



Vertical Turbine Fire Pumps



FIRE FIGHTING PUMPS

NAFFCO's 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 50 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 pipe shall be in sections not longer than 10 ft. each. 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.

CERTIFIED FIRE PUMP MODELS WITH RATINGS

RATED CAPACITY - 50 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-4VTP22	42-188	2900	100	3-10

RATED CAPACITY - 100 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-4VTP22	52-173	2900	100	4-10

RATED CAPACITY - 150 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-4VTP60	87-254	2900	100	3-6

RATED CAPACITY - 200 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-4VTP60	84-246	2900	100	3-6

RATED CAPACITY - 250 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-4VTP60	50-235	2900	100	2-6

RATED CAPACITY - 300 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-6VTP115	69-86	1450	150	3
2	NF-6VTP115	92-230	1450	150	4-8

RATED CAPACITY - 400 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-6VTP115	66-82	1450	150	3
2	NF-6VTP115	88-221	1450	150	4-8

RATED CAPACITY - 500 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-6VTP115	63-80	1450	150	3
2	NF-6VTP115	84-215	1450	150	4-8

RATED CAPACITY - 750 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-8VTP170	84-108	1450	200	3
2	NF-8VTP170	112-288	1450	200	4-8

RATED CAPACITY - 1000 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-8VTP230	81-99	1450	200	3
2	NF-8VTP230	108-132	1450	200	4
3	NF-8VTP230	135-265	1450	200	5-8

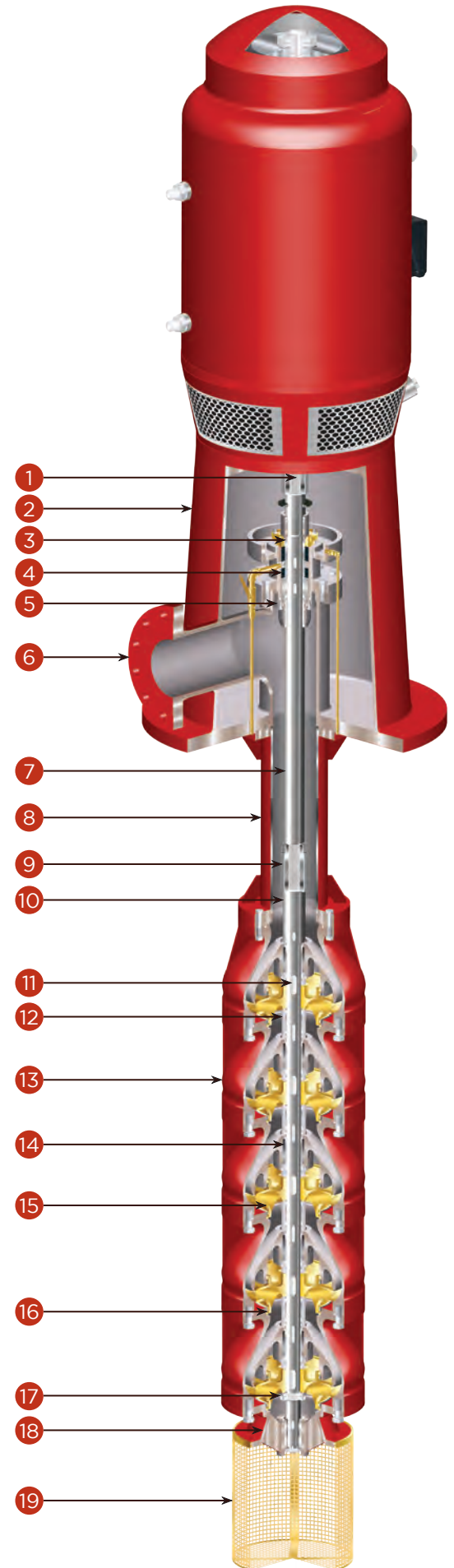
RATED CAPACITY - 1250 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-10VTP285	105-283	1450	250	3-6

RATED CAPACITY - 1500 US GPM					
SL. No	Pump Model	UL Listed Pressure (PSI)	Rated Speed (RPM)	Discharge Outlet Dia. (mm)	Stages
1	NF-10VTP340	108-135	1450	250	3
2	NF-10VTP340	144-270	1450	250	4-6

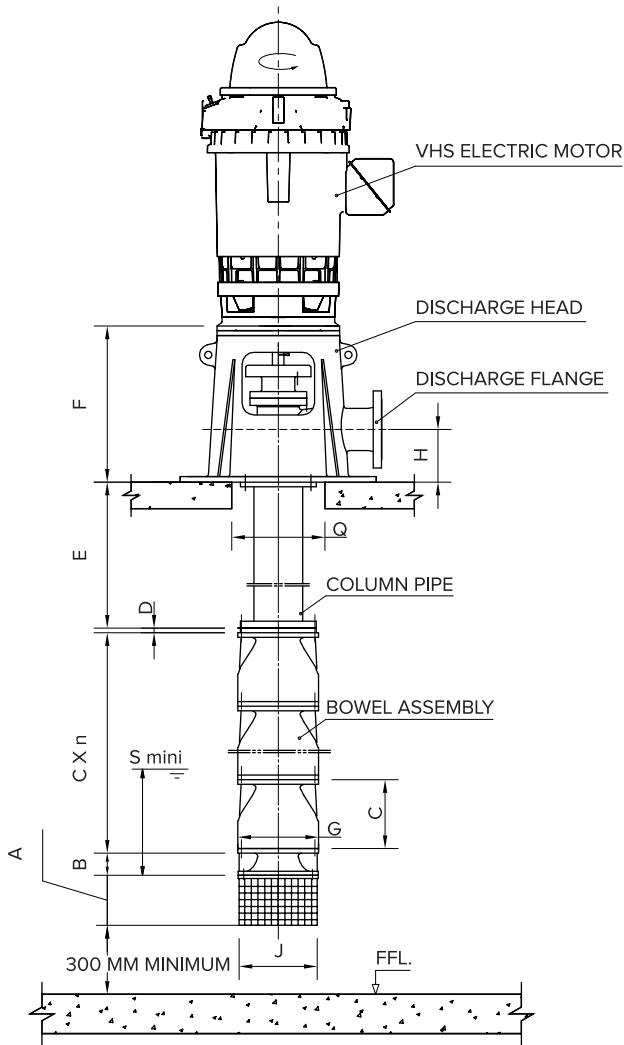
CROSS SECTIONAL VIEW



DESCRIPTION		
No.	Part Name	Material
1	Top Shaft	S/S 416
2	Discharge Head	Cast Iron ASTM A48 Class 40
3	Shaft Sleeve	S/S 416
4	Gland Packing	Graphite Impregnated
5	Stuffing Box	Ductile Iron ASTM A536 Gr 60
6	Discharge Flange	Cast Iron ASTM A48 Class 40
7	Middle Line Shaft	S/S 416
8	Column Pipe	Steel ASTM A53
9	Coupling	S/S 416
10	Lower Shaft	S/S 416
11	Impeller Key	S/S 416
12	Spacer Sleeve	S/S 416
13	Bowls	Ductile Iron ASTM A536 Gr 60
14	Guide Bearing	Teflon
15	Impellers	Bronze SAE 40 / SS 304
16	Impeller Wearing Ring	Bronze SAE 40 / SS 304
17	Round Nut	S/S 416
18	Suction Bell	Ductile Iron ASTM A536 Gr 60
19	Strainer	SS 316 / SS 304 / Bronze

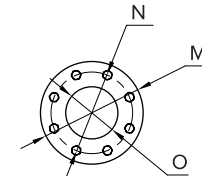


DIMENSIONAL DRAWING - ELECTRIC MOTOR DRIVEN PUMP

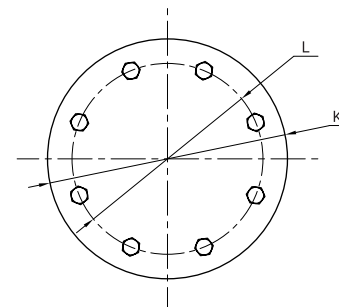


Discharge Flange Data

Standard - ASME B16.1
 Class Rating - CLASS 250



Discharge Flange



Mounting Flange

TABLE OF DIMENSIONS

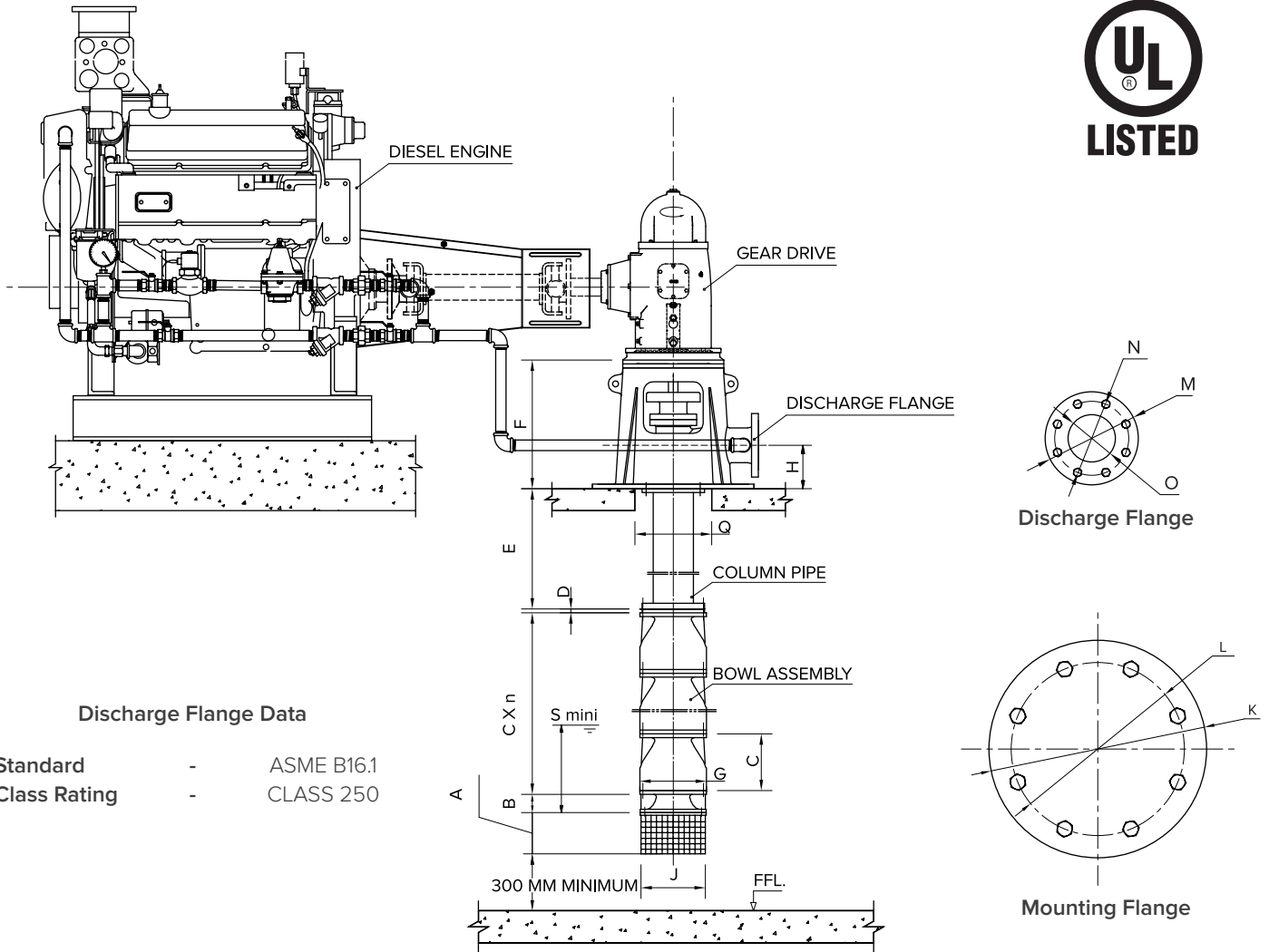
Model	A	B	C x n*	D	E	F	G	H	J	Q	Smin
NF-4VTP22	150	95	135xn	25	495	465	Ø 180	145	Ø 172	320	422
NF-4VTP60	225	90	180xn	-	495	465	Ø 235	145	Ø 233	380	600
NF-6VTP115	320	100	250xn	15	495	540	Ø 358	180	Ø 302	500	535
NF-8VTP170	320	120	300xn	-	495	630	Ø 420	220	Ø 362	560	775
NF-8VTP230	320	120	300xn	-	495	630	Ø 420	220	Ø 362	560	775
NF-10VTP285	320	150	330xn	-	495	725	Ø 477	260	Ø 392	620	820
NF-10VTP340	320	150	330xn	-	495	725	Ø 477	260	Ø 392	620	820

Model	Mounting Flange				Discharge Flange				
	K (Out Side Diameter)	L (PCD)	Diameter of Holes	Number of Holes	M (Out Side Diameter)	N (PCD)	O (Inside Diameter)	Diameter of Holes	Number of Holes
NF-4VTP22	Ø 500	Ø 460	Ø 20	8	Ø 255	Ø 200	Ø 100	Ø 22	8
NF-4VTP60	Ø 500	Ø 460	Ø 20	8	Ø 255	Ø 200	Ø 100	Ø 22	8
NF-6VTP115	Ø 650	Ø 600	Ø 25	8	Ø 320	Ø 270	Ø 150	Ø 22	12
NF-8VTP170	Ø 750	Ø 700	Ø 25	8	Ø 380	Ø 330	Ø 200	Ø 25	12
NF-8VTP230	Ø 750	Ø 700	Ø 25	8	Ø 380	Ø 330	Ø 200	Ø 25	12
NF-10VTP285	Ø 860	Ø 800	Ø 30	8	Ø 445	Ø 387	Ø 250	Ø 30	16
NF-10VTP340	Ø 860	Ø 800	Ø 30	8	Ø 445	Ø 387	Ø 250	Ø 30	16

*n - number of stages

All dimensions are in mm unless otherwise indicated.

DIMENSIONAL DRAWING - DIESEL ENGINE DRIVEN PUMP



Discharge Flange Data

Standard - ASME B16.1
 Class Rating - CLASS 250

TABLE OF DIMENSIONS

Model	A	B	C x n*	D	E	F	G	H	J	Q	Smin
NF-4VTP22	150	95	135xn	25	495	465	Ø 180	145	Ø 172	320	422
NF-4VTP60	225	90	180xn	-	495	465	Ø 235	145	Ø 233	380	600
NF-6VTP115	320	100	250xn	15	495	540	Ø 358	180	Ø 302	500	535
NF-8VTP170	320	120	300xn	-	495	630	Ø 420	220	Ø 362	560	775
NF-8VTP230	320	120	300xn	-	495	630	Ø 420	220	Ø 362	560	775
NF-10VTP285	320	150	330xn	-	495	725	Ø 477	260	Ø 392	620	820
NF-10VTP340	320	150	330xn	-	495	725	Ø 477	260	Ø 392	620	820

Model	Mounting Flange				Discharge Flange				
	K (Out Side Diameter)	L (PCD)	Diameter of Holes	Number of Holes	M (Out Side Diameter)	N (PCD)	O (Inside Diameter)	Diameter of Holes	Number of Holes
NF-4VTP22	Ø 500	Ø 460	Ø 20	8	Ø 255	Ø 200	Ø 100	Ø 22	8
NF-4VTP60	Ø 500	Ø 460	Ø 20	8	Ø 255	Ø 200	Ø 100	Ø 22	8
NF-6VTP115	Ø 650	Ø 600	Ø 25	8	Ø 320	Ø 270	Ø 150	Ø 22	12
NF-8VTP170	Ø 750	Ø 700	Ø 25	8	Ø 380	Ø 330	Ø 200	Ø 25	12
NF-8VTP230	Ø 750	Ø 700	Ø 25	8	Ø 380	Ø 330	Ø 200	Ø 25	12
NF-10VTP285	Ø 860	Ø 800	Ø 30	8	Ø 445	Ø 387	Ø 250	Ø 30	16
NF-10VTP340	Ø 860	Ø 800	Ø 30	8	Ø 445	Ø 387	Ø 250	Ø 30	16

*n - number of stages

All dimensions are in mm unless otherwise indicated.

WEIGHTS - VERTICAL TURBINE FIRE PUMP

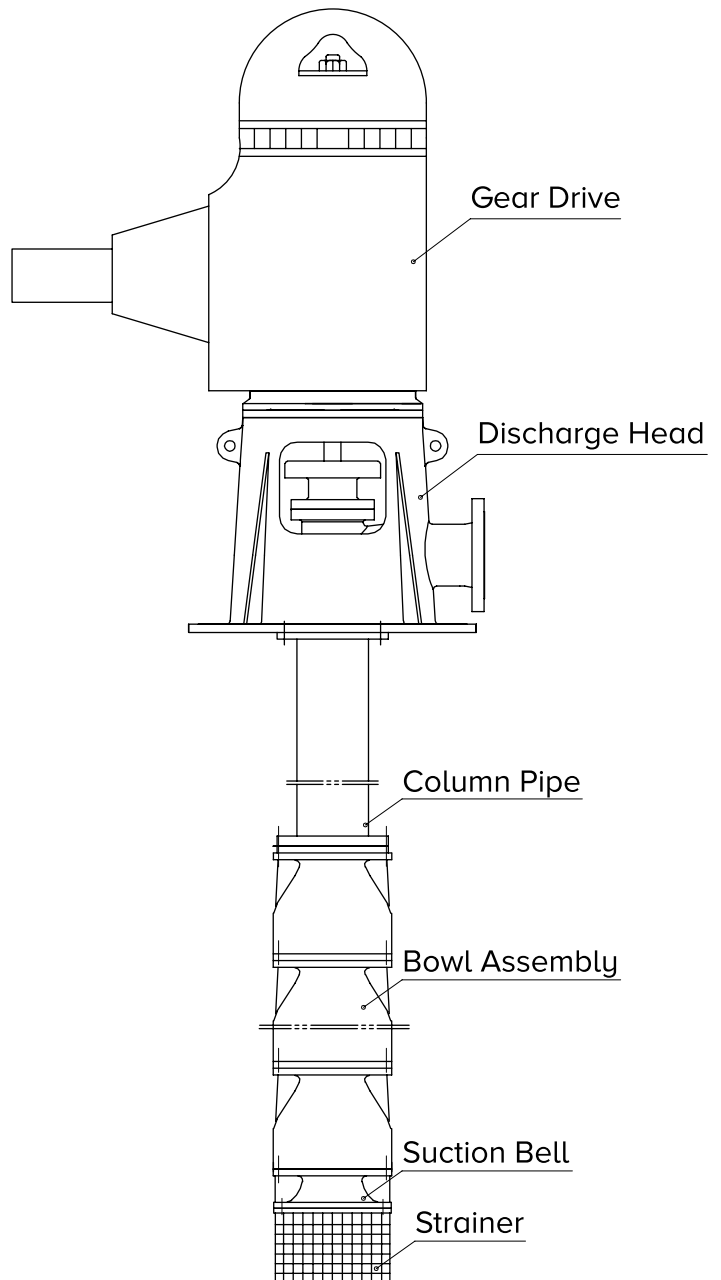
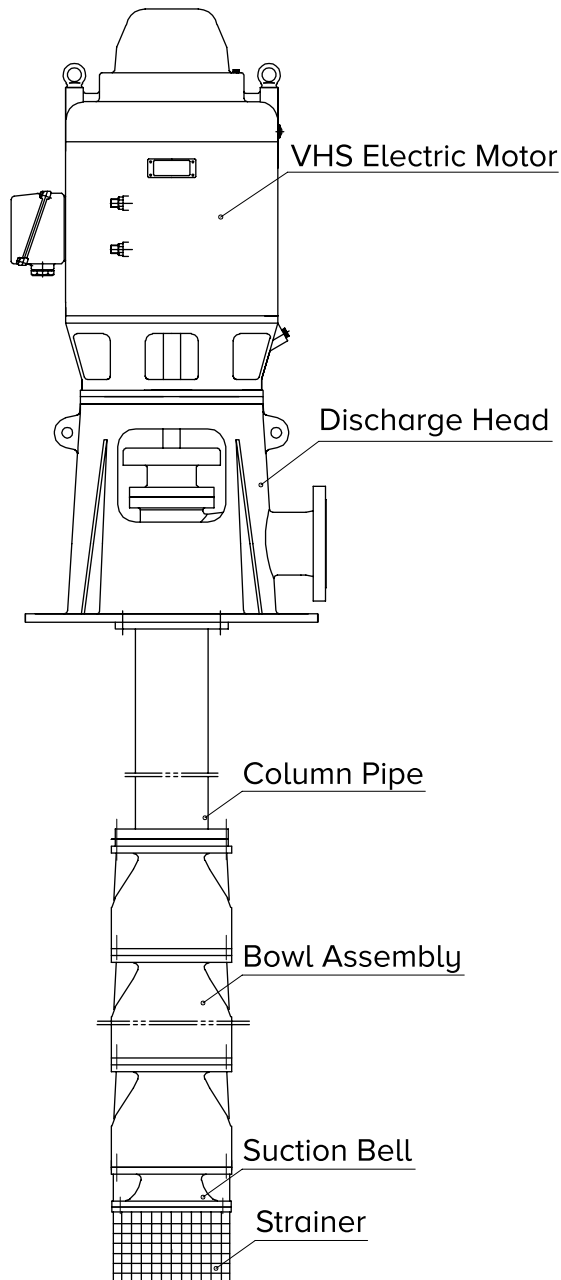


TABLE OF WEIGHTS

Model	Single Bowl Assembly (kg)	Strainer (kg)	Suction Bell (kg)	Column Pipe (kg/m)	Discharge Head (kg)
NF-4VTP22	15	2	7	38	192
NF-4VTP60	29	3	11	39	200
NF-6VTP115	75	6.5	25	74	213
NF-8VTP170	132	8	35	109	338.6
NF-8VTP230	132	8	35	109	338.6
NF-10VTP285	188	8.5	50	143	491
NF-10VTP340	188	8.5	50	143	491

GENERAL ARRANGEMENT DRAWING FOR FIRE PUMPS

