

# 21000, 15200, 2/2

## Direct solenoid actuated poppet valves



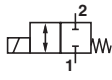
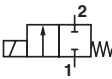
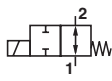
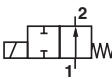
- > Port size: G1/4 ... 1/2
  - > Working from 0 bar up
  - > Suitable for vacuum range down to 1.33 x 10<sup>-2</sup> mbar x l/s
  - > Valve seals in
- either direction
  - > Protection class: IP65, Ex em, Ex d and applicable in Ex protection class ATEX see solenoid table



### Technical features

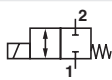
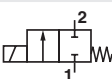
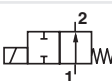
<b>Medium:</b> For neutral gaseous and liquid fluids <b>Operation:</b> Direct solenoid actuated <b>Operating pressure:</b> 0 ... 50 bar (0 ... 725 psi)	<b>Orifice:</b> 8 and 12 mm <b>Port size:</b> G1/4, G3/8, G1/2 <b>Mounting position:</b> Optional, preferably vertical <b>Flow direction:</b> Optional	<b>Fluid temperature:</b> -25° ... +80°C (-13 ... 176°F) NBR <b>Ambient temperature:</b> -25° ... +60°C (-13° ... +140°F), +80°C (+176°F) Depending on solenoid system Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).	<b>Materials:</b> Housing: brass Seat seal: NBR Inner part: brass, stainless steel 1.4104 (430 F) <b>Further versions</b> With manual override Seat seal FKM, PTFE
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### Technical data

Symbol	Port size	Solenoids group	Orifice	Operating pressure (bar)	kv-value (Cv (US) = kv x 1,2)	Weight without solenoid (kg)	Dimensions No.	Model *1)
	G1/4	30,5A	8	0 ... 15	0,87	2,1	1	1520450
	G3/8	30,5A	8	0 ... 15	0,87	2,1	1	1520550
	G1/2	30,5A	8	0 ... 15	0,87	2,1	1	1520650
	G3/8	30,5A	12	0 ... 15	1,00	2,5	2	2102150
	G1/2	30,5A	12	0 ... 15	1,00	2,5	2	2102250
	G3/8	38,5A	12	0 ... 50	1,00	3,6	3	2101750
	G1/2	38,5A	12	0 ... 50	1,00	3,6	3	2101850
	G1/2	30,5A	12	0 ... 15	1,00	2,5	3	2112250
	G1/2	30,5A	12	0 ... 15	1,00	6,5	3	2112259
	G1/2	38,5A	12	0 ... 50	1,00	3,6	3	2111850

\*1) Please add solenoid, voltage and power supply data (frequency) when ordering



### Valves in protection class Ex d

Symbol	Port size	Solenoids group	Orifice	Operating pressure (bar)	kv-value (Cv (US) = kv x 1,2)	Weight without solenoid (kg)	Dimensions No.	Model *1)
	G 1/2	30,5 B	12	0 ... 15	1,00	6,5	2	2102259
	G 1/2	38,5 B	12	0 ... 50	1,00	7,8	3	2101859
	G 1/2	38,5 B	12	0 ... 50	1,00	7,8	3	2111859

\*1) Please add solenoid, voltage and power supply data (frequency) when ordering


## Solenoid operators (27)

### Solenoids group 30,5A

	Power consumption		Rated current		Protection class IP	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection	Drawing 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	M20 x 1,5	21	2	1300
	—	22,8	—	99	IP65 (with cable gland)	—	-25...+60	M20 x 1,5	21	6	1301
	21,4	—	891	—	IP65 (with cable gland)	II 2G Ex eb mb IIC T4/T5 Gb II 2D Ex tb IIIC T120°C Db	T4: -20 ... +80°C T5: -40 ... +60°C -20 ... +80°C	M20 x 1,5	22	4	1440
	—	22,8	—	99	IP65 (with cable gland)	II 2G Ex eb mb IIC T4/T5 Gb II 2D Ex tb IIIC T120°C Db	T4: -20 ... +80°C T5: -40 ... +60°C -20 ... +80°C	M20 x 1,5	22	7	1441



Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle. IP66 version on request

### Solenoids group 30,5B

	Power consumption		Rated current		Protection class IP	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection	Drawing 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	—	IP66 (with cable gland)	II 2 G Ex d IIC T4 Gb II 2 D Ex tb IIIC T90°C Db	-40...+60	1/2 NPT *6)	29	2	1480
	—	22,8	—	99	IP66 (with cable gland)	II 2 G Ex d IIC T4 Gb II 2 D Ex tb IIIC T90°C Db	-40...+60	1/2 NPT *6)	29	6	1481


Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle. \*6) Cable gland not supplied, see table »Accessories«

**Solenoids group 38,5A**

	Power consumption		Rated current		Protection class IP	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection	Drawing	Circuit diagram	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					No.	No.	
	38,7	—	1614	—	IP65 (with cable gland)	—	-25...+60 Fluid max. +80	M20 x 1,5	23	2	1500
	—	42,1	—	169	IP65 (with cable gland)	—	-25...+60 Fluid max. +80	M20 x 1,5	23	6	1501
	38,7	—	1614	—	IP65 (with cable gland)	II 2G Ex eb mb IIC T4 Gb	-20...+40	M20 x 1,5 *6)	24	2	1570
	—	42,1	—	169	IP65 (with cable gland)	II 2G Ex eb mb IIC T4 Gb	-20...+40	M20 x 1,5 *6)	24	6	1571

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle. IP66 version on request

**Solenoids group 38,5B**

	Power consumption		Rated current		Protection class IP	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection	Drawing	Circuit diagram	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					No.	No.	
	35,9	—	1497	—	IP66 (with cable gland)	II 2 G Ex d IIC T4 Gb II 2 D Ex tb III C T105°C Db	-40...+60	1/2 NPT *6)	29	2	1680
	—	38,9	—	169	IP66 (with cable gland)	II 2 G Ex d IIC T4 Gb II 2 D Ex tb III C T105°C Db	-40...+60	1/2 NPT *6)	29	6	1681

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle. \*6) Cable gland not supplied, see table »Accessories«

**Approvals**

Typ	Approvals ATEX	IECEX	Datasheet
144x	KEMA 03 ATEX 1016 X	IECEX DEK 11.0066X	71.510
148x, 168x	BVS 12 ATEX E 068 X	—	71.515
157x	DEKRA BVS 08 ATEX E 117	—	71.520

**Partnumbers for international approval**

Land/Approval	Coil/Code	144x	148x/168x	157x
Europa/ATEX	Standard	x	x	x
International/IECEX	Standard	x	x	x
China/NEPSI	-01	-	-	-
Brasilien/INMETRO	-02	-	x	-
Korea/KOSHA (only gas approval)	-03	-	-	-
Russland, Kasachstan & Weißrussland/TR-CU 012	-04	x	x	x

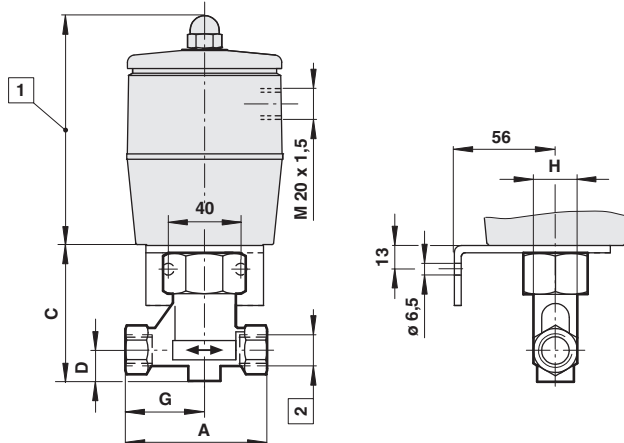
**Accessories**
**ATEX-Cable gland**


For Solenoid	Port size	Cable ø	Protection class	Model
157x	M20 x1,5	5,0 ... 8,0 mm	II 2G Ex e / II 2D Ex t	0588819
148x, 168x	1/2 NPT	7,5 ... 11,9 mm	II 2G Ex d / II 2D Ex t	0588925

**Dimensions  
Valves**

 Dimensions in mm  
 Projection/First angle


① ... ③

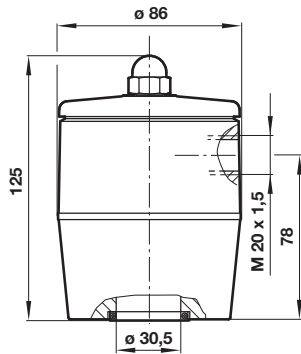
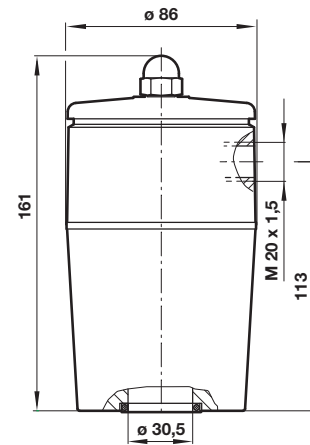
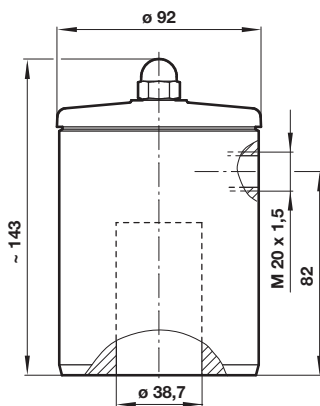
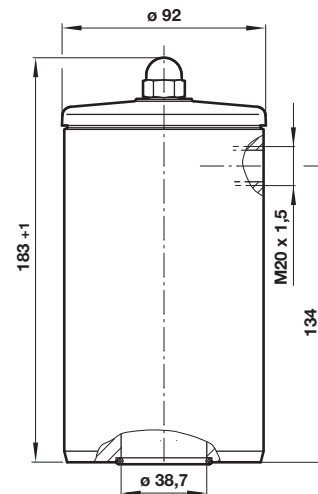


① Dimensions solenoids see page 4  
 ② For port size, see technical data

Dimensions No.	A	C	D	G	H
1	80	77	21	44	30
2	90	82	22	51	38
3	90	87	22	51	38

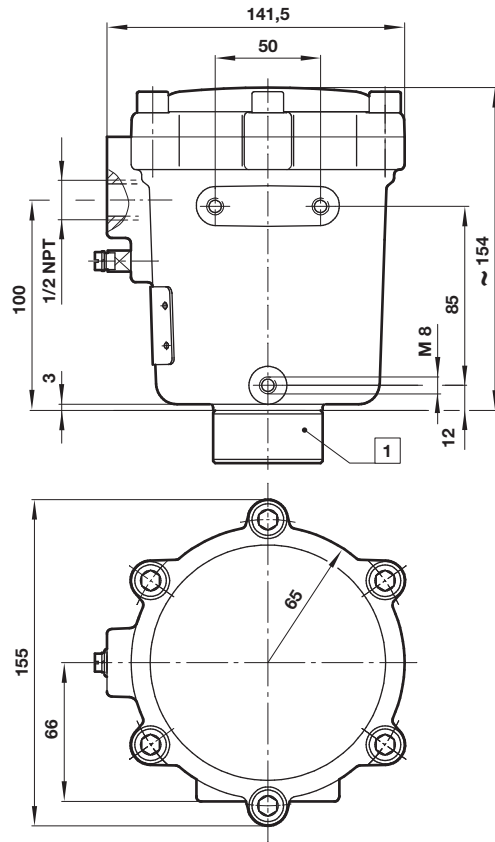
**Dimensions  
Solenoid operators**

 Dimensions in mm  
Projection/First angle

**21** Weight 1,35 kg

**22** Weight 2,0 kg

**23** Weight 2,5 kg

**24** Weight 3,6 kg


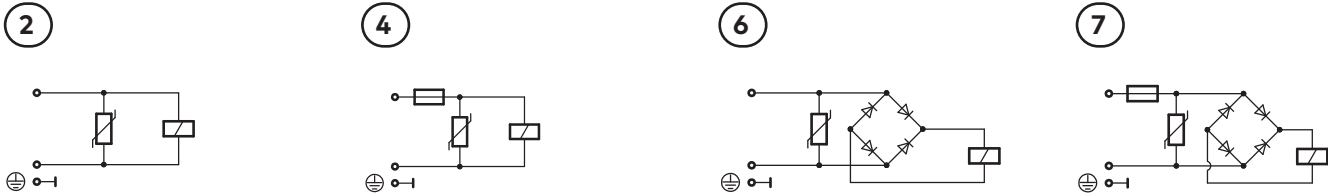
29 Weight 148x: 3,3 kg, 168x: 4,2 kg, 135 kg

Dimensions in mm  
Projection/First angle

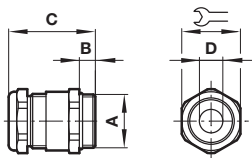


1 Solenoid 148x ø 30,5 mm  
Solenoid 168x ø 38,7 mm

### Circuit diagramm




### Cable gland



Dimensions in mm  
Projection/First angle



A	B	C	ø D		Model
M20 x 1,5	9	36	5,0 ... 8,0	22	0588819
1/2-14 NPT	15	58	7,5 ... 11,9	24	0588925

### Warning

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

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.