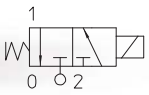


31A - 31L SERIES

Solenoid valves, 3-way, Direct acting

31A and **31L** are 3-way, direct acting solenoid valves.
The fixed core and armature tube are welded together to enhance pressure resistance and leak-tightness.
A large selection of seal materials provides wide chemical compatibility.



TECHNICAL DATA

PORT CONNECTION	G 1/4 ÷ G 1/8		
SEALING MATERIALS	FKM		HNBR
FLUID TEMPERATURE	-10°C + 80°C		-30°C + 80°C
FLUIDS	air, inert gases, water, oils, gasoline, diesel		air, inert gases, water, R134a, R404a
VISCOSITY	12 cSt up to orifice 1.5 mm, 37 cSt for orifice 2.0 mm, 53 cSt for orifice 2.5 mm and above		
TUBE Ø - COIL WIDTH - SERIES	Ex mb	ø 14 mm - 36 mm	TNA (class F)
	Ex d	ø 13 mm - 30 mm	BDV08 (CLASS H)
INSTALLATION	as required, preferably with actuator upright		
PROTECTION DEGREE	Ex mb	IP65 EN 60529 (DIN 40050)	
	Ex d	IP67 EN 60529 (DIN 40050) with cable gland IP67 or higher	

MATERIALS

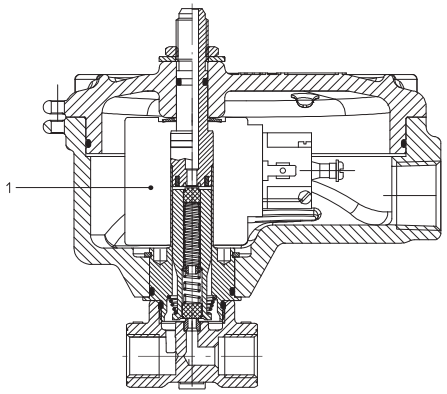
BODY	Brass UNI EN 12165 CW617N or stainless steel AISI 316
ORIFICE	Stainless steel AISI series 300 for brass body AISI 316 for stainless steel body
ARMATURE TUBE	Stainless steel AISI Series 300
FIXED CORE	Stainless steel AISI Series 400
PLUNGER	Stainless steel AISI Series 400
PHASE DISPLACEMENT RING	Copper (Cu 99,9%) or gold plated copper
SPRING	Stainless steel AISI Series 300
SEALING	V=FKM, F=HNBR

- **CE**
  - 2014/35/EU (LVD)
  - 2014/30/EU (EMC)
  - 2014/68/EU (PED) art. 4.3 up to 1",
  - 2014/34/EU (ATEX). Refer to next pages for the complete marking
- **INDUSTRIAL OXYGEN**
  Special versions suitable for contact with industrial oxygen are available.
  Please refer to codification options.
- **UL** regognized and **VDE** approved coils are available for this series, please refer to coil section.

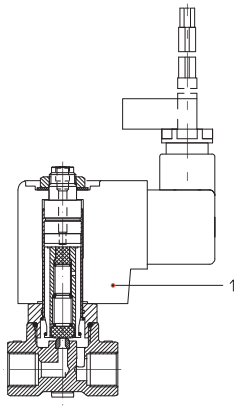
- The fluids listed in the "technical data" tables should be considered as a recommendation. Please check the chemical compatibility of the fluids with the materials of the valve at RFQ stage.
- For spare parts list please refer to the dedicated chapter.

Please read and agree our GENERAL CONDITIONS before placing an order. All the information are exclusive ownership of ODE S.r.l. All rights reserved ©ODE S.r.l.

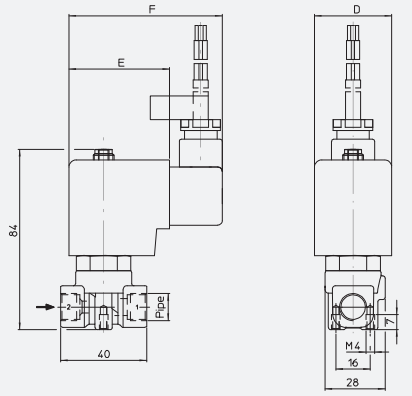
Ex d



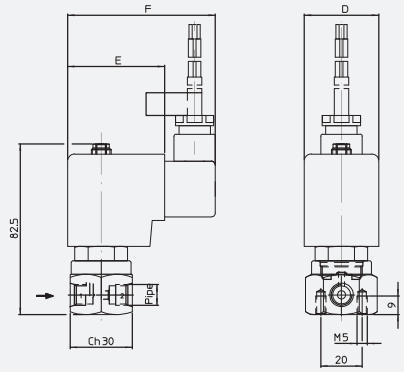
Ex mb



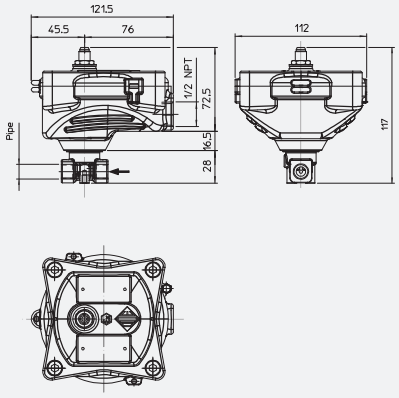
DRAWING 1



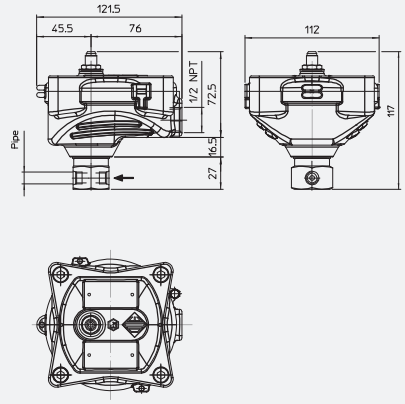
DRAWING 2



DRAWING 3



DRAWING 4



PIPE	DIMENSIONS [mm]		
ISO 228/1	D	E	F
G1/8	36	47	76
G1/4			

Ex mb - 3/2 NC

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G1/8	1,5	1,2	TNA	0	15	15	40	31A3PDV15	-	1
	2	2	TNA	0	10	10	40	31A3PDV20 -	- 31L1PDV20	1 2
	2,5	3	TNA	0	6	6	40	31A3PDV25	-	1
	3	3,5	TNA	0	5	5	40	31A3PDV30	-	1
G1/4	1,5	1,2	TNA	0	15	15	40	31A2PDV15	-	1 (BRASS), 3 (STST)
	2	2	TNA	0	10	10	40	31A2PDV20	31L2PDV20	1 (BRASS), 3 (STST)
	2,5	3	TNA	0	6	6	40	31A2PDV25	31L2PDV25	1 (BRASS), 3 (STST)
	3	3,5	TNA	0	5	5	40	31A2PDV30	31L2PDV30	1 (BRASS), 3 (STST)

- 3rd way exhaust Ø 3 mm for all orifice sizes.

According to Directive 2014/34/EU ATEX
II 2 G Ex mb IIC T4 Gb
II 2 D Ex mb tb IIIC T130°C Db

Ex d - 3/2 NC

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G1/8	1	0,45	BDV08	0	20	20	40	31A3EIV10	-	3
	1,5	1,4	BDV08	0	15	15	40	31A3EIV15	-	3
	2	2	BDV08	0	10	10	40	31A3EIV20 -	- 31L1EIV20	3 4
	2,5	3,2	BDV08	0	6	6	40	31A3EIV25	-	3
	3	4	BDV08	0	5	5	40	31A3EIV30 -	- 31L1EIV30	3 4
G1/4	1	0,45	BDV08	0	20	20	40	31A2EIV10	-	3
	1,5	1,4	BDV08	0	15	15	40	31A2EIV15	-	3
	2	2	BDV08	0	10	10	40	31A2EIV20	31L2EIV20	3
	2,5	3,2	BDV08	0	6	6	40	31A2EIV25	-	3
	3	4	BDV08	0	5	5	40	31A2EIV30	31L2EIV30	3

- 3rd way exhaust Ø 3 mm for all orifice sizes.

According to Directive 2014/34/EU ATEX
II 2G Ex d IIC T6 o T5 Gb
II 2D Ex tb IIIC T80°C o T95°C Db IP67

- For sealing different from FKM, replace the letter "V" with the ones corresponding to the other materials.
V= FKM, F=HNBR.

CODIFICATION

I	II	III	IV	V	VI	VII
3	1	A	2	PD	V	25

I. NUMBER OF WAYS
3 - 3-way

II. NUMBER OF ELEMENTS
1 - 1 element

III. SERIES
A - brass body, Ø13 mm core tube
L - StSt body, Ø13 mm core tube

IV. CONNECTIONS
for A series
3 - G1/8
2 - G1/4
for L series
1 - G1/8
2 - G1/4

V. CORE TUBE TYPE
PD - 3/2 NC, 'mb' protection type
EI - 3/2 NC, 'd' protection type

VI. SEALING MATERIAL
V - FKM
F - HNBR

VII. ORIFICE Ø [mm] MULTIPLIED BY 10

OPTIONS AVAILABILITY

OPTION	PROTECTION TYPE	BODY MATERIAL	SEALING MATERIAL	VALVE SIZE/CONNECTIONS		NOTES
				G1/8	G1 1/4	
OX	'd'	Brass & StSt	V	X	X	PS & MOPD limited to 25 bar. Shall not be used as safety valves

■ Please contact ODE if you wish to combine more options.