



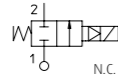
FEATURES

- ▶ Dedicate to CPT Market
- ▶ Explosion proof rate
- ▶ Reliable construction

TECHNICAL SPECIFICATION

- ▶ **Body material:** Stainless Steel AISI 316
- ▶ **Armature tube:** Stainless Steel AISI 300 series
- ▶ **Plungers:** Stainless Steel AISI 400 series
- ▶ **Spring:** Stainless Steel AISI 300 series
- ▶ Ex d Housing in Aluminium die cast
- ▶ **Media:** mineral oils, gasoline, diesel, fuel oils, air inert gases, water, 134 a, R 404a
- ▶ **Ex m Ambient temperature:** See coils catalogue page for its compatibility
- ▶ **Ex m Fluid temperature:** -10°C +80°C with FKM seals
- ▶ **Ex d Housing Ambient temperature:** -40°C +60°C
- ▶ **Ex d Fluid temperature:** -30°C +80°C with H-NBR seals
-10°C +140°C with FKM seals
- ▶ **Design pressure PS:** 25 bar
- ▶ **Protection class:** Ex m IP65 (complete with electric plug)
Ex d IP 65 (with hosing fitted by cable gland Atex Ex d)
- ▶ **Electrical conformity:** IEC 335

- ▶ **Switching time:** 20-40 msec (depending on pressure conditions)
- ▶ (Conforme to Atex Directive 94/9/CE ATEX)
For S.V. 21X2Q..
II 2G Ex mb IIC Gb
II 2D Ex tb IIIC t130°C Db
- For S.V. 21X2KI..
II 2G Ex d IIC t6 o t5 Gb
II 2D Ex bb IIIC T80°C o T95°C Db
(Tamb: -40°C ≤ +60°C)



21X	2	QD	V	120	
Model valve	2= G 1/2 4= 1/2 NPT 3= G 3/4 5= 3/4 NPT 4= G 1 6= 1 NPT	QD= N.C. Ex m KI= N.C. Ex d	V= FKM F= H-NBR	120 190 250	Orefice 10 ⁻¹ mm

B	D	A	08	012	C	S
B= 30mm Ø 13	D EN 175301-803	A= Class F	08= 8W	012= 12V 024= 24V 048= 48V 110= 110V 223= 220V-230V	C= DC A= AC	S= Without Approval(*)

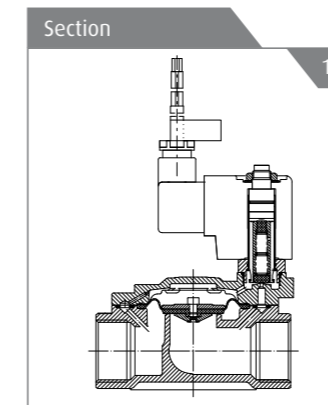
(*) Ex d protection class when assembled with Ex housing

T	N	A	4X	024	D	4
T= 36mm Ø 14,5	N 3 cables cm 300	A= Class F	4X= 7,2V 5X= 9,13V 05= 7,7V-9,2V 10= 10,1W	024= 24V 110= 110V 224= 220V-240V 024= 24V	D= AC C= DC	4= Ex m T4

PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	PRESSURE MAX MOPD (bar)				GAS CODE	NPT CODE	DRAWING REFERENCE
					COIL TYPE						
					AC		DC				

PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	AC B	AC T	DC B	DC T	GAS CODE	NPT CODE	DRAWING REFERENCE
1/2	12	35	12(2)	0,1	-	16	-	16	21X2QDV120	21XN4QDV120	1
3/4	19	130	12(2)	0,1	-	16	-	16	21X3QDV190	21XN5QDV190	1
1	25	160	12(2)	0,1	-	16	-	16	21X4QDV250	21XN6QDV250	1

PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	AC B	AC T	DC B	DC T	GAS CODE	NPT CODE	DRAWING REFERENCE
1/2	12	35	12(2)	0,1	20	-	20	-	21X2KIV120	21XN2KIV120	2
3/4	19	130	12(2)	0,1	16	-	16	-	21X3KIV190	21XN3KIV190	2
1	25	160	12(2)	0,1	16	-	16	-	21X4KIV250	21XN4KIV250	2

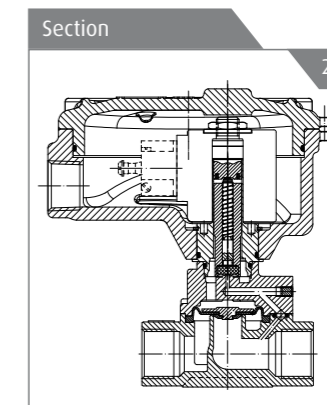


REPAIR KIT

For spare parts please consult our technical department

Coil P/N Ex mb II T 4

- RTNA4X024D4
- RTNA5X110D4
- RTNA05224DA
- RTNA10024C4



REPAIR KIT

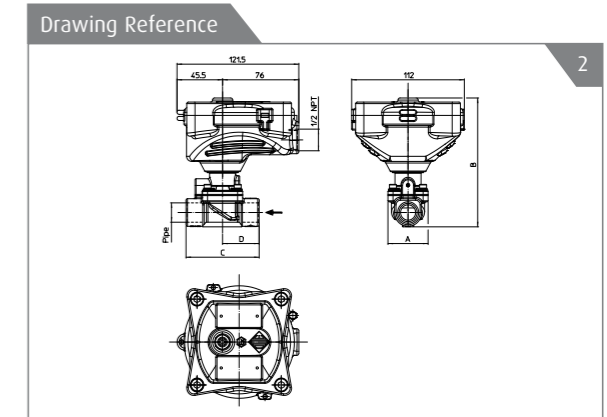
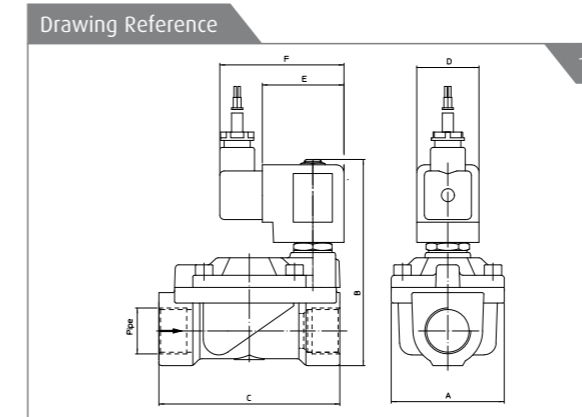
For spare parts please consult our technical department

ACCESSORIES

Code P992219 Cable Gland (to be ordered separately)

INSTALLATION

- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box
- ▶ Attention: for fuse selection please refer to the "Instruction sheet Atex products" delivered together with the valve
- ▶ Holes and threaded connections for panel fixing



Dimensionale Table

Figure	Pipe	Coil Type	A mm	B mm	C mm	D mm	E mm	F mm
1-2	G 1/2 1/2 NPT	B T	40	120 110	73	36,5 36	- 47	71
	G 3/4 3/4 NPT	B T	65	136 120	104	88,5 36	- 47	71
	G 1 1 NPT	B T	65	136 120	104	88,5 36	- 47	71





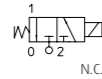
FEATURES

- Wide range of applications high flow valves for liquids, gaseous
- Reliable proven design with high flows
- Small poppet valve for tight shutoff
- Mountable in any position

TECHNICAL SPECIFICATION

- Body material:** Brass UNI EN 12165 CW617N
- Armature tube:** Stainless Steel AISI 300 series
- Plungers:** Stainless Steel AISI 400 series
- Spring:** Stainless Steel AISI 300 series
- Ex d Housing in Aluminium die cast
- Media:** mineral oils, gasoline, diesel, fuel oils, air inert gases, water, 134 a, R 404a
- Ambient temperature:** See coils catalogue page for its compatibility
- Ex m Fluid temperature:** -10°C +80°C with FKM seals
-30°C +80°C with H-NBR seals
- Ex d Housing Ambient temperature:** -40°C +60°C
- Design pressure PS:** 40 bar
- Protection class:** Ex m IP 65 (complete with electric plug);
Ex d IP 65 (with hosing fitted by cable gland Atex Ex d)
- Electrical conformity:** IEC 335

- Switching time:** 20-40 msec (depending on pressure conditions)
- (Conforme to Atex Directive 94/9/CE ATEX)
For S.V. 31A3EL..
II 2G Ex d IIC T6 o T5 Gb
II 2D Ex tb IIIC T80°C o T90°C Db IP67
(Tamb: -40°C ≤ +60°C)
- For S.V. 31A3P..
II 2G Ex mb II T4
II 2D Ex tD
IEC Ex m II T4
A21 IP65 T130°C



31A	3	PD	V	15	
Model valve	2= G 1/4	PD= N.C. Ex m	V= FKM	15	Orefice 10 ⁻¹ mm
	3= G 3/8	EI= N.C. Ex d	F= H-NBR	20 25 30	

B	D	A	08	012	C	S
B= 30mm Ø 13	D EN 175301-803	A= Class F	08= 8W	012= 12V 024= 24V 048= 48V 110= 110V 223= 220V-230V	C= DC A= AC	S= Without Approval(*)

(*) Ex d protection class when assembled with Ex housing

T	N	A	4X	024	D	4
T= 36mm Ø 14,5	N 3 cables cm 300	A= Class F	4X= 7,2V 5X= 9,13V 05= 7,7V-9,2V 10= 10,1W	024= 24V 110= 110V 224= 220V-240V 024= 24V	D= AC C= DC	4= Ex m T4

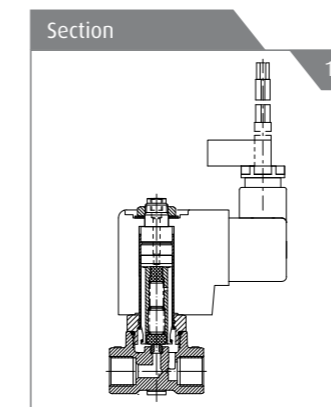
PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	PRESSURE MAX MOPD (bar)				GAS CODE	NPT CODE	FLOW CURVE
					COIL TYPE						
					AC		DC				

Normally Closed Ex m (*) 3rd way exhaust- Ø 3mm

G 1/8	1,5(*)	1,2	12(2)	0	-	15	-	15	31A3PDV15	(Part numbering example add "N" at the 4th digit 31AN1PD; 31AN2PD)	1
	2(*)	2	37(5)		-	10	-	10	31A3PDV20		1
	2,5(*)	3	53(7)		-	6	-	6	31A3PDV25		1
	3(*)	3,5	53(7)		-	5	-	5	31A3PDV30		1
G 1/4	1,5(*)	1,2	12(2)	0	-	15	-	15	31A2PDV15		1
	2(*)	2	37(5)		-	10	-	10	31A2PDV20		1
	2,5(*)	3	53(7)		-	6	-	6	31A2PDV25		1
	3(*)	3,5	53(7)		-	5	-	5	31A2PDV30		1

Normally Closed Ex d (*) 3rd way exhaust- Ø 3mm

G 1/8	1(*)	0,45	12(2)	0	20	-	20	-	31A3EIV10	(Part numbering example add "N" at the 4th digit 31AN1EI; 31AN2EI)	2
	1,5(*)	1,4	12(2)		15	-	15	-	31A3EIV15		2
	2(*)	2	37(5)		10	-	10	-	31A3EIV20		2
	2,5(*)	3,2	53(7)		6	-	6	-	31A3EIV25		2
	3(*)	4	53(7)		5	-	5	-	31A3EIV35		2
G 1/4	1(*)	0,45	12(2)	0	20	-	20	-	31A2EIV10		2
	1,5(*)	1,4	12(2)		15	-	15	-	31A2EIV15		2
	2(*)	2	37(5)		10	-	10	-	31A2EIV20		2
	2,5(*)	3,2	53(7)		6	-	6	-	31A2EIV25		2
	3(*)	4	53(7)		5	-	5	-	31A2EIV35		2

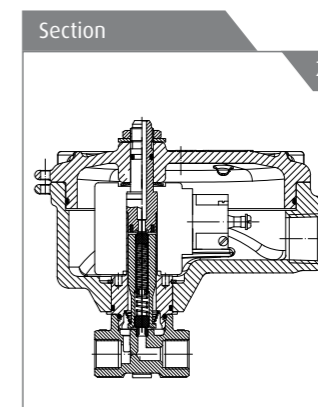


REPAIR KIT

For spare parts please consult our technical department

Coil P/N Ex mb II T 4

- RTNA4X024D4
- RTNA5X110D4
- RTNA05224DA
- RTNA10024C4



REPAIR KIT

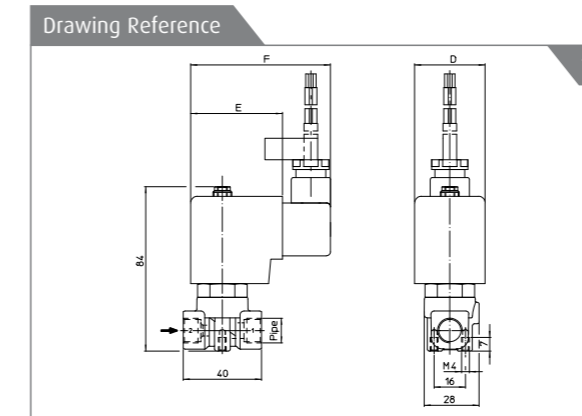
For spare parts please consult our technical department

ACCESSORIES

Code P992219 Cable Gland (to be ordered separately)

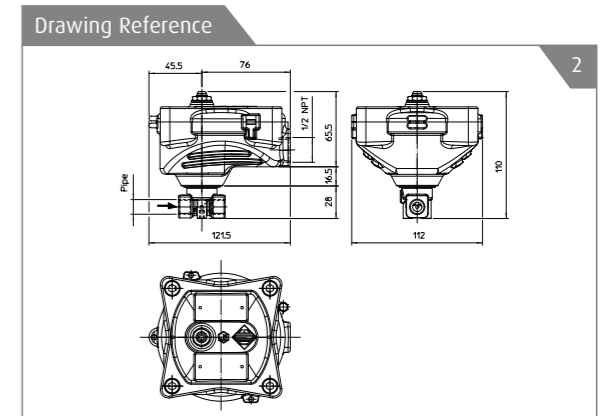
INSTALLATION

- The solenoid valves can be mounted in any position
- Maintenance and instruction sheet available in each solenoid valve box
- Attention: for fuse selection please refer to the "Instruction sheet Atex products" delivered together with the valve
- Holes and threaded connections for panel fixing



Dimensionale Table

Figure	Coil Type	D mm	E mm	F mm
1	T	36	47	71





FEATURES

- ▶ Ideal for piloting
- ▶ High flow rate
- ▶ Atex approval

TECHNICAL SPECIFICATION

- ▶ **Body material:** Stainless Steel AISI 316
- ▶ **Armature tube:** Stainless Steel AISI 300 series
- ▶ **Plungers:** Stainless Steel AISI 400 series
- ▶ **Spring:** Stainless Steel AISI 300 series
- ▶ **Ex d Housing in Aluminium die cast**
- ▶ **Media:** mineral oils, gasoline, diesel, fuel oils, air, water, inert gases, 134 a, R 404a
- ▶ **Ex m Ambient temperature:** See coils catalogue page for its compatibility
- ▶ **Ex m Fluid temperature:** -10°C +80°C with FKM seals
- ▶ **Ex d Housing Ambient temperature:** -40°C +60°C
- ▶ **Ex d Fluid temperature:** -10°C + 80°C with FKM seals
-30°C +80°C H-NBR
- ▶ **Design pressure PS:** 40 bar for Ex d
25 bar for Ex m
- ▶ **Protection class:** Ex m IP 65 (complete with electric plug);
Ex d IP 65 (with hosing fitted by cable gland Atex Ex d)
- ▶ **Electrical conformity:** IEC 335

- ▶ (Conforme to Atex Directive 94/9/CE ATEX)
- For S.V. 31L..I
II 2G Ex d IIC T6 o T5 Gb
II 2D Ex tb IIIC T80°C o T90°C Db IP67
(Tamb: -40°C ≤ +60°C)
- For S.V. 31L..P
II 2G Ex mb II T4
II 2D Ex tD
IEC Ex m II T4
A21 IP65 T130°C



31L	1	PD	V	20	
Model valve	1= G 1/8	PD= N.C. Ex m	V= FKM	20	Orefice 10 ⁻¹ mm
	2= G 1/4	EI= N.C. Ex d	F= H-NBR	30	

B	D	A	08	012	C	S
B= 30mm Ø 13	D EN 175301-803	A= Class F	08= 8W	012= 12V 024= 24V 048= 48V 110= 110V 223= 220V-230V	C= DC D= AC	S= Without Approval(*)

(*) Ex d protection class when assembled with Ex housing

T	N	A	4X	024	D	4
T= 36mm Ø 14,5	N 3 cables cm 300	A= Class F	4X= 7,2V 5X= 9,13V 05= 7,7V-9,2V 10= 10,1W	024= 24V 110= 110V 224= 220V-240V 024= 24V	D= AC C= DC	4= Ex m T4

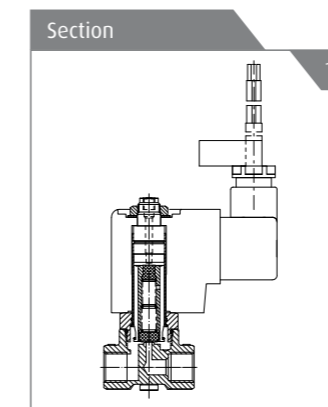
PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	PRESSURE MAX MOPD (bar)				GAS CODE	NPT CODE	DRAWING REFERENCE
					COIL TYPE						
					AC		DC				
B	T	B	T								

Normally Closed Ex m (*) 3rd way exhaust= Ø 3mm

G 1/8	2(*)	2	37(7)	0	-	10	-	10	(Part numbering example add "N" at the 4th digit 31L1PDV20)	31LN1PDV20	1	
G 1/8	2(*)	4	53(7)		-	5	-	5		31LN1PDV30	1	
G 1/4	2(*)	2	37(7)		-	10	-	10		31L2PDV20	31LN2PDV20	1
G 1/4	3(*)	4	53(7)		-	5	-	5		31L2PDV30	31LN2PDV30	1

Normally Closed Ex d (*) 3rd way exhaust= Ø 3mm

G 1/8	2(*)	2	37(7)	0	10	-	10	-	31L1EIV20	31LN1EIV20	2
G 1/8	2(*)	4	53(7)		5	-	5	-	31L1EIV30	31LN1EIV30	2
G 1/4	2(*)	2	37(7)		10	-	10	-	31L2EIV20	31LN2EIV20	2
G 1/4	3(*)	4	53(7)		5	-	5	-	31L2EIV30	31LN2EIV30	2

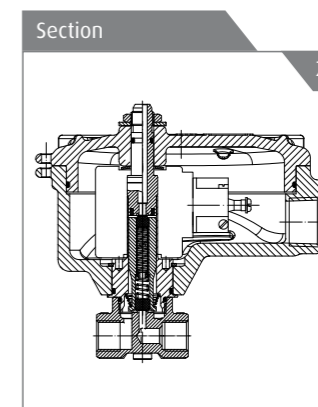


REPAIR KIT

For spare parts please consult our technical department

Coil P/N Ex mb II T 4

- RTNA4X024D4
- RTNA5X110D4
- RTNA05224DA
- RTNA10024C4



REPAIR KIT

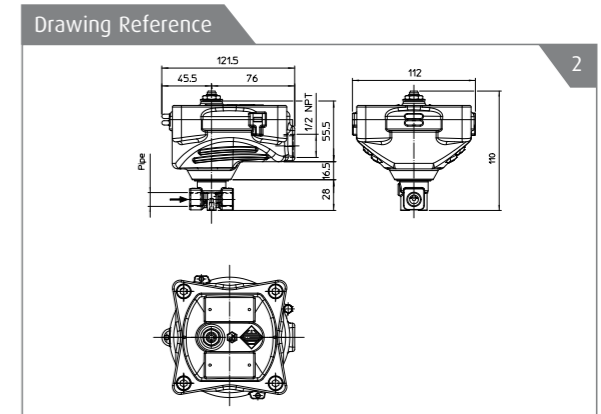
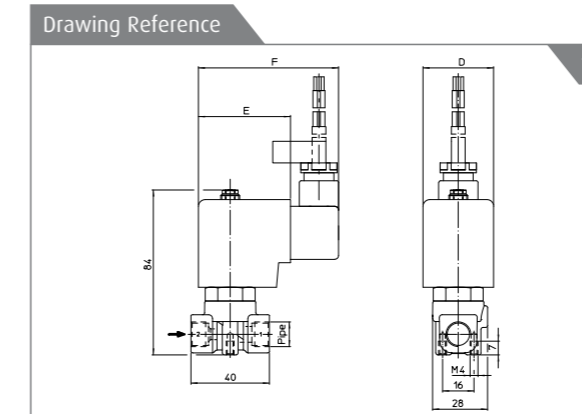
For spare parts please consult our technical department

ACCESSORIES

Code P992219 Cable Gland (to be ordered separately)

INSTALLATION

- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box
- ▶ Attention: for fuse selection please refer to the "Instruction sheet Atex products" delivered together with the valve
- ▶ Fixing holes
- ▶ Holes and threaded connections for panel fixing

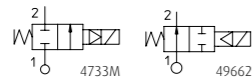


Dimensionale Table

Figure	Coil Type	D mm	E mm	F mm
1	B	30	42	54







TECHNICAL SPECIFICATION

- ▶ **Body material:** Brass UNI EN 12165 CW617N (for 21A1K0R30-TXC; 21A2K0T12-XC; 21AN2K0T12-XC; 21A1ZT11D-GB)
- ▶ **Body material:** Brass UNI EN 12164 CW614N (for 4739MZU190; 4731K0T70; 4966K0Q120; 4592MZU190; 4966Z0Q120D)
- ▶ **Armature tube:** Stainless Steel AISI 300 series
- ▶ **Plungers:** Stainless Steel AISI 400 series
- ▶ **Spring:** Stainless Steel AISI 300 series
- ▶ **Piston:** POM C (for 4739MZU190; 4592MZU190)
- ▶ **Piston ring:** Modified PTFE (for 4739MZU190; 4592MZU190)
- ▶ **Main seal:** POM C=Acetalic resin (for 492MZU190; 4739MZU190) T=PTFE (for 4731K0T70); Q=PBT (for 4966K0Q120; 4966Z0Q120D)
- ▶ **Pilot seal:** TPU=Polyurethane resin (for 4739MZU190; 4592MZU190; 4966Z0Q120D); PTFE modified (for 4731K0T70; 4966K0Q120)
- ▶ **Seal:** RUBY (for 21A1K0R30-TXC); PTFE (for 21A1ZT11D-GB; 21A2K0T12-XC; 21AN2K0T12-XC)

- ▶ **Media:** water, steam, mineral oils, gas oil, fuel oils (for 21A1K0R30-TXC); air, inert gases (for 4739MZU190; 4592MZU190); air, water (for 21A2K0T12-XC; 21AN2K0T12-XC; 4731K0T70; 4966Z0Q120D; 4966K0Q120); air, water, steam, mineral oils (for 21A1ZT11D-GB)
- ▶ **Ambient temperature:** See coils catalogue page for its compatibility
- ▶ **Fluid temperature:** -40°C +180°C with RUBY, PTFE seals (for 21A1K0R30-TXC; 21A2K0T12-XC; 21AN2K0T12-XC) -10°C +100°C with POM C seals (for 4739MZU190; 4592MZU190) -40°C +98°C with PTFE seals (for 4731K0T70); -20°C +95°C with PBT seals (for 4966K0Q120; 4966Z0Q120D)
- ▶ **Design pressure PS:** 40 bar (for 21A1K0R30-TXC); PS: 50 bar (for 4739MZU190; 4592MZU190); PS: 100 bar (for 21A2K0T12-XC; 21AN2K0T12-XC; 4966K0Q120; 21A1ZT11D-GB); PS: 150 bar (for 4731K0T70); PS: 80 bar (for 4966Z0Q120D)
- ▶ **Protection class:** IP65 (complete with electric plug); IP67 (for 21AZT11D-GB);

- ▶ **Electrical conformity:** IEC 335
- ▶ **Switching time:** 20-40 msec (depending on pressure conditions)



Suffix description: ...(code)...-TXX

-TXX	Version with PTFE, rectified bridge
-TC	Version with rectified bridge
-GB	Version with dampness-proof

21A	1	K0	R	30	**
Model valve	1 SUBPLATE MOUNTING	K= N.C.	R= RUBY	3 7 11 12 19	Orefice 10 ⁻¹ mm D for coil 8W
	2= G 1/4	Z= N.O.	U= POM C		
	3= G 3/8		T= PTFE		
	4= G 1/2		Q= PTB		
	5= G 3/4				

B	D	A	08	223	D	S
B= 30 mm Ø 13	D EN 175301-803	A= Class F	08= 8W	223= 220V-230V	D= AC	S= Without Approval
U= 36 mm Ø 13		V= Class H	12= 12W	112= 110V-120V	A= AC	Y= UL, CSA, VDE
G= 52 mm Ø 13			14= 14W	024= 24V	C= DC	

PIPE	Ø (mm)	Kv (l/min)	MAX VISCOSITY cSt (°E)	PRESSURE min	PRESSURE MAX MOPD (bar)						GAS CODE	NPT CODE	DRAWING REFERENCE
					COIL TYPE								
					AC			DC					
B	U	G	B	U	G								

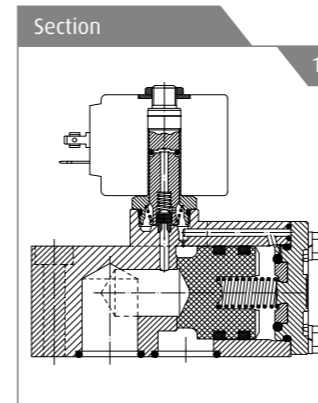
Normally Closed

SUBPLATE MOUNTING	3	4	53(7)	0	25	-	-	8	-	-	21A1K0R30-TXC	-
	19	-	-	1	-	-	-	-	-	50	4739MZU190 ⁽³⁾	1
G 1/4	1,2	1	12(2)	0	100	100	-	90	100	-	21A2K0T12-XC	-
G 3/8	7	14	12(2)	0,7 ⁽¹⁾	90	100	100	40	90	100	4731K0T70	3
G 1/2	12	60	12(2)	3	100	100	-	90	100	-	4966K0Q120	-
G 3/4	19	110	-	1	-	-	-	-	-	50	4592MZU190 ⁽³⁾	4

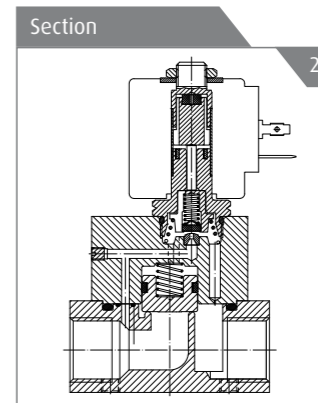
Normally Open

SUBPLATE MOUNTING	1,1	0,7	12(2)	0	90	-	-	90	-	-	21A1ZT11D-GB ⁽²⁾	-
G 1/2	12	60	12(2)	3	50	-	-	50	-	-	4966Z0Q120D	2

Note
 - Pressure with mono frequency coil
 - For dampness-proof cup see catalogue page
 - Maximum allowed drop at 1 bar



REPAIR KIT
 Normally Closed
 Coil B type (8W)
 KT130KR30-AP (for 21A1K0R30-TX)
 KT130KT30-AP (for 21A2K0T12-XC; 21AN2K0T12-XC; 4731K0T70; for 4966K0Q120)



REPAIR KIT
 Normally Open
 KT130ZT30-FGB (for 21A1ZT11D-GB)
 KT130ZT30-F (for 4966Z0Q120D)

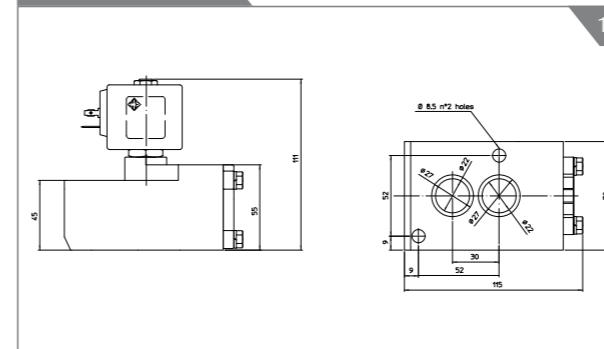
RELATED ITEMS

- ▶ P990305: Electrical plug EN 175301-803 Pg9
- ▶ P990306: Electrical plug EN 175301-803 Pg11
- ▶ P992126: Electrical plug EN 175301-803 Pg9 (with OR screw)
- ▶ P992127: Electrical plug EN 175301-803 Pg11 (with OR screw)
- ▶ P992128: Electrical plug EN 175301-803 cable 2 wires, 53cm
- ▶ R452714: Antihumidity kit (up to IP67 protection together with plugs P992126, P992127; P992128 & H coils class)
- ▶ P992087: Timer for automatic switch

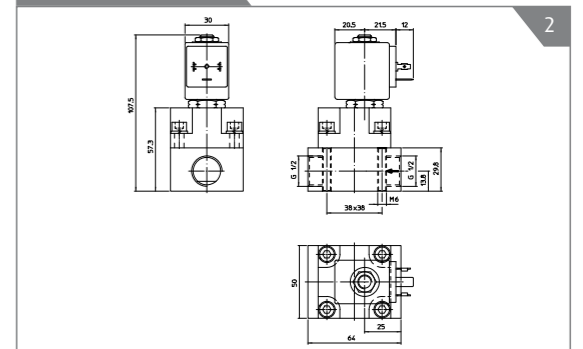
INSTALLATION

- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box
- ▶ Repair kit and coils available as spares

Drawing Reference

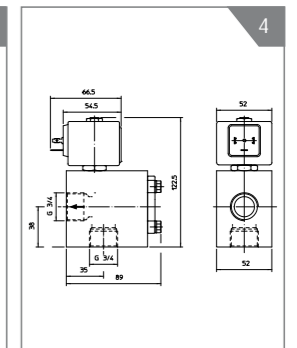
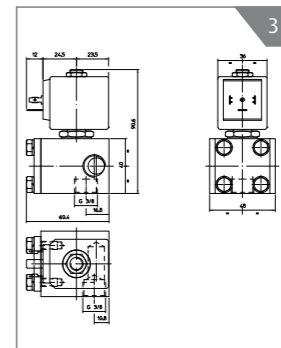


Drawing Reference



Dimensionale Table

Figure	Coil Type	D mm	E mm	F mm
1-2-3-4	B	30	42	54
	U	36	48	60
	G	52	55	67





▶ 21IA N.O.	page 104-105
▶ 21IA N.C.	" 106-107
▶ 21IA-5 N.C.	" 108-109





FEATURES

- ▶ Angle seat for high flow rate configuration
- ▶ Long life cycles
- ▶ N.C. and N.O. convertible after the delivery
- ▶ Flow below and above the piston
- ▶ Service free solution
- ▶ Ari water hammer

TECHNICAL SPECIFICATION

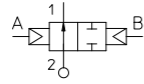
- ▶ **VALVE FEATURES**
Fluid Temperature: -10°C +180°C
Environment temperature: -10°C +60°C
Material: Stainless Steel AISI 316 series
Seal: PTFE
Packing gland: PTFE, FKM
- ▶ **PILOT ACTUATOR FEATURES**
Media: Dry Air or lubricated, gas and neutral fluids
Fluid Temperature: max +60°C
Body: Polyamide 66 with 30% glass fibre
NBR Gaskets
Actuator Ø 70
Self adjusting Teflon seat

AVAILABLE ON REQUEST

- ▶ Pilot Valve 31A2AV20+BDA (see 31A catalogue page)
- ▶ Together with male thread nipple male 1/4"-1/4"
- ▶ Position indicator
- ▶ Water piloting system



(Pressure Equipment Directive 97/23/CE) for valve 21A7 + 21A9



21A	4	T	15	G	A	2	
Model valve	5= G 3/4 - NPT 3/4	T= PTFE	15 20 25 32 40 50	Orefice 10 ⁻³ mm	G= GAS N= NPT	A= N.O.	Actuator connection
	6= G 1 - NPT 1						
	5= G 1 1/4 - NPT 1 1/4						
	6= G 1 1/2 - NPT 1 1/2						
	9= G 2 - NPT 2						

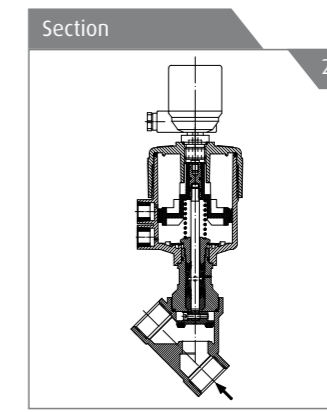
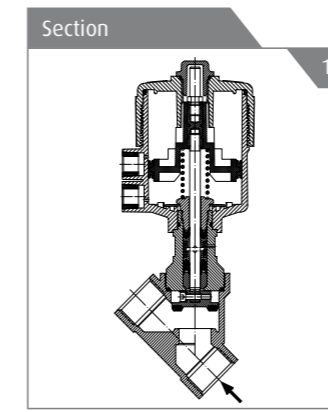
PIPE	Ø (mm)	Kv (l/min)	ACTUATOR PILOT PRESSURE (bar)		DIFFERENTIAL PRESSURE (bar)		MAX ALLOWABLE PRESSURE PS (bar)	GAS CODE	NPT CODE	WEIGHT kg	DRAWING REFERENCE
			min	max	min	max					

Normally Open Ex m

1/2"	15	80	1,5	10	0	(See graphic n. 1)	40	21A4T15GA2	21A4T15NA2	1,2	1
3/4"	20	150	1,5	10	0		40	21A5T20GA2	21A5T20NA2	1,3	1
1"	25	190	1,5	10	0		40	21A6T25GA2	21A6T25NA2	1,6	1
1/4"	32	340	1,5	10	0		25	21A7T32GA2	21A7T32NA2	2,2	1
1/2"	40	430	1,5	10	0		25	21A8T40GA2	21A8T40NA2	2,5	1
2"	50	620	1,5	10	0		16	21A9T50GA2	21A9T50NA2	3,7	1

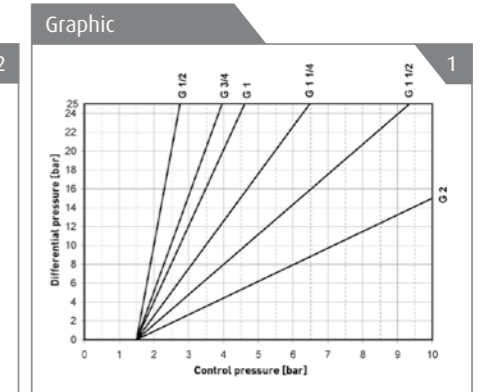
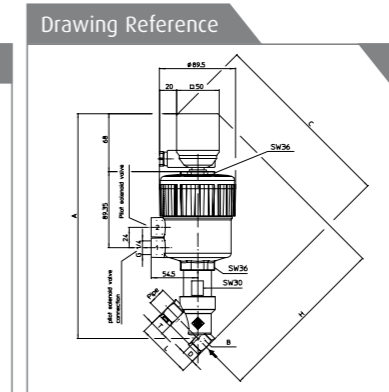
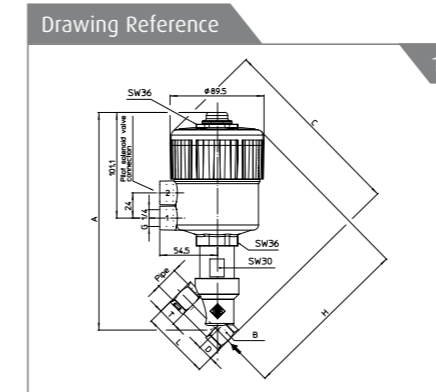
Normally Open with electrical position indicators

1/2"	15	80	1,5	10	0	(See graphic n. 1)	40	21A4T15GA2-IP1	21A4T15NA2-IP1	1,2	2
3/4"	20	150	1,5	10	0		40	21A5T20GA2-IP1	21A5T20NA2-IP1	1,3	2
1"	25	190	1,5	10	0		40	21A6T25GA2-IP1	21A6T25NA2-IP1	1,6	2
1/4"	32	340	1,5	10	0		25	21A7T32GA2-IP1	21A7T32NA2-IP1	2,2	2
1/2"	40	430	1,5	10	0		25	21A8T40GA2-IP1	21A8T40NA2-IP1	2,5	2
2"	50	620	1,5	10	0		16	21A9T50GA2-IP1	21A9T50NA2-IP1	3,7	2



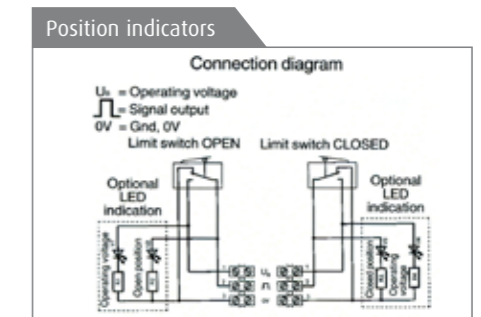
INSTALLATION

- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box



Dimensionale Table

Figure	Pipe	A mm	B mm	C mm	D mm	H mm	L mm	T mm
1-2	1/2"	206,8	SW 27	178,7	15,4	163,3	65	17
	3/4"	211,7	SW 32	188,6	21,9	166,7	75,5	19
	1"	220,1	SW 41	197,8	25,1	172,7	90	21
	1 1/4"	235,9	SW 50	212,3	28,5	183,8	110	24
	1 1/2"	238,9	SW 55	217,0	31,0	186	122	25,2
	2"	247,8	SW 70	229,7	37,5	192,2	151	28,5





FEATURES

- ▶ Angle seat for high flow rate configuration
- ▶ Long life cycles
- ▶ N.C. and N.O. convertible after the delivery
- ▶ Flow below and above the piston
- ▶ Service free solution
- ▶ Water hammer

TECHNICAL SPECIFICATION

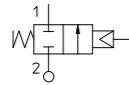
- ▶ **VALVE FEATURES**
Fluid Temperature: -10°C +180°C
Environment temperature: -10°C +60°C
Material: Stainless Steel AISI 316 series
Seal: PTFE
Packing gland: PTFE, FKM
- ▶ **PILOT ACTUATOR FEATURES**
Media: Dry Air or lubricated, gas and neutral fluids
Fluid Temperature: max +60°C
Body: Polyamide 66 with 30% glass fibre
NBR Gaskets
Actuator Ø 70
Self adjusting Teflon seat

AVAILABLE ON REQUEST

- ▶ Pilot Valve 31A2AV20+BDA (see 31A catalogue page)
- ▶ Together with male thread nipple male 1/4"-1/4"
- ▶ Position indicator
- ▶ Double Effect
- ▶ Water piloting system



(Pressure Equipment Directive 97/23/CE) for valve 21A7 + 21A9



21A	4	T	15	G	C	2	
Model valve	5= G 3/4 - NPT 3/4	T= PTFE	15 20 25 32 40 50	Orefice 10 ³ mm	G= GAS N= NPT	C= N.C. D= Double Effect	Actuator connection
	6= G 1 - NPT 1						
	5= G 1 1/4 - NPT 1 1/4						
	6= G 1 1/2 - NPT 1 1/2						
	9= G 2 - NPT 2						

PIPE	Ø (mm)	Kv (l/min)	ACTUATOR PILOT PRESSURE (bar)		DIFFERENTIAL PRESSURE (bar)		MAX ALLOWABLE PRESSURE PS (bar)	GAS CODE	NPT CODE	WEIGHT kg	DRAWING REFERENCE
			min	max	min	max					

Normally Closed

1/2"	15	80	4	10	0	16	40	21A4T15GC2	21A4T15NC2	1,4	1
3/4"	20	150	4	10	0	10	40	21A5T20GC2	21A5T20NC2	1,5	1
1"	25	190	4	10	0	10	40	21A6T25GC2	21A6T25NC2	1,8	1
1/4"	32	340	4	10	0	7	25	21A7T32GC2	21A7T32NC2	2,4	1
1/2"	40	430	4	10	0	4,5	25	21A8T40GC2	21A8T40NC2	2,7	1
2"	50	620	4	10	0	3	16	21A9T50GC2	21A9T50NC2	3,9	1

Normally Closed high pressure

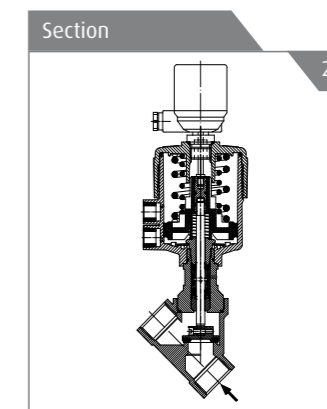
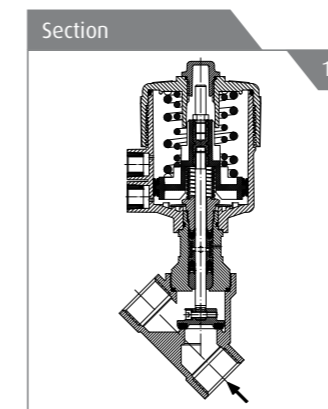
1/2"	15	80	5	10	0	35	40	21A4T15GC2-H	21A4T15NC2-H	1,4	1
3/4"	20	150	5	10	0	25	40	21A5T20GC2-H	21A5T20NC2-H	1,5	1
1"	25	190	5	10	0	20	40	21A6T25GC2-H	21A6T25NC2-H	1,8	1
1/4"	32	340	5	10	0	13	25	21A7T32GC2-H	21A7T32NC2-H	2,4	1
1/2"	40	430	5	10	0	8	25	21A8T40GC2-H	21A8T40NC2-H	2,7	1
2"	50	620	5	10	0	5,5	16	21A9T50GC2-H	21A9T50NC2-H	3,9	1

Normally Closed high pressure with electrical position indicators

1/2"	15	80	4	10	0	35	40	21A4T15GC2-HIP1	21A4T15NC2-HIP1	1,4	2
3/4"	20	150	4	10	0	25	40	21A5T20GC2-HIP1	21A5T20NC2-HIP1	1,5	2
1"	25	190	4	10	0	20	40	21A6T25GC2-HIP1	21A6T25NC2-HIP1	1,8	2
1/4"	32	340	4	10	0	13	25	21A7T32GC2-HIP1	21A7T32NC2-HIP1	2,4	2
1/2"	40	430	4	10	0	8	25	21A8T40GC2-HIP1	21A8T40NC2-HIP1	2,7	2
2"	50	620	4	10	0	5,5	16	21A9T50GC2-HIP1	21A9T50NC2-HIP1	3,9	2

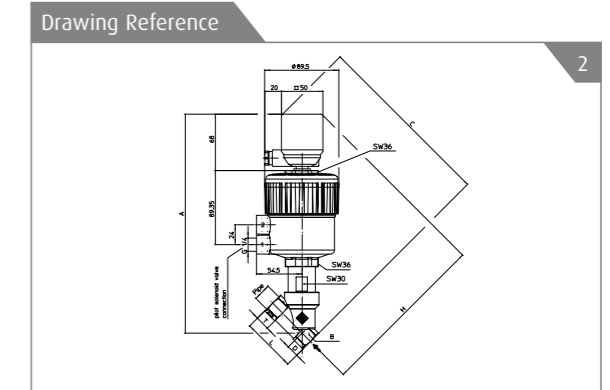
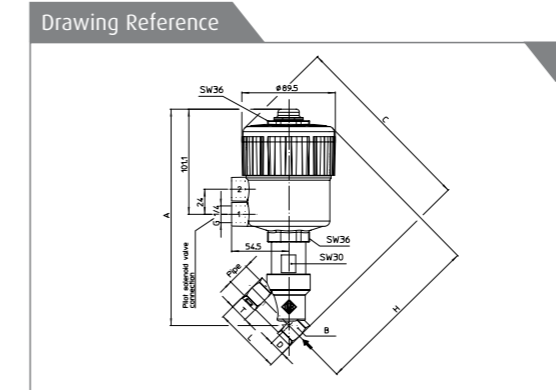
Normally Closed with electrical position indicators

1/2"	15	80	4	10	0	16	40	21A4T15GC2-IP1	21A4T15NC2-IP1	1,4	2
3/4"	20	150	4	10	0	10	40	21A5T20GC2-IP1	21A5T20NC2-IP1	1,5	2
1"	25	190	4	10	0	10	40	21A6T25GC2-IP1	21A6T25NC2-IP1	1,8	2
1/4"	32	340	4	10	0	7	25	21A7T32GC2-IP1	21A7T32NC2-IP1	2,4	2
1/2"	40	430	4	10	0	4,5	25	21A8T40GC2-IP1	21A8T40NC2-IP1	2,7	2
2"	50	620	4	10	0	3	16	21A9T50GC2-IP1	21A9T50NC2-IP1	3,9	2



INSTALLATION

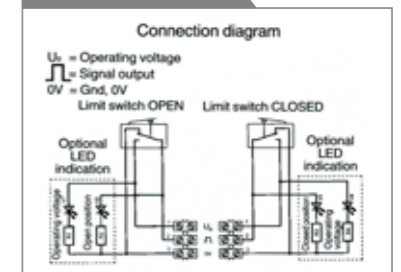
- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box



Dimensionale Table

Figure	Pipe	A mm	B mm	C mm	D mm	H mm	L mm	T mm
1-2	1/2"	206,8	SW 27	178,7	15,4	163,3	65	17
	3/4"	211,7	SW 32	188,6	21,9	166,7	75,5	19
	1"	220,1	SW 41	197,8	25,1	172,7	90	21
	1 1/4"	235,9	SW 50	212,3	28,5	183,8	110	24
	1 1/2"	238,9	SW 55	217,0	31,0	186	122	25,2
	2"	247,8	SW 70	229,7	37,5	192,2	151	28,5

Position indicators





FEATURES

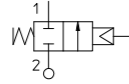
- ▶ Angle seat for high flow rate configuration
- ▶ Long life cycles
- ▶ Flow below and above the the piston
- ▶ Service free solution
- ▶ Water hammer

TECHNICAL SPECIFICATION

- ▶ **VALVE FEATURES**
Fluid Temperature: -10°C +180°C
Environment temperature: -10°C +60°C
Material: Stainless Steel AISI 316 series
Seal: PTFE
Packing gland: PTFE, FKM
- ▶ **PILOT ACTUATOR FEATURES**
Media: Dry Air or lubricated, gas and neutral fluids
Fluid Temperature: max +60°C
Body: Aisi 316
 NBR Gaskets
 Actuator Ø 50
 Self adjusting Teflon seat

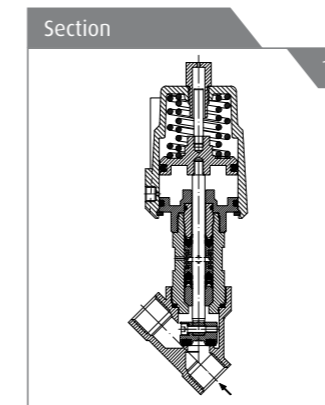
AVAILABLE ON REQUEST

- ▶ Pilot Valve 31A3AV20+BDA (see 31A catalogue page)
- ▶ Together with male thread nipple male 1/4"-1/4"
- ▶ Position indicator
- ▶ Water piloting system



21A	4	T	15		G	C	1	-5
Model valve	4= G 1/2	T= PTFE	15 20 25	Orefice 10·1mm	G= GAS	C= N.C.	Actuator connection	Pilot version Ø 50
	5= G 3/4							
	6= G 1							

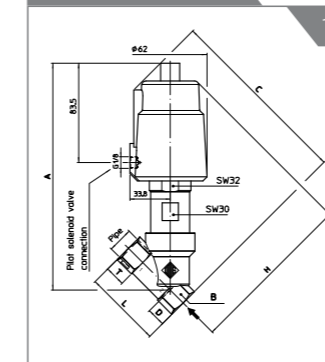
PIPE	Ø (mm)	Kv (l/min)	ACTUATOR PILOT PRESSURE (bar)		DIFFERENTIAL PRESSURE (bar)		MAX ALLOWABLE PRESSURE PS (bar)	GAS CODE	WEIGHT kg	DRAWING REFERENCE
			min	max	min	max				
G 1/2	15	80	5	8	0	25	40	21A4T15GC1-5	1,6	1
G 3/4	20	150	5	8	0	15	40	21A5T20GC1-5	1,7	1
G 1	25	190	5	8	0	10	40	21A6T25GC1-5	2,1	1



INSTALLATION

- ▶ The solenoid valves can be mounted in any position
- ▶ Maintenance and instruction sheet available in each solenoid valve box

Drawing Reference



Dimensionale Table

Figure	Pipe	A mm	B mm	C mm	D mm	H mm	L mm	T mm
1-2	G 1/2	190,6	SW 27	156	15,4	139,7	65	17
	G 3/4	190,8	SW 32	162	21,4	139,8	75	19
	G 1	200,3	SW 41	168	25	146,6	90	20,5





▶ P992087	page 112
▶ P992219	" 113
▶ P990305-P992257	" 114-115





FEATURES

The condensate removal timer is a plug-on controller specially design for drain valves. The unit offers an easy time cycle programming. The draining time can be set with the "ON" trimmer between 0.5 and 10 seconds. The "OFF" trimmer allows to adjust the delay time between two draining cycles from 0.5 to 45 minutes. The unit is ready to control the valve as soon as the power is switched on. The ON/OFF sequence will be repeated so long as the unit is fed. Two LEDs indicate the output status. A "TEST" button is provided to check the cycle settings and to restart the control sequence from the output status "ON".

USE

- ▶ Condensate drainage system
- ▶ Timed systems

TECHNICAL SPECIFICATION

- ▶ **Supply voltage:** 24 to 240V AC/DC±10% 50/60Hz
- ▶ **Output voltage:** same as supply voltage
- ▶ **Load current:** max.1A
- ▶ **Standby current:** 8mA max
- ▶ **Operating temp. range:** -40°C to +60°C
- ▶ **Connector:** EN 175301-803 / ISO 4400
- ▶ **Environmental protection:** IP65 (assembled with delivered gaskets)
- ▶ **Housing dimensions:** 69 x 43 x 21mm
- ▶ **On time:** 0.5 to 10 seconds
- ▶ **Off time:** 0.5 to 45 minutes
- ▶ **Scale accuracy:** ±10%
- ▶ **Indicators:** Green LED – On phase;
Red LED – Off phase.

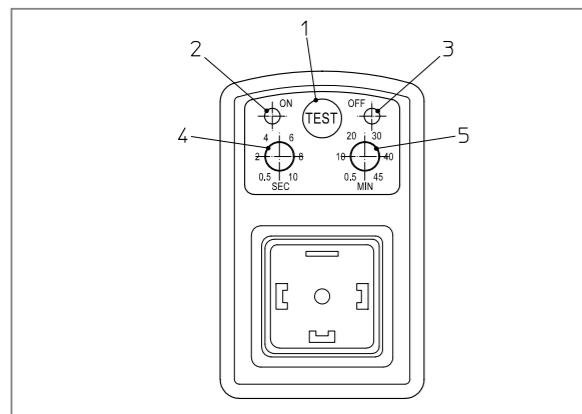
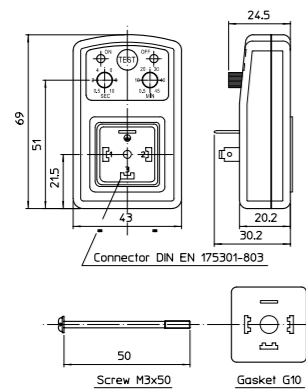
MATERIALS

- ▶ **Shell:** ABS-PA 765
- ▶ **Gasket:** NBR (nitrile)
- ▶ **Description:**
 1. Push-button TEST
 2. Green Led not supplied: output power present (ON)
 3. Red Led load supplied: output power absent (OFF)
 4. Trimmer "ON": regulation time "ON"
 5. Trimmer "OFF": pause time regulation "OFF"

AVAILABLE ON REQUEST

- ▶ Connectors for SV (to be order separately)
- ▶ Pg 9 (6÷8mm) or Pg 11(8÷10mm)
- ▶ In the near future available also with UL approval.
- ▶ In accordance with RoHS.

Drawing Reference



FEATURES

Cable glands for unarmoured cable, outer seal
The sealing ring seals and blocks cable on the outer sheath
Ambient temperature

Seal E =EPDM - 40°C + 100°C
S=VMQ - 70°C + 220°C

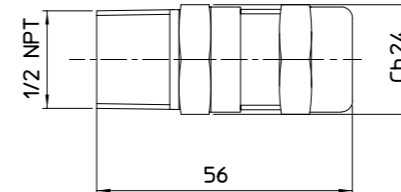
Protection degree IP 66/68

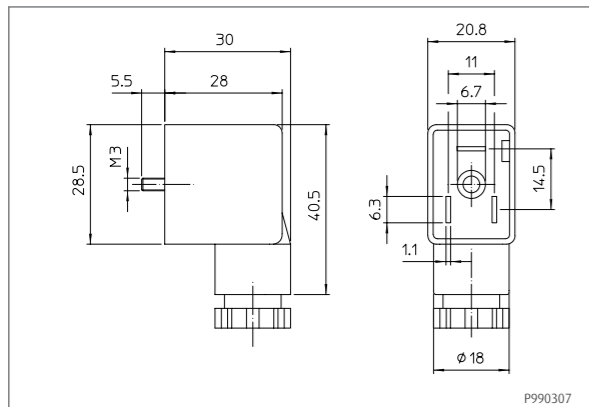
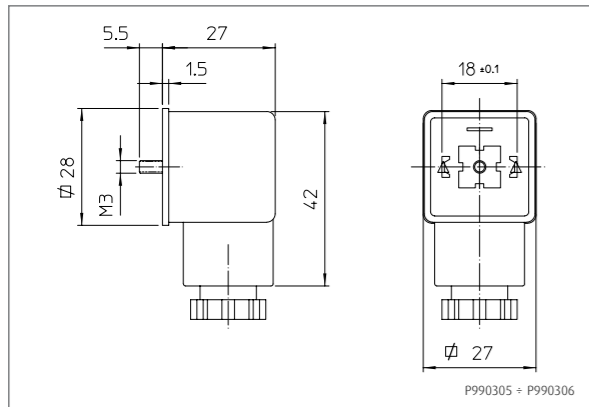
For indoor and outdoor applications
Group II, category 2D, Zone 21, 22
presence of combustible dust zone
Group II, category 2D, Zone 1, 2
presence of explosive gas atmospheres

(Conforme to Atex Directive 94/9/CE ATEX)
I M2 / II 2 GD IIC



Drawing Reference

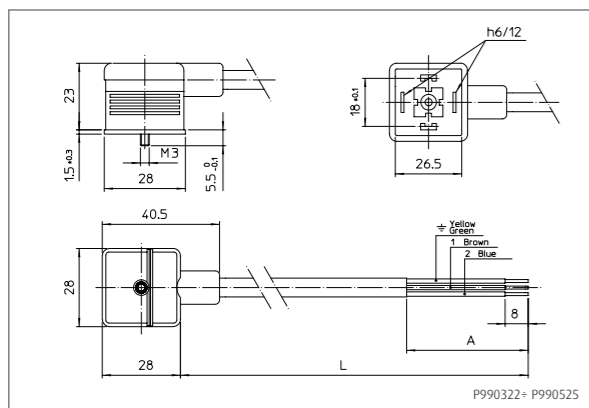




On demand also available with UL approval and for quantity

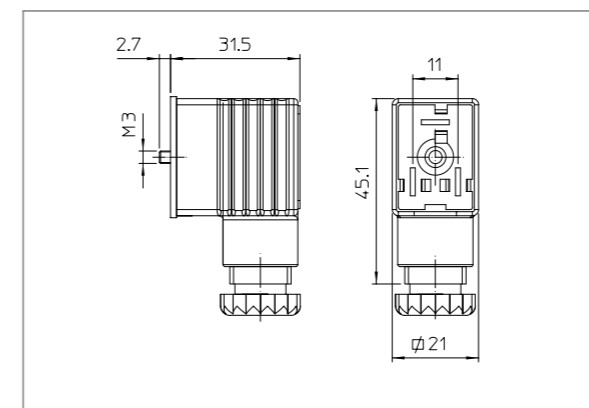
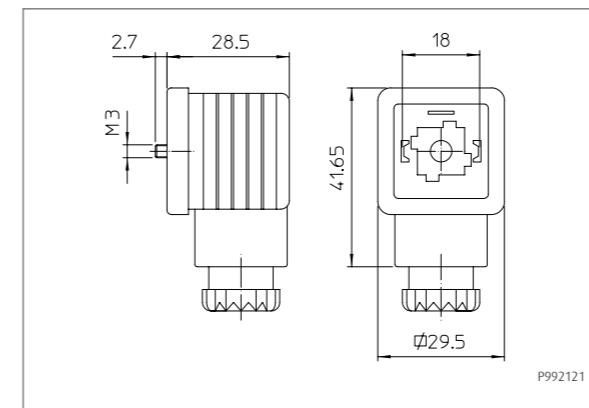
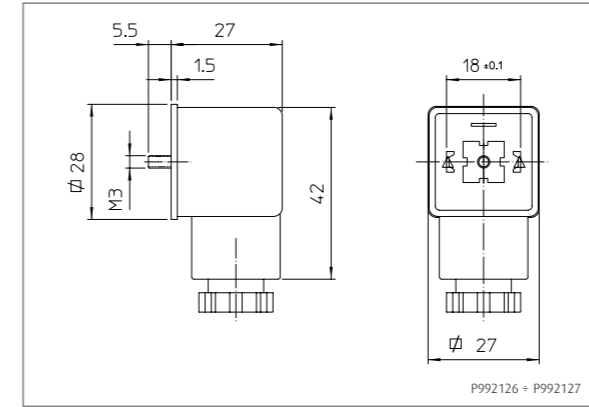


CODE P990305 + P990306
COMPATIBLE COILS: BD.. - GD.. - UD
CODE P990307
COMPATIBLE COILS: LB..
SPARE PARTS:
Standard: EN 175301-803
Number of contacts: 2 + ⊕
Supply voltage: AC max 250V
 DC max 300V
Operating current: 10 A
Max current: 16 A
Contact resistance: ≤4 mOhm
Max conductor section: 1,5 mm²
Housing: PA (Polyamide)
Cable entry:
 Code P990305 Pg 09
 Code P990307 Pg 09
 Code P990306 Pg 11
Cable diameter: Pg 09 (6÷8 mm)
 Pg 11 (8÷10 mm)
Protection class: IP 65 EN 60529
Insulation class: VDE 0110-1/89
Sealing: NBR -40°C +90°C



CODE 990322 + P990525
COMPATIBLE COILS: BD.. - GD.. - HD.. - UD..
SPARE PARTS:
Standard: EN 175301-803
Number of contacts: 2 + ⊕
Max voltage: Max 250V
Housing: PP (Polypropylene)
Max current: 5A
Contact resistance: ≤4 mOhm
Max conductor section: 1,5 mm²
Protection class: IP 65 EN 60529
Insulation class: VDE 0110 -1/89

Figure	Cable Length (L)	A cm
P990322	53	5
P990481	65	5
P990407	75	5
P990525	105	18
P990420	110	7,5
P990403	150	5
P990408	210	5
P990463	250	5



CODE 992126 + P992127
COMPATIBLE COILS: BD.. - GD.. - UD
SPARE PARTS:
Standard: EN 175301-803
Number of contacts: 2 + ⊕
Supply voltage: AC max 250V
 DC max 300V
Operating current: 10 A
Max current: 16 A
Contact resistance: ≤4 mOhm
Max conductor section: 1,5 mm²
Housing: PA (Polyamide)
Cable entry:
 Code P992126 Pg 09
 Code P992127 Pg 11
Cable diameter: Pg 09 (6÷8 mm)
 Pg 11 (8÷10 mm)
Protection class: IP 67 EN 60529
Insulation class: VDE 0110-1/89
Sealing: NBR -40°C +90°C

CODE 992121
COMPATIBLE COILS: BD.. - GD..
SPARE PARTS:
Standard: EN 175301-803
Number of contacts: 2 + ⊕
Supply voltage: Max 250V
Operating current: 10 A
Max current: 16 A
Contact resistance: ≤4 mOhm
Max conductor section: 1,5 mm²
Housing: PA (Polyamide)
Cable entry: Pg 09 - Pg 11
Cable diameter: 6÷10 mm
Protection class: IP 65 EN 60529
Sealing: NBR -40°C +90°C

(Conforme to Atex Directive 94/9/CE ATEX) I | 3GD

CODE 992257
COMPATIBLE COILS: LB..
SPARE PARTS:
Standard: EN 175301-803
Number of contacts: 2 + ⊕
Supply voltage: Max 250V
Operating current: 10 A
Max current: 16 A
Contact resistance: ≤4 mOhm
Max conductor section: 1,5 mm²
Housing: PA (Polyamide)
Cable entry: Pg 09
Cable diameter: 6÷10 mm
Protection class: IP 65 EN 60529
Sealing: WMQ -40°C +90°C

(Conforme to Atex Directive 94/9/CE ATEX) I | 3GD



▶ BDA-BDV-BSA-BVA	page 118-119
▶ BDV08024C3 ÷ BDV08230A3	" 120
▶ GDH-GDV	" 121
▶ GDV14024C3 ÷ GDV14230A3	" 122
▶ LBA-LBF-LBV	" 123
▶ LBV05024A3 ÷ LBV05230A3	" 124
▶ UDA-UDV	" 125
▶ TNA4X024D4 ÷ TNA10024C4	" 126-127





BDA Coil housing material: PA - Black polyamide - class F (155°C)
BDV Housing material: PET - Black polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP 65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%

BSA With cm 100 cable PA - Black Polyamide - class F (155°C)
BVA With cm 50 cable
 Winding: In class H
 Electrical connections: Cables

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%

Latching coils
BDA Coil housing material: Black polyamide - class F (155°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP 65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%

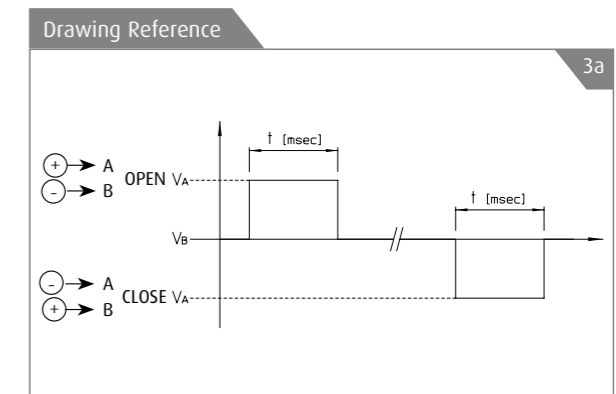
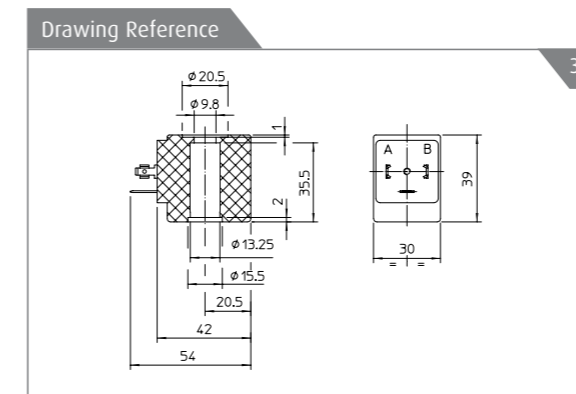
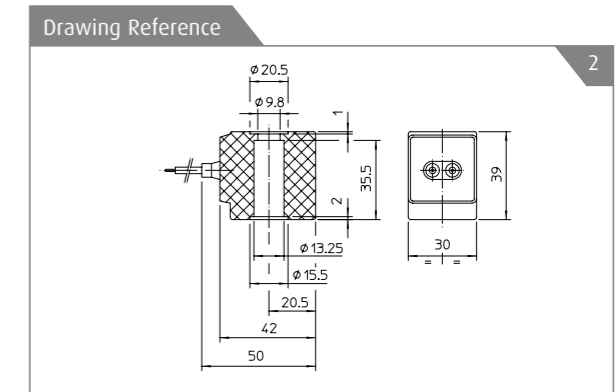
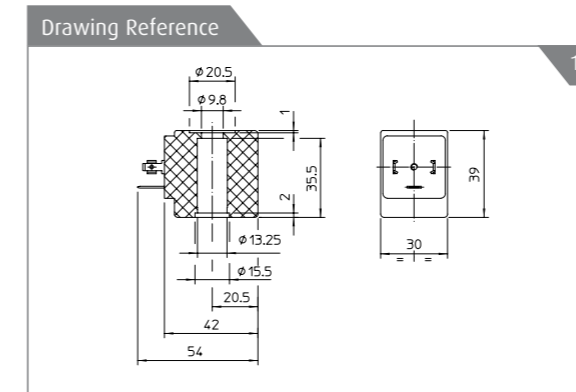
TECHNICAL OPERATING DATA:
 - Impulse feed from 4,5 to 24 Volts for a period lasting from 20 to 100 ms (see fig.3a).
NOTE: To ensure correct operation the fluid should be filtered to eliminate all traces of impurity subject to magnetic attraction, which would inevitably deposit on the cores of the solenoid valve, which are always magnetized, causing the formation of oxide as well as contact problem.



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						
AC Coils								
BDA08012AS	14,5	25	12 ~	50	100	-10°C +40°C	CE	1
BDA08024DS	14,5	25	24 ~	50/60	100	-10°C +40°C	CE	1
BDA08110DS	14,5	25	110 ~	50/60	100	-10°C +40°C	CE	1
BDA08223DS	14,5	25	220/230 ~	50/60	100	-10°C +40°C	CE	1
BDA08380DS	14,5	25	380 ~	50/60	100	-10°C +40°C	CE	1
BDV08024DY	17	25	24 ~	50/60	100	-20°C +60°C	CE - UL - CSA - VDE	1
BDV08110AY	15	25	110 ~ 120 ~	50 60	100	-20°C +60°C	CE - UL - CSA - VDE	1
BDV08230AY	16	25	230 ~ 240 ~	50 60	100	-20°C +40°C	CE - UL - CSA - VDE	1
BSA08223DS	14,5	25	220/230 ~	50/60	100	-10°C +40°C	CE	2
BVA08223DS	14,5	25	220/230 ~	50/60	100	-10°C +40°C	CE	2

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
DC Coils						
BDA08012CS	8	12 ~	100	-10°C +40°C	CE	1
BDA08024CS	8	24 ~	100	-10°C +40°C	CE	1
BDV08024CY	11	24 ~	100	-20°C +60°C	CE - UL - CSA - VDE	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
Latching Coils						
BDA1X004LS	1,5	4,5 ~	-	-10°C +40°C	-	3
BDA2X006LS	2,5	6 ~	-	-10°C +40°C	-	3
BDA05009LS	5	9 ~	-	-10°C +40°C	-	3
BDA1X006LS	1,5	6 ~	-	-10°C +40°C	-	3
BDA2X009LS	2,5	9 ~	-	-10°C +40°C	-	3
BDA05012LS	5	12 ~	-	-10°C +40°C	-	3
BDA1Z009LS	1,5	9 ~	-	-10°C +40°C	-	3
BDA2X012LS	2,5	12 ~	-	-10°C +40°C	-	3
BDA10024LS	10	14 ~	-	-10°C +40°C	-	3
BDA1X012LS	1,5	12 ~	-	-10°C +40°C	-	3
BDA05024LS	5	24 ~	-	-10°C +40°C	-	3
BDV08012CY	11	12 ~	100	-20°C +60°C	CE - UL - CSA - VDE	1





BDV Coil housing material: PET - Black polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%

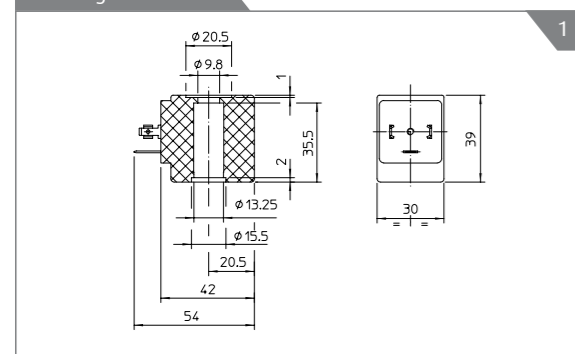
(According to Directive 94/9/CE ATEX)
 II 3G Ex nA IIC T3 Gc
 II 3D Ex tc IHC T200°C Dc IP65



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						
AC Coils								
BDV08024D3	14,5	25	24 ~	50/60	100	-20°C +80°C	-	1
BDV08110A3	14,5	25	110 ~ 120 ~	50 60	100	-20°C +80°C	-	1
BDV08240A3	14,5	25	220 ~ 230 ~	50 60	100	-20°C +80°C	-	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
DC Coils						
BDV08024C3	8	24 ==	100	-20°C +80°C	-	1

Drawing Reference



Note
 The coil to comply Atex protection category mentioned above will be supplied only with connector ATEX type Ex II 3GD IP65.
 ODE code has to be ordered separately: 992221
 Available on request and with minimum quantities.



GDH Coil housing material: EP - Black epoxy resin - class H (180°C)
GDV Housing material: PET - Black Polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP 65 EN 60529 (DIN 40050)

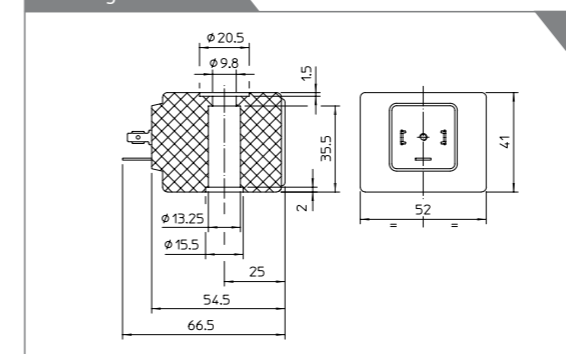
NOMINAL VOLTAGES TOLERANCES: DC + 10% - 5% ; AC + 10% - 15%



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						
AC Coils								
GDH14024DS	27	43	24 ~	50/60	100	-20°C +40°C	CE	1
GDH14110DS	27	43	110 ~	50/60	100	-20°C +40°C	CE	1
GDH14223DS	27	43	220/230 ~	50/60	100	-20°C +40°C	CE	1
GDV14024DY	26	43	24 ~	50/60	100	-20°C +60°C	CE - UL - CSA - VDE	1
GDV14110AY	23	43	110 ~ 120 ~	50 60	100	-20°C +60°C	CE - UL - CSA - VDE	1
GDV14230AY	27	43	220 ~ 240 ~	50 60	100	-20°C +60°C	CE - UL - CSA - VDE	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
DC Coils						
GDH14024CS	14	24 ==	100	-20°C +40°C	CE	1
GDV14024CY	14	24 ==	100	-20°C +60°C	CE - UL - CSA - VDE	1

Drawing Reference





Ex nA



GDV Coil housing material: PET - Black polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%

(According to Directive 94/9/CE ATEX)
 II 3G Ex nA IIC T3 Gc
 II 3D Ex tc IHC T200°C Dc IP65



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						

AC Coils

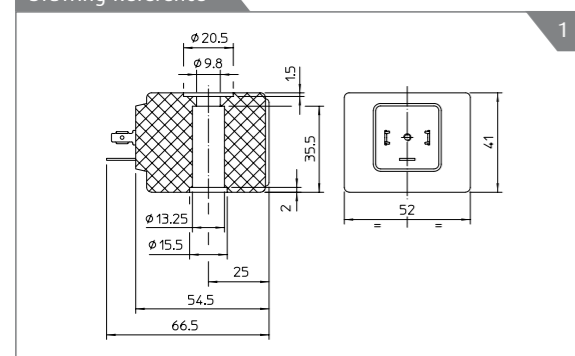
GDV14024D3	27	43	24 ~	50/60	100	-20°C +80°C	-	1
GDV14110A3	27	43	110 ~ 120 ~	50 60	100	-20°C +80°C	-	1
GDV14230A3	27	43	230 ~ 240 ~	50 60	100	-20°C +80°C	-	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
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DC Coils

GDV14024C3	14	24 ~	100	-20°C +80°C	-	1
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Drawing Reference



Note
 The coil to comply ATEX protection category mentioned above will be supplied only with connector ATEX type Ex II 3GD IP65.
 ODE code has to be ordered separately: 992221
 Available on request and with minimum quantities.



LBA Coil housing material: PA - Black polyamide - class F (155°C)
LBF Coil housing material: PPS - Black polyphenylsulfide - class H (180°C)
LBV Coil housing material: PET - Black Polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 whellbase 11
 Protection degree IP 65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOL ERANCES: DC +10% -5%; AC +10% -15%



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						

AC Coils

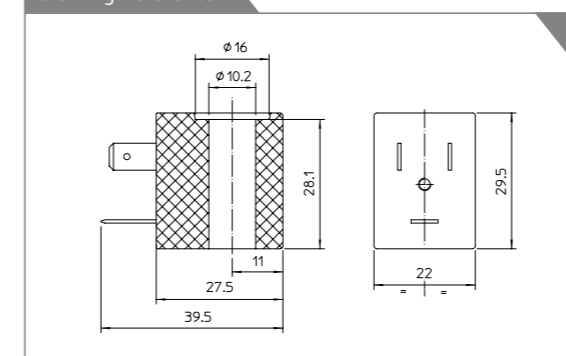
LBA05024AS	10	15	24 ~	50	100	-10°C +40°C	CE	1
LBA05230AS	10	15	230 ~	50	100	-10°C +40°C	CE	1
LBF05024BU	10	15	24 ~	60	100	-10°C +40°C	CE - UL	1
LBV05024AV	11,5	15	24 ~	50	100	-20°C +60°C	CE - VDE	1
LBV05024BW	12,5	15	24 ~	60	100	-20°C +60°C	CE - UL - CSA	1
LBV05110AY	10	15	100 ~ 120 ~	50 60	100	-20°C +60°C	CE - UL - CSA - VDE	1
LBV05110BU	13,5	15	110 ~	60	100	-20°C +40°C	CE - UL	1
LBV05220BU	13,5	15	220 ~	60	100	-20°C +40°C	CE - UL	1
LBV05230AY	11,5	15	230 ~ 240 ~	50 60	100	-20°C +60°C	CE - UL - CSA - VDE	2

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
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DC Coils

LBA050024CS	5	24 ~	100	-10°C +40°C	CE	1
LBV05024CY	7	24 ~	100	-20°C +60°C	CE - UL - CSA - VDE	1
LBV08024HU	10	24 ~	50 (1)	-20°C +40°C	CE - UL	1

Drawing Reference



(1) Standard cycle time 1 minute, for different requirements please contact our Customer Service.
 Other voltages and power absorptions available on demand and for quantities.





Ex nA



LBV Coil housing material: PET - Black polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 whellbase 11
 Protection degree IP65 EN 60529 (DIN 40050)

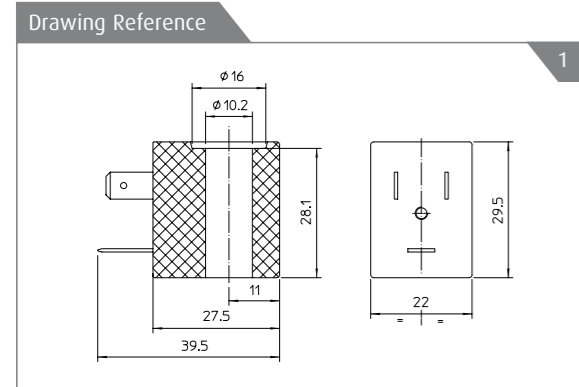
NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%

(According to Directive 94/9/CE ATEX)
 II 3G Ex nA IIC T3 Gc
 II 3D Ex tc IHC T200°C Dc IP65



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						
AC Coils								
LBV05024A3	10	15	24 ~	50	100	-20°C +80°C	-	1
LBV05204B3	10	15	24 ~	60	100	-20°C +80°C	-	1
LBV05110A3	10	15	110 ~ 120 ~	50 60	100	-20°C +80°C	-	1
LBV05230A3	10	15	230 ~ 240 ~	50 60	100	-20°C +80°C	-	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
DC Coils						
LBV05024C3	5	24 ==	100	-20°C +80°C	-	1



Note
 The coil to comply Atex protection category mentioned above will be supplied only with connector ATEX type Ex II 3GD IP65.
 ODE code has to be ordered separately: 992257
 Available on request and with minimum quantities.



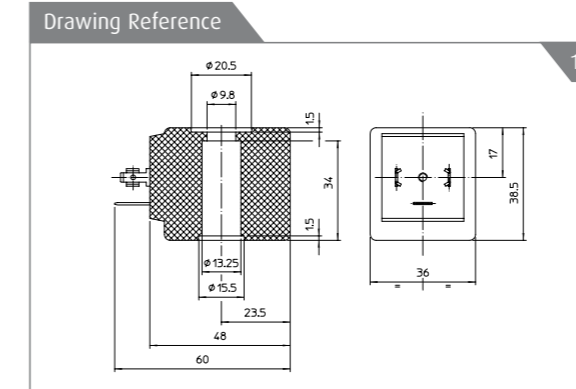
UDA Coil housing material: PA - Black polyamide - class F (155°C)
UDV Coil housing material: PET - Black Polyethylene - class H (180°C)
 Winding: In class H
 Electrical connections: With connector EN 175301-803 paragraph 5.3.1
 Protection degree IP 65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: DC +10% -5%; AC +10% -15%



CODE	POWER [VA]		VOLTAGE [V]	FREQUENCY [Hz]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
	Inrush	Holding						
AC Coils								
UDA12024AS	23	35	24 ~	50	100	-20°C +40°C	CE	1
UDA12110DS	23	35	110 ~	50/60	100	-20°C +40°C	CE	1
UDA12230AS	23	35	230 ~	50	100	-20°C +40°C	CE	1
UDA12112DW	23	35	110/120 ~	50/60	100	-20°C +40°C	CE - UL - CSA	1
UDA12230DW	25	35	230 ~	50/60	100	-20°C +40°C	CE - UL - CSA	1

CODE	POWER [W]	VOLTAGE [V]	ED [%]	AMBIENT TEMPERATURE	APPROVALS	DRAWING REFERENCE
DC Coils						
UDA12024CS	12	24 ==	100	-20°C +40°C	CE	1





Ex nA



TNA Coil housing material: PPS - Black polyphenylsulfide - class H (180°C)
Winding: In class H
Electrical connections: Three-pole cable Ø 1,5 lenght cm 300 PTB 03 ATEX 2086 X
 Protection degree IP 65 EN 60529 (DIN 40050)

NOMINAL VOLTAGES TOLERANCES: ±10%

(According to Directive 94/9/CE ATEX)
 II 2G Ex mb IIC Gb
 II 2D Ex mb tb IIIC t130°C Db

The coils must be protected with an external fuse that has characteristics as per table.

AMBIENT TEMPERATURE: -20°C +50°C
FLUID MAX TEMPERATURE: +80°C

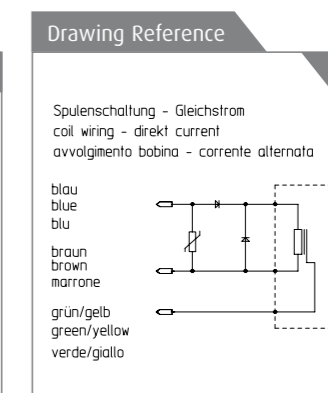
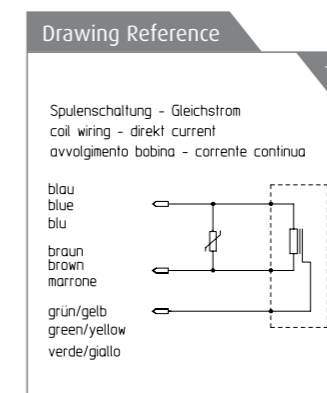
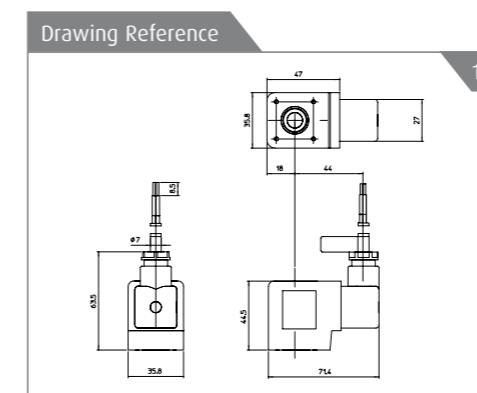


CODE	POWER [VA]	VOLTAGE [V]	FREQUENCY [Hz]	RATE CURRENT FUSE	DRAWING REFERENCE
AC Coils					
TNA4X024D4	7,2	24 ~	50/60	315 mA	1
TNA5X110D4	9,13	100 ~	50/60	83 mA	1
TNA05224D4	7,7 - 9,24	220-240 ~	50/60	35-39 mA	1

CODE	POWER [W]	VOLTAGE [V]	RATE CURRENT FUSE	DRAWING REFERENCE
DC Coils				
TNA10024C4	10,1	24 ==	421 mA	1

TYPE	TNA			DC		
CURRENT	AC			DC		
AMBIENT TEMPERATURE SINGLE ASSEMBLY MANIFOLD ASSEMBLY	-20°C... +50°C -20°C... +50°C			-20°C... +50°C -20°C... +50°C		
MAX. MEDIA TEMPERATURE	80°C			80°C		
MANIFOLD ASSEMBLY MIN. DISTANCE	YES 0 mm			YES 0 mm		
RATED VOLTAGE U _N [V]	RATED CURRENT ¹⁾ I _N [mA]	RATED POWER P _N [VA]	FUSE ²⁾ [mA]	RATED CURRENT ¹⁾ I _N [mA]	RATED POWER P _N [W]	FUSE ²⁾ [mA]
24	315	7,2	800	421	10,1	800
110	83	9,1	200	76	8,4	160
115	70	8,1	200	-	-	-
120	72	8,6	200	-	-	-
220	35	7,7	100	43	9,5	100
230	37	8,5	100	-	-	-
240	39	9,2	100	-	-	-

- 1) Current dimension
- 2) Each solenoid operator has to be protected by a fuse according to the rated current (max. 3x rated current accord. DIN 41571 or IEC 60127-2-1) resp. Motor protection switch short circuit and fast thermal tripping protection. The fuse can be accomodated in the associated device or must be added separately. The fuse voltage has to be equal or higher than the rated solenoid voltage. The shutdown capability has to be equal or higher than the max. assumed short-circuit current at the installation point (usually 1500A).







APPLICATION

- ▶ Coffee Machines
- ▶ Floor Cleaning Machines
- ▶ Steam Ironing Stations

SPECIFICATION

- ▶ Outlet G 1/8
- ▶ Pressure 15 bar
- ▶ Fluids Tap Water/Distilled Water
- ▶ Max Ambient Temperature 35°C
- ▶ Max Fluid Temperature 35°C
- ▶ Dead Head Pressure See Performance Chart
- ▶ Free Flow Rate See Performance Chart

- ▶ Power Consumption (max.) 53W
- ▶ Operating Voltage 100Vac 50Hz/60Hz (JET)
120Vac 60Hz (UL)
230Vac/50Hz (VDE)

- ▶ Working cycle 1.0 min ON, 1 min OFF
- ▶ Not require External Type Diode
- ▶ Coil Insulation Class F (155°C)
Class H (180°C)
depending on voltage

- ▶ Terminals 6.3mm x 0.8mm Faston type
- ▶ Endurance 18.000 cycles (at 8-10 bar)
(base on 1 min ON, 1 min OFF)

- ▶ Coil Encapsulation 750°C GWI

MATERIALS

- ▶ Plunger Stainless Steel
- ▶ Spring Stainless Steel
- ▶ No return valve Sintetic Rubber
- ▶ Seal NBR or equivalent
- ▶ Plastic parts PA66 Based Plastics

CERTIFIED BY

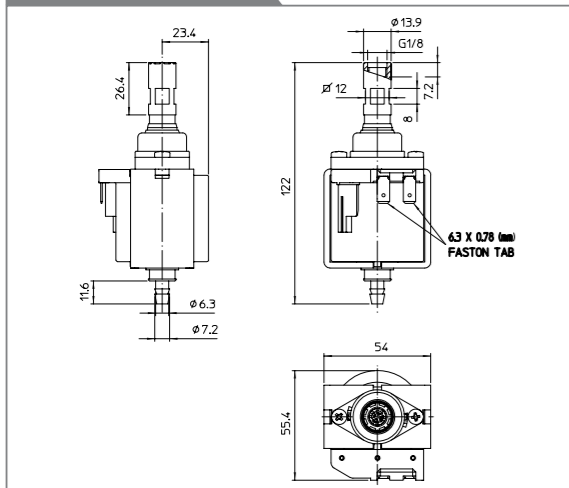
- ▶ CE
- ▶ NSF
- ▶ UL 778
- ▶ VDE (IEC 60335-1, 60335-2-41)

Proven sealing system for reliable and long life application

Ordering part number:
P992124-AP (230V 50Hz)
P992182-AP (120V 60Hz)

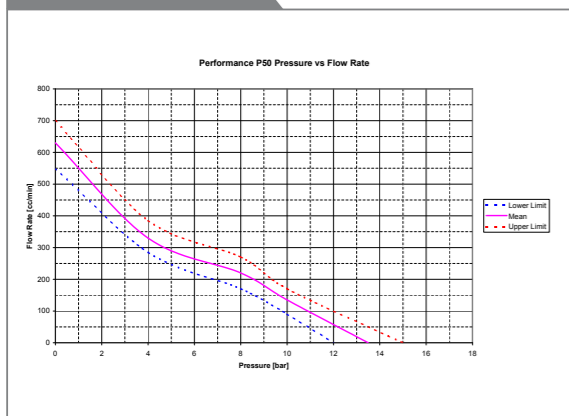


Drawing Reference



Note: Continuous dry-run would damage the unit permanently

Flow Curve





ISO 9001:2008 Quality Management System Certification

ISO 9001 identifies a series of norms and guidelines developed by ISO to provide a system of process quality control, aimed to improving effectiveness and efficiency of the organization with the goal of customer satisfaction. Bureau Veritas certified that the ODE Management System has been audited and found to be in accordance with the requirements of the management system standards of ISO 9001. This certification has been obtained by ODE since September 1997. The ISO 9001:2008 certification is available on website.



ISO 14001:2004 Environment Management System Certification

ISO 14001 provides practical tools for companies and organizations looking to identify and control their environmental impact and constantly improve their environmental performance. Bureau Veritas certified that the ODE Management System has been audited and found to be in accordance with the requirements of the management system standards of ISO 14001. The ISO 14001:2004 certification is available on website.



OHSAS 18001:2007 Health and Safety Management System Certification

OHSAS 18001 is an international standard that ensures organizations to define their occupational health and safety policies and objectives. It enables better control of hazards from normal operations and unusual situations. Bureau Veritas certified that the ODE Management System has been audited and found to be in accordance with the requirements of the management system standards of OHSAS 18001. The OHSAS 18001:2007 is available on website.



WMT Laboratory Certification

The authorization to operate in WMT (Witnessed Manufacturer's Testing), it allows to perform tests valid for the product certification, under the IMQ inspectors supervision. With this new certification the ODE laboratory is authorized to perform product test under the IMQ supervision, greatly accelerating the product development process in order to obtain an additional advantage for the end user. The WMT certification is available on website.



UL – UL CSA Component Approval

The Component Mark UL "Recognised" is used for components that are part of a larger assembly or installation. The ODE solenoid valve range includes coils approved both UL and UL CSA for Canadian market. The UL - UL CSA Approval is available on website.



NSF Product Approval

The NSF certification mark on a product means that the product complies with all standard requirements for food safety. The ODE range includes solenoid valves approved NSF for food grade fluids compatibility. The NSF product approval is available on website.



PED 97/23/CE Declaration

PED (Pressure Equipment Directive) is applied to the design, manufacturing, inspection and testing of pressure equipment. In this statement ODE declares, under its own responsibility, that its solenoid valves are designed, constructed, inspected and tested in accordance with Directive 97/23/CE. For the PED declaration please contact our Customer Service at sales@ode.it.



VDE Approval

The Verband Deutscher Elektrotechniker is the Association for Electrical, Electronic and Information Technologies and their related sciences, technologies and applications. The ODE solenoid valve range includes coils VDE certificated. VDE approval is available on VDE website to the link reported in the certifications webpage of download area.



REACH Declaration

The new REACH (Registration, Evaluation and Authorization of Chemicals) is aimed to regulate companies that handle more than 1 ton/year of chemical substances (raw material and end product, such as cosmetics, household products, etc...) in Europe. This regulation will have a significant impact on importers and manufacturers. In this declaration ODE informs that such products defined as "Articles" are in accordance with the European Regulation n. 2006/1907/EC. For the REACH declaration please contact our Customer Service at sales@ode.it.



RoHS Directive

European Directive 2011/65/UE (Restriction of Hazardous Substances Directive) adopted since February 2003. The directive is aimed to restrict the use of certain hazardous substances in electrical and electronic equipment. In this statement it declares that the solenoid valves and the components supplied by ODE are in accordance to the EU Directive 2011/65/EU. For the RoHS declaration please contact our Customer Service at sales@ode.it.



ATEX Directive

ODE solenoid valve range also includes some product lines and their protective system with ATEX certification, intended for use in potentially explosive atmospheres as per Directive 94/9/EC. The Atex Ex d and Ex m certificates and the Ode declaration for Ex nA type of protection are available on website in the certifications webpage of download area.



CE Declaration of Conformity

In this declaration ODE informs that all its coils for solenoid valves comply with the Standards and Directives:

- EN 60730-1, EN 60335-1
- Low Tension Directive 2006/95/CE
- European Directive 2011/65/CE.

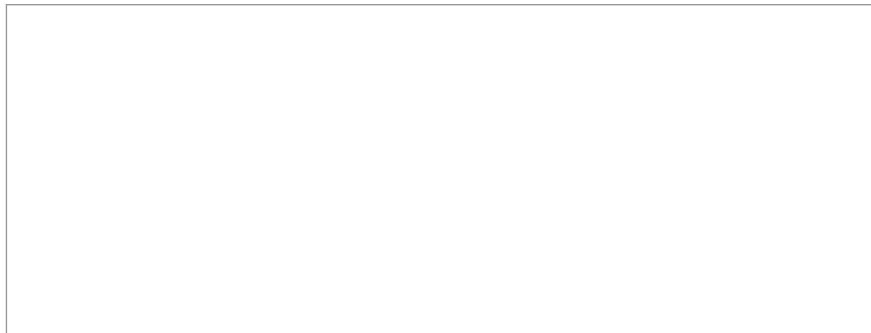
Moreover it declares that the solenoid valves whose coil code starts with (series identification) L-B-G-H-I-M-T-U, characterized by the following supply voltages: from 6V to 24V DC, from 6V to 240V AC 50-60Hz, comply with the European Directive 2004/108/CE (EMC)

- and with the requirements described in the following standards:
- EN 61000-6-2 : 2005-08, EN 61000-6-3 : 2007-11
- EN 61000-3-2 : 2006-04, EN 61000-3-3 : 2008-09

limited to what is considered applicable to this kind of product. The CE Declaration of Conformity is available on website in the certifications webpage of download area.







ODE S.r.l.
Registered Office and Work Plant
23823 Colico (LC) Via Borgofrancone, 18, Zona Industriale
Commercial and Administration Office
20090 Segrate (MI) Via Modigliani, 45
tel. +39.02.715429 fax +39.02.715144

sales@ode.it
www.ode.it



三千控制阀网
www.cv3000.com