BR-SX26-00EN

SX7 SERIES

Pneumatic Piston On/Off Control Valve

FLOWMAXI

www.flowmaxi.com.tr

SX7 SERIES

Pneumatic Piston On/Off Control Valve

Flowmaxi SX7 series is a pneumatically actuated control valve designed with an engineering approach based on process safety and operational efficiency. It stands out in systems requiring fluid control with its long cycle life, minimum maintenance requirements, and high sealing performance. The compact and modular body structure has been optimized for use in different pressure classes and temperature ranges. From flange connection standards to packing types, and from gasket structures to actuator selections, every component has been chosen to increase system stability. Thanks to its engineering-oriented design, it operates reliably even in challenging process conditions such as steam, hot water, thermal oil, compressed air, and aggressive fluids.

Domestic Production and Service Ease

Flowmaxi SX7 valves are manufactured in Turkey. This ensures fast spare parts supply, a widespread technical service network, and flexible production capabilities based on user demands.

High Sealing Performance

The carefully designed gasket and plug structure provide tight shut-off *(ANSI/FCI 70-2 Class VI sealing in the SX101 series).*

Wide Application Range

Equipped with a pneumatic piston actuator as standard. Thanks to its spring-return design, it moves to a safe position in case of power or air pressure loss.

Powerful Pneumatic Actuator

It can be used safely in various fluids and processes such as steam, hot oil, hot water, compressed air, and chemical fluids.

SX7 SERIES

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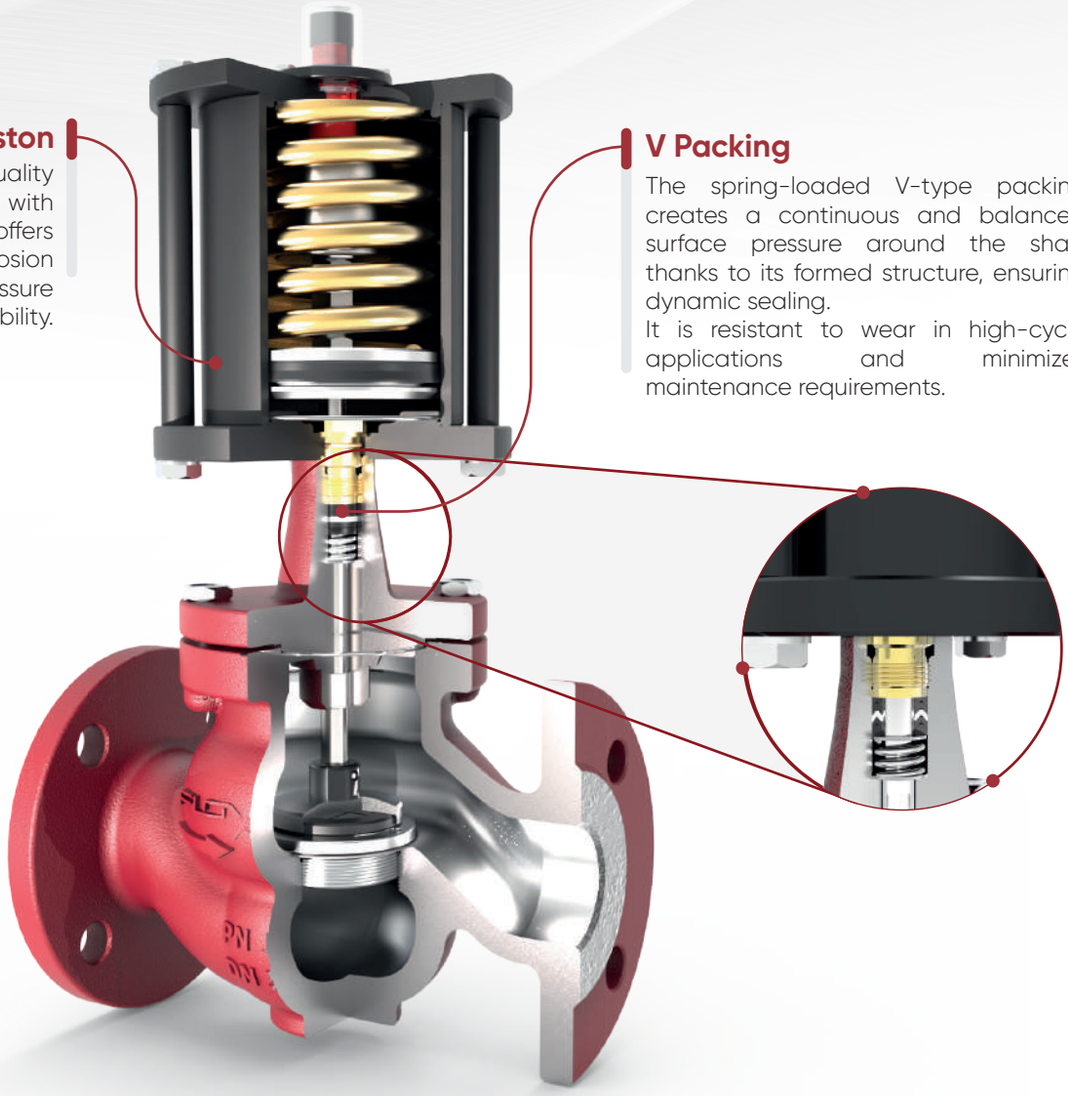
The Flowmaxi SX7 Series On-Off control valves are an ideal solution for your industrial automation needs, thanks to their innovative design, high-quality domestic production, and user-friendly features. With accessible technical support, readily available spare parts, and proven performance, these valves allow you to safely control your processes.

Piston

Thanks to high-quality aluminum material with anodized coating, it offers excellent corrosion resistance and pressure durability.

V Packing

The spring-loaded V-type packing creates a continuous and balanced surface pressure around the shaft thanks to its formed structure, ensuring dynamic sealing.
It is resistant to wear in high-cycle applications and minimizes maintenance requirements.



Flow-Adaptive Design for High Performance

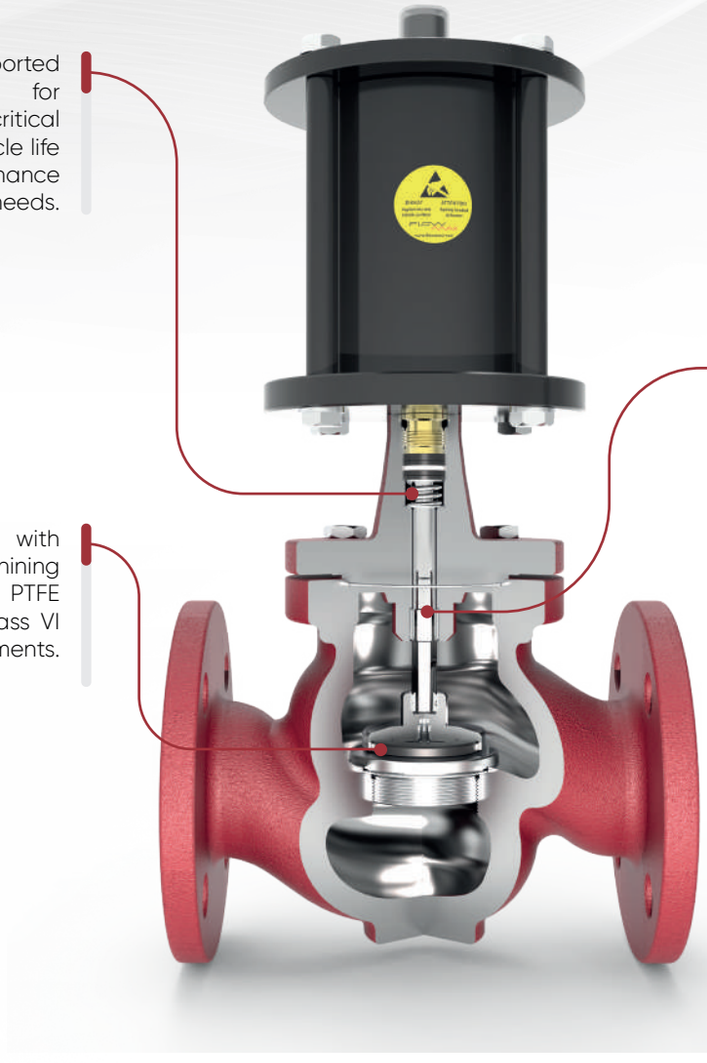
The Flowmaxi body features optimized S-type flow channels that allow the fluid to move without disturbing its direction. This design reduces pressure loss and provides high Kvs, enhancing energy efficiency while ensuring more balanced control throughout the system. Carefully calculated flow passages offer reliable performance for years with minimal maintenance needs.

SX7 SERİSİ

Pneumatic Piston On/Off Control Valve

General Areas of Use

The spring-supported structure, formulated for long-lasting sealing in critical processes, increases cycle life and reduces maintenance needs.



Stainless internal components with high resistance to wear and corrosion ensure maximum continuity in process safety.

The closing area, with precision surface machining and carbon-reinforced PTFE compatibility, meets Class VI sealing requirements.

Steam Lines
In saturated and superheated steam lines.

Heating-Cooling
HVAC systems, boilers, and cooling towers.

Process Lines
Chemical, petrochemical, food, and pharmaceutical processes.

Compressed Air Systems
Compressor outlets and pre-regulation lines.

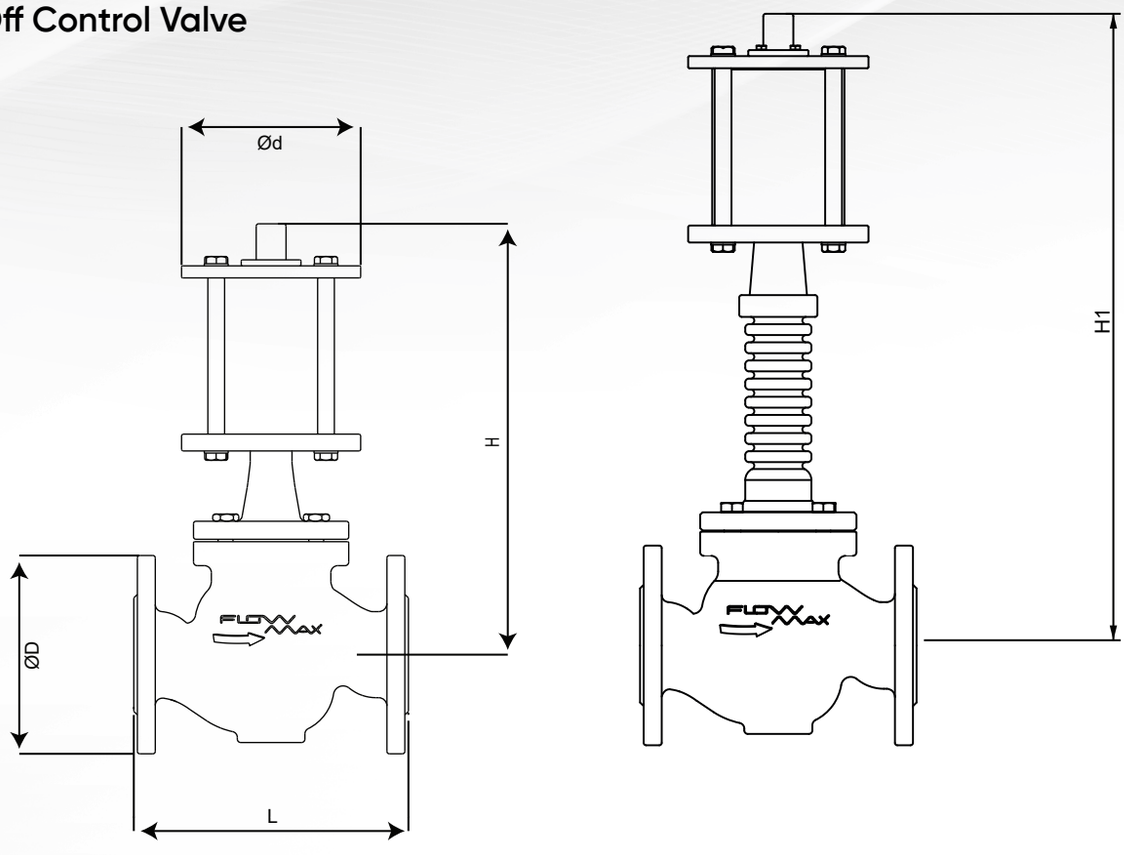
Hot Water Systems
Heat transfer circuits and boiler returns.

Oil Circuits
IHeated thermal oil or hydrocarbon lines.

SX7 SERIES

Technical Details

Pneumatic Piston
On/Off Control Valve



Nominal Diameters	DN	15	20	25	32	40	50	65	80	100	125	150
Valve Length (L)	mm	130	150	160	180	200	230	290	310	350	400	480
Height Including Actuator (H)	mm	280			300	320	345	365	385	450	495	525
Height Including Actuator (H1)	mm	400			420	440	465	485	495	570	615	645
Flange ØD	mm	95	105	115	140	150	165	185	200	220	250	285
Standard Actuator	mm	30cm²			50cm²		80cm²		120cm²	150cm²	300cm²	360cm²

Note: The above dimensions are given for bodies with PN16 flange connections and comply with EN 558 standards. In particular, the H *(height)* dimension may vary depending on the selected actuator size. For valves with large actuators or optional accessories *(e.g., handwheel, positioner)*, the height may increase. Weight values depend on the body material and actuator type and can be provided by the manufacturer upon request.

SX7 SERIES

Pneumatic Piston
On/Off Control Valve

General Areas of Use

Special Design for High-Temperature Applications

The Flowmaxi SX7 Series pneumatic control valves provide a high-performance solution for high-temperature and demanding process environments. With its durable construction, metal-to-metal sealing surface, and bellows-supported long packing system, the SX Series makes a difference in applications where safety and efficiency are critical.

Body and Material Construction:

The Flowmaxi SX7 valve bodies are made from casting materials resistant to high temperatures and pressures. Internal components are made of stainless steel, ensuring long-lasting and reliable operation.

Operating Temperature Range:

The SX7 Series valves are designed to withstand challenging temperatures from -10°C to +450°C. With metal-to-metal or graphite packing options, thermal resistance is enhanced.

Packing and Bellows Structure:

Long-type packing and steel-reinforced graphite sealing elements ensure safe and leak-free control at high temperatures. The bellows structure improves sealing and extends maintenance intervals.

Application Areas:

Can be safely used for precise control in steam, hot oil, hot water, thermal oil, compressed air, and various chemical process lines. Suitable for industrial automation systems.

SX7 SERIES

Pneumatic Piston Features

When selecting a pneumatic piston, it is critical that the piston can provide enough force to overcome the maximum differential pressure the valve will experience during closure. The table below shows the approximate maximum shut-off pressure values *(in bars)* for SX7 Series valves with different actuator sizes. These values represent the closing pressures achievable with standard spring force and sufficient air supply *(~5.5–6 bar).*

Pneumatic Piston Feature Table

The pneumatic piston actuators used in the Flowmaxi SX7 Series are offered in various sizes to meet different power requirements. The table below shows standard actuator sizes, cylinder diameters, and air supply connections.

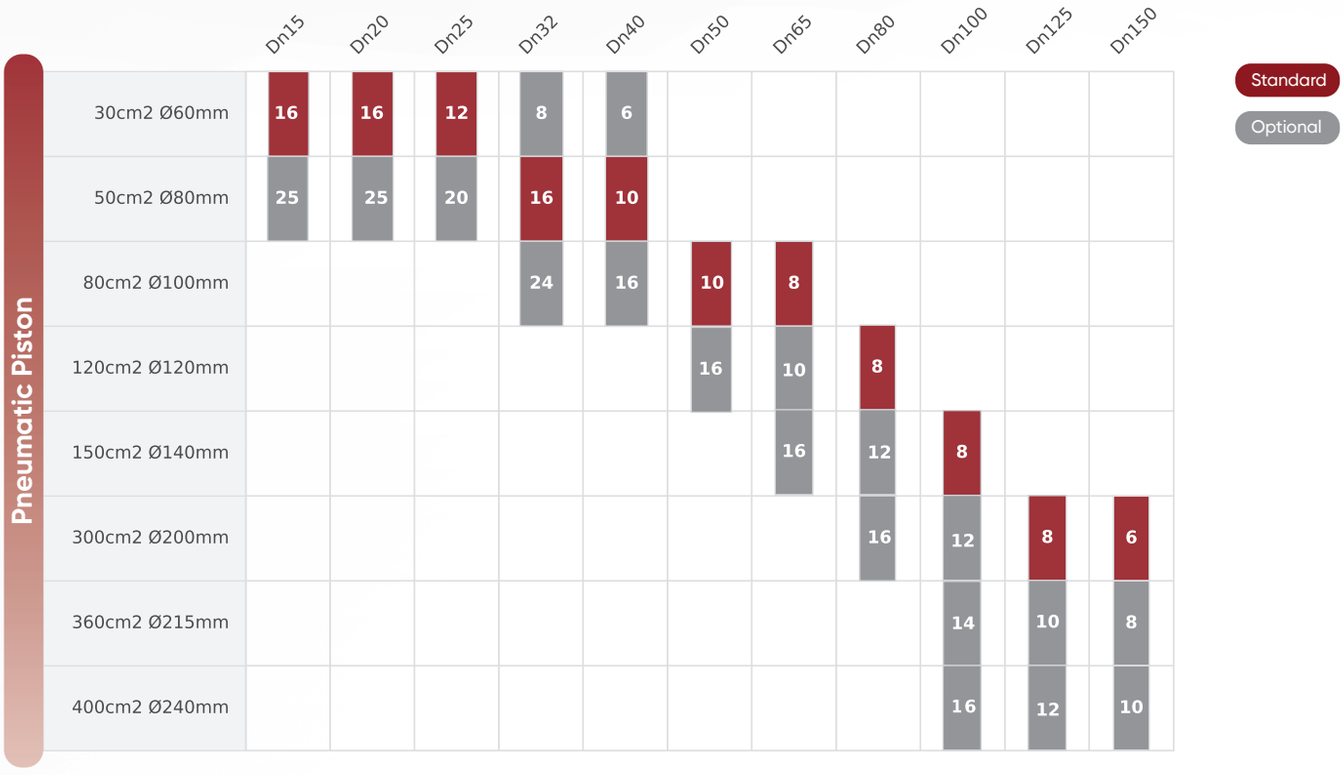
Pnömatik Piston		Ød	Besleme Girişi
30cm²	Ø60mm	100	G1/8"
50cm²	Ø80mm	130	G1/8"
80cm²	Ø100mm	150	G1/8"
120cm²	Ø120mm	180	G1/8"
150cm²	Ø140mm	200	G1/8"
300cm²	Ø200mm	260	G1/2"
360cm²	Ø215mm	280	G1/2"
400cm²	Ø240mm	300	G1/2"

As shown in the table above, compact actuators *(with an area of 30–150 cm²)* are sufficient for small and medium-sized valves, while actuators with larger piston areas *(300–400 cm²)* are used for larger diameter valves and/or higher differential pressures. The supply inlet connections vary depending on the actuator size: for 30–150 cm² actuators, the standard air inlet is G1/8", whereas for larger actuators of 300 cm² and above, a G1/2" connection is used to provide higher flow capacity.
The actuators are equipped with a spring return mechanism *(single-acting).* In this way, when the air pressure is cut off, the valve moves either to the fully closed position *(NC, normally closed)* or to the fully open position *(NO, normally open)* by means of spring force. The spring arrangement is selected according to the desired safety position. Optionally, a double-acting actuator *(without spring, air-to-open and air-to-close)* can be used; in this case, there is no fail-safe *(safety open/close)* function, but the advantages of faster cycle times and lower air consumption are achieved.

SX7 SERIES

Pneumatic Actuator Shut-Off Pressures

Shut-off pressure values are given for conditions where pressure is applied on one side and the opposite flange is open to atmospheric pressure *(differential pressure)*. For bi-directional pressure conditions or if continuous high pressure will be applied to the valve, it is recommended to consult for the appropriate actuator selection and, if necessary, a balanced trim design.

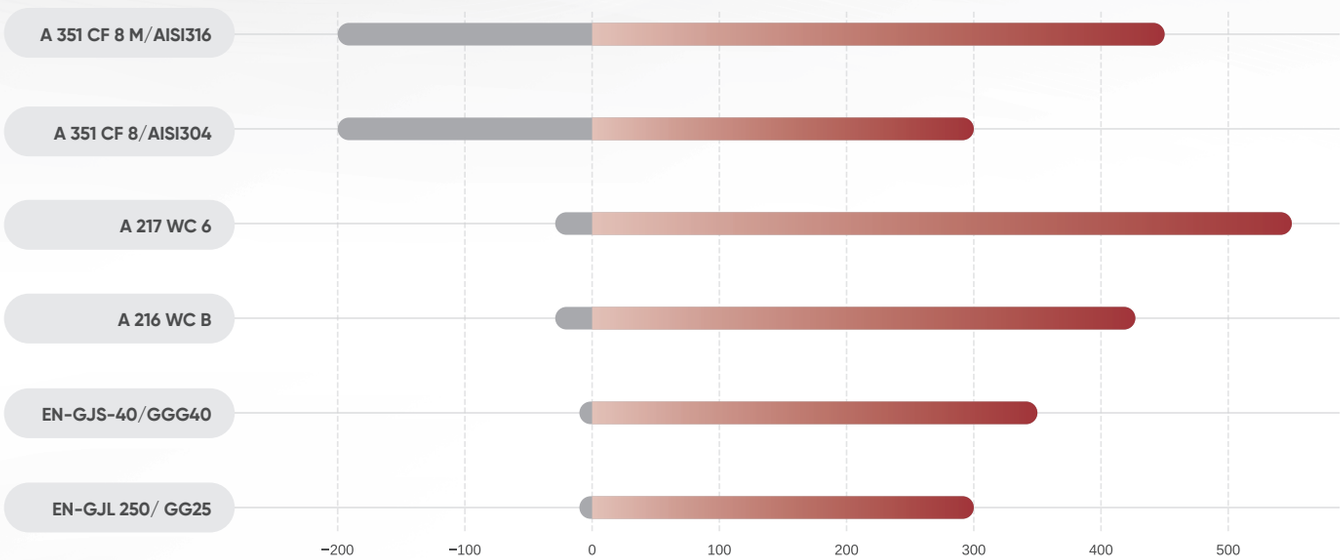


The table above presents the maximum differential pressures that different actuator sizes can handle for various nominal diameters. For example, smaller valves can close higher pressure differences with the same actuator, whereas the closing capacity decreases as the valve diameter increases. Therefore, when selecting an actuator according to process conditions, the shut-off pressures shown in the table and the required safety margins must be carefully considered.

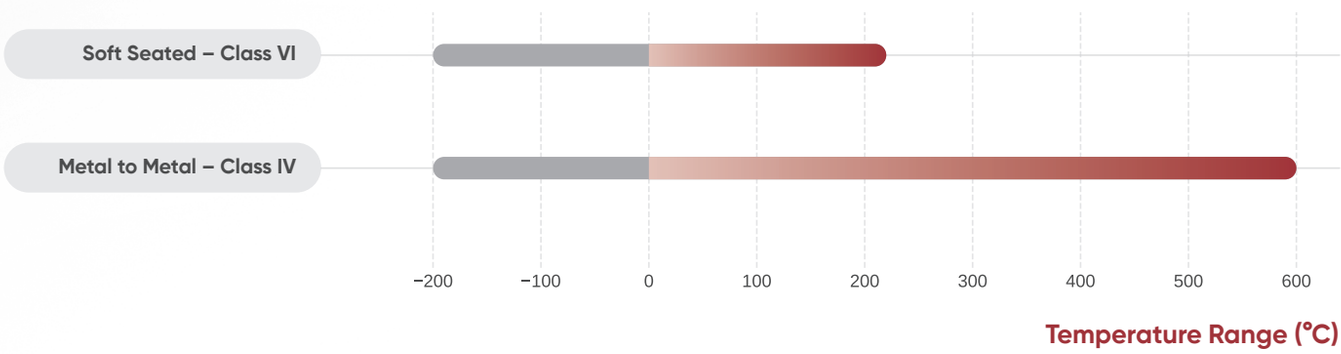
SX7 SERIES

Operating Temperatures

Operating temperature ranges according to body material.



Temperature Ranges According to Seat-Plug Seal Type



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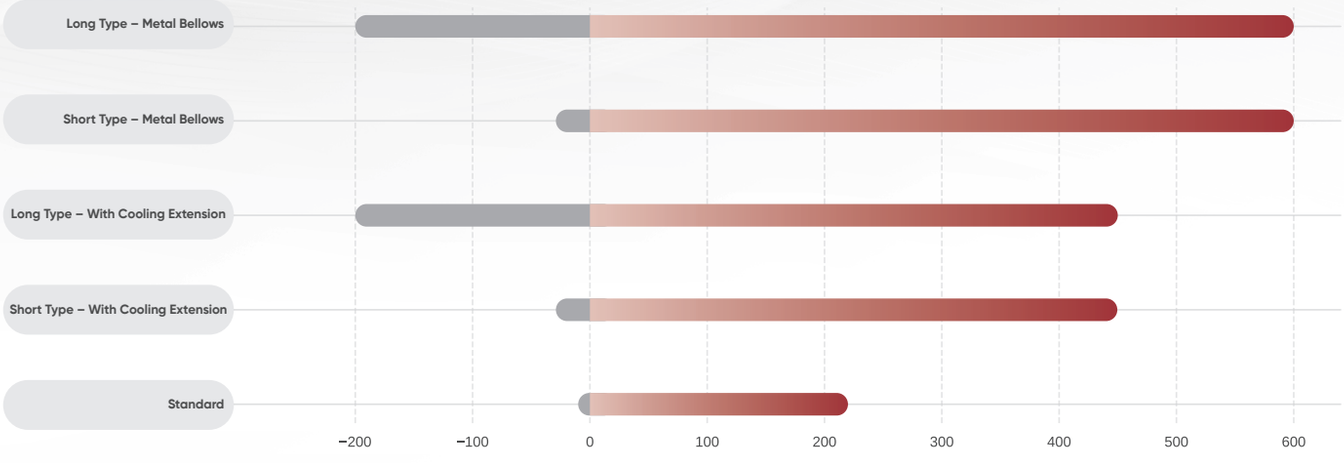
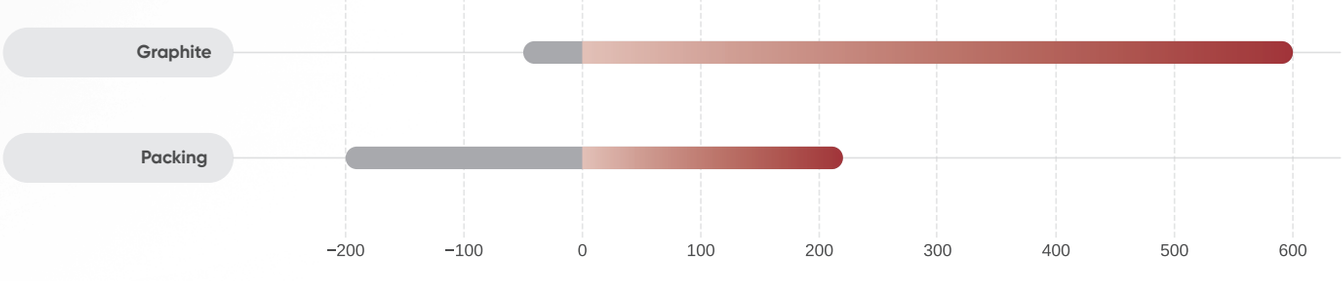
Operating Temperatures

Operating Temperature Ranges by Packing Type



Temperature Range (°C)

Operating Temperature Ranges by Packing Gasket Type



Temperature Range (°C)

SX7 SERİSİ

Ürün Kodları

Section	Code Description	Code Example
Pressure Class	PN16 PN25 PN40	PN16
Nominal Diameter	DN...	DN50
Type	SX7 = Shut-off Valve	SX
Series	10 = 2 Way 30= 3 Way	10
Sealing	4 = Class IV (Metal-to-Metal) 6 = Class VI (PTFE)	6
Packing Size	1 = Short Type Packing 2 = Long Type Packing with Cooling	1
Piston Size	P1 = 30 cm^2 P2 = 50 cm^2 P3 = 80 cm^2 P4=120 cm^2 P5=150 cm^2 P6=300 cm^2 P7=360 cm^2 P8=400 cm^2	P3
Safety Position	NO= Normally Open NC= Normally Closed	NC
3/2 Solenoid Valve	0 = None 1 =24V DC 2 =220V AC	1
Limit Switch	N = None M = Micro Switch B = Limit Switch Box	N

Coding Example

PN16	DN50	SX10	6	1	P3	NC	1	N

Maximum Safety in Flow Control!

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