

Butterfly Valve with Lug types

- Disc 304 stainless steel
- Bubble tight shut-off
- Resilient seat
- Valve face-to-face dimensions comply with API 609 & MSS-SP-67
- Completely assembled and tested, ready for installation



5-year warranty

Type overview

| | |
|-------------|-----------|
| Type | DN |
| F650HD | 50 |

Technical data

| | | |
|---------------------------|--------------------------|---|
| Functional data | Valve size [mm] | 2" [50] |
| | Fluid | chilled or hot water, up to 60% glycol |
| | Fluid Temp Range (water) | -22...250°F [-30...120°C] |
| | Body Pressure Rating | ANSI Class Consistent with 125, 232 psi CWP |
| | Close-off pressure Δps | 200 psi |
| | Flow characteristic | modified equal percentage |
| | Leakage rate | 0% leakage, leakage rate A |
| | Servicing | maintenance-free |
| | Flow Pattern | 2-way |
| | Controllable flow range | 90° rotation |
| | Cv | 115 |
| | Maximum Velocity | 12 FPS |
| | Lug threads | 5/8-11 UNC |
| Materials | Valve body | Ductile cast iron ASTM A536 |
| | Body finish | epoxy powder coating (blue RAL 5002) |
| | Stem | 416 stainless steel |
| | Stem seal | EPDM (lubricated) |
| | Seat | EPDM |
| | Pipe connection | for use with ANSI class 125/150 flanges |
| | Bearing | RPTFE |
| | Disc | 304 stainless steel |
| Gear operator materials | Gears - hardened steel | |
| Suitable actuators | Non-Spring | ARB(X) GRB(X) |
| | Spring | AFRB(X) |

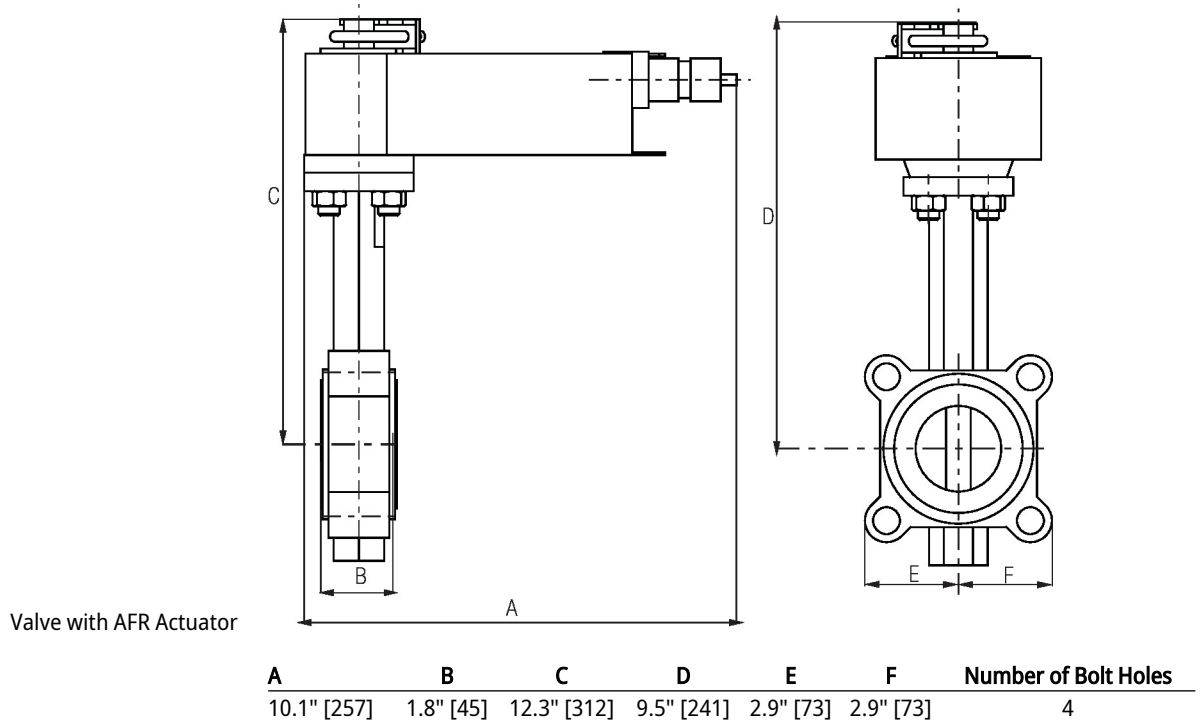
Product features

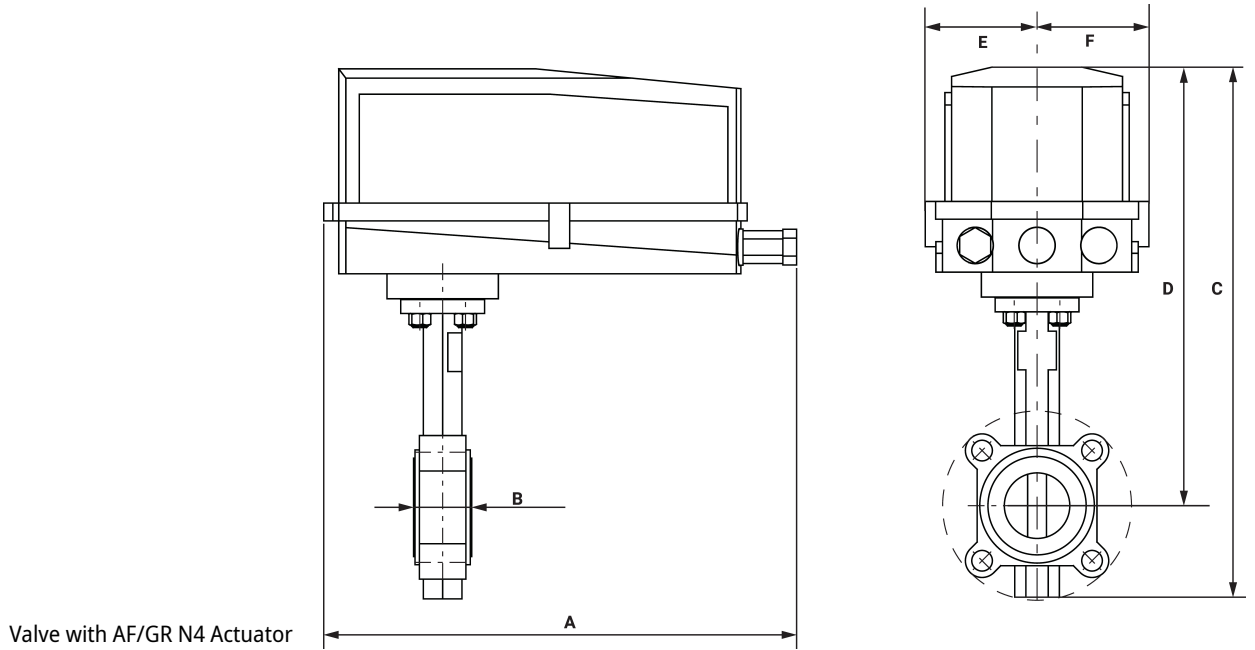
Flow/Mounting details



Dimensions

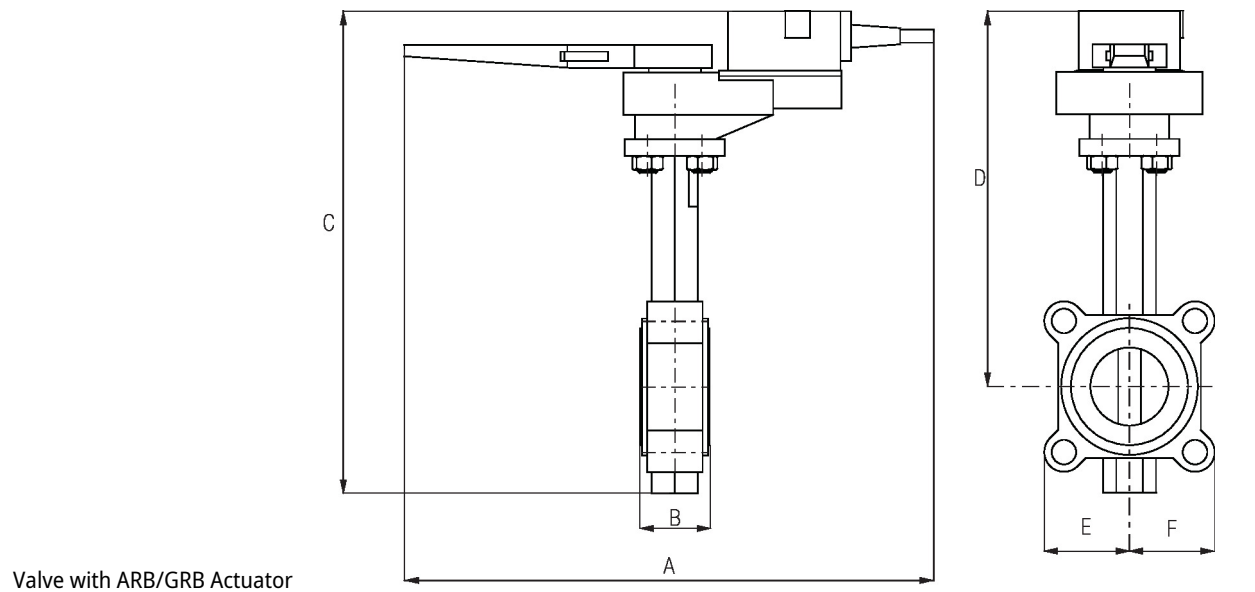
| Type | DN | Weight |
|--------|----|-----------------|
| F650HD | 50 | 5.3 lb [2.4 kg] |





Valve with AF/GR N4 Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|-------------|-----------|-------------|-------------|-----------|-----------|----------------------|
| 14.5" [368] | 1.8" [45] | 16.1" [409] | 13.3" [338] | 3.4" [86] | 3.4" [86] | 4 |



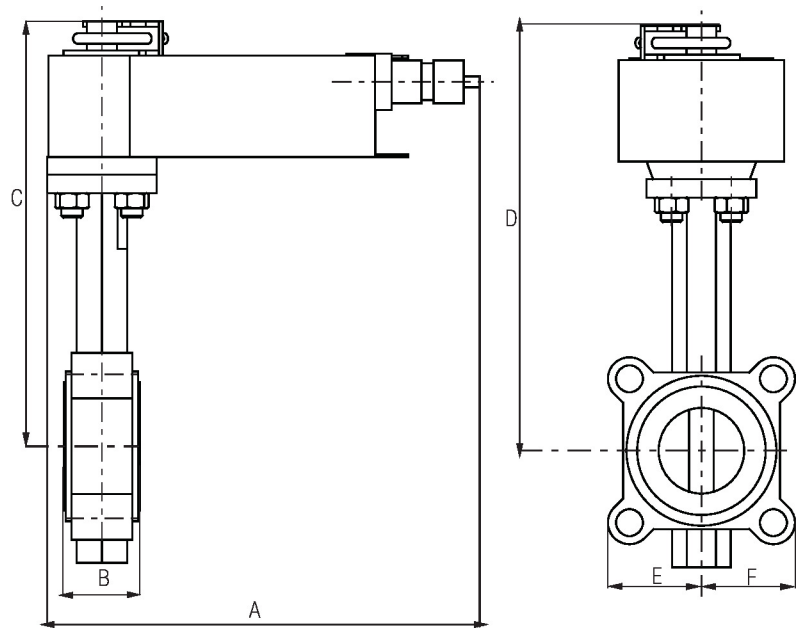
Valve with ARB/GRB Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|-------------|-----------|-------------|------------|-----------|-----------|----------------------|
| 14.6" [370] | 1.8" [45] | 12.4" [314] | 9.7" [246] | 2.9" [73] | 2.9" [73] | 4 |



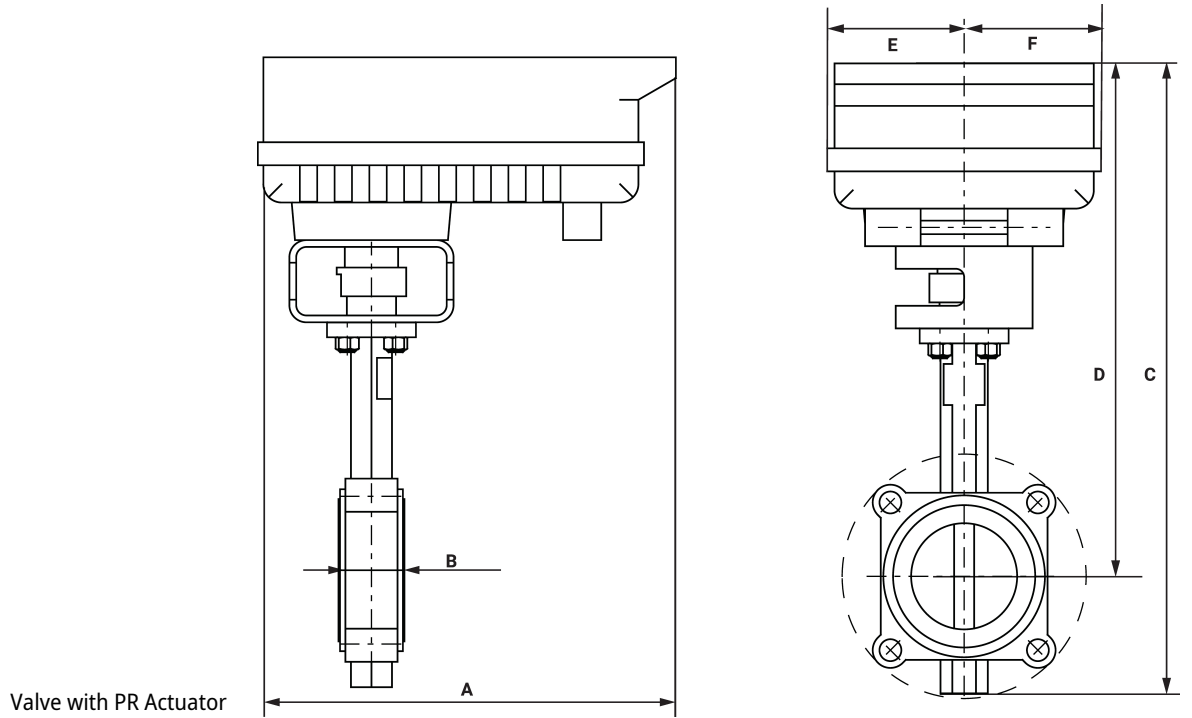
Valve with AFB/AFX Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|-------------|-----------|-------------|-------------|-----------|-----------|----------------------|
| 10.1" [257] | 1.8" [45] | 15.1" [384] | 12.4" [315] | 2.9" [73] | 2.9" [73] | 4 |



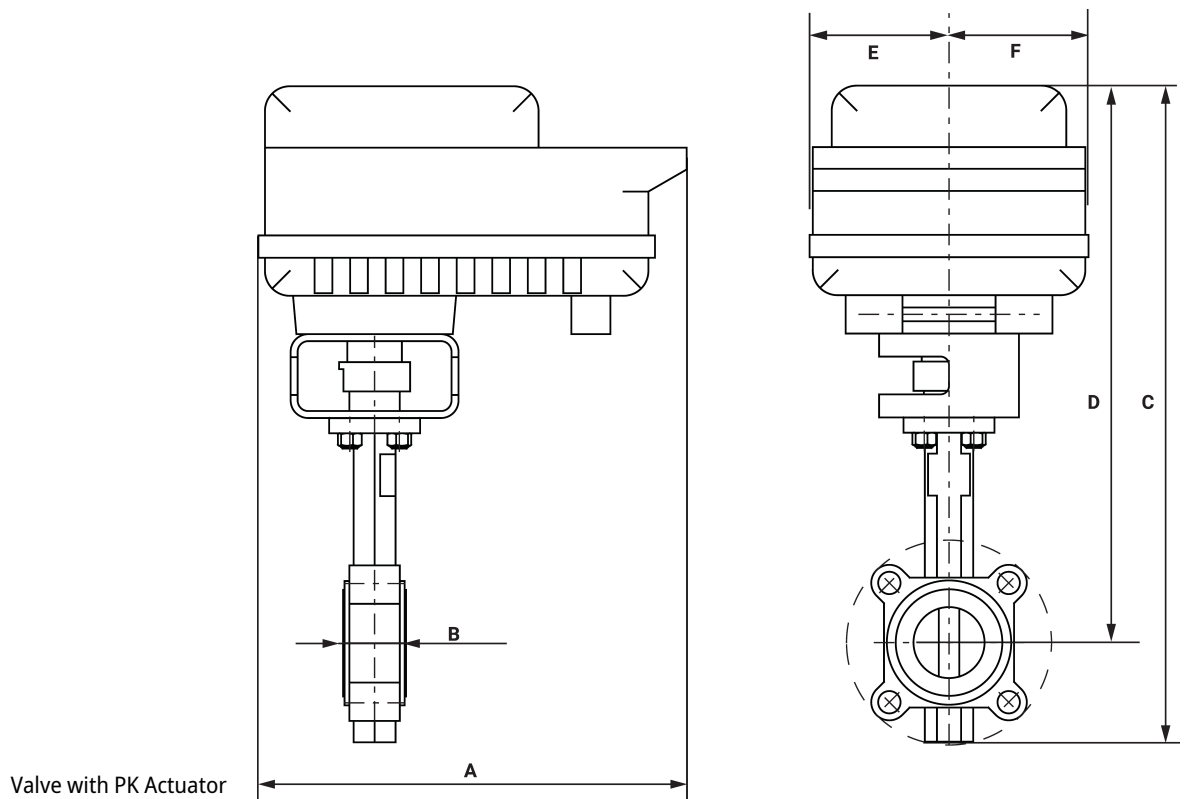
Valve with AMB/AMX Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|------------|-----------|-------------|-------------|-----------|-----------|----------------------|
| 8.3" [211] | 1.8" [45] | 15.1" [384] | 12.4" [315] | 2.9" [73] | 2.9" [73] | 4 |



Valve with PR Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|-------------|-----------|-------------|-------------|------------|------------|----------------------|
| 12.0" [304] | 1.8" [45] | 16.7" [425] | 13.9" [354] | 3.9" [100] | 3.9" [100] | 4 |



Valve with PK Actuator

| A | B | C | D | E | F | Number of Bolt Holes |
|-------------|-----------|-------------|-------------|------------|------------|----------------------|
| 12.0" [304] | 1.8" [45] | 18.5" [470] | 15.7" [399] | 3.9" [100] | 3.9" [100] | 4 |
| A | B | C | D | E | F | Number of Bolt Holes |
| 10.8" [275] | 1.8" [45] | 13.0" [330] | 10.2" [260] | 2.9" [73] | 2.9" [73] | 4 |



5-year warranty



Technical data

| | | |
|------------------------|------------------------------------|---|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 19.2...28.8 V / DC 21.6...28.8 V |
| | Power consumption in operation | 2.5 W |
| | Power consumption in rest position | 0.5 W |
| | Transformer sizing | 5.5 VA |
| | Electrical Connection | 18 GA plenum cable with 1/2" conduit connector, degree of protection NEMA 2 / IP54, 1 m 3 m and 5 m |
| | Overload Protection | electronic throughout 0...90° rotation |
| Functional data | Direction of motion motor | selectable with switch 0/1 |
| | Manual override | external push button |
| | Angle of rotation | 90° |
| | Angle of rotation note | adjustable with mechanical stop |
| | Running Time (Motor) | 90 s / 90° |
| | Running time motor variable | 90 or 150 s |
| | Noise level, motor | 45 dB(A) |
| | Position indication | Mechanically, pluggable |
| Safety data | Power source UL | Class 2 Supply |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2 |
| | Enclosure | UL Enclosure Type 2 |
| | Agency Listing | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02 CE acc. to 2014/30/EU and 2014/35/EU |
| | Quality Standard | ISO 9001 |
| | UL 2043 Compliant | Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC |
| | Ambient humidity | Max. 95% RH, non-condensing |
| | Ambient temperature | -22...122°F [-30...50°C] |
| | Storage temperature | -40...176°F [-40...80°C] |
| | Servicing | maintenance-free |
| | Weight | Weight |
| Materials | Housing material | Galvanized steel and plastic housing |

Footnotes †Rated Impulse Voltage 800V, Type action 1.B, Control Pollution Degree 3.

Accessories

| Electrical accessories | Description | Type |
|------------------------|---|----------|
| | Battery backup system, for non-spring return models | NSV24 US |
| | Battery, 12 V, 1.2 Ah (two required) | NSV-BAT |

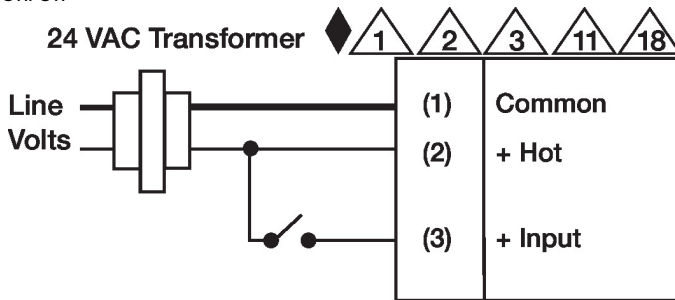
Electrical installation

✂ INSTALLATION NOTES

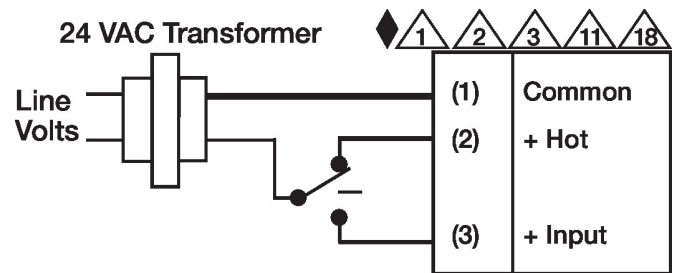
- 1** Provide overload protection and disconnect as required.
- 2** Actuators may be connected in parallel. Power consumption and input impedance must be observed.
- 3** Actuators may also be powered by DC 24 V.
- 6** Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
- 18** Actuators with plenum cable do not have numbers; use color codes instead.
- ◆ Meets cULus requirements without the need of an electrical ground connection.
- ⚠ Warning! Live electrical components!**
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Wiring diagrams

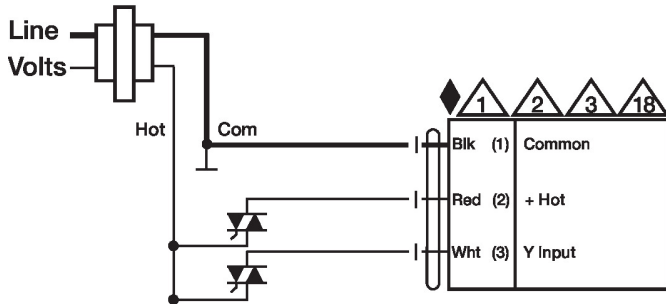
On/Off



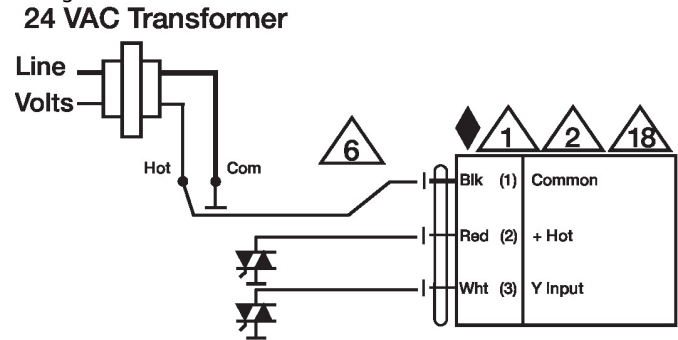
Floating Point



24 VAC Transformer



Floating Point - Triac Sink



Dimensions

