



**TALCO** **FIRE  
SYSTEMS**

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

**HDR-100**

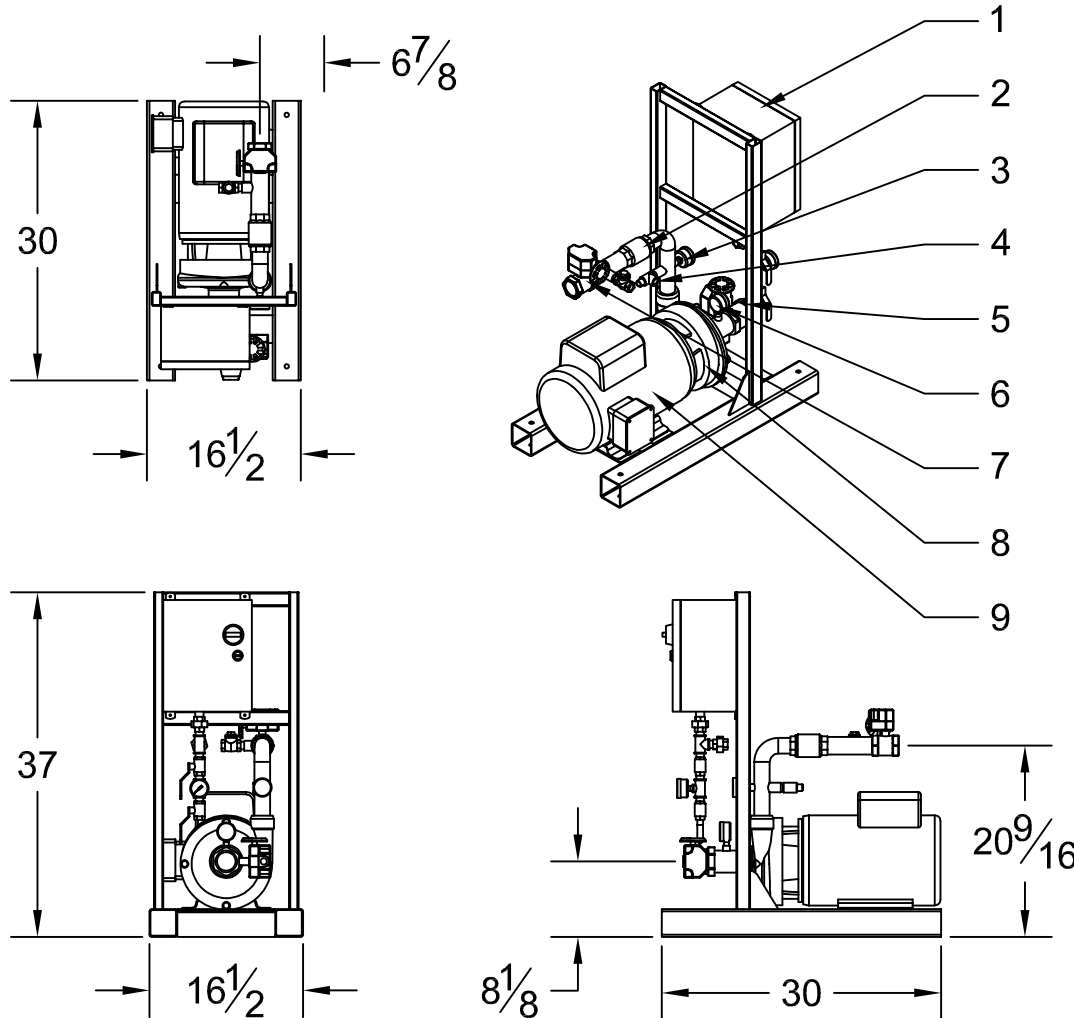
**100GPM Fire Pump Package**

**Submittal Packet**

## Residential Packaged Fire Pump System

## HDR-100

Heavy Duty Residential Package  
Design Condition: 100GPM @ 83PSI



### System Specifications:

#### Motor

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

#### Pump

- End Suction Centrifugal Pump
- 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	25	50	75	100	125	150
PSI	98	96	94	90	83	72	60

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

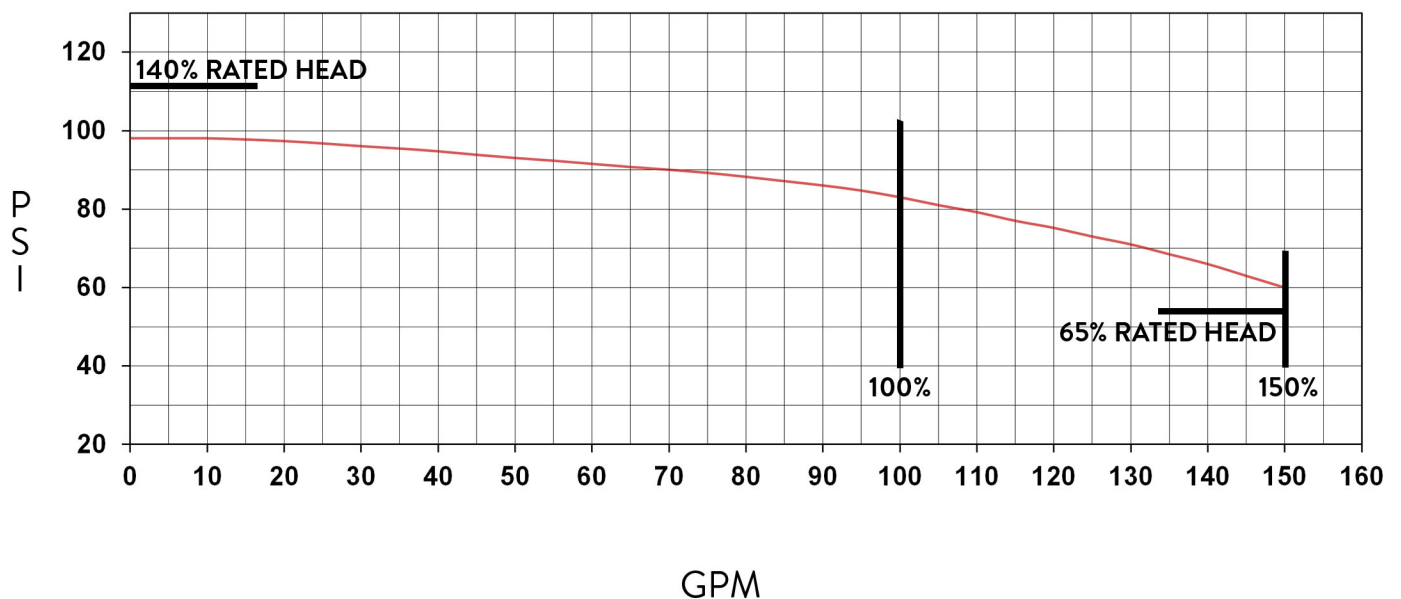


# TALCO FIRE SYSTEMS

## HDR-100

### PUMP DATA

100GPM @ 83PSI



### 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
- 2" SUCTION
- 1 1/2" 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

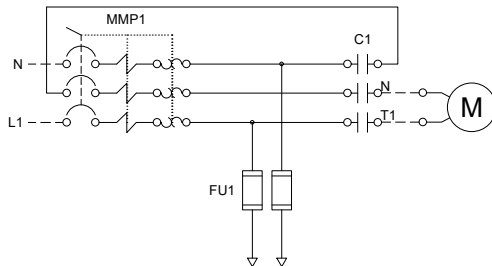


July 2024

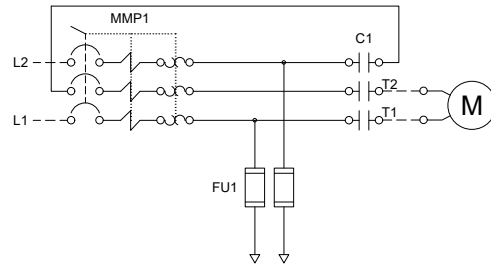


#### Select Incoming Voltage

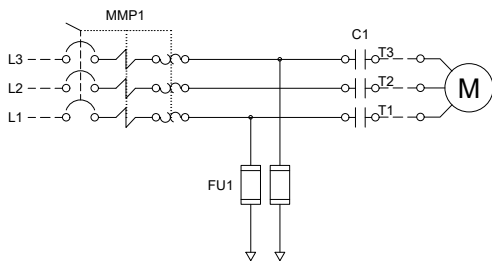
##### 110-120V



##### 200-240V



##### 200-600V



N.Y.C.  
APPROVED



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>



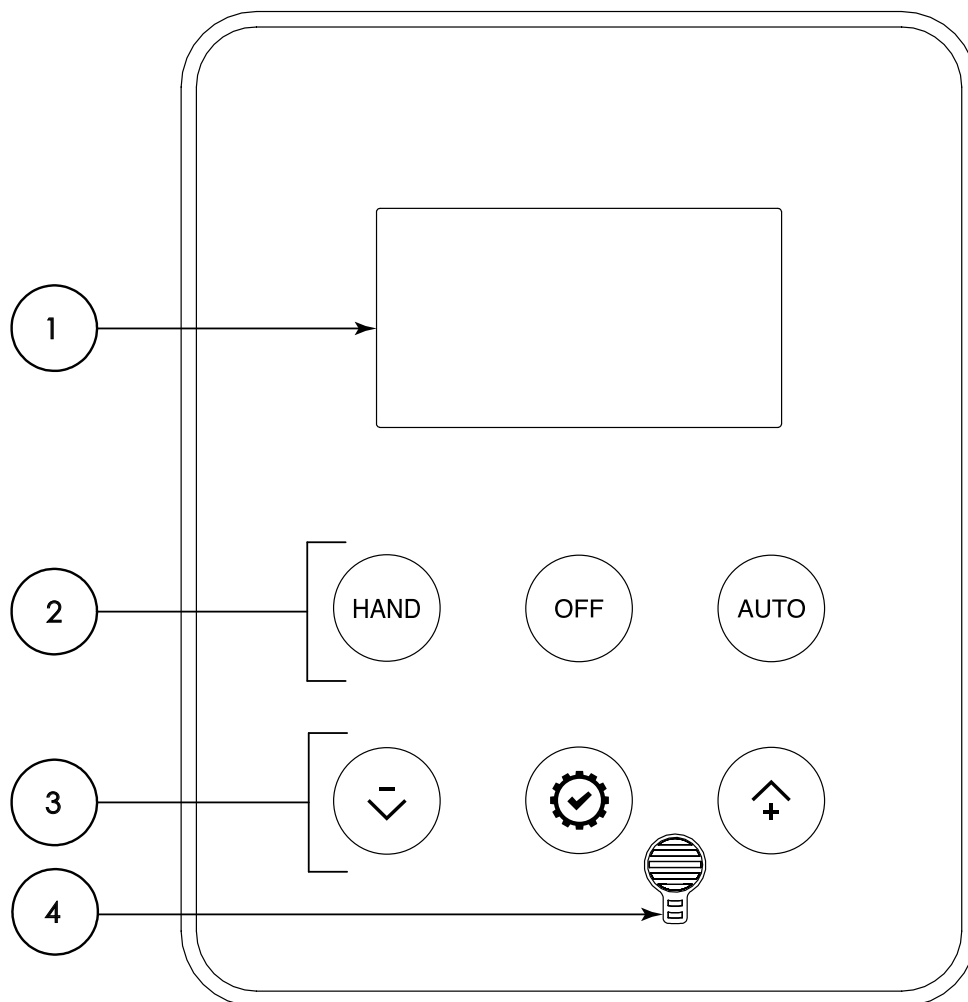
A5	Motor run alarm contact
A6	Loss of power alarm contact
A7	Overload or short circuit alarm contact
D11D	Pressure transducer 0-600psi with ½" MNPT 316 stainless steel bushing
D13A	Externally mounted wetted parts
D18	Audible alarm
D19	Anti-condensation heater and thermostat
D20	Anti-condensation heater 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



**TORNATECH**

© Tornatech, Inc. Not for construction.  
Subject to change without notice.

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



NYC  
Dpt of Building  
Approved

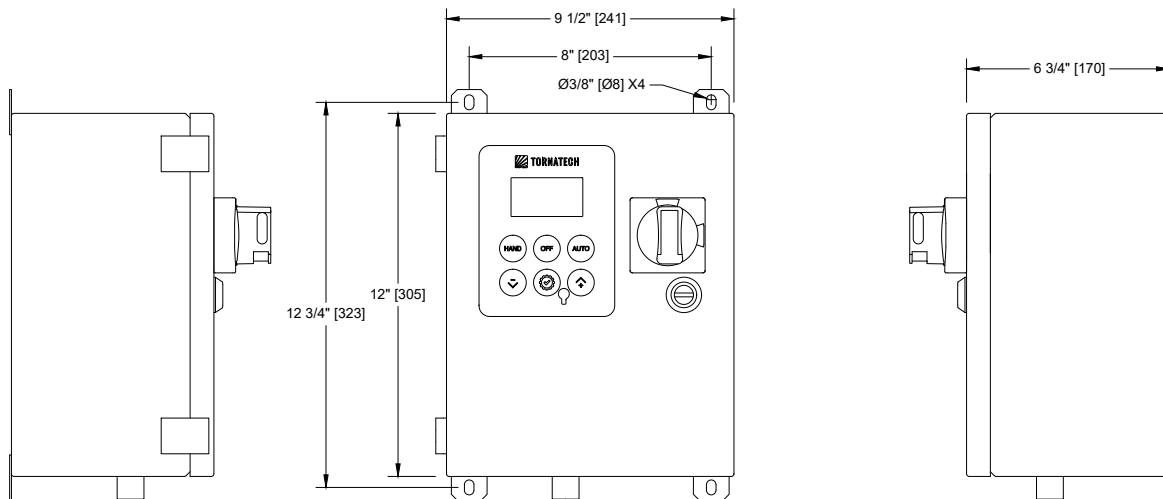


THIRD ANGLE  
PROJECTION

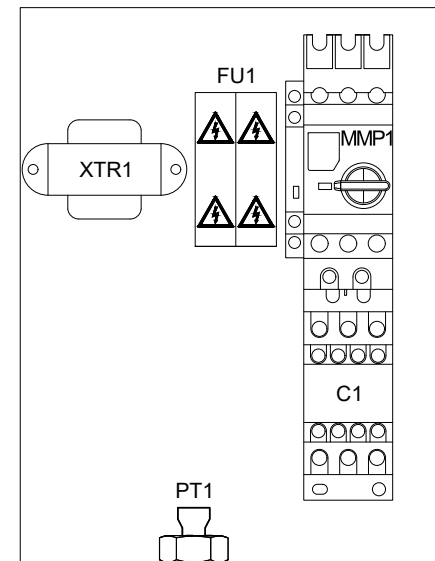
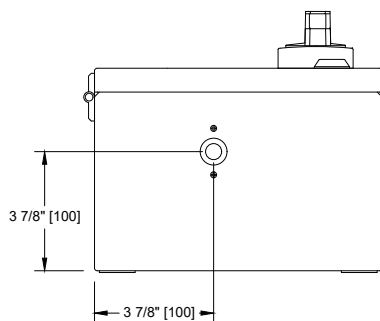
DRAWING NUMBER  
**JPLT-DI001/E**

DWG REV. 0

SHEET 1 OF 1



Sensing Line Connection 1/2 " M.NPT



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.



**TORNATECH**

© Tornatech, Inc. Not for construction.  
Subject to change without notice.

BY DD/MM/YY

DRAWN BY ACD 15/05/23

FINAL APPROVAL FC 15/05/23

# JOCKEY PUMP CONTROLLER ACROSS THE LINE / 1 PHASE

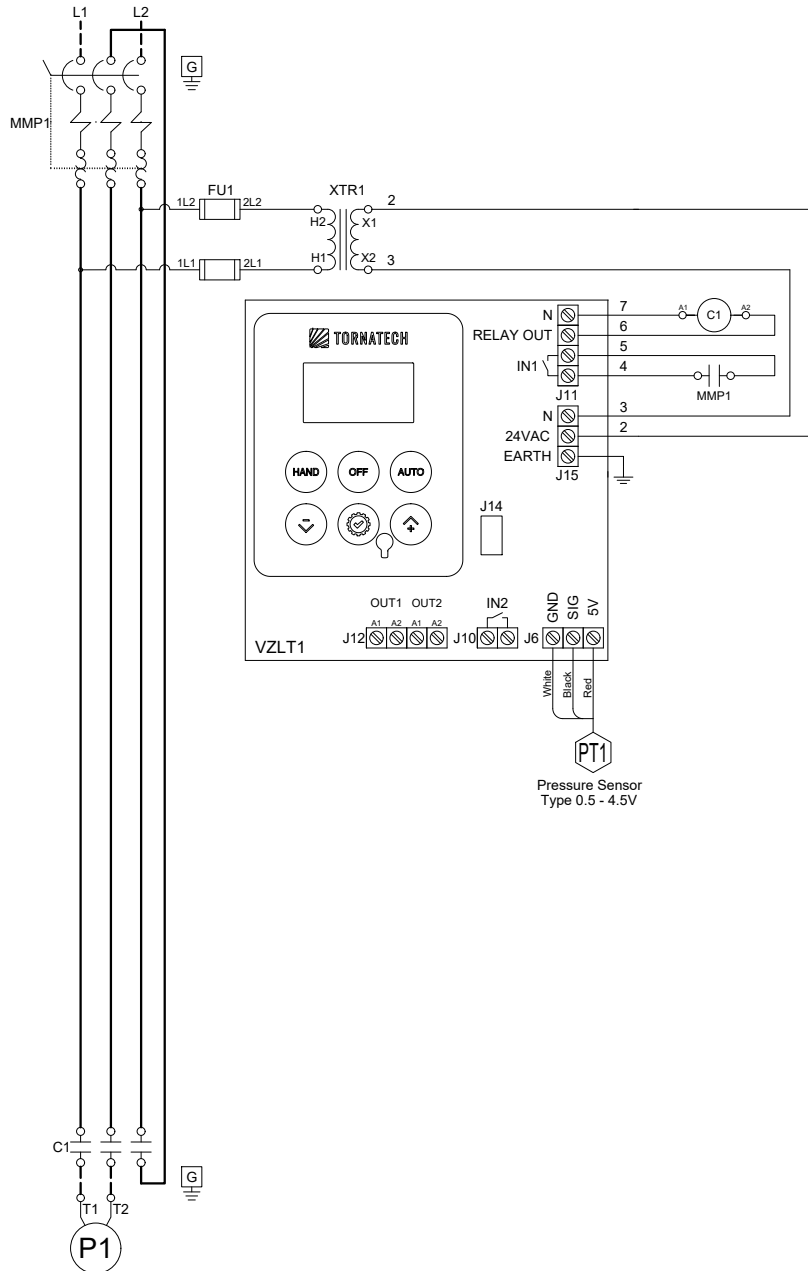
**MODEL: JPLT**

BUILT TO THE LATEST EDITION OF THE UL 508A



NYC  
Dpt of Building  
Approved

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





**TORNATECH**

© Tornatech, Inc. Not for construction.  
Subject to change without notice.

BY DD/MM/YY

DRAWN BY ACD 15/05/23

FINAL APPROVAL FC 15/05/23

## JOCKEY PUMP CONTROLLER ACROSS THE LINE / 1 PHASE

**MODEL: JPLT**

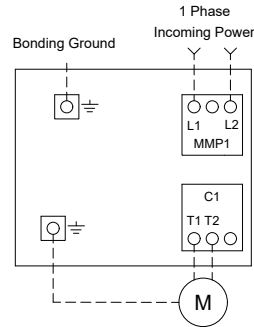
BUILT TO THE LATEST EDITION OF THE UL 508A



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

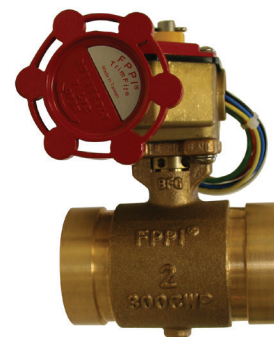
# TrimFit® Bronze Butterfly Valve

**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", 1-¼", 1-½", 2" and 2-½".

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

The information contained herein is produced in good faith and is believed to be reliable but is provided for guidance and information purposes only. FPPI and its agents cannot assume liability or responsibility for results obtained in the use or misuse of its product by persons whose methods and qualifications are outside and beyond our control. It is the user's responsibility to determine the suitability of, methods of use, preparation prior to use, and appropriate installation for all products purchased from FPPI. It is the user's sole responsibility to observe and adapt such precautions as may be advisable or necessary for the protection of personnel and property in the handling and use of any of our products.

### 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 1¼" UL/ULc/FM  
06-504-00 1½" UL/ULc/FM  
06-506-00 2" UL/ULc/FM  
06-508-00 2½" UL/ULc/FM

TrimFit® Model BFG (Grooved)  
06-522-00 1¼" UL/ULc/FM  
06-524-00 1½" UL/ULc/FM  
06-526-00 2" UL/ULc/FM  
06-528-00 2½" UL/ULc/FM

CA Bldg. Materials Listing #  
7770-2164-0100



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

© 2016 Fire Protection Products, Inc.

**WWW.FPPI.COM**





## 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.

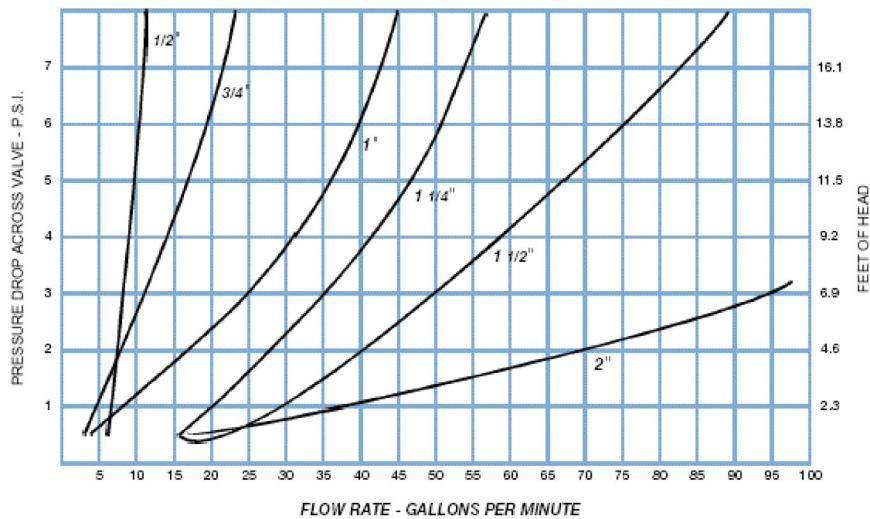
Made In U.S.A

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  
USA

Call our Live Support Team!  
(800) 241-1935

Quality Assurance is Top Priority at  
Simmons.

# 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

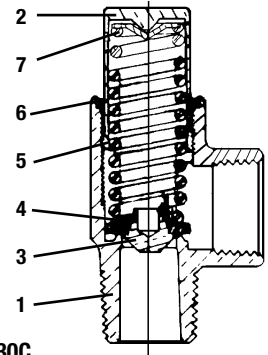
Maximum Temperature: 180°F (82°C)

### 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.

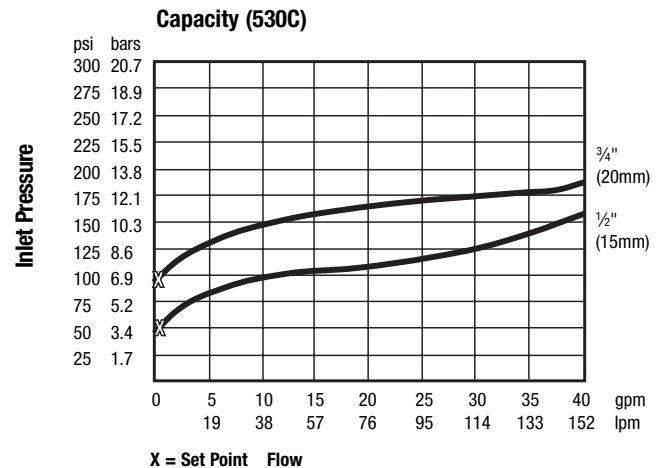
MODEL	SIZE (DN)		DIMENSIONS				WEIGHT	
	in.	mm	Height		Width		lbs.	kg.
530C	1/2 or 3/4	15 or 20	3	76	1 1/2	41	.37	0.17



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

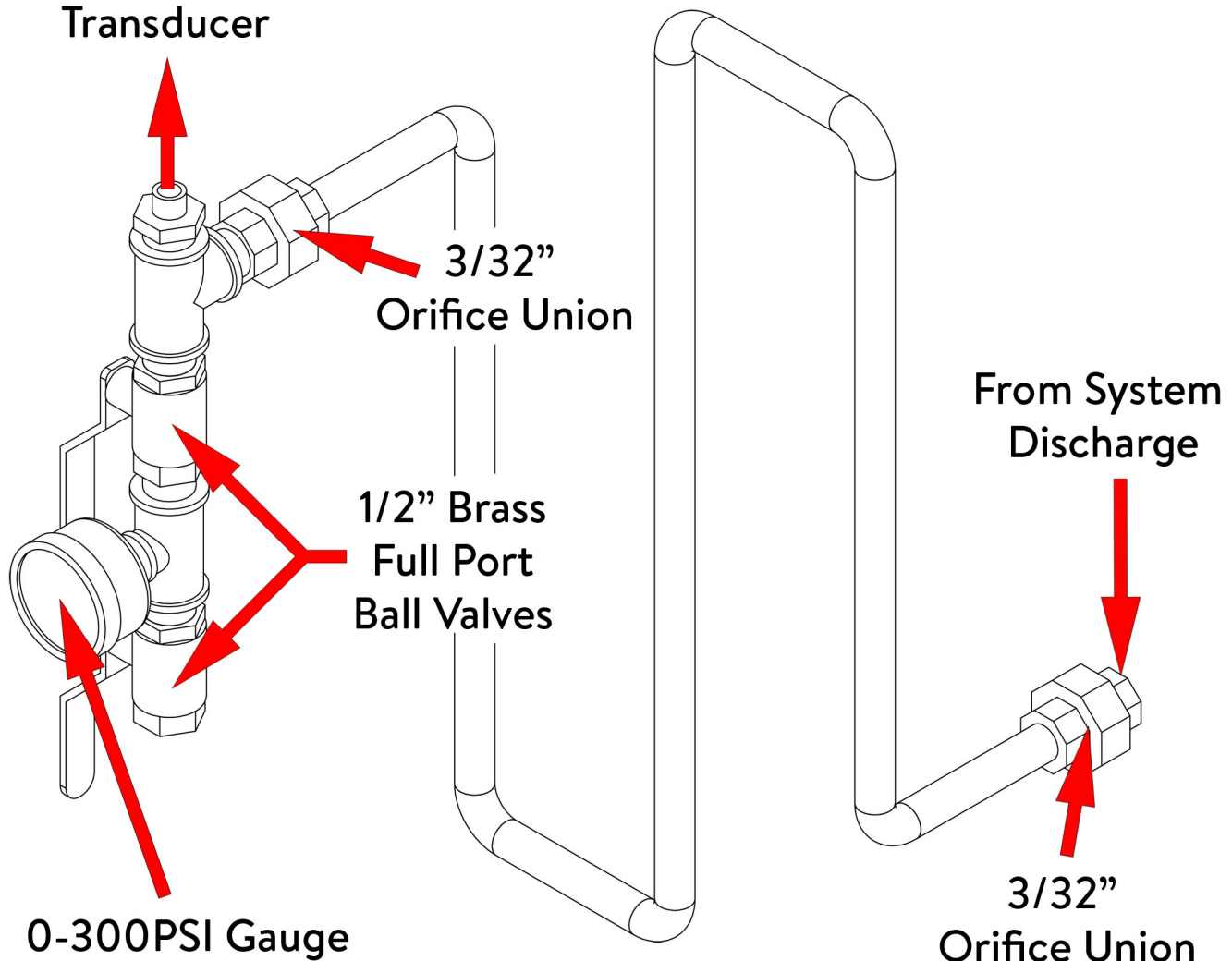
USA: 815 Chestnut St., No. Andover, MA 01845-6098; [www.watts.com](http://www.watts.com)  
 Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; [www.wattscanada.ca](http://www.wattscanada.ca)



# 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