



CHECK VALVE SERIES

Wafer Dual Plate Swing Check Valve

H76H

Spring-loaded dual plate check valve for steam, water, oil, gas and compatible industrial service, combining compact wafer installation with low pressure drop and rapid closing response.

01 Key Specifications

Product Type	Wafer dual plate swing check valve, automatic non-return
Nominal Size	DN40-DN2100
Pressure Rating	PN20 / PN25 / PN40 / PN64 / PN100 / PN160 / PN250 / PN320 / PN420; ASME Class 150 / 300 / 600 / 900 / 1500 / 2500
Body Materials	WCB carbon steel / CF8 (SS304) / CF8M (SS316) / alloy steel / duplex steel
Sealing Surface	Cr13 stainless steel; Stellite hard-faced option where offered
Spring	Stainless steel torsion spring; INCONEL option where required
Operation	Automatic - spring force and reverse flow close the plates
Installation	Horizontal or vertical pipeline; follow flow-direction arrow

02 Design Features & Configuration

Dual Plate Design

Two semi-circular plates open symmetrically to provide a large flow area and low pressure drop.

Spring-Loaded Return

Torsion springs assist fast closing and reduce dependence on gravity.

Ultra-Short Wafer Body

Compact between-flange mounting saves space and weight compared with conventional flanged check valves.

Low Water Hammer

Short plate travel and spring-assisted closing help reduce reverse-flow momentum and pressure surge.

Wide Size & Pressure Range

Available from DN40 to DN2100 with high-pressure configurations up to Class 2500.

Flexible Materials

Carbon steel, stainless steel, alloy steel and duplex steel options support varied media and service conditions.

03 Materials of Construction

Component	Standard Material	Options
Body	WCB carbon steel	CF8 / CF8M / alloy steel / duplex steel
Dual Plates	WCB or CF8 / CF8M matching body	Stellite overlay where offered
Sealing Surface	Cr13 stainless steel	Stellite hard-facing
Hinge Pin / Stem	2Cr13 or stainless steel	SS304 / SS316 / 17-4PH
Torsion Spring	SS304 / SS316	INCONEL or other high-temperature alloy
Disc Seal / O-ring	NBR or FKM where fitted	PTFE / metallic sealing options where offered
Mounting Bolts	Selected for mating flanges and wafer body thickness	SS304 / SS316 where offered

04 Pressure Ratings & Temperature

Pressure Classes	PN20 to PN420; ASME Class 150 to Class 2500
WCB Carbon Steel	-29 C to +425 C reference
Alloy Steel	-29 C to +540 C reference
CF8 / CF8M	-196 C to +540 C reference
Spring Material	Stainless steel standard; INCONEL available for higher-temperature or corrosive service

Pressure derating applies as operating temperature increases. Final pressure-temperature limits must be confirmed for the selected body, plate, seal and spring materials.

05 Operation & Installation

Standard Configuration	Spring-loaded dual plate, automatic opening and closing
Installation Position	Horizontal or vertical pipeline, subject to flow-direction requirements
Low Cracking Pressure Option	Softer spring configuration available where required
High-Temperature Option	INCONEL springs and Stellite sealing surfaces available where specified

06 Typical Reference Dimensions

DN	NPS	L mm	Flange OD mm	Weight kg
40	1-1/2 in	38	145	1.8
50	2 in	43	160	2.5
65	2-1/2 in	48	180	3.5
80	3 in	52	195	5.0
100	4 in	60	215	7.5
125	5 in	68	245	11.0
150	6 in	75	280	15.0
200	8 in	88	335	24.0
250	10 in	100	405	36.0
300	12 in	115	460	52.0
400	16 in	140	580	95.0
600	24 in	190	840	220.0
800	32 in	235	1025	400.0
1200	48 in	340	1485	950.0

Dimensions are reference values for the supplied H76H data. Actual dimensions vary with pressure class, flange standard and material. Confirm final dimensions and bolt requirements on the approved drawing.

07 Standards & Testing

Design / Manufacturing	API 594 / API 6D / JB/T 8937 / GB/T 12224
Face-to-Face	ASME B16.10 / GB/T 12221 / ISO 5752
Flange Compatibility	ASME B16.5 / EN 1092-1 / GB/T 9113 / DIN / JIS / BS options
Pressure Testing	API 598 / GB/T 13927 / ISO 5208
Pressure-Temperature	ASME B16.34 / GB/T 12224
Marking	Model, nominal size, pressure class, body material and flow-direction arrow

08 Quality & Documentation

Pressure Test Report

Shell and seat pressure test documentation may be supplied for the selected order.

Material Certificate

EN 10204 2.2 / 3.1 documentation available where specified.

Dimensional Inspection

Key dimensions can be checked against the approved outline drawing.

Sealing Surface Record

Cr13 or Stellite sealing-surface material can be documented for the selected model.

Cracking Pressure Test

Available on request where the project specifies an opening-pressure requirement.

Third-Party Inspection

Third-party inspection can be coordinated according to order requirements.

09 Applications

- Pump discharge lines where fast closing helps reduce water hammer
- Compressor discharge lines and gas systems
- Steam and high-temperature process pipelines
- Water, condensate and boiler feedwater systems
- Oil and oil-product pipelines
- HVAC chilled water, condenser water and heating-water systems
- Large-diameter pipelines and compact skids where low weight and short face-to-face are important

10 Product Views



11 Frequently Asked Questions

What is the difference between H76H and H44H?

H76H uses two spring-loaded semi-circular plates in a compact wafer body, while H44H uses a single hinged disc in a flanged body. H76H is preferred where installation space, weight and fast closing response are important.

Can H76H be installed vertically?

The spring-loaded dual plate design supports horizontal and vertical installation, subject to the selected model and correct flow direction.

Why use a dual plate design?

Two smaller plates have a shorter closing travel than a conventional single swing disc, helping provide fast closing response and reduce reverse-flow momentum.

Can H76H be used for gas service?

Yes, the supplied product information includes gas among typical services. The final body material, sealing configuration, leakage requirement, pressure and applicable gas standard should be confirmed for the selected project.

12 How to Order

Send the valve size and quantity, body material, pressure class, mating flange standard, sealing-surface requirement, spring material, service medium and operating temperature, cracking-pressure requirement, and required quality documentation. ZeMin Gas can support configuration confirmation before quotation.

Note: Technical data in this datasheet is based on the product information supplied for H76H. Final dimensions, materials, ratings and documentation should be confirmed against the approved quotation and drawing for the selected model.