



**TALCO** **FIRE  
SYSTEMS**

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

**HDR-50**

**50GPM Fire Pump Package**

**Submittal Packet**



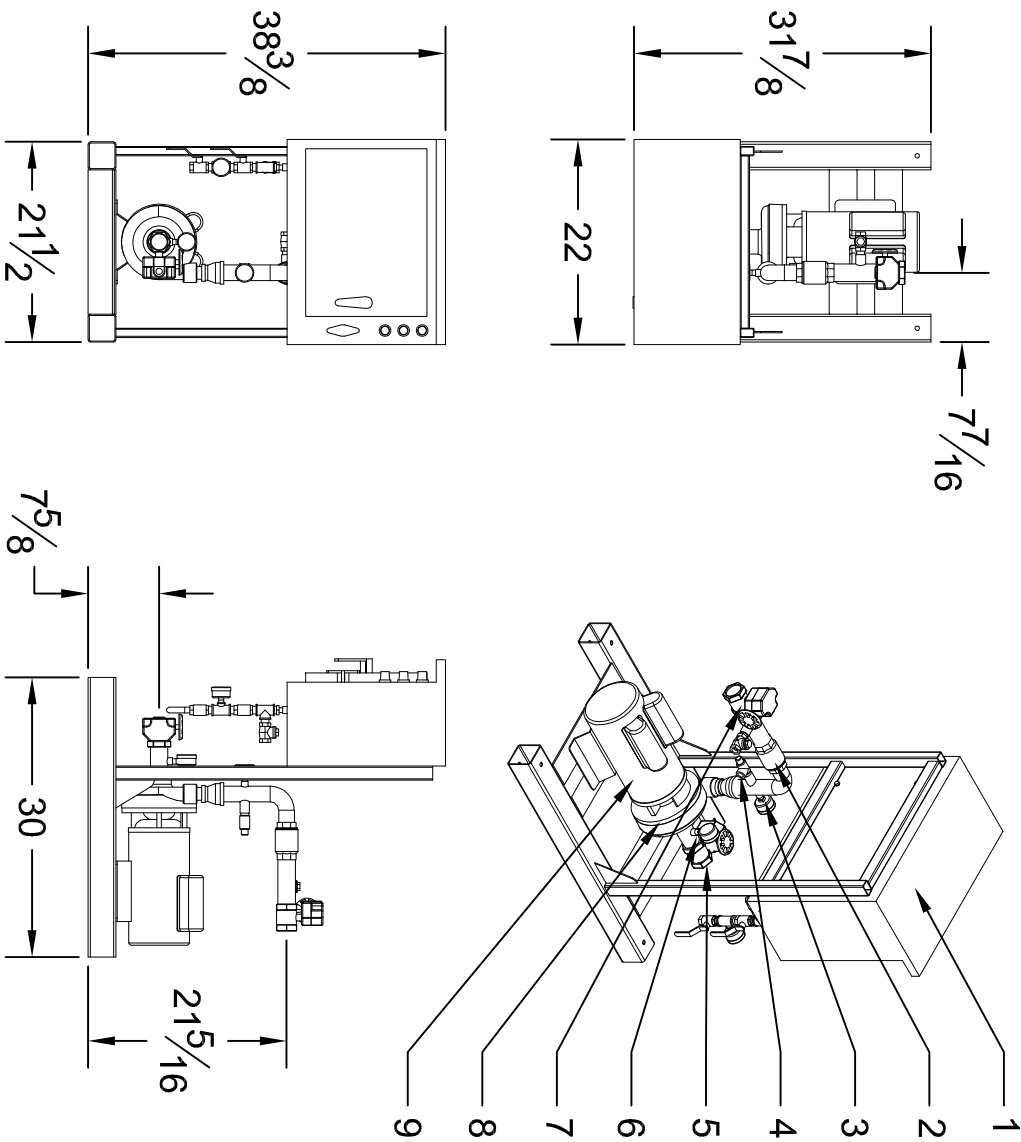
Residential Packaged Fire Pump System

HDR-50

Heavy Duty Residential Package  
Design Condition: 50GPM @ 65PSI

System Specifications:

- Motor
  - 5 Horsepower Electric
  - 230 Volt
  - 21.5 Amp
  - Single Phase
  - 3450 RPM
- Pump
  - End Suction Centrifugal Pump
  - 1 1/2" Suction (NPT)
  - 1 1/2" Discharge (NPT)
  - 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	40	45	50	55	60	65	70	75
PSI	74	70	69	67	66	64	60	57	52

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

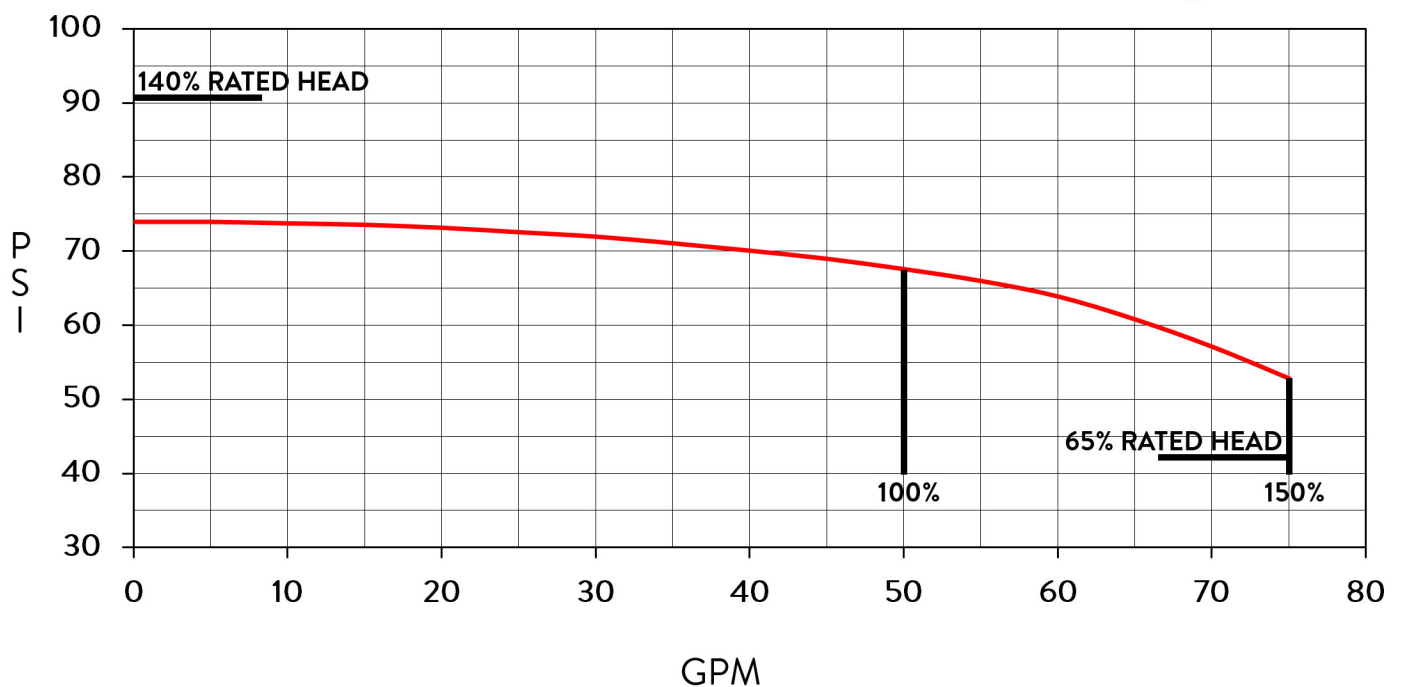


# TALCO **FIRE SYSTEMS**

## HDR-50

### PUMP DATA

**50GPM @ 65PSI**



### SYSTEM SPECIFICATIONS

#### MOTOR

- 5 HP ELECTRIC MOTOR
- 230 VOLT, 21.5 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
- 1 1/2" SUCTION
- 1" 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.

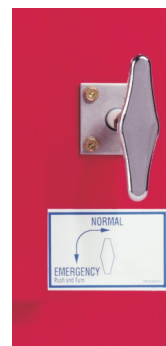


### NEMA Rated Contactors

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.



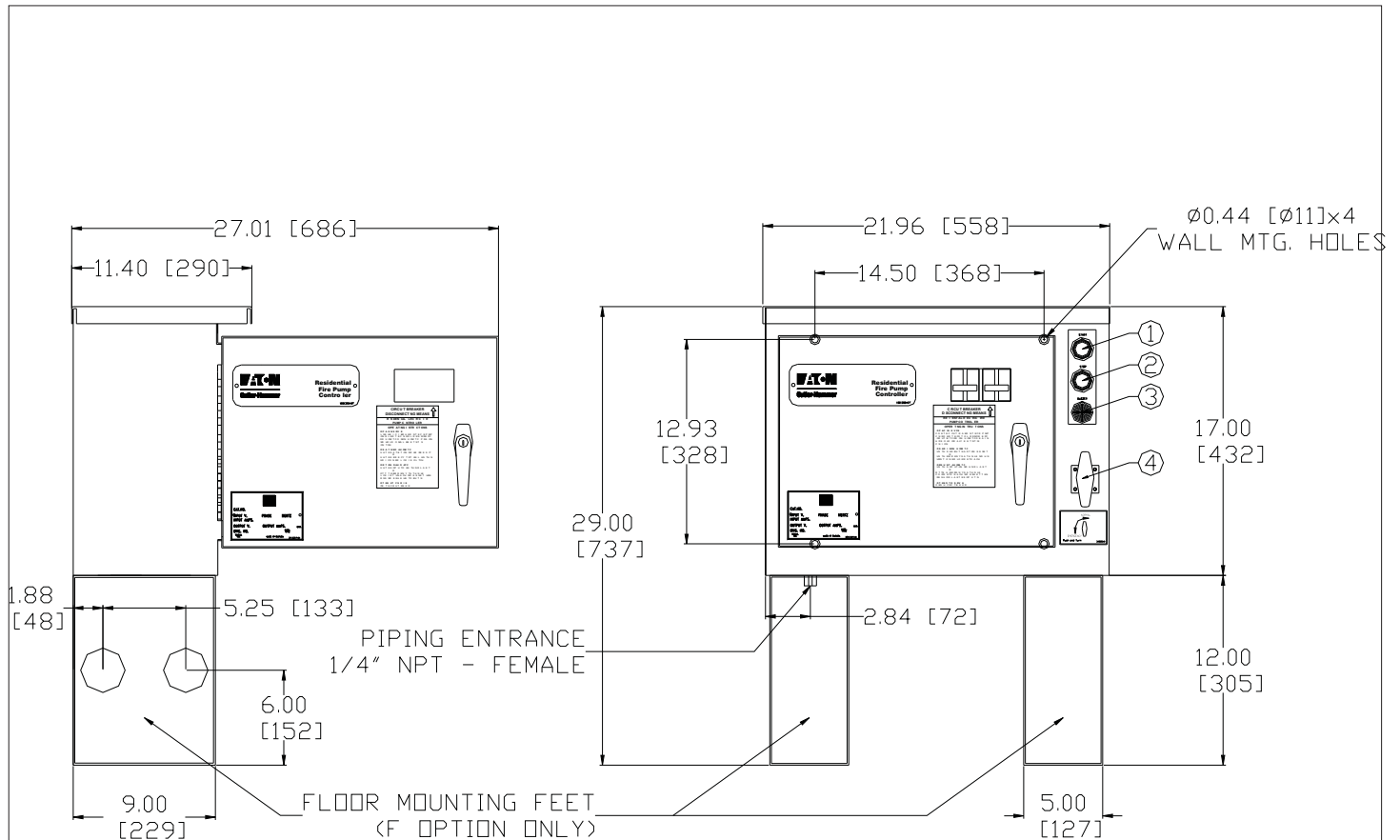
## Standards & Certification

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.

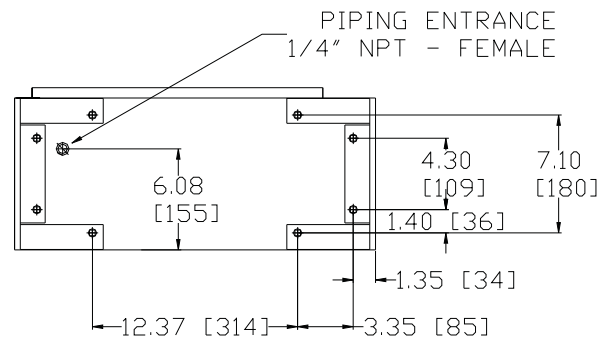


## Dimensions

### Standard Enclosure - Duplex - Type NEMA 2



- ① -START PUSHBUTTON / POWER ON LIGHT
- ② -STOP PUSHBUTTON / PUMP RUNNING LIGHT
- ③ -BUZZER
- ④ -MSH (EMERGENCY START HANDLE)

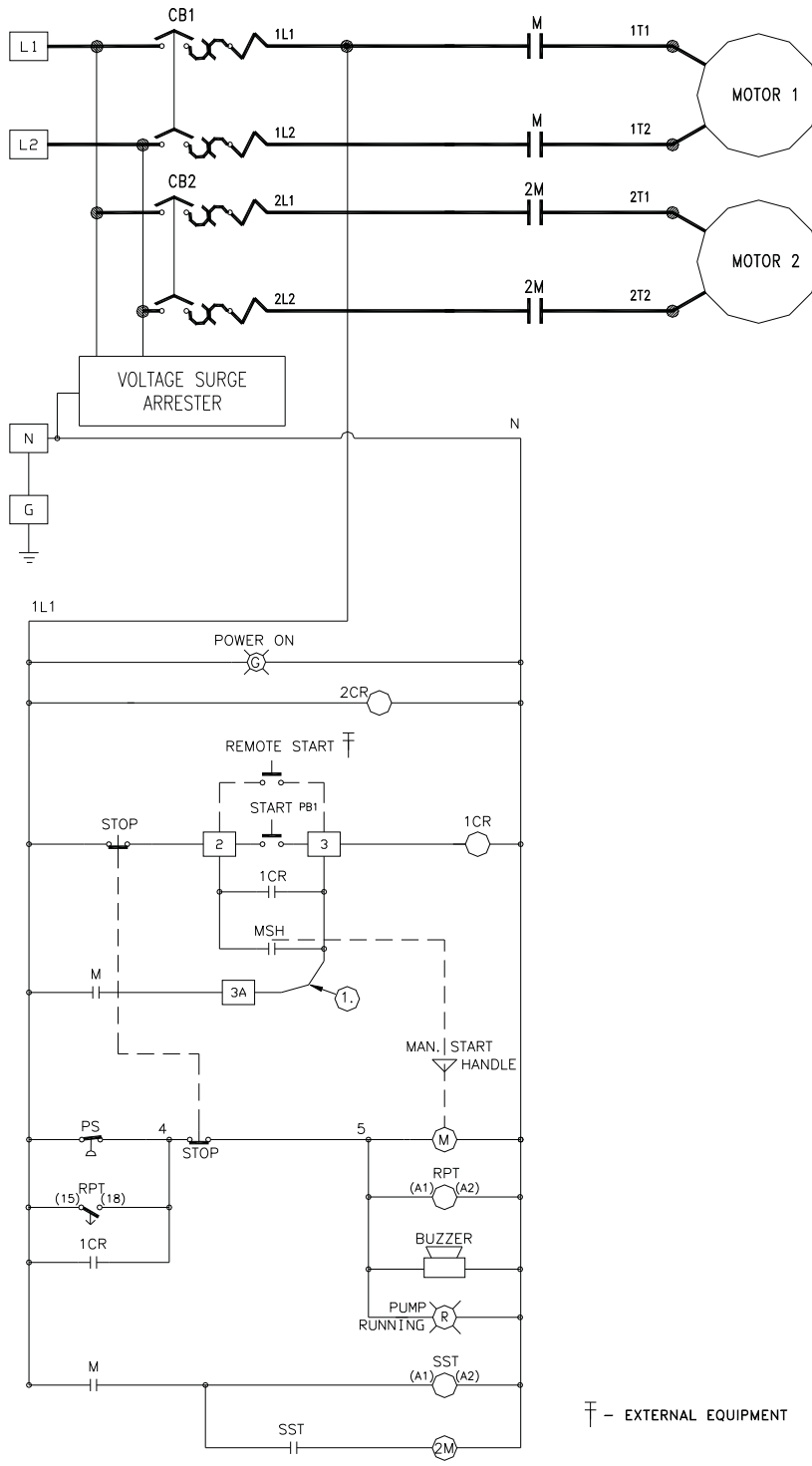


Motor Hp	Line Voltage	Withstand Rating		Approx. Weight Lbs. (Kg)
		Standard	Intermediate	
½ 10	230V Single Phase	10,000	22,000	60 (27)

#### 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



# TrimFit® Bronze Butterfly Valve

**INSIST** ON  
**F P P I**®

## Installation Instructions

### Description

TrimFit® Model BFT (Threaded Butterfly Valve) and Model BFG (Grooved Butterfly Valve) close slowly to prevent water hammer. The butterfly valves are designed to be installed in any orientation and monitored to signal if the valve is opened or closed. They are Listed and Approved for use in a fire sprinkler system.



### Installation

1. The valve can be installed in any orientation in a piping system with standard ASME B1.20.1 NPT or standard roll or cut grooved pipe.
2. When threading to pipe, apply PipeFit® or equivalent thread sealant or tape.
3. Use a wrench to cramp on the hexagon end of the valve.
4. The tamper switch features two switches: Switch-1 has dual leads on the terminals. This switch is used for connection of the supervisory circuit of a listed fire alarm control panel. Switch-2 has a single lead. This switch is used for connection of auxiliary equipment.
5. All the unused wires need to be capped with lead nuts and tucked into a junction box.
6. All connections need to be reviewed and approved by the appropriate jurisdictional authorities.

7. A No. 14 green wire is fixed inside the switch housing. It is provided as a ground for the housing.
8. The valves are intended for use with ANSI B36.10 Schedule 40 and/or Schedule 80 pipes, sizes 1", 1-1/4", 1-1/2", 2" and 2-1/2".

**NOTE: ALL REPLACEMENT PARTS MUST BE OBTAINED FROM THE MANUFACTURER TO ASSURE PROPER OPERATION OF THE VALVE, AND TO MAINTAIN APPROVAL OF THE DEVICE.**

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### Specifications

Rated to 300 PSI

**Switch rating:**

10.1Amps/125/250VAC-60Hz

**Actual switch application rating:**

10 Amps/115 VAC-60Hz

0.5 Amps/28 VDC

Indoor/Outdoor Use

### Materials

Body: Bronze ASTM 584  
C83600

Disc: SS304

Handwheel: ASTM A216 WCB

Seat: ASTM D2000 Viton

Indicator: Powder Metal

Housing/Cover: Forged Brass  
JIS C3771 (Ref. ASTM C37700)

### Available Sizes

TrimFit® Model BFT (Threaded)

06-500-00 1" UL/FM

06-502-00 1 1/4" UL/ULc/FM

06-504-00 1 1/2" UL/ULc/FM

06-506-00 2" UL/ULc/FM

06-508-00 2 1/2" UL/ULc/FM

TrimFit® Model BFG (Grooved)

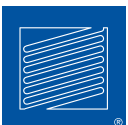
06-522-00 1 1/4" UL/ULc/FM

06-524-00 1 1/2" UL/ULc/FM

06-526-00 2" UL/ULc/FM

06-528-00 2 1/2" UL/ULc/FM

CA Bldg. Materials Listing #  
7770-2164-0100



3198 LIONSHEAD AVE  
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## Check Valve – 500 SB Series Certified Lead Free\*

- Silicon bronze cast body
- Silicon bronze cast poppet
- Female Threads
- Check Valves: 1/2" – 2" are VFD Compatible

\*Certified Lead Free to NSF/ANSI 372 and NSF/ANSI 61. Meets all State and Federal safe water drinking acts including California Prop 65.

All check valves furnished with Buna-N O-Ring, stainless steel spring, stainless steel washer and stainless steel locknut.

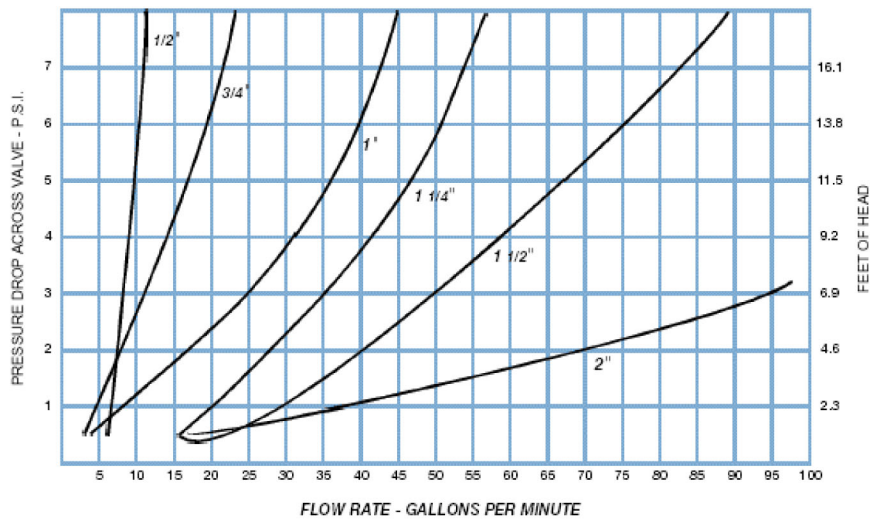
Made In U.S.A

Certified Lead Free



NSF/ANSI 372

3rd Party Certified Truesdail  
Laboratories



Simmons Manufacturing  
P.O. Box 1509  
McDonough, GA. 30253  
1608 Highway 20 East  
McDonough, GA. 30252  
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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

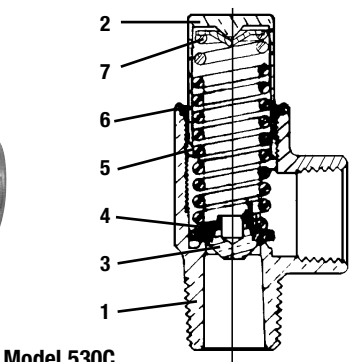
Maximum Temperature: 180°F (82°C)

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.

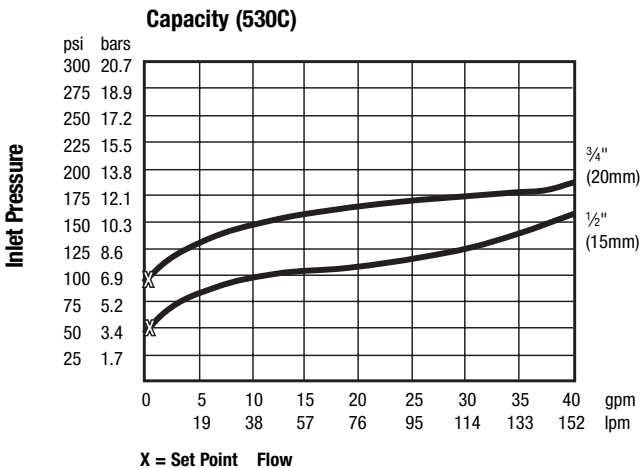
MODEL	SIZE (DN)		DIMENSIONS				WEIGHT	
	in.	mm	Height		Width		lbs.	kg.
			in.	mm	in.	mm		
530C	1/2 or 3/4	15 or 20	3	76	1 1/2	41	.37	0.17



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.



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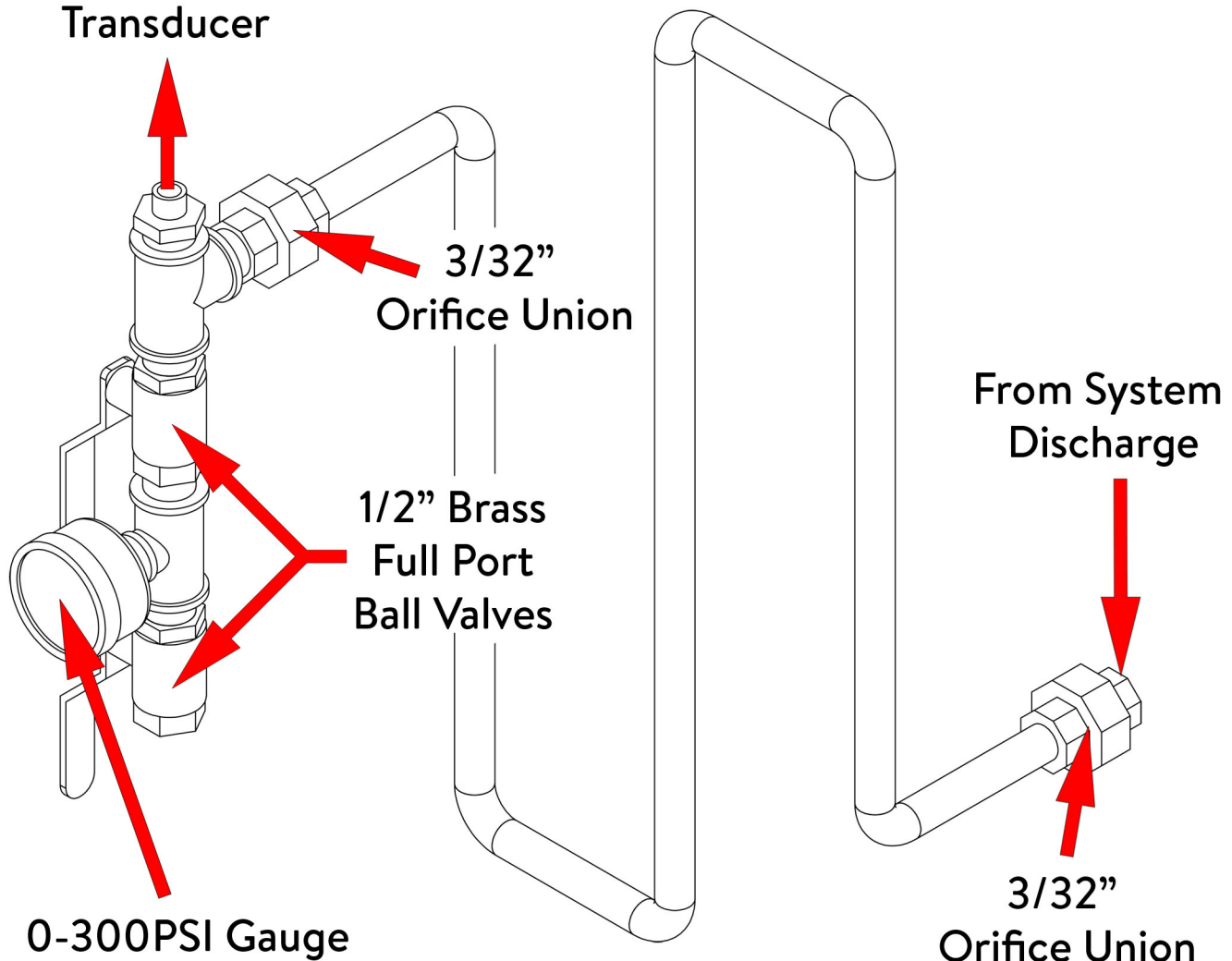
Water Safety & Flow Control Products



# 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