



CHECK VALVE SERIES

# Flanged Swing Check Valve

## H44H

Automatic non-return valve for steam, water, oil and compatible industrial service, with flanged ends, hinged-disc construction and low pressure drop.

### 01 Key Specifications

|                 |                                                                                     |
|-----------------|-------------------------------------------------------------------------------------|
| Product Type    | Swing check valve, automatic non-return, flanged ends                               |
| Nominal Size    | DN50-DN1200                                                                         |
| Pressure Rating | PN16 / PN25 / PN40 / PN64; ASME Class 150 / 300                                     |
| Body Materials  | Ductile iron / WCB carbon steel / CF8 (SS304) / CF8M (SS316)                        |
| Sealing Surface | Cr13 stainless steel; Stellite hard-faced option where offered                      |
| Operation       | Automatic - no external operator                                                    |
| Installation    | Horizontal or vertical pipeline with upward flow, subject to selected configuration |
| Typical Service | Steam / water / oil and compatible industrial media                                 |

### 02 Design Features & Configuration

|                                                                                                                                  |                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Automatic Non-Return</b></p> <p>Forward flow swings the hinged disc open; reverse flow closes the valve automatically.</p> | <p><b>Swing Disc Design</b></p> <p>Large flow area helps minimize pressure loss, especially in medium and large pipeline sizes.</p> |
| <p><b>Cr13 Sealing Surface</b></p> <p>Wear-resistant metal-to-metal sealing for steam, water, oil and compatible service.</p>    | <p><b>Flanged Connection</b></p> <p>Rigid bolted connection with project-specific flange standard and facing.</p>                   |
| <p><b>Large Size Coverage</b></p> <p>Reference range extends from DN50 up to DN1200 for large-bore pipeline applications.</p>    | <p><b>Closing Assistance</b></p> <p>Counterweight or spring-assisted options may be selected where faster closing is required.</p>  |

## 03 Materials of Construction

| Component              | Standard Material                | Options                                      |
|------------------------|----------------------------------|----------------------------------------------|
| Body / Bonnet          | Ductile iron or WCB carbon steel | CF8 (SS304) / CF8M (SS316)                   |
| Disc                   | Cr13 stainless steel             | Stellite hard-facing where offered           |
| Seat Surface           | Cr13 stainless steel             | Stellite hard-facing where offered           |
| Hinge Pin              | Cr13 stainless steel             | SS304 / SS316 where offered                  |
| Counterweight / Spring | Carbon steel / stainless steel   | High-temperature alloy spring where required |
| Gasket                 | Graphite + SS spiral wound       | Confirm for selected model                   |
| Bonnet Bolts           | ASTM A193-B7 / A194-2H           | Other grades by material configuration       |

## 04 Pressure Ratings & Temperature

|                  |                                                 |
|------------------|-------------------------------------------------|
| Pressure Classes | PN16 / PN25 / PN40 / PN64; ASME Class 150 / 300 |
| Ductile Iron     | -20 C to +300 C reference                       |
| WCB Carbon Steel | -29 C to +425 C reference                       |
| CF8 (SS304)      | -40 C to +600 C reference                       |
| CF8M (SS316)     | -40 C to +650 C reference                       |

Pressure derating applies as operating temperature increases. Final limits must be confirmed for the selected body material, sealing surface and closing-assistance configuration.

## 05 Operation & Installation

|                        |                                                             |
|------------------------|-------------------------------------------------------------|
| Standard Horizontal    | Gravity and reverse flow swing the disc back onto the seat  |
| Vertical Installation  | Upward flow only; confirm selected model and disc freedom   |
| Counterweight-Assisted | Helps control closing response and reduce water-hammer risk |
| Spring-Assisted        | Used where faster closing response is required              |

06 Typical Reference Dimensions

| DN  | NPS      | L mm | D mm | R mm | NxØ   | H mm | Weight kg |
|-----|----------|------|------|------|-------|------|-----------|
| 50  | 2 in     | 230  | 165  | 125  | 4-18  | 170  | 18        |
| 65  | 2-1/2 in | 290  | 185  | 145  | 4-18  | 195  | 26        |
| 80  | 3 in     | 310  | 200  | 160  | 8-18  | 220  | 36        |
| 100 | 4 in     | 350  | 220  | 180  | 8-18  | 250  | 52        |
| 125 | 5 in     | 400  | 250  | 210  | 8-18  | 280  | 72        |
| 150 | 6 in     | 480  | 285  | 240  | 8-22  | 315  | 100       |
| 200 | 8 in     | 600  | 340  | 295  | 12-22 | 370  | 160       |
| 250 | 10 in    | 730  | 405  | 355  | 12-26 | 425  | 235       |
| 300 | 12 in    | 850  | 460  | 410  | 12-26 | 485  | 340       |

Dimensions are reference values for the supplied H44H data. Actual dimensions vary with pressure class, flange standard, body material and any counterweight or spring-assisted closing system. Confirm final dimensions on the approved drawing.

07 Standards & Testing

|                        |                                                                             |
|------------------------|-----------------------------------------------------------------------------|
| Design / Manufacturing | GB/T 12236 / GB/T 12224 / ASME B16.34 / API 594 where applicable            |
| Flange Standard        | ASME B16.5 / EN 1092-1 / GB/T 9113                                          |
| Face-to-Face           | ASME B16.10 / GB/T 12221                                                    |
| Pressure Testing       | API 598 / GB/T 13927                                                        |
| Pressure-Temperature   | ASME B16.34                                                                 |
| Marking                | Model, nominal size, pressure class, body material and flow-direction arrow |

08 Quality & Documentation

Pressure Test Report

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

Dimensional Inspection

Key valve dimensions can be verified against the approved drawing.

Third-Party Inspection

Third-party inspection can be coordinated where required by the order.

Material Certificate

EN 10204 2.2 / 3.1 documentation available where specified.

Cracking Pressure Test

Available on request for assisted-closing configurations.

Export Documentation

Protective packing and shipment documents can be arranged for export supply.

## 09 Applications

- Pump discharge lines requiring reverse-flow protection
- Compressor discharge lines
- Steam headers and auxiliary steam systems
- Water, condensate and boiler feedwater pipelines
- Fuel oil and lubricating oil systems
- HVAC chilled water, condenser water and heating-water systems
- Large-diameter industrial pipelines where low pressure drop is important

## 10 Product Views



## 11 Frequently Asked Questions

### What is the difference between H44H and H41H?

H44H uses a hinged swing disc and is preferred where low pressure drop and large size coverage are important. H41H uses a guided lift disc and generally offers a shorter closing stroke.

### Can H44H be installed vertically?

Yes, vertical installation with upward flow may be used where the selected model is suitable and the disc can swing freely. Confirm the installation orientation before ordering.

### How can water hammer be reduced?

Counterweight-assisted or spring-assisted closing can be specified where faster or more controlled closing response is required.

### Can H44H be used for gas service?

The supplied product information focuses on steam, water, oil and compatible industrial media. Gas service should be confirmed for the selected model, materials, pressure, leakage requirements and applicable project standards.

## 12 How to Order

Send the valve size and quantity, body material, pressure class, flange standard, sealing-surface requirement, service medium and operating temperature, installation orientation, closing-assistance 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 H44H. Final dimensions, materials, ratings and documentation should be confirmed against the approved quotation and drawing for the selected model.