

FIRE FIGHTING PUMPS

SMI UL listed Vertical Turbine fire pumps provide you with a reliable solution for your underground water source type fire fighting pump needs by combining the stringent quality measures of UL and NFPA standards with our proven experience in the fire protection field. We can offer you a complete package of services

starting from engineering assistance to field start-up and periodic maintenance. Each pump set is tested in our factory, prior to dispatch, as per UL and NFPA standards. These pumps are covered by a warranty of one year subject to standard terms and conditions.

VERTICAL TURBINE PUMPS



FEATURES

- Complete unit responsibility.
- Complete in-house fabrication capabilities.
- Hydrostatic strength testing facilities.
- Operation run test as per NFPA 20, UL 448 requirements.
- Vertical turbine models for capacities from 100 to 1500 US GPM.
- Drivers: Electric motor drive or diesel engine drive.
- Electrical testing capabilities for motors and controllers as per NFPA standards.
- Capable to supply additional accessories wherever required.
- Rugged construction for longer service life.
- Specifically designed for fire fighting applications as per NFPA 20.
- Excellent mechanical and hydraulic design characteristics for efficient performance.

SUCTION ASSEMBLY

Suction bell is furnished with an extra long bearing that strengthens and provides rigid support for the lower end of the pump shaft. Suction bell provides efficient flow into the eye of the first stage impeller.

DISCHARGE HEAD

The rugged pump discharge head assembly is made of close-grained cast iron. It has smooth passageways that ensures efficient overall operation and provides an above ground connection to the discharge piping.

BOWL

The pump bowls have vanes cast integrally in them. These vanes are designed to match accurately with the impeller, and are smoothly contoured to guide the flow to next stage with maximum efficiency.

IMPELLER

Impellers are enclosed type, made of bronze / SS 304 and matched to the pump bowls. Each impeller is statically / dynamically balanced as per ISO 1940-1 to insure highest efficiency and vibration free operation.

COLUMN

Pump column pipes shall be in sections. Column pipe is flanged type. Flanged connections are accurately machined to accept bearing retainers and are bolted together securely for proper sealing.

SHAFT SEAL

The shaft sealing is gland packing type. A lantern ring is furnished between the packing and it relieves pump pressure from the upper packing rings by bypassing the high pressure water through its relief ports.



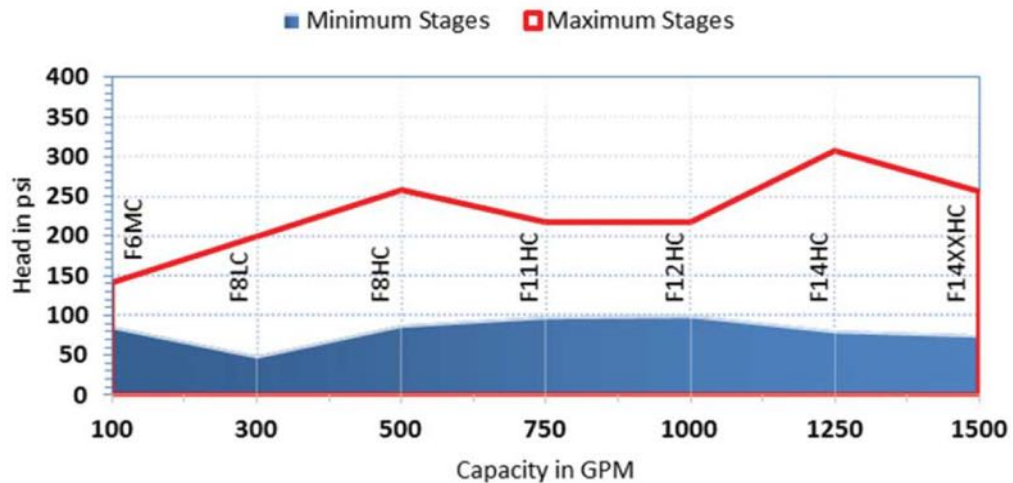


F-SERIES SMI VERTICAL FIRE PUMP:

SMI is Listed by Underwriter's Laboratories (UL) provide you with a reliable solution for your underground water source type fire fighting pump needs. With flow range of (100 to 1500 GPM) and a pressure of more than 300 psi at rated speed. Below list is a general information for F-series SMI Vertical Fire Pumps.

Rated Capacity gpm	Model	Rated Net Pressure Range psi	Approx Speed rpm	Stages
100	F6MC	86-141	2900	5-7
300	F8LC	49-199	2900	3-7
500	F8HC	88-258	2900	3-6
750	F11HC	99-218	1750	4-7
1000	F12HC	101-218	1750	4-7
1250	F14HC	81-103	1750	2
1250	F14HC	122-308	1750	3-6
1250	F14HC	98-127	1925	2
1500	F14HC	147-190	1925	3
1500	F14XXHC	76-102	1750	2
1500	F14XXHC	114-256	1750	3-5
1500	F14XXHC	96-127	1925	2
1500	F14XXHC	144-190	1925	3

Hydraulic Coverage @ 1750 RPM



F-SERIES SMI VERTICAL FIRE PUMP:



F-series Discharge Heads:

Cast iron head, up to 350 psi discharge pressure. With inside profile for smooth discharge and less frictional losses. Steel guards for protection and easy maintenance.

Column Assembly:

Threaded column assembly, steel ASTM A-53 with ductile iron couplings. 416 SS line shafts and couplings, bronze bearing retainer with bearings to maintain alignment and are spaced to provide adequate shaft support.

Vertical Turbine Pump:

- Flow up to 1500 GPM (341 m³/hr)
- Heads up to 308 psi (217 m)
- Bowl Sizes from 6" to 14"
- Horsepower up to 363 HP (271 kW)

Design Advantages:

- 416SS shafting
- Flanged bowl construction
- Corrosion-resistant wear rings
- Duplex bearings
- Stainless Steel basket strainers

Typical Market Served:

- Fire Pump Service
- Oil & Gas
- Power Generation
- General Industry
- Municipal
- Mining

Column Assembly:

The bowl assembly is the heart of the vertical turbine fire pump. The impeller and bowl type casing are designed to deliver the head and capacity that your system requires in the most efficient way possible. The fact that the vertical turbine pump can be multi-staged allows maximum flexibility both in the initial pump selection and in the event that future system modifications require a change in the pump rating.

A variety of material options allows the selection of a pump best suited for even the most severe services. The many bowl assembly options available ensure that the vertical turbine pump satisfies the users' needs for safe, efficient, reliable and maintenance-free operation.

Standard Design Features:

Suction Case - Allows smooth entry of liquid into first stage impeller eye, minimizes foundation opening.

Suction Case Bearing - Provided for shaft stability.

Sand Collar - Prevents solids from entering suction bearing.

Impeller - Semi-open or enclosed for appropriate service.

Pump Shaft - Heavy duty 416SS standard, other alloys available for strength and corrosion resistance.

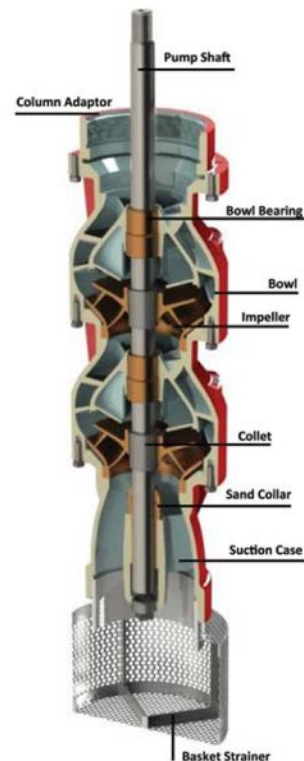
Flanged Bowls - Registered fits ensure positive alignment, ease of maintenance.

Wear Rings - Available in variety of bronze materials.

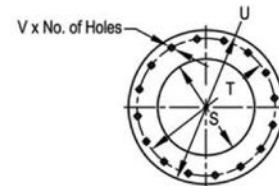
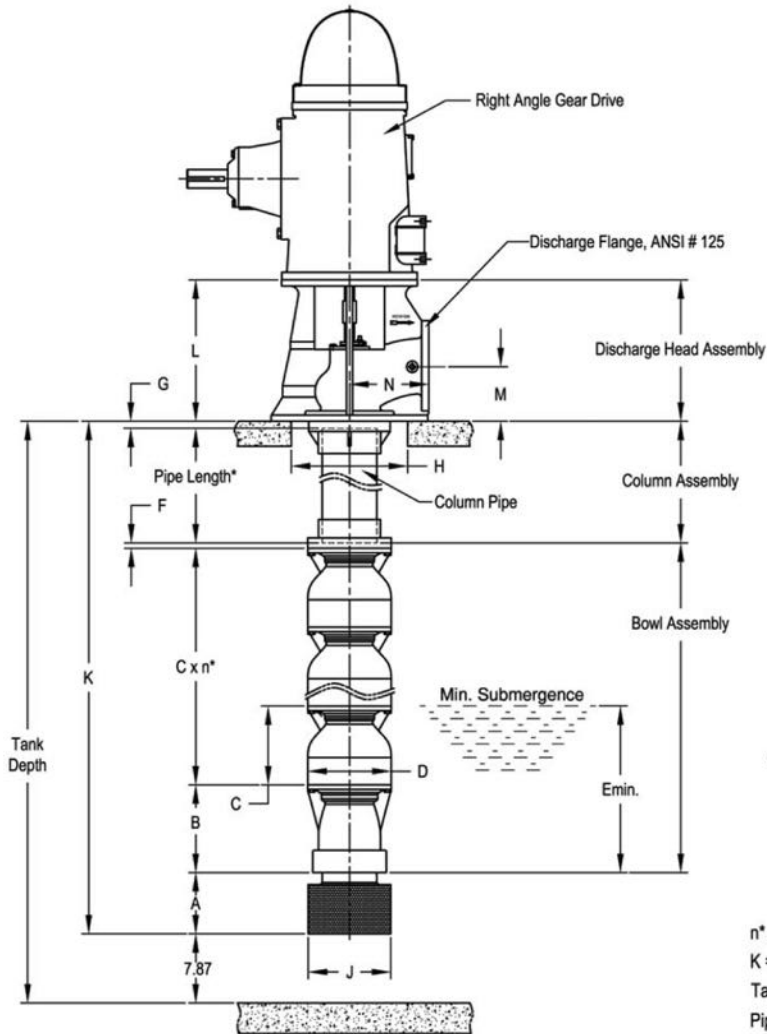
Duplex Type Bearing - Provided at each stage to assure stable operation.

Collet Impellers - provide an interference fit between the bowl shaft and impeller to hold the impeller securely in place.

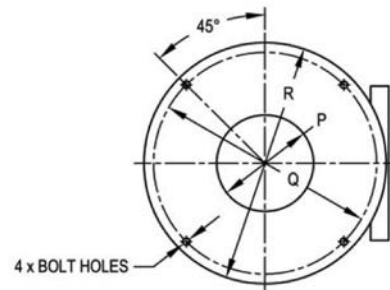
Basket Strainer - Fabricated in stainless steel



VERTICAL TURBINE PUMP ASSEMBLY OVERALL DIMENSIONS (F260 HEADS)



DISCHARGE FLANGE DETAIL



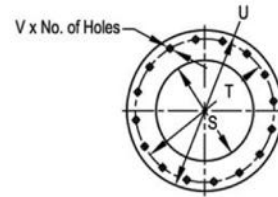
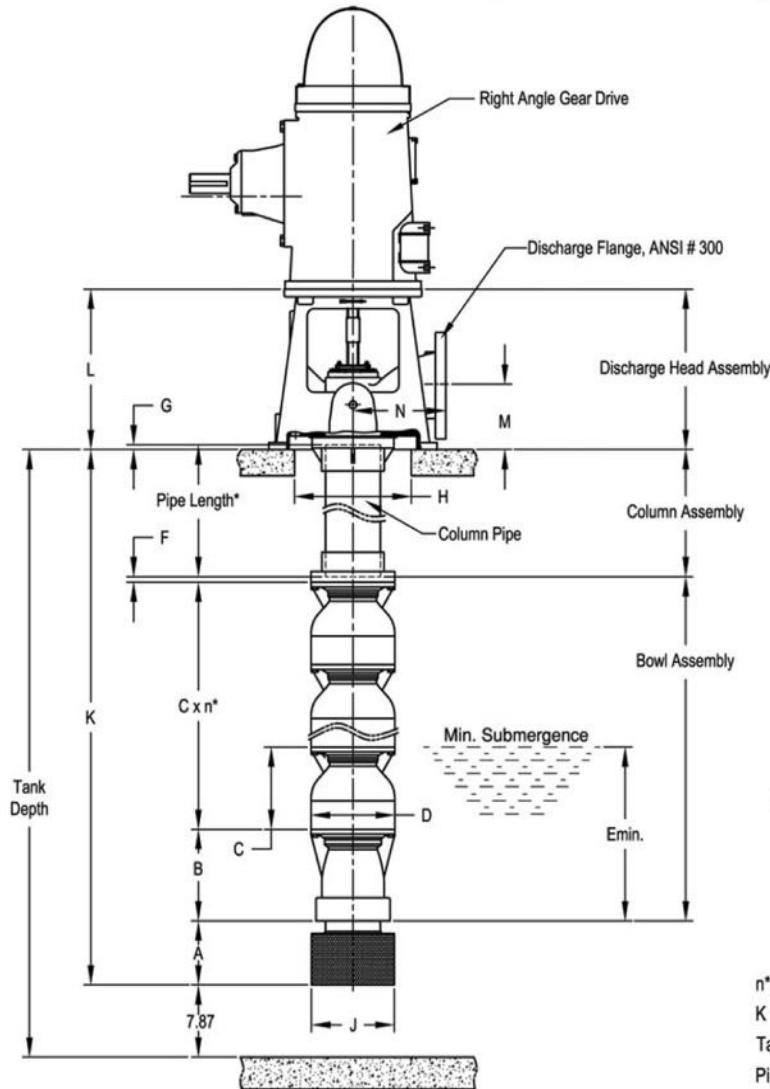
DISCHARGE HEAD BASE & FOUNDATION HOLES DETAIL

n^* : Number of Stages
 $K = A+B+Cx n^*+F+G+\text{Pipe Length}$
 Tank Depth : As per Order
 Pipe Length : According to no. of stages & Tank Depth

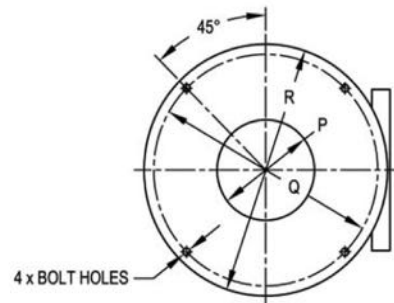
TABLE OF DIMENSIONS												
Pump Model	A	B	C x n*	Ø D	E _{min.}	F	G	Ø H	Ø J	Suitable Dis. Head		
F6MC	7.21	7.06	4.00 x n	7.00	12.00	1.12	0.25	9.00	8.00	F4-260		
F8LC	7.48	8.34	6.50 x n	7.62	14.50	0.94	2.00	12.00	10.00	F6-260		
F8HC	7.48	8.38	7.25 x n	8.13	14.60	1.12	2.00	12.00	10.00			
F11HC	9.37	10.00	9.875 x n	11.00	24.00	1.56	2.00	17.00	12.00	F8-260		
F12HC	9.37	11.38	10.50 x n	11.63	26.00	1.41	2.00	17.00	12.00			
F14HC	11.20	10.00	13.25 x n	14.13	22.50	0.56	0.30	20.00	18.00	F10-260		
F14XXHC	11.20	10.00	13.25 x n	14.13	22.50	0.56	0.30	20.00	18.00			
Discharge Head Model	L	M	N	Ø P	Ø Q	Ø R	Bolt Holes Diameter	Ø S	Ø T	Ø U	V	No. of Holes
F4-260	15.75	5.38	8.50	5.50	14.25	16.00	0.63	4.00	7.50	9.00	0.75 DRILL	8
F6-260	17.25	6.75	9.63	7.38	17.00	19.00	0.63	6.00	9.50	11.00	0.88 DRILL	8
F8-260	19.25	6.75	12.50	8.13	23.00	25.00	0.63	8.00	11.75	13.50	3/4-10UNC	8
F10-260	21.25	8.63	12.69	11.25	23.00	25.00	0.63	10.00	14.25	16.00	7/8-9UNC	12

All dimensions are in inch.

VERTICAL TURBINE PUMP ASSEMBLY OVERALL DIMENSIONS (Fi-PRO HEADS)



DISCHARGE FLANGE DETAIL



DISCHARGE HEAD BASE & FOUNDATION HOLES DETAIL

n* : Number of Stages
 $K = A + B + C \times n + F + (\text{Pipe Length} - G)$
 Tank Depth : As per Order
 Pipe Length : According to no. of stages & Tank Depth

TABLE OF DIMENSIONS												
Pump Model	A	B	C x n*	Ø D	Emin.	F	G	Ø H	Ø J	Suitable Dis. Head		
F8LC	7.48	8.34	6.50 x n	7.62	14.50	0.94	0.25	13.00	10.00	Fi-PRO 6"		
F8HC	7.48	8.38	7.25 x n	8.13	14.60	1.12	0.25	13.00	10.00			
F11HC	9.37	10.00	9.875 x n	11.00	24.00	1.56	0.25	17.00	12.00	Fi-PRO 8"		
F12HC	9.37	11.38	10.50 x n	11.63	26.00	1.41	0.25	17.00	12.00			
F14HC	11.20	10.00	13.25 x n	14.13	22.50	0.56	1.94	19.00	18.00	Fi-PRO 10"		
F14XXHC	11.20	10.00	13.25 x n	14.13	22.50	0.56	1.94	19.00	18.00			
Discharge Head Model	L	M	N	Ø P	Ø Q	Bolt Holes Diameter	Ø R	Ø S	Ø T	Ø U	V	No. of Holes
Fi-PRO 6"	21.50	9.00	13.00	6.00	20.50	0.88	22.00	6.00	10.63	12.50	0.88	12
Fi-PRO 8"	22.50	9.00	13.50	9.12	23.00	0.88	24.50	8.00	13.00	15.00	1.00	12
Fi-PRO 10"	24.50	10.50	15.00	11.00	25.00	0.88	26.50	10.00	15.25	17.50	1.13	16

All dimensions are in inch.