



®

**MIRAB CO.**

Manufacturer of Industrial Valves  
and Relevant Equipment

## Nozzle Check Valves





#### **Cooperation and acquiring the technology for Nozzle Check Valves from Noreva Company**

The technical contract between Mirab and Noreva Company Germany, which is an international producer of this type of valves, was signed in early 2002. In the first phase of this contract, Mirab gets all the plans and technical information and production technology for two groups of above valves for nominal diameters of 25mm up to 1200 mm and working pressure up to 400 bar.

Once this phase is produced and completed, based on agreements made, the second phase of cooperation for production of another group of these valves with pressure over 400 bars will commence. These valves are used in water, liquid, gas, oil and steam pipelines. Through this contract, Mirab is allowed to export this type of valve to all neighboring countries and Noreva Company can use molding, electrostatic powder coating and casting facilities of Mirab Company for its own needs.



## Nozzle Check Valves

### Application:

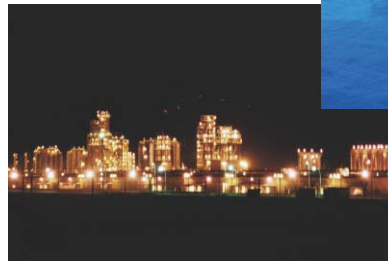
#### Water

Cooling systems for motors and water turbines  
 Water cooling systems for steel making factories  
 Water measurement stations  
 Pressure boosting stations  
 Power Plants  
 Water Treatment Facilities  
 Water Networks



#### Oils and Fuels

Refineries  
 Pressure boosting stations  
 Pipelines  
 Oil and kerosene fuel stations  
 Oil Cooling Systems  
 Fuel Filling Stations  
 Hydraulic Systems



#### Steam and Gases

Steam Producing Factories  
 Under Pressure Stations  
 Chemical Plants  
 Gas and steam dissociation Plants  
 Oxygen Producing Plants  
 Air-condition Systems



## Nozzle Check Valves

### Design

The low noise function of this type of check valves and their spectacular physical shape, takes up little space, especially in lines where there is limitation because of space and weight, it meets the needs of the customers. This type of valves, with a long history, are presented with following specifications to meet the needs of customers.

### Technical Specifications

- Low impact
- Low pressure drop
- Suitable for high speed in liquid and gas
- Can be produced under DIN, API 6 D, ... standards
- Suitable design for low friction of moving disc inside the valve body
- Totally low capacity design for installation in short lines especially power plants – pump houses

### Advantage

For two prominent reasons these valves are superior to other valves. One is low drop of pressure in them and the other is their low maintenance. Because of the short moving distance of internal parts, closing time has been reduced too, hence the parts go through minimum wear and tear. Because of this design, the valves have low noise, hence they can be suggested for use in all places. These valves are manufactured based on latest technology and can be utilized under hard circumstances such as oil pipelines, iron melting facilities, steel factories, also in petrochemical plants, water pipelines, power plants and under pressure gas stations.

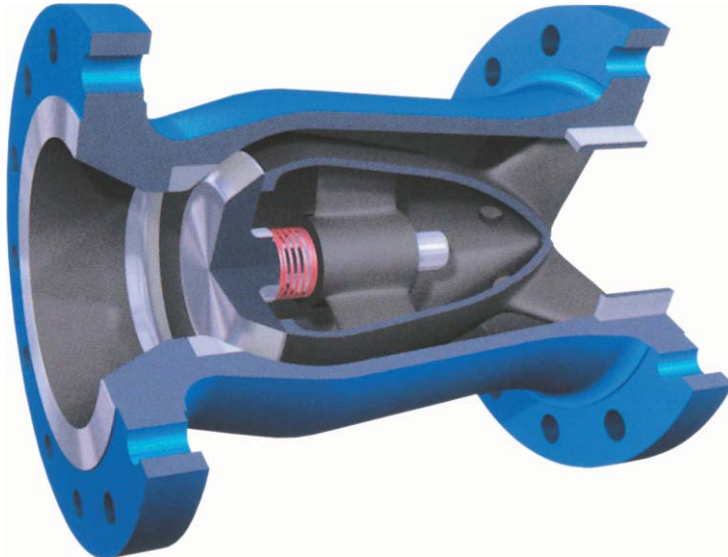


### NRV-Z model

**Size:** DN25-DN 250

**Pressure:** PN10- PN 400

- Low drop in pressure
- Low maintenance
- Closing without impact



Low drop in pressure of this valve is because of its good design based on the suitable flow route of the water and low linear movement of the disc.

### NRV-R Model

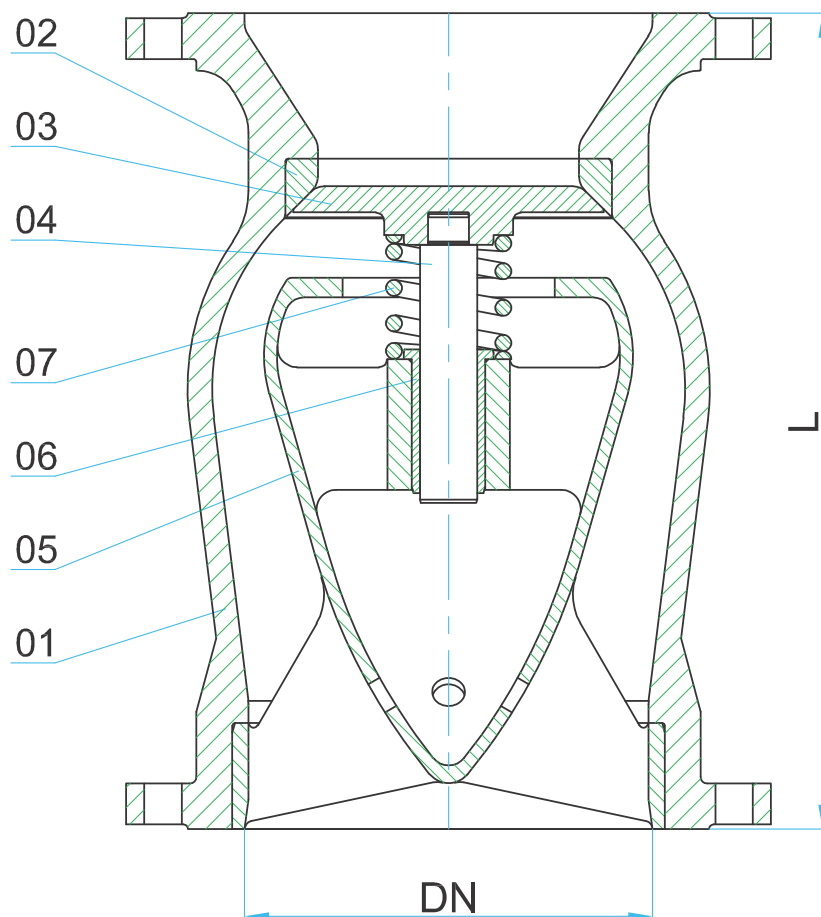
**Size:** DN 300- DN 1200

**Pressure:** PN 10- PN 100

- Low weight
- Low drop in pressure
- Very short length
- Low Maintenance
- Short disc movement
- Closing without impact



This type of valve has been designed with low length and short closing time  
 This Nozzle check valve can be closed in a short time (few seconds) without impact

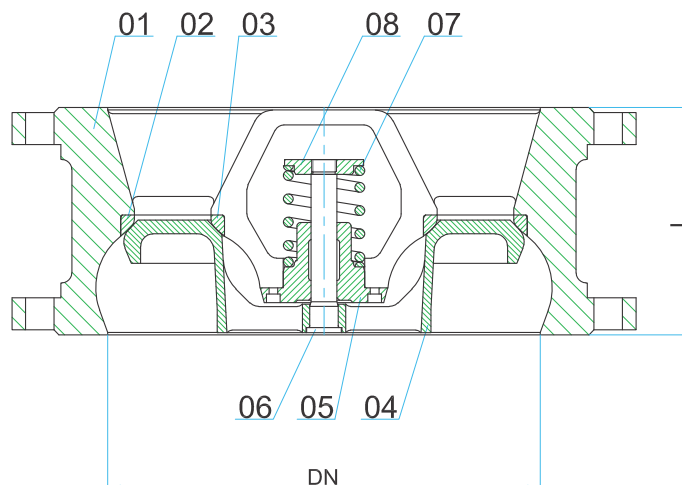
**Dimensions**

**Part Specification**

Part No.	Part Name	Material		
		Grey Cast Iron	Casting steel	Stainless Steel
01	Body	EN-GJS-400-15	ASTM A216 WCB	1.4308
02	Sealing Ring	1.4301	1.4301	1.4301
03	Disc	1.4308	1.4308	1.4308
04	Indicator	1.4301	1.4301	1.4301
05	Nozzle	EN-GJS-400-15	ASTM A216 WCB	1.4308
06	Indicator Bosch	C95200	C95200	C95200
07	Spring	1.4310	1.4310	1.4310

**Valve Length**

DN mm	25	32	40	50	65	80	100	125	150	200	250
L mm	100	100	120	120	150	180	240	300	350	450	500

## Dimensions & Weight



### Part Specification

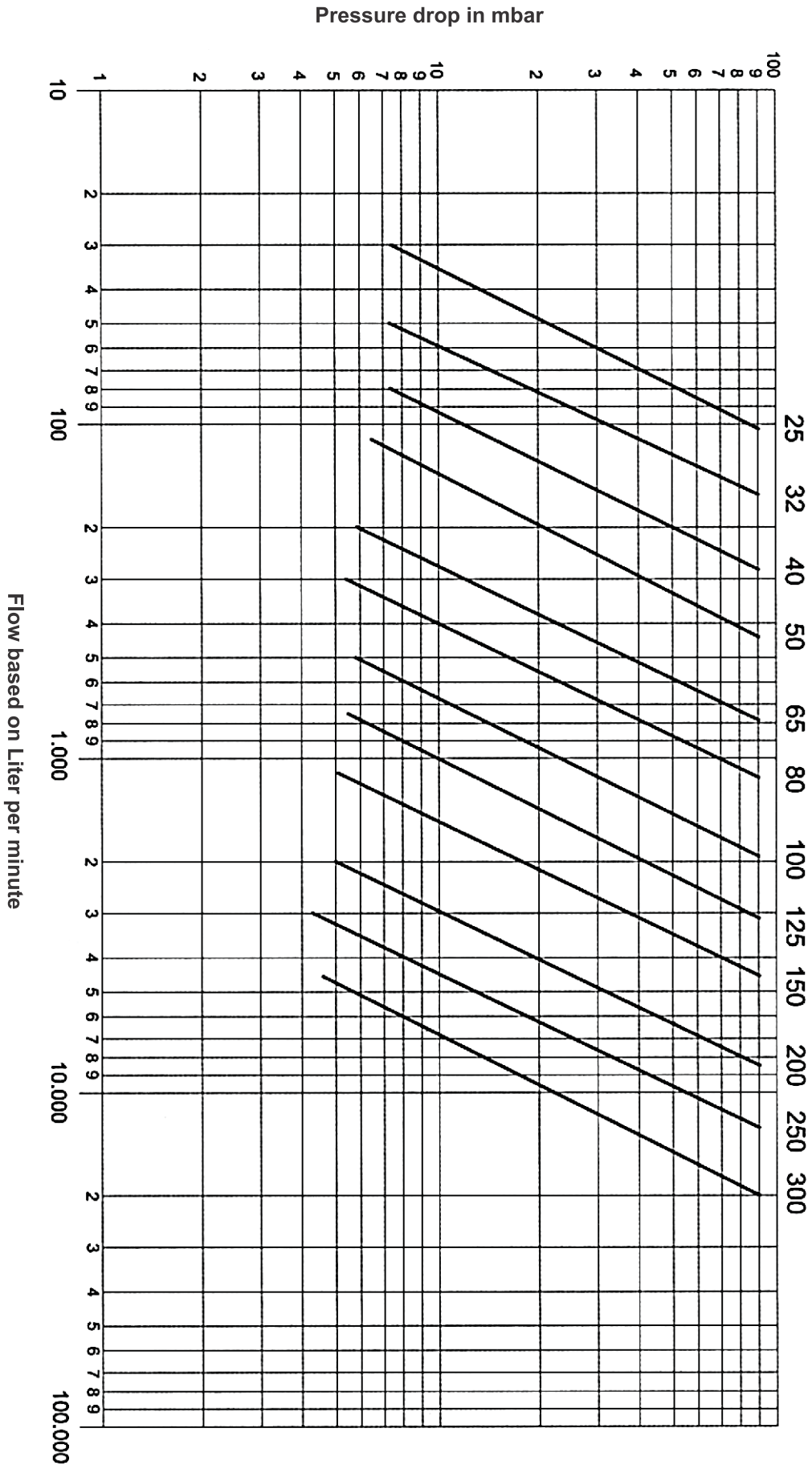
Part No.	Part Name	Material		
		Grey Cast Iron	Casting steel	Stainless Steel
01	Body	EN-GJS-400-15	ASTM A216 WCB	1.4308
02	Sealing Ring	1.4301	1.4301	1.4301
03	Sealing Ring	1.4301	1.4301	1.4301
04	Disc	1.4308	1.4308	1.4308
05	Indicator Bosch	C95200	C95200	C95200
06	Indicator	EN-GJS-400-15	A216 WCB	1.4301
07	Spring	1.4310	1.4310	1.4310
08	Spring Holder	1.4301	1.4301	1.4301

### Length and Weight of the Valve

DN mm	PN 10 & PN 16		PN 25		PN 40		PN 63		PN 100	
	L mm	Weight Kg	L mm	Weight Kg	L mm	Weight Kg	L mm	Weight Kg	L mm	Weight Kg
300	181	115	181	105	181	135	229	180	229	260
350	215	140	215	160	222	190	273	280	273	380
400	245	185	245	230	245	280	305	380	305	505
450	264	185	264	230	264	280	362	380	362	505
500	305	370	305	350	305	420	368	610	368	870
600	370	585	370	560	370	690	394	860	438	1240
700	430	750	430	820	430	960	480	1400	480	1900
750	460	880	460	950	460	1000	505	1420	505	2100
800	500	1070	500	1090	500	1290	584	1770	584	2450
900	560	1500	560	1600	560	1830	635	2370	635	3070
1000	650	2000	650	2100	650	2250	720	2650	820	3650
1050	670	2300	670	2500	720	2550	760	3100	870	4550
1200	740	2800	740	3300	840	3600	930	4600	970	6550



Pressure drop in Nozzle Check Valves Model NRV-ZK  
Total opening of the valve at 1 meter/ second speed ( Water)

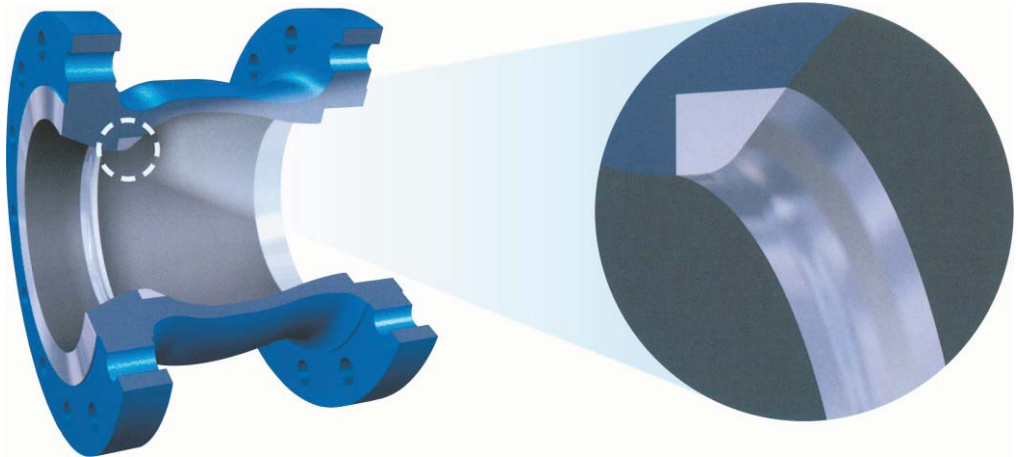




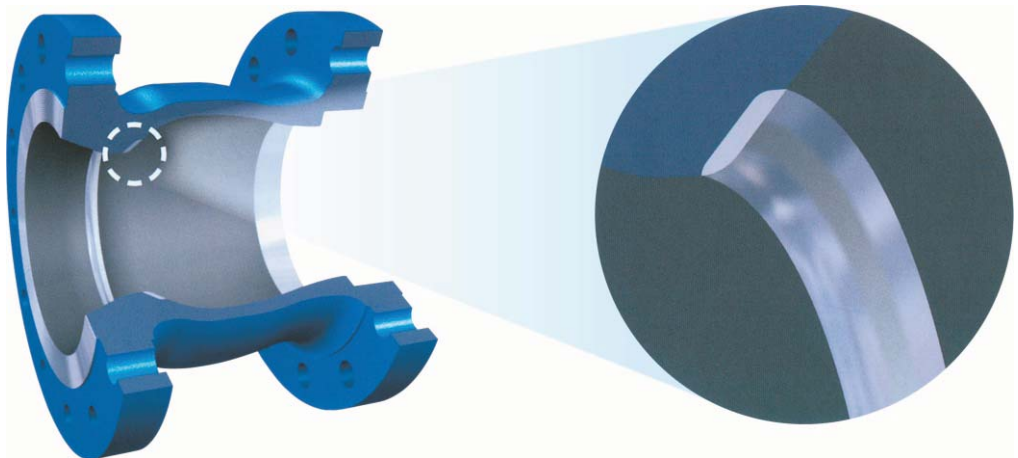
**Different Sealing Rings in Nozzel Check Valves**

**Sealing Ring:**

Bronze, Stainless Steel, Duplex (Max 160°C)

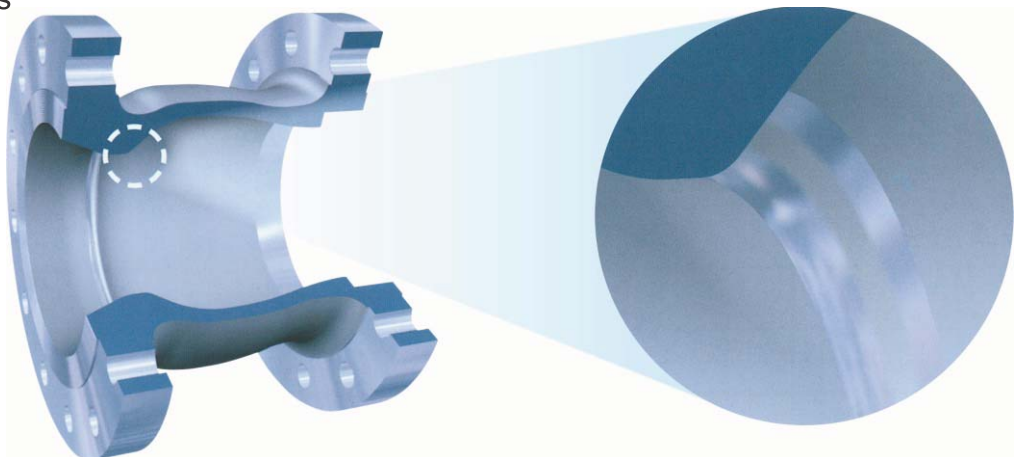


Stainless Steel, Stellite



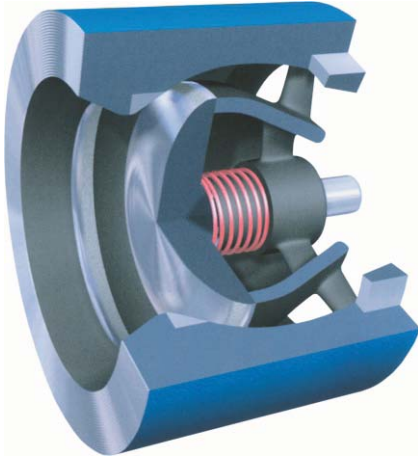
**Uniform Ring with body:**

For rustproof bodies

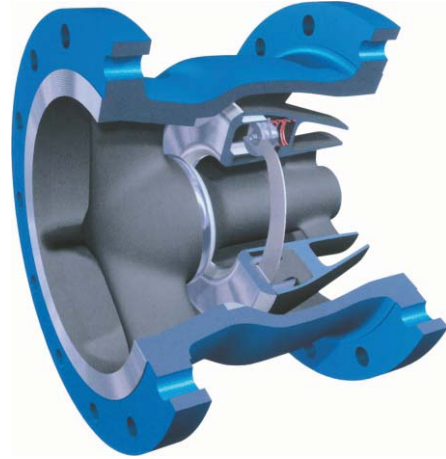




Different Types of Nozzle Check Valves



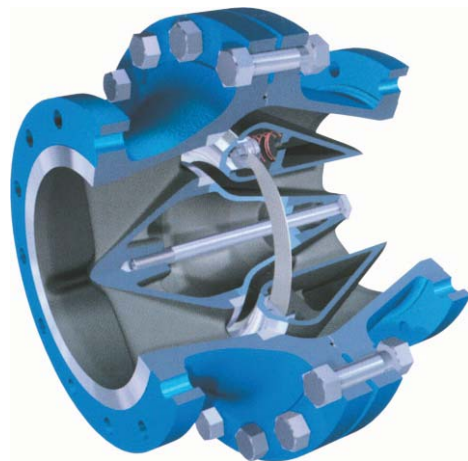
NRV-ZSK



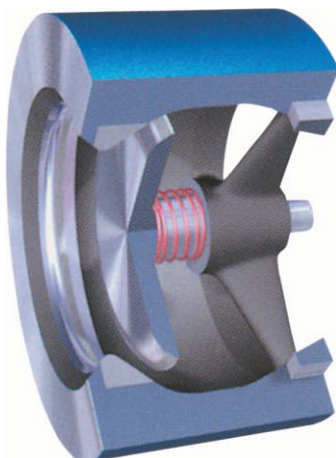
NRV-B



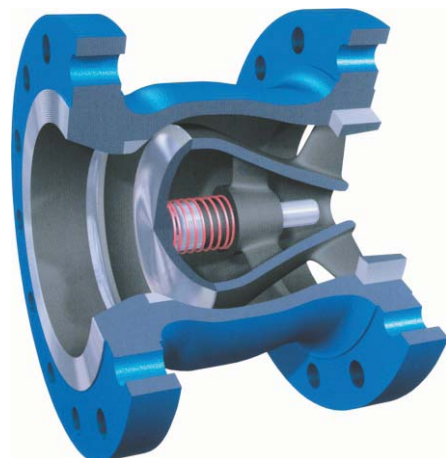
NRV-BK



NRV-G



NRV-K



NRV-ZK



## MIRAB Co' PRODUCTS

**Butterfly Valves Family:** Double Flanged Type, Butt-weld End, Wafer Type, Lug Type, Hydraulic Actuated, Pneumatic Actuated.

**Gate Valves Family:** Soft-Sealing Gate Valve, Metal Seat Gate Valve, Knife Gate Valve, Sluice Gate Valve.

**Non Return Valves Family:** Tilting Disc with Counter Weight, Tilting Disk with Counter Weight and Hydraulic Damper, Swing Check Valve, Silent Check Valve, Foot Valve, Nozzle Check Valve, Wafer Pattern Check Valve, Flap Valve.

**Air Vent Family:** Single Chamber - Double Orifices , Double Chambers - Double Orifices, Sewage Air Valves, Large - Orifice Air Valve.

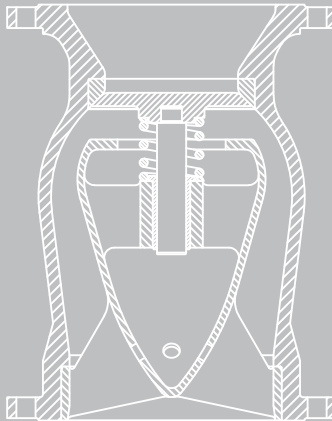
**Control Valves Family:** Automatic Control Valves, Needle Valve, Globe Valve, Fixed Cone Free Discharge Valve, Hollow Jet Valve, Sleeve Valve.

**Hydrant Valves Family:** Standing Type, Pit Type, Wet Barrel Fire Fighting Valve, Post Indicator Valve.

**Strainers Family:** Y Type, T Type, One Side Flanged Type.

**Fittings Family:** Dismantling Joint F1&F2, Pipe Coupling, Flange.

**Actuators:** Electrical, Hydraulic, Pneumatic, Portable Electrical.



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