





# APPLICATIONS PROCESS INDUSTRY

## Product Index



Function	$\Delta P$		Temperature			Pipe connections	Series	Page
	min. (bar)	max. (bar)	min. (°C)	max. (°C)				
<b>BRASS BODY</b>								
3/2 U	0	10	-50	+120	ATEX Ex d, IEC 61508		1/4-1/2	327 V905-18
3/2 U	0	10	-40	+60	In-line, ATEX Ex d, IEC 61508		1/2	126 V905-23
3/2 U	0	10	-50	+120	IEC 61508		1/4-1/2	327 Sect.E/V572
3/2 NC	2	10	-25	+40	Monostable/bistable, IEC 61508		1/4	551 Sect.E/V608
3/2 NC	2	10	-40	+60	Monostable/bistable, IP67, IEC 61508		1/4	551 Sect.E/V609
5/2	2	10	-25	+40	Monostable/bistable, IEC 61508		1/4	551 Sect.G/V824
5/2	2	10	-40	+60	Monostable/bistable, IP67, IEC 61508		1/4	551 Sect.G/V826
3/2 NC - 5/2	2	10	-25	+40	NAMUR, mono./bistable, IEC 61508		1/4	551 Sect.G/V870
3/2 NC - 5/2	2	10	-40	+60	NAMUR, mono./bistable, IP67, IEC 61508		1/4	551 Sect.G/V872
<b>STAINLESS STEEL BODY</b>								
3/2 U	0	10	-50	+120	ATEX Ex d, IEC 61508		1/4-1/2	327 V905-18
3/2 U	0	10	-40	+60	In-line, ATEX Ex d, IEC 61508		1/2	126 V905-23
3/2 U	0	10	-50	+120	IEC 61508		1/4-1/2	327 Sect.E/V572
3/2 NC	2	10	-40	+60	Monostable/bistable, IEC 61508		1/4-1/2	551-553 <sup>(1)</sup>
5/2 - 5/3	2	10	-40	+60	Monostable/bistable, IEC 61508		1/4-1/2	551-553 <sup>(1)</sup>
3/2 NC - 5/2	2	10	-40	+60	NAMUR, monostable/bistable, IEC 61508		1/4-1/2	551-553 <sup>(1)</sup>
<b>ALUMINIUM BODY</b>								
3/2 NC	2	10	-25	+60	Monostable/bistable, IEC 61508		1/4 .. 1/2	551-552-553 Sect.E/V606
3/2 NC	2	10	-25	+60	Monostable/bistable, IP67, IEC 61508		1/4 .. 1/2	551-552-553 Sect.E/V607
5/2 - 5/3	2	10	-25	+60	Monostable/bistable, IEC 61508		1/4 .. 1/2	551-552-553 Sect.G/V820
5/2 - 5/3	2	10	-25	+60	Monostable/bistable, IP67, IEC 61508		1/4 .. 1/2	551-552-553 Sect.G/V821
3/2 NC - 5/2 - 5/3	2	10	-25	+60	NAMUR, monostable/bistable, IEC 61508		1/4 .. 1/2	551-552-553 Sect.G/V860
3/2 NC - 5/2 - 5/3	2	10	-25	+60	NAMUR, monostable/bistable, IP67, IEC 61508		1/4 .. 1/2	551-552-553 Sect.G/V862

<sup>(1)</sup> Consult our catalogue «Pilot valves and Systems for the process industry» and the Numatics catalogue «Pneumatic valve islands» at: [www.asconumatics.eu](http://www.asconumatics.eu)



ASCO offers a wide range of products for the process industry such as the **oil & gas, (petro)chemical, pharmaceutical, power generation, water/waste water, food and paper & pulp sectors.**

Solenoid pilot valves are used to activate **single-acting or double-acting pneumatic actuators** operating as the driving force on process valves. Quality and reliability of the **process valves** are paramount for production line safety and output.

The products are often installed in environments with low or high temperatures, corrosive atmospheres, or high mechanical stress. They must be designed to provide **a high level of long-term reliability under severe operating conditions.**

Our catalogue "**Pilot Valves and Systems for the Process Industry**" details the full line of our process industry products adapted to your **specific sector of activity.**

You will find our complete range of solenoid valves, pressure operated valves and pneumatic components on the internet at **www.asconumatics.eu.**



To provide you with the best solution for your application needs, **ASCO** offers a variety of exclusive pilot valve features including:

- Intrinsic safety
- Low power consumption
- Namur mounting pad
- Safety shutdown systems

Our low power solenoid valves are compliant with all major communication protocols such as AS-interface, EtherNet/IP™, Profibus DP and Foundation Fieldbus.

Our pilot valves are available in a large selection of versions:

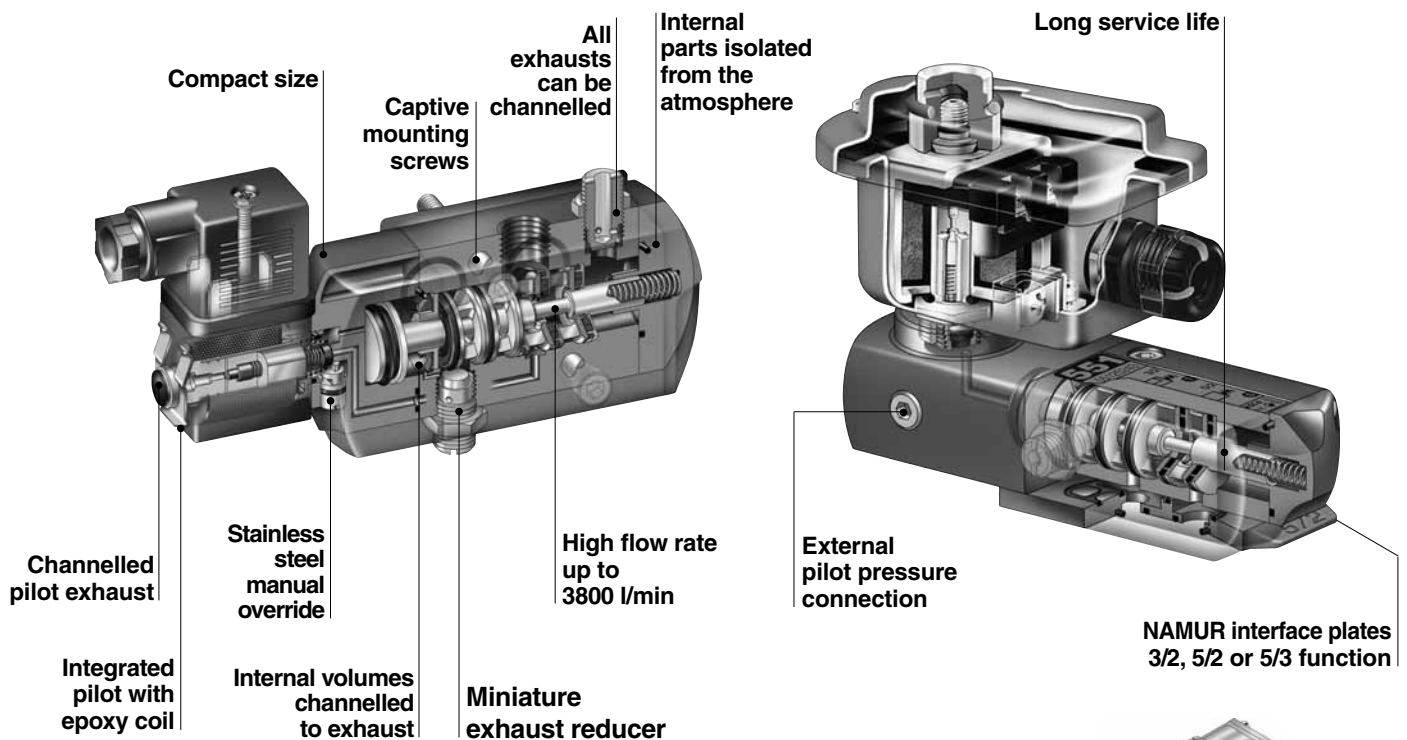
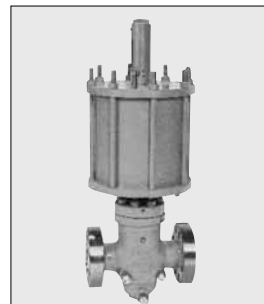
- 3-, 4- and 5-way direct acting or pilot operated valves
- Brass, stainless steel, aluminium or plastic bodies
- Seals in a wide choice of elastomers
- Solenoid valves for use in potentially explosive atmospheres to ATEX designed to operate at temperatures from  $-50^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ .



To meet both environmental standards and actuator requirements, **pilot valves need to be selected with care, with reference to:**

- Mounting interface
- Flow capacity
- Function
- Choice between direct-acting or pilot operated valves
- Functional safety
- Power consumption and type of electrical connection
- Communication through fieldbus and remote I/O
- Environment: Temperature, humidity, aggressive atmospheres, potentially explosive atmospheres, and protection rating

### Different types of pneumatic actuators: rack & pinion, scotch yoke, linear etc.



### Clean/aggressive environments

All the exhaust ports are pipable for environment protection.

The solenoid valve's internal volumes are channelled to the exhaust port to prevent the risk of corrosion in aggressive atmospheres. In NAMUR version, the spring-return chamber of the single-acting actuator "breathes" through the solenoid valve, isolating it from the outside atmosphere.

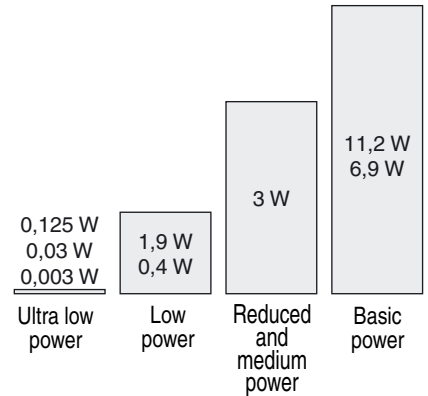


### Series 551, 552, 553

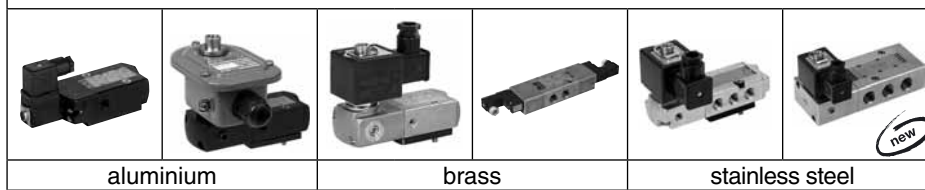
- A unique range of 1/4", 3/8" and 1/2" pilot operated solenoid valves for your pneumatic actuator applications.
  - Small size and high flow rate up to 3800 l/min
  - NAMUR and threaded versions
  - Intrinsic safe version
  - Fieldbus compatible
  - Suitable for use in hazardous area zones 0, 1, 2, 20, 21, 22
- Wide range of pilot valves and solenoid operators, available with different power levels, valve materials, piloting interfaces and functions (3/2, 5/2, 5/3) to meet your needs for safety and low power consumption.
- NAMUR versions are in accordance with CEN/TC69/WG1/SG10 and VDI/VDE3845 (NAMUR).
- Functional safety levels:
  - SIL 4 (series 551, monostable version) or SIL 3 (series 552-553, monostable version), IEC 61508 & IEC 61551 standards
- General characteristics (according to version):
  - Max. operating pressure: 10 bar
  - Operating temperature range: -40°C to +80°C
  - Flow: 700 l/min to 3800 l/min

#### POWER LEVELS

Cold electrical holding values



#### See Quick Selection Chart

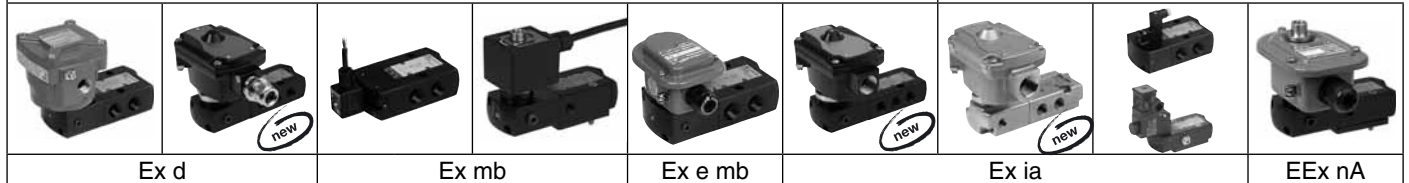


aluminium

brass

stainless steel

#### Various valve body materials



Ex d

Ex mb

Ex e mb

Ex ia

EEx nA

#### Large choice of solenoid operators

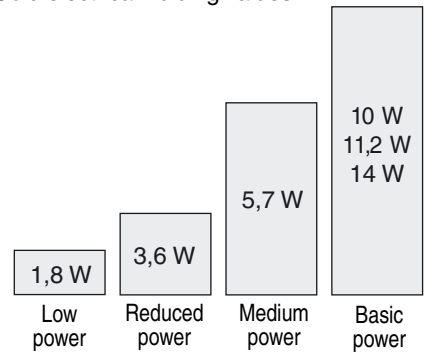
To reduce the total cost of installation, enhance the reliability of solenoid valves and make them suitable for fieldbus control, there is a strong trend towards low power design.

### Series 327

- Series 327 1/4" - 1/2" direct acting solenoid valve are recommended for pilot applications with high flow, a wide pressure range and no minimum operating pressure.
- The balanced poppet design combines a special low friction seal with low power consumption.
- Functional safety levels: SIL 4 or SIL 3, IEC 61508 standard
- General characteristics (brass, aluminium or stainless steel bodies):
  - DN = 5,7 mm (1/4), 12 mm (1/4, 1/2)
  - Temperature range -50°C to +120°C
  - Standard or tamperproof manual reset, NAMUR versions, redundant solenoid valves, for linear actuators (VDE 3845).

#### POWER LEVELS

Cold electrical holding values



The balanced poppet design provides a uniform pressure field around the poppet that prevents any resistance to pressure when the valve opens. The coil therefore only has to offset the friction of the seal.



new

12 mm, 1/4 - 1/2 (3/8 on request)  
manual reset construction



