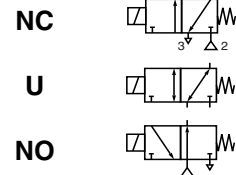




# SOLENOID VALVES

direct operated  
core disc  
1/4



**3/2**  
Series  
**374**

## FEATURES

- Compact valve intended for single-acting actuator control
- Epoxy moulded coil for general service applications
- Coils interchangeable without dismantling the valve
- Valves do not require a minimum operating pressure
- The solenoid valves satisfy all relevant EC directives

## GENERAL

**Differential pressure** See "SPECIFICATIONS" [1 bar = 100 kPa]  
**Maximum viscosity** 40 cSt (mm<sup>2</sup>/s)  
**Response time** 8 - 20 ms

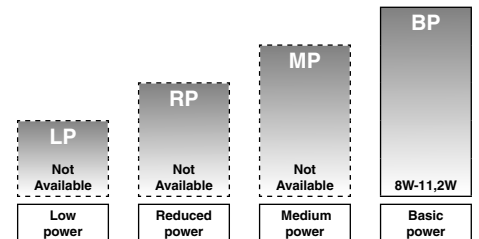
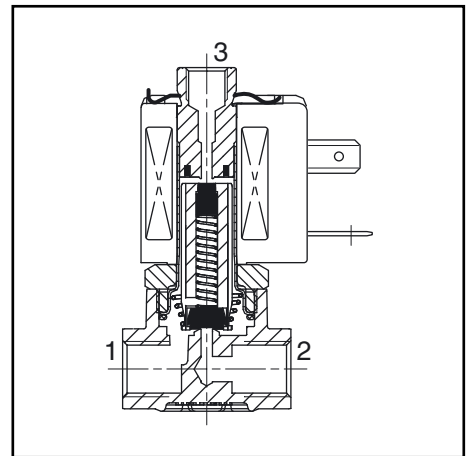
fluids (*)	temperature range (TS)	seal materials (*)
water, air, inert gas, oil	- 25°C to + 80°C	NBR (nitrile)



## MATERIALS IN CONTACT WITH FLUID

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

**Body** Brass or AISI 316L (1.4404)  
**Internal parts, springs** Stainless steel  
**Seat** Brass and stainless steel  
**Seals** NBR  
**Core guide** CA  
**Shading coil** Copper



POWER LEVELS - cold electrical holding values (watt)

## SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv				operating pressure differential (bar)				power level BP	prefix optional solenoids					basic catalogue number	
		2 → 1		1 → 3		min.	max. (PS)				ATEX/GENELEC (gas/dust)					brass	stainless st.
		(m <sup>3</sup> /h)	(l/min)	(m <sup>3</sup> /h)	(l/min)		air/water/oil (*)	Ex d	Ex emb		Ex mb	EEx n	IP65				
(*)	(mm)	(m <sup>3</sup> /h)	(l/min)	(m <sup>3</sup> /h)	(l/min)		~	=	~	=	NK	EM	PV	ZN	SC		
<b>NC - Normally closed</b>																	
1/4	2,0	0,11	1,8	0,15	2,5	0	16	-	8	-	-	-	-	-	●	❖374A001	❖374A031
1/4	2,0	0,11	1,8	0,15	2,5	0	-	8	-	10,8	-	-	-	-	●	❖374A061	❖374A070
1/4	2,0	0,11	1,8	0,15	2,5	0	16	16	10,5	11,2	●	●	●	●	●	❖374A016	❖374A046
1/4	2,7	0,22	3,6	0,15	2,5	0	10	-	8	-	-	-	-	-	●	❖374A002	❖374A032
1/4	2,7	0,22	3,6	0,15	2,5	0	-	5	-	10,8	-	-	-	-	●	❖374A062	❖374A071
1/4	2,7	0,22	3,6	0,15	2,5	0	10	10	10,5	11,2	●	●	●	●	●	❖374A017	❖374A047
1/4	3,8	0,32	5,3	0,15	2,5	0	5	-	8	-	-	-	-	-	●	❖374A003	❖374A033
1/4	3,8	0,32	5,3	0,15	2,5	0	-	2	-	10,8	-	-	-	-	●	❖374A063	❖374A072
1/4	3,8	0,32	5,3	0,15	2,5	0	5	5	10,5	11,2	●	●	●	●	●	❖374A018	❖374A048

❖ Select B for NPT ANSI 1.20.3 or select E for ISO (228/1 and ISO 7/1) ● Available feature - Not available

## SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv				operating pressure differential (bar)				power level BP	prefix optional solenoids					basic catalogue number				
		2 → 1		1 → 3		min.	max. (PS)				ATEX/CENELEC (gas/dust)					brass	stainless st.			
		(m³/h)	(l/min)	(m³/h)	(l/min)		air (*)	water/oil (*)	Ex d		Ex emb	Ex mb	EEx n	IP65						
(*)	(mm)	(m³/h)	(l/min)	(m³/h)	(l/min)		~	=	~	=	~	=	NK	EM	PV	ZN	SC			
<b>U - Universal</b>																				
1/4	2,7	0,22	3,6	0,15	2,5	0	8	-	4	-	8	-	-	-	-	-	-	●	❖374A012	❖374A042
1/4	2,7	0,22	3,6	0,15	2,5	0	8	4	4	4	10,5	11,2	●	●	●	●	●	●	❖374A027	❖374A057
1/4	3,8	0,32	5,3	0,15	2,5	0	4	-	4	-	8	-	-	-	-	-	-	●	❖374A013	❖374A043
1/4	3,8	0,32	5,3	0,15	2,5	0	4	2	4	2	10,5	11,2	●	●	●	●	●	●	❖374A028	❖374A058
<b>NO - Normally open</b>																				
1/4	2,5	0,22	3,6	0,15	2,5	0	10	-	10	-	8	-	-	-	-	-	-	●	❖374A007	❖374A037
1/4	2,5	0,22	3,6	0,15	2,5	0	10	10	10	10	10,5	11,2	●	●	●	●	●	●	❖374A022	❖374A052

## PREFIX TABLE

prefix							description	power level			
1	2	3	4	5	6	7		LP	RP	MP	BP
S	C			D	U		Dustproof ATEX (EN 50281-1-1) *	-	-	-	●
E	M						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	-	-	-	● <sup>(1)</sup>
		E	T				Threaded conduit/hole (M20 x 1.5)	-	-	-	● <sup>(1)</sup>
N	K						Flameproof - Alum. ATEX (EN 60079 / 61241) *	-	-	-	● <sup>(1)</sup>
P	V						Encapsulated ATEX + IECEx (EN/IEC 60079 / 61241)*	-	-	-	● <sup>(1)</sup>
S	C						Solenoid with spade plug connector (EN 60730)	-	-	-	● <sup>(1)</sup>
W	P						Waterproof IP67 - Metal enclosure (EN 60730)	-	-	-	● <sup>(1)</sup>
W	S						Waterproof IP67 - 316 SS enclosure (EN 60730)	-	-	-	● <sup>(1)</sup>
W	S	E	M				316 SS "EM" encl. ATEX + IECEx (EN/IEC 60079/61241)*	-	-	-	● <sup>(1)</sup>
W	P			D	U		Dustproof ATEX (EN 50281-1-1) - Metal enclosure *	-	-	-	● <sup>(1)</sup>
W	S			D	U		Dustproof ATEX (EN 50281-1-1) - 316 SS enclosure *	-	-	-	● <sup>(1)</sup>
Z	N						Encapsulated Non Sparking ATEX (EN 50021) *	-	-	-	● <sup>(1)</sup>
			T				Threaded conduit (1/2" NPT)	-	-	-	● <sup>(1)</sup>
				H	T		Class H - High temperature	-	-	-	● <sup>(1)</sup>
						X	Other special constructions	-	-	-	● <sup>(1)</sup>

## PRODUCT SELECTION GUIDE

### STEP 1

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications tables on pages 1 and 2.

**Example: E374A016**

### 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: EM**

### STEP 3

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

**Example: MS**

### STEP 4

Select voltage. Refer to standard voltages on page 3.

**Example: 230V / 50Hz**

### STEP 5

Final catalogue / ordering number.

**Example:**

**EME374A016MS 230 V / 50 Hz**

## SUFFIX TABLE

suffix					description	power level			
1	2	3	4	5		LP	RP	MP	BP
E					EPDM (ethylene-propylene)	-	-	-	●
V					FPM (fluoroelastomer)	-	-	-	●
N	V				FPM (fluoroelastomer) parts cleaned for oxygen service	-	-	-	●
		M	S		Screw type manual operator	-	-	-	●

## OPTIONS & ACCESSOIRES

catalogue number	spare parts kit n <sup>(2)</sup>		screw type manual operator
	~	=	
❖374A001/002/003	<b>C140038</b>	-	C140048
❖374A031/032/033	<b>C140038</b>	-	C140072
❖374A061/062/063	-	<b>C140037</b>	C140048
❖374A070/071/072	-	<b>C140037</b>	C140072
❖374A016/017/018	<b>C140038</b>	<b>C140038</b>	C140048
❖374A046/047/048	<b>C140038</b>	<b>C140038</b>	C140072
❖374A012/013	<b>C140042</b>	-	C140048
❖374A042/043	<b>C140042</b>	-	C140072
❖374A027/028	<b>C140042</b>	<b>C140042</b>	C140048
❖374A057/058	<b>C140042</b>	<b>C140042</b>	C140072
❖374A007	<b>C140039</b>	-	C140048
❖374A037	<b>C140039</b>	-	C140072
❖374A022	<b>C140039</b>	<b>C140039</b>	C140048
❖374A052	<b>C140039</b>	<b>C140039</b>	C140072

❖ Select **B** for NPT ANSI 1.20.3 or select **E** for ISO (228/1 and 7/1)

● Available feature

- Not available

\* ATEX solenoids are also approved according to EN/IEC 61241 (Dust) and EN 13463-1 (non electrical valves)

<sup>(1)</sup> Power level 10,5/11,2: Available feature, see Specifications page 1

<sup>(2)</sup> Standard suffixes E and V are also applicable to kits

<sup>(3)</sup> Basic kit number applies to SC coil construction

## ORDERING EXAMPLES VALVES:

SC	E	374 A 046	MS	230V / 50 Hz
SCDU	E	374 A 016	MS	230V / 50 Hz
SCHT	B	374 A 018		230V / 50 Hz
WS	E	374 A 048	MS	24V / DC
WP	B	374 A 022		24V / DC
EM	B	374 A 017	MS	230V / 50 Hz

prefix — pipe thread — basic number — voltage — suffix

## ORDERING EXAMPLES KITS:

C140038	<sup>(3)</sup>		
C140038		V	
C140037		E	

basic number — suffix

## EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

Valve temperature range	The valve temperature range 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 (LP, RP, MP or BP) and the ATEX 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>	F
<b>Electrical safety</b>	IEC 335
<b>Standard voltages</b>	DC (=) 24V - 48V AC (~) 24V - 48V - 115V - 230V/50Hz; other voltages and 60Hz are available on request

prefix option	power ratings				operator ambient temperature range (TS) (C°)	safety code	electrical enclosure protection (EN 60529)	replacement coil / kit		type <sup>(1)</sup>
	inrush	holding		hot/cold				~	=	
	(VA)	(VA)	(W)	(W)				230 V / 50 Hz	24 V DC	
<b>Basic power (BP)</b>										
SC	23	14	8	8/10,8	-25 to +60	EN 60730	moulded IP65	43005096	43005099	01-02
SC	55	23	10,5	9/11,2	-40 to +75	EN 60730	moulded IP65	400425-117	400425-142	03-04
SCDU	55	23	10,5	9/11,2	-40 à +75	II 3D IP65 T 200°C(-)/135°C(=)	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	03-04
WP	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	400405-117	400405-142	07-08
WPDU	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	- <sup>(2)</sup>	- <sup>(2)</sup>	07-08
WS	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	400405-117	400405-142	07-08
WSDU	55	23	10,5	9/11,2	-40 to +75	EN 60730	steel IP67	- <sup>(2)</sup>	- <sup>(2)</sup>	07-08
NK	55	23	10,5	9/11,2	-40 à +50/60	II 2G/D Ex d IIB+H <sub>2</sub> T4/Ex tD	aluminium IP65	400405-117	400405-142	05-06
EM/WSEM	55	23	10,5	9/11,2	-40 to +40	II 2G/D Ex emb II T3/Ex tD	steel/SS IP67	400-909-117	400-913-142	07-08
PV	55	23	10,5	9/11,2	-40 to +65	II 2G/D Ex mb II T3(-)/T4(=)/Ex mD	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	09-10
ZN	55	23	10,5	9/11,2	-20 to +50	II 3 G/D EEx nA II T3	moulded IP65	- <sup>(2)</sup>	- <sup>(2)</sup>	03-04

- Not available

<sup>(1)</sup> Refer to the dimensional drawings on pages 4 to 6

<sup>(2)</sup> Multiple coil kits available under ATEX, contact us

## ELECTRICAL CONNECTIONS

prefix	connection
SC, SCDU, ZN	Spade plug connector with cable gland EN 175301-803A (ISO 4400) for cables with an outer diameter from 6 to 10 mm.
WP, WS, EM, WSEM, WPDU, WSDU	M22 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.
NK	3/4" NPT cable gland for unarmoured cables with an outer diameter from 8,5 to 16 mm or 12 to 20,5 mm or for armoured cables with an inner diameter of 8,5 to 16 mm and an outer diameter of 12 to 21 mm.
PV	Moulded-in cable, standard length 2 m

## ADDITIONAL OPTIONS

- Other pipe threads are available on request
- Ex mb (prefix "PV") execution can be supplied in various cable lengths
- Compliance with "UL", "CSA" and other local approvals available on request
- 1/2" NPT (prefix "T") and M20 x 1.5 (prefix "ET") conduits (aluminium or 316 SS) available for steel solenoid housing

## INSTALLATION

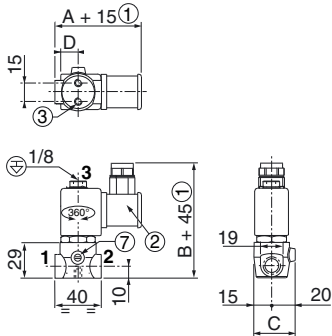
- Installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- Threaded pipe connection identifier is: B = NPT (ANSI 1.20.3); E = (ISO 228/1 and ISO 7/1)
- Prefix "NK" enclosure is provided with a 3/4" NPT threaded entry hole (M20 x 1,5 (prefix "ET") optional) and is supplied without cable gland

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



**TYPE 01: Prefixes SC: IP65,**  
Basic power  
Epoxy moulded  
IEC 335 / ISO 4400

374A001 / 374A061 / 374A002 / 374A062 / 374A003 / 374A063  
374A012 / 374A013 / 374A007



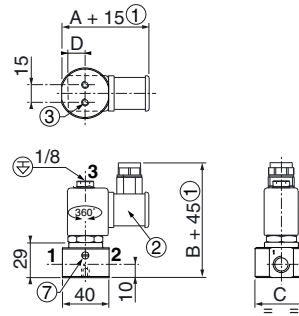
Pressure inlet:  
• Function U = any port  
• Function NC = Port 2  
• Function NO = Port 3

Ports 1 and 2 : 1/4  
Port 3 : 1/8



**TYPE 02: Prefixes SC: IP65,**  
Basic power  
Epoxy moulded  
IEC 335 / ISO 4400

374A031 / 374A070 / 374A032 / 374A071 / 374A033 / 374A072  
374A042 / 374A043 / 374A037



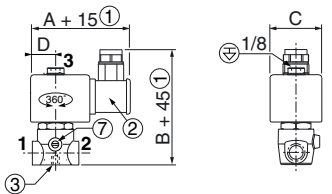
Pressure inlet:  
• Function U = any port  
• Function NC = Port 2  
• Function NO = Port 3

Ports 1 and 2 : 1/4  
Port 3 : 1/8



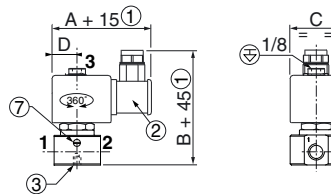
**TYPE 03: Prefixes SC: IP65, SCDU: II 3 D, IP65,**  
T 100°C to T 200°C, ZN: II 3G/D EEx nA II  
Basic power  
Epoxy moulded  
IEC 335 / ISO 4400 (SC/SCDU)  
EN 50021 (ZN)

374A016 / 374A017 / 374A018  
374A027 / 374A028 / 374A022



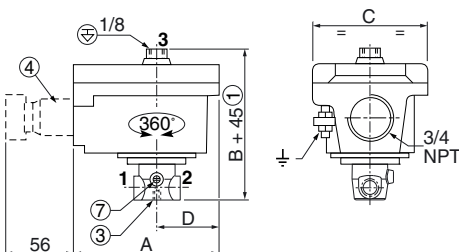
**TYPE 04: Prefixes SC: IP65, SCDU: II 3 D, IP65,**  
T 100°C to T 200°C, ZN: II 3G/D EEx nA II  
Basic power  
Epoxy moulded  
IEC 335 / ISO 4400 (SC/SCDU)  
EN 50021 (ZN)

374A046 / 374A047 / 374A048  
374A057 / 374A058 / 374A052



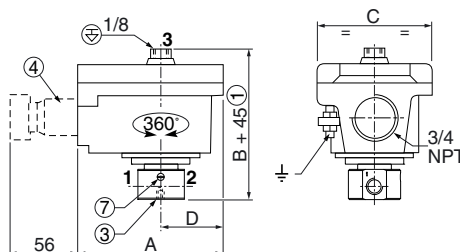
**TYPE 05: Prefix NK: II 2 GD, IP65, Ex d IIB + H<sub>2</sub>**  
Basic power  
Aluminium, epoxy coated  
EN 60079-1 and EN 61241-1

374A016 / 374A017 / 374A018  
374A027 / 374A028 / 374A022



**TYPE 06: Prefix NK: II 2 GD, IP65, Ex d IIB + H<sub>2</sub>**  
Basic power  
Aluminium, epoxy coated  
EN 60079-1 and EN 61241-1

374A046 / 374A047 / 374A048  
374A057 / 374A058 / 374A052

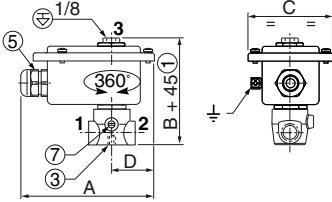


### DIMENSIONS (mm), WEIGHT (kg)



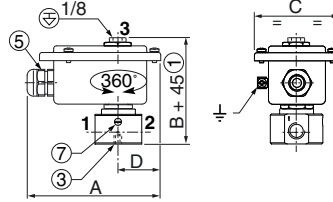
**TYPE 07: Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, Ex emb II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C**  
 Basic power  
 Steel, epoxy coated (EM, WP, WPDU)  
 AISI 316 SS (WS, WSDU and WSEM)  
 IEC 335 / EN 60079-7/18 and EN 61241-1

**374A016 / 374A017 / 374A018**  
**374A027 / 374A028 / 374A022**



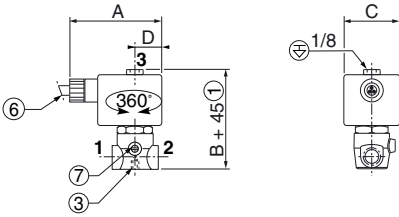
**TYPE 08: Prefixes WP/WS: IP67, EM/WSEM: II 2 G/D, IP67, Ex emb II, WPDU/WSDU: II 3 D, IP67, T85°C to 200°C**  
 Basic power  
 Steel, epoxy coated (EM, WP, WPDU)  
 AISI 316 SS (WS, WSDU and WSEM)  
 IEC 335 / EN 60079-7/18 and EN 61241-1

**374A046 / 374A047 / 374A048**  
**374A057 / 374A058 / 374A052**



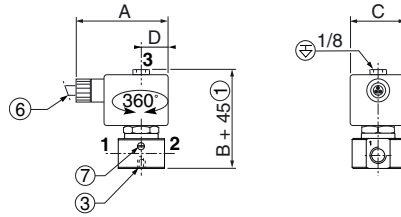
**TYPE 09: Prefix PV: II 2 G/D, IP67, Ex mb II, Ex mD**  
 Basic power  
 Epoxy encapsulated  
 EN/IEC 60079-18 and EN/IEC 61241-18

**374A016 / 374A017 / 374A018**  
**374A027 / 374A028 / 374A022**



**TYPE 10: Prefix PV: II 2 G/D, IP67, Ex mb II, Ex mD**  
 Basic power  
 Epoxy encapsulated  
 EN/IEC 60079-18 and EN/IEC 61241-18

**374A046 / 374A047 / 374A048**  
**374A057 / 374A058 / 374A052**



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

type	prefix option	power level	A	B	C	D	weight <sup>(1)</sup>
01	SC	Basic Power	75	98	35	15	0,340
02	SC	Basic Power	75	98	45	15	0,410
03	SC / SCDU / ZN	Basic Power	85,5	98	45	21	0,510
04	SC / SCDU / ZN	Basic Power	85,5	98	45	21	0,560
05	NK	Basic Power	100	93	69	35,5	0,840
06	NK	Basic Power	100	93	69	35,5	0,890
07	WP/WPDU/WS/WSDU/EM/WSEM	Basic Power	120	95	77	38	0,760
08	WP/WPDU/WS/WSDU/EM/WSEM	Basic Power	120	95	77	38	0,810
09	PV	Basic Power	75	79,4	45	21,5	0,558
10	PV	Basic Power	75	79,4	45	21,5	0,608

- ① Extra length for disassembly, depending on model
- ② Connector rotatable by 90° increments (cable Ø 6 - 10 mm)
- ③ Mounting 2 ØM4, 7 mm depth
- ④ Ex d certified cable gland (on request)
- ⑤ Cable gland for unarmoured cable with 6 to 12 mm dia. sheath
- ⑥ Three-core cable, length 2 m
- ⑦ Screw type manual operator, suffix (MS)

<sup>(1)</sup> Incl.coil(s) and connector(s)

### SECTIONAL DRAWING

