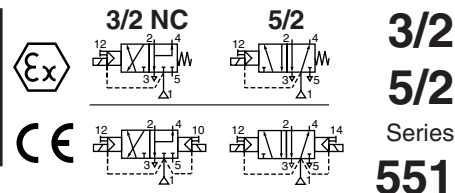




# SOLENOID VALVES

for potentially explosive atmospheres EEx d, m, em, ia  
pilot operated, spool type, single/dual solenoid  
brass body, NAMUR



## FEATURES

- Solenoid operated spool valves, threaded ports and NAMUR interface, equipped with solenoid(s) intended for use in potentially explosive atmospheres, according to Directive ATEX 94/9/EC. Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards EN 50014 and EN 50018 (EEx d), EN 50028 (EEx m), EN 50028 + EN 50019 (EEx em) and EN 50020 (EEx i)
- The same spool valve can be adapted for 3/2 NC or 5/2 functions for controlling double-acting and single-acting actuators
- All the exhaust ports of this spool valve are pipable, providing better environmental protection, particularly recommended for sensitive areas such as clean rooms, and applications in the pharmaceutical and food processing sectors
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dust, liquids etc.)
- The return-spring chambers of the single-acting operators "breathe" through the spool valve, isolating them from the outside atmosphere
- Possibility of external air supply

## GENERAL

**Differential pressure** 2 - 10 bar [1 bar = 100 kPa]  
**Ambient temperature range** -40°C to +60°C  
**Flow (Qv at 6 bar)** 700 l/min (ANR)

fluids (*)	temperature ranges (TS)	seals (*)
air, inert gas, filtered	see table overleaf	+ SI (silicone) + PUR (polyurethane)

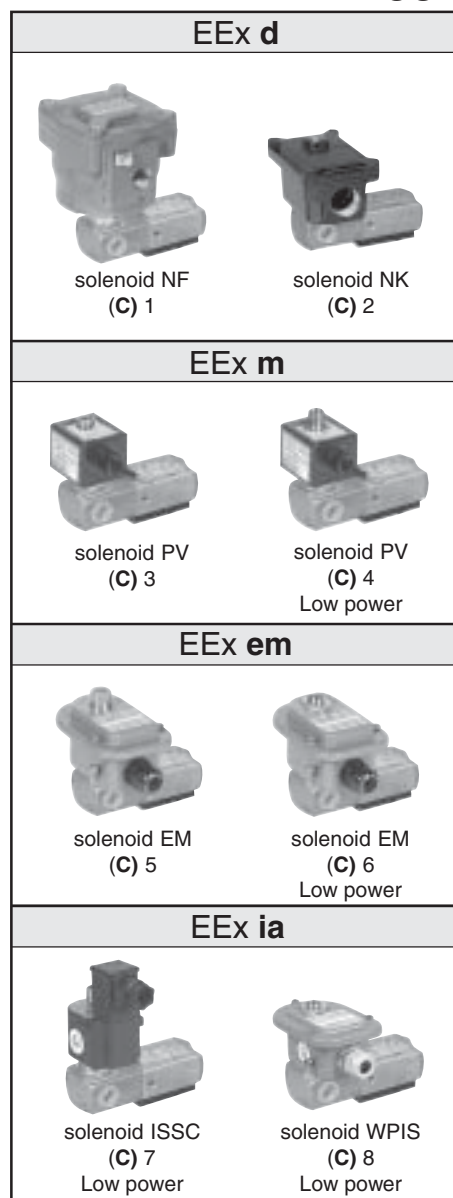
## MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

**Body** Brass  
**End-covers** Brass  
**Interface plates** Glass fiber filled polyamide (PA + FG)  
**Internal parts** Brass, stainless steel, acetal resin (POM)

## EEx PILOT SOLENOID VALVES

- 15/16" - 26 UNS threaded Solenoids NF, NK, PV, EM, ISSC and WPIS



## PILOT VALVE CONSTRUCTION

	EEx protection mode Prefix Construction type (C)	d		m		em		ia	
		NF 1	NK 2	PV 3	PV 4 (3)	EM 5	EM 6 (3)	ISSC 7 (3)	WPIS 8 (3)
<b>Housing</b>	Aluminium	●	●						
	Galvanized steel					●	●		●
	Light alloy (IP65)								
<b>Connectable exhaust pilot port</b>		(1)	G 1/8	G 1/8	NPT 1/8	G 1/8	NPT 1/8	NPT 1/8	NPT 1/8
<b>Coil</b>	Moulded, connector							●	
	Screw terminal	●	●			●	●		●
	Cable length 2 m			●	●				
<b>Earthing terminals</b>	internal / external	●	●				●		●
<b>Cable entry</b>	NPT 1/2	●							
	NPT 3/4		●						
	Cable gland	(2)	(2)			Pg13,5P	Pg13,5P	Pg11P	Pg13,5P
Other information, see leaflet		V1010	V1010	V1035	X012	V1047	X012	V1050	V1050

- (C) Construction type (see "Dimensions" section)  
(1) Optional  
(2) EEx d cable gland, see leaflet V1090.  
(3) Low power execution

### SOLENOID ELECTRICAL CHARACTERISTICS

Standard voltages DC (=) 24V  
AC (~) 24V - 115V - 230V / 50Hz (except EEx ia)

solenoid type	nominal power ratings				temperature		temperature class	(C)		
	inrush	holding	hot/cold	fluid (*)	ambient operator					
	(VA)	(VA) (W)	(W)	(°C)	(°C)					
<b>Flameproof enclosure, EEx d</b>										
Prefix NF, $\text{Ex}$ II 2G/D (EEx d IIC T6 to T4) IP65	AC	55	23	10,5	-	-40 to +25 -40 to +40 -40 to +60	-40 to +25 -40 to +40 -40 to +60	T6 T5 T4	1	
	DC	-	-	-	11,2	-40 to +40 -40 to +60 -40 to +60	-40 to +40 -40 to +60 -40 to +75	T6 T5 T4		
	Prefix NK, $\text{Ex}$ II 2G/D (EEx d IIB+H2 T6 to T4) IP65	AC	-	-	10,5	-	-20 to +60	-20 to +60	T4	2
		DC	-	-	-	11,2	-20 to +25 -20 to +40 -20 to +60	-20 to +25 -20 to +40 -20 to +60	T6 T5 T4	
<b>Encapsulation, EEx m</b>										
Prefix PV, $\text{Ex}$ II 2G (EEx m II T5 to T3)	AC	-	-	10,5	-	-40 to +60	-40 to +65	T3	3	
	DC	-	-	-	11,2	-40 to +60	-40 to +65	T4		
	$\text{Ex}$ II 2G (2) (EEx m II T6 to T3)	-	-	-	1,6 / 1,7	-40 to +40	-40 to +40	T6	4	
<b>Increased safety/Encapsulation, EEx em</b>										
Prefix EM, $\text{Ex}$ II 2G (EEx em II T6 to T3)	-	-	10,5	11,2	-40 to +40	-40 to +40	T3	5		
	EM, $\text{Ex}$ II 2G (2) (EEx em II T6 to T3)	1,5	1,5	1,5	1,6 / 1,7	-40 to +40 -40 to +55	-40 to +40 -40 to +55	T6 T5	6	
<b>Intrinsic safety, EEx ia IIC T6</b>										
Prefix ISSC, $\text{Ex}$ II 1G (2) (EEx ia IIC T6)	DC	-	-	-	0,4 (1)	-40 to +60	-40 to +60	T6	7	
	DC	-	-	-	0,4 (1)	-40 to +60	-40 to +60	T6	8	

(1) 28 mA min. in normal operation (2) Low power execution (see catalogue X012)

### SPECIFICATIONS BRASS BODY

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)		EEx protection mode	pilot solenoid prefix	(C)	manual operator	catalogue number brass body	external air						
		(m³/h)	(l/min)	min.	maximum (PS)												
(G)	(mm)	(m³/h)	(l/min)		~ / =												
<b>Single solenoid pilot operated - spring return (monostable)</b>																	
1/4	6	0,6	10	2	10	d	NF	1	●/▼ ×	NF G551A403 MO NF G551A403	• •						
							NK	2	●/▼ ×	NK G551A403 MO NK G551A403	• •						
						m		PV	3	●/▼ ×	PV G551A403 MO PV G551A403	• •					
							(2)		4	●/▼ ×	PV G551A303 MO PV G551A303	• •					
								em	EM	5	●/▼ ×	EM G551A403 MO EM G551A403	• •				
							(2)			6	●/▼ ×	EM G551A303 MO EM G551A303	• •				
						ia			ISSC (2)	7	●/▼ ×	ISSC G551A303 MO ISSC G551A303	• •				
							WPIS (2)			8	●/▼ ×	WPIS G551A303 MO WPIS G551A303	• •				
						<b>Dual solenoid pilot operated and air return (bistable)</b>											
						1/4	6	0,6	10	2	10	d	NF	1	●/▼ ×	NF G551A404 MO NF G551A404	• •
													NK	2	●/▼ ×	NK G551A404 MO NK G551A404	• •
												m		PV	3	●/▼ ×	PV G551A404 MO PV G551A404
(2)	4	●/▼ ×	PV G551A304 MO PV G551A304	• •													
	em	EM	5	●/▼ ×	EM G551A404 MO EM G551A404								• •				
(2)			6	●/▼ ×	EM G551A304 MO EM G551A304								• •				
		ia	ISSC (2)	7	●/▼ ×							ISSC G551A304 MO ISSC G551A304	• •				
WPIS (2)				8	●/▼ ×							WPIS G551A304 MO WPIS G551A304	• •				

Manual operator: ●/▼ : momentary action, lockable in pressed position (push-turn) X : without  
(C) Construction type (see "Dimensions" section) (2) Low power execution (see catalogue X012)

## ACCESSORIES

- Set of stainless steel mounting screws, catalogue number **978 02 212**

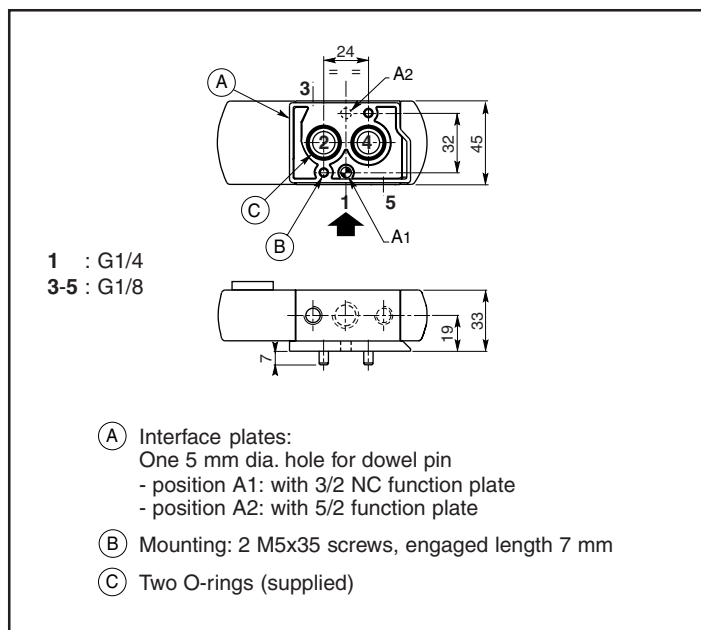
## OPTIONS

- Stainless steel solenoids: EEx **em**, prefix **WSEM**; EEx **ia**, prefix **WSIS**
- Coil complying with "UL" standard, use prefix: **EF** (aluminium metal parts) (Construction 1 only)  
**EV** (stainless steel metal parts) (Construction 1 only)
- Valves configured for external pilot air supply, **TPL20547**
- **EEx d**: **Cable gland** (see leaflet V1090)  
**NF** solenoid: 1/2 NPT  
**NK** solenoid: 3/4 NPT

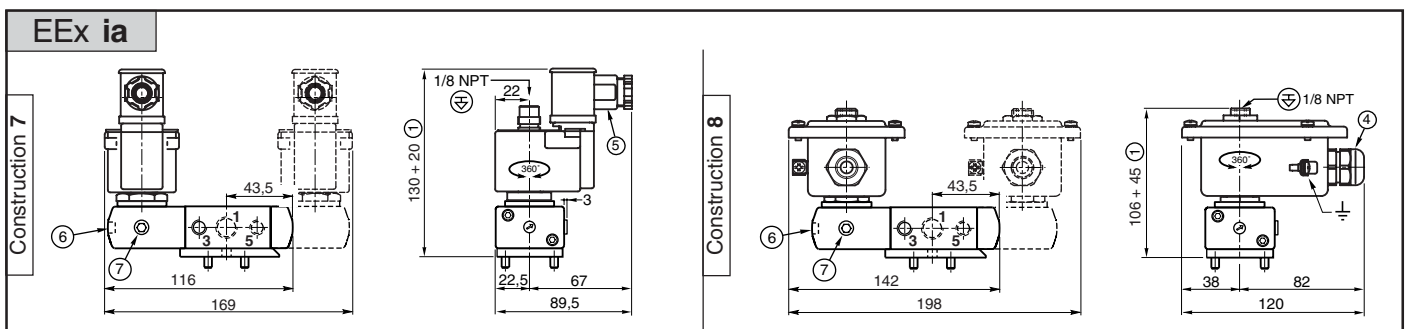
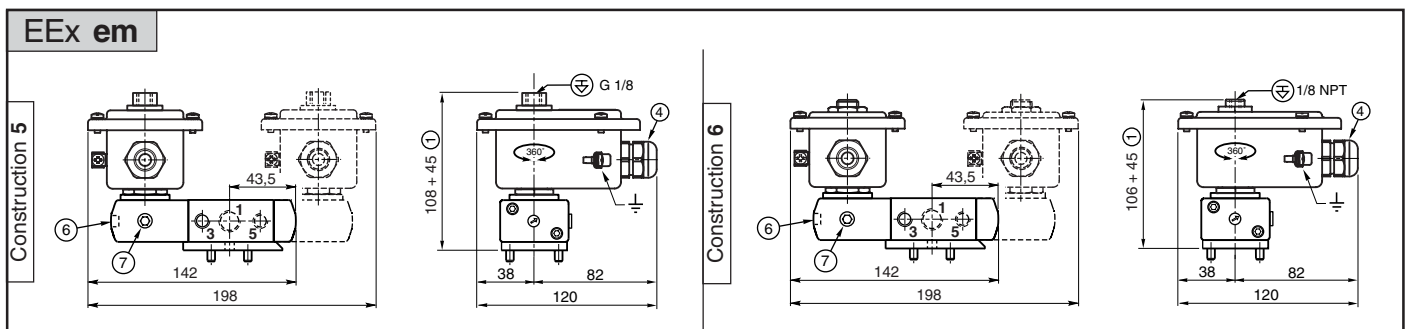
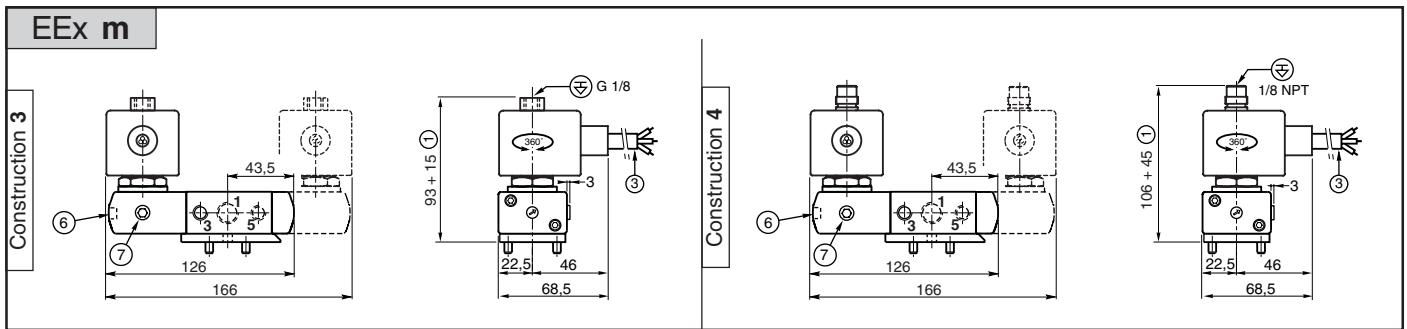
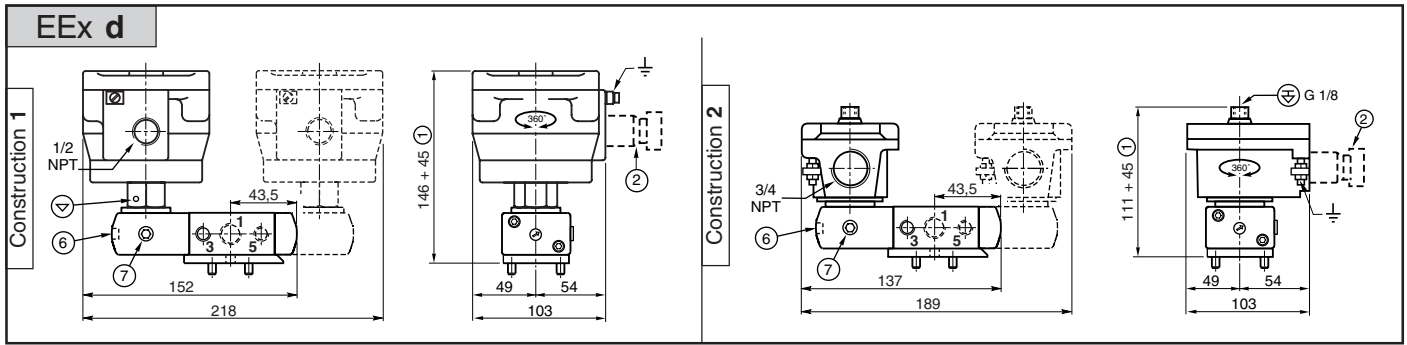
## INSTALLATION

- Solenoid spool valves equipped with EEx pilots can be mounted in any position
- Spool valve supplied with two interface plates with NAMUR mating surfaces. Depending on function (NC 3/2 or 5/2), position one of the two plates on the spool valve body before installing on actuator
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- Connect or protect the exhaust ports to isolate the internal atmosphere of the internal parts of the spool valve.
- Pipe connections have standard thread according to ISO 228/1
- Other pipe threads are available on request
- Installation/maintenance instructions are included with each solenoid spool valve

## DIMENSIONS (mm), WEIGHT (kg)



DIMENSIONS (mm), WEIGHT (kg)



(C)	solenoid type	weight	
		monostable	bistable
1	NF	2,48	4,27
2	NK	1,69	2,82
3	PV	1,42	2,18
4	PV (low power)	1,29	2,10
5	EM	1,45	2,23
6	EM (low power)	1,90	3,11
7	ISSC (low power)	1,70	2,71
8	WPIS (low power)	1,90	3,11

- ① Extra length for clearance, depending on model
- ② EEx d certified cable gland (on request)
- ③ Three-core cable, length 2 m
- ④ Cable gland for unarmoured cable with 6 to 12 mm dia. sheath
- ⑤ Connector rotatable by 90° increments, Pg 11P
- ⑥ Manual operator: suffix MO
- ⑦ External pilot air supply
- ⊕ Connectable pilot exhaust port
- ⊖ Non-connectable pilot exhaust port