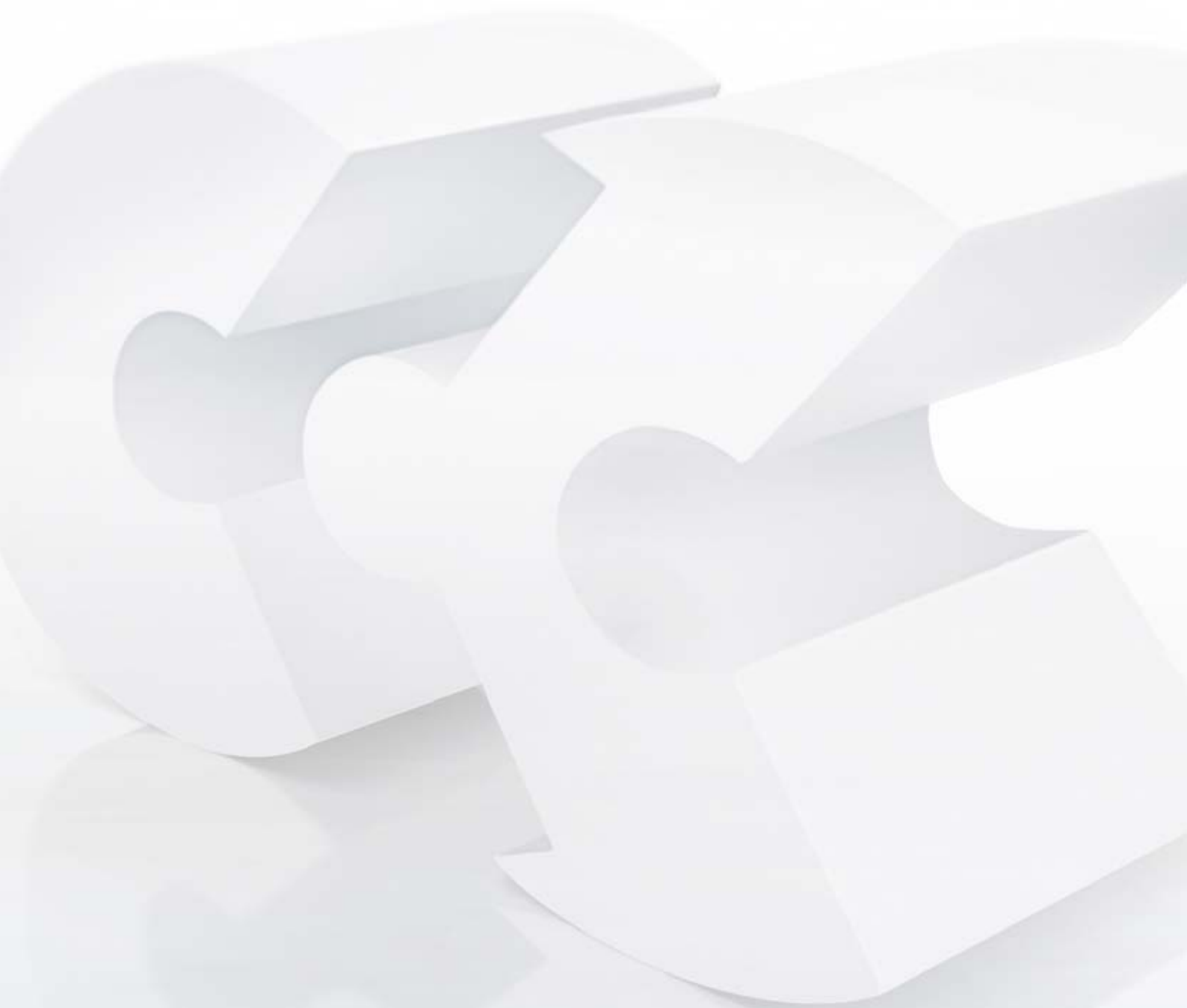




News 2013

Directly operated proportional valves Series AP-621L
Directly and indirectly operated solenoid valves Series CFB STAINLESS STEEL
Directly operated micro solenoid valves Series K8 BOOSTER
Directly operated solenoid valves Series KN HIGH FLOW
Directly operated solenoid valves Series PL
Directly operated solenoid valves Series PD
Electronic proportional regulator Series MX2-...-RCE
Digital servo valves Series LRWD - LRPD
Positioning Feedback cylinder Series 6PF





Never Ending Innovation



The mission of Camozzi Spa is to provide innovative high-quality solutions which bring added value to our clients. We continue to successfully attain this goal, thanks to the unique expertise of our engineers and experienced staff. 2013 offers an exciting repertoire of products, with important new additions, enhancing our already highly competitive range. The range of micro-solenoid valves has been further enhanced by the introduction of the new versions: K8 booster, high flow KN, PL and PD realized by optimizing costs without sacrificing performance. One of the drivers for the development of new products is the application of proportional technology guaranteeing

maximum precision, as in the AP-621L valves and the digital servo valves LRWD-LRWP, born from the experience acquired from the realization of the servo valves Series LR. The regulator MX2-RCE is also a result of the integration of proportional technology into the FRL range. The range of products for liquid regulation has been extended with the addition of the new directly operated valves for general use CFB STAINLESS STEEL. Moreover, the cylinders 6PF, in compliance with the ISO 15552 standards, are equipped with a linear transducer integrated inside the rod for secure and precise position control at all times.

Product presentation

Control	Series	Page
Directly operated proportional valves	AP.. L	5
Directly and indirectly operated solenoid valves	CFB STAINLESS STEEL	6
Directly operated micro solenoid valves	K8 BOOSTER	7
Directly operated solenoid valves	KN HIGH FLOW	8
Directly operated solenoid valves	PL	9
Directly operated solenoid valves	PD	10
Electronic proportional regulator	MX2-...-RCE	11
Digital servo valves	LRWD - LRPD	12

Movement	Series	Page
Positioning Feedback cylinder	6PF	14



Miniaturisation Range of solenoid valves

*Miniaturised and personalised solenoid valves
to satisfy the needs of our clients*

The Camozzi solenoid valves encompass a wide range of sizes and models created in response to the needs of the market within pneumatic automation and fluid control (fluids and gases).

The valves are available 2/2-way or 3/2-way NC - NO or in proportional control version, to offer a major operational flexibility.

The high quality of the material, together with the assembling and test procedures guarantee reliability and endurance while

the reduced dimensions allow the valves to be easily integrated into more complex systems, optimizing dimensions and weight.

The valves have been designed to fulfil the following criteria:

quick response time, high precision and repeatability. On request the valves can be delivered as pre-assembled units, resulting in plug & play systems that can be easily integrated and connected within more complex applications.

In addition to the standard versions, customised models have also been developed to meet individual customer specifications.

News 2013

Directly operated
proportional valves

Series AP-621L



The new AP-621L..., which enriches the range of proportional solenoid valves Series AP, is suitable for the control of low flows of gaseous fluids, guaranteeing high precision. They are available in size 16 mm and with different orifice dimensions. The PWM or current command signal, and the particular construction characteristics allow these micro-solenoid valves to reach very low HYSTERESIS values, high REPEATABILITY and SENSIBILITY and an actuation with negligible stick-slip phenomena.

General data

Function	2/2 NC	
Nominal diameter	Ø 0,8 - 1,0 - 1,2 - 1,6 mm	
Connection	barbed fittings Ø 6 mm	
Materials	body PVDF seals NBR - FKM internal parts STAINLESS STEEL	
Pressure range	Ø 0,8 mm	0-10 bar - Kv 0,4
	Ø 1,0 mm	0-8 bar - Kv 0,5
	Ø 1,2 mm	0-6 bar - Kv 0,65
	Ø 1,6 mm	0-4 bar - Kv 0,9
Voltage	24 V DC	
Power consumption	3 W	
Protection class	IP 65 with DIN connector	

Advantages

- > High reliability
- > Control of micro flows
- > Flexibility of use with calibrations available on request
- > Suitable for the control of inert and medical gases
- > Suitable for the dosing of low viscosity liquids
- > Suitable for the control of open ring flows
- > Tests can be performed according to particular use requirements

News 2013

Directly and indirectly operated
solenoid valves

Series CFB STAINLESS STEEL



The directly operated solenoid valves for general use Series CFB STAINLESS STEEL 2/2-way NC present as the ideal solution for a large variety of applications whereby the environment and fluids used can be particularly aggressive and contaminating. They are suitable for liquid and gaseous fluids and their functioning is determined by a directly operated poppet which ensures high reliability even in harsh working conditions. The solenoid valves Series CFB STAINLESS STEEL are made with the following construction materials which experience contact with the fluid:

- Valve body stainless steel AISI 316L
- Tube stainless steel AISI 304
- Plungers stainless steel AISI 430F
- Springs stainless steel AISI 302
- Seals FKM - NBR - EPDM

General data

Function	2/2 NC
Nominal diameter	Ø 1,5 - 2,0 - 2,5 - 3,0 - 3,5 - 4,0 mm
Connection	G 1/8F - G 1/4F - G 3/8F - G 1/2F
Pressure range	Ø 1,5 mm 0-25 bar Ø 2,0 mm 0-18 bar Ø 2,5 mm 0-15 bar Ø 3,0 mm 0-10 bar Ø 4,0 mm 0-6 bar
Voltage	12-24 V DC 24-110-220 V AC
Power consumption	19 W - 15 VA
Insulation	class H (180°)

Advantages

- > High reliability
- > Compact dimensions
- > They can be supplied in de-greased version
- > Suitable for the control of inert and medical gases
- > Suitable for the control of aggressive liquids
- > Suitable for the control of alimentary fluids and beverages
- > The particular construction materials enable the use in aseptic and uncontaminated areas

Directly operated
micro solenoid valves

Series K8 BOOSTER



The technology used in miniaturized components for fluid control is suitable for the manufacturing industry because of its low power consumption, light weight and small dimensions and ergonomic design these being the main characteristics of the instruments, devices and machines used in a multitude of application sectors. The research and design of new components, including fluid dynamics, is characterized by greater miniaturization whilst maintaining the same flow characteristics, especially regarding solenoid valves. For this specific reason Camozzi has developed a cartridge for the solenoid valve Series K8 size 8mm which enables very high flow performance. This cartridge comes in two versions and is assembled directly to the body of the K8 enabling different valve functions: 2-way and 3-way, normally closed and normally open respectively, which can be applied to single solutions or integrated systems.

General data

Function	2/2 - 3/2 NC - NO
Nominal diameter	Ø 3 mm
Connection	Cartridge
Materials	Brass, STAINLESS STEEL, NBR - FKM
Pressure	1-7 bar
Flow	180 NI/min
Voltage	12-24 V DC
Power consumption	0,6 W
Protection class	IP20
Insulation	class F (155 °C)

Advantages

- > Reduction of dimensions for use in compact machines and instruments
- > Reduction of moving volumes to increase speed and extend the life of internal parts
- > Reduction of consumption of the coils to save energy and enable direct operation from a PLC
- > Reduction of the component's weight for use in manipulators or portable instruments
- > Reduced insertion noise for use in closed or silent environments or operating rooms
- > High flows with respect to the size of the solenoid valve
- > Excellent performance in frequency control regimen

News 2013

Directly operated
solenoid valves

Series KN HIGH FLOW



The new solenoid valves Series KN HIGH FLOW are the result of attentive design, extensive research of materials and innovation during the phases of the industrialization process. The pilots of the new Series KN size 10 mm attain flow performances comparable to those of larger sizes, thanks to an electronic circuit which enables the control of a magnetic force that opens an internal orifice of 1,1 mm. The pneumatic connections adhere to the ISO 15218 standards.

General data

Function	2/2 - 3/2 NC - NO
Nominal diameter	Ø 1,1 mm
Connection	on Base
Materials	PBT, STAINLESS STEEL, NBR - FKM
Pressure	0-6 bar
Flow	25 NI/min
Voltage	12-24 V DC
Power consumption	4,0 / 0,4 W
Protection class	IP50
Insulation	class F (155°C)

Advantages

- > Compact design
- > Integrated electronics
- > Ideal to be used on manifolds and suitable for direct mounting on a circuit board
- > The low power consumption enables a direct operation from PLC
- > The extremely light weight enables the use on manipulators or portable instruments
- > Low insertion noise and therefore suitable to be used in closed or operating rooms
- > Suitable for use in medical applications and applications with aggressive fluids

Directly operated solenoid valves Series PL



The solenoid valves Series PL are available in the versions 3/2-way NC and NO and increase the already existing large range of solenoid valves size 15 mm. They are designed optimizing the operation principle in order to reduce the number of internal parts of which it is composed. The engineering work to produce, assemble and test these valves into automated lines aims to offer the market a highly competitive solenoid valve.

General data

Function	3/2 NC - NO
Nominal diameter	Ø 1,5 mm
Connection	on Base
Materials	PBT, STAINLESS STEEL, NBR - FKM
Max pressure	8 bar
Flow	40 NI/min
Voltage	12-24 V DC
Power consumption	2,7 W
Protection class	IP50
Insulation	class F (155 °C)

Advantages

- > Compact design
- > Integrated electronics
- > Ideal to be used on manifolds and conveyors with multipole electrical connection
- > The low power consumption enables a direct operation from PLC
- > Life expectancy beyond 100 million cycles
- > Suitable for applications with harsh working conditions

News 2013

Directly operated
solenoid valves
Series PD

A new series of miniaturized solenoid valves enriches the large range of components for the control of fluids. The solenoid valves Series PD, 2-way, size 15mm, are characterized by their high performance and are suitable for use with all liquid and gaseous fluids.

The particular flexibility due to the possible use of proper construction materials enables Series PD to be used in several applications in both the Industrial and Life Science sectors. Furthermore, due to their reduced dimensions they can also be inserted in measuring and control instruments and process equipment.

General data

Function	2/2 NC	
Nominal diameter	Ø 0,8 - 1,2 - 1,6 - 2,0 - 2,5 mm	
Connection	M5 - horizontal and vertical flange	
Pressure range	Ø 0,8 mm	0-12 bar
	Ø 1,2 mm	0-12 bar
	Ø 1,6 mm	0-7 bar
	Ø 2,0 mm	0-6 bar
	Ø 2,5 mm	0-4 bar
Voltage	12-24 V DC	
Power consumption	1 / 2 / 4 W	
Insulation	class F (155°)	

Advantages

- > High reliability
- > Compact dimensions
- > They can be supplied in de-greased version
- > Suitable for the control of inert and medical gases
- > Suitable for the control of aggressive liquids
- > Suitable for the control of alimentary fluids and beverages
- > The particular construction materials enable the use in harsh working conditions

Electronic proportional
regulator

Series MX2-...-RCE



The continuous evolution of proportional technology and the mix of Camozzi components generated a new series of proportional valves to control pressure. The new Series MX2-...-RCE is the result of the combination of high flow performances, stability and strength of the regulator Series MX2, with the compactness and high dynamism of proportional regulators Series K8P. The new proportional pressure regulator is ideal to be used in applications where the regulation of different pressures is required according to the variation of the inlet signal, whilst ensuring high flow rates and the best regulation stability obtained thanks also to the feedback of the electronics contained in the K8P.

General data

Modularity

Thanks to the modularity of Series MX2 it is possible to mount the new proportional regulator in the assembled FRL Series MX2.

The Manifold version is also projected for a group of proportional regulators with the same supply and different outlet pressures.

Performance

Thanks to the technology integrated in the K8P it is possible to monitor the pressure regulated by the MX2 and keep it stable according to the required consumption and with the possibility to vary it quickly according to the inlet signal, which can be 0-10 V or 4-20 mA.

Max working pressure	11 bar for the 0,5-10 bar version 4 bar for the 0,3-3 bar version
Flow rate with ΔP 0,5 bar	8000 l/min
Ports	G3/8; G1/2; G3/4 Manifold G1/2
Secondary pressure relieving	standard
Pressure gauge	built-in G1/8 thread

I vantaggi

- > High flow performance
- > Stability and strength
- > Compactness and high dynamism



Digital servo valves **Series LRWD-LRPD**

The proportional digital servo valves Series LRWD and LRPD are the evolution of the LR range, from an Analogic technology to the new completely digital version. The digital evolution has enabled the already high performances of the valve to remain unchanged, with flow rates of 450 NI and 690 NI and a maximum frequency of $\pm 50\%$ FS 110 Hz, whilst directly controlling all valve

functions by means of a high speed and high resolution encoder. The high performance of the Micro Processor allows a considerable calculation and management speed of the most complex algorithms. The working parameters can be directly set by the customer thanks to a user friendly configuration software that communicates with the valve through a USB port.

*General data***Integrated technologies at the service of our client**

The possibility to customize the maximum working pressure, the desired response times, the gains of PID control, the setting of the working Off Set, as well as the parameterization of some digital inlet or outlet signals makes the servo valves Series LRWD (flow control) and LRPD (pressure control) particularly flexible and suitable to be used in several types of applications and different industrial sectors.

Maximum reliability and precision in the pressure control

The core of the servo valve remains the rotating spool with a metal on metal tightening, enabling a precise and dynamic control without friction. In the pressure control version, there is a retroaction control given by a pressure sensor, accurately positioned on the outlet connection of the valve, ensuring the maximum reading reliability.

Maximum reliability and precision in the flow control

The encoder connected to the cartridge enables a reliable reading of the spool rotation, the control driver of the engine that powers it, integrated in the circuit board, gives a classic example of Motion Control, at the full service of flow control, creating speed and acceleration curves capable of handling the most demanding applications.

Set point	0-10V (default); $\pm 10V$ and 4-20mA
Feedback	0-5V (default); 0-10V and 4-20mA
Electrical connection	M12 Connector 8 pole male
Working pressure	0 \div 100 mbar; -1 \div 1 bar; 0 \div 1 bar; 0 \div 10 bar;
Flows	450 NI 690 NI
Hysteresis	< 1% FS Flow; < 0,1% FS Pressure
Linearity	$\pm 1\%$ FS
Frequency limit (-3dB,-90°)	$\pm 100\%$ FS 70 Hz; 50% FS 110 Hz
Max absorbed current	0,8 A
Working temperature	0°C and 70°C

Advantages

- > Excellence in dynamics and precision
- > Response times (0-100%) ~ 5 ms
- > Metal on metal tightening
- > Control by means of Micro Processor
- > Integrated pressure sensor
- > USB connection
- > Configuration software

News 2013Positioning Feedback
cylinder
Series 6PF

Aiming to increase both precision and control in the actuation resulted in the development of the new pneumatic actuators Series 6PF. In compliance with the ISO 15552 standards, they are equipped with a potentiometric transducer of a linear position integrated inside the rod. This type of cylinder makes it possible, along the entire stroke, to constantly control the position of the rod. The sturdy design, the flexible installation and the high performance render these cylinders suitable for use in applications such as: tensioning cylinders, positioning cylinders and filling, cutting and measuring systems.

*General data***Standard cylinders, to ISO 15552**

The cylinders Series 6PF comply with ISO 15552 standards and can be assembled with the entire range of standard accessories.

Available sizes and strokes

Cylinders Series 6PF are available with bores from 50 mm to 125 mm with standard strokes from 50 mm to 500 mm with intervals of 50 mm.

Low Friction

The pistons of the Series 6PF are equipped with specific seals for low friction.

Use with external end-strokes

Besides having the constant control of the position by means of the transducer, the piston has been equipped with a permanent magnet in order to use external end-stroke sensors.

Electrical connection

Thanks to the electrical connection, realized by means of an M12 connector positioned on the rear head, these cylinders fulfil the standards of IP67 protection class.

Advantages

- > Protection class IP67
- > Low friction
- > Secure and precise position control
- > Robust Design
- > Assembly with standard ISO accessories



C_Solutions

Special products

*Customised solutions
 for your automation needs:
 as special as each of our customers.*

Every project or fully customized solution involves the integration of technical expertise with close collaboration with the client - from design concept to customer satisfaction. Every phase of this process is supported by procedural, managerial and technical analysis involving all departments and all the “knowledge” of the whole

company. The target of the C_Solutions division in Camozzi is to develop integrated solutions suitable for specific sectors in order to provide each client real added value. Operating in this context means combining our expertise in materials, components and applications with the flexibility of production plants and structures able to realize and test both physical and virtual prototypes by means of the most modern equipment and advanced software.

*What makes us
different*

Global vision, local service
and a commitment to excellence

- Innovative New Generation Products
- Optimisation of Internal Processes and Successful Relationships with Customers and Suppliers
- Complete and Customised Solutions
- Focus on Product Quality and Customer Service

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