



**TALCO** **FIRE  
SYSTEMS**

Portland, OR  
(503) 688-1231 / (503) 688-1234(FAX)

**HDR-150**

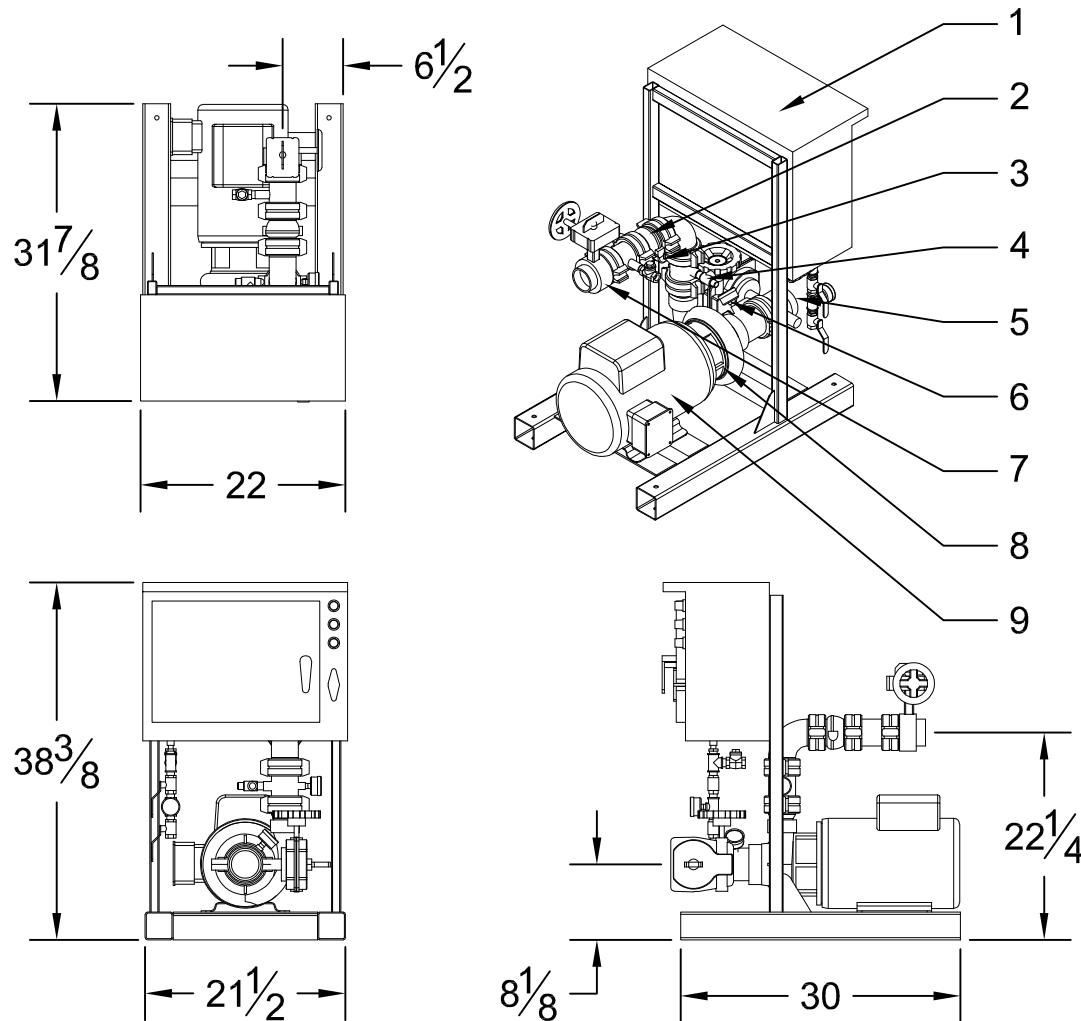
**150GPM Fire Pump Package**

**Submittal Packet**

## Residential Packaged Fire Pump System

## HDR-150

Heavy Duty Residential Package  
Design Condition: 150GPM @ 65PSI



### System Specifications:

**Motor**  
-10 Horsepower Electric  
-230 Volt  
-46 Amp  
-Single Phase  
-3450 RPM

**Pump**  
-End Suction Centrifugal Pump  
-3" Suction (Grooved)  
-2 1/2" Discharge (Grooved)  
-175 PSI max working pressure

**System Components**  
-1- Residential Fire Pump Controller  
-2- Check Valve  
-3- Discharge Pressure Gauge  
-4- Case Relief Valve  
-5- Suction Monitored Butterfly Valve  
-6- Suction Pressure Gauge  
-7- Discharge Monitored Butterfly Valve  
-8- End Suction Pump  
-9- Electric Motor  
-Not Shown- Copper Sensing Line (per NFPA20)

### Performance

Performance values based on multiple pump tests. Not for certification purposes.

GPM	0	60	90	110	150	180	200	225
PSI	72	72	71	70	67	64	62	57

Please Note: This fire pump system uses an unlisted pump & a residential controller. Please submit to your AHJ for approval prior to ordering.

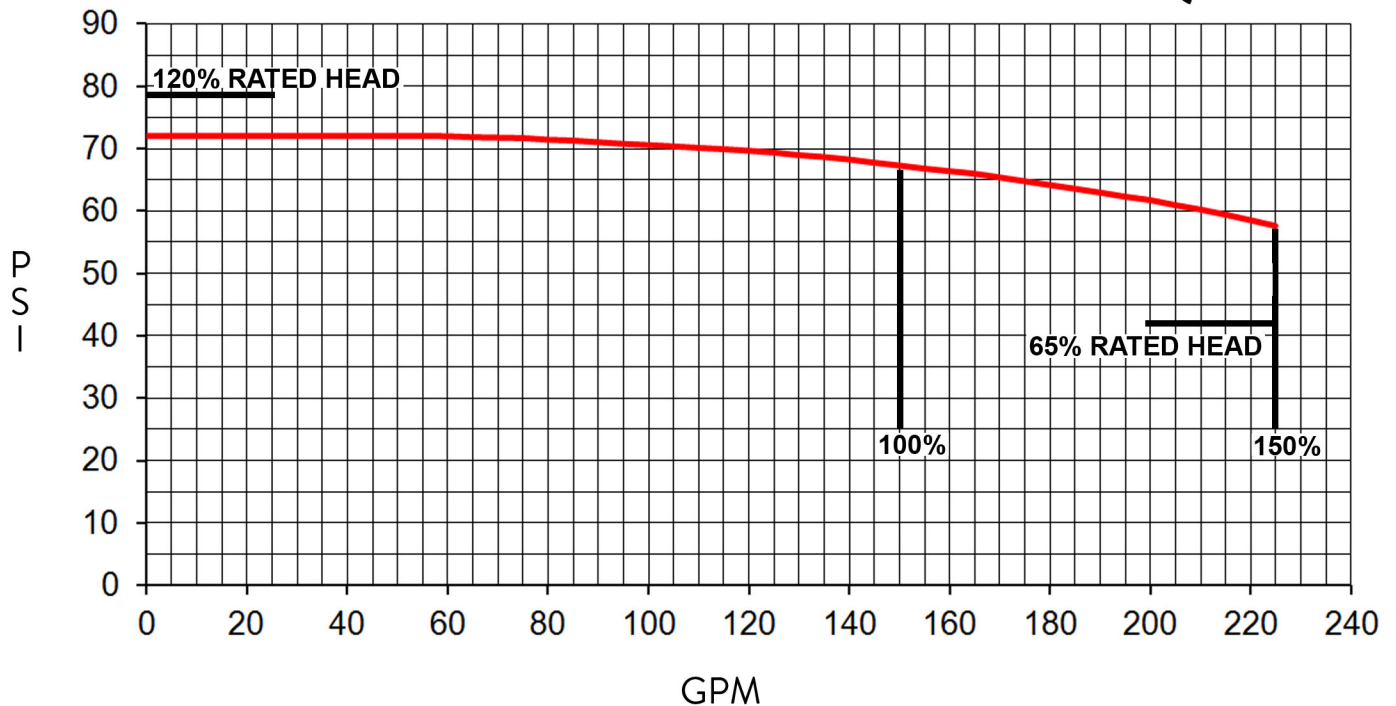


# TALCO **FIRE SYSTEMS**

## HDR-150

### PUMP DATA

150GPM @ 65PSI



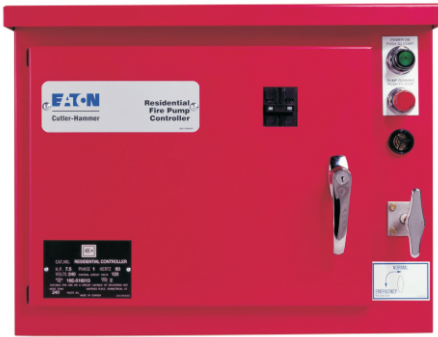
#### SYSTEM SPECIFICATIONS

##### MOTOR

- 10 HP ELECTRIC MOTOR
- 230 VOLT, 46 AMP
- SINGLE PHASE
- 3450 RPM
- JM FRAME
- SHAFT SLEEVE/O-RING FOR PROTECTION AGAINST SHAFT DAMAGE
- SEALED MOTOR BEARINGS TO CARRY AXIAL & THRUST LOADS
- OPEN DRIP PROOF (ODP)

##### PUMP

- HIGH PRESSURE CAST IRON VOLUTE
- MACHINED BRONZE IMPELLER
- 3" SUCTION
- 2" DISCHARGE
- 150 PSI MAX WORKING PRESSURE



## Product Description

Eaton Cutler-Hammer Residential Fire Pump Controllers work in conjunction with single phase, electric, residential fire pumps and packages. Available as a Simplex or Duplex unit, all controllers are UL listed and meet or exceed NEMA requirements.

## Product Features

### Sequential Start Timer

A sequential start timer may be installed which is used to program a start delay after the pressure switch initiates an automatic start. In duplex controllers, a SST is standard and is wired to delay starting the second (lag) pump. The timer does not operate if starting is initiated via the start pushbutton or emergency start handle.



### Run Period Timer

The run period timer turns on whenever the controller starts due to a drop in pressure. This ensures that the pump motor is not subjected to frequent starts if the pressure switch contact repeatedly closes and opens at short time intervals because of pressure fluctuations.

### NEMA 2 Enclosures

All FDR controllers are supplied with NEMA 2 enclosures. Contact factory for availability of other styles.

### Alarm & Status Indication

Both Simplex and Duplex controllers are equipped with illuminated pushbuttons which have dual use. The green "POWER ON" pushbutton functions as the "Start" pushbutton and indicates when the circuit breaker is closed. The red "PUMP RUNNING" pushbutton functions as the "Stop" pushbutton and indicates when the pump is running.



When the controller starts the fire pump, the red Pump Running light turns on as well as the buzzer mounted on the front panel.

### Mounting Bars

FDR residential controllers can be supplied with optional upper and lower mounting bars.

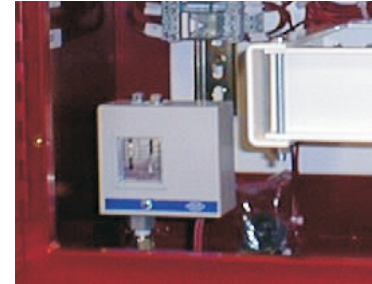


### Optional Floor Mount Legs

Optional 12 inch high floor mounting legs are available upon request.

### Dual Setting Pressure Switch

A dual setting 15-290 PSI pressure switch is used to sense a drop in pressure which actuates the residential controller. The setting adjustment screws are used for setting the pressure range and differential. There is one set of form-C output contacts rated at 10 amps.

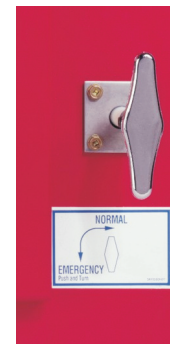


### NEMA Rated Contactors

Cutler-Hammer NEMA rated Freedom Contactors are used in all FDR Residential fire pump controllers. A wide variety of coil voltages are available for domestic and international use.

### Emergency Start Operator

A mechanically operated emergency start handle activates the motor contactor independent of any electrical control circuits or pressure switch input.



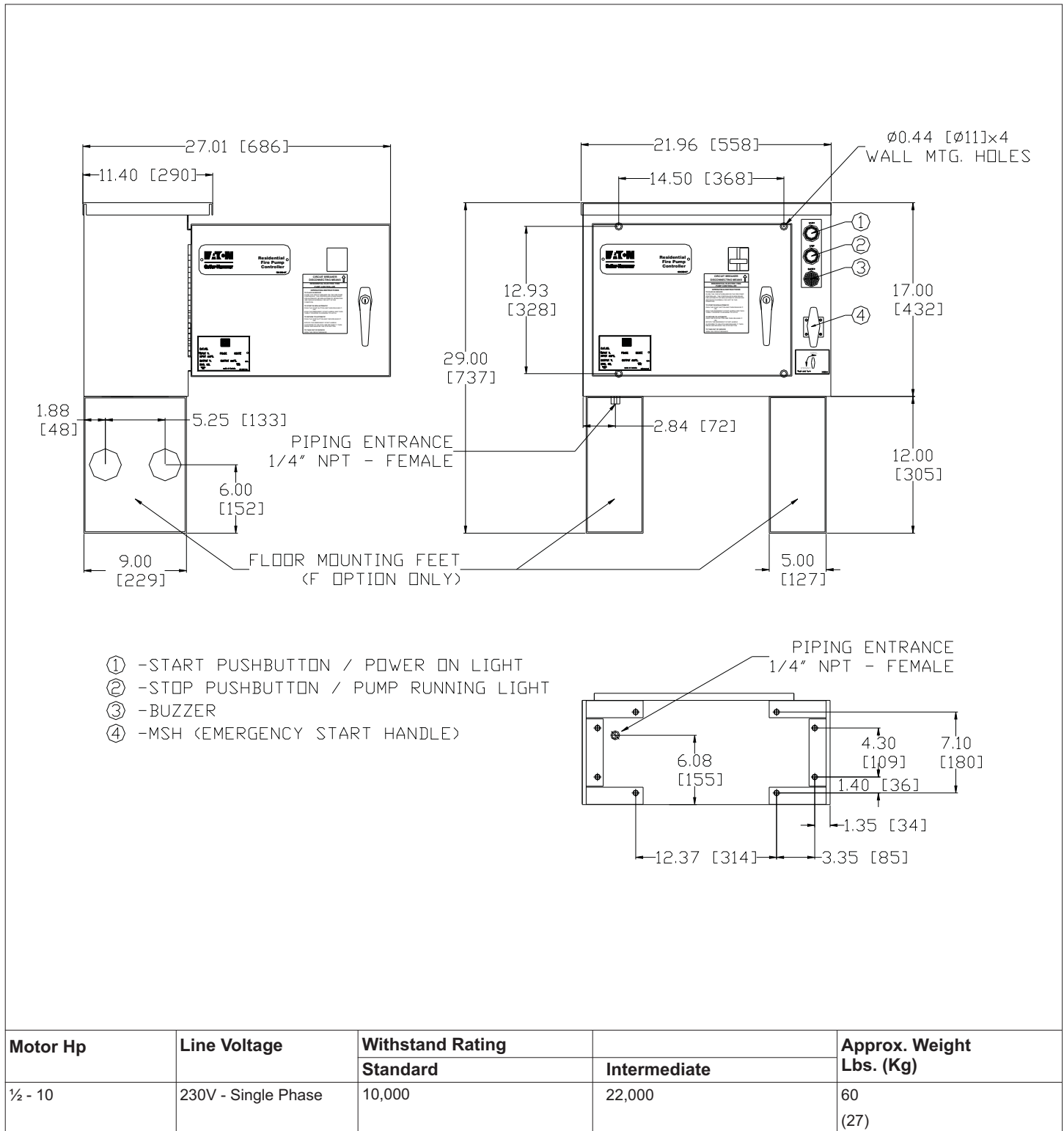
## Standards & Certification

The FDR Residential Fire Pump Controllers meet or exceed the requirements of Underwriters Laboratories, Underwriters Laboratories Canada, the Canadian Standards Association, and the New York City building code.



## Dimensions

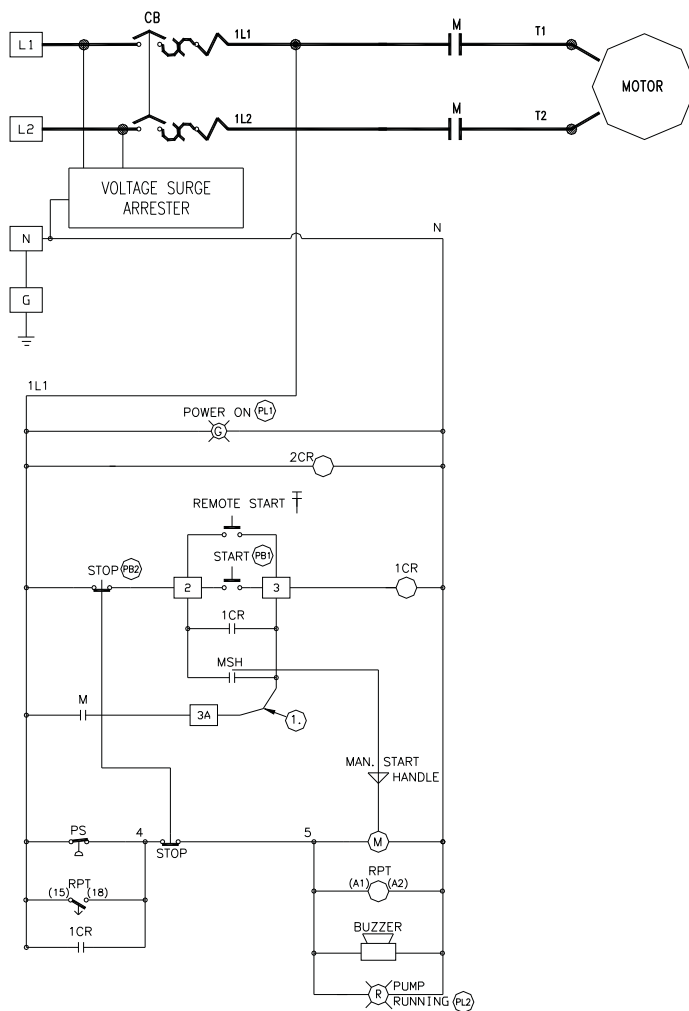
### Standard Enclosure - Simplex - Type NEMA 2



**NOTES:**

1. All enclosures finished in FirePump red.
2. Cable Entrance either top or bottom.
3. Standard Enclosure type NEMA 2.
4. Add 12 inches height for optional floor stands.

## Electrical Wiring Schematic



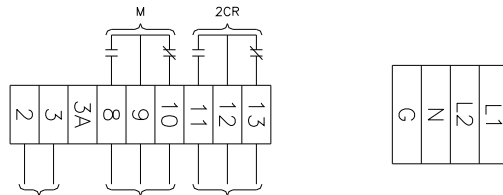
### LEGEND:

M-RUN CONTACTOR  
1CR-MANUAL CONTROL RELAY  
2CR-POWER FAILURE RELAY  
PS-PRESSURE SWITCH  
CB-CIRCUIT BREAKER  
STOP-LOCAL STOP SWITCH  
START-LOCAL START SWITCH  
MSH-MANUAL START HANDLE (AUX. CONTACT)  
RPT-RUN PERIOD TIMER

### NOTES:

1. ADD JUMPER TO CONVERT TO SEMI-AUTOMATIC.
2. ALL RELAY CONTACTS SHOWN IN NO POWER CONDITION.
3. FOR CUSTOMER REMOTE START, CONNECT DRY CONTACT BETWEEN TERMINALS 2 & 3.
4. SERVICE ENTRANCE EQUIPMENT. (DOES NOT MEET CSA SERVICE ENTRANCE REQUIREMENTS)

† - EXTERNAL EQUIPMENT



# Reliable®

## Model BFG-300 Supervised Butterfly Valve Grooved

cULus Listed, FM Approved

### Product Description

The Reliable Model BFG-300 Supervised Butterfly valves are cULus Listed and FM Approved for fire protection systems. Reliable Supervised Butterfly Valves have AWWA C606 grooved end connections. They are available in 2-1/2" (65mm), 3" (80mm), 4" (100mm), 6" (150mm), and 8" (200mm) nominal sizes. The valves are listed for 300 psi (20.7 bar) working pressure. The maximum working temperature for the valves is 250°F (120°C).

### Maintenance

The owner is responsible for maintaining the fire protection system in proper operating condition. Any system maintenance or testing that involves placing a control valve out of service will eliminate the fire protection that is provided by the fire protection system.

The Reliable Supervised Closed Butterfly valves and associated equipment shall periodically be given a thorough inspection and test. NFPA 25, "Inspection, Testing and Maintenance of Water Based Fire Protection Systems," provides minimum maintenance requirements.

### Guarantee

For Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit [www.reliablesprinkler.com](http://www.reliablesprinkler.com).



Supervised Grooved Butterfly Valve - Supervised Open



Supervised Grooved Butterfly Valve - Supervised Closed

### Ordering Information

Specify the following when ordering:

#### Model BFG-300 Butterfly Valve Supervision

- Valve Supervised Open (yellow indicator)
- Valve Supervised Closed (white indicator)

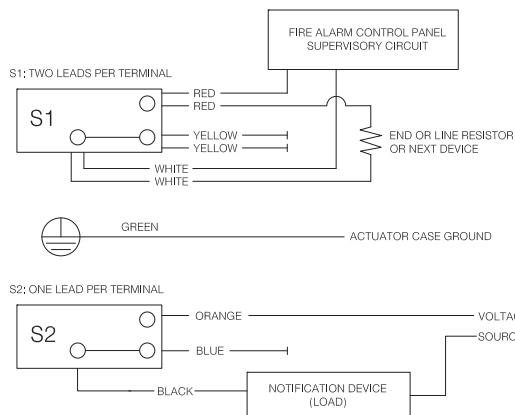
#### Valve Size

- 2-1/2" (65mm)
- 3" (80mm)
- 4" (100mm)
- 6" (150mm)
- 8" (200mm)

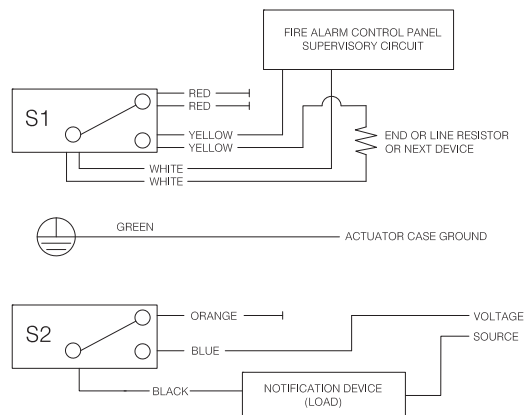
### Reliable Supervised Butterfly Valve Wiring Diagram - Valve in Supervised Position

Figure 1

Supervised Normally Open Valve



Supervised Normally Closed Valve



**Notes:** Rated: 5A-1/6HP-125/250VAC  
0.5A - 125VDC  
0.25A - 250VDC



## Reliable Model BFG-300 Supervised Butterfly Valve Grooved

### Technical Specifications

**Pressure Rating:**  
300 psi (20.7 bar)

### Material Specifications

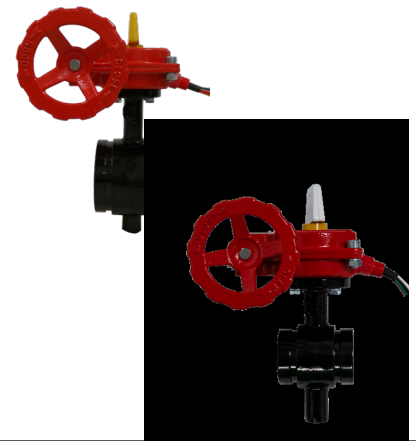
**Body:** Ductile Iron ASTM A-536 Nylon-11 Coated  
**Disc:** ASTM A-536 EPDM Encapsulated  
**Upper and Lower Stems:** AISI 420-SS  
**Housing:** ASTM A-536  
**Hand Wheel:** ASTM A-536  
**Flag Indicator:** ASTM A-536  
**Shear Pin:** ASTM A-510  
**Segment Gear:** ASTM B-148 or B-584  
**Housing Gasket:** EDPM Grade E  
**O-Ring:** EDPM Grade E

### Specifications

Groove Inlet: AWWA C 606

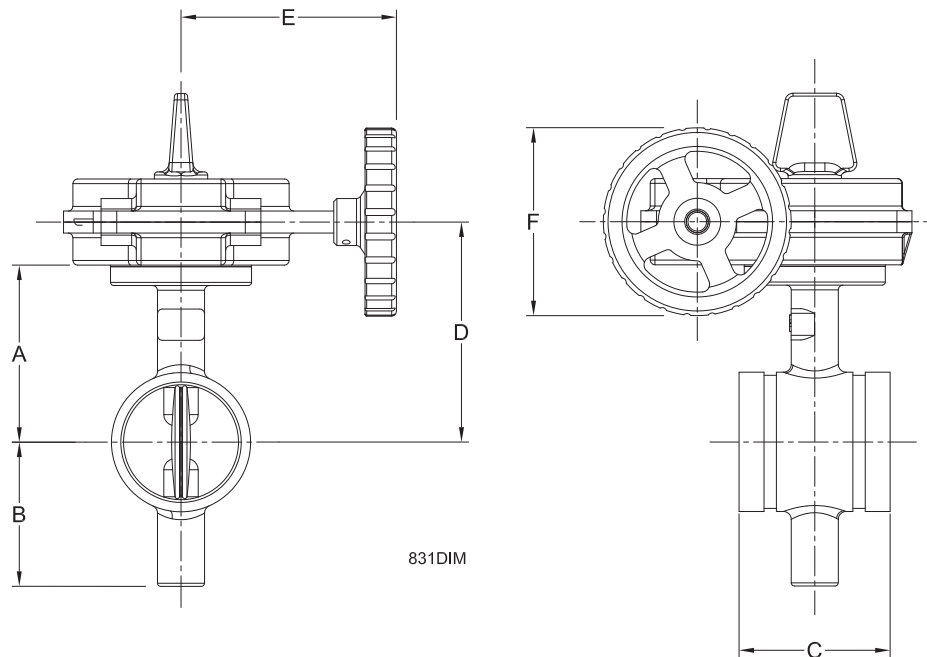
### Listings and Approvals

cULus Listed  
 FM Approved



Reliable Supervised Butterfly Valve Specification and Dimensions

Figure 2



Dimensions - in. (mm)

Table B

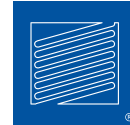
Valve Size	A	B	C	D	E	F
2-1/2" (65)	4-1/8 (105)	3-5/8 (92)	3-13/16 (96)	5-1/3 (135)	5-5/16 (135)	5 (128)
3" (80)	4-7/16 (112)	3-11/16 (95)	3-13/16 (96)	5-5/8 (142)	5-5/16 (135)	5 (128)
4" (100)	5-11/16 (145)	4-1/4 (108)	4-1/2 (115)	6-15/16 (175)	5-5/16 (135)	5 (128)
6" (150)	7 (179)	5-11/16 (146)	5-3/16 (132)	8-1/4 (209)	7-5/8 (193)	8-5/8 (220)
8" (200)	8 (204)	6-11/16 (170)	5-13/16 (147)	9-1/4 (234)	7-5/8 (193)	8-5/8 (220)



# Check Valves

UL LISTED AND FM APPROVED

WWW.FPPI.COM



3198 LIONSHEAD AVE  
CARLSBAD, CA 92010  
+ 1 (760) 599-1168  
+ 1 (800) 344-1822  
+ 1 (800) 344-3775 FAX

LISTED VALVE NOW  
AVAILABLE IN  
1½" SIZE



- Brass Body\* (C38000) for superior corrosion resistance
- Listed valves available in the following sizes: 1 ½"\*\*, 2", 2 ½", 3" and 4"
- Available Grooved, Threaded, or Thread by Groove reducing the need for additional fittings and minimizing installation time.
- Pressure rated to up to 300 PSI
- Tapped and plugged for easy use of accessories such as ball drips or gauges



\*Contains lead. Not for use in water systems intended for human consumption.

\*\*1 ½" size is UL/ULC listed only

# For Commercial, Institutional and Industrial Applications

Job Name \_\_\_\_\_  
 Job Location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Approval \_\_\_\_\_

Contractor \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative \_\_\_\_\_

## Series 530C Calibrated Pressure Relief Valves

Sizes: 1/2" or 3/4" (15 or 20mm)

Series 530C Calibrated Pressure Relief Valves are spring operated brass valves designed for use only as protection from the build up of excessive pressure in systems containing water, oil or air. Series 530C valves incorporate a calibrated adjustment feature for setting the valve to the relief pressure required. These valves are ideally suited for bypass thermal expansion relief.

### Features

- Calibrated adjustment feature for setting valve to relief pressure required
- Adjustable range 50 – 175psi (3.4 – 12.1 bar)
- All brass construction
- All stainless steel spring
- Buna-N disc on machined body seat
- Inlet (bottom), male NPT threaded
- Outlet (side), female NPT threaded

### Pressure – Temperature

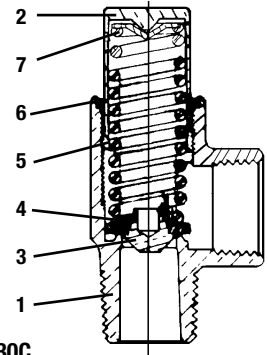
Maximum Temperature: 180°F (82°C)

### Spring Ranges

1/2" or 3/4" (15 or 20mm): 50 – 175psi (3.4 – 12.1 bar)  
 3/4" (20mm): 100 – 300psi (6.9 – 20.7 bar)

**Application Note:** The Watts Series 530C are not ASME approved safety relief valves and should not be used in system application with this requirement.

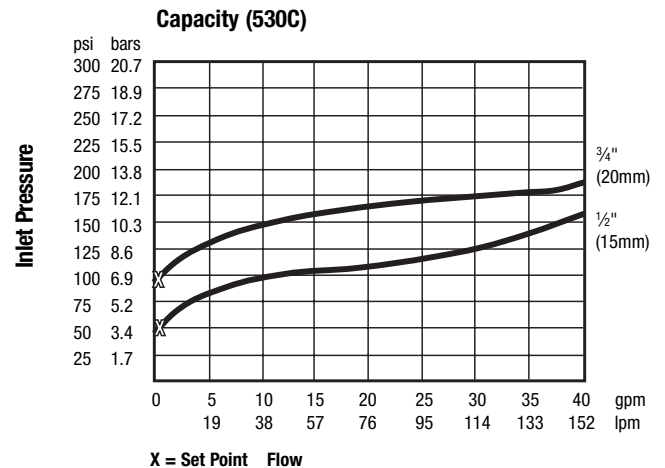
MODEL	SIZE (DN)		DIMENSIONS				WEIGHT	
	in.	mm	Height		Width		lbs.	kg.
530C	1/2 or 3/4	15 or 20	3	76	1 1/2	41	.37	0.17



Model 530C

### Materials

- |                      |                  |
|----------------------|------------------|
| 1. Body              | Brass            |
| 2. Bonnet            | Brass            |
| 3. Disc Holder       | Brass            |
| 4. Disc              | Buna-N (Nitrile) |
| 5. Adjustable Spring | Stainless Steel  |
| 6. O-ring            | Buna-N (Nitrile) |
| 7. Spring Washer     | Brass            |



Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



Water Safety & Flow Control Products

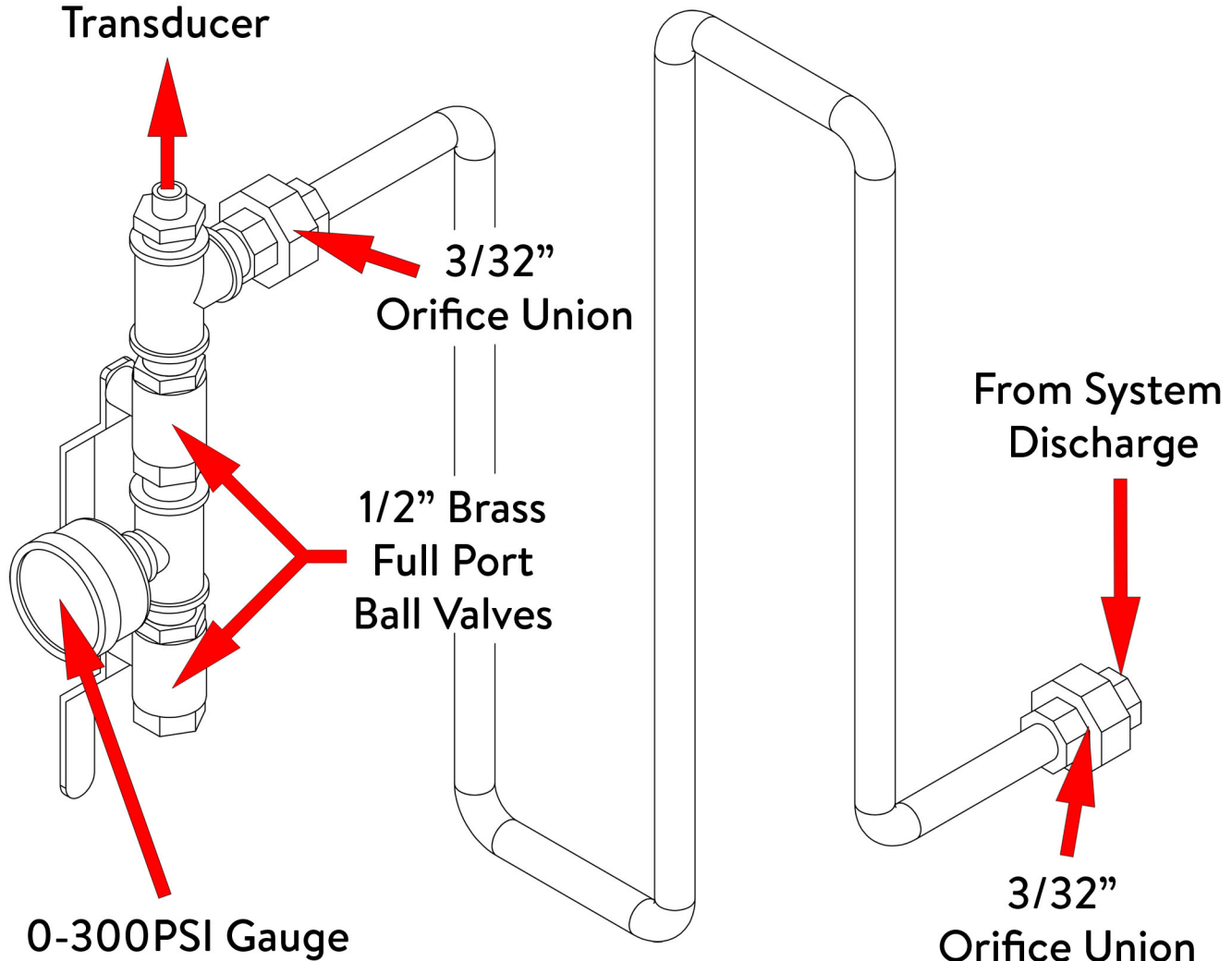
USA: 815 Chestnut St., No. Andover, MA 01845-6098; [www.watts.com](http://www.watts.com)  
 Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; [www.wattscanada.ca](http://www.wattscanada.ca)



# TALCO FIRE SYSTEMS

## NFPA-20 Pressure Sensing Line Detail

To Control Panel  
Pressure Switch/  
Transducer



Sensing line constructed in accordance with NFPA-20:  
5 feet minimum 1/2" hard copper tubing  
Brass or copper NPT components