

### FEATURES

- The redundant solenoid valves are recommended for fail safe pilot applications combining high flow, wide pressure range and absence of minimum operating pressure
- When the redundant valve controls an actuator, the actuator remains in position as long as one of the two solenoid valves (coils) is energized. To exhaust the actuator both solenoids have to be de-energized
- PTFE rider rings and graphite-filled PTFE seals reduce friction and eliminate sticking
- Coils used in metal enclosures have class H insulation materials
- Special execution for low power
- Special execution for extreme low ambient temperatures
- Peak voltage suppression diodes are standard in DC solenoids with metal enclosures
- The solenoid valves satisfy all relevant EC Directives



### GENERAL

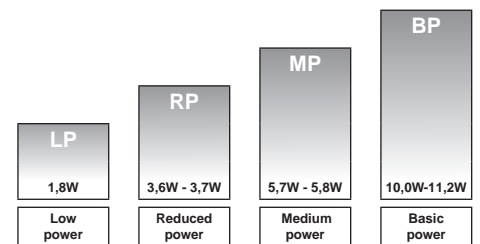
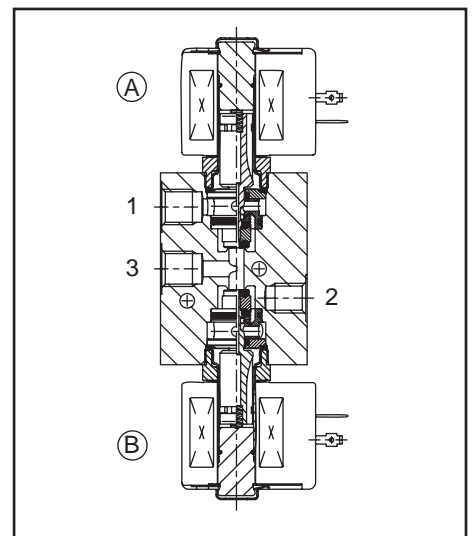
**Differential pressure** 0 - 10 bar [1 bar = 100kPa]  
**Maximum viscosity** 65cST (mm²/s)  
**Response times** 75 - 100 ms

fluids (*)	temperature range (TS)	seal materials (*)
air, inert gas, water, oil	-20 to +120°C -40 to + 40°C -50 to + 60°C	FPM (fluoroelastomer) VMQ (sillicone) (F)VMQ ((fluoro)sillicone)

### MATERIALS IN CONTACT WITH FLUID

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

	Brass body	Stainless steel body
<b>Body</b>	Brass	AISI 316L SS
<b>Stem</b>	Stainless steel	Stainless steel
<b>Core tube</b>	Stainless steel	Stainless steel
<b>Core and plugnut</b>	Stainless steel	Stainless steel
<b>Springs</b>	Stainless steel	Stainless steel
<b>Sealings &amp; poppets</b>	FPM, VMQ or (F)VMQ	FPM, VMQ or (F)VMQ
<b>Rider ring</b>	PTFE	PTFE



POWER LEVELS - cold electrical holding values (watt)

### SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)		power level	prefix optional solenoids					basic catalogue number			
							min.	max. (PS)	NEMA 7&9	ATEX / IECEx				IP65	
										air/water (*)	Ex d				Ex e mb
❖	(mm)	(m³/h)	(l/m)			~/=	EF <sup>(1)</sup>	NF	EM	PV	SC	brass	stainless st.		
<b>U - Universal, FPM sealings and poppets</b>															
1/4	5,7	0,3	5,0	0	10	BP	●	●	●	○	●	❖ 327B051	❖ 327B052		
1/4	5,7	0,3	5,0	0	10	MP	-	●	●	-	●	❖ 327B251	❖ 327B252		
1/4	5,7	0,3	5,0	0	10	RP	-	●	●	-	●	❖ 327B151	❖ 327B152		
1/4	5,7	0,3	5,0	0	10	LP	-	●	-	-	-	❖ 327B351	❖ 327B352		
<b>U - Universal, VMQ sealings and poppets</b>															
1/4	5,7	0,3	5,0	0	10	BP	●	●	●	○	●	❖ 327B061	❖ 327B062		
<b>U - Universal, (F)VMQ sealings and poppets</b>															
1/4	5,7	0,3	5,0	0	10	MP	-	●	●	-	●	❖ 327B261	❖ 327B262		
1/4	5,7	0,3	5,0	0	10	RP	-	●	●	-	●	❖ 327B161	❖ 327B162		
1/4	5,7	0,3	5,0	0	10	LP	-	●	-	-	-	❖ 327B361	❖ 327B362		

❖ Select **8** for NPT ANSI 1.20.3 or Select **G** for ISO G(228/1)      ● Available feature      ○ Available feature in DC only      - Not available

<sup>(1)</sup> Prefix EF and EV should always be used in conjunction with change letter H in the basic number

### PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
E	F						Explosionproof - NEMA 7, 9 - Zinc plated steel conduit	-	-	-	●
E	V						Explosionproof - NEMA 7, 9 - 316 SS conduit	-	-	-	●
E	M						Waterproof IP67 - Metal enclosure (EN/IEC 60079-7+18, 61241-1)*	-	●	●	●
		E	T				Threaded conduit/hole (M20 x 1,5)	-	●	●	●
I	S						Intrinsically safe with SC coil (EN/IEC 60079-11+26, 61241-11)*	-	-	-	-
N	F						Flameproof - Aluminium (EN/IEC 60079-1, 60079-31)*	●	●	●	●
P	V						Encapsulated epoxy moulded (EN/IEC 60079-18, 61241-18)*	-	-	-	○
S	C						Solenoid with spade plug connector (EN/IEC 60730)	-	●	●	●
W	P						Waterproof IP67 - Metal enclosure	-	●	●	●
W	P			I	S		I.S. with Metal IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	-	-	-	-
W	S						Waterproof IP67 - 316 SS enclosure	-	●	●	●
W	S	E	M				Waterproof IP67 - 316 SS enclosure (EN/IEC 60079-7+18, 61241-1)*	-	●	●	●
W	S			I	S		I.S. with 316 SS IP67 enclosure (EN/IEC 60079-11+26, 61241-11)*	-	-	-	-
W	S	N	F				Flameproof - 316 SS (EN/IEC 60079-1, 60079-31)*	●	●	●	●
				T			Threaded conduit (1/2" NPT)	-	●	●	●
					H	C	Class H - Battery charging circuit	-	-	-	●
					H	T	Class H - High temperature	-	-	-	-
						X	Other special constructions	-	●	●	●

### PRODUCT SELECTION GUIDE

#### STEP 1

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 1.

**Example: 8327B051**

#### STEP 2

Select prefix (combination). Refer to the specifications table on page 1 and the prefix table on page 2, respect the indicated power level.

**Example: NF**

#### STEP 3

Select suffix (combination) if required. Refer to the suffix table on page 2, respect the indicated power level.

**Example: CO**

#### STEP 4

Select voltage. Refer to standard voltages on page 3.

**Example: 230V / 50/60 Hz**

#### STEP 5

Final catalogue / ordering number.

**Example:**

**NF 8327B051 CO 230V / 50/60 Hz**

### SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
E					EPDM (ethylene-propylene)	-	-	-	-
J					CR (chloroprene)	-	-	-	-
N					Oxygen service (CR (chloroprene))	-	-	-	-
N	V				FPM (fluoroelastomer) and parts cleaned for oxygen service	●	●	●	●
	C	O			Epoxy coating on all external surfaces	●	●	●	●
	M	B			Mounting bracket	-	-	-	-
			M	O	Push type manual operator	-	-	-	-
			M	S	Screw type manual operator <sup>(1)</sup>	-	-	-	-
			M		Metering device	-	-	-	-

● Available feature

○ Available feature in DC only

- Not available

\* ATEX solenoids are also approved according to EN 13463-1 (non electrical valves)

<sup>(1)</sup> Functional Safety certification is not applicable with this feature

### OPTIONS & ACCESSORIES

catalogue number	spare part kit no. <sup>(2)</sup>	mounting bracket
	~ / =	
SC ❖327B051	C123670	■
SC ❖327B052	C123670	■
SC ❖327B061	C131237	■
SC ❖327B062	C131237	■
SC ❖327B151	C132251	■
SC ❖327B152	C132251	■
SC ❖327B161	C132253	■
SC ❖327B162	C132253	■
SC ❖327B251	C132251	■
SC ❖327B252	C132251	■
SC ❖327B261	C132253	■
SC ❖327B262	C132253	■
SC ❖327B351	C132443	■
SC ❖327B352	C132443	■
SC ❖327B361	C132444	■
SC ❖327B362	C132444	■

❖ Select **8** for NPT ANSI 1.20.3 or select **G** for ISO G(228/1)

<sup>(2)</sup> Standard prefixes/suffixes are also applicable to kits

■ Mounting holes in body

### ORDERING EXAMPLES VALVES:

SC	8	327B051		24V / DC
WSEMT	G	327B052	CO	24V / DC
NFET	G	327B051		230V / 50/60 Hz
WSEM	G	327B052	CO	24V / DC
NF	8	327B261	CO	24V / DC
WS	G	327B051	CO	24V / DC
EM	8	327B251		230V / 50/60 Hz
PV	8	327B062	CO	24V / DC
EF	G	327H152	CO	240V / 50/60 Hz

prefix <sup>(3)</sup>      pipe thread      basic number <sup>(3)</sup>      voltage      suffix

### ORDERING EXAMPLES KITS\*:

WS	C131237 <sup>(4)</sup>	
EM	C123670	
PV	C131237	
EF	C123670	CO

prefix      basic number      suffix

<sup>(3)</sup> Prefix EF and EV should always be used in conjunction with change letter H in the basic number

<sup>(4)</sup> Basic kit number applies to SC coil construction

\* Because of the nature of redundant valves (2x solenoid) the spare part kits have to be ordered 2x

## EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range ( <b>TS</b> ) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
Operator ambient temperature range	The operator ambient temperature range is determined by the selected power level and the safety code
Total temperature range	The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

## ELECTRICAL CHARACTERISTICS

<b>Coil insulation class</b>	H
<b>Electrical safety</b>	IEC 335
<b>Standard voltages</b>	DC (=) 24V - 48V; Allowable voltage variation $\pm 10\%$ AC (~) 24V - 48V - 115V - 230V/50/60Hz; Other voltages are available on request

prefix option	power ratings				operator ambient temperature range (C°) <sup>(1)</sup>	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type <sup>(2)</sup>
	inrush ~	holding ~	hot/cold =	=				~		
	(VA)	(VA)	(W)	(W)				230V/50/60 Hz	24V/DC	
<b>Basic power (BP)</b>										
SC	10,0	10,0	10,0	9,0/11,2	-40 to +55	EN 60730	IP65, moulded	123664-017	400425-142	01
WP/WS	10,0	10,0	10,0	9,0/11,2	-40 to +55	EN 60730	IP67, steel /SS	400915-017	400913-142	03
NF/WSNF	10,0	10,0	10,0	9,0/11,2	-60 to +40/60	II2G Ex d IIC Gb T6/T5, II2D Ex t IIIC Db	IP67, alu./SS	400915-017	400913-142	05
EM/WSEM	10,0	10,0	10,0	9,0/11,2	-40 to +40	II2G Ex e mb II T3, II2D Ex tD A21	IP67, steel /SS	400915-017	400913-142	03
PV	-	-	-	9,0/11,2	-40 to +55	II2G Ex mb II T4, II2D Ex mD 21	IP67, moulded	-	- <sup>(3)</sup>	06
EF/EV	12,0	12,0	12,0	9,3/11,6	-40 to +52/40	NEMA type 7 and 9	NEMA 4X	276002-058D	238714-006D	07
<b>Medium Power (MP)</b>										
SC	5,8	5,8	5,8	5,2/5,7	-40 to +90	EN 60730	IP65, moulded	400924-297	400923-442	02
WP/WS	5,8	5,8	5,8	5,2/5,7	-40 to +90	EN 60730	IP67, steel /SS	400921-297	400914-442	04
NF/WSNF	5,8	5,8	5,8	5,2/5,7	-60 to +60/75/90	II2G Ex d IIC Gb T6/T5/T4, II2D Ex t IIIC Db	IP67, alu./SS	400921-297	400914-442	05
EM/WSEM	5,8	5,8	5,8	5,2/5,7	-40 to +40/75/90	II2G Ex e mb II T5/T4/T3, II2D Ex tD A21	IP67, steel /SS	400921-297	400914-442	04
<b>Reduced Power (RP)<sup>(4)</sup></b>										
SC	3,7	3,7	3,7	3,2/3,6	-40 to +55	EN 60730	IP65, moulded	- <sup>(4)</sup>	400923-042	02
WP/WS	3,7	3,7	3,7	3,2/3,6	-40 to +55	EN 60730	IP67, steel /SS	- <sup>(4)</sup>	400914-242	04
NF/WSNF	3,7	3,7	3,7	3,2/3,6	-60 to +60	II2G Ex d IIC Gb T6, II2D Ex t IIIC Db	IP67, alu./SS	- <sup>(4)</sup>	400914-242	05
EM/WSEM	3,7	3,7	3,7	3,2/3,6	-40 to +40/55	II2G Ex e mb II T6/T5, II2D Ex tD A21	IP67, steel /SS	- <sup>(4)</sup>	400914-242	04
<b>Low Power (LP)<sup>(4)</sup></b>										
NF/WSNF	1,85	1,85	1,85	1,5/1,8	-60 to +55	II2G Ex d IIC Gb T6, II2D Ex t IIIC Db	IP67, alu./SS	- <sup>(4)</sup>	400914-542	05

<sup>(1)</sup> Temperature range can be limited by sealings <sup>(2)</sup> Refer to the dimensional drawings on page 4 and 5 <sup>(3)</sup> Multiple coil kits are available under ATEX/IECEX, contact us  
<sup>(4)</sup> AC (~) limited to 127V/50/60Hz or 125V/DC - Not available

## ELECTRICAL CONNECTIONS

prefix	connection
SC	Spade plug connector with cable gland EN175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm
WP, WS, EM, WSEM	M20 cable gland for cables with an outer diameter from 7 to 12 mm. With an internal and external facility for an earthing or bonding conductor
NF, WSNF	1/2" NPT threaded cable entry. Enclosures are supplied without cable gland
NFET, WSNFET	M20 x 1,5 threaded cable entry. Enclosures are supplied without cable gland

## ADDITIONAL OPTIONS

- Direct mount / pad mount construction according to NAMUR recommendations
- Ex mb/mD (prefix "PV") solenoid can be supplied with various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- Special moulded-in solid state components for peak voltage suppression and/or rectification (four diode bridge)

## INSTALLATION

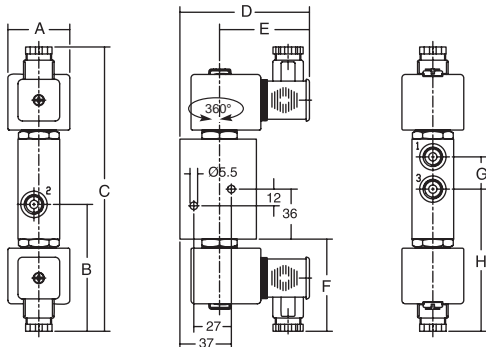
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- The mounting holes are provided in the valve body
- Threaded pipe connection identifier is 8 = NPT (ANSI 1.20.3); G = G (ISO 228/1)
- Declarations of conformity are available on request
- Ex e mb Prefix "EM" execution: solenoid enclosure has a cable gland with integral strain relief for cables with an o.d. from 7 to 12 mm and is provided with an internal and external connection facility for an earthing or bonding conductor
- Ex d Prefix "NF/WSNF" enclosure is provided with a 1/2" NPT threaded entry hole, M20 x 1,5 (prefix "ET") is optional. Both are supplied without cable gland
- All DC solenoids with metal enclosure are provided with switch-off peak voltage suppression diodes
- To comply with IEC 61508 (SIL) the valves must be provided with a specific exhaust protector (as shown on page 6) or equal

## DIMENSIONS (mm), WEIGHT (kg)



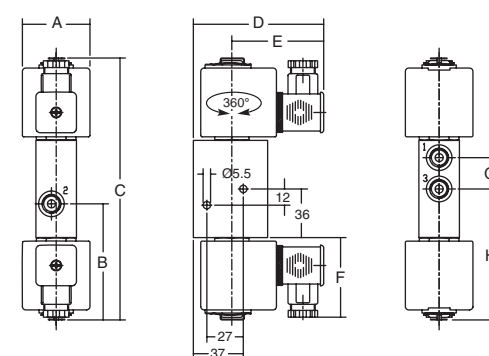
**TYPE 01:**  
Epoxy moulded  
SC: IEC 335 / ISO 4400

327B051 / B052 / B061 / B062



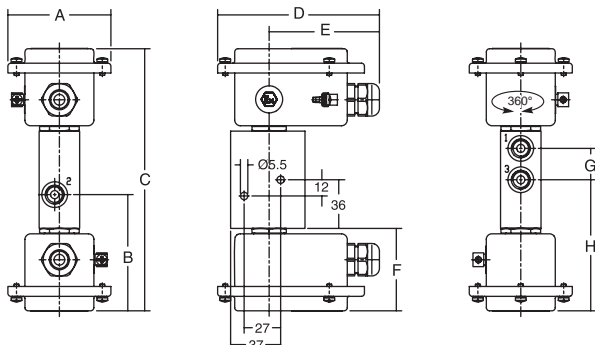
**TYPE 02:**  
Epoxy moulded  
SC: IEC 335 / ISO 4400

327B151 / B152 / B161 / B162 / B251 / B252 / B261 / B262



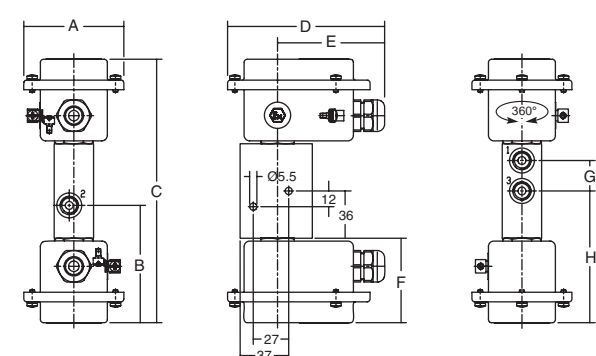
**TYPE 03:**  
Metal, epoxy coated / AISI 316 SS  
WP / WS: IEC 335  
EM / WSEM: EN/IEC 60079-7+18, 61241-1

327B051 / B052 / B061 / B062



**TYPE 04:**  
Metal, epoxy coated / AISI 316 SS  
WP / WS: IEC 335  
EM / WSEM: EN/IEC 60079-7+18, 61241-1

327B151 / B152 / B161 / B162 / B251 / B252 / B261 / B262

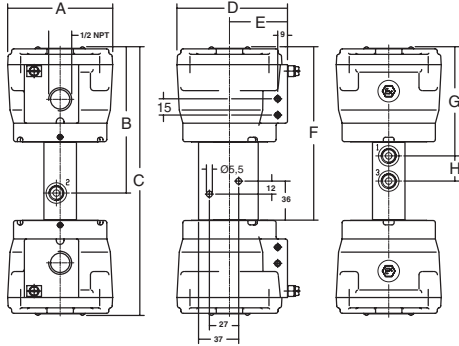


### DIMENSIONS (mm), WEIGHT (kg)



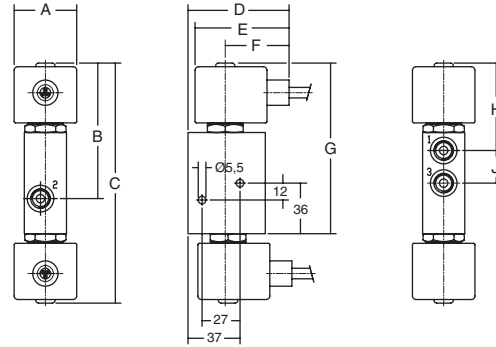
**TYPE 05:**  
Aluminium, epoxy coated / AISI 316 SS  
NF / WSNF : EN/IEC 60079-1, 60079-31

327B051 / B052 / B061 / B062 / B151 / B152 / B161 / B162 /  
B251 / B252 / B261 / B262 / B351 / B352 / B361 / B362



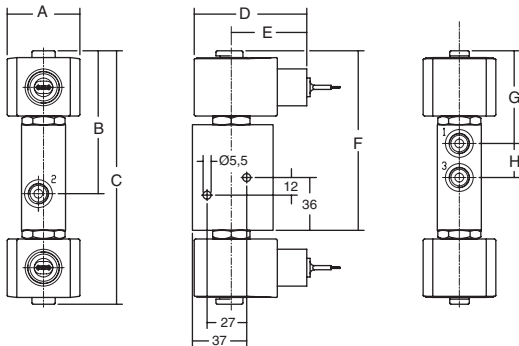
**TYPE 06:**  
Epoxy encapsulated  
PV: EN/IEC 60079-18, 61241-18

327B051 / B052 / B061 / B062



**TYPE 07:**  
Epoxy encapsulated  
EF and EV: NEMA type 7, 9 / ICS-6 ANSI

327H001 / H002 / H011 / H012



type	prefix/option	power level	A	B	C	D	E	F	G	H	weight
01	SC	BP	45	91	205	93	65	66	23	102	1,55 kg
02	SC	MP/RP	50	86	194	97	68	59	23	97	1,65 kg
03	WP, WS, EM, WSEM	BP	76	86	194	120	82	61	23	97	1,60 kg
04	WP, WS, EM, WSEM	MP/RP	76	90	201	120	82	63	23	100	1,70 kg
05	NF, WSNF	BP/MP/RP	97	135	248	102	54	160	101	23	4,70 kg
05	NF, WSNF	LP	97	145	268	102	54	170	111	23	4,90 kg
06	PV	BP	45	97	171	72	67	45	121	23	1,70 kg
07	EF, EV	BP	50	97	173	77	51	122	62	23	1,70 kg

DIMENSIONS (mm), WEIGHT (kg)



**SECTIONAL DRAWING**

