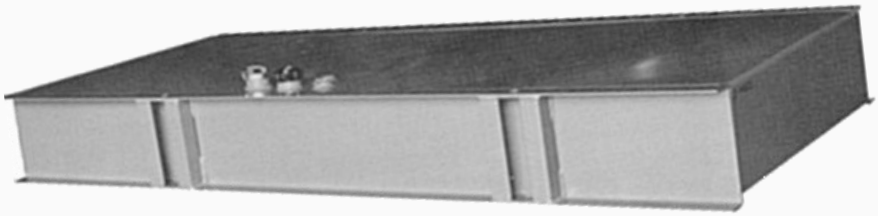
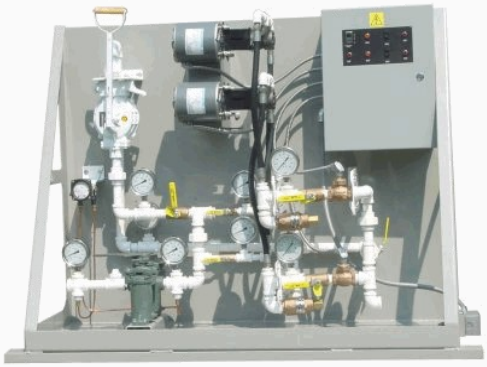
FUEL SUPPLY SYSTEMS

PRYCO, INC.





PRODUCT BROCHURE

TABLE OF CONTENTS

DAY TANK– OVERVIEW

Pryco Day Tanks come in three general design types: ***Standard, Manual and Trim***. The Standard and Manual tanks have the same physical dimensions. The Manual tanks however do not have a mounted pump, motor, float switch, and related controls. The Standard and the Trim tanks have the same standard equipment (see Standard Features); however, the Trim design has a smaller footprint and is taller. All Pryco Day Tanks are fabricated of heavy gauge steel by certified welders. Each tank is tested accordingly.

U/L LISTED TANKS

Most Day Tank or Subbase Tank can be **U/L Listed (Label 142)**. In addition to the above features, all U/L Listed tanks additionally have:

- internal extra strength reinforcement;
- a properly sized emergency vent (see "U/L VENT" columns in appropriate tables on the following pages); and,
- a U/L Listed label.

Pryco's unique U/L File Numbers are:

- **MH12807** which pertain to Day Tanks - specifically:
  - ***Aboveground Flammable for Liquid Tanks*** (Day Tanks);
  - ***Secondary Containment Aboveground Flammable for Liquid Tanks*** (Day Tanks with Double Wall Construction); and,
  - ***Open Top Diked Aboveground Flammable for Liquid Tanks*** (Day Tanks with a Rupture Basin).
- **MH17469** which pertain to Sub-base Tanks - specifically
  - ***Generator Base Tanks*** (Sub-base Tanks);
  - ***Secondary Containment Generator Base Tank*** (Sub-base Tanks with Double Wall Construction); and,
  - ***Open Top Diked Generator Base Tank*** (Sub-base Tanks with a Rupture Basin).
- **E102372** which Industrial Control Panels - specifically our Enclosed Industrial Control Panel (option #465).

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LOCAL CODES

The current trend of states, cities and other jurisdictions is to require fuel systems to be configured with certain accessories. The utmost concern of Pryco engineering is for the safety and quality of its products:

- Most Day Tank or Subbase Tank can be **U/L Listed (Label 142)**. The U/L Listing for a double-wall Subbase Tank is "Secondary Containment Generator Base Tank", file #**MH17469**.
- All tanks are fabricated by **Certified Welders** using **quality materials and parts**.

Below (and to the right) are some of the required accessories. **We encourage you to consult with the various governmental regulating agencies to ensure compliance with their codes.**

STATE OF MASSACHUSETTS:

Name plate stating: Manufacturer, Tank Capacity, Gauge of Steel, Serial Number, and Date Manufactured.

STATE OF WISCONSIN:

U/L Listed with Double Wall Construction (Day Tank and Subbase). Outdoor installations must be bullet-proof.

STATE OF FLORIDA:

Pryco Subbase tanks are pre-approved for installation (file #EQ-650). Subbase tanks must be U/L Listed with Double Wall Construction with the following accessories:

- **226** - Remote Fuel Fill Panel
- **227** - Spill Container
- **509** - High Fuel Switch
- **509RB** - Double Wall Leak Detector
- **213** - Critical High Alarm
- **361**- Solenoid Valve, 2", Normally Open (N.O.)
- Fill Station EQ762
- Day Tanks EQ736

CITY OF NEW YORK:

All Tanks - 200% Rupture Basin (and more)

STATE OF COLORADO

- 75% Low in 226 Panel

STATE OF CA

- **UL508**

CITY OF LOS ANGELES:

U/L Listed with the following accessories:

- **205** - Low Fuel Level Switch
- **209** - High Fuel Level Switch
- **226** - NEMA 3R Enclosure, Remotely Mounted
- **302** - Manual Fill, 2" Threaded
- **315** - Fuel Strainer
- **340** - Valve, Drain-Petcock
- **360** - Solenoid Valve
- **461** - Hand Pump
- **464** - Pipe Stems, Engine Suction Connection (Set of Two)
- Generator Run Circuit
- Pressure Relief Valve

CITY OF CHICAGO:

U/L Listed with the following accessories:

- **205** - Low Fuel Level Switch
- **213** - Critical High Switch, Pump/Motor Shut Down
- **385** - Rupture Basin
- **395** - Rupture Basin Float Switch Alarm w/ Pump/Motor Shut Down
- **464** - Pipe Stems, Engine Suction and Return Connections (Set of Two)
- **465** - U/L Listed Industrial Control Panel

Note: If HOA switch is used, the OFF position must be wired to an annunciator with a flashing yellow light on a remote or local panel.

We also have seismic versions available for specifications for all types of tanks.

Pryco, Inc. reserves the right to modify this catalog or any portion thereof without prior notice.

STANDARD DAY TANKS

TANK SIZE (U.S. GAL)	STANDARD SINGLE WALL SERIES DAY TANKS				STANDARD DOUBLE WALL SERIES DAY TANKS			
	BASIC DESIGN		U/L LISTED		BASIC DESIGN		U/L LISTED	
	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)
5	PY5	78	PY5UL	88	PY5DW	165	PY5ULDW	170
10	PY10	125	PY10UL	128	PY10DW	213	PY10ULDW	217
15	PY15	144	PY15UL	148	PY15DW	250	PY15ULDW	255
25	PY25	160	PY25UL	164	PY25DW	281	PY25ULDW	286
50	PY50	193	PY50UL	197	PY50DW	367	PY50ULDW	371
60	PY60	220	PY60UL	226	PY60DW	420	PY60ULDW	428
75	PY75	236	PY75UL	243	PY75DW	454	PY75ULDW	461
100	PY100	257	PY100UL	263	PY100DW	502	PY100ULDW	509
150	PY150	302	PY150UL	309	PY150DW	604	PY150ULDW	611
200	PY200	427	PY200UL	438	PY200DW	882	PY200ULDW	895
275	PY275	495	PY275UL	505	PY275DW	1,111	PY275ULDW	1,124
300	PY300	500	PY300UL	510	PY300DW	1,124	PY300ULDW	1,137
400	PY400	572	PY400UL	583	PY400DW	1,285	PY400ULDW	1,297
500	PY500	613	PY500UL	624	PY500DW	1,396	PY500ULDW	1,409
600	PY600	653	PY600UL	663	PY600DW	1,489	PY600ULDW	1,501
700	PY700	700	PY700UL	710	PY700DW	1,622	PY700ULDW	1,635
800	PY800	743	PY800UL	753	PY800DW	1,897	PY800ULDW	1,910
900	PY900	786	PY900UL	809	PY900DW	2,025	PY900ULDW	2,056
1000	PY1000	818	PY1000UL	841	PY1000DW	2,110	PY1000ULDW	2,141

TANK VENTING

Each tank (and double wall containment area, if applicable) has a 2" Atmospheric Vent.

If the tank is U/L Listed, an Emergency Vent is added. The size of the U/L Emergency Vent depends upon the wetted surface area of the tank and is shown to the right. If the tank is U/L Listed and double walled, the same size Emergency Vent is also added to the double wall containment area.

2" - 10—50 Gallons,

3" - 60—150 Gallons,

4" - 200—800 Gallons, and

6" - 900—1000 Gallons

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MANUAL DAY TANKS

TANK SIZE (U.S. GAL)	STANDARD SINGLE WALL SERIES DAY TANKS				STANDARD DOUBLE WALL SERIES DAY TANKS			
	BASIC DESIGN		U/L LISTED		BASIC DESIGN		U/L LISTED	
	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)
5	PY5M	52	PY5MUL	56	PY5MDW	131	PY5MULDW	137
10	PY10M	104	PY10MUL	108	PY10MDW	195	PY10MULDW	200
15	PY15M	125	PY15MUL	129	PY15MDW	234	PY15MULDW	239
25	PY25M	143	PY25MUL	147	PY25MDW	267	PY25MULDW	271
50	PY50M	178	PY50MUL	182	PY50MDW	355	PY50MULDW	359
60	PY60M	207	PY60MUL	213	PY60MDW	411	PY60MULDW	418
75	PY75M	225	PY75MUL	231	PY75MDW	446	PY75MULDW	453
100	PY100M	246	PY100MUL	252	PY100MDW	494	PY100MULDW	501
150	PY150M	291	PY150MUL	297	PY150MDW	596	PY150MULDW	603
200	PY200M	416	PY200MUL	428	PY200MDW	876	PY200MULDW	888
275	PY275M	485	PY275MUL	495	PY275MDW	1,105	PY275MULDW	1,117
300	PY300M	490	PY300MUL	500	PY300MDW	1,118	PY300MULDW	1,130
400	PY400M	563	PY400MUL	573	PY400MDW	1,278	PY400MULDW	1,291
500	PY500M	604	PY500MUL	614	PY500MDW	1,390	PY500MULDW	1,402
600	PY600M	643	PY600MUL	653	PY600MDW	1,482	PY600MULDW	1,495
700	PY700M	691	PY700MUL	701	PY700MDW	1,616	PY700MULDW	1,628
800	PY800M	733	PY800MUL	743	PY800MDW	1,890	PY800MULDW	1,903
900	PY900M	777	PY900MUL	800	PY900MDW	2,019	PY900MULDW	2,050
1000	PY1000M	809	PY1000MUL	832	PY1000MDW	2,104	PY1000MULDW	2,135

DOUBLE WALL TANKS

A totally enclosed outer shell may be added to all day tanks and subbase tanks resulting in a minimum 110% capacity secondary containment area. Both the inner and the outer tanks are vented separately and are pressure tested accordingly.

When enclosing a U/L Listed day tank, an additional emergency vent is added to the outer tank the same size as the inner tank. (The U/L Listing is "*Secondary Containment Aboveground Tank for Flammable Liquids", File MH12807.)*

TRIM DAY TANKS

TANK SIZE (U.S. GAL)	TRIM SINGLE WALL SERIES DAY TANKS				TRIM DOUBLE WALL SERIES DAY TANKS			
	BASIC DESIGN		U/L LISTED		BASIC DESIGN		U/L LISTED	
	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)	MODEL	WT (Lbs)
10	PY10T	113	PY10TUL	117	PY10TDW	220	PY10TULDW	225
25	PY25T	137	PY25TUL	141	PY25TDW	276	PY25TULDW	281
50	PY50T	216	PY50TUL	220	PY50TDW	440	PY50TULDW	445
60	PY60T	224	PY60TUL	231	PY60TDW	460	PY60TULDW	469
75	PY75T	232	PY75TUL	239	PY75TDW	479	PY75TULDW	488
100	PY100T	248	PY10T0UL	255	PY100TDW	517	PY100TULDW	526

STANDARD DAY TANK FEATURES	STD. TANKS	MANUAL TANKS	TRIM TANKS
Removable 6½" Square Inspection Plate w/Gasket	√	√	√
Fuel Level Gauge	√	√	√
Heavy Duty Float Switch	√		√
“Press-to-Test” Switch	√		√
"Pump Running" Indicator Light	√		√
1/3 hp Thermally Protected, 120vac, 1ph, 60hz, Motor	√		√
2 gpm Bronze Gear Pump w/Stainless Steel Shafts	√		√
Threaded Pipe Connections for:			
• Engine Supply and Return w/Drop Tubes	√	√	√
• Atmospheric Vent	√	√	√
• Emergency Vent (If U/L Listed)	√	√	√
• Pump-To-Tank Inlets and Outlets w/Drop Tubes	√	√	√
• Overflow (Normally back to main storage tank)	√	√	√
• Tank Top Drain w/Drop Tube (located tank bottom on Trim Tanks)	√	√	√
• Two Extra 2” Connections	√		√
• One (1) Manual Fill Connection and One (1) Extra 2” Connection		√	
• **If Double Wall Secondary Containment, Add:**			
♦ An Atmospheric Vent	√	√	√
♦ An Emergency Vent (If U/L Listed)	√	√	√
♦ Drain For Secondary Containment Area	√	√	√
Removable Top Cover	√	√	√
Epoxy Coating Inside	√	√	√
Pryco (Medium) Gray Exterior Paint (or an industrial color of choice)	√	√	√

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DAY TANKS DIMENSIONS and U/L VENT SIZES

TANK SIZE (U.S. GAL)	U/L VENT SIZE [1]	STANDARD & MANUAL DAY TANKS						TRIM DAY TANKS					
		SINGLE WALL DESIGN			DOUBLE WALL DESIGN			SINGLE WALL DESIGN			DOUBLE WALL DESIGN		
		WIDTH [2]	DEPTH [3]	HEIGHT [4]	WIDTH [2]	DEPTH [3]	HEIGHT [4]	WIDTH [2]	DEPTH [3]	HEIGHT [4]	WIDTH [2]	DEPTH [3]	HEIGHT [4]
5	2	24.0	8.0	22.5	30.0	14.0	25.0						
10	2	24.0	16.0	28.0	30.0	18.0	29.5	24.0	8.0	32.0	30.0	14.0	35.0
15	2	24.0	16.0	34.0	30.0	18.0	35.5						
25	2	24.0	16.0	39.0	30.0	18.0	40.5	36.0	8.0	33.5	42.0	14.0	38.0
50	2	24.0	18.0	46.0	30.0	24.0	47.5	36.0	8.0	57.0	42.0	14.0	61.5
60	3	24.0	18.0	54.0	30.0	24.0	55.5	36.0	10.0	57.0	42.0	16.0	61.5
75	3	24.0	18.0	59.0	30.0	24.0	60.5	36.0	12.0	57.0	42.0	18.0	61.5
100	3	24.0	24.0	59.0	30.0	30.0	60.5	36.0	16.0	57.0	42.0	22.0	61.5
150	3	24.0	36.0	59.0	30.0	42.0	60.5						
200	4	24.0	48.0	62.5	30.0	54.0	64.0						
275	4	27.0	60.0	62.5	33.0	66.0	64.0						
300	4	28.0	60.0	62.5	34.0	66.0	64.0						
400	4	34.0	66.0	62.5	40.0	72.0	64.0						
500	4	42.0	66.0	62.5	48.0	72.0	64.0						
600	6	42.0	74.0	62.5	48.0	80.0	64.0						
700	6	48.0	76.0	62.5	54.0	82.0	64.0						
800	6	52.0	80.0	62.5	58.0	86.0	64.0						
900	6	56.0	84.0	62.5	62.0	90.0	64.0						
1000	6	58.0	90.0	62.5	64.0	96.0	64.0						

[1] - U/L emergency vent sizes on U/L Listed Tanks
[2] - Width dimension is from Side to Side (in inches)
[3] - Depth dimension is from Front to Back (in inches)
[4] - Height (in inches) includes a 12½" removable cover **and** 3" legs on 5-150 gallon tanks, and 1½" legs on 200-1000 gallon tanks.

Drawings for all Pryco tanks may be downloaded in PDF format from our website www.Pryco.com

UL LISTED

PUMP SETS

An open design duplex pump set (Model #PYPS1205) set up to be bolted to the floor.

Standard Features include:

- Heavy Gauge Steel throughout
- 2 GPM Pump & 1/3 HP Motor
- High Pressure, Crimp Hose connections
- Drip Pan with ½ " Drain Plug Port
- Priming Tee on intake (#312)
- 3" Formed Channel Legs on Pad Floor
- Common Ports - Suction & Discharge
- Interface with Tank Control Circuits
- Gray or Industrial Color Paint

Pryco Pump Sets are high performance fuel system drivers. They are fully integrated, pre-plumbed and pre-wired for trouble-free, "connect and go" installation. We offer a wide range of configurations that will fulfill your requirements. They are intended to transfer #2 fuel oil within an emergency generator system or oil burners.

The following configurations are available:

- The **PYPS1000** "Open Design" series — the components are mounted on a bracket with a drip pan that may be placed directly on the floor or may be ordered with an integrated heavey duty bracket on the back side for wall mounting.

- The **PYPS2000** "Enclosed Design" series — the components of the this design are mounted on a back-plate that is placed within an optional NEMA-1 or NEMA-3R enclosure (Option #338). The enclosure may be wall mounted or may be ordered with legs for floor installation. See page PS-4 for a description of the optional enclosures.

- The **PYPS3000** "Custom Design" series — for special requirements

Refer to the Options Section (starting on page 11) to select accessories for pump sets. Isolation valves provide for easy maintenance of the pump and motor system. Also, fuel filters/separators and pressure relief valves are ordered with most pump sets.

A pump set can accommodate both a supply and a return system.

Please call the sales rep in your area or the factory for more details.

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SUBBASE TANKS

Pryco's Subbase Tanks are designed specifically for generator set mounting. The physical size of each depends upon the foot print of the gen set and required capacity. Subbase Tanks are available in a **Standard** or a **U/L Listed** design. Each has the following characteristics:

- **Heavy Gauge Steel** - 7-gauge for the top and side channels; 12-gauge for bottom, ends, and internal baffles.
- **Internal Structural Baffles** - located every mounting point and a hot/cold fuel separation baffle.
- **Drain** - 3/8" in tanks up to 200 gallons and 1" in 200+ gallon tanks.
- **Connections** - (1 ea.) 1½" for fuel level gauge; (2 ea.) 2" NPT for lockable fill cap and for vent; and (2 ea.) ½" for engine suction and for engine return.
- **Welded by Certified Welders and Tested to 5psi.**
- **Finish** - Primer and choice of industrial color enamel.

Standard or U/L Listed Subbase may be fitted with **Double-Wall** ("Secondary Containment") construction. **Custom designed tanks** can accommodate large capacity **Double Wall** and **Rupture Basin** requirements.

U/L Listed Subbase Tanks have additional sized vents for the tank and the double wall area, if present. U/L Listed Sub-Base Tanks are restricted to: Width cannot exceed 82" — Height cannot exceed 30" and Capacity - 2000 gallons or less.

Consult factory for dimensions and pricing.

SUBBASE OPTIONS

Option	Description
503	**LOW FUEL LEVEL ALARM** - Separate float switch activates red light
504	**HEAVY DUTY SOCKET and RELAY** for Option #503 (3 amp. relay, dry contacts)
505	**LOW FUEL LEVEL SWITCH** - Separate float switch for remote annunciator only.
507	**HIGH FUEL LEVEL ALARM** - Separate float switch activates red light.
508	**HEAVY DUTY SOCKET and RELAY** for Option #505 (3 amp. relay, dry contacts)
509	**HIGH FUEL LEVEL SWITCH** - Separate float switch for remote annunciator only.
509RB	**LEAK DETECTOR SWITCH** - Rupture Basin or Double Wall (3 amp., dry
530	**2" RAISED MANUAL FILL** - with lockable cap, 8" high (ships loose).
531	**EXTRA FITTING** through double wall (up to 2")
532	**ADDITIONAL SET of GEN-SET MOUNTING HOLES** (over 3 sets).
533	**MOUNTING RAILS** to bolt gen-set to wider tanks
534	**"BOLT-ON" END** for stub up (not for

Option Code	Description
535	**"BOLT-ON" EXPANDED METAL END** for stub up (not for Custom tanks)
536	**GENERATOR SET MOUNTING** - up to
537	**ISOLATOR PADS** - attached at each mounting point to receive spring isolators
540	**ENCLOSURE** – For Level Sensors (Used Primarily for Day Tank versions)
544	**ENCLOSURE** – For Control Panel (Used Primarily for Day Tank versions)
595	**LEAK DETECTOR FOR DOUBLE WALL TANKS WITH PUMP AND MOTOR (Day Tank Version of Sub-base)** - A sensor within the Double Wall containment area that upon detection of a leak will turn on a red alarm light on control panel and will shut down pump motor. **Includes** dry terminal contacts for connection of customer supplied device up to 15 amp.
595M	**LEAK DETECTOR FOR DOUBLE WALL MANUAL TANKS** — A sensor within the Double Wall containment area that upon detection of a leak will turn on a red alarm light on control panel. **Includes** dry terminal contacts for connection of customer supplied device up to 15 amp.

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ELECTRICAL OPTIONS

Option Code	Description
200	**POWER AVAILABLE LAMP —** A **Green** pilot light that when lit Indicates the control and/or motor circuits are energized and the system is ready.
200R	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, POWER AVAILABLE** — Components to provide a heavy-duty, remote signal of the Power Available Lamp (option #200). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
201	**LOW FUEL SUPPLY IN MAIN TANK LAMP —** A **Red** pilot light that when lit indicates **LOW FUEL LEVEL** in the remote source tank (normally the main storage tank). Signal from external tank must be supplied by customer. **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp. Specify incoming voltage.
201R	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, LOW FUEL SUPPLY IN MAIN TANK** — Components to provide a heavy-duty, remote signal of the Low Fuel Supply In Main Tank Lamp (option #201). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
202	**PUMP RUN-OFF-AUTOMATIC SWITCH** - Three position selector switch that replaces "Press-To-Test" switch. Normally there is one for each pump control system. **Includes Option #200.** • In the **ON** position, it overrides the float switch to turn on the motor (and pump). • In the **OFF** position is used to turn off all power to the control system for the associated pump. • In the **AUTO** position (normal), the float switch has control of the start and stop of the pump motor.
203	**LOW FUEL LEVEL ALARM** — A separate float switch which activates a **red** pilot light on the control panel when fuel falls below a preset level (normally 75% fuel capacity).
204	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, LOW FUEL LEVEL ALARM** — Components to provide a heavy-duty, remote signal of the Low Fuel Level Alarm (option #203). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
205	**LOW FUEL LEVEL SWITCH** — A separate float switch that activates remote outgoing signal when the fuel falls to a predetermined level (normally 75% fuel capacity). **Includes** dry terminal (30-watt) contact.

120vac voltage is assumed for all electrical components.
230vac, 12vdc, 24vdc, and most industry-standard special voltages may also be specified.

ELECTRICAL (Continued)

Option Code	Description
206	**CRITICAL LOW FUEL ALARM w/ENGINE SHUTDOWN** — A separate float switch that activates a **red** light on the control panel when the fuel level reaches a critical low level -- normally 5% fuel capacity of the tank. It opens a set of normally closed contacts that will shut down the generator engine thus preventing loss of engine fuel prime. **Includes** a double pole relay that closes a normally open contacts for a 3 amp remote outgoing signal.
207	**HIGH FUEL LEVEL ALARM** — A separate float switch which activates a **red** pilot light on the control panel when fuel fills beyond a preset level (normally 102%).
208	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, HIGH FUEL LEVEL ALARM** — Components to provide a heavy-duty, remote signal of the High Fuel Level Alarm (option #207). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
209	**HIGH FUEL LEVEL SWITCH** — A separate float switch that activates a remote outgoing signal when the fuel rises to a predetermined level (normally 102% capacity). **Includes** dry terminal (30-watt) contacts.
209RB or 209DW	**RUPTURE BASIN or DOUBLE WALL LEAK DETECTOR SWITCH** — A sensor switch located within the secondary containment area. **Includes** dry terminal (30-watt) contacts.
210	**HIGH / LOW COMBINATION FUEL LEVEL ALARM** — Dual separate float switches that activates red lights on control panel when a low or high fuel level is sensed. • **HIGH** - (See option #207) • **LOW** - (See option #203)
211	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, HIGH / LOW COM-BINATION FUEL LEVEL ALARM** — Components to provide a heavy-duty, remote signal of the High / Low Combo Fuel Level Alarm (option #210). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
212	**COMBINATION HIGH/LOW FUEL LEVEL SWITCH** — Dual separate float switches to provide remote signaling of high and low fuel level conditions. • **LOW** - (See option #205) • **HIGH** - (See option #209)

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ELECTRICAL (Continued)

Option Code	Description
213	**CRITICAL HIGH FUEL ALARM w/PUMP MOTOR SHUTDOWN** — This switch/ alarm assembly prevents tank overfilling when the fuel level reaches a critical high level - normally 3-inches from the top of the tank or 103%.
	Tanks with a pump / motor system — a separate float switch activates a red alarm light on the tank control panel, shuts down pump motor(s), and closes a normally open solenoid valve that is installed at fuel inlet.
213A-120	1/2" NPT Fuel Line—120 vac Includes NO Solenoid Valve
213A-230	1/2" NPT Fuel Line—230 vac Includes NO Solenoid Valve
213A-D12	1/2" NPT Fuel Line—12 vdc Includes NO Solenoid Valve
213A-D24	1/2" NPT Fuel Line—24 vdc Includes NO Solenoid Valve
213B-120	1" NPT Fuel Line—120 vac Includes NO Solenoid Valve
213B-230	1" NPT Fuel Line—230 vac Includes NO Solenoid Valve
213B-D12	1" NPT Fuel Line—12 vdc Includes NO Solenoid Valve
213B-D24	1" NPT Fuel Line—24 vdc Includes NO Solenoid Valve
213C-120	1-1/2" NPT Fuel Line—120 vac Includes NO Solenoid Valve
213C-230	1-1/2" NPT Fuel Line—230 vac Includes NO Solenoid Valve
213C-D12	1-1/2" NPT Fuel Line—12vdc Includes NO Solenoid Valve
213C-D24	1-1/2"" NPT Fuel Line—24 vdc Includes NO Solenoid Valve
213D-120	2" NPT Fuel Line—120 vac Includes NO Solenoid Valve
213D-230	2" NPT Fuel Line—230 vac Includes NO Solenoid Valve
213D-D12	2" NPT Fuel Line—12 vdc Includes NO Solenoid Valve
213D-D24	2" NPT Fuel Line—24vdc Includes NO Solenoid Valve
213M	**Manual-fill and Subbase Tanks (no pump/motor system installed)** — a separate float switch activates a red alarm light on the tank control panel.
214	**EXPLOSION PROOF FLOAT SWITCH** — This switch assembly has the same functionality as our standard float switch but all components are explosion proof, except the contactor, which is housed within an explosion proof enclosure.
215	**FLOAT VALVE** — This option is used when a day tank is gravity fed from a main storage tank. Although technically it is not an electrical item, it replaces the standard float switch (option 217). Therefore, there is no electrical level control and annunciation directly associated with this option.
216	**CIRCUIT BREAKER** — This option, which includes the breaker(s) and an enclosure, is used to protect pump motors. The actual breaker is sized according to the ampere draw of the motor(s) and voltage. Standard breaker sizes are:
216-1-10	Single pole, Single Phase, A/C — 10 Amp.
216-1-15	Single pole, Single Phase, A/C — 15 Amp.
216-1-20	Single pole, Single Phase, A/C — 20 Amp.
216-1-30	Single pole, Single Phase, A/C — 30 Amp
216-2-15	Double pole, Single Phase, A/C — 15 Amp.
216-3-15-230	230 vac, Three Phase — 15 Amp.
216-3-15-460	460 vac, Three Phase — 15 Amp.
216-DC	All D/C motors - Up to 30 Amp.

ELECTRICAL (Continued)

Option Code	Description
217 217LAG 217SB 217TRIM	**FLOAT SWITCH (Standard)** — This switch controls the start and stop of the pump motor. There are two sensors: • an **ON** sensor normally set at the 86% level, and • an **OFF** sensor that is normally set at the 100% level. This option includes a bypassing "press-to-test" momentary contact switch to manually test the pump motor, and an amber pump-running light. The contactor has two N.O. and two N.C. secondary terminals that is rated at 15 amps. FLOAT SWITCH– LAG for Standard Tank FLOAT SWITCH– Standard Settings for Subbase Tank FLOAT SWITCH– Standard Settings for Trim Tank
218	**DOUBLE POLE/DOUBLE THROW (DPDT) FLOAT SWITCH** (Replaces Standard Float Switch #217) — This switch functions the same as our Standard Float Switch (option 217) with the exception — this switch has an additional set of two N.O and two N.C. secondary terminals rated at 15 amps.
219 219A 219B 219C 219D 219E 219F	**HEATER & THERMOSTAT** — An assembly used to heat the fuel oil inside a tank to maintain a specified temperature. While the thermostat controls the on/off of the actual heater to achieve desired fuel temperature, a float switch and relay monitors fuel level If the fuel drops below a pre-set level of 1" above the heater, the heater is shut off regardless of the temperature. This is to protect the heater from "burn-out". **5 to 25 Gallons** PY5 - PY25 — 300w,120vac **Above 25 Gallons** PY50 - PY100 —- 1000w,120vac PY150 - PY300 — 1500w, 120vac PY400 - PY500 — 2000w, 120vac PY600 - PY800 — 4000w, 240vac PY900 - PY1000—8000w, 240vac 219D DW (Double Wall) and 29E RB (Rupture Basin)
220	**MULTIPLEX REMOTE PUMP/MOTOR CONTROLLER** — An automatic transfer switching device used to control alternating remote pumps/motors pumping fuel from main storage tank to any number day tanks.
221	**EXPLOSION PROOF LOW LEVEL SWITCH** — An explosion-proof sensor that activates remote outgoing signal when the fuel falls to a pre-determined level. **Includes** dry terminal (30-watt) contacts. Terminals located in explosion-proof box.
222	**EXPLOSION PROOF HIGH LEVEL SWITCH** — An explosion-proof sensor that activates remote outgoing signal when the fuel rises to a pre-determined level. **Includes** dry terminal (30-watt) contacts. Terminals located in explosion-proof box.

P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

ELECTRICAL (Continued)

Option Code	Description
223	**ALARM HORN, COMPACT** — This horn is a compact design, vibrating AC or DC horn with low power drain that normally surface mounts on a control panel. Sound output is 104 dB at one foot (86 dB at 10 ft.). It is intended for indoor or protected use.
224	**ALARM HORN, WEATHERPROOF** — A low-current, high decibel vibrating horn for heavy-duty indoor/outdoor use. Sound output is adjustable over a 25 dB range from 78 dB to 103 dB (10 feet).
225	**FLASHING LIGHT - YELLOW** — Used as an "attention getter", this option may be used in most any alarm circuit. Please specify associated alarm option.
225R	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, FLASHING LIGHT - YELLOW** — Components to provide a heavy-duty, remote signal of the Flashing Light, Yellow (option #225). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
226	**REMOTE FUEL FILL PANEL** — A U/L Listed, NEMA 3R enclosure, remotely mounted that is used to monitor tank fuel level filling activities. At 90% fuel fill, alarm horn activates and a light illuminates (alarm horn and silence switch included). At 95% an alarm horn sounds, light illuminates, and an optional N/O solenoid valve (opt #361), if installed, closes allowing no more fuel to enter tank.
226SB	**REMOTE FUEL FILL PANEL– NEMA 3R** Enclosure (Subbase)
226FM	**WALL-FLUSH MOUNTING of REMOTE FUEL FILL PANEL** — Necessary brackets needed to recess panel enclosure (not door) into wall.
226PM	**ASSISTING PUMP and MOTOR for REMOTE FUEL FILL PANEL** — The controls, brackets, etc. necessary to mount a single pump and motor to pump fuel to a non-gravity fill main storage tank. **NOTE:** Specify / order pump and motor separately according to requirements.
227	**SPILL CONTAINER** - 7.5 gallon container that is wall or pedestal mounted, that is used to prevent over-spill from contaminating soil, floor, etc. High speed drain valve included. 
227-2	2" NPT Outlet connection
227-3	3" NPT Outlet connection
227-4	4" NPT Outlet connection
229	**DRIP BASIN** - one gallon container, lockable with gasket for manual filling of Day Tank or Subbase. 2" NPT Outlet connection
229X	**SPILL CONTAINER**—4 Gallon Lockable and Gasketed

ELECTRICAL (Continued)

Option Code	Description
230	**REMOTE FUEL FILL STATION** — A lockable, U/L Listed, NEMA 3R, dual-door enclosure designed to accommodate delivery truck curb-side filling of storage tank via hose connection. Inside are two compartments: • the right side has a brass Cam-and-Groove fitting, a check valve, a manual shut-off valve, and a 7-1/2 containment sump; • the left (isolated) side has the electrical components required to monitor fuel activities and report abnormal conditions. When the tank being filled reaches a 90% set point, a warning light comes on and an alarm horn sounds. If filling continues, a second light comes on at 95% capacity and an alarm horn again sounds. At this time, an optional solenoid valve (opt 361) will close allowing no more fuel to enter the tank. A silence switch and remote contact outputs are standard.
230-22 **230-22-12** **230-22-230** **230-22-24** **230-23** **230-32** **230-33**	7-1/2 Gal Spill Containment, 2" Cam-and-Groove fill and 2" plumbing and outlet 7-1/2 Gal Spill Containment, 2" Cam and Groove fill, 2" Plumbing and outlet, 12vdc 7-1/2 Gal Spill Containment, 2" Cam and Groove fill, 2" Plumbing and outlet, 230vac 7-1/2 Gal Spill containment, 2" Cam and Groove fill, 2" Plumbing and outlet, 24vdc 7-1/2" Gal Spill containment, 2" Cam and Groove fill, 3" Plumbing and outlet 7-1/2 Gal Spill containment, 3" Cam-and-Groove fill and 2" plumbing and outlet 7-1/2 Gal Spill containment, 3" Cam-and-Groove fill and 3" plumbing and outlet (Available in 120 vac, 12 vdc and 24 vdc. Specify other than 120 vac.)
230FM	**WALL-FLUSH MOUNTING of REMOTE FUEL FILL STATION** — Necessary brackets needed to recess panel enclosure (not door) into wall.
230PM	**ASSISTING PUMP and MOTOR for REMOTE FUEL FILL STATION** — The controls, brackets, etc. necessary to mount a single pump and motor to pump fuel to a non-gravity fill main storage tank. **NOTE:** Specify / order pump and motor separately according to requirements.
232	**FUEL DELIVERY CONTROL STATION** — A lockable, weatherproof, enclosure with a 20-gallon spilled fuel containment area. The 2"or 3" main fuel line features: • a brass Cam-and-Groove fitting for standardized lock-on filling; • an isolation ball valve; • a check valve to prevent "back-fill" flooding Any spilled fuel falls into the 20-gallon sump where it can be either manually drained or pumped back into the main fuel line using a hand pump.
232-22 **232-32** **232-33**	2" Cam-and-Groove fill and 2" plumbing and outlet 3" Cam-and-Groove fill and 2" plumbing and outlet 3" Cam-and-Groove fill and 3" plumbing and outlet
232PM	**ASSISTING PUMP and MOTOR for FUEL DELIVERY CONTROL STATION** The controls, brackets, etc. necessary to mount a single pump and motor to pump fuel to a non-gravity fill main storage tank. **NOTE:** Specify / order pump and motor separately according to requirements.

P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

ELECTRICAL (Continued)

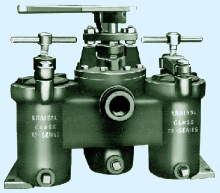
Option Code	Description
240	**ALARM TEST SWITCH** — A momentary contact switch that tests up to 4 alarm circuits (alarm contactors, lights, and horn, if installed).
242	**ALARM SILENCE SWITCH** — A momentary contact switch that resets sounding alarm.
244	**PUMP RUNNING CONTACTS** — A provision for heavy-duty, remote signal indicating a pump is running. **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
245	**REMOTE SIGNAL DRY CONTACTS —** Components to provide a heavy-duty, remote signal of a specified alarm. **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
295	**LEAK DETECTOR FOR DOUBLE WALL TANKS WITH PUMP AND MOTOR** - A sensor within the Double Wall containment area that upon detection of a leak will turn on a red alarm light on control panel and will shut down pump motor. **Includes** dry terminal contacts for connection of customer supplied device up to 15 amp.
295M	**LEAK DETECTOR FOR DOUBLE WALL MANUAL TANKS** — A sensor within the Double Wall containment area that upon detection of a leak will turn on a red alarm light on control panel. **Includes** dry terminal contacts for connection of customer supplied device up to 15 amp.

MECHANICAL OPTIONS

Option Code	Description
301	**MANUAL FUEL FILL w/LOCKING CAP** — 2” NPT, Used on Standard and Trim Day Tanks for manual filling, or fuel inlet from an Option 230, Remote Fuel Fill Station, or Option 232, Fuel Delivery Control Station. **(301A, 301B-10 and 301C are Adapters Only [Need Tank Size])** 
302	**MANUAL FUEL FILL, THREADED** — 2” NPT connection and a drop tube in tank for Option 301, Manual Fuel Fill w/Locking Cap.
303	**MANUAL FUEL FILL, OVERFILL PREVENTION** — Features a 2” Cam-and-Groove coupling inlet for fuel truck filling. An internal valve requires 5 psi of incoming fuel pressure to force a float to close when fuel level rises to 4” from top of the tank.

MECHANICAL (Continued)

Option Code	Description
305	**WALL MOUNTING BRACKETS, DAY TANKS** - 5 thru 25 gallon tanks.
305-05	5 gallon day tank
305-10	10 gallon day tank
305-15	15 gallon day tank
305-25	25 gallon day tank
310	**PIPE STANDS, ADAPTER ONLY (set of 4)** — Adapters (only) and frame to elevate day tank from floor.
310A	10 thru 25 gallon day tanks
310B	50 thru 100 gallon day tanks
310C	150 gallon day tank
310D	200 thru 275 gallon day tanks
310E	300 gallon day tank
310X	All other sizes—specify day tank size
311	**FILTER MINDER** — A differential pressure instrument used to monitor and report the working efficiency of a fuel filtering system. If low or high pressure differential is sensed, an alarm circuit is activated. (Installed or ships loose if filter ships loose.)
312	**PRIMING TEE** — for easy system startup and pump system re-priming.
312A	1/2" NPT
312B	1" NPT
312C	1-1/2" NPT
312D	2" NPT
313	**COMPOUND GAUGE, PRESSURE/VACUUM** — for inline monitoring pressure normally on the immediate pump outlet (pressure side) or for inline monitoring of vacuum normally on the immediate pump inlet (suction side).
313-2	2" Dial
313-4	4" Dial—Glycerin Filled
314	**FUEL LINE STRAINER** — In-line strainers are normally located before pumps, meter, and other devices to filter debris from flowing into and damaging equipment. Strainer baskets are removable for cleaning & replacement.
	Y-Type Strainers
314-YA	1/2" NPT, 20 Mesh
314-YB	1" NPT, 20 Mesh
314-YC	1-1/2" NPT, 40 Mesh
314-YD	2" NPT, 40 Mesh
	Vertical Strainers
314-KB1	1" NPT, 100 Mesh—Single
314-KB2	1" NPT, 40 Mesh—Duplex
314-KC2	1-1/2" NPT, 40 Mesh—Duplex



P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

MECHANICAL (Continued)

Option Code	Description
315	**FUEL FILTER**
315SGL	**SINGLE**—1" NPT 60 Mesh, 40 sq. in. element surface loading area for long life between cleanings. (Ships loose—Wt: 6 lbs)
315DPX	**DUPLEX —** Two Option ##315 fuel filters connected in parallel with two 3-way valves for isolation or tandem operation. (Ships loose—18 lbs)
315FLT	**REPLACEMENT FILTER & GASKET** For options **#315SGL** and **#315DPX** (Ships loose—Wt: 3 lbs)
318	**FUEL FILTER / WATER SEPARATOR (TYPE-F)**
318SGL	**SINGLE**—A 25 micron filter and housing to effectively remove water and solids from fuel. 1-1/2" NPT, U/L approved up to 50 psi. (Ships loose—41 lbs)
318DPX	**DUPLEX —** Two Option ##318 fuel filters connected in parallel with two 3-way valves for isolation or tandem operation. (Ships loose—85 lbs)
318FLT	**REPLACEMENT FILTER & GASKET** For option **#318SGL** And **#318DPX** (Ships loose—Wt: 3 lbs)
319	**FUEL FILTER / WATER SEPARATOR (TYPE-R) —** A filter and housing to effectively remove water and solids from fuel. U/L approved up to 50 psi. (Available in 2, 10, 25, and 30 micron filters—please specify.)
319SGL	Single Separator Unit — Performance - 180 gal / hr (Ships loose—10 lbs)
319DPX	Duplex Manifold Unit —- Performance - 360 gal / hr (Ships loose—26 lbs)
319TRI	Tri-Manifold Unit — Performance - 540 gal / hr (Ships loose—39 lbs)
320	**VENT CAP —-** Mushroom
320A	2" NPT (Ships loose — Wt: 2 lbs)
320B	3" NPT (Ships loose — Wt: 4 lbs)
320C	4" NPT (Ships loose — Wt: 5 lbs)
320D	6" NPT (Ships loose — Wt: 7 lbs)
321	**VENT CAP, PRESSURE RELIEF**
321A	2" NPT (Ships loose — Wt: 5 lbs)
321B	3" NPT (Ships loose — Wt: 10 lbs)
321C	4" NPT (Ships loose — Wt: 15 lbs)
321D	6" NPT (Ships loose — Wt: 25 lbs)
322	**VENT KIT WITH CAPS & FITTINGS, SINGLE WALL -** A tank venting system that includes one working vent cap and one emergency pressure relief cap.
322A	2" NPT (Ships loose — Wt: 4 lbs)
322B	3" NPT (Ships loose — Wt: 5 lbs)
322C	4" NPT (Ships loose — Wt: 7 lbs)
322D	6" NPT (Ships loose — Wt: 15 lbs)

MECHANICAL OPTIONS (Continued)

<table>
<tr><th>Option Code</th><th>Description</th></tr>
<tr><td>323
323A
323B
323C
323D</td><td>VENT KIT, DOUBLE WALL — A tank venting system that includes two working vent caps and two emergency pressure relief caps.
2” NPT (Ships loose — Wt: 10 lbs)
3” NPT (Ships loose — Wt: 19 lbs)
4” NPT (Ships loose — Wt: 27 lbs)
6” NPT (Ships loose — Wt: 46 lbs)</td></tr>
<tr><td>324</td><td>VENT OVERFLOW DETECTOR — A sensor to detect any fuel overfilling into the vent. A red alarm light on the tank control panel is activated and pump motor(s) are shut down, (15 amp).</td></tr>
<tr><td>326</td><td>SIGHT GLASS - Glass tube with two hand valves, guard included</td></tr>
<tr><td>330</td><td>EXTRA PIPE CONNECTION / PORTS — Hole and NPT weld flange for customer specified additional plumbing and control port. Location of these extra connections follow these guideline:
25 thru 150 Gallon Single Day Tanks—Back Panel , Left Side (looking at front of tank)
25 thru 150 Gallon Double Day Tanks—Top, Outside Cover , Left Side (looking at front of tank)
200 and Up Gallons— Top/Center, Last in string of connection ports.
If a different location is required, please specify.<table><tr><th>OPT. CODE</th><th>NPT SIZE</th><th></th><th>OPT. CODE</th><th>NPT SIZE</th></tr><tr><td>330A</td><td>1/2”</td><td></td><td>330H</td><td>1/8”</td></tr><tr><td>330B</td><td>1”</td><td></td><td>330J</td><td>1/4”</td></tr><tr><td>330C</td><td>1-1/2”</td><td></td><td>330K</td><td>3/8”</td></tr><tr><td>330D</td><td>2”</td><td></td><td>330L</td><td>3/4”</td></tr><tr><td>330E</td><td>3”</td><td></td><td>330M</td><td>1-1/4”</td></tr><tr><td>330F</td><td>4”</td><td></td><td>330N</td><td>2-1/2”</td></tr><tr><td>330G</td><td>6”</td><td></td><td>330P</td><td>5”</td></tr></table></td></tr>
<tr><td>333
333A
333B
333C</td><td>EXTRA FITTING for DOUBLE WALL PIPE-THROUGH
1” NPT
2” NPT
3” NPT</td></tr>
<tr><td>334
334-1
334-2
334-3
334-4</td><td>DAY TANK COVER—NEMA-1 ENCLOSURE FOR DAY TANKS
SINGLE pump, motor, and control components.
DUPLEX (2) pumps, motors, and control components. This cover is standard equipment for duplex supply pumps and motors with Options #s 427, 427A, or 427B.
TRIPLEX (3) pumps, motors, and control components.
QUAD (4) pumps, motors, and control components.
NOTE: (A Single Pump/Motor cover is standard equipment for Standard Day Tank, Trim Day Tank, and Manual Day Tank with electrical components.)</td></tr>
</table>

P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

MECHANICAL OPTIONS (Continued)

Option Code	Description
335	**DAY TANK COVER - WEATHERPROOF —** A NEMA 3R rated enclosure to provide protection against normal weather elements. The control panel viewing area is covered with sealed plexi glass and all openings are piped-through. Inside, a pan provides protection from flooding.
335-1	**SINGLE** Pump / Motor
335-2	**DUPLEX** Pumps / Motors
335-3	**TRIPLEX** Pumps / Motors
335-4	**QUAD** Pumps / Motors
335RB	**STEEL WEATHERPROOFING OF RUPTURE BASIN —** A NEMA 3R rated enclosure of the rupture basin containment area to provide outdoor protection against normal weather elements. A viewing window is covered with sealed plexi glass and all openings are piped-through.
335RB/01	10 - 25 Gallon Tank
335RB/02	50 - 75 Gallon Tank
335RB/03	100 - 150 Gallon Tank
335RB/04	200 - 300 Gallon Tank
335RB/05	400 - 600 Gallon Tank
335RB/06	700 - 800 Gallon Tank
335RB/07	900 - 1000 Gallon Tank
338	**ENCLOSURE - PUMP SET** A NEMA-1 or NEMA-3R (see below) enclosure featuring: • Heavy galvannealed steel, • A lockable door with a continuous hinge (may be complimented with a optional door interlock system - see Option 339 below), • Protected vent openings for adequate ventilation Please use 338 Option Codes in left column for these pump set models:

	PUMP SET MODEL #	NEMA RATING	PUMP CONFIG.
338A	PYPS2100	1	Single Pump
338B	PYPS2200	1	Duplex Pump
338C	PYPS2100	3R	Single Pump
338D	PYPS2200	3R	Duplex Pump
338E	PYPS1100	1	Single Pump
338F	PYPS1200	1	Duplex Pump
338G	PYPS1100	3R	Single Pump
338H	PYPS1200	3R	Duplex Pump
338X	PYPS3000	—	(ALL)

MECHANICAL OPTIONS (Continued)

Option Code	Description
339	**DOOR INTERLOCK w/CIRCUIT BREAKER—** Used to require power to pump set to be shut down before door may be opened. Circuit breaker sized to motor.
339-1-10	Single pole, 1ph, A/C - 10 Amp.
339-1-15	Single pole, 1ph, A/C - 15 Amp.
339-1-20	Single pole, 1ph, A/C - 20 Amp.
339-1-30	Single pole, 1ph, A/C - 30 Amp.
339-2-15	Double pole, 1ph, A/C - 10 Amp.
339-3-15A	3-Phase, A/C, 230vac—15 Amp.
339-3-15B	3-Phase, A/C, 460vac—15 Amp.
339-DC	All D/C motors - Up to 30 Amp.
340	**DRAIN PETCOCK VALVE**— A gate valve that replaces threaded plug in end at bottom of tank
341	**DRAIN, PIPED THROUGH SECONDARY CONTAINMENT AREA** — The plumbing necessary to drain the inner tank through to the outside of a secondary containment area.
341DW	For Double Wall tank configuration
341RB	For Rupture Basin secondary containment
342	**DRAIN, TANK BOTTOM**– For Single Wall Tanks
343	**SIPHON DRAIN ASSEMBLY**—(Includes a Quarter-Turn Valve)
345	**DRAIN, NOMINAL 10 GPM. Includes** a lockable 1/4-turn manual valve **345DW**– For Double Wall and **345RB**– For Rupture Basin
350	**DRAIN, EMERGENCY FOR REMOTE ACTUATION** - A nominal 10 GPM drain. Signaled valve gravity drains day tank to main tank using existing plumbing. Light on control panel illuminates and pump-motor disconnects.
352	**OIL COOLER** — mounted on day tank for cooling hot fuel returned from engine. Low noise level.
	Please use 352 Option Codes in left column.
	Installed on Day Tank
352	Standard Oil Cooler Motor
352WP	Standard Oil Cooler Motor with Weatherproof Motor
	Ship loose as part
352SL	Standard Oil Cooler Motor
352WPSL	Standard Oil Cooler Motor with Weatherproof Motor
353	**TEMPERATURE SWITCH** — to automatically control on/off of oil cooler motor.
354	**HIGH TEMPERATURE RETURN THERMOSTATIC VALVE —** 1" NPT (Specify Temperature)
355	**CHECK VALVE —** installed on pump intake to prevent loss of pump prime
	Please use 355 Option Codes in left column.
355A	½" (up to 6 gpm pumps)
355B	1" (up to 25 gpm pumps)
355C	1½" (up to 65 gpm pumps)

P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

MECHANICAL OPTIONS (Continued)

Option Code	Description
360	**SOLENOID VALVE, Normally Closed (N/C) —** Installed on tank inlet to prevent tank flooding and for other special applications.
360A-120	**120vac** Systems — ½" (up to 4 gpm pumps)
360B-120	**120vac** Systems — 1" (up to 10 gpm pumps)
360C-120	**120vac** Systems — 1½" (up to 23 gpm pumps)
360D-120	**120vac** Systems — 2" (up to 40 gpm pumps)
360A-230	**230vac** Systems — ½" (up to 4 gpm pumps)
360B-230	**230vac** Systems — 1" (up to 10 gpm pumps)
360C-230	**230vac** Systems — 1½" (up to 23 gpm pumps)
360D-230	**230vac** Systems — 2" (up to 40 gpm pumps)
360A-D12	**12vdc** Systems — ½" (up to 4 gpm pumps)
360B-D12	**12vdc** Systems — 1" (up to 10 gpm pumps)
360C-D12	**12vdc** Systems — 1½" (up to 23 gpm pumps)
360D-D12	**12vdc** Systems — 2" (up to 40 gpm pumps)
360A-D24	**24vdc** Systems — ½" (up to 4 gpm pumps)
360B-D24	**24vdc** Systems — 1" (up to 10 gpm pumps)
360C-D24	**24vdc** Systems — 1½" (up to 23 gpm pumps)
360D-D24	**24vdc** Systems — 2" (up to 40 gpm pumps)

Normally for 1/2", 1", and 1-1/2" Solenoid Valves

Normally for 2" Solenoid Valves

361	**SOLENOID VALVE, 2", Normally Open (N/O) -** for Remote Fill Panel (options #**226** **and #230**) and other applications.
361D-120	120vac Systems
361D-230	230vac Systems
361D-D12	12vdc Systems
361D-D24	24vdc Systems

362	**SOLENOID VALVE, Normally Open (N/O) —** tank installed for Option #213 and other applications where inlet fuel control is required.
362A-120	**120vac** Systems — ½" (up to 4 gpm pumps)
362B-120	**120vac** Systems — 1" (up to 10 gpm pumps)
362C-120	**120vac** Systems — 1½" (up to 23 gpm pumps)
362D-120	**120vac** Systems — 2" (up to 40 gpm pumps)
362A-230	**230vac** Systems — ½" (up to 4 gpm pumps)
362B-230	**230vac** Systems — 1" (up to 10 gpm pumps)
362C-230	**230vac** Systems — 1½" (up to 23 gpm pumps)
362D-230	**230vac** Systems — 2" (up to 40 gpm pumps)
362A-D12	**12vdc** Systems — ½" (up to 4 gpm pumps)
362B-D12	**12vdc** Systems — 1" (up to 10 gpm pumps)
362C-D12	**12vdc** Systems — 1½" (up to 23 gpm pumps)
362D-D12	**12vdc** Systems — 2" (up to 40 gpm pumps)
362A-D24	**24vdc** Systems — ½" (up to 4 gpm pumps)
362B-D24	**24vdc** Systems — 1" (up to 10 gpm pumps)
362C-D24	**24vdc** Systems — 1½" (up to 23 gpm pumps)
362D-D24	**24vdc** Systems — 2" (up to 40 gpm pumps)

Normally for 1/2", 1", and 1-1/2" Solenoid Valves

Normally for 2", A/C Solenoid Valves, and 1", 1-1/2", & 2" D/C Solenoid Valves

MECHANICAL OPTIONS (Continued)

Option Code	Description
364	**SOLENOID VALVE w/MANUAL OVERRIDE, Normally Closed (N/C)**
364A-120	**120vac** Systems — ½" (up to 4 gpm pumps)
364B-120	**120vac** Systems — 1" (up to 10 gpm pumps)
364C-120	**120vac** Systems — 1½" (up to 23 gpm pumps)
364D-120	**120vac** Systems — 2" (up to 40 gpm pumps)
364A-230	**230vac** Systems — ½" (up to 4 gpm pumps)
364B-230	**230vac** Systems — 1" (up to 10 gpm pumps)
364C-230	**230vac** Systems — 1½" (up to 23 gpm pumps)
364D-230	**230vac** Systems — 2" (up to 40 gpm pumps)
364A-D12	**12vdc** Systems — ½" (up to 4 gpm pumps)
364B-D12	**12vdc** Systems — 1" (up to 10 gpm pumps)
364C-D12	**12vdc** Systems — 1½" (up to 23 gpm pumps)
364D-D12	**12vdc** Systems — 2" (up to 40 gpm pumps)
364A-D24	**24vdc** Systems — ½" (up to 4 gpm pumps)
364B-D24	**24vdc** Systems — 1" (up to 10 gpm pumps)
364C-D24	**24vdc** Systems — 1½" (up to 23 gpm pumps)
364D-D24	**24vdc** Systems — 2" (up to 40 gpm pumps)

Normally for 1/2", 1", and 1-1/2" Solenoid Valves Except 24 vdc

367	**MOTORIZED BALL VALVE —** for Remote Fill Panel (options **#226 and #230**) and other applications.
367D-120	120 vac Systems — 2" NPT w/Aux. Limit Switch
367E-120	120 vac Systems — 3" NPT w/Aux. Limit Switch
367D-D12	12 vdc Systems — 2" NPT w/Aux. Limit Switch
367E-D12	12 vdc Systems — 3" NPT w/Aux. Limit Switch
367D-D24	24 vdc Systems — 2" NPT w/Aux. Limit Switch
367E-D24	24 vdc Systems — 3" NPT w/Aux. Limit Switch
367D-230	230 vac Systems— 2" NPT w/Aux. Limit Switch
367E-230	230 vac Systems— 3" NPT w/Aux. Limit Switch
367ALS	**AUXILIARY LIMIT SWITCH** — for all #367 Motorized Ball Valves

369	**MANUAL BALL VALVE, 1/4 Turn** — installed on **pump sets** for component isolation.
369A	½"" NPT, Manual Ball Valve, 1/4 Turn
369B	1" NPT
369C	1-½"" NPT
369D	2" NPT
369K	3/8" Quarter Turn

370	**MANUAL BALL VALVE, 1/4 Turn** — Manual cut off valve installed in fuel inlet that is primarily used for **gravity-fed day tanks**.
370A	½"" NPT (Ships loose — Wt: 2 lbs)
370B	1" NPT (Ships loose — Wt: 3 lbs)
370C	1-½"" NPT (Ships loose — Wt: 6 lbs)
370D	2" NPT (Ships loose — Wt: 14 lbs)

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MECHANICAL OPTIONS (Continued)

Option Code	Description
371	**FLOW METER** — An in-line meter to measure amount of fuel flow from main storage tank to day tank, 1" NPT
371A	.3 to 3 GPM (Ships loose—Wt. 4 lbs)
371B	3 to 30 GPM (Ships loose—Wt. 5 lbs)
372	**FLOW SWITCH** — An inline switch to detect "no fuel" In fuel line. Several events are possible, including pump and motor shut down and/or sounding an alarm. Closing the switch can be delayed, see option #**373** below. (10 watts)
372_1.5"	**FUEL FLOW SWITCH**– Detects No Fuel in Line, 1.5
372_PS_05	**FUEL FLOW SWITCH**– Detects No Fuel in Line, 10 Watts, 1/2"
372_PS_10	**FUEL FLOW SWITCH**– Detects No Fuel in Line, 10 Watts, 1"
372_PS_15	**FUEL FLOW SWITCH**– Detects No Fuel in Line, 10 Watts, 1-1/2"
372R	***For remote signal, add*** — **REMOTE SIGNAL PROVISION, FLOW SWITCH** — Components to provide a heavy-duty, remote signal of the Flow Switch (option #372). **Includes** dry terminal contacts for connection of customer supplied device up to 3 amp.
373	**TIME DELAY RELAY**— for option #**372** with reset pump and motor shut down (10 amp)
374	**FUSE-LINK VALVE (for fire safety)** - Automatically closes fuel line when ambient temperature reaches 165º F—1" NPT. (Ships loose—Wt. 8 lbs)
375	**FOOT VALVE** — For installation in a **main storage tank** to prevent loss of pump prime, 1" NPT (Ships loose—Wt. 6 lbs)
376	**FOOT VALVE** — **I**nstalled in **day tank** to prevent loss of return pump prime and engine suction, 1" NPT
379	**IN-LINE PRESSURE RELIEF BYPASS VALVE —** Re-routes fuel when line pressure reaches that shown below for pipe size.
379A	1" @ 50 psi — 20 gpm max.
379B	1.5" @ 50 psi — 40 gpm max.
379C	2" @ 50 psi — 120 gpm max.
379D	2" @ 75 psi — 120 gpm max.
379_PS_05	1" (for 1/2") 50p si—Inline Bypass
379_PS_10	1", 50 psi —Inline Bypass
379_PS_15	1-1/2", 50 psi, Inline Bypass
380	**PRESSURE RELIEF VALVE** - installed on motor driven pump. Internal pressure relief

MECHANICAL OPTIONS (Continued)

<table>
<tr><th>Option Code</th><th>Description</th></tr>
<tr><td>381</td><td>FLAME ARRESTOR - to protect from fire or explosion from exterior ignition source.
(Ships loose — Wt. 4 lbs)
  </td></tr>
<tr><td>385
&
386</td><td>RUPTURE BASIN — Open top secondary containment tank, U/L Listed.

Specify 385/nn for 150% Containment.

Specify 386/nn for 200% Containment.

A PY150UL Day Tank Inside A 150% Rupture Basin (Option #385/08) with an Option #465 — U/L Listed Enclosed Industrial Control Panel.

(Day Tank Duplex Cover Removed)

<table>
<tr><th>Day Tank Gallons</th><th>150% Opt. Code</th><th></th><th>200% Opt. Code</th></tr>
<tr><td>10</td><td>385/01</td><td></td><td>386/01</td></tr>
<tr><td>15</td><td>385/02</td><td></td><td>386/02</td></tr>
<tr><td>25</td><td>385/03</td><td></td><td>386/03</td></tr>
<tr><td>50</td><td>385/04</td><td></td><td>386/04</td></tr>
<tr><td>60</td><td>385/05</td><td></td><td>386/05</td></tr>
<tr><td>75</td><td>385/06</td><td></td><td>386/06</td></tr>
<tr><td>100</td><td>385/07</td><td></td><td>386/07</td></tr>
<tr><td>150</td><td>385/08</td><td></td><td>386/08</td></tr>
<tr><td>200</td><td>385/09</td><td></td><td>386/09</td></tr>
<tr><td>275</td><td>385/10</td><td></td><td>386/10</td></tr>
<tr><td>300</td><td>385/11</td><td></td><td>386/11</td></tr>
<tr><td>400</td><td>385/12</td><td></td><td>386/12</td></tr>
<tr><td>500</td><td>385/13</td><td></td><td>386/13</td></tr>
<tr><td>600</td><td>385/14</td><td></td><td>386/14</td></tr>
<tr><td>700</td><td>385/15</td><td></td><td>386/15</td></tr>
<tr><td>800</td><td>385/16</td><td></td><td>386/16</td></tr>
<tr><td>900</td><td>385/17</td><td></td><td>386/17</td></tr>
<tr><td>1000</td><td>385/18</td><td></td><td>386/18</td></tr>
</table></td></tr>
<tr><td>395</td><td>LEAK DETECTOR FOR RUPTURE BASINS OF TANKS WITH PUMP and MOTOR - A sensor within the Rupture Basin containment area that upon detection of a leak will turn on a red alarm light on control panel and will shut down pump motor. Includes dry terminal contacts for connection of customer supplied device up to 15 amp.</td></tr>
<tr><td>395M</td><td>LEAK DETECTOR FOR RUPTURE BASINS OF MANUAL OR SUB-BASE TANKS — A sensor within the Rupture Basin containment area that upon detection of a leak will turn on a red alarm light on control panel. Includes dry terminal contacts for connection of customer supplied device up to 15 amp.</td></tr>
</table>

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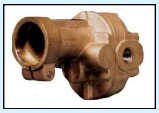
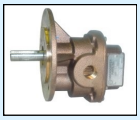
MECHANICAL OPTIONS (Continued)

Option Code	Description
397	**REMOTE PUMPING UNIT (RPU)** — A Weatherproof (NEMA 3R) base and enclosure used to re-locate the pumping system from a day tank to a point between the day tank and the main storage tank to extend the distance from a main storage tank. Another application for an **RPU** is in a Remote Fill Panel configuration. The **SINGLE Pumping System** includes a 1/3 HP, 115 VAC, 1-Phase, 60 Hz motor and a 2 GPM bronze pump (standard pump and motor) that normally would be located on the day tank top. The **DUPLEX Pumping System** includes two standard pumps and motors; the **TRIPLEX** has three and the **QUAD** has four. Each pump of a multi-pump system may be assigned either supply or return duty. Optionally, pumps and motors other than the standard configurations described above may be specified as replacements of the standard ones. Optional check and solenoid valves, if attached to fuel inlet, may also be located on the RPU platform. **Note** — a **Pump Set** must be specified if one or more other accessories, such as: fuel filter, strainers, flow switches and meters, gauges, isolation and by-pass valves, etc. are to be included. (see Pump Set section of this catalog.) 24" wide x 12" deep—For up to 8 gpm pumps **397-12A** **SINGLE** Remote Pump Unit Base & Cover **397-12B** **DUPLEX** Remote Pump Unit Base & Cover **397-12C** **TRIPLEX** Remote Pump Unit Base & Cover **397-12D** **QUAD** Remote Pump Unit Base & Cover 24" wide x 18" deep—For up to 23 gpm pumps **397-18A** **SINGLE** Remote Pump Unit Base & Cover **397-18B** **DUPLEX** Remote Pump Unit Base & Cover **397-18C** **TRIPLEX** Remote Pump Unit Base & Cover **397-18D** **QUAD** Remote Pump Unit Base & Cover 24" wide x 24" deep—For up to 40 gpm pumps **397-24A** **SINGLE** Remote Pump Unit Base & Cover **397-24B** **DUPLEX** Remote Pump Unit Base & Cover **397-24C** **TRIPLEX** Remote Pump Unit Base & Cover **397-24D** **QUAD** Remote Pump Unit Base & Cover  397-12B Duplex RPU (Weatherproof Cover Removed)
398	**REMOTE READING LEVEL GAUGE** — 12 and 24vdc - for remote monitoring of fuel level up to 300' max. distance.
399	**REVERSE FLOW CONTROLLER** — to pump fuel from Day Tank back to main storage tank. Requires separate pump and motor (specify size). Includes float switch and pipe stems.

PUMPS

BRONZE PUMPS

Option Code	Description
400	**PUMP, BRONZE SUPPLY— 8 GPM** (Replaces Pryco's standard 2 GPM pump) Requires at least 1/2 HP motor. (400REV [Reverse], 400 REV DPX [Reverse Duplex], 400SUP DPX [Supply Duplex] 
401	**PUMP, BRONZE SUPPLY— 4 GPM** (Replaces Pryco's standard 2 GPM pump) Requires at least 1/3 HP motor .(401REV [Reverse], 401 REV DPX [Reverse Duplex], 401SUP DPX [Supply Duplex] 
402	**PUMP, BRONZE SUPPLY— 2 GPM** (Pryco's Standard Pump) Requires at least 1/3 HP motor.(402REV [Reverse], 402 REV DPX [Reverse Duplex], 402SUP DPX [Supply Duplex] 
403	**PUMP, BRONZE SUPPLY— 10 GPM** (Replaces Pryco's standard 2 GPM pump Requires at least 3/4 HP motor .(403REV [Reverse], 403 REV DPX [Reverse Duplex], 403SUP DPX [Supply Duplex] 
404	**PUMP, BRONZE SUPPLY— 23 GPM** (Replaces Pryco's standard 2 GPM pump) Requires at least 1 HP motor .(404REV [Reverse], 404 REV DPX [Reverse Duplex], 404SUP DPX [Supply Duplex] 
405	**PUMP, BRONZE SUPPLY— 40 GPM** (Replaces Pryco's standard 2 GPM pump) Requires at least 2 HP at 1200 RPM motor .(405REV [Reverse], 405 REV DPX [Reverse Duplex], 405SUP DPX [Supply Duplex] 

CAST IRON PUMPS

Option Code	Description
PCI03	**PUMP, CAST IRON — 3 GPM,** 1/2" Ports, Requires at least 1/3 HP motor. (PCI03 REV (Reverse), PCI03 REV DPX (Reverse Duplex, PCI03 SUP DPX (Duplex Supply)
PCI06	**PUMP, CAST IRON — 6 GPM,** 1/2" Ports, Requires at least 1/2 HP motor. PCI06 REV (Reverse), PCI06 REV DPX (Reverse Duplex, PCI06 SUP DPX (Duplex .
PCI13	**PUMP, CAST IRON — 13 GPM,** 1" Ports, Requires at least 1 HP motor. PCI13 REV (Reverse), PCI13 REV DPX (Reverse Duplex, PCI13 SUP DPX (Duplex Supply)
PCI15	**PUMP, CAST IRON — 15 GPM,** 1-1/4" Ports, Requires at least 1-1/2 HP motor. PCI15REV (Reverse), PCI15 REV DPX (Reverse Duplex, PCI15 SUP DPX (Duplex Supply)
PCI25	**PUMP, CAST IRON — 25 GPM,** 1-1/2" Ports, Requires at least 3 HP motor, PCI25 REV (Reverse), PCI25 REV DPX (Reverse Duplex, PCI25 SUP DPX (Duplex Supply)
PCI62	**PUMP, CAST IRON — 62 GPM,** 1-1/2" Port, Requires at least 5 HP motor.PCI62 REV (Reverse), PCI62 REV DPX (Reverse Duplex, PCI62 SUP DPX (Duplex Supply)
PCI03R	**PUMP, CAST IRON w/PRESSURE RELIEF— 3 GPM,** 1/2" Ports, Requires at least 1/3 HP motor. PCI03R REV (Reverse), PCI03R REV DPX (Reverse Duplex, PCI03R SUP DPX (Duplex Supply)
PCI06R	**PUMP, CAST IRON w/PRESSURE RELIEF— 6 GPM,** 1/2" Ports Requires at least 1/2 HP motor. PCI06R REV (Reverse), PCI06R REV DPX (Reverse Duplex, PCI06R SUP DPX (Duplex Supply)
PCI13R	**PUMP, CAST IRON w/PRESSURE RELIEF— 13 GPM,** 1" Ports Requires at least 1 HP motor .PCI13R REV (Reverse), PCI13R REV DPX (Reverse Duplex, PCI13R SUP DPX (Duplex Supply)
PCI15R	**PUMP, CAST IRON w/PRESSURE RELIEF— 15 GPM,** 1-1/4" Ports Requires at least 1-1/2 HP motor. PCI15R REV (Reverse), PCI15R REV DPX (Reverse Duplex, PCI15R SUP DPX (Duplex Supply)


Typical


Typical Cast Iron

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MECHANICAL OPTIONS (Continued)

DUPLEX PUMPS & MOTORS

Option Code	Description
427	**DUPLEX (Second Standard) PUMP and MOTOR ASSEMBLY** — A second 2 GPM pump, a *Thermal Protected* motor (1/3 HP, 115vac, 1 PH, 60 Hz) and a second float switch. The first pump-motor (always the "lead") begins operating at 86% of usable fuel capacity; the second pump-motor (always the "lag") begins operating to assist the lead pump when fuel drops to 82% of usable fuel capacity. Both pump-motors shut off at 100% capacity.
427A	**AUTOMATIC TRANSFER SWITCH** — A switching system to automatically alternate each pump-motor (of option #427) into the lead starting position. (At the 82% and lower levels, both will operate.) **Includes:** Option # 427, a pump "RUN-OFF-AUTO" mode selector switch, and a "Pump Running" amber light for each pump-motor
427B	**MANUAL TRANSFER —** A switching system to manually alternate each pump-motor (of option 427) into the lead starting position. (At the 82% and lower levels, both will operate.) **Includes:** Option #427, a manual transfer switch, and a motor run-time meter included for each pump-motor.

HAND PUMPS

Option Code	Description
461	**HAND PUMP, PISTON TYPE —** 5 strokes per gallon; Equipped with TFE piston cups; Operating temperature of -25° to 200°F; Dual Action—Dispenses on each stroke; and, Self-priming w/up to 20 ft of lift. Hand pump check valve and motor pump check valve included. **461DW**– For Double Wall 
462	**HAND PUMP, ROTARY** - High flow (7 rotations per gallon; 2 per liter); All cast -iron housing with stainless steel shaft & strainer; Malleable iron pump handle with rotating grip for ease of use; Self-adjusting spring-loaded carbon vanes give smooth operation; Internal check valve allows immediate dispensing; Built-in stainless steel strainer. Hand pump check valve and motor pump check valve included. **462DW**– For Double Wall 

OTHER ITEMS

Option Code	Description
442	**MOTOR STARTER - 3 PH**, 130 watt control transformer and heater. Motor Starters and Control Transformers are included with all 3-Phase motors.
443	**MOTOR STARTER - 1 PH**
463	**STANDARD PUMP and MOTOR** — A coupled 2 GPM bronze pump (Option # 402) and a 1/3 HP, 120 vac, 1 PH, 60 Hz motor (Option #414) purchased separately
464	**PIPE STEM** — (set of two) for engine suction and return
465	**ENCLOSED INDUSTRIAL CONTROL PANEL** — A heavy gauge steel enclosure that meets U/L requirements (Label #508). Only U/L Listed components are used within. These components the make up various day tank accessories include: contactors, relays, sockets, lights, and switches, even the wire and connectors. 

A/C & D/C ELECTRIC MOTORS

OPTION CODE	A/C D/C	VOLTAGE	PH	CYCLE	THERMAL PROTECT	COMMENT
1/4 HP Motors						
410	D/C	12				
411	D/C	24-28				
1/3 HP Motors						
414	A/C	115	1	60	YES	**(Pryco's Standard Motor)**
424	A/C	115	1	60	YES	Totally Enclosed, Fan Cooled
425	A/C	115	1	60	YES	Explosion Proof
426	A/C	115	1	50	YES	
428	A/C	230	1	60	YES	
429	A/C	230	1	50	YES	
433	A/C	230/460	3	60	NO	
1/2 HP Motors						
440	D/C	12				
441	D/C	24-28				
444	A/C	115	1	60	YES	
445	A/C	115	1	60	YES	Totally Enclosed, Fan Cooled
446	A/C	115	1	60	YES	Explosion Proof
447	A/C	115	1	50	YES	
448	A/C	230	1	60	YES	
449	A/C	230	1	50	YES	
451	A/C	230	3	60	NO	Totally Enclosed, Fan Cooled
452	A/C	460	3	60	NO	
454	A/C	230	3	60	NO	
3/4 HP Motors						
434	A/C	115	1	60	YES	Explosion Proof
435	A/C	230/460	3	60	NO	Explosion Proof
455	A/C	115	1	60	YES	
456	A/C	230/460	3	60	NO	
1 HP Motors						
436	A/C	115	1	60	YES	Explosion Proof
437	A/C	230/460	3	60	NO	Explosion Proof
457	A/C	115	1	60	YES	
458	A/C	230/460	3	60	NO	
2 HP Motors						
459A	A/C	230	3	60	NO	Totally Enclosed, Fan Cooled
459B	A/C	460	3	60	NO	Totally Enclosed, Fan Cooled

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BATTERY HOLDERS

BATTERY BOXES

Hinged, lockable, weatherproof enclosure with handles

Option	SIZE
BB01	12” W x 23” L x 12” H
BB02	12” W x 44” L x 12” H
BB03	12” W x 44” L x 12” H w/HEAT PANEL - 100 watt, 115vac
BB04	12” W x 44” L x 12” H w/HEAT PANEL and THERMOSTAT - 100 watt, 115vac
BB05	24”W x 44”L x 12”H
BB-HTR-1	Heater-100 watt, 120 vac, with Thermostat

Shown here are a few of the more common asked for sizes and styles — We will design and build Battery Boxes and Frames, both basic and seismic to your specification and battery types.

Battery Box

Standard Battery Frame

Seismic Battery Frame Floor & Battery Bolt-Down

BATTERY FRAMES

Formed 7-gauge; Standard frames are 4” high, Painted flat black or industrial color of choice.

Option Code	SIZE
BF01	STANDARD BATTERY FRAME — 10” x 22” for one Group 4D Battery
BFS01	SEISMIC BATTERY FRAME — 10” x 22” for one Group 4D Battery
BF02	STANDARD BATTERY FRAME — 12” x 22” for one Group 8D Battery
BSF02	SEISMIC BATTERY FRAME — 12” x 22” for one Group 8D Battery
BF03	STANDARD BATTERY FRAME — 10” x 44” for two Group 4D Battery
BFS03	SEISMIC BATTERY FRAME — 10” x 44” for two Group 4D Battery
BF04	STANDARD BATTERY FRAME — 12” x 44” for two Group 8D Battery
BSF04	SEISMIC BATTERY FRAME — 12” x 44” for two Group 8D Battery
BF05	STANDARD BATTERY FRAME — 24” x 44”

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EVOLUTION PLC SYSTEM

The ***EVOLUTION*** is a Programmable Logic Controller (**PLC**) based system designed to control and monitor the activities of up to four pumps and motors of a Pryco fuel supply system. A color touch screen displays system functional status, alarm conditions, and historical logs. The Evolution PLC provides operational control of the overall fuel system.

Using licensed optional software, **WindSRV ™**, it is possible to link your OPC (object linking of devices for process control) or DDE (older version of OPC) compliant Windows ™ - based software to any IDEC programmable logic controller. This link may use an optional built-in RS232 or RS485 serial interface adapters, or longer range Ethernet networking. Option 800 includes:

* 120/240 VAC Input Voltage
* Ultra-Sonic Sensor
* Color LED Touchscreen 5.7" Operator Interface
* Graphic Fuel Gauge (Percent Full or Gallons)
* Power Available LED
* HOA Switches
* Control Panel Alarm Silence Switch
* Enclosure, Tank Mounted for HMI
* Critical High Switch w/Fill Motor Shut Off
* High Fuel Level Notification
* Low Fuel Level Notification
* Critical Low Level Notification
* Secondary Containment Leak Detection
* Discrete N.O. Contacts For All Alarms
* Historical Log
* Enclosure, Tank Mounted for PLC

Option Code	Evolution PLC and Related Options Description
800	**EVOLUTION PLC SYSTEM** — Tank mounted, Programmable Logic Controller **(PLC)** based system designed to control and monitor the activities of up to four pumps and motors.
805 **805-32** **805-64**	**MEMORY MODULE**— for program upgrade as necessary 32K of Memory 64K of Memory
810 **810-485** **810-WEB**	**COMMUNICATIONS MODULE for PLC** — Directs Logic Controller output downstream to in-house building management systems Modbus Protocol RS485/RS232 (distance rating: RS232—50 Feet, RS485—656 feet) WEB Server Module for remote maintenance
812	**BLACK-BOX CONVERTER** — RS485 to RS232 (Used only if customer does not have RS485 connection.)
815	**ANALOG MODULE** — (2 each) 4-20 MA Output
820 **820-DB9-06** **820-SHL-12**	**CABLES** Cable w/DB9 Male/Female connectors—6 feet Cable, Bulk Shielded, Low Capacity, 4 conductor—12 feet
827	**DUPLEX SUPPLY SYSTEM (PLC CONTROLLED)** — additional secondary controls, piping and standard 2 GPM pump & 1/3 HP motor "**lag**" system to back-up primary "**lead**" pump/motor. Normally the lead pump/motor begins operation at 86% usable fuel capacity; the lag system begins at 82%. Both systems turn off at 100% capacity.
827A	**DUPLEX SUPPLY SYSTEM w/AUTOMATIC LEAD/LAG PUMP SWAP (PLC CONTROLLED)** — Same as Option 827 plus HOA switching capability to automatically alternate each pump/motor into the lead starting position.
827B	**DUPLEX SUPPLY SYSTEM w/MANUAL LEAD/LAG PUMP SWAP (PLC CONTROLLED)** — Same as Option 827 plus switching capability to manually alternate each pump/motor into the lead starting position.
830	**SOFTWARE** — WindSRV(TM) for building management system's PC drivers

EVOLUTION PLC SYSTEM OPTIONS (Continued)

Option Code	Description
834	**COVER (DAY TANK w/PLC)—NEMA-1 ENCLOSURE for PLC TANK MOUNTED SYSTEMS**
834-1	**SINGLE** pump and motor (replaces the single pump/motor cover that is standard equipment for all day tanks).
834-2	**DUPLEX** (2) pumps, motors, and control components. This cover is standard equipment for duplex supply pumps & motors with Options 827, 827A, or 827B.
834-3	**TRIPLEX** (3) pumps, motors, and control components.
834-4	**QUAD** (4) pumps, motors, and control components.
835	**WEATHERPROOFING For OPTION 834 SERIES COVERS** - A NEMA 3R rated enclosure to provide protection against normal weather elements. The control panel viewing area is covered with sealed plexi glass and all openings are piped-through. Inside, a pan provides protection from flooding.
850	**REMOTE OPERATOR INTERFACE (HMI)** - requires wall mounting box
850-W10	Color LCD Touch Screen—10.4”
850-W12	Color LCD Touch Screen—12.1”
870	**ENCLOSURE, WALL MOUNT**— for locating all PLC components, except the ultrasonic sensor, from tank mount
870-1620-1	**NEMA 1** enclosure (16” x 20” x 8.75”)
870-2020-3R	**NEMA 3R** enclosure (20” x 20” x 8”)
870-1616-4	**NEMA 4-12** enclosure (16” x 16” x 8”)
870-1620-4S	**NEMA 4-12** enclosure w/security window (16” x 20” x 8”)
873	**PUMP FAIL DETECTION** — w/manual reset (requires an inline Flow Switch to detect “no fuel” In fuel line, Option #372).
880	**POWER SUPPLY PROTECTION** - provides surge protection of delicate PLC components high rating capacity, thermal protected
899-1	**PLC CONTROLS and PLUMBING (SINGLE)** — controls and tank plumbing required for a single reverse flow pump and motor to pump fuel back to main tank. *
899-2	**PLC CONTROLS and PLUMBING (DUPLEX)** — controls and tank plumbing required for two reverse flow pumps and motors to pump fuel back to main tank. *
899A	**PLC CONTROLS and PLUMBING for DUPLEX REVERSE FLOW SYSTEM w/ AUTOMATIC LEAD/LAG PUMP SWAP** — Same as Option 899-2 with a HOA switch to automatically alternate each pump/motor into the lead starting position.*
899B	**PLC CONTROLS and PLUMBING for DUPLEX REVERSE FLOW SYSTEM w/ MANUAL LEAD/LAG PUMP SWAP** — Same as Option 899-2 with a switch to manually alternate each pump/motor into the lead starting position. *

*** Pumps and Motors must be ordered separately for Options 899-1, 899-1 899A and 899B**

P.O. Box 108, Mechanicsburg, IL 62545 (Phone—217-364/4467 Fax—217-364/4494)

PARTS — ORDERED SEPARATELY

The parts listed in this section represent those that are more commonly requested. Many other parts are available. If you do not see your part here, please call our factory (217-364/4467).

Description

CONTACTOR, 2-N/C, 2-N/O
Select part number from these control voltages when ordering:

#**P0179** — 120vac #**P0182** — 230vac #**P0180** — 12vdc #**P0181** — 24vdc

CONTACTOR, 4-N/O
Select part number from these control voltages when ordering:

#**P0183** — 120vac #**P0186** — 230vac #**P0184** — 12vdc #**P0185** — 24vdc

CONTACTOR, DEFINITE PURPOSE, 30 Amp, 3-Pole
Specify Part #**P0178** (Part #**P2922** for 208-240vac, 60 Hz or 220 vac, 50 Hz)

CONTROL PANEL, STANDARD w/Black Vinyl Decal
Specify Part #**P0748**

DECAL, BLACK VINYL (For Control Panel)
Specify Part #**P1463**

CONTROL TRANSFORMER for Motor Starters

#**P1565** — 30va, 120vac-240vac, w/Fuse
#**P0187** — 50va, 480/240, 3-Ph, 120vac
#**P1429** — 50va, 208/277, 3-Ph, 120vac
#**P2927** — 100va, 208/277, 3-Ph, 120vac
#**P1177** — 100va, 480/240, 3-Ph, 120vac
#**P1279** — 200va, 480/240, 3Ph, 120vac
#**P1759** — 250va, 480/240, 3Ph, 120vac
#**P2833** — 1000va, 208/277vac 120vac50/60hz
#**P2974** — 50va, 380/400/415, 3-Ph, 110x220vac
#**P1867** — 50va, 575/600, 3-Ph, 120vac
#**P1459** — 75va, 480/240, 3-Ph, 120vac
#**P2975** — 100va, 380/400/415, 3-Ph, 110x220vac
#**P1661** — 150va, 480/240, 3-Ph, 120vac
#**P1763** — 250va, 208/230/460, 3Ph, 120vac
#**P1909** — 350va w/Fuse
#**P1608** — 1000va, 277, 3Phs-115v,w/Fuse

COUPLING (LOVEJOY), Pump / Motor (Includes 2 hubs and 1 rubber spider)

#**P1877** — 3/8", (L050) w/ 3/32" Keyway
#**P1682** — 7/16", (L050), Tuthill Pumps
#**P2473** — 7/16", (L075) No KW, Tuthill Pumps
#**P1727** — 7/16", (L095) - No Key Way
#**P0659** — 5/8", (L050) With Keyway, Std.
#**P0660** — 5/8", (L070)
#**P2067** — 5/8", (L075) w/KW, Tuthill
#**P1250** — 5/8", (L095)
#**P0657** — 1/2", (L050) (Std.)
#**P0658** — 1/2", (L070)
#**P1726** — 1/2", (L095)
#**P2846** — 3/4", (L095), Tuthill Pumps
#**P2463** — 3/4", (L099)
#**P1385** — 7/8", (L075) With Std.KW
#**P0668** — 7/8", (L095)
#**P1910** — 1", (L100)
#**P1577** — 1-1/8", (L095)
#**P1261** — 1-1/8", (L099)

PARTS — ORDERED SEPARATELY

Description

FUEL LEVEL GAUGE REPAIR KIT

#P1029 — Rochester , Replaceable Unit for Day Tanks (Side Viewing)
#P1030 — Rochester , Replaceable Unit for Sub-Base Tanks (Top Viewing)
#P1031 — Krueger "At-A-Glance", includes Red Float Indicator, Gauge Cover, Locknut, & Gasket

GAUGE, FUEL LEVEL, KELCH — for Sub-Base Tanks **(Measure Stem Only)**

5"….**#P1242**	10"….**#P0018**	20"….**#P0349**
6"….**#P0016**	12"….**#P0020**	22"….**#P0350**
7"….**#P0380**	14"….**#P0346**	24"….**#P0351**
8"….**#P0017**	16"….**#P0347**	
9"….**#P2864**	18"….**#P0348**	

GAUGE, FUEL LEVEL, KRUEGER — "At-A-Glance" for Non-U/L Day Tanks **(Measure Stem Only)**

5".....**#P0021**	24"….**#P0353**	57"….**#P1280**
8".....**#P0135**	31"….**#P0354**	60"….**#P1231**
10"….**#P2445**	38"….**#P0993**	62"….**#P1403**
12"….**#P0136**	44"….**#P0355**	64"….**#P1383**
16"….**#P2086**	46"….**#P1994**	70"….**#P2045**
18"….**#P0352**	50"….**#P0356**	96"….**#P2097**

GAUGE, FUEL LEVEL, ROCHESTER (SIDE VIEW) — U/L for Day Tanks **(Measure Stem Only)**

10"….**#P0146** for PY5—PY10	36"….**#P0368** for PY60
17"….**#P0369** for PY15	41"….**#P0366** for PY75—PY150
22"….**#P0147** for PY25	46"….**#P0367** for PY200—PY1000
28"….**#P0148** for PY50	

GAUGE, FUEL LEVEL, ROCHESTER (TOP VIEW) — U/L for Sub-Base Tanks **(Measure Stem Only)**

5".....**#P1153**	16"….**#P0359**	28"….**#P0364**
6".....**#P0140**	18"….**#P0360**	30"….**#P0985**
8".....**#P0142**	20"….**#P0361**	32"….**#P0986**
10"….**#P0143**	22"….**#P0362**	34"….**#P0987**
12"….**#P0357**	24"….**#P0363**	36"….**#P0368**
14"….**#P0358**	26"….**#P0984**	40"….**#P2945**

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PARTS — ORDERED SEPARATELY

Description

GASKET, OBERDORFER BRONZE PUMP—Teflon

#P1570 — Pump Model #N990
#P0661 — Pump Model #N991
#P0662 — Pump Model #N992 & N993
#P0664 — Pump Model #N994

GASKET, INSPECTION PLATE

#P0160 — 2 ¼" x 4 ¼" (PY5)
#P1073 — 5 ½" x 6 ¼" (Trim Day Tanks)
#P0162 — 6 ½" x 6 ½" (Standard & Manual Day tanks)

INSPECTION PLATE w/GASKET

#P0742 — 2 ¼" x 4 ¼" (PY5)
#P0161 — 5 ½" x 6 ¼" (Some Trim Day Tanks)
#P0743 — 6 ½" x 6 ½" (All Day tanks & Some Trim Tanks)

LIGHT w/BASE—Rectangular

AMBER…...	**#P0071** — 120vac	**#P0074** — 250vac	**#P0072** — 14vdc	**#P0073** — 28vdc
GREEN…...	**#P0075** — 120vac	**#P1508** — 250vac	**#P0076** — 14vdc	**#P0077** — 28vdc
RED…….	**#P0078** — 120vac	**#P1506** — 250vac	**#P0079** — 14vdc	**#P0080** — 28vdc

LIGHT w/BASE—Round

AMBER…...	**#P0975** — 120vac	**#P1731** — 250vac	**#P0976** — 14vdc	**#P0977** — 28vdc
GREEN…...	**#P0978** — 120vac	**CALL** — 250vac	**#P0979** — 14vdc	**#P0980** — 28vdc
RED…….	**#P0981** — 120vac	**#P1732** — 250vac	**#P0982** — 14vdc	**#P0983** — 28vdc

RELAY, Flat Spade Connector (See Socket, Flat Spade for Base)

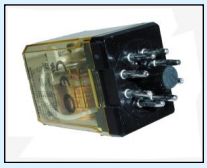
	8-Spade	14-Spade		8-Spade	14-Spade
120vac…	**#P1961**	**#P1963**	12vdc…	**CALL**	**CALL**
240vac…	**CALL**	**CALL**	24vdc…	**#P2051**	**CALL**


8 Spade


14 Spade

RELAY, Round Pin Connector (See Socket, Round Pin for Base)

	8-Pin	11-Pin
120vac…...	**#P0098**	**#P0287**
240vac…...	**#P1475**	**#P2527**
12vdc…...	**#P0284**	**#P0288**
24vdc…...	**#P0285**	**#P0289**
48vdc…...	**#P0286**	**#P1404**


8 Pin Round Connector Relay


11 Pin Round Connector Relay

RELAY BASE / SOCKET, Flat Spade

8-Spade…... #P1962
14-Spade…... #P1964


8 Pin Flat Spade Base/Socket


14 Pin Flat Spade Base/Socket

RELAY BASE / SOCKET, Round Pin

8-Pin…... #P0296
11-Pin…... #P0297


8 Pin Round Base/Socket


11 Pin Round Base/Socket

PARTS — ORDERED SEPARATELY

Description

SIGHT GLASS (for option 326)
Glass Tube …..... #**0159** — 48” #**1671** — 66” #**2383** — 72”
Protective Rod …. #**0170** — (Length as Needed)

SOLENOID VALVE — ASCO, Normally/Closed (N/C) - (Options 360 & 365)

120vac/60 or 110vac/50 …	#**0325** — ½”	#**0334** — 1”	#**2350** — 1 ½”	#**1095** — 2”
240vac/60 or 220vac/50 …	#**1229** — ½”	#**1134** — 1”	**CALL** — 1 ½”	**CALL** — 2”
12vdc …..	#**0326** — ½”	#**0355** — 1”	**CALL** — 1 ½”	**CALL** — 2”
24vdc …..	#**0327** — ½”	#**0336** — 1”	#**2063** — 1 ½”	#**1604** — 2”

SOLENOID VALVE — ASCO, Normally/Open (N/O) - (Options 213, 361, & 362)

120vac/60 or 110vac/50 …	#**0322** — ½”	#**0332** — 1”	#**1339** — 1 ½”	#**0333** — 2”
240vac/60 or 220vac/50 …	#**1213** — ½”	#**1728** — 1”	**CALL** — 1 ½”	**CALL** — 2”
12vdc …..	#**0323** — ½”	**CALL** — 1”	**CALL** — 1 ½”	#**P0948** — 2”
24vdc …..	#**0324** — ½”	**CALL** — 1”	**CALL** — 1 ½”	#**P0949** — 2”

SOLENOID VALVE w/MANUAL OVERRIDE — ASCO, Normally/Closed (N/C) - (Option 366)

120vac/60 or 110vac/50 …	#**0328** — ½”	#**0337** — 1”	#**1832** — 1 ½”	#**1944** — 2”
240vac/60 or 220vac/50 …	#**1965** — ½”	**CALL** — 1”	**CALL** — 1 ½”	**CALL** — 2”
12vdc …..	#**0329** — ½”	#**0338** — 1”	**CALL** — 1 ½”	**CALL** — 2”
24vdc …..	#**0330** — ½”	#**0339** — 1”	**CALL** — 1 ½”	**CALL** — 2”

SPIDER, HARD RUBBER for Lovejoy Couplings
#**0666** — L050 #**0667** — L070 #**2066** — L075 (For Tuthill Pumps)
#**0669** — L095 #**1262** — L099 #**2166** — L0100

SWITCH
#**0304** — Press-To-Test (Standard—Rectangular) #**0974** — Press-To-Test (Round)
#**0305** — Pump RUN-AUTO-OFF (Options 202 & 427A)

TERMINAL BLOCK
Standard … #**0006** — 2 Position #**0007** — 4 Position #**0008** — 6 Position #**0009** — 8 Position
30 Amp D/C Motors ….. #**2038** — 2 Position #**2039** — 4 Position #**1618** — 6 Position
50 Amp D/C Motors ….. #**2973** — 2 Position

TIMER, ELASPED TIME INDICATOR — Hours
#**0321**—120vac #**1507**—240vac #**0962**—12vdc #**0963**—24vdc

TOUCHSCREEN, wo/ETHERNET, COLOR
#**3348**—5.7” Diag. #**3349**—10.4” Diag. #**3350**—12.1” Diag.

WELD FLANGE (Ships Loose)
#**0157** — ¼” #**0370** — ⅜” #**0158** — ½” #**0371** — ¾” #**0372** — 1” #**0373** — 1 ¼”
#**0374** — 1 ½” #**0375** — 2” #**0376** — 2 ½” #**0377** — 3” #**0378** — 4” #**0379** — 6”

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PUMP / MOTOR SIZING

PUMP / MOTOR SIZING

The flow rate and pressure determine the size of pump and motor. Select pump motor by horsepower rating & characteristics.

2 GPM PUMP - 1800 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	1.86	.14	1/3*
60	1.74	.18	1/3*
80	1.62	.23	1/3*
100	1.50	.28	1/3

*** Also ¼ HP DC Motors**

4 GPM PUMP - 1800 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	3.41	.22	1/3
60	3.08	.29	1/3
80	3.23	.36	1/2
100	3.03	.43	1/2

8 GPM PUMP - 1800 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	7.90	.55	3/4
60	7.50	.75	3/4
80	7.00	.95	1
100	6.50	1.15	1 ½

10 GPM PUMP - 1800 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	10.10	.90	1
60	9.90	1.20	1 ½
80	9.60	1.50	1 ½
100	9.40	1.75	2

23 GPM PUMP - 1800 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	22.50	1.53	1 ½
60	22.10	1.92	2
80	21.70	2.25	5
100	21.30	2.70	5

40 GPM PUMP - 1200 RPM MOTOR @ 60° F.

PRES-SURE (PSI)	FLOW RATE (GPM)	HP REQ.	MOTOR HP
40	36.00	1.70	2
60	34.00	2.30	5
80	32.00	2.80	5
100	30.00	3.50	5

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Brochure #N015-3.4
1/10/2019