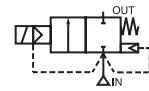




# SOLENOID VALVES

high pressure, pilot operated  
for CNG applications  
3/8 and 1/2

NC



2/2  
Series  
291

## FEATURES

- The normally closed high pressure valves are especially designed to meet the particular heavy duty requirements of compressed natural gas
- Stainless steel body material to achieve a compact and reliable design
- The high quality PEEK piston guarantees a long operating life and a large temperature range
- Valves can withstand a burst pressure beyond 1400 bar
- Explosion proof operator, intended for use in potentially explosive areas, according to Directive ATEX 94/9/EC
- Easy electrical installation by means of the moulded-in supply cable, standard length 2 meter
- ASCO Numatics components satisfy all relevant EC directives

## GENERAL

Differential pressure 10 - 350 bar [1 bar = 100kPa]  
Ambient temperature range -40 to +70°C

fluids (*)	temperature range (TS)	seal materials (*)
CNG	-40 to +70°C	FPM (fluoroelastomer) / VMQ (silicone) High-grade PTFE / 302 Stainless steel

## MATERIALS IN CONTACT WITH FLUID

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

Body	303 Stainless steel
Core	Aluminium bronze
Piston	PEEK
Core and plugnut	Stainless steel
Core spring	Stainless steel
Sealing (U-cup)	FPM
	High-grade PTFE / 302 Stainless steel
O-ring	FPM

## ELECTRICAL CHARACTERISTICS

Coil insulation class F  
Electrical safety IEC 335  
Standard voltages DC (=) 24V - 48V;  
AC (~): 24V - 48V - 115V - 230V / 50 Hz

prefix option	power ratings		operator ambient temperature range (TS)	safety code	electrical enclosure protection (EN 60529)	replacement coil		type <sup>(1)</sup>
	holding ~	hot/cold =				~	=	
	(W)	(W)				230V/50/60 Hz	24V/DC	
PV	-	9,0 / 11,2	-40 to +40/65	II 2 G Ex mb II T3 / T4	moulded IP67	-	<sup>(2)</sup>	01
(WS)EM	10,0	9,0 / 11,2	-40 to +40/65	II 2 G Ex e mb II T3 / T4	SS / moulded IP65	<sup>(2)</sup>	<sup>(2)</sup>	02
SC	-	9,0 / 11,2	-40 to +55	EN 60730	moulded IP65	-	400425-142	03

<sup>(1)</sup> Refer to the dimensional drawings on page 24

<sup>(2)</sup> Multiple coils kits available under ATEX, contact us  
- Not available

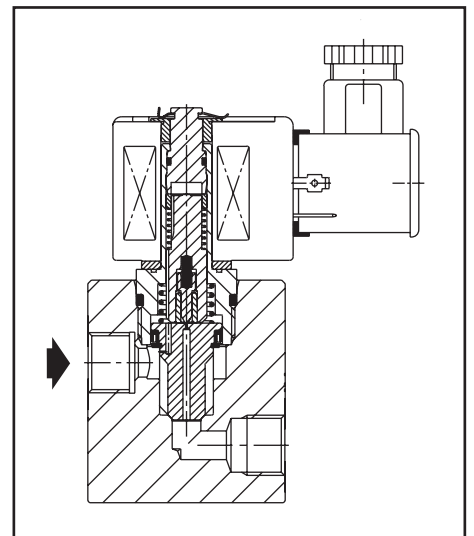
## SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)		prefix optional solenoids *					basic catalogue number	
						NEMA 7&9	ATEX / IECEx			IP65		
							Ex d	Ex e mb	Ex mb			EEx nA
∅	(mm)	(m³/h)	(l/min)	min	max. PS ~/=	EF	NF	EM	PV	ZN	SC	
<b>NC - Normally closed</b>												
3/8	8	0,96	16	10	350	-	-	●	○	-	●	∅291A410
1/2	12	2,30	38	10	350	-	-	●	○	-	●	∅291A420

● Available feature ○ Available feature in DC only  
- Not available

\* For description of solenoids see pages 31-40

∅: Select 'G' for ISO 228/1 or 'C' for SAE



### OPTIONS

- Other explosionproof enclosures for use in zone 1/21-2/22, categories 2-3 to ATEX Directive 94/9/EC
- Explosionproof and watertight solenoids according to "NEMA" standards

### INSTALLATION

- The valves can be mounted in any position without affecting operation
- Pipe connection identifiers: G = pipe thread according to ISO 228/1, C = SAE
- Installation/maintenance instructions are included with each valve
- PV solenoids have a standard cable length of 2 meters. Other lengths in full meters are available on request

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



#### TYPE 01

Préfix "PV" Solenoid  
Epoxy encapsulated  
EN-IEC 60079-0, 60079-18, 61241-0, 61241-18  
II 2 G/D Ex mb II / Ex mD  
IP67

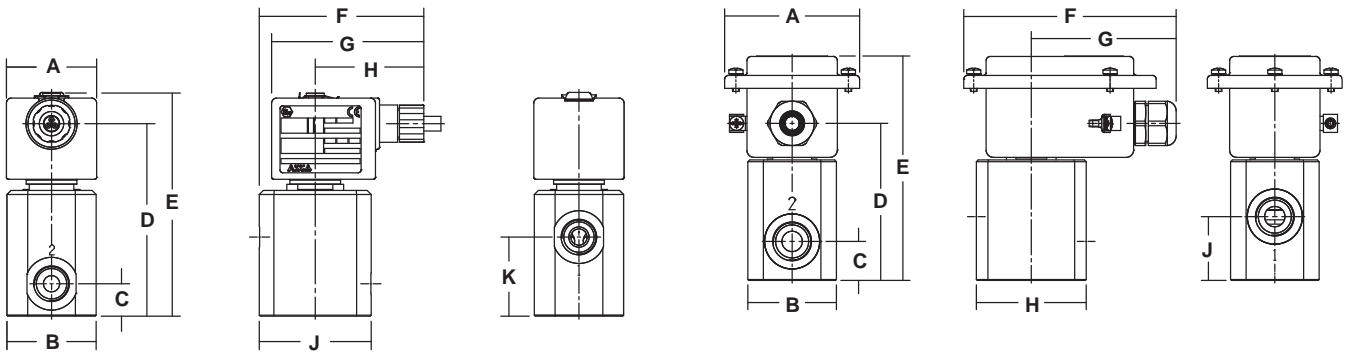
G291A410 / A420, C291A410 / A420



#### TYPE 02

Préfix "EM" and "WSEM" Solenoid  
Zinc plated steel, epoxy coated (EM)  
Stainless steel, AISI 316 (WSEM)  
EN-IEC 60079-0, 60079-7, 60079-18, 61241-0, 61241-18  
II 2 G/D Ex e mb II / Ex tD  
IP67

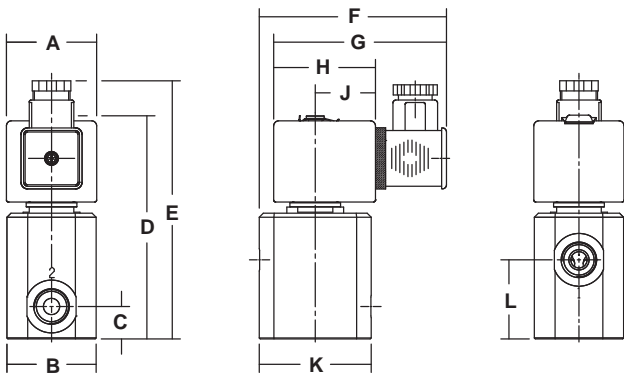
G291A410 / A420, C291A410 / A420



#### TYPE 03

Préfix "SC" Solenoid  
Epoxy moulded  
IEC 335 / ISO 4400  
IP65

G291A410 / A420, C291A410 / A420



type	AC/DC	prefix option	catalogue number	spare parts kits	A	B	C	D	E	F	G	H	J	K	L	weight
01	=	PV	❖291A410	PVC144695	45	44	16	95	110	81	75	54	55	39	-	1,4 Kg
	=		❖291A420	PVC144696	45	50	22	101	116	85	75	54	62	36	-	1,8 Kg
02	~	(WS)EM	❖291A410	EMC144695	76	44	16	83	120	120	82	55	39	-	-	1,5 Kg
	=		❖291A420	EMC144696	76	50	22	89	126	120	82	62	36	-	-	1,9 Kg
03	~	SC	❖291A410	C144695	45	44	16	110	127	92	85	50	30	55	39	1,3 Kg
	=		❖291A420	C144696	45	50	22	116	133	96	85	50	30	62	36	1,7 Kg

❖: Select 'G' for ISO 228/1 or 'C' for SAE