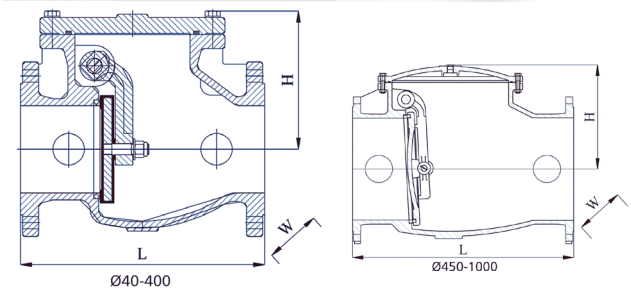
SWING CHECK VALVE

EN 558-1 SERIES 10
(BS5153)

Description: Swing Type Check Valves, utilizing a pivoting disc mechanism, function as an automatic control system to prevent reverse fluid flow. Upon a decrease in upstream pressure, these valves close, mitigating the risk of backflow. Their robust design contributes to their extensive application across industries, marking them as a crucial element in maintaining system integrity and fluid dynamics.



Material Specification

Parts	Main Materials	Optional Materials
Body	Ductile Iron	Carbon Steel
Cover		Stainless Steel
Lever		Nickel Aluminum Bronze
Disc	Steel + EPDM (Ø 40-400), Ductile Iron (Ø 450-1000)	Carbon Steel, Stainless Steel, Nickel Aluminum Bronze
Shaft	X20Cr13	SS 304, SS 316, Nickel Aluminum Bronze
Nuts	Bronze	Brass, SS 304, SS 316, Nickel Aluminum Bronze
Rings	Bronze	Brass, SS 304, SS 316, Nickel Aluminum Bronze
Seals	EPDM	NBR
Fasteners	8:8 (Galvanized)	SS 304, SS 316

Notes:

1. Different flange drillings are available, including ISO, EN, ANSI, and others.
2. The standard operating temperature range is -10°C to +80°C.
3. All RAL Colors are available.
4. Potable water certified coating is available.
5. Both thermoset and thermoplastic coatings are available.

Application:

Swing Type Check Valves are designed to have minimum head loss in normal operation and to have drip tight sealing in case of backflow. These check valves are commonly used in the downstream of pump stations, protecting crucial devices.

Features:

- **Adaptable Installation:** Swing check valves can be installed both horizontally and vertically, meeting diverse infrastructure needs.
- **Multi-use Application:** These valves are useful for managing different liquid mediums in water treatment and sanitation.
- **Accessory Customization:** Lever & counterweight or spring accessories can be requested to customize valve functionality.
- **Tailored Lever Options:** Single or double-sided lever & counterweight options allow for specific flow control needs.
- **Protective Cover:** A cover can be provided to protect the lever from damage, enhancing the valve's durability.
- **SCADA Alerts:** A limit switch for real-time valve performance tracking and anomaly alerts can be integrated.
- **Non-Slam Operation:** A dashpot for preventing sudden valve closure and reducing pressure surge risk can be requested.
- **Large Valve Option:** An optional bypass valve for larger sizes can be incorporated to maintain fluid flow during specific conditions.

Address: YTM Makina Enerji İnşaat San. Tic. Ltd. Şti. Soğanlık Yeni Mah. Atatürk Cad. No:6/1 Else Apt. Daire: 9 (Kat:8), 34880 Kartal İstanbul / Phone: +90 535 269 0292 / Email: info@ytmmak.com.tr sales@ytmmak.com.tr

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One-Piece Disc Design in Swing Check Valves

Swing Check Valves feature a superior, fully vulcanized one-piece disc design, particularly for larger models with dimensions 450 and above. This construction provides several key advantages including simplicity in cleaning and maintenance, excellent resistance to corrosion, and a high-quality sealing mechanism. The vulcanized disc ensures a reliable sealing even in conditions of low back-pressure (2mwc), eliminating the need for a lever and counterweight. Furthermore, the vulcanized nature of the disc assures durable and long-term operation. As no metal part is subjected to corrosion, the longevity of the valve operation is significantly improved. The non-deforming quality of the vulcanized rubber is verified through rigorous compression testing, ensuring its resilience over time.

Sealing Mechanism with Body and Disc Rings

Swing Check Valves come equipped with body rings and disc rings, specifically for models with dimensions below DN400. These two components, when aligned, facilitate a drip-tight sealing. Achieving a metal-to-metal seal requires a high level of proficiency, along with stringent quality in design, material selection, machining, and installation of the rings. Installation methods of these rings vary depending on the valve's size, pressure rating, and application, with options including press-fitting, threading, or welding processes. To meet varied needs, several material options such as brass, bronze, nickel aluminum bronze, stainless steel 304, and 316 are made available upon request.

Non-Return Design of Swing Type Check Valves

Swing Type Check Valves are ingeniously designed to serve as non-return valves. Under normal flow conditions, the disc opens, facilitating an uninterrupted flow. However, during instances of backflow, the disc promptly closes the valve to prevent a reverse flow. This disc is guided by a shaft supported by two bearings that can be either closed-end or open-end, allowing for accessory connections such as a lever, spring, or limit switch. The disc and body ring work together to create an effective seal. Both metal-rubber and metal-metal sealing designs can be furnished upon request, depending on the valve size, providing versatile solutions for diverse operational requirements.

Dimension (mm) & Weight

DN		40	50	65	80	100	125	150	200	250	300	400
Height	-	100	110	120	140	140	200	215	265	285	370	550
Width	PN10	150	165	185	200	220	250	285	340	395	445	595
	PN16	150	165	185	200	220	250	285	340	405	460	580
	PN25	150	165	185	250	235	270	300	360	425	485	620
	PN40	150	165	185	250	235	270	300	375	450	515	-
Length	-	165	203	216	241	292	330	356	495	622	698	915
Weight (Kg)	PN10/16	9	13	20	19	23	34	46	134	170	287	560
	PN25/40	9	13	20	19	25	38,5	50	148	185	315	610

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