

21HT-HF-IH SERIES

General Purpose, 2-way, Combinated Acting

21HT, **21HF** and **21IH** are combined acting solenoid valves which do not require a minimum operating pressure differential. These valves are suitable for vacuum operations. A large selection of seal materials provides wide chemical compatibility. 21HT series is provided with fiber reinforced diaphragms for optimized durability. AC/DC interchangeability of the coil is possible for both NC and NO configurations.



TECHNICAL DATA

PORT CONNECTION	G 3/8 ÷ G 1 1/2				
SEALING MATERIALS	21HF Series			21HT-IH Series	
	NBR	FKM	EPDM	NBR+PA	FKM+PA
FLUID TEMPERATURE	-10°C +90°C	-10°C +140°C	-10°C +140°C	-10°C +90°C	-10°C +140°C
FLUIDS	air, inert gases, water	oils, gasoline, diesel	water, steam	air, inert gases, water	oils, gasoline, diesel
VISCOSITY	Max. 12 cSt				
TUBE Ø - COIL WIDTH - SERIES	ø 13 mm - 30 mm			BDA08, BVA08 (class F), BDV08 (class H)	
	ø 13 mm - 36 mm			UDV16 (class H)	
	ø 13 mm - 52 mm			GDV14 (class H)	
INSTALLATION	as required, preferably with actuator upright				
PROTECTION DEGREE	IP65 EN 60529 (DIN 40050) with plug connector				

▪ MOPD values are referred to "standard power" coil range. Please refer to coil chapter.

MATERIALS

BODY, ORIFICE	Brass UNI EN 12165 CW617N or stainless steel AISI 316
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 or FKM+PA, E=EPDM, Y=NBR+PA

▪ **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"

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

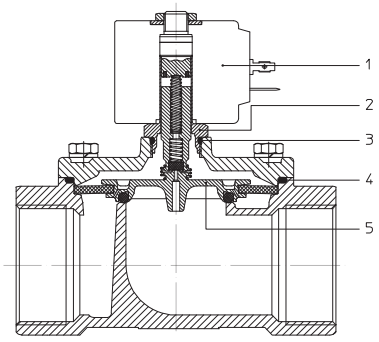
▪ **UL** regognized and **VDE** approved coils are available for this series, please refer to coil section.

▪ **EXPLOSION PROOF COILS**, suitable for zone 2-22 are available for this series. Please refer to ATEX coil section for further details.

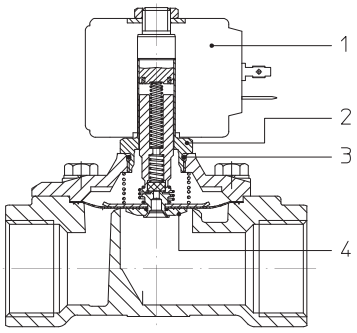
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▪ The fluids listed in the "technical data" tables should be considered as a recommendation. Please check the chemical compatibility of the fluids with the materials of the valve at RFQ stage.
▪ Suitable for vacuum service if applied from port #2. Please contact ODE for further details.
▪ For spare parts list please refer to the dedicated chapter.

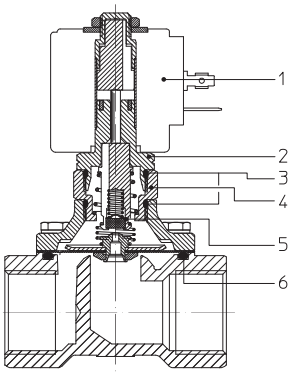
NC, BRASS, ABOVE 1”



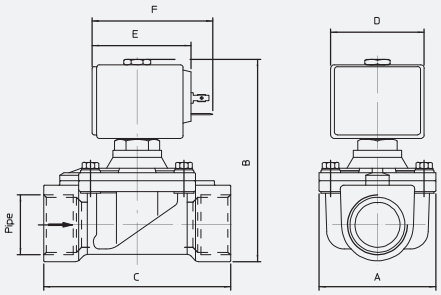
NC, BRASS, UP TO 1”



NO BRASS



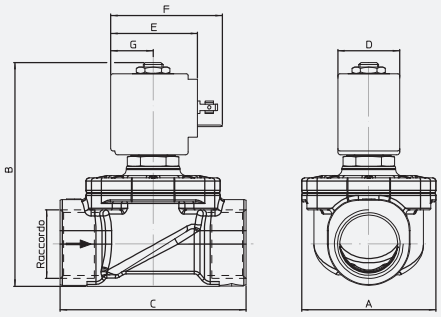
DRAWING 1



PIPE	DIMENSIONS [mm]		
ISO 228/1	A	B	C
G3/8	50	89	56
G1/2		100	70
G3/4			
G1	65	112	104

COIL SERIES	DIMENSIONS [mm]		
	D	E	F
B**08	30	42	54
UDV16	36	48	60
GDV14	52	55	67

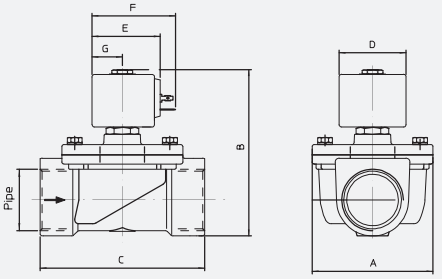
DRAWING 2



PIPE	DIMENSIONS [mm]		
ISO 228/1	A	B	C
G3/8	52	92	68
G3/4			
G1/2	58	100	75
G1	65	109	90
G1 1/4	94	126	128
G1 1/2			

COIL SERIES	DIMENSIONS [mm]		
	D	E	F
B**08	30	42	54
UDV16	36	48	60
GDV14	52	55	67

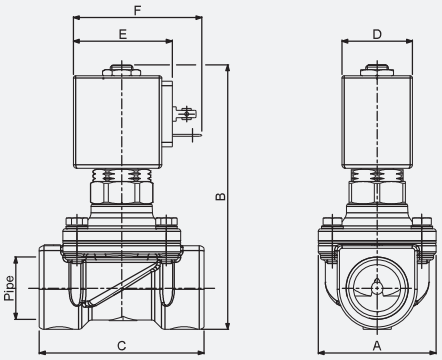
DRAWING 3



PIPE	DIMENSIONS [mm]		
ISO 228/1	A	B	C
G1 1/4	94	130	128
G1 1/2			

COIL SERIES	DIMENSIONS [mm]		
	D	E	F
B**08	30	42	54
UDV16	36	48	60
GDV14	52	55	67

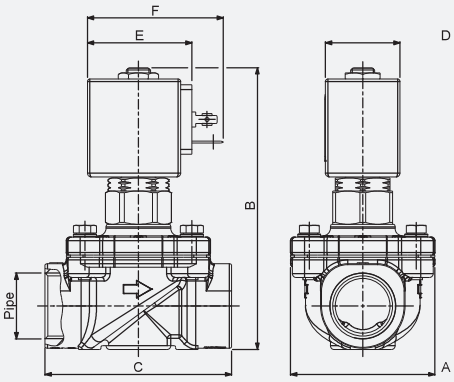
DRAWING 4



PIPE	DIMENSIONS [mm]		
ISO 228/1	A	B	C
G3/8	50	101	56
G1/2		112	70
G3/4			

COIL SERIES	DIMENSIONS [mm]		
	D	E	F
B**08	30	42	54
UDV16	36	48	60
GDV14	52	55	67

DRAWING 5



PIPE	Dimensions [mm]		
ISO 228/1	A	B	C
G3/8	52	92	68
G1/2			
G3/4	58	100	75

COIL SERIES	DIMENSIONS [mm]		
	D	E	F
B**08	30	42	54
UDV16	36	48	60
GDV14	52	55	67

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
ISO 228/1	Ø [mm]	[l/min]		MIN	MOPD		PS	BRASS	STAINLESS STEEL	
					AC	DC				
G3/8	11	20	B**08	0	14	5	16	21HT3K0Y110	-	1
			UDV16	0	14	14	16	21HT3K0Y110	-	1
			GDV14	0	14	14	16	21HT3K0Y110	-	1
		6,5	B**08	0	-	14	16	21HT3K0Y110-S	-	1
	15	40	B**08	0	14	6	16	-	21IH3K1V150	2
			UDV16	0	-	14	16	-	21IH3K1V150	2
G1/2	16	40	B**08	0	14	2,5	16	21HT4K0Y160	-	1
			UDV16	0	14	11	16	21HT4K0Y160	-	1
			GDV14	0	14	14	16	21HT4K0Y160	-	1
		30	B**08	0	-	10	16	21HT4K0Y160-S	-	1
		50	B**08	0	14	6	16	-	21IH4K1V160	2
			UDV16	0	-	14	16	-	21IH4K1V160	2
G3/4	16	40	B**08	0	14	1,5	16	21HT5K0Y160	-	1
			UDV16	0	14	11	16	21HT5K0Y160	-	1
			GDV14	0	14	14	16	21HT5K0Y160	-	1
		30	B**08	0	-	10	16	21HT5K0Y160-S	-	1
			UDV16	0	-	14	16	21HT5K0Y160-S	-	1
	20	60	B**08	0	14	6	16	-	21IH5K1V200	2
			UDV16	0	-	14	16	-	21IH5K1V200	2
G1	25	120	B**08	0	8	-	16	21HT6K0Y250	-	1
			UDV16	0	14	1,5	16	21HT6K0Y250	-	1
			GDV14	0	14	6	16	21HT6K0Y250	-	1
		90	B**08	0	-	1	16	21HT6K0Y250-S	-	1
			UDV16	0	-	6	16	21HT6K0Y250-S	-	1
			GDV14	0	-	12	16	21HT6K0Y250-S	-	1
		140	B**08	0	14	3	16	-	21IH6K1V250	2
			UDV16	0	-	8	16	-	21IH6K1V250	2
			GDV14	0	-	14	16	-	21IH6K1V250	2
G1 1/4	35	270	B**08	0	16	-	16	21HF7K0V350	-	3
			UDV16	0	16	-	16	21HF7K0V350	-	3
			GDV14	0	16	6	16	21HF7K0V350	-	3
		300	B**08	0	8	-	16	-	21IH7K1V350	2
			UDV16	0	14	-	16	-	21IH7K1V350	2
			GDV14	0	-	2	16	-	21IH7K1V350	2
		250	B**08	0	-	1	16	-	21IH7K1V350-S	2
			UDV16	0	-	4	16	-	21IH7K1V350-S	2
			GDV14	0	-	7	16	-	21IH7K1V350-S	2
G1 1/2	40	280	B**08	0	16	-	16	21HF8K0V400	-	3
			UDV16	0	16	-	16	21HF8K0V400	-	3
			GDV14	0	16	6	16	21HF8K0V400	-	3
		320	B**08	0	8	-	16	-	21IH8K1V400	2
			UDV16	0	14	-	16	-	21IH8K1V400	2
			GDV14	0	-	2	16	-	21IH8K1V400	2
		250	B**08	0	-	1	16	-	21IH8K1V400-S	2
			UDV16	0	-	4	16	-	21IH8K1V400-S	2
			GDV14	0	-	7	16	-	21IH8K1V400-S	2

■ For sealing different from NBR+PA, FKM+PA or FKM replace the letter "Y" and "V" with the ones corresponding to the other materials.
Y = NBR+PA, V = FKM + PA (for brass body up to 1" and for stainless steel body).
B = NBR, V = FKM, E= EDPM (for brass body 1 1/4" and 1 1/2").

2/2 NO

PIPE	ORIFICE SIZE	Kv	COIL SERIES	PRESSURE [bar]				CODE		DRAWING REFERENCE
ISO 228/1	Ø [mm]	[l/min]		MIN	MOPD AC	MOPD DC	PS	BRASS	STAINLESS STEEL	
G3/8	11	20	B**08	0	10	10	16	21HT3Z0Y110	-	4
	15	30	B**08	0	10	10	16	-	21IH3Z1V150	5
G1/2	16	40	B**08	0	10	10	16	21HT4Z0Y160	-	4
								-	21IH4Z1V160	5
G3/4	16	40	B**08	0	10	10	16	21HT5Z0Y160	-	4
	20	50	B**08	0	10	10	16	-	21IH5Z1V200	5

▪ For sealing different from NBR+PA or FKM+PA replace the letter "Y" and "V" with the ones corresponding to the other materials.
Y = NBR+PA, V = FKM + PA.

CODIFICATION

I	II	III	IV	V	VI	VII	VIII	IX		X
2	1		HT	3	K	0	Y	110	-	

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
HT - G3/8 to G1, brass body
HF - above G1, brass body
IH - StSt body

V. CONNECTIONS
3 - G3/8
4 - G1/2
5 - G3/4
6 - G1
7 - G1 1/4
8 - G1 1/2

VI. CORE TUBE TYPE
K - for 2/2 NC valves
Z - for 2/2 NO valves

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

VIII. SEALING MATERIAL
for HT and IH series
Y - NBR+PA
V - FKM+PA
for HF series
B - NBR
V - FKM
E - EPDM

IX. ORIFICE Ø [mm] MULTIPLIED BY 1

X. OPTIONS
N - nickel plated body
S - DC version
OX - degreasing for industrial oxygen use

OPTIONS AVAILABILITY

OPTION	VALVE TYPE	BODY MATERIAL	SEALING MATERIAL	VALVE SIZE/CONNECTIONS						NOTES
				G3/8	G1/2	G3/4	G1	G1 1/4	G1 1/2	
N	2/2 NC	BRASS	Y, V	X	X	X	X			
S	2/2 NC	BRASS	Y, V	X	X	X	X			
		STST	Y, V					X	X	
OX	2/2 NC, NO	BRASS & STST	V	X	X	X	X	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.