



### GENERAL DESIGN PRINCIPLES FOR FILL STATIONS

1. An adequately sized storage tank free of sediment and scale must be supported by a stable and sturdy mounting stand, mounted as high above the pump as practical. The assembly must be properly grounded.
2. Heavy duty schedule 80 pipe and fittings are required with an excess flow valve at the tank, and a strainer and a flex connector in the line to protect the piping and the pump.
3. The pump should be located under the tank with a short, direct line of adequate size to supply the pump. This inlet line should never rise up to the pump.
4. The pump and motor must be properly sized to provide the capacity desired. A bypass valve set at approximately 100 psi must be used and the bypass line must have sufficient capacity to handle flow returning to the tank.
5. Proper selection of a meter requires many considerations including capacity of the system and the meter features desired. The vapor line from the vapor eliminator on the meter to a vapor opening on the tank must be free of scale and have no dips in the pipe.
6. A sufficiently sized hose and hose valve are necessary for the capacity required and must be protected by an excess flow valve. Filler couplings and adaptors must be selected to allow the filling of various types of containers.
7. Safety considerations at the fill station should include a break-a-way coupling, fire extinguisher, and proper warning and instructional signage.

### TANKS FOR FILL STATIONS

Tanks must be cleaned, free of scale and sediment, and properly purged before using for a fill station. The maximum delivery rate from a tank is about 2.5% of the tank's capacity per minute.

Tank Size (W.C.)	Nominal Length	Nominal Diameter	Liquid Openings	Top Vapor	Output Capacity
500	9'-11"	37-1/2"	1-1/4"	3/4"	12.5 GPM
1000	16'-1-1/2"	41"	1-1/4"	3/4"	25 GPM



### KITS FOR PORTABLE CYLINDER AND SMALL MOTOR FUEL FILLING REQUIREMENTS

Designed to be used with Blackmer LGF1-1HP 10GPM pump and Smith DWIZM-3 and EGIZM-3

#### PK-11 COMPLETE VALVING KIT

Key*	RMI Part No.	Description
1	C407M10-04	1-1/4" Internal Valve, W/P341 Latch Kit 40 GPM
5	ME652S	Strainer
6	FLEX 1-12	Flex Connector
10	ME880-6/22	Excess Flow Valve
14	FH-1218	1/2" Hose w/ends 18'
15	ME791C	Hose End Valve
15	ME390	POL Filler Coupling
15	ME568	Adaptor
15	ME392	Adaptor
16	ME449	Transfer Valve
16	ME880-6/14	Excess Flow Valve
16	MEH225	Relief Valve
18	ME202	Snubber
18	GB-400	Pressure Gauge

#### PK-11B VALVE KIT W/ BREAK-A-WAY SAME AS PK-11 VALVE KIT, PLUS:

Key*	RMI Part No.	Description
13	ME806S-6	Break-A-Way Coupling

\*Refer to Fill Station Diagram on Page 154

#### PF-11 FITTING AND PIPE NIPPLE KIT

Key*	RMI Part No.	Description
2	104-16	1" - 90°
2	125-02	1" X 2" Nipple
3	103-16	1" 45° Elbow
4	125-03	1" X 3" Nipple
7	109-16	1" Union
8	125-09	1" X 9" Nipple
8	150-2016	1-1/4" X 1" Concentric Swage
9	106-1612	1" X 3/4" Hex Bushing
11	124-03	3/4" X 3" Nipple
11	107-1208	3/4" X 1/2" Reducer Coupling
17	(2) 48IK	5/8" X 3/4" Flare Fitting
17	KCT12-10	Copper Tubing-Type K, 10'
17	(2) NS4I	5/8" Flare Nut

#### PF-11B FITTING AND PIPE NIPPLE KIT W/ BREAK-A-WAY SAME AS PF-11 FITTING KIT, PLUS:

Key*	RMI Part No.	Description
12	LPGH-3/4-3C	3/4" X 3 Ft. Hose W/ Ends
13	106-1208	3/4" X 1/2" Hex Bushing
19	108-12	3/4" Tee
19	106-1204	3/4" X 1/4" hex Bushing
19	125-06	1" X 6" Nipple
19	MEJ402S	Vent Valve

### KITS FOR LARGER MOTOR FUEL FILLING REQUIREMENTS

Designed for use with Blackmer LGFIP-1.5HP 15GPM pump and Smith DWHZM-5 and ECHZM-5

#### PK-153 COMPLETE VALVE KIT

Key*	RMI Part No.	Description
1	C407M10-04	1-1/4" Internal Valve, W/P341 Latch Kit 40 GPM
5	ME652S	Strainer
6	FLEX 1-12	Flex Connector
10	ME880-6/22	Excess Flow Valve
14	LPGH-3/4 -15C	3/4" Hose w/ends 15'
15	ME820-6	Hose End Valve
15	ME635-6	1-3/4" Acme Coupling
15	ME210	Adaptor
15	ME390	Adaptor
15	ME516	Adaptor
16	ME449	Transfer Valve
16	ME880-6/14	Excess Flow Valve
16	MEH225	Relief Valve
18	GB-400	Pressure Gauge
19	MEJ400	Liquid Level Gauge

#### PK-153B VALVE KIT W/ BREAK-A-WAY SAME AS PK-153 VALVE KIT, PLUS:

Key*	RMI Part No.	Description
13	ME806S-6	Break-A-Way Coupling

\*Refer to Fill Station Diagram on Page 154

\*\*\*For the addition of either the Liquid Control or Neptune meter the following must be ordered separately- 3/4" union, elbows for alignment between pump and meter, 1/2" tubing (K or L) for vapor eliminator line and coupling to connect line to multivalve on top of tank.

#### PF-15 FITTING & PIPE NIPPLE KIT\*\*\*

Key*	RMI Part No.	Description
2	104-16	1" - 90°
2	125-02	1" X 2" Nipple
4	(2) 125-03	1" X 3" Nipple
7	109-16	1" Union
8	125-09	1" X 9" Nipple
8	150-2016	1-1/4" X 1" Concentric Swage
9	106-1612	1" X 3/4" Hex Bushing
11	150-1612	1" X 3/4" Concentric Swage
17	(2) 48IK	5/8" X 3/4" Flare Fitting
17	KCT12-10	Copper Tubing-Type K, 10'
17	(2) NS4I	5/8" Flare Nut

#### PF-15B FITTING & PIPE NIPPLE KIT W/ BREAK-A-WAY SAME AS PF-15 FITTING KIT, PLUS:

Key*	RMI Part No.	Description
12	LPGH-3/4-3C	3/4" X 3 Ft. Hose W/ Ends
19	108-12	3/4" Tee
19	106-1204	3/4" X 1/4" hex Bushing
19	125-06	1" X 6" Nipple
19	MEJ402S	Vent Valve