TALCO FIRE SYSTEMS

RESIDENTIAL & COMMERCIAL FIRE PUMP SPECIALISTS
6040 NE 112TH AVE. PORTLAND, OREGON 97220
PHONE: 800-878-8055 WWW.TALCOFIRE.COM

13-ULV100-R

2 x 2 - 8 VI

100GPM UL Fire Pump System

NFPA-20 Submittal Packet

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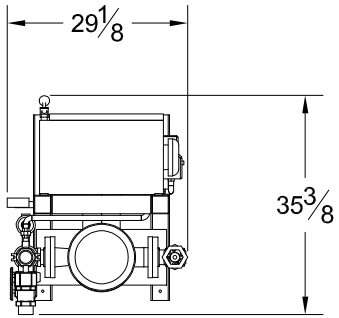
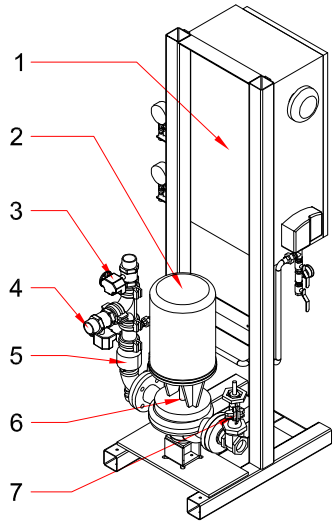
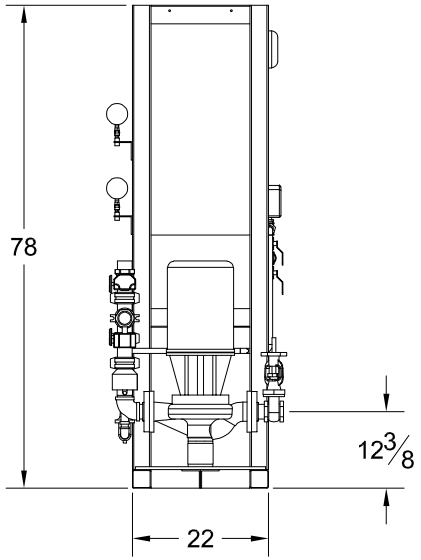
NFPA13R Packaged Fire Pump System
UL Fire Pump

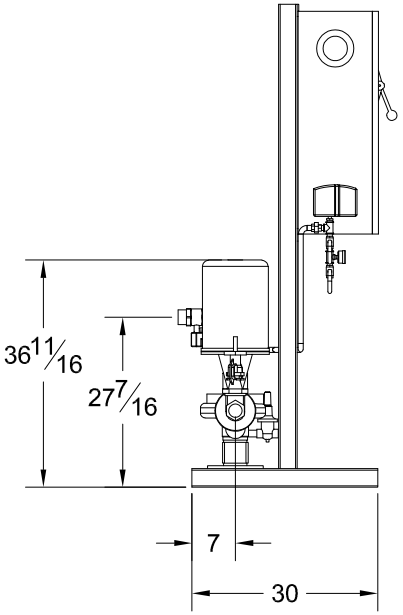
13-ULV100-R

Compact Residential Package
Design Condition: 100GPM @ 71PSI









System Specifications:
Motor
-10 Horsepower Electric
-230 Volt, 48.3 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

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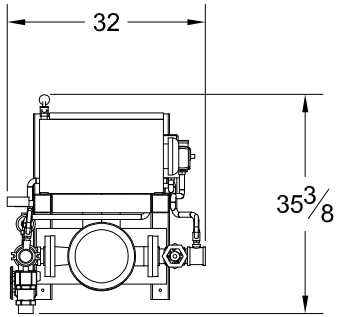
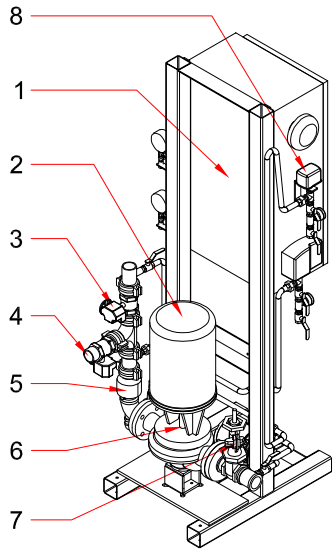
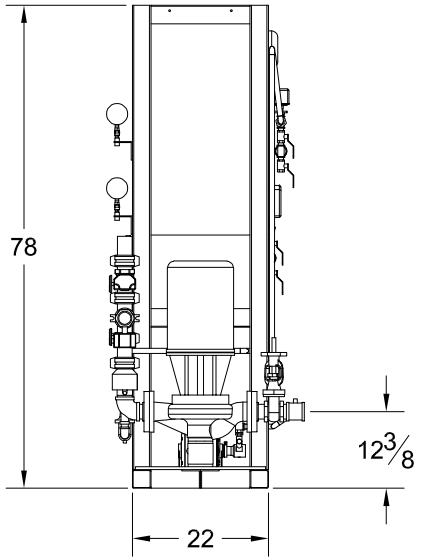
NFPA13R Packaged Fire Pump System
UL Fire Pump
with Jockey Pump

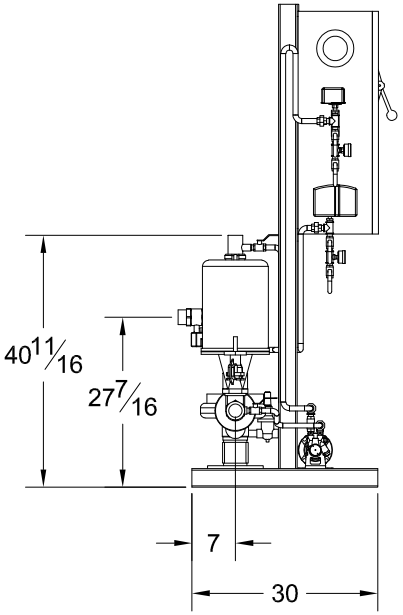
13-ULV100-R

Compact Residential Package
Design Condition: 100GPM @ 71PSI









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-5- Check Valve
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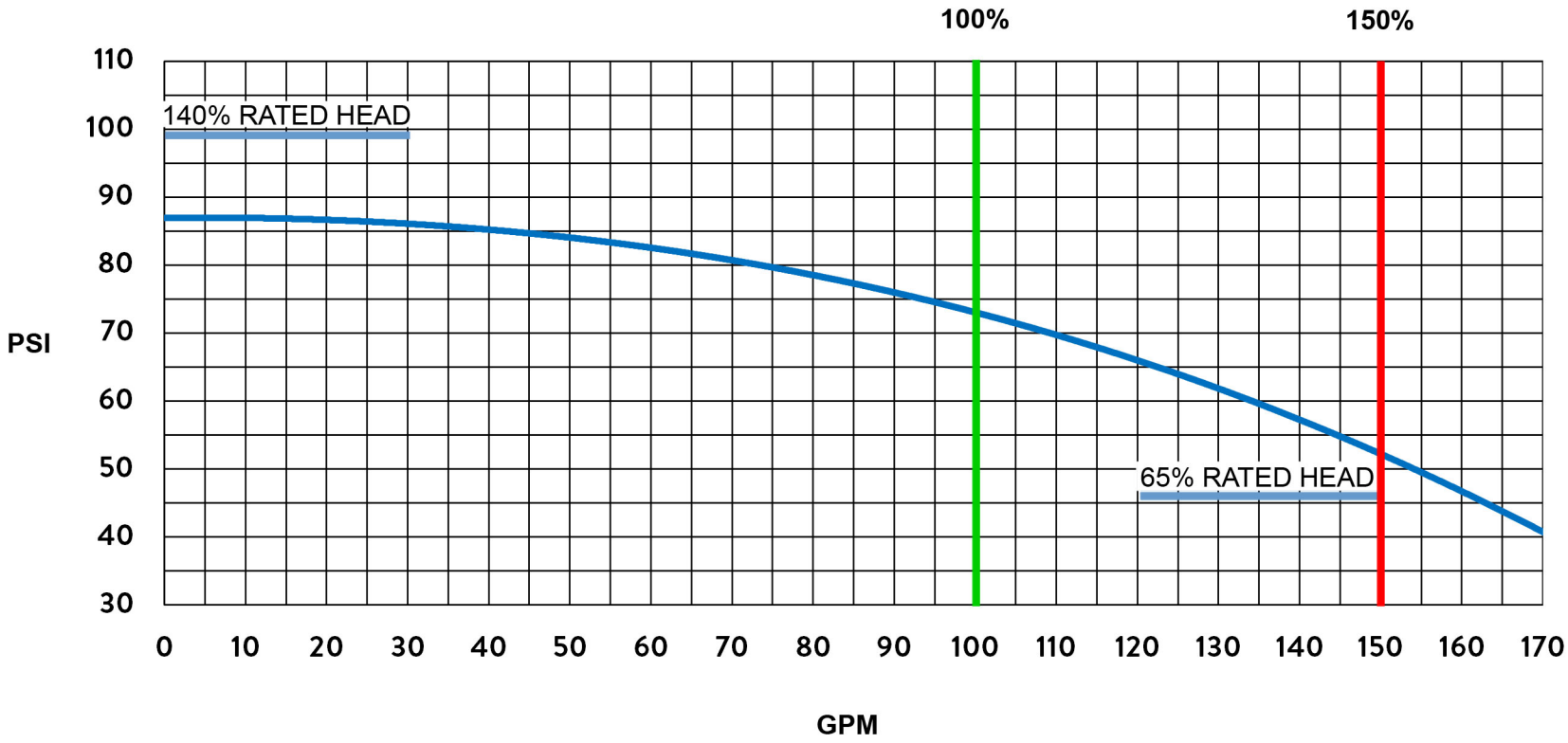
-7- Suction OS&Y
-8- Pressure Switch (Jockey Control)

(All Dimensions Are Approximate)
-36" Depth
-78" Height
-32" Width

13-ULV100 100GPM @ 71PSI 10HP UL VERTICAL INLINE FIRE PUMP



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Fire Pump Controller

TORNATECH

Technical Data
Submittal Document

Model GPL

Limited Service Full Voltage
Across the Line Start
Electric Fire Pump Controller

Contents:

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.

c UL us N.Y.C. APPROVED CE OPTIONAL SEISMIC COMPLIANT

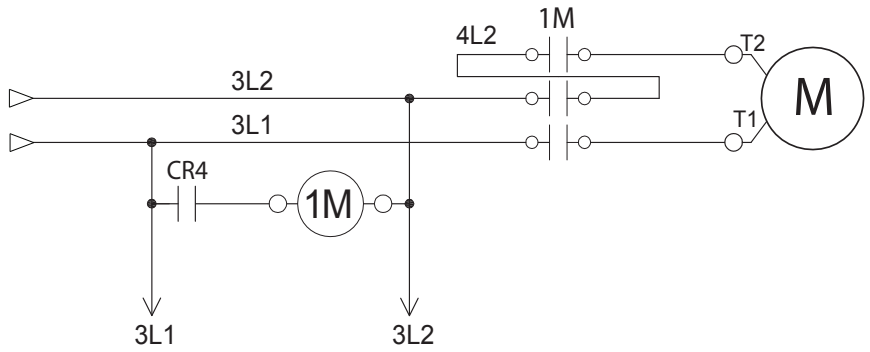
May 2019

TORNATECH

Technical Data

Model GPL Electric Fire Pump Controller

From normal incoming power through Disconnecting Means (IS/CB)*



c UL us

N.Y.C. APPROVED

SEISMIC COMPLIANT

CE OPTIONAL

Standard, Listings, Approvals and Certifications	Built to NFPA 20 (latest edition)	
	Underwriters Laboratory (UL)	• UL218 - Fire Pump Controllers • CSA C22.2 No. 14 Industrial Control Equipment
	New York City	Accepted for use in the City of New York by the Department of Buildings
	Seismic Certification	See page 5 for details
Enclosure	**Protection Rating** ☐ Standard: NEMA 2 **Optional** ☐ NEMA 12 ☐ NEMA 3 ☐ NEMA 3R ☐ NEMA 4 ☐ NEMA 4X-304 sst painted ☐ NEMA 4X-304 sst brushed finish ☐ NEMA 4X-316 sst painted ☐ NEMA 4X-316 sst brushed finish	
	Accessories • Wall mounting lugs • Keylock handle	**Paint Specifications** • Red RAL3002 • Powder coating • Glossy textured finish

*Please see Disconnecting Means details on page 3.

Shortcircuit Withstand Rating	208V to 240V- 3ph - 50/60Hz
☐ Standard	65,000A
☐ Optional	n/a

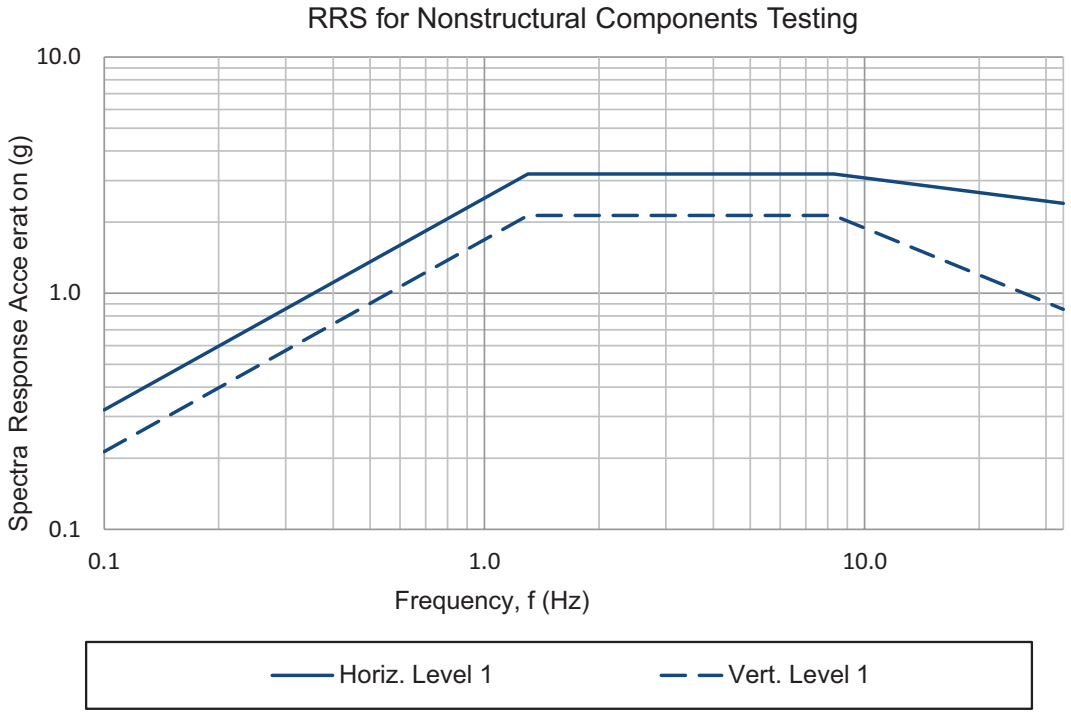
Limitations	• Across the line starting only • Horsepower rating of maximum 30hp • Can only be installed where acceptable by the authority having jurisdiction • Not accepted in FM insured property
Surge Suppression	Surge arrestor rated to suppress surges above line voltage
Disconnecting Means	Circuit breaker (inverse time non adjustable) rated between 150% and 250% of motor full load current
Service Entrance Rating	Suitable as service entrance equipment
Emergency Start Handle	• Push and slide to lock • Across the line start (direct on line)
Electrical Readings	• Voltage phase to phase (normal power) • Amperage of each phase when motor is running
Pressure Readings	• Continuous system pressure display • Cut-in and Cut-out pressure settings
Pressure and Event recorder	• Pressure readings with date stamp • Event recording with date stamp • Under regular maintained operation, events can be stored in memory for up to 5 years. • Data viewable on operator interface display screen • Downloadable by USB port to external memory device
Pressure Sensing	• Pressure transducer for fresh water application • Pressure sensing connection 1/2” Female NPT • Rated for 0-500PSI working pressure (standard display at 0-300PSI) • Internally mounted
Visual Indications	• Power available • Motor run • Periodic test • Manual start • Deluge valve start • Remote automatic start • Remote manual start • Emergency start • Pump on demand/Automatic start • Low discharge pressure • Pump room temperature (ºF or ºC) • Lockout
Visual Alarms	• Alternate lock rotor current • Alternate power phase reversal • Automatic transfer switch trouble • Control voltage not healthy • Fail to start • Invalid cut-in • Lock rotor current • Loss of power • Low ambient temperature • Low water level • Motor trouble • Normal power phase reversal • Overcurrent • Overvoltage • Phase loss L1 • Phase loss L2 • Phase loss L3 • Phase unbalanced • Pressure transducer fault detected • Pump on demand • Pump rrom alarm • Service required • Undercurrent • Undervoltage • Check weekly test solenoid • Weekly test cut-in not reached

<table>
<tr><td>Remote Alarm Contacts</td><td colspan="3">DPDT-8A-250V.AC
• Power available
• Phase reversal
• Motor run
• Common pump room alarm
• Overvoltage
• Undervoltage
• Phase unbalance
• Low pump room temperature
• High Pump room temperature
• Common motor trouble
• Overcurrent
• Undercurrent
• Fail to start
• Ground fault</td></tr>
<tr><td>ViZiTouch V2 Operator Interface</td><td colspan="3">• Embedded microcomputer with software PLC logic
• 7.0” color touch screen (HMI technology)
• Upgradable software
• Multi-language</td></tr>
<tr><td>Communication Protocol Capability</td><td colspan="3">• Protocol: Modbus
• Connection type: Shielded female connector RJ45
• Frame Format: TCP/IP
• Addresses: See bulletin MOD-GPx</td></tr>
<tr><td rowspan="6">Operation</td><td>Automatic Start</td><td colspan="2">• Start on pressure drop
• Remote start signal from automatic device</td></tr>
<tr><td>Manual Start</td><td colspan="2">• Start pushbutton
• Run test pushbutton
• Deluge valve start
• Remote start from manual device</td></tr>
<tr><td>Stopping</td><td colspan="2">• Manual with Stop pushbutton
• Automatic after expiration of minimum run timer ***</td></tr>
<tr><td>Timers</td><td>Field Adjustable & Visual Countdown</td><td>• Minimum run timer ***(off delay)
• Sequential start timer (on delay)
• Periodic test timer</td></tr>
<tr><td>Actuation</td><td rowspan="2">Visual Indication</td><td>• Pressure
• Non-pressure</td></tr>
<tr><td>Mode</td><td>• Automatic
• Non-automatic</td></tr>
</table>

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

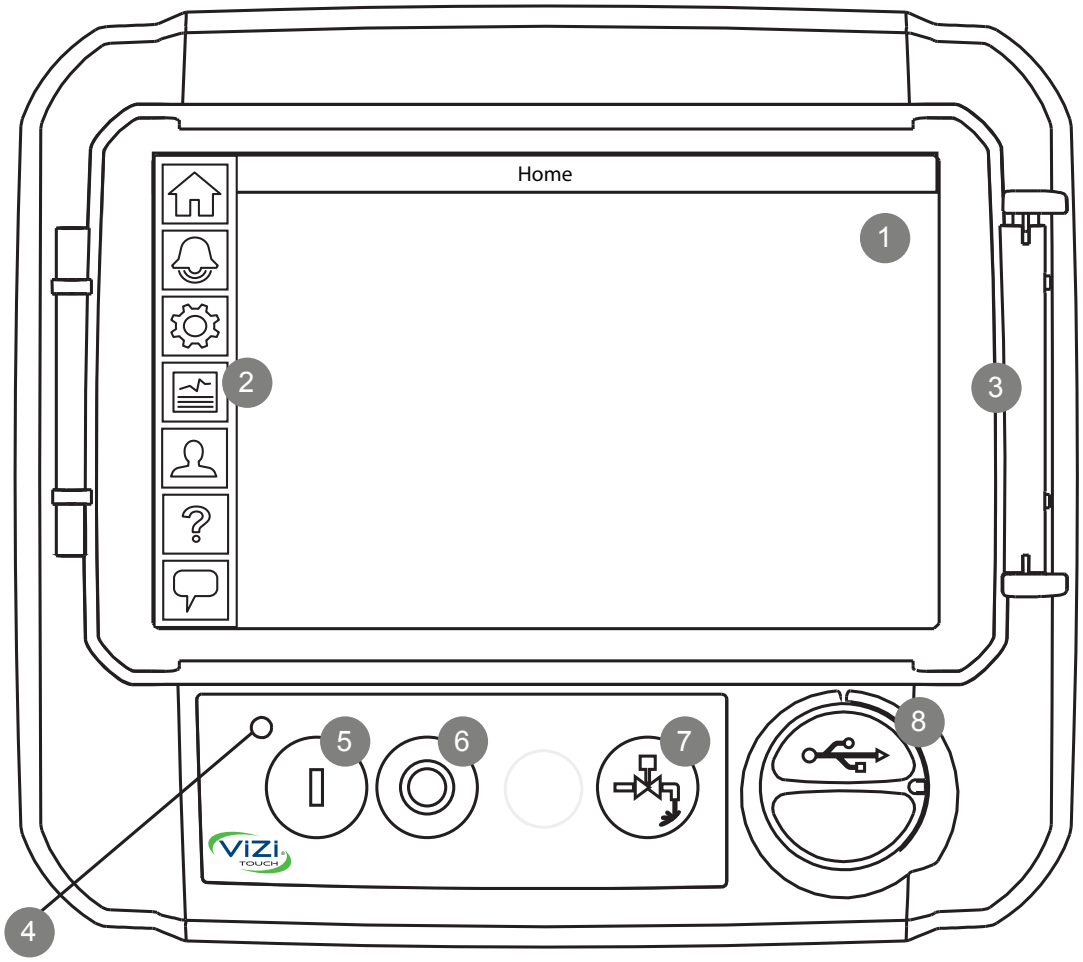
***Can only be used if approved by the AHJ

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_{DS}	z/h	I_P	A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
		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



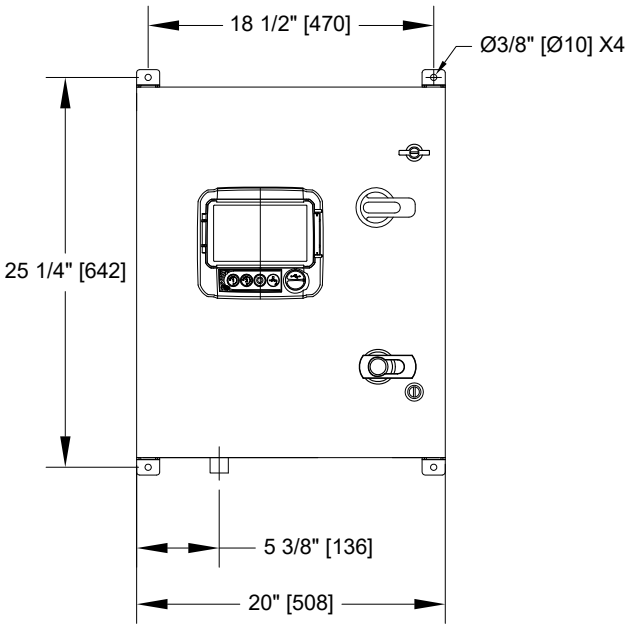
1 - Color touch screen
2 - Onscreen menu
- HOME page
- ALARM page
- CONFIGURATION page
- HISTORY page
- SERVICE page
- MANUAL page
- LANGUAGES page

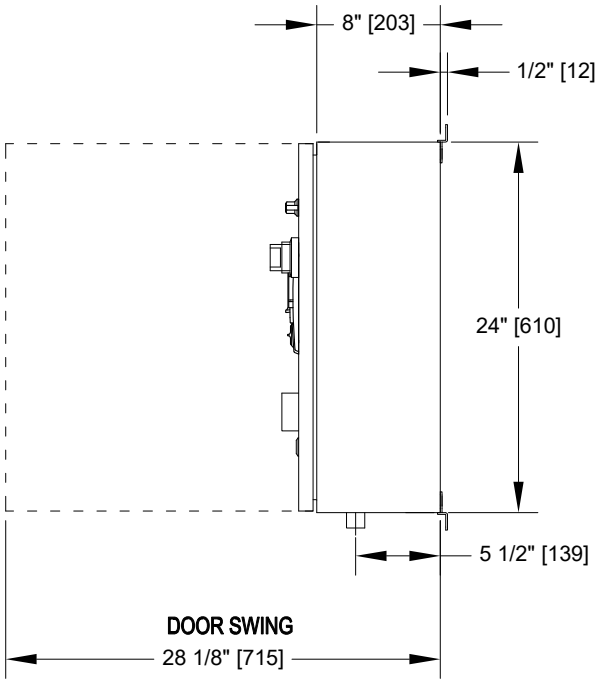
3 - Screen protector
4 - Power LED (3 colors)
5 - START button
6 - STOP button
7 - RUN TEST button
8 - USB port

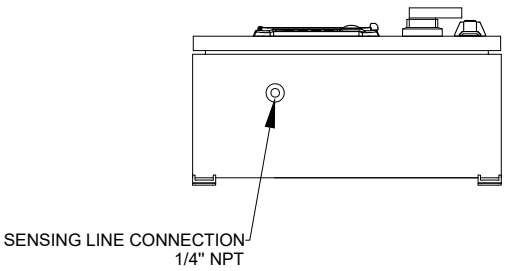
Limited Service Pump Controller
1 and 3 Phase
Dimensions

Model: GPL

Built to the latest edition of the NFPA 20 standard







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

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.

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

TORNATECH

SEISMIC COMPLIANT

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NYC Dpt of Building Approved

REV.	DESCRIPTION	DD/MM/YY
1.	Revised logo	18/06/18
0.	First issue	17/11/16

DRAW NG No.

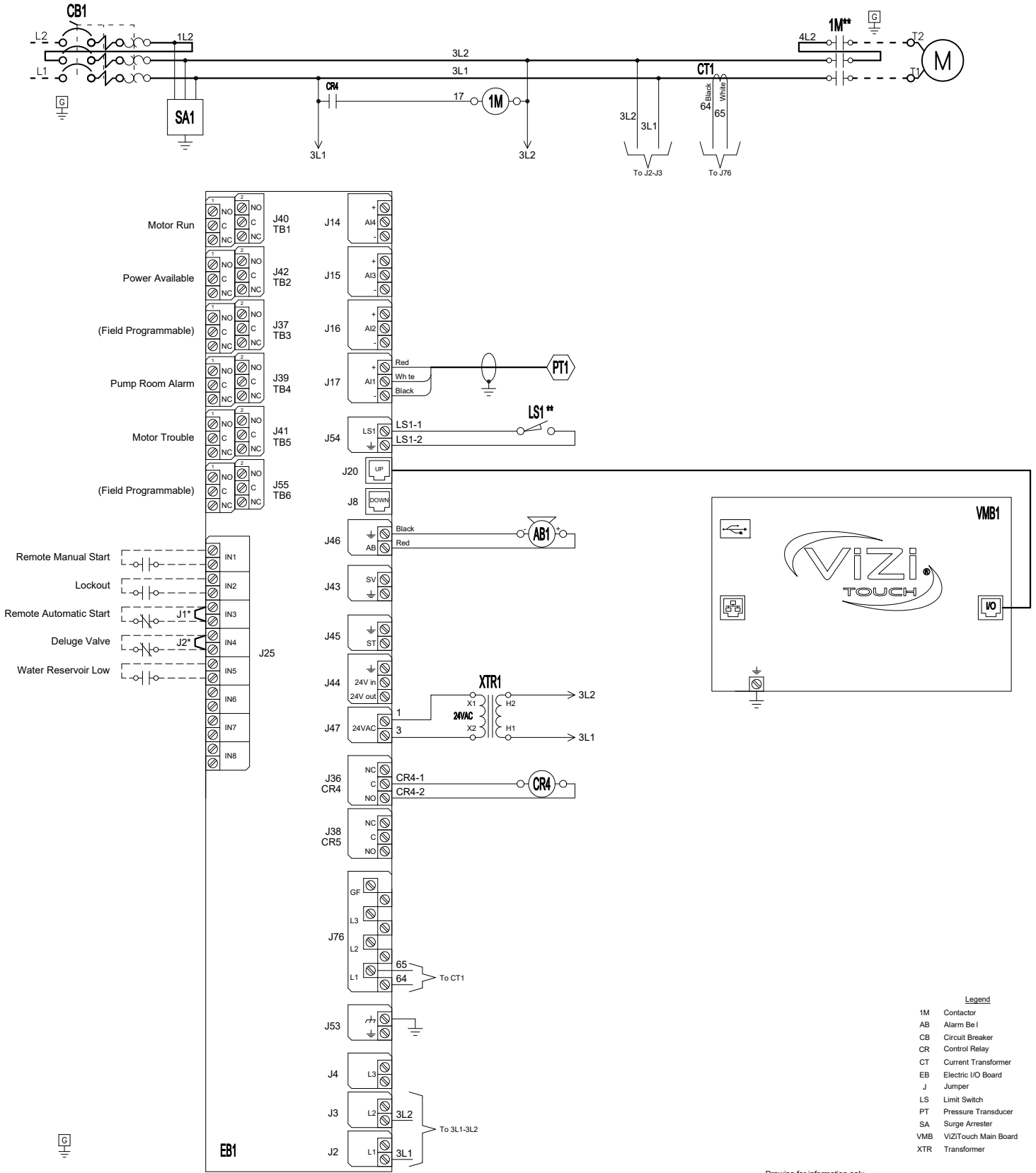
GPL-DI600 /E

Limited Service Pump Controller
Across the Line / 1 Phase

Model: GPL

Wiring schematic

Built to the latest edition of the NFPA 20 standard



Legend	
1M	Contactor
AB	Alarm Be l
CB	Circuit Breaker
CR	Control Relay
CT	Current Transformer
EB	Electric I/O Board
J	Jumper
LS	Limit Switch
PT	Pressure Transducer
SA	Surge Arrester
VMB	ViZiTouch Main Board
XTR	Transformer

* Remove jumper to use this feature

** Contact closes when emergency start is in "ON" position

Drawing for information only.
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NYC Dpt of Building Approved

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

Drawing number: GPL-WS600 /E

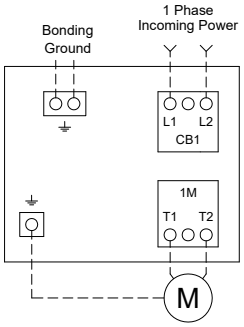
Limited Service Pump Controller

Model: GPL

Terminal Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

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)

Drawing for information only.
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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	

Limited Service Pump Controller

Model: GPL

Terminal Diagram and Sizing

Built to the latest edition of the NFPA 20 standard

Control Terminals (EB1)

Terminals Wire Size:
24 - 12 AWG
0.5 Nm

Remote Manual Start	Close to start pump	IN1	J25
Lockout	Close to block start	IN2	J25
Remote Automatic Start	Open to start pump	J1* IN3	J25
Deluge Valve	Open to start pump	J2* IN4	J25

Alarm Inputs (EB1)

Terminals Wire Size:
24 - 12 AWG
0.5 Nm

Water Reservoir Low	Close to signal alarm	IN5	J25

Network Connection (VMB1)

Shielded Female Connector RJ45

Modbus TCP/IP — I/O

Remote Alarm Terminals (EB1)

Terminals Wire Size:
24 - 12 AWG
0.5 Nm

Motor Run	Normally open Closes to alarm / Normally closed Opens to alarm	J40 TB1
Power Available	Normally open Closes to alarm / Normally closed Opens to alarm	J42 TB2
(Field Programmable)	Normally open Closes to alarm / Normally closed Opens to alarm	J37 TB3
Pump Room Alarm **	Normally open Closes to alarm / Normally closed Opens to alarm	J39 TB4
Motor Trouble **	Normally open Closes to alarm / Normally closed Opens to alarm	J41 TB5
(Field Programmable)	Normally open Closes to alarm / Normally closed Opens to alarm	J55 TB6

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

Drawing for information only.
Manufacturer reserves the right to modify this drawing w thout notice.
Contact manufacturer for "As Bu lt" drawing.

SEISMIC COMPLIANT

NYC Dpt of Building Approved

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	

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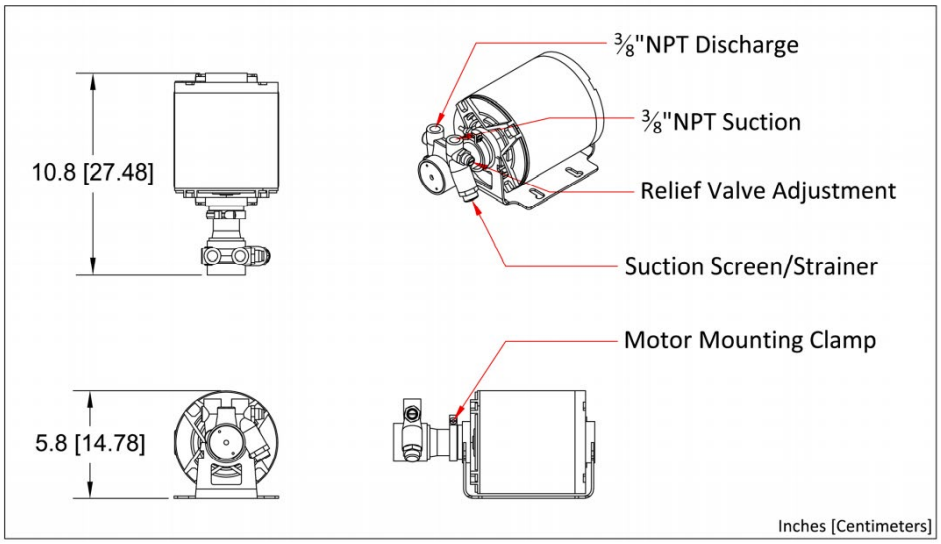
Jockey Pump

(Optional Equipment)

INNOVATIVE PUMP SOLUTIONS

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 6040 NE 112th 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^2)
Electrical durability	cycles	100,000
Mechanical durability	cycles	300,000

Electrical Ratings

1 Pole

Power ratings of controlled motors

Note:
Type FRG and G are all Form H

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

Voltage		FRG ~ 1-phase	FRG ~ 3-phase	FRG ⎓	FHG ▲■ ~ 1-phase	FHG ▲■ ~ 3-phase	FHG ▲■ ⎓	G ~ 1-phase	G ~ 3-phase	G ⎓
32 V		—	—	—	—	—	—	—	—	—
115 V		0.75 kW (1 HP)	—	0.18 kW (.25 HP)	1.1 kW (1.5 HP)	1.5 kW (2 HP)	0.18 kW (.25 HP)	0.75 kW (1 HP)	—	0.37 kW (.50 HP)
230 V		0.75 kW (1 HP)	—	0.18 kW (.25 HP)	1.5 kW (2 HP)	2.2 kW (3 HP)	0.18 kW (.25 HP)	1.5 kW (2 HP)	—	0.37 kW (.50 HP)
460 / 575 V		—	—	—	—	0.75 kW (1 HP)	—	1.5 kW (2 HP)	—	—

2 Pole

Power ratings of controlled motors

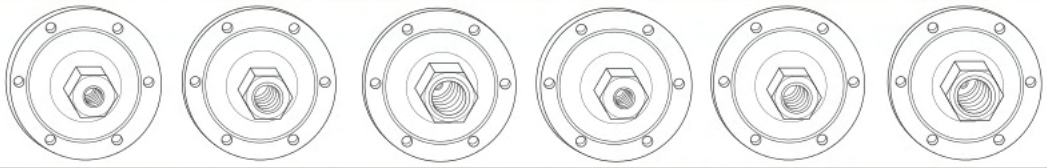
■ Includes
FHG 22, 24, 29, 32, 33, 34, 39, 52, 54, 59

Voltage		FRG ~ 1-phase	FRG ~ 3-phase	FRG ⎓	FHG ▲■ ~ 1-phase	FHG ▲■ ~ 3-phase	FHG ▲■ ⎓	G ~ 1-phase	G ~ 3-phase	G ⎓
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)	—

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
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-0ut 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

1 *Specify Class 9013 Type G.*
2 *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.*
3 *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.*
4 *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 GHB, GHG, GSB, and GSG

See page 25 for Form C10.

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
40-20 PSI	J23
40-60 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

TALCO FIRE SYSTEMS

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6040 NE 112TH AVE. PORTLAND, OREGON 97220
PHONE: 800-878-8055 WWW.TALCOFIRE.COM

Valves & Fittings

Fire Main Gate Valve

INSIST ON FPPI®

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 ¼” IPS
06-706-00 1 ½” IPS
06-708-00 2” IPS

Finish:

Body: Rough Brass*
Handwheel: Red

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

UL LISTED FM APPROVED

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PTS-C
PLUG TYPE SUPERVISORY SWITCH

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.

Potter Electric Signal Company, LLC • 2081 Craig Road, St. Louis, MO, 63146-4161 • Phone: 800-325-3936/Canada 888-882-1833 • www.pottersignal.com

PRINTED IN USA

MFG #5401078 - REV J
5/08

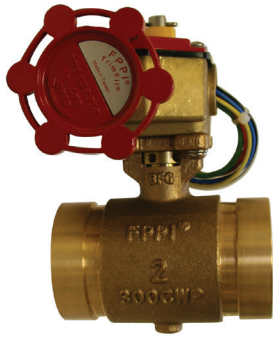
TrimFit® Bronze Butterfly Valve

INSIST ON FPPI®

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.

Specifications

Rated to 300 PSI
Switch rating:
10.1Amps125/250VAC-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

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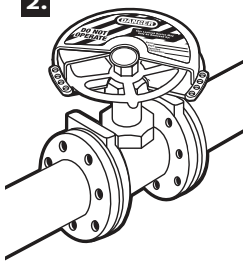
Valve Handle Lockout Covers

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)

2.



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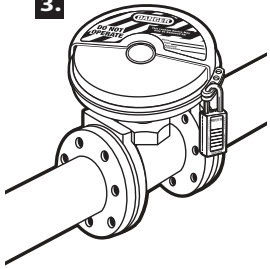

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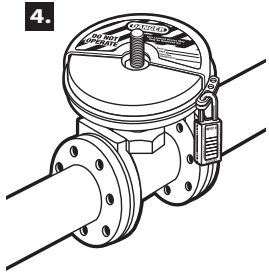

Assembly Instructions

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

www.masterlocksafety.com • www.masterlock.com

Master Lock Company LLC, Milwaukee, WI 53210 U.S.A. | 800-308-9244
Master Lock Canada Inc., Mississauga, Ontario L5L 5Z9 | (800) 227-9599 | Fax: (800) 229-0081
Master Lock Europe, 92200 Neuilly-sur-Seine, France, 00 33 1 41 43 72 00, E-mail: safety@master-lock.fr
Master Lock Europe-UK Office, Wakes Colne, Colchester CO6 2DB, UK, 0044.1.787.222.027, E-mail: safetyeu@mlock.com
玛斯特锁贸易(上海)有限公司 上海市浦东新区银城中路168号上海银行大厦1006室 400-820-6535 E-mail:safetychina@mlock.com

Check Valves

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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

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*Contains lead. Not for use in water systems intended for human consumption.
**1 ½" size is UL/ULc listed only

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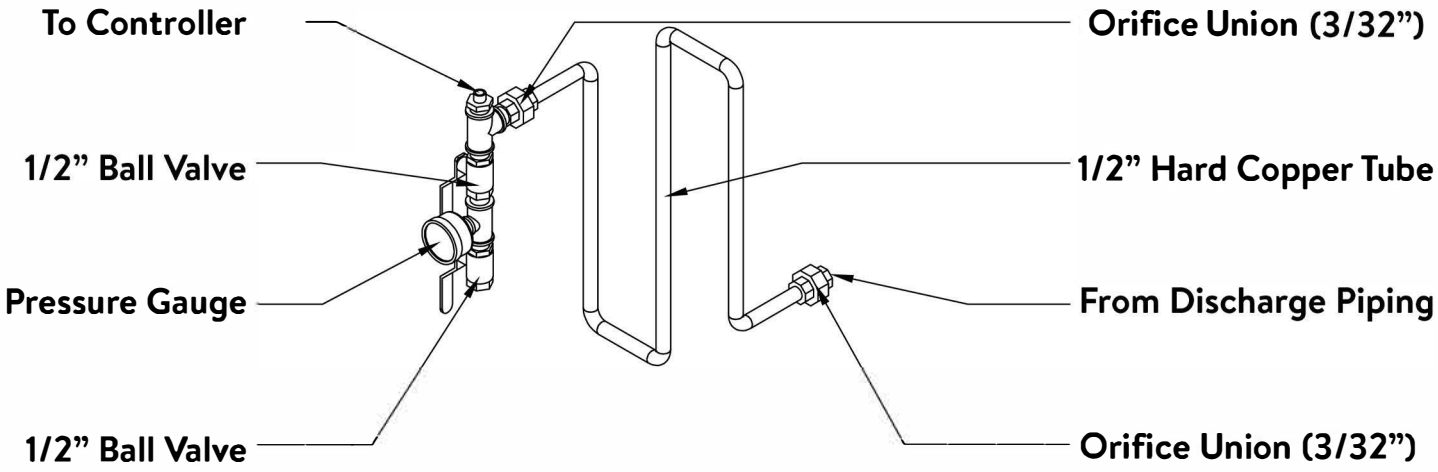
NFPA20 Sensing Line Detail



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.