IMI
Precision Engineering

01802 28 72 45 678
Service-Hotline

Product overview

Precision.
Engineered.
Through our people, products and service.

Engineering GREAT Solutions

IMI BUSCHJOST

Contents

Engineering GREAT solutions through people, products, innovation and service

IMI Precision Engineering is a world-leader in fluid and motion control. Building close, collaborative relationships with our customers, we gain a deep understanding of their engineering needs and then mobilise our resources and expertise to deliver distinctive products and solutions.

Wherever precision, speed and engineering reliability are essential, our global footprint, problem-solving capability and portfolio of high performance products enables us to deliver GREAT solutions which help customers tackle the world's most demanding engineering challenges.

> **Reliability**
We deliver and support our high quality products through our global service network.

> **High performance products**
Calling on a world-class portfolio of fluid and motion control products including IMI Norgren, IMI FAS, IMI Buschjost, IMI Maxseal and IMI Herion. We can supply these singly, or combined in powerful customised solutions to improve performance and productivity.

> **Partnership & Problem Solving**
We get closer to our customers to understand their exact challenges.

The IMI Buschjost product brand

Successful in the market for over 80 years, the IMI Buschjost product brand is a market leading range of process and multimedia valve technology and system solutions for liquid and gaseous media.

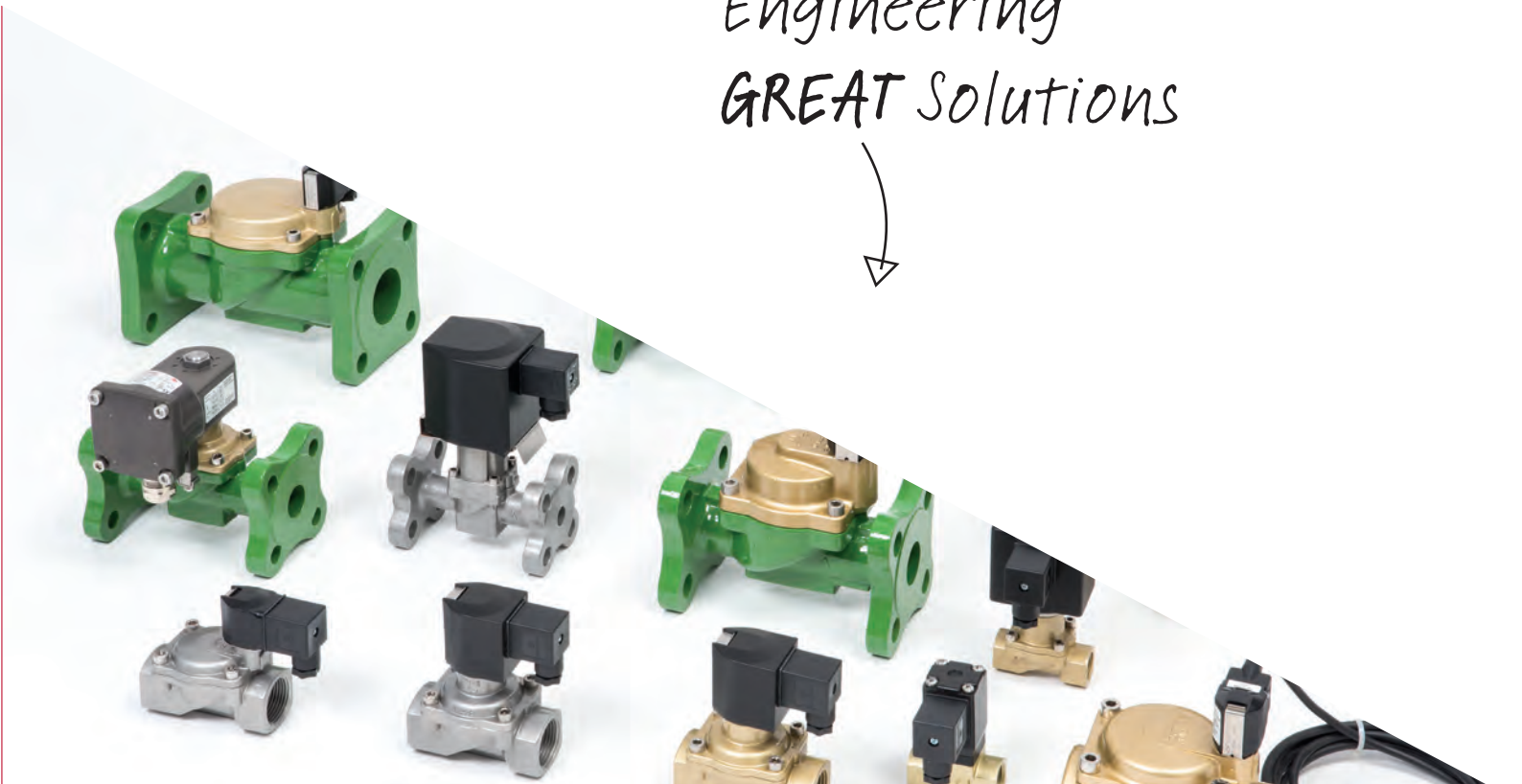
IMI Buschjost

Products range from solenoid and control valves to pressure-actuated angle-seat valves to specialised customer-specific solutions.

- Solenoid valves without differential pressure
- Solenoid valves with differential pressure
- Angle seat pilot valves
- Pulse valves and controls for dust collector systems
- Proportional valves

With comprehensive knowledge of relevant industry standards and certifications, IMI Buschjost valves can be found in various applications, including mechanical and plant engineering, the automotive industry and in the field of power generation and environmental protection.

Engineering
GREAT Solutions



Our global reach

With established manufacturing facilities globally, we have the capability to cope with the most demanding of international projects. With a sales and service network in 75 countries, we have the reach and capability to ensure continuity of supply and local support where it is needed.

Sales & Service in 75 countries

- IMI Precision Engineering sales, manufacturing and technical centres
- IMI Precision Engineering sales locations
- IMI Precision Engineering manufacturing locations

Pressure Equipment Directive (PED)

The Pressure Equipment Directive (PED) is generally applicable to equipment with a working pressure greater than 0.5 bar. Valves as components of this equipment come under the scope of the directive. However, only valves above a certain nominal size are required to bear CE markings.

Valves suitable for different (e.g. neutral, toxic or flammable) fluids only require CED markings above a nominal size of DN 25. Smaller valves must not bear a CE mark in accordance with the Pressure Equipment Directive. This equipment must be designed in line with standard engineering practice so that it meets the requirements of the directive.

Almost all of the valves over DN 25 in size requiring marking should be assigned to Categories I and II. This means their design and testing is in the responsibility of the manufacturer, i.e. Norgren Buschjost in the case. Module A1 has been chosen as the related method of evaluating conformity and certified by the „nominated body“ (TÜV Nord).

The products are also subject to other EU Directives such as EMC, Low Voltage, etc. The products bear a CE mark as a declaration of conformity with all of these. Where applicable (sizes > DN 25) this mark also serves as a declaration of conformity with the Pressure Equipment Directive. Category II valves are also marked with the identification number of the nominated body; CE 0045 for TÜV Nord.

PED 1 Applies to the following series: 82080, 82510, 82530, 82560, 82610, 82880, 82960, 83150, 83320, 83670, 83920, 84070, 84660, 84680

Note to Pressure Equipment Directive (PED):

The valves of this series are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

Note to Electromagnetic Compatibility Guideline (EEC):

The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2004/108/EG) satisfield.

PED 2 Applies to the following series: 82710, 82870, 82900, 83300, 83640, 83930, 84180, 84190

Note to Pressure Equipment Directive (PED):

The valves of this series are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

A certificate of conformity is not designated.

PED 3 Applies to the following series: 82170, 82180, 82280, 82380, 82400, 82470, 82480, 82540, 82590, 82730, 83030, 83040, 83250, 83350, 83380, 83390, 83580, 84100, 84120, 84140, 84200, 84220, 84240, 84320, 84360, 84500, 84520, 84580, 84720, 84740, 85340, 85360, 85380, 85540, 85580, 85660, 85740, 85780, 86500, 86520, 86700, 86720

Note to Pressure Equipment Directive (PED):

The valves of this series, including the connection size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies. The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Note to Electromagnetic Compatibility Guideline (EEC):

The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2004/108/EG) satisfield.

PED 4 Applies to the following series: 82090, 82580

Note to Pressure Equipment Directive (PED):

The valves of this series, including the connection size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies. The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Note to Electromagnetic Compatibility Guideline (EEC):

The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2004/108/EG) satisfield.

PED 5 Applies to the following series: 85840

Note to Pressure Equipment Directive (PED):

The valves of this series, including the connection size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies. The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Note to Electromagnetic Compatibility Guideline (EEC):

The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2004/108/EG) satisfield.

Functional safty according to DIN EN 61508 (VDE0803) SIL:

Suitable for certain applications can only be evaluated through examination of each saftety-releated overall system with regard to the requirements of IEC 61508 / 61511.

PED 6 Applies to the following series: 82160

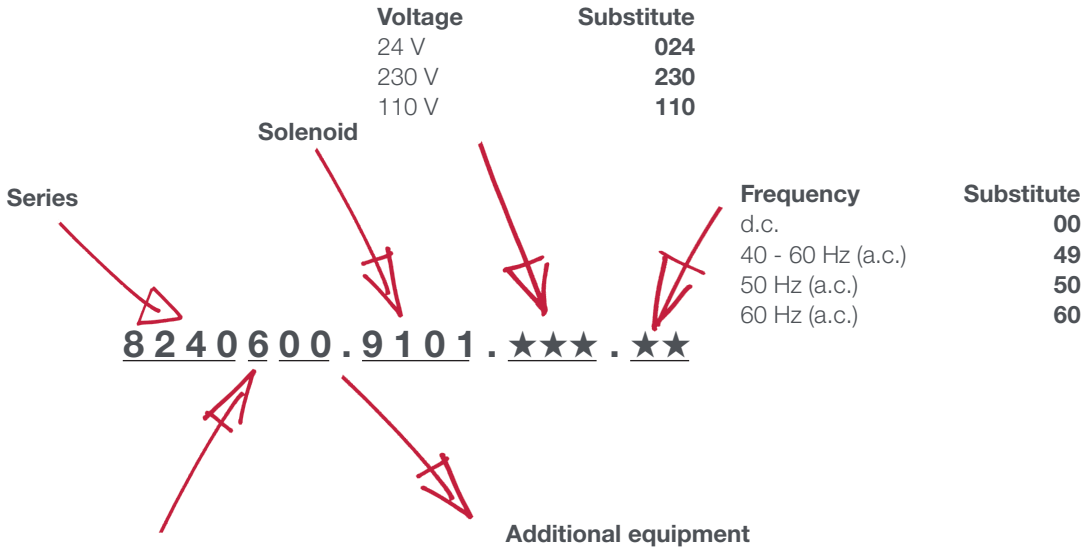
Note to Pressure Equipment Directive (PED):

The valves of this series, including the connection size DN 25 (G 1), are according to Art. 3 § 3 of the Pressure Equipment Directive (PED) 97/23/EG. This means interpretation and production are in accordance to engineers practice wellknown in the member countries.

The CE-sign at the valve refers not to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G 1) Art. 3 § (1) No.1.4 applies. The basic requirements of the Enclosure I of the PED must be fulfilled. The CE-sign at the valve includes the PED. A certificate of conformity of this directive will be available on request.

Order-No.



Thread size / Nominal diameter

Thread	DIN	Flange	Substitute
G1/4	8		**0**
G3/8	10		**1**
G1/2	12	15	**2**
G3/4	20	20	**3**
G1	25	25	**4**
G1 1/4	32	32	**5**
G1 1/2	40	40	**6**
G2	50	50	**7**
		65	**8**
		80	**9**
		100	**10**

Additional equipment

Standard	**00**
Normally open (NO)	**01**
Manual override	**02**
FPM seals	**03**
PTFE seals	**06**
EPDM seals	**14**
Higher Operating pressure	**22**
FPM seals for higher viscosity	**25**
and other...	
Additional equipment, applicable for all series, **but not available in every series.**	**01 ... 49**
Additional equipment, only applicable for one series.	**50 ... 99**

Catalogue numbers of the special valves
Beginning with 849★ ★ ★ ★ ★ .XXXX.XXXXX
and 859★ ★ ★ ★ ★ .XXXX.XXXXX
the ★ ★ ★ ★ ★ -block is numbered consecutively.

SOLENOID VALVES WITHOUT DIFFERENTIAL PRESSURE

PRODUCTS

OVERVIEW 2/2-WAY VALVES

82080
DN 3 ... 8
Directly solenoid actuated, with sealed core tube / medium separated

Page 01-03

82090
DN 8 ... 25
Solenoid actuated, with forced lifting, with DVGW-approval, EN 161

Page 01-04

82510
DN 1,5 ... 5
Directly solenoid actuated, small, compact, up to 40 bar (520 psi), brass

Page 01-05

82530
DN 10
Solenoid actuated, with forced lifting, G1/4 ... 1/2, brass

Page 01-07

82540
DN 8 ... 50
Solenoid actuated, with forced lifting, diaphragm valve, brass

Page 01-08

82560
DN 10
Solenoid actuated, with forced lifting, G1/4 ... 1/2, stainless steel

Page 01-10

82590
DN 8 ... 50
Solenoid actuated, with forced lifting, diaphragm valve, stainless steel

Page 01-11

82610
DN 1,5 ... 5
Directly solenoid actuated, small, compact, up to 40 bar (520 psi), stainless steel

Page 01-13

83040
DN 15 ... 50
Solenoid actuated, with forced lifting, diaphragm valve, flange

Page 01-15

83150
DN 2,5 ... 4,5
Directly solenoid actuated, with compression fitting

Page 01-17

84100
DN 65 ... 100
Solenoid actuated, with forced lifting, piston valve, cast iron

Page 01-18

84120
DN 65 ... 100
Solenoid actuated, with forced lifting, piston valve up to +200°C (+392°F), grey cast iron

Page 01-19

84140
DN 40 ... 80
Solenoid actuated, with forced lifting, stainless steel, PN 16

Page 01-20

84200
DN 65 ... 100
Solenoid actuated, with forced lifting, piston valve, cast steel

Page 01-21

84220
DN 65 ... 100
Solenoid actuated, with forced lifting, piston valve up to +200°C (+392°F), cast steel

Page 1-22

84240
DN 65 ... 100
Solenoid actuated, with forced lifting, piston valve, stainless steel, PN 25

Page 01-23

84360
DN 8 ... 50
Solenoid actuated, with forced lifting, diaphragm valve up to +150°C (+302°F)

Page 01-24

85340
DN 15 ... 50
Solenoid actuated, with forced lifting, piston valve, backpressure tight

Page 01-25

85540
DN 15 ... 50
Solenoid actuated, with forced lifting, piston valve, stainless steel

Page 01-26

85580
DN 15 ... 50
Solenoid actuated, with forced lifting, piston valve, stainless steel, with SIL-certificate

Page 01-27

85740
DN 8 ... 50
Solenoid actuated, with forced lifting, piston valve, female thread

Page 01-28

85780
DN 15 ... 100
Solenoid actuated, with forced lifting, piston valve, with inspection certificate DIN EN 10204 - 3.1, Flange

Page 01-29

85840
DN 12 ... 50
Solenoid actuated, with forced lifting, piston valve, with SIL-certificate, female thread

Page 01-31

85500
DN 15 ... 50
Solenoid actuated, with forced lifting, piston valve, flange, cast steel

Page 01-32

85520
DN 15 ... 50
Solenoid actuated, with forced lifting, piston valve up to +200°C (+392°F)

Page 01-33

86700
DN 8 ... 50
Solenoid actuated, with forced lifting, brass

Page 01-34

86720
DN 8 ... 50
Solenoid actuated, with forced lifting, up to +200°C (+392°F), brass

Page 01-35

DN 3 ... 8, G1/4 ... 3/8

Core tube protected with PTFE-bellow

Functional design

Suitable for aggressive fluids

Compact solenoid with integrated core tube

Unsusceptible to calcification and solenoidization of foreign particles

Technical description

Medium:
Aggressive gases and fluids
Switching function:
Normally closed
Operation:
Directly solenoid actuated
Model:
Seat valve operating without differential pressure

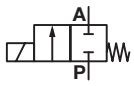
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8

Operating pressure:
See table
Fluid temperature:
–10 ... +110°C (+14 ... +230°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: PVDF
Seat seal: EPDM
Internal parts: PTFE-bellows

For contaminated fluids (particle › 1 mm) insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	3	0.23	0 ... 7	0 ... 101	0.3	8208000.8050.xxxxx	8208000.8051.xxxxx
	G3/8	3	0.23	0 ... 7	0 ... 101	0.3	8208100.8050.xxxxx	8208100.8051.xxxxx
	G1/4	4.5	0.42	0 ... 5	0 ... 72	0.3	8208060.8050.xxxxx	8208060.8051.xxxxx
	G3/8	4.5	0.42	0 ... 5	0 ... 72	0.3	8208160.8050.xxxxx	8208160.8051.xxxxx
	G1/4	6	0.62	0 ... 2	0 ... 29	0.3	8208070.8050.xxxxx	8208070.8051.xxxxx
	G3/8	6	0.62	0 ... 2	0 ... 29	0.3	8208170.8050.xxxxx	8208170.8051.xxxxx
	G1/4	8	0.83	0 ... 1	0 ... 14	0.3	8208080.8050.xxxxx	8208080.8051.xxxxx
	G3/8	8	0.83	0 ... 1	0 ... 14	0.3	8208180.8050.xxxxx	8208180.8051.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 80 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8050					
024	00	24 V d.c.	-	12 W	12 W
Voltage and Frequency Solenoid 8051					
110	49	110 V a.c. *3)	40 ... 60 Hz	13 VA	13 VA
120	49	120 V a.c. *3)	40 ... 60 Hz	13 VA	13 VA
230	49	230 V a.c. *3)	40 ... 60 Hz	13 VA	13 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8042	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 25, G1/4 ... 1 (DIN ISO 228/1)

Qualification approval EN 161:2011 and EN ISO 23553-1

Short response time < 1 s

Valve operates without differential pressure

Solenoid interchangeable without tools (*Click-on*®)

Technical description

Medium:
Neutral gases and liquid fuels
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

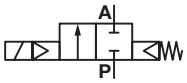
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1

Operating pressure:
0 … 8 bar (0 ... 116 psi)
Fluid temperature:
0 ... +60°C (+32 ... +140°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)
EC-Type Examination:
Certificate product ID-No.: CE-0085CN0205
valve class A: G1/4 ... 3/4;
valve class B: G1; valve group 2

Material:
Body: Brass (CW617N)
Seat seal: NBR-G
Internal parts: Stainless steel, brass

Strainer (with maximum mesh size of 0.25 mm) is necessary upstream of the valve.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	1.1	0 ... 8	0 ... 116	0.8	8209000.9178.xxxxx	8209000.9179.xxxxx
	G3/8	10	2.3	0 ... 8	0 ... 116	0.8	8209100.9178.xxxxx	8209100.9179.xxxxx
	G1/2	12	2.6	0 ... 8	0 ... 116	0.9	8209200.9178.xxxxx	8209200.9179.xxxxx
	G3/4	20	5.4	0 ... 8	0 ... 116	1	8209300.9178.xxxxx	8209300.9179.xxxxx
	G1	25	5.8	0 ... 8	0 ... 116	1.3	8209400.9178.xxxxx	8209400.9179.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Solenoid 917x

Frequency

Solenoid 9178: 24 ... 120 V

Solenoid 9179: 121 ... 250 V

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9178 *3)					
024	00	24 V d.c.	-	18 W	18 W
024	49	24 V a.c. *4)	40 ... 60 Hz	20 VA	20 VA
110	49	110 V a.c. *4)	40 ... 60 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9179 *3)					
230	49	230 V a.c. *4)	40 ... 60 Hz	20 VA	20 VA

*3) c SP us coil only

*4) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	9191	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 1.5 ... 5, G1/8 ... 3/8

Body with M5 fastening thread as standard

Functional compact design

Suitable for vacuum

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Valve operates without pressure differential

NPT-connection available: change 82510 to 82520

Technical description

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Directly solenoid actuated

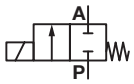
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/8, G1/4, G3/8

Operating pressure:
See table
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR,
(70 bar Version - PTFE)
Internal parts: Stainless steel, brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models - Valves normally closed

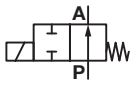
Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./AC
	G1/8	1.5	0.07	0 ... 25	0 ... 362	0.33	8251800.9101.xxxxx
	G1/4	1.5	0.07	0 ... 25	0 ... 362	0.33	8251000.9101.xxxxx
	G3/8	1.5	0.07	0 ... 25	0 ... 362	0.33	8251100.9101.xxxxx
	G1/8	1.5	0.07	0 ... 70	0 ... 1015	0.57	8251807.9151.xxxxx
	G1/4	1.5	0.07	0 ... 70	0 ... 1015	0.57	8251007.9151.xxxxx
	G3/8	1.5	0.07	0 ... 70	0 ... 1015	0.57	8251107.9151.xxxxx
	G1/8	2.5	0.15	0 ... 10	0 ... 145	0.33	8251820.9101.xxxxx
	G1/4	2.5	0.15	0 ... 10	0 ... 145	0.33	8251020.9101.xxxxx
	G3/8	2.5	0.15	0 ... 10	0 ... 145	0.33	8251120.9101.xxxxx
	G1/8	2.5	0.15	0 ... 40	0 ... 580	0.57	8251820.9151.xxxxx
	G1/4	2.5	0.15	0 ... 40	0 ... 580	0.57	8251020.9151.xxxxx
	G3/8	2.5	0.15	0 ... 40	0 ... 580	0.57	8251120.9151.xxxxx
	G1/8	3	0.21	0 ... 4	0 ... 58	0.33	8251840.9101.xxxxx
	G1/4	3	0.21	0 ... 4	0 ... 58	0.33	8251040.9101.xxxxx
	G3/8	3	0.21	0 ... 4	0 ... 58	0.33	8251140.9101.xxxxx
	G1/8	3	0.21	0 ... 20	0 ... 290	0.57	8251840.9151.xxxxx
	G1/4	3	0.21	0 ... 20	0 ... 290	0.57	8251040.9151.xxxxx
	G3/8	3	0.21	0 ... 20	0 ... 290	0.57	8251140.9151.xxxxx
	G1/8	4	0.35	0 ... 12	0 ... 174	0.57	8251860.9151.xxxxx
	G1/4	4	0.35	0 ... 12	0 ... 174	0.57	8251060.9151.xxxxx
	G3/8	4	0.35	0 ... 12	0 ... 174	0.57	8251160.9151.xxxxx
	G1/8	5	0.5	0 ... 6	0 ... 87	0.57	8251880.9151.xxxxx
	G1/4	5	0.5	0 ... 6	0 ... 87	0.57	8251080.9151.xxxxx
	G3/8	5	0.5	0 ... 6	0 ... 87	0.57	8251080.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Technical data - Standard models - Valves normally closed

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	1.5	0.07	0 ... 16	0 ... 232	0.33	8251001.9101.xxxxx
	G1/4	2.5	0.15	0 ... 6	0 ... 87	0.33	8251021.9101.xxxxx
	G1/4	2.5	0.15	0 ... 25	0 ... 362	0.57	8251021.9151.xxxxx
	G1/4	3	0.21	0 ... 3	0 ... 43	0.33	8251041.9101.xxxxx
	G1/4	3	0.21	0 ... 16	0 ... 232	0.57	8251041.9151.xxxxx
	G1/4	4	0.35	0 ... 8	0 ... 116	0.57	8251061.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9101 *3)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *3)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*3) c SP us coil only

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 10, G1/4 ... 1/2

Functional design

Operating pressure 0 ... 20 bar with alternating current and NBR sealing

Compact solenoid with integrated core tube

Valve operates without differential pressure

NPT-connection available: change 82530 to 82630

Technical description

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

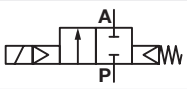
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2

Operating pressure:
0 … 10 bar (0 ... 145 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Brass (CW617N), PA66
Seat seal: NBR
Internal parts: Stainless steel, PVDF

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	10	44	1.5	0 ... 10	0 ... 145	0.5	8253000.8001.xxxxx
	G3/8	10	44	1.7	0 ... 10	0 ... 145	0.5	8253100.8001.xxxxx
	G1/2	10	60	1.7	0 ... 10	0 ... 145	0.6	8253200.8001.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 8001					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	12 W	12 W
024	50	24 V a.c.	50 Hz	20 VA	16 VA
110	50	110 V a.c.	50 Hz	20 VA	16 VA
120	60	120 V a.c.	60 Hz	20 VA	16 VA
230	50	230 V a.c.	50 Hz	20 VA	16 VA

Additional solenoid systems

Option	Solenoid	Standard voltages
D.c. solenoid with rectifier for d.c. only	8004	24 V d.c., 110 V a.c., 230 V a.c.

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8041	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 50, G1/4 ... 2

High flow rate

For robust industry solutions

For systems with low or fluctuating pressure

Suitable for vacuum

Solenoid interchangeable without tools (*Click-on*®) only solenoid 915x and 940x

Damped operation

Valve operates without differential pressure

NPT-connection available: change 82540 to 82640

Click-on®

Technical description

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

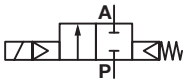
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
See table
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR-K
Internal parts: Stainless steel, PVDF, brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	1.9	0 ... 10	0 ... 145	0.8	8254000.9151.xxxxx	8254000.9154.xxxxx
	G1/4	8	1.9	0 ... 16 3*)	0 ... 232	0.8	8254000.9301.xxxxx	8254000.9304.xxxxx
	G3/8	10	3	0 ... 10	0 ... 145	0.8	8254100.9151.xxxxx	8254100.9154.xxxxx
	G3/8	10	3	0 ... 16 3*)	0 ... 232	0.8	8254100.9301.xxxxx	8254100.9304.xxxxx
	G1/2	12	3.4	0 ... 10	0 ... 145	0.9	8254200.9151.xxxxx	8254200.9154.xxxxx
	G1/2	12	3.4	0 ... 16 3*)	0 ... 232	0.9	8254200.9301.xxxxx	8254200.9304.xxxxx
	G3/4	20	5.8	0 ... 10	0 ... 145	1	8254300.9151.xxxxx	8254300.9154.xxxxx
	G3/4	20	5.8	0 ... 16 3*)	0 ... 232	1	8254300.9301.xxxxx	8254300.9304.xxxxx
	G1	25	8	0 ... 10	0 ... 145	1.3	8254400.9151.xxxxx	8254400.9154.xxxxx
	G1	25	8	0 ... 16 3*)	0 ... 232	1.3	8254400.9301.xxxxx	8254400.9304.xxxxx
	G 1 1/4	32	23	0 ... 16	0 ... 232	4.3	8254500.9401.xxxxx	8254500.9404.xxxxx
	G 1 1/2	40	25	0 ... 16	0 ... 232	4.3	8254600.9401.xxxxx	8254600.9404.xxxxx
	G2	50	41	0 ... 16	0 ... 232	5.4	8254700.9401.xxxxx	8254700.9404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm2/s (cSt)

*3) For liquid mediums and an operating pressure > 10 bar (145 psi) is the maximum allowed differential pressure limited to 2 bar (29 psi).

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9151/9154 *4)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	20 VA	20 VA
110	50	110 V a.c.	50 Hz	20 VA	20 VA
120	60	120 V a.c.	60 Hz	20 VA	20 VA
230	50	230 V a.c.	50 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9301/9304 *4)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	20 VA	20 VA
110	50	110 V a.c.	50 Hz	20 VA	20 VA
120	60	120 V a.c.	60 Hz	20 VA	20 VA
230	50	230 V a.c.	50 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9401/9404 *4)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c.	40 ... 60 Hz	42 VA	42 VA
110	49	110 V a.c.	40 ... 60 Hz	42 VA	42 VA
120	49	120 V a.c.	40 ... 60 Hz	42 VA	42 VA
230	49	230 V a.c.	40 ... 60 Hz	42 VA	42 VA

*4) c SP us coil only (with the exception of solenoid 94xx up to 41 V a.c.)
Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	9356	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9326	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	8426	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	9191	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9426	24 V d.c., 110 V a.c., 230 V a.c.
II2G	Ex d mb IIC T4/T5 Gb II 2D Ex tb IIIC T 130°C/ T 95°C Db	4682	24 V d.c., 110 Vd.c.
II2G	Ex d mb IIC T4/T5 Gb II 2D Ex tb IIIC T 130°C/ T 95°C Db	4683	24 V a.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 10, G1/4 ... 1/2

Compact solenoid with integrated core tube

Valve operates without differential pressure

Technical description

Medium:
Slightly aggressive gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

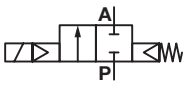
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2

Operating pressure:
0 … 10 bar (0 ... 145 psi)
Fluid temperature:
–10 … +90°C (+14 ... +194°F)
Ambient temperature:
–10 … +50°C (+14 ... +122°F)

Material:
Body: Stainless steel (1.4408), PA66
Seat seal: NBR
Internal parts: Stainless steel, PVDF, 1.4105

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	10	44	1.5	0 ... 10	0 ... 145	0.5	8256000.8001.xxxxx	8256000.8004.xxxxx
	G3/8	10	44	1.7	0 ... 10	0 ... 145	0.5	8256100.8001.xxxxx	8256100.8004.xxxxx
	G1/2	10	60	1.7	0 ... 10	0 ... 145	0.6	8256200.8001.xxxxx	8256200.8004.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 8001/8004

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	12 W	12 W
024	50	24 V a.c. *3)	40 … 60 Hz	13 VA	13 VA
110	50	110 V a.c. *3)	40 … 60 Hz	13 VA	13 VA
120	60	120 V a.c. *3)	40 … 60 Hz	13 VA	13 VA
230	50	230 V a.c. *3)	40 … 60 Hz	13 VA	13 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8041	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 50, G1/4 ... 2

For robust industry solutions

For systems with low or fluctuating pressure

Suitable for vacuum

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

Valve operates without differential pressure

Click-on®

Stainless Steel

Technical description

Medium:
Slightly aggressive gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

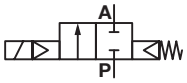
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
See table
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR-K
Internal parts: Stainless steel, PVDF

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	1.9	0 ... 10	0 ... 145	0.7	8259000.9151.xxxxx	8259000.9154.xxxxx
	G3/8	10	3	0 ... 10	0 ... 145	0.7	8259100.9151.xxxxx	8259100.9154.xxxxx
	G1/2	12	3.4	0 ... 10	0 ... 145	0.8	8259200.9151.xxxxx	8259200.9154.xxxxx
	G3/4	20	5.8	0 ... 10	0 ... 145	0.9	8259300.9151.xxxxx	8259300.9154.xxxxx
	G1	25	8	0 ... 10	0 ... 145	1.3	8259400.9151.xxxxx	8259400.9154.xxxxx
	G1 1/4	32	23	0 ... 16	0 ... 232	4.3	8259500.9401.xxxxx	8259500.9404.xxxxx
	G1 1/2	40	25	0 ... 16	0 ... 232	4.1	8259600.9401.xxxxx	8259600.9404.xxxxx
	G2	50	41	0 ... 16	0 ... 232	5.1	8259700.9401.xxxxx	8259700.9404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)
G1/4 ... G 1 resp. 1/4 NPT ... 1 NPT max. 16 bar on request

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9151/9154 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	20 VA	20 VA
110	50	110 V a.c.	50 Hz	20 VA	20 VA
120	60	120 V a.c.	60 Hz	20 VA	20 VA
230	50	230 V a.c.	50 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9401/9404 *1)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	40 ... 60 Hz	40 W	40 W
024	49	24 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA

*1) c SP us coil only (with the exception of solenoid 94xx up to 41 V a.c.)

*2) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	9191	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	8426	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9176	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9426	24 V d.c., 110 V a.c., 230 V a.c.
II2G	Ex d mb IIC T4/T5 Gb II 2D Ex tb IIIC T 130°C/ T 95°C Db	4682	24 V d.c., 110 V d.c.
II2G	Ex d mb IIC T4/T5 Gb II 2D Ex tb IIIC T 130°C/ T 95°C Db	4683	24 V a.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 1,5 ... 5, G1/8 ... 3/8

Body with M5 fastening thread as standard

Functional compact design

Suitable for vacuum

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Valve operates without differential pressure

NPT-connection available: change 82610 to 84620

Click-on®

Stainless Steel

Technical description

Medium:
Neutral and slightly aggressive gases and liquid fluids
Switching function:
Normally closed
Operation:
Directly solenoid actuated

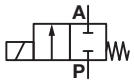
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/8, G1/4, G3/8

Operating pressure:
0 … 70 bar (0 ... 1015 psi)
Fluid temperature:
–10 ... +110°C (+14 ... +230°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: FPM
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models - Valves Normally closed

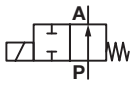
Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/8	1.5	0.07	0 ... 25	0 ... 362	0.33	8261803.9101.xxxxx
	G1/4	1.5	0.07	0 ... 25	0 ... 362	0.33	8261003.9101.xxxxx
	G3/8	1.5	0.07	0 ... 25	0 ... 362	0.33	8261103.9101.xxxxx
	G1/8	1.5	0.07	0 ... 70	0 ... 1015	0.57	8261807.9151.xxxxx
	G1/4	1.5	0.07	0 ... 70	0 ... 1015	0.57	8261007.9151.xxxxx
	G3/8	1.5	0.07	0 ... 70	0 ... 1015	0.57	8261107.9151.xxxxx
	G1/8	2.5	0.15	0 ... 10	0 ... 145	0.33	8261823.9101.xxxxx
	G1/4	2.5	0.15	0 ... 10	0 ... 145	0.33	8261023.9101.xxxxx
	G3/8	2.5	0.15	0 ... 10	0 ... 145	0.33	8261123.9101.xxxxx
	G1/8	2.5	0.15	0 ... 40	0 ... 580	0.57	8261823.9151.xxxxx
	G1/4	2.5	0.15	0 ... 40	0 ... 580	0.57	8261023.9151.xxxxx
	G3/8	2.5	0.15	0 ... 40	0 ... 580	0.57	8261123.9151.xxxxx
	G1/8	3	0.21	0 ... 4	0 ... 58	0.33	8261843.9101.xxxxx
	G1/4	3	0.21	0 ... 4	0 ... 58	0.33	8261043.9101.xxxxx
	G3/8	3	0.21	0 ... 4	0 ... 58	0.33	8261143.9101.xxxxx
	G1/8	3	0.21	0 ... 20	0 ... 290	0.57	8261843.9151.xxxxx
	G1/4	3	0.21	0 ... 20	0 ... 290	0.57	8261043.9151.xxxxx
	G3/8	3	0.21	0 ... 20	0 ... 290	0.57	8261143.9151.xxxxx
	G1/8	4	0.35	0 ... 12	0 ... 174	0.57	8261863.9151.xxxxx
	G1/4	4	0.35	0 ... 12	0 ... 174	0.57	8261063.9151.xxxxx
	G3/8	4	0.35	0 ... 12	0 ... 174	0.57	8261163.9151.xxxxx
	G1/8	5	0.5	0 ... 6	0 ... 87	0.57	8261883.9151.xxxxx
	G1/4	5	0.5	0 ... 6	0 ... 87	0.57	8261083.9151.xxxxx
	G3/8	5	0.5	0 ... 6	0 ... 87	0.57	8261183.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)
G1/4 ... 1 max. 16 bar on request

Technical data - Standard models - Valves normally closed

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	1.5	0.07	0 ... 16	0 ... 232	0.33	8261001.9101.xxxxx
	G1/4	2.5	0.15	0 ... 6	0 ... 87	0.33	8261021.9101.xxxxx
	G1/4	2.5	0.15	0 ... 25	0 ... 362	0.57	8261021.9151.xxxxx
	G1/4	3	0.21	0 ... 3	0 ... 43	0.33	8261041.9101.xxxxx
	G1/4	3	0.21	0 ... 16	0 ... 232	0.57	8261041.9151.xxxxx
	G1/4	4	0.35	0 ... 8	0 ... 116	0.57	8261061.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)
G1/4 ... 1 max. 16 bar on request

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9101 *3)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	50 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *3)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	50 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*3) c SP us coil only

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F). At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Port size: PN 16

Orifice: DN 15 ... 50

For robust industry solutions

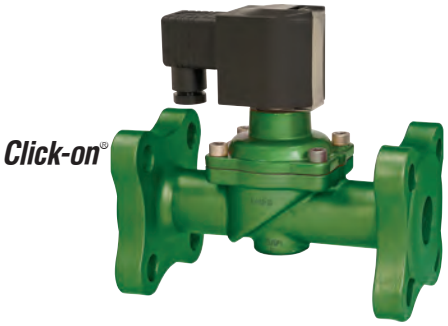
Suitable for vacuum

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

Valve operates without differential pressure



Technical description

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated,
with forced lifting

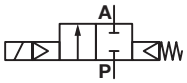
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50

Operating pressure:
0 … 10/16 bar (0 ... 145/232 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Cast steel, brass
Seat seal: NBR
Internal parts: Stainless steel, PVDF, brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	3.4	0 ... 10	0 ... 145	1.9	8304200.9151.xxxxx	8304200.9154.xxxxx
	15	3.4	0 ... 16	0 ... 232	2.4	8304200.9301.xxxxx	8304200.9304.xxxxx
	20	5.8	0 ... 10	0 ... 145	2.5	8304300.9151.xxxxx	8304300.9154.xxxxx
	20	5.8	0 ... 16	0 ... 232	3	8304300.9301.xxxxx	8304300.9304.xxxxx
	25	8	0 ... 10	0 ... 145	3	8304400.9151.xxxxx	8304400.9154.xxxxx
	25	8	0 ... 16	0 ... 232	3.5	8304400.9301.xxxxx	8304400.9304.xxxxx
	32	23	0 ... 16	0 ... 232	6.7	8304500.9401.xxxxx	8304500.9404.xxxxx
	40	25	0 ... 16	0 ... 232	7.4	8304600.9401.xxxxx	8304600.9404.xxxxx
	50	41	0 ... 16	0 ... 232	10	8304700.9401.xxxxx	8304700.9404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9151/9154 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	49	24 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 9401/9404 *1)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	42 VA	42 VA
Voltage and Frequency Solenoid 9301/9304 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	20 VA	20 VA
110	50	110 V a.c.	50 Hz	20 VA	20 VA
120	60	120 V a.c.	60 Hz	20 VA	20 VA
230	50	230 V a.c.	50 Hz	20 VA	20 VA
Voltage and Frequency Solenoid 8401/8404					
024	49	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *2)	40 ... 60 Hz	45 VA	45 VA

*1) c SA us coil only (with the exception of solenoid 94xx up to 41 V a.c.)

*2) A.c. only with rectifier plug

*3) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	9191	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9176 *3)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	9426 *3)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	EEx nA II T4 T 135°C	8426 *3)	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 2.5 ... 4.5

Functional compact design

High flow rate

Increased service life > low maintenance

Good corrosion resistance

Solenoid interchangeable without tools (*Click-on*®)

Valve operates without pressure differential

Approvals: wetted materials FDA and WRAS

Compression fitting **Push-in fitting**

Technical description

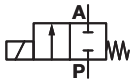
Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Directly solenoid actuated
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined

Port size:
- Standard
  Ø 6 mm (O/D 6 mm, I/D 4 mm)
- Optional (compression fitting)
  Ø mit 8 mm PIF
  (O/D 8 mm, I/D 6 mm)
- Optional (Tube push-in fitting)
  Ø with 4 mm PIF
  (O/D 4 mm, I/D 2 mm)
  OD tube tolerance ± 0.1 mm

Operating pressure:
0 … 12 bar (0 ... 174 psi)
Fluid temperature:
0 ... +125°C (+32 ... +257°F)
Ambient temperature:
0 ... +50°C (+32 ... +122°F)

Material:
Body: PPSU
(Polyphenylsulfon)
Seat seal: EPDM
Internal parts: Stainless steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2 Solenoide (bar) 9846	(psi) 9846	(bar) 9830	(psi) 9830	(bar) 9837	(psi) 9837	(bar) 9897	(psi) 9897	Weight (kg) *3)	Model
	6/4	2.5	0.15	12	174	12	174	4	58	4	58	0.17	8315000.98xx.xxxxx
	6/4	3.5	0.18	4	58	4	58	–	–	–	–	0.17	8315001.98xx.xxxxx
	8/6	4.5	0.45	3	43	3	43	–	–	–	–	0.17	8315002.98xx.xxxxx
	6/4	2.5	0.15	4	58	4	58	–	–	–	–	0.17	8315003.98xx.xxxxx
	4 PIF 4*)	2.5	0.15	12	174	12	174	4	58	4	58	0.17	8315020.98xx.xxxxx
	4 PIF 4*)	3.5	0.15	4	58	4	58	–	–	–	–	0.17	8315021.98xx.xxxxx
	4 PIF 4*)	2.5	0.15	4	58	4	58	–	–	–	–	0.17	8315023.98xx.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

*3) Valve only (without coil)

*4) PIF = Push-in fitting

Valve design 00, 01, 03 compression fitting Ø 6 mm

Valve design 02 compression fitting Ø 8 mm

Valve design 20 ... 23 Push-in fitting Ø 4 mm

Electrical details for all solenoid systems

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Port size: PN 16

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Technical description

Medium:
Air, water, oil
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

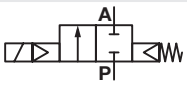
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16, DN 65 ... 100

Operating pressure:
0 … 16 bar (0 ... 232 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Cast iron
Seat seal: NBR
Cover: Cast iron
Internal parts: Stainless steel, brass, gun metal

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 16	0 ... 232	34	8410800.9501.xxxxx	8410800.9504.xxxxx
	80	94	0 ... 16	0 ... 232	42.4	8410900.9501.xxxxx	8410900.9504.xxxxx
	100	144	0 ... 16	0 ... 232	61.2	8411000.9501.xxxxx	8411000.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9501/9504

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
042	49	42 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
110	49	110 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
230	49	230 V a.c. *3)	40 … 60 Hz	89 VA	89 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 and T4 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 16

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Technical description

Medium:
Hot water, steam
Switching function:
Normally closed
Operation:
Solenoid actuated,
with forced lifting

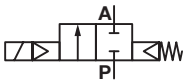
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16,
DN 65 ... 100

Operating pressure:
0 … 16 bar (0 ... 232 psi)
Fluid temperature:
0 ... +150°C (+32 ... +302°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)

Material:
Body: Grey cast iron
Seat seal: PTFE,
Leakage rate E
acc. to EN 12266-1
Cover: Grey cast iron
Internal parts: Stainless steel, gun metal

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 16	0 ... 232	34	8412800.9502.xxxxx	8412800.9506.xxxxx
	80	94	0 ... 16	0 ... 232	42.5	8412900.9502.xxxxx	8412900.9506.xxxxx
	100	144	0 ... 16	0 ... 232	61.4	8413000.9502.xxxxx	8413000.9506.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9502/9506

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	55 VA	55 VA
024	49	24 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
042	49	42 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
110	49	110 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
230	49	230 V a.c. *3)	40 … 60 Hz	61 VA	61 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

Option	Solenoid	Standard voltages
Fluid temperature 0 ... +200°C (+32 ... +392°F)	8602	24 V d.c., 110 V a.c., 230 V a.c.

Port size: PN 25

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Stainless Steel

Technical description

Medium:
Slightly aggressive gaseous and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

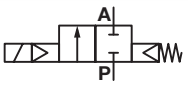
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16, DN 65 ... 100

Operating pressure:
0 …16 bar (0 ... 232 psi)
Fluid temperature:
–10 ... +110°C (+14 ... +230°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel
Seat seal: PTFE, leakage rate E acc. to EN 12266-1
Cover: Stainless steel
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 16	0 ... 232	36.5	8414800.9501.xxxxx	8414800.9504.xxxxx
	80	94	0 ... 16	0 ... 232	45.6	8414900.9501.xxxxx	8414900.9504.xxxxx
	100	144	0 ... 16	0 ... 232	65.6	8415000.9501.xxxxx	8415000.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9501/9504

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
042	49	42 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
110	49	110 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
230	49	230 V a.c. *3)	40 … 60 Hz	89 VA	89 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F). At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 and T4 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 40

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Technical description

Medium:
Air, water, oil
Switching function:
Normally closed
Operation:
Solenoid actuated,
with forced lifting

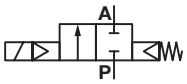
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 65 ... 100

Operating pressure:
0 … 25 bar (0 ... 362 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Cast steel
Seat seal: NBR
Cover: Cast steel
Internal parts: Stainless steel, brass, gun metal

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 25	0 ... 362	35.5	8420800.9501.xxxxx	8420800.9504.xxxxx
	80	94	0 ... 25	0 ... 362	45.8	8420900.9501.xxxxx	8420900.9504.xxxxx
	100	144	0 ... 25	0 ... 362	66.3	8421000.9501.xxxxx	8421000.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9501/9504					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
042	49	42 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
110	49	110 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
230	49	230 V a.c. *3)	40 … 60 Hz	89 VA	89 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 and T4 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 25

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Technical description

Medium:
Hot water, steam
Switching function:
Normally closed
Operation:
Solenoid actuated,
with forced lifting

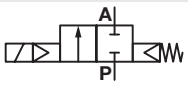
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 25,
DN 65, DN 80, DN 100

Operating pressure:
0 … 16 bar (0 ... 232 psi)
Fluid temperature:
0 ... +150°C (+32 ... +302°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)

Material:
Body: Cast steel
Seat seal: PTFE, leakage rate E, acc. to EN 12266-1
Cover: Cast steel
Valve seat: Gun metal
Internal parts: Stainless steel, gun metal

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 16	0 ... 232	37.2	8422800.9502.xxxxx	8422800.9506.xxxxx
	80	94	0 ... 16	0 ... 232	46.5	8422900.9502.xxxxx	8422900.9506.xxxxx
	100	144	0 ... 16	0 ... 232	67.5	8423000.9502.xxxxx	8423000.9506.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9502/9506

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	55 VA	55 VA
024	49	24 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
042	49	42 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
110	49	110 V a.c. *3)	40 … 60 Hz	61 VA	61 VA
230	49	230 V a.c. *3)	40 … 60 Hz	61 VA	61 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

Option	Solenoid	Standard voltages
Fluid temperature 0 ... +200°C (+32 ... 302°F); Mounting position: Solenoid downwards only	8602	24 V d.c., 110 V a.c., 230 V a.c.

Port size: PN 25

Orifice: DN 65 ... 100

Flat piston valve

High flow rate

Damped operation

Valve operates without differential pressure

Stainless Steel

Technical description

Medium:
Slightly aggressive gaseous and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

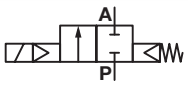
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 25,
DN 65, DN 80, DN 100

Operating pressure:
0 … 25 bar (0 ... 362 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel
Seat seal: NBR, cold flexible
Cover: Stainless steel
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	67	0 ... 25	0 ... 362	37.5	8424800.9501.xxxxx	8424800.9504.xxxxx
	80	94	0 ... 25	0 ... 362	45.6	8424900.9501.xxxxx	8424900.9504.xxxxx
	100	144	0 ... 25	0 ... 362	65.6	8425000.9501.xxxxx	8425000.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9501/9504					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
042	49	42 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
110	49	110 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
230	49	230 V a.c. *3)	40 … 60 Hz	89 VA	89 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 and T4 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

84360, 2/2-way valves
Solenoid actuated, with forced lifting

IMI BUSCHJOST

DN 8 ... 50, G1/4 ... 2

Valve operates without differential pressure

High flow rate

Easily interchangeable solenoid

NPT-connection available: change 84360 to 84370

Technical description

Medium:
Hot water, steam
Switching function:
Normally closed
Operation:
Solenoid operated, with forced lifting

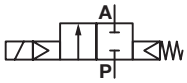
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0 … 10 bar (0 ... 145 psi)
Fluid temperature:
0 ... +150°C (+14 ... +302°F)
Ambient temperature:
0 ... +60°C (+14 ... +140°F)

Material:
Body: Brass
Seat seal: HNBR
Internal parts: Brass, stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	1.9	0 ... 10	0 ... 145	1.3	8436000.8302.xxxxx	8436000.8306.xxxxx
	G3/8	10	3	0 ... 10	0 ... 145	1.3	8436100.8302.xxxxx	8436100.8306.xxxxx
	G1/2	12	3.8	0 ... 10	0 ... 145	1.3	8436200.8302.xxxxx	8436200.8306.xxxxx
	G3/4	20	6.1	0 ... 10	0 ... 145	1.9	8436300.8302.xxxxx	8436300.8306.xxxxx
	G1	25	9.5	0 ... 10	0 ... 145	1.9	8436400.8302.xxxxx	8436400.8306.xxxxx
	G1 1/4	32	23	0 ... 10	0 ... 145	5.1	8436500.8402.xxxxx	8436500.8406.xxxxx
	G1 1/2	40	25	0 ... 10	0 ... 145	4.8	8436600.8402.xxxxx	8436600.8406.xxxxx
	G2	50	41	0 ... 10	0 ... 145	6.1	8436700.8402.xxxxx	8436700.8406.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8302/8306					
024	00	24 V d.c.	-	14 W	14 W
024	49	24 V a.c. *2)	40 … 60 Hz	16 VA	16 VA
110	49	110 V a.c. *2)	40 … 60 Hz	16 VA	16 VA
120	49	120 V a.c. *2)	40 … 60 Hz	16 VA	16 VA
230	49	230 V a.c. *2)	40 … 60 Hz	16 VA	16 VA
Voltage and Frequency Solenoid 8402/8406					
024	00	24 V d.c.	-	29 W	29 W
024	49	24 V a.c. *2)	40 … 60 Hz	33 VA	33 VA
110	49	110 V a.c. *2)	40 … 60 Hz	33 VA	33 VA
120	49	120 V a.c. *2)	40 … 60 Hz	33 VA	33 VA
230	49	230 V a.c. *2)	40 … 60 Hz	33 VA	33 VA

*2) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Port size: PN 40

Orifice: DN 15 ... 50

Up to 16 bar backpressure tight with leakage rate E according to DIN EN 12266-1

Valve operates without differential pressure

Technical description

Medium:
Slightly aggressive fluids
Switching function:
Normally closed;
no switching function at back pressure
Operation:
Solenoid actuated,
with forced lifting

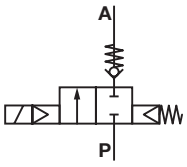
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25, DN 32, DN 40, DN 50

Operating pressure:
P > A: 0 … 25 bar (0 ... 362 psi)
A > P: 0 ... 16 bar (0 ... 232 psi), backpressure tight
Fluid temperature:
0 ... +90°C (+32 ... +194°F)
Ambient temperature:
0 ... +50°C (+32 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	4.4	0 ... 25	0 ... 362	3.8	8534200.8401.xxxxx	8534200.8404.xxxxx
	20	7	0 ... 25	0 ... 362	4.2	8534300.8401.xxxxx	8534300.8404.xxxxx
	25	10.5	0 ... 25	0 ... 362	4.8	8534400.8401.xxxxx	8534400.8404.xxxxx
	32	25	0 ... 25	0 ... 362	9.6	8534500.9501.xxxxx	8534500.9504.xxxxx
	40	27	0 ... 25	0 ... 362	10	8534600.9501.xxxxx	8534600.9504.xxxxx
	50	43	0 ... 25	0 ... 362	11.5	8534700.9501.xxxxx	8534700.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Up to 80 mm^2/s (cSt) on request

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
220	49	220 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
Voltage and Frequency Solenoid 9501/9504					
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
110	49	110 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
120	49	120 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
220	49	220 V a.c. *3)	40 … 60 Hz	89 VA	89 VA
230	49	230 V a.c. *3)	40 … 60 Hz	89 VA	89 VA

*3) A.c. only with rectifier plug

*4) Only d.c. for a.c. solenoids with design inspection certificate acc. to category 2, e.g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C up to G1	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3G	Ex nA II T4 Ex tD A22 IP65 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.
II2G	Ex d IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex e mb II T3/T4 Ex tD A21 IP65 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 40

Orifice: DN 15 ... 50

For robust industry solutions

Suitable for vacuum

High flow rate

Solenoid interchangeable without tools (*Click-on*®) up to DN 25

Damped operation

Valve operates without differential pressure

Technical description

Medium:
Slightly aggressive gases and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

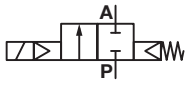
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25, DN 32, DN 40, DN 50

Operating pressure:
0 … 25 bar (0 ... 362 psi)
(0 ... 40 bar (0 ... 580 psi))
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Stainless steel (1.4408),
Seat seal: NBR
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	4.4	0 ... 25	0 ... 362	3.8	8554200.9401.xxxxx	8554200.9404.xxxxx
	20	7	0 ... 25	0 ... 362	4.2	8554300.9401.xxxxx	8554300.9404.xxxxx
	25	10.5	0 ... 25	0 ... 362	4.8	8554400.9401.xxxxx	8554400.9404.xxxxx
	32	25	0 ... 25	0 ... 362	9.6	8554500.8401.xxxxx	8554500.8404.xxxxx
	40	27	0 ... 25	0 ... 362	10	8554600.8401.xxxxx	8554600.8404.xxxxx
	50	43	0 ... 25	0 ... 362	11.5	8554700.8401.xxxxx	8554700.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 60 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9401/9404 *4)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c. *3)	40 … 60 Hz	42 VA	42 VA
110	49	110 V a.c. *3)	40 … 60 Hz	42 VA	42 VA
120	49	120 V a.c. *3)	40 … 60 Hz	42 VA	42 VA
230	49	230 V a.c. *3)	40 … 60 Hz	42 VA	42 VA
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 … 60 Hz	45 VA	45 VA

*3) A.c. only with rectifier plug

*4) c SP us coil only (With the exception of solenoid 94XX up to 41 V a.c.)

*5) Only d.c., for a.c. solenoids with design inspection certificate acc. to category 2, e.g. xxxxxxx.8436

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	9426 *5)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8426 *5)	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex d II C T4 and T5 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 40

Orifice: DN 15 ... 50

For robust industry solutions

High flow rate

With inspection certificate DIN EN 10204 - 3.1 Requirements AD 2000 A4

Damped operation

Valve operates without differential pressure

Stainless Steel

Technical description

Medium:
Slightly aggressive gases and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

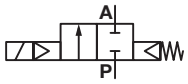
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50

Operating pressure:
0 … 25 bar (0 ... 362 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR
Internal parts: Stainless steel

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m³/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	4.4	0 ... 25	0 ... 362	4.2	8558200.8401.xxxxx	8558200.8404.xxxxx
	20	7	0 ... 25	0 ... 362	4.6	8558300.8401.xxxxx	8558300.8404.xxxxx
	25	10.5	0 ... 25	0 ... 362	5.1	8558400.8401.xxxxx	8558400.8404.xxxxx
	32	25	0 ... 25	0 ... 362	9.6	8558500.8401.xxxxx	8558500.8404.xxxxx
	40	27	0 ... 25	0 ... 362	10	8558600.8401.xxxxx	8558600.8404.xxxxx
	50	43	0 ... 25	0 ... 362	11.5	8558700.8401.xxxxx	8558700.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 60 mm²/s (cSt)

More information about the inspection certificate DIN EN 10204 - 3.1, Requirements AD 2000 A4 see datasheet N/en 5.8.117

Standard solenoid systems

Voltage and Frequency Solenoid 8401/8404

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA

*3) A.c. only with rectifier plug

*4) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C.
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex d IIC T4 and T5 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 50, G1/4 ... 2

For robust industry solutions

For systems with low or fluctuating pressure

Suitable for vacuum

High flow rate

Damped operation

Valve operates without pressure differential

Solenoid interchangeable without tools (*Click-on*®) up to G1

NPT-connection available: change 85740 to 85750

Click-on®

Stainless Steel

Technical description

Medium:
Slightly aggressive gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

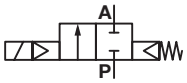
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0 ... 25 bar (0 ... 362 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in d.c.	Model Solenoid in a.c.
	G1/4	8	2.2	0 ... 25	0 ... 362 psi	2.4	8574000.9401.xxxxx	8574000.9404.xxxxx
	G3/8	10	3.4	0 ... 25	0 ... 362 psi	2.4	8574100.9401.xxxxx	8574100.9404.xxxxx
	G1/2	12	4.4	0 ... 25	0 ... 362 psi	2.5	8574200.9401.xxxxx	8574200.9404.xxxxx
	G3/4	20	7	0 ... 25	0 ... 362 psi	2.7	8574300.9401.xxxxx	8574300.9404.xxxxx
	G1	25	10.5	0 ... 25	0 ... 362 psi	3.1	8574400.9401.xxxxx	8574400.9404.xxxxx
	G1 1/4	32	25	0 ... 25	0 ... 362 psi	5.6	8574500.8401.xxxxx	8574500.8404.xxxxx
	G1 1/2	40	27	0 ... 25	0 ... 362 psi	5.4	8574600.8401.xxxxx	8574600.8404.xxxxx
	G2	50	43	0 ... 25	0 ... 362 psi	6.8	8574700.8401.xxxxx	8574700.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9401/9404 *3)					
024	00	24 V d.c.	-	38 W	38 W
024	49	24 V a.c.	40 ... 60 Hz	42 VA	42 VA
110	49	110 V a.c.	40 ... 60 Hz	42 VA	42 VA
120	49	120 V a.c.	40 ... 60 Hz	42 VA	42 VA
230	49	230 V a.c.	40 ... 60 Hz	42 VA	42 VA
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c.	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c.	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c.	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c.	40 ... 60 Hz	45 VA	45 VA

*3) c SP us coil only (with the exception of solenoid 94xx up to 41 V a.c.)

*4) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	Ex me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	9426 *4)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 40

Orifice: DN 15 ... 100

For systems with low or fluctuating pressure

For robust industry applications

Suitable for use in single-channel safety-related systems in accordance with DIN EN 61508 / 61511 up to and including SIL 2 and up to and including SIL 3 in multi-channel systems

High flow rate

Damped operation

Valve operates without differential pressure

Stainless Steel

Technical description

Medium:
Neutral gases and liquid fluids (air, water, gases according to DVGW data sheet G 260 with seat seal FPM – oils and other fluids on request)
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

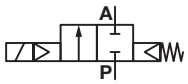
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50,
DN 65, DN 80, DN 100

Operating pressure:
0 … 25 bar (0 ... 362 psi)
Fluid temperature:
–10 ... +60°C (+14 ... +140°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body:
up to DN 50 stainless steel (1.4408)
from DN 65 stainless steel (1.4581)
Seat seal: NBR
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	3.7	0 ... 25	0 ... 362	4.2	8578200.8401.xxxxx	8578200.8404.xxxxx
	20	5.6	0 ... 25	0 ... 362	4.6	8578300.8401.xxxxx	8578300.8404.xxxxx
	25	7.8	0 ... 25	0 ... 362	5.1	8578400.8401.xxxxx	8578400.8404.xxxxx
	32	18	0 ... 25	0 ... 362	9.6	8578500.8401.xxxxx	8578500.8404.xxxxx
	40	24.4	0 ... 25	0 ... 362	10	8578600.8401.xxxxx	8578600.8404.xxxxx
	50	31.8	0 ... 25	0 ... 362	11.5	8578700.8401.xxxxx	8578700.8404.xxxxx
	65	67	0 ... 25	0 ... 362	36.5	8578800.9501.xxxxx	8578800.9504.xxxxx
	80	94	0 ... 25	0 ... 362	46.5	8578900.9501.xxxxx	8578900.9504.xxxxx
	100	144	0 ... 25	0 ... 362	70	8579000.9501.xxxxx	8579000.9504.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 60 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 8401/8404					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *1)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *1)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *1)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *1)	40 ... 60 Hz	45 VA	45 VA
Voltage and Frequency Solenoid 9501/9504					
024	00	24 V d.c.	-	80 W	80 W
024	49	24 V a.c. *1)	40 ... 60 Hz	89 VA	89 VA
110	49	110 V a.c. *1)	40 ... 60 Hz	89 VA	89 VA
120	49	120 V a.c. *1)	40 ... 60 Hz	89 VA	89 VA
230	49	230 V a.c. *1)	40 ... 60 Hz	89 VA	89 VA

*1) A.c. only with rectifier plug

*2) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx m II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex de IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8900	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex d IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex nA II T4 Ex tD A 21 IP65 T 135°C	8426 *2)	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex e mb II T3 Ex tD A21 IP65 T 140°C	9540	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 12 ... 50, G1/4 ... 2

For robust industry solutions

Suitable for supervision systems

Suitable for use in single-channel safety-related systems in accordance with DIN EN 61508 / 61511 up to and including SIL 2 and up to and including SIL 3 in multi-channel systems

High flow rate

Damped operation

Valve operates without pressure differential

NPT-connection available: change 85840 to 85850

Stainless Steel

TÜV Rheinland

Technical description

Medium:
Air, water, gases according to DVGW data sheet G 260 with seat seal FPM, oils and other fluids on request
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

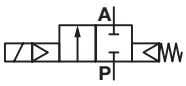
Mounting position:
Solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0 … 25 bar (0 ... 362 psi)
Fluid temperature:
–10 ... +60°C (+14 ... +140°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in d.c.	Model Solenoid in a.c.
	G1/2	12	3.6	0 ... 25	0 ... 362	2.8	8584200.8401.xxxxx	8584200.8404.xxxxx
	G3/4	20	6	0 ... 25	0 ... 362	3	8584300.8401.xxxxx	8584300.8404.xxxxx
	G1	25	8.9	0 ... 25	0 ... 362	3.4	8584400.8401.xxxxx	8584400.8404.xxxxx
	G1 1/4	32	22	0 ... 25	0 ... 362	5.6	8584500.8401.xxxxx	8584500.8404.xxxxx
	G1 1/2	40	22.3	0 ... 25	0 ... 362	5.4	8584600.8401.xxxxx	8584600.8404.xxxxx
	G2	50	35	0 ... 25	0 ... 362	6.8	8584700.8401.xxxxx	8584700.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 60 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8401					
024	00	24 V d.c.	-	40 W	40 W
Voltage and Frequency Solenoid 8404					
024	49	24 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 ... 60 Hz	45 VA	45 VA

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

*3) A.c. only with rectifier plug

*4) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II2G II2D	Ex de IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8900	24 V d.c., 110 V a.c., 230 V a.c.
II2G II2D	Ex d IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.
II3G II3D	Ex nA II T4 Ex tD A21 IP65 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.

Port size: PN 40

Orifice: DN 15 ... 50

Suitable for vacuum

Valve operates without differential pressure (Zero Delta P)

Valve piston with PTFE guide-ring

Technical description

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated,
with forced lifting

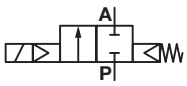
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50

Operating pressure:
0 … 25 bar (0 ... 362 psi)
(0 ... 40 bar (0 ... 580 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Cast steel, brass
Seat seal: NBR
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	4.4	0 ... 25	0 ... 362	3.8	8650200.8301.xxxxx	8650200.8304.xxxxx
	20	7	0 ... 25	0 ... 362	4.2	8650300.8301.xxxxx	8650300.8304.xxxxx
	25	10.5	0 ... 25	0 ... 362	4.8	8650400.8301.xxxxx	8650400.8304.xxxxx
	32	25	0 ... 25	0 ... 362	9.6	8650500.8401.xxxxx	8650500.8404.xxxxx
	40	27	0 ... 25	0 ... 362	10	8650600.8401.xxxxx	8650600.8404.xxxxx
	50	43	0 ... 25	0 ... 362	11.5	8650700.8401.xxxxx	8650700.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8301/8304					
024	00	24 V d.c.	-	22 W	22 W
024	49	24 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
110	49	110 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
120	49	120 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
230	49	230 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 … 60 Hz	45 VA	45 VA

*3) A.c. only with rectifier plug

*4) D.c. only, for a.c. solenoids with design inspection certificate acc. to category 2, e. g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8326	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex d II C T4 and T5 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 40

Orifice: DN 15 ... 50

For steam and hot water

Damped operation

Valve operates without differential pressure

Valve piston with PTFE guide-ring

Technical description

Medium:
Neutral steam and liquid fluids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

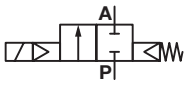
Mounting position:
Solenoid vertical on top; optional up to G1 / 1 NPT: solenoid underneath
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25, DN 32, DN 40, DN 50

Operating pressure:
0 … 16 bar (0 ... 232 psi)
(0 ... 25 bar (0 ... 362 psi)
Fluid temperature:
0 ... +200°C (+32 ... +392°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)

Material:
Body: Stainless steel (1.4408), brass
Seat seal: PTFE
Internal parts: Stainless steel, PTFE / carbon / FPM

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) *3) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	15	4.4	0 ... 16	0 ... 232	3.8	8652200.8402.xxxxx	8652200.8406.xxxxx
	20	6.5	0 ... 16	0 ... 232	4.2	8652300.8402.xxxxx	8652300.8406.xxxxx
	25	10	0 ... 16	0 ... 232	4.8	8652400.8402.xxxxx	8652400.8406.xxxxx
	32	22	0 ... 16	0 ... 232	9.6	8652500.8402.xxxxx	8652500.8406.xxxxx
	40	23	0 ... 16	0 ... 232	10	8652600.8402.xxxxx	8652600.8406.xxxxx
	50	37	0 ... 16	0 ... 232	11.5	8652700.8402.xxxxx	8652700.8406.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

*3) Leakage rate E acc. to DIN EN 12266-1

Standard solenoid systems

Voltage and Frequency Solenoid 8402/8406

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	29 W	29 W
024	49	24 V a.c. *4)	40 … 60 Hz	33 VA	33 VA
110	49	110 V a.c. *4)	40 … 60 Hz	33 VA	33 VA
120	49	120 V a.c. *4)	40 … 60 Hz	33 VA	33 VA
230	49	230 V a.c. *4)	40 … 60 Hz	33 VA	33 VA

*4) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 8 ... 50, G1/4 ... 2

Suitable for vacuum

Valve operates without differential pressure

Valve with PTFE piston guide rings

NPT-connection available:
change 86700 to 86710

Technical description

Medium:
Air, water and oil
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

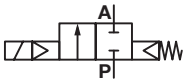
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0 … 25 bar (0 ... 362 psi)
(0 ... 40 bar) (0 ... 580 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	2.2	0 ... 25	0 ... 362	1.5	8670000.8301.xxxxx	8670000.8304.xxxxx
	G3/8	10	3.4	0 ... 25	0 ... 362	1.5	8670100.8301.xxxxx	8670100.8304.xxxxx
	G1/2	12	4.4	0 ... 25	0 ... 362	1.6	8670200.8301.xxxxx	8670200.8304.xxxxx
	G3/4	20	6.5	0 ... 25	0 ... 362	1.8	8670300.8301.xxxxx	8670300.8304.xxxxx
	G1	25	10	0 ... 25	0 ... 362	2.2	8670400.8301.xxxxx	8670400.8304.xxxxx
	G1 1/4	32	24	0 ... 25	0 ... 362	5.6	8670500.8401.xxxxx	8670500.8404.xxxxx
	G1 1/2	40	25	0 ... 25	0 ... 362	5.4	8670600.8401.xxxxx	8670600.8404.xxxxx
	G2	50	41	0 ... 25	0 ... 362	6.8	8670700.8401.xxxxx	8670700.8404.xxxxx

xxxxx Please insert voltage and frequency codes
*1) Cv-value (US) ≈ kv value x 1.2
*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 8301/8304					
024	00	24 V d.c.	-	22 W	22 W
024	49	24 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
110	49	110 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
120	49	120 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
230	49	230 V a.c. *3)	40 … 60 Hz	25 VA	25 VA
Voltage and Frequency Solenoid 8401/8404					
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
110	49	110 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
120	49	120 V a.c. *3)	40 … 60 Hz	45 VA	45 VA
230	49	230 V a.c. *3)	40 … 60 Hz	45 VA	45 VA

*3) A.c. only with rectifier plug

*4) Only d.c., for a.c. solenoids with design inspection certificate acc. to category 2, e.g. xxxxxxx.8441

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8326 *4)	24 V d.c., 110 V a.c., 230 V a.c.
II3GD	Ex nA II T4 T 135°C	8426 *4)	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 50, G1/4 ... 2

For steam and hot water

Valve operates without differential pressure

Valve with PTFE piston guide rings

NPT-connection available: change 86720 to 86730

Technical description

Medium:
Neutral steam and liquids
Switching function:
Normally closed
Operation:
Solenoid actuated, with forced lifting

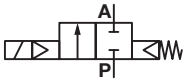
Mounting position:
Solenoid vertical on top; optional up to G1 solenoid underneath
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0 … 16 bar (0 ... 232 psi)
(0 ... 25 bar (0 ... 362 psi))
Fluid temperature:
0 ... +200°C (+32 ... +392°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)

Material:
Body: Brass (CW617N)
Seat seal: PTFE
Internal parts: Stainless steel, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	G1/4	8	2.2	0 ... 16	0 ... 232	2.4	8672000.8402.xxxxx	8672000.8406.xxxxx
	G3/8	10	3.4	0 ... 16	0 ... 232	2.4	8672100.8402.xxxxx	8672100.8406.xxxxx
	G1/2	12	4.4	0 ... 16	0 ... 232	2.5	8672200.8402.xxxxx	8672200.8406.xxxxx
	G3/4	20	6.5	0 ... 16	0 ... 232	2.7	8672300.8402.xxxxx	8672300.8406.xxxxx
	G1	25	10	0 ... 16	0 ... 232	3.1	8672400.8402.xxxxx	8672400.8406.xxxxx
	G1 1/4	32	22	0 ... 16	0 ... 232	5.6	8672500.8402.xxxxx	8672500.8406.xxxxx
	G1 1/2	40	23	0 ... 16	0 ... 232	5.4	8672600.8402.xxxxx	8672600.8406.xxxxx
	G2	50	37	0 ... 16	0 ... 232	6.8	8672700.8402.xxxxx	8672700.8406.xxxxx

xxxxx Please insert voltage and frequency codes
*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 8402/8406

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	29 W	29 W
024	49	24 V a.c. *3)	40 … 60 Hz	33 VA	33 VA
110	49	110 V a.c. *3)	40 … 60 Hz	33 VA	33 VA
120	49	120 V a.c. *3)	40 … 60 Hz	33 VA	33 VA
230	49	230 V a.c. *3)	40 … 60 Hz	33 VA	33 VA

*3) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Operation	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Engineering
GREAT Solutions

SOLENOID VALVES WITH DIFFERENTIAL PRESSURE

PRODUCTS

OVERVIEW 2/2-WAY VALVES

82400
DN 8 ... 50
Indirectly solenoid actuated, diaphragm valve, brass

Page 02-03

82470
DN 8 ... 25
Indirectly solenoid actuated, diaphragm valve up to +150°C (+302°F)

Page 02-04

82730
DN 8 ... 50
Indirectly solenoid actuated, diaphragm valve, stainless steel

Page 02-05

83030
DN 15 ... 50
Indirectly solenoid actuated, diaphragm valve, flange

Page 02-06

83580
DN 65 ... 150
Indirectly solenoid actuated, diaphragm valve, with high flow rate

Page 02-08

83770
DN 8
Indirectly solenoid actuated, high pressure, 320 bar (4641 psi)

Page 02-09

83790
DN 15
Indirectly solenoid actuated, high pressure, 250 bar (3626 psi)

Page 02-10

84070
DN 12 ... 20
Indirectly solenoid actuated, polymer version

Page 02-11

84320
DN 65 ... 100
Indirectly solenoid actuated, piston valve, flange

Page 02-12

85360
DN 8 ... 50
Indirectly solenoid actuated, piston valve, max. 40 bar (580 psi)

Page 02-13

85380
DN 8 ... 25
Indirectly solenoid actuated, piston valve up to +200°C (+392°F)

Page 02-14

85660
DN 15 ... 50
Indirectly solenoid actuated, max. 40 bar (580 psi), flange

Page 02-15

DN 8 ... 50, G1/4 ... 2

Functional compact design

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

NPT connection available: change 82400 to 82410

Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

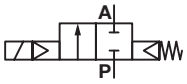
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
See table
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR
Internal parts: Stainless steel, PVDF

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	8	60	1.9	0.1 ... 16	1.4 ... 232	0.47	8240000.9101.xxxxx
	G3/8	10	60	3	0.1 ... 16	1.4 ... 232	0.45	8240100.9101.xxxxx
	G1/2	12	67	3.8	0.1 ... 16	1.4 ... 232	0.5	8240200.9101.xxxxx
	G3/4	20	80	6.1	0.1 ... 16	1.4 ... 232	0.65	8240300.9101.xxxxx
	G1	25	95	9.5	0.1 ... 16	1.4 ... 232	0.95	8240400.9101.xxxxx
	G1 1/4	32	132	23	0.1 ... 10 (16) *3)	1.4 ... 145 (232) *3)	2.73	8240500.9101.xxxxx
	G1 1/2	40	132	25	0.1 ... 10 (16) *3)	1.4 ... 145 (232) *3)	2.53	8240600.9101.xxxxx
	G2	50	160	41	0.1 ... 10 (16) *3)	1.4 ... 145 (232) *3)	3.85	8240700.9101.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

*3) With Solenoid 9151

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9101 *4)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *4)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*4) c SP us coil only

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx m II T4 T 130°C with 3 m connection cable	9136	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 8 ... 25, G1/4 ... 1

Functional compact design

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

NPT connection available: change 82470 to 82680

Technical features

Medium:
Hot water, steam
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

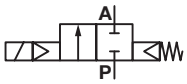
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1

Operating pressure:
0.1 ... 10 bar (1.4 ... 145 psi)
Differential pressure:
0.1 bar required (1.4 psi)
Fluid temperature:
0 ... +150°C (+32 ... +302°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)

Material:
Body: Brass (CW617N)
Seat seal: HNBR
Internal parts: Stainless steel, brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	8	60	1.7	0.1 ... 10	1.45 ... 145	0.47	8247000.9101.xxxxx
	G3/8	10	60	2.7	0.1 ... 10	1.45 ... 145	0.45	8247100.9101.xxxxx
	G1/2	12	67	3.4	0.1 ... 10	1.45 ... 145	0.5	8247200.9101.xxxxx
	G3/4	20	80	5.5	0.1 ... 10	1.45 ... 145	0.65	8247300.9101.xxxxx
	G1	25	95	8.5	0.1 ... 10	1.45 ... 145	0.95	8247400.9101.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9101 *3)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c. *4)	50 Hz	15 VA	12 VA
110	50	110 V a.c. *4)	50 Hz	15 VA	12 VA
120	60	120 V a.c. *4)	60 Hz	15 VA	12 VA
230	50	230 V a.c. *4)	50 Hz	15 VA	12 VA

*3) c SP us coil only

*4) A.c. only with rectifier plug

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 8 ... 50, G1/4 ... 2

Functional compact design

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

NPT connection available: change 82730 to 82740

Technical features

Medium:
Slightly aggressive gases and liquid fluids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

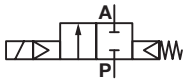
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
See table
Differential pressure:
0.1 bar required (1.45 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: NBR
Internal parts: Stainless steel, PVDF

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	8	60	1.9	0.1 ... 16	1.45 ... 232	0.47	8273000.9101.xxxxx
	G3/8	10	60	3	0.1 ... 16	1.45 ... 232	0.45	8273100.9101.xxxxx
	G1/2	12	67	3.8	0.1 ... 16	1.45 ... 232	0.5	8273200.9101.xxxxx
	G3/4	20	80	6.1	0.1 ... 16	1.45 ... 232	0.65	8273300.9101.xxxxx
	G1	25	95	9.5	0.1 ... 16	1.45 ... 232	0.95	8273400.9101.xxxxx
	G1 1/4	32	132	23	0.1 ... 10	1.45 ... 145	2.6	8273500.9101.xxxxx
	G1 1/4	32	132	23	0.1 ... 16	1.45 ... 232	2.6	8273500.9151.xxxxx
	G1 1/2	40	132	25	0.1 ... 10	1.45 ... 145	2.84	8273600.9101.xxxxx
	G1 1/2	40	132	25	0.1 ... 16	1.45 ... 232	2.84	8273600.9151.xxxxx
	G2	50	160	41	0.1 ... 10	1.45 ... 145	3.85	8273700.9101.xxxxx
	G2	50	160	41	0.1 ... 16	1.45 ... 232	3.85	8273700.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9101 *3) *4)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *3) *4)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*3) c SP us coil only

*4) Attention! Standard core tube with copper shading coil.
Look for fluid resistant further options

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx m II T4 T 130°C with 3 m connection cable	9136	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 16

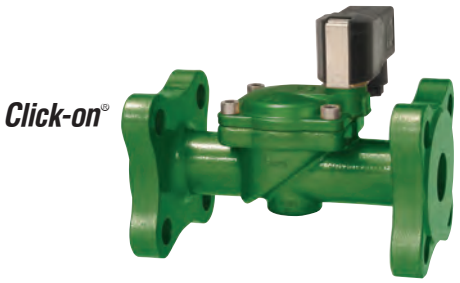
Orifice: DN 15 ... 50

Functional compact design

High flow rate

Solenoid interchangeable without tools (*Click-on*®)

Damped operation



Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

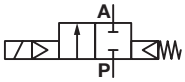
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50

Operating pressure:
0.1 … 10/16 bar
(1.45 ... 145/232 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +194°F)

Material:
Body: Cast steel, brass
Seat seal: NBR
Internal parts: Stainless steel, PVDF resp. brass from DN 32

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	15	3.8	0.1 ... 16	1.45 ... 232	2.6	8303200.9101.xxxxx
	20	6.1	0.1 ... 16	1.45 ... 232	2.8	8303300.9101.xxxxx
	25	9.5	0.1 ... 16	1.45 ... 232	3.2	8303400.9101.xxxxx
	32	23	0.1 ... 10	1.45 ... 145	5.8	8303500.9101.xxxxx
	32	23	0.1 ... 16	1.45 ... 232	5.9	8303500.9151.xxxxx
	40	25	0.1 ... 10	1.45 ... 145	6.1	8303600.9101.xxxxx
	40	25	0.1 ... 16	1.45 ... 232	6.2	8303600.9151.xxxxx
	50	41	0.1 ... 10	1.45 ... 145	8.4	8303700.9101.xxxxx
	50	41	0.1 ... 16	1.45 ... 232	8.5	8303700.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Power consumption Holding
Voltage and Frequency Solenoid 9101 *1)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*1) c SA us coil only

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx m II T4 T 130°C with 3 m connection cable for d.c./a.c.	9136	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4 T 140°C	9186	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx md II C T4/T5 130°C with cable gland for d.c.	4682	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx md II C T4/T5 130°C with cable gland for a.c.	4683	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Port size: PN 16

Orifice: DN 65 ... 150

Low power consumption

Easily interchangeable solenoid

Damped operation

Insensitive to deposit

Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

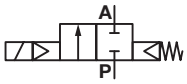
Mounting position:
Optional, solenoid preferably vertical on top
Flow direction:
Determined
Port size:
Flange PN 16,
DN 65, DN 80, DN 100,
DN 125, DN 150

Operating pressure:
0.5 … 10 bar (7.25 ... 145 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Grey cast iron
Seat seal: NBR
Internal parts: 1.4104, 1.4301, 2.1096, 2.0402

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	65	56	0.5 ... 10	7.25 ... 145	21.3	8358800.9366.xxxxx
	80	90	0.5 ... 10	7.25 ... 145	28.6	8358900.9366.xxxxx
	100	150	0.5 ... 10	7.25 ... 145	40.2	8359000.9366.xxxxx
	125	191	0.5 ... 10	7.25 ... 145	63	8359100.9366.xxxxx
	150	277	0.5 ... 10	7.25 ... 145	93	8359200.9366.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9366

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	106 VA	35 VA
110	50	110 V a.c.	50 Hz	106 VA	35 VA
120	60	120 V a.c.	60 Hz	106 VA	35 VA
230	50	230 V a.c.	50 Hz	106 VA	35 VA

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 8, G1/4 ... 1/2

High pressure solenoid valves

Solenoid interchangeable without tools (*Click-on*®)

Further customized solutions on request

8590178.9186 8590185.9841

Technical features

Medium:
For compressed natural gas (CNG)
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated
Mounting position:
Optional, preferably solenoid vertical on top

Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2
Operating pressure:
10 … 320 bar (145 ... 4641 psi)
Leakage rate:
Internal Leakage acc. to DIN EN 12266-1 Leakage “C”
External Leakage acc. to DIN EN 12266-1 Leakage “A”

Fluid temperature:
Solenoid 9841: –20 ... +60°C (–4 ... +140°F)
Solenoid 9186: –20 ... +60°C (–4 ... +140°F)
Ambient temperature:
Solenoid 9841: –20 ... +50°C (–4 ... +122°F)
Solenoid 9186: –20 ... +40°C (–4 ... +122°F)

Material:
Body: Brass
Seat seal: Polymer
Internal parts: Brass, stainless steel, polymer

Installation of a 40 µm filter in front of the valve is required!

Technical data - Standard models

Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) *3) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
G1/4	8	1.2	10 ... 320	145 ... 4641	2.2	8590371.9841.xxxxx
G1/4	8	1.2	10 ... 320	145 ... 4641	2.2	8590371.9186.xxxxx
G3/8	8	1.2	10 ... 320	145 ... 4641	2.2	8590185.9841.xxxxx
G3/8	8	1.2	10 ... 320	145 ... 4641	2.2	8590178.9186.xxxxx
G1/2	8	1.2	10 ... 320	145 ... 4641	2.2	8590337.9841.xxxxx
G1/2	8	1.2	10 ... 320	145 ... 4641	2.2	8590337.9186.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) Static test pressure PT = 480 bar (6961 psi)

*3) Max. Operating pressure = 320 bar (4641 psi)

Acc. to PED 97/23/EC and ATEX 94/9/EG!

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
Voltage and Frequency Solenoid 9841					
024	00	24 V d.c.	-	10.1 W	10.1 W
230	59	230 V a.c.	50 … 60 Hz	9.2 VA	9.2 VA
Voltage and Frequency Solenoid 9186					
024	00	24 V d.c.	-	14 W	14 W
230	49	230 V a.c.	40 … 60 Hz	16 VA	16 VA

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	Ex mb IIC T4 Gb Ex mb tb IIIC T 130°C Db with 3 m connection cable	9841	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4, IP 65 Ex II 2 GD Junction box for cable diameter 5-10 mm cable entry M16 x 1.5	9186	24 V d.c., 110 V a.c., 230 V a.c.

Ex-areas

	Class	Division	Groups
Gases + fumes	I	1 and 2	A ... D
Dusts	II	1 and 2	E ... G
Fibres + fluffs	III	1 and 2	–

Electrical details for all solenoid systems

Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 15, G3/4 ...1

High pressure solenoid valves

Further customized solutions available: upon request

8590649.9841

8590556.9841

8590365.9841

Technical features

Medium:
For compressed natural gas (CNG)
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated
Mounting position:
Optional, preferably solenoid vertical on top

Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2
Operating pressure:
10 … 250 bar (145 ... 3626 psi)
Leakage:
Internal Leakage acc. to DIN EN 12266-1 Leakage “E”
External Leakage acc. to DIN EN 12266-1 Leakage “A”

Fluid temperature:
Solenoid 9841: –20 ... +60°C (–4 ... +140°F)
Solenoid 9186: –20 ... +60°C (–4 ... +140°F)
Ambient temperature:
Solenoid 9841: –20 ... +50°C (–4 ... +122°F)
Solenoid 9186: –20 ... +40°C (–4 ... +104°F)

Material:
Body: Brass
Seat seal: Polymer
Internal parts: Brass, stainless steel, polymer

Installation of a 40 µm filter in front of the valve is required!

Technical data - Standard models

Operation	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
Single valve	G3/4	15	4.5	10 ... 250	145 ... 3626	4.8	8590649.9841.xxxxx
2-station manifold with integrated non return pressure valves for the 2-bank control	1 x G1 Inlet 2 x G3/4 Outlet 2 x G1/4 for Pressure transmitter *3)	15	4.5	10 ... 250	145 ... 3626	12.5	8590556.9841.xxxxx
3-station manifold with integrated no return pressure valves for the 3-bank control	1 x G1 Inlet 3 x G3/4 Outlet 3 x G1/4 for Pressure transmitter *3)	15	4.5	10 ... 250	145 ... 3626	17.3	8590365.9841.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) Static test pressure PT=375 bar (707 psi)

*3) Not included

Acc. to PED 97/23/EC and ATEX 94/9/EG!

Standard solenoid systems

Voltage and Frequency Solenoid 9841					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	10.1 W	10.1 W
230	59	230 V a.c.	50 … 60 Hz	9.2 VA	9.2 VA
Voltage and Frequency Solenoid 9186					
024	00	24 V d.c.	-	14 W	14 W
230	49	230 V a.c.	40 … 60 Hz	16 VA	16 VA

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	Ex mb IIC T4 Gb Ex mb tb IIIC T 130°C Db with 3 m connection cable	9841	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4, IP 65 Ex II 2 GD Junction box for cable diameter 5-10 mm cable entry M16 x 1,5	9186	24 V d.c., 110 V a.c., 230 V a.c.

Ex-areas

	Class	Division	Groups
Gases + fumes	I	1 and 2	A ... D
Dusts	II	1 and 2	E ... G
Fibres + fluffs	III	1 and 2	–

Electrical details for all solenoid systems

Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

DN 12 ... 20, G1/2 ... 3/4

Functional compact design

High flow rate

International approvals

Solenoid interchangeable without tools (*Click-on*®)

Damped operation

Click-on®

Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

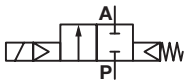
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/2, G3/4

Operating pressure:
0.3 ... 10.5 bar (4.35 ... 152 psi)
Fluid temperature:
+5 ... +50°C (+41 ... +122°F)
Ambient temperature:
0 ... +50°C (+32 ... +122°F)

Material:
Body: Polymer (PPO GF 30)
Seat seal: EPDM
Internal parts: Stainless steel, PVDF

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/2	12	3	0.3 ... 10.5	4.35 ... 152	0.28	8407214.9101.xxxxx
	G3/4	20	5	0.3 ... 10.5	4.35 ... 152	0.3	8407314.9101.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9101 *3)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA

*3) c SP us coil only

Further versions on request!

Specific NSF listed voltages for this valve can be found on: www.nsf.org.

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Port size: PN 16

Orifice: DN 65 ... 100

Flat piston valves

High flow rate

Damped operation

Technical features

Medium:
Air, water, oil
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

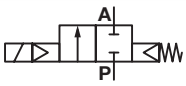
Mounting position:
Optional,
preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 16,
DN 65, DN 80, DN 100

Operating pressure:
0.5 … 16 bar (7.25 .... 232 psi)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Body: Grey cast iron
Seat seal: NBR
Cover: Grey cast iron
Internal parts: Stainless steel, red brass

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) *3) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
	65	70	0.5 ... 16	7.25 ... 232	28	8432800.8401.xxxxx	8432800.8404.xxxxx
	80	98	0.5 ... 16	7.25 ... 232	35	8432900.8401.xxxxx	8432900.8404.xxxxx
	100	157	0.5 ... 16	7.25 ... 232	53	8433000.8401.xxxxx	8433000.8404.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

*3) Minimum pressure differential P > A 0.5 bar (7,25 psi)

Standard solenoid systems

Voltage and Frequency Solenoid 8401/8404

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c. *4)	40 … 60 Hz	45 VA	45 VA
110	49	110 V a.c. *4)	40 … 60 Hz	45 VA	45 VA
205	49	205 V a.c. *4)	40 … 60 Hz	45 VA	45 VA
230	49	230 V a.c. *4)	40 … 60 Hz	45 VA	45 VA

*4) A.c. only with rectifier plug

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx me II T4 T 140°C	8436	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C	8441	24 V d.c., 110 V a.c., 230 V a.c.
II2G II2D	Ex de IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8900	24 V d.c., 110 V a.c., 230 V a.c.
II2G II2D	Ex d IIC T4/T5 Ex tD A21 IP65 T 130°C resp. T 95°C	8920	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Further versions on request!

DN 8 ... 50, G1/4 ... 2

High flow rate

Long lifetime

Compact build piston valve

Solenoid interchangeable without tools (*Click-on*®)

Damped operation via cone

Piston guided in PTFE rings

NPT connection available: change 85360 to 85370

Click-on®

Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

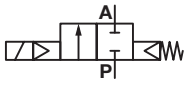
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2

Operating pressure:
0.5 ... 40 bar (7.25 ... 580 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR
Internal parts: Stainless steel, brass, PTFE / carbon

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in d.c./a.c.
	G1/4	8	2.2	0.5 ... 40	7.25 ... 580	0.83	8536000.9151.xxxxx
	G3/8	10	3.4	0.5 ... 40	7.25 ... 580	0.82	8536100.9151.xxxxx
	G1/2	12	4.4	0.5 ... 40	7.25 ... 580	0.85	8536200.9151.xxxxx
	G3/4	20	7	0.5 ... 40	7.25 ... 580	1.25	8536300.9151.xxxxx
	G1	25	10.5	0.5 ... 40	7.25 ... 580	1.7	8536400.9151.xxxxx
	G1 1/4	32	25	0.5 ... 40	7.25 ... 580	4.1	8536500.9151.xxxxx
	G1 1/2	40	27	0.5 ... 40	7.25 ... 580	3.85	8536600.9151.xxxxx
	G2	50	43	0.5 ... 40	7.25 ... 580	5.6	8536700.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 25 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9151 *3)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*3) c SP us coil only

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II3GD	Ex nA II T4 Ex tD A22 IP65 T 135°C	9176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex me II T4 T 110°C	9186	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex dmb IIC T4/T5 Ex tD A21 IP66 T 130°C up to DN 25: Operating pressure 0.5 ... 16 bar (7.25 ... 232 psi) from DN 32: Operating pressure 0.5 ... 10 bar (7.25 ... 145 psi)	468x	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Further versions on request!

DN 8 ... 25

High flow rate

Long lifetime

Compact build piston valve

Leakage rate E acc. to DIN EN 12266-1

Solenoid interchangeable without tools (*Click-on*®)

Piston guided in PTFE rings

NPT connection available:
change 85380 to 85390

Click-on®

Technical features

Medium:
Neutral steam and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

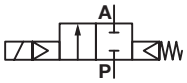
Mounting position:
Optional, solenoid preferably vertical on top
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1

Operating pressure:
1 ... 25 bar (14,5 ... 363 psi)
Fluid temperature:
0 ... +200°C (+32 ... +392°F) *3)
Ambient temperature:
0 ... +50°C (+32 ... +122°F) *3)
with solenoid mounted vertical underneath max. +60°C (+140°F) *4)

Material:
Body: Brass (CW617N)
Seat seal: PTFE
Internal parts: Stainless steel, FPM, PTFE

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G1/4	8	2.2	1 ... 25	14.5 ... 363	0.83	8538000.9152.xxxxx
	G3/8	10	3.4	1 ... 25	14.5 ... 363	0.82	8538100.9152.xxxxx
	G1/2	12	4.4	1 ... 25	14.5 ... 363	0.85	8538200.9152.xxxxx
	G3/4	20	7	1 ... 25	14.5 ... 363	1.25	8538300.9152.xxxxx
	G1	25	10.5	1 ... 25	14.5 ... 363	1.7	8538400.9152.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 40 mm^2/s (cSt)

*3) Temperature < 0°C (+14°F) on request

*4) Temperature max. +55°C (+131°F) within the scope of c SA us

Standard solenoid systems

Voltage and Frequency Solenoid 9152 *5)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	10 W	10 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*5) c SA us coil only up to +55°C ambient temperature

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Port size: PN 40

Orifice: DN 15 ... 50

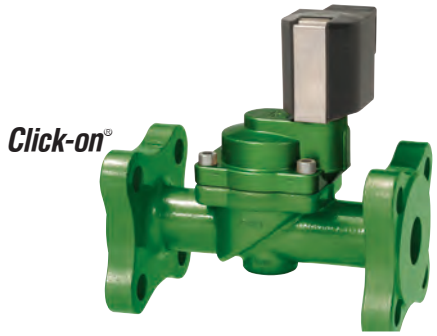
High flow rate

Long lifetime

Compact build piston valve

Solenoid interchangeable without tools (*Click-on*®)

Piston guided in PTFE rings



Technical features

Medium:
Neutral gases and liquids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

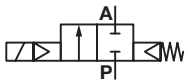
Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
Flange PN 40,
DN 15, DN 20, DN 25,
DN 32, DN 40, DN 50

Operating pressure:
0.5 … 40 bar (7.25 ... 580 psi)
Fluid temperature:
–20 ... +90°C (–4 ... +194°F)
Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Material:
Body: Cast steel (1.0619), brass (CW617N)
Seat seal: NBR
Internal parts: Stainless steel, brass, PTFE

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model Solenoid in d.c./a.c.
	15	4.4	0.5 ... 40	7.25 ... 580	3.2	8566200.9151.xxxxx
	20	7	0.5 ... 40	7.25 ... 580	3.6	8566300.9151.xxxxx
	25	10.5	0.5 ... 40	7.25 ... 580	4.2	8566400.9151.xxxxx
	32	25	0.5 ... 40	7.25 ... 580	7.2	8566500.9151.xxxxx
	40	27	0.5 ... 40	7.25 ... 580	7.6	8566600.9151.xxxxx
	50	43	0.5 ... 40	7.25 ... 580	8.8	8566700.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 60 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9151 *3)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	40 W	40 W
024	49	24 V a.c.	40 ... 60 Hz	45 VA	45 VA
110	49	110 V a.c.	40 ... 60 Hz	45 VA	45 VA
120	49	120 V a.c.	40 ... 60 Hz	45 VA	45 VA
230	49	230 V a.c.	40 ... 60 Hz	45 VA	45 VA

*3) c SP us coil only

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II3GD	Ex nA II T4 Ex tD A22 IP65 T 135°C	9176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4 T 110°C	9186	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	Ex dmb IIC T4/T5 Ex tD A21 IP66 T 130°C up to DN 25: Operating pressure 0.5 ... 16 bar (7.25 ... 362 psi) from DN 32: Operating pressure 0.5 ... 10 bar (7.25 ... 145 psi)	468x	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Engineering
GREAT Solutions

PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

PRODUCTS

OVERVIEW
2/2- & 3/2-WAY VALVES

82160
DN 8 ... 50
Pressure actuated by external fluid, brass, insensitive to dirt

Page 03-03

82170
DN 8 ... 50
Pressure actuated by external fluid, brass, insensitive to dirt

Page 03-04

82180
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, actuator ø 70 mm, brass

Page 03-05

82280
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, actuator ø 125 mm, brass

Page 03-05

82380
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, actuator ø 70 mm, stainless steel

Page 03-06

82480
DN 8 ... 50
Pressure actuated by external fluid, angle seat valve, actuator ø 125 mm, stainless steel

Page 03-06

82580
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve with DVGW-approval

Page 03-07

82710
DN 8 ... 12
Pressure actuated by external fluid, brass, compact

Page 03-08

83250
3/2-way valves
DN 15 ... 50
Pressure actuated by external fluid, seat valve, gun metal, PTFE

Page 03-09

83350
DN 15 ... 50
Pressure actuated by external fluid, diaphragm valve, insensitive to dirt

Page 03-10

83380
DN 15 ... 150
Pressure actuated by external fluid, diaphragm valve, flange, insensitive to dirt

Page 03-11

84180
DN 2 ... 10
Pressure actuated by external fluid, brass, compact

Page 03-12

84190
DN 2 ... 10
Pressure actuated by external fluid, stainless steel, compact

Page 03-13

84500
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, brass, polymer actuator

Page 03-14

84520
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, stainless steel, polymer actuator

Page 03-15

84580
DN 15 ... 50
Pressure actuated by external fluid, angle seat valve, brass, polymer actuator

Page 03-16

84660
3/2-way valves
DN 1,6 ... 3
Pressure actuated by external fluid, control valve

Page 03-17

84720
DN 15 ... 25
Pressure actuated by external fluid, angle seat valve, brass, actuator ø 50 mm

Page 03-18

84740
DN 15 ... 25
Pressure actuated by external fluid, angle seat valve, stainless steel, actuator ø 50 mm

Page 03-19

DN 8 ... 50, G1/4 ... 2

For fluids with high particle contamination

Optimised dimensions and weight

Fluid isolated from valve actuator

Compact valve for industrial applications

Vacuum version as an option

Technical features

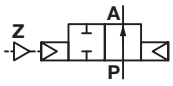
Medium:
Neutral fluids
with high particle contamination
Pilot fluid:
Air max. +60°C (+140°F)
Switching function:
Normally closed
with pilot pressure
Operation:
Pressure actuated
by external fluid
Modele:
Pressure actuated seat valve with diaphragm actuator

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4
Operating pressure:
0.2 … 16 bar (2.9 ... 232 psi)
Differential pressure:
0.2 bar required (2.9 psi)

Pilot pressure:
G1/4 ... 1/2
max. 6 bar (87 psi)
higher than operating pressure
G3/4 ... 2
max. 1 bar (14 psi)
higher than operating pressure
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Viscosity:
Max. 80 mm²/s

Material:
Body: Brass (CW617N)
Cover: Brass (2.0402)
Seat seals: NBR
Internal parts: Brass, stainless steel
Main sealing element:
Fabric reinforced NBR diaphragm with valve plate
Valve seat: Brass

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Pilot connection	Flow kv value *1) (m³/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model
	G1/4	8	G1/4	1.7	0.2 ... 16	2.9 ... 232	0.5	8216000.0000.00000
	G3/8	10	G1/4	3.4	0.2 ... 16	2.9 ... 232	0.45	8216100.0000.00000
	G1/2	12	G1/4	4	0.2 ... 16	2.9 ... 232	0.4	8216200.0000.00000
	G3/4	20	G1/4	11	0.2 ... 16	2.9 ... 232	1.15	8216300.0000.00000
	G1	25	G1/4	13	0.2 ... 16	2.9 ... 232	1	8216400.0000.00000
	G1 1/4	32	G1/4	28	0.2 ... 16	2.9 ... 232	2.35	8216500.0000.00000
	G1 1/2	40	G1/4	31	0.2 ... 16	2.9 ... 232	2.1	8216600.0000.00000
	G2	50	G1/4	46	0.2 ... 16	2.9 ... 232	3.35	8216700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 80 mm²/s (cSt)

DN 8 ... 50, G1/4 ... 2

For fluids with high particle contamination

Optimised dimensions and weight

Fluid isolated from valve actuator

Compact valve for industrial applications

Vacuum version as an option

NPT-connection available: change 82170 to 82270

Technical features

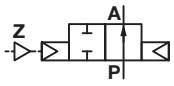
Medium:
Neutral gases and liquid fuels
Pilot fluid:
Air max. +60°C (+140°F)
Switching function:
Normally closed
with pilot pressure
Operation:
Pressure actuated
by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/4, G3/8, G1/2, G3/4, G1,
G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
0.2 … 16 bar (2.9 ... 232 psi)
Differential pressure:
0.2 bar (2.9 psi) required
Pilot pressure:
G1/4 ... 1/2
1 ... 16 bar (14 ... 232 psi)
max. 6 bar (87 psi)
higher than operating pressure;
G3/4 ... 2
1 ... 16 bar (14 ... 232 psi)
max. 1 bar (14 psi)
higher than operating pressure

Fluid temperature:
–10 ... +60°C (+14 ... +140°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)
Material:
Body: Brass
Seat seals: NBR
Internal parts: Brass,
stainless steel
Main sealing element:
Fabric reinforced NBR diaphragm
with valve plate

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight Standard (kg)	Weight Pulse Solenoid (kg)	Model Standard	Model Pulse Solenoid
	G1/4	8	1.7	0.2 ... 16	2.9 ... 232	1.32	1.45	8217000.9301.xxxxx	8217000.8821.xxxxx
	G3/8	10	3.4	0.2 ... 16	2.9 ... 232	1.27	1.4	8217100.9301.xxxxx	8217100.8821.xxxxx
	G1/2	12	4	0.2 ... 16	2.9 ... 232	1.22	1.35	8217200.9301.xxxxx	8217200.8821.xxxxx
	G3/4	20	11	0.2 ... 16	2.9 ... 232	1.97	2.1	8217300.9301.xxxxx	8217300.8821.xxxxx
	G1	25	13	0.2 ... 16	2.9 ... 232	1.82	1.95	8217400.9301.xxxxx	8217400.8821.xxxxx
	G1 1/4	32	28	0.2 ... 16	2.9 ... 232	3.17	3.2	8217500.9301.xxxxx	8217500.8821.xxxxx
	G1 1/2	40	31	0.2 ... 16	2.9 ... 232	2.92	3	8217600.9301.xxxxx	8217600.8821.xxxxx
	G2	50	46	0.2 ... 16	2.9 ... 232	4.17	4.3	8217700.9301.xxxxx	8217700.8821.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 80 mm^2/s (cSt)

Standard solenoid systems

Voltage and Frequency Solenoid 9301 *3)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	106 VA	35 VA
110	50	110 V a.c.	50 Hz	106 VA	35 VA
120	60	120 V a.c.	60 Hz	106 VA	35 VA
230	50	230 V a.c.	50 Hz	106 VA	35 VA

*3) c SP us coil only

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

NPT-connection available:
change 82180 to 82190
change 82280 to 82290

DN 15 ... 50, G1/2 ... 2

High flow rate

Suitable for vacuum up to max. 90%

Suitable for contaminated process fluid

Option pressure actuated by external liquid fluid

For robust industry applications

Damped closing
(Valve closes against flow direction)

Technical features

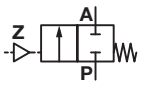
Medium:
Neutral gases and liquids
Pilot fluid:
Neutral gases max. +80°C (+176°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 8 bar (50.7 ... 116 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)

Material:
Process fluid characteristics:
Body: Brass (CW617N)
Seat seal: PTFE
Internal parts: Brass, stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
Pilot fluid characteristics:
Body: Stainless steel, aluminium
Bottom: WEMA-Kor, coated
Seat seals: NBR
Internal parts: Coated steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Actuator ø (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	70	4.8	0 ... 16	0 ... 232	1.4	8218200.0000.00000
	G3/4	20	70	10	0 ... 10	0 ... 145	1.5	8218300.0000.00000
	G1	25	70	14	0 ... 10	0 ... 145	1.8	8218400.0000.00000
	G1 1/4	32	70	23	0 ... 7	0 ... 101	2.4	8218500.0000.00000
	G1 1/2	40	70	30	0 ... 4.5	0 ... 65	2.7	8218600.0000.00000
	G2	50	70	37	0 ... 3	0 ... 43	3.9	8218700.0000.00000
	G1 1/4	32	125	27	0 ... 16	0 ... 232	5.3	8228500.0000.00000
	G1 1/2	40	125	37	0 ... 10	0 ... 145	5.5	8228600.0000.00000
	G2	50	125	53	0 ... 10	0 ... 145	7.7	8228700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

DN 8 ... 50, G1/4 ... 2

For robust industry applications

Suitable for contaminated process fluids

Suitable for vacuum up to max. 90%

High flow rate

High media compatibility due to optimal material combinations

Damped closing (Valve closes against flow direction)

NPT-connection available:
change 82380 to 82390
change 82480 to 82490

Stainless Steel

Technical features

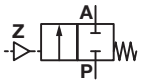
Medium:
Aggressive gases and liquids
Pilot fluid:
Neutral gases max. +80°C (+176°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 8 bar (51 ... 116 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)

Material:
Process fluid characteristics:
Body: Stainless steel (1.4408)
Seat seal: PTFE
Internal parts: Stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
Pilot fluid characteristics:
Body: Stainless steel, aluminium
Bottom: WEMA-Kor, coated
Seat seals: NBR
Internal parts: Steel, coated

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Actuator ø (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	70	4.8	0 ... 16	0 ... 232	1.3	8238200.0000.00000
	G3/4	20	70	10	0 ... 10	0 ... 145	1.4	8238300.0000.00000
	G1	25	70	14	0 ... 10	0 ... 145	1.7	8238400.0000.00000
	G1 1/4	32	70	23	0 ... 7	0 ... 101	2.4	8238500.0000.00000
	G1 1/2	40	70	30	0 ... 4.5	0 ... 65	2.6	8238600.0000.00000
	G2	50	70	37	0 ... 3	0 ... 43	3.8	8238700.0000.00000
	G1 1/4	32	125	27	0 ... 16	0 ... 232	5.1	8248500.0000.00000
	G1 1/2	40	125	37	0 ... 10	0 ... 145	5.5	8248600.0000.00000
	G2	50	125	53	0 ... 10	0 ... 145	7	8248700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

DN 15 ... 50, G1/2 ... 2

Qualification approval acc. to EN 161/3394 Part 1

EC type examination certificate
Product ID–No.: CE-0085 AT0091
Valve class A, Valve group 2

For robust industry applications

Short response time < 1 s

High function reliability

TÜV Rheinland

Technical features

Medium:
Neutral burnable gases and other neutral gases
Pilot fluid:
Neutral gases max. +80°C (+176°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

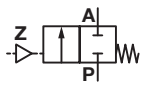
Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4
Operating pressure:
0 ... 10 bar (0 ... 145 psi)
Pilot pressure:
5 ... 8 bar (72 ... 116 psi)

Fluid temperature:
–10 ... +60°C (+14 ... +140°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Brass (CW617N)
Seat seal: FPM
Body seal: FPM
Internal parts: Brass, stainless steel
Spindle sealing: PTFE / FPM, self-adjustable

Material:
Pilot fluid characteristics:
Body: Stainless steel (1.4408)
Bottom: Alu WEMA-Kor, coated
Seat seals: NBR
Internal parts: Steel, coated

For contaminated fluids insertion of a strainer is recommended.

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	4.8	0 ... 10	0 ... 145	1.4	8258200.0000.xxxxx
	G3/4	20	10	0 ... 10	0 ... 145	1.5	8258300.0000.xxxxx
	G1	25	14	0 ... 10	0 ... 145	1.8	8258400.0000.xxxxx
	G1 1/4	32	23	0 ... 10	0 ... 145	2.4	8258500.0000.xxxxx
	G1 1/2	40	30	0 ... 10	0 ... 145	2.7	8258600.0000.xxxxx
	G2	50	37	0 ... 10	0 ... 145	3.9	8258700.0000.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 400 mm^2/s (cSt)

*3) 0000 = without pilot valve
0247 = with pilot valve for V d.c.
0247 = with pilot valve for V a.c.

DN 8 ... 12, G1/4 ... 1/2

Suitable for contaminated process fluids

Optical position indicator is standard

Spindle seal with diaphragm

NPT-connection available:
change 82710 to 82750

Technical features

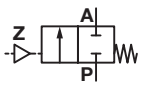
Medium:
Neutral gases and liquids
Pilot fluid:
Air, water, hydraulic oil
max. +90°C (+194°F)
Switching function:
Normally closed
Operation:
Pressure actuated
by external fluid

Mounting position:
Optional
Flow direction:
Optional
Port size:
G1/4, G3/8, G1/2
Pilot connection:
G1/8

Operating pressure:
–0,9 … 6 bar (–13 ... 87 bar)
Pilot pressure:
3 ... 8 bar (44 ... 116 bar)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +50°C (+14 ... +122°F)

Material:
Process fluid characteristics:
Body: Brass
Seat seal: Fabric reinforced NBR diaphragm
Pilot fluid characteristics:
Body: Brass, PPO (cover)
Seat seal: Fabric reinforced NBR diaphragm

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Pilot pressure *3)	Weight (kg)	Model
	G1/4	8	1.9	–0.9 ... 6	–13 ... 87	3 ... 8	0.75	8271000.0000.00000
	G3/8	10	2.4	–0.9 ... 6	–13 ... 87	3 ... 8	0.72	8271100.0000.00000
	G1/2	12	2.9	–0.9 ... 6	–13 ... 87	3 ... 8	0.7	8271200.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 80 mm^2/s (cSt)

*3) For vacuum inset min. pilot pressure 4 bar

Note: Stainless steel design for number 51, 51, 52

Note:

A 3/2 way solenoid pilot valve can be fitted at the pilot connection Z. These pilot valves are only for air, look at documentation N/en 5.8.640.

Required parts	Model
3/2-way solenoid valve DN 1,6	8466053.910x.xxxxx

DN 15 ... 50, G1/2 ... 2

Can be used as Y-pattern/selector valve (pressure connected to A)

Suitable for steam

High flow rate

Technical features

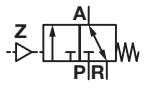
Medium:
Neutral gases and liquids
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed from P to A, opened from P to A by pilot pressure
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
0 ... 10/16 bar (0 ... 145/232 psi)
Pilot pressure:
5.5 ... 7 bar (80 ... 102 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +80°C (+14 ... +176°F)

Material:
Process fluid characteristics:
Body: Gun metal
Seat seal: PTFE
Internal parts: Stainless steel, brass
Spindle sealing: PTFE / EPDM
Pilot fluid characteristics:
Body: Aluminium
Seat seals: NBR
Internal parts: Brass, stainless steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h) Way P>A	Way A>R	Operating pressure *2) (bar)		Weight (kg)	Model
	G1/2	15	5.8	3	0 ... 16	0 ... 232	1.6	8325200.0000.00000
	G3/4	20	11.5	7	0 ... 16	0 ... 232	1.8	8325300.0000.00000
	G1	25	18	12.5	0 ... 10	0 ... 145	2.1	8325400.0000.00000
	G1 1/4	32	25	15	0 ... 16	0 ... 232	6.6	8325500.0000.00000
	G1 1/2	40	39	27	0 ... 14	0 ... 203	6.8	8325600.0000.00000
	G2	50	64	43	0 ... 10	0 ... 145	7.9	8325700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 400 mm^2/s (cSt)

DN 15 ... 50, G1/2 ... 2

Any flow direction and mounting position

Special seal materials are required for use with oil and oleiferous media

Technical features

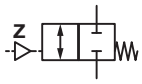
Medium:
Neutral gases and liquid fluids
Pilot fluid:
Air max. +40°C (+104°F)
Switching function:
Normally closed;
closed by spring force,
opened by pilot pressure
Operation:
Pressure actuated
by external fluid

Mounting position:
Optional
Flow direction:
Optional
Port size:
G1/2, G3/4, G1,
G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
0 ... 10 bar (0 ... 145 psi)
Pilot pressure:
5.5 ... 7 bar (80 ... 101 psi)
Fluid temperature:
–10 ... +80°C (+14 ... +176°F)
Ambient temperature:
–10 ... +55°C (+14 ... +131°F)

Material:
Process fluid characteristics:
Body: Grey cast iron
Seat seal: EPDM
Pilot fluid characteristics:
Body: Polymer material
Seat seals: NBR
Internal parts: Steel, coated

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight *3) (kg)	Model *3)
	G1/2	15	7	0 ... 10	0 ... 145	1.9	8335200.0000.00000
	G3/4	20	15	0 ... 10	0 ... 145	2	8335300.0000.00000
	G1	25	20	0 ... 10	0 ... 145	2.3	8335400.0000.00000
	G1 1/4	32	37	0 ... 10	0 ... 145	4.5	8335500.0000.00000
	G1 1/2	40	41	0 ... 10	0 ... 145	4.9	8335600.0000.00000
	G2	50	82	0 ... 10	0 ... 145	8.6	8335700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 400 mm^2/s (cSt)

*3) Without pilot valve

Notes
for 3/2-way pilot valve 84660 / 84680

Material	Body aluminium
Pilot fluid temperature	max. +60°C (+140°F)
Pilot pressure	1 ... 10 bar
Standard voltages	24 V d.c., 24 V a.c., 230 V a.c.

Electrical data
for 3/2-way pilot valve 84660 / 84680

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65 with mounted socket
Socket	Form A acc. to DIN EN 175301-803 (included)
Technical data	See publication N/en 5.8.640

Further versions on request!

DN 15 ... 150

Any flow direction and mounting position

Special seal materials are required for use with oil and oleiferous media

Technical features

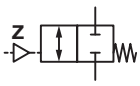
Medium:
Neutral gases and liquid fluids
Pilot fluid:
Air max. +40°C (+104°F)
Switching function:
Normally closed;
closed by spring force,
opened by pilot pressure
Operation:
Pressure actuated
by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
DN 15, DN 20, DN 25, DN 32,
DN 40, DN 50, DN 65, DN 80,
DN 100, DN 125, DN 150
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
5.5 ... 7 bar (80 ... 101 psi)
Fluid temperature:
–10 ... +80°C (+14 ... +176°F)
Ambient temperature:
–10 ... +55°C (+14 ... +131°F)

Material:
Process fluid characteristics:
Body: Grey cast iron
Seat seal: EPDM
Pilot fluid characteristics:
Body: Polymer material
Seat seals: NBR
Internal parts: Steel, coated

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight *3) (kg)	Model *3)
	15	7	0 ... 10	0 ... 145	3.1	8338200.0000.00000
	20	14	0 ... 10	0 ... 145	3.7	8338300.0000.00000
	25	20	0 ... 10	0 ... 145	4.2	8338400.0000.00000
	32	37	0 ... 10	0 ... 145	7.7	8338500.0000.00000
	40	40	0 ... 10	0 ... 145	8.2	8338600.0000.00000
	50	82	0 ... 10	0 ... 145	13.7	8338700.0000.00000
	65	102	0 ... 6	0 ... 87	26	8338800.0000.00000
	80	165	0 ... 8	0 ... 116	30	8338900.0000.00000
	100	241	0 ... 6	0 ... 87	48	8339000.0000.00000
	125	378	0 ... 8	0 ... 116	91	8339100.0000.00000
	150	496	0 ... 6	0 ... 87	104	8339200.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 400 mm^2/s (cSt)

*3) Without pilot valve

DN 2 ... 10, G1/8 ... 1/2

Actuator may be rotated 360°

Clip angle M5 standard

Suitable for vacuum up to max. 90%

Suitable for contaminated process fluid

High flow rate

Compact miniature actuator ø 30 mm

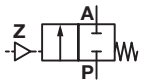
Reversed flow direction optional

NPT-connection available: change 84180 to 84380

Technical features

Medium:
Neutral aggressive gases and liquids up to 600 mm²/s
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid
Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/8, G1/4, G3/8, G1/2
Pilot connection:
M5
Operating pressure:
0 … 25 bar (0 ... 362 psi)
Pilot pressure:
4 … 10 bar (58 ... 145 psi)
Fluid temperature:
–10 ... +90°C (–14 ... +194°F)
Ambient temperature:
–10 ... +60°C (–14 ... +140°F)
Material:
Process fluid characteristics:
Body: Brass (CW617N)
Seat seals: NBR
Seat seal: PTFE
Internal parts: Stainless steel / brass
Seat seal: PTFE
Internal parts: Stainless steel, Brass
Seal packing: PTFE / NBR self-adjustable
Material:
Pilot fluid characteristics:
Body: Brass
Seat seals: NBR
Seat seal: PTFE
Internal parts: Stainless steel / brass

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Pilot pressure (bar)	(psi)	Flow kv value *1) (m³/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model
	G1/8	2	4 ... 10	58 ... 145	0.12	0 ... 25	0 ... 362	0.35	8418800.0000.00000
	G1/4	4	4 ... 10	58 ... 145	0.35	0 ... 25	0 ... 362	0.33	8418020.0000.00000
	G3/8	6	4 ... 10	58 ... 145	0.6	0 ... 20	0 ... 290	0.32	8418140.0000.00000
	G1/2	10	4 ... 10	58 ... 145	1.8	0 ... 8	0 ... 116	0.47	8418260.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm²/s (cSt)

DN 2 ... 10, G1/8 ... 1/2

Actuator may be rotated 360°

Clip angle M5 standard

Suitable for vacuum up to max. 90%

Suitable for contaminated process fluid

High flow rate

Compact miniature actuator ø 30 mm

Reversed flow direction optional

NPT-connection available: change 84190 to 84390

Stainless Steel

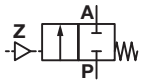
Technical features

Medium:
Neutral aggressive gases and liquids up to 600 mm²/s
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/8, G1/4, G3/8, G1/2
Pilot connection:
M5

Operating pressure:
0 … 25 bar (0 ... 362 bar)
Pilot pressure:
4 … 10 bar (58 ... 145 bar)
Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Stainless steel (1.4408)
Seat seals: NBR
Seat seal: PTFE
Internal parts: Stainless steel
Seal packing: PTFE / NBR self-adjustable
Material:
Pilot fluid characteristics:
Body: Stainless steel (1.4404)
Seat seals: NBR
Internal parts: Stainless steel / brass

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Pilot pressure (bar)	(psi)	Flow kv value *1) (m³/h)	Operating pressure *2) (bar)	(psi)	Weight (kg)	Model
	G1/8	2	4 ... 10	58 ... 145	0.12	0 ... 25	0 ... 362	0.34	8419800.0000.00000
	G1/4	4	4 ... 10	58 ... 145	0.35	0 ... 25	0 ... 362	0.32	8419020.0000.00000
	G3/8	6	4 ... 10	58 ... 145	0.6	0 ... 20	0 ... 362	0.31	8419140.0000.00000
	G1/2	10	4 ... 10	58 ... 145	1.8	0 ... 8	0 ... 362	0.45	8419260.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm²/s (cSt)

DN 15 ... 50, G1/2 ... 2

Easy rebuilding into »normally open« or »double-acting« without tools

Optical position indicator is standard

Suitable for vacuum up to max. 90%

Suitable for contaminated flow fluid

High flow rate

Damped closing (Valve closes against flow direction)

Reversed flow direction optional

NPT-connection available: change 84500 to 84510

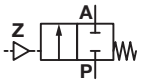
Technical features

Medium:
Neutral gases and liquids
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 10 bar (50 ... 145 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Brass (CW617N)
Seat seal: PTFE
Internal parts: Brass, stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
Material:
Pilot fluid characteristics:
Body: Polyamid 66 with glass fibre 30%
Seat seals: NBR
Internal parts: Brass, stainless steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	4.8	0 ... 16 (25)	0 ... 232 (362)	1.4	8450200.0000.00000
	G3/4	20	10	0 ... 10 (16)	0 ... 145 (232)	1.5	8450300.0000.00000
	G1	25	14	0 ... 10	0 ... 145	1.8	8450400.0000.00000
	G1 1/4	32	23	0 ... 7	0 ... 101	2.4	8450500.0000.00000
	G1 1/2	40	30	0 ... 4.5	0 ... 65	2.7	8450600.0000.00000
	G2	50	37	0 ... 3	0 ... 43	3.9	8450700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

Ex-Note:
For hazardous areas, e. g. Zone 1/2 or 21/22, the kit 1264287 is required.
It contains an additional sign, a silencer as dust shield and a conformity explanation.
The maximum fluid temperature is reduced to +85°C (+185°F).

DN 15 ... 50, G1/2 ... 2

Easy rebuilding into »normally open« or »double-acting« without tools

Optical position indicator is standard

Damped closing (Valve closes against flow direction)

Suitable for contaminated flow fluid

Suitable for vacuum up to max. 90%

Reversed flow direction optional

High flow rate

Option pressure actuated by external liquid fluid

NPT-connection available:
change 84520 to 84530

Stainless Steel

Technical features

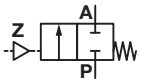
Medium:
Aggressive gases and liquids
Pilot fluid:
Neutral gases max. +60°C (+140°C)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1, G1 1/4, G1 1/2, G2
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 10 bar (50 ...145 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Stainless steel (1.4581)
Seat seal: PTFE
Internal parts: Stainless steel

Spindle sealing: PTFE / FPM, self-adjustable
Material:
Pilot fluid characteristics:
Body: Polyamid 66 with glass fibre 30%
Seat seals: NBR
Internal parts: Brass, stainless steel, 1.8159, 1.1200

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	4.8	0 ... 16 (25)	0 ... 232 (362)	1.4	8452200.0000.00000
	G3/4	20	10	0 ... 10 (16)	0 ... 145 (232)	1.5	8452300.0000.00000
	G1	25	14	0 ... 10	0 ... 145	1.8	8452400.0000.00000
	G1 1/4	32	23	0 ... 7	0 ... 101	2.4	8452500.0000.00000
	G1 1/2	40	30	0 ... 4.5	0 ... 65	2.7	8452600.0000.00000
	G2	50	37	0 ... 3	0 ... 43	3.9	8452700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

DN 15 ... 50

Suitable for vacuum up to max. 90%

Suitable for contaminated flow fluids

High flow rate

For robust industry applications

Damped closing
(Valve closes against flow direction)

Stainless Steel

Technical features

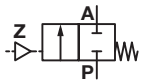
Medium:
Aggressive gases and liquids
Pilot fluid:
Neutral gases max. +80°C (+176°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
DN 15, DN 20, DN 25, DN 32, DN 40, DN 50
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 8 bar (50 ... 116 psi)
Fluid temperature:
0 ... +180°C (+32 ... +356°F)
Ambient temperature:
0 ... +60°C (+32 ... +140°F)

Material:
Process fluid characteristics:
Body: Stainless steel (1.4581)
Seat seal: PTFE
Internal parts: Sandvik 1802, stainless
Spindle sealing: PTFE / FPM, self-adjustable
Pilot fluid characteristics:
Body: Stainless steel, aluminium, WEMA-Kor, coated
Seat seals: NBR
Internal parts: Steel, coated

Technical data - Standard models

Symbol	Orifice (mm)	Connection to	ø Actuator (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	15	DIN. Series 1	70	4.8	0 ... 16	0 ... 232	1.4	8458200.0000.00000
	20	DIN. Series 1	70	10	0 ... 10	0 ... 145	1.5	8458300.0000.00000
	25	DIN. Series 2	70	14	0 ... 10	0 ... 145	1.8	8458400.0000.00000
	32	DIN. Series 2	70	23	0 ... 7	0 ... 101	2.4	8458500.0000.00000
	40	DIN. Series 3	70	30	0 ... 4.5	0 ... 65	2.7	8458600.0000.00000
	50	DIN. Series 3	70	37	0 ... 3	0 ... 43	3.9	8458700.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

Notes for 3/2-way pilot valve

Material	Body Brass 2.0402
Pilot fluid temperature	max. +60°C (+140°F)
Pilot pressure	8 bar
Standard voltages	24 V d.c., 24 V a.c., 230 V a.c.

Electrical data for 3/2-way pilot valve

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65 with mounted socket
Socket	Form A acc. to DIN EN 175301-803 (included)
Technical data	Please contact a member of our sales team, to ckeck the model number. (Fon +49 5731/791-0)

Further versions on request!

DN 1.6 and 3

Noiseless exhaust

Low power consumption

Compact design

Complete with connector and gasket

Solenoid interchangeable without tools (*Click-on*®)

NPT-connection available:
change 84660 to 84670
change 84680 to 84690

Click-on®

Technical features

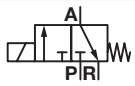
Medium:
Filtered, lubricated resp. non-lubricated air or neutral liquid fluids
Switching function:
Normally closed
Operation:
Indirectly solenoid actuated

Mounting position:
Optional, preferably solenoid vertical on top
Flow direction:
Determined
Port size:
DN 1.6, DN 3

Operating pressure:
1 … 10 bar (14 ... 145 psi)
Fluid temperature:
–10 ... +60°C (+14 ... +140°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)

Material:
Body: Aluminium
Seat seal: TPU
Internal parts: Stainless steel, PPS

Technical data - Standard models

Symbol	Orifice (mm)	Port size			Flow *2) (l/min)	Operating pressure (bar)	Switching time (ms) *3)		Weight (kg)	Model Solenoid in V d.c.	Model Solenoid in V a.c.
		Inter-nal P	Exter-nal R	A			On	Off			
	1.6	G1/4	*1)	G1/4	1.2	1 ... 10	8.5	30.4	0.47	8466000.9101.xxxxx	8466000.9101.xxxxx
	3	G1/4	*1)	G1/4	3.3	1 ... 10	15	81.9	0.45	8468000.9151.xxxxx	8468000.9151.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Noiseless exhaust

*2) Cv-value (US) ≈ kv value x 1,2

*3) At 6 bar acc. to DIN VDI 3290 with solenoid in d.c.

Standard solenoid systems

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Power consumption Holding
Voltage and Frequency Solenoid 9101 *1)					
024	00	24 V d.c.	-	8 W	8 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA
Voltage and Frequency Solenoid 9151 *1)					
024	00	24 V d.c.	-	18 W	18 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA

*1) c SP us coil only; ambient temperature max. +50°C

Further versions on request!

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX category	Protection class	Solenoid	Standard voltages
II2GD	EEx m II T4 T 130°C with 3 m connection cable for series 84660/84670	9136	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T3 T 140°C with 3 m connection cable for series 84680/84690	9191	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 15 ... 25, G1/2 ... 1

Option pressure actuated by external liquid fluid

Suitable for vacuum up to max. 90%

Suitable for contaminated flow fluid

High flow rate

Optical position indicator is standard

Damped closing
(Valve closes against flow direction)

Reversed flow direction optional

NPT-connection available:
change 84720 to 84730

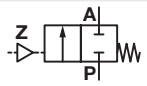
Technical features

Medium:
Neutral gases and liquids
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 10 bar (50 ... 145 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Brass (CW617N)
Seat seal: PTFE
Internal parts: Brass, stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
Material:
Pilot fluid characteristics:
Body: Polyamid 66 with glass fibre 30%
Seat seals: NBR
Internal parts: Brass, stainless steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	4.8	0 ... 16	0 ... 232	1.3	8472200.0000.00000
	G3/4	20	10	0 ... 8	0 ... 116	1.4	8472300.0000.00000
	G1	25	14	0 ... 5	0 ... 72	1.7	8472400.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

Notes for 3/2-way pilot valve 84660 / 84680

Material	Body aluminium
Pilot fluid temperature	max. +60°C (+140°F)
Pilot pressure	1 ... 10 bar (14.5 ... 145 psi)
Standard voltages	24 V d.c., 24 V a.c., 230 V a.c.

Electrical data for 3/2-way pilot valve 84660 / 84680

Design	acc. to DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65 with mounted socket
Socket	Form A acc. to DIN EN 175301-803 (included)
Technical data	See publication N/en 5.8.640

Further versions on request!

Notes for 3/2-way pilot vale 97100 hole pattern NAMUR

Material	Body aluminium elox
Pilot fluid temperature	–10 ... +50°C (+14 ... +122°F)
Pilot pressure	2 ... 8 bar (29 ... 116 psi)
Standard voltages	24 V d.c., 24 V a.c., 230 V a.c.

Electrical data for 3/2-way pilot valve 97100 hole pattern NAMUR

Design	acc. to DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65 with mounted socket
Socket	Form A acc. to DIN EN 175301-803 (included)
Technical data	See publication N/en 5.4.372

Mounting accessories (NAMUR)

Interface plate NAMUR hole pattern for retrofit (Part-Number 1256566) consist of:
1x NAMUR-interface plate
2x Adapter screw
2x O-ring

DN 15 ... 25, G1/2 ... 1

Option pressure actuated by external liquid fluid

Suitable for vacuum up to max. 90%

Suitable for contaminated flow fluid

High flow rate

Optical position indicator is standard

Damped closing
(Valve closes against flow direction)

Reversed flow direction optional

NPT-connection available:
change 84740 to 84750

Stainless Steel

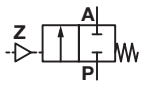
Technical features

Medium:
Aggressive gases and liquids
Pilot fluid:
Neutral gases max. +60°C (+140°F)
Switching function:
Normally closed
Operation:
Pressure actuated by external fluid

Mounting position:
Optional
Flow direction:
Determined
Port size:
G1/2, G3/4, G1
Pilot connection:
G1/4

Operating pressure:
See table
Pilot pressure:
3.5 ... 10 bar (50 ... 145 psi)
Fluid temperature:
–10 ... +180°C (+14 ... +356°F)
Ambient temperature:
–10 ... +60°C (+14 ... +140°F)
Material:
Process fluid characteristics:
Body: Stainless steel
Seat seal: PTFE
Internal parts: Stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
Material:
Pilot fluid characteristics:
Body: Polyamid 66 with glass fibre 30%
Seat seals: NBR
Internal parts: Brass, stainless steel

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure *2) (bar)	(psi)	Weight (kg) *3)	Model *3)
	G1/2	15	4.8	0 ... 16	0 ... 232	1.3	8474200.0000.00000
	G3/4	20	10	0 ... 8	0 ... 116	1.4	8474300.0000.00000
	G1	25	14	0 ... 5	0 ... 72	1.7	8474400.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

*2) For gases and liquid fluids up to 600 mm^2/s (cSt)

*3) Without pilot valve

Engineering
GREAT Solutions

PULSE VALVES AND CONTROLS FOR DUST COLLECTOR SYSTEMS

PRODUCTS

OVERVIEW 2/2-WAY VALVES

82870
DN 20 ... 80
remote pilot operated,
pneumatic controllers

Page 04-03

82900
DN 20 ... 80
remote pilot operated,
aluminium

Page 04-04

82960
DN 20 ... 80
solenoid pilot operated,
aluminium

Page 04-05

83300
DN 40 ... 80
remote pilot operated
(single stage), stainless steel

Page 04-06

83320
DN 40 ... 80
solenoid pilot operated (single
stage), stainless steel

Page 04-07

83640
DN 20 ... 80
remote pilot operated,
compression fitting

Page 04-08

83670
DN 20 ... 80
remote pilot operated,
compression fitting

Page 04-09

83920
DN 20 ... 80
solenoid pilot operated,
with blow tube

Page 04-10

83930
DN 40 ... 80
solenoid pilot operated
(single stage), with blow tube

Page 04-11

Internal thread
P = G1⁄8. Z = G1⁄4

Compact design

Ideal for use in hazardous zones

Fully pneumatic controller,
suitable for robust operation

Switching time and interval adjustable

Technical features

Fluid (control section):
Filtered air – compressed air supply via conditioning unit with a 5 ... 10 µm filter,
without oiler (for unpurified compressed air we recommend an additional 50 ... 75 µm primary filter

Reproducibility:
±5%

Mounting position:
Optional

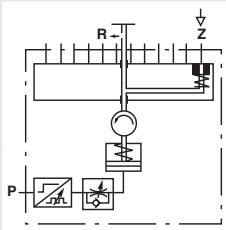
Interval:
Adjustable 2 ... 200 s,
set on about 10 s in factory

Pulse time:
Adjustable 30 ... 1.000 ms,
approx ca. 200 ms

Temperature range:
0 ... +70°C (+32 ... +158°F).
–25 ... +70°C (–13 ... +158°F)
for dry air

Material:
Body: Grey cast iron

Technical data - Standard models
Wiper arm (valve venting) operated by spring return in the cylinder

Symbol	Number of control ports *1)	Control section pressure port P	Operating pressure control section (bar)	Operating pressure control section (psi)	Operating section control port Z	Operating pressure operating section (bar)	Operating pressure operating section (psi)	Weight (kg)	Model
	10	G1/8	2 ... 8	29 ... 116	G1/4	0.5 ... 8	7.25 ... 116	7.8	8287054.0000.00000
	12	G1/8	2 ... 8	29 ... 116	G1/4	0.5 ... 8	7.25 ... 116	7.8	8287154.0000.00000
	14	G1/8	2 ... 8	29 ... 116	G1/4	0.5 ... 8	7.25 ... 116	7.8	8287254.0000.00000
	16	G1/8	2 ... 8	29 ... 116	G1/4	0.5 ... 8	7.25 ... 116	10.9	8287354.0000.00000
	20	G1/8	2 ... 8	29 ... 116	G1/4	0.5 ... 8	7.25 ... 116	10.9	8287554.0000.00000

*1) Control ports not required have to be sealed with a plug.

DN 20 ... 80, G3/4 ... 3

Clear, compact design

One-piece diaphragm

High flow rate

Easy to maintain

NPT-connection available: change 82900 to 82910

Technical features

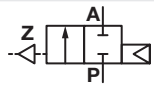
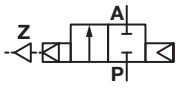
Medium:
Air
Switching function:
Normally closed
Operation:
Remote pilot operated
Flow direction:
Determined

Mounting position:
Optional
Port size:
G3/4, G1, G1 1/2,
G2, G2 1/2, G3
Operating pressure:
0.4 ... 7/8 bar
(5.8 ... 101/116 psi)

Pilot connection:
G1/8
Dusty gas temperature:
–20 ... +85°C (–4 ... +185°F)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°F)
Ambient temperature:
–20 ... +85°C (–4 ... +185°F)

Material:
Body: Aluminium
Seat seal: TPE

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	G3/4	20	95	18	0.4 ... 8	5.8 ... 101	0.32	8290300.0000.00000
	G1	25	95	22	0.4 ... 8	5.8 ... 101	0.29	8290400.0000.00000
	G1 1/2	40	135	59	0.4 ... 8	5.8 ... 101	0.97	8290600.0000.00000
	G2	50	170	80	0.4 ... 8	5.8 ... 101	1.79	8290700.0000.00000
	G2 1/2	65	170	93	0.4 ... 8	5.8 ... 101	2.07	8290800.0000.00000
	G3	80	239.5	144	0.4 ... 7	5.8 ... 116	3.7	8290900.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

DN 8 ... 50, G1/4 ... 2

Clear, compact design

One-piece diaphragm

High flow rate

All internal components captive

Solenoid interchangeable without tools (*Twist-on*®)

Integrated silencer

NPT connection avialable: change 82960 to 82970

Also available for solenoid version low temperature –40°C (–40°F)!

Technical features

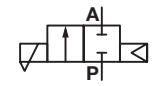
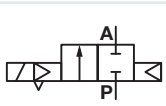
Medium:
Air
Switching function:
Normally closed
Operation:
Solenoid pilot operated
Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top
Port size:
G3/4, G1, G1 1/2, G2, G2 1/2, G3
Operating pressure:
0.4 ... 7/8 bar (5.8 ... 101/116 psi)

Dusty gas temperature:
–20 ... +85°C (–4 ... +185°F)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°F)
Ambient temperature:
–20 ... +85°C (–4 ... +185°F)

Material:
Body: Aluminium
Seat seal: TPE
Internal parts: TPU

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model Solenoid in V d.c./a.c.
	G3/4	20	95	18	0.4 ... 8	5.8 ... 101	0.5	8296300.8171.xxxxx
	G1	25	95	22	0.4 ... 8	5.8 ... 101	0.47	8296400.8171.xxxxx
	G1 1/2	40	135	59	0.4 ... 8	5.8 ... 101	1.18	8296600.8171.xxxxx
	G2	50	169	80	0.4 ... 8	5.8 ... 101	2.02	8296700.8171.xxxxx
	G2 1/2	65	169	93	0.4 ... 8	5.8 ... 101	2.3	8296800.8171.xxxxx
	G3	80	239.5	172	0.4 ... 7	5.8 ... 116	2.93	8296900.8171.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

Standard solenoid systems

Voltage and Frequency Solenoid 8171 *2)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	12 W	12 W
024	50	24 V a.c.	50 Hz	23 VA	16 VA
110	50	110 V a.c.	50 Hz	23 VA	16 VA
120	60	120 V a.c.	60 Hz	23 VA	16 VA
230	50	230 V a.c.	50 Hz	23 VA	16 VA

*2) c SP us coil only

Additional solenoid systems

Option	Solenoid	Standard voltages
Solenoid version for low temperature –40°C (–40°F)	9151	24 V d.c., 110 V a.c., 230 V a.c.
Pulse Solenoid	8821	24 V d.c., 110 V a.c., 230 V a.c.
Solenoid version for low temperature –40°C (–40°F)	8001	24 V d.c., 110 V a.c., 230 V a.c.

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX Kategorie	Protection class	Solenoid	Standard voltages
II3GD	EEx nA II T4 T 135°C	8176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4 T 140°C	8186	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

DN 20 ... 40, G3/4 ... 1 1/2

Clear, compact design

One-piece diaphragm

High flow rate

NPT-connection avialable:
change 83300 to 83310

Stainless Steel

Technical features

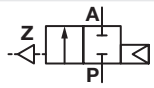
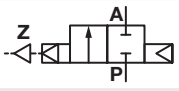
Medium:
Air
Switching function:
Normally closed
Operation:
Remote pilot operated
Flow direction:
Determined

Mounting position:
Optional
Port size:
G3/4. G1. G1 1/2
Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)
Pilot connection:
G1/8

Dusty gas temperature:
–40 ... +85°C (–40 ... +185°F)
Coil gas temperature:
–20 ... +85°C (–4 ... +185°F)
Ambient temperature:
–40 ... +85°C (–4 ... +185°F)

Material:
Body: Stainless steel (1.4408)
Seat seal: TPE

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	G3/4	20	95	18	0.4 ... 8	5.8 ... 116	0.7	8330300.0000.00000
	G1	25	95	22	0.4 ... 8	5.8 ... 116	0.8	8330400.0000.00000
	G1 1/2	40	135	59	0.4 ... 8	5.8 ... 116	2.9	8330600.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

DN 20 ... 40, G3/4 ... 1 1/2

Clear, compact design

One-piece diaphragm

High flow rate

All internal components captive

Solenoid interchangeable without tools (*Twist-on*®)

Integrated silencer

Twist-on®

Stainless Steel

Technical features

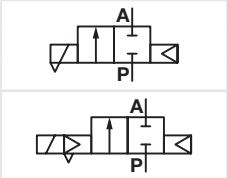
Medium:
Air
Switching function:
Normally closed
Operation:
Solenoid pilot operated
Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top
Port size:
G3/4, G1, G1 1/2
Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)

Dusty gas temperature:
–20 ... +85°C (–4 ... +185°F)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°F)
Ambient temperature:
–20 ... +85°C (–4 ... +185°F)

Material:
Body: Stainless steel 1.4408
Seat seal: TPE
Internal parts: TPU

Technical data - Standard models

Symbol	Port size	Orifice (mm)	Valve length (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	G3/4	20	95	18	0.4 ... 8	5.8 ... 116	0.92	8332300.8171.xxxxx
	G1	25	95	22	0.4 ... 8	5.8 ... 116	1.01	8332400.8171.xxxxx
	G1 1/2	40	135	59	0.4 ... 8	5.8 ... 116	3.11	8332600.8171.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

Standard solenoid systems

Voltage and Frequency Solenoid 8171 *2)

Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	12 W	12 W
024	50	24 V a.c.	50 Hz	23 VA	16 VA
110	50	110 V a.c.	50 Hz	23 VA	16 VA
120	60	120 V a.c.	60 Hz	23 VA	16 VA
230	50	230 V a.c.	50 Hz	23 VA	16 VA

*2) c SP us coil only

Additional solenoid systems

Option	Solenoid	Standard voltages
Solenoid version for low temperature –40°C (–40°F)	9151	24 V d.c., 110 V a.c., 230 V a.c.

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX Category	Protection class	Solenoid	Standard voltages
II3GD	EEx nA II T4 T 135°C	8176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4 T 140°C	8186	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Compression Fitting DN 25 ... 40

Simple mounting

Clear, compact design

One-piece diaphragm

High flow rate

Technical features

Medium:
Air
Switching function:
Normally closed
Operation:
Remote pilot operated
Flow direction:
Determined

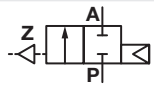
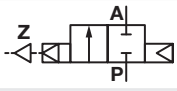
Mounting position:
Optional
Port size:
DN 25, DN 40
Pilot connection:
G1/8

Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)
Dusty gas temperature:
–20 ... +85°C (–4 ... +185°C)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°C)
Ambient temperature:
–20 ... +85°C (–4 ... +185°C)

Material:
Body: Aluminium
Seat seal: TPE

Note:
Control via separate pilot valve or pilot controller.

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	25	22	0.4 ... 8	5.8 ... 116	0.7	8364400.0000.00000
	40	59	0.4 ... 8	5.8 ... 116	1.85	8364600.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

Compression Fitting DN 25 ... 40

High flow rate

Clear, compact design

One-piece diaphragm

Simple mounting

Technical features

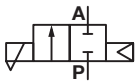
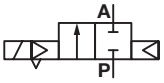
Medium:
Air
Switching function:
Normally closed
Operation:
Solenoid pilot operated
Flow direction:
Determined

Mounting position:
Optional,
preferably solenoid vertical on top
Port size:
DN 25, DN 40
Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)

Dusty gas temperature:
–20 ... +85°C (–4 ... +185°F)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°F)
Ambient temperature:
–20 ... +85°C (–4 ... +185°F)

Material:
Body: Aluminium
Seat seal: TPE
Internal parts: TPU

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	25	22	0.4 ... 8	5.8 ... 116	0.9	8367400.8171.xxxxx
	40	59	0.4 ... 8	5.8 ... 116	2.1	8367600.8171.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

83920, 2/2-way valves, Pilot operated solenoid valve for cleaning dust filters

IMI BUSCHJOST

For tank mounting with blow-tube DN 25 ... 65

Clear, compact design

High flow rate

All internal components captive

Solenoid interchangeable without tools (*Twist-on*®)

Integrated silencer

Technical features

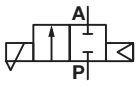
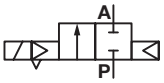
Medium:
Neutral gases
Type:
Diaphragm valve requiring differential pressure
Switching function:
Normally closed
Operation:
Pilot operated solenoid valve for cleaning dust filters
Flow direction:
Determined

Mounting position:
Optional,
preferably solenoid vertical on top
Port size:
DN 25, DN 40, DN 50, DN 65
Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)
Differential pressure:
0.4 bar (5.8 psi) required

Dusty gas temperature:
–20 ... +85°C (–4 ... +185°F)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°F)
Ambient temperature:
–20 ... +85°C (–4 ... +185°F)

Material:
Body: Aluminium
Seat seal: TPE
Internal parts: TPU
Blow-tube: Aluminium
Adapter: Aluminium

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	25	28	0.4 ... 8	5.8 ... 116	0.47	8392400.8171.xxxxx
	40	74	0.4 ... 8	5.8 ... 116	1.1	8392600.8171.xxxxx
	50	104	0.4 ... 8	5.8 ... 116	1.6	8392700.8171.xxxxx
	65	121	0.4 ... 8	5.8 ... 116	2	8392800.8171.xxxxx

xxxxx Please insert voltage and frequency codes

*1) Cv-value (US) ≈ kv value x 1.2

Standard solenoid systems

Voltage and Frequency Solenoid 8171 *1)					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
024	00	24 V d.c.	-	12 W	12 W
024	50	24 V a.c.	50 Hz	23 VA	16 VA
110	50	110 V a.c.	50 Hz	23 VA	16 VA
120	60	120 V a.c.	60 Hz	23 VA	16 VA
230	50	230 V a.c.	50 Hz	23 VA	16 VA

*1) c SP us coil only

Electrical details for all solenoid systems

Design	DIN VDE 0580
Voltage range	±10%
Duty cycle	100% ED
Protection class	EN 60529 IP65
Socket	Form A acc. to DIN EN 175301-803 (included)

According to DIN VDE 0580 at a solenoid temperature of +20°C (+68°F).
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems

ATEX Category	Protection class	Solenoid	Standard voltages
II3GD	EEx nA II T4 T 135°C	8176	24 V d.c., 110 V a.c., 230 V a.c.
II2GD	EEx me II T4 T 140°C	8186	24 V d.c., 110 V a.c., 230 V a.c.

Attention!
The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

For tank mounting with blow tube DN 25 ... 65

Clear, compact design

High flow rate

Technical features

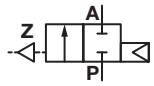
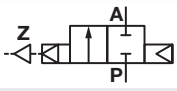
Medium:
Neutral gases
Switching function:
Normally closed
Operation:
Pilot operated valve
for cleaning dust filters
Flow direction:
Determined

Mounting position:
Optional
Port size:
DN 25, DN 40, DN 50, DN 65
Pilot connection:
G1/8
Operating pressure:
0.4 ... 8 bar (5.8 ... 116 psi)

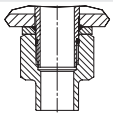
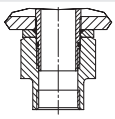
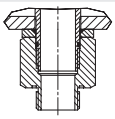
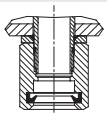
Differential pressure:
0.4 bar required
Dusty gas temperature:
–20 ... +85°C (–4 ... +185°C)
Coil gas temperature:
–40 ... +85°C (–40 ... +185°C)
Ambient temperature:
–20 ... +85°C (–4 ... +185°C)

Material:
Body: Aluminium
Seat seal: TPE
Blow tube: Aluminium
Adapter: Aluminium

Technical data - Standard models

Symbol	Orifice (mm)	Flow kv value *1) (m^3/h)	Operating pressure (bar)	(psi)	Weight (kg)	Model
	25	28	0.4 ... 8	5.8 ... 116	0.26	8393400.0000.00000
	40	74	0.4 ... 8	5.8 ... 116	0.9	8393600.0000.00000
	50	104	0.4 ... 8	5.8 ... 116	1.6	8393700.0000.00000
	65	121	0.4 ... 8	5.8 ... 116	2	8393800.0000.00000

*1) Cv-value (US) ≈ kv value x 1.2

Outside dim. of tank/ profile (mm)	Model		plus	Connection kit			
	DN 25	DN 40		Hose connector	Female thread	Male thread	Push-in sleeve
							
70	8393400. 0000. 00000	—	+	1263648	1263641	1263634	1263628
100				1263649	1263642	1263635	1263629
120				1263652	1263643	1263636	1263630
140				1263653	1263644	1263637	1263609
160				1263655	1263645	1263638	1263631
180				1263656	1263646	1263639	1263632
200				1263657	1263647	1263640	1263633
70	—	8393600. 0000. 00000	+	1263682	1263674	1263666	1263658
100				1263683	1263675	1263667	1263659
120				1263684	1263676	1263668	1263660
140				1263685	1263677	1263669	1263661
160				1263686	1263678	1263670	1263662
180				1263687	1263679	1263671	1263663
200				1263688	1263680	1263672	1263664

Kit not required for use without connection pipe. Please then just give Order-No. for DN 25 or 40 connection
DN 50 and DN 65 – tube and connection on request

Engineering
GREAT Solutions

PROPORTIONAL VALVES

PRODUCTS

OVERVIEW 2/2-WAY VALVES

82880
DN 15 ... 20
Motor operated

Page 05-03

Port size: G1/2 ... 1

Low power consumption

Wear-resistant ceramic rotary disc seal

Valve remains in set position when deenergized

Suitable for contaminated fluids

Technical features

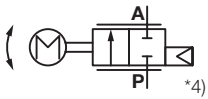
Medium:
Neutral gases and liquids
Operation:
Motor operated
Mounting position:
Preferably with drive vertical on top ± 60°
Flow direction:
Determined

Port size:
DN 15, DN 20
Operating pressure:
See table

Fluid temperature:
–10 ... +90°C (+14 ... +194°F)
Ambient temperature:
–10 ... +40°C (+14 ... +104°F)

Material:
Body: Brass (CW617N)
Seat seal: NBR
Internal parts: Oxyd-ceramic

Technical data - Standard models

Symbol	Port size	Nominal Diameter	Operating pressure		Flow kv value *2)	Weight	Drawing *1)	Typ *3)
		(mm)	(bar)	(psi)	(m^3/h)	(kg)	No.	
 *4)	Cartridge	15	–0.9 ... 10	–13 ... 145	1.1	0.7	5	8288500.96xx.xxxxx
	G1/2	15	–0.9 ... 10	–13 ... 145	1.1	0.9	6	8288200.96xx.xxxxx
	G3/4	20	–0.9 ... 6	–13 ... 87	4.4	1.6	7	8288300.96xx.xxxxx
	G1	20	–0.9 ... 6	–13 ... 87	4.4	1.6	7	8288400.96xx.xxxxx

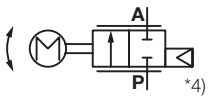
*1) Technical data and ordering information see following pages

*2) Cv-value (US) ≈ kv value x 1,2

*3) See motor drives for motor Cat no and power supply

*4) Throttle setting with overlap - Not gastight

Technical data - Stepping motor 9668

Symbol	Port size	Nominal Diameter	Operating pressure *5)		Flow kv value *2)	Weight	Drawing *1)	Typ *3)
		(mm)	(bar)	(psi)	(m^3/h)	(kg)	No.	Motor in V d.c.
 *4)	Cartridge	15	–0.9 ... 16	–13 ... 232	1.1	0.7	5 / 8	8288500.9668.02400
	G1/2	15	–0.9 ... 16	–13 ... 232	1.1	0.9	6 / 8	8288200.9668.02400
	G3/4	20	–0.9 ... 16	–13 ... 145	4.4	1.6	7 / 8	8288300.9668.02400
	G1	20	–0.9 ... 16	–13 ... 145	4.4	1.6	7 / 8	8288400.9668.02400

*5) At operating pressure >10 bar reduced switching speed possible, aroid longer periods of stillstand.

Motor

Motor type	Standar voltage Tolerance ± 10%	Frequency	Power consumption	Protection class	Torque	Operating time through *6) 90° ∢	Wiring diagram	Typ *3)
	(V)	(Hz)	(VA/W)		(Ncm)	(s)	No.	Model-Motor-No.
D.c. motor	24	-	1.5	IP54	120	10 ... 14	1	9615.02400
Synchronmotor	24	50	3	IP54	120	10	3	9636.02450
Stepping motor	24	*7)	5	IP54	120	10	4	9638.02400
Stepping motor	24	0	3.3 max. 8.5	IP54	120 *8)	5	2	9668.02400

*6) Operating time depends on operating pressure

*7) Nominal stepping frequency 200 Hz

*8) Short duration max. 300 Ncm

Note! All motor drives fulfil the requirements of the generic standards for electromagnetic compability (EN 61000-6-3:2007 + A1:2011 and EN 61000-6-2:2005) to Directive 2004/108/EC.

Limit switch service life: >100,000 cycles

Further technical data for DC motors

Model 9615, 9624
Motor with feedback potentiometer for servo-amplifier

Feedback potentiometer	
Resistor	1 kΩ
Resistor tolerance	± 20 %
Max wiper current	1 mA
Power rating	0,1 W

Only part of the potentiometer's range is used.

Further technical data for DC motors

Model 9638
Drives with integrated position controller

Motor	bipolar
Power/phase	0.4 A constant current
Stride frequency	200 Hz
Resistance per phase	9 Ω
Inductance per phase	12 mH
Steps for opening angle of 90°	2028

Further technical data for the stepper motor drive

Model 9668
Drive with positioner electronics and analogue interface

Power supply residual ripple	Max. 1.2 Vss
Set point input	0 ... 10 V S1, S2: OFF-OFF Input resistance: approx. 200 Ohm 0 ... 20 mA S1, S2: ON-OFF Input resistance: approx. 500 Ohm 4 ... 20 mA S1, S2: ON-ON Input resistance: approx. 500 Ohm
Position feedback output	0 ... 20 mA S2: OFF Maximum load resistance 500 Ohm 4 ... 20 mA S2: ON Maximum load resistance 500 Ohm
Ripple of the input signal	Max. 40 m Vss with voltage signal Max. 0,08 m Ass with current signal
Material	Enclosure: polybutylene terephthalate (PBT) Enclosure cover: polycarbonate Output shaft: 1.4104 Output shaft seal: NBR Cover seal: CR
Required by the customer Plug connection	Cable socket, M12, A-coding S-pin

If the load torque exceeds a peak value of 300 Ncm even for a short period, the electronics will switch off the drive and thus protect it from overloading. This error status is signalled by the illumination of a red ALARM LED on the circuit board. A brief interruption to the supply voltage confirms the error.

Notes on choice of motor

Buschjost offers various valve designs and a choice of DC, synchronous and stepper motors catering for the wide range of applications of the motorised valve and the customer's needs.

The mechanical contacts of DC motors make them unsuitable for control functions involving a large number of small adjustments. The AC synchronous motors last longer thanks to their absence of contacts. A stepper motor has to be used where frequent and/or fine adjustment is required. The following table shows the characteristics of the components used.

Motor design		Motor life (running life) (Count 90° cycle)	Recommended pulse duration	Recommended interval without current during reversal in direction of rotation
			(ms)	(ms)
d.c. motor	9615	90.000	> 100	600
Synchronous motor	9636	180.000	> 100	40
Stepping motor	9638	180.000	Stepping frequency 200 Hz	-
Stepping motor	9668	270.000	-	-

Further drive models and electronic controllers available on request

Flow regulation kit available on request

Wiring diagrams

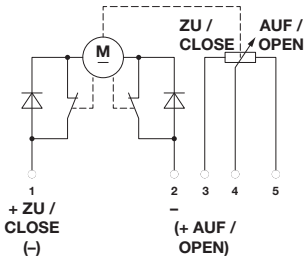
d.c. motor	
Wiring	
+ to 1 – to 2	Direction of operation CLOSE
+ to 2 – to 1	Direction of operation OPEN
Cutoff at limits provided by microswitches Resistance between 3 and 4: minimum value – valve closed maximum value – valve opened	

Stepping motor	
Pin 1	Power supply 24 Volt
Pin 2	Power supply 0 Volt
Pin 3	Reference potential for the nominal value input and the position feedback output
Pin 4	Nominal value input 0 – 10 V / 0 (4) – 20 mA
Pin 5	Nominal value input 0 – 10 V / 0 (4) – 20 mA

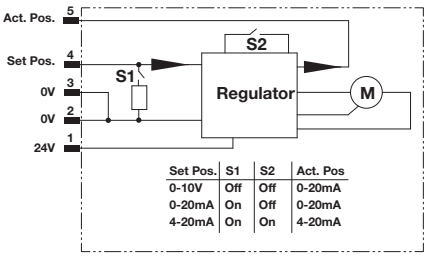
Synchronous motor	
Wiring	
~ to 1 and 3 2 unused	Direction of operation CLOSE
~ to 2 and 3 1 unused	Direction of operation OPEN
Cutoff at limits provided by microswitches	

Stepping motor	
Wiring	
1	Motor frame (possibly for screening)
2	Reference potential for contacts
3	Limit feedback signal (OPEN) contact opened at limit
4	Limit feedback signal (CLOSED) contact opened at limit
5 and 6	Connections for phase 1
7 and 8	Connections for phase 2

(1)



(2)



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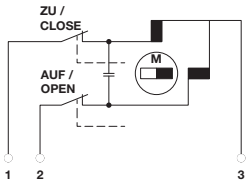
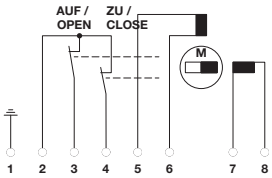


(4)



Note

Product overview

01802 28 72 45 678
Service-Hotline

1 SOLENOID VALVES WITHOUT DIFFERENTIAL PRESSURE

2 SOLENOID VALVES WITH DIFFERENTIAL PRESSURE

3 PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

4 PULSE VALVES AND CONTROLS FOR DUST COLLECTOR SYSTEMS

5 PROPORTIONAL VALVES

z7938CT en/03/15

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