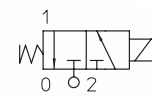


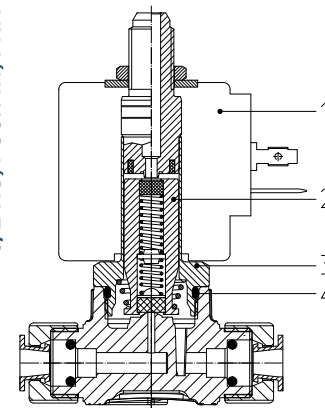
31A-31L-31ALB-31AP SERIES

Food Grade NSF, 2-way, Direct Acting

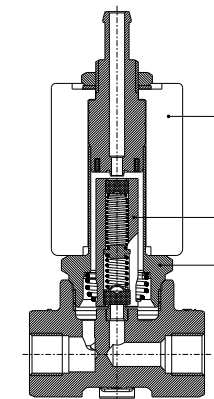
31A, 31L and **31AP** are direct acting solenoid valves. The fixed core and armature tube are welded together to enhance pressure resistance and leak-tightness. Valves do not require a minimum operating pressure. AC/DC interchangeability of the coil is possible for both NC and NO configurations.



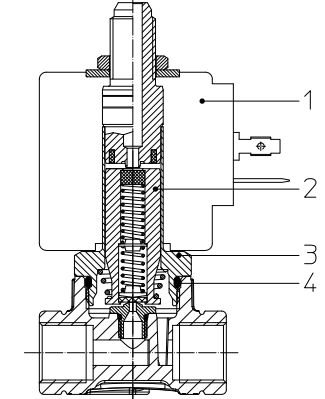
3/2 NC, PUSH IN, FKM



3/2 NC, BRASS, FKM



3/2 NC, PPS, RUBY



Solenoid Valves ■ Food Grade NSF ■ 2-way ■ Direct Acting ■ 31A 31L 31ALB 31AP SERIES

TECHNICAL DATA

PORT CONNECTION	G1/8, G1/4, Flange connection, PUSH-IN for OD 4, 6, 8 mm		
SEALING MATERIALS	FKM	EPDM*	RUBY
FLUID TEMPERATURE	-10°C +140°C	-10°C +140°C	-40°C +180°C
FLUIDS	Water, steam, air	Water, steam	Water, steam
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	Ø 13 mm - 30 mm		BDV08 (CLASS H)
INSTALLATION	As required, preferably with actuator upright		
PROTECTION DEGREE	IP 65 EN 60529 (DIN 40050) with connector		

* Available on request with minimum order quantity.

MATERIALS

BODY	Low lead brass, stainless steel AISI 316 or PPS
ORIFICE	Brass body: ≤ 3 mm Stainless steel AISI series 300, > 3 mm Low lead brass AISI 316 body: AISI 316
ARMATURE TUBE	PPS body: PPS for V sealing, Stainless Steel for R sealing 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*, E=EPDM, R=RUBY Flange sealing are made of VMQ

* V = FKM+EPDM for valves with PPS body and PUSH IN connections.

CE

- 2014/35/EU (LVD)
- 2014/30/EU (EMC)
- 2014/68/EU (PED) art. 4.3 up to 1"

UL recognized and VDE, CSA

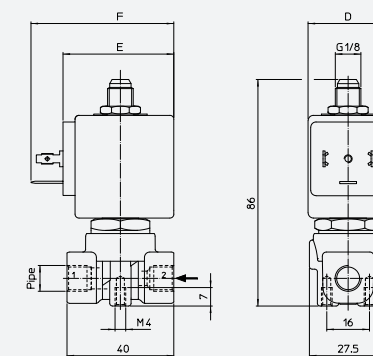
- approved coils are available for this series, please refer to coil section.

NSF/ANSI 169 certification

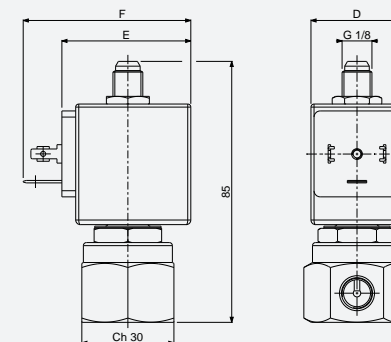
- (Special Food Equipment and Devices) is available for this series. Valves with NSF approval are in compliance with CE regulation 1935/2004.

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.

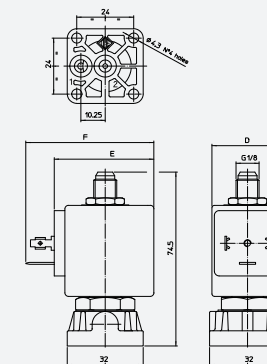
DRAWING 1



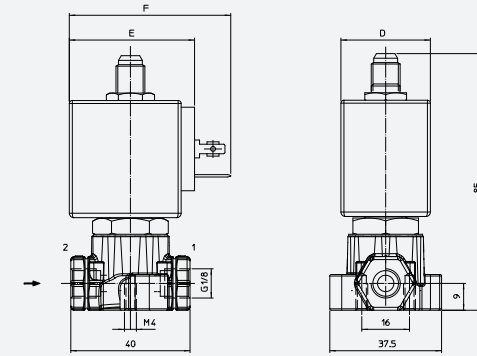
DRAWING 3



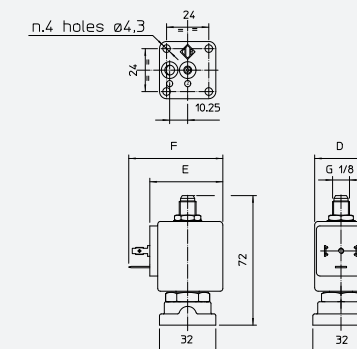
DRAWING 5



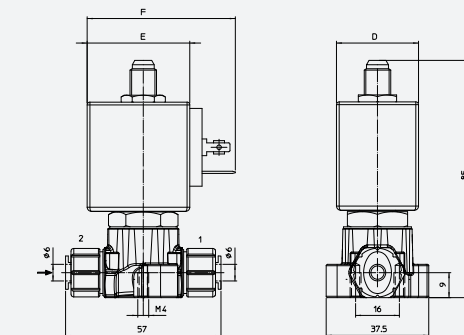
DRAWING 2



DRAWING 4

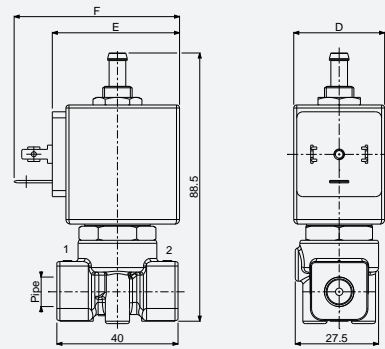


DRAWING 6

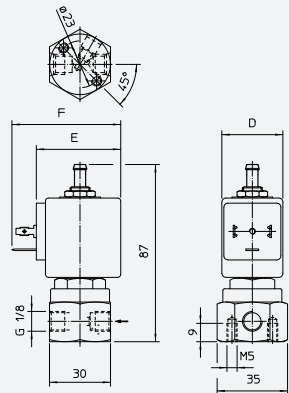


■ The fluids listed in the "technical data" tables should be considered as a recommendation. Please check the chemical compatibility of the fluids with the materials of the valve at RFQ stage.
 ■ G type thread in accordance with ISO 228/1.
 ■ For spare parts list please refer to the dedicated chapter.

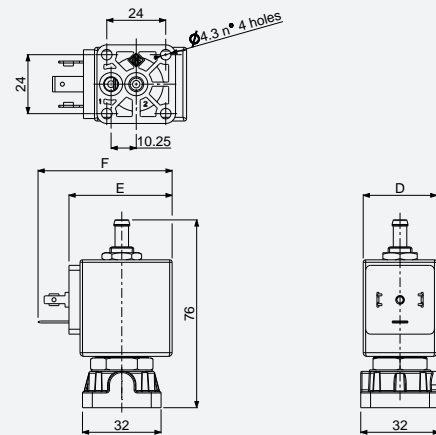
DRAWING 7



DRAWING 9

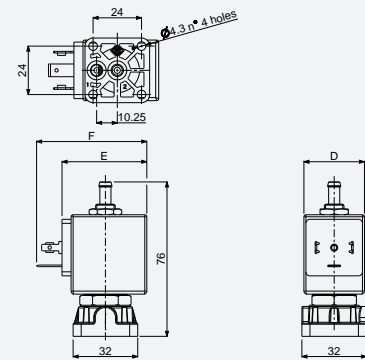


DRAWING 11

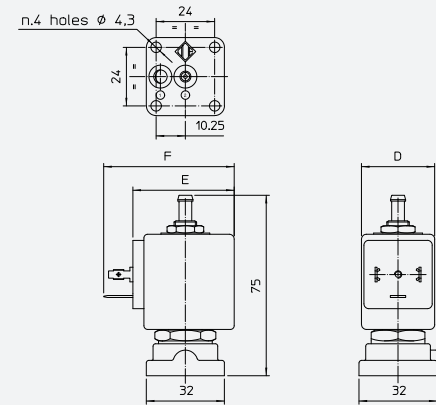


DIMENSIONS [mm]		
D	E	F
30	42	54

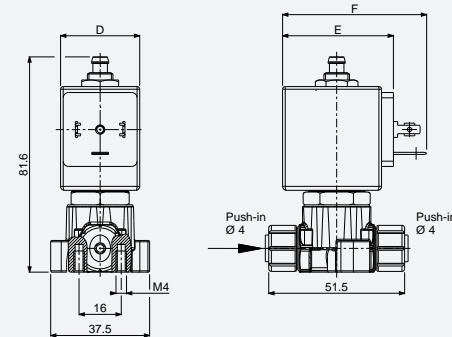
DRAWING 8



DRAWING 10



DRAWING 12



PIPE	ORIFICE SIZE [mm]	Kv [l/min]	COIL SERIES	PRESSURE [bar]			CODE			DRAWING REF.	
				MIN.	MOPD		BRASS	STAINLESS STEEL	PPS		
					AC	DC					PS
G1/8	1	0,45	B**08	0	20	20	40	31A31A1V10-T3	-	-	1
	1,5	1,1	B**08	0	15	15	25*	-	-	31AP1A1V15-T0	2
		1,4	B**08	0	15	15	40	31A31A1V15-T3	31L11A1V15-T4	-	1 3
	2	1,8	B**08	0	10	10	25*	-	-	31AP1A1V20-T0	2
		2	B**08	0	10	10	40	31A31A1V20-T3	-	-	1
	2,5	2,5	B**08	0	6	6	25*	-	-	31AP1A1V25-T0	2
3,2		B**08	0	6	6	40	31A31A1V25-T3	-	-	1	
3	3,4	B**08	0	5	5	25*	-	-	31AP1A1V30-T0	2	
	4	B**08	0	5	5	40	31A31A1V30-T3	-	-	1	
4,5	6,5	B**08	0	3	3	40	31A31A6V45-T3	-	-	1	
	0,45	B**08	0	20	20	40	31A22A1V10-T3	-	-	1	
G1/4	1,5	1,1	B**08	0	20	20	25*	-	-	31AP2A1V15-T0	2
	1,5	1,4	B**08	0	15	15	40	31A22A1V15-T3	-	-	1
		1,8	B**08	0	15	15	25*	-	-	31AP2A1V20-T0	2
	2	2	B**08	0	10	10	40	31A22A1V20-T3	-	-	1
		2,5	B**08	0	10	10	25*	-	-	31AP2A1V25-T0	2
	2,5	3,2	B**08	0	6	6	40	31A22A1V25-T3	-	-	1
3		3,4	B**08	0	6	6	25*	-	-	31AP2A1V30-T0	2
	3	4	B**08	0	5	5	40	31A22A1V30-T3	-	-	1
4,5		6,5	B**08	0	3	3	40	31A22A6V45-T3	-	-	1
	FLANGE CONN.	1,5	1,4	B**08	0	15	15	25*	-	-	31APBA1V15-T0
2		2	B**08	0	10	10	25*	31A1BA1V15-T3	-	-	4
		2	B**08	0	10	10	40	31A1BA1V20-T3	-	-	5
2,5		3,2	B**08	0	6	6	25*	-	-	31APBA1V25-T0	5
		3,2	B**08	0	6	6	40	31A1BA1V25-T3	-	-	4
3		4	B**08	0	5	5	25*	-	-	31APBA1V30-T0	5
	4	B**08	0	5	5	40	31A1BA1V30-T3	-	-	4	
PUSH IN OD 4 mm	1,5	1,1	B**08	0	15	15	25*	-	-	31AP5A1V15-T0	6
	2	1,8	B**08	0	10	10	25*	-	-	31AP5A1V20-T0	6
		2,5	B**08	0	6	6	25*	-	-	31AP5A1V25-T0	6
PUSH IN OD 6 mm	3	3,4	B**08	0	5	5	25*	-	-	31AP5A1V30-T0	6
	1,5	1,1	B**08	0	15	15	25*	-	-	31AP6A1V15-T0	6
		2	1,8	B**08	0	10	10	25*	-	-	31AP6A1V20-T0
PUSH IN OD 8 mm	2,5	2,5	B**08	0	6	6	25*	-	-	31AP6A1V25-T0	6
	3	3,4	B**08	0	5	5	25*	-	-	31AP6A1V30-T0	6
		1,5	1,1	B**08	0	15	15	25*	-	-	31AP7A1V15-T0
PUSH IN OD 8 mm	2	1,8	B**08	0	10	10	25*	-	-	31AP7A1V20-T0	6
	2,5	2,5	B**08	0	6	6	25*	-	-	31AP7A1V25-T0	6
		3	3,4	B**08	0	5	5	25*	-	-	31AP7A1V30-T0

- *Max allowable pressure (PS) 16 bar for domestic applications. Safety factor equal to 5*PS according to EN 60730-2-8.
- *Max allowable pressure (PS) 25 bar for industrial applications.
- 3rd way exhaust Ø2.5 mm
- For AP series: Coil nut assembly 2 Nm max, armature tube 4 Nm
- The Kv values refer to the orifice and do not take into account any reductions due to the size of the connection pipe
- For tubes: PA and PTFE tolerance max (±0.1)
- Available on request with minimum quantities. Please contact ODE before order.

3/2 NC FKM SEALING
Ø6 HOSE EXHAUST

PIPE	ORIFICE SIZE [mm]	Kv [l/min]	COIL SERIES	PRESSURE [bar]			CODE			DRAWING REF.		
				MIN.	MOPD		BRASS	STAINLESS STEEL	PPS			
					AC	DC					PS	
G1/8	1	0,45	B**08	0	20	20	40	31A31HLIV10-T3	-	-	7	
		1,1	B**08	0	15	15	25*	-	-	31APIHLIV15-TO	8	
		1,4	B**08	0	15	15	40	31A31HLIV15-T3	31L11HLIV15-T4	-	7 9	
	2	1,8	B**08	0	10	10	25*	-	-	31APIHLIV20-TO	8	
		2	B**08	0	10	10	40	31A31HLIV20-T3	-	-	7	
		2,5	B**08	0	6	6	25*	-	-	31APIHLIV25-TO	8	
	2,5	3,2	B**08	0	6	6	40	31A31HLIV25-T3	-	-	7	
		3,4	B**08	0	5	5	25*	-	-	31APIHLIV30-TO	8	
		4	B**08	0	5	5	40	31A31HLIV30-T3	-	-	7	
	G1/4	1	0,45	B**08	0	20	20	40	31A22HLIV10-T3	-	-	7
			1,1	B**08	0	20	20	25*	-	-	31AP2HLIV15-TO	8
			1,4	B**08	0	15	15	40	31A22HLIV15-T3	-	-	7
2		1,8	B**08	0	15	15	25*	-	-	31AP2HLIV20-TO	8	
		2	B**08	0	10	10	40	31A22HLIV20-T3	-	-	7	
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIV25-TO	8	
2,5		3,2	B**08	0	6	6	40	31A22HLIV25-T3	-	-	7	
		3,4	B**08	0	6	6	25*	-	-	31AP2HLIV30-TO	8	
		4	B**08	0	5	5	40	31A22HLIV30-T3	-	-	7	
FLANGE CONN.		1,5	1,4	B**08	0	15	15	25*	-	-	31APBHLIV15-TO	11
			1,8	B**08	0	15	15	40	31A1BHLIV15-T3	-	-	10
			2	B**08	0	10	10	25*	-	-	31APBHLIV20-TO	11
	2	2	B**08	0	10	10	40	31A1BHLIV20-T3	-	-	10	
		2,5	B**08	0	6	6	25*	-	-	31APBHLIV25-TO	11	
		3	B**08	0	6	6	40	31A1BHLIV25-T3	-	-	10	
	3	4	B**08	0	5	5	25*	-	-	31APBHLIV30-TO	11	
		4	B**08	0	5	5	40	31A1BHLIV30-T3	-	-	10	
		1,5	1,1	B**08	0	15	15	25*	-	-	31AP5HLIV15-TO	12
	PUSH IN OD 4 mm	2	1,8	B**08	0	10	10	25*	-	-	31AP5HLIV20-TO	12
		2,5	2,5	B**08	0	6	6	25*	-	-	31AP5HLIV25-TO	12
		3	3,4	B**08	0	5	5	25*	-	-	31AP5HLIV30-TO	12
PUSH IN OD 6 mm	1,5	1,1	B**08	0	15	15	25*	-	-	31AP6HLIV15-TO	12	
	2	1,8	B**08	0	10	10	25*	-	-	31AP6HLIV20-TO	12	
	2,5	2,5	B**08	0	6	6	25*	-	-	31AP6HLIV25-TO	12	
PUSH IN OD 8 mm	3	3,4	B**08	0	5	5	25*	-	-	31AP6HLIV30-TO	12	
	1,5	1,1	B**08	0	15	15	25*	-	-	31AP7HLIV15-TO	12	
	2	1,8	B**08	0	10	10	25*	-	-	31AP7HLIV20-TO	12	
PUSH IN OD 8 mm	2,5	2,5	B**08	0	6	6	25*	-	-	31AP7HLIV25-TO	12	
	3	3,4	B**08	0	5	5	25*	-	-	31AP7HLIV30-TO	12	

- *Max allowable pressure (PS) 16 bar for domestic applications. Safety factor equal to 5*PS according to EN 60730-2-8.
- *Max allowable pressure (PS) 25 bar for industrial applications.
- 3rd way exhaust Ø2.5 mm
- For AP series: Coil nut assembly 2 Nm max, armature tube 4 Nm
- The Kv values refer to the orifice and do not take into account any reductions due to the size of the connection pipe
- For tubes: PA and PTFE tolerance max (±0.1)
- Available on request with minimum quantities. Please contact ODE before order.

PIPE	ORIFICE SIZE [mm]	Kv [l/min]	COIL SERIES	PRESSURE [bar]			CODE			DRAWING REF.		
				MIN.	MOPD		BRASS	STAINLESS STEEL	PPS			
					AC	DC					PS	
G1/8	1	0,45	B**08	0	20	20	40	31A31AIR10-T3	-	-	1	
		1,1	B**08	0	15	15	25*	-	-	31APIAIR15-RPTO	2	
		1,4	B**08	0	15	15	40	31A31AIR15-T3	-	-	1	
	2	1,8	B**08	0	10	10	25*	-	-	31APIAIR20-RPTO	2	
		2	B**08	0	10	10	40	31A31AIR20-T3	-	-	1	
		2,5	B**08	0	6	6	25*	-	-	31APIAIR25-RPTO	2	
	2,5	3,2	B**08	0	6	6	40	31A31AIR25-T3	-	-	1	
		3,4	B**08	0	5	5	25*	-	-	31APIAIR30-RPTO	2	
		4	B**08	0	5	5	40	31A31AIR30-T3	-	-	1	
	G1/4	1	0,45	B**08	0	20	20	40	31A22AIR10-T3	-	-	1
			1,1	B**08	0	20	20	25*	-	-	31AP2AIR15-RPTO	2
			1,4	B**08	0	15	15	40	31A22AIR15-T3	-	-	1
2		1,8	B**08	0	15	15	25*	-	-	31AP2AIR20-RPTO	2	
		2	B**08	0	10	10	40	31A22AIR20-T3	-	-	1	
		2,5	B**08	0	10	10	25*	-	-	31AP2AIR25-RPTO	2	
2,5		3,2	B**08	0	6	6	40	31A22AIR25-T3	-	-	1	
		3,4	B**08	0	6	6	25*	-	-	31AP2AIR30-RPTO	2	
		4	B**08	0	5	5	40	31A22AIR30-T3	-	-	1	
FLANGE CONN.		1,5	1,4	B**08	0	15	15	25*	-	-	31APBAIR15-RPTO	2
			1,8	B**08	0	15	15	40	31A1BAIR15-T3	-	-	4
			2	B**08	0	10	10	25*	-	-	31APBAIR20-RPTO	5
	2	2	B**08	0	10	10	40	31A1BAIR20-T3	-	-	4	
		2,5	B**08	0	6	6	25*	-	-	31APBAIR25-RPTO	5	
		3	B**08	0	6	6	40	31A1BAIR25-T3	-	-	4	
	3	4	B**08	0	5	5	25*	-	-	31APBAIR30-RPTO	5	
		4	B**08	0	5	5	40	31A1BAIR30-T3	-	-	4	
		1,5	1,1	B**08	0	15	15	25*	-	-	31AP5AIR15-RPTO	6
	PUSH IN OD 4 mm	2	1,8	B**08	0	10	10	25*	-	-	31AP5AIR20-RPTO	6
		2,5	2,5	B**08	0	6	6	25*	-	-	31AP5AIR25-RPTO	6
		3	3,4	B**08	0	5	5	25*	-	-	31AP5AIR30-RPTO	6
PUSH IN OD 6 mm	1,5	1,1	B**08	0	15	15	25*	-	-	31AP6AIR15-RPTO	6	
	2	1,8	B**08	0	10	10	25*	-	-	31AP6AIR20-RPTO	6	
	2,5	2,5	B**08	0	6	6	25*	-	-	31AP6AIR25-RPTO	6	
PUSH IN OD 8 mm	3	3,4	B**08	0	5	5	25*	-	-	31AP6AIR30-RPTO	6	
	1,5	1,1	B**08	0	15	15	25*	-	-	31AP7AIR15-RPTO	6	
	2	1,8	B**08	0	10	10	25*	-	-	31AP7AIR20-RPTO	6	
PUSH IN OD 8 mm	2,5	2,5	B**08	0	6	6	25*	-	-	31AP7AIR25-RPTO	6	
	3	3,4	B**08	0	5	5	25*	-	-	31AP7AIR30-RPTO	6	

- *Max allowable pressure (PS) 16 bar for domestic applications. Safety factor equal to 5*PS according to EN 60730-2-8.
- *Max allowable pressure (PS) 25 bar for industrial applications.
- 3rd way exhaust Ø2.5 mm
- The use of rigid sealings usually implies a slight leakage, limited within 300 cm³/h at a pressure equal to the MOPD
- For AP series: Coil nut assembly 2 Nm max, armature tube 4 Nm
- The Kv values refer to the orifice and do not take into account any reductions due to the size of the connection pipe
- For tubes: PA and PTFE tolerance max (±0.1)
- Available on request with minimum quantities. Please contact ODE before order.

3/2 NC RUBY SEALING
G1/8 (M) EXHAUST

PIPE	ORIFICE SIZE [mm]	Kv [l/min]	COIL SERIES	PRESSURE [bar]			CODE			DRAWING REF.	
				MIN.	MOPD		BRASS	STAINLESS STEEL	PPS		
					AC	DC					PS
G1/8	1	0,45	B**08	0	20	20	40	31A31HLIR10-T3	-	-	7
		1,1	B**08	0	15	15	25*	-	-	31AP1HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A31HLIR15-T3	-	-	7
		1,8	B**08	0	10	10	25*	-	-	31AP1HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A31HLIR20-T3	-	-	7
		2,5	B**08	0	6	6	25*	-	-	31AP1HLIR25-RPTO	8
G1/4	1,5	0,45	B**08	0	20	20	40	31A22HLIR10-T3	-	-	7
		1,1	B**08	0	20	20	25*	-	-	31AP2HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A22HLIR15-T3	-	-	7
		1,8	B**08	0	15	15	25*	-	-	31AP2HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A22HLIR20-T3	-	-	7
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIR25-RPTO	8
FLANGE CONN.	1,5	0,45	B**08	0	20	20	40	31A22HLIR10-T3	-	-	7
		1,1	B**08	0	20	20	25*	-	-	31AP2HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A22HLIR15-T3	-	-	7
		1,8	B**08	0	15	15	25*	-	-	31AP2HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A22HLIR20-T3	-	-	7
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIR25-RPTO	8
PUSH IN OD 4 mm	1,5	0,45	B**08	0	20	20	40	31A22HLIR10-T3	-	-	7
		1,1	B**08	0	20	20	25*	-	-	31AP2HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A22HLIR15-T3	-	-	7
		1,8	B**08	0	15	15	25*	-	-	31AP2HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A22HLIR20-T3	-	-	7
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIR25-RPTO	8
PUSH IN OD 6 mm	1,5	0,45	B**08	0	20	20	40	31A22HLIR10-T3	-	-	7
		1,1	B**08	0	20	20	25*	-	-	31AP2HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A22HLIR15-T3	-	-	7
		1,8	B**08	0	15	15	25*	-	-	31AP2HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A22HLIR20-T3	-	-	7
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIR25-RPTO	8
PUSH IN OD 8 mm	1,5	0,45	B**08	0	20	20	40	31A22HLIR10-T3	-	-	7
		1,1	B**08	0	20	20	25*	-	-	31AP2HLIR15-RPTO	8
	1,5	1,4	B**08	0	15	15	40	31A22HLIR15-T3	-	-	7
		1,8	B**08	0	15	15	25*	-	-	31AP2HLIR20-RPTO	8
	2	2	B**08	0	10	10	40	31A22HLIR20-T3	-	-	7
		2,5	B**08	0	10	10	25*	-	-	31AP2HLIR25-RPTO	8

- **Max allowable pressure (PS) 16 bar for domestic applications. Safety factor equal to 5*PS according to EN 60730-2-8.
- **Max allowable pressure (PS) 25 bar for industrial applications.
- 3rd way exhaust Ø2.5 mm
- The use of rigid sealings usually implies a slight leakage, limited within 300 cm³/h at a pressure equal to the MOPD
- For AP series: Coil nut assembly 2 Nm max, armature tube 4 Nm
- The Kv values refer to the orifice and do not take into account any reductions due to the size of the connection pipe
- For tubes: PA and PTFE tolerance max (±0.1)
- Available on request with minimum quantities. Please contact ODE before order.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI
3	1		A	31	A	1	V	15	-	TO

- I. NUMBER OF WAYS**
3 - 3 - way
- II. NUMBER OF ELEMENTS**
1 - 1 element
- III. ARMATURE TUBE MATERIAL**
Blank - std. material
6 - AISI 316 (optional, valid for NC versions, brass or PPS body only)
- IV. SERIES TYPE**
A - brass body
L - StSt body
AL - StSt body with flange connection
AP - PPS body
- V. CONNECTIONS**
For A series *
31 - G1/8
22 - G1/4
For L series *
11 - G1/8
22 - G1/4
- VI. CORE TUBE TYPE**
A - for 3/2 valves exhaust G 1/8 (M)
HL - for 3/2 valves hose conn. exhaust
- VII. PHASE DISP. RING MATERIAL**
0 or blank - copper
1 - gold plated copper
- VIII. SEALING MATERIAL**
V - FKM
R - RUBY
E - EPDM
- IX. ORIFICE Ø MULTIPLIED BY 10**
- X. OPTIONS**
RP - stainless steel orifice
VO - Flange O-RINGS in FKM material and upper sealing in FKM material (only for flanged valves, with R sealing)
V - upper sealing in FKM material (only for valves with RUBY main sealing)
- XI. NSF CERTIFICATION**
For A series
T3 - Low lead brass body
For L, AL series
T4 - StSt body
For AP series
TO - PPS body

*Push in connections can be made with additional fittings. Please contact ODE for further informations.

OPTION	VALVE TYPE	BODY MATERIAL	SEALING MATERIAL	VALVE SIZE/CONNECTIONS				NOTES
				G1/8	G1/4	FLANGE CONN.	PUSH IN	
RP	3/2 NC	PPS	V, R	X	X	X	X	Ruby sealing is available only with options RP
V	3/2 NC	Brass, StSt	R	X	X	X	X	
VO	3/2 NC	Brass, StSt	R			X		