

## EMERGENCY POWER FUEL SYSTEMS

### Triplex Pump M230

Triplex Pump System for Variable Flow



#### General Description

The M230 Triplex Pump is designed to provide variable fuel flow rates with minimum energy input and designed redundancy. The Pump System operates with variable frequency drives to maintain specified pressures in fuel supply lines despite varying demand.

- Flow rates from 10-150 GPM (based on 2 pumps operating and 1 standby)
- Built in redundancy of third pump unit.
- Maintains the excellent suction characteristics of a positive displacement pump
- Automatic pressure maintenance from 5-150 PSI

The Controller networks with other system controllers using Ethernet, and directly to Building Management Systems with an option of BACnet, Modbus, Metasys N2, or Lon protocol

The triplex pump is used for the following applications:

**Multiple Generator Units with Fuel Supply Header.** The triplex pump unit responds by increasing flow and maintaining header pressure as additional generator units are activated.

**Energy Efficient Motor Control:** The triplex pump unit utilizes only enough energy to satisfy demand.

**Plan for Future Expansion:** The pump system may be sized for a first phase as a duplex unit, with the third unit operating only after planned expansion is operational.

# Triplex Pump M230

Triplex Pump System for Variable Flow

## Ordering Information

**M230.MM.XX**      Triplex Pump

MM=10            10 GPM  
 MM=20            20 GPM  
 MM=30            30 GPM  
 MM=40            40 GPM  
 MM=60            60 GPM  
 MM=100          100 GPM  
 MM=150          150 GPM

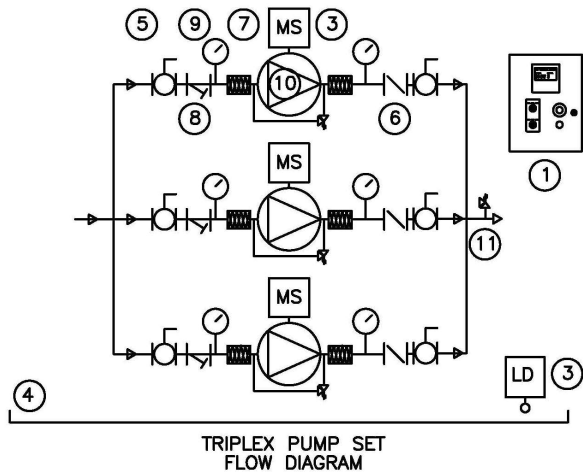
XX=11          120 VAC – 1 PH  
 XX=21          208 VAC – 1 PH  
 XX=23          240 VAC – 3 PH  
 XX=43          480 VAC – 3 PH

### M230 Triplex Pump

Dimensions	42" L x 18" W x 60" H to 60 GPM 60" L x 30" W x 60" H to 150 GPM		
Flow Capacity (GPM)	10 – 20 – 30 - 40 – 60 – 100 - 150		
Pressure Rating	150 PSI		
Pump Type	Viking Positive Displacement Iron Body Pump		
Motor	Close Coupled TEFC Motor 120 – 208 VAC / 1 Phase 240 – 480 VAC / 3 Phase		
Horsepower per Pump	GPM	HP@50 PSI Standard	HP@100 PSI Optional
	10	0.50	0.75
	20	0.75	1.00
	30	1.00	1.50
	40	1.50	2.00
	60	2.00	3.00
	100	3.00	5.00
	150	5.00	7.50
Accessories	Bypass Relief Valve Adjustable Inlet Vacuum Gauge Outlet Pressure Gauge Inlet Strainers Inlet Check Valve Inlet and Outlet Ball Valves Motor Starter / Disconnect Leak Sensor		
Construction	Welded Steel Construction Industrial Enamel Finish Color RAL7035 Light Gray Optional Weatherproof Enclosure		
Inlet / Outlet Connections	10-30 GPM    1" MNPT or Opt 150 LB RF Flange 40-60 GPM    2" Flanged 150 LB RF 100 GPM      3" Flanged 150 LB RF 150 GPM      4" Flanged 150 LB RF		
Controls	C820 OmniPlex Controller or C900 CentraPlex Master Controller		
Motor Disconnect / Drives	C231 Single Critical Service C233 Single Standard Service C235 SingleVFD Drive		
Optional Equipment	01 Explosion-proof Motors 02 Less OmniPlex Controller (CentraPlex System Control) 03 Add Electronic Meter 04 Add Flow Switch 05 Add Pressure Switch 06 Add Pressure Transducer		

# Triplex Pump M230

Triplex Pump System for Variable Flow



MARK	QTY	DESCRIPTION
1	1	OMNIPLEX CONTROL PANEL
2	3	PUMP CONTROL PANEL
3	1	LEAK SENSOR
4	1	PUMP CONTAINMENT
5	6	BALL VALVE
6	3	CHECK VALVE
7	6	FLEX CONNECTOR
8	3	STRAINER
9	6	PRESSURE / VACUUM GAUGE
10	3	PUMP - MAIN TRANSFER
11	1	PRESSURE RELIEF VALVE

### Triplex Pump:

The control panel monitors day tanks, gensets, or other systems for a pump on / fuel request signal. The primary pump is started and is monitored for a pressure sense signal in the discharge piping indicating operation. Pump overload and current conditions are also monitored. When the pump on / fuel request signal ceases, then the pump shuts down after a 20 second delay that prevents short cycling.

The pumps are selected as primary, secondary, and tertiary using the control panel operator interface. Pumps can be set to automatically alternate on consecutive starts. The discharge pipe low pressure limit is also set using the operator display. The secondary pump will start, if the primary pump has a low pressure alarm or an overload alarm or a current sense failure. The audible alarm operates for 60 seconds, or until reset. The third pump will start on a low pressure condition if both primary and secondary pumps are either both operating or if one has a fail condition.

The display indicates for each pump: (a) primary-secondary-tertiary status, (b) normal / alarm status, (c) pressure indication, (d) overload alarm condition, (e) current sense fail condition, (f) not-in-auto status, (g) pump run time meter. A common alarm output relay and a serial data interface are provided for BMS integration.

Earthsafe Systems, Inc.  
7553 S. Madison  
Willowbrook, IL 60527

T: (630) 794-5100  
F: (630) 794-5106

info@earthsafe.com  
www.earthsafe.com