

3/2 poppet valves electromagnetic actuated, directly controlled G 1/4 ... G 1 1/2



Approval depends on magnetic system, see page 2!

Working from 0 bar up

Suitable for vacuum range down to 1,33·10⁻² mbar-l/s

Protection class IP 65, Ex em, Ex d (ATEX approved, see solenoid operators)

Suited for outdoor installation



Technical features

Medium:

For neutral, gaseous and liquid fluids

Operation:

Direct solenoid operated poppet valves

Mounting position:

Optional, preferably vertical

Flow direction:

Optional NC or NO

Orifice:

8 ... 50 mm

Port size:

G 1/4 ... G 1 1/2

Electrical connection:

M20x1,5

Operating pressure:

100 bar max. (1450 psi)

Ambient temperature:

-25, -40 ... +60, +80, +90°C (-13, -40 ... +140, +176, +194°F)

Fluid temperature:

-25 ... +80°C (-13...+176°F) NBR (Perbunan)

-10 ... +120°C FKM(+14 ...+248°F)

-40 ... +80°C (-40 ... +176°F)

Hytrell

Depending on solenoid system and sealing

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

For outdoor installation please protect all connections against the penetration of moisture!

Materials:

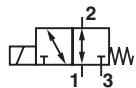
Housing: brass, red brass (Rg), grey cast iron (GG)
Seat seal: see Fluid temperature
Inner part: brass, steel

Further versions

Manual override with push button or detent

Technical data

Symbol	Port size	Solenoid Group	Orifice (mm)	Operating pressure		kv-value [Cv (US)] ≈ kv x 1,2	Material		Weight (kg)	Dimensions No.	Model *1)
				min. (bar)	max. (bar)		Housing	Seat seal			
	G 1/4	30,5A	8	0	15	0,65	Brass	NBR	2,6	1	2401550
	G 1/4	30,5B	8	0	15	0,65	Brass	NBR	4,5	1	2401546
	G 3/8	30,5A	8	0	15	0,77	Brass	NBR	2,6	1	2401650
	G 1/2	30,5A	8	0	15	0,78	Brass	NBR	2,6	1	2401750
	G 1/2	30,5B	8	0	15	0,65	Brass	NBR	4,5	1	2401746
	G 3/8	30,5A	12	0	12	1,12	Brass	NBR	3,0	1	2402450
	G 1/2	30,5A	12	0	12	1,25	Brass	NBR	3,0	1	2402550
	G 1/2	38,5A	12	0	25	1,25	Brass	NBR	4,2	2	2402750
	G 1/2	38,5A	12	0	40	1,25	Brass	NBR	4,2	2	2406750
	G 1/2	38,5A	12	0	100	1,25	Brass	Stainless steel *2)	4,2	2	2407965
	G 1/2	30,5B	12	0	12	1,25	Brass	NBR	4,8	1	2402556
	G 1/2	38,5B	12	0	25	1,25	Brass	NBR	5,2	2	2402758
	G 1/2	38,5B	12	0	40	1,25	Brass	NBR	5,2	2	2406756
	G 1/2	38,5A	15	0	10	2,80	Red brass	NBR	6,2	3	2403350
	G 1/2	38,5B	15	0	10	2,80	Red brass	NBR	7,7	3	2403358
	G 3/4	38,5A	15	0	10	2,80	Red brass	NBR	6,2	3	2403450
	G 3/4	38,5B	15	0	10	2,80	Red brass	NBR	7,7	3	2403458
	G 3/4	38,5A	20	0	6	5,00	Red brass	NBR	7,7	4	2403510
	G 3/4	38,5B	20	0	6	5,00	Red brass	NBR	9,1	4	2403514
	G 1	38,5A	20	0	6	5,00	Red brass	NBR	7,7	4	2403610
	G 1	38,5B	20	0	6	5,50	Red brass	NBR	9,1	4	2403614
	G 1	70A	25	0	8	9,00	Red brass	NBR	22,9	5	2403810
	G 1 1/4	70A	25	0	8	9,00	Red brass	NBR	22,9	5	2403910
	G 1 1/2	70A	50	0	3	25,0	Grey cast iron *3)	NBR	36,3	6	2404010





*1) When ordering please indicate solenoid, voltage and current Modele (frequency).

*2) Suitable for liquids only


*3) Grey cast iron suitable for fluid and ambient temperatures down -10°C (14 °F)

Solenoid operators



Solenoids group 30,5A

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	21,4	-	891	-	-	IP65 with cable gland	-25...+60	M20x1,5 *6)	1,35	7	2	1300
	-	22,8	-	99	-	IP65 with cable gland	-25...+60	M20x1,5 *6)	1,35	7	6	1301
	21,4	-	891	-	II2G II3D	Ex e mb IIC T4/T5 Gb EX tb IIIC T120°C Db IP65 -20...+80°C	-20...+80 T4 -40...+60 T5	M20x1,5 *6)	2,0	8	4	1440
	-	22,8	-	99	II2G II3D	Ex e mb IIC T4/T5 Gb EX tb IIIC T120°C Db IP65 -20...+80°C	-20...+80 T4 -40...+60 T5	M20x1,5 *6)	2,0	8	7	1441


Solenoids group 30,5B

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	21,4	-	891	-	II2G II2D	Ex d IIC T4 *2 Ex tD A21 IP66 T90°C	-40...+60	1/2 NPT *6)	3,3	9	2	1480
	-	22,8	-	99	II2G II2D	Ex d IIC T4 *2 Ex tD A21 IP66 T90°C	-40...+60	1/2 NPT *6)	3,3	9	6	1481


Solenoids group 38,5A

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	35,9	-	1497	-	-	IP65 with cable gland	-25...+60 Fluid max. +80	M20x1,5 *6)	2,5	10	2	1500
	-	38,9	-	169	-	IP65 with cable gland	-25...+60 Fluid max. +80	M20x1,5 *6)	2,5	10	6	1501
	35,9	-	1497	-	II2G	Ex emb II T4 *3)	-20...+40	M20x1,5 *6)	3,6	11	2	1570
	-	38,9	-	169	II2G	Ex emb II T4 *3)	-20...+40	M20x1,5 *6)	3,6	11	6	1571

Solenoids group 38,5B

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	35,9	-	1497	-	II2G II2D	Ex d IIC T4 *2 Ex tD A21 IP66 T90°C	-40...+60	1/2 NPT *6)	4,2	9	2	1680
	-	38,9	-	169	II2G II2D	Ex d IIC T4 *2 Ex tD A21 IP66 T90°C	-40...+60	1/2 NPT *6)	4,2	9	6	1681

Solenoids group 70A

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	69,2	-	2882	-	-	IP65 with cable gland	-40...+60 Fluid max. +100	M20x1,5 *6)	11,2		2	1800
	-	78,8	-	343	-	IP65 with cable gland	-40...+60 Fluid max. +100	M20x1,5 *6)	11,2		6	1801

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*1) EG-Type-Examination-Certificate KEMA 03 ATEX 1016 X

*2) EG-Type-Examination-Certificate EXAM BVS 03 ATEX E 295

*3) EG-Type-Examination-Certificate DEKRA BVS 08 ATEX E 117

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

Accessories

Cable gland
protection class IP65
Ms nickel plated brass



Cable gland
protection class (ATEX)
Ms nickel plated brass

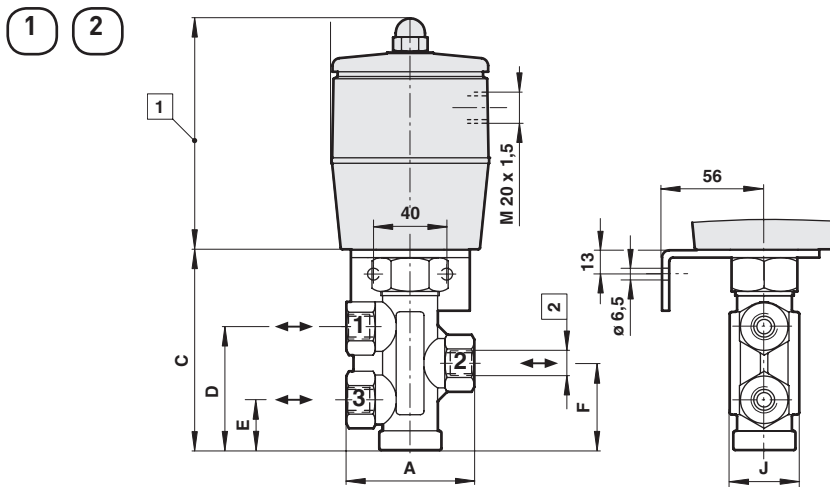


Port size	Cable Ø	Model	Protection class	Cable Ø	Model
M 20x1,5	6,5...9,5 mm	0589241	II2GD Ex e	5...8 mm	0588819
M 20x1,5	9,0...13 mm	0589242	II2GD Ex d	10...14 mm	0588851
1/2-14-NPT			II2GD Ex d	7,5...11,9 mm	0588925

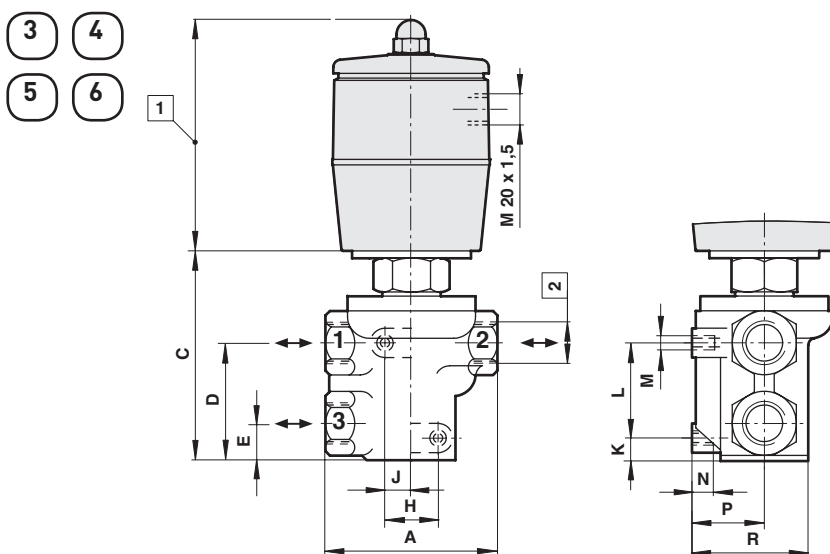
Valve dimensions

Dimensions shown in mm

Projection/First angle



Dimension No.	A	C	D	E	F	J
1	70	108	67,5	27,5	47,5	38
2	70	115	67,5	27,5	47,5	38



1 Solenoid dimensions see page 4

2 For port size, see general information

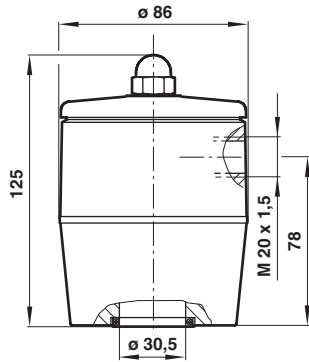
Dimension No.	A	C	D	E	H	J	K	L	M	N	P	R
3	100	126	63,5	19,5	30	15	13,5	50	M10	12	39	77
4	120	156	80	30	30	15	15	70	M10	12	42	82
5	132	184	96	36	40	20	15	100	M12	12	57	102
6	240	239	135	45	80	40	33	130	M16	21	98	171

Dimensions

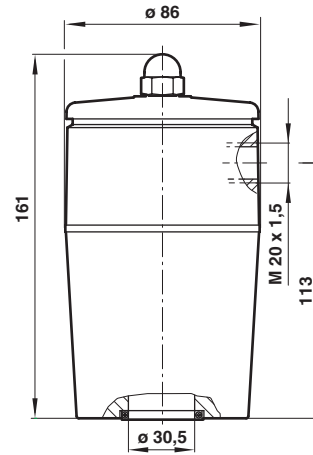
Dimensions shown in mm

Solenoid operators

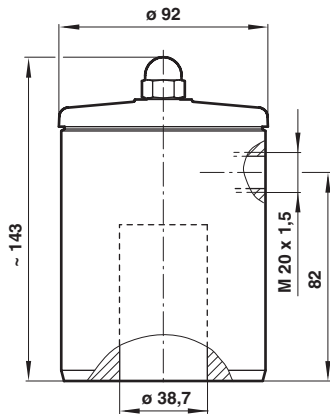
7



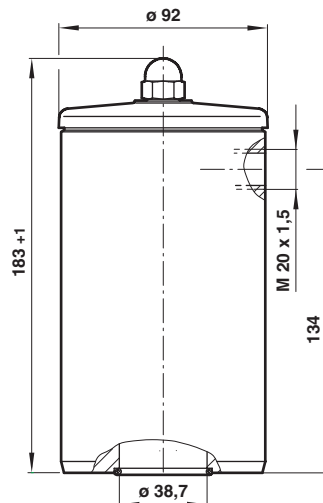
8



10



11

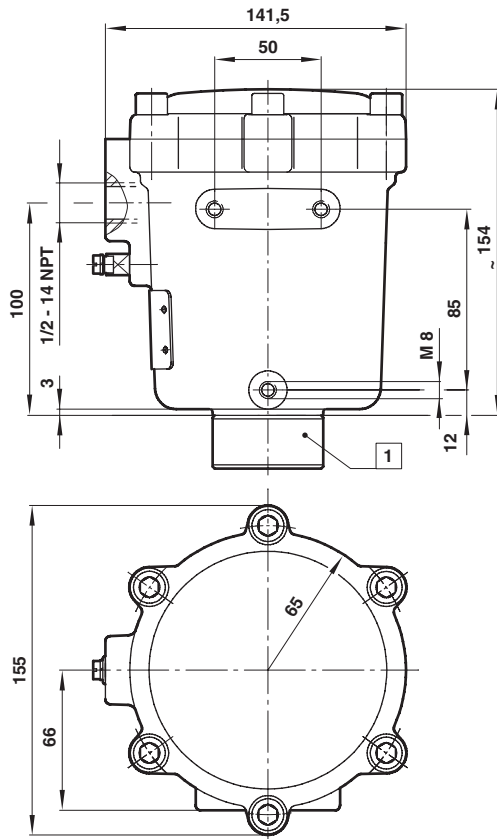


Dimensions shown in mm

Projection/First angle



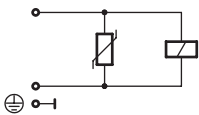
9



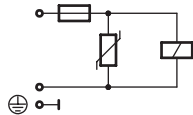
1 Solenoid 148x Ø 30,5 mm
Solenoid 168x Ø 38,7 mm

Circuit diagrams

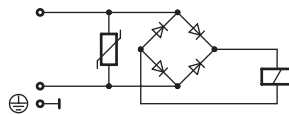
2



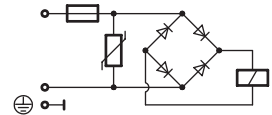
4



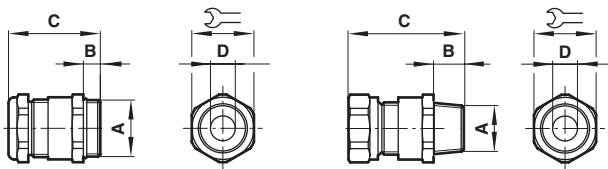
6



7



Cable gland



0588925 only

A	B	C	∅ D		Model
M20 x 1,5	6	26	6,5 ... 9,5	22	0589241
M20 x 1,5	6,5	26	9 ... 13	22	0589242
M20 x 1,5	9	36	5 ... 8	22	0588819
M20 x 1,5	14	39	10 ... 14	24	0588851
1/2-14 NPT	15	58	7,5 ... 11,9	24	0588925

Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.