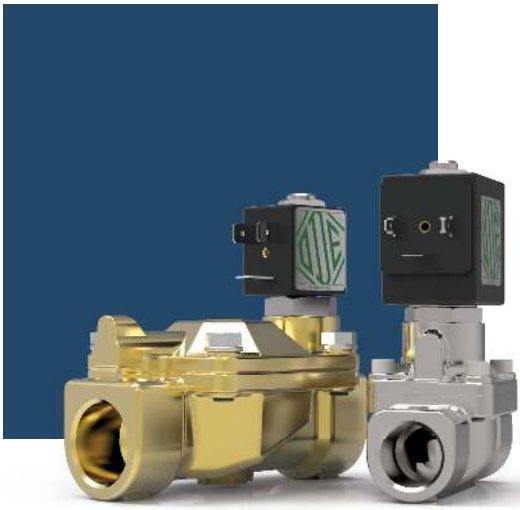


21WA-W - 21X -T5 SERIES

General Purpose, 2-way, Indirect Acting

21WA-W and **21X** are indirect acting solenoid valves. A minimum operating pressure differential of 0,1-0,2 bar is required for correct operation. A large selection of seal materials provides wide chemical compatibility. AC/DC interchangeability of the coil is possible for both NC and NO configurations. Slow closing, manual operator, NSF/ANSI 61-G versions are available on request.



TECHNICAL DATA

PORT CONNECTION	G 3/8 ÷ 3				
SEALING MATERIALS	W, WA, X series		W, WA series		X series
	FKM	EPDM	NBR	HNBR	PTFE
FLUID TEMPERATURE	-10°C +140°C	-10°C +140°C	-10°C +90°C	-30°C +130°C	+60°C +180°C *
FLUIDS	oils, gasoline, diesel	water, steam	air, inert gases, water	air, inert gases, glycol	hot water, steam
VISCOSITY	max 12 cSt				
TUBE Ø - COIL WIDTH - SERIES	ø 10 mm - 22 mm		LB*2X (class F)		
	ø 10 mm - 22 mm		LB*05, LTA05 (class F), LBV05 (class H)		
	ø 13 mm - 30 mm		BDA08, BVA08 (class F), BDV08 (class H)		
INSTALLATION	as required, preferably with actuator upright				
PROTECTION DEGREE	IP65 EN 60529 (DIN 40050) with plug connector				

- *For a proper functioning of the solenoid valve the minimum temperature should not be less than +60°C; in order to ensure a long diaphragm life, steam filtration is recommended.

MATERIALS

BODY, ORIFICE	Brass UNI EN 12165 CW617N or stainless steel AISI 316 Low lead brass for NSF 61 versions
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	B=NBR, V=FKM, E=EPDM, F=HNBR, T=PTFE

- **CE**
  - 2014/35/EU (LVD)
  - 2014/30/EU (EMC)
  - 2014/68/EU (PED)

  art. 4.3 - up to 1",
  cat. I module A - above 1" up to 2"
  cat. I module A (use only with gases of Group 2 or liquids) - above 2"

- **INDUSTRIAL OXYGEN**
  Special versions suitable for contact with industrial oxygen are available.
  Please refer to codification options.

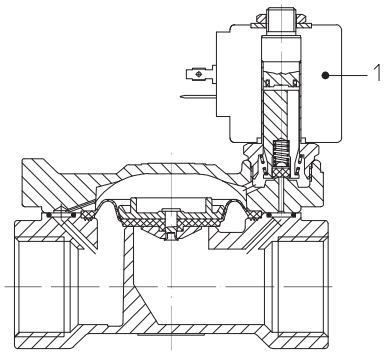
- **UL** regognized and **VDE** approved coils are available for this series, please refer to coil section.
- **EXPLOSION PROOF COILS**, suitable for zone 2-22 are available for this series. Please refer to ATEX coil section for further details.

- **NSF/ANSI 169** certification (Special Food Equipment and Devices) is available for this series, Valves with NSF approval are in compliance with CE regulation 1935/2004. List of certified product codes available in the following tables.

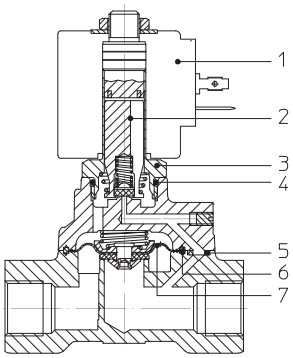
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- The fluids listed in the "technical data" tables should be considered as a recommendation.
  Please check the chemical compatibility of the fluids with the materials of the valve at RFQ stage.
- Operation with gases at high differential pressure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

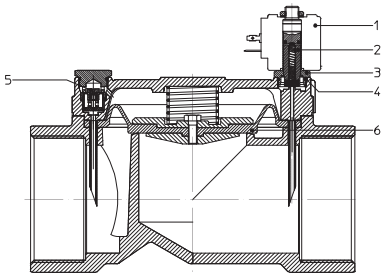
NC, BRASS



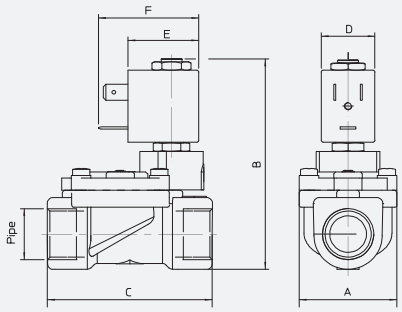
NC, STAINLESS STEEL, UP TO 3/4



NC, BRASS, HIGH FLOW RATE

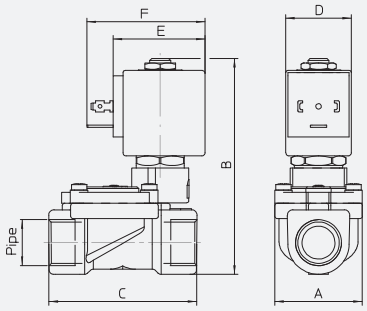


DRAWING 1



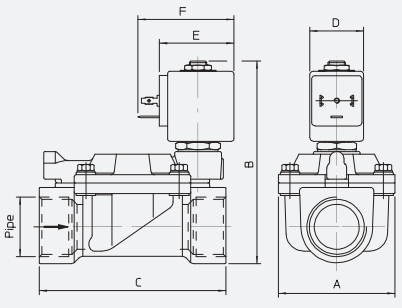
PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G3/8	40	84,5	60	22	28±1	39,5
G1/2			66			

DRAWING 2



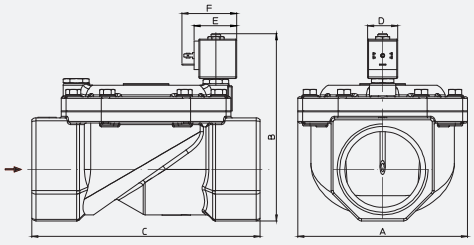
PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G3/8	40	97	60	30	42	54
G1/2			66			

DRAWING 3



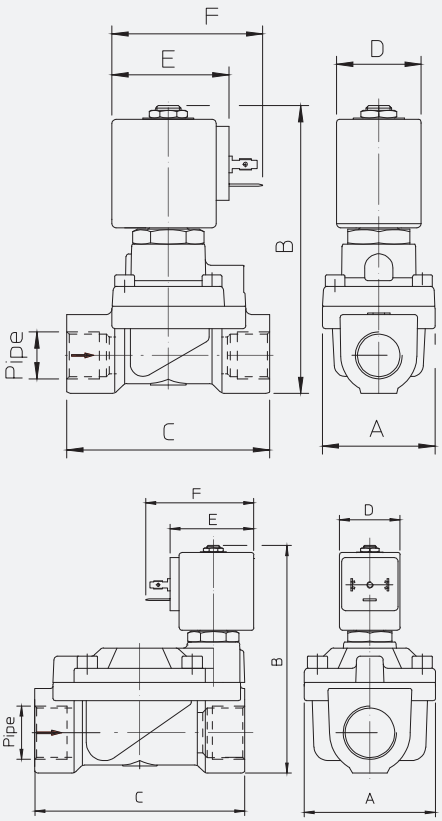
PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G3/4	65	105	104	30	42	54
G1		112				
G1 1/4	98	125	144			
G1 1/2						
G2	118	141	172			

DRAWING 4



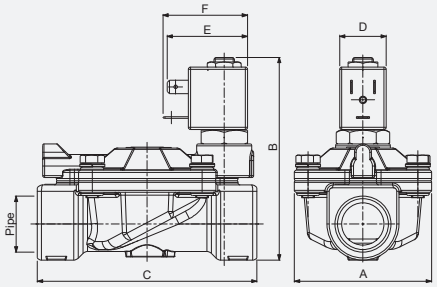
PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G2 1/2	168	187	226	30	42	54
G3						

DRAWING 5



PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G1/2	40	103	73	30	42	54
G3/4	65	115	104			
G1						

DRAWING 6



PIPE ISO 228/1	DIMENSIONS [mm]					
	A	B	C	D	E	F
G3/4	65	96	104	22	28±1	39,5
G1		105				

2/2 NC

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G3/8	13	60	L**05	0,2	12	12	25	21WA3R0B130	-	1
			B**08	0,2	16	16	25	21WA3K0B130	-	2
G1/2	12	35	B**08	0,1	20	20	25	-	21X2KV120	5
	13	70	L**05	0,2	12	12	25	21WA4R0B130	-	1
			B**08	0,2	16	16	25	21WA4K0B130	-	2
G3/4	19	130	B**08	0,1	16	16	22	-	21X3KV190	5
		140	LB*2X	0,2	10	4	25	21W3RB190	-	6
			L**05	0,2	16	16	25	21W3RB190	-	6
			B**08	0,2	16	16	23	21W3KB190	-	3
G1	25	160	B**08	0,1	16	16	22	-	21X4KV250	5
		190	LB*2X	0,2	10	4	25	21W4RB250	-	6
			L**05	0,2	16	16	25	21W4RB250	-	6
			B**08	0,2	16	16	23	21W4KB250	-	3
G1 1/4	35	400	B**08	0,2	10	10	16	21W5KB350	-	3
G1 1/2	40	520	B**08	0,2	10	10	16	21W6KB400	-	3
G2	50	750	B**08	0,2	10	10	16	21W7KB500	-	3

- For sealing different from NBR and FKM, replace the letter "B" and "V" with the ones corresponding to the other materials
  Brass Body: V=FKM, B=NBR, E=EPDM, F=HNBR.
  Stainless Steel Body: V=FKM, E=EPDM.

2/2 NC HIGH FLOW RATE

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G2 1/2	65	1250	B**08	0,3	5	5	20	21W8KB650	-	4
				3	15	15	20	21W8KB650-HP	-	4
G3	75	1400	B**08	0,3	5	5	20	21W9KB750	-	4
				3	15	15	20	21W9KB750-HP	-	4

- The valve is delivered with assembled Ø1.2 mm nozzles.
- Additional undersized and oversized nozzles are supplied to adjust opening and closing times.
- High flow rate versions are available only with NBR diaphragm.

2/2 NC FOR STEAM

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G1/2	12	35	B**08	0,5	10	10	25	-	21X2KT120	5
G3/4	19	120	B**08	0,5	10	10	22	-	21X3KT190	5
G1	25	130	B**08	0,5	10	10	22	-	21X4KT250	5

- Steam versions are available only with PTFE diaphragm.
- *For a proper functioning of the solenoid valve the minimum temperature should not be less than +60°C; in order to ensure a long diaphragm life, steam filtration is recommended.

2/2 NO

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G3/8	13	60	L**05	0,2	12	11	20	21WA3I0B130	-	1
			B**08	0,2	16	16	25	21WA3Z0B130	-	2
G1/2	12	35	B**08	0,1	20	20	25	-	21X2Z1V120D	5
	13	70	L**05	0,2	12	11	20	21WA4I0B130	-	1
			B**08	0,2	16	16	25	21WA4Z0B130	-	2
G3/4	19	140	B**08	0,1	16	16	25	-	21X3Z1V190D	5
			B**08	0,2	16	16	25	21W3ZB190	-	3
G1	25	160	B**08	0,1	16	16	25	-	21X4Z1V250D	5
		190	B**08	0,2	16	16	25	21W4ZB250	-	3
G1 1/4	35	400	B**08	0,2	10	10	16	21W5ZB350	-	3
G1 1/2	40	520	B**08	0,2	10	10	16	21W6ZB400	-	3
G2	50	750	B**08	0,2	10	10	16	21W7ZB500	-	3

- For other sealing materials, replace the letter B or V with the ones corresponding to the required material.
  Brass Body: V=FKM, B=NBR, E=EPDM, F=HNBR.
  Stainless Steel Body: V=FKM, E=EPDM.

2/2 NC VALVES FOR DRINKING WATER SYSTEMS

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G3/8	13	60	B**08	0,2	16	16	25	21WA3K1E130-T5	-	2
G1/2	13	70	B**08	0,2	16	16	25	21WA4K1E130-T5	-	2
G3/4	19	140	B**08	0,2	16	16	25	21W3K1E190-T5	-	3
G1	25	190	B**08	0,2	16	16	25	21W4K1E250-T5	-	3

- Valves certified to NSF/ANSI 61-G, available with EPDM sealing.
- Available on request with minimum order quantity.

2/2 NO VALVES FOR DRINKING WATER SYSTEMS

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
				MIN	MOPD (AIR, GASES)		PS	BRASS	STAINLESS STEEL	
ISO 228/1	Ø [mm]	[l/min]			AC	DC				
G3/8	13	60	B**08	0,2	16	16	23	21WA3Z1E130-T5	-	2
G1/2	13	70	B**08	0,2	16	16	23	21WA4Z1E130-T5	-	2
G3/4	19	140	B**08	0,2	16	16	23	21W3Z1E190-T5	-	3
G1	25	190	B**08	0,2	16	16	23	21W4Z1E250-T5	-	3

- Valves certified to NSF/ANSI 61-G, available with EPDM sealing.
- Available on request with minimum order quantity.

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX		X
2	1		W	3	K		B	130	-	

I. NUMBER OF WAYS
2 - 2-way

II. NUMBER OF ELEMENTS
1 - 1 element

III. ARMATURE TUBE MATERIAL
Blank - std
6 - AISI 316 (optional, valid for NC versions, brass body only)

IV. SERIES
WA - G3/8 and G1/2, brass body
W - above G1/2, brass body
X - StSt body

V. CONNECTIONS
for WA series
3 - G3/8
4 - G1/2
for W and X series
3 - G3/4
4 - G1
5 - G1 1/4
6 - G1 1/2
7 - G2
8 - G2 1/2
9 - G3

VI. CORE TUBE TYPE
K - for 2/2 NC valves, B**08 coil
Z - for 2/2 NO valves, B**08 coil
R - for 2/2 NC valves, LB*2X and L**05 coils
I - for 2/2 NO valves, L**05 coil

VII. PHASE DISP. RING MATERIAL
0 or blank - copper
1 - gold plated copper

VIII. SEALING MATERIAL
V - FKM
E - EPDM
B - NBR
F - HNBR
T - PTFE*

IX. ORIFICE Ø [mm] MULTIPLIED BY 10

X. OPTIONS
PC - progressive closing
M - manual override
MR - manual override and closing speed adjustment
MM - spring over diaphragm
N - nickel plated body
HP - high pressure
OX - degreasing for industrial oxygen use
T5 - NSF/ANSI 61 certification

*available only for X series, steam version.

OPTIONS AVAILABILITY

OPTION	VALVE TYPE	BODY MATERIAL	SEALING MATERIAL	COIL SERIES	VALVE SIZE/CONNECTIONS									NOTES
					G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	G2	G2 1/2	G3	
PC	2/2 NC	Brass	B, V, E, F	B**08	X	X	X	X						
M	2/2 NC	Brass	B, V, E, F	LB*2X L**05	X	X								
				B**08	X	X	X	X	X	X	X			
MR	2/2 NC	Brass	B, V, E, F	B**08			X	X	X	X	X			
MM	2/2 NC	Brass	B, V, E, F	LB*2X L**05 B**08	X	X								
N	2/2 NC	Brass	B, V, E, F	B**08	X	X	X	X	X	X	X			
HP	2/2 NC	Brass	B, V, E, F	B**08								X	X	
OX	2/2 NC, NO	Brass	V	B**08	X	X	X	X	X	X	X			PS & MOPD limited to 25 bar. Shall not be used as safety valves
T5	2/2 NC, NO	Brass	E	B**08	X	X	X	X						Ref. to drinking water valves' section

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