

# Syntron® Iris Valve

**FV Series** - single diaphragm with twist lock handle

**SFV Series** - single diaphragm with trigger handle

**DFV Series** - double diaphragm with trigger handle

**Syntron® Iris Valves** are a cost effective alternative to Butterfly Valves and Slide Gates. They are designed to permit free flow of materials without damaging your product.

Reliable, adjustable control and shutoff of powders and granular product from bins, hoppers and chutes.

Rotate the handle through a 180 degree arc to fully open/close the valve. Various diaphragm materials are available to suit your specific application.

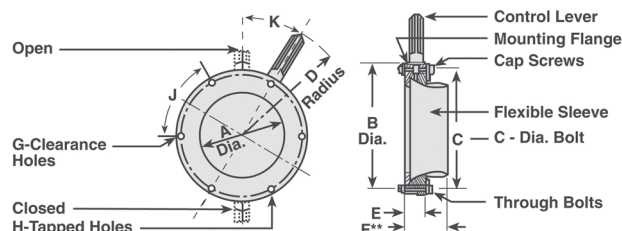


## Standard Features

- Single diaphragm
- Twist lock handle permits locking in unlimited positions

## Standard Construction

- Aluminum housing
- Bronze rotating control ring
- Aluminum handle
- Steel spiralox clamp rings
- Stainless Steel retaining rings
- 4 oz nylon diaphragm
- Also available in all Stainless Steel construction to meet special application requirements
- Optional wear sleeves for handling abrasive fine or dusty product



### Operation:

FV Series Control valves operated by rotating the control handle through a 180 degree arc to vary the size of the orifice from closed to fully open.

To lock the valve in a desired position, turn control handle clockwise to tighten.

**FV Series Dimensions**

| Model |    | A     | B      | C     | D     | E      | F**   | G    | H         | J   | K     |
|-------|----|-------|--------|-------|-------|--------|-------|------|-----------|-----|-------|
| FV-4  | in | 4     | 6      | 5.44  | 6.75  | 1.25   | 2.375 | 0.27 | .25 - 20  | 60° | 30°   |
|       | mm | 101.6 | 152.4  | 138.1 | 171.4 | 31.8   | 60.3  | 6.7  |           |     |       |
| FV-6  | in | 6     | 9.125  | 8.5   | 8.5   | 1.375  | 3.5   | 0.28 | .25 - 20  | 60° | 30°   |
|       | mm | 152.4 | 231.7  | 215.9 | 215.9 | 34.9   | 88.9  | 7.1  |           |     |       |
| FV-8  | in | 8     | 11.125 | 10.5  | 9.5   | *1.375 | 4.5   | 0.28 | .25 - 20  | 60° | 30°   |
|       | mm | 203.2 | 282.6  | 266.7 | 241.3 | 34.9   | 114.3 | 7.1  |           |     |       |
| FV-10 | in | 10    | 13.5   | 12.75 | 10.5  | 1.625  | 5.75  | 0.41 | .375 - 16 | 45° | 22.5° |
|       | mm | 254   | 342.9  | 323.8 | 271.5 | 41.3   | 146   | 10.3 |           |     |       |
| FV-12 | in | 12    | 16     | 15.25 | 11.75 | 1.75   | 6.75  | 0.41 | .375 - 16 | 45° | 22.5° |
|       | mm | 304.8 | 406.4  | 387.4 | 298.4 | 44.4   | 171.4 | 10.3 |           |     |       |

\* 1.5 (38.1) for Stainless Steel \*\* Diaphragm in full open position. All dimensions are approximate and subject to change.

**FV Series Weights**

| Model | Net Weight |     | Shipping Weight |     |
|-------|------------|-----|-----------------|-----|
|       | lb         | kg  | lb              | kg  |
| FV-4  | 2.5        | 1.1 | 5               | 2.2 |
| FV-6  | 5.5        | 2.5 | 8               | 3.6 |
| FV-8  | 6.5        | 2.9 | 9               | 4.0 |
| FV-10 | 9.5        | 4.3 | 12              | 5.4 |
| FV-12 | 15.75      | 7.2 | 17              | 7.7 |

# SFV/DFV Series

## SFV Features

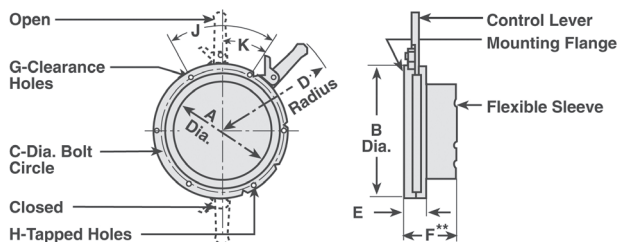
- Single diaphragm
- Trigger type handle

## DFV Features

- Double diaphragm especially suited for fine, dusty materials and for leak proof operation
- Trigger type handle

## Standard Construction

- Stainless Steel retaining rings
- 4 oz. nylon diaphragm
- Maximum temperature 82°C (180°F)
- Optional – Wear Sleeves for handling abrasive, fine or dusty product



SFV / DFV Series Dimensions

| Model  |    | A     | B      | C     | D      | E    | F**   | G    | H       | J   | K     |
|--------|----|-------|--------|-------|--------|------|-------|------|---------|-----|-------|
| SFV-4  | in | 4     | 6      | 5.44  | 7.75   | 1.25 | 2.25  | 0.28 | .25-20  | 60° | 30°   |
|        | mm | 101.6 | 152.4  | 138.1 | 196.8  | 31.8 | 57.2  | 7.1  |         |     |       |
| DFV-4  | in | 4     | 6      | 5.44  | 7.75   | 1.25 | 2.5   | 0.28 | .25-20  | 60° | 30°   |
|        | mm | 101.6 | 152.4  | 138.1 | 196.8  | 31.8 | 63.5  | 7.1  |         |     |       |
| SFV-8  | in | 8     | 11.125 | 10.5  | 10.75  | 1.75 | 4.5   | 0.28 | .25-20  | 60° | 30°   |
|        | mm | 203.2 | 282.6  | 266.7 | 273    | 44.4 | 114.3 | 7.1  |         |     |       |
| DFV-8  | in | 8     | 11.125 | 10.5  | 10.75  | 1.75 | 5     | 0.28 | .25-20  | 60° | 30°   |
|        | mm | 203.2 | 282.6  | 266.7 | 273    | 44.4 | 127   | 7.1  |         |     |       |
| SFV-12 | in | 12    | 16     | 15.25 | 14.187 | 1.75 | 6.5   | 0.41 | .375-16 | 45° | 22.5° |
|        | mm | 304.8 | 406.4  | 387.4 | 360.4  | 44.4 | 165.1 | 10.3 |         |     |       |
| DFV-12 | in | 12    | 16     | 15.25 | 14.187 | 1.75 | 7     | 0.41 | .375-16 | 45° | 22.5° |
|        | mm | 304.8 | 406.4  | 387.4 | 360.4  | 44.4 | 177.8 | 10.3 |         |     |       |

\*\* Diaphragm in full open position. All dimensions are approximate and subject to change.

### Operation:

SFV/DFV Iris Flow Control Valves operate by rotating the control handle through a 180-degree arc. The trigger-type handle locks in multiple precise orifice settings for rapid and frequent opening/closing. All models (except SFV/DFV-12) include five orifice notch settings.

The SFV/DFV-12 features 19 orifice notch settings.

SFV / DFV Series Weights

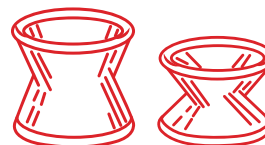
| Model  | Net Weight |     | Shipping Weight |      |
|--------|------------|-----|-----------------|------|
|        | lb         | kg  | lb              | kg   |
| SFV-4  | 1.5        | .6  | 5               | 2.2  |
| DFV-4  | 1.75       | .7  | 5               | 2.2  |
| SFV-8  | 6.25       | 2.8 | 9               | 4.0  |
| DFV-8  | 7          | 3.1 | 10              | 4.5  |
| SFV-12 | 18         | 8.1 | 33              | 14.9 |
| DFV-12 | 19         | 8.6 | 34              | 15.4 |

### Syntron® Iris Flow Valves Offer

- Initial low-cost investment
- Low maintenance
- Easy diaphragm replacement
- Minimum mounting area required
- Durable construction for many years of service



Diaphragm (nylon or other material) with retaining ring at each end.



With the upper end fixed, the lower end is rotated, gradually reducing the orifice.



At 180 degrees of rotation, the orifice is completely closed. Adjustable material control from full feed to trickle.

# Syntron® Iris Valve

Use the following selection chart to choose the proper diaphragm for your application.

|                                                              | 4 oz.<br>Nylon   | 2 oz.<br>Nylon   | Fairprene<br>(buna-N<br>"Nitrile"<br>on Nylon) | 5 oz.<br>Nomex<br>Nylon | ProSoft FoodSAFE®<br>polyester and<br>polyurethane blend<br>(FDA Approved) | 8 oz.<br>Teflon  |
|--------------------------------------------------------------|------------------|------------------|------------------------------------------------|-------------------------|----------------------------------------------------------------------------|------------------|
| Maximum Temperature                                          | 110°C<br>(230°F) | 110°C<br>(230°F) | 100°C<br>(212°F)                               | 149°C<br>(300°F)        | 88°C<br>(190°F)                                                            | 177°C<br>(350°F) |
| Anti-Static                                                  |                  |                  | ✓✓                                             |                         |                                                                            |                  |
| Dampness                                                     | ✓                | ✓                | ✓✓                                             | ✓                       |                                                                            |                  |
| Food Handling                                                | ✓                | ✓                | ✓                                              | ✓                       | ✓✓                                                                         |                  |
| Prevention of Contamination                                  | ✓                | ✓                | ✓                                              |                         |                                                                            |                  |
| Slurry ★ ●                                                   | ✓                | ✓                | ✓✓                                             |                         | ✓                                                                          |                  |
| Air (Low Pressure & Velocity) ★ ●                            |                  |                  | ✓✓                                             |                         |                                                                            |                  |
| Abrasive ★                                                   | ✓✓               |                  | ✓■                                             | ✓✓                      |                                                                            | ✓✓               |
| More than 35lb/cu ft. (561 kg/m³)                            | ✓✓               | ✓                | ✓■                                             | ✓✓                      |                                                                            |                  |
| Less than 35lb/cu ft. (561 kg/m³)                            |                  | ✓✓               | ✓■                                             |                         | ✓■                                                                         |                  |
| Lumpy Material                                               | ✓✓               | ✓                | ✓                                              |                         |                                                                            |                  |
| Fine Powder (1-50 mesh)                                      |                  | ✓                | ✓✓                                             |                         | ✓✓                                                                         |                  |
| Alkali Solids (Room Temp.)<br>(Caustic Soda, Soda Ash, etc.) | ✓                | ✓                | ✓                                              | ✓                       |                                                                            |                  |
| Dry Soaps, Synthetic Detergents                              | ✓                | ✓                |                                                | ✓                       |                                                                            |                  |

- For use where slight leakage can be tolerated
- Best where fine dusty materials are involved
- ★ Consideration should also be given to wear sleeve
- ✓ Indicates acceptable
- ✓✓ Indicates best choice of diaphragm

Syntron® Valves can be close against a material head load of 2-5 psi (.01 to .03 Mpa) depending upon valve size and material characteristics

SFV and DFV Iris Flow Control Valves should not be used in applications exceeding 82°C (180°F)