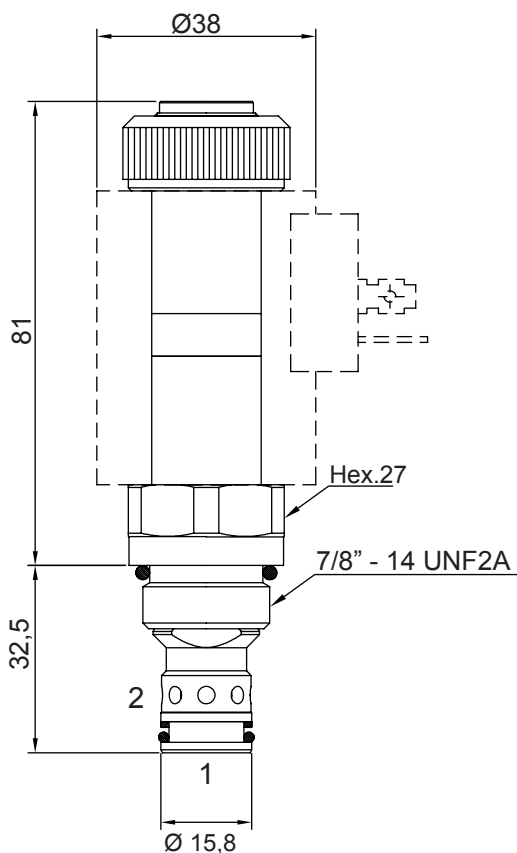
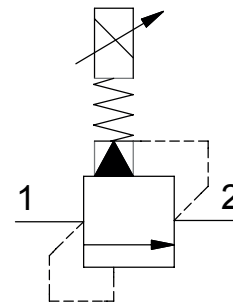
SETTING RANGE	0	1	2	3
Min - Max [bar]	0 ÷ 80	0 ÷ 150	0 ÷ 250	0 ÷ 350



Push pin

PRESSURE RELIEF VALVE DIRECT ACTING PROPORTIONAL ELECTRIC CONTROL

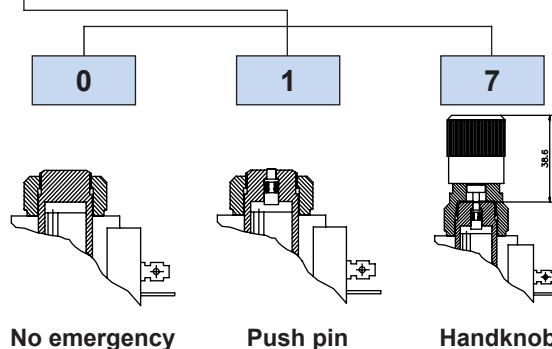
- Flow **60 l/min**
- Max working pressure..... **350 bar**
- Seals..... **NBR e PTFE**
- Cavity **C230000**
- Max current at 12 Vcc **1800mA**
- Max current at 24 Vcc **900mA**
- PWM **120 Hz**
- Hysteresis..... **5%**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **4 Nm**
- Weight (with coil)..... **0,48 Kg**
- Coil **CT-9800** to be ordered separately



Ordering code

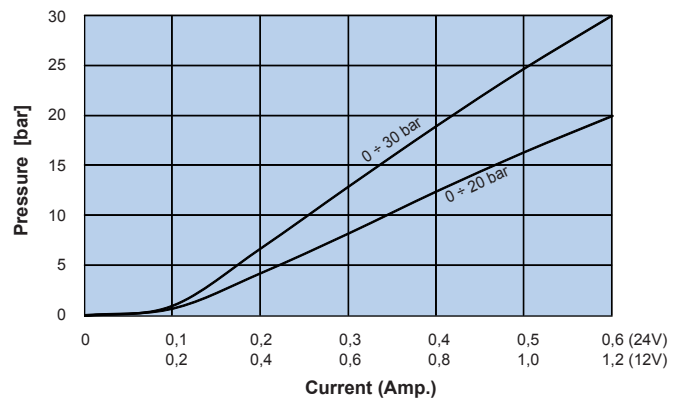
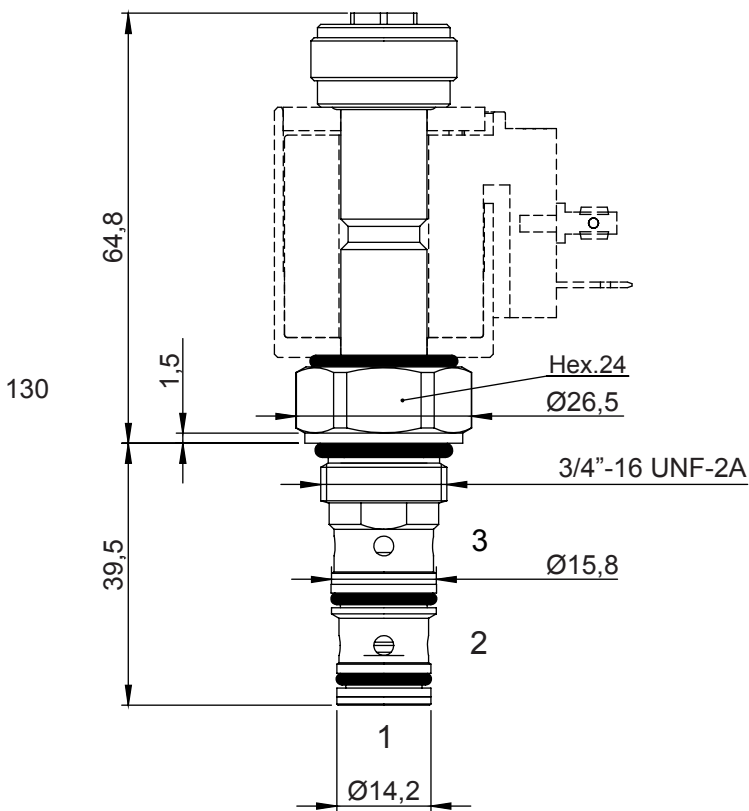
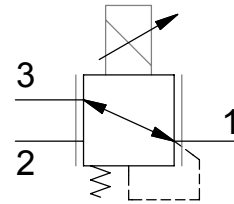
0 0 6 3 0 **0** **0 0**

SETTING RANGE	1	2	3
Min - Max [bar]	0 ÷ 150	0 ÷ 250	0 ÷ 350



PRESSURE REDUCING VALVE PROPORTIONAL ELECTRIC CONTROL

- Flow **4 l/min**
- Max working pressure in 2. **210 bar**
- Max working pressure in 1. **30 bar**
- Max working pressure in 3. **1 bar**
- Leakage **150 cc/min**
- Cavity **C320000**
- Max current at 12 Vcc **1200mA**
- Max current at 24 Vcc **600mA**
- PWM **120 Hz**
- Hysteresis. **5%**
- Cartridge tightening torque **30 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil). **0,4 Kg**
- Coil **CT-9400** to be ordered separately



Ordering code

0 1 7 2 2 **0**

SETTING RANGE	0	1
Min - Max [bar]	0 ÷ 20	0 ÷ 30

0

No emergency

4

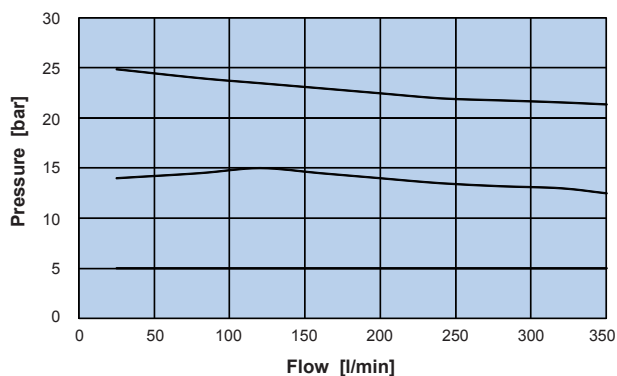
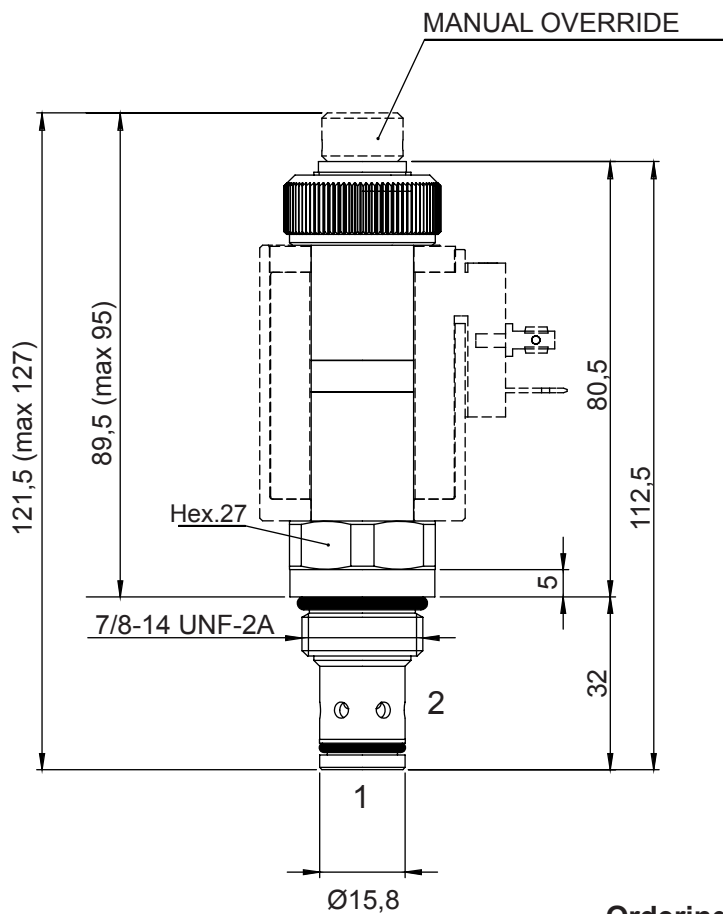
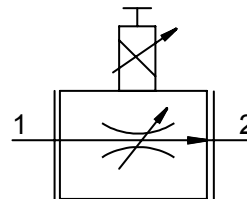
Push button

0 1

Without filter With filter

2 WAYS PROPORTIONAL FLOW CONTROL VALVE

- Max flow range **30 l/min**
- Max working pressure..... **350 bar**
- Leakage **150 cc/min**
- Cavity **C 230000**
- Cartridge tightening torque..... **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,3 Kg**
- PWM **120 Hz**
- Hysteresis **5%**
- Max current at 24 Vcc **0,9 A**
- Max current at 12 Vcc..... **1,8 A**
- Coil **CT-9800** to be ordered separately

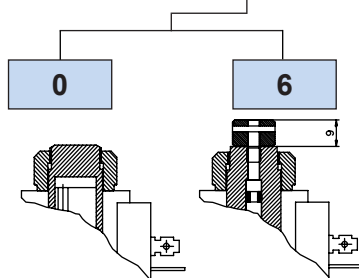


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Note:
- (NC) Normally closed in the energized position

Ordering code

0 3 3 3 1 0 0 [] 0 1

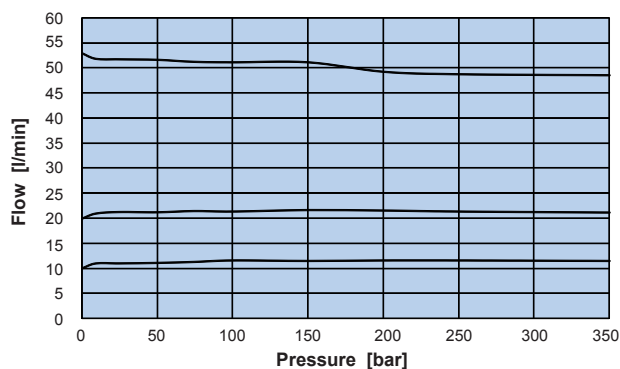
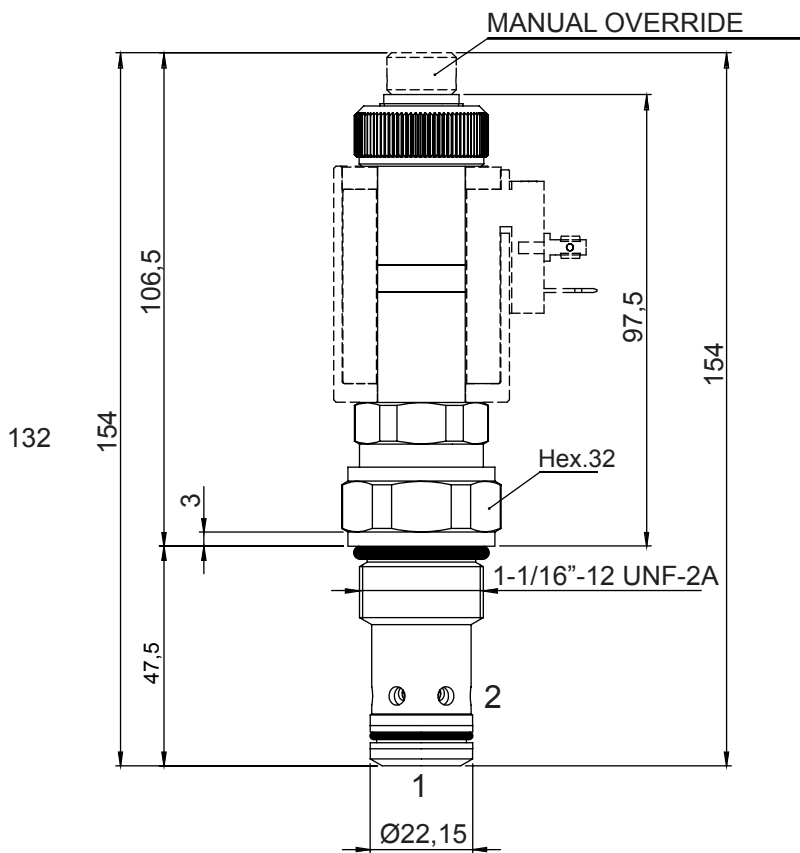
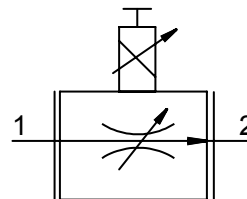


No emergency Unscrew type



2 WAYS PROPORTIONAL FLOW CONTROL VALVE

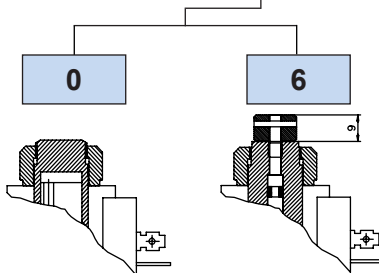
- Max flow range **50 l/min**
- Max working pressure..... **350 bar**
- Leakage **150 cc/min**
- Cavity **C240000**
- Cartridge tightening torque..... **50 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil)..... **0,8 Kg**
- PWM **120 Hz**
- Hysteresis **5%**
- Max current at 24 Vcc **900mA**
- Max current at 12 Vcc..... **1800mA**
- Coil **CT-9800** to be ordered separately



Note:
- (NC) Normally closed in the energized position

Ordering code

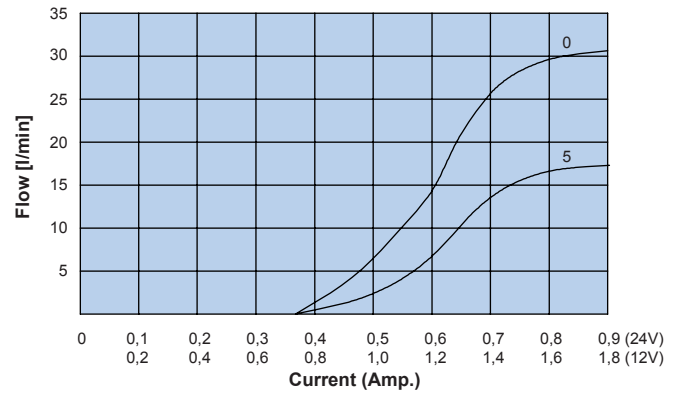
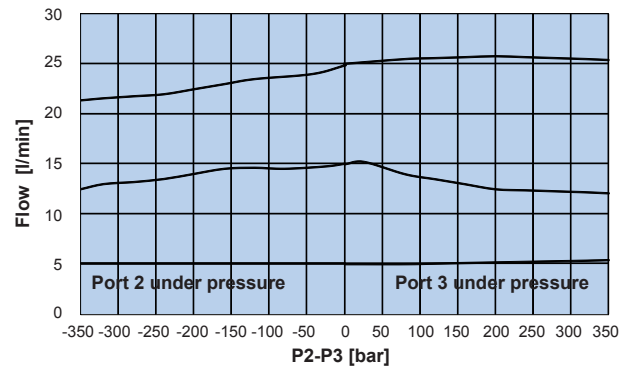
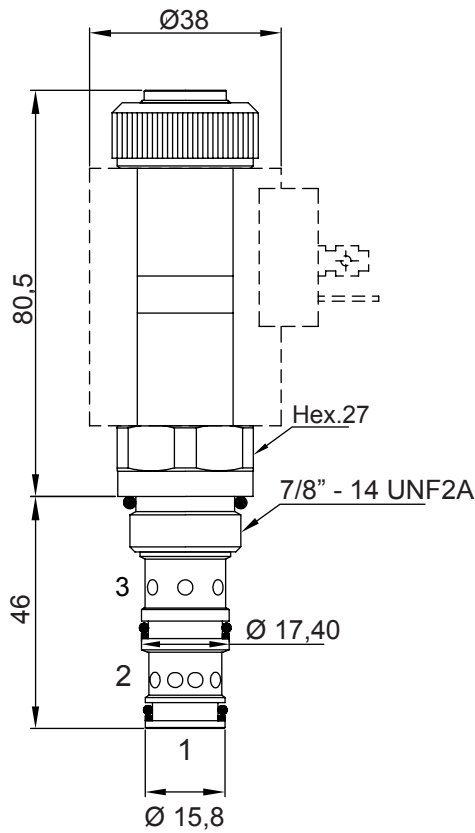
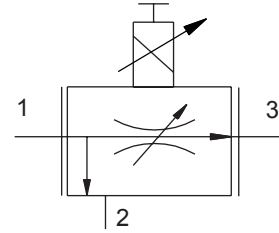
0 3 3 4 1 0 0 [] 0 1



No emergency Unscrew type

3 WAYS PROPORTIONAL FLOW CONTROL VALVE

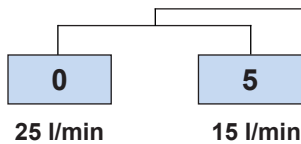
- Max working flow in 1 **50 l/min**
- Max working pressure in 1:2:3 **350 bar**
- Leakage **150 cc/min**
- Seals **NBR**
- Cavity **C330000**
- Cartridge tightening torque **40 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,56 Kg**
- PWM **120 Hz**
- Hysteresis **5%**
- Max current at 24 Vcc **900mA**
- Max current at 12 Vcc **1800mA**
- Coil **CT-9800** to be ordered separately



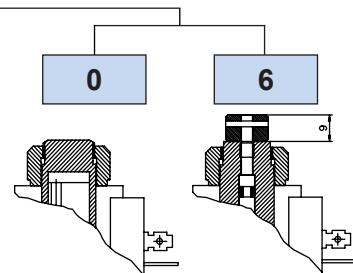
133

Ordering code

0 3 6 3 1 **0** **0 1**



Flow range

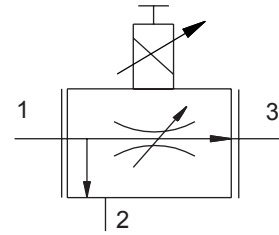


No emergency Unscrew type

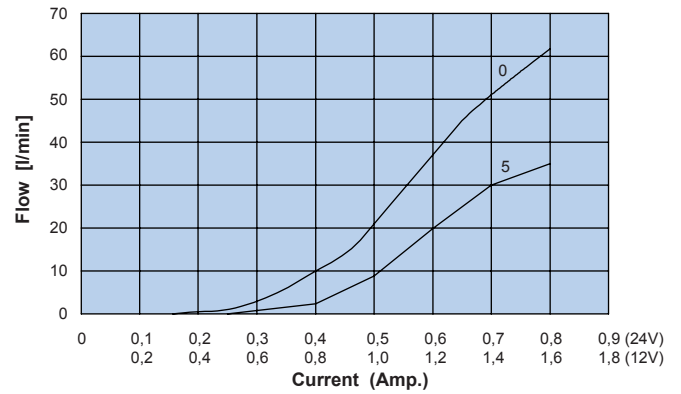
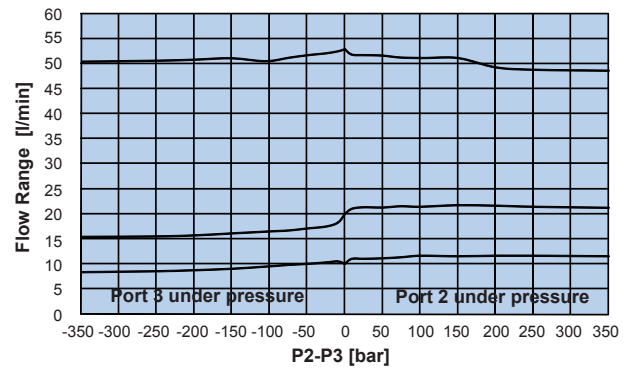
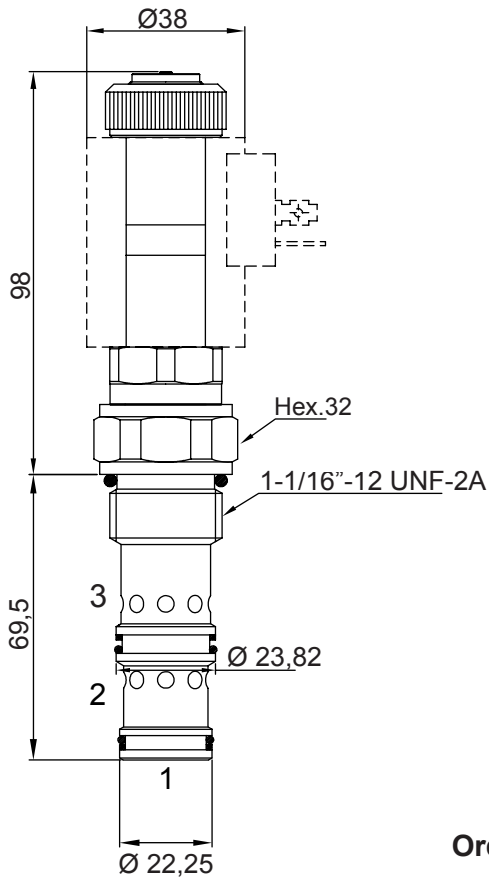


3 WAYS PROPORTIONAL FLOW CONTROL VALVE

- Max flow range in 1 **80 l/min**
- Max working pressure in 1:2:3 **350 bar**
- Leakage **150 cc/min**
- Seals **NBR**
- Cavity **C340000**
- Cartridge tightening torque **50 Nm**
- Ring nut tightening torque **5 Nm**
- Weight (with coil) **0,7 Kg**
- PWM **120 Hz**
- Hysteresis **5%**
- Max current at 24 Vcc **900mA**
- Max current at 12 Vcc **1800mA**
- Coil **CT-9800** to be ordered separately



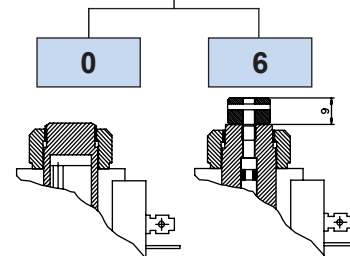
134



Ordering code

0 3 6 4 1 0 0 1

SETTING RANGE	0	5
FLOW RANGE	50 l/min	35 l/min



No emergency Unscrew type