

FUEL OIL TRANSFER SYSTEMS

SUBMITTAL DATA



Series FOT

APPLICATION

Applications include commercial, industrial, and other installations requiring efficient transfer and straining of fuel oil.

DESIGN FEATURES

- Professionally engineered components
- Compact design minimizes floor space
- Single source responsibility
- Factory assembled and tested

PROJECT INFORMATION

Project Name:		Model No. Ordered:
Customer:		GPM:
Engineer:		Pressure:
Reference:	Penn Pump Project Number:	Motor HP:
Date:	PO Number:	Voltage:

Model Number Selection Examples:

FOT-XXXXX-1 is 120-60-1 FOT-XXXXX-3 is 230-60-3
FOT-XXXXX-8 is 208-60-3 FOT-XXXXX-4 is 460-60-3

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SPECIFICATIONS

Furnish and install a packaged fuel oil pumping and straining system series FOT as manufactured by **Penn Pump & Equipment Company, Inc.**, of Hatfield, PA (215-997-6100). The packaged and tested system shall provide the capacity as scheduled on the drawings.

- A. The pumps shall be cast iron positive displacement close coupled internal gear type, equipped with mechanical seal. Each pump shall include a flexible type coupling with a TEFC motor.
- B. Each pump shall include two piece bronze 600psi WOG non shock ball valve isolation valves, bronze check valve, bronze relief valve, cast iron basket strainer with stainless basket and hand screw type cover.
- C. Provide a NEMA 1 fail safe system pump controller mounted and wired to contain:
 - Single point power connection
 - Individual motor fuse blocks with fuses or circuit breakers
 - Across the line magnetic starters with overload protection and resets
 - Lead pump failure protection with alarm light, horn, and remote contacts
 - Control circuit transformer 120 volt
 - Lead lag pump selector switch
 - Pump running pilot lights
 - HOA selector switches
 - Numbered terminal strip
 - Wiring diagrams
- D. The system manufacturer shall provide single source responsibility for all the components provided on the packaged system. The packaged pumping system shall be factory assembled and tested with schedule 40 steel system piping with a steel drip pan and a vacuum pressure gauge on the common suction connection. It shall be cleaned and painted with a high grade shop enamel.

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SYSTEM SELECTION

Model	Boiler HP	Max. Fire Rate	Pump Flow (Each)	Discharge Pressure	Pump Size	Power	Connection Size
FOT-1610	25 bhp	8 gph	16 gph	10 psi	30LE	0.33 hp	0.75 in
FOT-1650	25 bhp	8 gph	16 gph	50 psi		0.33 hp	0.75 in
FOT-16100	25 bhp	8 gph	16 gph	100 psi		0.33 hp	0.75 in
FOT-3010	50 bhp	15 gph	30 gph	10 psi	00LE	0.33 hp	0.75 in
FOT-3050	50 bhp	15 gph	30 gph	50 psi		0.33 hp	0.75 in
FOT-30100	50 bhp	15 gph	30 gph	100 psi		0.33 hp	0.75 in
FOT-6010	100 bhp	30 gph	60 gph	10 psi	0LE	0.33 hp	0.75 in
FOT-6050	100 bhp	30 gph	60 gph	50 psi		0.33 hp	0.75 in
FOT-60100	100 bhp	30 gph	60 gph	100 psi		0.33 hp	0.75 in
FOT-12010	200 bhp	60 gph	120 gph	10 psi	1LE	0.33 hp	0.75 in
FOT-12050	200 bhp	60 gph	120 gph	50 psi		0.50 hp	0.75 in
FOT-120100	200 bhp	60 gph	120 gph	100 psi		0.50 hp	0.75 in
FOT-18010	300 bhp	90 gph	180 gph	10 psi	2LE	0.50 hp	0.75 in
FOT-18050	300 bhp	90 gph	180 gph	50 psi		0.75 hp	0.75 in
FOT-180100	300 bhp	90 gph	180 gph	100 psi		1.00 hp	0.75 in
FOT-24010	400 bhp	120 gph	240 gph	10 psi		0.50 hp	0.75 in
FOT-24050	400 bhp	120 gph	240 gph	50 psi		0.75 hp	0.75 in
FOT-240100	400 bhp	120 gph	240 gph	100 psi		1.00 hp	0.75 in
FOT-30010	500 bhp	150 gph	300 gph	10 psi		0.50 hp	0.75 in
FOT-30050	500 bhp	150 gph	300 gph	50 psi		0.75 hp	0.75 in
FOT-300100	500 bhp	150 gph	300 gph	100 psi		1.00 hp	0.75 in
FOT-36010	600 bhp	180 gph	360 gph	10 psi	5LE	0.50 hp	1.0 in
FOT-36050	600 bhp	180 gph	360 gph	50 psi		0.75 hp	1.0 in
FOT-360100	600 bhp	180 gph	360 gph	100 psi		1.50 hp	1.0 in
FOT-42010	700 bhp	210 gph	420 gph	10 psi		0.50 hp	1.0 in
FOT-42050	700 bhp	210 gph	420 gph	50 psi		0.75 hp	1.0 in
FOT-420100	700 bhp	210 gph	420 gph	100 psi		1.50 hp	1.0 in
FOT-48010	800 bhp	240 gph	480 gph	10 psi		0.50 hp	1.0 in
FOT-48050	800 bhp	240 gph	480 gph	50 psi		1.00 hp	1.0 in
FOT-480100	800 bhp	240 gph	480 gph	100 psi		1.50 hp	1.0 in
FOT-54010	900 bhp	270 gph	540 gph	10 psi		0.50 hp	1.0 in
FOT-54050	900 bhp	270 gph	540 gph	50 psi		1.00 hp	1.0 in
FOT-540100	900 bhp	270 gph	540 gph	100 psi		1.50 hp	1.0 in
FOT-60010	1000 bhp	300 gph	600 gph	10 psi		0.50 hp	1.0 in
FOT-60050	1000 bhp	300 gph	600 gph	50 psi		1.00 hp	1.0 in
FOT-600100	1000 bhp	300 gph	600 gph	100 psi		1.50 hp	1.0 in

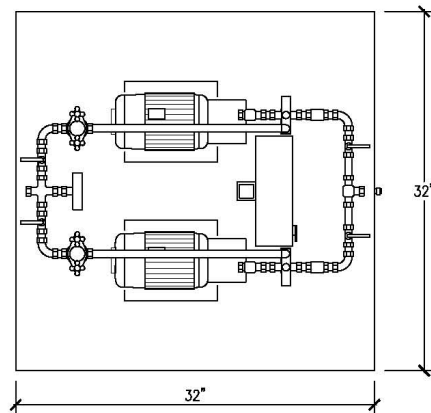
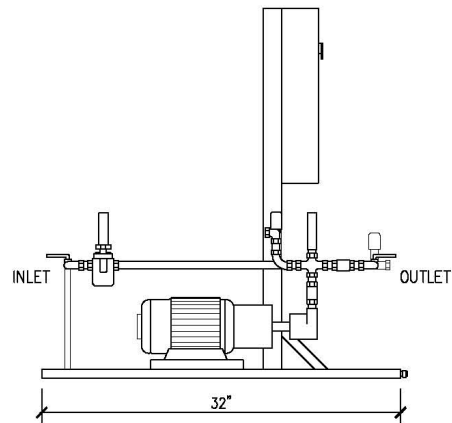
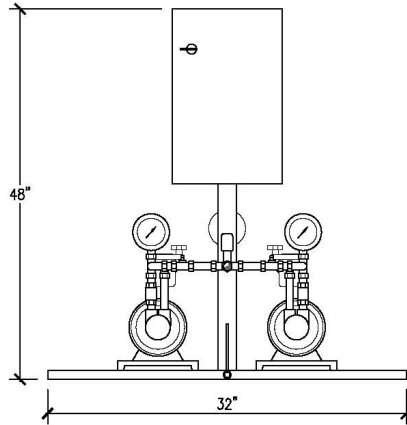
Selections are based on 1800 rpm and 40 SSU at 15 inHg.

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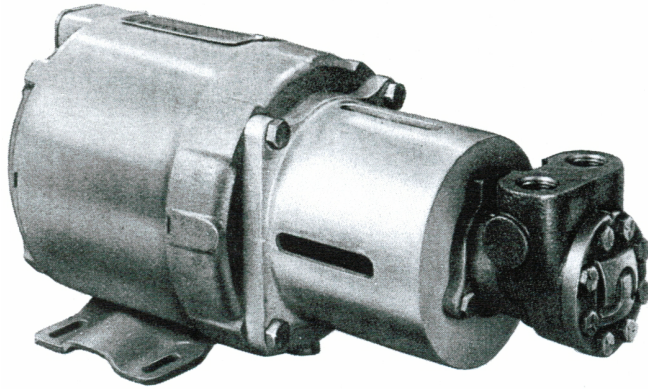
DIMENSIONS



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LE PUMPS

- Internal gear pump design
- Compact and flexible drive options
- Flow rates to 13.7 usgpm
- Pressures to 500 psi
- Standard with single mechanical seal
- Cast iron construction
- UL listed

L SERIES SPECIFICATIONS

CAST IRON CONSTRUCTION

Nominal Flow Rate

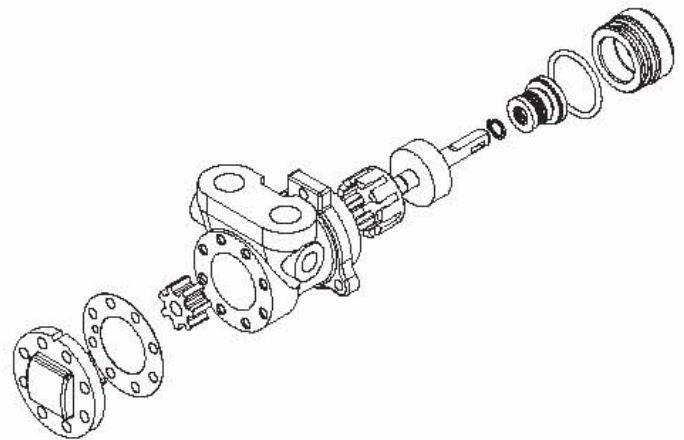
Model	USGPM	RPM
30LE	0.5	1800 RPM
00LE	1.0	1800 RPM
0LE	1.8	1800 RPM
1LE	3.0	1800 RPM
2LE	5.6	1800 RPM
5LE	13.0	1800 RPM

Pressures to 500 PSI • Pressure to 300 PSI (5LE)

Temperatures to 475°F (246°C)

Viscosities from 32 SSU to 5000 SSU

For speeds above 1800 RPM and/or viscosities above 5000 SSU consult factory



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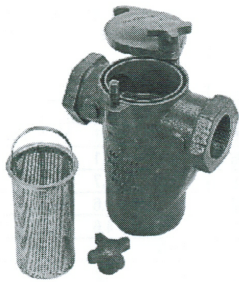
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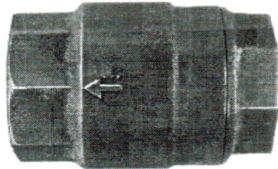
FULL PORT, TWO PIECE, BRASS BALL VALVE

Body	Brass
Ball	Chrome plated brass
Seat	PTFE
Pressure Rating	600 PSI



CAST IRON SCREWED END SIMPLEX BASKET STRAINERS

Body	Cast Iron ASTM A126-B
Cover	Cast Iron ASTM A126-B
O-Ring	Buna-N
Basket	Stainless Steel
Pressure Rating	200 PSI



BRONZE SILENT CHECK VALVES

Body	Bronze
Seat	PTFE
Spring	Stainless Steel
Pressure Rating	400 PSI



PRESSURE RELIEF VALVE

Body	Bronze
Seat	Bronze
Valve	Stainless Steel
Adjustment Gauge	Standard 5-35 PSI; Optional 25-100
Pressure Rating	300 PSIG

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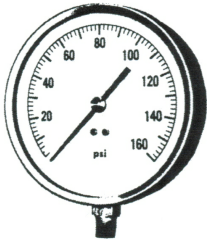
FLOW SWITCH

Body	Brass
Paddle	Stainless Steel
Pressure Rating	250 PSI



STAINLESS STEEL BRAIDED FLEXIBLE CONNECTOR

Hose & Braid	300 Series Stainless Steel
Ends	Male x Male NPT Carbon Steel
Pressure Rating	300 PSI



PRESSURE GAUGE

Case	Stainless Steel
Bourdon Tube	Brass
Size	4 1/2" Dial
Face	Glass



BLACK MALLEABLE FITTINGS

Material	Malleable Iron
Pressure Rating	Class 150, 300 PSI



SCHEDULE 40 STEEL PIPE

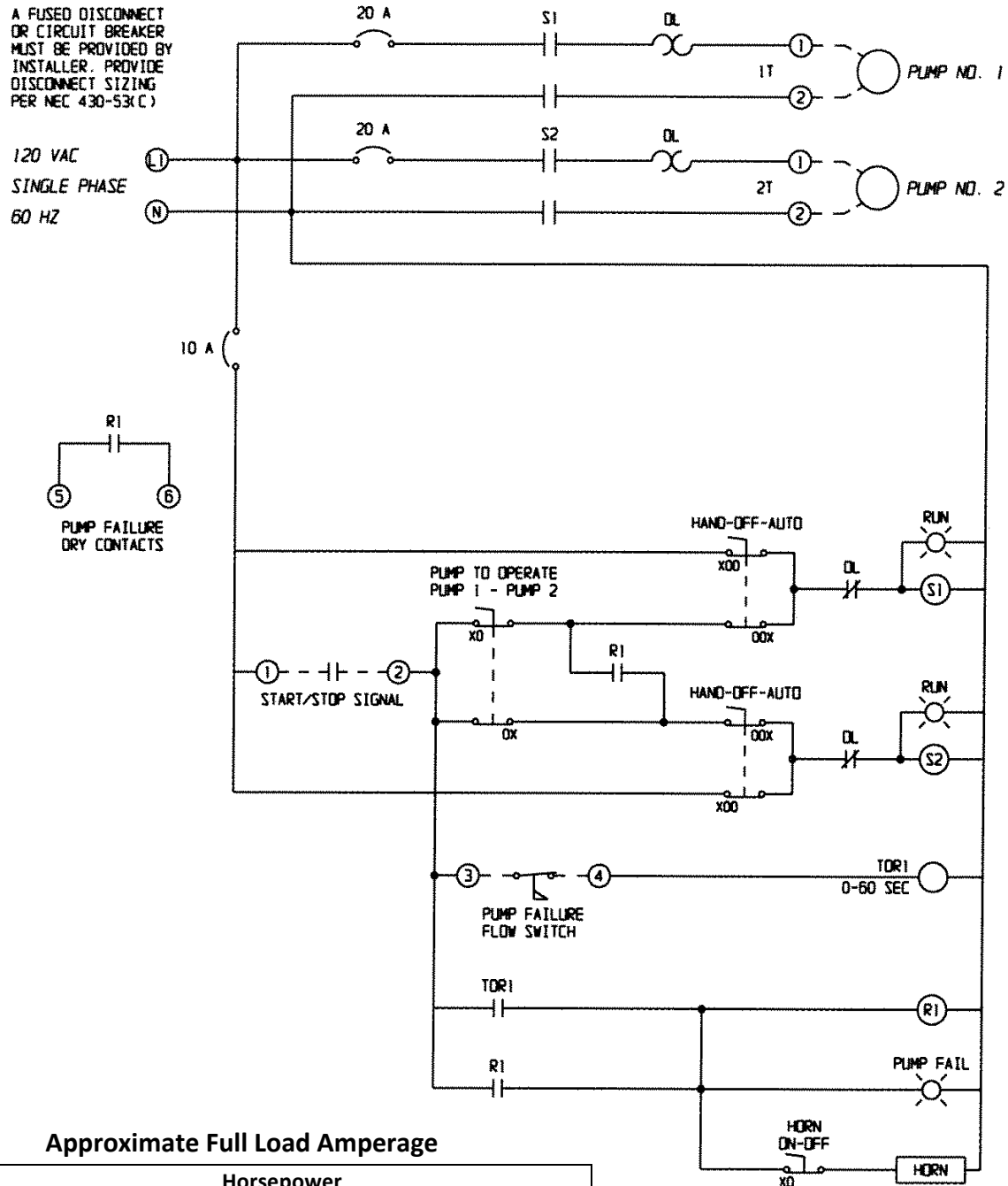
Material	Steel ASTM 53 Type F
Pressure Rating	1500 PSI

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TYPICAL WIRING DIAGRAM: SINGLE PHASE



Approximate Full Load Amperage

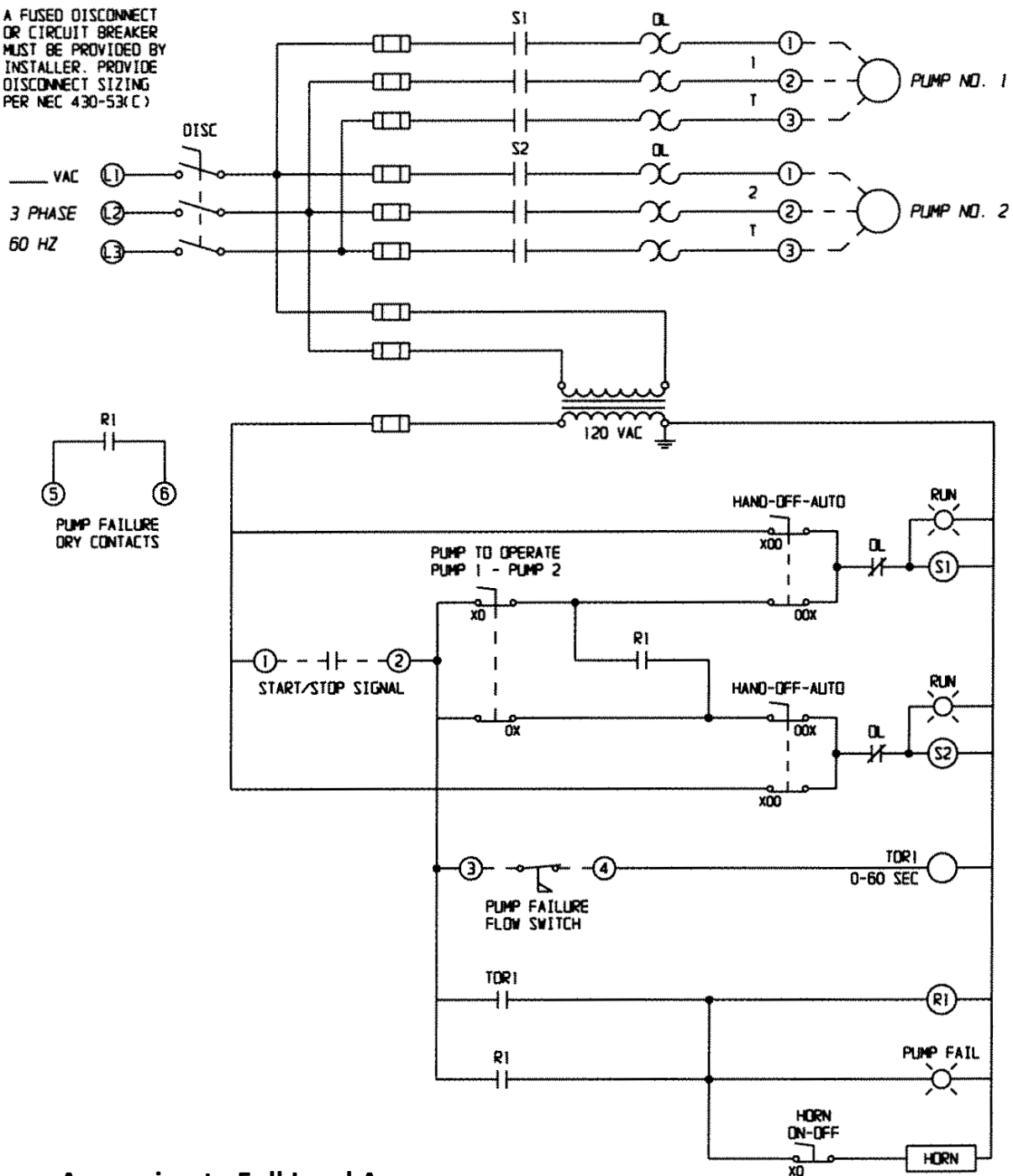
Voltage	Horsepower				
	1/3	1/2	3/4	1	1-1/2
120	7.2	9.8	13.8	16.0	20
230	3.6	4.9	6.9	8.0	10

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TYPICAL WIRING DIAGRAM: THREE PHASE

A FUSED DISCONNECT OR CIRCUIT BREAKER MUST BE PROVIDED BY INSTALLER. PROVIDE DISCONNECT SIZING PER NEC 430-53(C)



Approximate Full Load Amperage

Voltage	Horsepower				
	1/8	1/4	3/4	1	1-1/2
208	2.2	2.3	3.0	3.7	4.6
230	1.9	2.0	2.6	3.2	4.2
460	0.95	1.0	1.3	1.6	2.1

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