KF Valves
Check Valves
High Performance By Design

Applicable Standards
KF check valves conform to ANSI, API and NACE specifications to meet your application requirements.

**ANSI - American National Standard Institute**
- B 16.34 Specification steel valves.
- B 16.5 Flanges & flanged fittings.

**API - American Petroleum Institute**
- Spec. 6A Specification for wellhead equipment.
- Spec. 6D Specification for pipeline valves.
- Spec. 6FD Specification for fire ratings.

**Hydrogen Sulfide (H2S Environments)**

KF Valves has continuously provided the industry with technically superior products oriented toward applications that can be exceptionally severe. KF’s diversity in check valve configurations and materials of construction provide opportunities to service customers in many different markets. KF check valve designers plan for your worst applications so you get the very best regardless of the factors involved—pressure, environment, media transported and cost. Whether it’s critical control of waste water flow, highly corrosive refining applications or high pressure in the oil patch, KF offers a wide range of sizes, materials, options, efficient design and stringent manufacturing standards. Specifying KF check valves guarantees you a valve optimally designed for your application.

This catalog details the many ways KF check valves work for you. Contact us today for the representative or distributor nearest you. KF Check Valves are not intended for pulsating reciprocating service except for the series 50 piston check valve.

You'll Find KF Check Valves Utilized in the Following Industries
- Geothermal
- Refining
- Marine
- Industrial
- Mining
- Refrigeration
- Iron & steel mills
- Oil & gas production
- Automotive manufacturing
- CO2 injection/recovery
- Pulp & paper
- Oilfield production to NASA
- Food processing
- Ethanol
- Water/waste water
- HVAC
- Desalinization
- Waterflood
Contents

Series 10 Flangeless Swing Style Long Pattern Wafer Check Valves with Internal Spring Assist ............................................. 4-5
Series 12 Short Pattern Swing Style Wafer Check Valves (No Spring) .................................................................................. 6-7
Series 20 & 22 Semi-Lug Flangeless Swing Style Wafer Check Valves with External Spring Assist ................................. 8-9
Series 31 Threaded & Body Style Swing Check Valves (Screwed Bonnet) .......................................................... 10
Series 31B Bronze Threaded Body Style Swing Check Valves ..................................................................................... 11
Series 35 Flanged End Body Style Swing Check Valves ........................................................................................................ 12-13
Series 50 Flanged End Body Style Piston Check Valves for Reciprocating or Pulsating Service ........................................ 14-15
Series 60 Screwed End Body Style Ball Check Valves ........................................................................................................ 16
Specifying KF Wafer Check Valves ........................................................................................................................................ 17
Recommendations for Installed Position ............................................................................................................................... 18
Engineering Data ......................................................................................................................................................................... 19-20

Notes
Features

- Designed to comply with API 6D & API 594 specifications
- NACE MR0175/ISO 15156

KF Series 10 Check Valves

Flangeless bodied wafer style design with round port and spring assisted closure.
Offered in 2” thru 12” class 150, 300 & 600

Dimensional Data (in., mm), 2”-12”, Class 150, 300 & 600

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KF Series 10 Check Valve Part Number Codes

**Base Number** • See Chart Below

**Body Configuration**
1 • RF  2 • RTJ

**Body Material**
13 • Carbon Steel  15 • 316 Stainless Steel  28 • LCC (Low Temp CS)

**Coating/NACE/Misc. Options**
2 • NACE  7 • NACE Enduro-Bond™ Coating  0 • Assembled Dry/Silicone Free

**Disc, Shaft & Bushings**
K • 316 Stainless Steel

**Spring Material**
4 • Inconel® X

**Seat/Disc Face Configuration**
1 • Integral Resilient/Metal  4 • Replaceable Metal/Metal
2 • Replaceable Resilient/Metal

**Replaceable Seat Ring Material**
2 • 316 Stainless Steel  9 • Not Applicable (Any Assembly w/Integral Seat Face)

**Seal Material**
2 • Viton®  3 • Teflon®  9 • Not Applicable
4 • EPDM  6 • HNBR (standard)

**Shaft Plug Material & Downstream Port**
1 • CS (Standard CS Body) without Port  2 • Same as Shaft Material without Port

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**Series 10 Assembly Base Numbers**

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KF Series 12 Check Valves

Features

- Standard 316 stainless steel disc on 2” thru 12”
- Comply to NACE MR0175

Designed to comply with API 6D specifications for short pattern wafer check valves.
Offered in 2” thru 12” class 150 • 285 psi MOP
class 300 • 740 psi MOP
class 600 • 1480 psi MOP

Dimensional Data (in., mm), 2“-12”, Class 150, 300 & 600

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CIRCOR Energy
KF Valves
KF Series 12 Check Valve Part Number Codes

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**Example**

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**Assembly Base Numbers**

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KF Series 20 & 22 Check Valves

Features
- Externally adjustable shaft packing is standard
- Available with either right-hand, left-hand or double extended lever/shaft orientation
- Standard flush port connection
- Series 22 air cushion dampens final 10% of closure
- Series 20 modifiable in the field to accept series 22 air cushion

Semi-lug, flangeless bodied swing style design with externally adjustable spring assisted closure. Offered in 2” thru 30” class 150

Features
- Externally adjustable shaft packing is standard
- Available with either right-hand, left-hand or double extended lever/shaft orientation
- Standard flush port connection
- Series 22 air cushion dampens final 10% of closure
- Series 20 modifiable in the field to accept series 22 air cushion

Dimensional Data (in., mm), 2”-30”, Class 150 & 300

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Note: KF Series 22 Right-Hand Version Shown with Optional Lever & Weight.
KF Series 20 & 22 Check Valve Part Number Codes

Base Number • See Chart Below

Body Material
13 • Carbon Steel
15 • 316 Stainless Steel

Disc, Shaft & Bushings
9K • 316 Stainless Steel

Spring Material/Lever & Weight
1 • CS without Lever & Weight
2 • SS without Lever & Weight
3 • CS w/CS Lever & Weight
4 • SS Spring w/CS Lever & Weight

Seat/Disc Face Configuration
1 • Integral Resilient/Metal
2 • Replaceable Resilient/Metal
3 • Replaceable Resilient/Metal

Replaceable Seat Ring Material
2 • 316 Stainless Steel
9 • Not Applicable (Any Assembly w/Integral Seat Face)

Seal Material
2 • Viton®
3 • Teflon® (Only with Replaceable Resilient/Metal)
4 • EPDM
9 • Not Applicable (Any Assembly w/Integral Seat Face)
6 • HNBR

Position Indicator & Switch
1 • Position Indicator Only
9 • None

Shaft & Spring Configuration
1 • Right Shaft Spring Mount
2 • Left Shaft Spring Mount
3 • Dual Shaft, Right Spring Mount

Assembly Base Numbers, Series 20

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<td>7498</td>
<td>7499</td>
<td>7500</td>
<td>7501</td>
<td>7502</td>
<td>7503</td>
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Assembly Base Numbers, Series 22

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<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
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<th>20</th>
<th>24</th>
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<tbody>
<tr>
<td>150</td>
<td>7583-</td>
<td>7585-</td>
<td>7586-</td>
<td>7588-</td>
<td>7589-</td>
<td>7590-</td>
<td>7591-</td>
<td>7592-</td>
<td>7593-</td>
<td>7594-</td>
<td>7595-</td>
<td>7597-</td>
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<td>-</td>
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<td>7628</td>
<td>7630</td>
<td>7631</td>
</tr>
</tbody>
</table>

Consult factory for any options not listed above.
KF Series 31 Check Valves

Features

- Available in carbon steel & 316 stainless steel, 316 stainless steel trim is standard
- Acceptable for vertical “upflow” applications & suitable for pigging
- Standard seating configuration has o-ring seal located in disc for ease of replacement
- NACE MR0175/ISO 15156

Threaded end connections swing style design with threaded bonnet.  
carbon steel, 1" thru 4" 
300, 750, 1500, & 2220 psi MOP  
1" thru 3" • 3000 psi MOP  
1" only • 5000 psi MOP

Part Number Codes

Base Number • See Chart Below
End Connection
D • Threaded Ends
Pressure Rating
1 • 300  6 • 2000
2 • 600  7 • 2220
3 • 750  8 • 3000
4 • 1000  9 • 5000
5 • 1500
Body & Bonnet Material
13 • Carbon Steel
15 • 316 Stainless Steel
Coating & NACE
9 • NACE (Standard)
Disc, Shaft & Bushings
K • 316SS (Standard)
Seat/Disc Face Configuration
1 • Integral Metal/Resilient (Std.)
Options
9 • Standard
Seal Material
2 • Viton®
3 • Teflon® (Requires Viton® Bonnet Seal)
6 • HNBR (Standard)

Dimensional Data (in., mm), 1"- 4"

<table>
<thead>
<tr>
<th>Dim./Material (in., mm)</th>
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<th>3</th>
<th>4</th>
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<tbody>
<tr>
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<td>10.00</td>
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<tr>
<td>B</td>
<td>3.58</td>
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<td>5.80</td>
<td>7.11</td>
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<tr>
<td>Weight (lbs.) CS, SS</td>
<td>5</td>
<td>13</td>
<td>28</td>
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<table>
<thead>
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<th>4</th>
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<tbody>
<tr>
<td>A All Materials</td>
<td>108.0</td>
<td>152.4</td>
<td>203.2</td>
<td>254.0</td>
</tr>
<tr>
<td>B All Materials</td>
<td>90.1</td>
<td>110.8</td>
<td>147.3</td>
<td>180.6</td>
</tr>
<tr>
<td>Weight (kg) CS, SS</td>
<td>2.3</td>
<td>5.9</td>
<td>12.7</td>
<td>20.9</td>
</tr>
</tbody>
</table>

Consult factory for part numbers and dimensional data for parts not listed.

Assembly Base Numbers

<table>
<thead>
<tr>
<th>Size (in.)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>7677</td>
</tr>
</tbody>
</table>
KF Series 31B Check Valves

Threaded end connection swing style design with threaded bonnet. Offered in 1" thru 4" 300 psi MOP

Features
> Bronze body & bonnet
> Acceptable for vertical "upflow" applications & suitable for pigging

Trim Type & Material of Construction

<table>
<thead>
<tr>
<th></th>
<th>Integral Metal / Resilient (std.)</th>
<th>Bronze</th>
<th>Buna N</th>
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</thead>
<tbody>
<tr>
<td>Seat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body &amp; Bonnet</td>
<td>Bronze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disc, Shaft, &amp; Bushings</td>
<td>Bronze</td>
<td></td>
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</tr>
<tr>
<td>Seal Material</td>
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</tr>
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</table>

Dimensional Data (in., mm), 1"-4"

<table>
<thead>
<tr>
<th>Dimension (in., mm)</th>
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<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
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<td>B</td>
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<td>3.00</td>
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<td>Weight (lbs.)</td>
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<table>
<thead>
<tr>
<th>Dimension (mm)</th>
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<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>95.2</td>
<td>133.3</td>
<td>184.1</td>
<td>235</td>
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<tr>
<td>B</td>
<td>50.8</td>
<td>76.2</td>
<td>111.1</td>
<td>133.3</td>
</tr>
<tr>
<td>Weight (kg)</td>
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<td>7.7</td>
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Assembly Base Numbers

<table>
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<tr>
<th>Size (in.)</th>
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<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7677-11259T191</td>
<td>7679-11259T191</td>
<td>7681-11259T191</td>
<td>7682-11259T191</td>
</tr>
</tbody>
</table>
Features

- Std. trim includes 316 stainless steel disc, shaft & bushings
- Unique opt. 316 stainless steel removable seat available
- Installs in vertical "upflow" applications with no modification & suitable for pigging
- NACE MR0175/ISO 15156

Flanged end RF & RTJ swing style integrally cast flange design. Offered in 2\%1/4 thru 7\%1/4 API 2000, 3000 & 5000

2" thru 12"
class 150, 300, 600, 900 & 1500
16" thru 24"
class 150, 300 & 600

Dimensional Data (in., mm), 2\%1/4-7\%1/4, API 2000, 3000 & 5000

<table>
<thead>
<tr>
<th>Dim./API (in., mm)</th>
<th>Size (in.)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2%1/4</td>
</tr>
<tr>
<td></td>
<td>295.3</td>
</tr>
<tr>
<td>3000</td>
<td>14.63</td>
</tr>
<tr>
<td></td>
<td>371.5</td>
</tr>
<tr>
<td>5000</td>
<td>14.63</td>
</tr>
<tr>
<td></td>
<td>371.5</td>
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<tr>
<td>600RF</td>
<td>5.25</td>
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<td></td>
<td>133.4</td>
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<tr>
<td>600RTJ</td>
<td>5.88</td>
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<tr>
<td></td>
<td>149.2</td>
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<tr>
<td>900RF</td>
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<td></td>
<td>155.6</td>
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<td>900RTJ</td>
<td>20.00</td>
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<td></td>
<td>223.7</td>
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<tr>
<td>1500RF</td>
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<tr>
<td>1500RTJ</td>
<td>20.00</td>
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<tr>
<td></td>
<td>223.7</td>
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</table>

Dimensional Data (in., mm), 2\%4-24\%", Class 150, 300, 600, 900 & 1500

<table>
<thead>
<tr>
<th>Dim./Class (in., mm)</th>
<th>Size (in.)</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
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<tr>
<td>150</td>
<td>8.00</td>
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<tr>
<td>300</td>
<td>10.50</td>
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<tr>
<td>600RF</td>
<td>11.50</td>
</tr>
<tr>
<td>600RTJ</td>
<td>11.63</td>
</tr>
<tr>
<td>900RF</td>
<td>14.50</td>
</tr>
<tr>
<td>1500RF</td>
<td>15.40</td>
</tr>
<tr>
<td>1500RTJ</td>
<td>15.40</td>
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</tbody>
</table>

Dimensions (in., mm), 2\%4-24\%", Class 150, 300, 600, 900 & 1500

<table>
<thead>
<tr>
<th>Dim./Class (in., mm)</th>
<th>Size (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
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<tr>
<td>150</td>
<td>8.00</td>
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<td>300</td>
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<td>600RF</td>
<td>11.50</td>
</tr>
<tr>
<td>600RTJ</td>
<td>11.63</td>
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<tr>
<td>900RF</td>
<td>14.50</td>
</tr>
<tr>
<td>1500RF</td>
<td>15.40</td>
</tr>
<tr>
<td>1500RTJ</td>
<td>15.40</td>
</tr>
</tbody>
</table>
**KF Series 35 Check Valve Part Number Codes**

**Base Number** • See Chart Below

**End Connections**
- 1 • RF
- 2 • RTJ

**Body, Bonnet & Plug Material**
- 13 • CS (Black Finish CS Bolting)
- 14 • 4C (Black Finish CS Bolting) Standard for API 6A
- 15 • 316SS (Xylan® Ctd. CS Bolting)
- 28 • LCC (Blk. Finish LT Bolting & 316SS Plug)
- 51 • CS (Xylan® Coated CS Bolting)

**Internal Coating & NACE**
- 4 • NACE II (Class II Bolting)
- 9 • NACE III / Class III Bolting (Std.)

**Trim Material/Design**
- KB • SS316 / REFER COLOR CODE
- KC • SS316 / REFER COLOR CODE

**Seat/Disc Seal Configuration**
- 1 • Integral Metal/Resilient
- 3 • Replaceable Resilient/Metal
- 4 • Replaceable Metal/Metal
- 0 • Replaceable Stellite® Overlay/Stellite® Overlay

**Replaceable Seat Ring Material**
- 2 • 316SS
- 9 • Not Applicable (Integral Seat Face)

**Seal Material (Bonnet, Seat/Disc Face, Seat Sub-Seal)**
- 2 • Viton®
- 3 • Teflon®
- 4 • James Walker® Viton®
- 6 • HNBR
- 9 • Not Applicable
- F • EOL 985

**Options**
- 1 • None
- 2 • Body Drain
- 3 • Firesafe (HT Bonnet Gasket)
- 4 • Firesafe (HT Bonnet Gasket) w/Body Drain

---

**Assembly Base Numbers, 2”-24”, Class 150, 300, 600, 900 & 1500 • 2 1/16”-7 1/16”, API 2000, 3000 & 5000**

<table>
<thead>
<tr>
<th>Class</th>
<th>MOP</th>
<th>Size (in.)</th>
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<td>150</td>
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<td>7776-7812</td>
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<tr>
<td>300</td>
<td>740</td>
<td>7802-7809</td>
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<tr>
<td>600</td>
<td>1480</td>
<td>7854-7857</td>
</tr>
<tr>
<td>900</td>
<td>2220</td>
<td>7880-7885</td>
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<tr>
<td>1500</td>
<td>3705</td>
<td>7906-7912</td>
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**API**

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<th>3 1/8</th>
<th>4 1/16</th>
<th>7 1/16</th>
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<tr>
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<td>7917</td>
<td>7918</td>
<td>7919</td>
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<tr>
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<td>5000</td>
<td>7935</td>
<td>7936</td>
<td>7937</td>
<td>7938</td>
</tr>
</tbody>
</table>

---

*For replaceable seats only: Use Viton® seals.*

Consult factory for the availability of materials and sizes not listed.

---

Example:

7854 - 1 13 9 KC 1 9 G 1
KF Series 50 Piston Check Valves

Features

- Threaded piston seat that is easily removed & replaced while valve is in-line
- Smooth highly polished replaceable sleeve for easy maintenance & long-lasting performance
- Ideal for compressor & pulsating services
- Available with stellite® sealing surface & end connections in raised face or ring type joint
- Meets or exceeds ANSI B 16.34 requirements with flanges conforming to B 16.5.
  Note: exception to lay length
- NACE MR0175/ISO 15156 (optional)

The precisely metered check valve and orifice in the piston head combined with spring assisted closure controls piston descent to avoid seat slamming and promote smooth, quiet operation and positive backflow prevention with fluids or gasses.

Offered in 2" thru 8" • class 600 & 900

Features

- Threaded piston seat that is easily removed & replaced while valve is in-line
- Smooth highly polished replaceable sleeve for easy maintenance & long-lasting performance
- Ideal for compressor & pulsating services
- Available with stellite® sealing surface & end connections in raised face or ring type joint
- Meets or exceeds ANSI B 16.34 requirements with flanges conforming to B 16.5.
  Note: exception to lay length
- NACE MR0175/ISO 15156 (optional)

The precisely metered check valve and orifice in the piston head combined with spring assisted closure controls piston descent to avoid seat slamming and promote smooth, quiet operation and positive backflow prevention with fluids or gasses.

Offered in 2" thru 8" • class 600 & 900

Dimensional Data (in., mm), 2"-8", Class 600 & 900

<table>
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<tr>
<th>Dim./Class (in., mm)</th>
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<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
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<td>79.5</td>
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<td>B</td>
<td>600RF</td>
<td>11.00</td>
<td>279.4</td>
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<td>346.1</td>
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<td>282.6</td>
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<td>377.8</td>
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<td>1.81</td>
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<td>2.00</td>
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<td>F</td>
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<td>227.2</td>
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<tr>
<td>900</td>
<td>9.56</td>
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<td>299.5</td>
<td>13.88</td>
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<tr>
<td>G</td>
<td>600</td>
<td>7.50</td>
<td>190.5</td>
<td>9.88</td>
<td>250.8</td>
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<tr>
<td>900</td>
<td>8.50</td>
<td>215.9</td>
<td>11.00</td>
<td>279.4</td>
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<td>19.1</td>
<td>.87</td>
<td>22.1</td>
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<td>190.5</td>
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<tr>
<td>Ring Groove</td>
<td>600</td>
<td>R23</td>
<td>R23</td>
<td>R31</td>
<td>R31</td>
</tr>
<tr>
<td>RTJ Only</td>
<td>900</td>
<td>R24</td>
<td>R24</td>
<td>R31</td>
<td>R31</td>
</tr>
<tr>
<td>Weight (lbs., kg)</td>
<td>600</td>
<td>85</td>
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<td>175</td>
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<td>135</td>
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<td>235</td>
<td>106.6</td>
<td>335</td>
</tr>
</tbody>
</table>
KF Series 50 Piston Check Valve Part Number Codes

**Base Number** • See Chart Below

**End Connections**
1 • RF
2 • RTJ

**Body**
1 • WCB

**Specification**
1 • Standard (Non-NACE)
2 • NACE III (Requires CF8M P/S/S) Class III Bolting

**Piston Seat/Sleeve Material**
2 • CF8M/CF8M/CF8M (Teflon® Rings)
4 • CA-15M/CA-15M/C.I.

**Piston & Seat Configuration**
1 • Standard
4 • Stellite® Face

**Flow Media**
1 • Gas
4 • Liquid

**Orifice**
D • .031 (Standard for 2”)
J • .046 (Standard for 3” & 4”)
P • .062 (Standard for 6” & 8”)
V • .218 (Standard for All Liquid Service)

**Bonnet Seal**
1 • 2”-4” (Viton® O-Ring), 6” & 8” (Graphite)
G • HNBR

**Spring**
1 • Carbon Steel
2 • Inconel® X-750 (All NACE)

**Options**
1 • None

---

**Assembly Base Numbers**

<table>
<thead>
<tr>
<th>Class</th>
<th>MOP</th>
<th>Size (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>300</td>
<td>740</td>
<td>1023-</td>
</tr>
<tr>
<td>600</td>
<td>1480</td>
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<tr>
<td>900</td>
<td>2220</td>
<td>1034-</td>
</tr>
</tbody>
</table>

---
KF Series 60 Ball Check Valves

Features

- Replaceable resilient seat with a metal-to-metal back-up seal
- Pulsating & low flow rate service causes minimal part wear & flow restriction is nominal
- NACE MR0175/ISO 15156

Horizontal or vertical “upflow” installation. Gravity return eliminates need for ball return spring. Offered in 1” thru 2” 2000, 3000 & 5000 psi MOP

Features

- Replaceable resilient seat with a metal-to-metal back-up seal
- Pulsating & low flow rate service causes minimal part wear & flow restriction is nominal
- NACE MR0175/ISO 15156

Horizontal or vertical “upflow” installation. Gravity return eliminates need for ball return spring. Offered in 1” thru 2” 2000, 3000 & 5000 psi MOP

Part Number Codes

Base Number • See Chart Below

Pressure Rating
3 • 2000
4 • 3000
5 • 5000

Body Material
1 • Carbon Steel

Seat Insert
2 • Viton®

Seat Material
1 • Stainless Steel

Ball Material
1 • Stainless Steel

Dimensional Data (in., mm), 1”- 2”

<table>
<thead>
<tr>
<th>Dimension (in., mm)</th>
<th>Size (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>in.</td>
</tr>
<tr>
<td>A</td>
<td>4.38</td>
</tr>
<tr>
<td>B</td>
<td>1.94</td>
</tr>
<tr>
<td>C</td>
<td>.94</td>
</tr>
<tr>
<td>D</td>
<td>1-11.5 NPT</td>
</tr>
</tbody>
</table>

Wt. (lbs., kg)

|                   |            |            |
|                   | 3.50       | 1.6        | 14         | 6.4        |

Material Pressure Ratings

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<th>Pressure Rating</th>
<th>Material</th>
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<td>2000 MOP</td>
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</tr>
<tr>
<td>3000 MOP</td>
<td>Cast Steel</td>
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<tr>
<td>5000 MOP</td>
<td>Cast Steel</td>
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Flow Coefficient (Cv)

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</tr>
<tr>
<td>30</td>
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Assembly Base Numbers

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<tbody>
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<td>1</td>
</tr>
<tr>
<td>7966-</td>
</tr>
</tbody>
</table>
Specifying KF Wafer Check Valves

The wafer check is installed between two flanges inside the bolt circle of the studs. Its unique design with a short face-to-face can tackle the toughest conditions. Compared to a conventional swing check valve, the wafer check valve is lighter and easier to install. The lighter weight makes the valve less expensive, especially in higher alloy materials. Wafer check valves reduce maintenance, installation, shipping cost and storage space. Unlike the conventional swing check valve, the wafer check valve requires only one set of studs and half the nuts. Expensive joints or special supports are not required.

KF wafer swing check valves perform in either horizontal or vertical upflow. They may be used in virtually any service except for pulsating reciprocating service. The round unobstructed port design makes the valve suitable for application in industries where dirty media are present. The round port decreases velocities, reduces pressure drop, damaging turbulence and debris collecting in the port area.

KF wafer swing check valves are designed to comply with API standard 594 and API 6D (long pattern). Materials of construction conform to ASTM standards and when requested, to NACE standard MR0175. KF wafer swing check valves are offered in sizes 2” and larger.

<table>
<thead>
<tr>
<th>Trim Technology</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardface Trim</td>
<td><strong>Series 10</strong></td>
</tr>
<tr>
<td>The seating faces of the</td>
<td>› Heating, ventilating &amp; air conditioning</td>
</tr>
<tr>
<td>disc and the seat, either</td>
<td>› Irrigation</td>
</tr>
<tr>
<td>integral or removable, are</td>
<td>› Blower</td>
</tr>
<tr>
<td>weld overlayed with .06</td>
<td>› Pneumatic conveying</td>
</tr>
<tr>
<td>inches minimum thickness</td>
<td>› Suction &amp; discharge pumping systems</td>
</tr>
<tr>
<td>of hardface to produce</td>
<td>› Water injection &amp; tank discharge</td>
</tr>
<tr>
<td>corrosion resistant</td>
<td>› Chemical processing</td>
</tr>
<tr>
<td>hardfaced sealing surfaces</td>
<td>› Ship (on/off land, fire main, fuel oil)</td>
</tr>
<tr>
<td>The disc can be</td>
<td>› Vapor recovery</td>
</tr>
<tr>
<td>furnished with either</td>
<td>› Raw water</td>
</tr>
<tr>
<td>metal-to-metal or</td>
<td>› Condenser &amp; cooling water</td>
</tr>
<tr>
<td>elastomer seals. Base</td>
<td>› Vacuum</td>
</tr>
<tr>
<td>metal can be either</td>
<td>› Refrigeration</td>
</tr>
<tr>
<td>carbon or stainless steel.</td>
<td>› Mobile tank</td>
</tr>
<tr>
<td>Removable seats with</td>
<td>› Refinery</td>
</tr>
<tr>
<td>overlay are not available</td>
<td></td>
</tr>
<tr>
<td>in wafer checks.</td>
<td></td>
</tr>
<tr>
<td>Stainless Overlay Trim</td>
<td><strong>Series 12</strong></td>
</tr>
<tr>
<td>The seating surfaces of the</td>
<td>› For applications where valve is normally closed and flow is relatively</td>
</tr>
<tr>
<td>disc and seat, either</td>
<td>low, steady and not pulsating. Velocity not to exceed: liquid 15’/sec. •</td>
</tr>
<tr>
<td>integral or removable, are</td>
<td>gases 100’/sec.</td>
</tr>
<tr>
<td>weld overlayed with .06</td>
<td></td>
</tr>
<tr>
<td>inches minimum thickness</td>
<td></td>
</tr>
<tr>
<td>of 316L stainless steel to</td>
<td></td>
</tr>
<tr>
<td>produce corrosion resistant</td>
<td></td>
</tr>
<tr>
<td>sealing surfaces. The</td>
<td></td>
</tr>
<tr>
<td>disc can be furnished with</td>
<td></td>
</tr>
<tr>
<td>either metal-to-metal or</td>
<td></td>
</tr>
<tr>
<td>elastomer seals.</td>
<td></td>
</tr>
<tr>
<td>Metal-To-Metal Trim</td>
<td><strong>Series 18, 20 &amp; 22</strong></td>
</tr>
<tr>
<td>Generally used for higher</td>
<td>› Sewage handling</td>
</tr>
<tr>
<td>temperatures exceeding the</td>
<td>› Dry material handling</td>
</tr>
<tr>
<td>capabilities of elastomers</td>
<td>› Pulp &amp; paper / body 317 stainless steel, internal spring, inconel®, ext.</td>
</tr>
<tr>
<td>and plastics. The seating</td>
<td>› Sump pump</td>
</tr>
<tr>
<td>faces of the disc and the</td>
<td>› Mining</td>
</tr>
<tr>
<td>seat, either integral or</td>
<td>› Blower discharge</td>
</tr>
</tbody>
</table>
| removable, are metal-to-metal. This configuration can be furnished in carbon steel, stainless steel or hardface trims. The leakage rate will not exceed that specified by API 598.

Removable / Replaceable Seat Ring

A removable seat ring can be furnished in any trim for 2” and larger bolted cover check valves. Unique patented seat provides easy replacement. Wafer check valves are also available with replaceable seat rings.

API Firesafe Bolted Bonnets

Many sizes and pressure classes of KF bolted bonnet full body style through conduit check valves are available as firesafe per API 6FD.

---

KF Valves
Recommendations for Installed Position

Position the check valve to promote smooth flow. Allow clearance for disc movement. Install the valve in horizontal or upward flow for proper valve closure.

Note: Swing check valves should not be used in reciprocating compressor or pulsating service. For such applications the KF series 50 piston check valve is recommended.
## Engineering Data

### Wafer Check Temperature & Working Pressure by Classes

**A216 Grade WCB or A105 Carbon Steel • ANSI B16.34**

<table>
<thead>
<tr>
<th>Temp (°F)</th>
<th>150</th>
<th>300</th>
<th>600</th>
<th>900</th>
<th>1500</th>
<th>2500</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20 to 100</td>
<td>265</td>
<td>695</td>
<td>1390</td>
<td>2085</td>
<td>3470</td>
<td>5785</td>
</tr>
<tr>
<td>200</td>
<td>250</td>
<td>565</td>
<td>1315</td>
<td>1970</td>
<td>3280</td>
<td>4200</td>
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<td>230</td>
<td>640</td>
<td>1275</td>
<td>1915</td>
<td>3190</td>
<td>5315</td>
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<td>620</td>
<td>1235</td>
<td>1850</td>
<td>3085</td>
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<tr>
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<td>585</td>
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<td>1745</td>
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<tr>
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<td>535</td>
<td>1065</td>
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<td>4355</td>
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**A351 Grade CF8M 316 Stainless Steel • ANSI B16.34**

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<th>900</th>
<th>1500</th>
<th>2500</th>
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<tr>
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**A352 Grade LCB Low Temp Carbon Steel • ANSI B16.34**

<table>
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<th>600</th>
<th>900</th>
<th>1500</th>
<th>2500</th>
</tr>
</thead>
<tbody>
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<td>1500</td>
<td>2250</td>
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<td>2250</td>
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</tbody>
</table>

**A352 Grade LCC Low Temp CS • ANSI B16.34 (650°F Max.)**

**A217 Grade Martensitic SS CA-15 • ANSI B16.34 Annex F**

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<th>1500</th>
<th>2500</th>
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<td>1995</td>
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<td>570</td>
<td>1135</td>
<td>1705</td>
<td>2840</td>
<td>4730</td>
</tr>
</tbody>
</table>

### Flow Coefficients (Cₚ)

| Series | 2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|--------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|
| 10, 19, 20, 22 | 95 | 156 | 366 | 430 | 710 | 1280 | 2350 | 3850 | 4260 | 7000 | 9550 | 13,000 | 25,000 |
| 12 | 75 | 124 | 300 | 405 | 675 | 1000 | 1950 | 3050 | — | — | — | — | — |
| 35 | 120 | 250 | 450 | — | 1320 | 2816 | 5200 | 8500 | 10,250 | 13,500 | 17,250 | 21,500 | 31,500 |
Engineering Data

Sealing Member Materials*

<table>
<thead>
<tr>
<th>Material</th>
<th>Temp Range (°F)</th>
<th>Material</th>
<th>Temp Range (°F)</th>
</tr>
</thead>
<tbody>
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<td>-20 to 250</td>
<td>Peroxide Cured Buna N (90 Duro)</td>
<td>-20 to 275</td>
</tr>
<tr>
<td>EPDM</td>
<td>-50 to 450</td>
<td>Teflon®</td>
<td>-50 to 425</td>
</tr>
<tr>
<td>HNBR</td>
<td>-50 to 350</td>
<td>Viton®</td>
<td>-15 to 400</td>
</tr>
<tr>
<td>Low Temp Buna N</td>
<td>-50 to 250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Depends on media.

Performance Loss Curves • Wafer Check Valves Only

Notes:  
1. Curves are for water at 60°F.  
2. Feet of water x .4335 = psi drop.  
3. Use curves for estimating purposes only, performance is based upon ideal inlet and outlet conditions with no springs or weights.  
Since spring and/or weight requirements for acceptable operation may vary from system to system, their effects must be added.
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Excellence In Flow Control
Asia  |  Europe  |  Middle East  |  North America  |  South America

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