



**TALCO** **FIRE  
SYSTEMS**

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

**HDR-150**

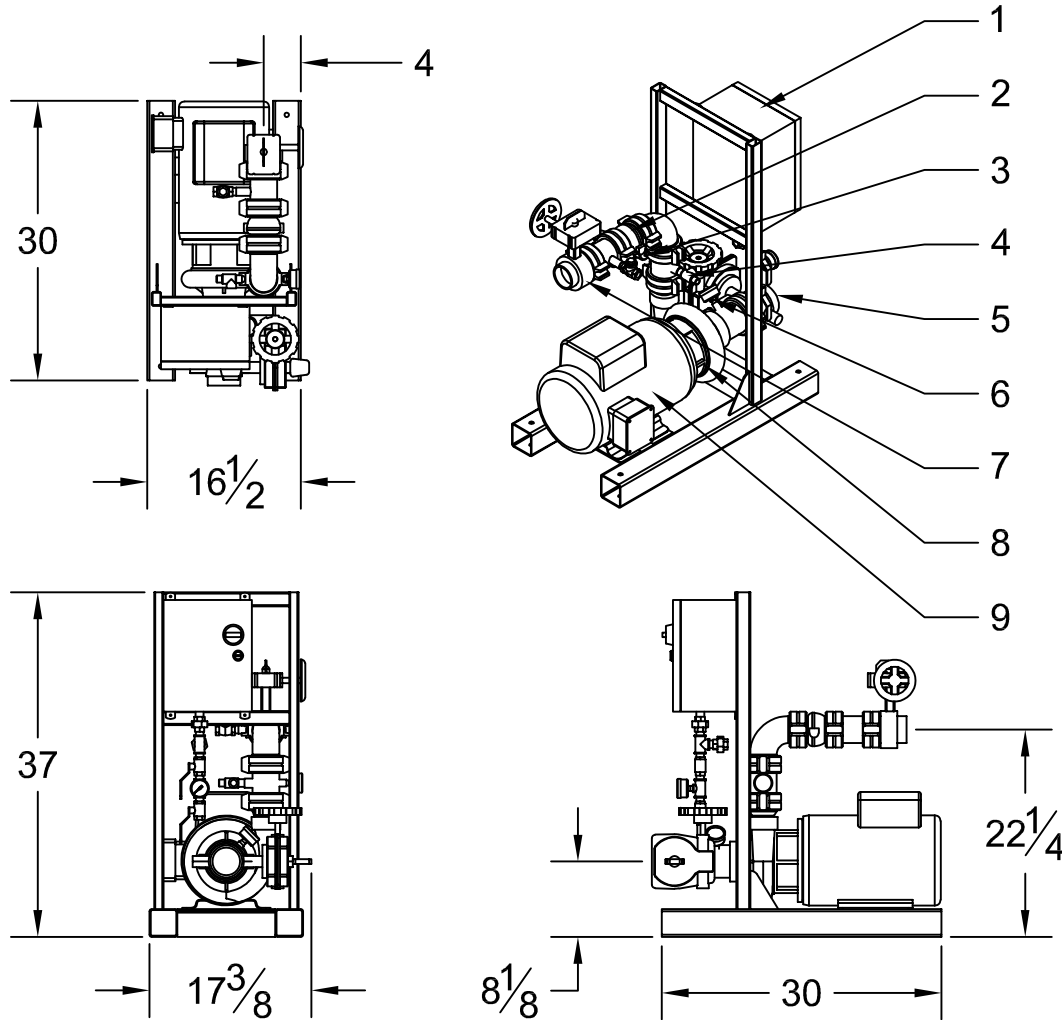
**150GPM Fire Pump Package**

**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.

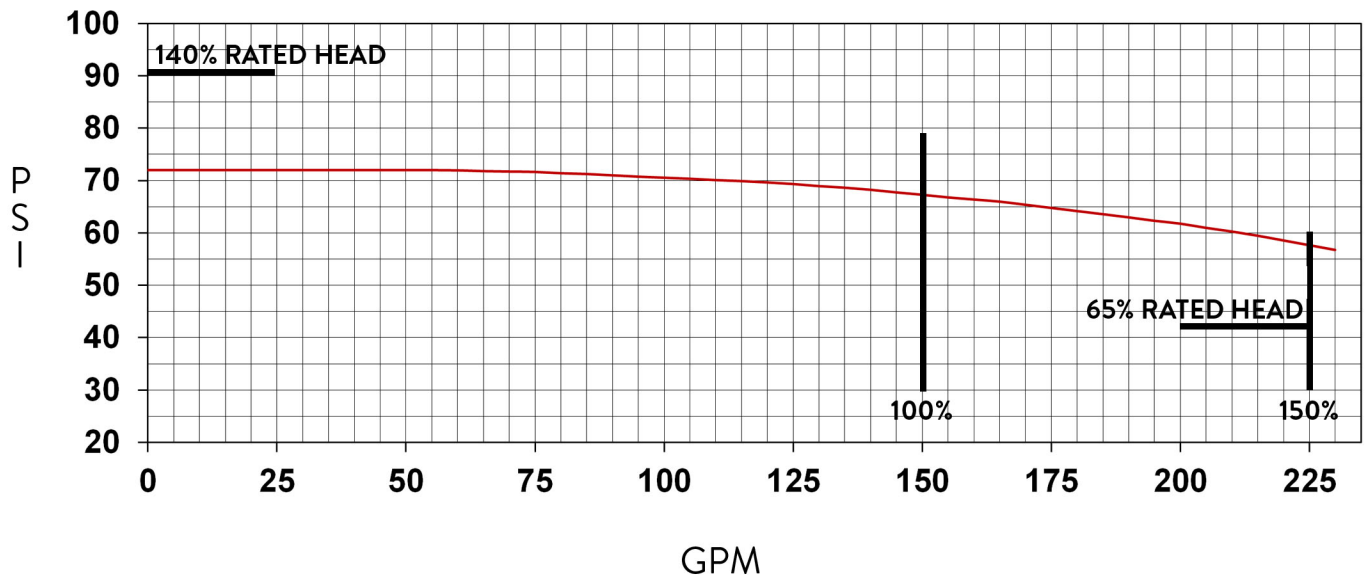


# TALCO **FIRE SYSTEMS**

## 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



# TORNATECH

**Project:** \_\_\_\_\_

**Customer:** \_\_\_\_\_

**Engineer:** \_\_\_\_\_

**Pump Manufacturer:** \_\_\_\_\_

## Technical Data Submittal Document

# Model JPLT

Across the Line Start  
Jockey Pump Controller

### Contents:

Data Sheets

Dimensional Data

Wiring Schematics

Field Connections

**Note:** The drawings included in this package are for controllers covered under our standard offering. Actual AS BUILT drawings may differ from what is shown in this package.



N.Y.C.  
APPROVED



July 2024



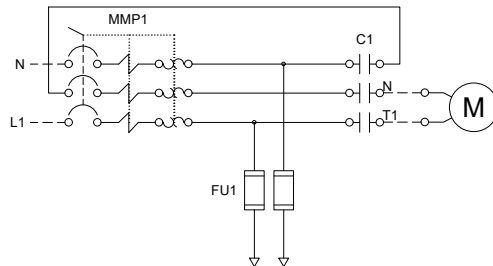
# TORNATECH

## Technical Data

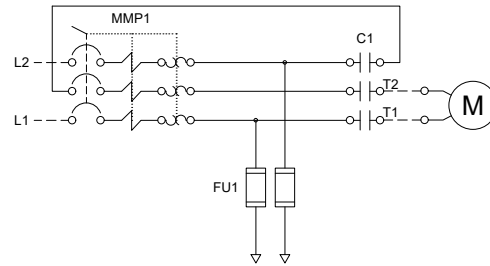
### Model JPLT Jockey Pump Controller

#### Select Incoming Voltage

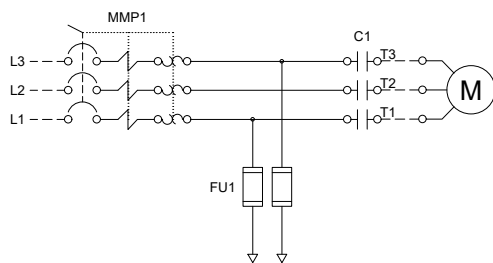
##### 110-120V



##### 200-240V



##### 200-600V



N.Y.C.  
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OPTIONAL

Listing	Underwriters Laboratory (UL)	UL508A - Industrial Pump Controllers
	New York City	Accepted for use in the City of New York by the Department of Buildings
	Optional	
	CE Mark	Various EN, IEC & CEE directives and standards
Enclosure	<b>Protection Rating</b> Standard: NEMA 2 <b>Optional</b> NEMA 12                      NEMA 4X-304 sst painted NEMA 3                        NEMA 4X-304 sst brushed finish NEMA 3R                      NEMA 4X-316 sst painted NEMA 4                        NEMA 4X-316 sst brushed finish	
	<b>Accessories</b> • Wall mounting lugs ( x4)	<b>Paint Specifications</b> • Red RAL3002 • Powder coating • Glossy textured finish



### Short circuit current rating

	Voltage						
	Single Phase		Three Phase				
HP	110 - 120V	200 - 240V	200 - 208V	220 - 240V	380 - 415V	440 - 480V	600V
0.25	65kA	65kA	65kA	65kA	65kA	65kA	10kA
0.5	65kA	65kA	65kA	65kA	65kA	65kA	10kA
0.75	42kA	65kA	65kA	65kA	65kA	65kA	10kA
1	42kA	65kA	65kA	65kA	65kA	65kA	10kA
1.5	42kA	65kA	65kA	65kA	65kA	65kA	10kA
2	42kA	65kA	65kA	65kA	65kA	65kA	10kA
3	CF	42kA	65kA	65kA	65kA	65kA	10kA
4	CF	42kA	42kA	42kA	65kA	65kA	10kA
5	CF	42kA	42kA	42kA	65kA	65kA	10kA
5.5	CF	CF	42kA	42kA	65kA	65kA	10kA
7.5	CF	CF	42kA	42kA	42kA	65kA	10kA
10	CF	CF	CF	42kA	42kA	42kA	10kA
15	CF	CF	CF	CF	42kA	42kA	5kA
20	CF	CF	CF	CF	CF	42kA	5kA
25	CF	CF	CF	CF	CF	CF	5kA



<b>Fuseless Motor Starter</b>	<ul style="list-style-type: none"> <li>• Type -F fuse-less magnetic motor starter</li> <li>• Rotary handle, padlockable</li> <li>• Door interlocked</li> </ul>		
<b>Control Circuit</b>	<ul style="list-style-type: none"> <li>• 24V.AC</li> </ul>		
<b>ViZiLT Operator Interface</b>	<ul style="list-style-type: none"> <li>• High luminosity alphanumeric digital display</li> <li>• HAND-OFF-AUTO pushbuttons</li> <li>• MENU navigation pushbuttons</li> </ul>		
<b>Pressure Sensing</b>	<ul style="list-style-type: none"> <li>• Pressure transducer for fresh water application 316 stainless steel construction</li> <li>• Rated for 0-600psi working pressure</li> <li>• Pressure sensing line connection 1/2" brass Male NPT</li> </ul>		
<b>Visual Indications</b>	<ul style="list-style-type: none"> <li>• H-O-A position</li> <li>• System pressure</li> <li>• Cut-out and Cut-In pressure setting</li> <li>• Manual motor run</li> <li>• Automatic motor run</li> <li>• Motor overload (occured)</li> <li>• Pump start counter</li> <li>• Elapsed time meter (hours / non-resettable)</li> </ul>		
<b>Timers</b>	<ul style="list-style-type: none"> <li>• Minimum run timer (off delay)</li> <li>• Delay start timer (on delay)</li> <li>• Visual countdown</li> </ul>		
<b>Counters</b>	<ul style="list-style-type: none"> <li>• Pump start counter</li> <li>• Elapsed timer meter (hours / non-resettable)</li> </ul>		
<b>Operators</b>	<ul style="list-style-type: none"> <li>• Main disconnect handle</li> <li>• HAND-OFF-AUTO pushbuttons</li> <li>• MENU navigation pushbuttons</li> </ul>		
<b>Operation</b>	Automatic Start	Start on pressure drop	
	Manual Start	Start pushbutton	
	Stopping	Stop pushbutton	
	Timers	Field adjustable & visual countdown	<ul style="list-style-type: none"> <li>• Minimum run timer (off delay)</li> <li>• Delay start timer (on delay)</li> </ul>



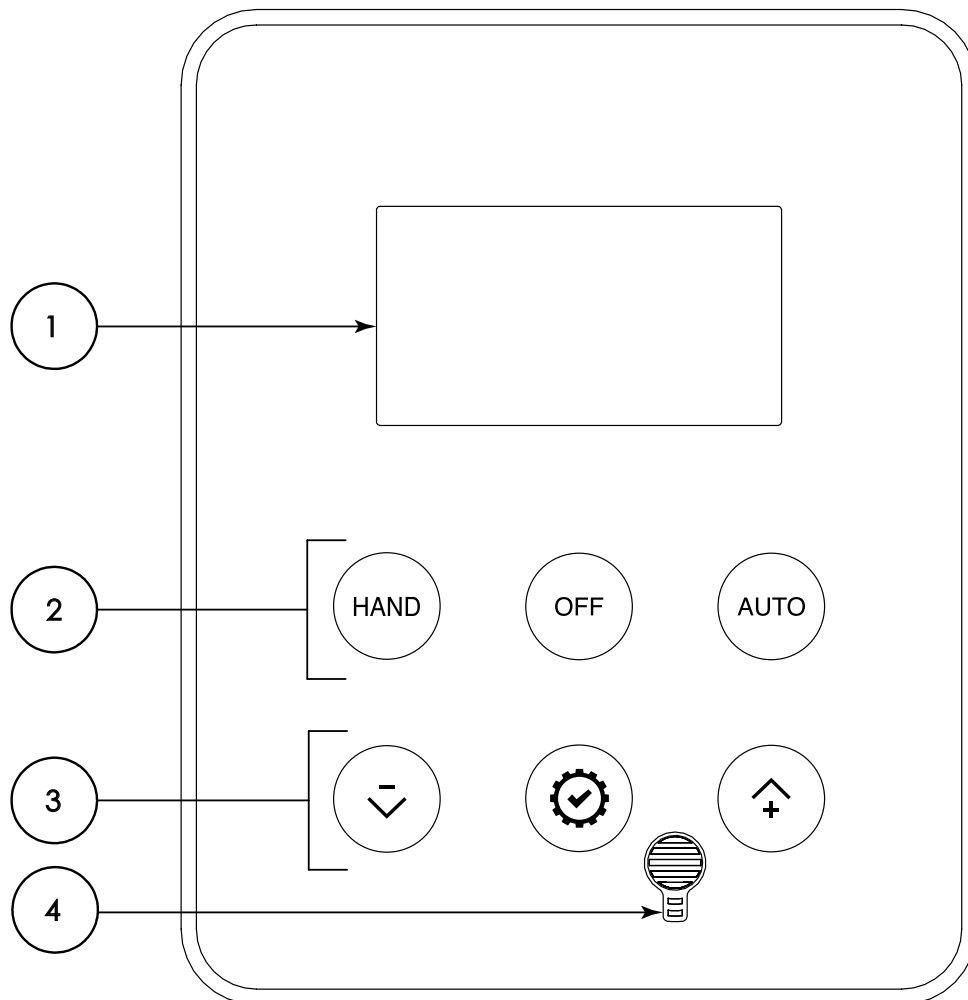
A5	Motor run alarm contact
A6	Loss of power alarm contact
A7	Overload or short circuit alarm contact
D11D	Pressure transducer 0-600psi with ½" MNPT 316 stainless steel bushing
D13A	Externally mounted wetted parts
D18	Audible alarm
D19	Anti-condensation heater and thermostat
D20	Anti-condensation heater and humidistat
D21	Tropicalization
D22	Phase reversal / failure pilot light and alarm contact
D23	Controller power healthy pilot light and alarm contact
D24	Pump failure via current sensing relay with pilot light and dry alarm contact
D25	Low zone pump control function
D26	Mid zone pump control function
D27	High zone pump control function
D28	Controller in AUTO alarm contacts
D29	Controller not in AUTO alarm contacts
D30	Motor heater circuit
D35	Seismic Certification compliant to CBC 2019, IBC 2018 rigid base/wall mounted only
D36	Special Seismic Certification compliant to OSHPD rigid base/wall mounted only
D37	100kA high short circuit withstand rating for 200V to 600V

L01	Other language and English (bilingual)
L02	French
L03	Spanish
L04	German
L05	Italian
L06	Polish
L07	Romanian
L08	Hungarian
L09	Slovakian
L10	Croatian
L11	Czech
L12	Portuguese
L13	Dutch
L15	Turkish
L16	Swedish
L21	Danish
L28	Finnish
L29	Norwegian

Note: Options chosen from this page are not electrically represented on the wiring schematics in this submittal package.



### ViZiLT Operator Interface



- 1 - High luminosity alphanumeric digital display
- 2 - HAND-OFF-AUTO pushbuttons
- 3 - MENU navigation pushbuttons
- 4 - Audible Alarm



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BY DD/MM/YY

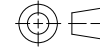
DRAWN BY ACD 15/05/23

FINAL APPROVAL FC 15/05/23

## JOCKEY PUMP CONTROLLER

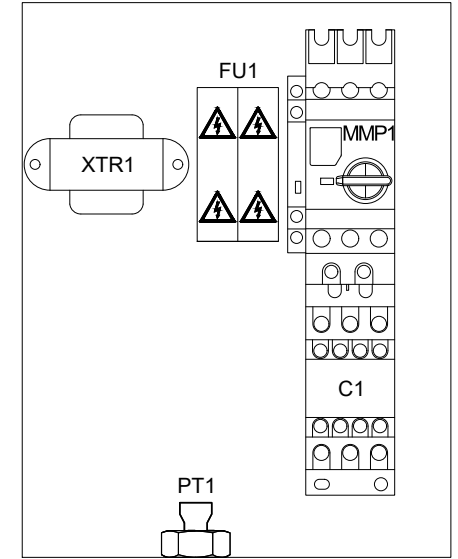
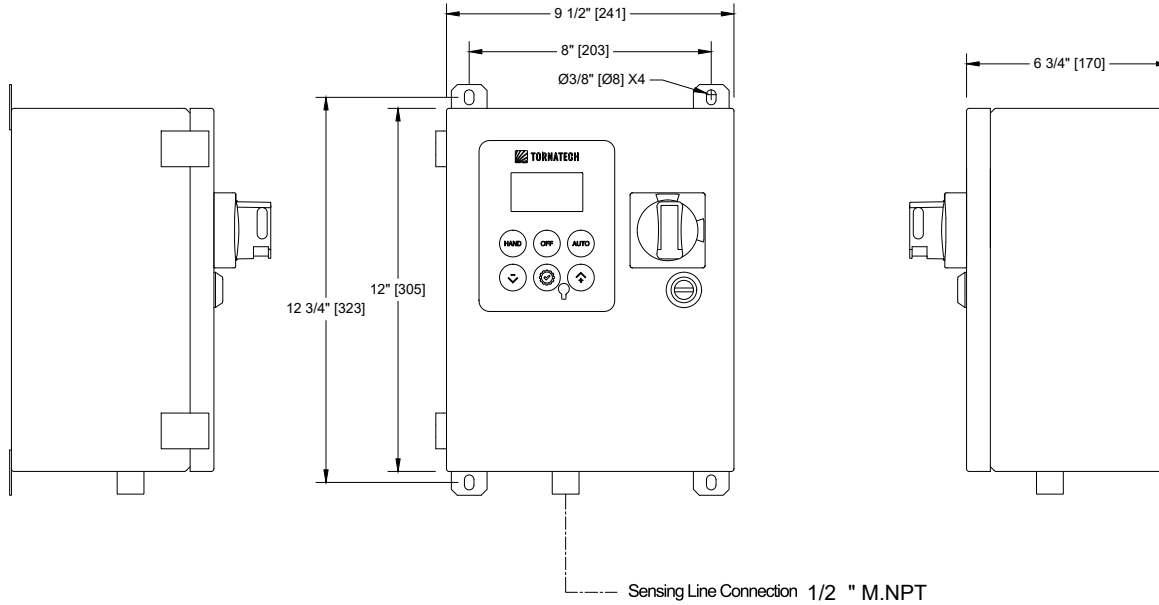
**MODEL: JPLT**

BUILT TO THE LATEST EDITION OF THE UL 508A

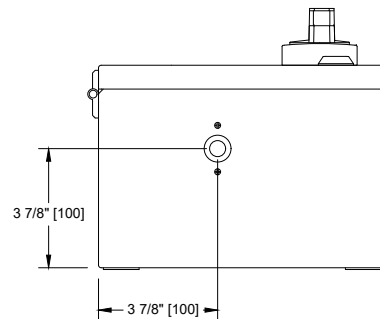


THIRD ANGLE  
PROJECTION

DRAWING NUMBER  
**JPLT-DI001/E**  
DWG REV. 0  
SHEET 1 OF 1



Standard Internal Layout



Voltage / Power Table	
Voltage	Max HP
1 Phase	
110 - 120	2
200 - 208	5
220 - 240	5
3 Phases	
200 - 208	7.5
220 - 240	10
380 - 400 - 415	15
440 - 480	20
600	25

### Notes:

- Standard NEMA: NEMA 2
- Standard Paint: Textured Red RAL 3002.
- All Dimensions are in Inches [Millimeters]
- Use Watertight Conduit and Connector Only.
- Protect Equipment Against Drilling Chips.
- Door Swing Equal to Door Width

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice.

Contact manufacturer for "As Built" drawing.

\*Dimensions may change depending on option required. Consult Factory for exact dimensions.



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## JOCKEY PUMP CONTROLLER ACROSS THE LINE / 1 PHASE

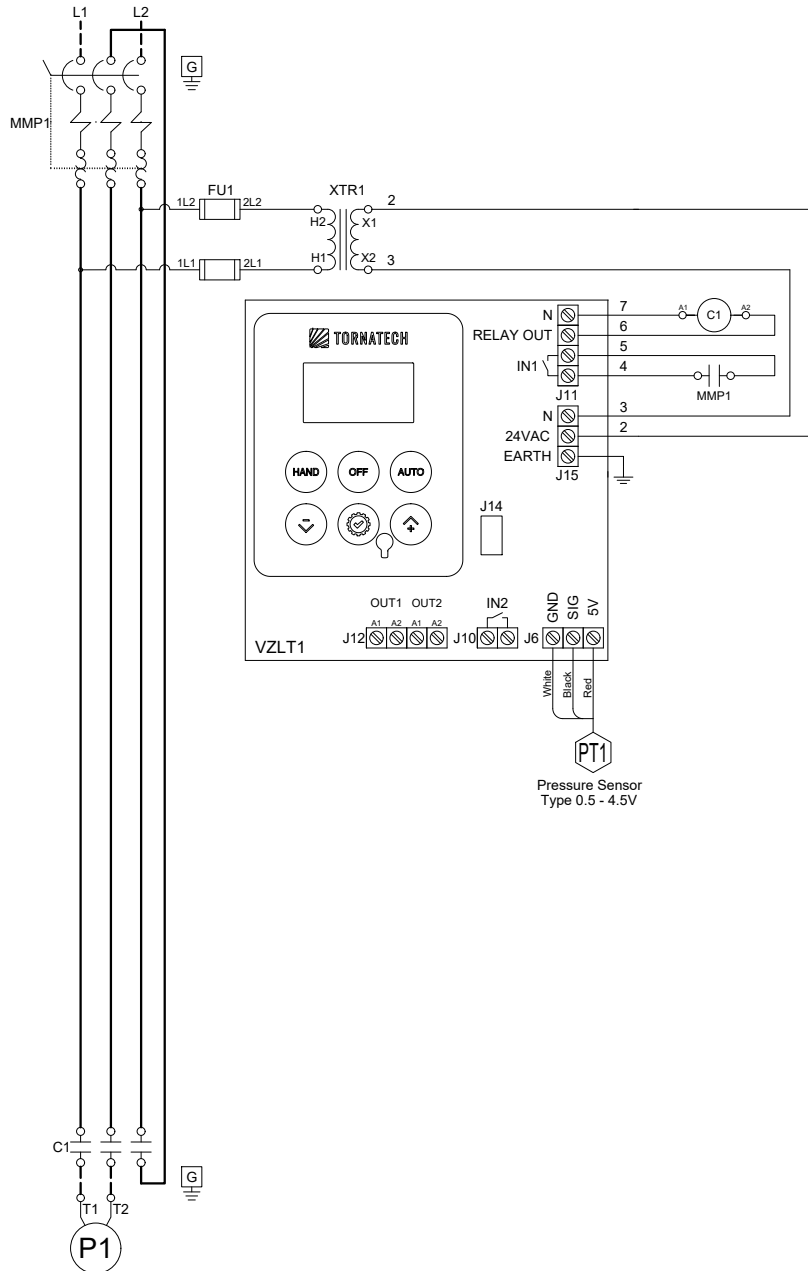
**MODEL: JPLT**

BUILT TO THE LATEST EDITION OF THE UL 508A



NYC  
Dpt of Building  
Approved

DRAWING NUMBER  
**JPLT-WS002/E**  
DWG REV. 0  
SHEET 1 OF 1





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FINAL APPROVAL FC 15/05/23

## JOCKEY PUMP CONTROLLER ACROSS THE LINE / 1 PHASE

**MODEL: JPLT**

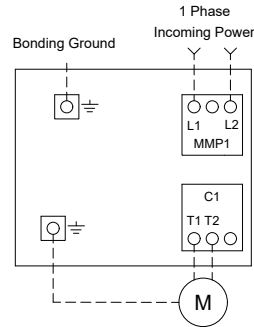
BUILT TO THE LATEST EDITION OF THE UL 508A



NYC  
Dpt of Building  
Approved

DRAWING NUMBER  
**JPLT-TD002/E**  
DWG REV. 0  
SHEET 1 OF 1

### Power Connections and Motor Connections



Line Terminals (L1,L2,GND)

Maximum Motor Horsepower		Wire Size Copper Only	Torque	Wire Size Ground Copper Only
200-208V	220-240V			
5HP	5HP	#14 AWG - #8 AWG	2.5 Nm	#14 AWG - #2 AWG

Motor Terminals (T1,T2,GND)

Maximum Motor Horsepower		Wire Size Copper Only	Torque	Wire Size Ground Copper Only
200-208V	220-240V			
1.5HP	1.5HP	#14 AWG - #10 AWG	1.7 Nm	#14 AWG - #2 AWG
5HP	5HP	#14 AWG - #8 AWG	2.5 Nm	#12 AWG - #2 AWG

# 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)

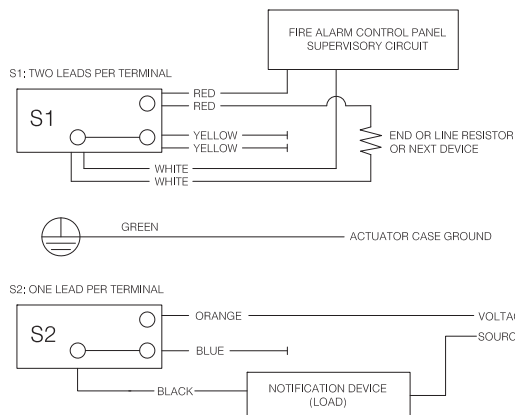
#### Valve Size

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

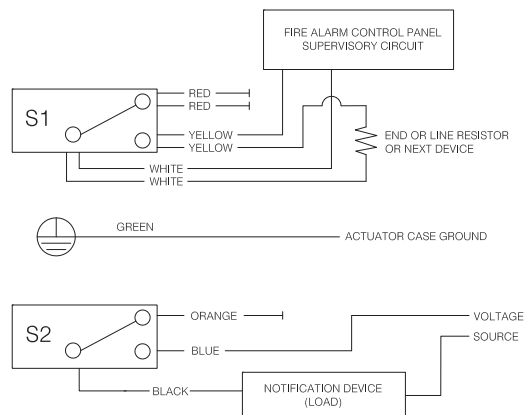
### Reliable Supervised Butterfly Valve Wiring Diagram - Valve in Supervised Position

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

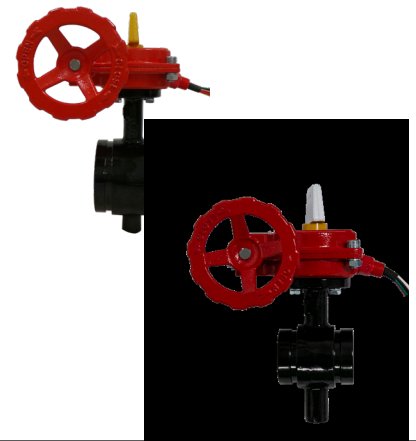
**Body:** Ductile Iron ASTM A-536 Nylon-11 Coated  
**Disc:** ASTM A-536 EPDM Encapsulated  
**Upper and Lower Stems:** AISI 420-SS  
**Housing:** ASTM A-536  
**Hand Wheel:** ASTM A-536  
**Flag Indicator:** ASTM A-536  
**Shear Pin:** ASTM A-510  
**Segment Gear:** ASTM B-148 or B-584  
**Housing Gasket:**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

### Specifications

Groove Inlet: AWWA C 606

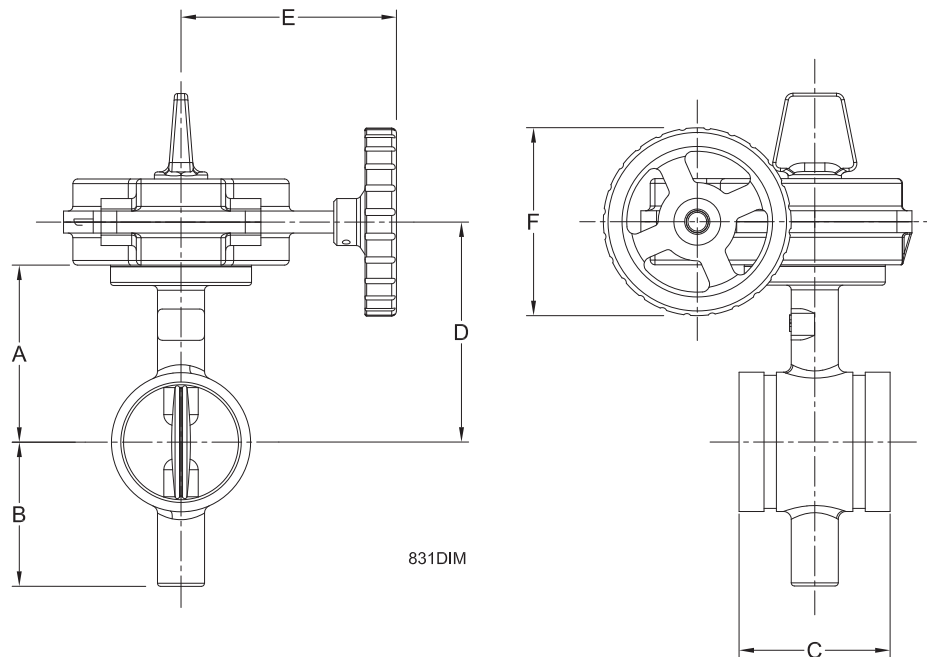
### Listings and Approvals

cULus Listed  
 FM Approved



Reliable Supervised Butterfly Valve Specification and Dimensions

Figure 2



Dimensions - in. (mm)

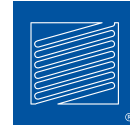
Table B

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

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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

**INSIST** ON  
FPPI®

# 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

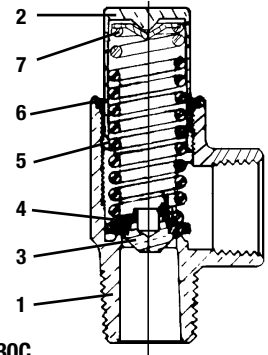
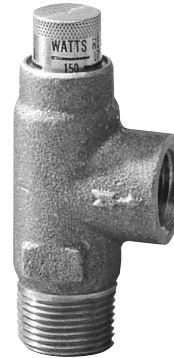
Maximum Temperature: 180°F (82°C)

### 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.

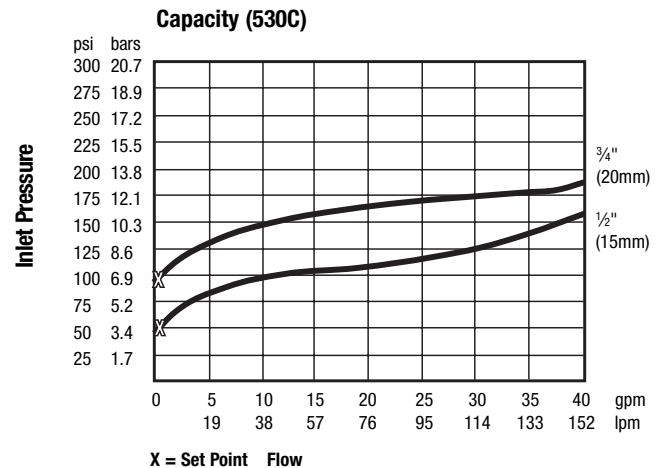
MODEL	SIZE (DN)		DIMENSIONS				WEIGHT	
	in.	mm	Height		Width		lbs.	kg.
			in.	mm	in.	mm		
530C	1/2 or 3/4	15 or 20	3	76	1 1/2	41	.37	0.17



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.



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)

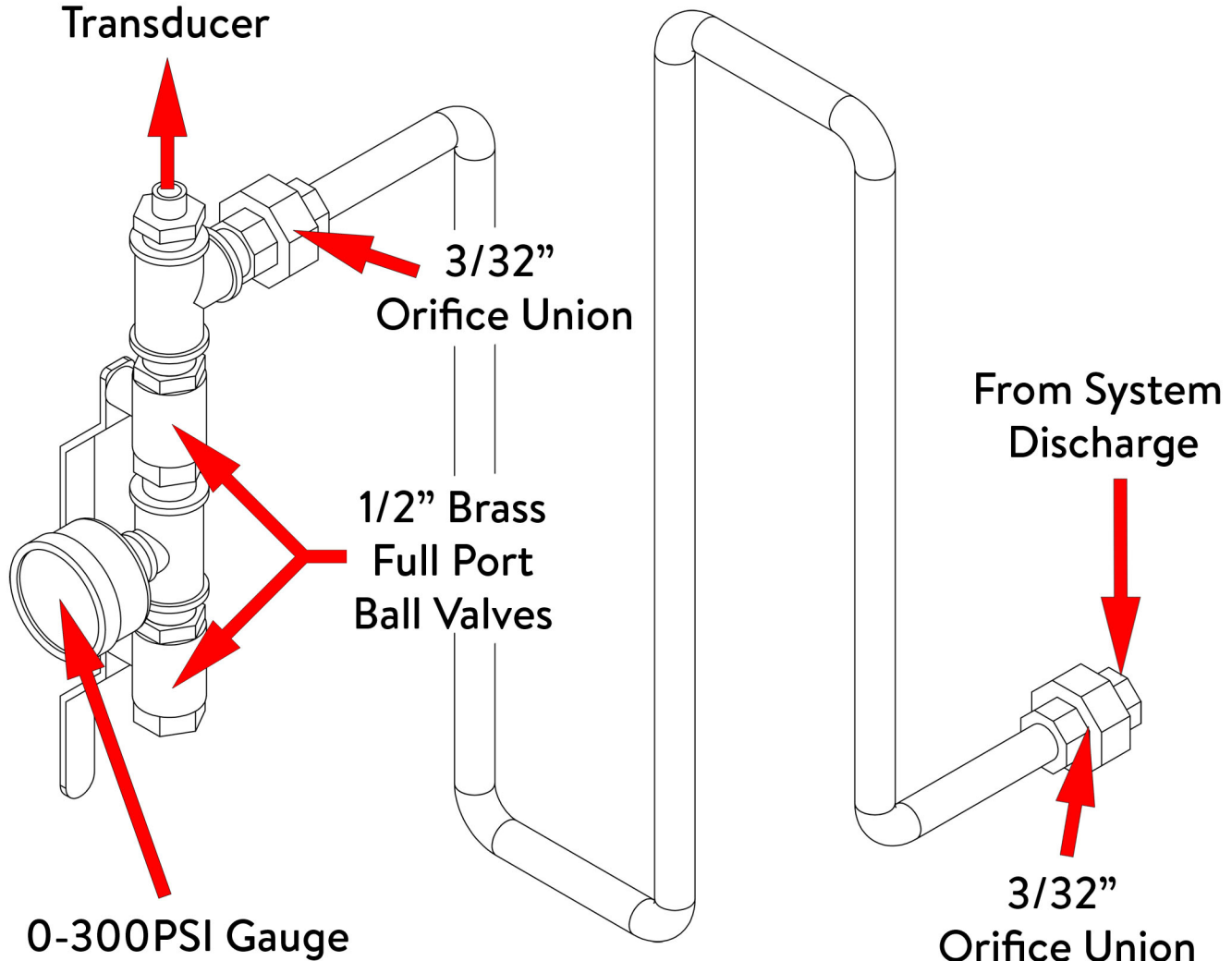




# TALCO FIRE SYSTEMS

## 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