

# 13-ULV50-R

2 x 2 - 8 VI

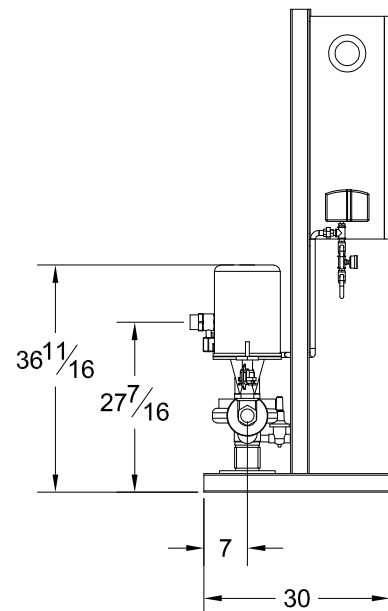
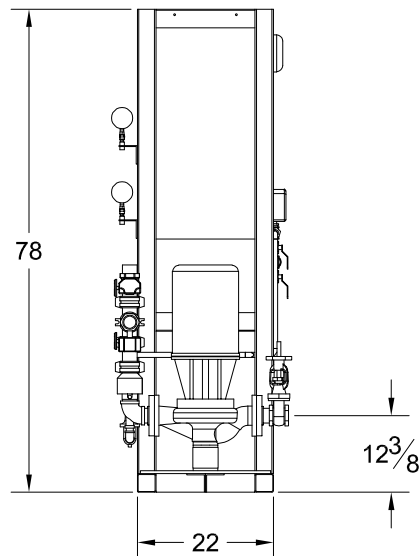
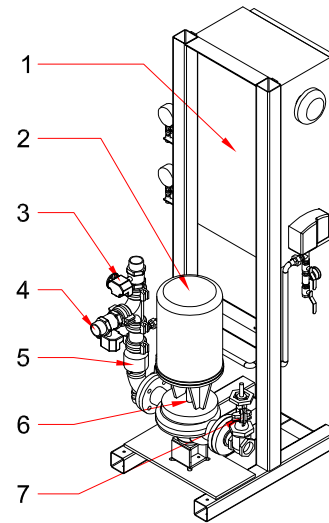
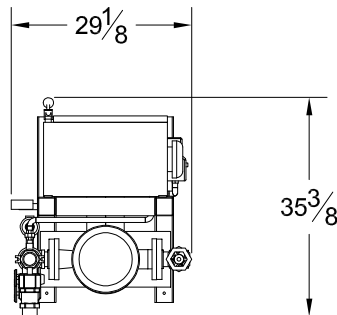
## 50GPM UL Fire Pump System

## NFPA-20 Submittal Packet

## NFPA13R Packaged Fire Pump System UL Fire Pump

# 13-ULV50-R

Compact Residential Package  
Design Condition: 50GPM @ 60PSI



### System Specifications:

#### Motor

- 7.5 Horsepower Electric
- 230 Volt, 34.6 Amp
- Single Phase
- 3450 RPM

#### Pump

- UL Vertical Inline Fire Pump
- 2" Suction (FNPT)
- 2" Discharge (Grooved)
- 175 PSI max working pressure

### System Components (UL Listed by Manufacturer)

- 1- Limited Service Fire Pump Controller
- 2- Electric Motor
- 3- Discharge Monitored Ball Valve
- 4- Test Connection Monitored Ball Valve
- 5- Check Valve
- 6- Vertical Inline Fire Pump
- 7- Suction OS&Y

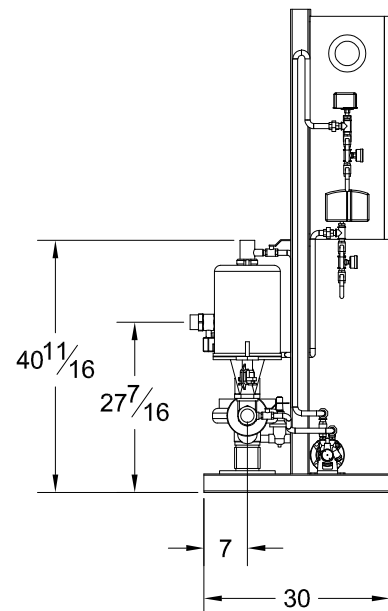
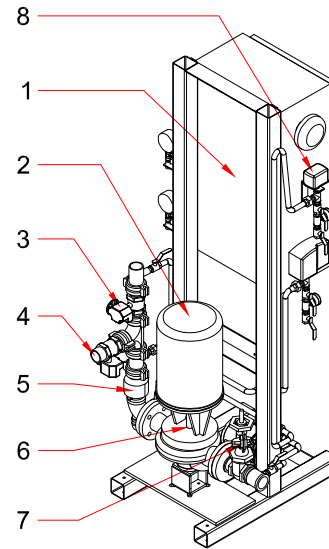
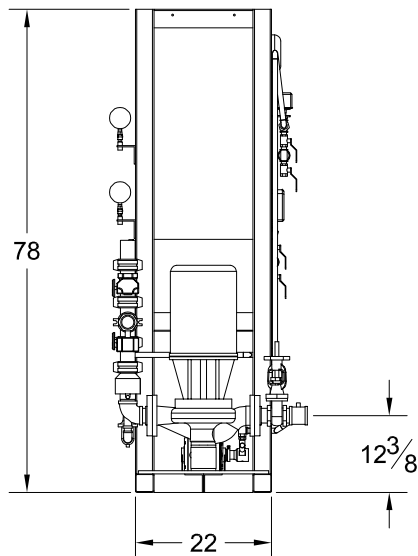
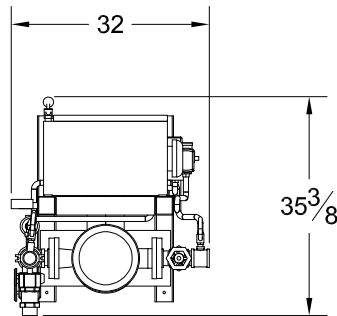
### (All Dimensions Are Approximate)

- 36" Depth
- 78" Height
- 32" Width

## NFPA13R Packaged Fire Pump System UL Fire Pump with Jockey Pump

## 13-ULV50-R

Compact Residential Package  
Design Condition: 50GPM @ 60PSI



### System Specifications:

#### Motor

- 7.5 Horsepower Electric
- 230 Volt, 34.6 Amp
- Single Phase
- 3450 RPM

#### Pump

- UL Vertical Inline Fire Pump
- 2" Suction (FNPT)
- 2" Discharge (Grooved)
- 175 PSI max working pressure

### System Components (UL Listed by Manufacturer)

- 1- Limited Service Fire Pump Controller
- 2- Electric Motor
- 3- Discharge Monitored Ball Valve
- 4- Test Connection Monitored Ball Valve
- 5- Check Valve
- 6- Vertical Inline Fire Pump
- 7- Suction OS&Y
- 8- Pressure Switch (Jockey Control)

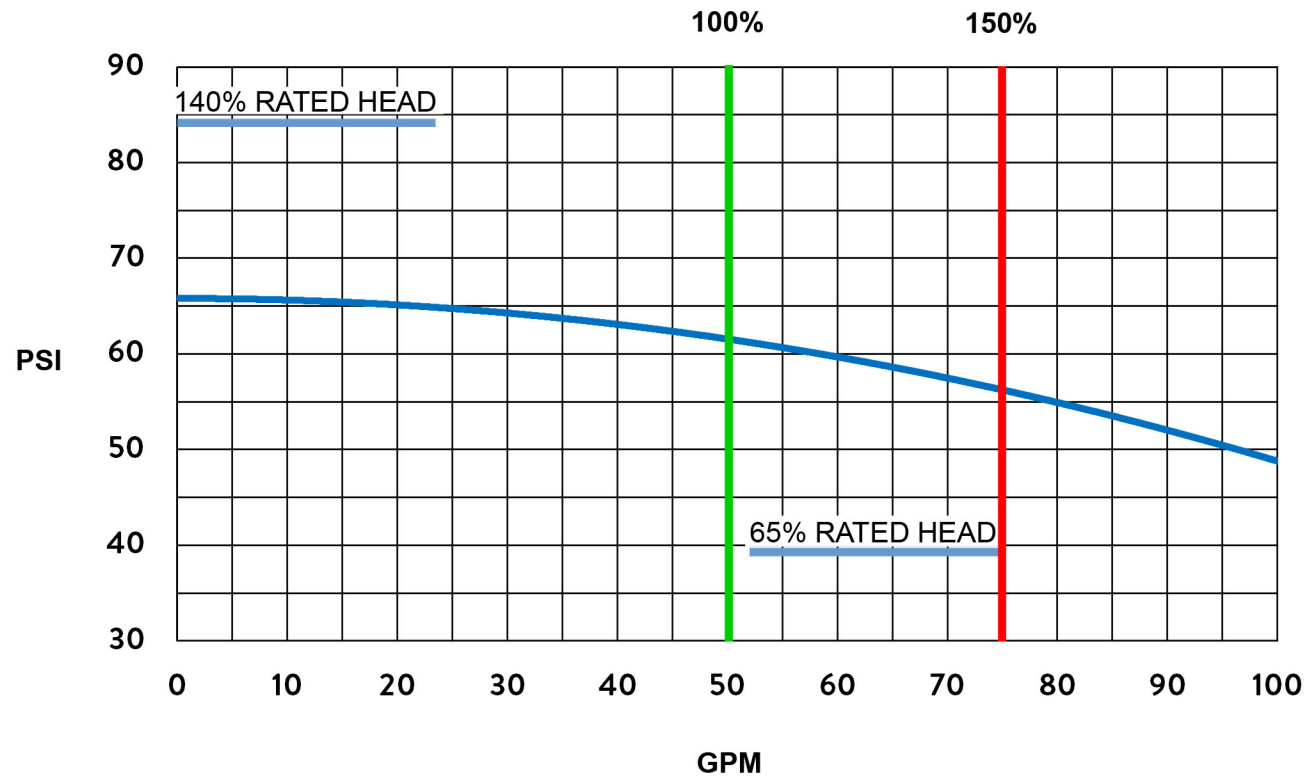
### (All Dimensions Are Approximate)

- 36" Depth
- 78" Height
- 32" Width

**13-ULV50**

**50GPM @ 60PSI**

**7.5HP UL VERTICAL INLINE FIRE PUMP**



**TALCO** FIRE  
SYSTEMS



RESIDENTIAL & COMMERCIAL FIRE PUMP SPECIALISTS

6040 NE 112TH AVE. PORTLAND, OREGON 97220

PHONE: 800-878-8055 [WWW.TALCOFIRE.COM](http://WWW.TALCOFIRE.COM)

# Fire Pump Controller



# TORNATECH

## Technical Data Submittal Document

### Model GPL

Limited Service Full Voltage  
Across the Line Start  
Electric Fire 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.

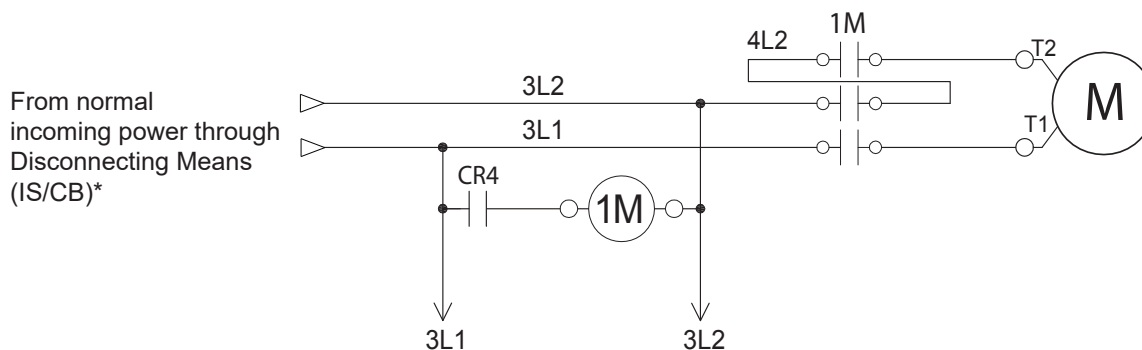


N.Y.C.  
APPROVED



May 2019

## Model GPL Electric Fire Pump Controller



**N.Y.C.**  
**APPROVED**



<b>Standard, Listings, Approvals and Certifications</b>	Built to NFPA 20 (latest edition)	
	Underwriters Laboratory (UL)	<ul style="list-style-type: none"> <li>• UL218 - Fire Pump Controllers</li> <li>• CSA C22.2 No. 14 Industrial Control Equipment</li> </ul>
	New York City	Accepted for use in the City of New York by the Department of Buildings
	Seismic Certification	See page 5 for details
<b>Enclosure</b>	<b>Protection Rating</b> <input type="checkbox"/> Standard: NEMA 2  <b>Optional</b> <div> <input type="checkbox"/> NEMA 12             <input type="checkbox"/> NEMA 4X-304 sst painted           </div> <div> <input type="checkbox"/> NEMA 3             <input type="checkbox"/> NEMA 4X-304 sst brushed finish           </div> <div> <input type="checkbox"/> NEMA 3R             <input type="checkbox"/> NEMA 4X-316 sst painted           </div> <div> <input type="checkbox"/> NEMA 4             <input type="checkbox"/> NEMA 4X-316 sst brushed finish           </div>	
	<b>Accessories</b> <ul style="list-style-type: none"> <li>• Wall mounting lugs</li> <li>• Keylock handle</li> </ul>	<b>Paint Specifications</b> <ul style="list-style-type: none"> <li>• Red RAL3002</li> <li>• Powder coating</li> <li>• Glossy textured finish</li> </ul>

\*Please see Disconnecting Means details on page 3.

<b>Shortcircuit Withstand Rating</b>	208V to 240V- 3ph - 50/60Hz
<input type="checkbox"/> Standard	65,000A
<input type="checkbox"/> Optional	n/a



<b>Limitations</b>	<ul style="list-style-type: none"> <li>• Across the line starting only</li> <li>• Horsepower rating of maximum 30hp</li> <li>• Can only be installed where acceptable by the authority having jurisdiction</li> <li>• Not accepted in FM insured property</li> </ul>		
<b>Surge Suppression</b>	Surge arrestor rated to suppress surges above line voltage		
<b>Disconnecting Means</b>	Circuit breaker (inverse time non adjustable) rated between 150% and 250% of motor full load current		
<b>Service Entrance Rating</b>	Suitable as service entrance equipment		
<b>Emergency Start Handle</b>	<ul style="list-style-type: none"> <li>• Push and slide to lock</li> <li>• Across the line start (direct on line)</li> </ul>		
<b>Electrical Readings</b>	<ul style="list-style-type: none"> <li>• Voltage phase to phase (normal power)</li> <li>• Amperage of each phase when motor is running</li> </ul>		
<b>Pressure Readings</b>	<ul style="list-style-type: none"> <li>• Continuous system pressure display</li> <li>• Cut-in and Cut-out pressure settings</li> </ul>		
<b>Pressure and Event recorder</b>	<ul style="list-style-type: none"> <li>• Pressure readings with date stamp</li> <li>• Event recording with date stamp</li> <li>• Under regular maintained operation, events can be stored in memory for up to 5 years.</li> <li>• Data viewable on operator interface display screen</li> <li>• Downloadable by USB port to external memory device</li> </ul>		
<b>Pressure Sensing</b>	<ul style="list-style-type: none"> <li>• Pressure transducer for fresh water application</li> <li>• Pressure sensing connection 1/2" Female NPT</li> <li>• Rated for 0-500PSI working pressure (standard display at 0-300PSI)</li> <li>• Internally mounted</li> </ul>		
<b>Visual Indications</b>	<ul style="list-style-type: none"> <li>• Power available</li> <li>• Motor run</li> <li>• Periodic test</li> <li>• Manual start</li> </ul>	<ul style="list-style-type: none"> <li>• Deluge valve start</li> <li>• Remote automatic start</li> <li>• Remote manual start</li> <li>• Emergency start</li> </ul>	<ul style="list-style-type: none"> <li>• Pump on demand/Automatic start</li> <li>• Low discharge pressure</li> <li>• Pump room temperature (°F or °C)</li> <li>• Lockout</li> </ul>
<b>Visual Alarms</b>	<ul style="list-style-type: none"> <li>• Alternate lock rotor current</li> <li>• Alternate power phase reversal</li> <li>• Automatic transfer switch trouble</li> <li>• Control voltage not healthy</li> <li>• Fail to start</li> <li>• Invalid cut-in</li> <li>• Lock rotor current</li> <li>• Loss of power</li> <li>• Low ambient temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Low water level</li> <li>• Motor trouble</li> <li>• Normal power phase reversal</li> <li>• Overcurrent</li> <li>• Overvoltage</li> <li>• Phase loss L1</li> <li>• Phase loss L2</li> <li>• Phase loss L3</li> <li>• Phase unbalanced</li> </ul>	<ul style="list-style-type: none"> <li>• Pressure transducer fault detected</li> <li>• Pump on demand</li> <li>• Pump room alarm</li> <li>• Service required</li> <li>• Undercurrent</li> <li>• Undervoltage</li> <li>• Check weekly test solenoid</li> <li>• Weekly test cut-in not reached</li> </ul>





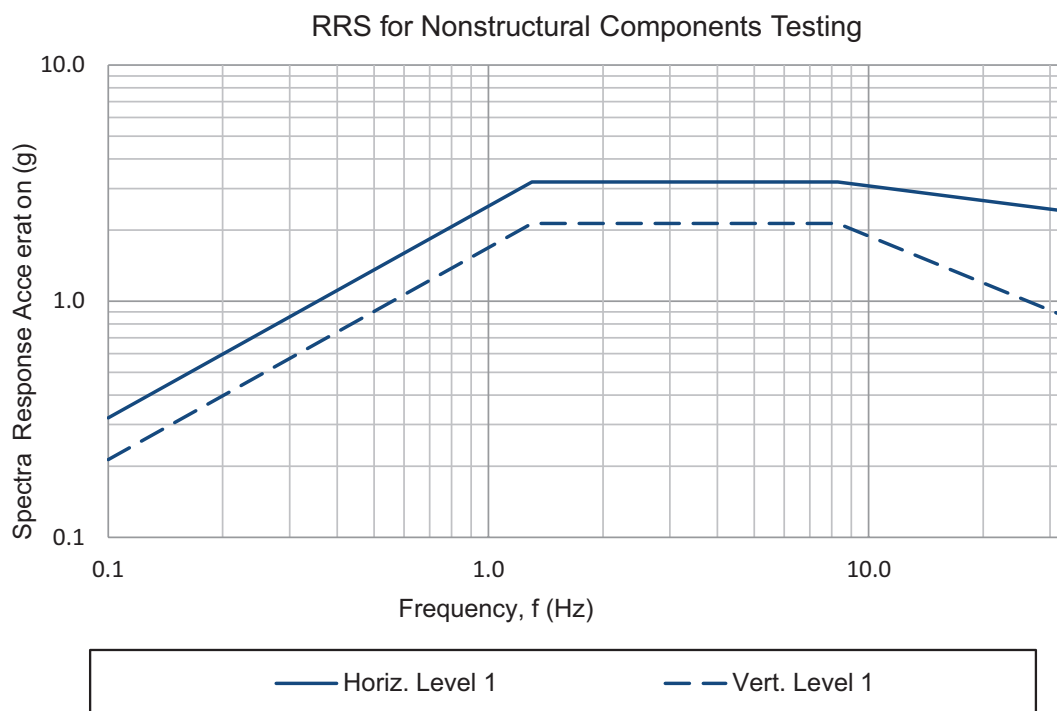
<b>Remote Alarm Contacts</b>	DPDT-8A-250V.AC <ul style="list-style-type: none"> <li>• Power available</li> <li>• Phase reversal</li> <li>• Motor run</li> <li>• Common pump room alarm               <ul style="list-style-type: none"> <li>• Overvoltage</li> <li>• Undervoltage</li> <li>• Phase unbalance</li> <li>• Low pump room temperature</li> <li>• High Pump room temperature</li> </ul> </li> <li>• Common motor trouble               <ul style="list-style-type: none"> <li>• Overcurrent</li> <li>• Undercurrent</li> <li>• Fail to start</li> <li>• Ground fault</li> </ul> </li> </ul>		
<b>ViZiTouch V2 Operator Interface</b>	<ul style="list-style-type: none"> <li>• Embedded microcomputer with software PLC logic</li> <li>• 7.0" color touch screen (HMI technology)</li> <li>• Upgradable software</li> <li>• Multi-language</li> </ul>		
<b>Communication Protocol Capability</b>	<ul style="list-style-type: none"> <li>• Protocol: Modbus</li> <li>• Connection type: Shielded female connector RJ45</li> <li>• Frame Format: TCP/IP</li> <li>• Addresses: See bulletin MOD-GPx</li> </ul>		
<b>Operation</b>	<b>Automatic Start</b>	<ul style="list-style-type: none"> <li>• Start on pressure drop</li> <li>• Remote start signal from automatic device</li> </ul>	
	<b>Manual Start</b>	<ul style="list-style-type: none"> <li>• Start pushbutton</li> <li>• Run test pushbutton</li> <li>• Deluge valve start</li> <li>• Remote start from manual device</li> </ul>	
	<b>Stopping</b>	<ul style="list-style-type: none"> <li>• Manual with Stop pushbutton</li> <li>• Automatic after expiration of minimum run timer ***</li> </ul>	
	<b>Timers</b>	Field Adjustable & Visual Countdown	<ul style="list-style-type: none"> <li>• Minimum run timer ***(off delay)</li> <li>• Sequential start timer (on delay)</li> <li>• Periodic test timer</li> </ul>
	<b>Actuation</b>	Visual Indication	<ul style="list-style-type: none"> <li>• Pressure</li> <li>• Non-pressure</li> </ul>
	<b>Mode</b>		<ul style="list-style-type: none"> <li>• Automatic</li> <li>• Non-automatic</li> </ul>

\*\*Tornatech reserves the right to use any of these three alarm points for special specific application requirements.

\*\*\*Can only be used if approved by the AHJ



Seismic Certification	Seismic Certification Company	TRU Compliance, LLC A Tobalski Watkins Affiliate					TWEI Project No.: 15014				
	Mounting details	Rigid wall mounting									
	Seismic Information	Building Code	Test Criteria	Seismic Parameters	S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>FLX-H</sub>	A <sub>RIG-H</sub>	A <sub>FLX-V</sub>	A <sub>RIG-V</sub>
		IBC 2015, CBC 2016	ICC-ES AC156	ASCE 7-10 Chapter 13	2.0	1.0	1.5	3.20	2.40	1.33	0.53
					3.2	0.0	1.5	3.20	1.28	2.13	0.85

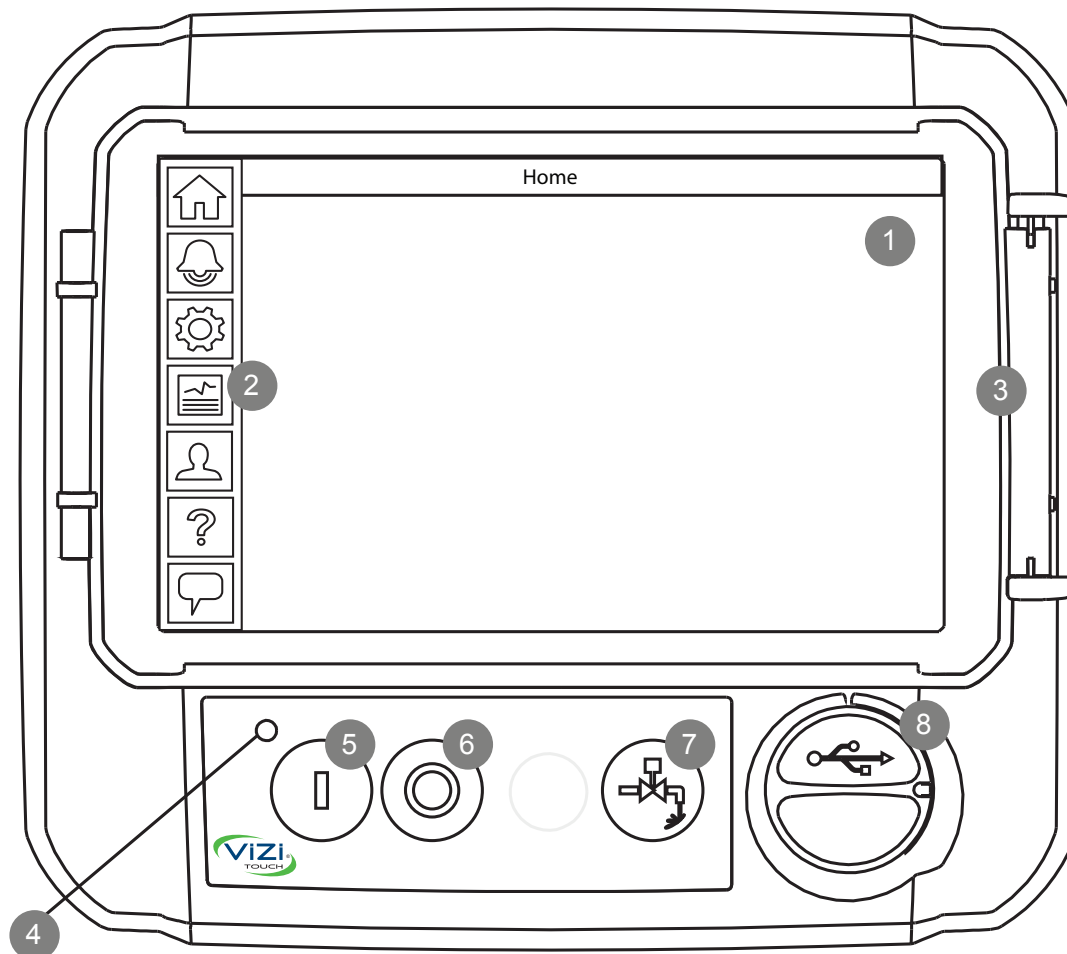


#### Notes:

- Components are tested in accordance with ICC-ES AC156, IBC 2015 & CBC 2016.
- OSHPD Special Seismic Certification Preapproval (OSP)



#### ViZiTouch V2 Operator Interface



- 1 - Color touch screen
- 2 - Onscreen menu
  - HOME page
  - ALARM page
  - CONFIGURATION page
  - HISTORY page
  - SERVICE page
  - MANUAL page
  - LANGUAGES page

- 3 - Screen protector
- 4 - Power LED (3 colors)
- 5 - START button
- 6 - STOP button
- 7 - RUN TEST button
- 8 - USB port

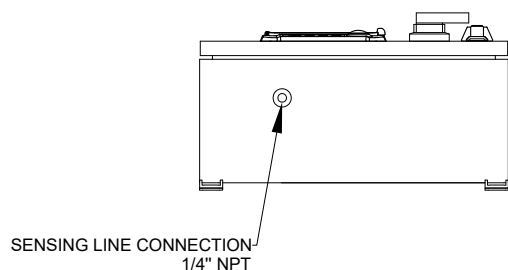
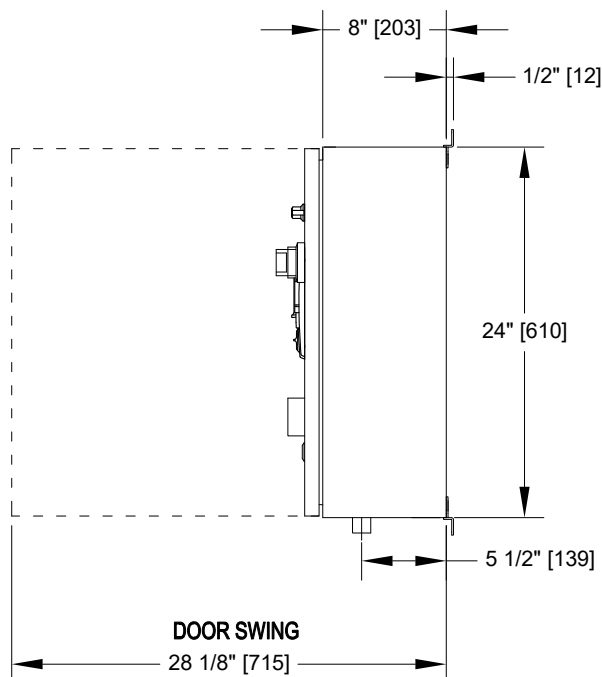
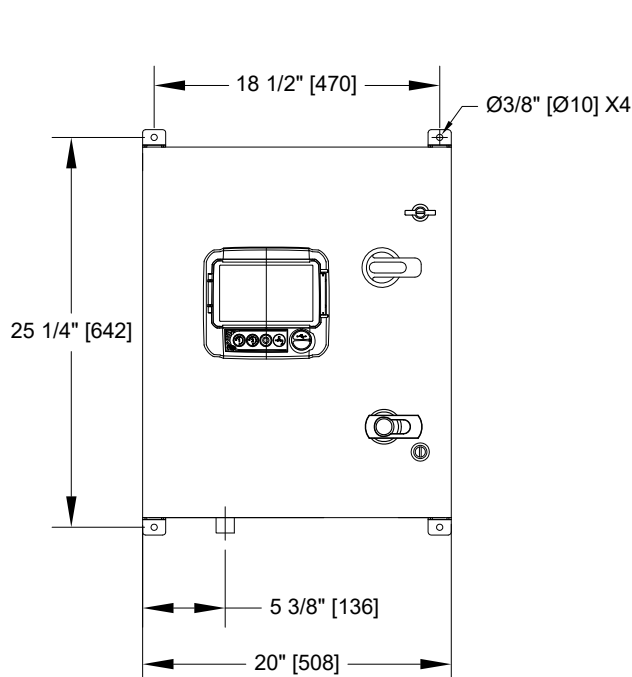
# Limited Service Pump Controller

Model: GPL

## 1 and 3 Phase

### Dimensions

Built to the latest edition of the NFPA 20 standard



#### NOTES :

- Standard NEMA : NEMA 2.
- All dimensions are in inches [millimeters].
- Paint : Textured red RAL 3002.
- Use watertight conduit connector only.
- Protect equipment against drilling chips.
- Ambient temperature : Between 41°F (5°C) and 104°F (40°C).
- Seismic mounting to be rigid wall and base only.

VOLT/Hz	HP RATING		WITHSTAND RATING [kA] RMS	
	MIN HP	MAX HP	STANDARD	HIGH (OPT. D13A)
1 PHASE				
200-208 / 60	3 HP	15 HP	65kA	N/A
230-240 / 50-60	3 HP	15 HP	65kA	N/A
3 PHASES				
200-208 / 60	3 HP	30 HP	65kA	N/A
230-240 / 50-60	3 HP	30 HP	65kA	N/A
380-415 / 50-60	3 HP	30 HP	25kA	65kA
440-480 / 50-60	3 HP	30 HP	25kA	65kA
575-600 / 60	3 HP	30 HP	18kA	25kA

Drawing for information only.

Manufacturer reserves the right to modify this drawing without notice.

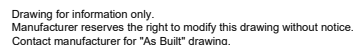
Contact manufacturer for "As Built" drawing.



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1.	Revised logo	18/06/18	GPL-DI600 /E
0.	First issue	17/11/16	

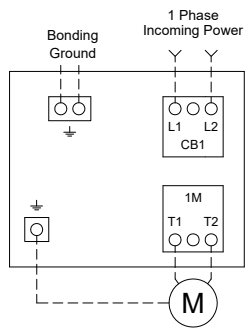
Model: GPL

Built to the latest edition of the NFPA 20 standard



REV.	DESCRIPTION	DD/MM/YY	Drawing number
2	Update Logo	23/04/18	GPL-WS600 /E
1	Removed (fail safe) text from Power Available relay	20/02/17	
0	First issue	10/11/16	

Power Terminals  
Model : GPL 1 Phase



- Notes:
- 1 - For proper wire sizing, refer to NFPA70 and NEC (USA) or CEC (Canada) or local code.
  - 2 - Controller suitable for service entrance in USA.
  - 3 - For more accurate motor connections refer to motor manufacturer or motor nameplate.
  - 4 - Controller is phase sensitive. Incoming lines must be connected in ABC sequence.
  - 5 - Field wiring and lug sizes are based on copper conductors only.
- Do not use aluminium conductors.

Circuit breaker (CB) Field Wiring according to Bending Space (AWG or MCM). TERMINALS L1 - L2						
Bending Space	3 " (76 mm)					
HP \ Voltage	3	5	7.5	10	15	
208	1x (10 to 1)	1x (8 to 1)	1x (6 to 1)	1x (4 to 1)	1x (3 to 1)	
220 to 240	1x (10 to 1)	1x (8 to 1)	1x (8 to 1)	1x (6 to 1)	1x (3 to 1)	
(Use Copper Conductors Only)						

Wiring Size for motor connection for Model GPL (AWG or MCM). TERMINALS T1 - T2						
HP \ Voltage	3	5	7.5	10	15	
208	1x (10 to 3)	1x (8 to 3)	1x (6 to 3)	1x (4 to 1)	1x (3 to 1)	
220 to 240	1x (10 to 3)	1x (8 to 3)	1x (8 to 3)	1x (6 to 1)	1x (3 to 1)	
(Use Copper Conductors Only)						

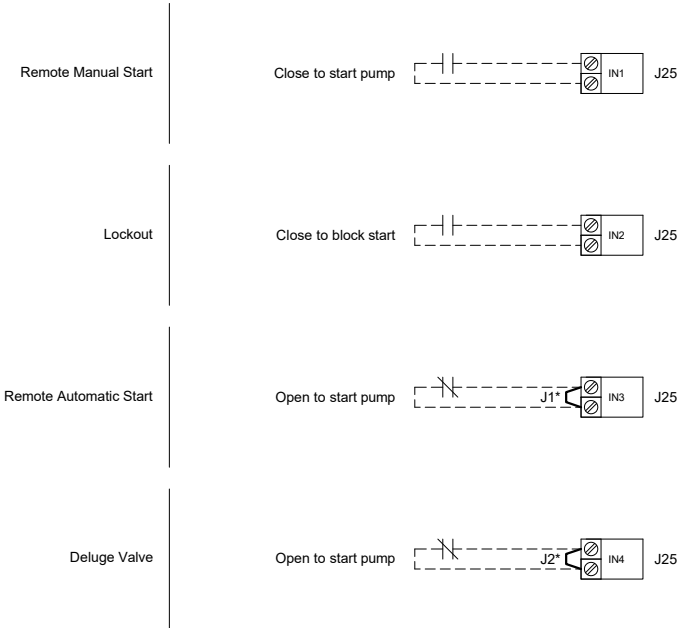
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Contact manufacturer for "As Built" drawing.



REV.	DESCRIPTION	DD/MM/YY	Drawing number
2	Revised logo	18/06/18	GPL-TD600 1/2 /E
1	Removed (fail safe) text from Power Available relay	20/02/17	
0	First issue	10/11/16	

Control Terminals (EB1)

Terminals Wire Size:  
24 - 12 AWG  
0.5 Nm



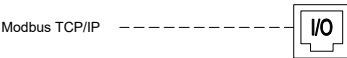
Alarm Inputs (EB1)

Terminals Wire Size:  
24 - 12 AWG  
0.5 Nm



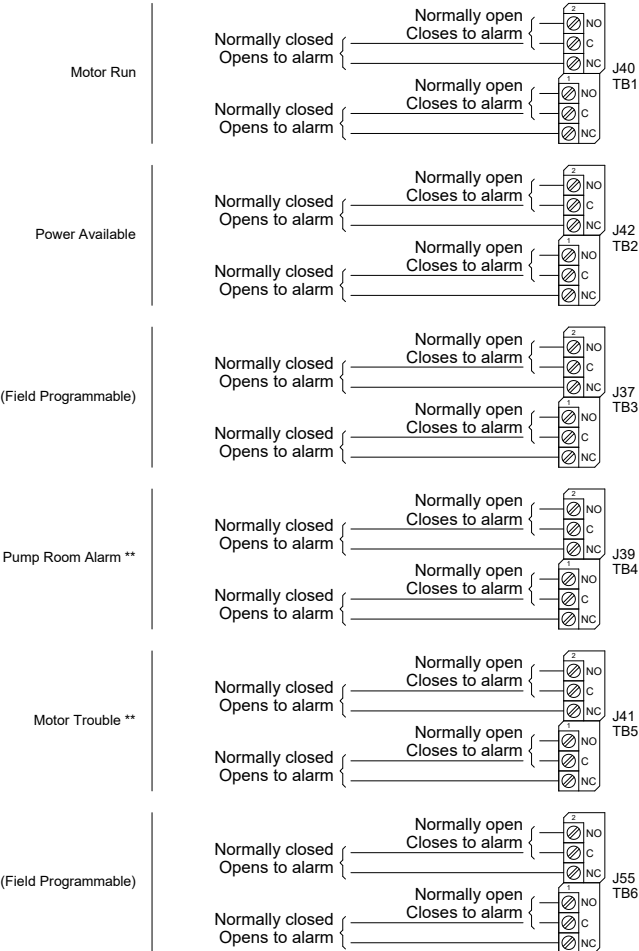
Network Connection (VMB1)

Shielded Female Connector RJ45



Remote Alarm Terminals (EB1)

Terminals Wire Size:  
24 - 12 AWG  
0.5 Nm



\* Remove jumper to use this feature  
\*\* Re-assignable

Drawing for information only.  
Manufacturer reserves the right to modify this drawing without notice.  
Contact manufacturer for "As Built" drawing.



REV.	DESCRIPTION	DD/MM/YY	Drawing number
2	Revised logo	18/06/18	GPL-TD600 2/2 /E
1	Removed (fail safe) text from Power Available relay	20/02/17	
0	First issue	10/11/16	



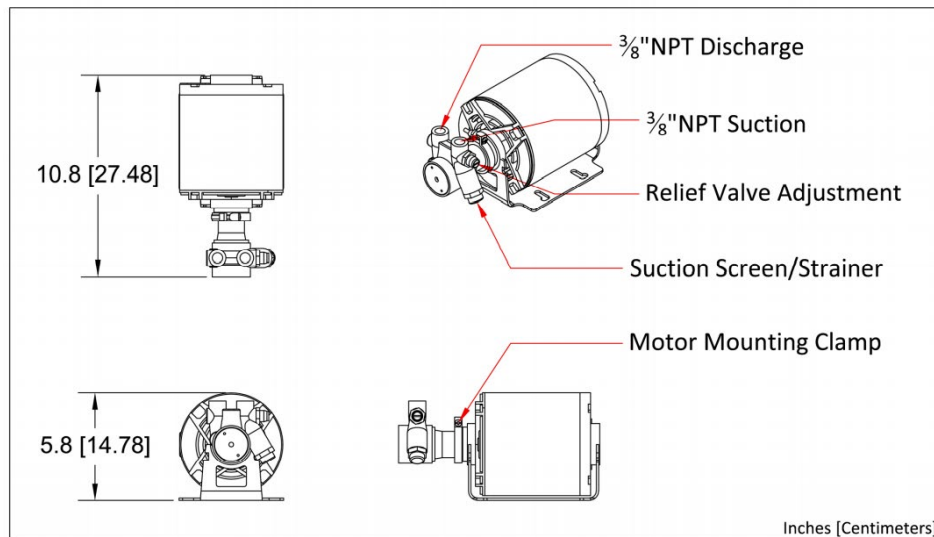
# Jockey Pump

(Optional Equipment)



## Talco ULV Jockey Pump

- High Quality Rotary Vane Pump
  - 1.8GPM @ 240PSI
- 1/3HP\* 200V-240V Electric Motor
  - Resilient Mounted
  - Permanently Lubricated
- Integrated Recirculation Relief Valve
  - Factory Set to 170PSI
  - No External Discharge
- Removable Mesh Suction Strainer
  - Cleanable & Reusable



Dimensions are approximate.

\*Motor HP subject to change without notice based on availability.

503-688-1231 [www.talcofire.com](http://www.talcofire.com) 6040 NE 112<sup>th</sup> Ave, Portland OR

**TALCO**  
— FIRE SYSTEMS —

# Commercial Pressure Switches

## Electromechanical Square D Brand 9013

For power circuits, FRG, FHG, and G

### Environmental characteristics

Pressure switch type		FRG	FHG	G
Conformity to standards		UL 508, NEC Article 430-84, ANSI /NSF Standard 61, FDA 21CFR.2600		
Product Certifications		UL File E12158 CCN NKPZ , CSA File LR 25490 Class 321106		
Protective treatment		N/A		
Ambient air temperature	°C	For operation, 0 °C (32 °F) min to 125 °C (257 °F) max For storage, -30 °C (-22 °F) min to 70 °C (158 °F) max		
Fluids controlled		Fresh water, or sea water (with Form Q)		
Materials		Cover: polypropylene, Noryl® thermoplastic resin or equivalent for Type 3R, Component material in contact with fluid: flange, zinc plated or equivalent (fluid entry), nitrile or equivalent rubber (diaphragm)		
Operating position		NEMA Type 1, and Type IP20 in any position, NEMA Type 3R in the vertical position only		
Vibration resistance		—		
Shock resistance		—		
Electric shock protection		—		
Degree of protection		NEMA Type 1, IP20 and NEMA Type 3R (some references) must be mounted in vertical position to maintain enclosure rating		
Operating rate	cycles/m	10		
Repeat accuracy		+/- 3 % of the range		
Fluid connection		1/8" NPSF internal, 1/4" NPSF internal, 1/2"NPT External, 1/4" Bayonet (barbed), 90 deg. Elbow 1/4" Bayonet, Four Way Flange, 3/8" NPSF (Internal), 1/4" Flare, other specials		
Electrical connection		2 open side entries, 3/4" diameter, with two flats		3 Conduit 1/2" Knockouts

### Contact block characteristics

Type of contacts		One 2 pole, 2 N/C (4 terminal) contacts, snap action
Resistance across terminals	m Ω	< 25
Terminal referencing		N/A
Short-circuit protection	A	5,000
Connection		Screw clamp terminals. Clamping capacity up to #10 AWG (5.261 mm <sup>2</sup> )
Electrical durability	cycles	100,000
Mechanical durability	cycles	300,000

### Electrical Ratings

1 Pole		FRG			FHG ▲ ■			G		
Power ratings of controlled motors	Voltage	~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—
	32 V	—	—	—	—	—	—	—	—	—
	115 V	0.75 kW (1 HP)	—	0.18kW (.25 HP)	1.1 kW (1.5 HP)	1.5 kW (2 HP)	0.18 kW (.25 HP)	0.75 kW (1 HP)	—	0.37kW (.50 HP)
	230 V	0.75 kW (1 HP)	—	0.18kW (.25 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)	0.18 kW (.25 HP)	1.5 kW (2 HP)	—	0.37kW (.50 HP)
	460 / 575 V	—	—	—	—	0.75 kW (1 HP)	—	1.5 kW (2 HP)	—	—
2 Pole		~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—
Power ratings of controlled motors	Voltage	~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—	~ 1-phase	~ 3-phase	—
	32 V	—	—	0.18 kW (.25 HP)	—	—	—	—	—	—
	115 V	0.75 kW (1 HP)	0.75 kW (1 HP)	0.18 kW (.25 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)	0.37 kW (.50 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)	0.75 kW (1 HP)
	230 V	0.75 kW (1 HP)	0.75 kW (1 HP)	0.18 kW (.25 HP)	2.2 kW (3 HP)	3.7 kW (5 HP)	0.37 kW (.50 HP)	2.2 kW (3 HP)	3.7 kW (5 HP)	0.75 kW (1 HP)
	460 / 575 V	—	—	—	—	0.75 kW (1 HP)	—	3.7 kW (5 HP)	3.7 kW (5 HP)	—

Note:  
Type FRG and G are all Form H

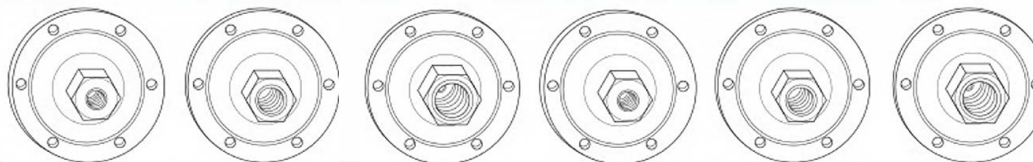
▲ Includes  
FHG 2, 3, 4, 9, 12, 13, 14, 19, 42, 44, 49

■ Includes  
FHG 22, 24, 29, 32, 33, 34, 39, 52, 54, 59

# Commercial Pressure Switches

Electromechanical Square D Brand 9013  
For power circuits G  
2-pole 2 N/C contacts  
Degree of protection IP20, NEMA Type 1, 7 & 9

## Flange Style



Adjustable range of switching point  
Contacts open on rising pressure  
2 Pole

Fluid connections	1/8" NPSF internal	1/4" NPSF internal	3/8" NPSF internal	1/8" NPSF internal	1/4" NPSF internal	3/8" NPSF internal
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## References

NEMA Type 1, IP20	9013GHG1	9013GHG2	9013GHG3			
NEMA Type 7, NEMA Type 9				9013GHR1	9013GHR2	9013GHR3
Fluids / Pressure controlled	Water or Air	Water or Air	Water or Air	Water or Air	Water or Air	Water or Air
Pressure range						
Cut-Out PSIG (bar)	60-200	60-200	60-200	65-200	65-200	65-200
Cut-In PSIG (bar)	40-170	40-170	40-170	35-150	35-150	35-150
Weight lbs (kg)	2 lbs (0.91)	2 lbs (0.91)	2 lbs (0.91)	8 lbs (3.62)	8 lbs (3.62)	8 lbs (3.62)

## Complementary characteristics not shown under general characteristics

Differential PSIG (bar)	20-40 (1.4-2.8)	20-40 (1.4-2.8)	20-40 (1.4-2.8)	30-50 (2.1-3.5)	30-50 (2.1-3.5)	30-50 (2.1-3.5)
Maximum permissible pressure PSIG (bar)	80 (5.5)	80 (5.5)	80 (5.5)	80 (5.5)	80 (5.5)	200 (13.8)
Mechanical life	300, 000 operating cycles					
Cable entry	3 Conduit 1/2" Knockouts	3 Conduit 1/2" Knockouts	3 Conduit 1/2" Knockouts	2 3/4" 14 NPT	2 3/4" 14 NPT	2 3/4" 14 NPT
Pressure switch type	Diaphragm					

## Ordering Information

## Pressure Codes

Below is the pressure code table.  
Existence of a code does not imply that the code is available for any or all devices.

Settings	Code
20-40 PSI	J20
30-50 PSI	J21
40-60 PSI	J23
40-80 PSI	J24
60-80 PSI	J25
70-90 PSI	J26
70-100 PSI	J28
75-100 PSI	J29
80-100 PSI	J30
90-120 PSI	J31
100-80 PSI	J51
100-125 PSI	J53
110-125 PSI	J54
110-150 PSI	J56
120-150 PSI	J57
125-150 PSI	J58
125-175 PSI	J60
130-175 PSI	J61
140-170 PSI	J66
140-175 PSI	J62
145-175 PSI	J63
150-120 PSI	J64
150-175 PSI	J67
215-250 PSI	J65
Specify pressure settings	J99

- Specify Class 9013 Type G.
- Select pressure code and add code designation to end of type number. Be sure that pressure code falls within the limits of the device as shown in the device listings.
- If special features are desired, add the appropriate Form letter to the Class and Type. Arrange Form letters in alphabetical sequence when ordering more than one special feature.
- Place packaging code at end of sequence with other forms when ordering. If no packaging code is indicated, devices will be shipped individually packaged.  
For standard pack of 10 devices per box C10  
Available on GHG, GHG, GSB, and GSG

See page 25 for Form C10.

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# Valves & Fittings

# Fire Main Gate Valve

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## OS&Y Valves (Outside Stem & Yoke), RS

### Description

FPPI OS&Y Valves feature a bronze\* body (ASTM C83600) cast iron hand wheel, with steel, stainless steel, and brass components for extended service life. OS&Y valves (outside stem and yoke) are perfect for sprinkler system monitoring. When the valve is opened, the stem is visible above the hand wheel. In the closed position, the stem is concealed inside the valve body. This allows for immediately identifying if the valve is "OPEN" or "CLOSED". OS&Y valves can also be fitted with external tamper switches for central station or panel monitoring.



### Installation

Install in accordance with customary installation practices.

### Specifications

#### Material:

**Body:** Bronze\* ASTM C83600  
**Bonnet:** Bronze\* ASTM C83600  
**Stem:** Brass\*  
**Hand Wheel:** Cast Iron  
**Packing Gland:** Bronze\* ASTM C83600  
**Disc:** Bronze\* ASTM C83600  
**Disc Pin:** SS-304  
**Gland Packing:** Graphite  
**Stud:** Steel  
**Yoke Bushing:** Brass\*  
**Set Screw:** Steel

#### Item Numbers / Sizes:

06-702-00 1" IPS  
06-704-00 1 1/4" IPS  
06-706-00 1 1/2" IPS  
06-708-00 2" IPS

#### Finish:

**Body:** Rough Brass\*  
**Handwheel:** Red

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



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Stock No. 1010201

**UL and cUL Listed, FM Approved, CSFM Listed, NYMEA Accepted**

**Dimensions:** 7" L x 3.75" W x 3" D (including bracket)  
(17,7 cm x 9,5 cm x 7,6 cm)

**Weight:** 13.6 oz. (385,5 g.)

**Enclosure:** Non-Corrosive Composite Material

**Environmental Limitations:**

- NEMA 4 and NEMA 6P rated enclosure when proper electrical fittings are used. (IP67)
- Temperature range: -40° F to 140° F (-40° C to 60° C)

**Housing Cover Tamper:** Activated by housing cover removal.

**Contact Ratings:** SPDT Plug Contacts: 100 mA at 28 VDC/AC  
250 mA at 12 VDC/AC  
SPDT Cover Tamper: 250 mA at 28 VDC/AC

**Cable:** 2-wire, 18 Ga. Waterproof - Approx. 8' (2,43m) long

**General**

The Model PTS-C is designed to supervise sprinkler system control valves and may also be used to secure gates and other applications. This unit is particularly useful for unusual conditions, such as non-rising stem valves.

Nema 6P enclosure allows the device to be mounted outdoors, even in areas subject to flooding such as pits and wells. Sealed reed switch operation virtually eliminates contact corrosion.

Turning the valve wheel will pull the plug out of the receptacle. The plug cannot be reinserted after operation until the plug receptacle cover is removed with the special hex key provided. This key should be left with the building owner or responsible party. Replacement or additional cover tamper screws and hex keys are available. For cover tamper screws, order stock no. 5490344. For hex key, order stock no. 5250062.

**Installation**

Insert plug into housing, take the loose end of the cable and loop it through the valve handle and into the housing. Adjust the length of cable so the plug must be pulled from the housing when the valve is closed. Cut off excess cable and terminate on the plug terminals of the PC board. Do not leave more than 2" (50mm) of excess wiring in the housing. Dress wires to outside edge of housing so as not to interfere with cover tamper.

**Wire Checkout**

With the plug wired to the two P terminals and the plug inserted fully into the receptacle, place an ohmmeter across the C and N.O. terminals. The meter will show Open. Unplug the plug from the receptacle. The meter will show continuity.

**Note:** The two P terminals will always show continuity when the plug is connected regardless of whether the plug is inserted or not.

The cover tamper switch can be wired into the plug circuit or wired as a separate circuit. (See wiring diagrams.)

**Testing**

The PTS-C and its associated protective monitoring system should be tested in accordance with applicable NFPA codes and standards and/or the authority having jurisdiction (manufacturer recommends quarterly or more frequently).

**CAUTION**

Be sure valve is fully open before restoring PTS-C.

**WARNING**

**As Stipulated By Factory Mutual And Underwriters Laboratories**

This unit is not intended or designed for ordinary use. It is a special application device to be used for unusual conditions such as non-rising stem gate valves where no other approved or listed method of protection is available or practical. As this unit does not meet NFPA codes and standards, requiring restoration signal when the valve is positioned to normal, special attention should be given by the responsible parties to assure that the proper operation of this device is maintained. This device should only be restored to normal when the valve is in the normal condition.

# TrimFit® Bronze Butterfly Valve

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## 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.**

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 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



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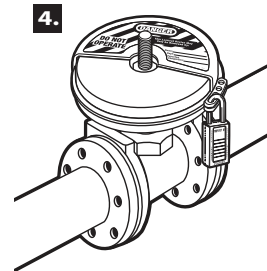
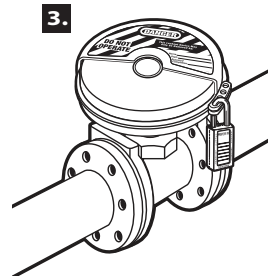
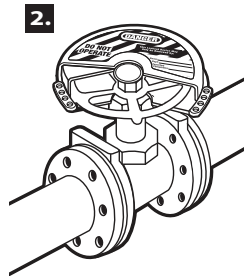


# Valve Handle Lockout Covers

1.	Product Number Modèle n° Modelo Núm.	For Valve Handle Diameters Diamètre du volant de manœuvre Para diámetros de manija de válvula
	480	1 in.- 3 in. (25 mm - 76 mm)
	481	2 in.- 5 in. (51 mm - 12.7 cm)
	482	4 in.- 6.5 in. (10.2 cm - 16.5 cm)
	483	6 in.- 10 in. (15.2 cm - 25.4 cm)
	484	8 in.- 13 in. (20.3 cm - 33 cm)

## Assembly Instructions

1. Select the properly-sized cover for the specific valve handle to be locked out. Note: Cover should be loose enough when applied that it does not bind to the valve handle.
2. Rotate the lockout cover to completely surround the valve handle (Illustration 2).
3. Secure with Master Lock safety lockout padlock(s) by inserting shackle(s) through the overlapping locking eyelets (Illustration 3).
4. To secure a valve handle which has a rising stem, cut out the circular center section of the lockout cover (Illustration 4).



**One "Valve Handle Lockout Cover" or equivalent, shall be provided; to be used in accordance with NFPA 20, sections 4.17.1 (3) & 4.17.2.**

**Master  
Lock**

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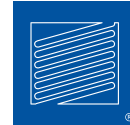
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LISTED VALVE NOW  
AVAILABLE IN  
1½" SIZE



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- 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



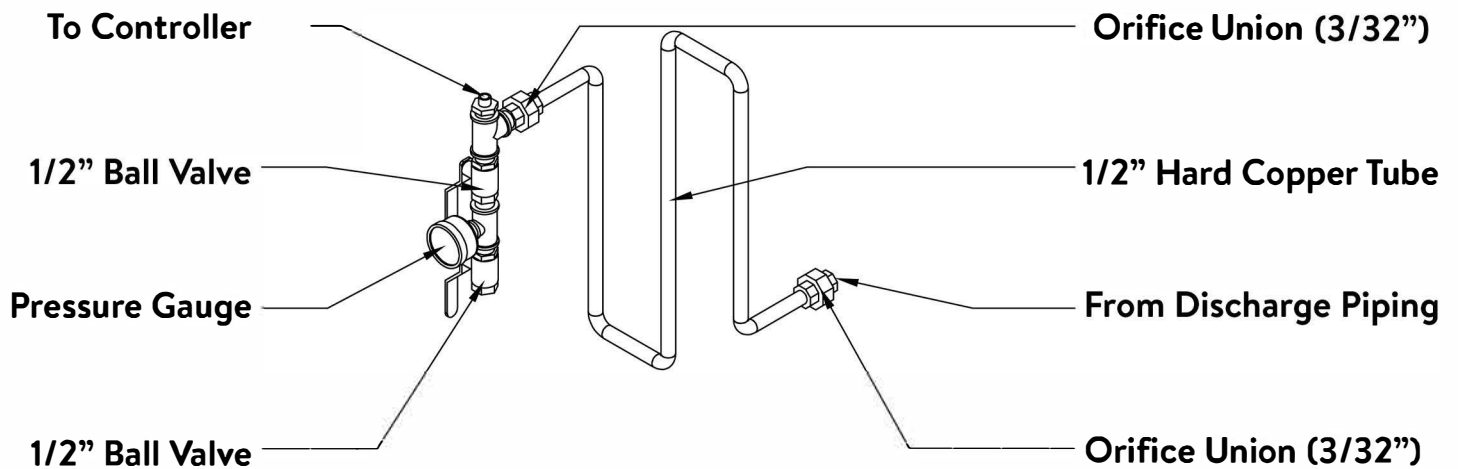
\*Contains lead. Not for use in water systems intended for human consumption.

\*\*1 ½" size is UL/ULC listed only

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## NFPA20 Sensing Line Detail



Pressure Sensing Lines constructed in accordance with NFPA 20:  
All brass or copper components, orifice unions at connections to  
both discharge piping & controller valve assembly, minimum 60"  
hard copper tubing between unions.