



Fluid Control

Our product brands:
IMI Buschjost

Unleashing the Power of Robust Control Valves in Mining & Quarry Drilling



Breakthrough
engineering for
a better world.

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Breakthrough engineering for a better world

We create breakthrough solutions which accelerate the safety, reliability and performance of everyday processes. Our valves and complete system solutions control liquids and gases, enabling machine builders to improve design functionality and keep safety and sustainability at the forefront of innovation.

For over 80 years, we have helped our customers improve the reliability and efficiency of their machines for diverse end markets. Working in close customer partnership, we continuously push the boundaries of technology, offering a wide selection of components and tailored solutions. Meeting equipment manufacturers' needs includes everything from helping provide traceability for consumers, to reducing waste in critical resources and delivering a premium cup of coffee.

Through flexible, scalable and agile innovation, we help our customers solve their current challenges and create competitive advantage for the future.

Breakthrough engineering you can count on.

Unleashing the Power of Robust Control Valves in Mining & Quarry Drilling

In the demanding world of mining and quarry drilling equipment reliability is paramount. Premature failures and Intermittent leaks or malfunctions can lead to costly downtime, potentially costing thousands in lost production.

Costly Consequences of Premature and Intermittent Failures

Operational inefficiencies in the mining industry can lead to substantial financial burdens, affecting both immediate and long-term profitability. Downtime caused by equipment malfunctions, such as valve failures, can halt production, resulting in significant revenue losses. Additionally, frequent repairs and maintenance

increase operational costs, diverting resources from other critical areas of the business. Inefficient operations also lead to higher energy consumption and reduced productivity, further escalating expenses. Moreover, the ripple effects of these inefficiencies can impact supply chains, delay project timelines,

and strain relationships with clients and stakeholders. In an industry where margins are often tight, the cumulative cost of operational inefficiencies can be devastating, underscoring the need for reliable and robust equipment solutions.

Combatting Premature and Intermittent Failures

One of the most significant issues in mining and quarry drilling is valve seats leaking due to environmental challenges & media particulate contamination. Additionally, valves often seize or actuate slowly at low temperatures.

- **Contaminated Media Compatibility:** Operates effectively even with contaminated media, preventing valve seat leaks.
- **Visual Position Indication:** For easy monitoring, reducing the risk of unnoticed malfunctions.
- **Low-Temperature Operation:** Effective operation in low-temperature environments, preventing slow actuation and seizing.

- **Seat & Seal Selection:** To overcome many of the temp & particulate challenges selecting the right seal interface & the seal material is essential.

Our control valves & technical support teams address these pain points directly, offering a robust solution that ensures continuous operation.

Overcoming Critical Valve Challenges in the Mining Industry

When selecting valves for air, water or hydraulic oil circuits, the mining industry encounters several critical challenges. Contaminated media often causes valve seats to leak, resulting in operational inefficiencies. Additionally, extreme temperatures can lead to valves seizing or actuating slowly, which disrupts machine uptime. The harsh conditions of mining

environments, characterized by high vibration and shock, further exacerbate these issues, leading to premature valve failure.

Introducing the 84500 Series 2-way pilot-operated Angle Seat Valve & the 85360 series solenoid actuated piston control valve solutions specifically engineered to address these challenges head-on.

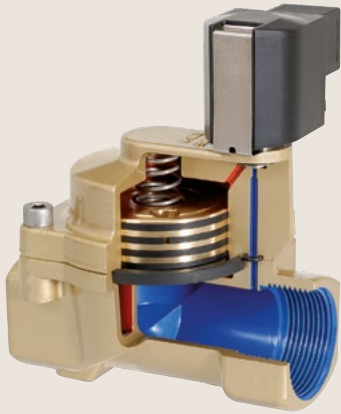
These robust valves are designed to incorporate labyrinth piston seals and enlarged pilot airflow paths to operate effectively even with contaminated media, withstand extreme temperatures, and endure the high vibration and shock typical of mining environments, ensuring uninterrupted operation and enhanced reliability.





What Sets IMI Buschjost Valve Apart?

IMI Buschjost's robust valves are not just another piece of equipment; They are a solution engineered to excel in the most severe conditions. Whether you're dealing with gas or liquid media, even when contaminated with particulates, these valves perform flawlessly. They are perfect for drilling or conveying equipment used in surface and underground mining, where low and high temperatures, moisture, or high vibration and shock can affect valve operation or any heavy duty vehicles.



Technical Specifications

- Port Size: DN 8 to 50 (1/4 to 2 inches, ISO G/NPT)
- Medium: Neutral gases and liquids
- Switching Function: Normally closed
- Operation: Indirectly solenoid or pilot actuated
- Flow Direction: Determined
- Operating Pressure: 0.5 to 40 bar (7 to 580 psi)
- Fluid Temperature: -20 to +90°C (-4 to +194°F)
- Ambient Temperature: -20 to +50°C (-4 to +122°F)
- Materials:
 - a. Body: Brass (CW617N)
 - b. Seat Seal: NBR, PTFE or FPM
 - c. Internal Parts: Stainless Steel, Brass

Unique Features:

- **Temperature Resilience:**
Standard operation at -10°C & -20°C with an option for -40°C.
- **Robust Solenoid or Air Pilot Control:**
Ensures continuous operation in the harshest conditions.
- **Tried & Tested Design:**
Proven reliability in the most aggressive industrial and off-road applications.
- **Dusty & high moisture environments:**
Control valves have IP75/67 & 69 options to prevent ingress of dust and water effecting functional performance over time.
- **Leak free performance:**
Both angle seat and piston seated valves ensure a leak free interface even when particulate is difficult to eliminate from media.



Series 85360/85370
2/2-way piston valves



Series 84500/84510
2/2-way seat valves

Why IMI Buschjost's Control Valves are the Ultimate Solution?

●● IMI Buschjost's valves don't just meet industry standards; it exceeds them. With over 10 years of proven performance in the most challenging applications with, it's easy to service and maintain valves. This reliability translates to fewer interruptions and more consistent machine uptime, directly addressing the costly issue of premature and intermittent failures. ●●



Proven Durability:

- **Tried and Tested:**
With over 20 years of proven performance in the most challenging conditions, our valve is built to last.
- **Robust Air Pilot & solenoid Control:**
Designed to ensure continuous operation in the harshest conditions, from extreme temperatures to high vibration and shock.



Ease of Maintenance:

- **Simple to Service:**
Designed for easy maintenance, our valve reduces downtime for repairs, ensuring consistent machine uptime.
- **Versatility:**
Suitable for various applications, from air hydraulic controls to dust suppression with water and cooling, ensuring consistent performance across different environments.



Environmental Resilience:

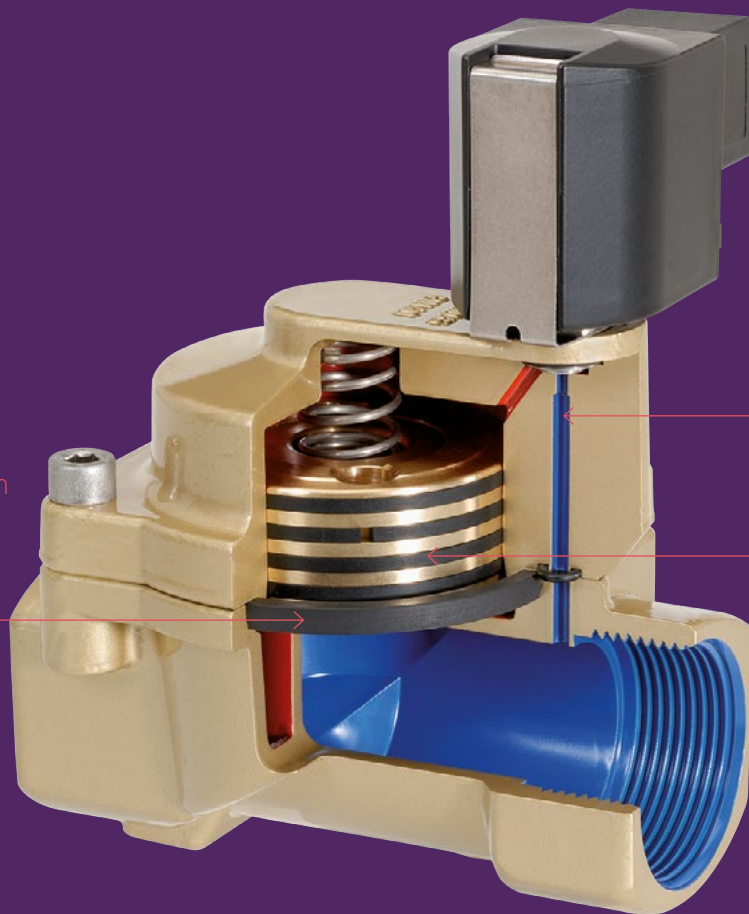
- **Material Options:**
Available in brass or stainless steel, with a wide range of port sizes and seal materials to suit your media en environmental challenges.

In conclusion, the 84500 & 85920 Series pilot-operated Angle Seat & control valves are a robust, reliable, and versatile solution for industries facing the harshest conditions. With proven performance and ease of maintenance, making this valves the go-to choice for mining, quarry drilling, and other demanding applications.

Highlights

Labyrinth Piston Valves

Robust valve diaphragm seals designed to seat effectively & reduce leak paths.



'Click on' Coil improves environmental protection & easy maintenance.

Pilot air orifice oversized to deal with media contamination.

Labyrinth Piston Seals increase cycle life.



84500/84510 2/2-way seat valves

- Port size: DN 15 ... 50, 1/2 ... 2 (ISO G/NPT)
- Easy rebuilding into »normally open« or »double-acting« without tools
- Optical position indicator is standard
- Damped closing (Valves 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
- International approvals



Technical features

Medium:
Neutral gases and liquids

Pilot fluid:
Neutral gases max. +60°C (+14°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 1/2 NPT, 3/4 NPT, 1 NPT, 1 1/4 NPT, 1 1/2 NPT, 2 NPT

Pilot connection:
G1/4 or 1/4 NPT

Operating pressure:
See table

Pilot pressure:
3,5 ... 10 bar (51 ... 145 psi)

Fluid temperature:
-10 ... +180°C (+14 ... +356°F)

Ambient temperature:
-10 ... +60°C (+14 ... +140°F)

Material:
Process fluid characteristics:
Body: Dezincification Brass (CW617N)
Seat seal: PTFE
Internal parts: Brass, Stainless steel
Spindle sealing: PTFE / FPM, self-adjustable
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) (m³/h)	Operating pressure *2) (bar) (psi)		Weight *3) (kg)	Model *3)
	G1/2	15	4,8	0 ... 16 (25)	0 ... 232 (362)	1,4	8450200.0000.00000
	1/2 NPT	15	4,8	0 ... 16 (25)	0 ... 232 (362)	1,4	8451200.0000.00000
	G3/4	20	10	0 ... 10 (16)	0 ... 145 (232)	1,5	8450300.0000.00000
	3/4 NPT	20	10	0 ... 10 (16)	0 ... 145 (232)	1,5	8451300.0000.00000
	G1	25	14	0 ... 10	0 ... 145	1,8	8450400.0000.00000
	1 NPT	25	14	0 ... 10	0 ... 145	1,8	8451400.0000.00000
	G1 1/4	32	23	0 ... 7	0 ... 101	2,4	8450500.0000.00000
	1 1/4 NPT	32	23	0 ... 7	0 ... 101	2,4	8451500.0000.00000
	G1 1/2	40	30	0 ... 4,5	0 ... 65	2,7	8450600.0000.00000
	1 1/2 NPT	40	30	0 ... 4,5	0 ... 65	2,7	8451600.0000.00000
	G2	50	37	0 ... 3	0 ... 43	3,9	8450700.0000.00000
	2 NPT	50	37	0 ... 3	0 ... 43	3,9	8451700.0000.00000

*1) Cv-value (US) ≈ kv value x 1,2

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

*3) Without pilot valve

⚠-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.

Option selector

845***.0000.00000

Thread form	Substitute
ISO G	0
NPT	1
Port size	Substitute
1/2	2
3/4	3
1	4
1 1/4	5
1 1/2	6
2	7

Valve options	Substitute
Normally open (NO), closes with pilot pressure and opens with spring force (pilot pressure 1 ... 10 bar)	01
Double acting, 4/2 or 5/2-way-pilot valve required	08
Electrical position indicator with 2 micro-switches	23
NAMUR interface plate	50

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 ... 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 5/2-way pilot valve 97100 hole pattern NAMUR

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

Electrical Data

for 5/2-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

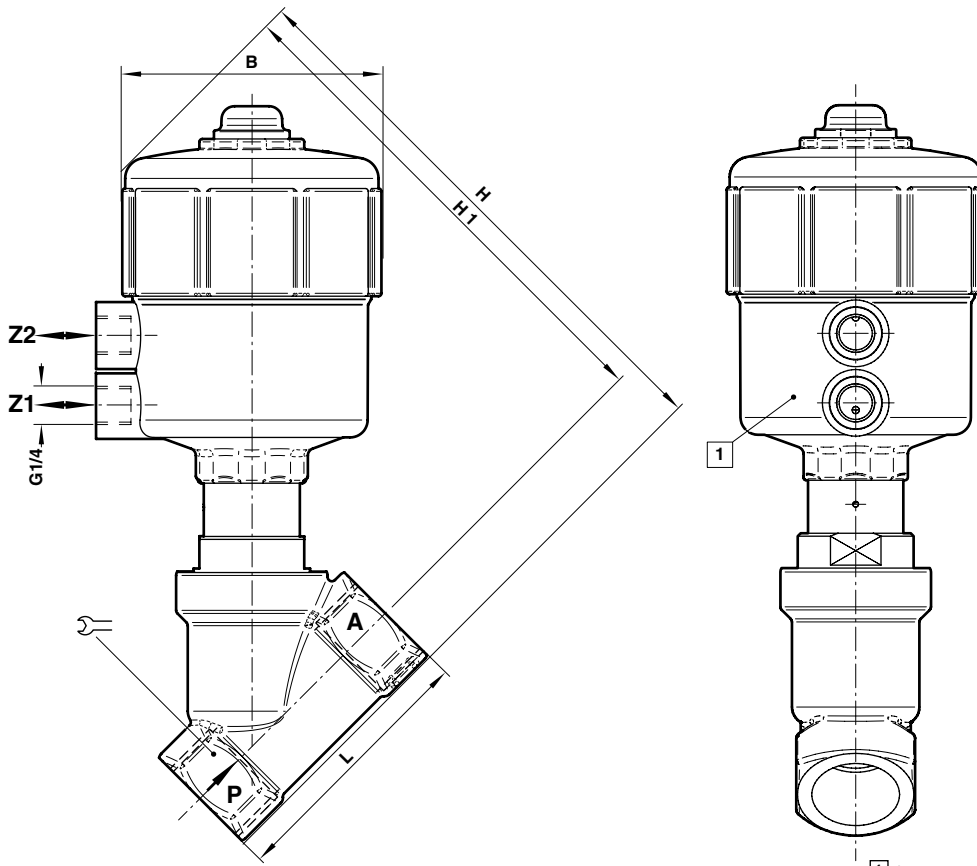
Mounting accessories (NAMUR)

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

Dimensions

G1/2 ... 2
1/2 ... 2 NPT

Dimensions in mm
Projection/first angle



1 Actuator may be rotated 360°

Port size	B	H	H1	L		Model
G1/2	89,5	177,5	164	65	27	8450200.0000.00000
1/2 NPT	89,5	177,5	164	65	27	8451200.0000.00000
G3/4	89,5	184	168	75	32	8450300.0000.00000
3/4 NPT	89,5	184	168	75	32	8451300.0000.00000
G1	89,5	194,5	174	90	41	8450400.0000.00000
1 NPT	89,5	194,5	174	90	41	8451400.0000.00000
G1 1/4	89,5	209,5	184,5	110	50	8450500.0000.00000
1 1/4 NPT	89,5	209,5	184,5	110	50	8451500.0000.00000
G1 1/2	89,5	208,5	186	120	55	8450600.0000.00000
1 1/2 NPT	89,5	208,5	186	120	55	8451600.0000.00000
G2	89,5	229,5	194,5	150	70	8450700.0000.00000
2 NPT	89,5	229,5	194,5	150	70	8451700.0000.00000

Note to Pressure Equipment Directive (PED):

The valves of this series up to and including DN 25 (G1) are according to Art. 4 § 3 of the Pressure Equipment Directive (PED) 2014/68/EU. This means interpretation and production are in accordance to engineers practice wellknown in the member countries. The CE-sign at the valve does not refer to the PED. Thus the declaration of conformity is not longer applicable for this directive.

For valves > DN 25 (G1) Art. 4 § (1) Letter d) 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):

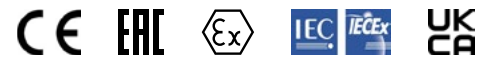
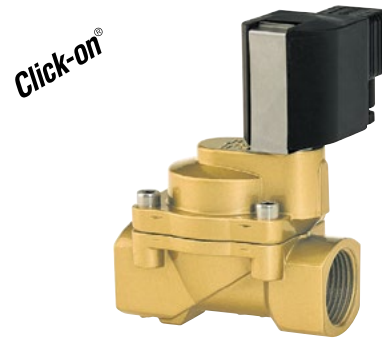
The valves shall be provided with an electrical circuit which ensures the limits of the harmonised standards EN 61000-6-3 and EN 61000-6-1 are observed, and hence the requirements of the Electromagnetic Compatibility Guideline (2014/30/EU) satisfied.

Note to EAC marking:

The EAC-marked products comply with the applicable requirements stated in the technical regulations of the Eurasian Economic Union.

85360/85370 2/2-way piston valves

- Port size: DN 8 ... 50, 1/4 ... 2 (ISO G/NPT)
- Compact build piston valve
- Functional design
- High flow rate
- Damped operation via cone
- Piston guided in PTFE rings
- Long lifetime
- Solenoid interchangeable without tools (Click-on®)
- International approvals



Technical features

Medium:
Neutral gases and liquids

Switching function:
Normally closed

Operation:
Indirectly solenoid actuated

Mountin:
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
1/4 NPT, 3/8 NPT, 1/2 NPT, 3/4 NPT, 1 NPT, 1 1/4 NPT, 1 1/2 NPT, 2 NPT

Operating pressure:
0,5 ... 40 bar (7 ... 580 psi)

Fluid temperature:
–20 ... +90°C (–4 ... +194°F)

Ambient temperature:
–20 ... +50°C (–4 ... +122°F)

Materials:
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) (m³/h)	Operating pressure *2)		Weight (kg)	Model Solenoid in V d.c./a.c.
				(bar)	(psi)		
	G1/4	8	2,2	0,5 ... 40	7,25 ... 580	0,83	8536000.9151.xxxxx
	1/4 NPT	8	2,2	0,5 ... 40	7,25 ... 580	0,83	8537000.9151.xxxxx
	G3/8	10	3,4	0,5 ... 40	7,25 ... 580	0,82	8536100.9151.xxxxx
	3/8 NPT	10	3,4	0,5 ... 40	7,25 ... 580	0,82	8537100.9151.xxxxx
	G1/2	12	4,4	0,5 ... 40	7,25 ... 580	0,85	8536200.9151.xxxxx
	1/2 NPT	12	4,4	0,5 ... 40	7,25 ... 580	0,85	8537200.9151.xxxxx
	G3/4	20	7	0,5 ... 40	7,25 ... 580	1,25	8536300.9151.xxxxx
	3/4 NPT	20	7	0,5 ... 40	7,25 ... 580	1,25	8537300.9151.xxxxx
	G1	25	10,5	0,5 ... 40	7,25 ... 580	1,7	8536400.9151.xxxxx
	1 NPT	25	10,5	0,5 ... 40	7,25 ... 580	1,7	8537400.9151.xxxxx
	G1 1/4	32	25	0,5 ... 40	7,25 ... 580	4,1	8536500.9151.xxxxx
	1 1/4 NPT	32	25	0,5 ... 40	7,25 ... 580	4,1	8537500.9151.xxxxx
	G1 1/2	40	27	0,5 ... 40	7,25 ... 580	3,85	8536600.9151.xxxxx
	1 1/2 NPT	40	27	0,5 ... 40	7,25 ... 580	3,85	8537600.9151.xxxxx
	G2	50	43	0,5 ... 40	7,25 ... 580	5,6	8536700.9151.xxxxx
	2 NPT	50	43	0,5 ... 40	7,25 ... 580	5,6	8537700.9151.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 mm²/s (cSt)

Option selector

853★★★★.9151.★★★★

Thread form	Substitute
ISO G	6
NPT	7
Port size	Substitute
1/4	0
3/8	1
1/2	2
3/4	3
1	4
1 1/4	5
1 1/2	6
2	7
Valve options	Substitute
Normally open (NO), up to DN 25: Operating pressure 0,5 ... 35 bar (7 ... 507 psi) from DN 32: Operating pressure 0,5 ... 25 bar (7 ... 362 psi)	01
Manual override	02
Seat seal FPM, Fluid temperature -10 ... +110°C (+14 ... +230°F)	03
Seat seal PTFE, Fluid temperature -10 ... +110°C (+14 ... +230°F), Operating pressure 1 ... 40 bar (14 ... 362 psi)	06
Seat seal EPDM, for hot water, Fluid temperature -20 ... +110°C (-4 ... +230°F)	14
Version for drinking water on request	

Frequency	Substitute
See table frequency codes	xx
Voltage	Substitute
See table voltage codes	xxx

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

*2) US 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.
At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Additional solenoid systems for hazardous areas

ATEX category	ATEX protection class	IP protection class	Solenoid	Standard voltages
II 3G II 3D	Ex ec IIC T4 Gc Ex tc IIIC T130°C DC	IP65	9176	24 V d.c., 110 V a.c., 230 V a.c.
II 2G II 2D	Ex d mb IIC T4/T5 Gb Ex tb IIIC T130°C/T95°C Db up to DN 25: Operating pressure 0,5 ... 16 bar from DN 32: Operating pressure 0,5 ... 10 bar	IP65	468x	24 V d.c., 110 V a.c., 230 V a.c.
II 2G II 2D	Ex eb mb IIC T4 Gb Ex mb tb IIIB T125°C Db	IP66	6126	24 V d.c., 110 V a.c., 230 V a.c.

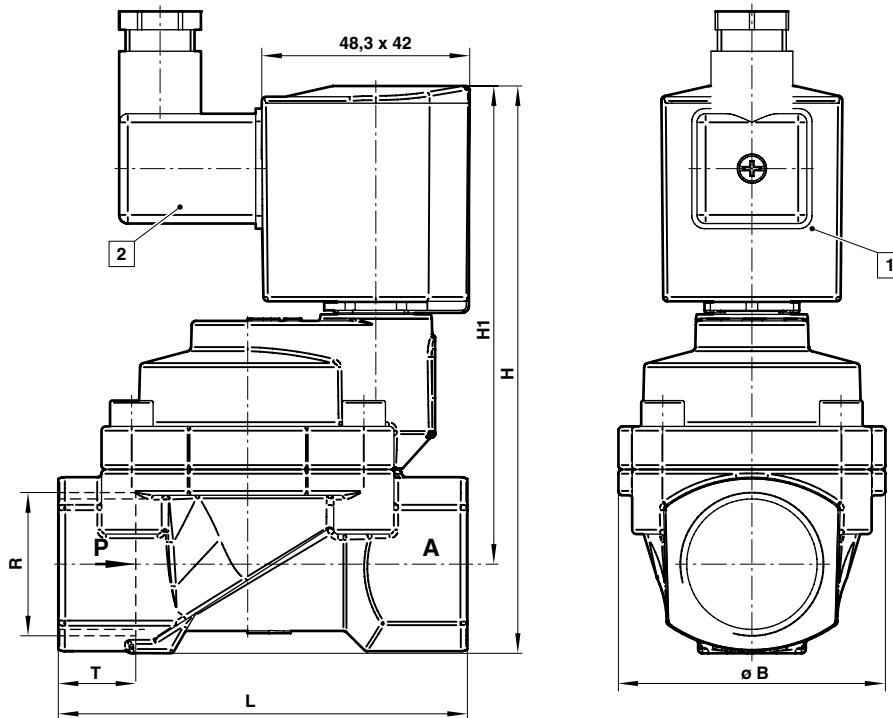
Attention!

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

Dimensions

G3/4 ... 1

Dimensions in mm
Projection/first angle



- 1 Solenoid rotatable 360°
- 2 Socket turnable 4 x 90°
(Socket included)

Port size R	ø B	H	H1	L	T	Model
G1/4	44	105	93,5	60	12	8536000.9151.xxxxx
1/4 NPT	44	105	93,5	60	12	8537000.9151.xxxxx
G3/8	44	105	93,5	60	12	8536100.9151.xxxxx
3/8 NPT	44	105	93,5	60	12	8537100.9151.xxxxx
G1/2	44	107,5	102,5	67	14	8536200.9151.xxxxx
1/2 NPT	44	107,5	102,5	67	14	8537200.9151.xxxxx
G3/4	50	119	102,5	80	16	8536300.9151.xxxxx
3/4 NPT	50	119	102,5	80	16	8537300.9151.xxxxx
G1	62	131,5	110,5	95	18	8536400.9151.xxxxx
1 NPT	62	131,5	110,5	95	18	8537400.9151.xxxxx
G1 1/4	92	166	137	132	20	8536500.9151.xxxxx
1 1/4 NPT	92	166	137	132	20	8537500.9151.xxxxx
G1 1/2	92	166	137	132	22	8536600.9151.xxxxx
1 1/2 NPT	92	166	137	132	22	8537600.9151.xxxxx
G2	109	186	151,5	160	24	8536700.9151.xxxxx
2 NPT	109	186	151,5	160	24	8537700.9151.xxxxx

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Note to EAC marking:

The EAC-marked products comply with the applicable requirements stated in the technical regulations of the Eurasian Economic Union.





Need a clever solution?

Contact our sales experts to learn about our solutions.

IMI operates four global centres of technical excellence and a sales and service network in 50 countries, as well as manufacturing capability in Brazil, China, the Czech Republic, Germany, India, Mexico, Switzerland, the UK and the USA.

Supported by distributors worldwide.

For further information, scan this QR code or visit

www.imiplc.com



Fluid Control

Our product brands:

IMI Buschjost

IMI FAS

IMI Herion

Due to w policy of continuous development, IMI reserves the right to change specifications without prior notice.

z10296WP en/09/24

