Autogas Package
Design Guide

TL36 - Tank Legs (set of 2)

P4-100 w/Autogas Hose Kit

T2P-114x200

DUST

MSU.HD.LGL156.3PH

GEC
GAS EQUIPMENT CO, INC
Models 16 & 17
Coro-Flo Regenerative Turbine Pumps
For High Differential Pressure Applications Using LPG and Many Other Liquefied Gases

Smooth, quiet design...
Models 16 and 17 Coro-Flo® turbine pumps are designed for LPG, NH₃, and other light liquids and are ideal for low-capacity, high-head pumping applications. Since the impeller is the only moving part, the Coro-Flo® is extremely quiet and free of vibration and pulsation. Additionally, the impeller is free-floating so there is no contact with the pump case or head. This design feature offers smooth continuous flow and years of trouble-free service.

Simple to service...
The Coro-Flo® is designed for simplicity of inspection and service. With just the cover removed, the impeller and seal can be serviced without disturbing the piping system. The balanced mechanical seal comes with its own sleeve; together they provide extremely reliable service.

Suitable for many applications...
All Coro-Flo® turbine pumps are listed by Underwriters’ Laboratories, Inc. for use in LP-Gas and anhydrous ammonia service. Although the Coro-Flo® was originally developed to fill propane cylinders, its highly versatile design found its way into many other liquefied gases such as NH₃, CO₂, SO₂, and refrigerants. Other applications include autogas dispensing, forklift refueling, vaporizer feed, aerosol filling systems, boiler feed, and moving condensate.

Nozzle Rotation...
The pump nozzles may be rotated into four different positions, 90 degrees apart, if desired.

Approximately 20% more flow than major competitors...

Typical Applications
- Autogas Dispensing
- Cylinder Filling
- Forklift Refueling
- Vaporizer Feed
- Aerosol Propellant

For Thin Liquids and Liquefied Gases
- Propane
- Butane
- Ammonia
- Refrigerants
- Sulfur Dioxide
- Carbon Dioxide
- Gasoline
- Solvents
- Propylene
- Pentane
- Foam Blowing Agents

Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Models 16 and 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet</td>
<td>1-1/4&quot; NPT</td>
</tr>
<tr>
<td>Outlet</td>
<td>1-1/2&quot; NPT</td>
</tr>
<tr>
<td>Outlet</td>
<td>1&quot; ANSI 300 lb. (optional)</td>
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<tr>
<td>Outlet</td>
<td>1&quot; ANSI 300 lb. (optional)</td>
</tr>
<tr>
<td>Rotation</td>
<td>Clockwise only (from driven end)</td>
</tr>
<tr>
<td>Maximum RPM</td>
<td>3,600</td>
</tr>
<tr>
<td>Maximum working pressure</td>
<td>400 psig (27.6 Bar)</td>
</tr>
<tr>
<td>Maximum differential pressure</td>
<td>200 psig (13.8 Bar)</td>
</tr>
<tr>
<td>Temperature range °F (°C)</td>
<td>-25 to +225 (-32 to +107)</td>
</tr>
<tr>
<td>Maximum viscosity</td>
<td>400 ssu</td>
</tr>
<tr>
<td>Case/Cover</td>
<td>Ductile iron ASTM A-536</td>
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<tr>
<td>Impeller material options</td>
<td>Bronze (standard), 303 stainless steel, ductile iron</td>
</tr>
<tr>
<td>Shaft material options</td>
<td>Stressproof steel (standard), 416 stainless steel</td>
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<tr>
<td>O-ring material options</td>
<td>Buna-N standard. Ethylene-propylene, Kalrez®, Neoprene®, PTFE, and Viton® optional.</td>
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<tr>
<td>Seal sleeve material options</td>
<td>Aluminum (standard), 416 stainless steel</td>
</tr>
<tr>
<td>Seal seat material</td>
<td>Silicon carbide</td>
</tr>
<tr>
<td>Seal housing material options</td>
<td>Cadmium plated steel (standard), 416 stainless steel</td>
</tr>
</tbody>
</table>

1 Registered trademark of the DuPont Company.
Model 16 Performance Curves

Curves shown are based on 100% propane from an above ground installation.

Model 17 Performance Curves

Curves shown are based on 100% propane from an above ground installation.
Ebsray RC Series – Models RC20 & RC25
Regenerative Turbine Pump for LPG Applications

Model RC25

Design
The Ebsray RC Series Regenerative Turbine Pumps are designed and precision-built for high-pressure transfer of LPG, autogas, propane, and butane.

Applications
- LPG Autogas dispensers, single or two hoses (RC25)
- Industrial dispensing
- Autogas refueling
- Marine dispensing
- Portable tanks
- Cylinder filling
- Forklift: refueling
- Direct burner or vaporizer fed

Features & Benefits
- Quiet, vibration-free operation
- Low maintenance, single-stage impeller
- Close coupled to standard NEMA C-face motors, IEC C-face adapters available.
- Simple installation with C-face close coupled mounting
- Versatile 3-port arrangement, self-venting design
- Bypass valve connection port direct on pump
- Balanced mechanical seal, unique cartridge design for simplicity of assembly/maintenance
- Throttle bushing for secondary sealing

Assured Quality & Performance
ISO 9001 Quality System assures compliance with the high safety and quality standards demanded by the LPG industry
Pumps are listed by Underwriters Laboratories for LP-gas service.
Ebsray RC Series – Models RC20 & RC25
Regenerative Turbine Pump for LPG Applications

Maximum Operating Limits

<table>
<thead>
<tr>
<th>Pump Model</th>
<th>Flow Rate (at 3,500 rpm)</th>
<th>Differential Pressure (at 3,500 rpm)</th>
<th>Hydrostatic Test Pressure</th>
<th>Power</th>
<th>Pump Speed</th>
<th>Weight</th>
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<tbody>
<tr>
<td></td>
<td>gpm</td>
<td>L/min</td>
<td>psi</td>
<td>bar</td>
<td>HP</td>
<td>rpm</td>
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<tr>
<td>RC20</td>
<td>15</td>
<td>58</td>
<td>175</td>
<td>12</td>
<td>1,015</td>
<td>70</td>
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<tr>
<td>RC25</td>
<td>25</td>
<td>94</td>
<td>175</td>
<td>12</td>
<td>1,015</td>
<td>70</td>
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</tbody>
</table>

Porting:
Inlet: NPT 1” 90º and/or 180º
Discharge: NPT 1” 90º and/or 180º

Performance

![Performance Graph](image)

Typical Installations

![Typical Installations Image](image)
## 2019 GEC Autogas Package Design Form

**COMPLETE ALL 3 STEPS!!**

### Part Number | Description | Page #
--- | --- | ---
**STEP 1** | ParaFour P4 Electronic Dispensers (INCLUDES ATC on 100, 150, 155, & 200 Hoses/Nozzle Kits SOLD Separately) | 

**SELECT** either an:

**A)** Electronic Dispenser or Mechanical Dispenser Cabinet w/ Pump/Motor choice.

If Electronic:

**SELECT**

**B)** With or without a Mini-Skid mounting base w/Pump/Motor choice.

**SELECT**

**C)** The Required Hose(s) or Nozzle(s) for that Brand.

For additional information on various models, see details in the GEC Autogas Dispenser Catalog.

**EXAMPLE:** Modular Mini-Skid Components shown on Page 6 of Autogas Catalog.

- P4-050: Inc/ FMS interface, No ATC, No Hose/nozzle
- P4-100
- P4-150: Inc ATC & FMS interface, No hose/nozzle kit
- P4-200
- GEC Autogas Hose Kit: 12FT hose, GG20 nozzle, 2’ whip-hose w/ pullaway
- CFH-STANDARD: GEC Cylinder Hose Kit
- Receipt Printer: Can be retrofitted to all P4
- LC Meter Option: Liquid Controls MA4 meter w/POD-5 Pulsar
- HK-0003: P4 Knock over protection (requires elevated frame)
- HK-0004: Hose Retractor Kit - Vertical
- P4-ParaFUEL: Integrated Fuel Management System, POS Console
- P4-PV100: Petro Vend PV100 Fuel Control System (pedestal extra)
- P4-K800 Hybrid: PetroVend K800 hybrid FMS (requires setup by OPW)
- P4-SECP-1P: Economy CP, Single phase 3-5HP 120/240 VAC
- P4-SECP-3P: Economy CP, 3 Phase, 5-7.5HP
- P4-SFSCP-3P: Full size CP, 3PH, 5-10HP
- P4-SVFCP-1P: 5-7.5HP single phase motors-10-15HP rated VFD

**Mini-Skid Unit / Autogas Pump/Motor/Bypass & Mounting Base (Piped) for ParaFour P4 Electronic Dispensers (Less Dispenser)**

- MSU.HD.LGL156.3PH
- MSU.HD.DLF075.3PH
- MSU.HD.LGL156.1PH
- MSU.HD.DLF075.1PH

**GEC Mechanical Dispenser Cabinets w/Autogas Pump/Motor & Hose Kits (ALL DCS & DCL Dispensers Include the SBU.HD Unit per Pump/Motor Designation)**

- DCS50DP.LGRLF114.1PH: Single door aluminum diamond plate cabinet
- DCS50DP.LGL156.3PH
- DCS50DP.LGL156.1PH
- DCS50DP.DLF075.1PH
- DCS59GAL.LGL156.3PH: 3-section galvanized cabinet
- DCS59GAL.LGL156.1PH
- DCS59GAL.DLF075.1PH
- DCL51DP.LGL156.3PH: Large aluminum diamond plate cabinet/will hold scale
- DCL51DP.LGL156.1PH
- DCL51DP.DLF075.1PH
- SBU.HD.LGL156.3PH
- SBU.HD.DLF075.3PH
- SBU.HD.LGL156.1PH
- SBU.HD.DLF075.1PH
- MFU.HD.LGL156.3PH
- MFU.HD.DLF075.3PH
- MFU.HD.LGL156.1PH
- MFU.HD.DLF075.1PH
- MFH-STANDARD: 3/4" hose w/RegO A7793A nozzle
- MFH-ECONOMY: 3/4" hose w/RegO 7554LV quick-acting valve
- MFH-GASGUARD: 3/4" hose w/Gasguard nozzle
- CFH-STANDARD: 1/2" hose w/7901TB quick-acting & 7193D-10
- CFH-LONG: 1/2" hose w/7901TB quick-acting & 7193D-10
- DU-3WAY: Isolates CFH hose & MFH hose

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## 2019 GEC Autogas Package Design Form

**COMPLETE ALL 3 STEPS!!**

(continued)

<table>
<thead>
<tr>
<th>STEP 2</th>
<th>Part Number</th>
<th>Description</th>
<th>Page #</th>
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<tbody>
<tr>
<td></td>
<td>Tank-To-Pump Piping Kits</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>T2P-1-VERT</td>
<td>Vertical Tank to Pump piping kit for 1” inlet pump</td>
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<tr>
<td></td>
<td>T2P-114</td>
<td>(1-1/4” IV &amp; piping w/1-1/4” pump connection)</td>
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<tr>
<td></td>
<td>T2P-114-VERT</td>
<td>Vertical Tank to Pump piping kit 1-1/4” IV &amp; piping w/1-1/4” pump</td>
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<tr>
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<td>T2P-112</td>
<td>(1-1/4” IV &amp; piping w/1-1/2” pump connection)</td>
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<tr>
<td></td>
<td>T2P-114X112</td>
<td>(1-1/4” IV, 1-1/2” piping &amp; pump connection)</td>
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<tr>
<td></td>
<td>T2P-114X200</td>
<td>(1-1/4” IV, 2” piping w/2” pump connection)</td>
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<table>
<thead>
<tr>
<th>STEP 3</th>
<th>Options/Accessories</th>
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<tr>
<td></td>
<td>SELECT any required Features, Options, or Accessories shown in this section.</td>
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<tr>
<td></td>
<td>For more information see Option/Accessories section in GEC Autogas Dispenser catalog.</td>
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<td></td>
<td>TL36 Modular Tank Legs (set of 2 legs)</td>
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<tr>
<td></td>
<td>GEC Miniskid 36 36” platform for electronic dispenser</td>
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<td></td>
<td>DUST by the foot 3” sq. tube ($/PER FOOT)</td>
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<td>8118P retrofit fill valve w/ bypass line port to tank vapor</td>
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<td></td>
<td>FST-63 Disposable 1” Blue Moon Filter</td>
<td>16</td>
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<tr>
<td></td>
<td>FST-634 Cartridge 1” Blue Moon Filter Assy</td>
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<td>FST-RF6 Replaceable Filter Element F7 FST-634</td>
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<td></td>
<td>FST-124 HV Blue Moon high volume filter (1”, 1-1/2”, or 2” ports)</td>
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<td></td>
<td>6100-6000 Pomeco 100 Count Weight Hose Retractor</td>
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<td></td>
<td>6102-1078P Pomeco 102 Spring Balance Hose Retractor</td>
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<td></td>
<td>PB-1394 Hose Clamp, 1-1/8” for 6100-6000</td>
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<td>GasGuard Holster for GG20 w/ conventional cabinets</td>
<td>16</td>
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<td></td>
<td>113067 Tri-Pod Single Hose Safety Kit</td>
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<tr>
<td></td>
<td>113070 Tri-Pod Dual Hose Safety Kit</td>
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<td>CTK40-16-22-ES-3P Non-Exp Starter panel w/ESO for 5HP-3PH</td>
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<td>CTK40-18-26-ES-3P Non-Exp Starter panel w/ESO for 7.5HP-3PH</td>
<td>N/S</td>
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<td></td>
<td>CTK40-24-36-ES Non-Exp Starter Panel w/ESO for 5HP-1PH</td>
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<tr>
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<td>100841.000 Mechanical pulser for Neptune Model 600 register</td>
<td>17</td>
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<td></td>
<td>ECK-SM CABINET Electrical Conduit Pre-Installed</td>
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<td>ECK-LG CABINET</td>
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<td></td>
<td>PK Pneumatic Remote Shutoff Kit</td>
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<td></td>
<td>P4-ECO-AIR-IWS100 Pneumatic Supply System</td>
<td>18</td>
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<tr>
<td></td>
<td>DURESS KIT Cable Remote Shutoff Kit</td>
<td>17</td>
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</tr>
</tbody>
</table>

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**P4-Series**

The Next Generation In LPG Refueling Dispensers

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P4-100, Single Hose shown w/optional GEC Autogas Hose Kit
Parafour's "P4-Series" offers the next generation in advanced LPG refueling dispensing systems. From electronic upgrades to existing "Cabinet" style mechanical dispensers, to dual purpose cylinder and Autogas refueling dispensers, through full retail "Pay at the Pump" Autogas unattended dispensers with fuel management systems, The P4-Series offer the best technology at the best price. You won't find a more feature rich and capable dispenser at a better price. Built to exacting standards and designed around ALL applicable codes and regulations (NFPA 58, NEC, UL-495 & NCWM Handbook 44), ONLY Parafour offers the most capable and compliant dispensers on the market today.

**Computer Features:**
- Single Large Display with Total Sale, Price per Gallon and Gallons
- Easy-to-Read Back-Lit LCD Displays
- Intuitive Programming with Secure Keypad
  - 16 Key Alpha-Numeric Keypad 5-Level Secured Access Programming
  - 110 vac/60Hz OR 220 vac/50 Hz Power Supply
  - Communicates to Most Fuel Management Systems
  - Integral Gilbarco 2-Wire Communication Protocol

**Standard Features:**
- Automatic Temperature Compensation (Not Standard on P4-050)
- Integrated Fuel Management System Interface
- Advanced Electronic "touch" Calibration
- Enhanced Accuracy with Quadrature Pulser
- 5-level Preset Pricing
- Leak/Theft Detection
- Liqua-Tech LPM 102 or Neptune 4D-MD Meters

**Optional Equipment:**
- 2" Roll Receipt Printer
- Pedestal/Post Mount Options
- Integrated Fleet Fuel Management with RFID Key FOB
- Full Retail Credit Card "Pay-at-the-Pump" Processing Systems
- Integrated 12 gpm Pump for Dual Purpose LPG Resellers
- "Distributor Build-Out" Options
- Spanish, Russian and Other Language Versions Available

(All dispensers shown with Receipt Printer option installed)
ParaFUEL-Fleet is a comprehensive fuel management system, which can be used as either a private fleet fuel management system, or as a general retail fuel sales management and control system. The RFID reader can be installed inside the head of most Parafour P4 dispensers; not requiring a separate standalone card reader. The ParaFUEL POS Console package includes a console computer, monitor, keyboard, mouse, card/FOB encoder/reader, internal communications module, and ParaFUEL software. The system DOES require a data cable connection between each dispenser and the Site Controller, installed in the facility building. The ParaFUEL system consists of 2 main subsystems:

1. The **User Interface System** mounted in the dispenser
2. The **Site Controller**, which communicates with, and controls both the **User Interface Module** and the dispenser calculating computer, with the ParaFUEL software and database.

The system is activated by an RFID device, registered to the ParaFUEL database, by simply waving in front of the RFID icon on the main display.

Options for vehicle/driver ID include:
1. RFID Card (Similar in size and shape to a credit card)
2. RFID keychain FOB or tag, similar to a memory stick
3. Both can be labeled or marked for ID by the user

Petro Vend 100 (PV100) Fuel Control System

Petro Vend 100 (PV100) Fuel Control System is a stand-alone, pedestal-mounted system for small or mid-sized fleet-fueling sites that require one or two-hose control. As a “turnkey system” the unit is designed for quick and easy installation. It ships ready-to-use with 50 pre-configured users and requires only power, and hose control line connections in order to initiate system operation. The PV100 stores dispensed fuel amounts as card and pump-specific totals, which can be viewed on the display or retrieved with an external USB flash drive for transfer to local computer. A great solution for small fleets of a single department, at a very competitive price and pre-configured for installation with P4-series dispensers. Petro Vend 100 controls up to two hoses.

**FEATURES:**

- User selects PINs, from 3-6 digits in length, allowing only authorized users to access fuel
- Monochrome graphic display
- Optional dual-head magnetic card reader
- Optional USB flash drive for transaction storage
- Allows you to adjust programming parameters, view card and pump totals, and transfer all data to a USB flash drive via Manager Card access in on-screen manager mode
- Field upgradeable software
- Track & report fueling by card or pump totals (specific transaction data optional)
- Menu-driven configuration takes place at the terminal, eliminating the need for PC-required software
- Saves the expense of trenching and pulling wires for serial communications
- Standard memory allows tracking of up to 50 proprietary cards, expandable to 250 cards
Mini-Skid Unit (MSU)

Features
The GEC Mini-Skid Unit (MSU) is designed as a modular base incorporating various pumps/motors with bypass valve combinations for Autogas applications. It is 36" wide and is designed to be incorporated with the TL36 tank legs to form a modular skid package. The front of the base allows a Parafour P4 electronic dispenser to be added.

Hose Kits

GEC Autogas Hose Kit

CFH Standard

Electrical Control Panels (ECP)

P4-SECP Economy - Closed

P4-SECP Full - Open

MSU.HD.DLF075.3PH
(shown with Optional P4-100 dispenser installed)

Modular Skid Components

DUST

TL36 - Tank Legs (set of 2)

MSU.HD.LGL156.3PH

T2P-114x200

P4-100 w/Autogas Hose Kit
Autogas Cabinets - Small

Cabinet Dimensions
- 50"H x 40"W x 20"D
- SBU.HD unit: 27 ½"H x 36"W x 19"D

Dimensions
- 59"H x 36"W x 20"D

DCS50DP.DLF075.3PH (Shown with MFH-Standard)

Dimensions w/ slide pump base unit
- 59"H x 36"W x 48"D

DCS59GAL.LGL156.3PH (Shown with options: 1) Blue Moon Filter, 2) MFH GasGuard, 3) GasGuard Holster, 4) Custom Vinyl Wrap)
Autogas Cabinets - Large

Dimensions

- 51”H x 47 ½”W x 39 ½”D

Pumps

LGL156A Features
- Designed for high differential pressure applications
- Sliding vane, positive displacement design for consistent performance
- Motor speed operation at 1,750 rpm (60Hz)
- U.L. listed for use on propane, butane, butane/propane mixes and anhydrous ammonia
- LGL158 suction lift up to 4 meters (13 feet) – smaller pumps have less lift capability
- LGL154/156 models designed for use with single phase motors
- Cavitation suppression liner and replaceable liner & discs
- Ductile iron construction
- Flanged inlet and outlet connections (2” inlet; 1-1/2” outlet)

DLF/FF075 Features
- Designed for high differential pressure applications
- Regenerative turbine pump
- Suitable for AG & UG tank applications
- Motor speed operation at 3,450 rpm (60Hz)
- Uses 7.5HP 3 phase motor, but can utilize optional Variable Frequency Drive (VFD) where only single phase service is available
- Flanged inlet and outlet connections (1-1/2” inlet; 1” outlet)

<table>
<thead>
<tr>
<th>Pump Model</th>
<th>Maximum Speed</th>
<th>GPM</th>
<th>HP</th>
<th>Recommended Bypass Valve Setting</th>
<th>Relief Valve Setting</th>
<th>Max. Working Pressure</th>
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</thead>
<tbody>
<tr>
<td>LGL154A</td>
<td>1,750</td>
<td>11.2</td>
<td>3</td>
<td>140 PSI</td>
<td>225 PSI</td>
<td>425 PSI</td>
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<tr>
<td>LGL156A</td>
<td>21</td>
<td>21</td>
<td>5</td>
<td>160 PSI</td>
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<td>LGL158B</td>
<td>32.3</td>
<td>7.5</td>
<td>160 PSI</td>
<td>200 PSI</td>
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<td>DLF060</td>
<td>3,450</td>
<td>8.5</td>
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<td>145 PSI</td>
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<td>DLF150</td>
<td>3,450</td>
<td>10</td>
<td>10</td>
<td>145 PSI</td>
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</tr>
</tbody>
</table>
GEC is proud to be a Parker Hose Distributor participating in the “Circle of Safety”, a certified program incorporating specific procedures and documentation for the fabrication and testing of safe reliable hose assemblies. All Parker Hose assemblies sold by GEC are fabricated and fully pressure tested by Parker to the “Circle of Safety” certified procedure.

Parker Technical Bulletin: LPG – Hose Evacuation Process

During the life of an LPG hose assembly, it may become necessary to evacuate the propane from the hose assembly. This is often done by opening the valve on the hose end and venting to the atmosphere. If this evacuation is performed rapidly, it may be detrimental to the hose and cause premature hose failure.

During the use of an LPG assembly, propane will permeate through the wall of the hose. This is a known phenomenon and regulatory agencies such as UL have maximum allowable rates of permeation (UL21-171 cc/ft/hr). The cover of the hose is perforated to allow this permeating gas to escape, and prevent it from being trapped between the reinforcement and the cover where it may create cover separation and blistering.

In the process of evacuating an LPG hose assembly, LPG that is permeating through the wall of the hose may become trapped between the reinforcement layers and the inner liner of the hose. As the pressure is released from inside the hose the LPG that is trapped between the inner liner and the reinforcement will expand as it vaporizes. The force and volume change created by the vaporization may separate the inner liner from the reinforcement and create a tube collapse and a hose failure.

To minimize the potential for this failure, the propane should be evacuated at as slow a rate as possible in order to allow the pressure inside the hose wall to dissipate as much as possible.
3-Way Valve & Nozzle

DU-3Way - Optional 3-Way valve for CFH & MFH to be configured downstream of meter with 3-way valve.

GasGuard Nozzle

Tank To Pump Piping Kits

T2P-114x200 - Tank to pump piping kit

(Actual Product May Vary From Photos)

Top View

T2P-114X200 Assembled
**Options**

**TL36** - Tank leg stands for use with 500 & 1000 WG tanks only (32.5" centerline)

**TL-2KA** - Tank leg stands for use with 2000 gallon tanks only

**GEC Miniskid 36”** - The GEC Mini-Skid 36” is designed as a modular base to hold both an electronic dispenser and a pump/motor assembly. It is 36” wide and is designed to be incorporated with the TL36 tank legs to form a modular skid package when connected to the TL36 tank legs with 3” square tubing (DUST).

**DUST** - Available by the foot, unfinished or for additional fee; powder-coated.

**6100-6000** - POMECO 100 Counterweight Hose Retractor keeps excess hose off the ground and out of the way, prolonging hose life and reducing potential hazards (does not include PB-1394 Hose Clamp).

**6102-1078P** - POMECO 102, Spring Balance Hose Retractor (does not include PB-1394 Hose Clamp).

**PB-1394** - Hose clamp to fit ¾” LPG hose.

**8118P** - The RegO 8118P Multipurpose Filler Valve is used to replace an existing 1-1/4"NPT filler valve (7579) in a domestic 1,000 WG tank to allow filler valve capability into the vapor space, plus with the additional 1" NPT opening, it allows piping an Autogas HDP pump bypass back to the vapor space of a domestic 1,000 WG tank.
Options (continued)

**FST-63** - Blue Moon Disposable Filter Assembly-1"FNPT

**FST-634** - Incorporates Replaceable FST-RF6 Element-1"FNPT

**FST-RF6** - Blue Moon Replaceable Filter Element

**FST-124 HV** - High Volume Filter-2"FNPT - Incorporates Replaceable RF-4

**GasGuard Holster**

**113067** - Single HoseSafety Kit Shown

**113070** - Dual Hose Safety Kit NOT Shown

(Actual Product May Vary From Photos)
Magnetic Starter: A magnetic switch with overload protection that uses a solenoid/relay to open and close contacts to a motor circuit. It allows for remote on/off switch control and remote in-series controls such as an emergency shut-off switch. Magnetic starters can also provide for motor protection circuits for motors utilizing internal motor thermostats and powering internal motor crankcase heaters to protect the motor from internal moisture condensation from cyclic use applications like dispensers. For use with “two-wire, single-throw” On/Off switches commonly found in mechanical dispenser cabinets. When using with Electronic Dispensers incorporating a single line voltage trigger wire, you will need to add a small line voltage relay to operate the on/off switch circuit.

**100841.000 - Shown mounted on Neptune/Red Seal Measurement Model 600 register**

**LEGEND**
1-Pump Bypass
2-Meter Vapor Return
3-Pneumatic Kit
4-Purging Kit

**PK - Pneumatic kit**

**Connections to tank service valve**

**DURESS Kit**

**ECK - Shown in DCS59GAL cabinet**

**ESO mounted on panel**

**1 Phase: CTK40-24-36-ES**

**3 Phase: CTK40-16-22-ES-3P**

**Page 17**

Options (continued) (Actual Product May Vary From Photos)
Clean, reliable compressed air is the solution. Packaged in a compact, robust ZERO-MAINTENANCE solution, with self-diagnostics and preset for the best actuator operation, the Eco-Air-IVS, is the solution. The Eco-Air-IVS is not just an air compressor. Sure, you can buy a cheap discount home garage grade air compressor with a 3-5 gallon tank for less than $300.00. But will it last? Without daily water draining, oil level maintenance, air filtration and other inconvenient and costly maintenance, it simply will NOT last. Unmaintained standard air compressors will fail in as little as 6 months!

The Eco-Air-IVS is a purpose designed and built unit, specifically for the rigors of propane internal valve operation. Based on years of field experience and testing. Assembled with the highest quality components:

- Durable, long life military grade compressor, oil free and maintenance free, rated for 100% run time duty cycle
- Vertical 2 gallon reservoir, with self-drain
- Heavy duty regulator and filter with auto drain
- No mechanical pressure control and unloading valve to fail
- Computerized control with high durability PLC and pressure sensors
- Gauges for tank and regulator pressure
- LED operating and warning condition / Alarm indicators
- High quality NEMA 4/12 enclosure with durable finish and cooling vents
- Continues to operate with “Small Leak Detection” after warning light
- Automatic shut-down with “Major Leak Detection” and flashing warning indicator

Standard Configuration:
- 2 gallon accumulator tank for multiple reserve operations of internal valves
- 80 psig accumulator tank pressure
- 35 psi regulated pressure to internal valve actuators
- 40 psi automatic recycle point for compressor turn on
- Accumulator tank pressure gauge
- Regulator pressure gauge
- Automatic Leak Detection and alarm
- “Operational Readiness” LED indicator
- “Leak Detected” LED indicator
- Automatically compensates for minor leaks in tubing and valves
- Panel mount for electrical service rack, or pedestal mount option
- Automatic tank and filter water drains
- Three section galvanized cabinet
- Cut-out for meter access on top section
- LGL156 Blackmer HDP pump with 5HP-3PH motor
- Capable of 20+GPM with 145psi differential
- Pump with full-flow bypass valve pre-plumbed & mounted on slide base behind cabinet
- Glycerin-filled Diagnostic gauges for pump differential pressure
- Red Seal 1" meter w/Model 600 Register, non-ATC
- Model 600 Register can be field-fitted with optional pulsar to interface with fuel management system FMS
- MFH-Gasguard-12ft, ¾” Autogas hose & whip hose w/pull-away & Gasguard safety nozzle with cabinet holster
- T2P-114x200, tank to pump plumbing kit; inc’s/ internal valve, strainer, piping, cut-off valve, flex connector, fittings
- Pair of TL36 tank legs for 1,000 tank & 3” connecting square tubing for slide base, cabinet & tank leg
- Explosion-proof On/Off switch
- Cabinet Dimensions, 59”H x 36”W x 20”D

Options & Accessories:

<table>
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<tr>
<th>Option</th>
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<tr>
<td>Branded Vinyl Decal</td>
<td>Customized decal to promote brand</td>
</tr>
<tr>
<td>8118P</td>
<td>Retrofit fill valve w/ bypass line port to tank vapor for bypass line</td>
</tr>
<tr>
<td>FST-124 HV</td>
<td>Blue Moon high volume filter (2” ports)</td>
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<td>6102-1078P</td>
<td>Pomeco 102 Spring Balance Hose Retractor &amp; PB-1396 Hose Clamp</td>
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<tr>
<td>CTK40-16-22-ES-3P</td>
<td>Magnetic Starter Panel &amp; ESO for 5HP-3PH</td>
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<tr>
<td>P4-200</td>
<td>Substitute a P4-200 Dual Autogas Hose Dispenser on Mini-skid</td>
</tr>
<tr>
<td>5HP-1PH-ECHD</td>
<td>Single phase motor (230 volt) for Blackmer LGL156 (thermostat &amp; crankcase heaters)</td>
</tr>
<tr>
<td>HDPDLF075-3P75</td>
<td>Corken 075 pump with 7.5 HP-3PH motor &amp; HD Bypass Valve</td>
</tr>
<tr>
<td>HDPDLF075-1P75</td>
<td>Corken 075 pump with 7.5 HP-3PH motor &amp; HD Bypass Valve-VFD for Single Phase Service</td>
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