Fire Pump Databook

PUMPSENSE
THAILAND

Underwriters Laboratories

NFPA®

FM APPROVED







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A Brief Introduction

History of PUMPSENSE goes back to 1995 when a group of professionals working in large international pumps companies decided to team together. At PUMPSENSE, we are united through a common vision to build an excellent pumps company through which we can express ourselves fully and freely. Each one of us has an abiding interest in one aspect or the other of the pumps business – right from hydraulic design to applications engineering, product development to marketing. We also share a common conviction that with our skills, passion and commitment, we can redefine the existing norms and standards of customer satisfaction. We wish to work, learn and create value in a nourishing and fulfilling environment for our customers, business associates and ourselves. PUMPSENSE exists to fulfill this collective dream, based on a core set of values which are our guiding philosophy in creating this organization.

The business of PUMPSENSE is to provide centrifugal pumps and related services. We will constantly strive to increase the delivered value to our customer by careful attention to details, by continuous improvement of our core capabilities and by our commitment to delight the customer at every point of contact. The quality of our products and services will reflect the improvement in the quality of life that we are able to bring to our employees – we will provide them with an informal and liberal work environment, where they can constantly learn and grow. We recognize that our suppliers play a key role in the quality of our products and services. We will work closely with our suppliers so that they share our energy and focus to serve the customer with excellence. Above all, we will strive to create an organization where there are no barriers amongst customers, employees and suppliers and all of us work together to create value, to grow, to learn and to enhance the quality of our lives.

1. Fire Pumps (Objectives for Development)

Fire pumps manufactured by Pumpsense are in full compliance with the requirements of NFPA20. In addition, these pumps meet all the clausal requirements of established fire pumps approval standards such as FM1311 of Factory Mutual and UL448 of Underwriters Laboratories.

In particular, fire pumps manufactured by PUMPSENSE has the following objectives.

a) Efficiency is not the hardest criteria.
b) To obtain a steep H-Q characteristic and preferably, a non-overloading power curve characteristic in a low specific speed.
c) Any fire pump shall be designed for rated capacities equal to or greater than 25USGPM. Rated pump pressure shall be at least 40 psi.
d) The pump shall develop its rated pressure when delivering at rated capacity. The pump shall not exceed 140% of its rated pressure at any point along its characteristic curve, including the shut-off point. The shut-off head shall not be less than 99% of its rated head.
e) The pump shall develop at least 65% of its rated pressure when operating at a suction lift of at least 15ft (4.6m), referred to sea level, and delivering 150% of rated capacity. If mechanical seals are used, they shall not allow air to leak into the pump at any point along the characteristic curve, not including the shut-off. This poses a design challenge, especially for lower trims.
f) Design an economical unit which meets the high-test pressure requirement of UL (Maximum pressure + 75 PSI) × 2.
g) Achieve increased mechanical reliability and driver rating optimization.
h) The minimum internal dimensions of the passage at any point shall not be less than **(UL 448).** 5/16 inch (7.9mm) for a pump rated 500 gallons per minute (1893 L/min) or less; or ½ inch (12.7mm) for a pump rated more than 500 gallons per minute.
i) All water passages shall be designed to minimize the possibility of foreign materials becoming lodged in them **(FM 1311)**. The minimum width of these passages at the periphery or at any point within the impeller shall be at least ½ in. (12.7mm) for pumps rated 500 gallons per minute (1895 L/min) and larger. Passages in pumps having rated capacities of 100 to less than 500 gallons per minute (380 to less than 1895 L/min) shall be at least 3/8in. (9.5mm). Passages in pumps having rated capacities less than 100 gallons per minute (380 L/min) shall be at least ¼ in. (6.3mm).

2. Mechanical Design (Criterions to be fulfilled)

Pumpsense always fulfill the following mechanical design criteria for its fire pump models.

a) A casting shall be smooth and free from scale, lumps, cracks, blisters, sand holes, and defects of any nature that may affect the use for which it is intended. A casting shall not be plugged or filled but may be impregnated to remove porosity.

b) A bolt, stud, cap screw, or gland swing bolt to assemble parts subject to stress due to water pressure shall not be less than 3/8 inch (9.5mm) in diameter.

c) An interior bolt or screw that is exposed to pumped water shall be constructed of the corrosion resistant material or series 400 stainless steel.

d) The maximum combined shear stress for a pump shaft, based upon the minimum diameter at the root of threads or an undercut (not including the undercutting for keys), shall not exceed 30 percent of the elastic limit in tension or be more than 18 percent of the ultimate tensile strength of the shafting steel used. For shafts with keyways, the allowable stress limits shall be 75 percent of the stresses calculated using the minimum shaft diameter at the key location (not including the undercut). Compliance with this requirement is to be verified by a review of manufacturers' stress calculation.

e) The impellers shall be dynamically balanced to **G6.3** balance quality grade in accordance with the requirements for pump impellers in the **Standard for Mechanical Vibration - Balance Quality Requirements of Rigid Rotors, Part 1: Specification and Verification of Balance Tolerances, ISO 1940-1**.

f) Flange dimensions and bolt layouts used in pipe connections shall comply with the requirements of one of the following standards.
   1) Standard for cast iron pipe flanges and flanged fittings, ANSI/ASME B16.1;
   2) Standard for ductile iron pipe flanges and flanged fittings: Classes 150 and 300, ANSI/ASME B16.42; or
   3) Standard for pipe flanges and flanged fittings: NPS ½ through 24, ANSI/ASME B16.5, when steel is used.

g) A pump casing shall be constructed to permit examination of impellers and other interior parts without disturbing suction or discharge piping. The casing shall include means to facilitate disassembly of the casing, and the stuffing box cover (if provided), without requiring the use of wedges or prying elements, such as by provision of tapped holes for jackscrews.

h) The pump shall be provided with feet or with provisions for accommodating feet or a fabricated base support such as bolt holes and a bearing surface for attaching the base to the pump.

i) A drain opening shall be provided so that all parts of the pump casing can be drained. The opening shall be threaded to receive a plug, i.e.,
   1) Not smaller than ½ inch (12.7mm) nominal pipe size for pumps having rated capacities equal to or greater than 100 gallons per minute and ¼ inch (6.4mm) nominal pipe size for pumps having rated capacities less than 100 gallons per minute;
   2) Formed of corrosion – resistant material.

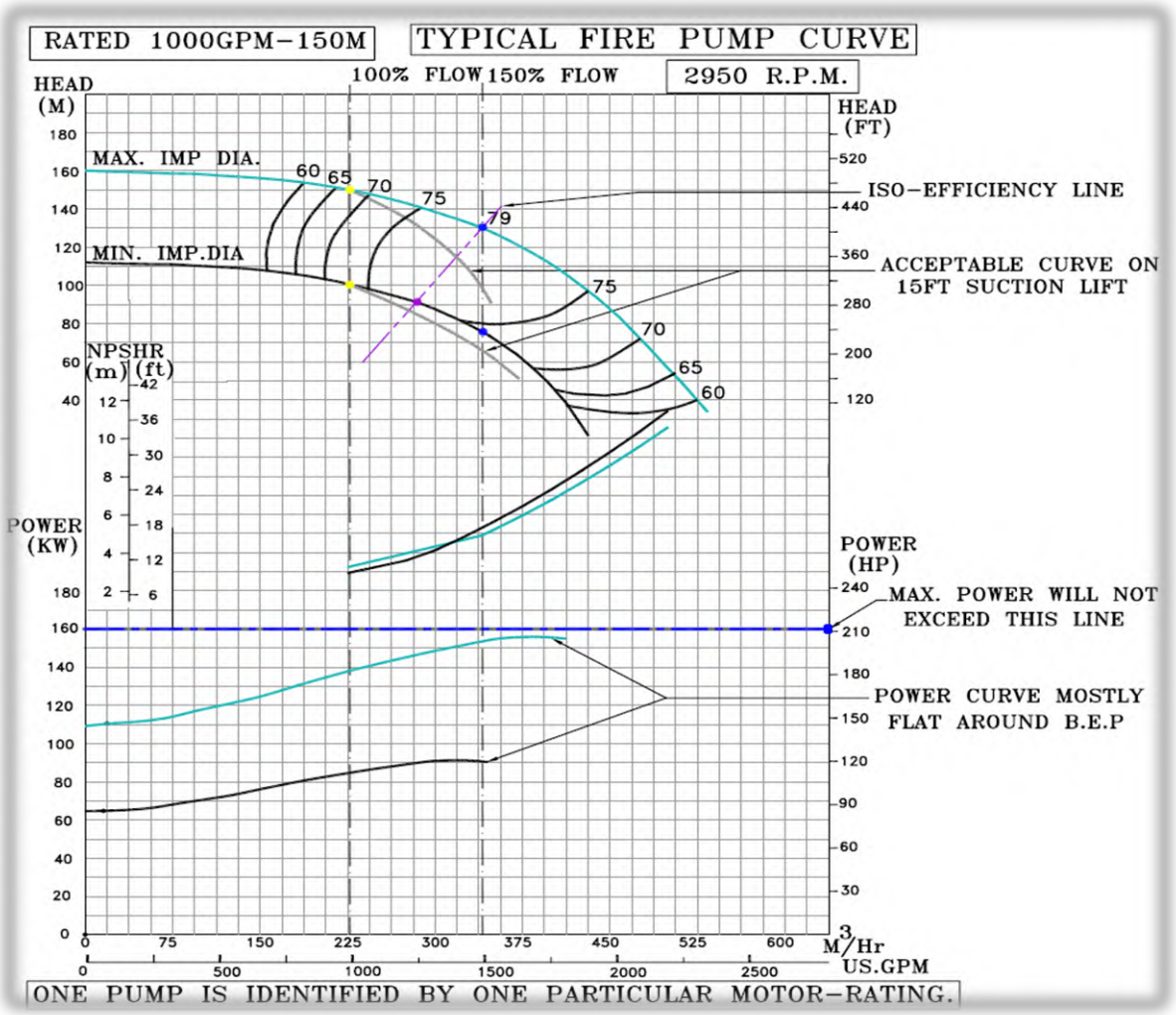
j) A pump shall be provided with casing wear rings that are made of material that will not gall. The rings shall be secured to the casing in a manner that does not permit rotational or axial movement. Impeller wearing rings need not be provided.

k) The radial clearance between a stationary and moving part of a pump shall not be less than 0.191mm.

l) The impellers shall be secured in an axial direction, permitting no contact with the casing under operating conditions.

m) The impellers shall be of the closed type; that is, they shall incorporate shrouds or sidewalls that completely enclose the impeller waterways from the suction eye to the periphery.

n) Ball and roller bearings shall have an L-10 rating of not less than 5000 hours at maximum load in accordance with the Standard for Load Ratings and Fatigue Life for Ball Bearings, ANSI / ABMA 9, and load ratings and Fatigue Life for Roller Bearings, ANSI / ABMA 9, and Load Ratings and Fatigue Life for Roller Bearings, ANSI / ABMA 11, respectively.


RATED 1000GPM–150M
TYPICAL FIRE PUMP CURVE
100% FLOW
150% FLOW
2950 R.P.M.
HEAD (M)
HEAD (FT)
MAX. IMP DIA.
MIN. IMP.DIA
60
65
70
75
79
ISO–EFFICIENCY LINE
ACCEPTABLE CURVE ON 15FT SUCTION LIFT
NPSHR (m) (ft)
POWER (KW)
POWER (HP)
MAX. POWER WILL NOT EXCEED THIS LINE
POWER CURVE MOSTLY FLAT AROUND B.E.P
M³/Hr
US.GPM
ONE PUMP IS IDENTIFIED BY ONE PARTICULAR MOTOR–RATING.

3. Fire Pump Packages

3.1 FM Approved Fire pump packages

The fire pump packages consist of the following components which are furnished by the pump manufacturer, alternate manufacturer, or a fire pump packager.

1) Fire pump ***(FM Approved);***
2) Driver – diesel engine ***(FM Approved)*** or electric motor;
3) Pump controller (electric motor or diesel engine) ***(FM Approved);***
4) Flexible coupling (not all elastomeric) or drive shaft;
5) Suction and discharge pressure gauges ***(FM Approved);***
6) Pressure relief valve (FM Approved) and waste cone, when required;
7) Automatic air release valve ***(FM Approved);***
8) Circulation relief valve ***(FM Approved);***
9) Substantial bed plate for pump and driver;
10) Diesel engine accessories:
    i) Starting batteries,
    ii) Rigid cooling water and fuel lines (May have short flexible elements in close proximity to engine to minimize vibration),
    iii) Exhaust piping and muffler,
    iv) Fuel tank.
11) Instruction, operation and maintenance manual in local language,
12) Spare mechanical seals (optional, for pumps FM Approved with mechanical seal).

3.2 UL Listed Fire pumps scope of supply

Following accessories must be provided by the pump manufacturer along with the UL listed pumps.

a) Automatic air-release valve (self-venting pumps excluded);
b) Circulation relief valve (except for engine driven pumps for which engine cooling water is taken from the pump discharge) and;
c) Pressure gauges.

4. Fire Pumps Technical Datasheet

PUMPSENSE FLUID ENGINEERING PVT LTD			
Datasheet For :			
	PARAMETERS	**UNIT**	**VALUE**
RATED DUTY	100% Rated Duty	usgpm	
	150% Rated Duty	usgpm	
	Head Range	psi	
	Speed	rpm	
	Type of Pump		NFPA-20 Single Stage Fire Pump
	Driver		
PUMP DETAILS	Make		**PUMPSENSE**
	Stages		
	Model No.		
	Discharge	mm	
	Flange Rating Discharge		
	Suction	mm	
	Suction Flange Rating		
	Type of Casing		
	Type of Impeller		
	Impeller Diameter Max	mm	
	Impeller Diameter Min	mm	
	Rotation		
MECHANICAL DATA	Bare Pump Weight	kg	
	Shaft dia. at coupling	mm	
	N.D.E. Bearing		
	D.E. Bearing		
MATERIALS OF CONSTRUCTION	Casing		CI FG 260 BS 1452
	Impeller		Bronze LG2 BS 1400
	Casing Wear Ring		Bronze LB2 BS 1400
	Shaft		AISI 410
	Shaft Sleeve & Nuts		Bronze CT1 BS 1400/ AISI 316
	Split Gland		Bronze LG2 BS 1400
	Lantern Ring		Bronze LG2 BS 1400
	Stuffing Box		Gland Packed Fitted
	Packing		CARRARA Make Soft Packing Style R4804
	Fastners		HTS GR. 10.9
NFPA 20 Performance Data -			
AT RATED DUTY	Speed	rpm	
	Rated Flow	usgpm	
	Rated Head	psi	
	Efficiency	%	
	Power Absorbed	kW	
AT 150% OF RATED DUTY	150% Rated Flow	usgpm	
	Approx. Head	psi	
	Head as % of Rated	%	
	Efficiency	%	
	BkW	kW	
	Motor Rating	kW	
	Closed Valve Head(Approx.)	psi	
	CV Head as % of Rated Head	psi	
	Working Pressure	psi	
	Test Pressure	psi	
	Rupture Pressure	psi	

5. UL Listed Fire Pumps, Split Case

PUMPSENSE UL Listed Centrifugal Fire Pumps, Split Case											
Sr. No.	Rated Capacity, usgpm	Size, in.	Model	Rated Net Pressure Range, psi	Approx. Speed, RPM	Max Working Pressure, psi	Impeller Diameter, mm.		Pump BKW, min to max		Remarks
							Minimum	Maximum	kW	hP	
1	300	6" x 4"	4HF12L	88-139	2600	300	260	310	30.97 to 50.85	41.53 to 68.19	Single Stage Pump
2	300	6" x 4"	4HF12L	104-161	2800	300	260	310	38.68 to 63.51	51.87 to 85.17	Single Stage Pump
3	300	6" x 4"	4HF12L	116-180	2950	300	260	310	45.24 to 74.27	60.67 to 99.59	Single Stage Pump
4	300	6" x 4"	4HF12L	120-186	3000	300	260	310	47.58 to 78.11	63.81 to 104.75	Single Stage Pump
5	400	6" x 4"	4HF12L	84-134	2600	300	260	310	30.97 to 50.85	41.53 to 68.19	Single Stage Pump
6	400	6" x 4"	4HF12L	99-157	2800	300	260	310	38.68 to 63.51	51.87 to 85.17	Single Stage Pump
7	400	6" x 4"	4HF12L	111-175	2950	300	260	310	45.24 to 74.27	60.67 to 99.59	Single Stage Pump
8	400	6" x 4"	4HF12L	115-182	3000	300	260	310	47.58 to 78.11	63.81 to 104.75	Single Stage Pump
9	400	4" x 3"	3HFT11	194-327	2930	410	230	295	91 to 137	122.03 to 183.72	Two Stage Pump
10	450	6" x 4"	4HF12L	81-132	2600	300	260	310	30.97 to 50.85	41.53 to 68.19	Single Stage Pump
11	450	6" x 4"	4HF12L	96-155	2800	300	260	310	38.68 to 63.51	51.87 to 85.17	Single Stage Pump
12	450	6" x 4"	4HF12L	108-173	2950	300	260	310	45.24 to 74.27	60.67 to 99.59	Single Stage Pump
13	450	6" x 4"	4HF12L	113-179	3000	300	260	310	47.58 to 78.11	63.81 to 104.75	Single Stage Pump
14	500	6" x 4"	4HF12L	78-129	2600	300	260	310	30.97 to 50.85	41.53 to 68.19	Single Stage Pump
15	500	6" x 4"	4HF12L	93-152	2800	300	260	310	38.68 to 63.51	51.87 to 85.17	Single Stage Pump

16	**500**	**6" x 4"**	**4HF12L**	**105-171**	**2950**	**300**	**260**	**310**	**45.24 to 74.27**	**60.67 to 99.59**	**Single Stage Pump**
17	**500**	**6" x 4"**	**4HF12L**	**109-177**	**3000**	**300**	**260**	**310**	**47.58 to 78.11**	**63.81 to 104.75**	**Single Stage Pump**
18	**500**	**6" x 4"**	**4HF13**	**130-176**	**2600**	**300**	**305**	**350**	**60.85 to 86.83**	**81.6 to 116.44**	**Single Stage Pump**
19	**500**	**6" x 4"**	**4HF13**	**153-206**	**2800**	**300**	**305**	**350**	**76.01 to 108.45**	**101.93 to 145.43**	**Single Stage Pump**
20	**500**	**6" x 4"**	**4HF13**	**171-230**	**2950**	**300**	**305**	**350**	**88.89 to 126.83**	**119.2 to 170.08**	**Single Stage Pump**
21	**500**	**6" x 4"**	**4HF13**	**177-238**	**3000**	**300**	**305**	**350**	**93.48 to 133.38**	**125.36 to 178.87**	**Single Stage Pump**
22	**500**	**4" x 3"**	**3HFT11**	**187-320**	**2930**	**410**	**230**	**295**	**91 to 137**	**122.03 to 183.72**	**Two Stage Pump**
23	**750**	**6" x 4"**	**4HF12**	**79-124**	**2600**	**300**	**264**	**310**	**41.12 to 59.31**	**55.14 to 79.54**	**Single Stage Pump**
24	**750**	**6" x 4"**	**4HF12**	**96-149**	**2800**	**300**	**264**	**310**	**51.36 to 74.08**	**68.87 to 99.34**	**Single Stage Pump**
25	**750**	**6" x 4"**	**4HF12**	**106-169**	**2950**	**300**	**264**	**310**	**60.07 to 86.63**	**80.56 to 116.2**	**Single Stage Pump**
26	**750**	**6" x 4"**	**4HF12**	**109-176**	**3000**	**300**	**264**	**310**	**63.17 to 91.11**	**84.71 to 122.18**	**Single Stage Pump**
27	**750**	**6" x 4"**	**4HF13**	**114-162**	**2600**	**300**	**305**	**350**	**81.6 to 116.44**	**81.6 to 116.44**	**Single Stage Pump**
28	**750**	**6" x 4"**	**4HF13**	**137-192**	**2800**	**300**	**305**	**350**	**101.93 to 145.43**	**101.93 to 145.43**	**Single Stage Pump**
29	**750**	**6" x 4"**	**4HF13**	**155-215**	**2950**	**300**	**305**	**350**	**119.2 to 170.08**	**119.2 to 170.08**	**Single Stage Pump**
30	**750**	**6" x 4"**	**4HF13**	**162-224**	**3000**	**300**	**305**	**350**	**125.36 to 178.87**	**125.36 to 178.87**	**Single Stage Pump**
31	**1000**	**6" x 5"**	**5HF11**	**82-124**	**2600**	**300**	**252**	**310**	**54.3 to 84.58**	**72.82 to 113.42**	**Single Stage Pump**
32	**1000**	**6" x 5"**	**5HF11**	**97-147**	**2800**	**300**	**252**	**310**	**67.82 to 105.64**	**90.95 to 141.67**	**Single Stage Pump**
33	**1000**	**6" x 5"**	**5HF11**	**109-165**	**2950**	**300**	**252**	**310**	**79.31 to 123.55**	**106.36 to 165.68**	**Single Stage Pump**

34	**1000**	**6" x 5"**	**5HF11**	**113-171**	**3000**	**300**	**252**	**310**	**83.41 to 129.94**	**111.85 to 174.25**	**Single Stage Pump**
35	**1000**	**8" x 6"**	**6HF14K**	**127-175**	**2600**	**335**	**320**	**360**	**99 to 131**	**132.76 to 175.67**	**Single Stage Pump**
36	**1000**	**8" x 6"**	**6HF14K**	**151-206**	**2800**	**335**	**320**	**360**	**124 to 164**	**166.29 to 219.93**	**Single Stage Pump**
37	**1000**	**8" x 6"**	**6HF14K**	**169-230**	**2950**	**335**	**320**	**360**	**145 to 192**	**194.45 to 257.48**	**Single Stage Pump**
38	**1000**	**8" x 6"**	**6HF14K**	**175-239**	**3000**	**335**	**320**	**360**	**153 to 202**	**205.18 to 270.89**	**Single Stage Pump**
39	**1000**	**8" x 6"**	**6HFTD12L**	**179-262**	**2600**	**443**	**260**	**314**	**134 to 224**	**179.69 to 300.39**	**Two Stage Pump**
40	**1000**	**8" x 6"**	**6HFTD12L**	**210-306**	**2800**	**443**	**260**	**314**	**168 to 279**	**225.29 to 374.15**	**Two Stage Pump**
41	**1000**	**8" x 6"**	**6HFTD12L**	**240-347**	**2975**	**443**	**260**	**314**	**201 to 335**	**269.55 to 449.24**	**Two Stage Pump**
42	**1250**	**8" x 6"**	**6HF20**	**80-122**	**1500**	**271**	**428**	**520**	**95 to 137**	**127.39 to 183.72**	**Single Stage Pump**
43	**1250**	**8" x 6"**	**6HF20**	**113-173**	**1760**	**271**	**428**	**520**	**153 to 221**	**205.18 to 296.37**	**Single Stage Pump**
44	**1250**	**8" x 6"**	**6HF20**	**119-182**	**1800**	**271**	**428**	**520**	**164 to 236**	**219.93 to 316.48**	**Single Stage Pump**
45	**1250**	**8" x 6"**	**6HF12**	**113-180**	**3000**	**275**	**245**	**305**	**106 to 170**	**142.15 to 227.97**	**Single Stage Pump**
46	**1250**	**8" x 6"**	**6HFTD12L**	**229-342**	**2975**	**443**	**260**	**314**	**201 to 335**	**269.55 to 449.24**	**Two Stage Pump**
47	**1500**	**8" x 6"**	**6HF20**	**76-117**	**1500**	**271**	**428**	**520**	**95 to 137**	**127.39 to 183.72**	**Single Stage Pump**
48	**1500**	**8" x 6"**	**6HF20**	**109-167**	**1760**	**271**	**428**	**520**	**153 to 221**	**205.18 to 296.37**	**Single Stage Pump**
49	**1500**	**8" x 6"**	**6HF20**	**115-175**	**1800**	**271**	**428**	**520**	**164 to 236**	**219.93 to 316.48**	**Single Stage Pump**
50	**1500**	**8" x 6"**	**6HF12**	**106-172**	**3000**	**275**	**245**	**305**	**106 to 170**	**142.15 to 227.97**	**Single Stage Pump**
51	**2000**	**10" x 8"**	**8HF20**	**80-122**	**1500**	**272**	**425**	**515**	**124 to 186**	**166.29 to 249.43**	**Single Stage Pump**

52	**2000**	**10" x 8"**	**8HF20**	**115-172**	**1760**	**272**	**425**	**515**	**200 to 301**	**403.65**	**Single Stage Pump**
53	**2000**	**10" x 8"**	**8HF20**	**121-181**	**1800**	**272**	**425**	**515**	**214 to 322**	**286.98 to 431.81**	**Single Stage Pump**
54	**2000**	**10" x 8"**	**8HF13**	**120-148**	**2800**	**300**	**305**	**330**	**146.07 to 190.76**	**195.88 to 255.81**	**Single Stage Pump**
55	**2000**	**10" x 8"**	**8HF13**	**136-167**	**2950**	**300**	**305**	**330**	**170.82 to 223.09**	**229.07 to 299.17**	**Single Stage Pump**
56	**2000**	**10" x 8"**	**8HF13**	**141-173**	**3000**	**300**	**305**	**330**	**179.65 to 234.62**	**240.91 to 314.63**	**Single Stage Pump**
57	**2500**	**10" x 8"**	**8HF20**	**74-115**	**1500**	**272**	**425**	**515**	**124 to 186**	**166.29 to 249.43**	**Single Stage Pump**
58	**2500**	**10" x 8"**	**8HF20**	**110-166**	**1760**	**272**	**425**	**515**	**200 to 301**	**403.65**	**Single Stage Pump**
59	**2500**	**10" x 8"**	**8HF20**	**115-175**	**1800**	**272**	**425**	**515**	**214 to 322**	**286.98 to 431.81**	**Single Stage Pump**

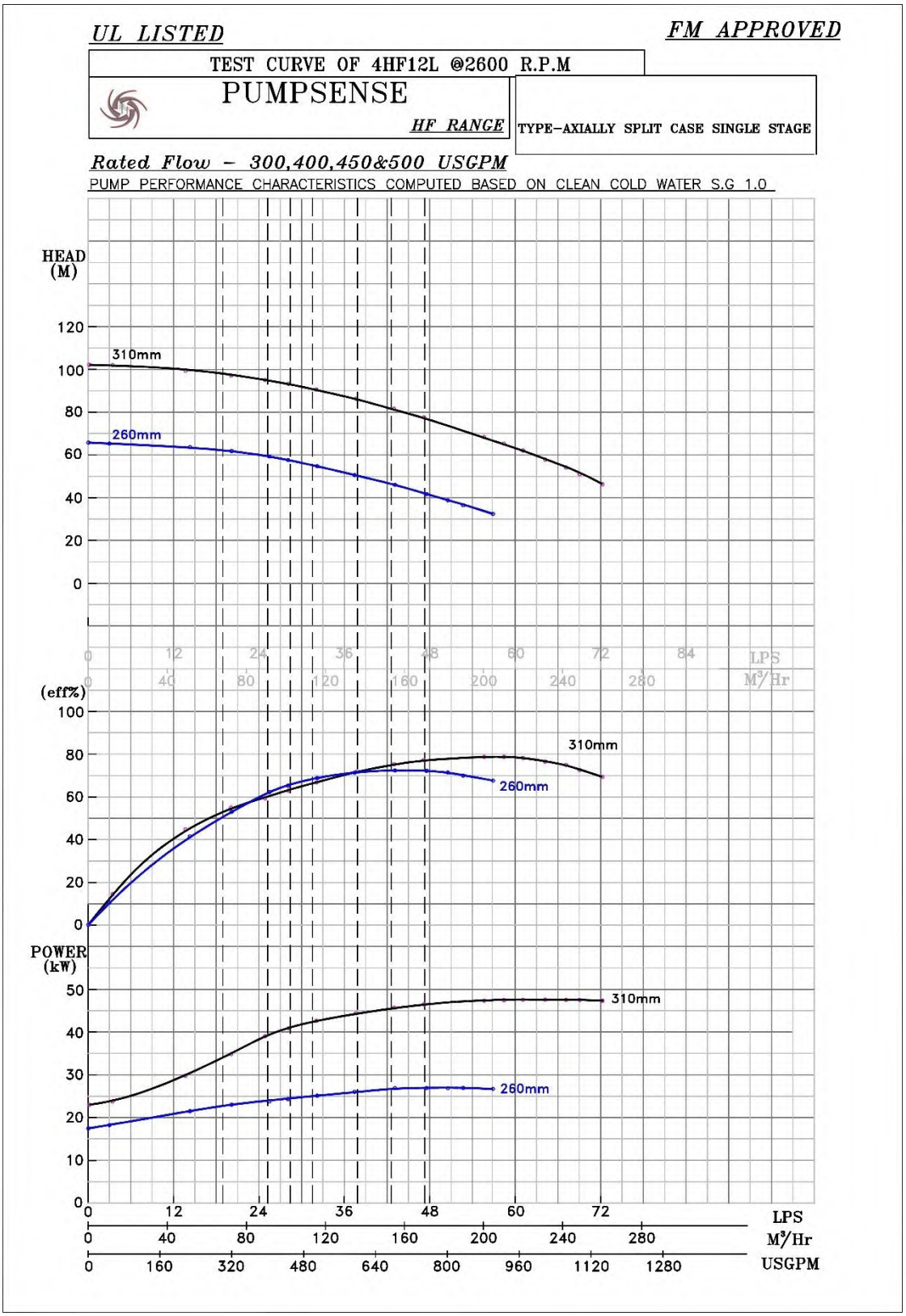
6. FM Approved Fire Pumps, Split Case

PUMPSENSE FM Approved Centrifugal Fire Pumps, Split Case											
Sr. No.	Rated Capacity , usgpm	Size, in.	Model	Rated Net Pressure Range, psi	Approx. Speed, RPM	Max Working Pressure, psi	Impeller Diameter, mm.		Pump BKW, min to max		Remarks
							Minimum	Maximum	kW	hP	
1	300	6" x 4"	4HF12L	88-139	2600	261.8	260	310	28-48	38-64	Single Stage Pump
2	300	6" x 4"	4HF12L	104-162	2800	261.8	260	310	38-63	51-84	Single Stage Pump
3	300	6" x 4"	4HF12L	116-180	2950	261.8	260	310	44-73	59-98	Single Stage Pump
4	300	6" x 4"	4HF12L	120-187	3000	261.8	260	310	46-77	62-103	Single Stage Pump
5	400	6" x 4"	4HF12L	85-135	2600	261.8	260	310	28-48	38-64	Single Stage Pump
6	400	6" x 4"	4HF12L	99-158	2800	261.8	260	310	38-63	51-84	Single Stage Pump
7	400	6" x 4"	4HF12L	111-177	2950	261.8	260	310	44-73	59-98	Single Stage Pump
8	400	6" x 4"	4HF12L	115-183	3000	261.8	260	310	46-77	62-103	Single Stage Pump
9	450	6" x 4"	4HF12L	82-133	2600	261.8	260	310	28-48	38-64	Single Stage Pump
10	450	6" x 4"	4HF12L	97-155	2800	261.8	260	310	38-63	51-84	Single Stage Pump
11	450	6" x 4"	4HF12L	109-174	2950	261.8	260	310	44-73	59-98	Single Stage Pump
12	450	6" x 4"	4HF12L	113-181	3000	261.8	260	310	46-77	62-103	Single Stage Pump
13	500	6" x 4"	4HF12L	78-129	2600	261.8	260	310	28-48	38-64	Single Stage Pump
14	500	6" x 4"	4HF12L	94-152	2800	261.8	260	310	38-63	51-84	Single Stage Pump
15	500	6" x 4"	4HF12L	106-171	2950	261.8	260	310	44-73	59-98	Single Stage Pump
16	500	6" x 4"	4HF12L	110-177	3000	261.8	260	310	46-77	62-103	Single Stage Pump

17	**750**	**6" x 4"**	**4HF12**	**79-122**	**2600**	**265.2**	**264**	**310**	**41-55**	**55-74**	**Single Stage Pump**
18	**750**	**6" x 4"**	**4HF12**	**94-147**	**2800**	**265.2**	**264**	**310**	**48-74**	**64-99**	**Single Stage Pump**
19	**750**	**6" x 4"**	**4HF12**	**107-166**	**2950**	**265.2**	**264**	**310**	**55-87**	**74-117**	**Single Stage Pump**
20	**750**	**6" x 4"**	**4HF12**	**112-172**	**3000**	**265.2**	**264**	**310**	**58-90**	**78-121**	**Single Stage Pump**
21	**1000**	**6" x 5"**	**5HF11**	**80-126**	**2600**	**262.9**	**252**	**310**	**50-83**	**67-111**	**Single Stage Pump**
22	**1000**	**6" x 5"**	**5HF11**	**95-148**	**2800**	**262.9**	**252**	**310**	**67-108**	**90-145**	**Single Stage Pump**
23	**1000**	**6" x 5"**	**5HF11**	**107-167**	**2950**	**262.9**	**252**	**310**	**78-126**	**105-169**	**Single Stage Pump**
24	**1000**	**6" x 5"**	**5HF11**	**111-173**	**3000**	**262.9**	**252**	**310**	**82-132**	**110-177**	**Single Stage Pump**
25	**1250**	**8" x 6"**	**6HF12**	**83-132**	**2600**	**263.8**	**252**	**305**	**68-109**	**91-146**	**Single Stage Pump**
26	**1250**	**8" x 6"**	**6HF12**	**134-154**	**2800**	**263.8**	**252**	**305**	**86-136**	**115-182**	**Single Stage Pump**
27	**1250**	**8" x 6"**	**6HF12**	**115-170**	**2950**	**263.8**	**252**	**305**	**100-160**	**134-215**	**Single Stage Pump**
28	**1250**	**8" x 6"**	**6HF12**	**121-179**	**3000**	**263.8**	**252**	**305**	**105-167**	**141-224**	**Single Stage Pump**
29	**1500**	**8" x 6"**	**6HF12**	**108-165**	**2950**	**263.8**	**252**	**305**	**100-160**	**134-215**	**Single Stage Pump**
30	**1500**	**8" x 6"**	**6HF12**	**114-174**	**3000**	**263.8**	**252**	**305**	**105-167**	**141-224**	**Single Stage Pump**
31	**1500**	**8" x 6"**	**6HF18**	**101-124**	**1800**	**214.5**	**395**	**436**	**122-165**	**164-220**	**Single Stage Pump**
32	**1500**	**8" x 6"**	**6HF21**	**100-140**	**1480**	**217.3**	**438**	**520**	**123-185**	**165-250**	**Single Stage Pump**
33	**2000**	**10" x 8"**	**8HF13**	**120-146**	**2800**	**287.5**	**305**	**330**	**156-192**	**209-257**	**Single Stage Pump**
34	**2000**	**10" x 8"**	**8HF13**	**135-166**	**2950**	**287.5**	**305**	**330**	**182-225**	**244-302**	**Single Stage Pump**

35	**2000**	**10" x 8"**	**8HF13**	**138-173**	**3000**	**287.5**	**305**	**330**	**192-236**	**257-316**	**Single Stage Pump**
36	**2000**	**10" x 8"**	**8HF21**	**98-126**	**1480**	**210.2**	**455**	**520**	**141-191**	**189-255**	**Single Stage Pump**
37	**2000**	**10" x 8"**	**8HF17**	**110-140**	**1770**	**220.8**	**375**	**450**	**198-260**	**266-350**	**Single Stage Pump**
38	**2500**	**10" x 8"**	**8HF17**	**106-136**	**1770**	**220.8**	**375**	**450**	**198-260**	**266-350**	**Single Stage Pump**

7. UL Listed // FM Approved Curves



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @2800 R.P.M

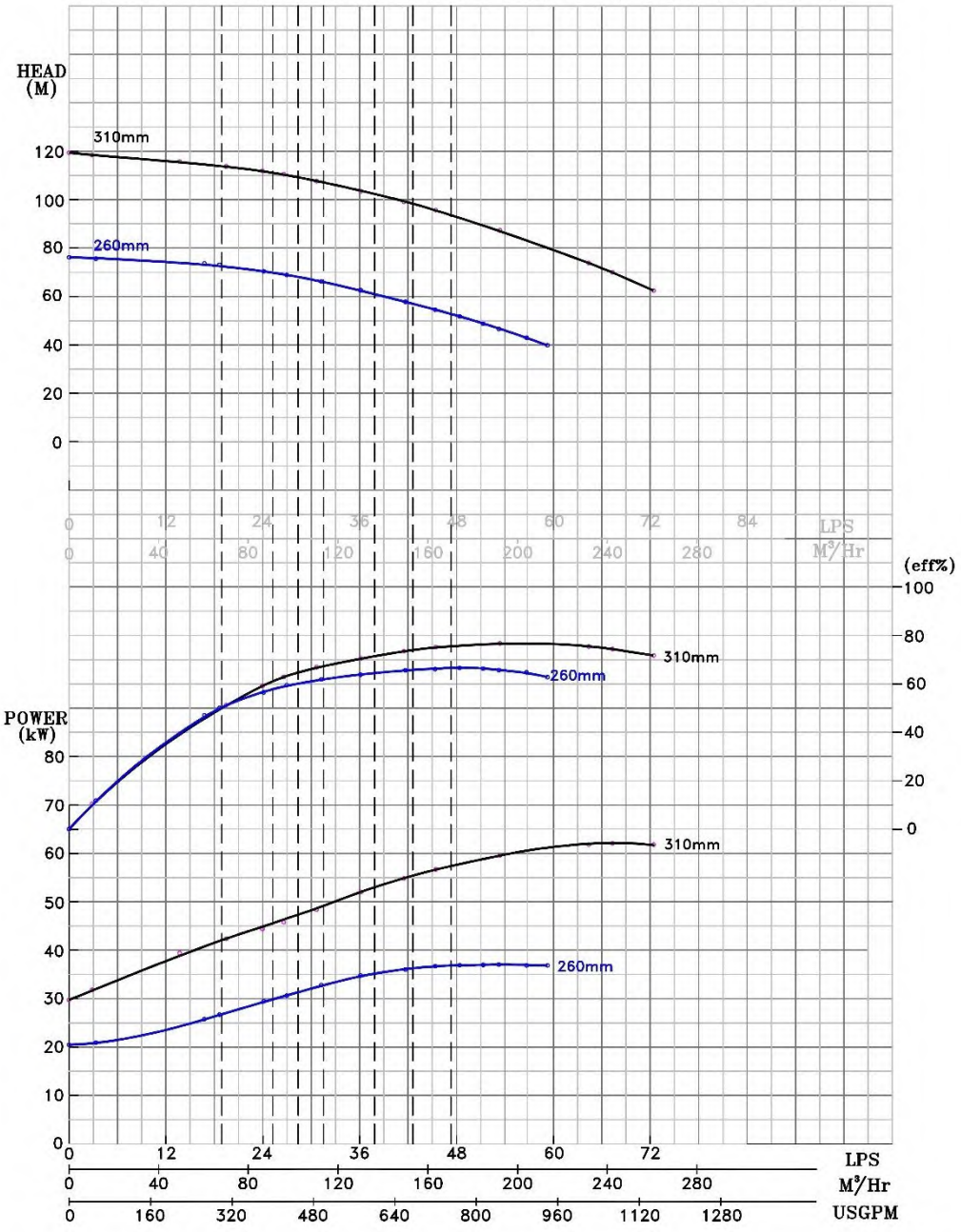
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @2950 R.P.M

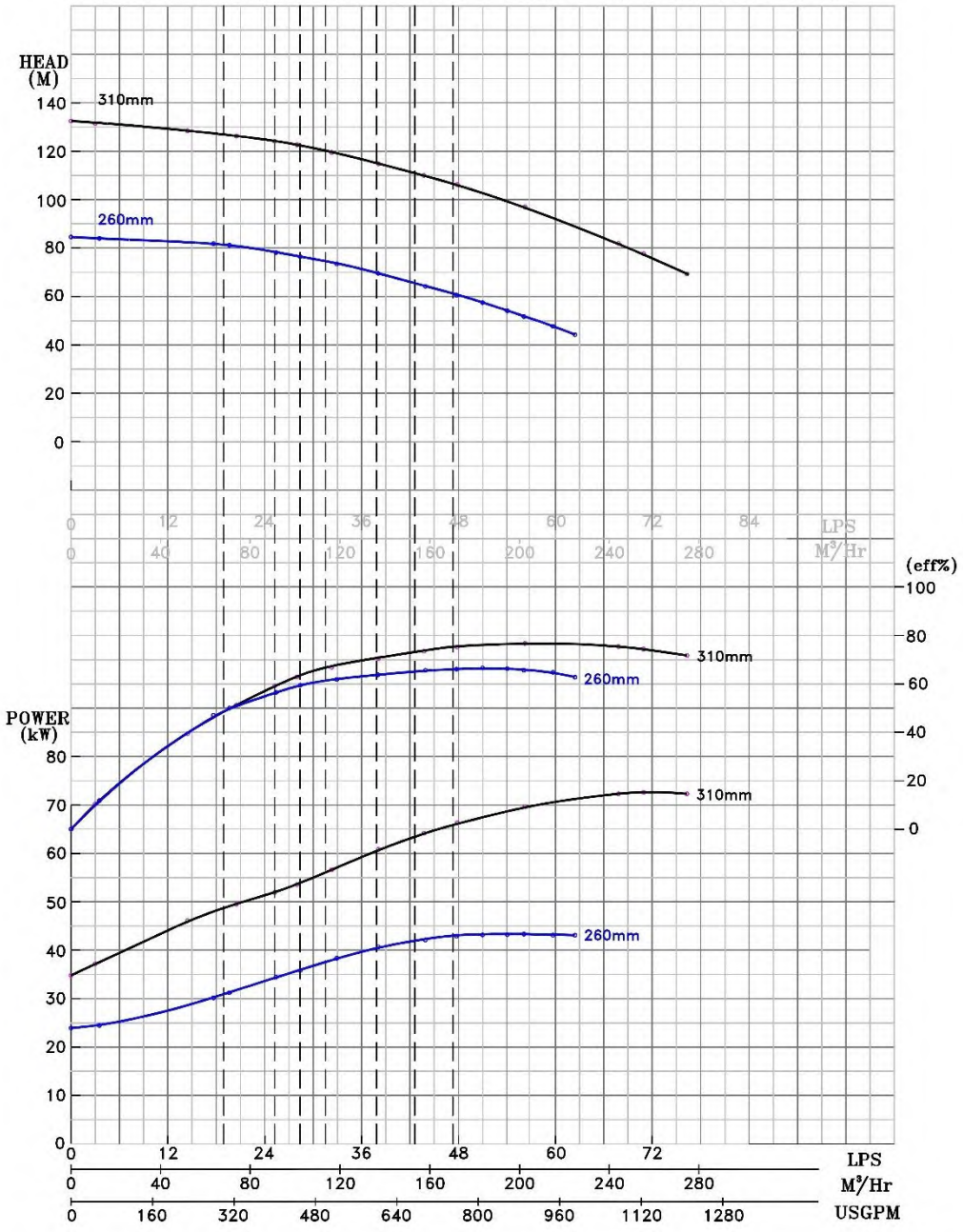
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @3000 R.P.M

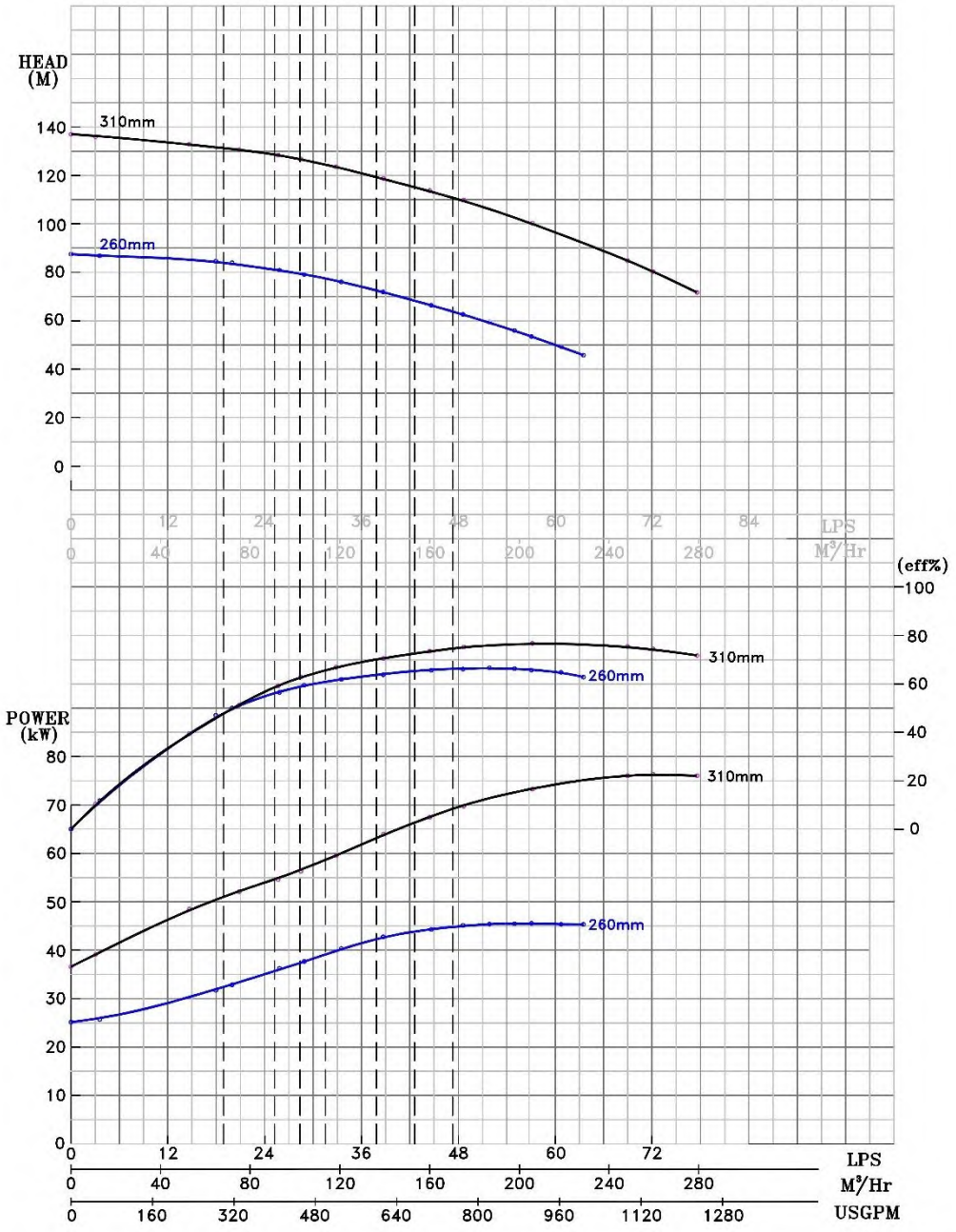
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

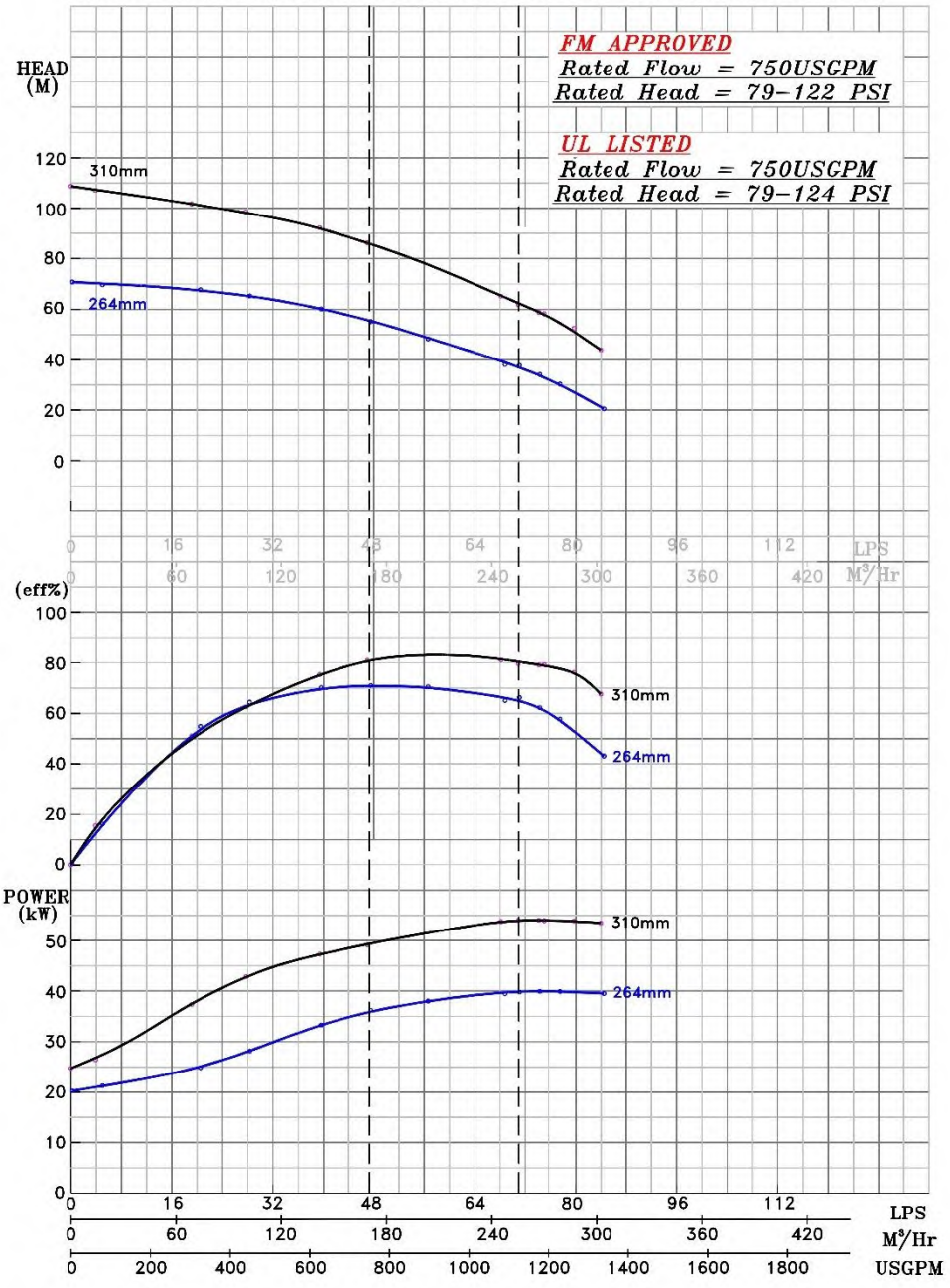
TEST CURVE OF 4HF12 @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

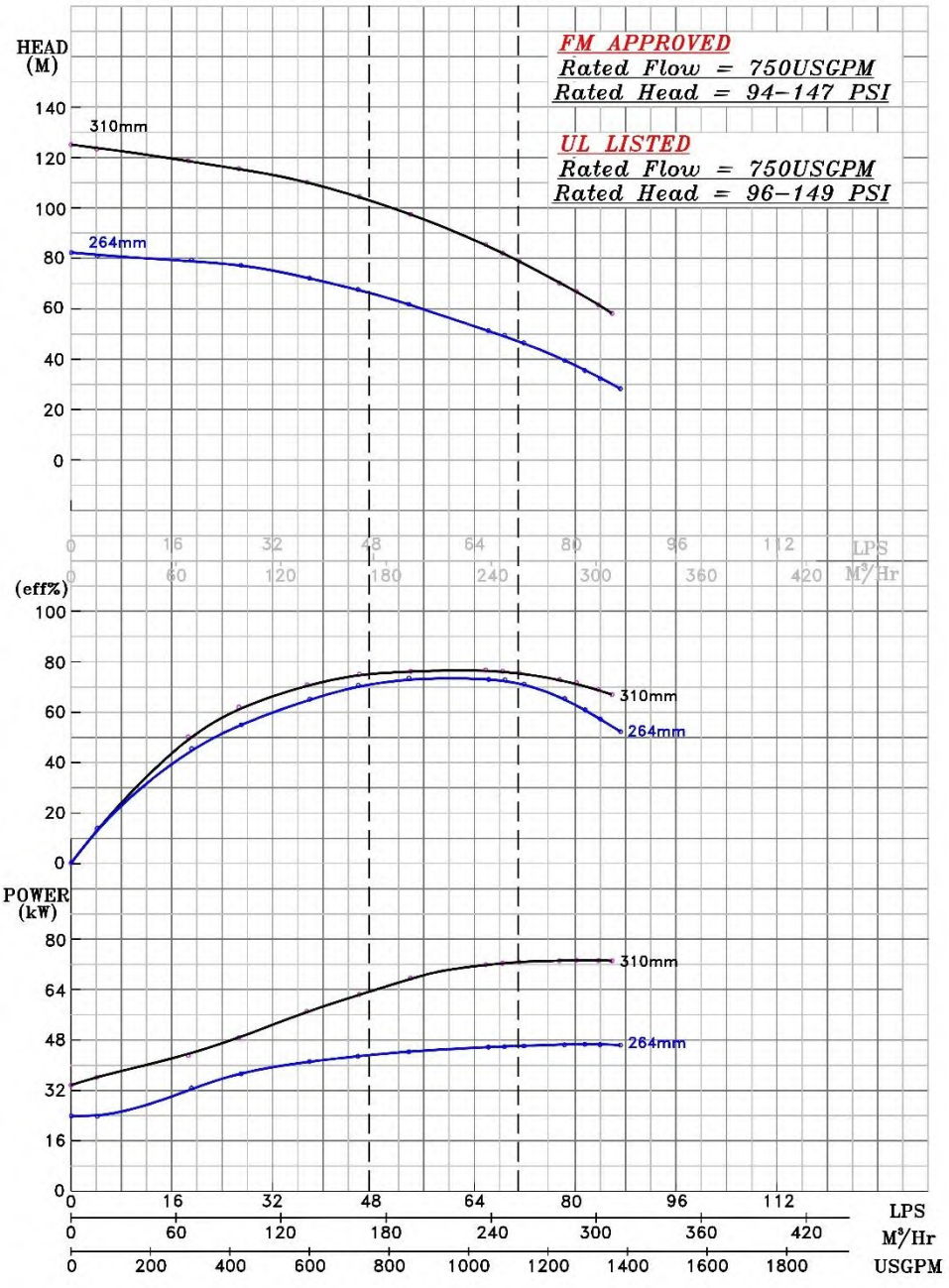
TEST CURVE OF 4HF12 @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

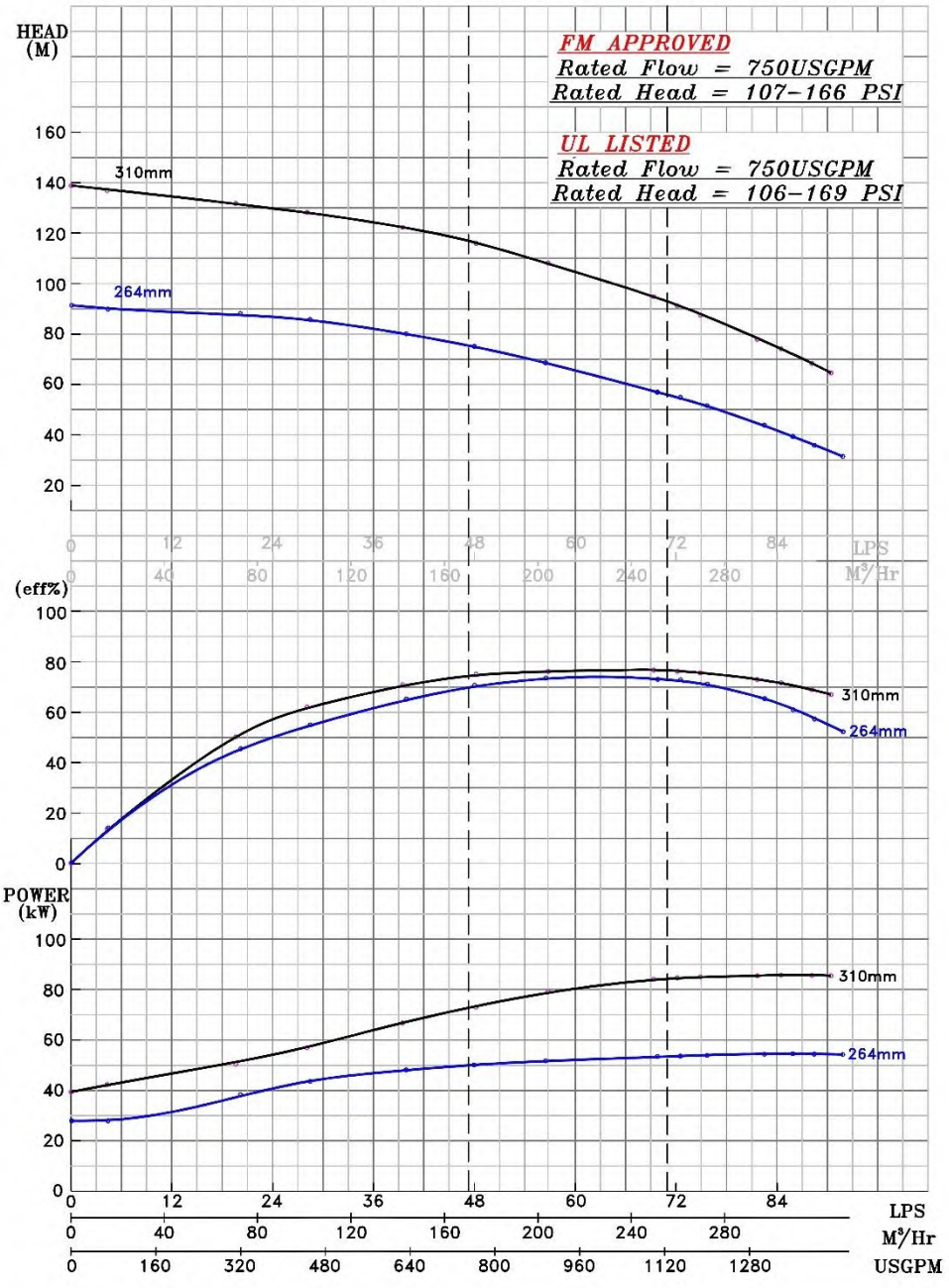
TEST CURVE OF 4HF12 @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

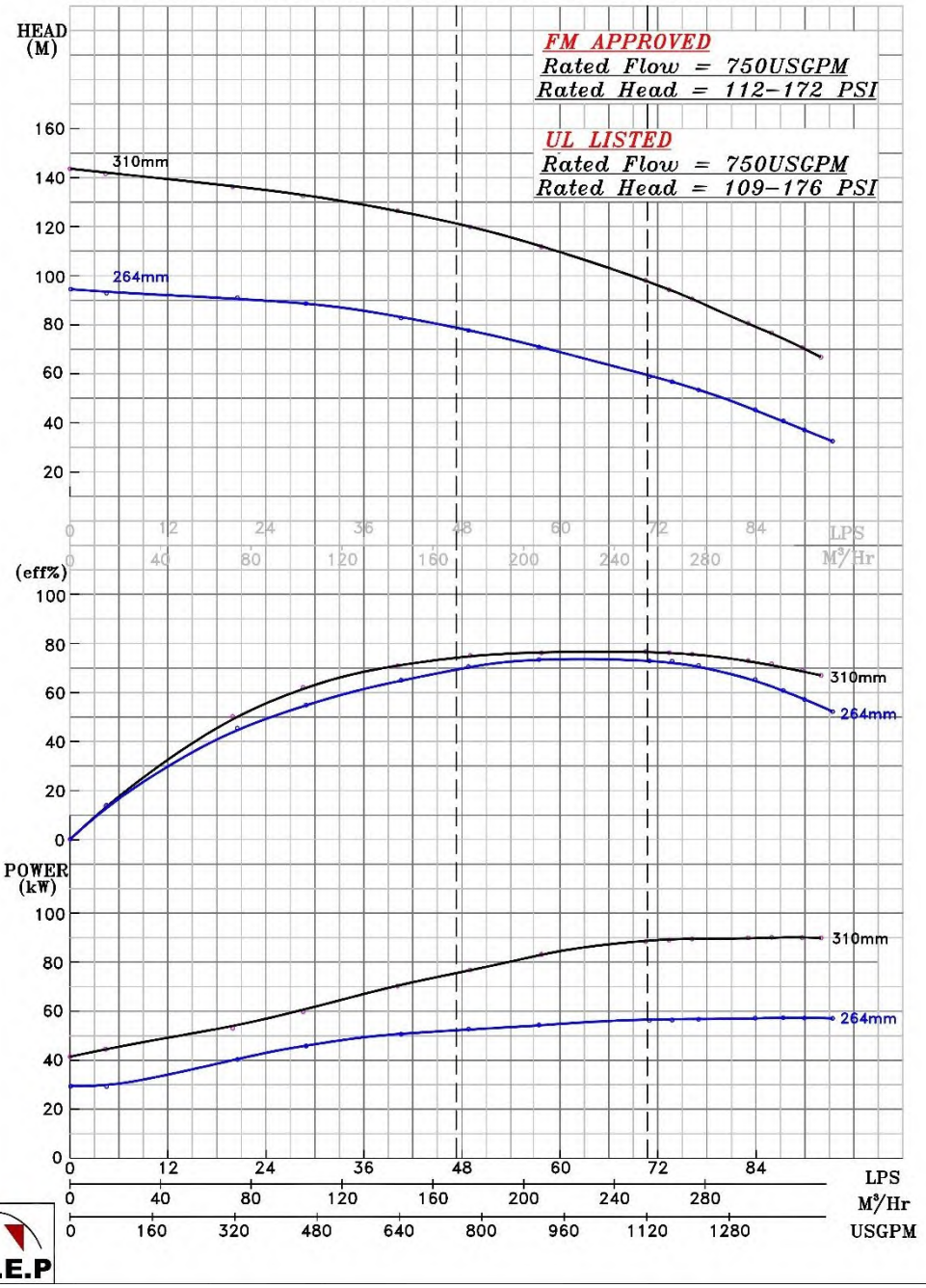
PERFORMANCE CURVE OF 4HF12 @3000 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



B.E.P

UL LISTED

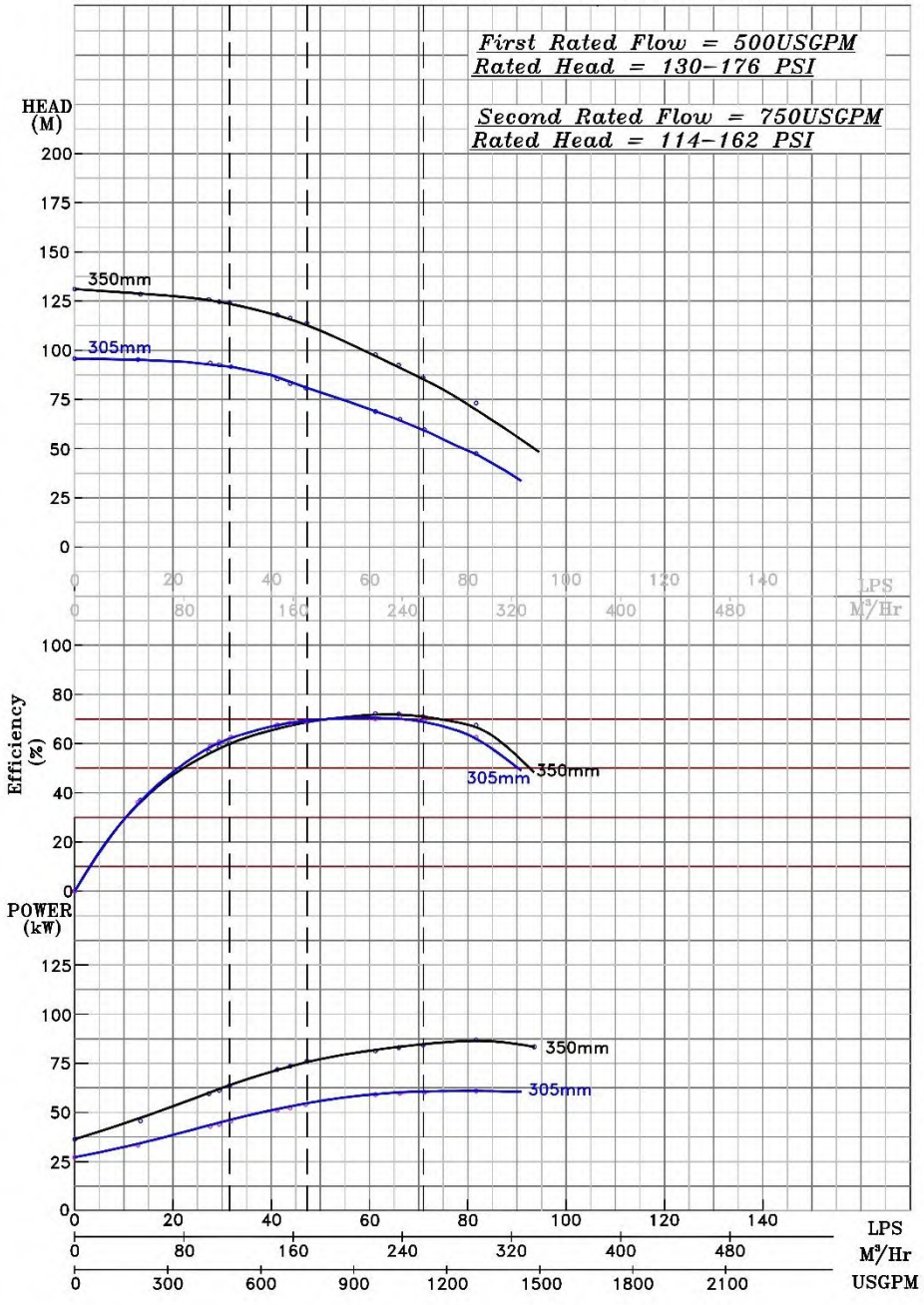
PERFORMANCE CURVE OF 4HF13 @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

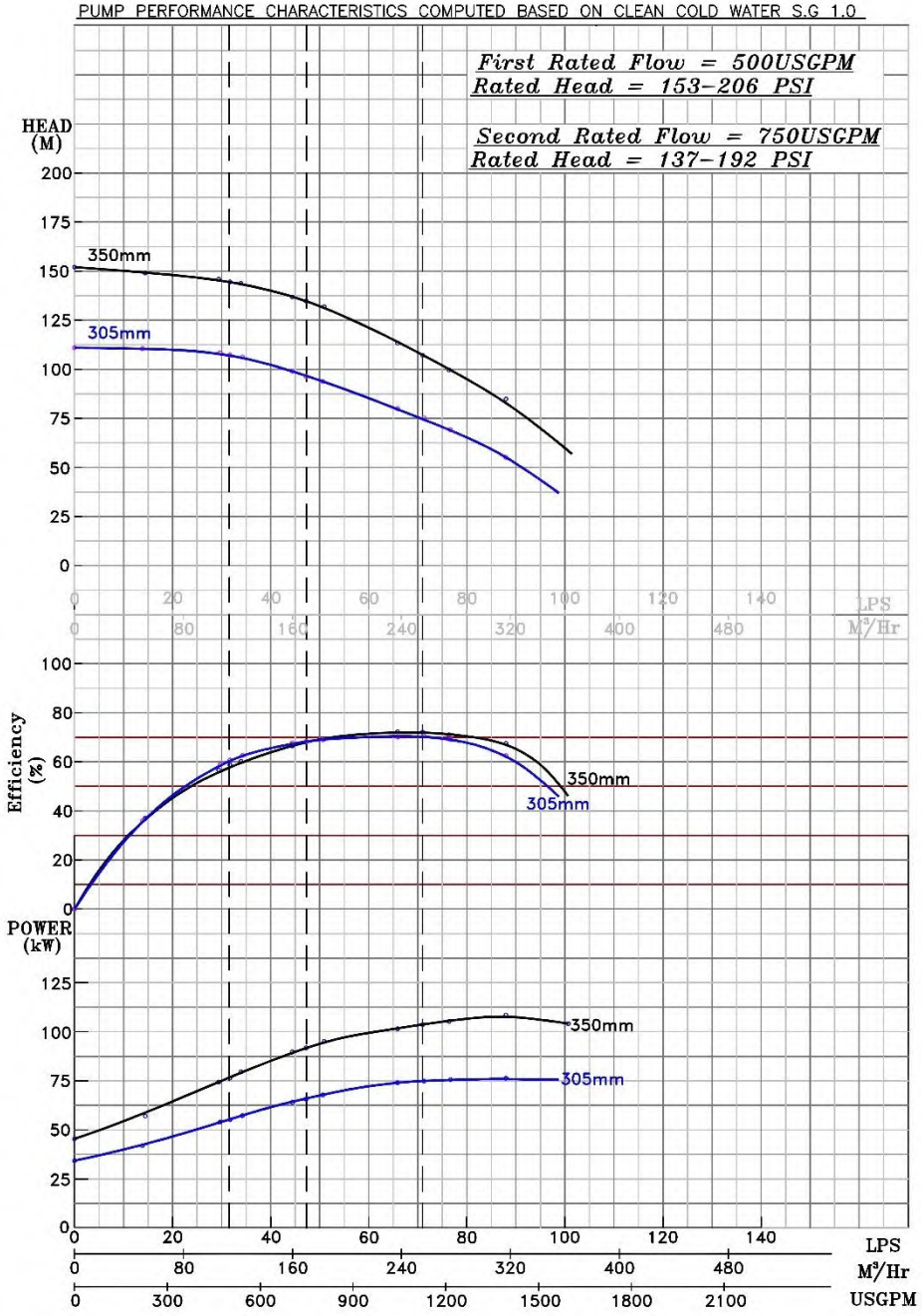
PERFORMANCE CURVE OF 4HF13 @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

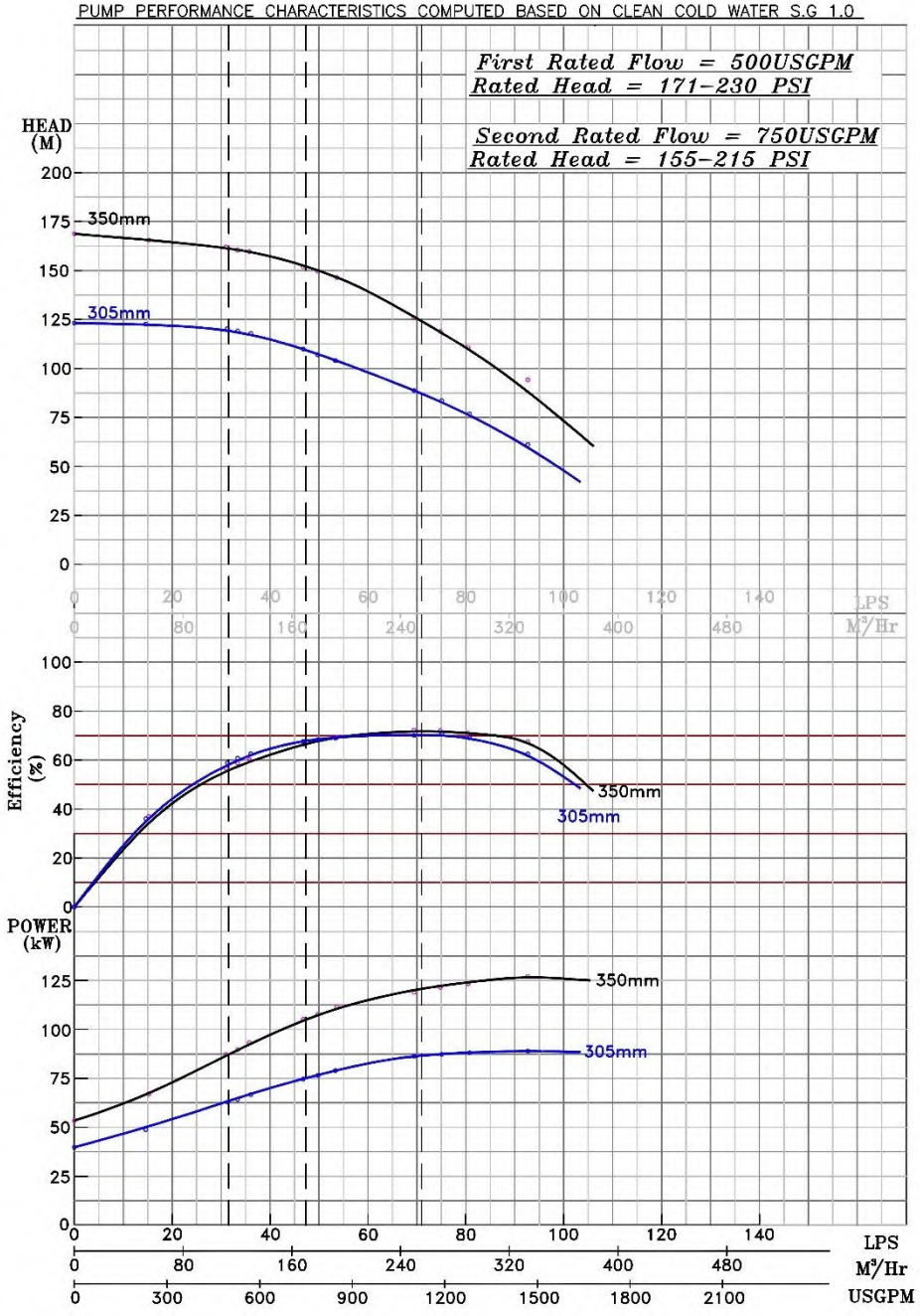
PERFORMANCE CURVE OF 4HF13 @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

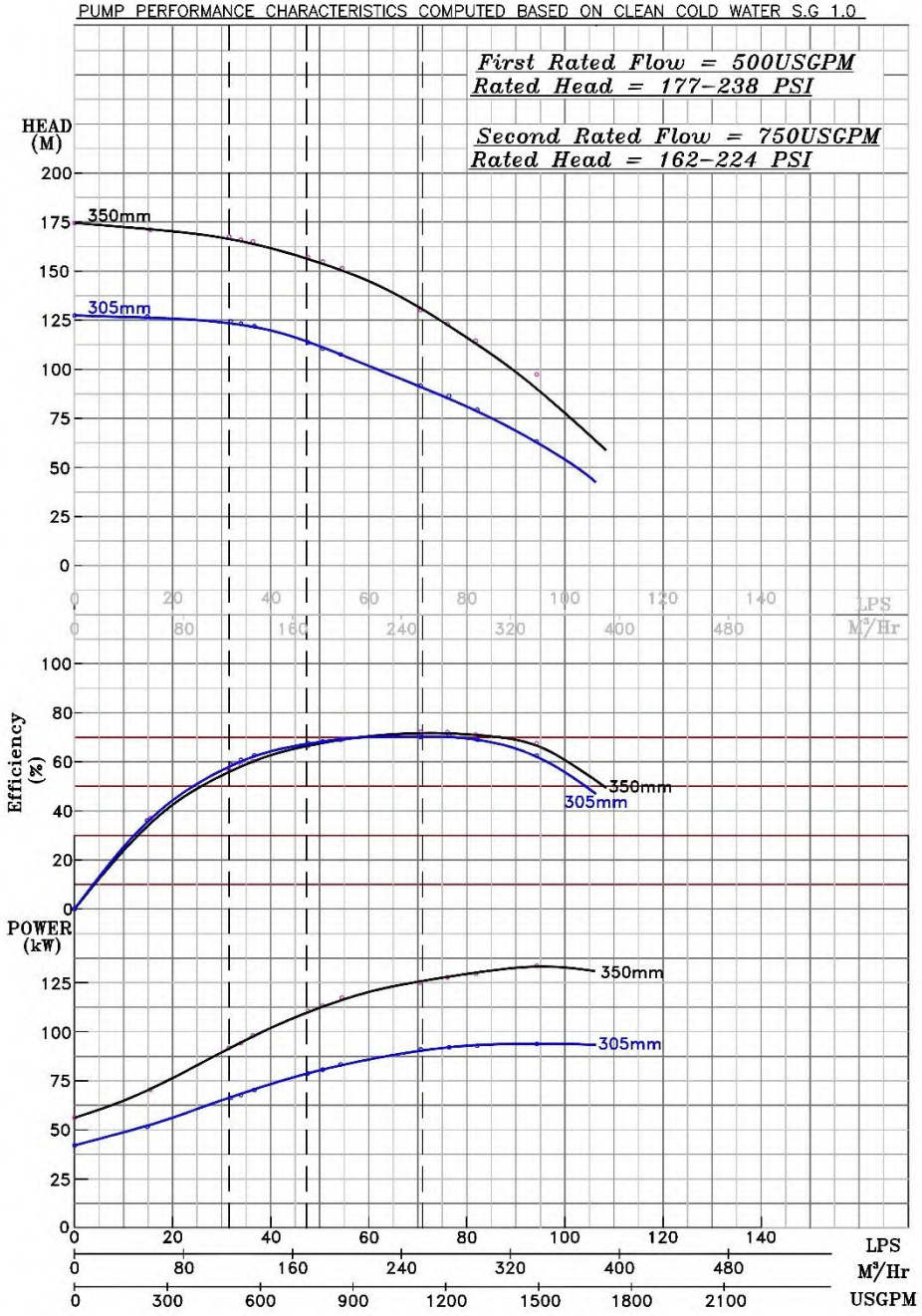
PERFORMANCE CURVE OF 4HF13 @3000 R.P.M

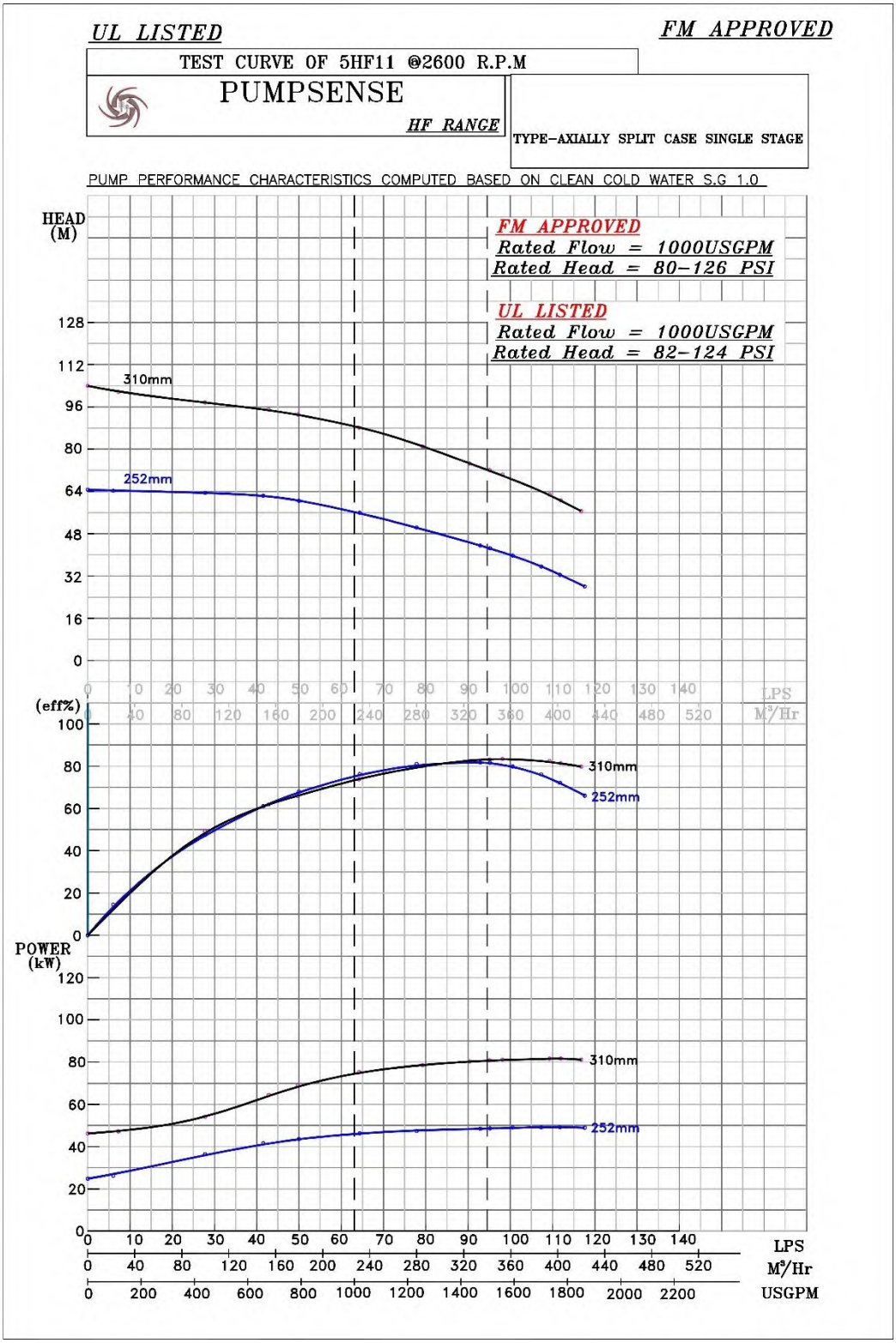
PUMPSENSE

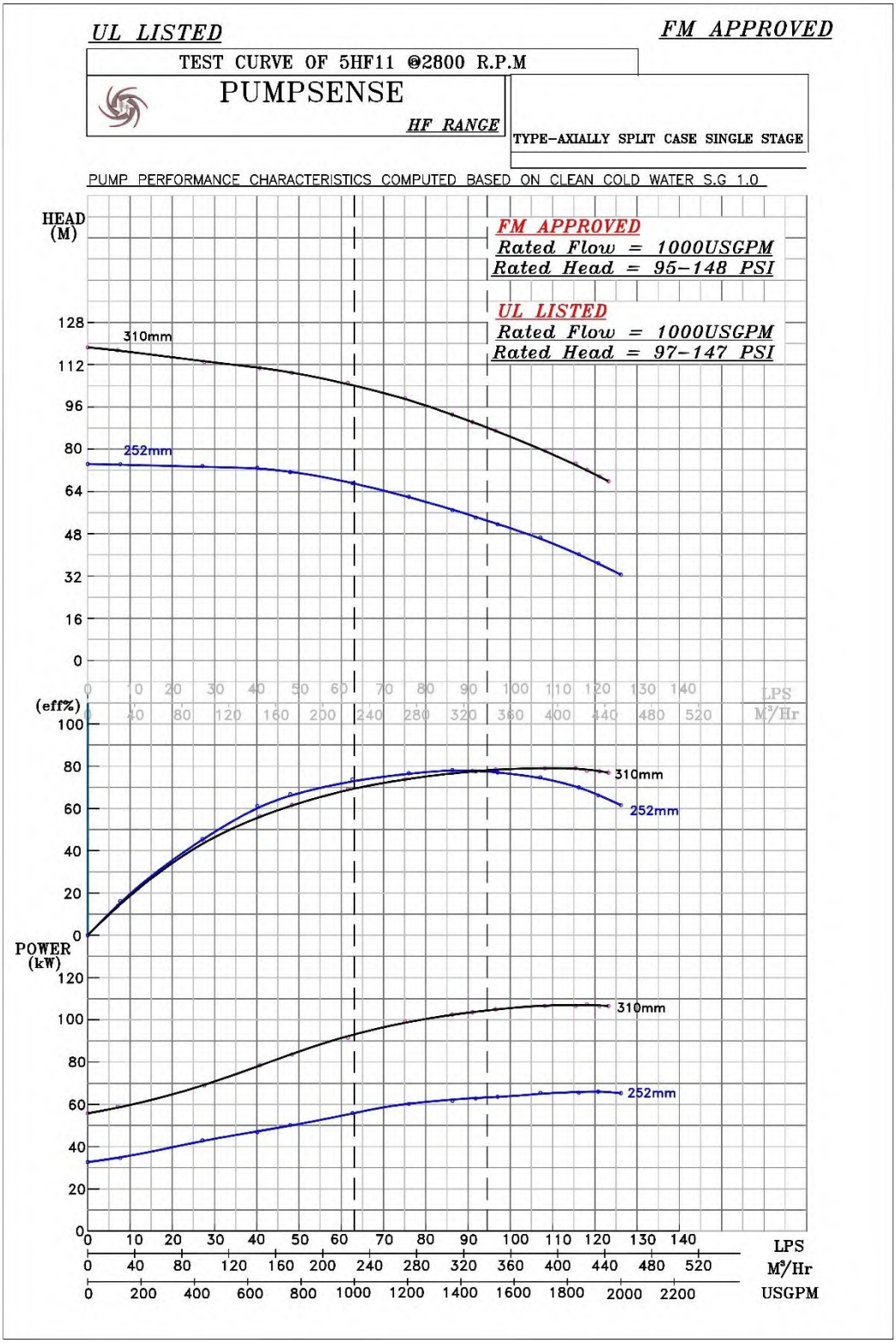
HF RANGE

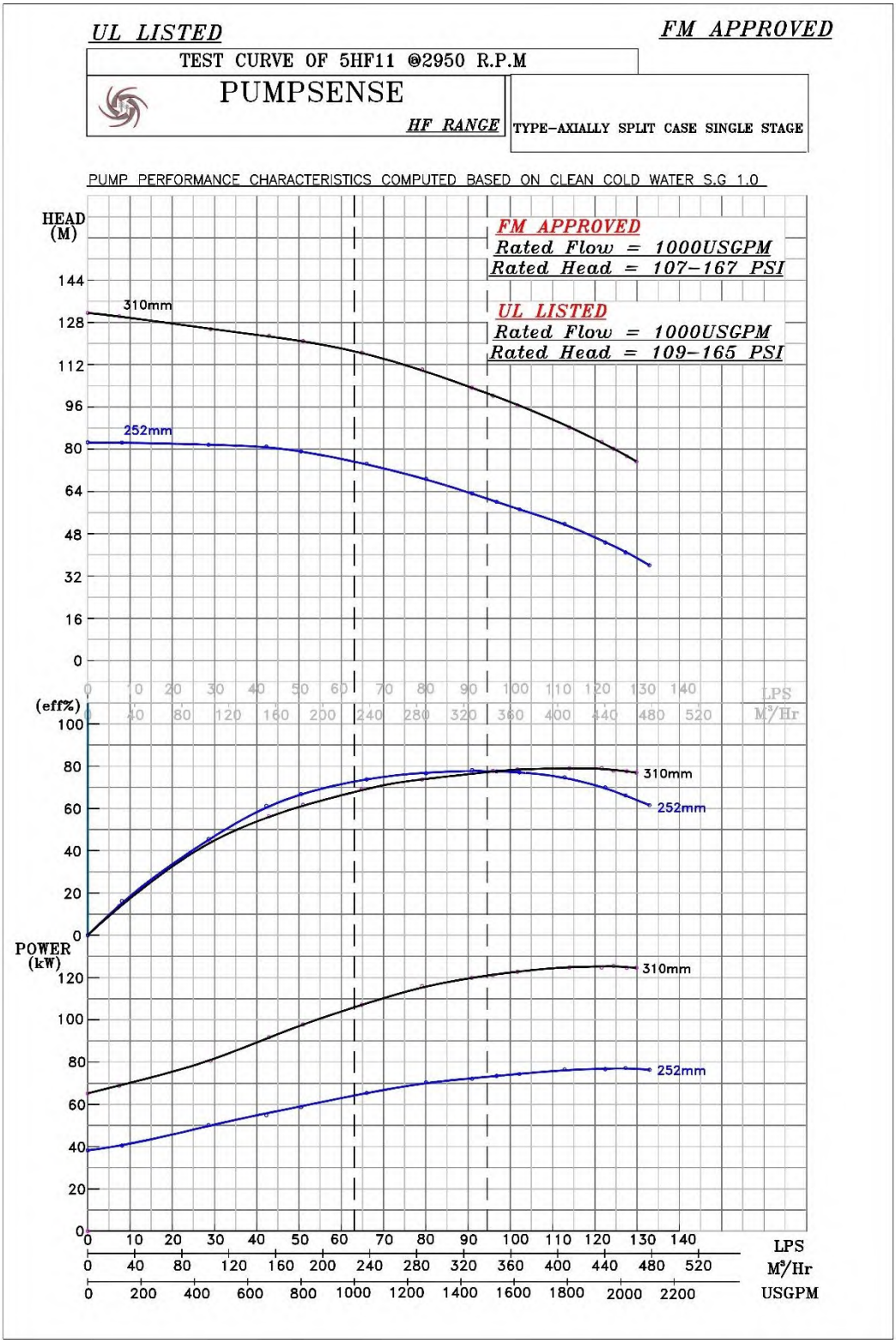
TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2600 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 80-126 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 82-124 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM


UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2800 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 95-148 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 97-147 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM


UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2950 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 107-167 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 109-165 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM

UL LISTED *FM APPROVED*

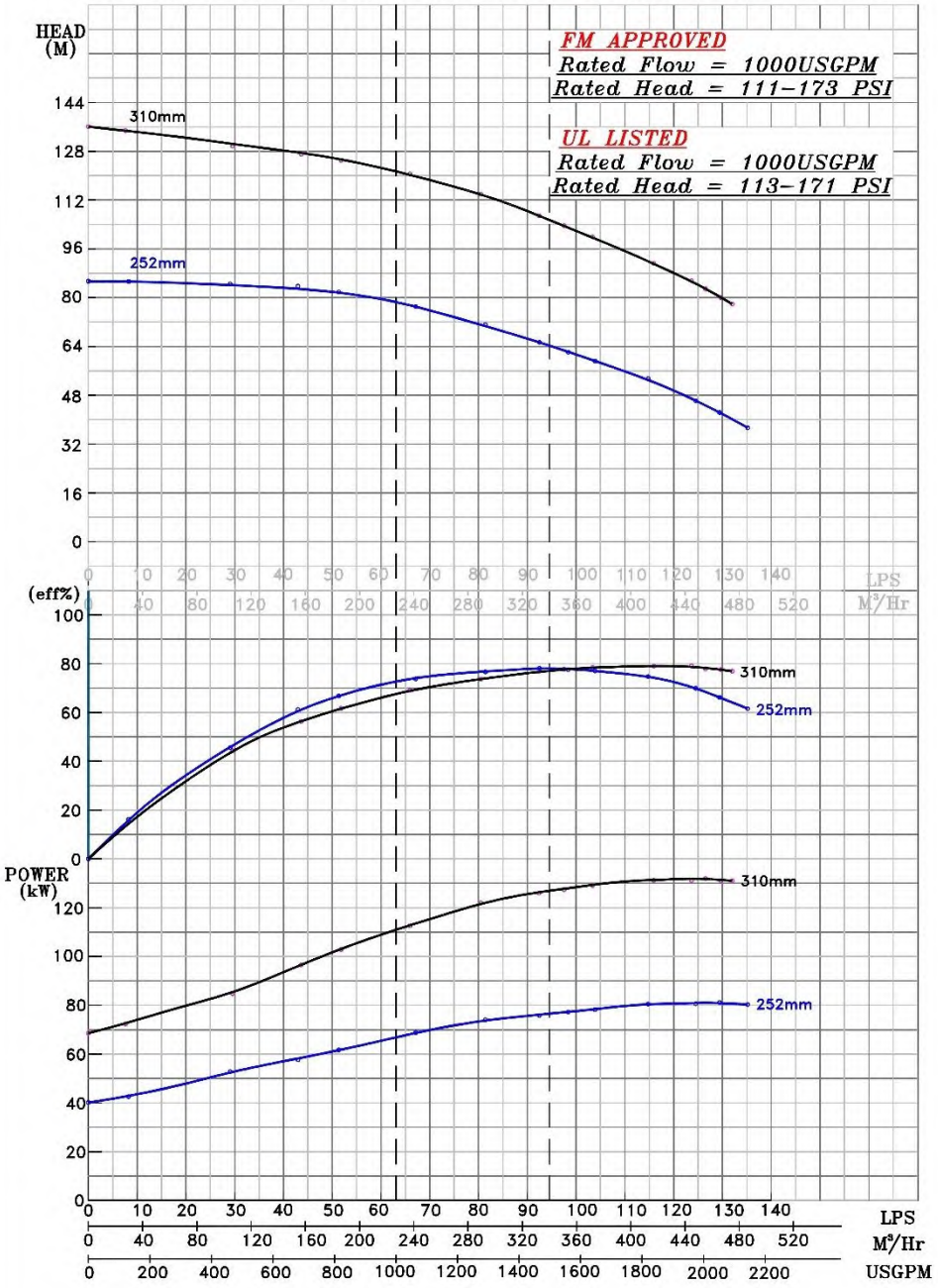
PERFORMANCE CURVE OF 5HF11 @3000 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

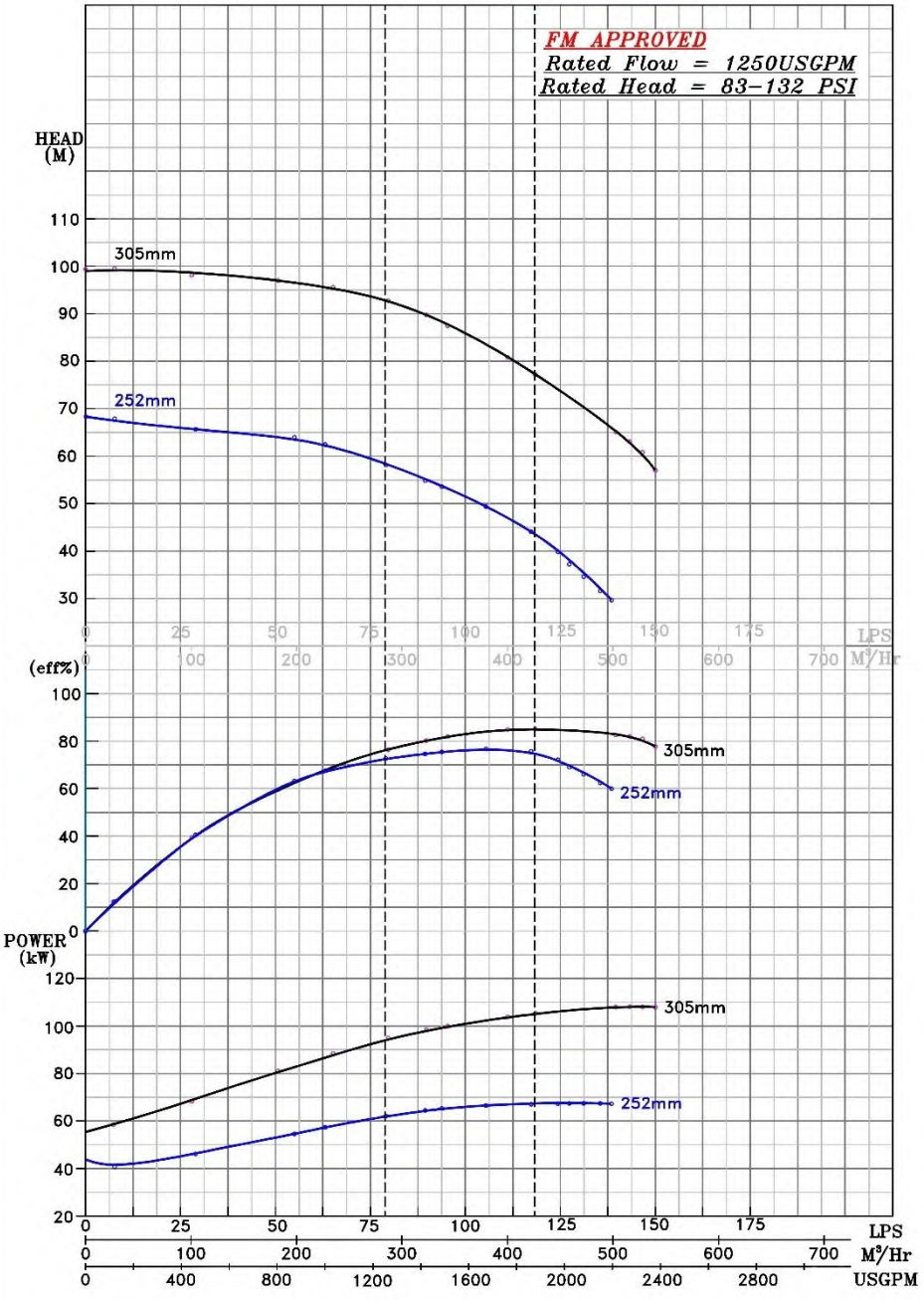
TEST CURVE OF 6HF12 @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

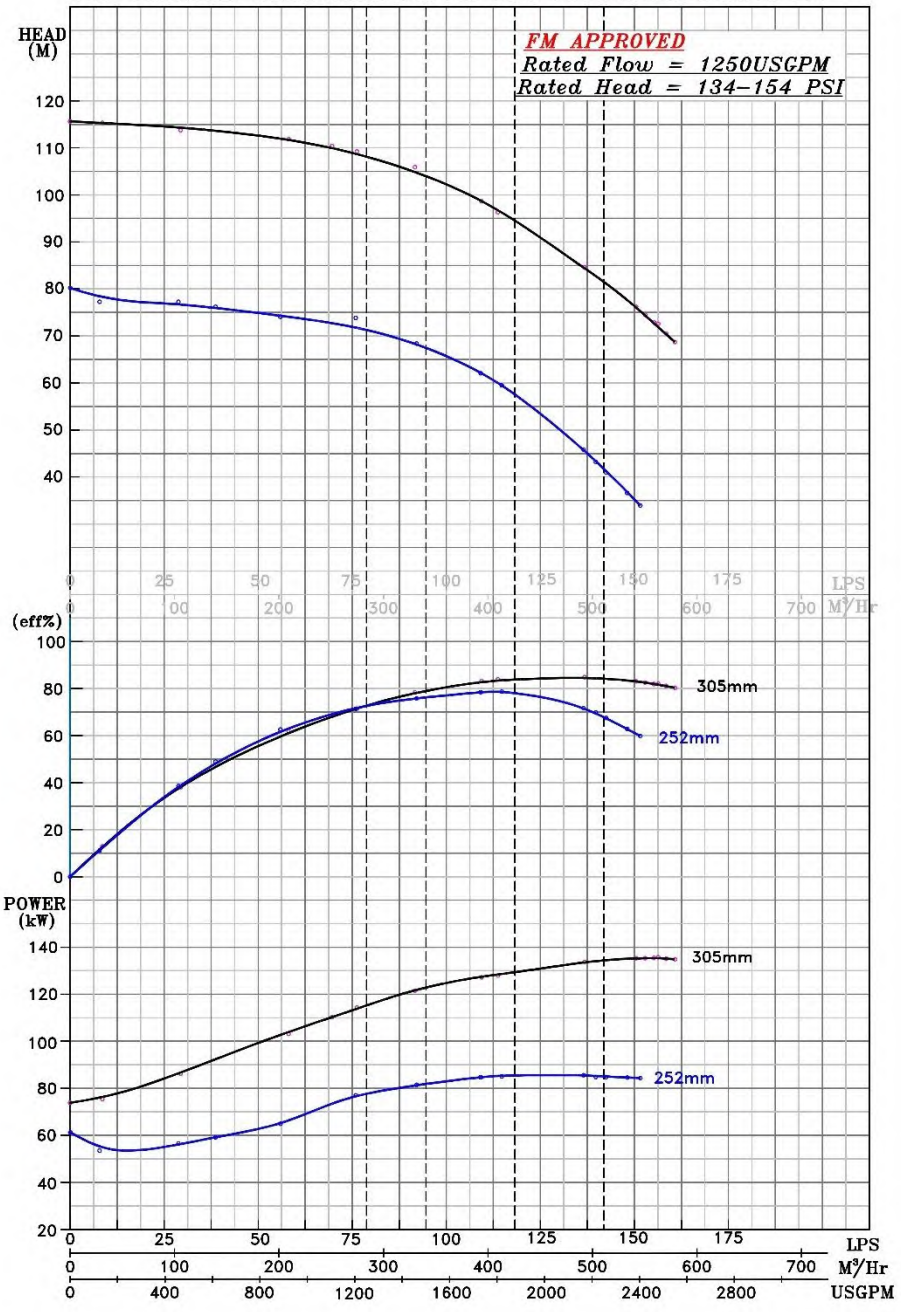
TEST CURVE OF 6HF12 @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

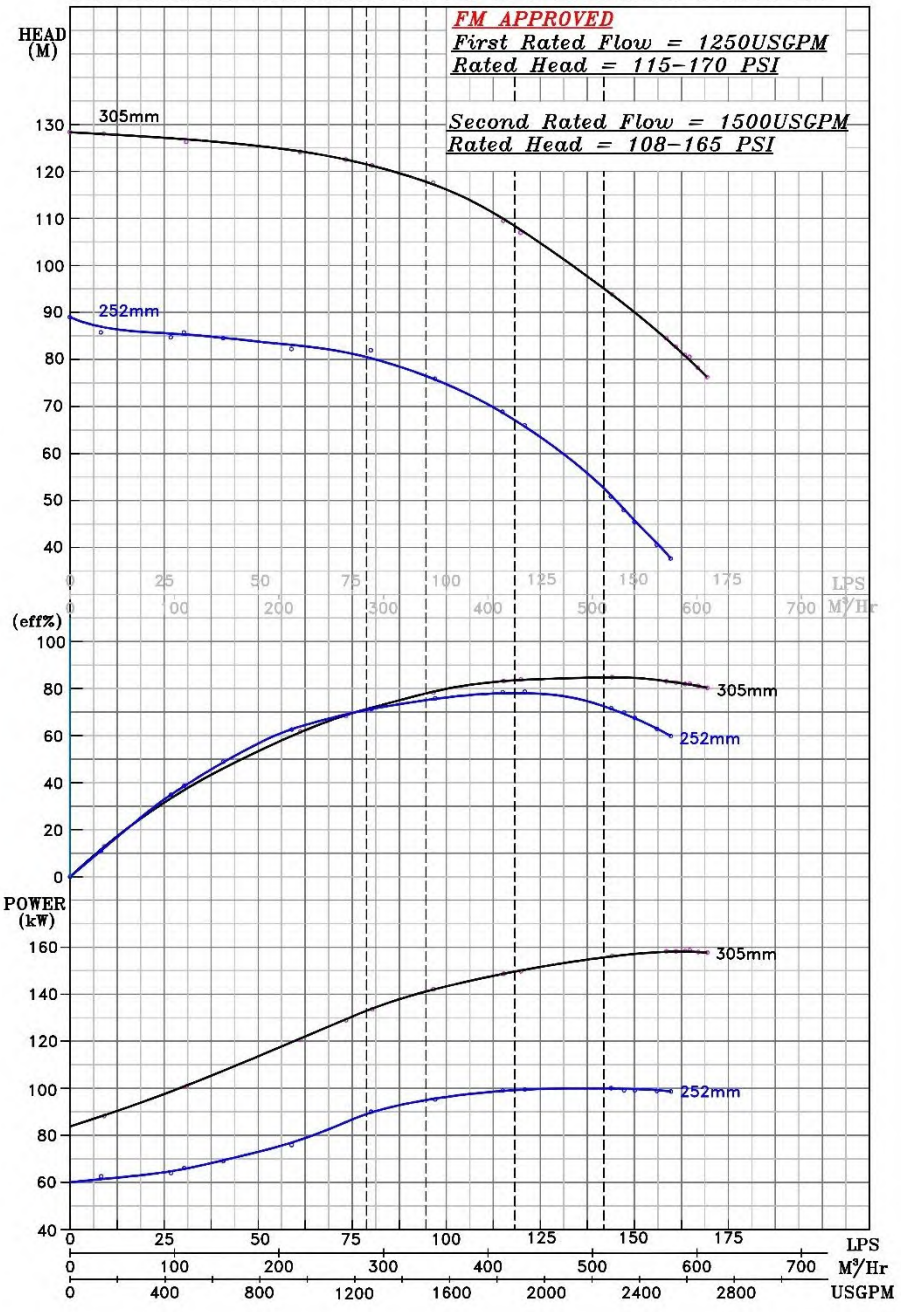
TEST CURVE OF 6HF12 @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



FM APPROVED

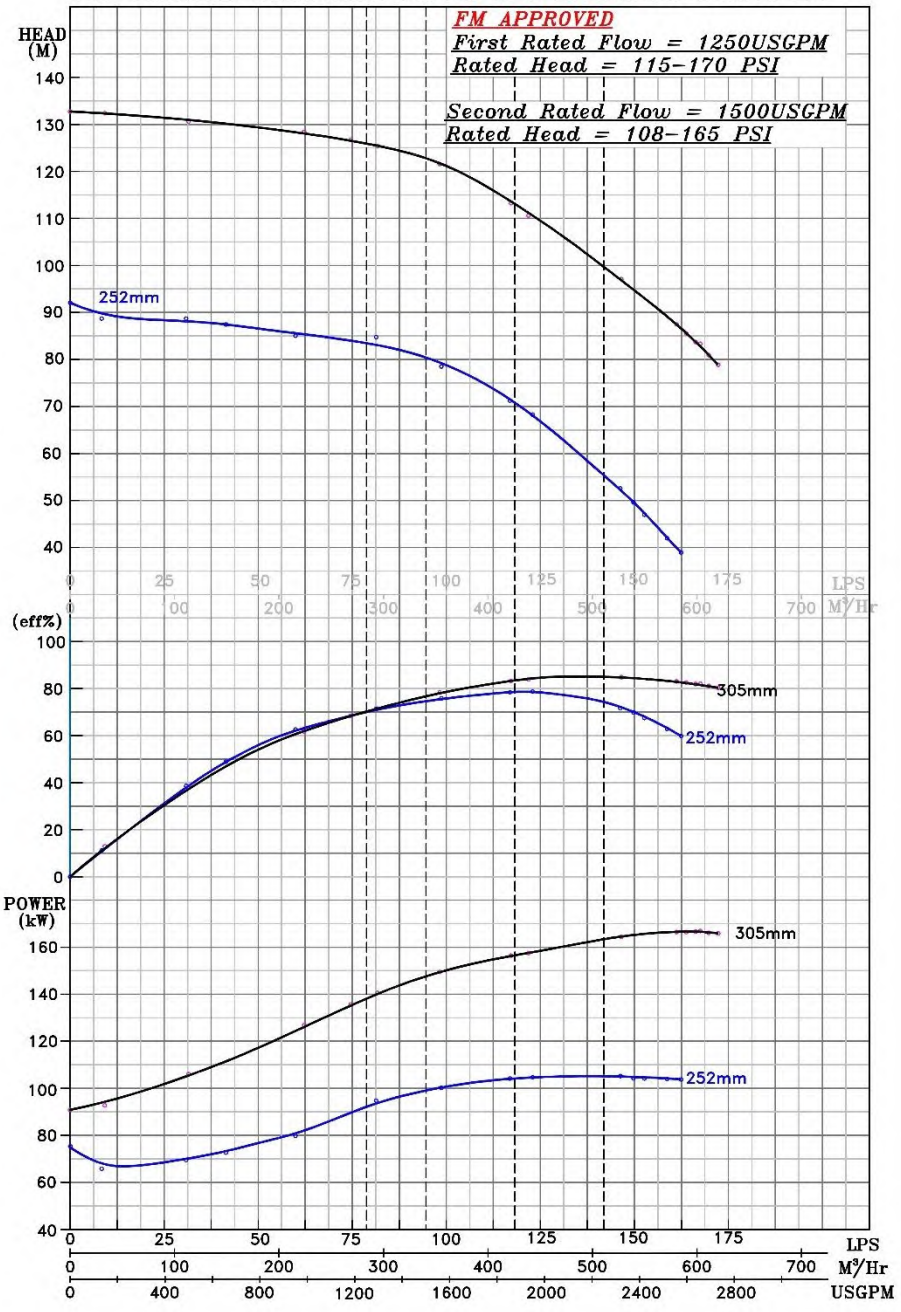
PERFORMANCE CURVE OF 6HF12 @3000 R.P.M

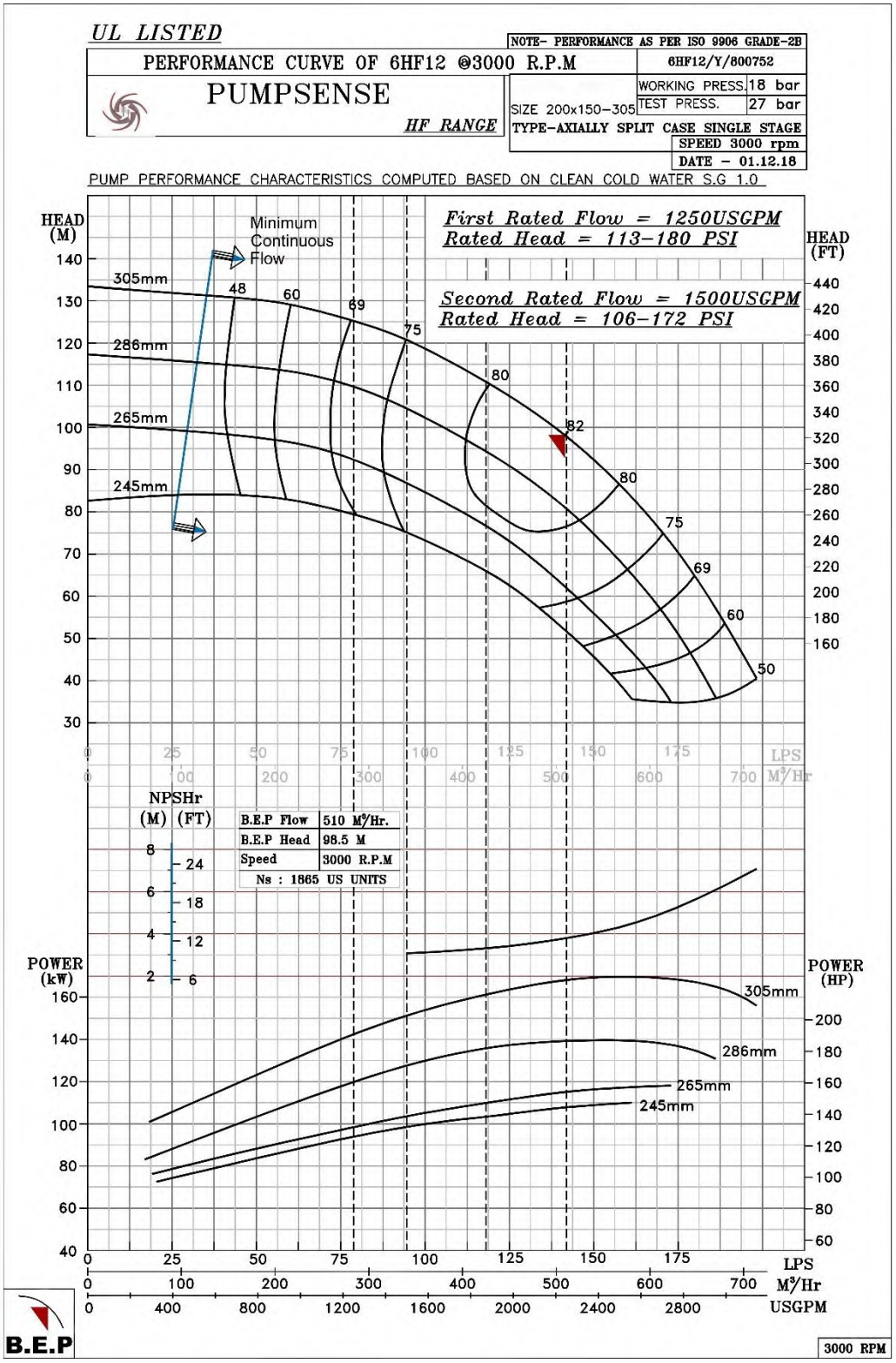
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




UL LISTED
NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HF12 @3000 R.P.M
6HF12/Y/800752
PUMPSENSE
HF RANGE
WORKING PRESS. 18 bar
TEST PRESS. 27 bar
SIZE 200x150-305
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 3000 rpm
DATE - 01.12.18
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
First Rated Flow = 1250USGPM
Rated Head = 113-180 PSI
Second Rated Flow = 1500USGPM
Rated Head = 106-172 PSI
Minimum Continuous Flow
HEAD (M)
HEAD (FT)
305mm
286mm
265mm
245mm
48
60
69
75
80
82
80
75
69
60
50
LPS
M³/Hr
NPSHr (M) (FT)
B.E.P Flow 510 M³/Hr.
B.E.P Head 98.5 M
Speed 3000 R.P.M
Ns : 1865 US UNITS
POWER (kW)
POWER (HP)
USGPM
B.E.P
3000 RPM

UL LISTED *Impeller used– 6HF14KL*

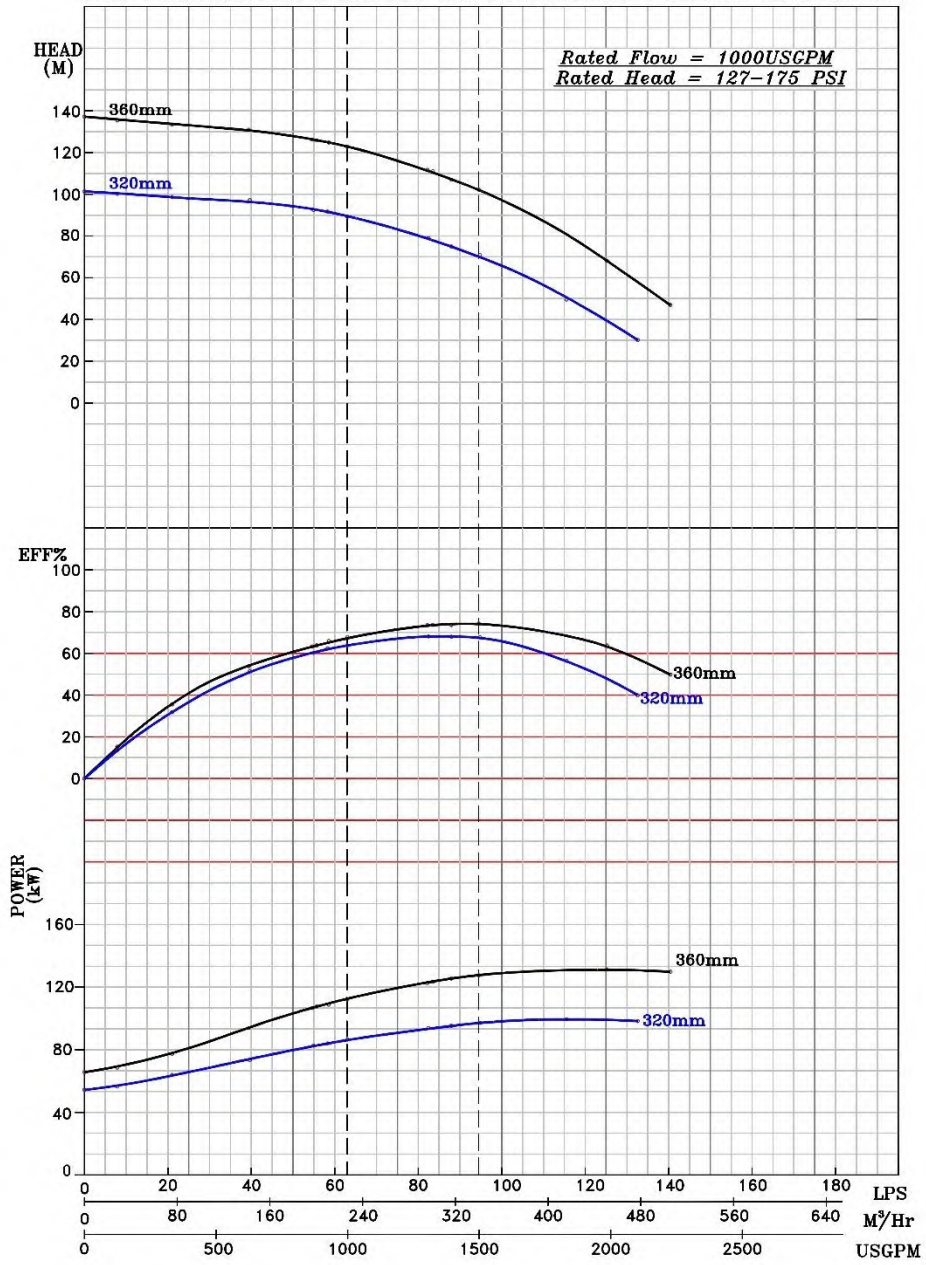
PERFORMANCE CURVE OF 6HF14K @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

Impeller used– 6HF14KL

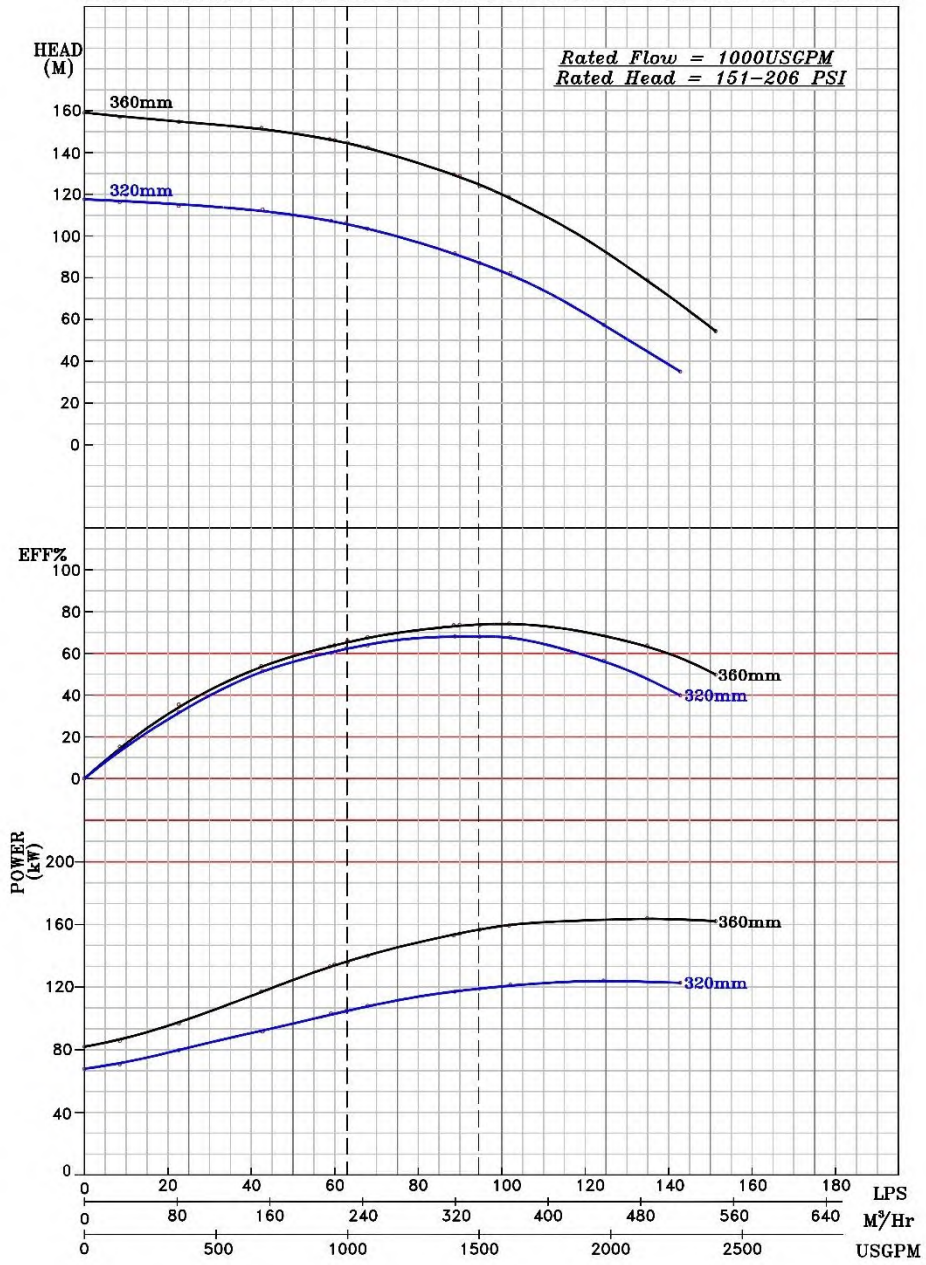
PERFORMANCE CURVE OF 6HF14K @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *Impeller used– 6HF14KL*

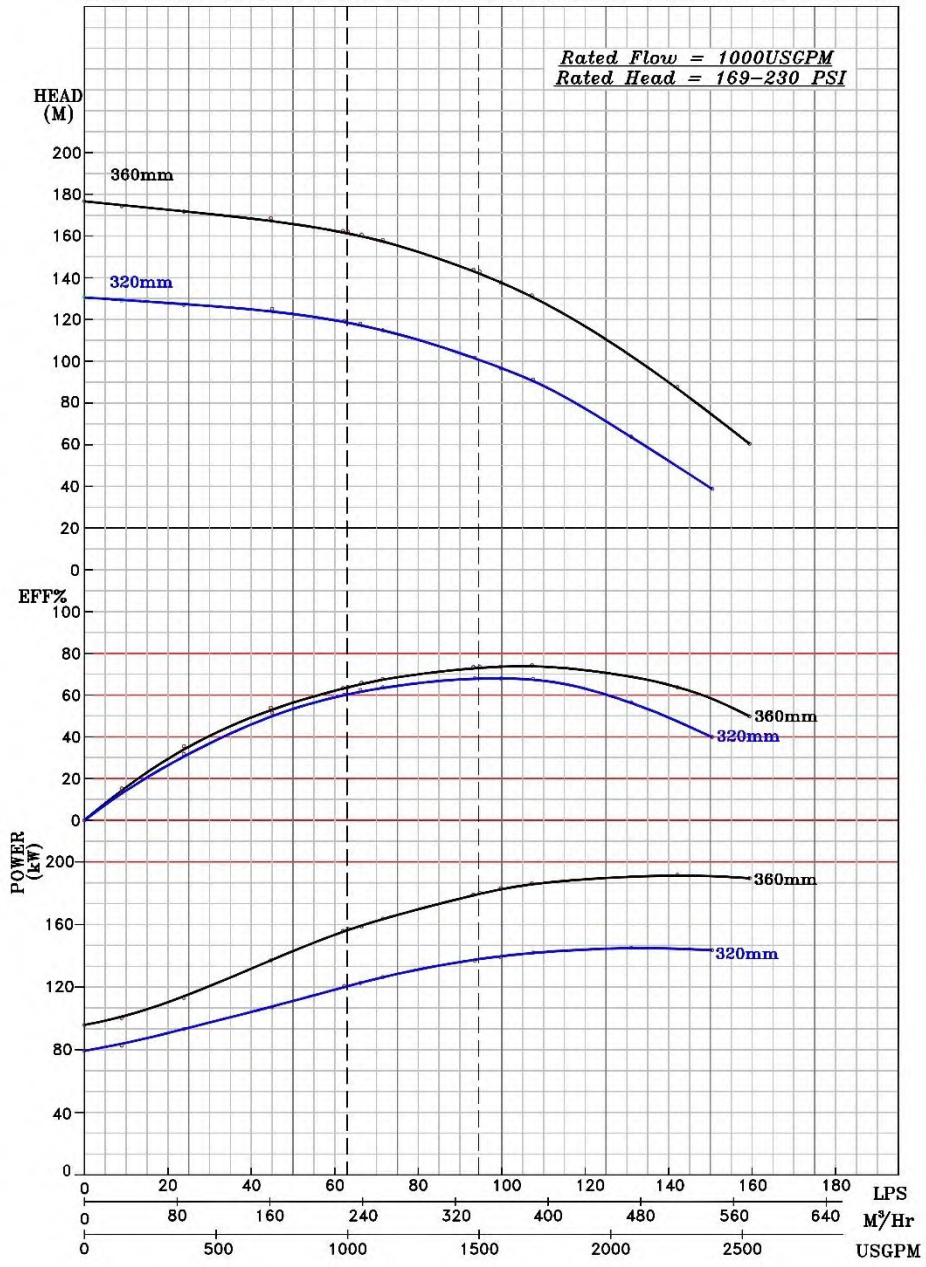
PERFORMANCE CURVE OF 6HF14K @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *Impeller used– 6HF14KL*

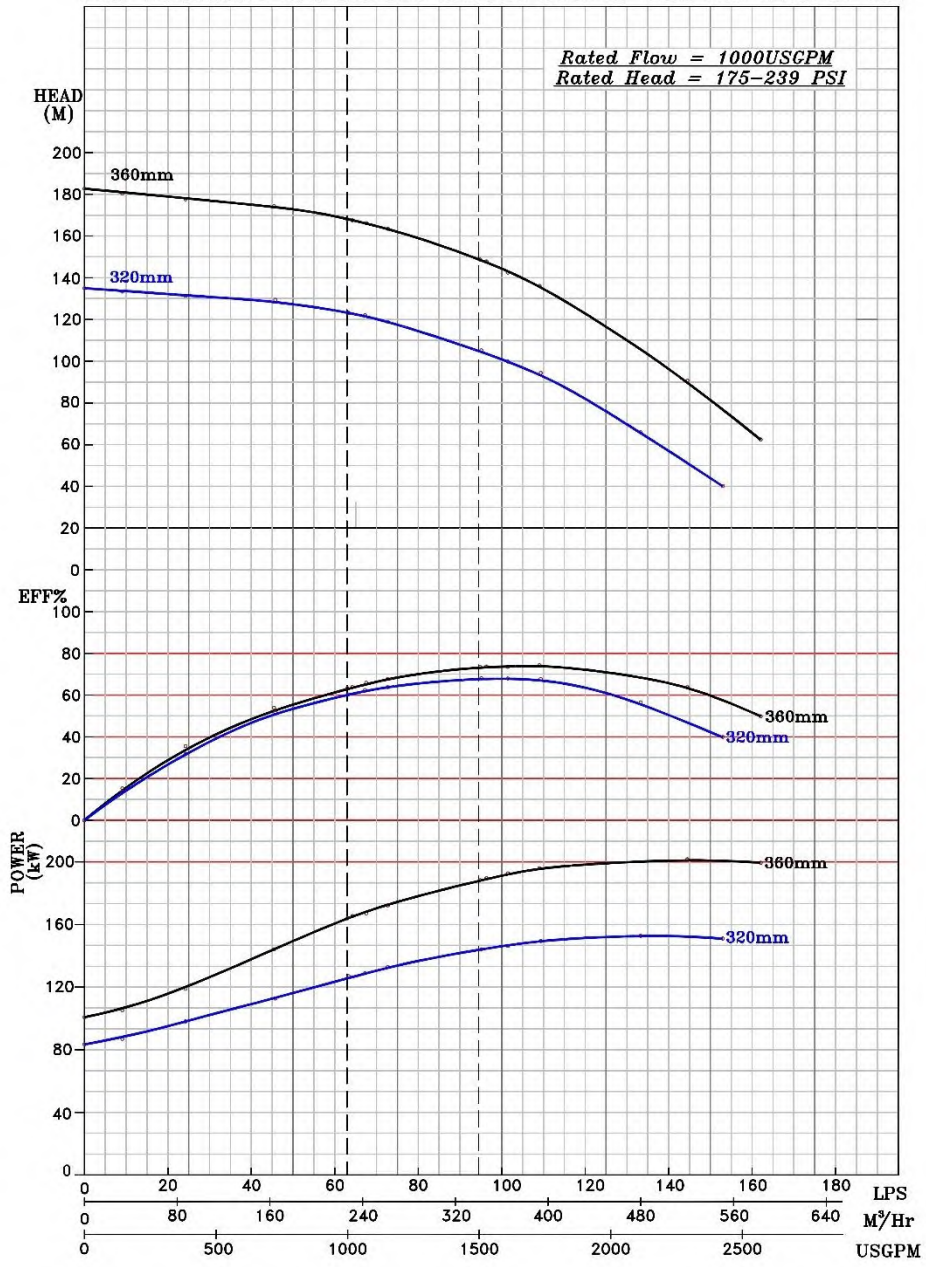
PERFORMANCE CURVE OF 6HF14K @3000 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

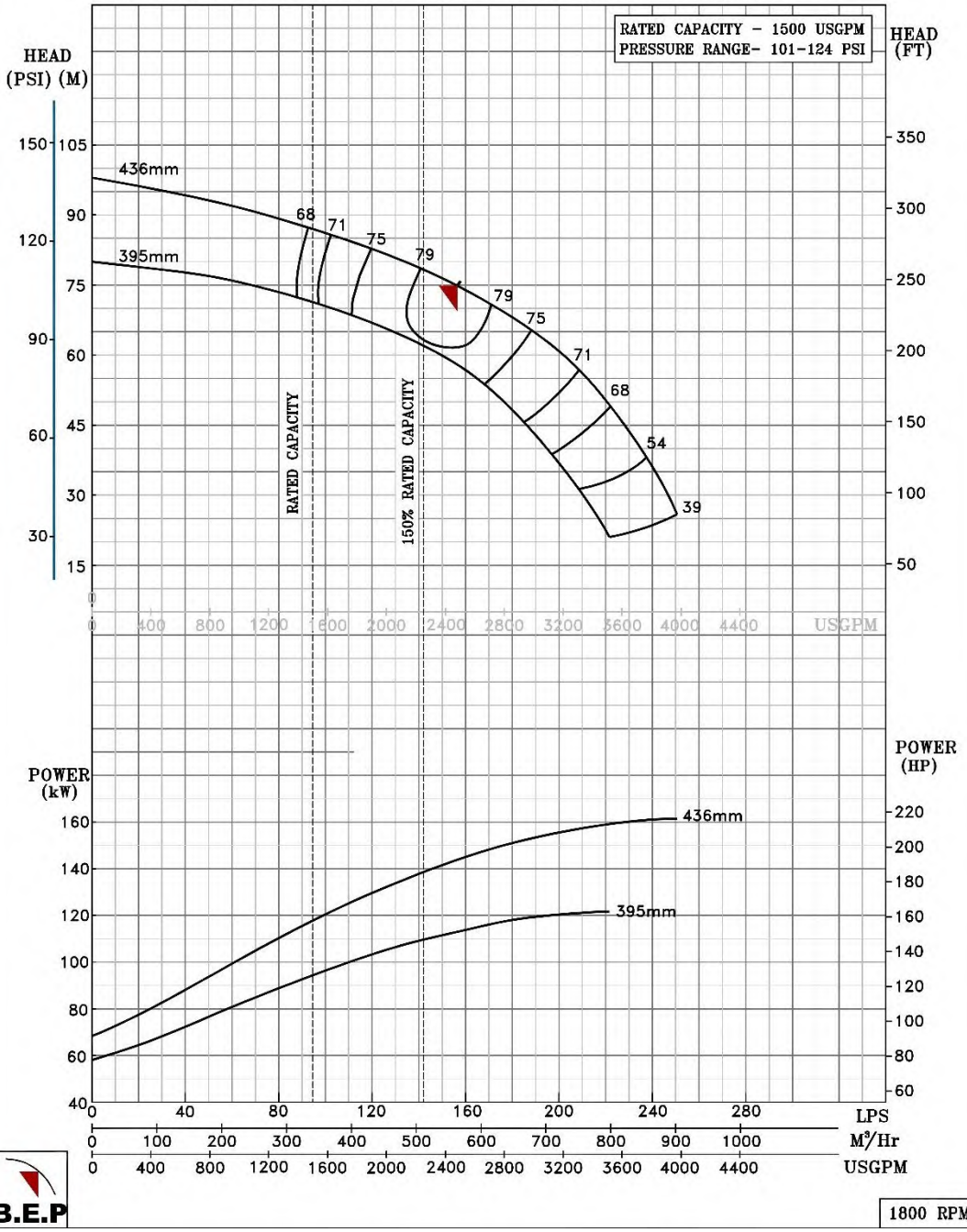
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



FM APPROVED

PERFORMANCE CURVE OF 6HF18 @1800 R.P.M		6HF18/Y/801064
PUMPSENSE *HF RANGE*	MODEL 6HF18	WORKING PRESS. 140 PSI
	SIZE 200x150–436	TEST PRESS. 215 PSI
	TYPE–AXIALLY SPLIT CASE SINGLE STAGE	SPEED 1800rpm

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

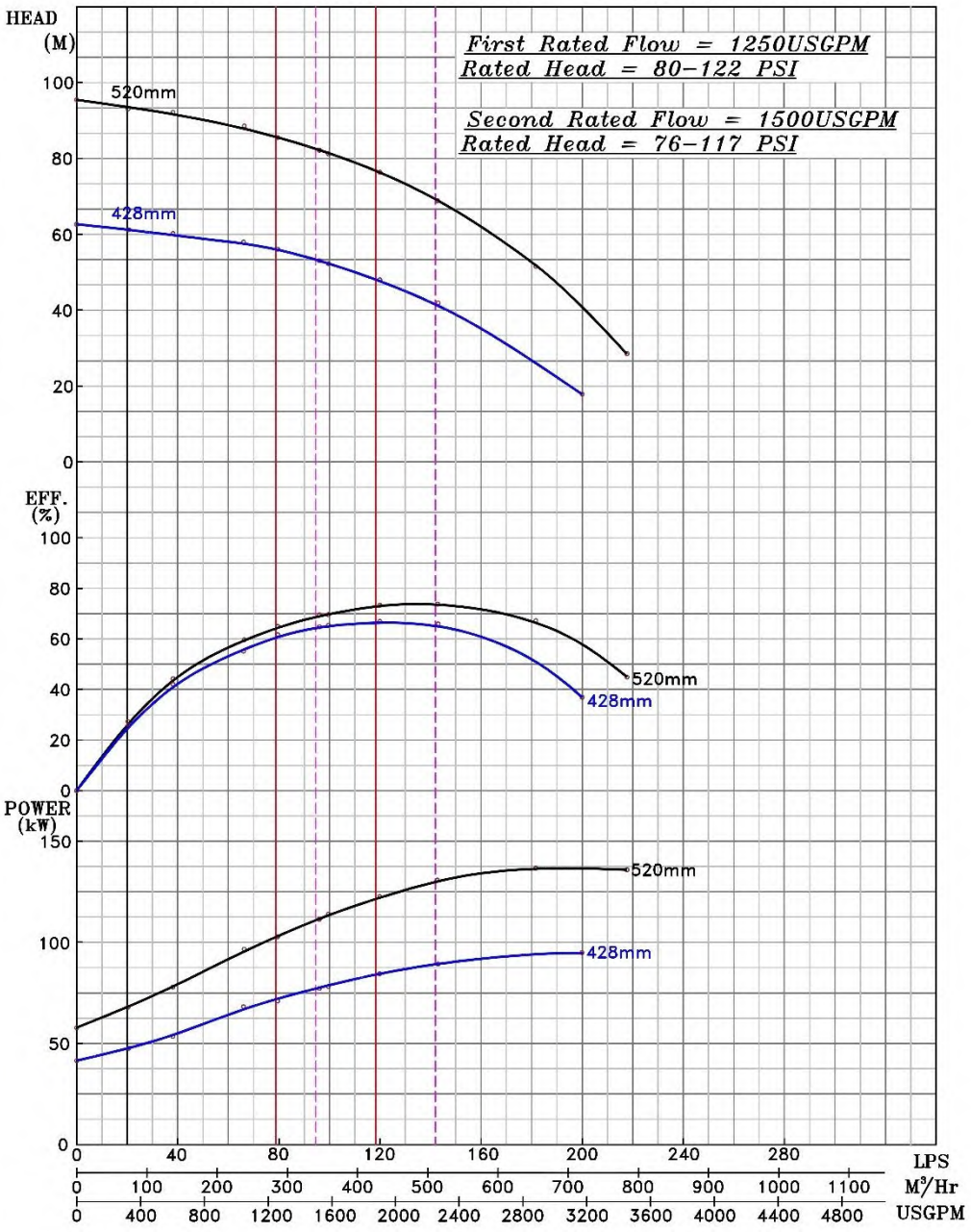
PERFORMANCE CURVE OF 6HF20 @1500 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

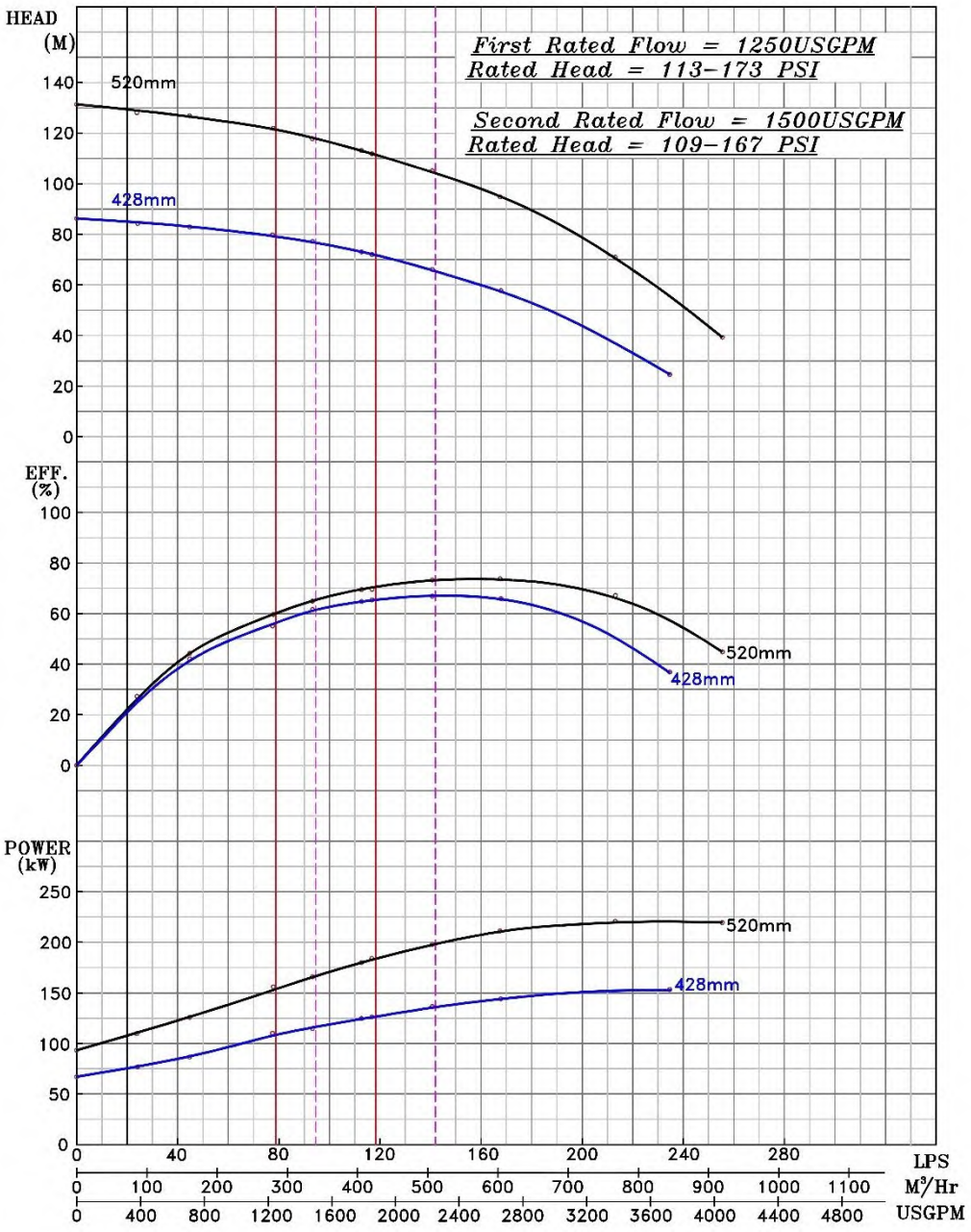
PERFORMANCE CURVE OF 6HF20 @1760 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

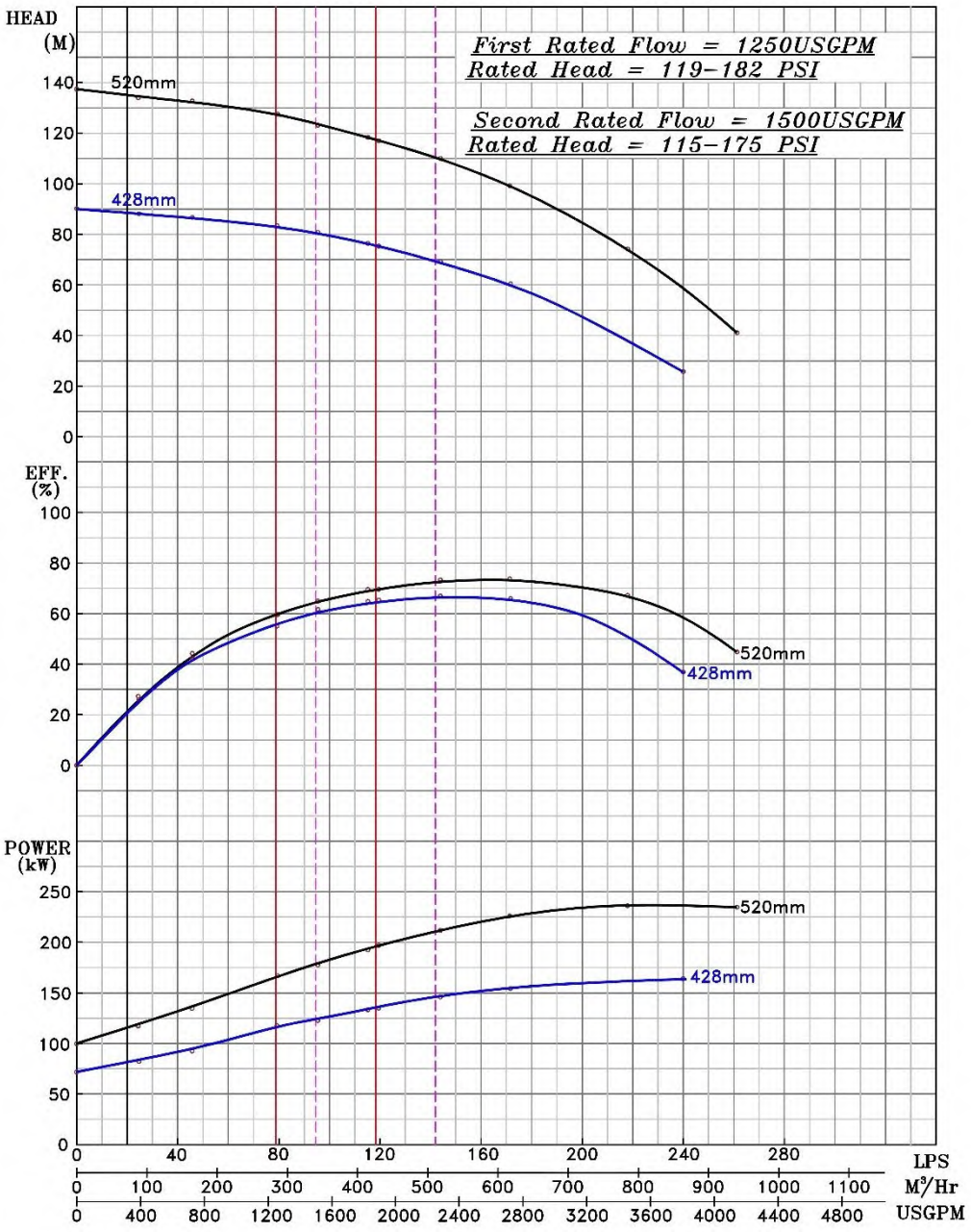
PERFORMANCE CURVE OF 6HF20 @1800 R.P.M

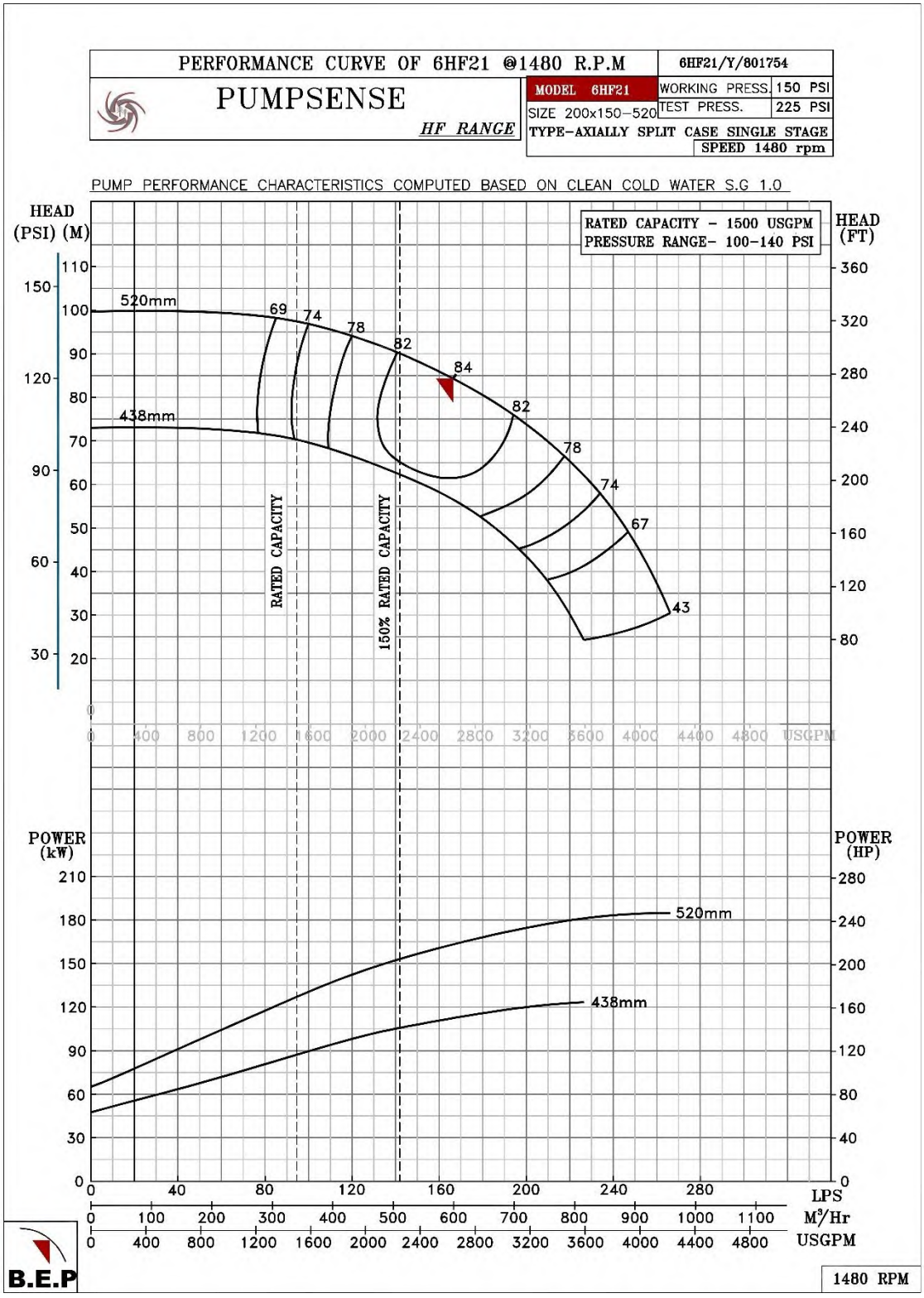
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




PERFORMANCE CURVE OF 6HF21 @1480 R.P.M
6HF21/Y/801754
PUMPSENSE
HF RANGE
MODEL 6HF21
WORKING PRESS. 150 PSI
SIZE 200x150-520
TEST PRESS. 225 PSI
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1480 rpm
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY - 1500 USGPM
PRESSURE RANGE- 100-140 PSI
HEAD (PSI) (M)
HEAD (FT)
520mm
438mm
69
74
78
82
84
82
78
74
67
43
RATED CAPACITY
150% RATED CAPACITY
POWER (kW)
POWER (HP)
520mm
438mm
LPS
M³/Hr
USGPM
B.E.P
1480 RPM

UL LISTED *FM APPROVED*

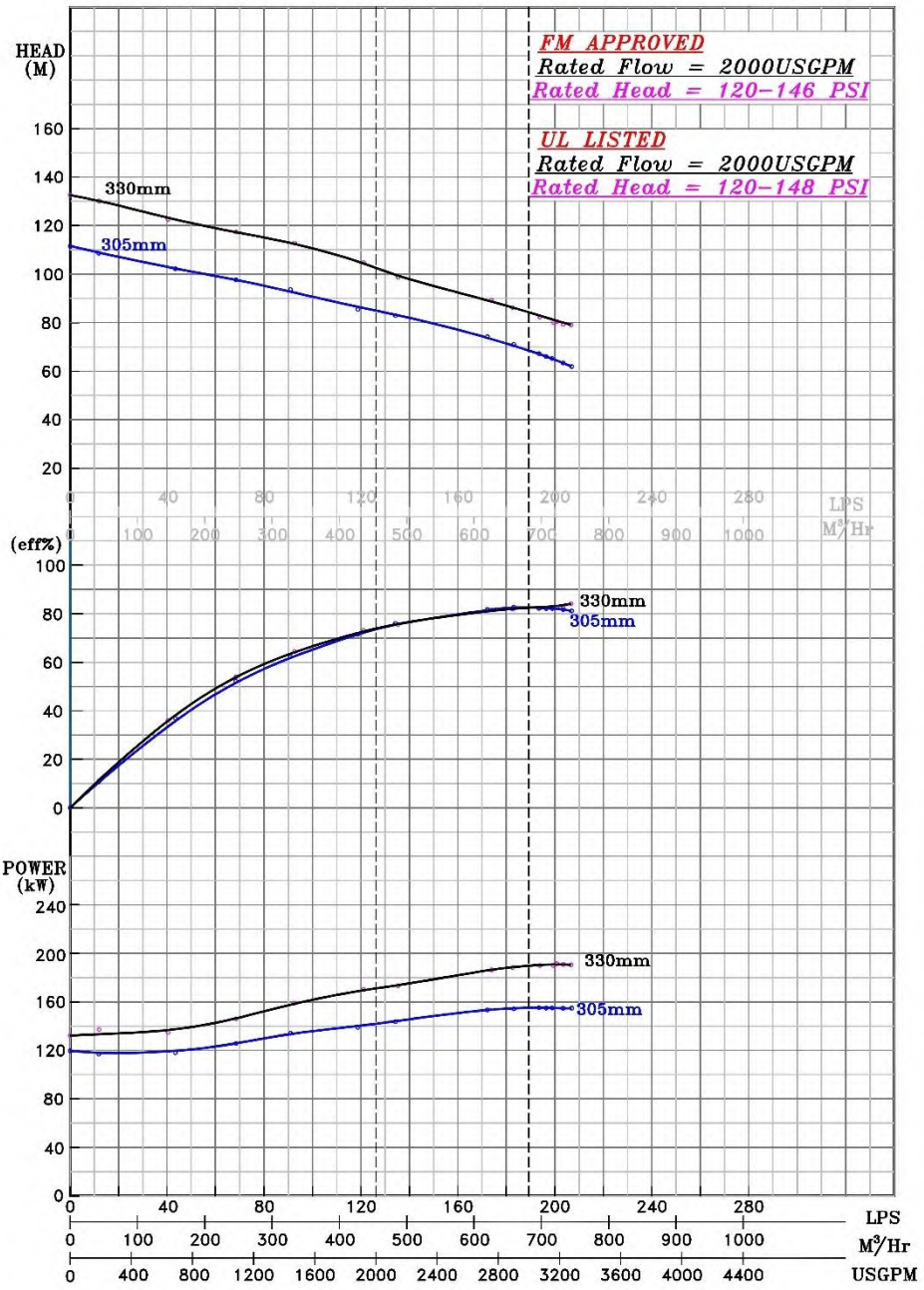
TEST CURVE OF 8HF13 @2800 R.P.M

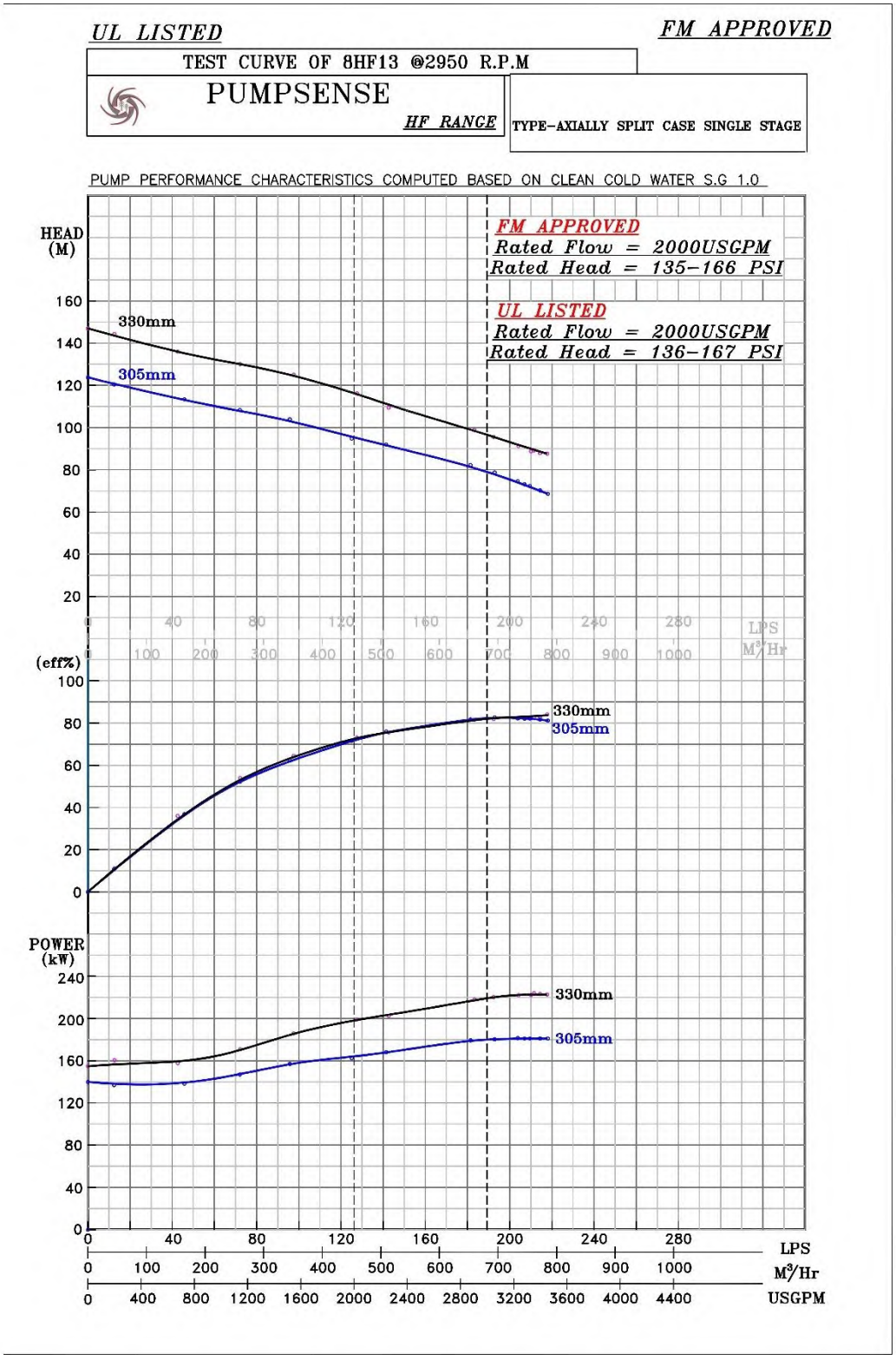
PUMPSENSE

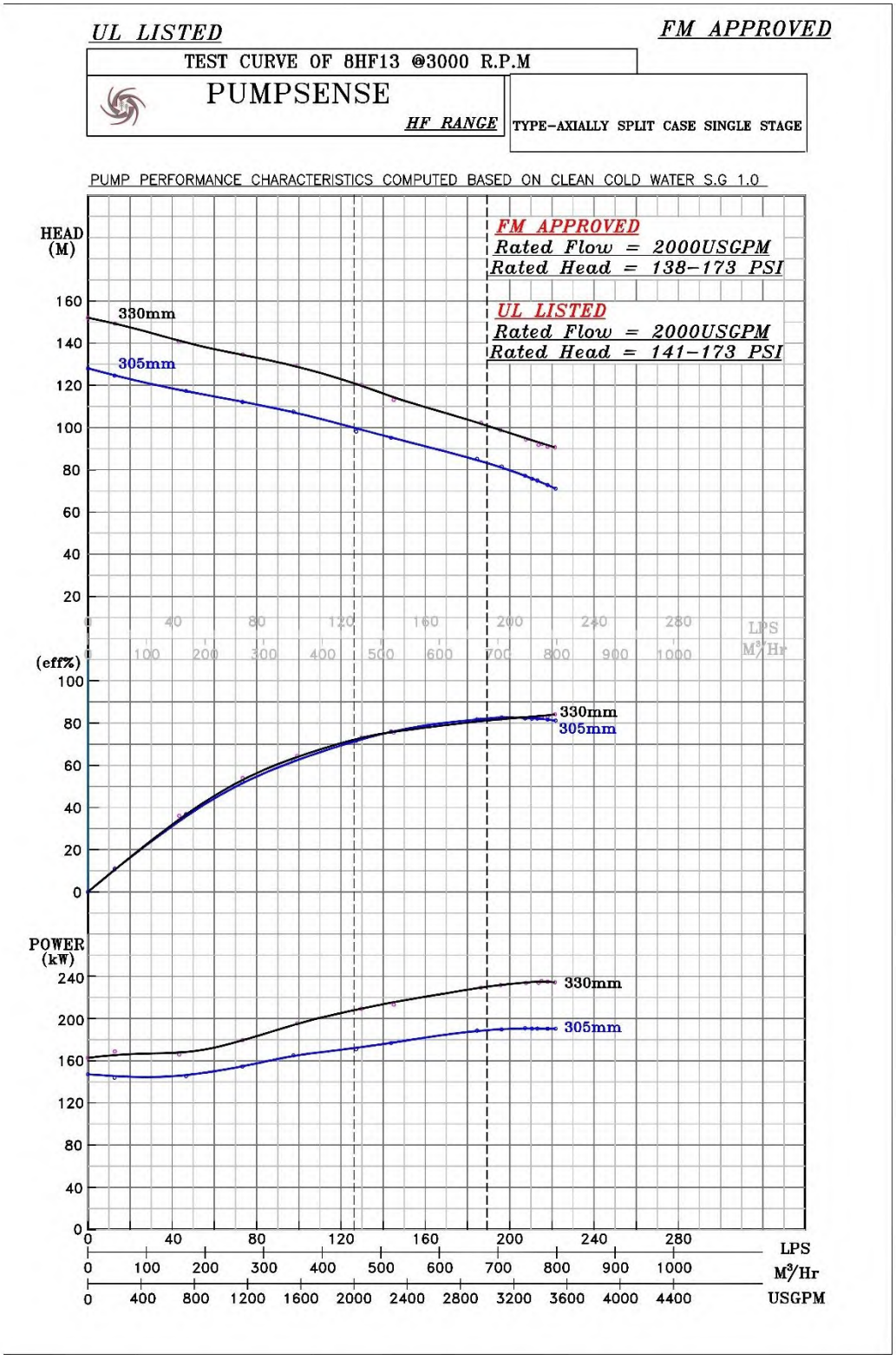
HF RANGE

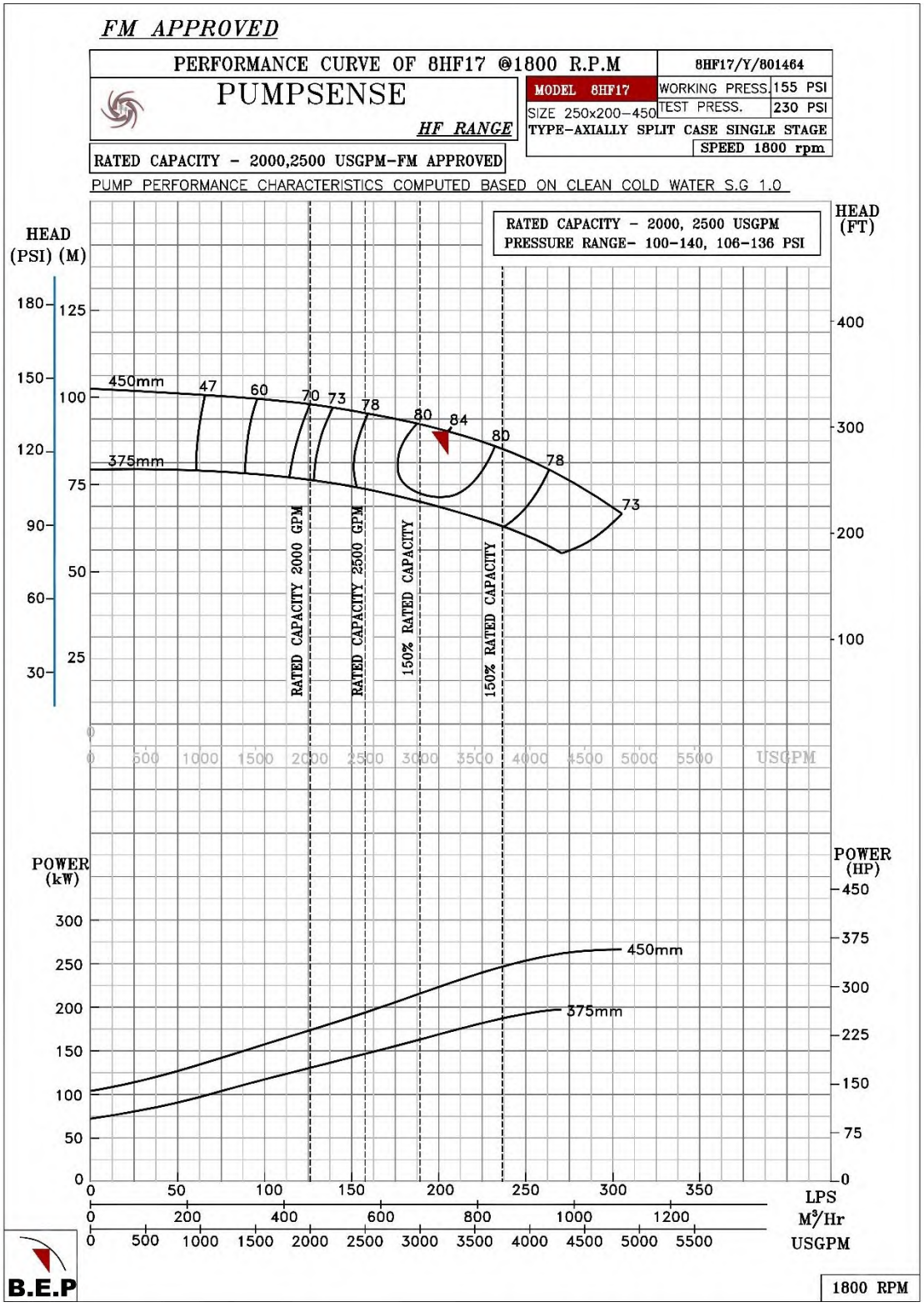
TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




UL LISTED
FM APPROVED
TEST CURVE OF 8HF13 @2950 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 2000USGPM
Rated Head = 135-166 PSI
UL LISTED
Rated Flow = 2000USGPM
Rated Head = 136-167 PSI
HEAD (M)
330mm
305mm
(eff%)
330mm
305mm
POWER (kW)
330mm
305mm
LPS
M³/Hr
USGPM


UL LISTED
FM APPROVED
TEST CURVE OF 8HF13 @3000 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 2000USGPM
Rated Head = 138-173 PSI
UL LISTED
Rated Flow = 2000USGPM
Rated Head = 141-173 PSI
HEAD (M)
330mm
305mm
(eff%)
330mm
305mm
POWER (kW)
330mm
305mm
LPS
M³/Hr
USGPM


FM APPROVED
PERFORMANCE CURVE OF 8HF17 @1800 R.P.M
8HF17/Y/801464
PUMPSENSE
HF RANGE
MODEL 8HF17
WORKING PRESS. 155 PSI
SIZE 250x200–450
TEST PRESS. 230 PSI
TYPE–AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1800 rpm
RATED CAPACITY – 2000,2500 USGPM–FM APPROVED
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY – 2000, 2500 USGPM
PRESSURE RANGE– 100–140, 106–136 PSI
HEAD (PSI) (M)
HEAD (FT)
450mm
375mm
47
60
70
73
78
80
84
80
78
73
RATED CAPACITY 2000 GPM
RATED CAPACITY 2500 GPM
150% RATED CAPACITY
150% RATED CAPACITY
USGPM
POWER (kW)
POWER (HP)
450mm
375mm
LPS
M³/Hr
USGPM
B.E.P
1800 RPM

UL LISTED

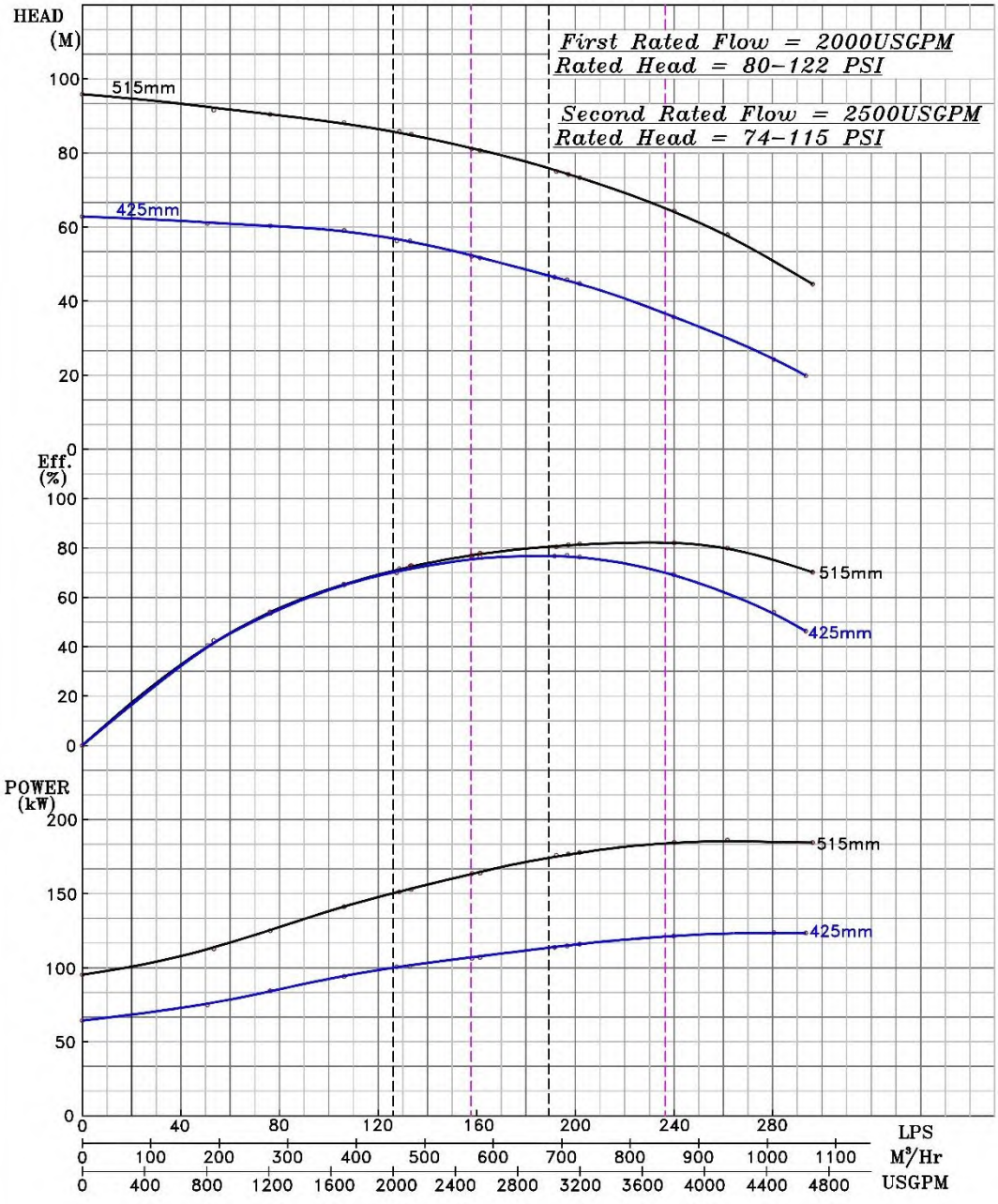
PREDICTED PERFORMANCE CURVE OF 8HF20 @1500 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

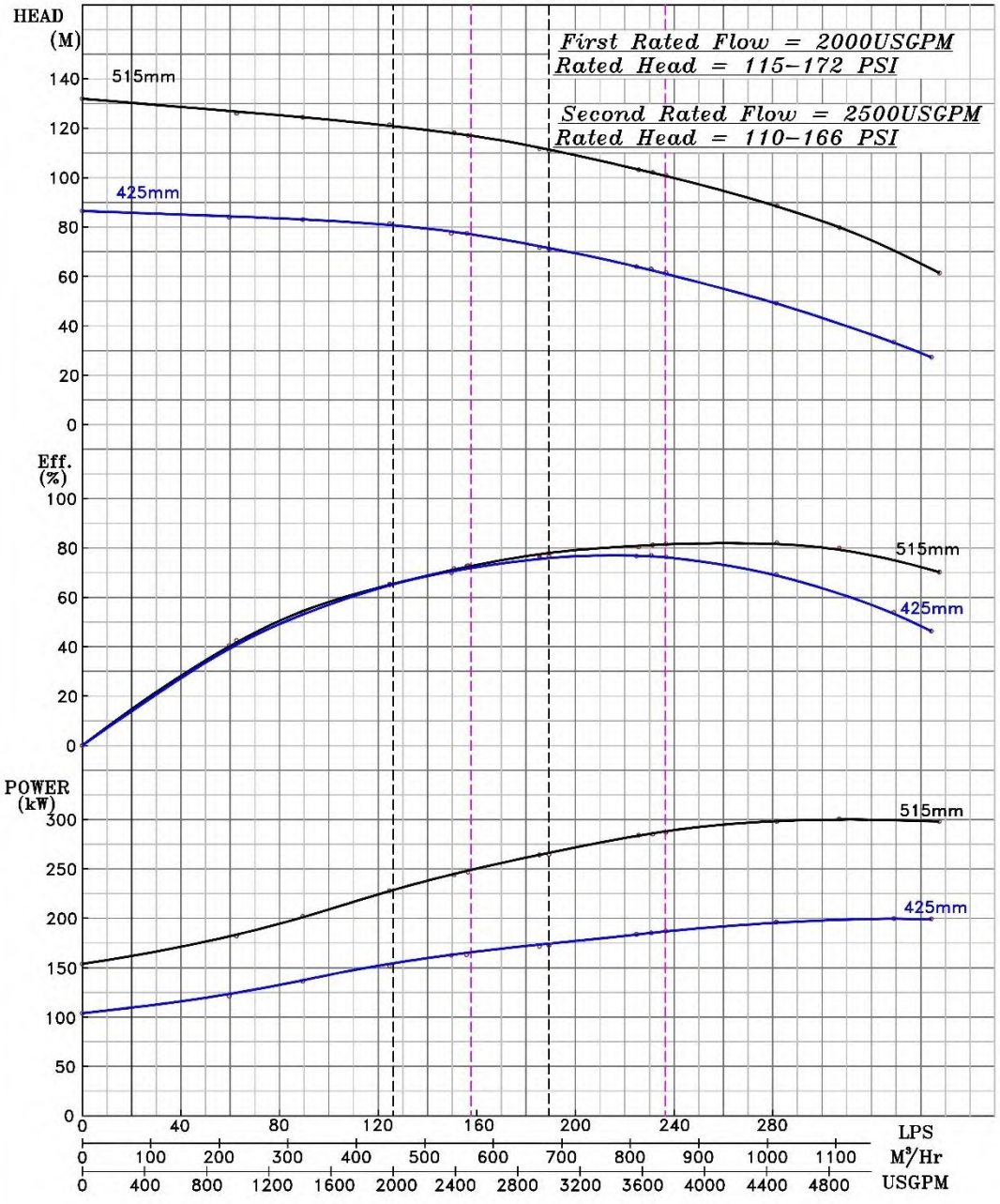
PREDICTED PERFORMANCE CURVE OF 8HF20 @1760 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

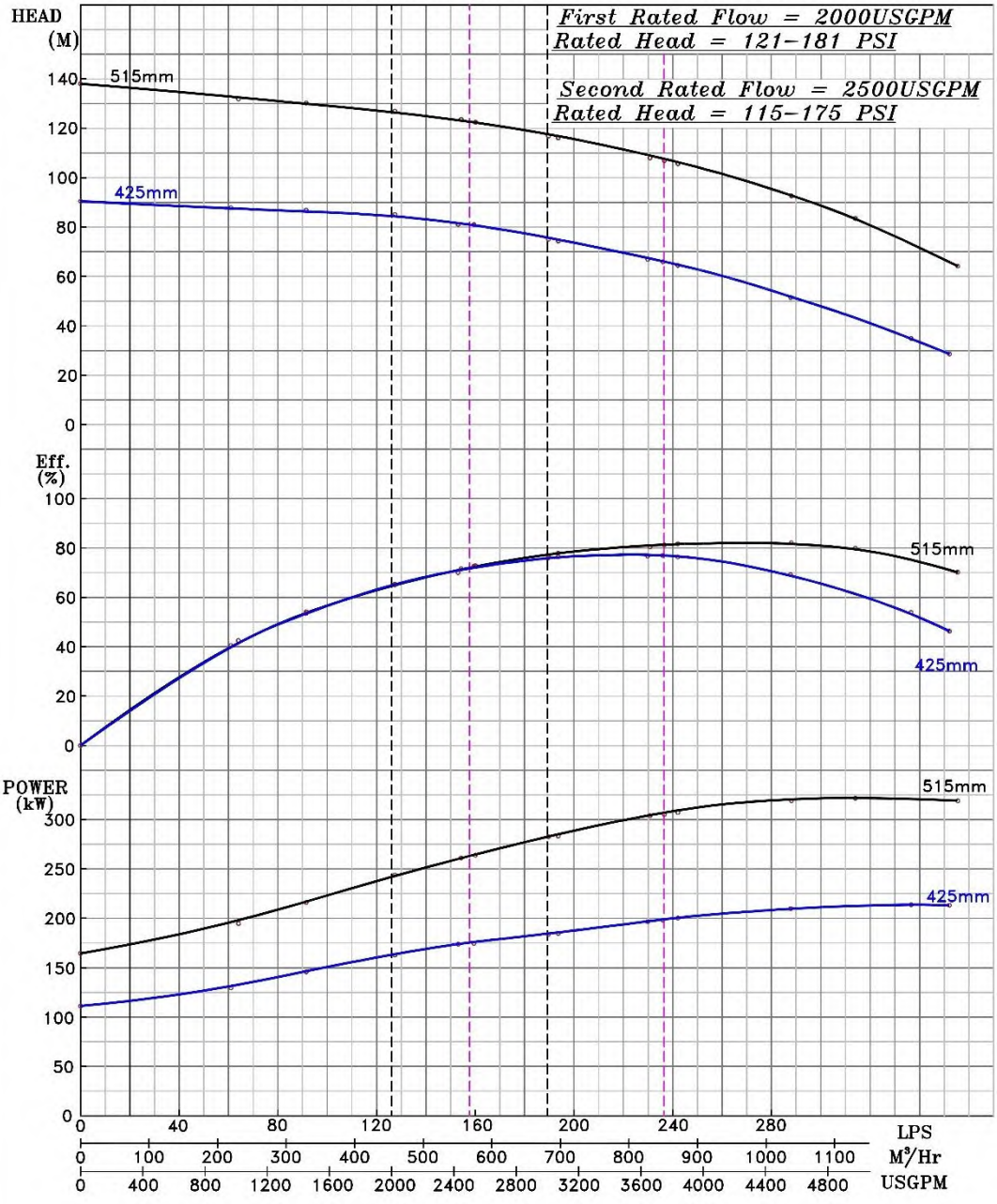
PREDICTED PERFORMANCE CURVE OF 8HF20 @1800 R.P.M

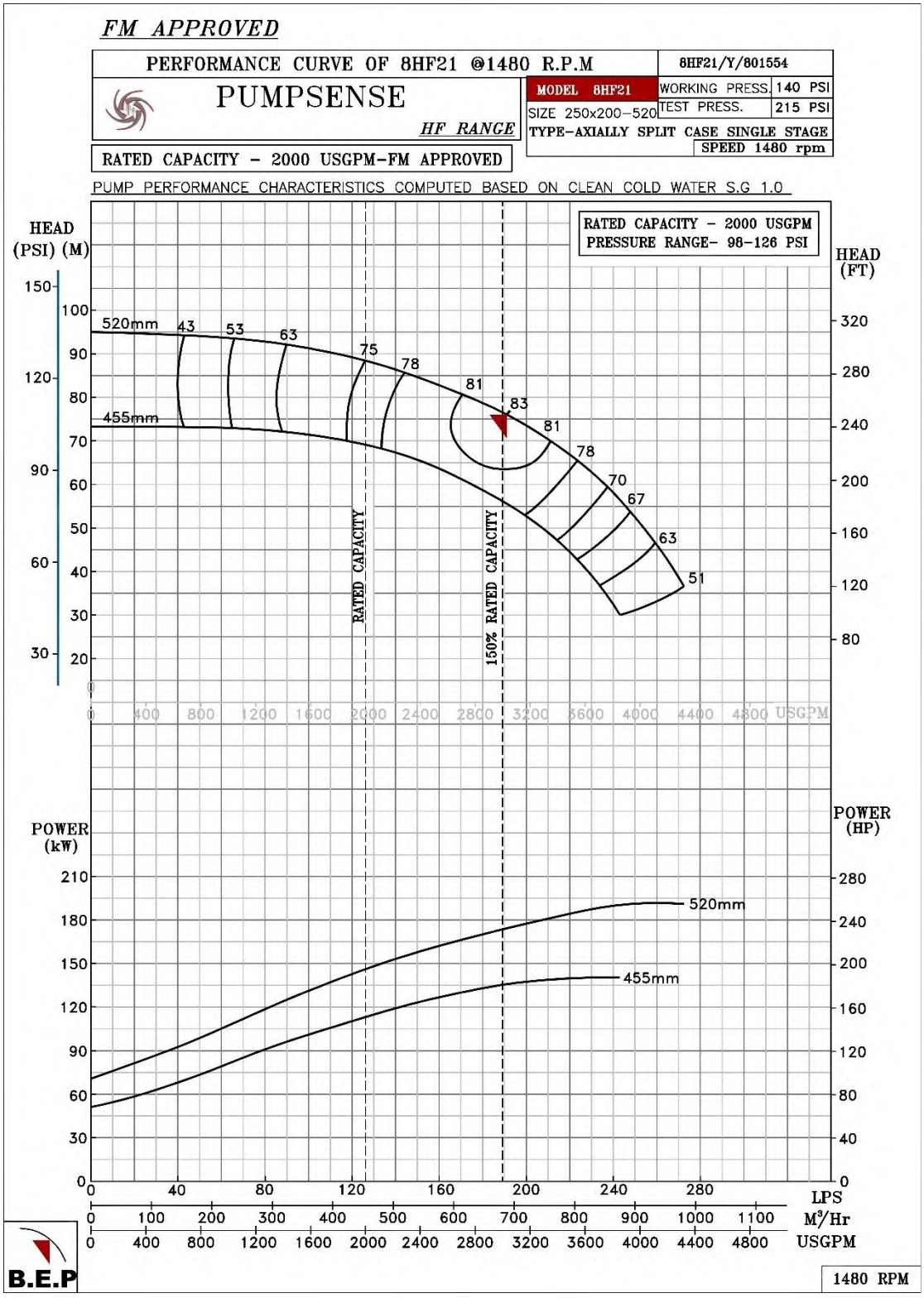
PUMPSENSE

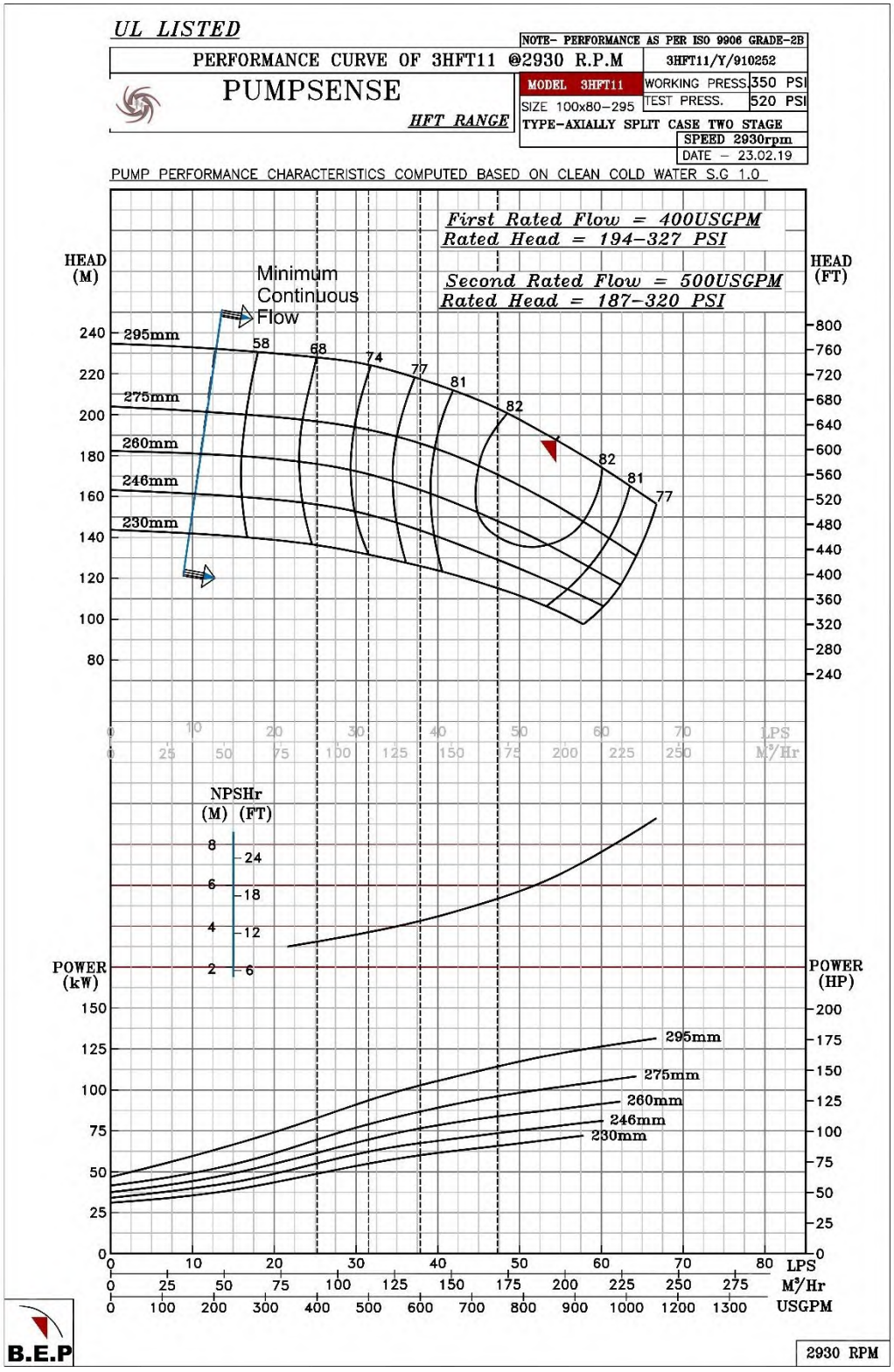
HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




FM APPROVED
PERFORMANCE CURVE OF 8HF21 @1480 R.P.M
8HF21/Y/801554
PUMPSENSE
HF RANGE
MODEL 8HF21
WORKING PRESS. 140 PSI
SIZE 250x200-520
TEST PRESS. 215 PSI
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1480 rpm
RATED CAPACITY - 2000 USGPM-FM APPROVED
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY - 2000 USGPM
PRESSURE RANGE- 98-126 PSI
HEAD (PSI) (M)
HEAD (FT)
520mm
455mm
43
53
63
75
78
81
83
81
78
70
67
63
51
RATED CAPACITY
150% RATED CAPACITY
USGPM
POWER (kW)
POWER (HP)
LPS
M³/Hr
B.E.P
1480 RPM


UL LISTED
NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 3HFT11 @2930 R.P.M
3HFT11/Y/910252
PUMPSENSE
HFT RANGE
MODEL 3HFT11
WORKING PRESS. 350 PSI
SIZE 100x80-295
TEST PRESS. 520 PSI
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 2930rpm
DATE - 23.02.19
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
First Rated Flow = 400USGPM
Rated Head = 194-327 PSI
Second Rated Flow = 500USGPM
Rated Head = 187-320 PSI
Minimum Continuous Flow
HEAD (M)
HEAD (FT)
295mm
275mm
260mm
246mm
230mm
NPSHr (M) (FT)
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2930 RPM

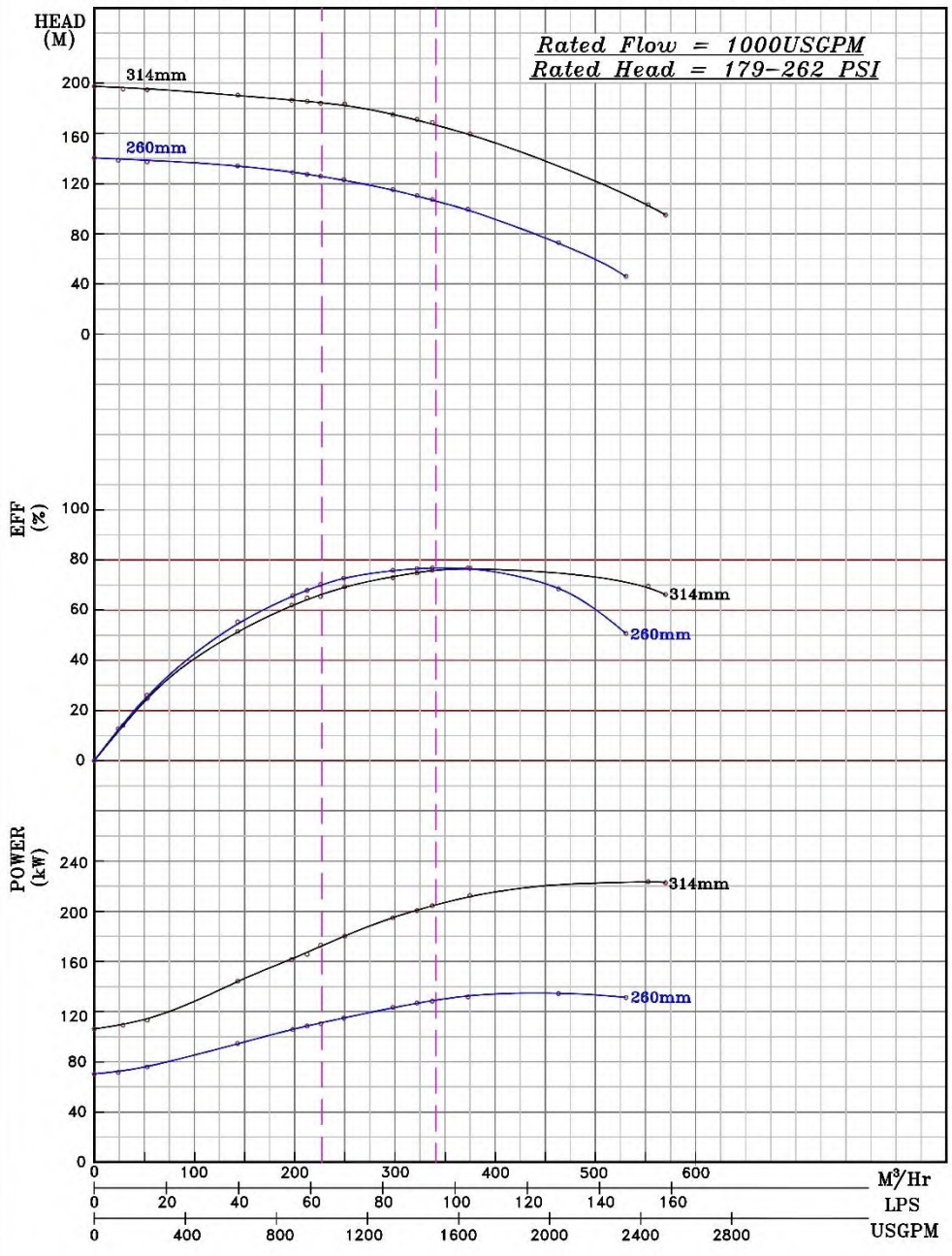
UL LISTED

PERFORMANCE CURVE OF 6HFTD12L @2600 R.P.M

PUMPSENSE *HFT RANGE*

TYPE-AXIALLY SPLIT CASE TWO STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



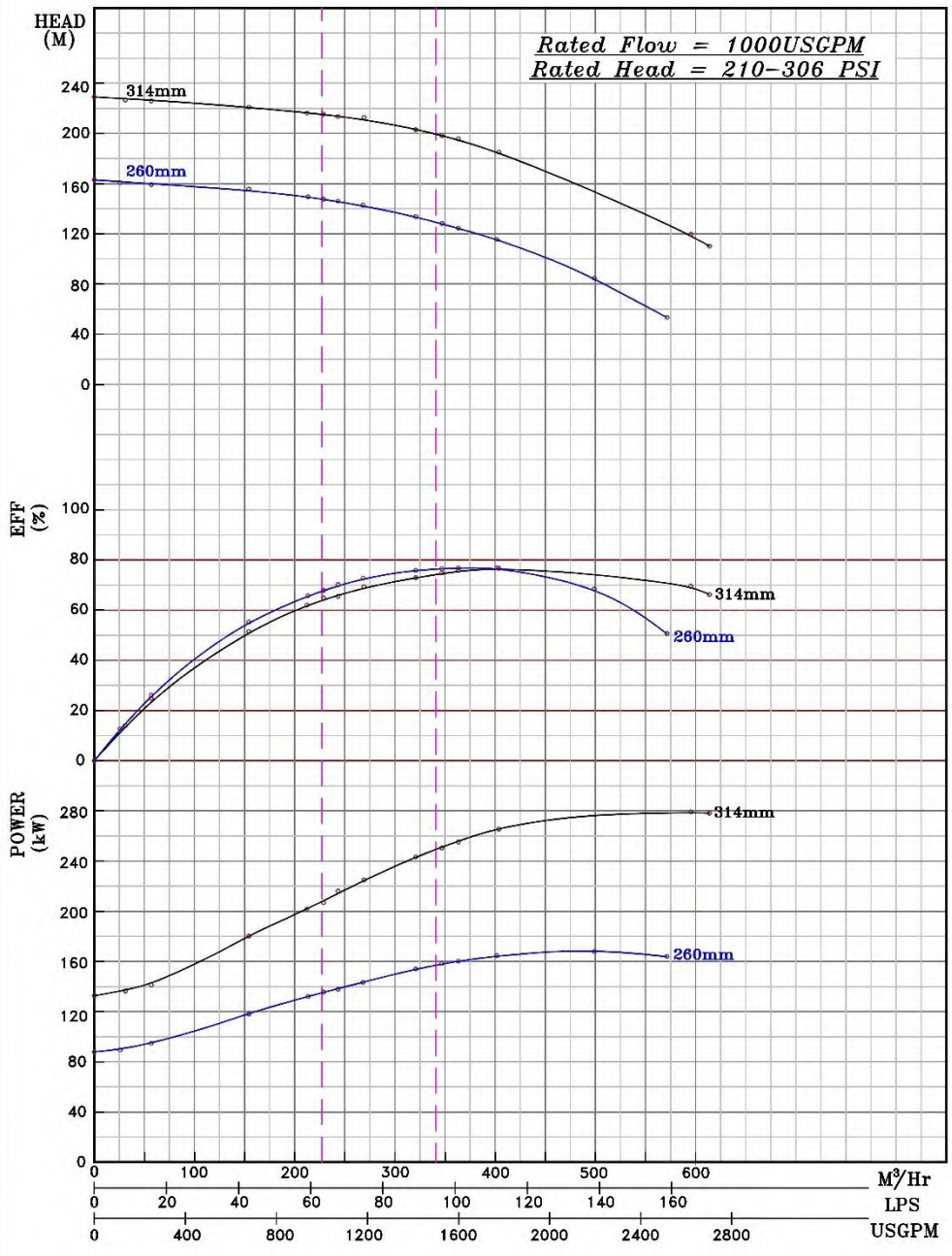
UL LISTED

PERFORMANCE CURVE OF 6HFTD12L @2800 R.P.M

PUMPSENSE *HFT RANGE*

TYPE-AXIALLY SPLIT CASE TWO STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



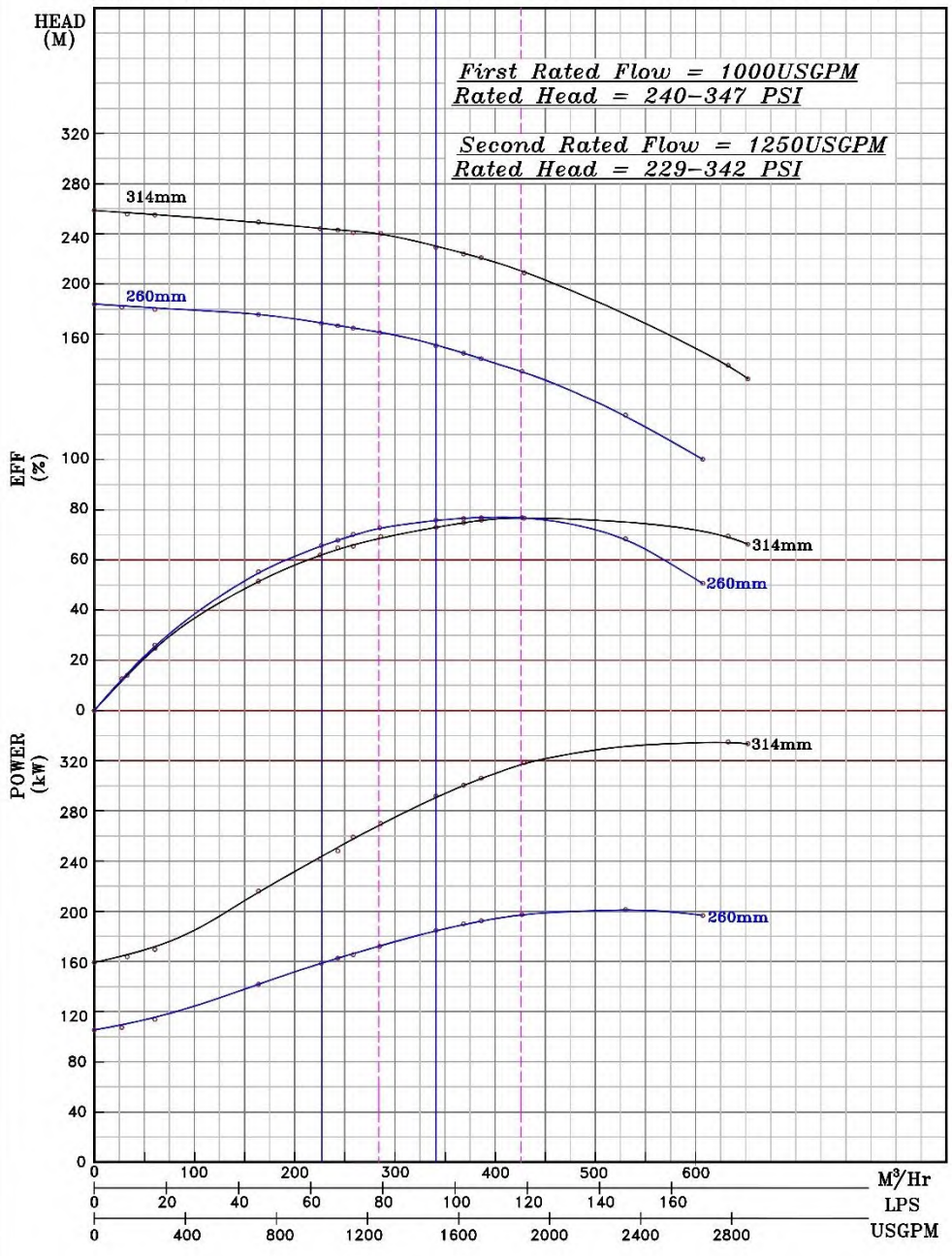
UL LISTED

PERFORMANCE CURVE OF 6HFTD12L @2975 R.P.M

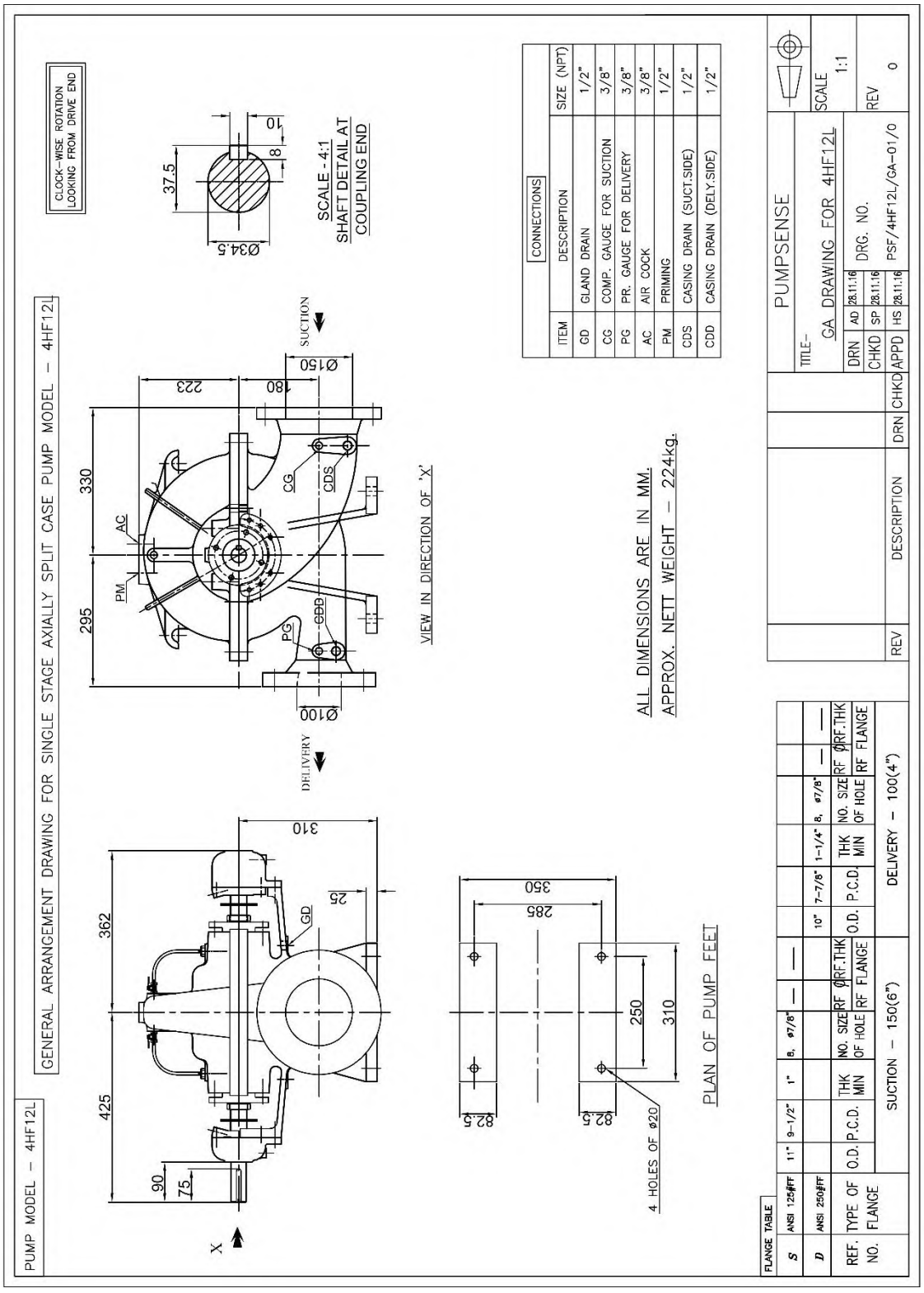
PUMPSENSE *HFT RANGE*

TYPE-AXIALLY SPLIT CASE TWO STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



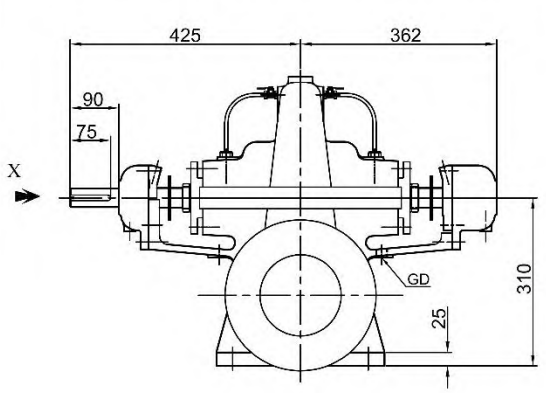
8. UL Listed // FM Approved GA Drawings

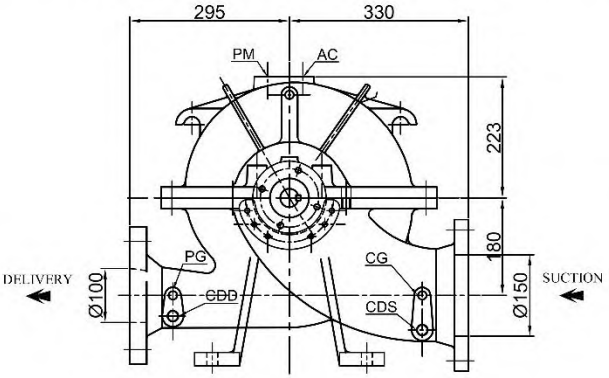


PUMP MODEL – 4HF12

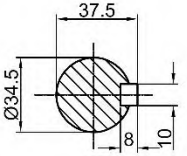
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF12

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END

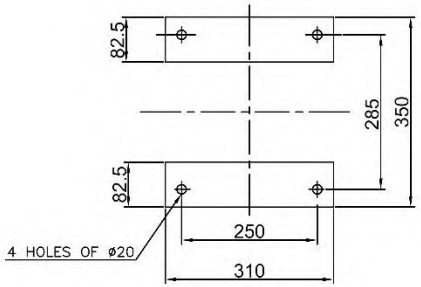




VIEW IN DIRECTION OF 'X'



SCALE - 4:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

ALL DIMENSIONS ARE IN MM.
APPROX. NETT WEIGHT – 224kg.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION – 150(6")						DELIVERY – 100(4")					
S	ANSI 125#FF	11"	9–1/2"	1"	8, ø7/8"	—	—						
D	ANSI 250#FF							10"	7–7/8"	1–1/4"	8, ø7/8"	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø / RF FLANGE	RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø / RF FLANGE	RF.THK

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

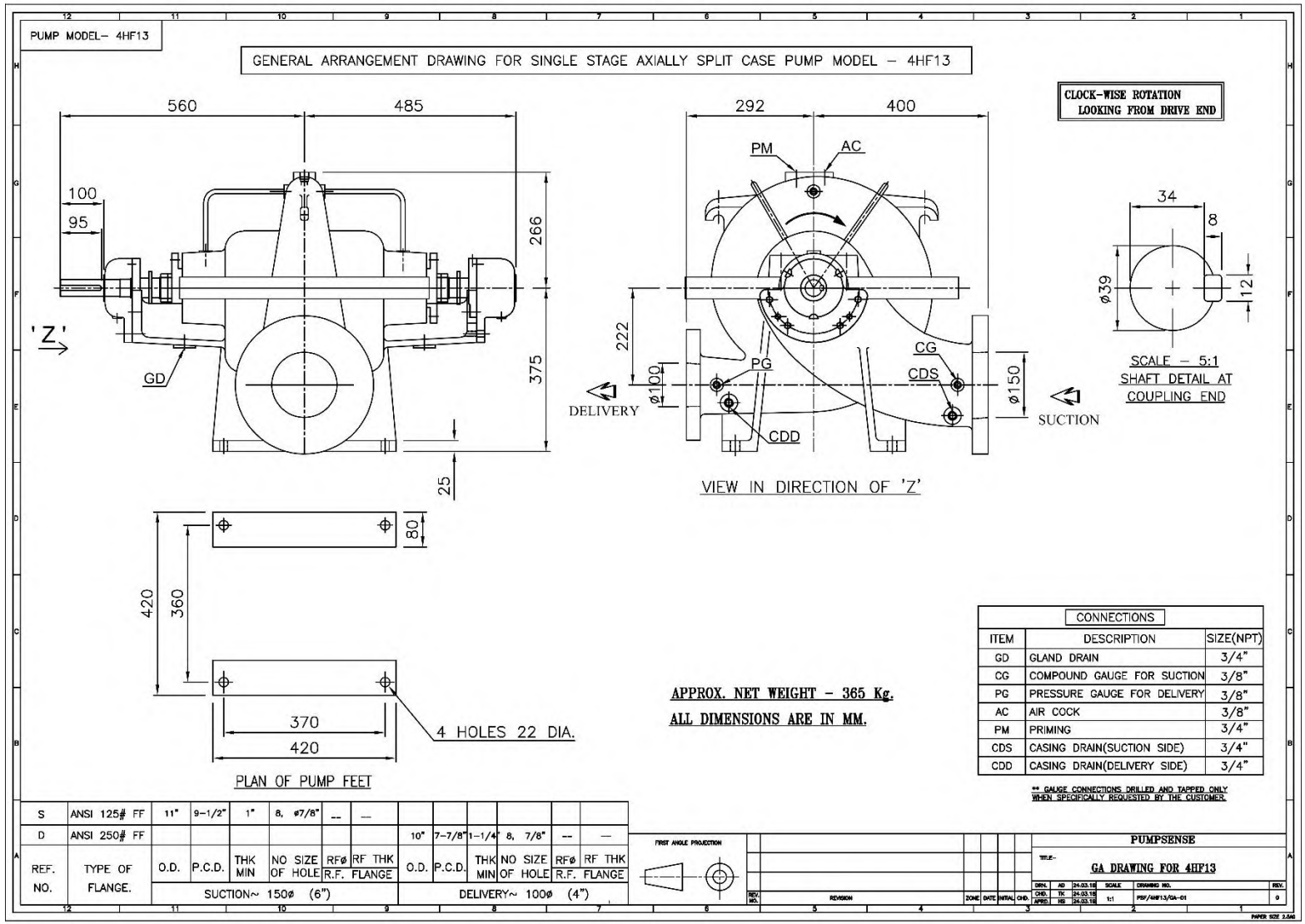
TITLE– GA DRAWING FOR 4HF12

DRN	AD	28.11.16
CHKD	SP	28.11.16
APPD	HS	28.11.16

DRG. NO. PSF/4HF12/GA–01/0

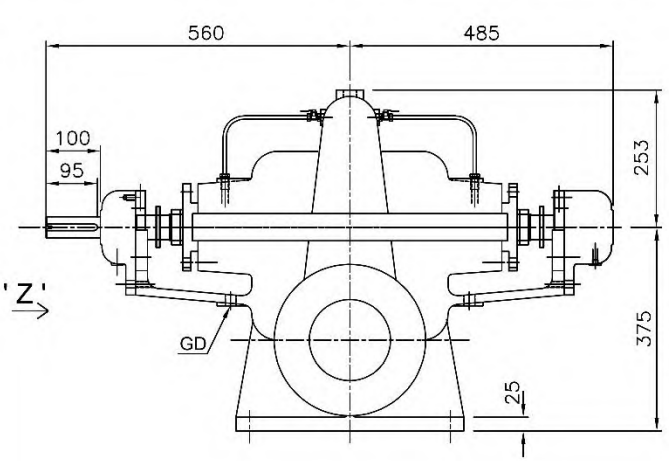
SCALE 1:1

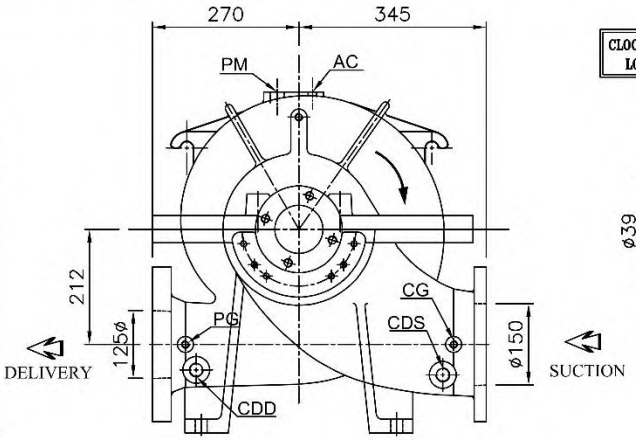
REV 0


PUMP MODEL– 4HF13
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF13
CLOCK–WISE ROTATION
LOOKING FROM DRIVE END
560
485
100
95
266
375
25
'Z'
GD
292
400
PM
AC
222
ø100
PG
CG
CDS
CDD
ø150
DELIVERY
SUCTION
VIEW IN DIRECTION OF 'Z'
34
8
ø39
12
SCALE – 5:1
SHAFT DETAIL AT
COUPLING END
80
420
360
370
420
4 HOLES 22 DIA.
PLAN OF PUMP FEET
APPROX. NET WEIGHT – 365 Kg.
ALL DIMENSIONS ARE IN MM.
CONNECTIONS
ITEM | DESCRIPTION | SIZE(NPT)
GD | GLAND DRAIN | 3/4"
CG | COMPOUND GAUGE FOR SUCTION | 3/8"
PG | PRESSURE GAUGE FOR DELIVERY | 3/8"
AC | AIR COCK | 3/8"
PM | PRIMING | 3/4"
CDS | CASING DRAIN(SUCTION SIDE) | 3/4"
CDD | CASING DRAIN(DELIVERY SIDE) | 3/4"
** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.
S | ANSI 125# FF | 11" | 9–1/2" | 1" | 8, ø7/8" | -- | —
D | ANSI 250# FF | | | | | | | 10" | 7–7/8" | 1–1/4" | 8, 7/8" | -- | —
REF. NO. | TYPE OF FLANGE. | O.D. | P.C.D. | THK MIN | NO SIZE OF HOLE | RFø R.F. | RF THK FLANGE | O.D. | P.C.D. | THK MIN | NO SIZE OF HOLE | RFø R.F. | RF THK FLANGE
SUCTION~ 150ø (6")
DELIVERY~ 100ø (4")
FIRST ANGLE PROJECTION
REV. NO. REVISION ZONE DATE INITIAL CHD.
PUMPSENSE
TITLE:- GA DRAWING FOR 4HF13
DRN. AD 24.03.16 SCALE DRAWING NO. REV.
CHD. TK 24.03.16 1:1 PSP/4HF13/GA-01 0
APRD. HS 24.03.16
PAPER SIZE A4

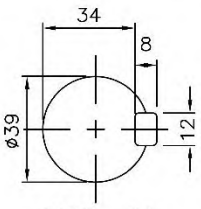
PUMP MODEL– 5HF11

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 5HF11



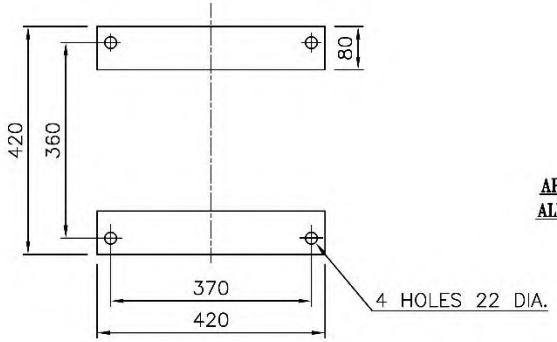


CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



APPROX. NET WEIGHT –353Kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

S	ANSI 125# FF	11"	9–1/2"	1"	8, 7/8"	--	--						
D	ANSI 250# FF							11"	9–1/4"	1–3/8"	8, 7/8"	—	--
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE
		SUCTION~ 150ø (6")						DELIVERY~ 125ø (5")					

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE:– GA DRG. FOR 5HF11

DRN	AD	05.01.17	DRG. NO. PSF/5HF11/GA–01
CHKD	ST	05.01.17	
APPD	HS	05.01.17	

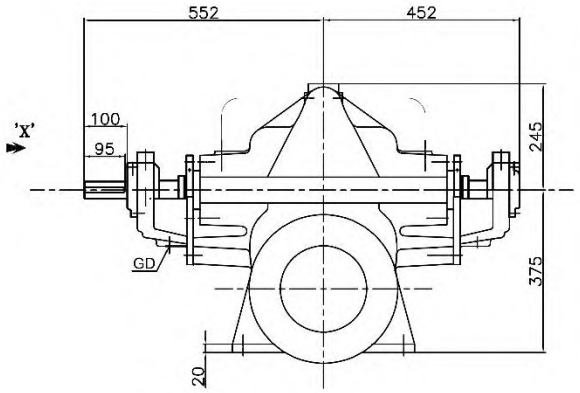
SCALE 1:1

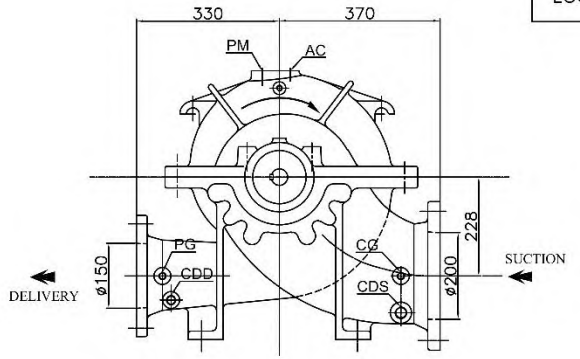
REV 0

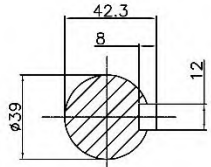
PUMP MODEL 6HF12

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL - 6HF12

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END

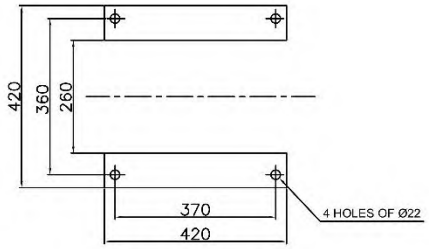






SCALE - 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' X '



PLAN OF PUMP FEET

APPROX. NETT WEIGHT - 392kg.

ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	1–F
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCT.SIDE)	1/2"
CDD	CASING DRAIN(DELY.SIDE)	1/2"

FLANGE TABLE

S	ANSI 125#FF	13-1/2"	11-3/4"	1-1/8"	8, Ø 7/8"	___	___						
D	ANSI 250#FF							12-1/2"	10-5/8"	1-7/16"	12, Ø 7/8"	___	___
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø	RF.THK RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø	RF.THK RF FLANGE
		SUCTION– 200(8")						*DELIVERY– 150(6")*					

REV	DESCRIPTION	DRN	CHKD	APPD

PUMPSENSE

TITLE: GA DRAWING FOR 6HF12

DRN	AS	13.05.13	DRG. NO. PSF/6HF12/GA–01/0
CHKD	AS	13.05.13	
APPD	HS	13.05.13	

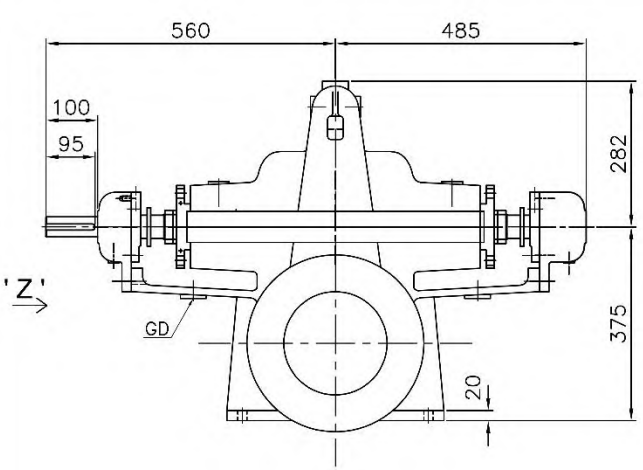
8072640

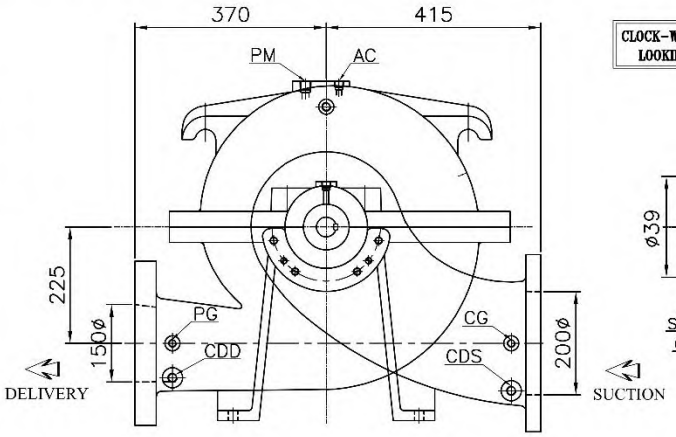
SCALE 1:1

REV 0

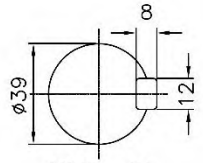
PUMP MODEL– 6HF14K

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF14K



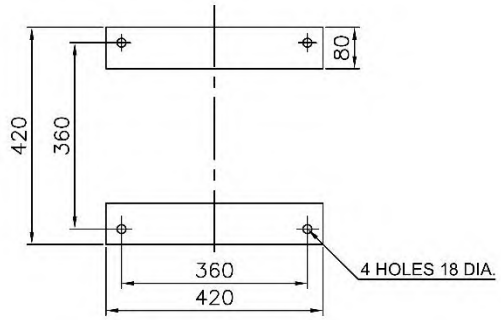


CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 407kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI 125# FF	13-1/2"	11-3/4"	1-1/8"	8, ø7/8"	--	--							
D	ANSI 250# FF							12-1/2"	10-5/8"	1-7/16"	12, ø7/8"	--	--	
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F. FLANGE	RF THK R.F. FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F. FLANGE	RF THK R.F. FLANGE	
		SUCTION~ 200ø (8")						DELIVERY~ 150ø (6")						

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE: GA DRAWING FOR 6HF14K

DRN	AD	05.08.17
CHKD	ST	05.08.17
APPD	HS	05.08.17

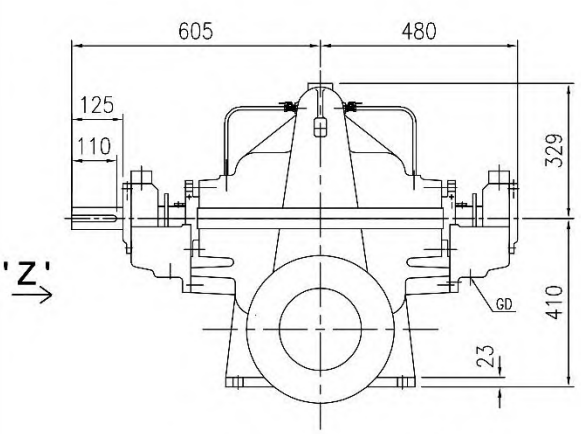
DRG. NO. PSF/6HF14K/GA-01

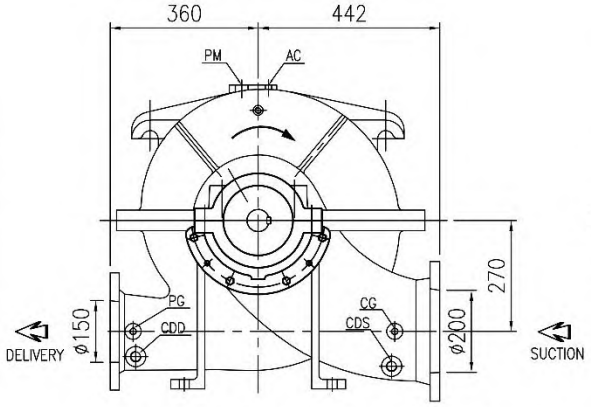
SCALE 1:1

REV 0

PUMP MODEL – 6HF18

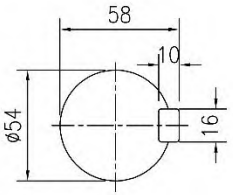
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF18



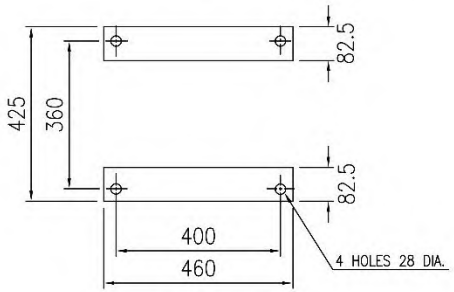


VIEW IN DIRECTION OF ' Z '

CLOCK–WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 660kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

		SUCTION – ø200						DELIVERY – ø150					
S	PN 16	340	295	24	12, ø22	—	—						
D	PN 16							285	240	22	8, ø22	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø/RF.THK RF FLANGE		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø/RF.THK RF FLANGE	

REV	DESCRIPTION	TOLLERANCE	DRN	CHKD

TITLE– GA DRG. FOR 6HF18

PUMPSENSE
FACTORY ADDRESS: Vill– Satsanl, G.I.P. Colony, Mahavish Road, Near Satsani High School, Hosmh– 711112

DRG. NO. PSF/6HF18/GA–01 | 8102640

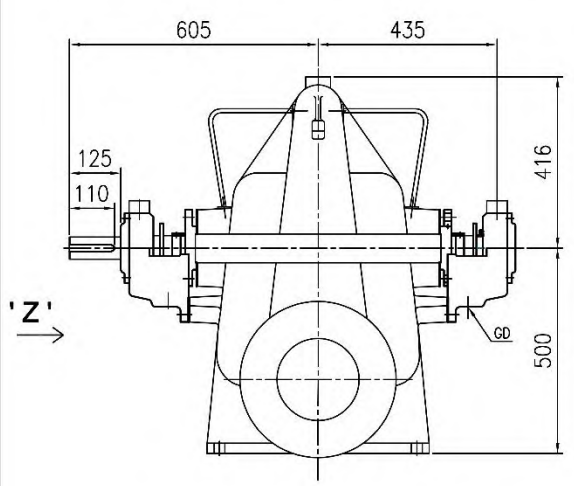
SCALE 1:1

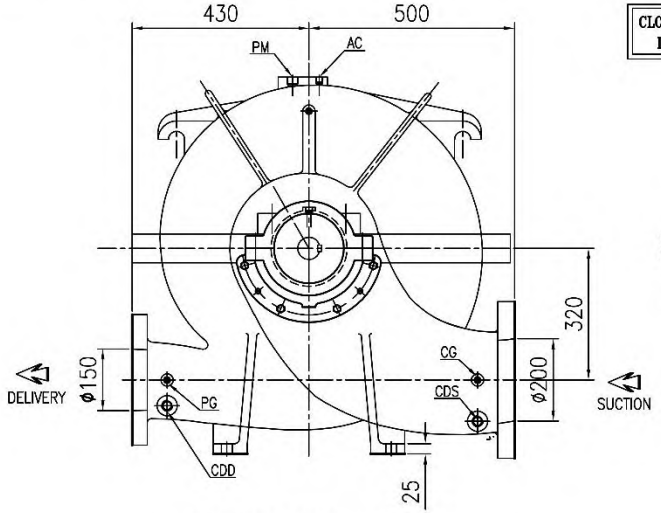
REV 0

DRN	AD	04.04.16
CHKD	SP	04.04.16
APPD	HS	04.04.16

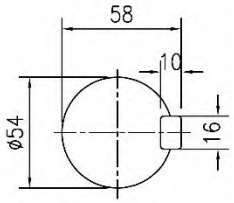
PUMP MODEL – 6HF20

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF20



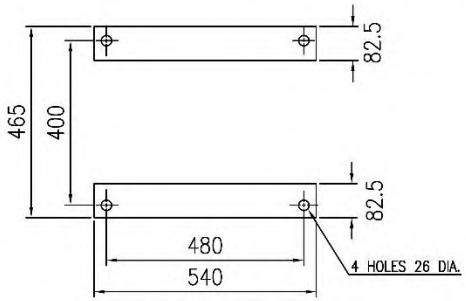


CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 751kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

DEL 150Ø	ANSI 250#FF	12-1/2"	10-5/8"	1-7/16"	12,Ø7/8"	—	—
SUC 200Ø	ANSI 250#FF	15"	13"	1-5/8"	12,Ø1"	—	—
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO & HOLE Ø	RFØ	RF THK
						RF FLANGE	

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE– GA DRG. FOR 6HF20

DRN	AD	16.09.19
CHKD	SP	16.09.19
APPD	HS	17.09.19

DRG. NO. PSF/6HF20/GA-01

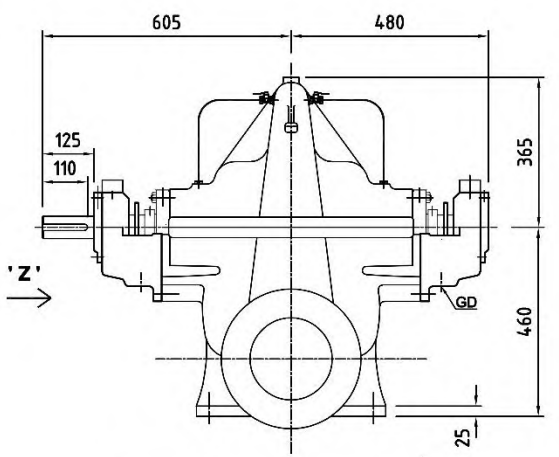
SCALE 1:1

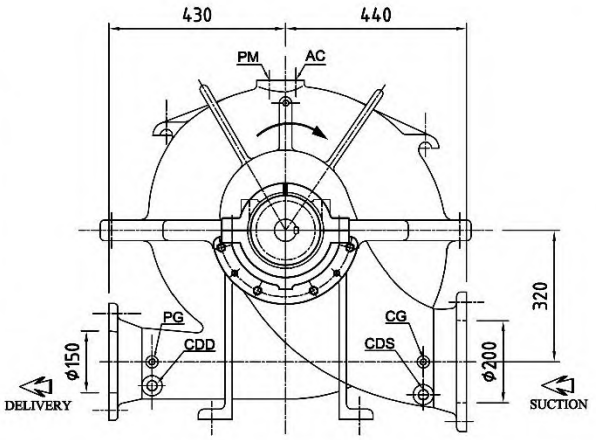
REV 0

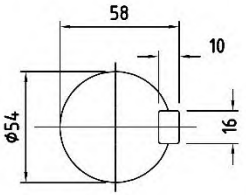
PUMP MODEL – 6HF21

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF21

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END

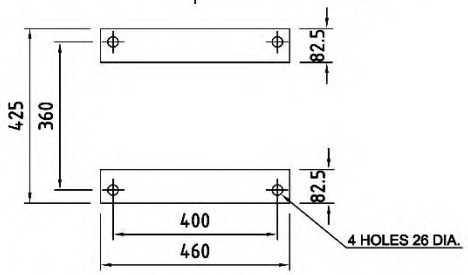






SCALE - 5:1
DETAIL OF SHAFT
AT COUPLING END

VIEW IN DIRECTION OF 'Z'



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 600kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

S	PN 16	340	295	24	12, ø22	—	—						
D	PN 16							285	240	22	8, ø22	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK / RF FLANGE		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK / RF FLANGE	
		SUCTION – ø200(8")						DELIVERY – ø150(6")					

REV	DESCRIPTION	TOLERANCE	DRN	CHKD	DATE

TITLE– GA DRG. FOR 6HF21

PUMPSENSE

DRG. NO. PSF/6HF21/GA–01

8172640

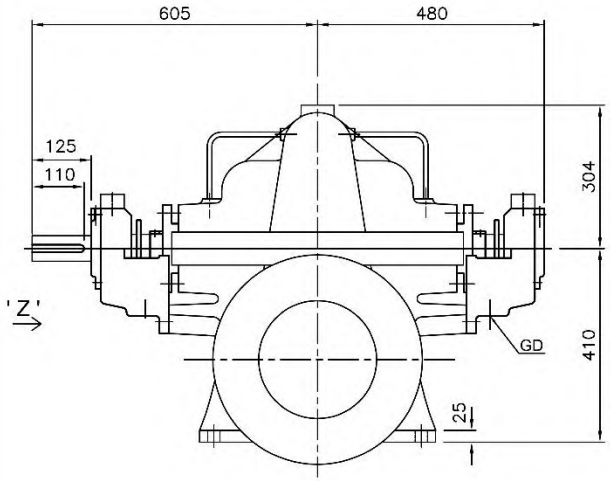
DRN	AD	05.04.18
CHKD	SP	05.04.18
APPD	HS	05.04.18

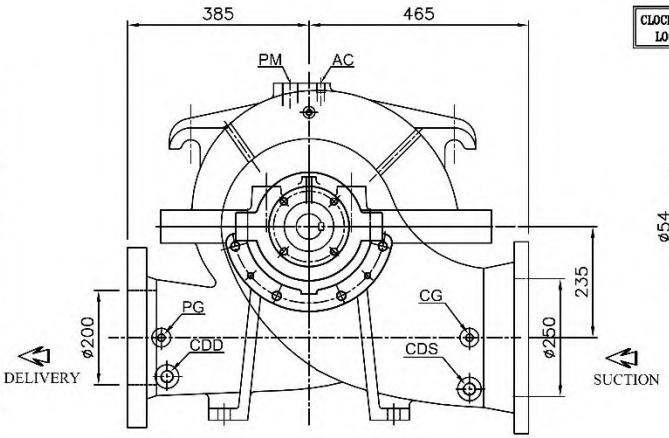
SCALE 1:1

REV 0

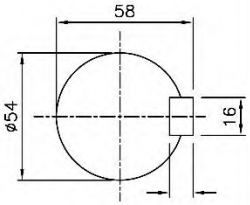
PUMP MODEL– 8HF13

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF13



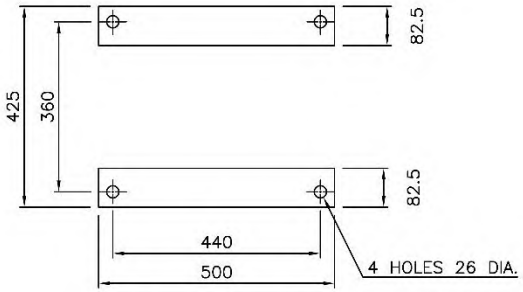


CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 620.5kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

REF. NO.	TYPE OF FLANGE.	SUCTION 250 DIA. O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F. FLANGE	RF THK FLANGE	DELIVERY 200 DIA O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RFø RF FLANGE	RF THK FLANGE
S	ANSI 125#FF	16"	14–1/4"	1–3/16"	12, ø1"	–	–						
D	ANSI 250#FF							15"	13"	1–5/8"	12, ø1"	–	–

REV	DESCRIPTION	DRN	CHKD	DATE
1	CASING FEET PATTERN CHANGED FEET THICKNESS 25MM INSTEAD OF 24 MM	AD	ST	17.05.18

PUMPSENSE

TITLE– GA DRAWING FOR 8HF13

DRN	AD	21.12.16
CHKD	ST	21.12.16
APPD	HS	21.12.16

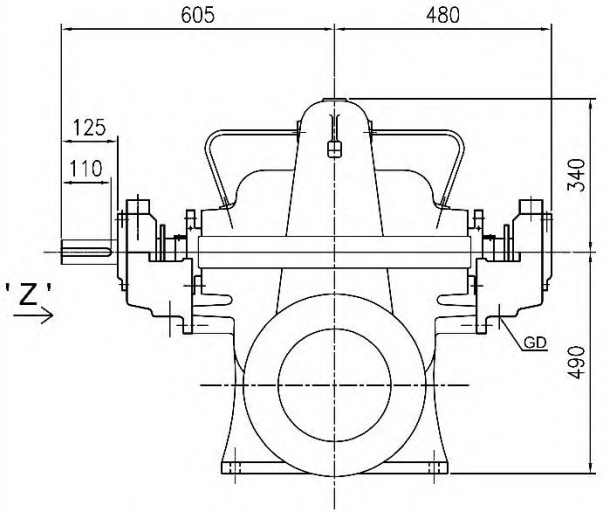
DRG. NO. PSF/8HF13/GA–01

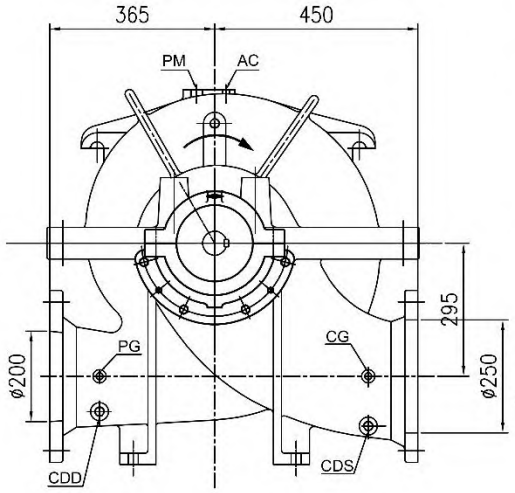
SCALE 1:1

REV 1

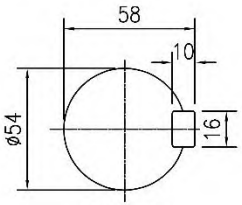
PUMP MODEL –8HF17

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF17



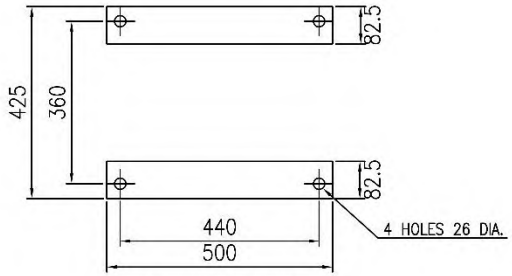


CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 615kg.

ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	1/2"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

		SUCTION – ø250						DELIVERY – ø200						REV
S	PN 16	405	355	26	12, ø26			340	295	24	12, ø22			
D	PN 16					RF ØRF.THK						RF ØRF.THK		
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE		

REV	DESCRIPTION	TOLLERANCE	DRN	CHKD

TITLE– GA DRG. FOR 8HF17

PUMPSENSE

DRG. NO. PSF/8HF17/GA–01

8142640

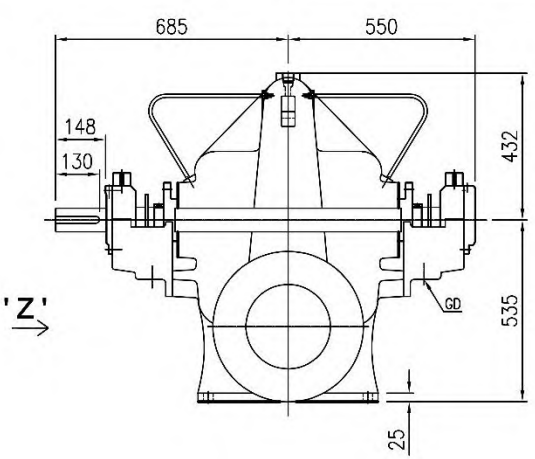
DRN	AD	04.04.16
CHKD	SP	04.04.16
APPD	HS	04.04.16

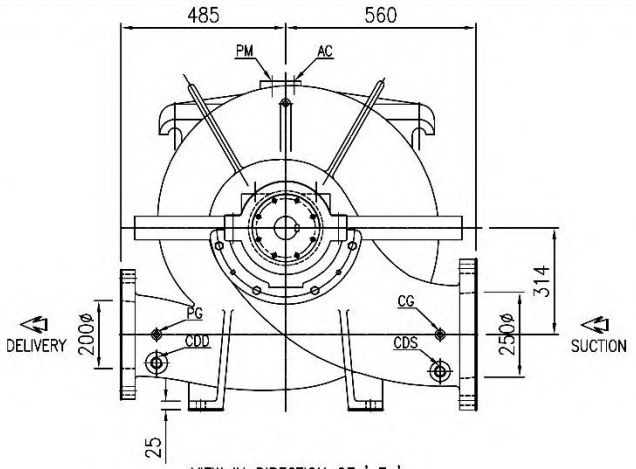
SCALE 1:1

REV 0

PUMP MODEL – 8HF20

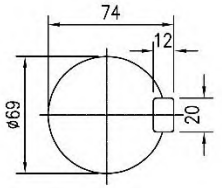
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF20



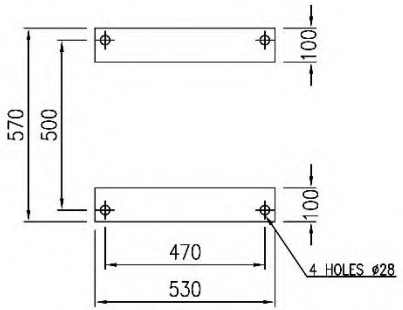


VIEW IN DIRECTION OF ' Z '

CLOCK–WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 860kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1–1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1"
CDD	CASING DRAIN(DELIVERY SIDE)	1"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK
		SUCTION– ø250				R.F. FLANGE		DELIVERY– ø200				R.F. FLANGE	
S	ANSI#250	17–1/2"	15–1/4"	1–7/8"	16, ø1–1/8"	—	—						
D	ANSI#250							15"	13"	1–5/8"	12, ø1"	—	—

REV	DESCRIPTION	DRN	CHKD	DATE

PROJECT NAME– | JOB NO.–

PUMPSENSE

TITLE–
GA DRG. FOR 8HF20

DRN	AD	18.09.19
CHKD	TK	18.09.19
APPD	HS	18.09.19

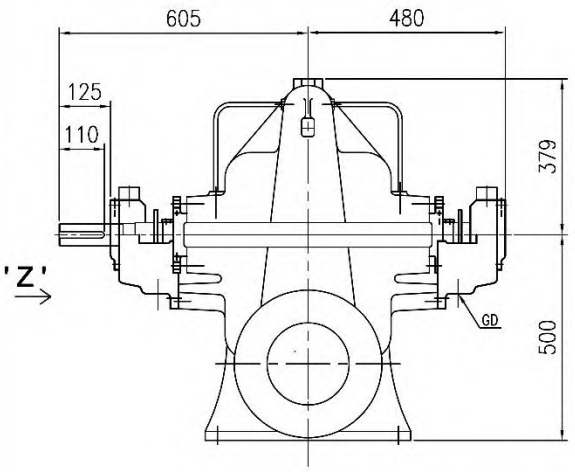
DRG. NO. 831GA10Y

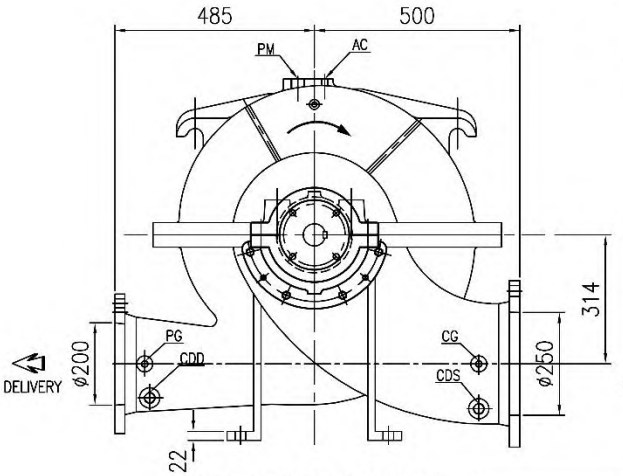
SCALE 1:1

REV 0

PUMP MODEL – 8HF21

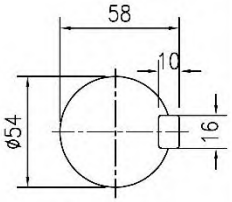
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF21



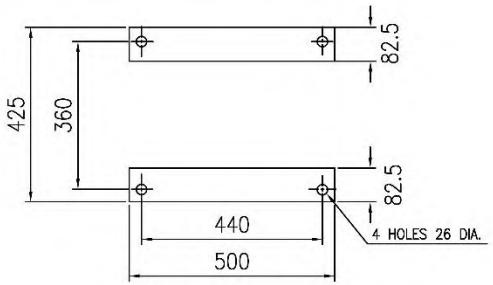


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 840kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

S	PN 16	405	355	26	12, ø26	—	—						
D	PN 16							340	295	24	12, ø22	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK RF FLANGE
		SUCTION – ø250						DELIVERY – ø200					

REV	DESCRIPTION	TOLERANCE	DRN	CHKD	DATE

TITLE– GA DRG. FOR 8HF21

PUMPSENSE
FACTORY ADDRESS: Vill– Sidrabil, G.I.P. Colony, Mallarpur, Road, Near Sidrabil High School, Howrah– 711112

DRG. NO. PSF/8HF21/GA–01 8152640

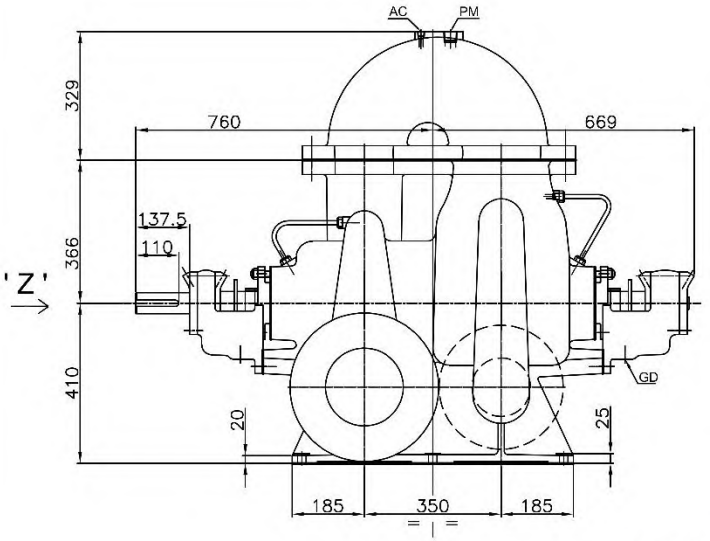
DRN	AD	05.04.16
CHKD	SP	05.04.16
APPD	HS	05.04.16

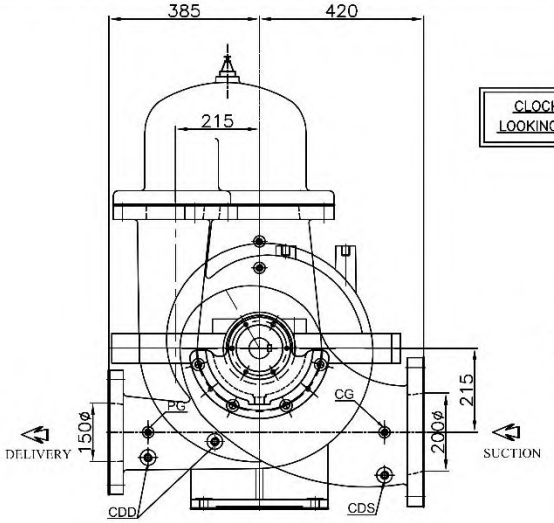
SCALE 1:1

REV 0

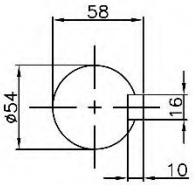
PUMP MODEL– 6HFTD12L

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD12L



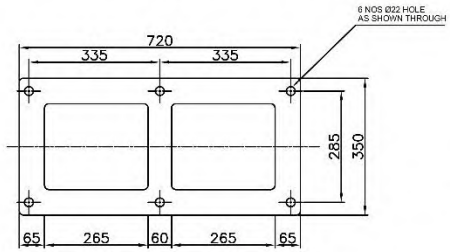


CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEETS

APPROX. NETT WEIGHT – 970kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

DEL 150Ø	ANSI 250#FF	12-1/2"	10-5/8"	1-7/16"	12,Ø7/8"	---	---
SUC 200Ø	ANSI 250#FF	15"	13"	1-5/8"	12,Ø1"	---	---
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO & HOLE Ø	RFØ RF FLANGE	RF THK

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

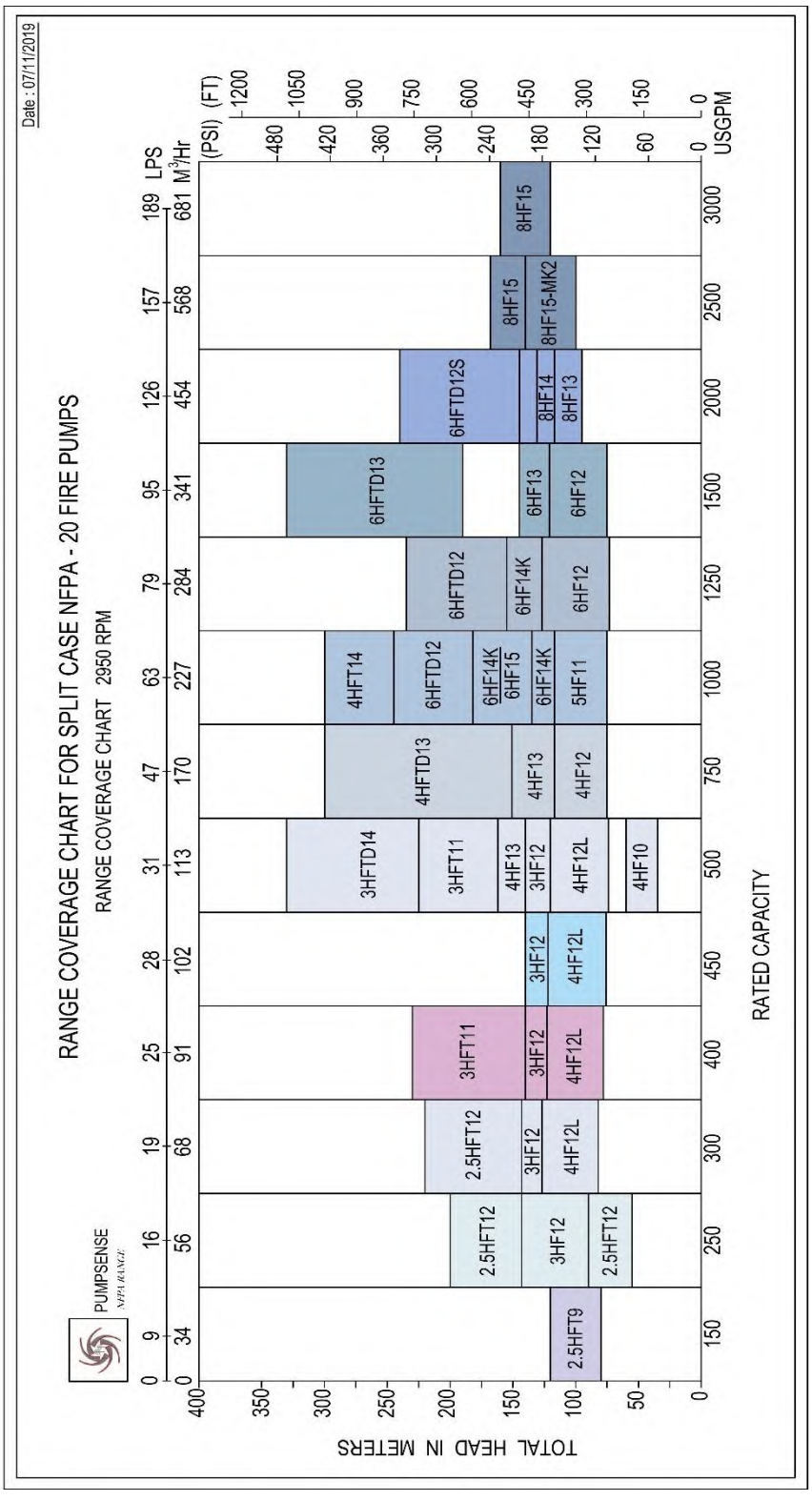
TITLE– GA DRG. FOR 6HFTD12L

DRN	AD	17.09.19	DRG. NO. PSF/6HFTD12L/GA-01
CHKD	ST	17.09.19	
APPD	HS	17.09.19	

SCALE 1:1

REV 0

9. NFPA20 Fire Pumps Stack Chart



10. NFPA20 Selection Chart

PUMPSENSE Centrifugal Fire Pumps, Split Case, NFPA20 SELECTION CHART										
Sr. No.	Rated Capacity, gpm	Size, in.	Model	Rated Net Pressure Range,		Approx. Speed, RPM	Max Working Pressure, psi	Impeller Diameter, mm.		Pump Type
				Meter	psi			Minimum	Maximum	
1	150	3″X2.5″	2.5HFT9	80-140	115-200	2950	300	150	220	Two Stage Pump
2	250		2.5HFT12	55-232	78-330	2950	400	171	305	Two Stage Pump
3		4″X3″	3HF12	90-143	130-203	2950	320	256	320	Single Stage Pump
4				95-148	135-210	3000	320	256	320	Single Stage Pump
5				120-149	170-212	3600	320	256	280	Single Stage Pump
6	300	4″X3″	3HF12	92-143	130-203	2950	320	256	320	Single Stage Pump
7				95-148	135-210	3000	320	256	320	Single Stage Pump
8				120-149	170-212	3600	320	256	320	Single Stage Pump
9		6″X4″	4HF12L	62-98	88-139	2600	300	260	310	Single Stage Pump
10				73-114	104-162	2800	300	260	310	Single Stage Pump
11				82-127	116-180	2950	300	260	310	Single Stage Pump
12				84-131	120-187	3000	300	260	310	Single Stage Pump
13		3″X2.5″	2.5HFT12	120-220	170-313	2950	400	230	305	Two Stage Pump
14	400	4″X3″	3HF12	80-140	115-200	2950	320	256	320	Single Stage Pump
15				84-144	120-205	3000	320	256	320	Single Stage Pump
16				112-144	160-205	3600	320	256	278	Single Stage Pump
17			3HFT11	136-230	194-327	2930	410	230	295	Two Stage Pump
18		6″X4″	4HF12L	59-94	84-134	2600	300	260	310	Single Stage Pump
19				70-110	99-157	2800	300	260	310	Single Stage Pump
20				78-123	111-175	2950	300	260	310	Single Stage Pump
21				81-128	115-182	3000	300	260	310	Single Stage Pump

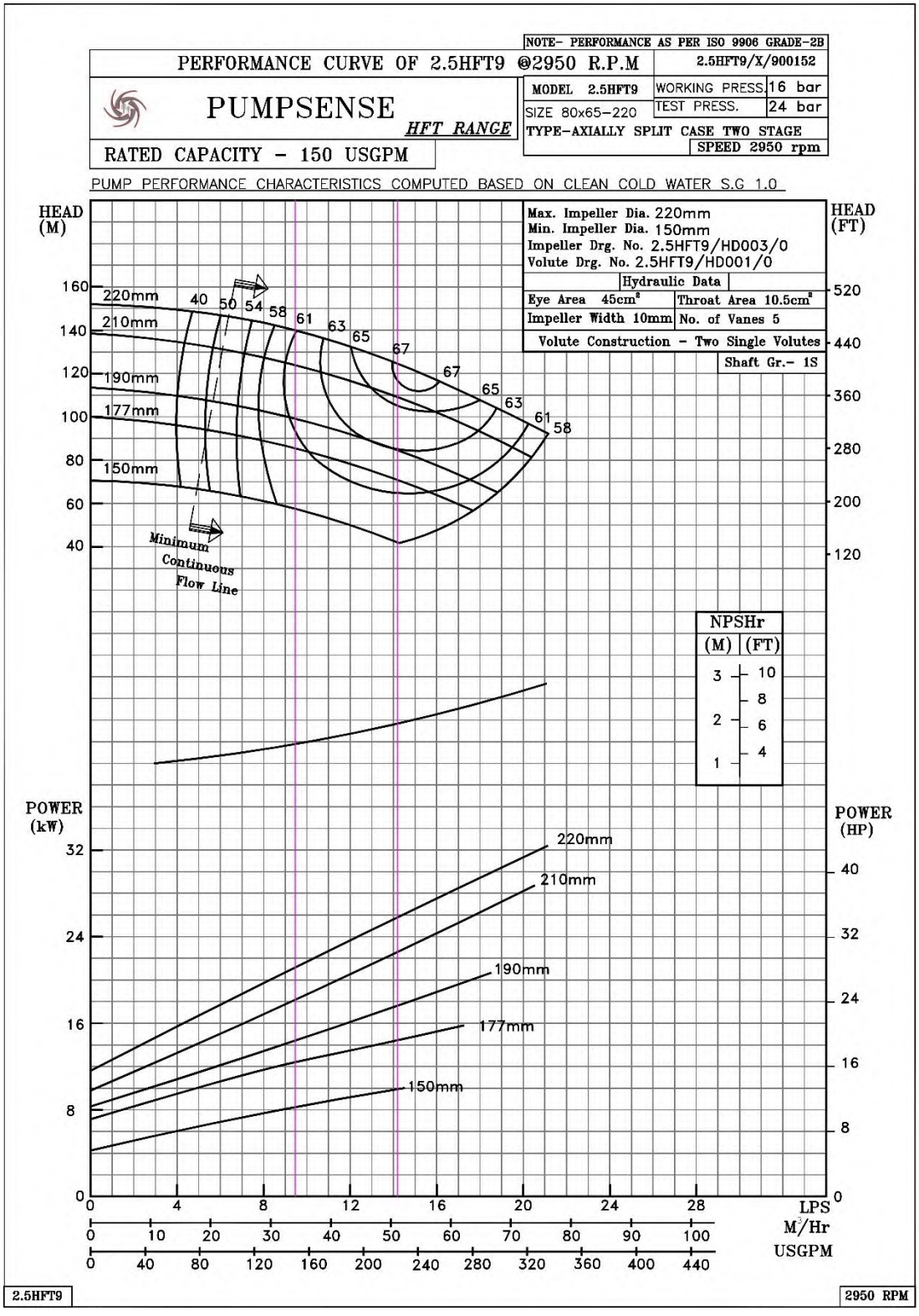
22	450	4″X3″	3HF12	80-140	115-200	2950	320	256	320	Single Stage Pump
23				84-144	120-205	3000	320	256	320	Single Stage Pump
24				112-144	160-205	3600	320	256	276	Single Stage Pump
25		6″X4″	4HF12L	57-93	81-132	2600	300	260	310	Single Stage Pump
26				67-109	96-155	2800	300	260	310	Single Stage Pump
27				76-122	108-173	2950	300	260	310	Single Stage Pump
28				79-126	113-179	3000	300	260	310	Single Stage Pump
29	500	4″X3″	3HF12	80-140	115-200	2950	320	256	320	Single Stage Pump
30				84-144	120-205	3000	320	256	320	Single Stage Pump
31				112-144	160-205	3600	320	256	274	Single Stage Pump
32		6″X4″	4HF10	35-60	50-85	2950	185	180	230	Single Stage Pump
33			4HF12L	55-91	78-129	2600	300	260	310	Single Stage Pump
34				65-107	93-152	2800	300	260	310	Single Stage Pump
35				74-120	105-171	2950	300	260	310	Single Stage Pump
36				77-124	109-177	3000	300	260	310	Single Stage Pump
37			4HF13	91-124	130-176	2600	300	305	350	Single Stage Pump
38				108-145	153-206	2800	300	305	350	Single Stage Pump
39				120-162	171-230	2950	300	305	350	Single Stage Pump
40				124-167	177-238	3000	300	305	350	Single Stage Pump
41		4″X3″	3HFT11	131-225	187-320	2930	410	230	295	Two Stage Pump
42		5"X3"	3HFTD14	200-330	284-469	2970	585	280	350	Two Stage Pump
43	750	6″X4″	4HF12	56-86	79-122	2600	300	260	310	Single Stage Pump
44				66-103	94-147	2800	300	260	310	Single Stage Pump
45				75-117	107-166	2950	300	260	310	Single Stage Pump
46				79-121	112-172	3000	300	260	310	Single Stage Pump

47			4HF13	80-114	114-162	2600	300	305	350	Single Stage Pump
48				96-135	137-192	2800	300	305	350	Single Stage Pump
49				109-151	155-215	2950	300	305	350	Single Stage Pump
50				114-157	162-224	3000	300	305	350	Single Stage Pump
51		5″X4″	4HF16	80-120	113-171	2350	270	316	395	Single Stage Pump
52		6″X4″	4HFT19	150-230	213-327	1780	600	383	470	Two Stage Pump
53				210-315	299-448	2100	600	383	470	Two Stage Pump
54			4HFTD13	125-300	178-427	2950	550	230	350	Two Stage Pump
55	1000	6"X5"	5HF11	56-89	80-126	2600	260	252	310	Single Stage Pump
56				67-104	95-148	2800	260	252	310	Single Stage Pump
57				75-117	107-167	2950	260	252	310	Single Stage Pump
58				78-122	111-173	3000	260	252	310	Single Stage Pump
59		8″X6″	6HF15	135-182	192-259	2950	355	320	370	Single Stage Pump
60				127-165	180-235	2800	360	320	370	Single Stage Pump
61			6HFTD12	160-245	227-348	2950	440	240	300	Two Stage Pump
62			6HF14K	120-162	170-230	2950	325	300	355	Single Stage Pump
63				105-148	150-210	2800	325	300	355	Single Stage Pump
64		6″X4″	4HFT19	240-375	341-533	2300	600	383	470	Two Stage Pump
65			4HFT14	180-300	256-427	2950	550	280	352	Two Stage Pump
66	1250	8″X6″	6HF12	80-127	113-180	2950	275	245	305	Single Stage Pump
67			6HF13	90-150	128-213	2950	285	264	330	Single Stage Pump
68			6HF14K	110-155	156-220	2950	315	300	355	Single Stage Pump
69				113-141	160-200	2800	325	300	355	Single Stage Pump
70			6HF15	128-175	182-249	2950	355	320	370	Single Stage Pump
71			6HFTD12	140-235	199-334	2950	440	240	300	Two Stage Pump

72			6HFTD18	82-126	117-179	1480	490	390	465	Two Stage Pump
73				128-188	178-267	1800	490	390	465	Two Stage Pump
74				182-268	259-381	2100	490	390	465	Two Stage Pump
75	1500	8″X6″	6HF12	75-121	106-172	2950	275	245	305	Single Stage Pump
76			6HF13	90-145	128-206	2950	285	264	330	Single Stage Pump
77			6HF18	70-88	101-124	1800	140	395	436	Single Stage Pump
78			6HF20	75-120	107-171	1800	220	440	520	Single Stage Pump
79			6HF21	70-102	100-145	1480	150	438	520	Single Stage Pump
80			6HFTD18	120-180	171-256	1800	490	390	465	Two Stage Pump
81				178-262	253-373	2100	490	390	465	Two Stage Pump
82		8″X8″	8HF12H	40-72	56-102	2350	200	300	340	Single Stage Pump
83		8″X6″	6HFTD13	190-330	270-469	2950	550	270	334	Two Stage Pump
84	2000	10″X8″	8HF13	84-103	120-146	2800	300	305	330	Single Stage Pump
85				95-117	135-166	2950	300	305	330	Single Stage Pump
86				97-122	138-173	3000	300	305	330	Single Stage Pump
87			8HF17	70-98	100-140	1800	155	375	450	Single Stage Pump
88			8HF20	80-125	114-178	1800	280	430	515	Single Stage Pump
89			8HF21	70-91	100-130	1480	140	455	520	Single Stage Pump
90		8″X6″	6HFTD21	120-200	170-284	1480	375	430	540	Two Stage Pump
91			6HFTD12S	140-240	199-341	2950	505	264	330	Two Stage Pump
92		10″X8″	8HF14	116-131	165-186	2950	305	320	340	Single Stage Pump
93	2500	12″X8″	8HF15	108-168	154-239	2950	350	305	380	Single Stage Pump
95		10″X8″	8HF17	75-96	106-136	1800	155	375	450	Single Stage Pump
96		10″X8″	8HF20	75-120	107-171	1800	280	430	515	Single Stage Pump

97	3000	12″X8″	8HF15	120-160	171-228	2950	350	330	380	Single Stage Pump
98		14"X10"	10HF20	52-83	74-118	1480	270	410	510	Single Stage Pump
99				80-122	114-174	1800	270	410	510	Single Stage Pump
100			10HF22	68-89	97-127	1480	300	490	561	Single Stage Pump
101		12″X10″	10HF27	105-165	149-235	1480	440	560	690	Single Stage Pump
102	4000	14″X10″	10HF20	48-80	68-114	1480	270	410	510	Single Stage Pump
103				75-120	107-171	1800	270	410	510	Single Stage Pump
104			10HF22	100-131	142-186	1800	300	490	561	Single Stage Pump
105	5000			95-125	135-178	1800	300	490	561	Single Stage Pump

11. NFPA20 Curves



NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 2.5HFT12 @2960 R.P.M

2.5HFT12/X/310352

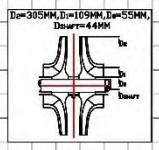
PUMPSENSE

HST RANGE

MODEL 2.5HFT12	WORKING PRESS.	12 bar
SIZE 80x65-305	TEST PRESS.	18 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE		
SPEED 2960 rpm		
DATE – 25.09.19		

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	305mm
Min. Impeller Dia.	244mm
Impeller Drg. No.	303G030P
Volute Drg. No.	303G010P
Hydraulic Data	
Eye Area 69.5cm²	Throat Area 21.4cm²
Impeller Width 8mm	No. of Vanes 7
Volute Construction – Single Volute	
Shaft Gr.– 1.5S	



B.E.P

2960 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 3HF12 @2950 R.P.M

3HF12/Y/810152

PUMPSENSE

HF RANGE

MODEL 3HF12	WORKING PRESS.	20 bar
SIZE 100x80-320	TEST PRESS.	30 bar

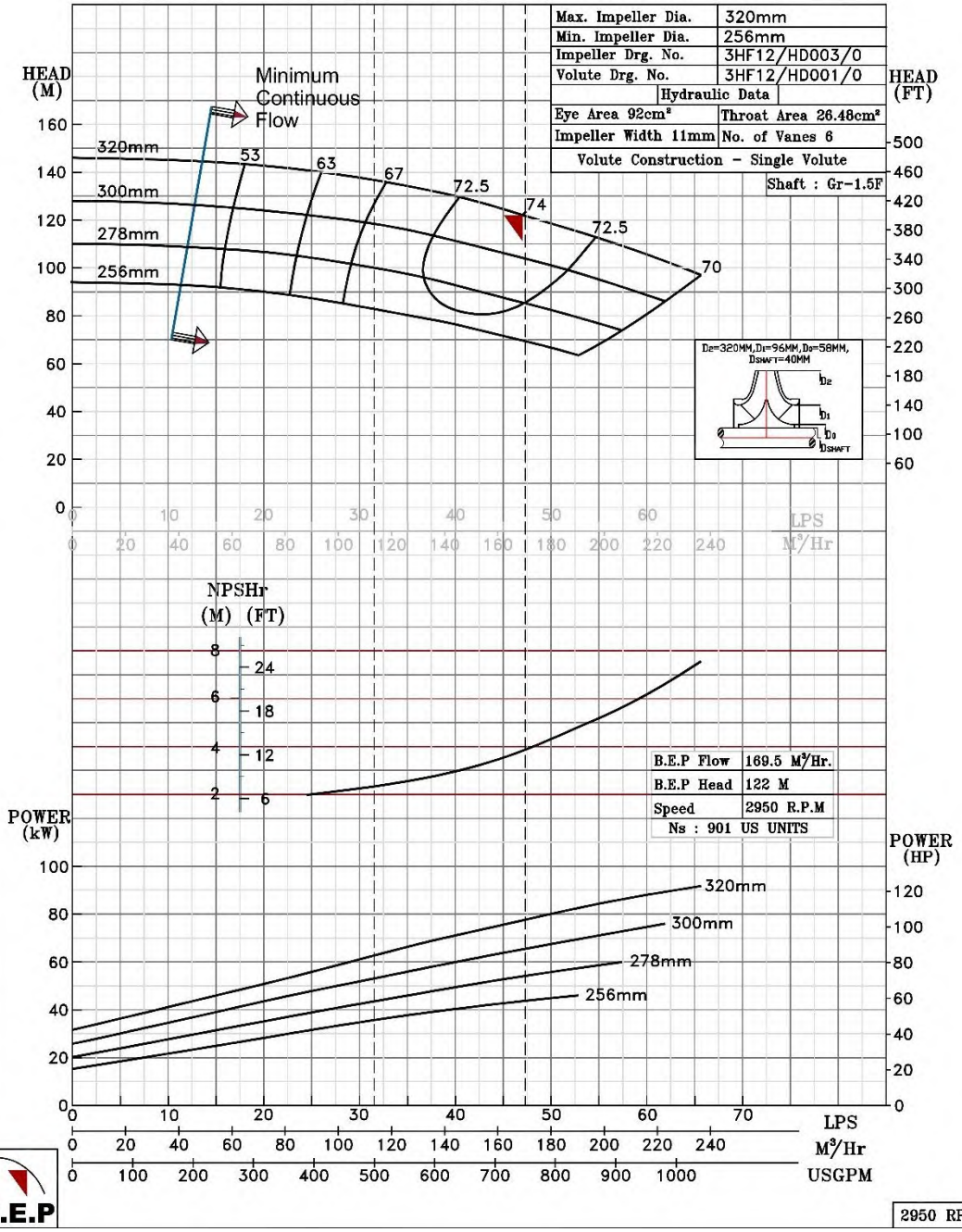
TYPE-AXIALLY SPLIT CASE SINGLE STAGE

SPEED 2950 rpm

RATED CAPACITY - 500 USGPM

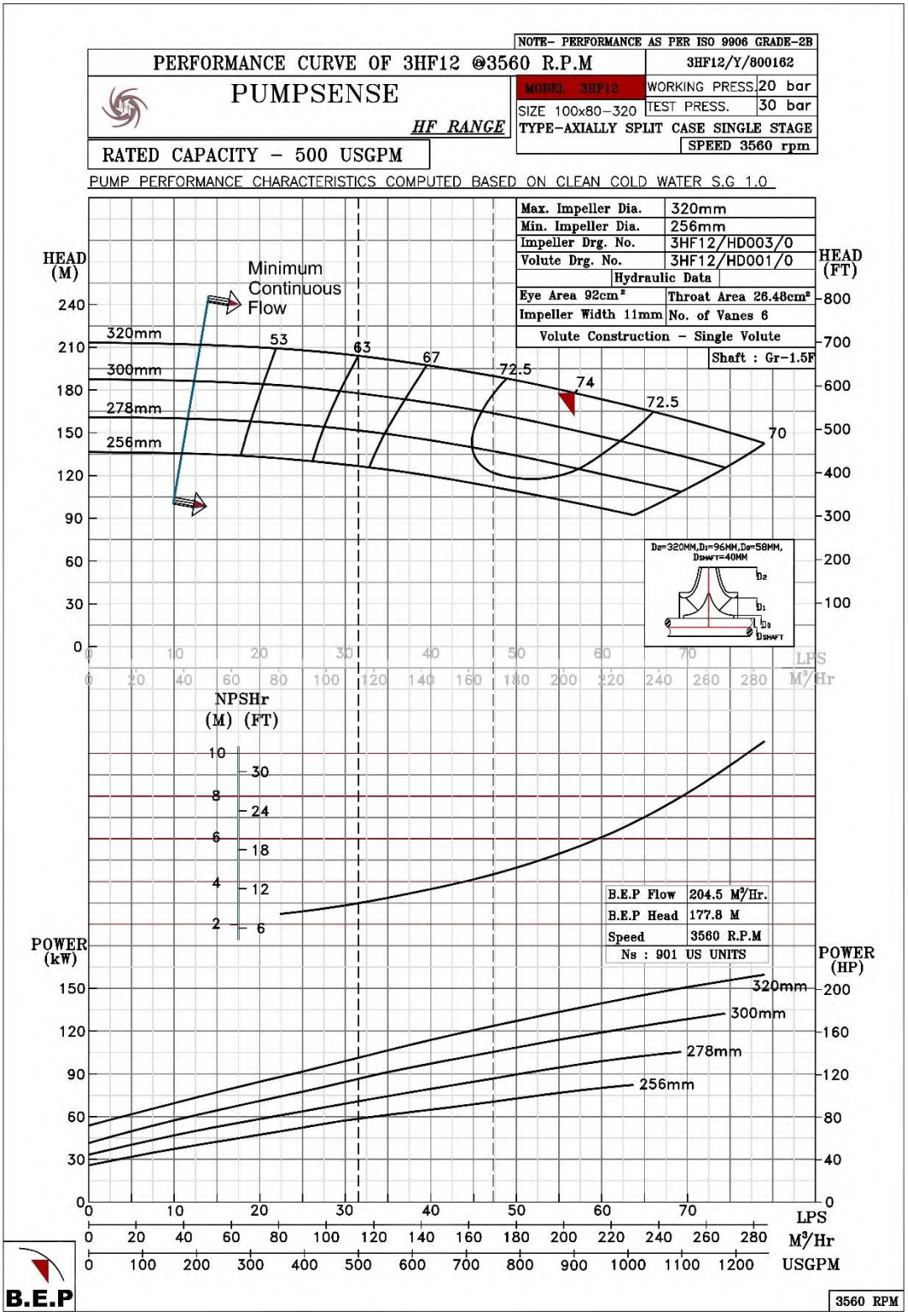
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	320mm
Min. Impeller Dia.	256mm
Impeller Drg. No.	3HF12/HD003/0
Volute Drg. No.	3HF12/HD001/0
Hydraulic Data	
Eye Area 92cm²	Throat Area 26.48cm²
Impeller Width 11mm	No. of Vanes 6
Volute Construction - Single Volute	
	Shaft : Gr-1.5F



B.E.P

2950 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 3HF12 @3560 R.P.M
3HF12/Y/800162
PUMPSENSE
HF RANGE
MODEL 3HF12
WORKING PRESS. 20 bar
SIZE 100x80-320
TEST PRESS. 30 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 3560 rpm
RATED CAPACITY - 500 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 320mm
Min. Impeller Dia. 256mm
Impeller Drg. No. 3HF12/HD003/0
Volute Drg. No. 3HF12/HD001/0
Hydraulic Data
Eye Area 92cm²
Throat Area 26.48cm²
Impeller Width 11mm
No. of Vanes 6
Volute Construction - Single Volute
Shaft : Gr-1.5F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
320mm
300mm
278mm
256mm
53
63
67
72.5
74
72.5
70
De=320MM,D1=96MM,De=58MM, DSHAFT=40MM
LPS
M³/Hr
NPSHr (M) (FT)
B.E.P Flow 204.5 M³/Hr.
B.E.P Head 177.8 M
Speed 3560 R.P.M
Ns : 901 US UNITS
POWER (kW)
POWER (HP)
320mm
300mm
278mm
256mm
LPS
M³/Hr
USGPM
B.E.P
3560 RPM

UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @2600 R.P.M

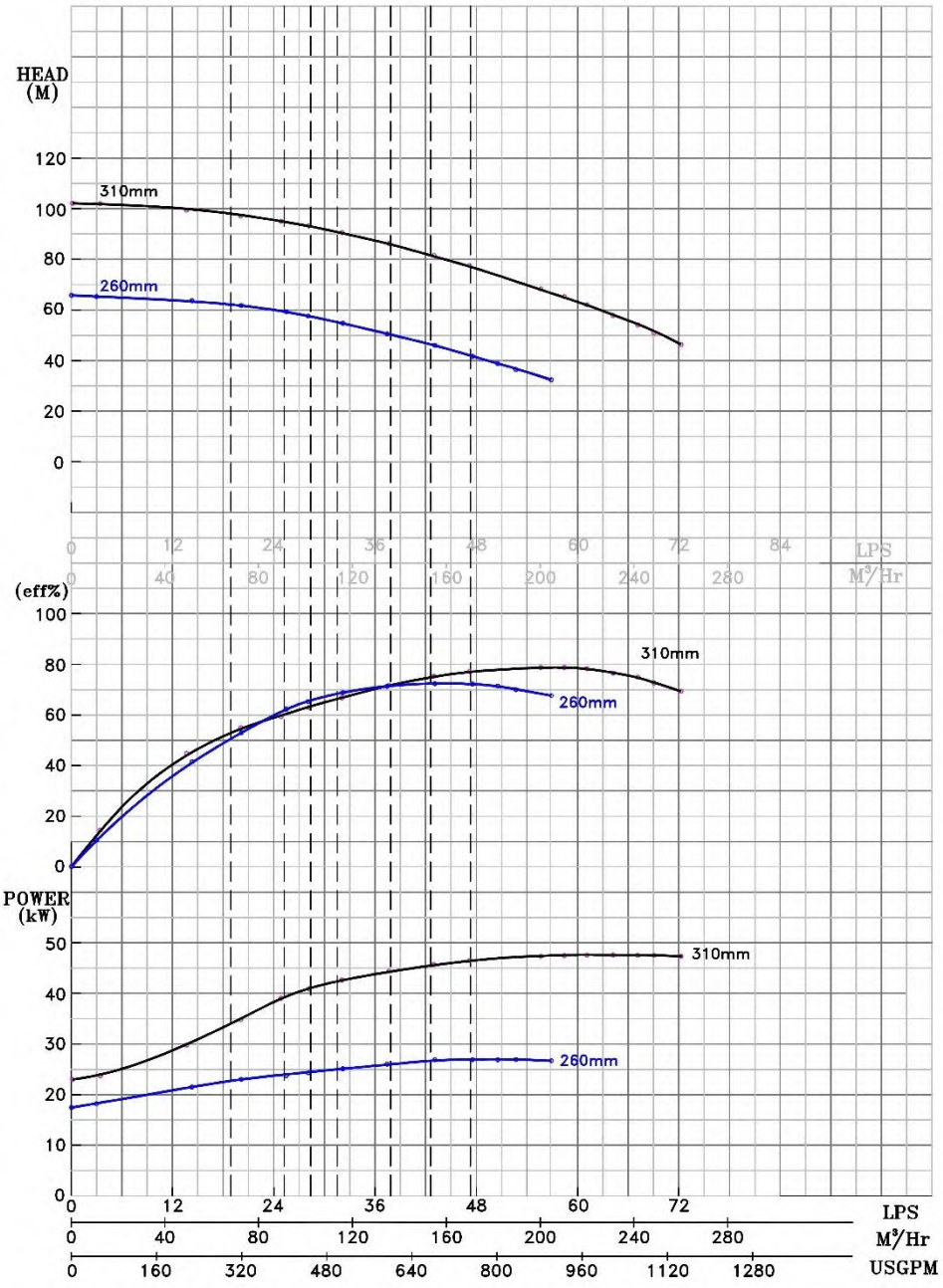
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @2800 R.P.M

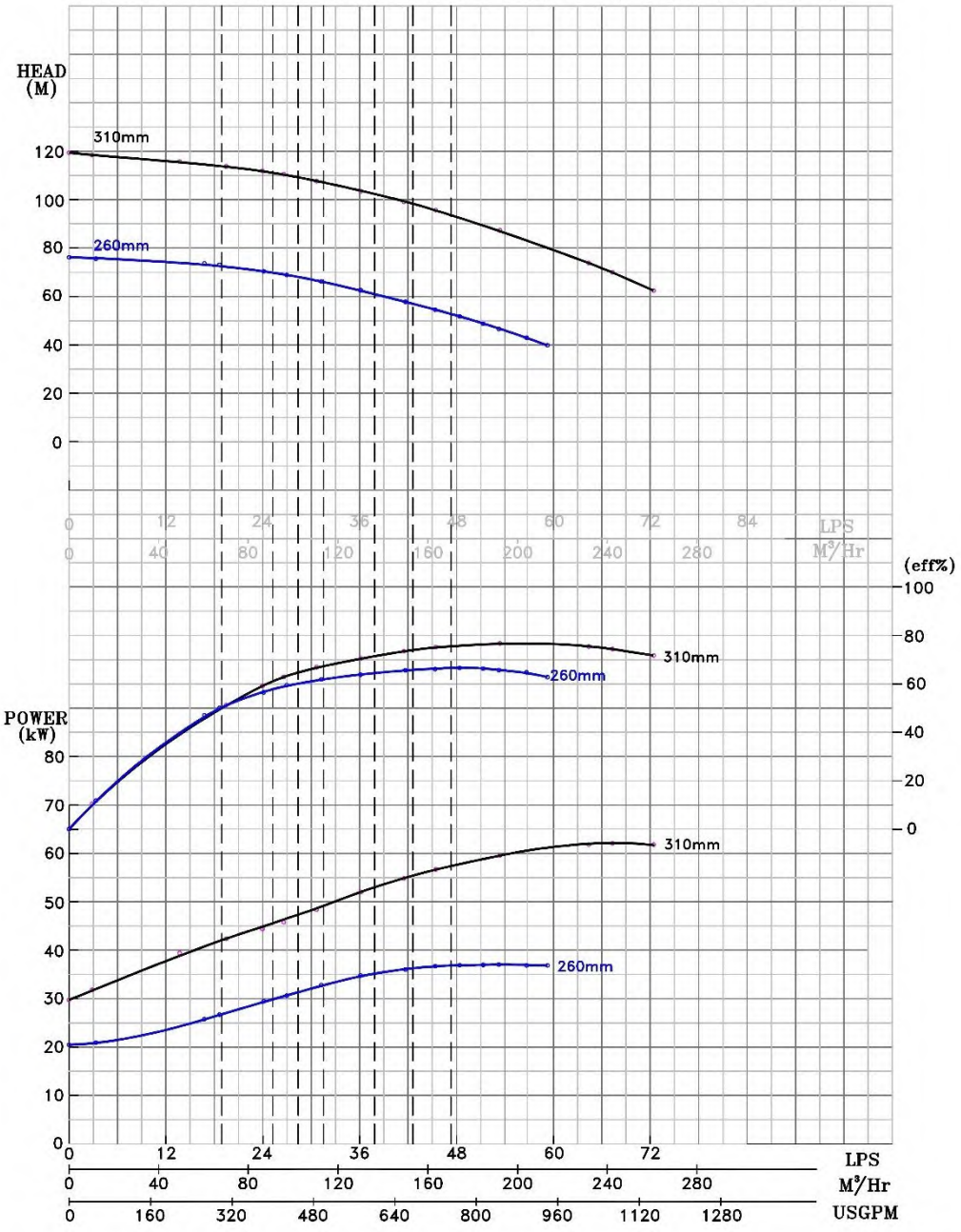
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @2950 R.P.M

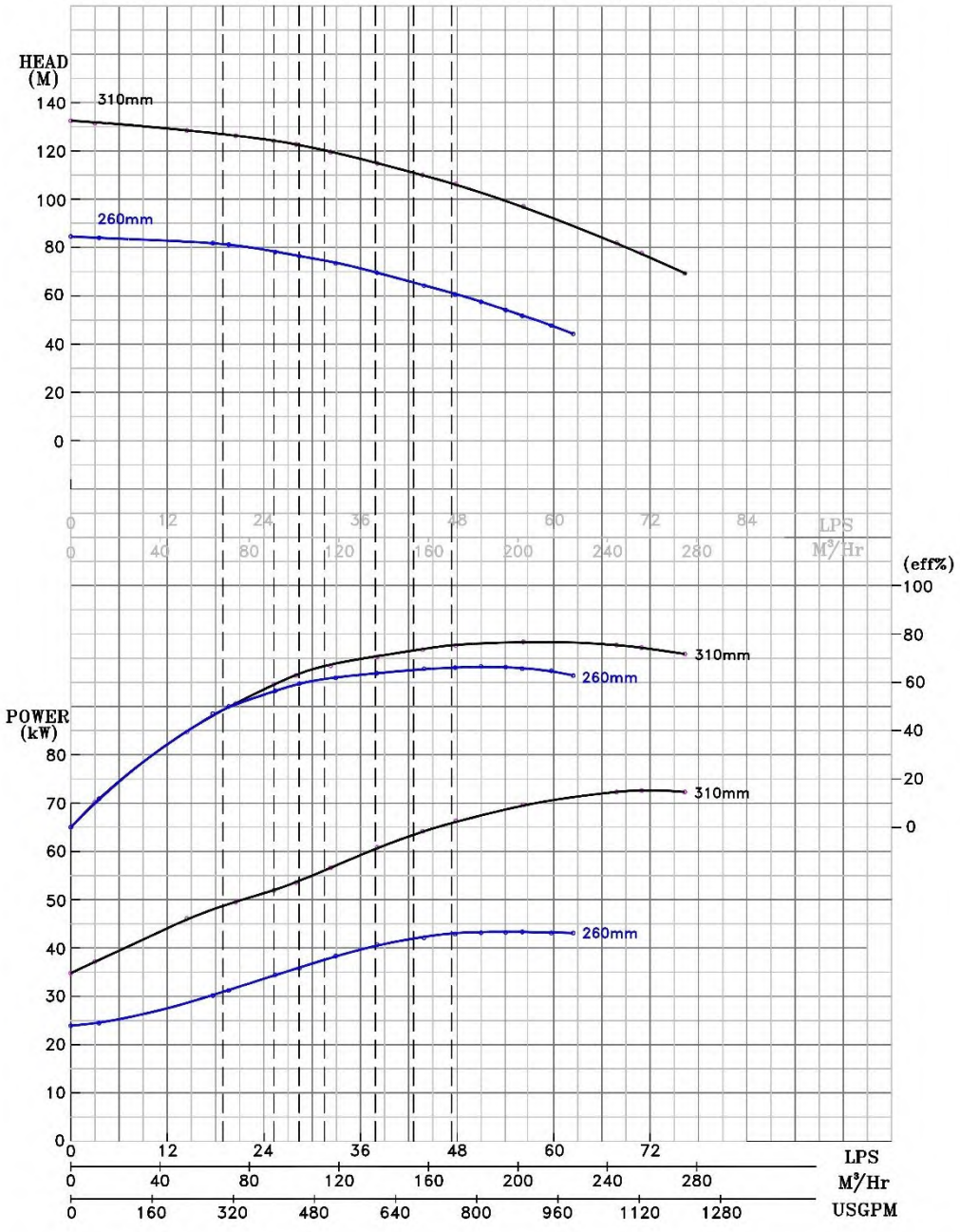
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

TEST CURVE OF 4HF12L @3000 R.P.M

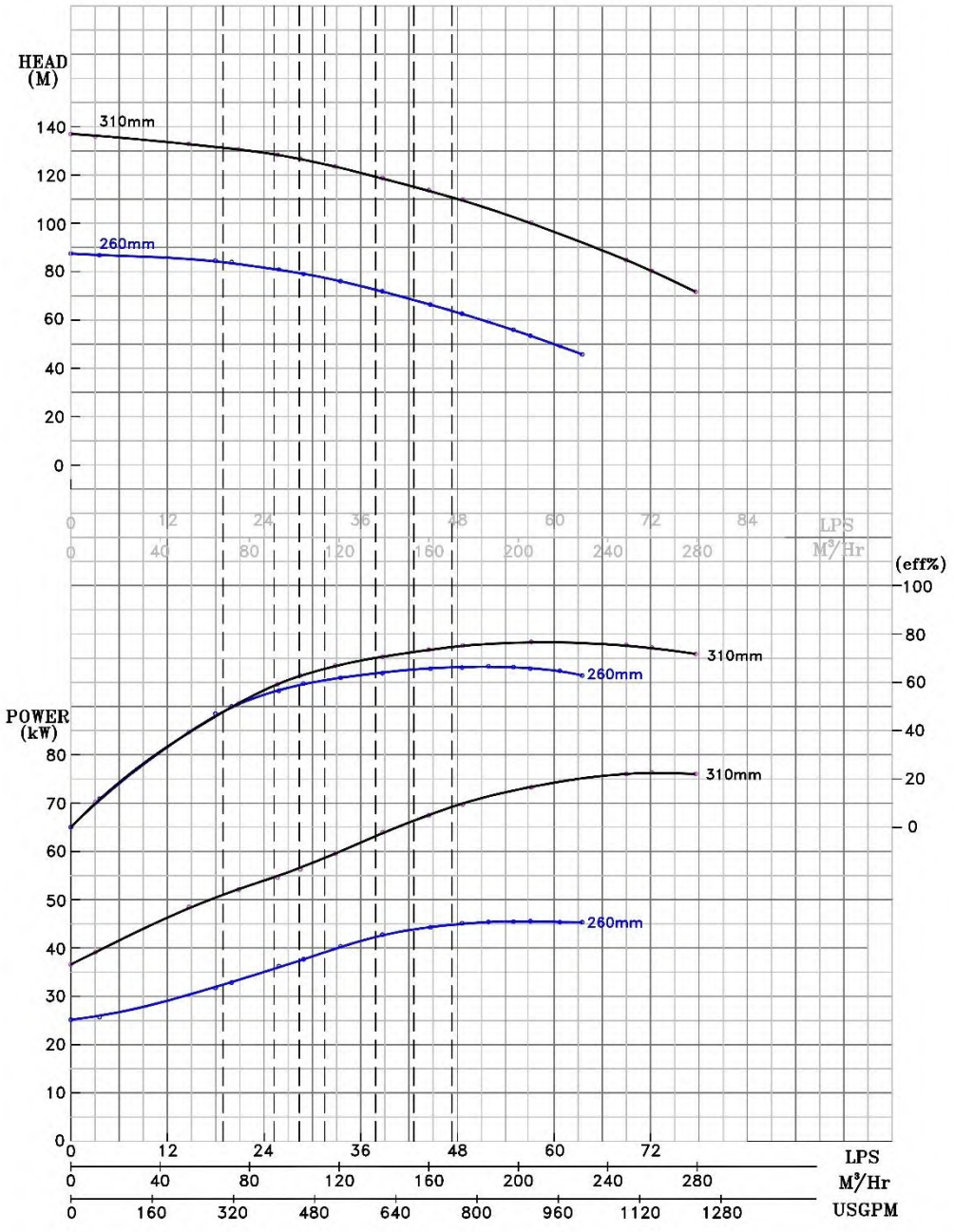
PUMPSENSE

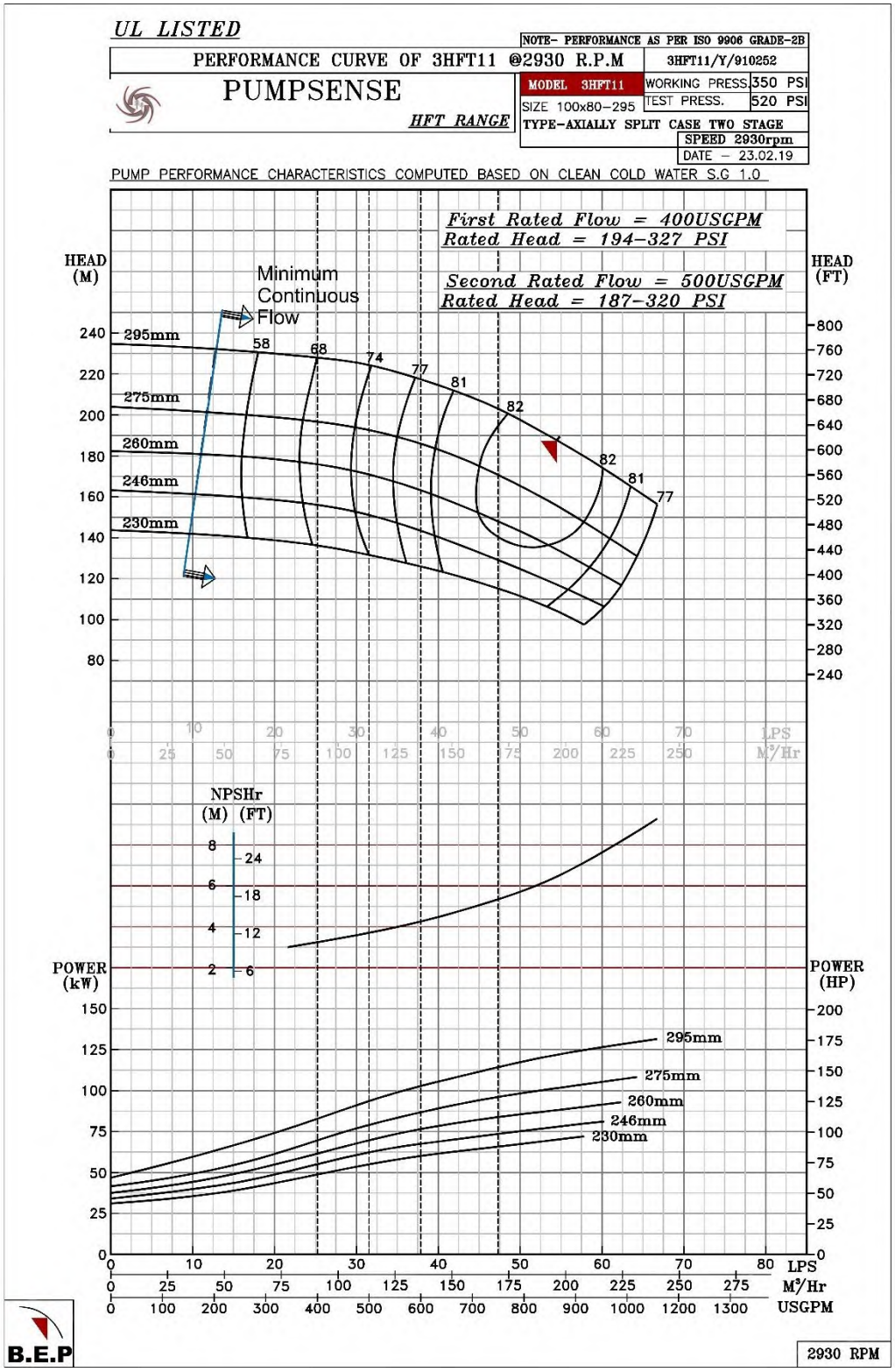
HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

Rated Flow – 300,400,450&500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




UL LISTED
NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 3HFT11 @2930 R.P.M
3HFT11/Y/910252
PUMPSENSE
HFT RANGE
MODEL 3HFT11
WORKING PRESS. 350 PSI
SIZE 100x80-295
TEST PRESS. 520 PSI
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 2930rpm
DATE - 23.02.19
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
First Rated Flow = 400USGPM
Rated Head = 194-327 PSI
Second Rated Flow = 500USGPM
Rated Head = 187-320 PSI
Minimum Continuous Flow
HEAD (M)
HEAD (FT)
295mm
275mm
260mm
246mm
230mm
NPSHr (M) (FT)
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2930 RPM

UL LISTED

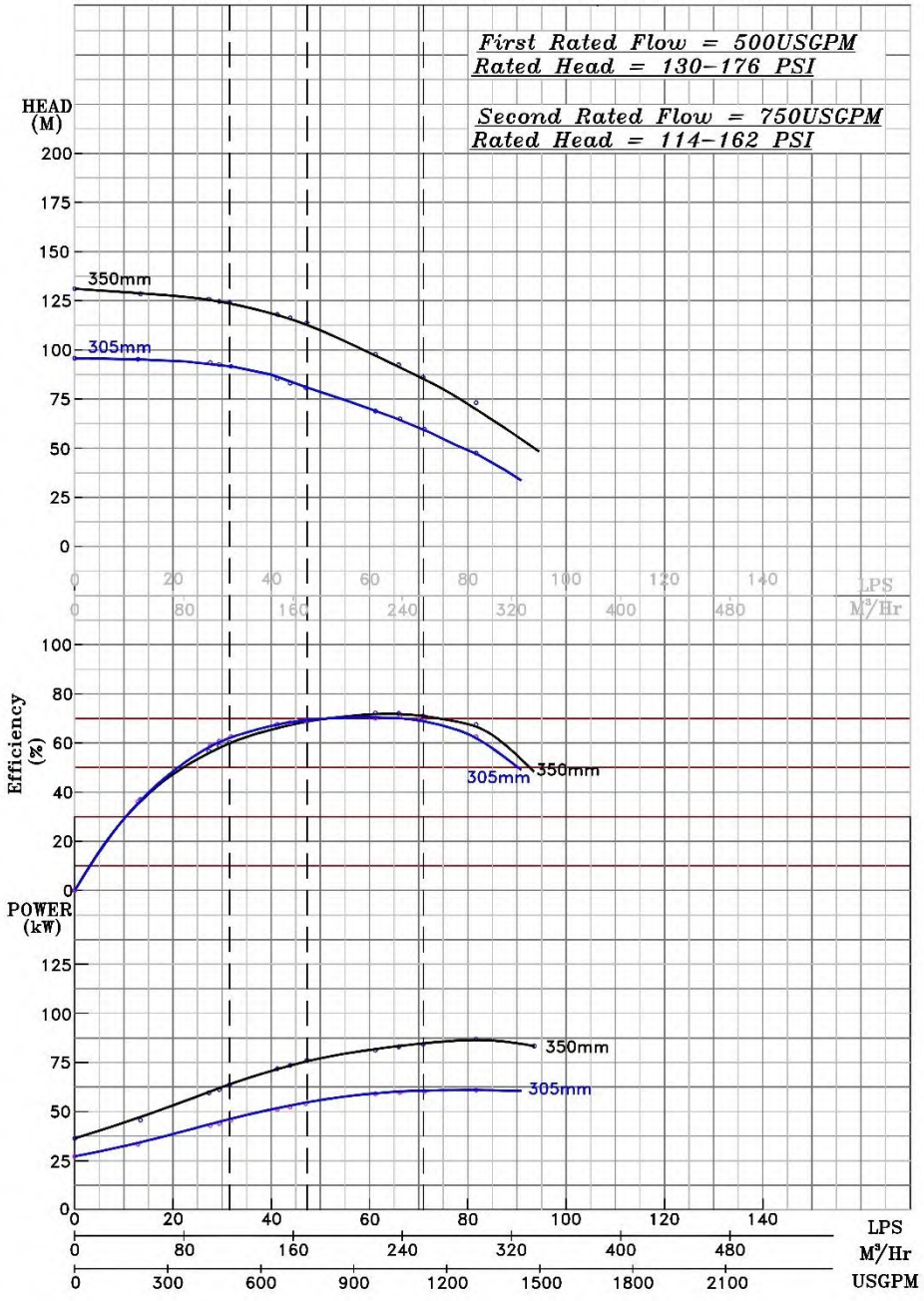
PERFORMANCE CURVE OF 4HF13 @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

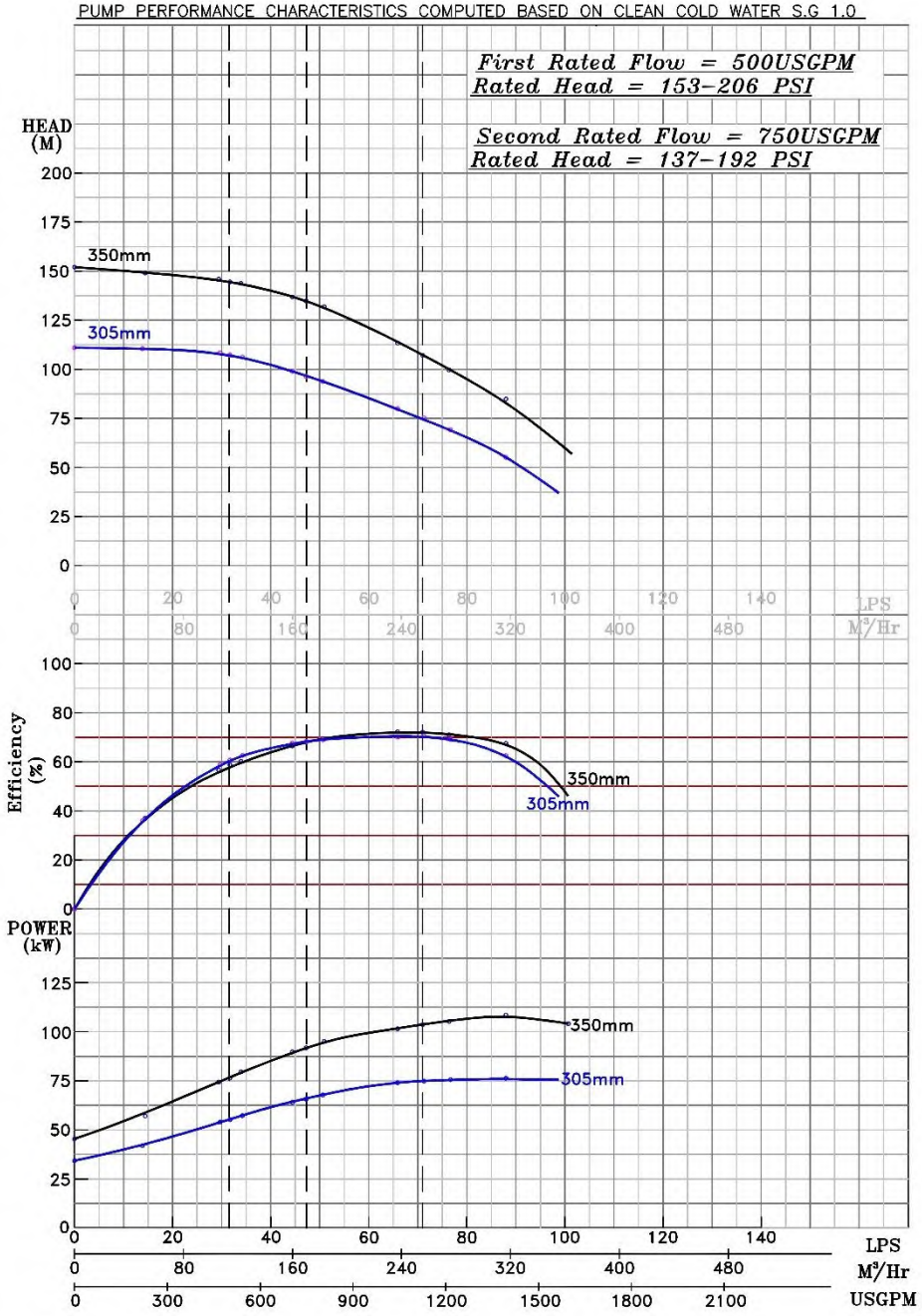
PERFORMANCE CURVE OF 4HF13 @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

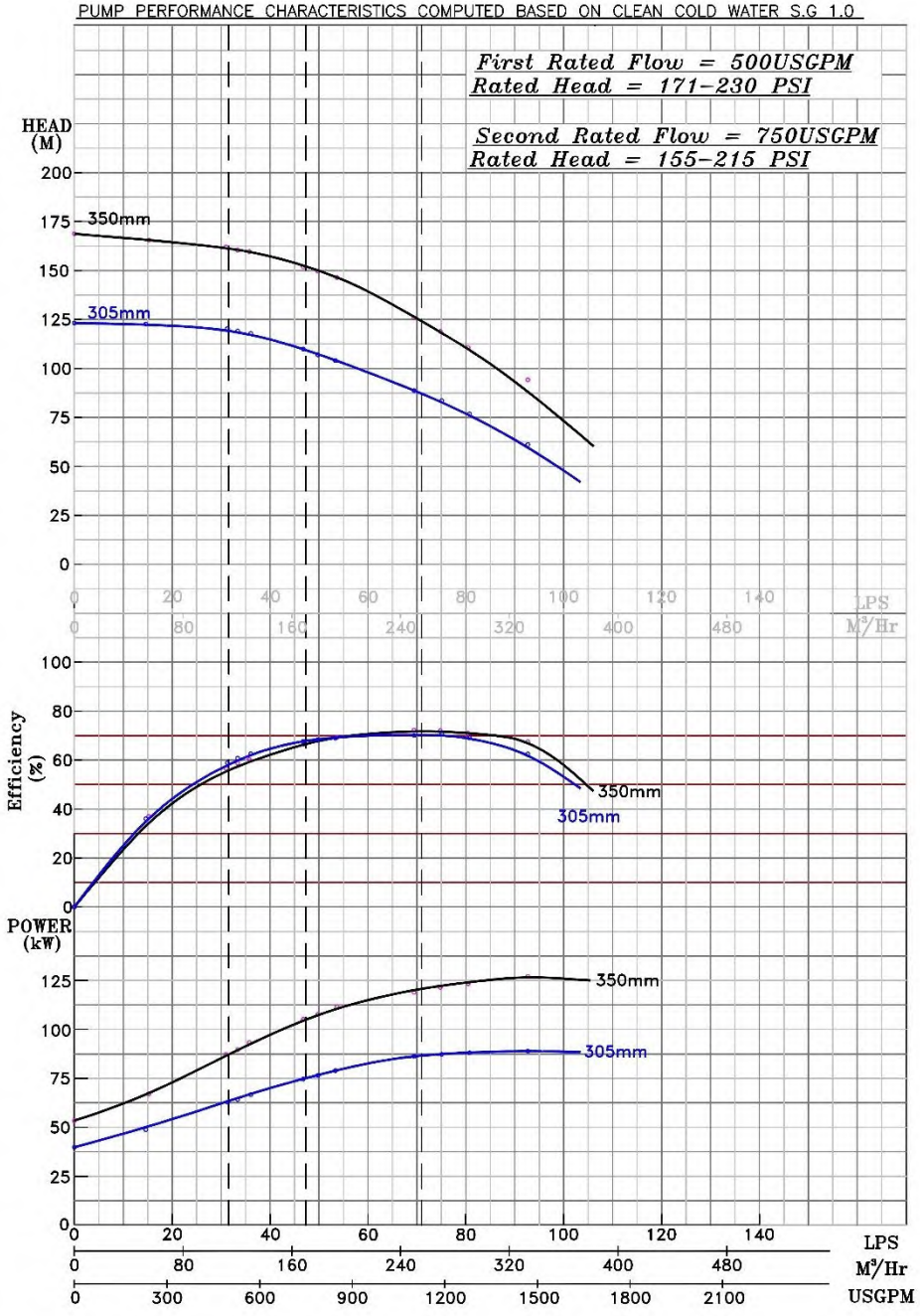
PERFORMANCE CURVE OF 4HF13 @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED

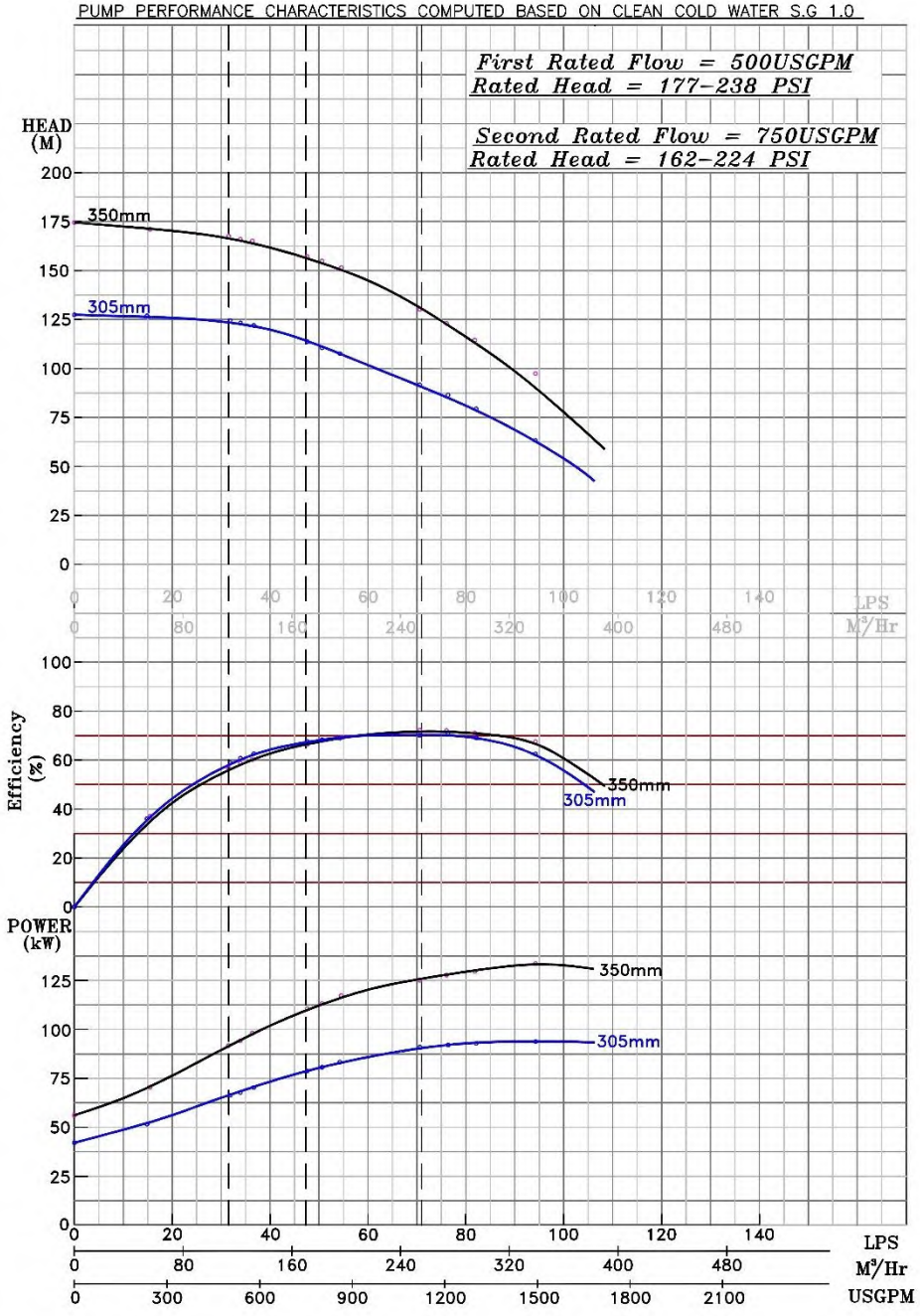
PERFORMANCE CURVE OF 4HF13 @3000 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

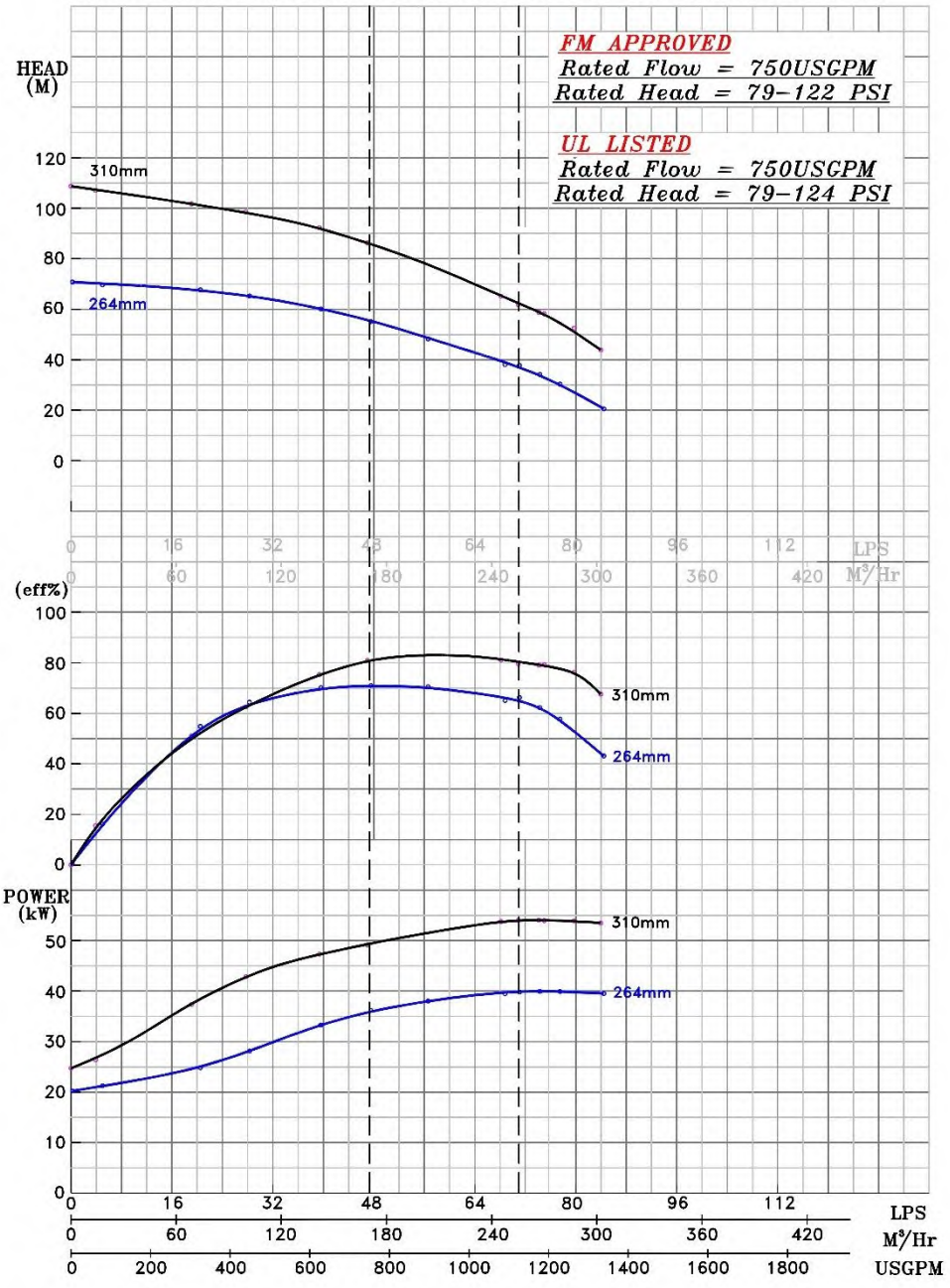
TEST CURVE OF 4HF12 @2600 R.P.M

PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

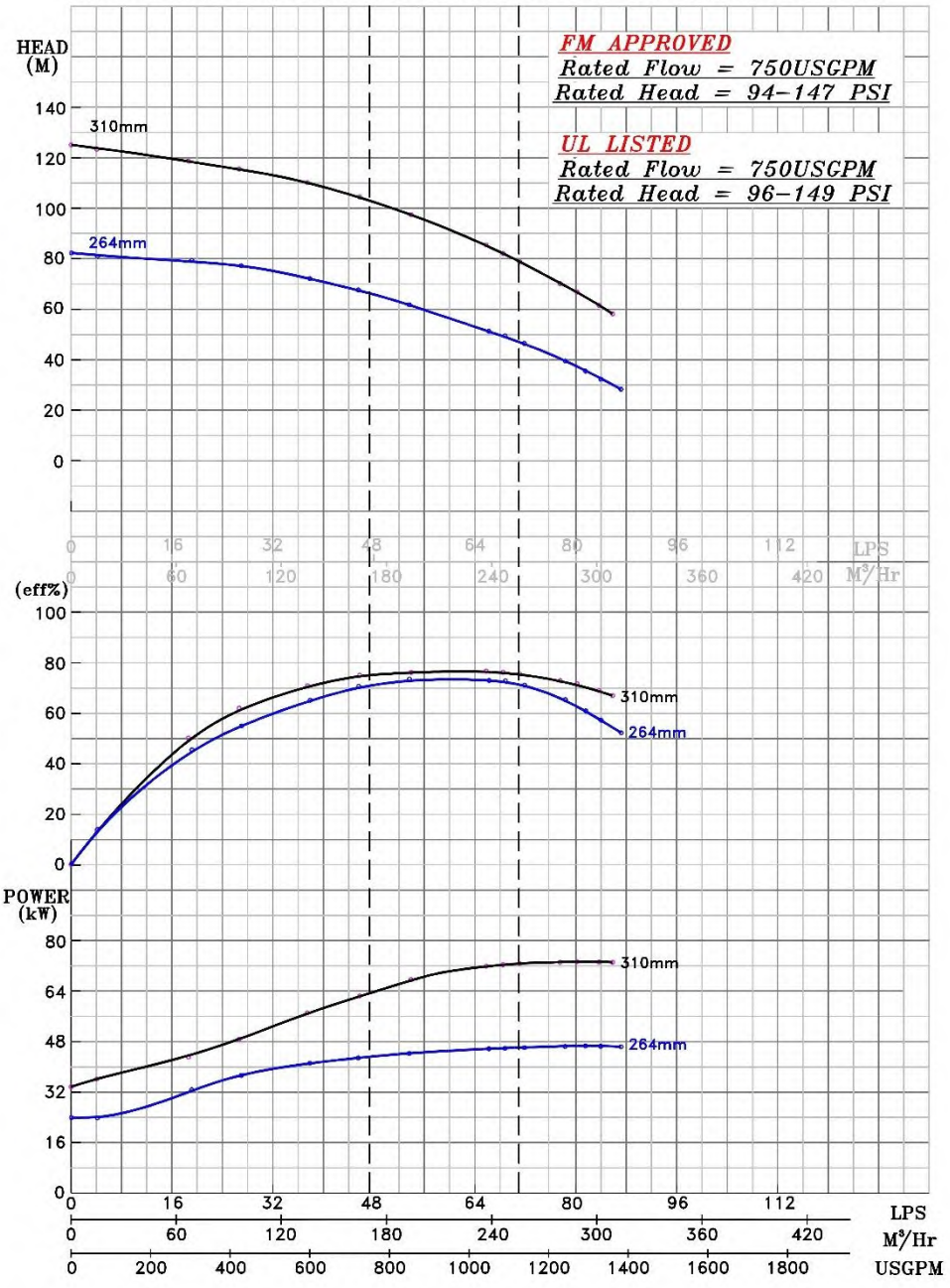
TEST CURVE OF 4HF12 @2800 R.P.M

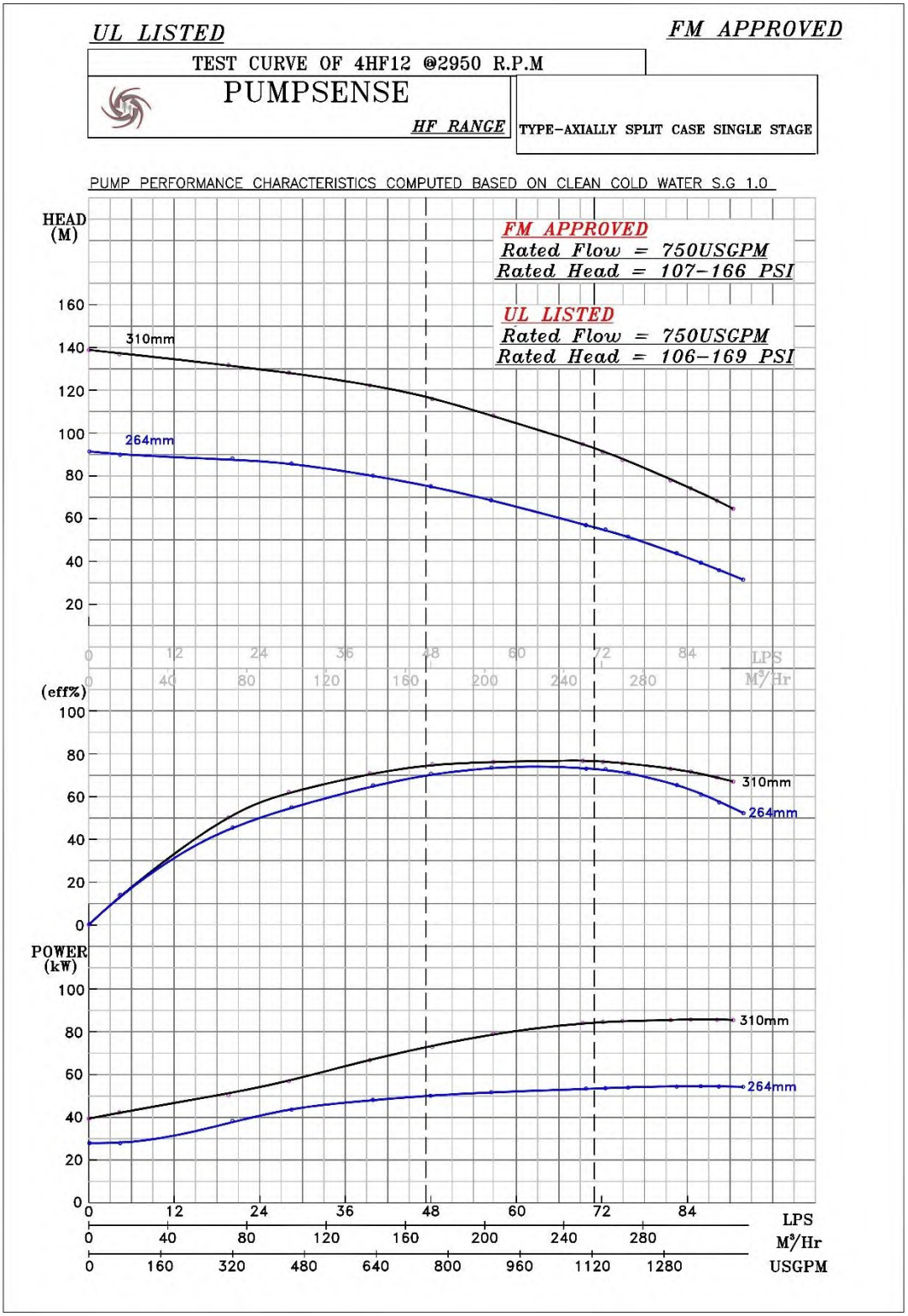
PUMPSENSE

HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




UL LISTED
FM APPROVED
TEST CURVE OF 4HF12 @2950 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 750USGPM
Rated Head = 107-166 PSI
UL LISTED
Rated Flow = 750USGPM
Rated Head = 106-169 PSI
HEAD (M)
310mm
264mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM

UL LISTED *FM APPROVED*

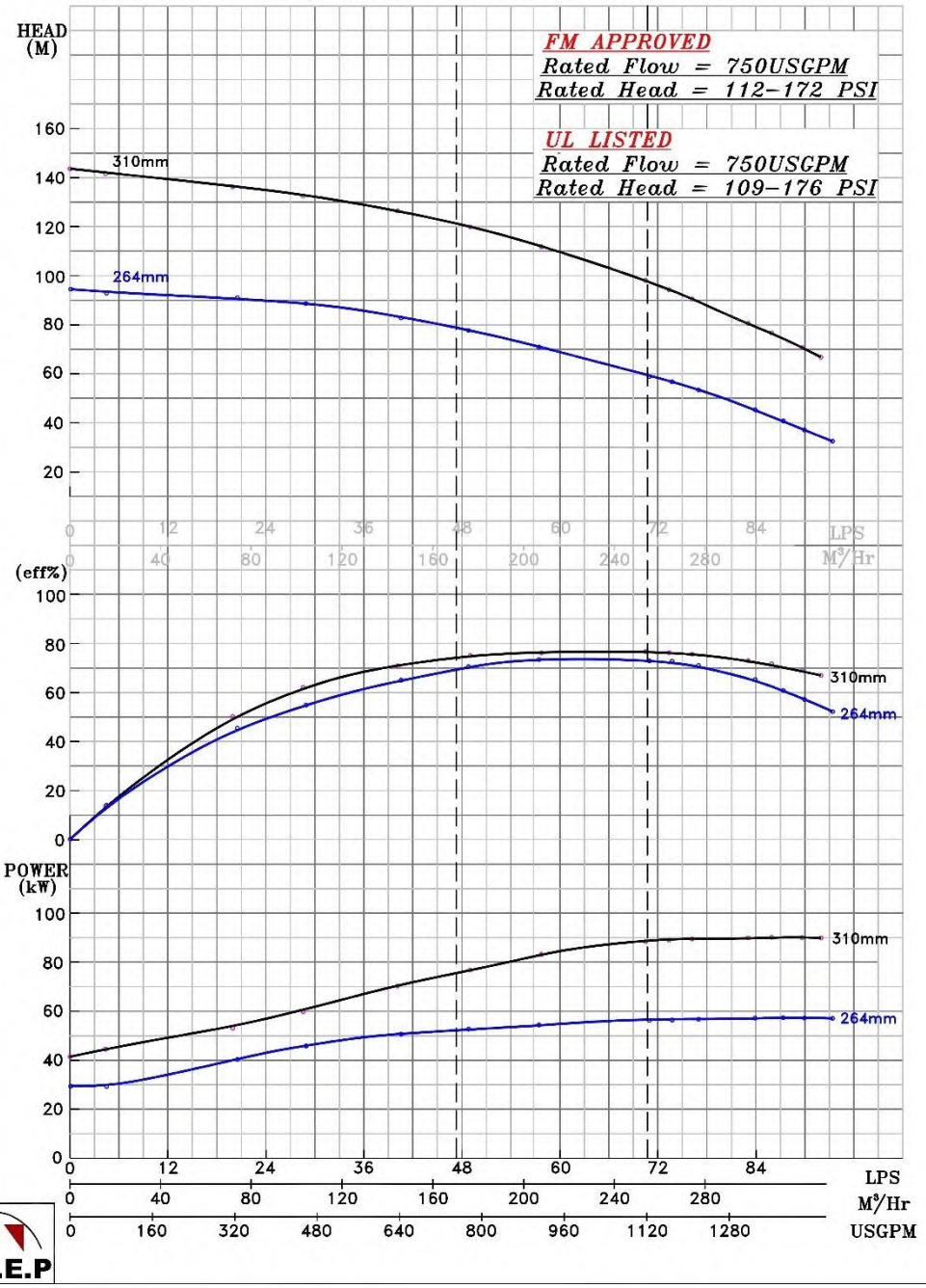
PERFORMANCE CURVE OF 4HF12 @3000 R.P.M

PUMPSENSE

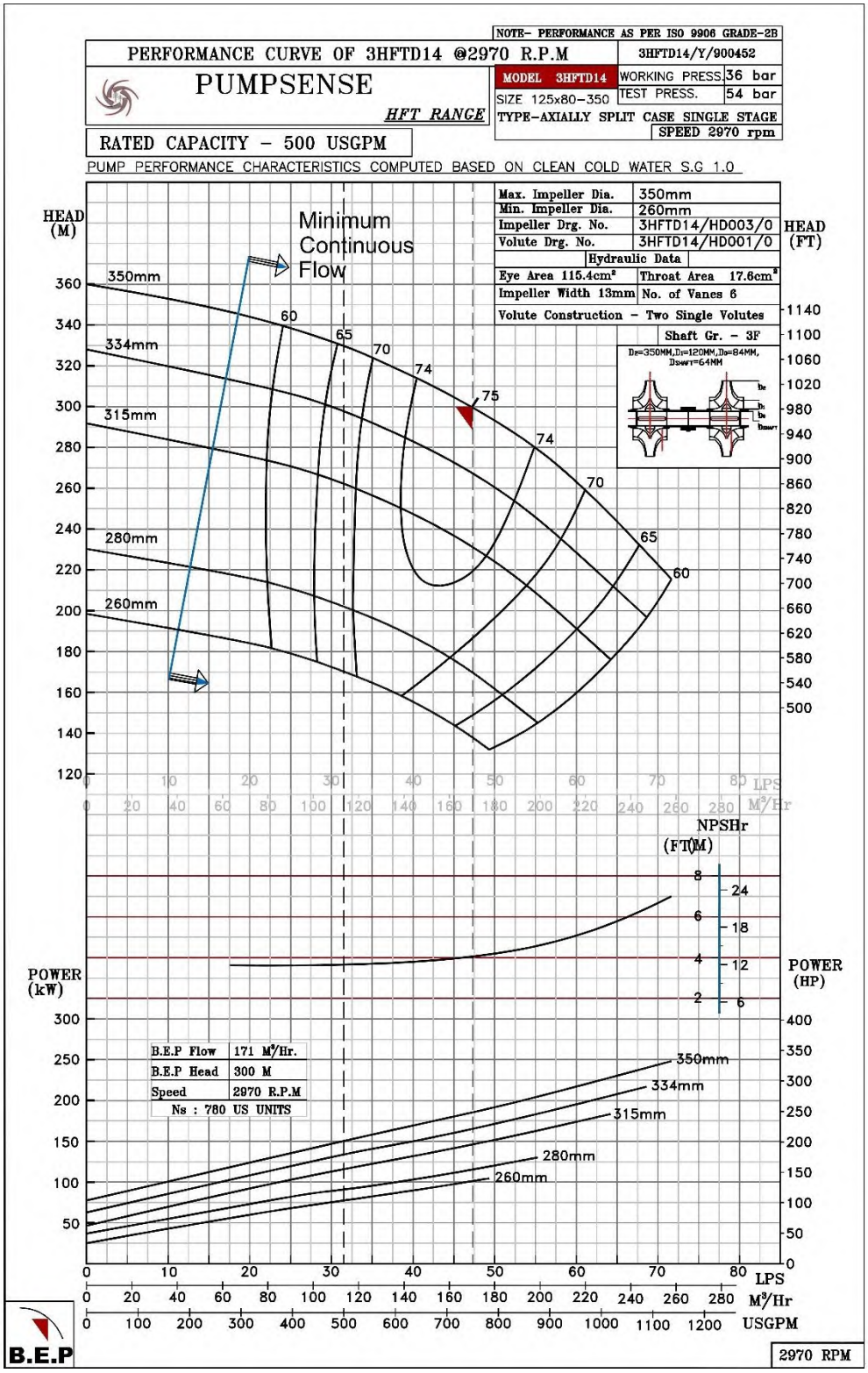
HF RANGE

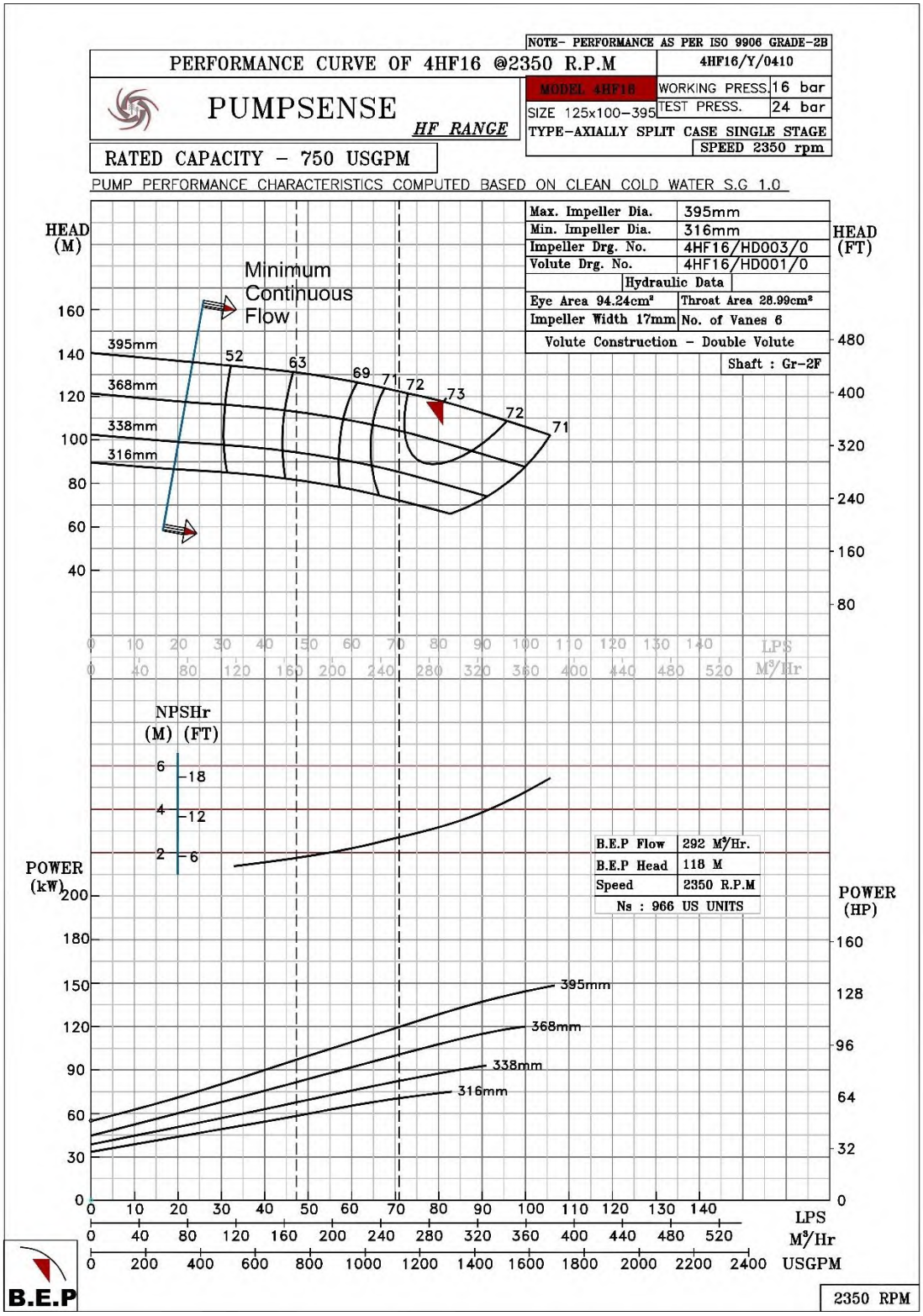
TYPE–AXIALLY SPLIT CASE SINGLE STAGE

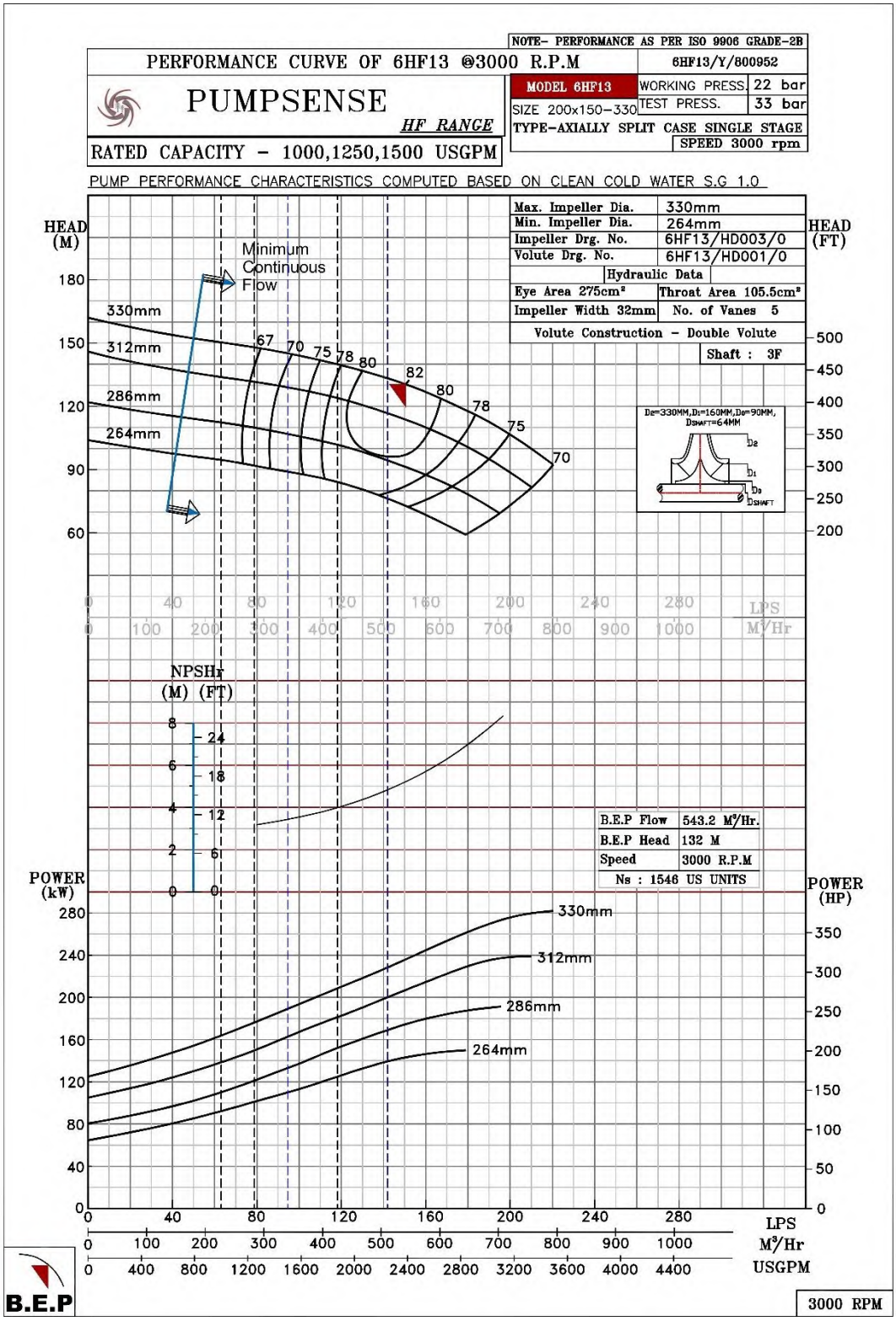
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



B.E.P


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 3HFTD14 @2970 R.P.M
3HFTD14/Y/900452
PUMPSENSE
HFT RANGE
MODEL 3HFTD14
WORKING PRESS 36 bar
SIZE 125x80-350
TEST PRESS. 54 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2970 rpm
RATED CAPACITY - 500 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 350mm
Min. Impeller Dia. 260mm
Impeller Drg. No. 3HFTD14/HD003/0
Volute Drg. No. 3HFTD14/HD001/0
Hydraulic Data
Eye Area 115.4cm² Throat Area 17.6cm²
Impeller Width 13mm No. of Vanes 6
Volute Construction - Two Single Volutes
Shaft Gr. - 3F
Minimum Continuous Flow
HEAD (M)
HEAD (FT)
350mm
334mm
315mm
280mm
260mm
NPSHr (FT)(M)
POWER (kW)
POWER (HP)
B.E.P Flow 171 M³/Hr.
B.E.P Head 300 M
Speed 2970 R.P.M
Ns : 780 US UNITS
LPS
M³/Hr
USGPM
B.E.P
2970 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 4HF16 @2350 R.P.M
4HF16/Y/0410
PUMPSENSE
HF RANGE
MODEL 4HF16
WORKING PRESS. 16 bar
SIZE 125x100-395
TEST PRESS. 24 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2350 rpm
RATED CAPACITY - 750 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 395mm
Min. Impeller Dia. 316mm
Impeller Drg. No. 4HF16/HD003/0
Volute Drg. No. 4HF16/HD001/0
Hydraulic Data
Eye Area 94.24cm²
Throat Area 28.99cm²
Impeller Width 17mm
No. of Vanes 6
Volute Construction - Double Volute
Shaft : Gr-2F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
395mm
368mm
338mm
316mm
52
63
69
71
72
73
72
71
LPS
M³/Hr
USGPM
NPSHr (M) (FT)
B.E.P Flow 292 M³/Hr.
B.E.P Head 118 M
Speed 2350 R.P.M
Ns : 966 US UNITS
POWER (kW)
POWER (HP)
B.E.P
2350 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HF13 @3000 R.P.M
6HF13/Y/800952
PUMPSENSE
HF RANGE
MODEL 6HF13
WORKING PRESS. 22 bar
SIZE 200x150-330
TEST PRESS. 33 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 3000 rpm
RATED CAPACITY - 1000,1250,1500 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 330mm
Min. Impeller Dia. 264mm
Impeller Drg. No. 6HF13/HD003/0
Volute Drg. No. 6HF13/HD001/0
Hydraulic Data
Eye Area 275cm² Throat Area 105.5cm²
Impeller Width 32mm No. of Vanes 5
Volute Construction - Double Volute
Shaft : 3F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
330mm
312mm
286mm
264mm
67 70 75 78 80 82 80 78 75 70
De=330MM,D1=160MM,De=90MM, DSHAFT=64MM
LPS
M³/Hr
NPSHr (M) (FT)
B.E.P Flow 543.2 M³/Hr.
B.E.P Head 132 M
Speed 3000 R.P.M
Ns : 1546 US UNITS
POWER (kW)
POWER (HP)
330mm
312mm
286mm
264mm
LPS
M³/Hr
USGPM
B.E.P
3000 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 4HFT19 @1780 R.P.M | 4HFT19/Y/311064

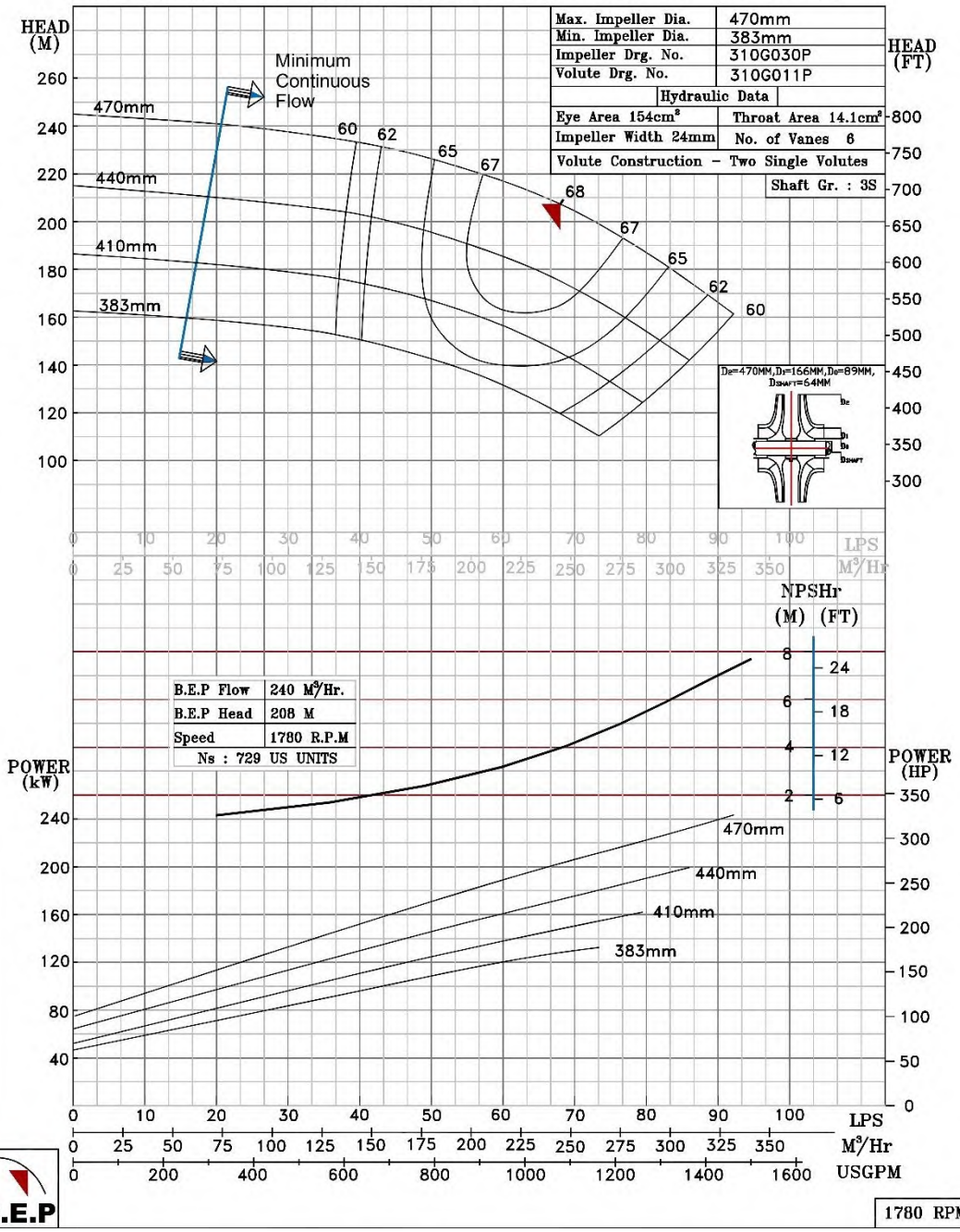
PUMPSENSE

HFT RANGE

MODEL 4HFT19	WORKING PRESS.	30 bar
SIZE 150x100-470	TEST PRESS.	45 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE	SPEED 1780 rpm	
	DATE – 10.12.14	

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	470mm
Min. Impeller Dia.	383mm
Impeller Drg. No.	310G030P
Volute Drg. No.	310G011P
Hydraulic Data	
Eye Area 154cm²	Throat Area 14.1cm²
Impeller Width 24mm	No. of Vanes 6
Volute Construction – Two Single Volutes	
Shaft Gr. : 3S	



B.E.P

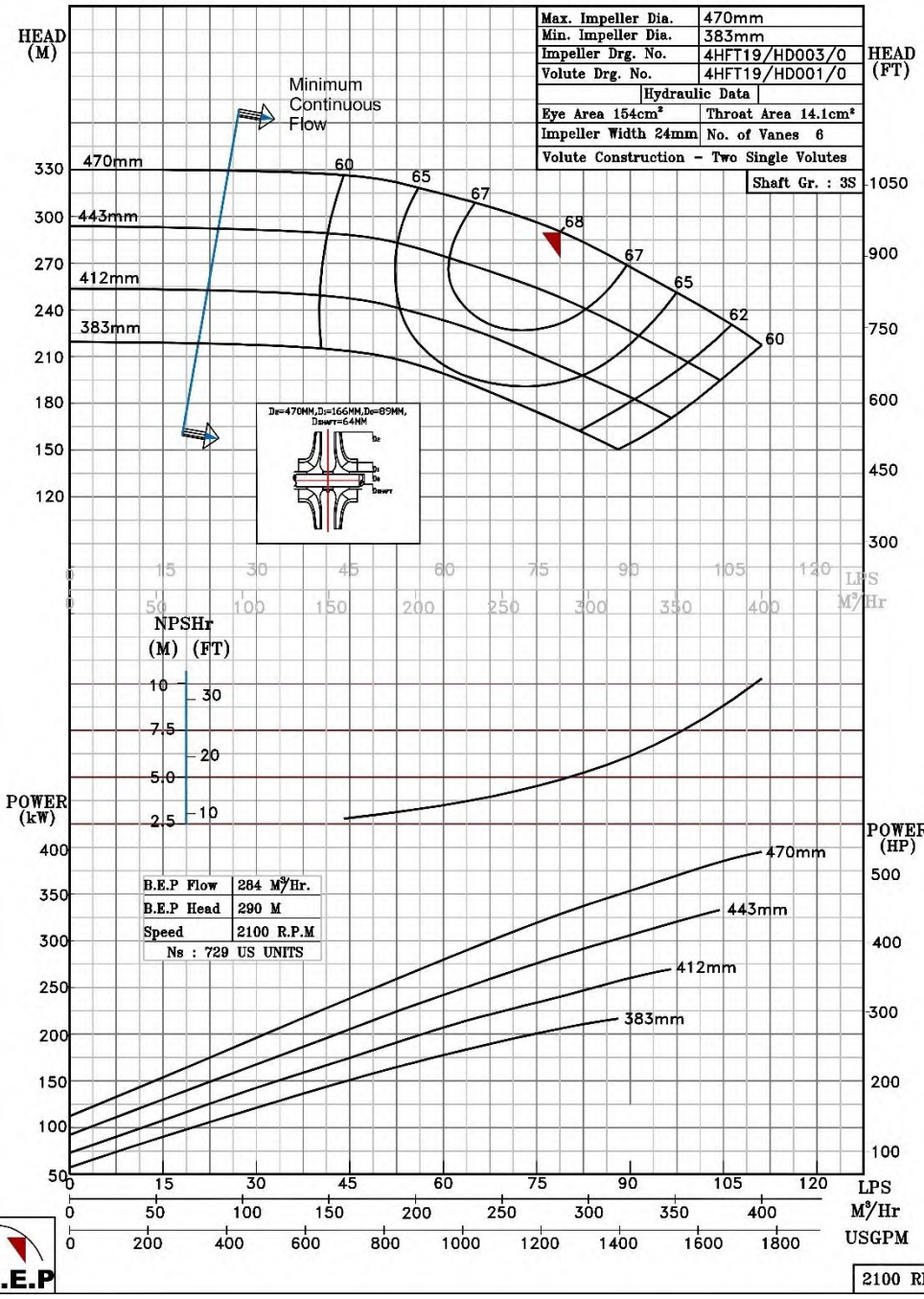
1780 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 4HFT19 @2100 R.P.M		4HFT19/Y/0111
PUMPSENSE *HFT RANGE*	MODEL 4HFT19	WORKING PRESS. 30 bar
	SIZE 150x100-470	TEST PRESS. 45 bar
	TYPE-AXIALLY SPLIT CASE TWO STAGE	SPEED 2100 rpm

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	470mm
Min. Impeller Dia.	383mm
Impeller Drg. No.	4HFT19/HD003/0
Volute Drg. No.	4HFT19/HD001/0
Hydraulic Data	
Eye Area 154cm²	Throat Area 14.1cm²
Impeller Width 24mm	No. of Vanes 6
Volute Construction - Two Single Volutes	
Shaft Gr. : 3S	

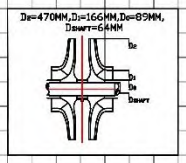


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 4HFT19 @2300 R.P.M		4HFT19/Y/0111
PUMPSENSE *HFT RANGE*	MODEL 4HFT19	WORKING PRESS. 30 bar
	SIZE 150x100-470	TEST PRESS. 45 bar
	TYPE-AXIALLY SPLIT CASE TWO STAGE	SPEED 2300 rpm

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	470mm
Min. Impeller Dia.	383mm
Impeller Drg. No.	4HFT19/HD003/0
Volute Drg. No.	4HFT19/HD001/0
Hydraulic Data	
Eye Area 154cm²	Throat Area 14.1cm²
Impeller Width 24mm	No. of Vanes 6
Volute Construction - Two Single Volutes	
Shaft Gr. : 3S	



B.E.P Flow	311 M³/Hr.
B.E.P Head	348 M
Speed	2300 R.P.M
Ns : 729 US UNITS	

HEAD (M) / HEAD (FT) / Minimum Continuous Flow / 470mm / 443mm / 412mm / 383mm / 60 / 65 / 67 / 68 / 67 / 65 / 62

NPSHr (M) (FT)

POWER (kW) / POWER (HP) / 470mm / 443mm / 412mm / 383mm

LPS / M³/Hr / USGPM

B.E.P

2300 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 4HFTD13 @2950 R.P.M

4HFTD13/Y/802552

PUMPSENSE

HF RANGE

MODEL 4HFTD13	WORKING PRESS.	20 bar
SIZE 150x100-350	TEST PRESS.	30 bar

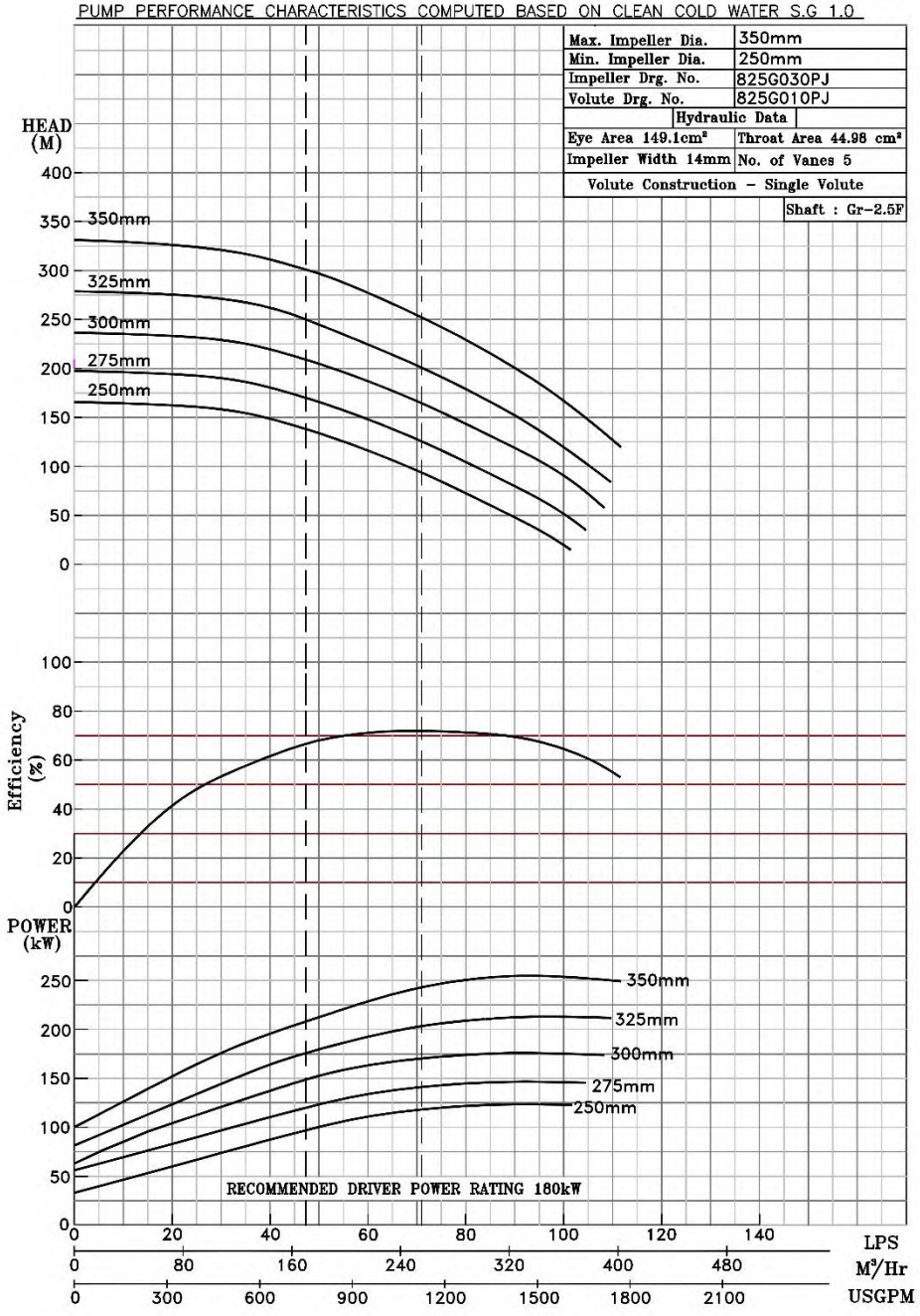
TYPE-AXIALLY SPLIT CASE SINGLE STAGE

SPEED 2950 rpm

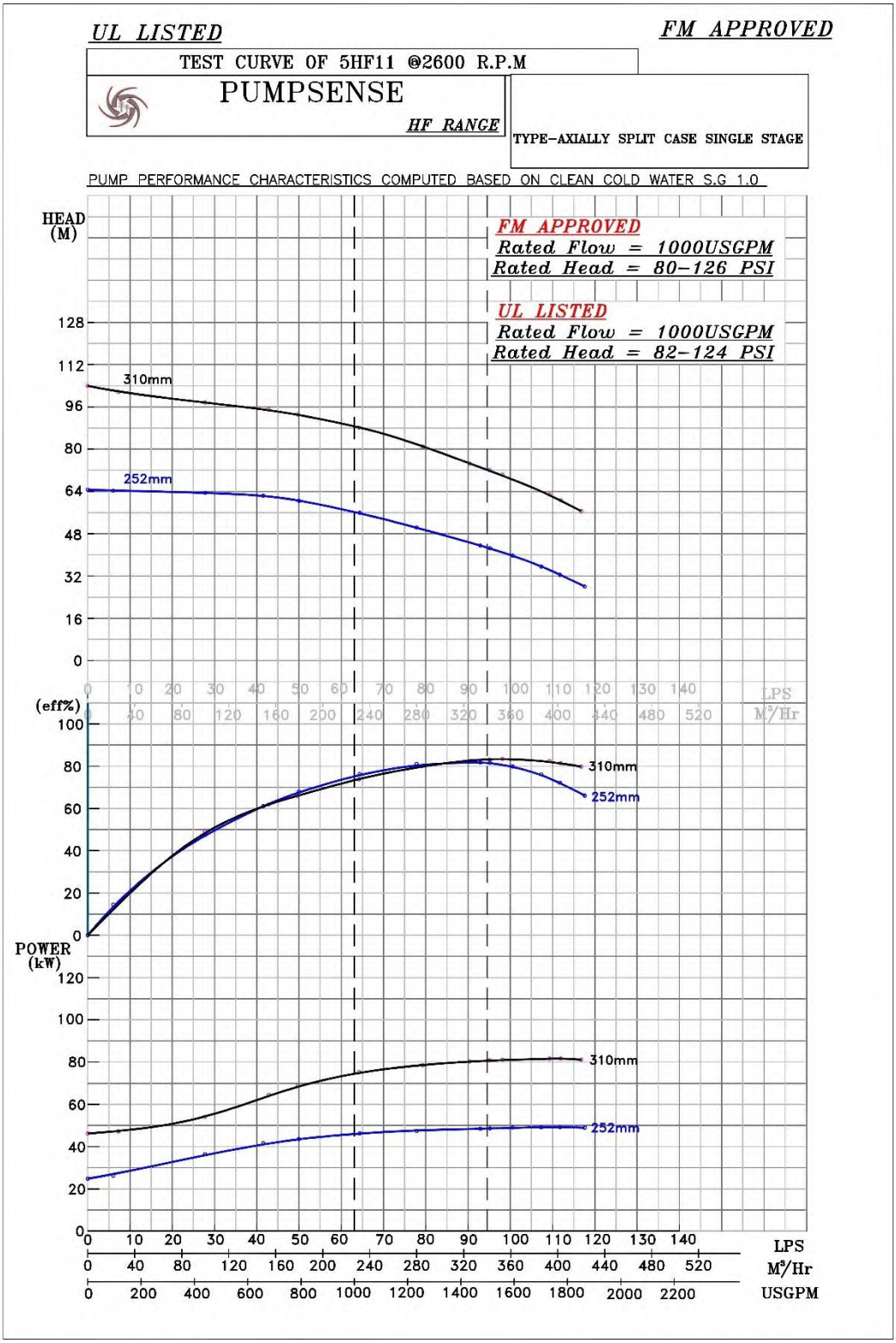
DATE – 01.01.19

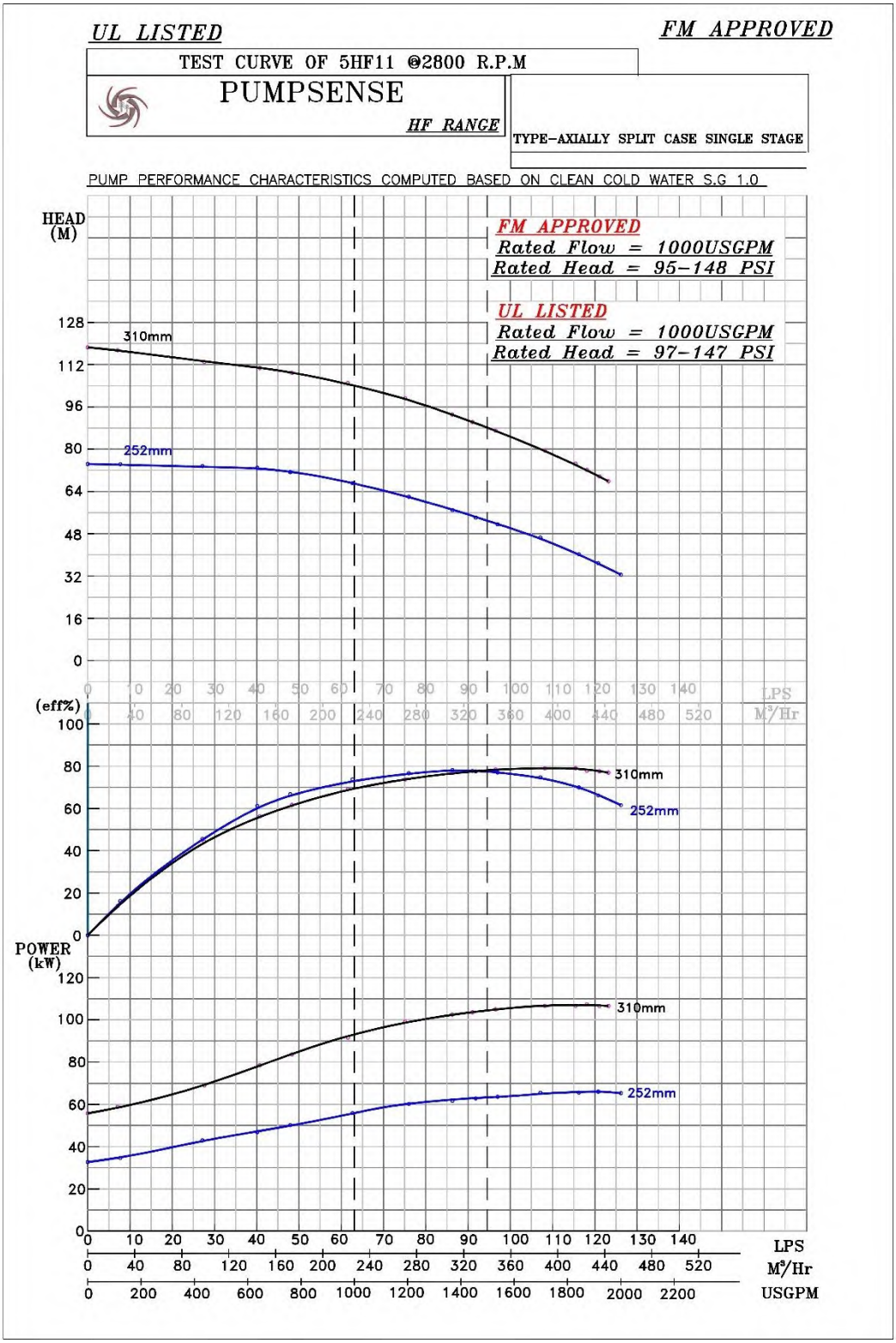
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

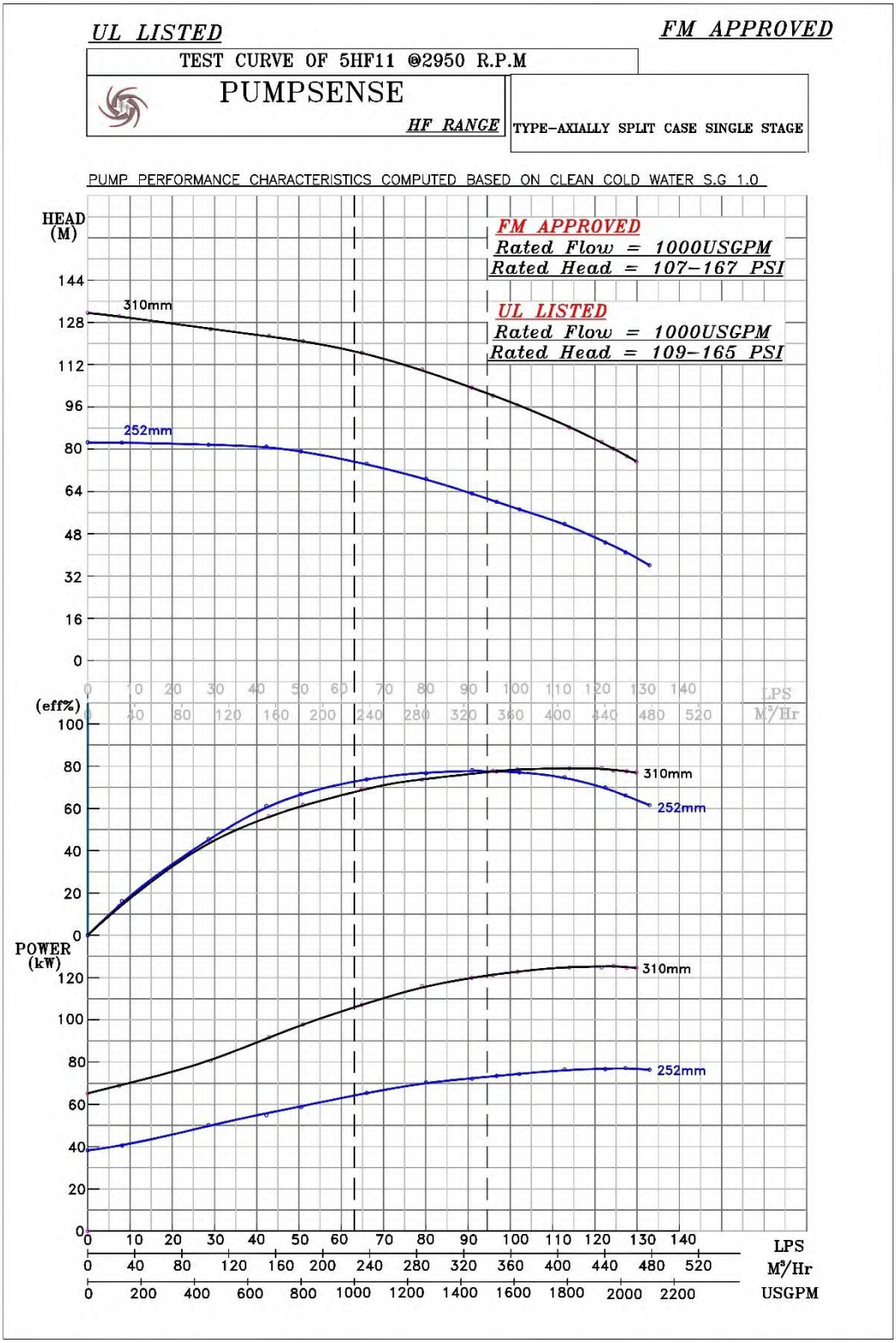
Max. Impeller Dia.	350mm
Min. Impeller Dia.	250mm
Impeller Drg. No.	825G030PJ
Volute Drg. No.	825G010PJ
Hydraulic Data	
Eye Area 149.1cm²	Throat Area 44.98 cm²
Impeller Width 14mm	No. of Vanes 5
Volute Construction – Single Volute	
	Shaft : Gr-2.5F



2950 RPM


UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2600 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 80-126 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 82-124 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM


UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2800 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 95-148 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 97-147 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM


UL LISTED
FM APPROVED
TEST CURVE OF 5HF11 @2950 R.P.M
PUMPSENSE
HF RANGE
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
FM APPROVED
Rated Flow = 1000USGPM
Rated Head = 107-167 PSI
UL LISTED
Rated Flow = 1000USGPM
Rated Head = 109-165 PSI
HEAD (M)
310mm
252mm
(eff%)
POWER (kW)
LPS
M³/Hr
USGPM

UL LISTED *FM APPROVED*

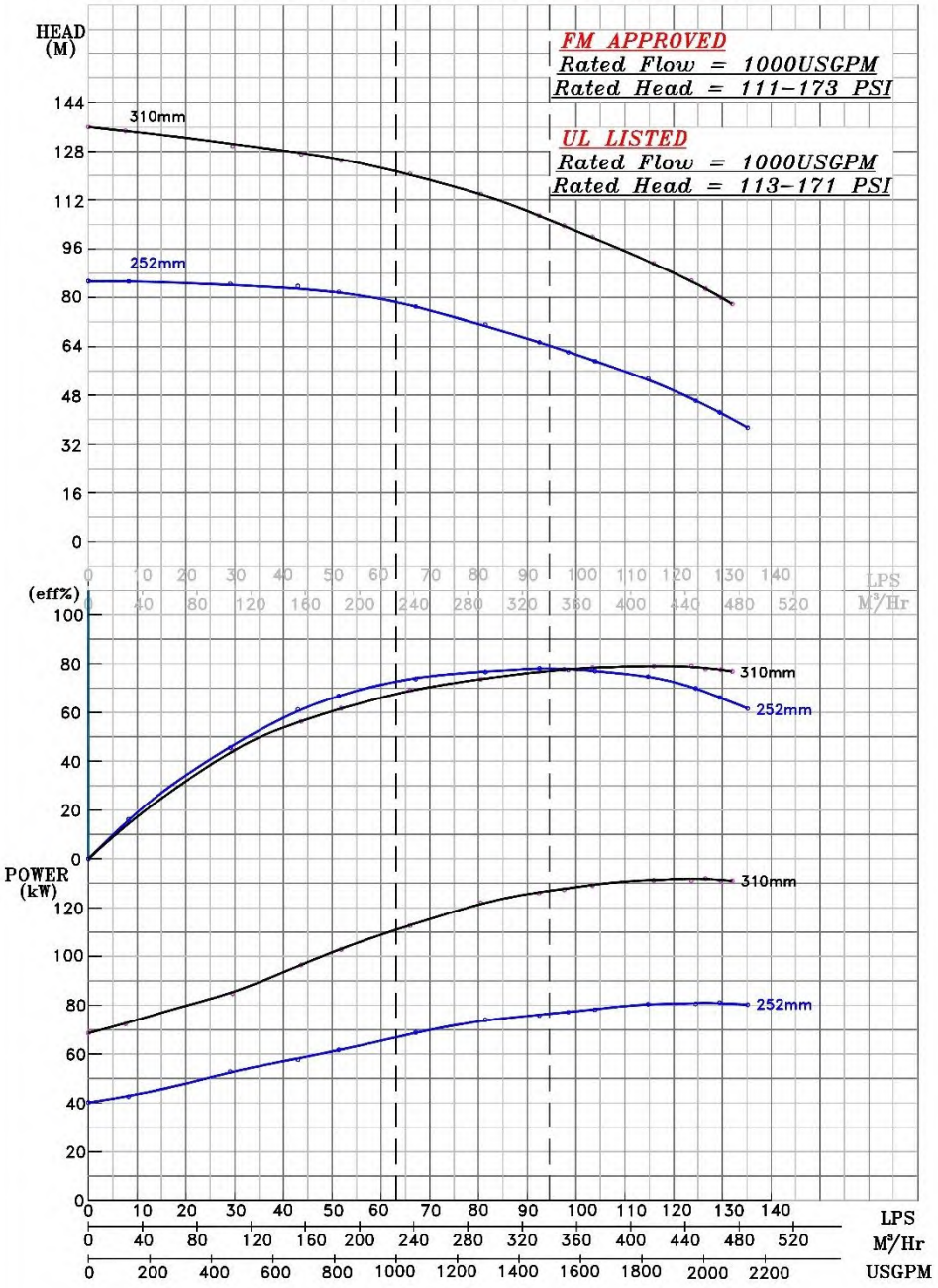
PERFORMANCE CURVE OF 5HF11 @3000 R.P.M

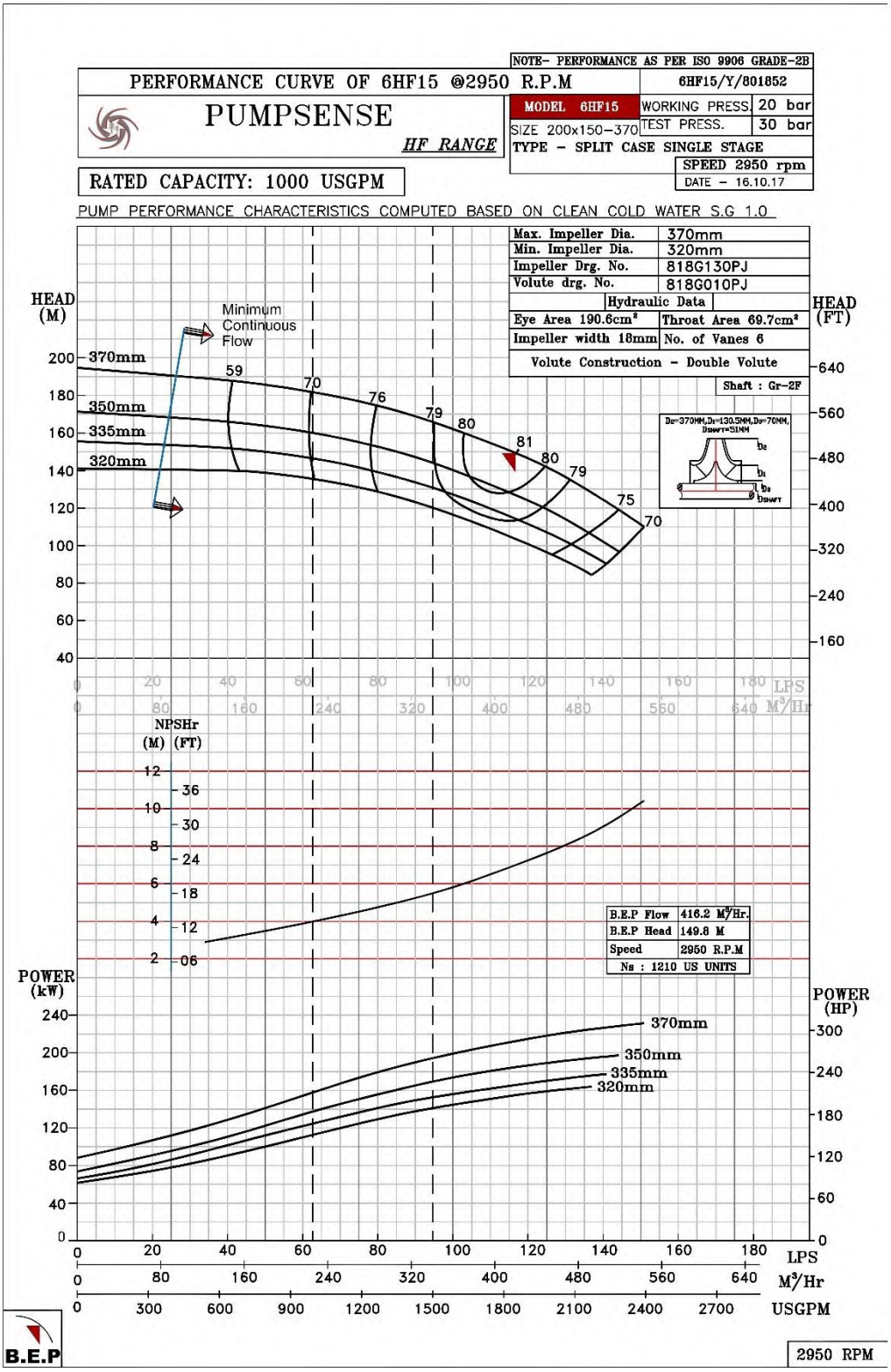
PUMPSENSE

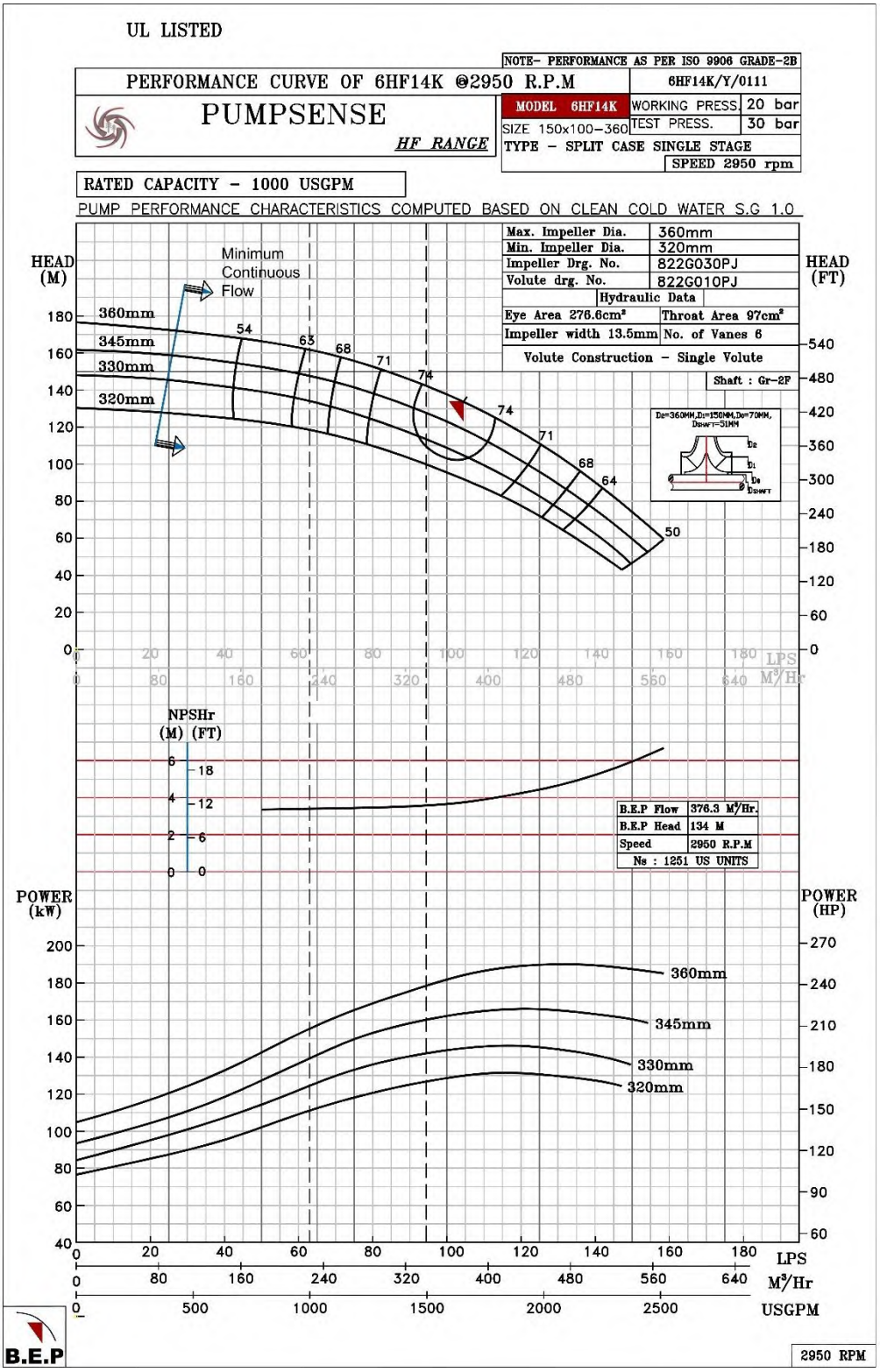
HF RANGE

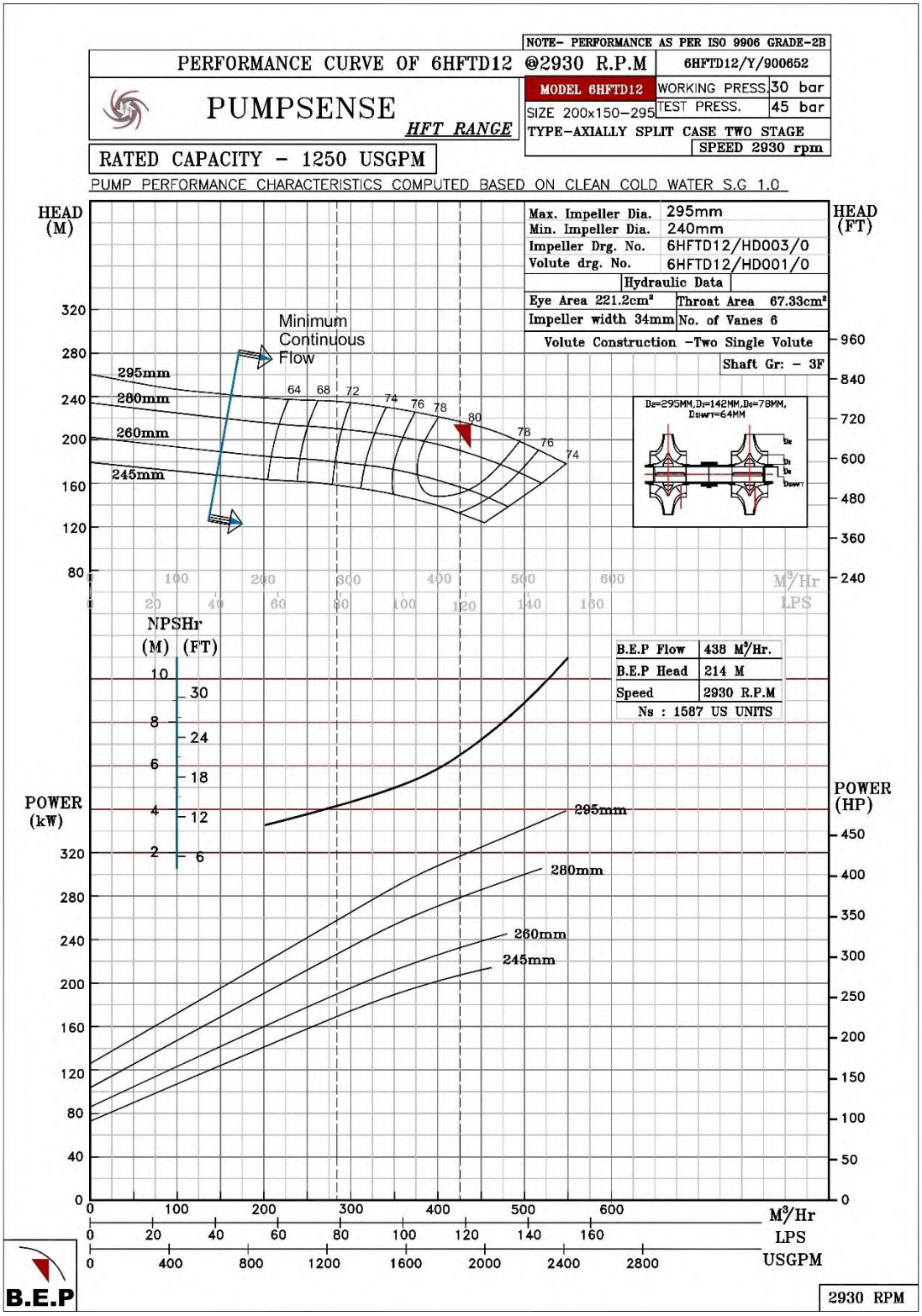
TYPE–AXIALLY SPLIT CASE SINGLE STAGE

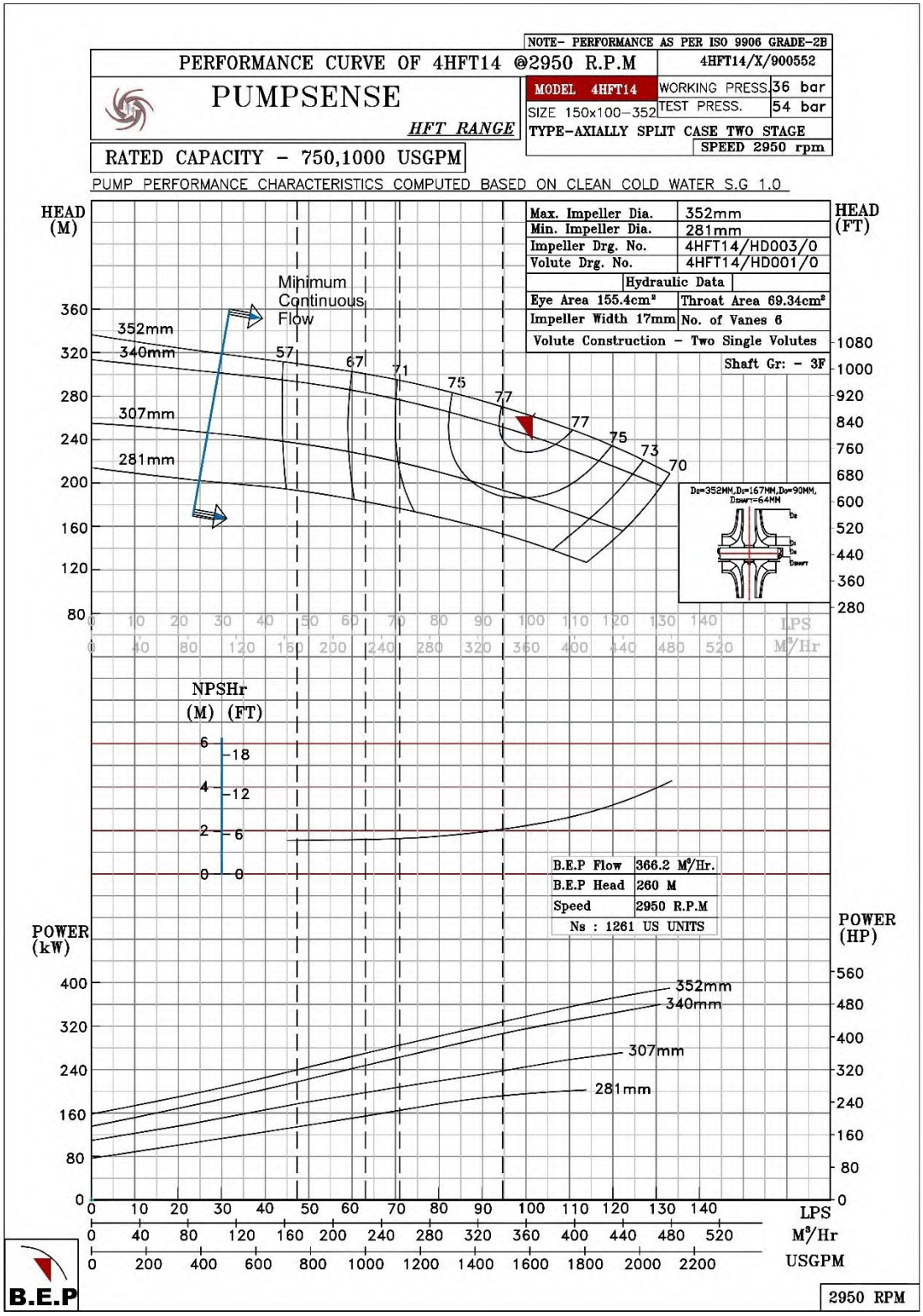
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

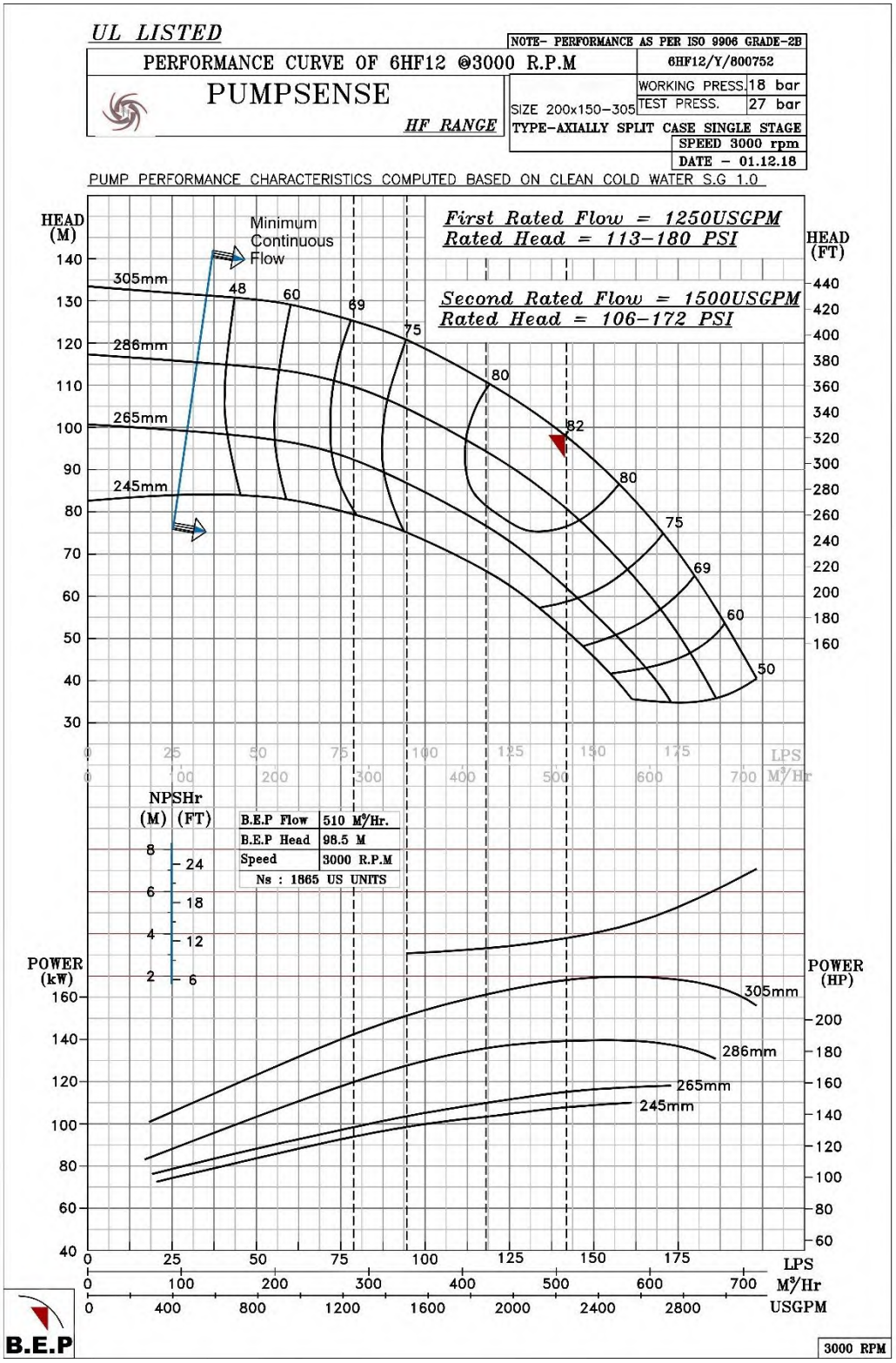


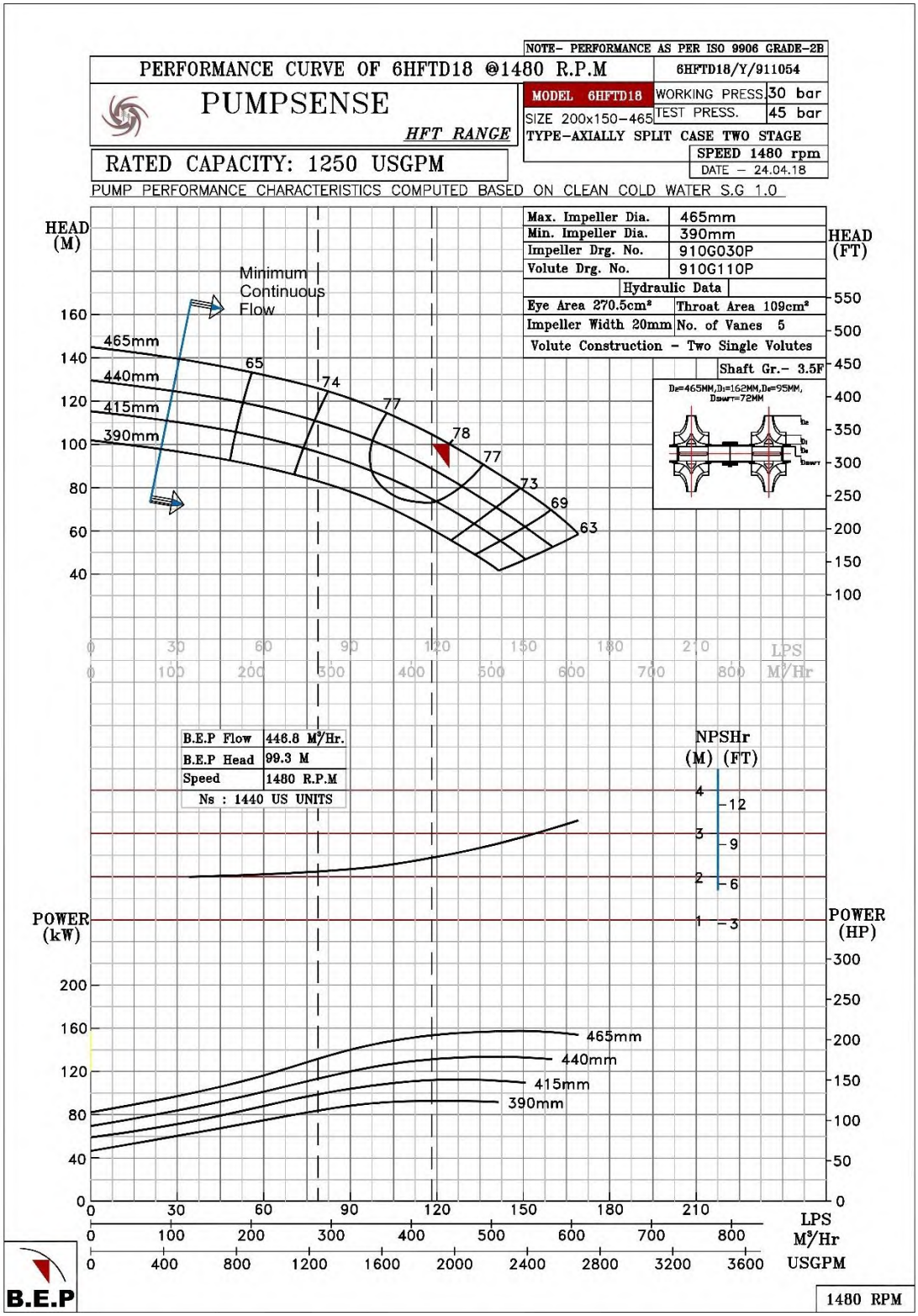

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HF15 @2950 R.P.M
6HF15/Y/801852
PUMPSENSE
HF RANGE
MODEL 6HF15
WORKING PRESS. 20 bar
SIZE 200x150-370
TEST PRESS. 30 bar
TYPE - SPLIT CASE SINGLE STAGE
SPEED 2950 rpm
DATE - 16.10.17
RATED CAPACITY: 1000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 370mm
Min. Impeller Dia. 320mm
Impeller Drg. No. 818G130PJ
Volute drg. No. 818G010PJ
Hydraulic Data
Eye Area 190.6cm² Throat Area 69.7cm²
Impeller width 18mm No. of Vanes 6
Volute Construction - Double Volute
Shaft : Gr-2F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
370mm
350mm
335mm
320mm
59
70
76
79
80
81
80
79
75
70
NPSHr (M) (FT)
B.E.P Flow 416.2 M³/Hr.
B.E.P Head 149.8 M
Speed 2950 R.P.M
Ns : 1210 US UNITS
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2950 RPM


UL LISTED
NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HF14K @2950 R.P.M
6HF14K/Y/0111
PUMPSENSE
HF RANGE
MODEL 6HF14K
WORKING PRESS. 20 bar
SIZE 150x100-360
TEST PRESS. 30 bar
TYPE - SPLIT CASE SINGLE STAGE
SPEED 2950 rpm
RATED CAPACITY - 1000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 360mm
Min. Impeller Dia. 320mm
Impeller Drg. No. 822G030PJ
Volute drg. No. 822G010PJ
Hydraulic Data
Eye Area 276.6cm² Throat Area 97cm²
Impeller width 13.5mm No. of Vanes 6
Volute Construction - Single Volute
Shaft : Gr-2F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
360mm
345mm
330mm
320mm
54
63
68
71
74
74
71
68
64
50
NPSHr (M) (FT)
B.E.P Flow 376.3 M³/Hr.
B.E.P Head 134 M
Speed 2950 R.P.M
Ns : 1251 US UNITS
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2950 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HFTD12 @2930 R.P.M
6HFTD12/Y/900652
PUMPSENSE
HFT RANGE
MODEL 6HFTD12
WORKING PRESS. 30 bar
SIZE 200x150-295
TEST PRESS. 45 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 2930 rpm
RATED CAPACITY - 1250 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 295mm
Min. Impeller Dia. 240mm
Impeller Drg. No. 6HFTD12/HD003/0
Volute drg. No. 6HFTD12/HD001/0
Hydraulic Data
Eye Area 221.2cm²
Throat Area 67.33cm²
Impeller width 34mm
No. of Vanes 6
Volute Construction -Two Single Volute
Shaft Gr: - 3F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
295mm
280mm
260mm
245mm
64 68 72 74 76 78 80
78 76 74
M³/Hr
LPS
NPSHr (M) (FT)
B.E.P Flow 438 M³/Hr.
B.E.P Head 214 M
Speed 2930 R.P.M
Ns : 1587 US UNITS
POWER (kW)
POWER (HP)
295mm
280mm
260mm
245mm
M³/Hr
LPS
USGPM
B.E.P
2930 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 4HFT14 @2950 R.P.M
4HFT14/X/900552
PUMPSENSE
HFT RANGE
MODEL 4HFT14
WORKING PRESS. 36 bar
SIZE 150x100-352
TEST PRESS. 54 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 2950 rpm
RATED CAPACITY - 750,1000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
HEAD (M)
HEAD (FT)
Max. Impeller Dia. 352mm
Min. Impeller Dia. 281mm
Impeller Drg. No. 4HFT14/HD003/0
Volute Drg. No. 4HFT14/HD001/0
Hydraulic Data
Eye Area 155.4cm²
Throat Area 69.34cm²
Impeller Width 17mm
No. of Vanes 6
Volute Construction - Two Single Volutes
Shaft Gr: - 3F
Minimum Continuous Flow
352mm
340mm
307mm
281mm
57
67
71
75
77
77
75
73
70
NPSHr (M) (FT)
B.E.P Flow 366.2 M³/Hr.
B.E.P Head 260 M
Speed 2950 R.P.M
Ns : 1261 US UNITS
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2950 RPM


UL LISTED
NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HF12 @3000 R.P.M
6HF12/Y/800752
PUMPSENSE
HF RANGE
WORKING PRESS. 18 bar
TEST PRESS. 27 bar
SIZE 200x150-305
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 3000 rpm
DATE - 01.12.18
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
First Rated Flow = 1250USGPM
Rated Head = 113-180 PSI
Second Rated Flow = 1500USGPM
Rated Head = 106-172 PSI
Minimum Continuous Flow
HEAD (M)
HEAD (FT)
305mm
286mm
265mm
245mm
48
60
69
75
80
82
80
75
69
60
50
LPS
M³/Hr
USGPM
NPSHr (M) (FT)
B.E.P Flow 510 M³/Hr.
B.E.P Head 98.5 M
Speed 3000 R.P.M
Ns : 1865 US UNITS
POWER (kW)
POWER (HP)
B.E.P
3000 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HFTD18 @1480 R.P.M
6HFTD18/Y/911054
PUMPSENSE
HFT RANGE
MODEL 6HFTD18
WORKING PRESS. 30 bar
SIZE 200x150-465
TEST PRESS. 45 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 1480 rpm
DATE – 24.04.18
RATED CAPACITY: 1250 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 465mm
Min. Impeller Dia. 390mm
Impeller Drg. No. 910G030P
Volute Drg. No. 910G110P
Hydraulic Data
Eye Area 270.5cm² Throat Area 109cm²
Impeller Width 20mm No. of Vanes 5
Volute Construction – Two Single Volutes
Shaft Gr.– 3.5F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
465mm
440mm
415mm
390mm
65
74
77
78
77
73
69
63
LPS
M³/Hr
B.E.P Flow 446.8 M³/Hr.
B.E.P Head 99.3 M
Speed 1480 R.P.M
Ns : 1440 US UNITS
NPSHr (M) (FT)
POWER (kW)
POWER (HP)
465mm
440mm
415mm
390mm
LPS
M³/Hr
USGPM
B.E.P
1480 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 6HFTD18 @1780 R.P.M

6HFTD18/Y/911064

PUMPSENSE

HFT RANGE

MODEL 6HFTD18	WORKING PRESS.	30 bar
SIZE 200x150-465	TEST PRESS.	45 bar

TYPE-AXIALLY SPLIT CASE TWO STAGE

SPEED 1780 rpm

DATE – 24.04.18

RATED CAPACITY: 1250,1500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

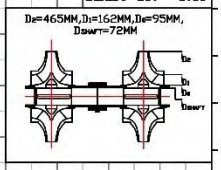
Max. Impeller Dia.	465mm
Min. Impeller Dia.	390mm
Impeller Drg. No.	910G030P
Volute Drg. No.	910G110P

Hydraulic Data

Eye Area 270.5cm²	Throat Area 109cm²
Impeller Width 20mm	No. of Vanes 5

Volute Construction – Two Single Volutes

Shaft Gr.– 3.5F



B.E.P

1780 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 6HFTD18 @2100 R.P.M | 6HFTD18/Y/1011

PUMPSENSE

HFT RANGE

MODEL 6HFTD18	WORKING PRESS.	30 bar
SIZE 200x150-465	TEST PRESS.	45 bar

TYPE-AXIALLY SPLIT CASE TWO STAGE

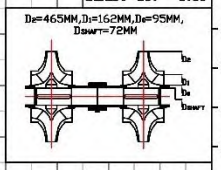
SPEED 2100 rpm

DATE – 21.04.18

RATED CAPACITY: 1250,1500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	465mm
Min. Impeller Dia.	390mm
Impeller Drg. No.	910G030P
Volute Drg. No.	910G110P
Hydraulic Data	
Eye Area 270.5cm²	Throat Area 109cm²
Impeller Width 20mm	No. of Vanes 5
Volute Construction – Two Single Volutes	
Shaft Gr.– 3.5F	



B.E.P

2100 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 6HFTD13 @2930 R.P.M

6HFTD13/Y/910752

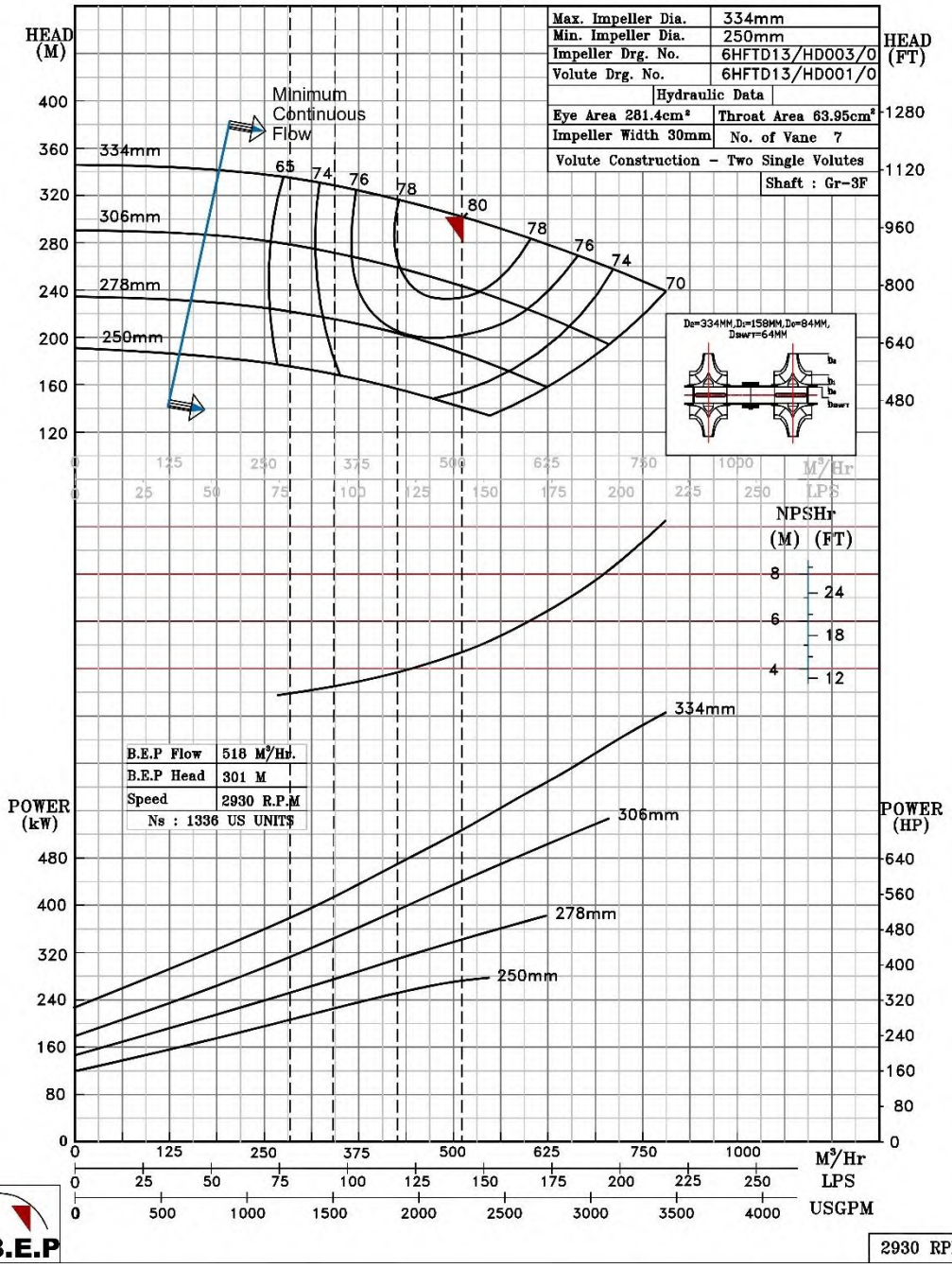
PUMPSENSE

HFT RANGE

MODEL 6HFTD13	WORKING PRESS.	36 bar
SIZE 200x150-334	TEST PRESS.	45 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE		
SPEED 2930 rpm		

RATED CAPACITY - 1250,1500 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

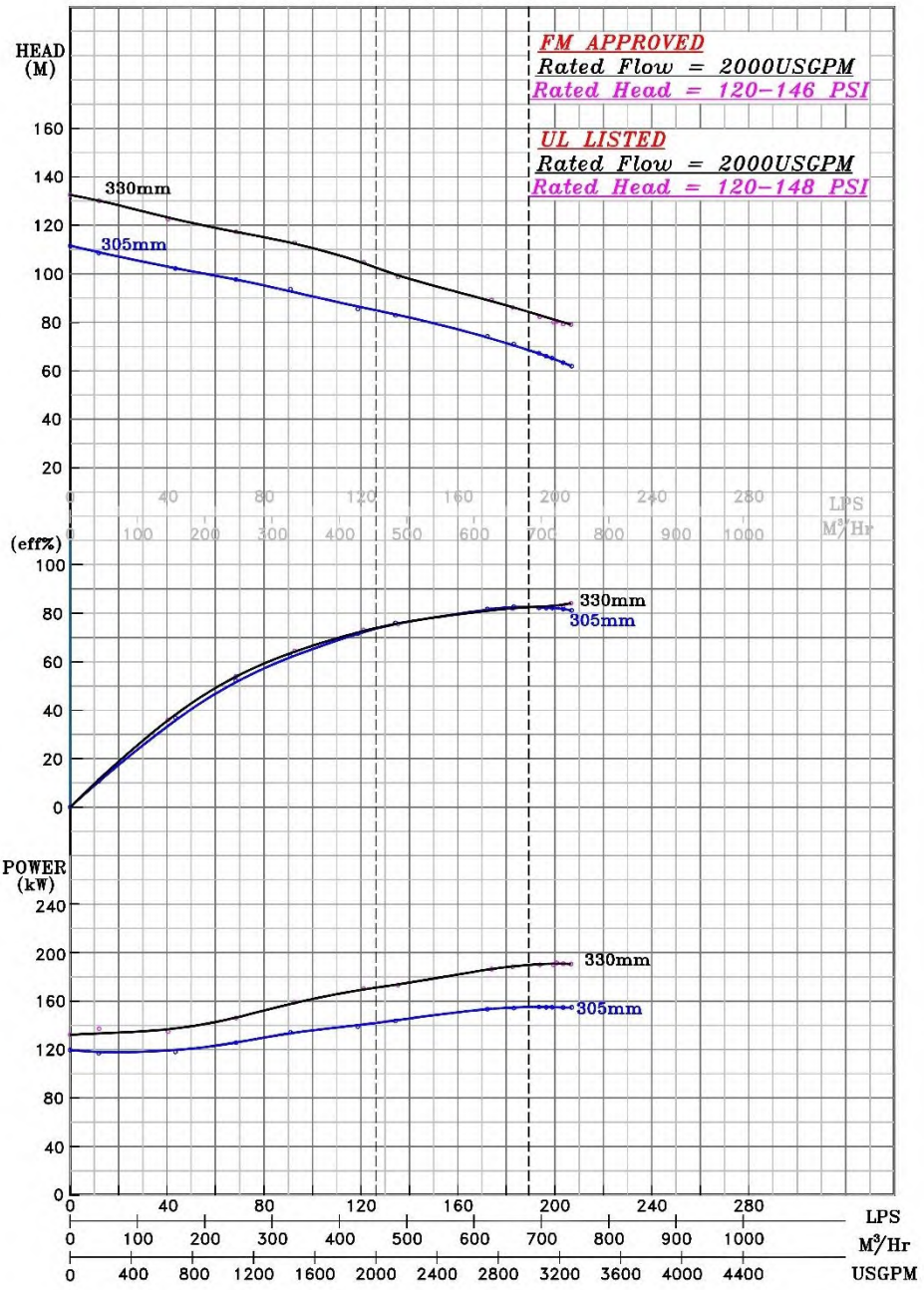
TEST CURVE OF 8HF13 @2800 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

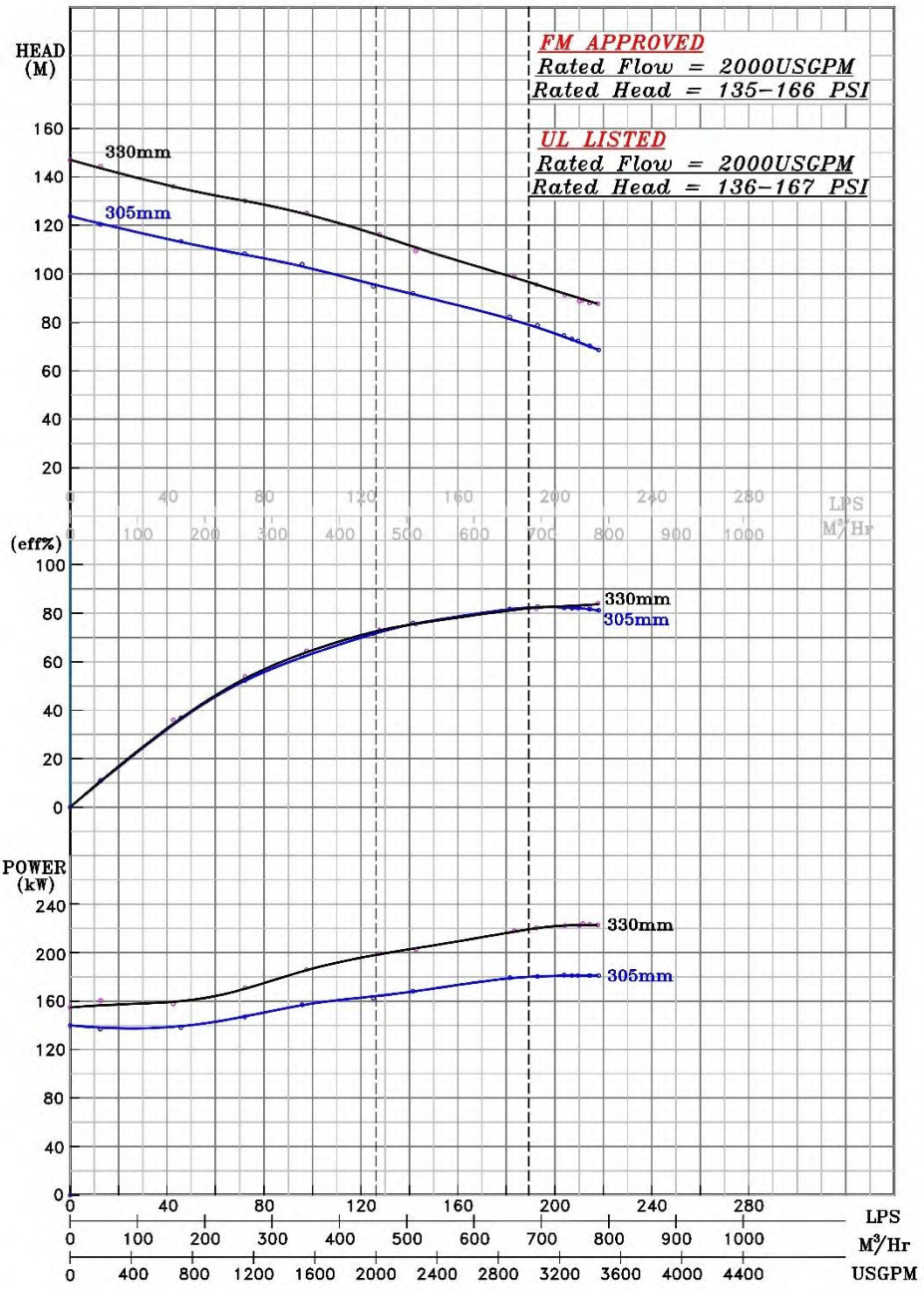
TEST CURVE OF 8HF13 @2950 R.P.M

PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



UL LISTED *FM APPROVED*

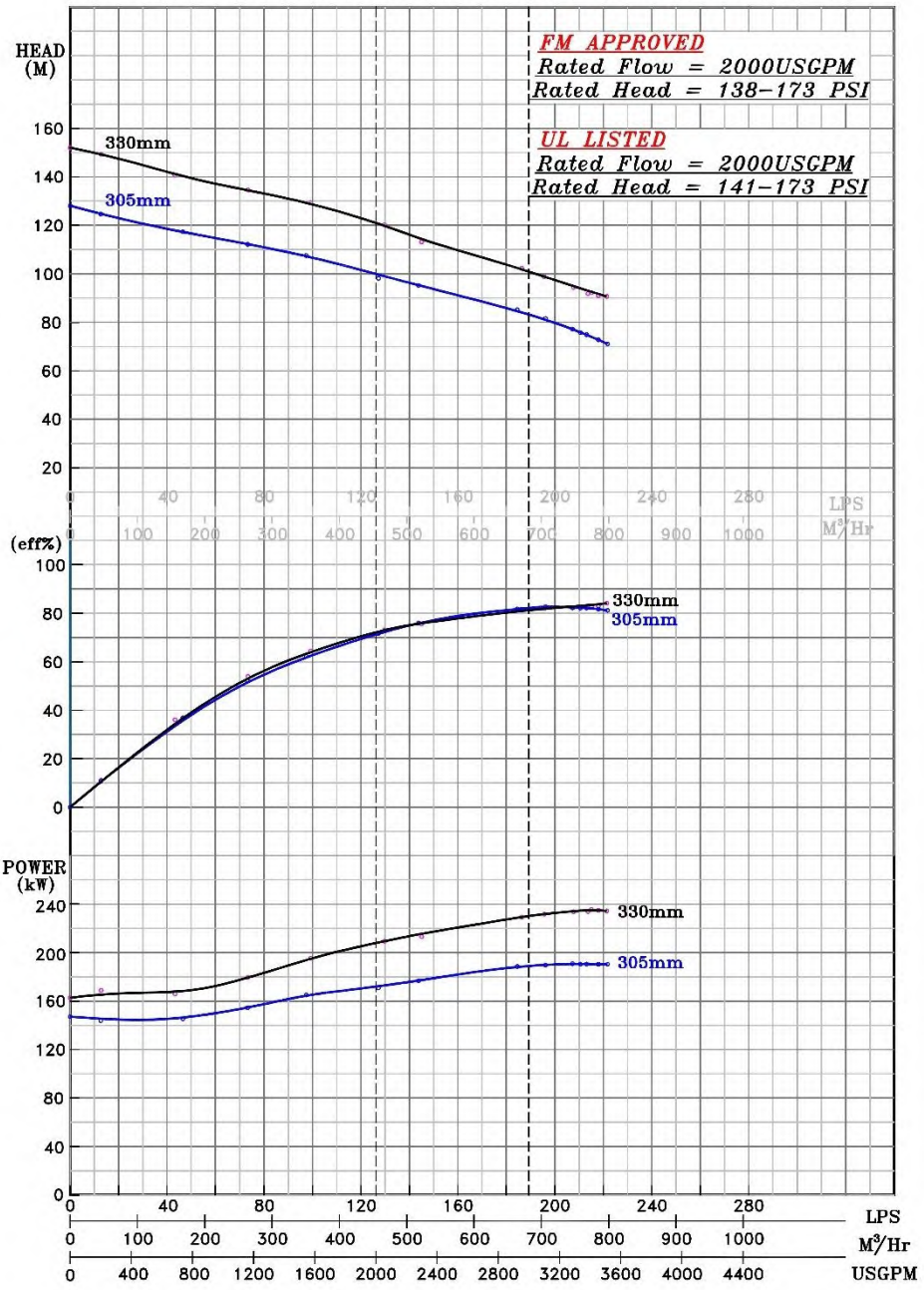
TEST CURVE OF 8HF13 @3000 R.P.M

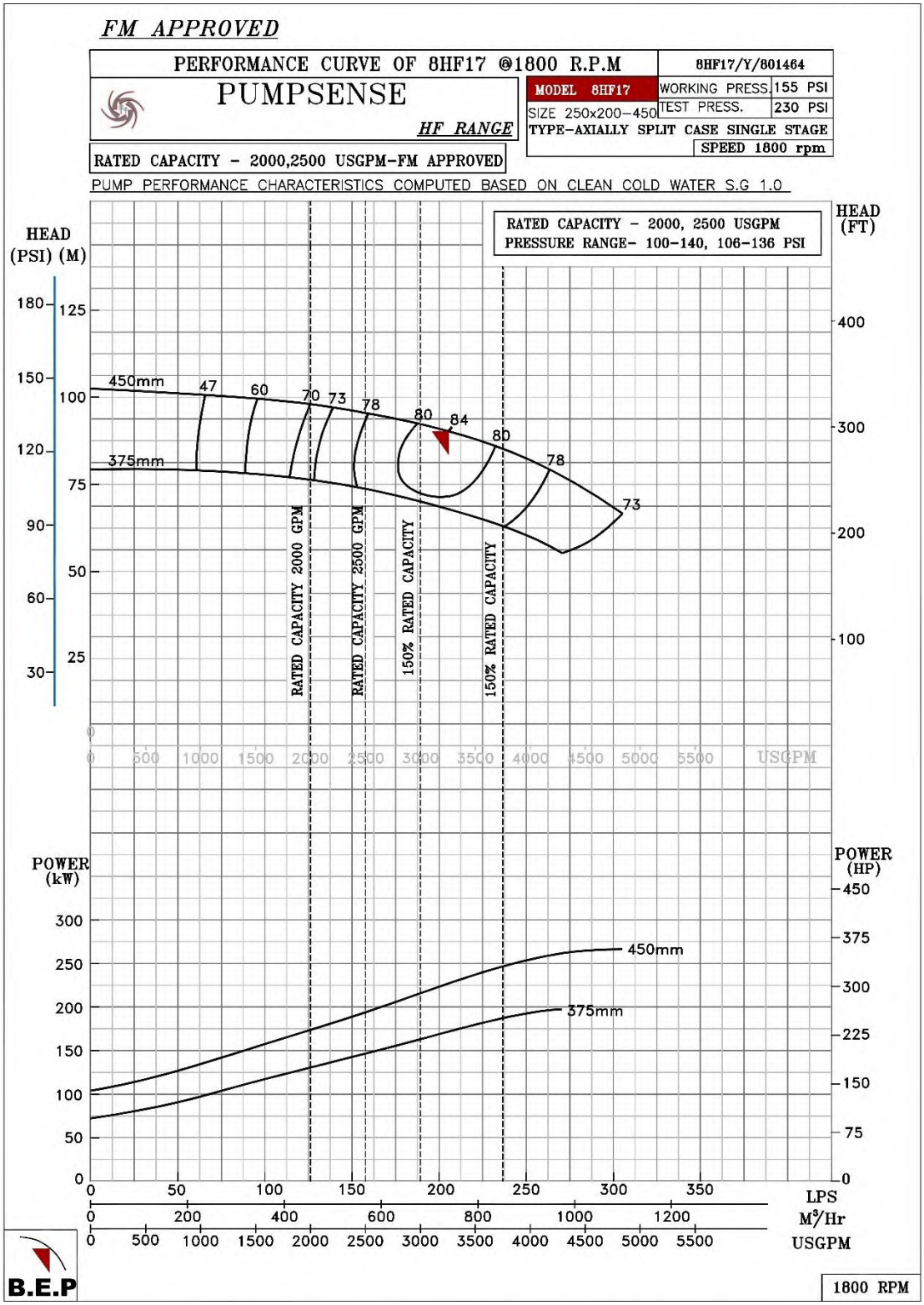
PUMPSENSE

HF RANGE

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




FM APPROVED
PERFORMANCE CURVE OF 8HF17 @1800 R.P.M
8HF17/Y/801464
PUMPSENSE
HF RANGE
MODEL 8HF17
WORKING PRESS. 155 PSI
SIZE 250x200-450
TEST PRESS. 230 PSI
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1800 rpm
RATED CAPACITY - 2000,2500 USGPM-FM APPROVED
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY - 2000, 2500 USGPM
PRESSURE RANGE- 100-140, 106-136 PSI
HEAD (PSI) (M)
HEAD (FT)
450mm
375mm
47
60
70
73
78
80
84
80
78
73
RATED CAPACITY 2000 GPM
RATED CAPACITY 2500 GPM
150% RATED CAPACITY
150% RATED CAPACITY
USGPM
POWER (kW)
POWER (HP)
450mm
375mm
LPS
M³/Hr
USGPM
B.E.P
1800 RPM

UL LISTED

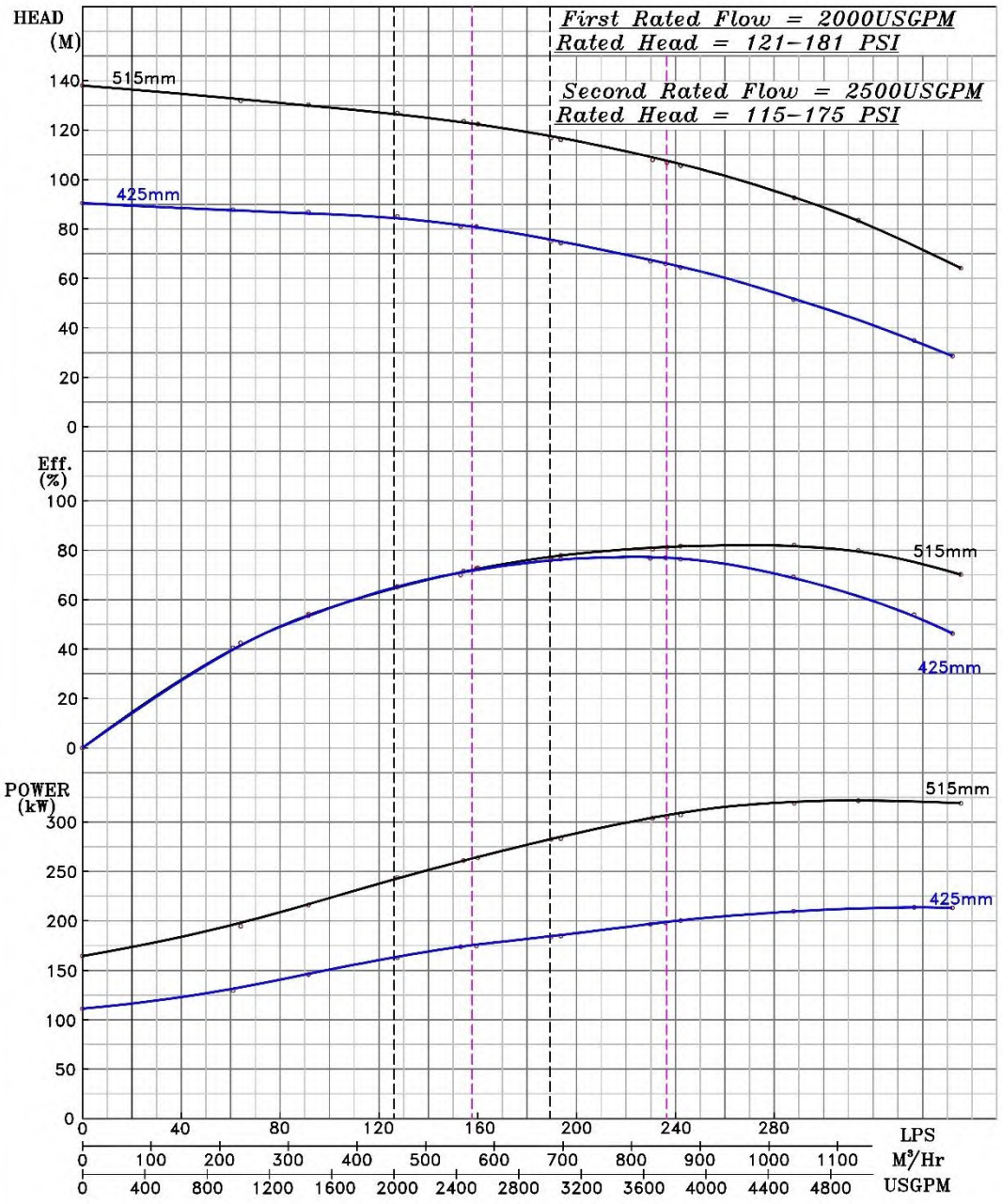
PREDICTED PERFORMANCE CURVE OF 8HF20 @1800 R.P.M

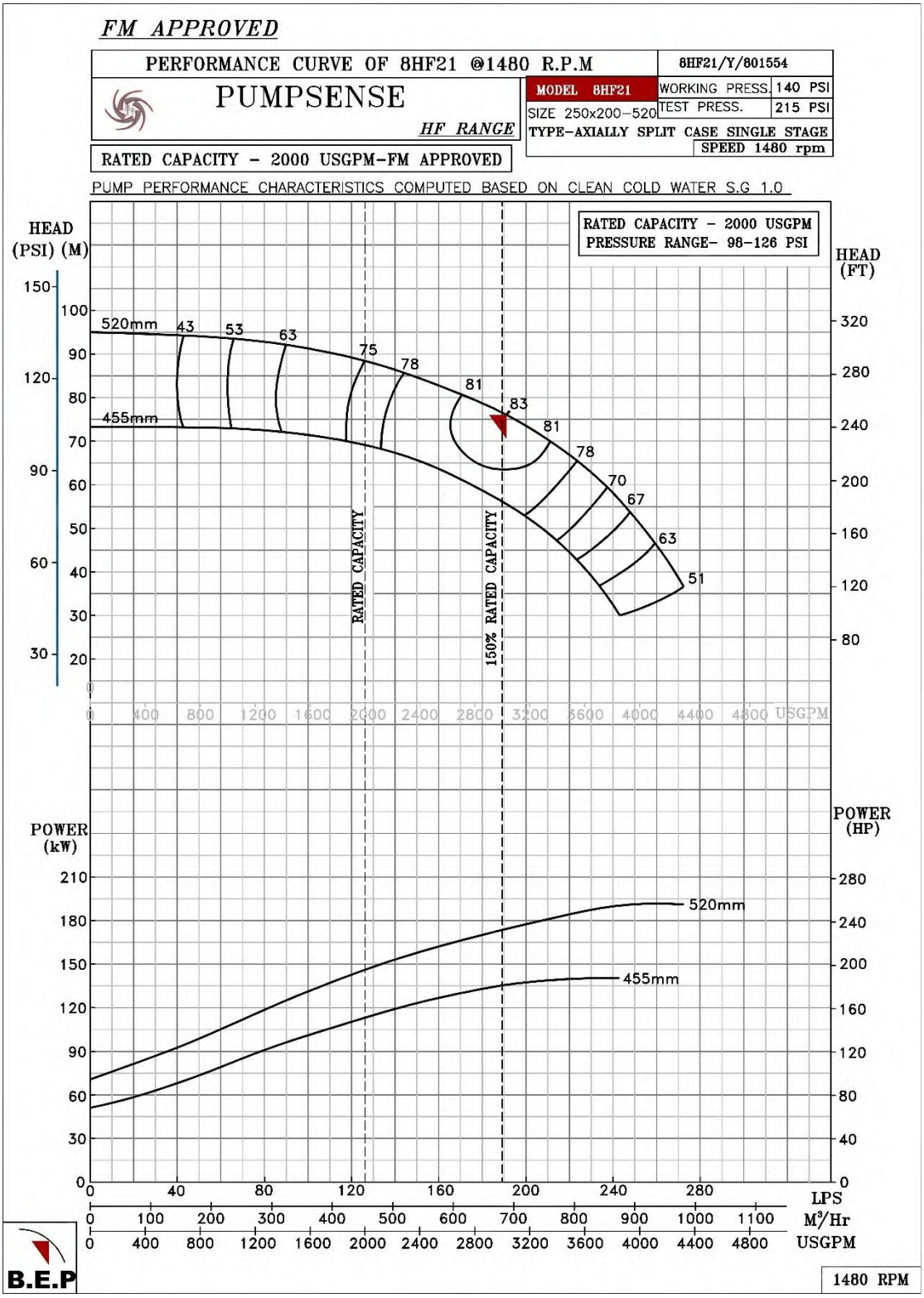
PUMPSENSE

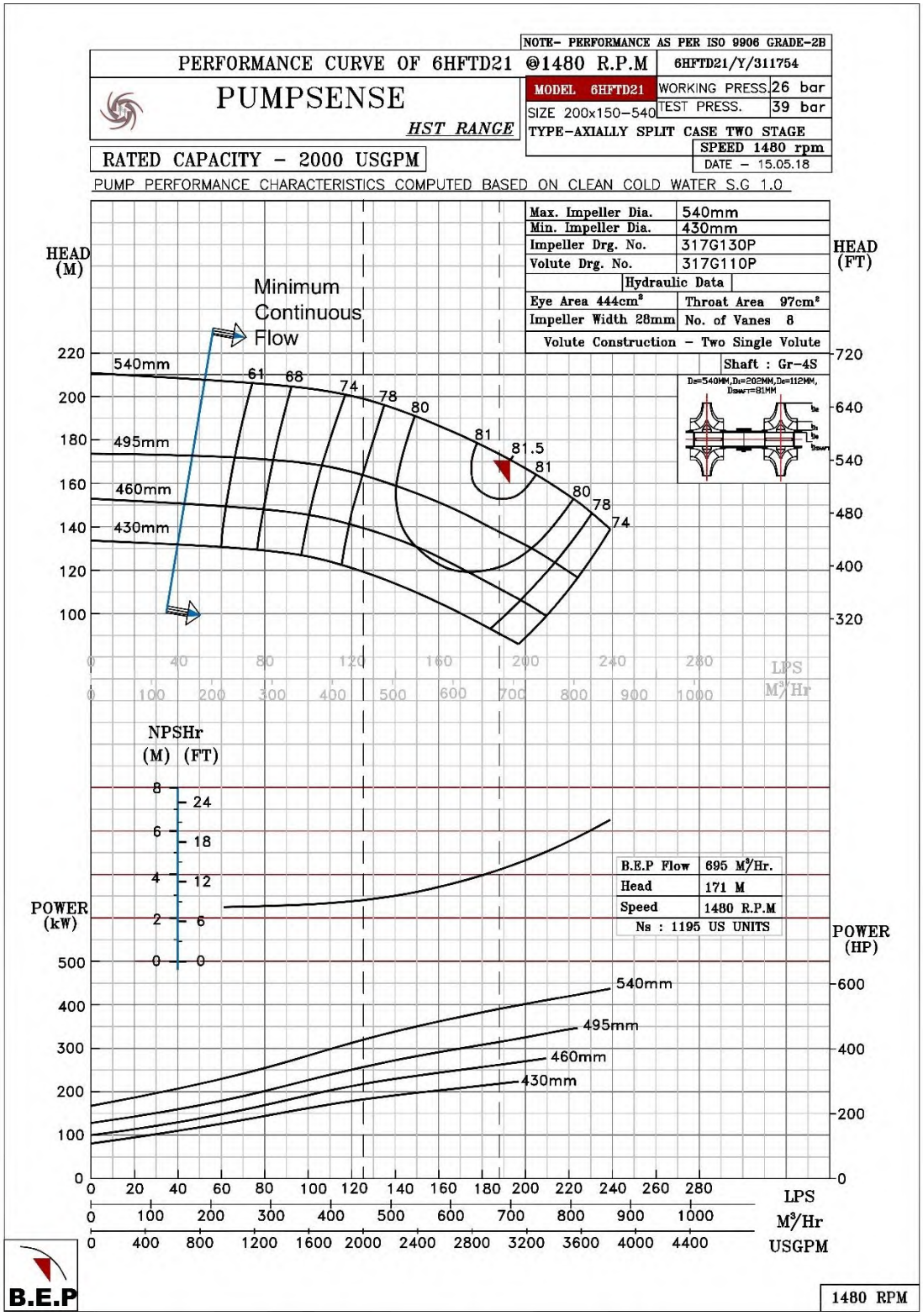
HF RANGE

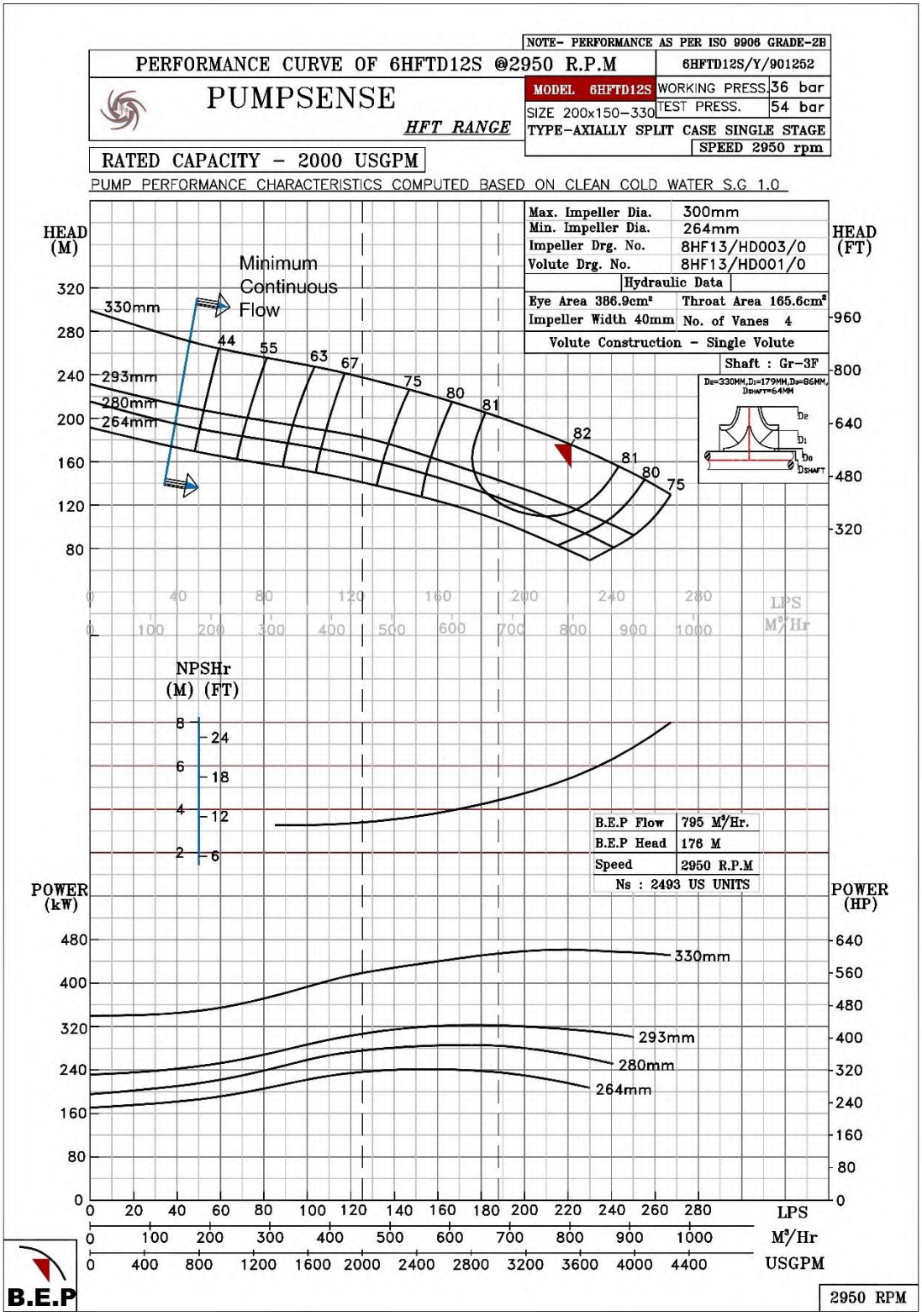
TYPE-AXIALLY SPLIT CASE SINGLE STAGE

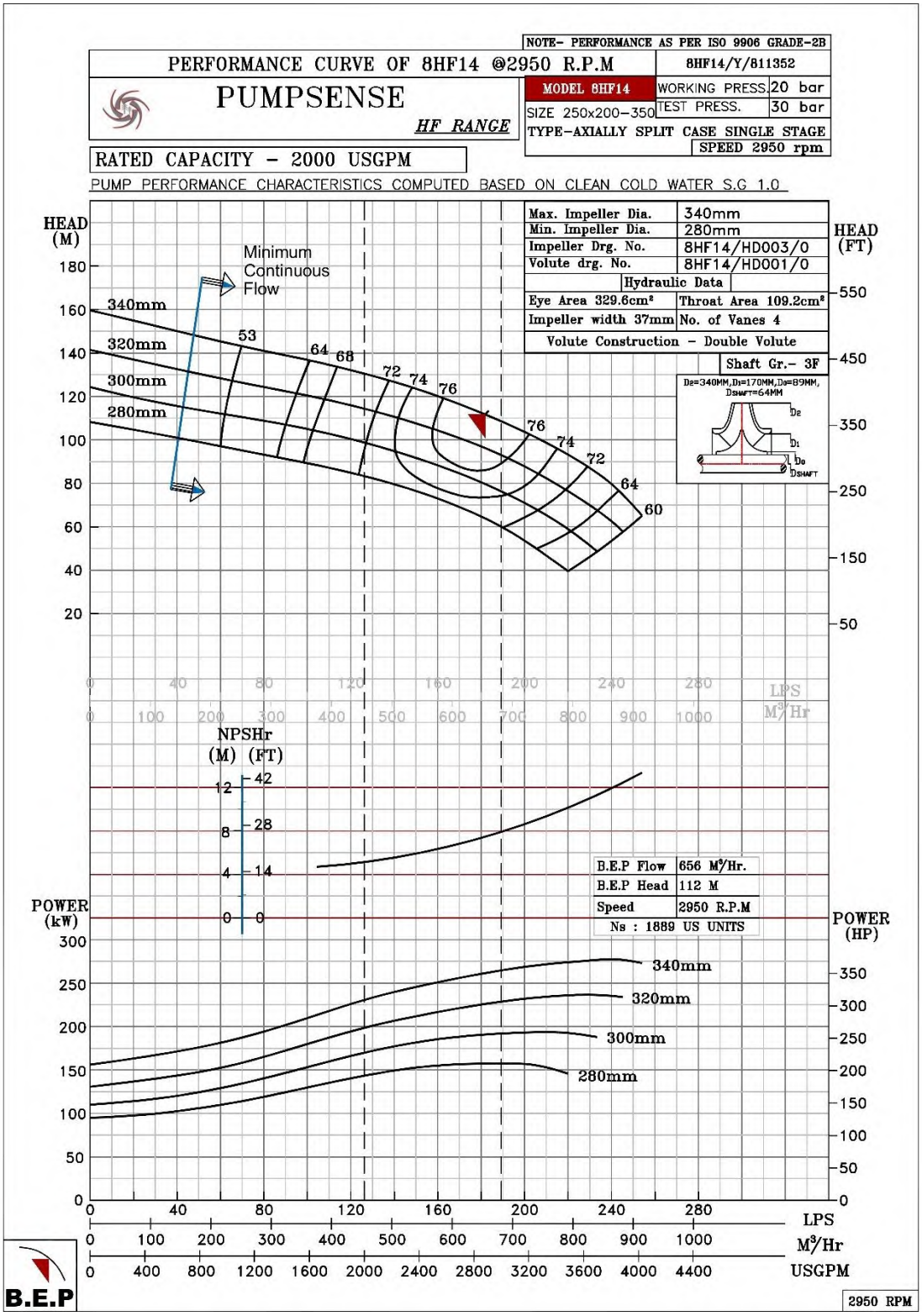
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

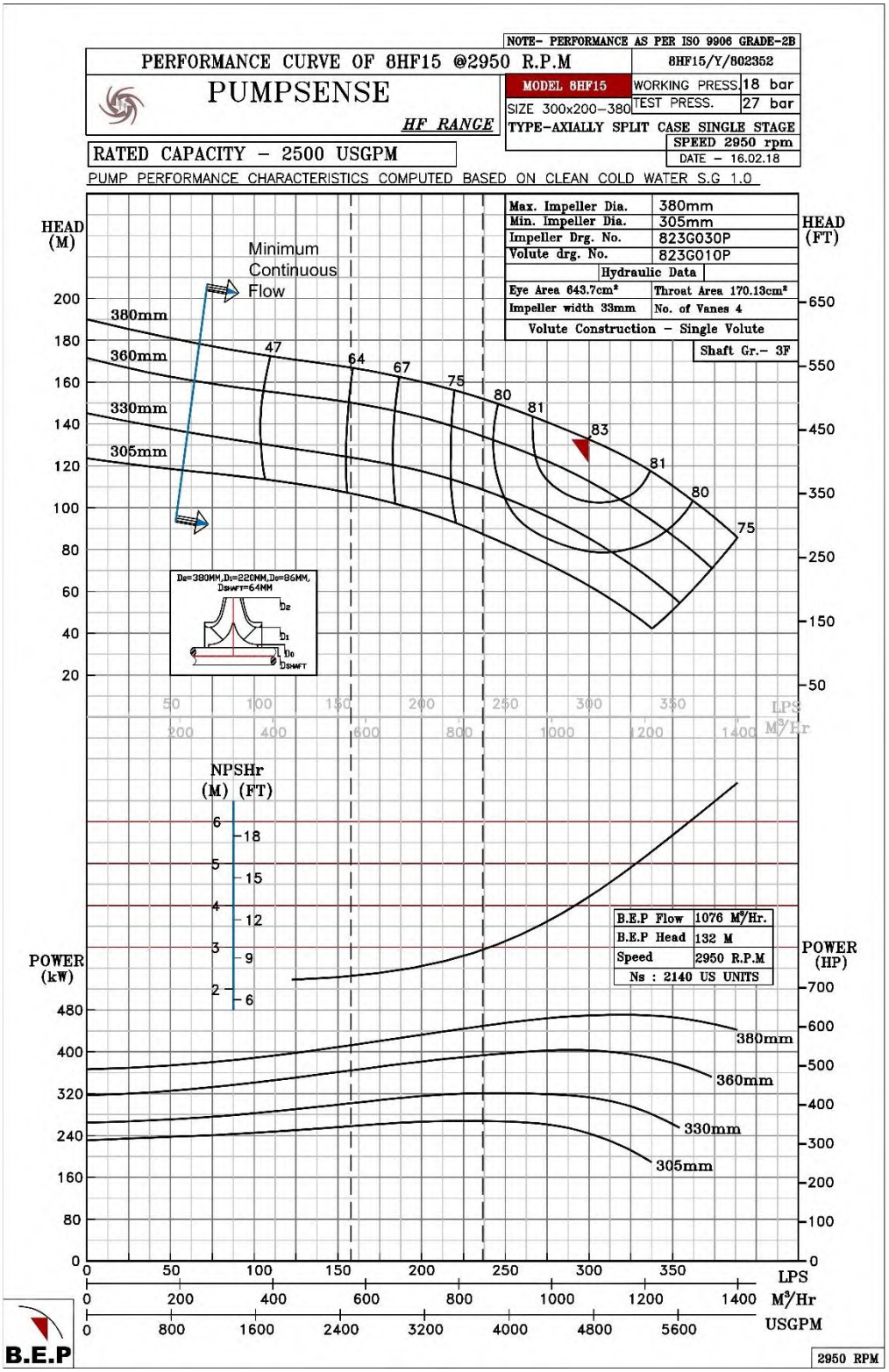



FM APPROVED
PERFORMANCE CURVE OF 8HF21 @1480 R.P.M
8HF21/Y/801554
PUMPSENSE
HF RANGE
MODEL 8HF21
WORKING PRESS. 140 PSI
SIZE 250x200-520
TEST PRESS. 215 PSI
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1480 rpm
RATED CAPACITY - 2000 USGPM-FM APPROVED
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY - 2000 USGPM
PRESSURE RANGE- 98-126 PSI
HEAD (PSI) (M)
HEAD (FT)
520mm
455mm
43
53
63
75
78
81
83
81
78
70
67
63
51
RATED CAPACITY
150% RATED CAPACITY
USGPM
POWER (kW)
POWER (HP)
LPS
M³/Hr
B.E.P
1480 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HFTD21 @1480 R.P.M
6HFTD21/Y/311754
PUMPSENSE
HST RANGE
MODEL 6HFTD21
WORKING PRESS. 26 bar
SIZE 200x150-540
TEST PRESS. 39 bar
TYPE-AXIALLY SPLIT CASE TWO STAGE
SPEED 1480 rpm
DATE - 15.05.18
RATED CAPACITY - 2000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 540mm
Min. Impeller Dia. 430mm
Impeller Drg. No. 317G130P
Volute Drg. No. 317G110P
Hydraulic Data
Eye Area 444cm² Throat Area 97cm²
Impeller Width 28mm No. of Vanes 8
Volute Construction - Two Single Volute
Shaft : Gr-4S
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
540mm
495mm
460mm
430mm
61
68
74
78
80
81
81.5
81
80
78
74
NPSHr (M) (FT)
POWER (kW)
POWER (HP)
B.E.P Flow 695 M³/Hr.
Head 171 M
Speed 1480 R.P.M
Ns : 1195 US UNITS
LPS
M³/Hr
USGPM
B.E.P
1480 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 6HFTD12S @2950 R.P.M
6HFTD12S/Y/901252
PUMPSENSE
HFT RANGE
MODEL 6HFTD12S
WORKING PRESS. 36 bar
SIZE 200x150-330
TEST PRESS. 54 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2950 rpm
RATED CAPACITY - 2000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 300mm
Min. Impeller Dia. 264mm
Impeller Drg. No. 8HF13/HD003/0
Volute Drg. No. 8HF13/HD001/0
Hydraulic Data
Eye Area 386.9cm²
Throat Area 165.6cm²
Impeller Width 40mm
No. of Vanes 4
Volute Construction - Single Volute
Shaft : Gr-3F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
330mm
293mm
280mm
264mm
44
55
63
67
75
80
81
82
81
80
75
LPS
M³/Hr
NPSHr (M) (FT)
B.E.P Flow 795 M³/Hr.
B.E.P Head 176 M
Speed 2950 R.P.M
Ns : 2493 US UNITS
POWER (kW)
POWER (HP)
330mm
293mm
280mm
264mm
LPS
M³/Hr
USGPM
B.E.P
2950 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 8HF14 @2950 R.P.M
8HF14/Y/811352
PUMPSENSE
HF RANGE
MODEL 8HF14
WORKING PRESS. 20 bar
SIZE 250x200-350
TEST PRESS. 30 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2950 rpm
RATED CAPACITY - 2000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 340mm
Min. Impeller Dia. 280mm
Impeller Drg. No. 8HF14/HD003/0
Volute drg. No. 8HF14/HD001/0
Hydraulic Data
Eye Area 329.6cm²
Throat Area 109.2cm²
Impeller width 37mm
No. of Vanes 4
Volute Construction - Double Volute
Shaft Gr.- 3F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
340mm
320mm
300mm
280mm
53
64
68
72
74
76
NPSHr (M) (FT)
B.E.P Flow 656 M³/Hr.
B.E.P Head 112 M
Speed 2950 R.P.M
Ns : 1889 US UNITS
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2950 RPM


NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B
PERFORMANCE CURVE OF 8HF15 @2950 R.P.M
8HF15/Y/802352
PUMPSENSE
HF RANGE
MODEL 8HF15
WORKING PRESS. 18 bar
SIZE 300x200-380
TEST PRESS. 27 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2950 rpm
DATE - 16.02.18
RATED CAPACITY - 2500 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 380mm
Min. Impeller Dia. 305mm
Impeller Drg. No. 823G030P
Volute drg. No. 823G010P
Hydraulic Data
Eye Area 643.7cm²
Throat Area 170.13cm²
Impeller width 33mm
No. of Vanes 4
Volute Construction - Single Volute
Shaft Gr.- 3F
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
380mm
360mm
330mm
305mm
47
64
67
75
80
81
83
81
80
75
NPSHr (M) (FT)
B.E.P Flow 1076 M³/Hr.
B.E.P Head 132 M
Speed 2950 R.P.M
Ns : 2140 US UNITS
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
2950 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 8HF15 @2950 R.P.M

8HF15/Y/802352

PUMPSENSE

HF RANGE

MODEL 8HF15	WORKING PRESS.	18 bar
SIZE 300x200-380	TEST PRESS.	27 bar

TYPE-AXIALLY SPLIT CASE SINGLE STAGE

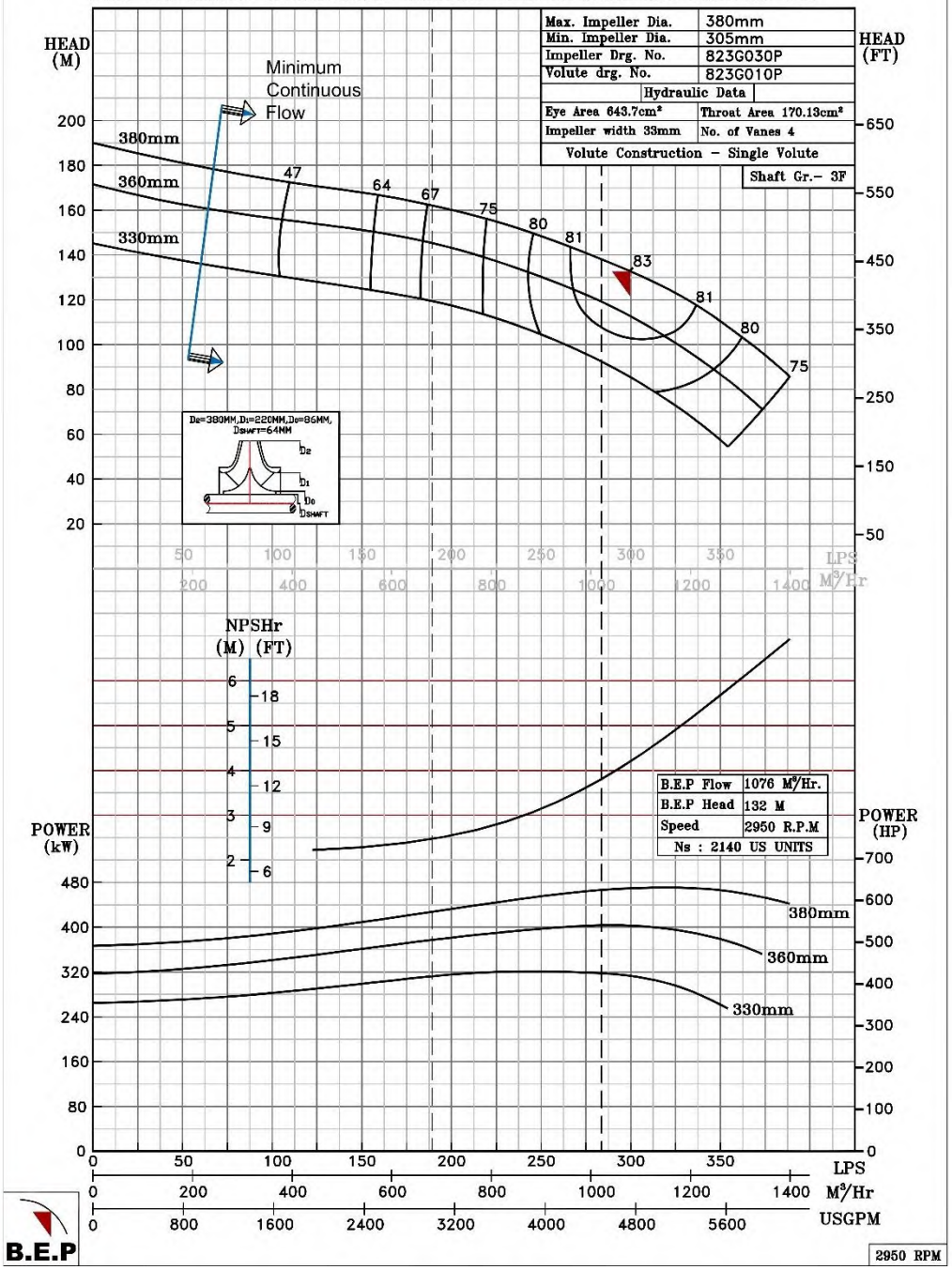
SPEED 2950 rpm

DATE - 16.02.18

RATED CAPACITY - 3000 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0

Max. Impeller Dia.	380mm
Min. Impeller Dia.	305mm
Impeller Drg. No.	823G030P
Volute drg. No.	823G010P
Hydraulic Data	
Eye Area 643.7cm²	Throat Area 170.13cm²
Impeller width 33mm	No. of Vanes 4
Volute Construction - Single Volute	
Shaft Gr.- 3F	



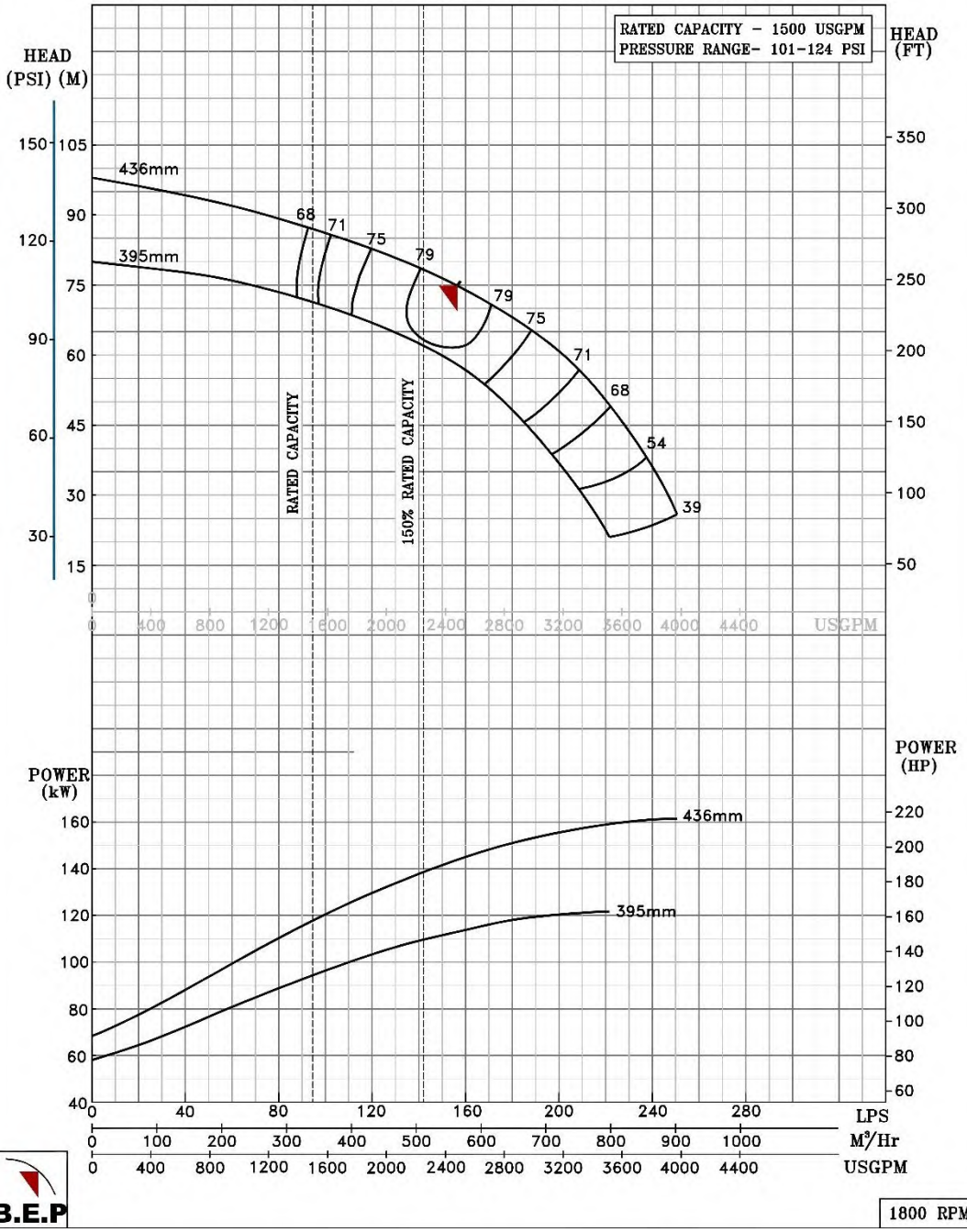
B.E.P

2950 RPM

FM APPROVED

PERFORMANCE CURVE OF 6HF18 @1800 R.P.M		6HF18/Y/801064
PUMPSENSE *HF RANGE*	MODEL 6HF18	WORKING PRESS. 140 PSI
	SIZE 200x150–436	TEST PRESS. 215 PSI
	TYPE–AXIALLY SPLIT CASE SINGLE STAGE	SPEED 1800rpm

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



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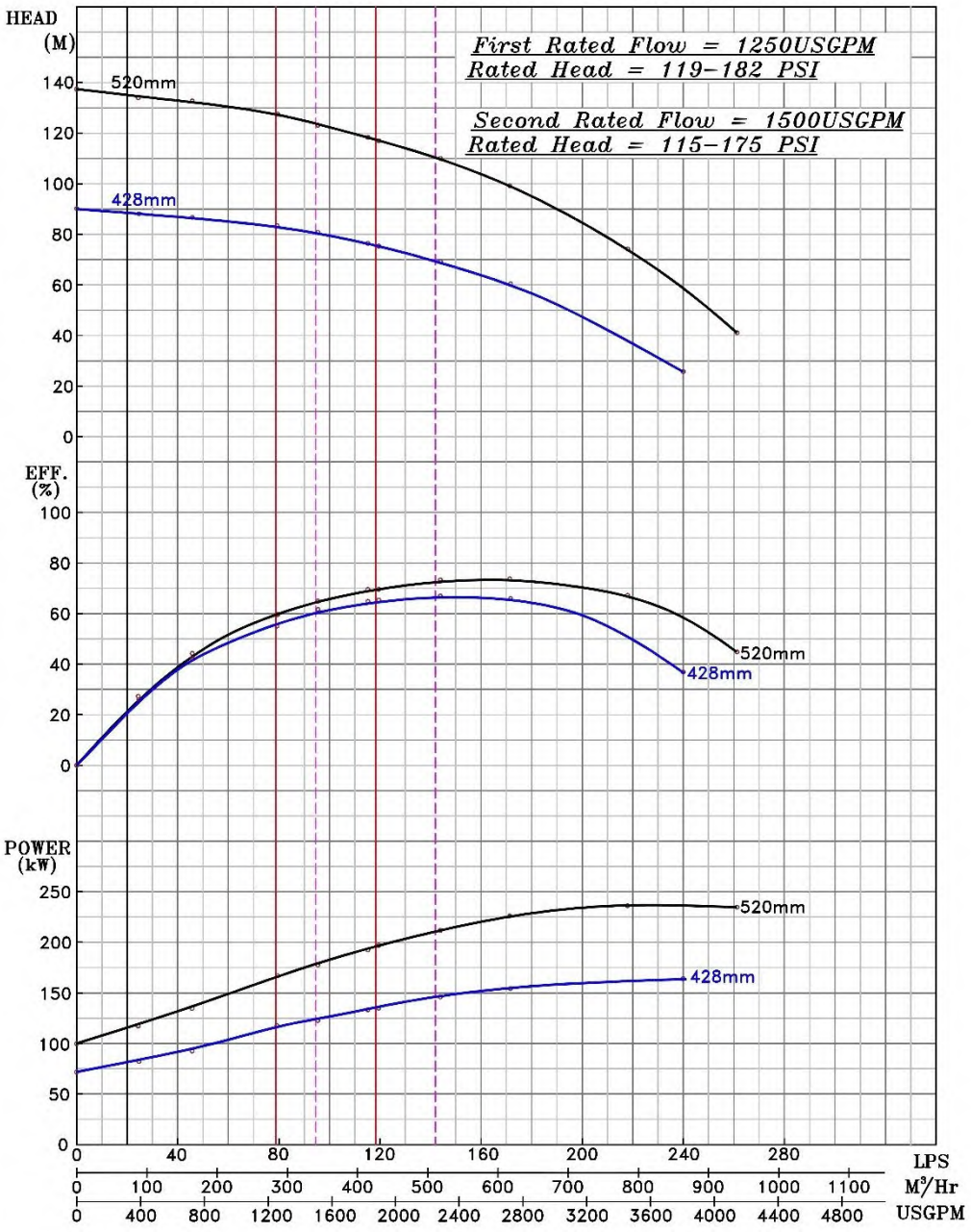
PERFORMANCE CURVE OF 6HF20 @1800 R.P.M

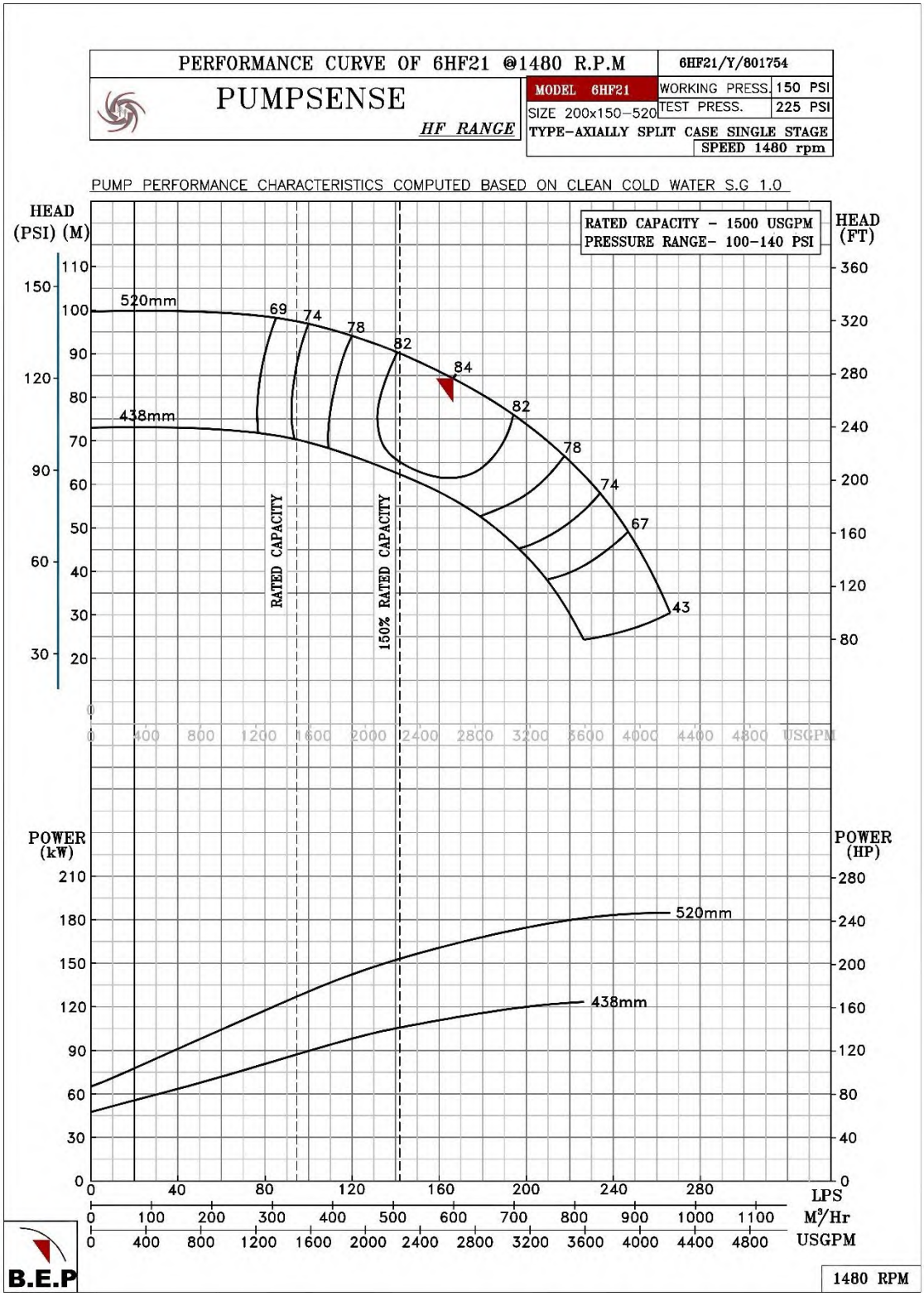
PUMPSENSE

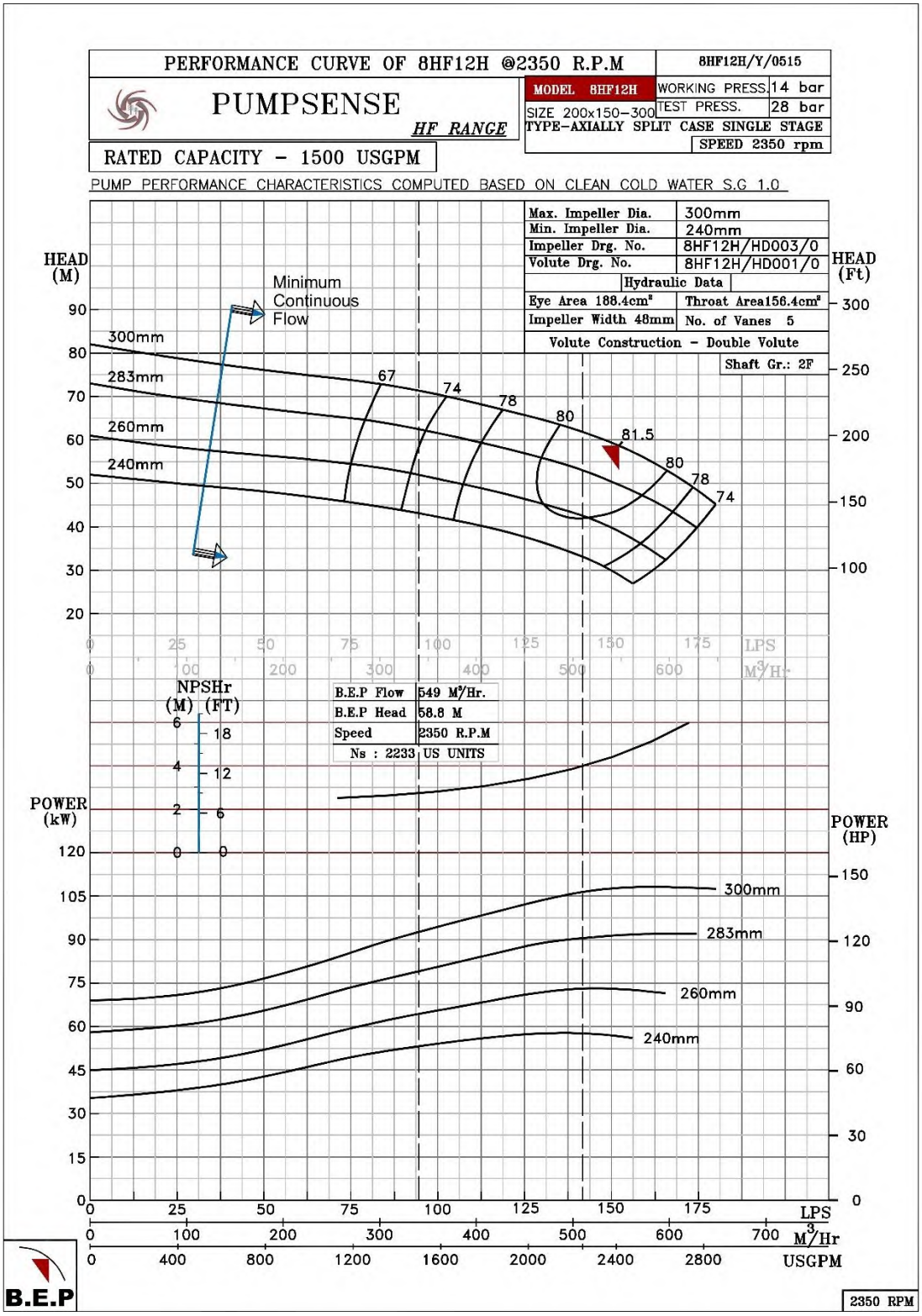
HF RANGE

TYPE–AXIALLY SPLIT CASE SINGLE STAGE

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




PERFORMANCE CURVE OF 6HF21 @1480 R.P.M
6HF21/Y/801754
PUMPSENSE
HF RANGE
MODEL 6HF21
WORKING PRESS. 150 PSI
SIZE 200x150-520
TEST PRESS. 225 PSI
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1480 rpm
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
RATED CAPACITY - 1500 USGPM
PRESSURE RANGE- 100-140 PSI
HEAD (PSI) (M)
HEAD (FT)
520mm
438mm
69
74
78
82
84
82
78
74
67
43
RATED CAPACITY
150% RATED CAPACITY
POWER (kW)
POWER (HP)
520mm
438mm
LPS
M³/Hr
USGPM
B.E.P
1480 RPM


PERFORMANCE CURVE OF 8HF12H @2350 R.P.M
8HF12H/Y/0515
PUMPSENSE
HF RANGE
MODEL 8HF12H
WORKING PRESS. 14 bar
SIZE 200x150-300
TEST PRESS. 28 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 2350 rpm
RATED CAPACITY - 1500 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 300mm
Min. Impeller Dia. 240mm
Impeller Drg. No. 8HF12H/HD003/0
Volute Drg. No. 8HF12H/HD001/0
Hydraulic Data
Eye Area 188.4cm² Throat Area156.4cm²
Impeller Width 48mm No. of Vanes 5
Volute Construction - Double Volute
Shaft Gr.: 2F
HEAD (M)
HEAD (Ft)
Minimum Continuous Flow
300mm
283mm
260mm
240mm
67
74
78
80
81.5
80
78
74
LPS
M³/Hr
NPSHr (M) (FT)
B.E.P Flow 549 M³/Hr.
B.E.P Head 58.8 M
Speed 2350 R.P.M
Ns : 2233 US UNITS
POWER (kW)
POWER (HP)
300mm
283mm
260mm
240mm
LPS
M³/Hr
USGPM
B.E.P
2350 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

PERFORMANCE CURVE OF 10HF20 Vs. 10HF22 @1780 R.P.M

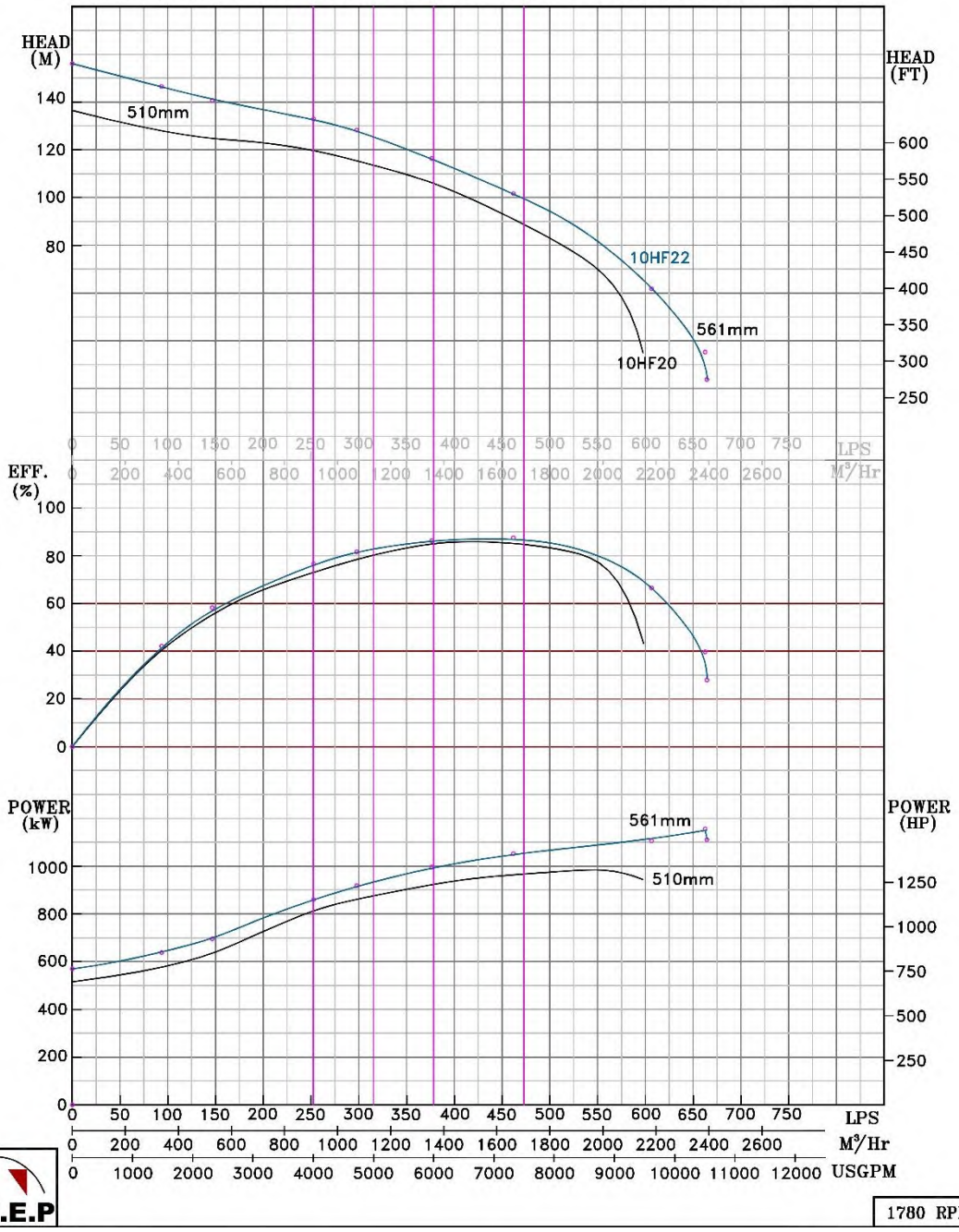
10HF22-MK2/Y/103764

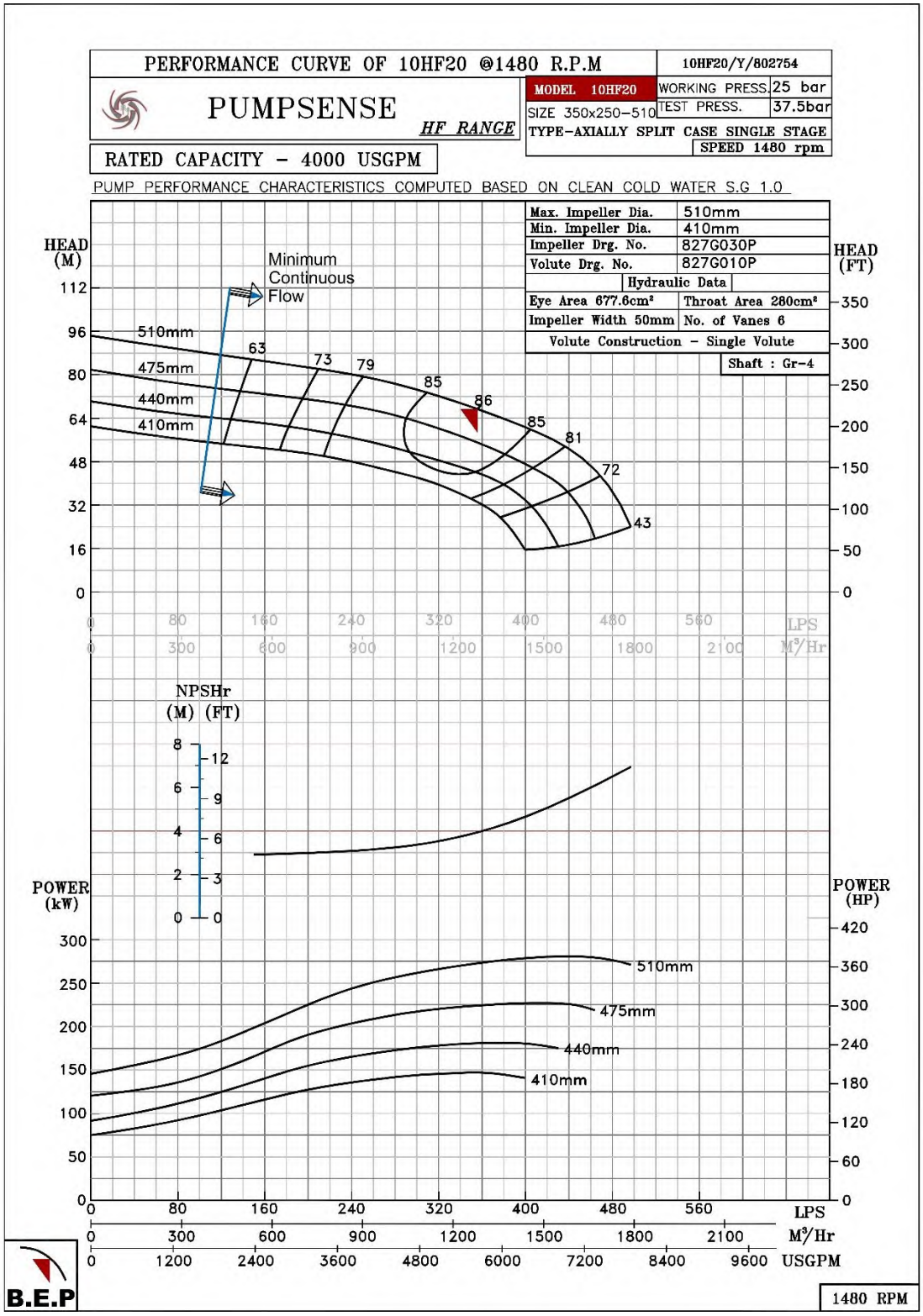
PUMPSENSE

HS RANGE

MODEL10HF22-MK2	WORKING PRESS.	20 bar
SIZE 300x250-568	TEST PRESS.	30 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE		
SPEED 1780 rpm		

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0




PERFORMANCE CURVE OF 10HF20 @1480 R.P.M
10HF20/Y/802754
PUMPSENSE
HF RANGE
MODEL 10HF20
WORKING PRESS. 25 bar
SIZE 350x250-510
TEST PRESS. 37.5bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE
SPEED 1480 rpm
RATED CAPACITY - 4000 USGPM
PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0
Max. Impeller Dia. 510mm
Min. Impeller Dia. 410mm
Impeller Drg. No. 827G030P
Volute Drg. No. 827G010P
Hydraulic Data
Eye Area 677.6cm²
Throat Area 280cm²
Impeller Width 50mm
No. of Vanes 6
Volute Construction - Single Volute
Shaft : Gr-4
HEAD (M)
HEAD (FT)
Minimum Continuous Flow
510mm
475mm
440mm
410mm
63
73
79
85
86
85
81
72
43
NPSHr (M) (FT)
POWER (kW)
POWER (HP)
LPS
M³/Hr
USGPM
B.E.P
1480 RPM

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

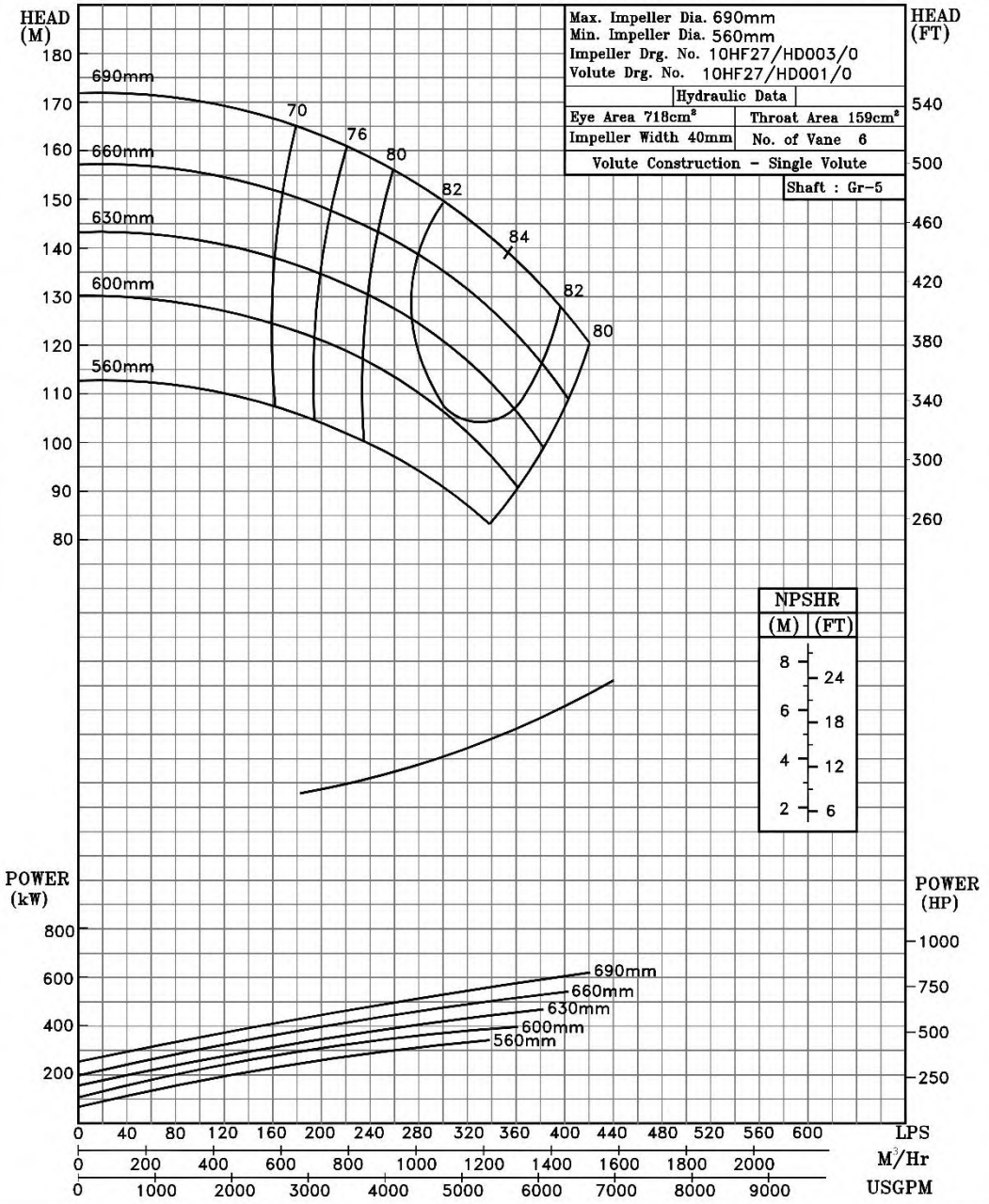
PERFORMANCE CURVE OF 10HF27 @1480 R.P.M | 10HF27/X/0610

PUMPSENSE *HF RANGE*

MODEL 10HF27	WORKING PRESS. 16 bar
SIZE 300x250-690	TEST PRESS. 24 bar
TYPE-AXIALLY SPLIT CASE SINGLE STAGE	SPEED 1480 rpm

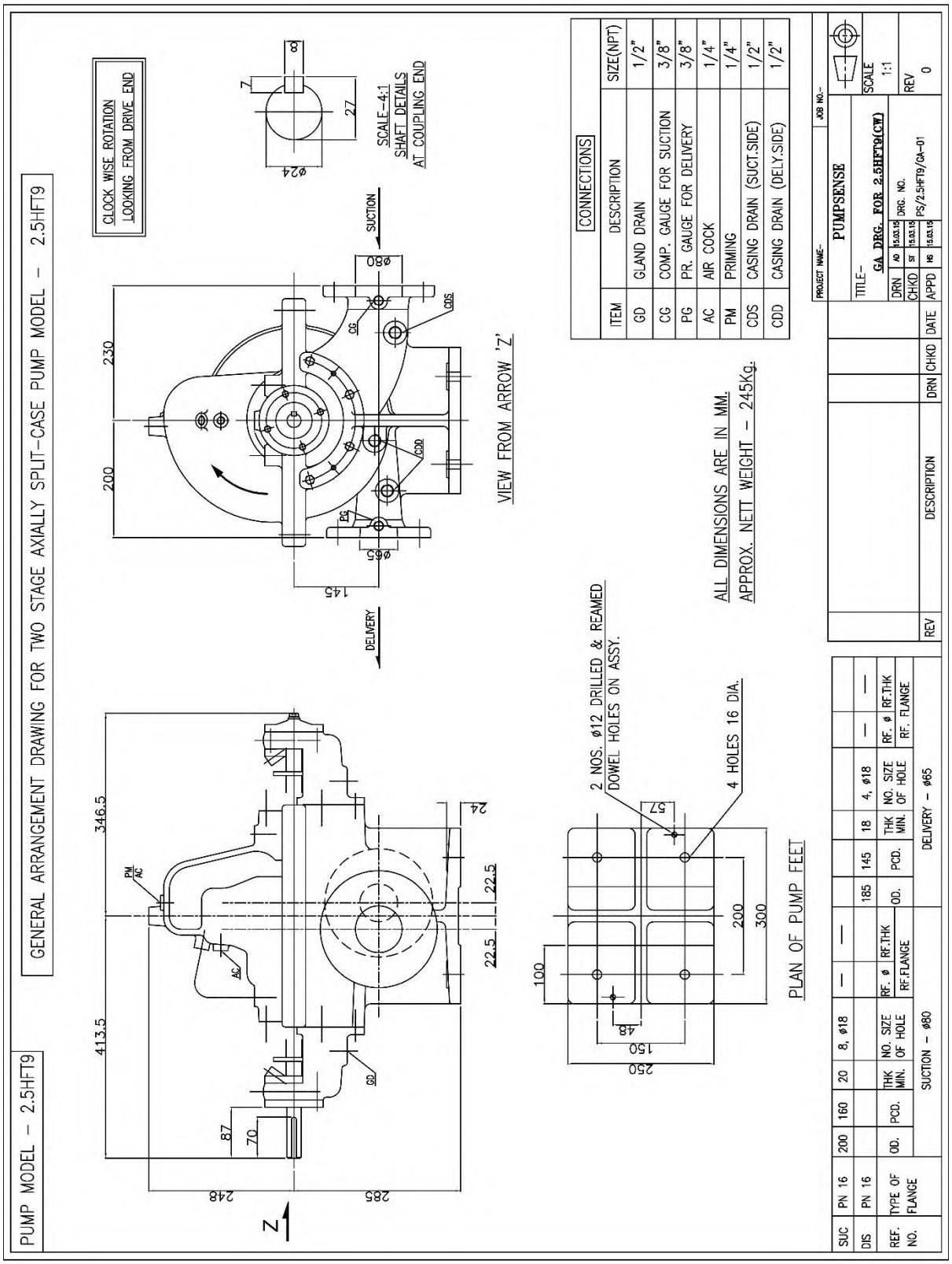
RATED CAPACITY - 3000 USGPM

PUMP PERFORMANCE CHARACTERISTICS COMPUTED BASED ON CLEAN COLD WATER S.G 1.0



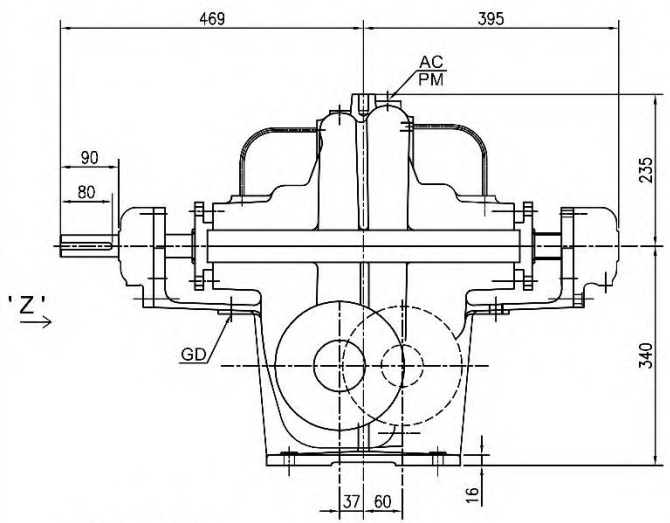
10HF27 | 1480 RPM

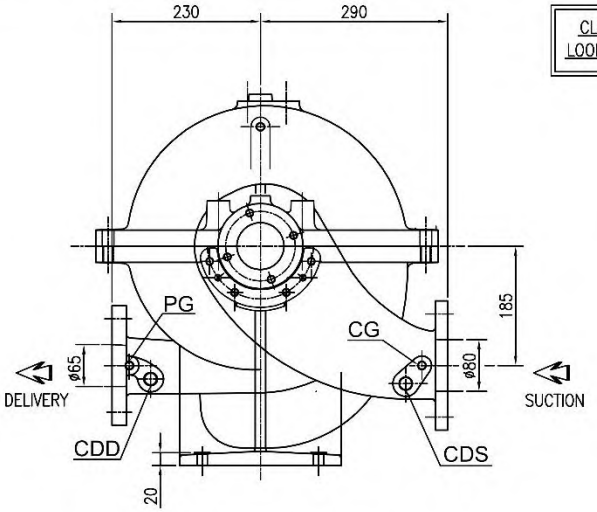
12. NFPA20 Fire Pumps GA Drawings



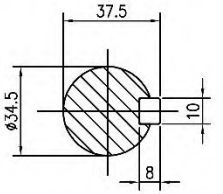
PUMP MODEL – 2.5HFT12

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 2.5HFT12



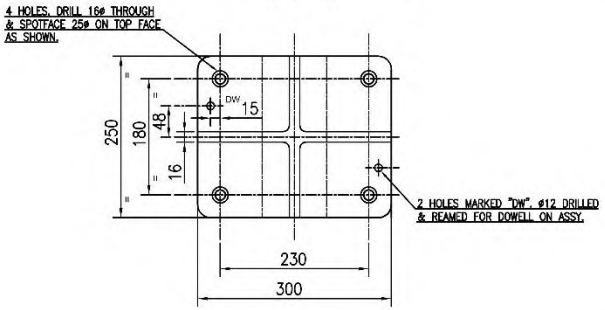


CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 4:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø80 OD.	PCD.	THK MIN.	NO. SIZE OF HOLE	RF. ø	RF.THK	DELIVERY – ø65 OD.	PCD.	THK MIN.	NO. SIZE OF HOLE	RF. ø	RF.THK
SUC	PN 16	200	160	20	8, ø18	—	—	185	145	18	4, ø18	—	—
DIS	PN 16												
						RF.FLANGE						RF. FLANGE	

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRAWING FOR 2.5HFT12

DRN	AD	23.12.16
CHKD	ST	03.01.17
APPD	HS	03.01.17

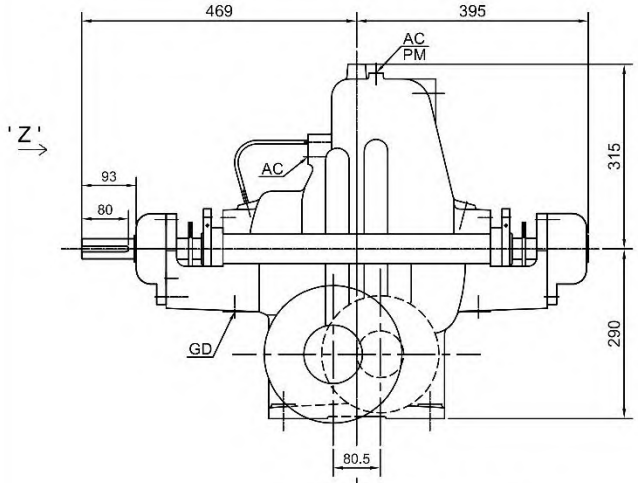
DRG. NO. 2.5HFT12/GA-01/0

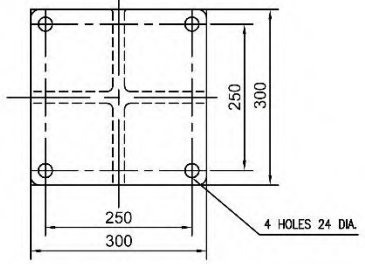
SCALE 1:1

REV 0

PUMP MODEL – 3HFT11

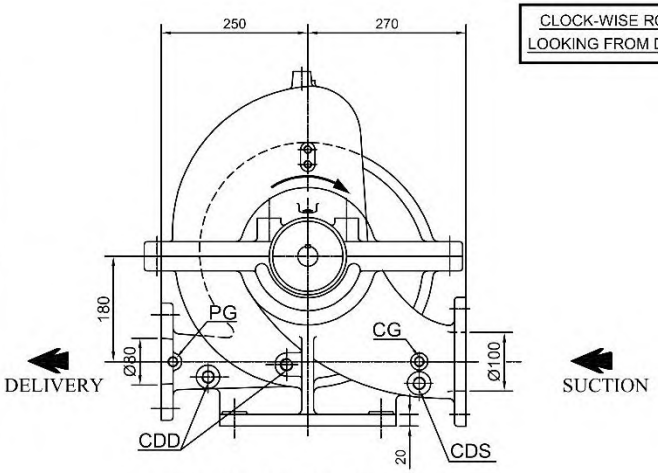
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 3HFT11



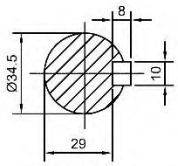


DETAIL OF PUMP FEET

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



VIEW IN DIRECTION OF ' Z '



SCALE-4:1
SHAFT DETAILS
AT COUPLING END

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

APPROX. NETT WEIGHT – 312kg.
ALL DIMENSIONS ARE IN MM.

REF. NO.	TYPE OF FLANGE	SUCTION - Ø100 OD.	PCD.	THK MIN.	NO. SIZE OF HOLE	RF. Ø	RF.THK	DELIVERY - Ø80 OD.	PCD.	THK MIN.	NO. SIZE OF HOLE	RF. Ø	RF.THK
SUC	PN 16	220	180	20	8, Ø18	—	—						
DIS	PN 16							200	160	20	8, Ø18	—	—
						RF.FLANGE						RF. FLANGE	

REV	DESCRIPTION	DRN	CHKD	APPD

PUMPSENSE

TITLE: GA DRAWING FOR 3HFT11

DRN	AD	13.02.15
CHKD	ST	13.02.15
APPD	HS	13.02.15

DRG. NO. 3HFT11/GA-01/0

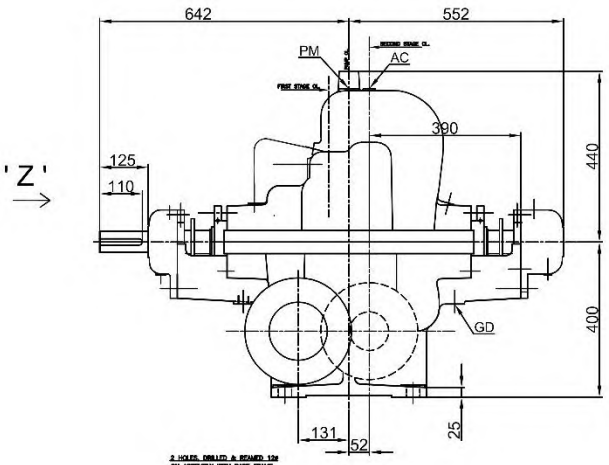
SCALE 1:1

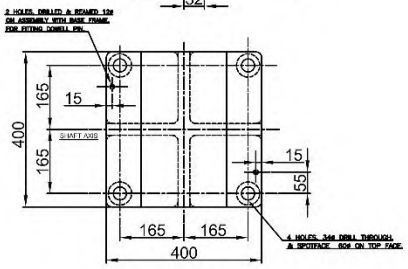
REV 0

PUMP MODEL– 4HFT14

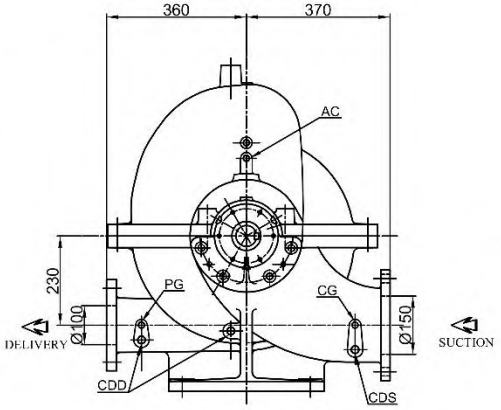
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 4HFT14

CLOCK WISE ROTATION
LOOKING FROM DRIVE END

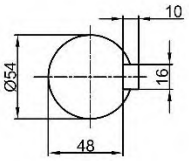




PLAN OF PUMP FEET



VIEW IN DIRECTION OF ' Z '



SCALE – 4:1
SHAFT DETAIL AT
COUPLING END

APPROX. NETT WEIGHT – 593kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

		SUCTION – ø150 (6")						DELIVERY – ø100 (4")					
S	ANSI#125	11"	9-1/2"	1"	8, ø7/8"	—	—						
D	ANSI#250							10"	7-7/8"	1-1/4"	8, ø7/8"	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF FLANGE	ØRF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF FLANGE	ØRF.THK

REV	DESCRIPTION	DRN	CHKD	APPD

PUMPSENSE

TITLE–
GA DRAWING FOR 4HFT14 (CW)

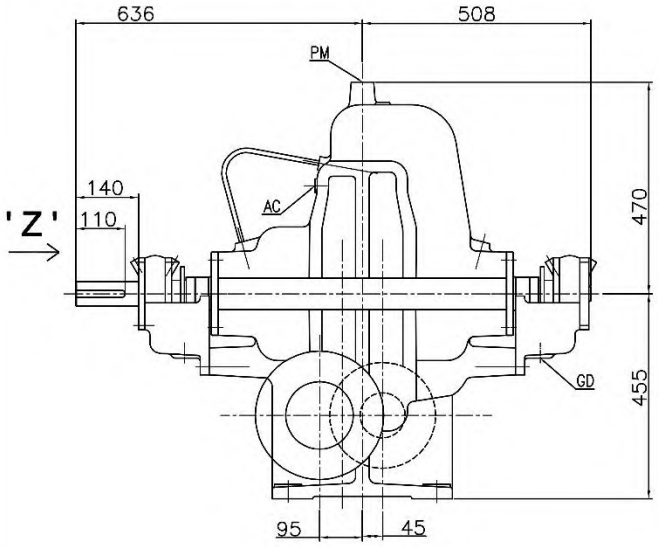
DRN	AD	24.04.15
CHKD	SP	24.04.15
APPD	HS	24.04.15

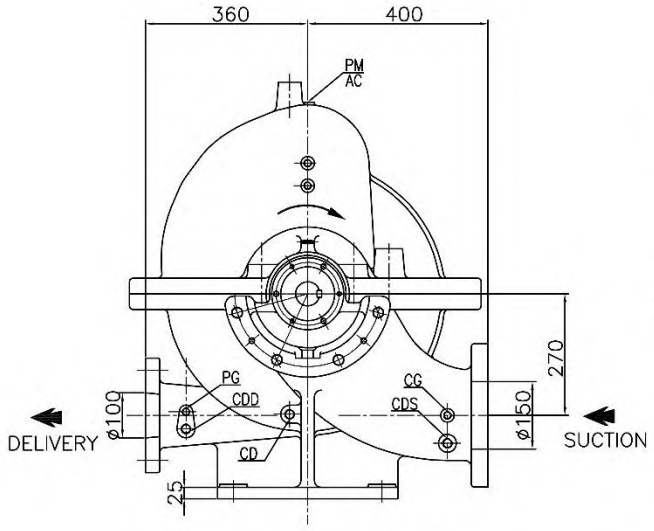
DRG. NO.
PSF/4HFT14/GA–01

SCALE 1:1
REV 0

PUMP MODEL– 4HST19

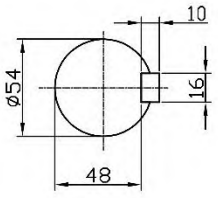
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 4HST19



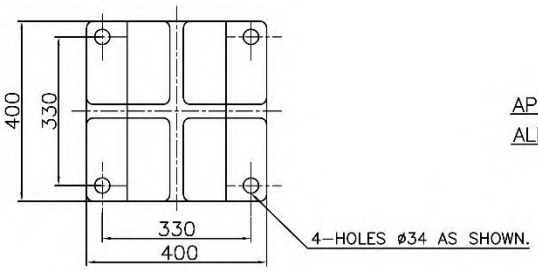


VIEW IN DIRECTION OF 'Z'

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAIL AT
COUPLING END



DETAIL OF PUMP FEET

APPROX. NETT WEIGHT – 725kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI#125	11"	9–1/2"	1"	8, ø7/8"	—	—					—	—	
D	ANSI#250							10"	7–7/8"	1–1/4"	8, 7/8"	—	—	
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF Ø	RF.THK RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF Ø	RF.THK RF FLANGE	
		SUCTION – ø150 (6")						DELIVERY – ø100 (4")						

REV	DESCRIPTION	DRN	CHKD

PROJECT NAME– PUMPSENSE | JOB NO.–

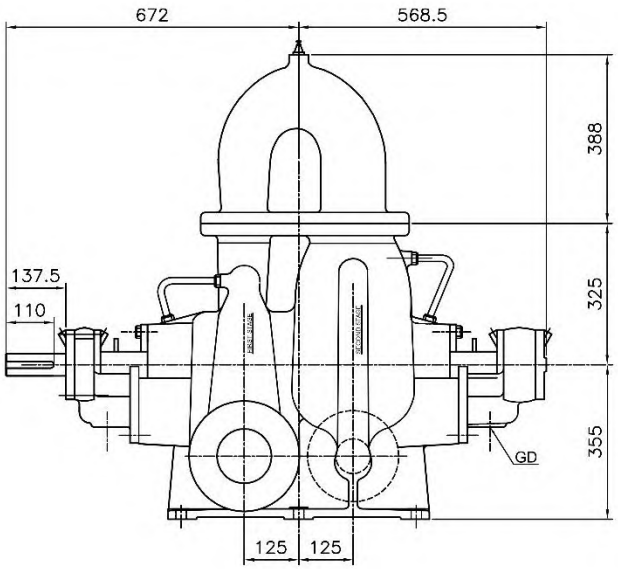
TITLE: GA DRG. FOR 4HST19(CW)

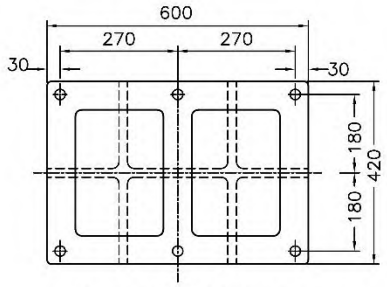
DRN	AS	12.04.13	DRG. NO. PSF/4HST19/GA–01
CHKD	AS	12.04.13	
APPD	HS	12.04.13	

SCALE 1:1 | REV 0

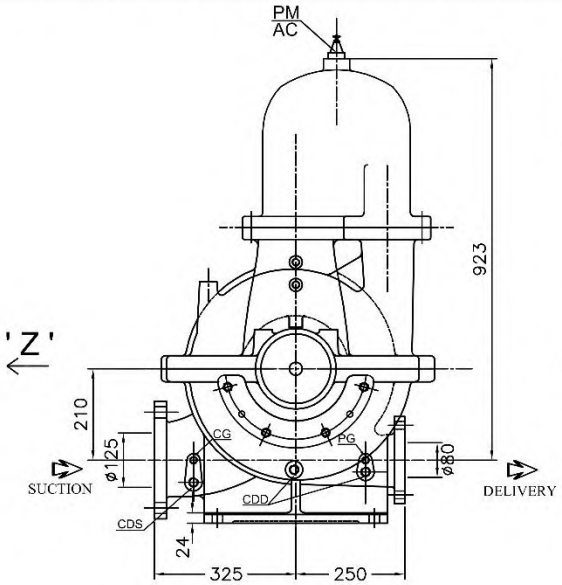
PUMP MODEL– 3HFTD14

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 3HFTD14



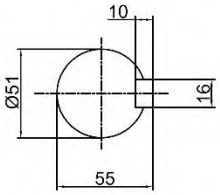


PLAN OF PUMP FEET



VIEW IN DIRECTION OF 'Z'

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 4:1
SHAFT DETAIL AT
COUPLING END

APPROX. NETT WEIGHT – 320kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/8"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI#125FF	10"	8–1/2"	15/16"	8,7/8"	—	—							
D	ANSI#250FF							8–1/4"	6–5/8"	1–1/8"	8, 7/8"	—	—	
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF FLANGE	ØRF.THK RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF FLANGE	ØRF.THK RF FLANGE	
		SUCTION – ø125 (5")						DELIVERY – ø80 (3")						

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE–

GA DRG. FOR 3HFTD14(CW)

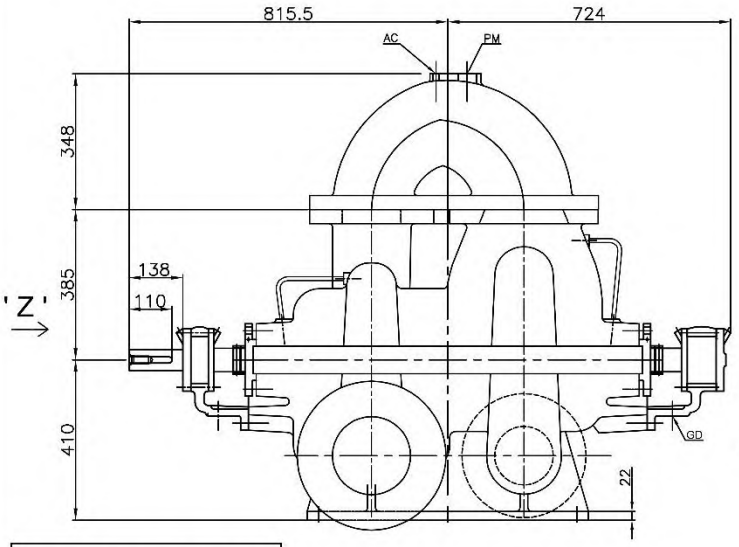
DRN	AD	04.09.19	DRG. NO.
CHKD	TK	04.09.19	PSF/3HFTD14/GA–01
APPD	HS	04.09.19	

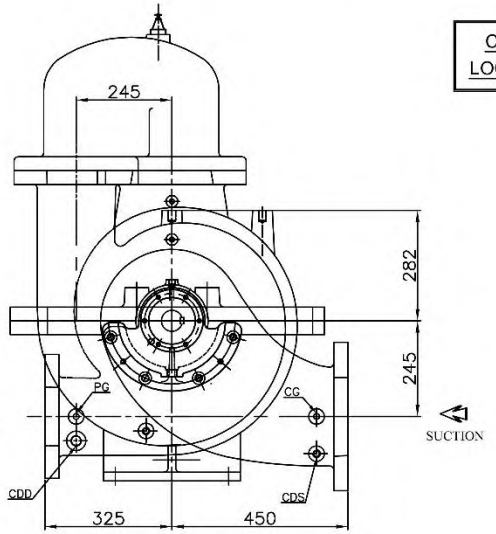
SCALE 1:1

REV 0

PUMP MODEL– 4HFTD13

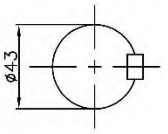
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 4HFTD13





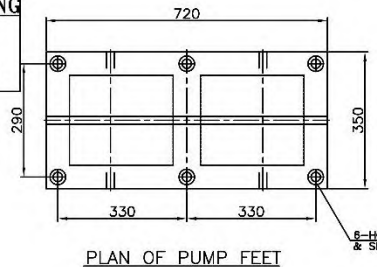
VIEW IN DIRECTION OF ' Z '

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END

PRELIMINARY GA DRAWING DIMENSIONS ARE SUBJECTED TO CHANGE



PLAN OF PUMP FEET

APPROX. NETT WEIGHT – 800kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø150(6") O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE	DELIVERY – ø100(4") O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE
S	ANSI#250FF	12–1/2"	10–5/8"	1–7/16"	12, ø7/8"	— —					
D	ANSI#250FF						10"	7–7/8"	1–1/4"	8, ø7/8"	— —

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE: **GA DRG. FOR 4HFTD13**

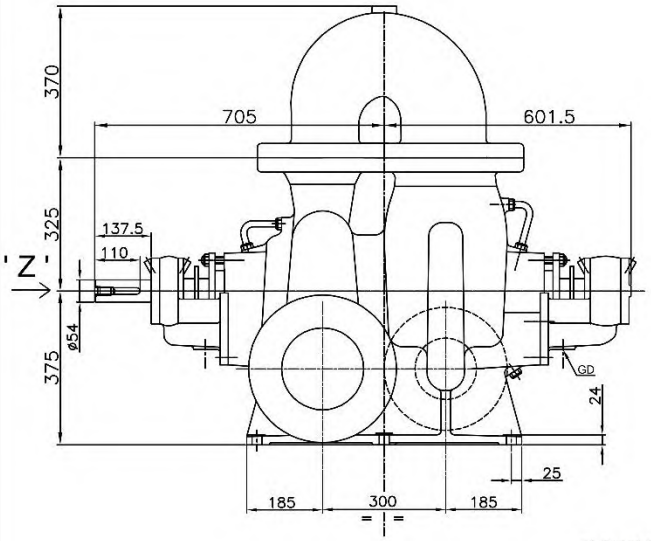
DRN	TK	16.4.19	DRG. NO. PSF/4HFTD13/GA-01
CHKD	TK	16.4.19	
APPD	HS	16.4.19	

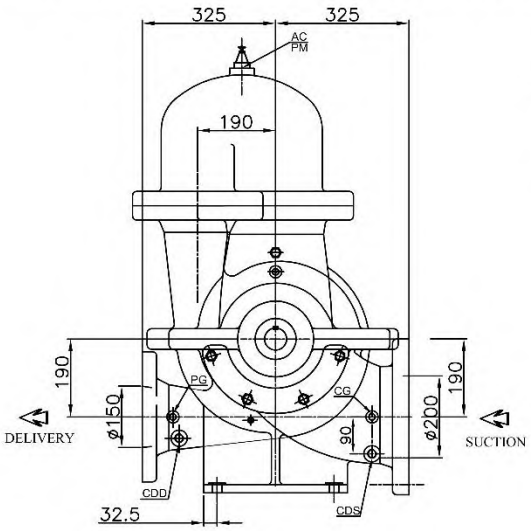
SCALE 1:1

REV 0

PUMP MODEL– 6HFTD12

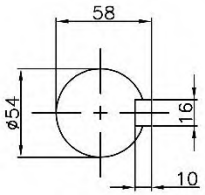
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD12



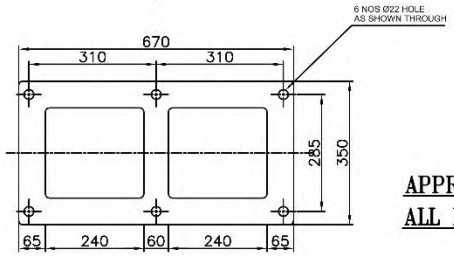


VIEW IN DIRECTION OF ' Z '

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT – 684kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/8"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – 200 O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK / RF FLANGE		DELIVERY – 150 O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK / RF FLANGE	
S	PN 25	360	310	30	12, 26	—	—						
D	PN 25							300	250	28	8, ø 26	—	—

REV	DESCRIPTION

PUMPSENSE

TITLE: GA DRG. FOR 6HFTD12

DRN	AD	22.04.12
CHKD	ST	22.01.17
APPD	HS	22.01.17

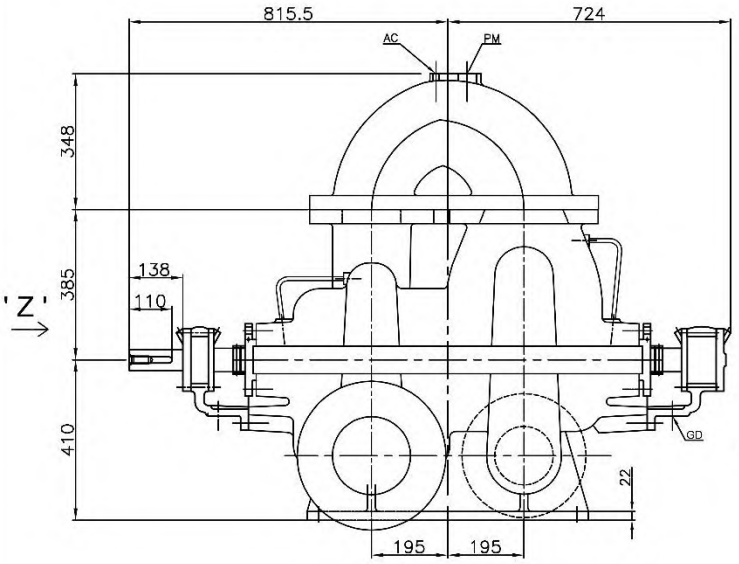
DRG. NO. PSF/6HFTD12/GA-01

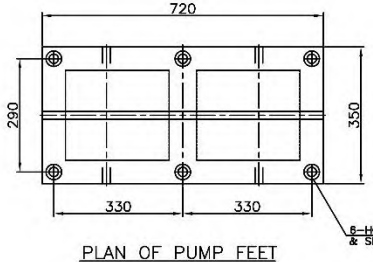
SCALE

REV 0

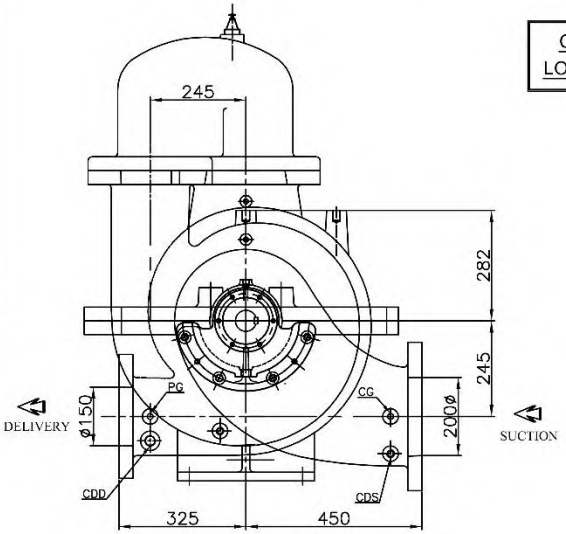
PUMP MODEL– 6HFTD12S

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD12S



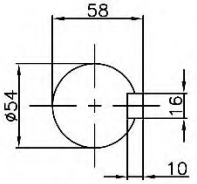


PLAN OF PUMP FEET



VIEW IN DIRECTION OF ' Z '

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END

APPROX. NETT WEIGHT – 1300kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø200 O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE ØRF.THK	RF FLANGE	DELIVERY – ø150 O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE ØRF.THK	RF FLANGE
S	ANSI 250#FF	15"	13"	1–5/8"	12, ø 1"	—	—						
D	ANSI 250#FF							12–1/2"	10–5/8"	1–7/16"	12, ø7/8"	—	—

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE: GA DRG. FOR 6HFTD12S

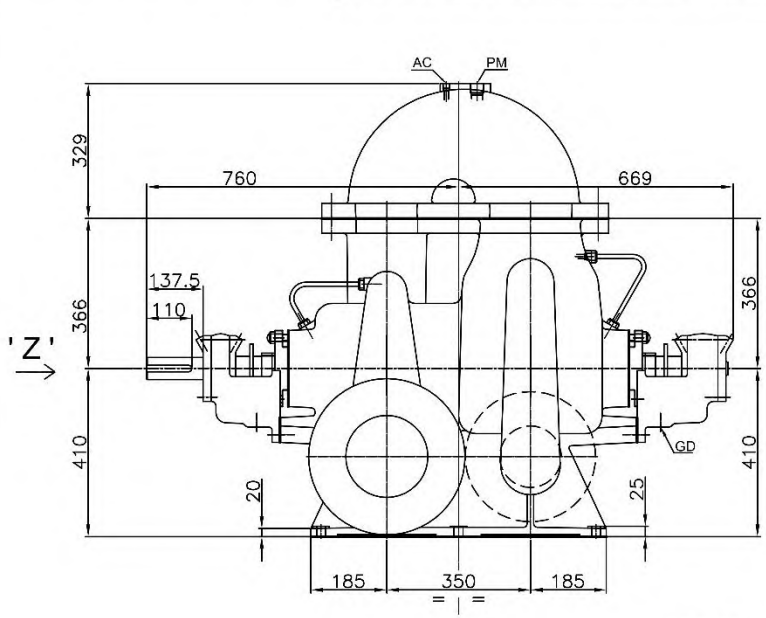
DRN	AD	09.02.18	DRG. NO. PSF/6HFTD12S/GA–01
CHKD	ST	09.02.18	
APPD	HS	09.02.18	

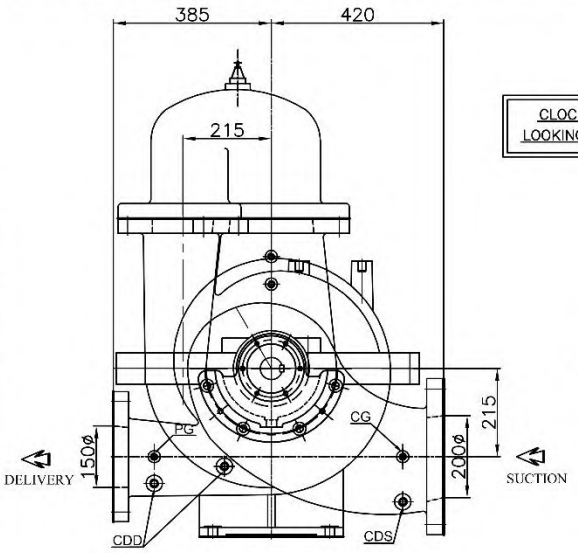
SCALE 1:1

REV 0

PUMP MODEL– 6HFTD12L

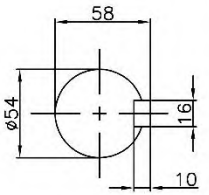
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD12L



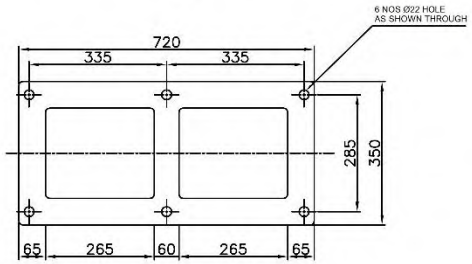


VIEW IN DIRECTION OF ' Z '

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT – 850kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

DEL 150Ø	ANSI 250#FF	12-1/2"	10-5/8"	1-7/16"	12,Ø7/8"	---	---
SUC 200Ø	ANSI 250#FF	15"	13"	1-5/8"	12,Ø1"	---	---
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO & HOLE Ø	RFØ RF FLANGE	RF THK

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE– GA DRG. FOR 6HFTD12L

DRN	AD	17.09.19
CHKD	ST	17.09.19
APPD	HS	17.09.19

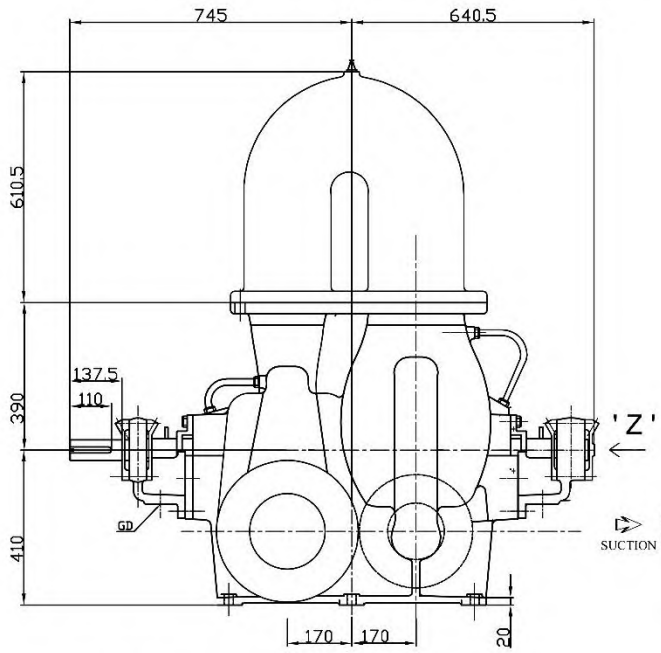
DRG. NO. PSF/6HFTD12L/GA-01

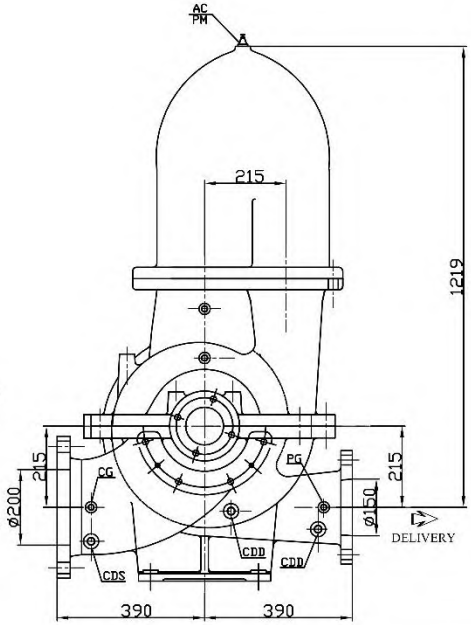
SCALE 1:1

REV 0

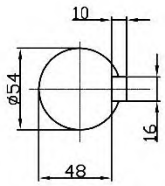
PUMP MODEL – 6HFTD13

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD13

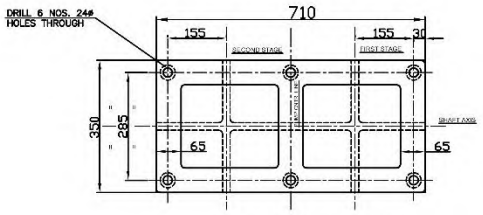




CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

VIEW IN DIRECTION OF ' Z '

APPROX. NETT WEIGHT –940 kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/8"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø200 (8")						DELIVERY – ø150 (6")					
		O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF ø	RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF ø	RF.THK
S	ANSI#125FF	13–1/2"	11–3/4"	1–1/8"	8 ,7/8"	—	—	12–1/2"	10–5/8"	1–7/16"	12 ,7/8"	—	—
D	ANSI#250FF					RF FLANGE						RF FLANGE	

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE: GA DRG. FOR 6HFTD13(CW)

DRN	AS	25.01.12
CHKD	AS	25.01.12
APPD	HS	25.01.12

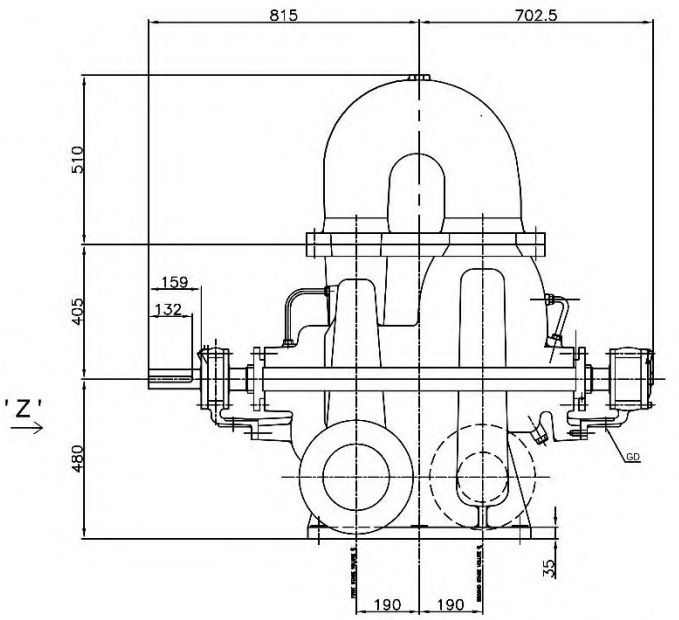
DRG. NO. PSF/6HFTD13/GA–01

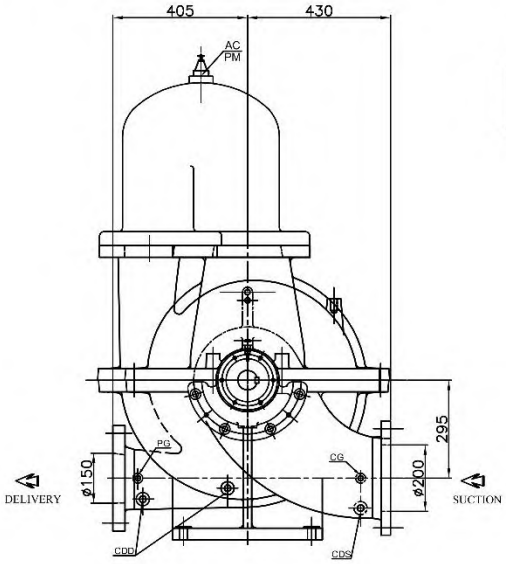
SCALE 1:1

REV 0

PUMP MODEL– 6HFTD18

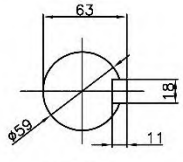
GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD18



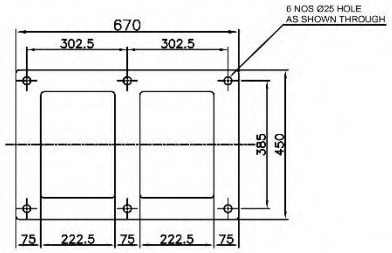


VIEW IN DIRECTION OF 'Z'

CLOCK WISE ROTATION
LOOKING FROM DRIVE END



SCALE–4:1
SHAFT DETAILS
AT COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT – 1206kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – 200					DELIVERY – 150				
		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE Ø/RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE Ø/RF.THK
S	ANSI#125	13-1/2"	11-3/4"	1-1/8"	8,7/8"	—/—					
D	ANSI#250						12-1/2"	10-5/8"	1-7/16"	12,7/8"	—/—

REV	DESCRIPTION

PUMPSENSE

TITLE– GA DRG. FOR 6HFTD18

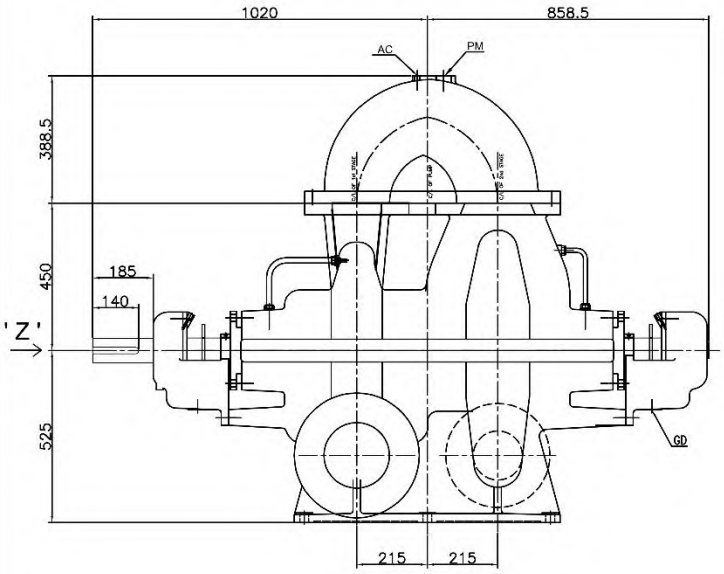
DRN	ST	28.11.16	DRG. NO. 910GA10Y	9103530
CHKD	ST	28.11.16		
APPD	HS	28.11.16		

SCALE 1:1

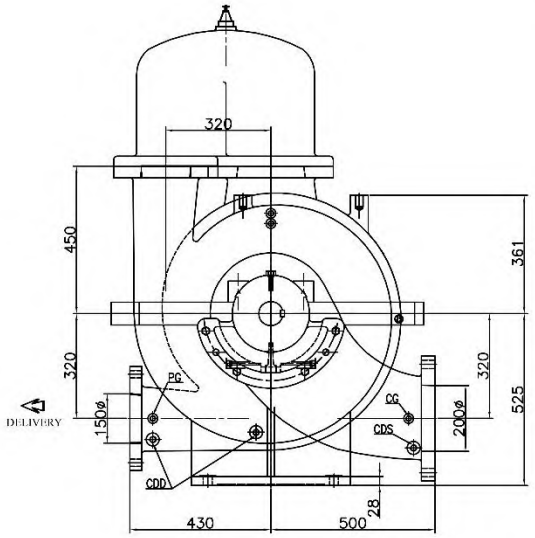
REV 0

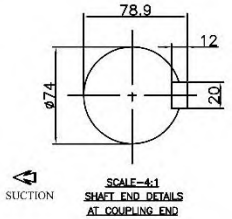
PUMP MODEL – 6HFTD21

GENERAL ARRANGEMENT DRAWING FOR TWO STAGE AXIALLY SPLIT–CASE PUMP MODEL – 6HFTD21



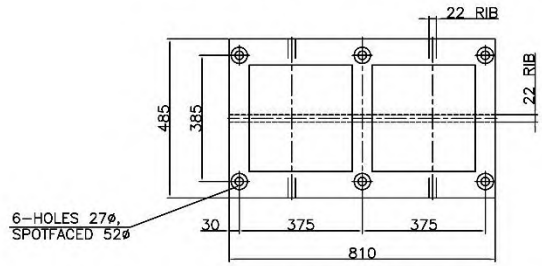
CLOCK WISE ROTATION
LOOKING FROM DRIVE END





SCALE–4:1
SHAFT END DETAILS
AT COUPLING END

VIEW IN DIRECTION OF ' Z '



PUMP FOOT PRINT

APPROX. NETT WEIGHT – 1220kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø200					DELIVERY – ø150				
		O.D.	P.C.D	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE
S	ANSI#250	15"	13"	1–5/8"	12, ø1"	— —					
D	ANSI#250						12–1/2"	10–5/8"	1–7/16"	12, ø7/8"	— —

REV	DESCRIPTION	DRN	CHKD

PROJECT NAME– | JOB NO.–

PUMPSENSE

TITLE: GA DRG. FOR 6HFTD21

DRN	AD	04.04.17
CHKD	TK	04.04.17
APPD	HS	04.04.17

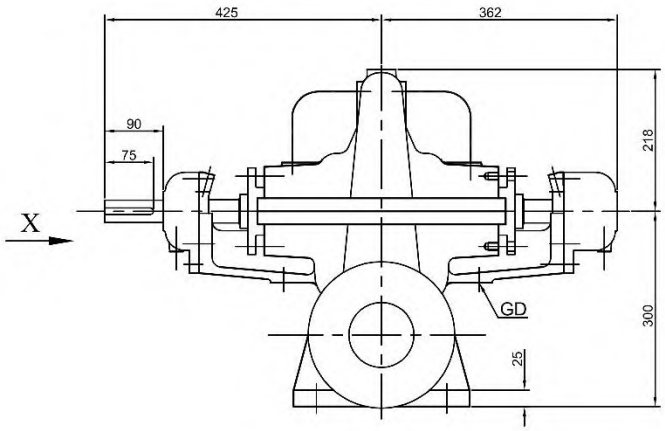
DRG. NO. PS/6HFTD21/GA–01

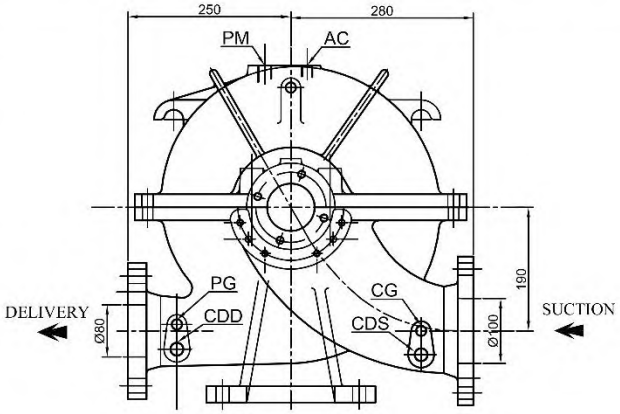
SCALE 1:1

REV 0

PUMP MODEL – 3HF12

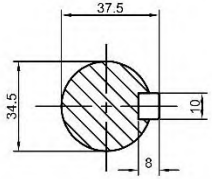
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 3HF12



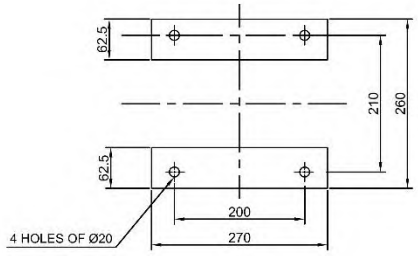


VIEW IN DIRECTION OF ' X '

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE - 4:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT - 200kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

S	ANSI#125	9"	7-1/2"	15/16"	8, 3/4"	--	--	--	--
D	ANSI#250	--	--	--	--	8-1/4"	6-5/8"	1-1/8"	8, 7/8"
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE
		SUCTION 100Ø				DELIVERY 80Ø			

REV	DESCRIPTION	DRN	CHKD	DATE
1	NEW CASING GA	AD	ST	17.05.18

PUMPSENSE

TITLE: GA DRAWING FOR 3HF12

DRN	AD	11.04.15	DRG. NO.	
CHKD	SP	11.04.15		
APPD	HS	11.04.15	PSF/3HF12/GA-01(I)/0	8012640-1

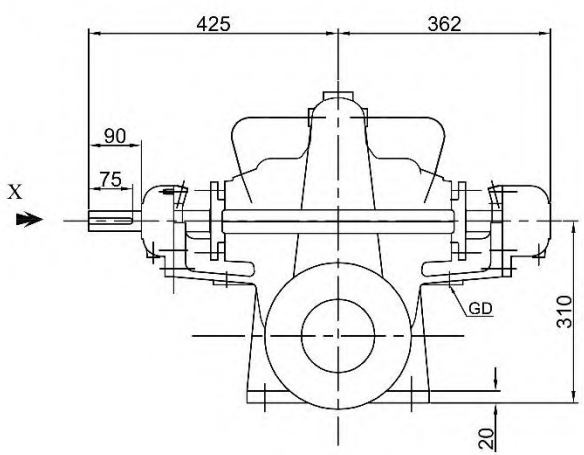
SCALE 1:1

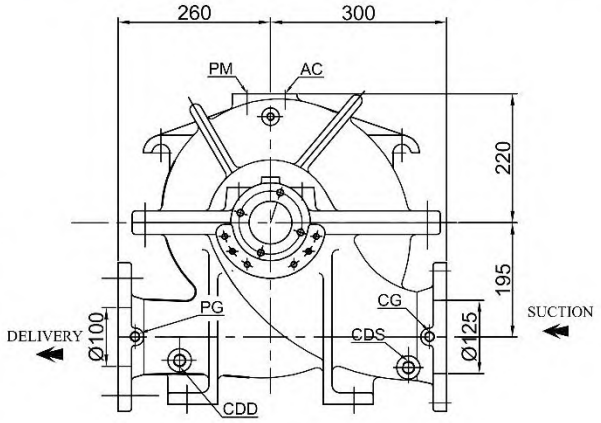
REV 0

PUMP MODEL – 4HF10

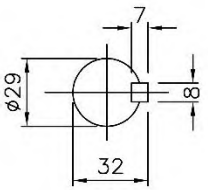
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL - 4HF10

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END

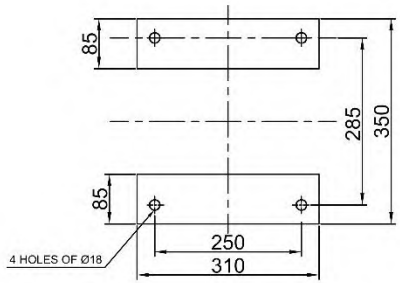




VIEW IN DIRECTION OF ' X '



SCALE - 4:1
SHAFT DETAILS
AT COUPLING END



PLAN OF PUMP FEET

ALL DIMENSIONS ARE IN MM.

APPROX. NETT WEIGHT - 170kg.

CONNECTION		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION – 125(5")						DELIVERY – 100(4")					
S	ANSI 125#FF	10"	8-1/2"	15/16"	8, Ø7/8"	—	—	10"	7-7/8"	1-1/4"	8, Ø7/8	—	—
D	ANSI 250#FF												
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF ØRF.THK RF FLANGE		O.D.	P.C.D.	THK MIN	NO. SIZE OFF HOLE	RF ØRF.THK RF FLANGE	

REV	DESCRIPTION	DRN	CHKD	APPD		
				DRN	AD	26.09.18
				CHKD	TK	26.09.18
				APPD	HS	26.09.18

PUMPSENSE

TITLE: GA DRAWING FOR 4HF10

DRG. NO. PSF/4HF10/GA–01/1 8032640–1

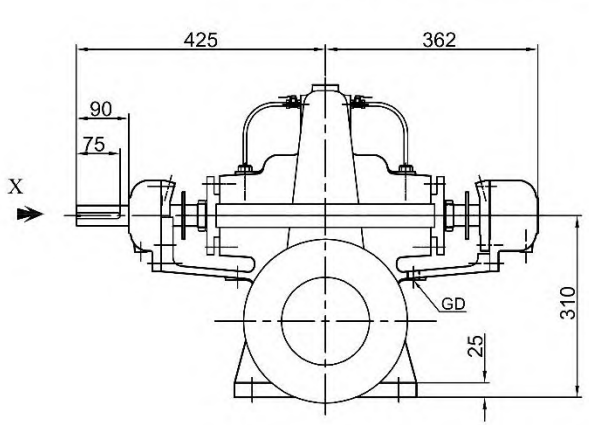
SCALE 1:1

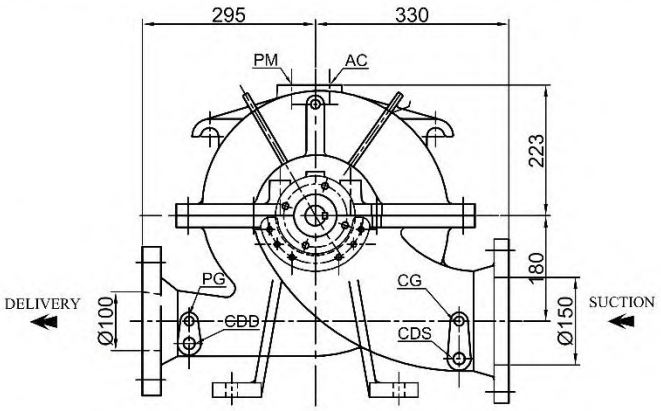
REV 1

PUMP MODEL – 4HF12L

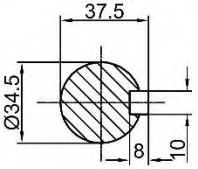
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF12L

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END

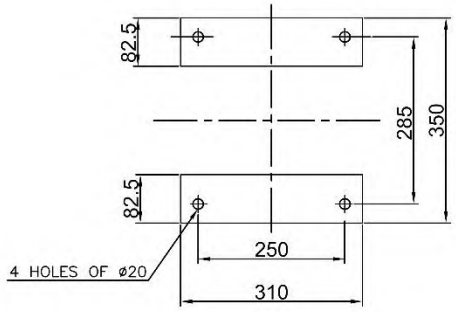




VIEW IN DIRECTION OF 'X'



SCALE - 4:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

ALL DIMENSIONS ARE IN MM.
APPROX. NETT WEIGHT – 224kg.

CONNECTIONS

ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION – 150(6")						DELIVERY – 100(4")					
S	ANSI 125#FF	11"	9–1/2"	1"	8, ø7/8"	—	—						
D	ANSI 250#FF							10"	7–7/8"	1–1/4"	8, ø7/8"	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRAWING FOR 4HF12L

DRN	AD	28.11.16
CHKD	SP	28.11.16
APPD	HS	28.11.16

DRG. NO. PSF/4HF12L/GA–01/0

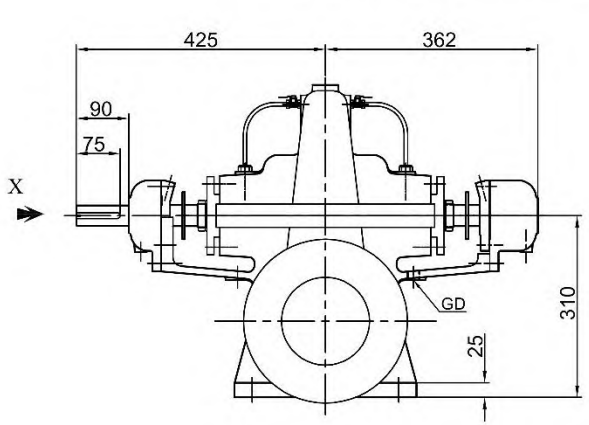
SCALE 1:1

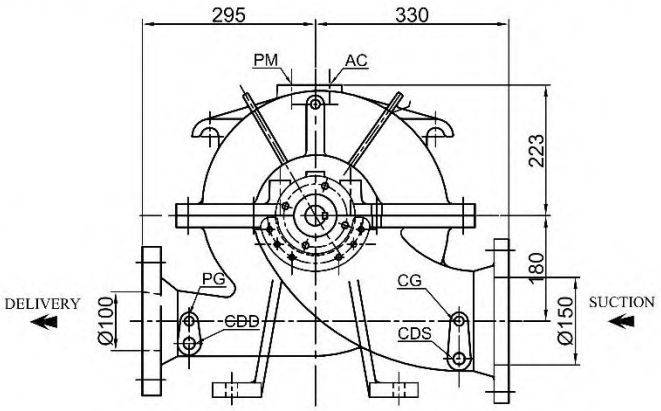
REV 0

PUMP MODEL – 4HF12

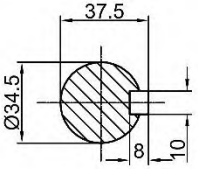
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF12

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END

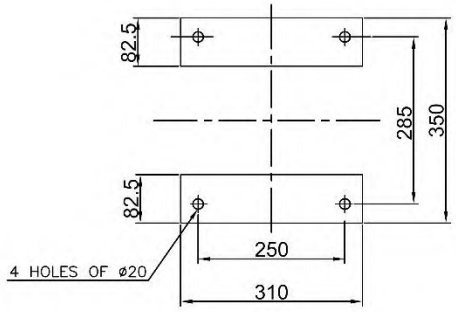




VIEW IN DIRECTION OF 'X'



SCALE - 4:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

ALL DIMENSIONS ARE IN MM.
APPROX. NETT WEIGHT – 224kg.

CONNECTIONS

ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION – 150(6")						DELIVERY – 100(4")					
S	ANSI 125#FF	11"	9–1/2"	1"	8, ø7/8"	—	—						
D	ANSI 250#FF							10"	7–7/8"	1–1/4"	8, ø7/8"	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE–
GA DRAWING FOR 4HF12

DRN	AD	28.11.16
CHKD	SP	28.11.16
APPD	HS	28.11.16

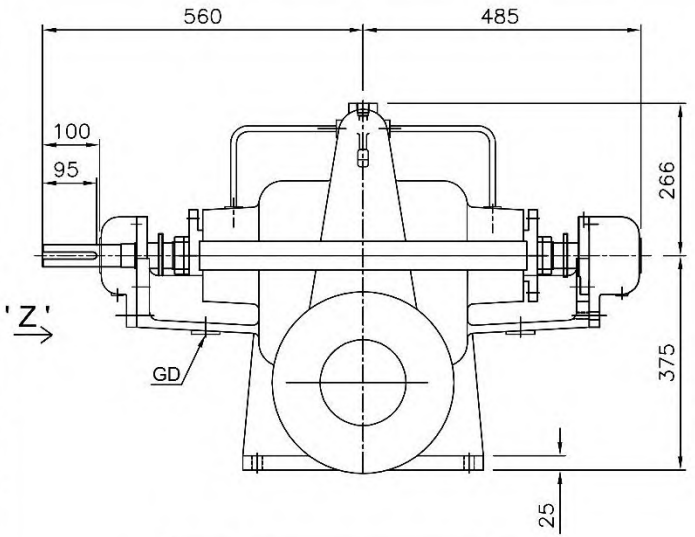
DRG. NO.
PSF/4HF12/GA–01/0

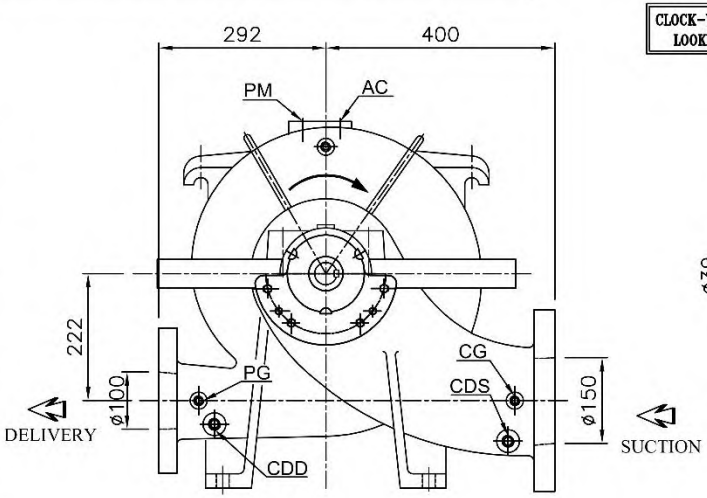
SCALE 1:1

REV 0

PUMP MODEL– 4HF13

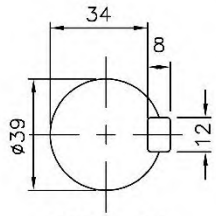
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF13



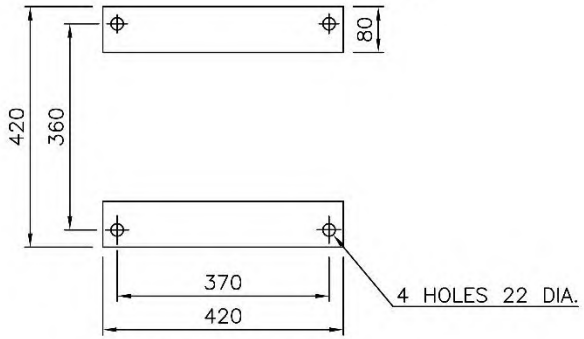


VIEW IN DIRECTION OF 'Z'

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 285 Kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE.	SUCTION~ 150ø (6") O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	DELIVERY~ 100ø (4") O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE
S	ANSI 250# FF	12-1/2"	10-5/8"	1-7/16"	12, 7/8"	--	--						
D	ANSI 250# FF							10"	7-7/8"	1-1/4"	8, 7/8"	--	--

FIRST ANGLE PROJECTION

NO. OFF.	DESCRIPTION	REF.	MAT'L.	DRG. NO. STORE NO.	WT. KG.

REV. NO.	REVISION	ZONE	DATE	INITIAL	CHD.

PUMPSENSE

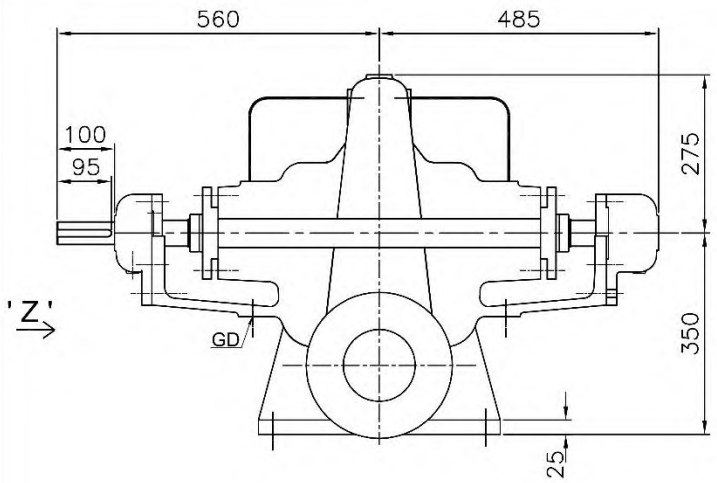
TITLE– GA DRAWING FOR 4HF13

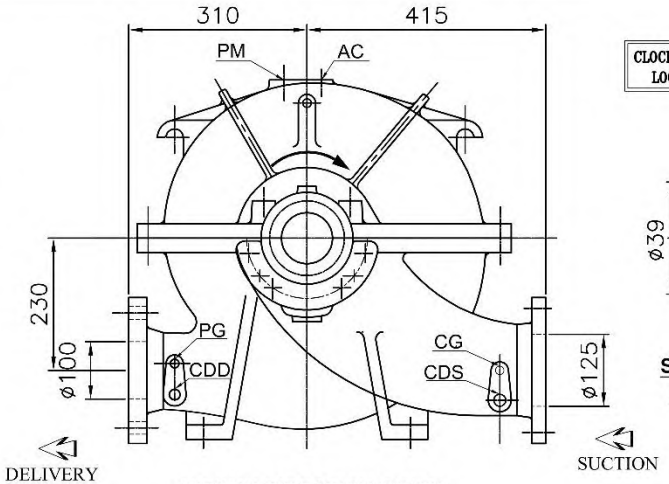
DRN.	AD	24.03.15	SCALE	DRAWING NO.	IDENTIFICATION NO.
CHD.	TK	24.03.15	1:1	PSF/4HF13/GA-01	
APPD.	TS	24.03.15			REV. 0

PAPER SIZE A3AD

PUMP MODEL– 4HF16

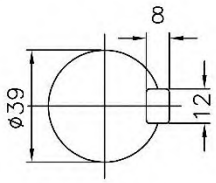
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 4HF16



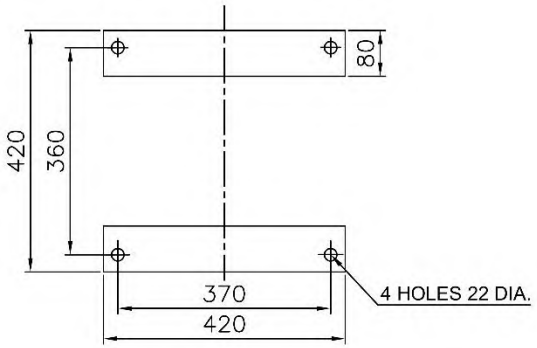


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE - 5:1
SHAFT DETAIL AT
COUPLING END



APPROX. NET WEIGHT –230Kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI 125# FF	10"	8-1/2"	15/16"	8, 7/8"	--	--						
D	ANSI 250# FF							10"	7-7/8"	1-1/4"	8, 7/8"	--	--
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE
		SUCTION~ 125ø (5")						DELIVERY~ 100ø (4")					

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE: GA DRG. FOR 4HF16

DRN	AD	05.01.15
CHKD	ST	05.01.15
APPD	HS	05.01.15

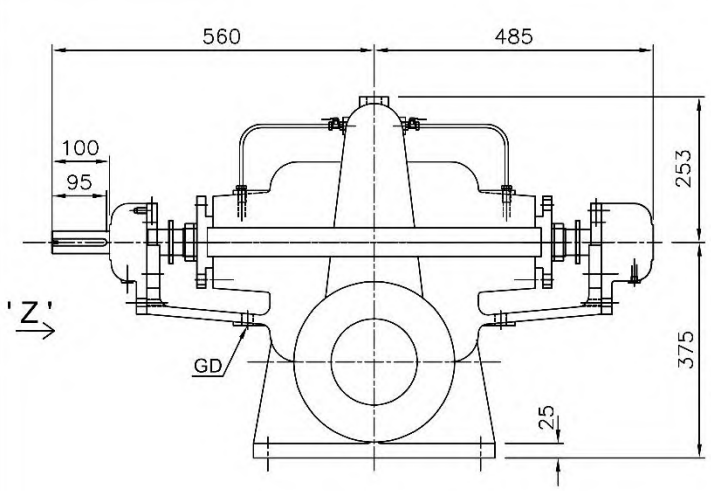
DRG. NO. PSF/4HF16/GA-01

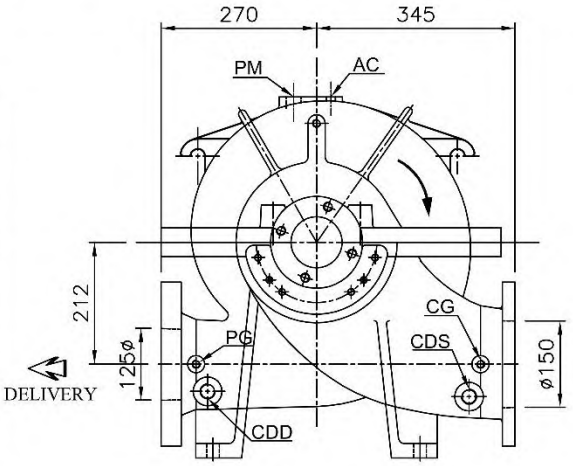
SCALE 1:1

REV 0

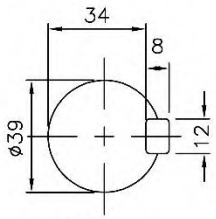
PUMP MODEL– 5HF11

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 5HF11



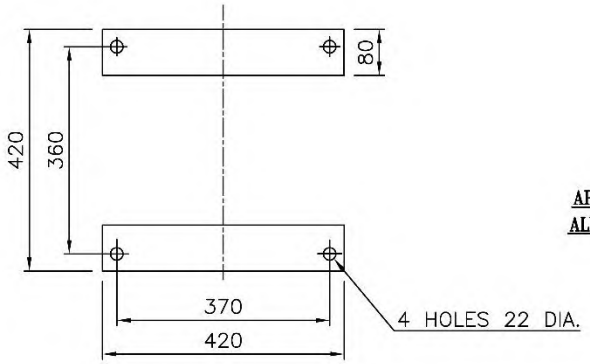


CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



APPROX. NET WEIGHT –353Kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

S	ANSI 125# FF	11"	9-1/2"	1"	8, 7/8"	--	--							
D	ANSI 250# FF							11"	9-1/4"	1-3/8"	8, 7/8"	--	--	
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	
		SUCTION~ 150ø (6")						DELIVERY~ 125ø (5")						

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE:– **GA DRG. FOR 5HF11**

DRN	AD	05.01.17
CHKD	ST	05.01.17
APPD	HS	05.01.17

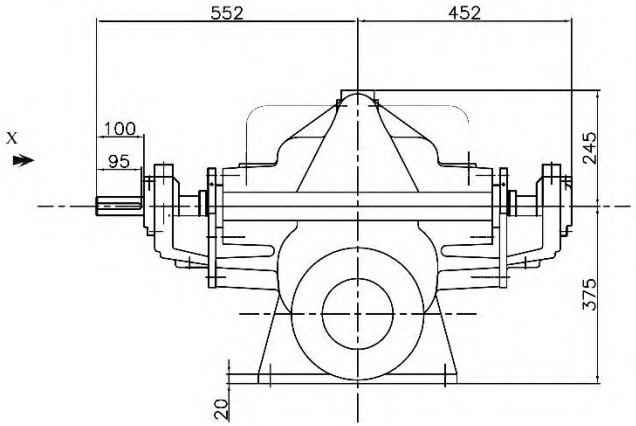
DRG. NO. PSF/5HF11/GA–01

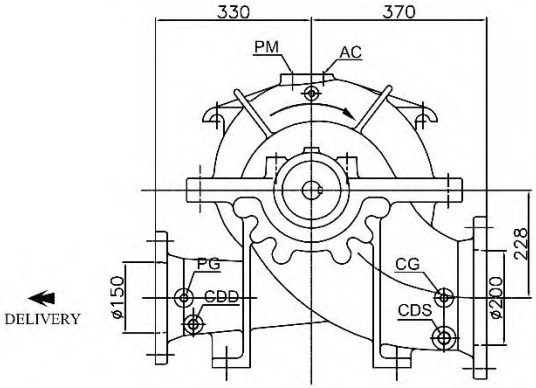
SCALE 1:1

REV 0

PUMP MODEL 6HF12

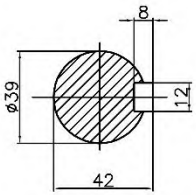
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF12



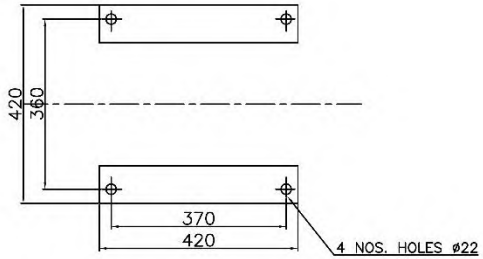


VIEW IN DIRECTION OF ' X '

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAILS
AT COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT - 392kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	1/2"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION– 200(8")						DELIVERY– 150(6")					
S	ANSI 125#FF	13-1/2"	11-3/4"	1-1/8"	8, Ø 7/8"	___	___	12-1/2"	10-5/8"	1-7/16"	12, Ø 7/8"	___	___
D	ANSI 250#FF												
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE Ø	RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE Ø	RF.THK

REV	DESCRIPTION	DRN	CHKD	APPD

PUMPSENSE

TITLE: GA DRAWING FOR 6HF12

DRN	AS 13.05.13	DRG. NO. PSF/6HF12/GA–01/0
CHKD	AS 13.05.13	
APPD	HS 13.05.13	

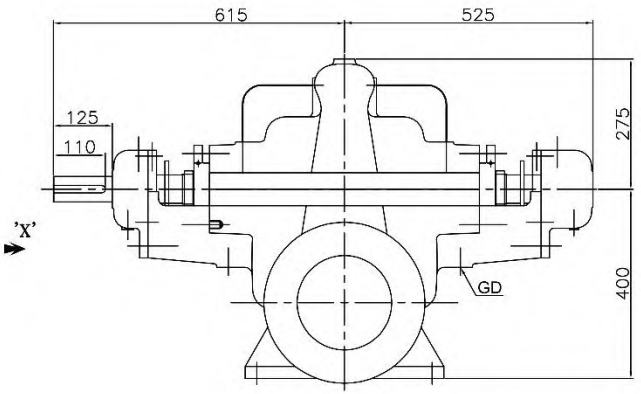
SCALE 1:1

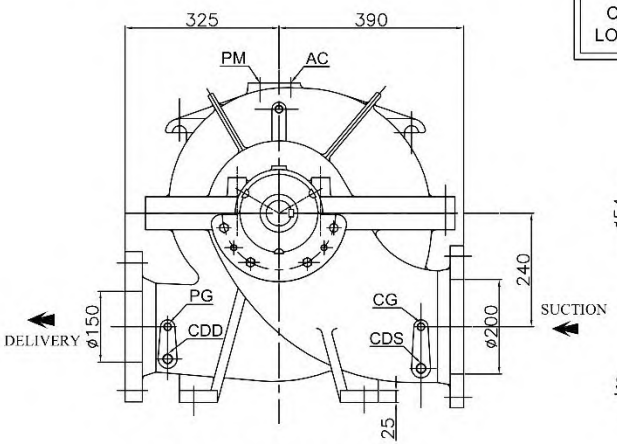
REV 0

PUMP MODEL – 6HF13

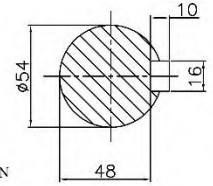
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL - 6HF13

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END

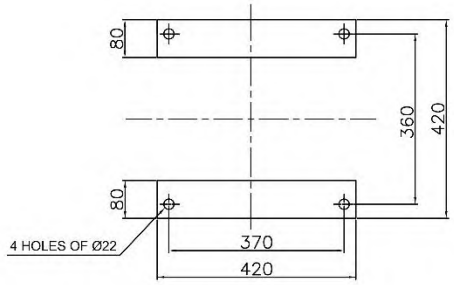




VIEW IN DIRECTION OF ' X '



SCALE - 4:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT - 464kg.

ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	3/4"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN (SUCT.SIDE)	1/2"
CDD	CASING DRAIN (DELY.SIDE)	1/2"

FLANGE TABLE

		SUCTION– 200(8")						DELIVERY– 150(6")					
S	ANSI 125#FF	13-1/2"	11-3/4"	1-1/8"	8, Ø 7/8"	___	___	12-1/2"	10-5/8"	1-7/16"	12, Ø 7/8"	___	___
D	ANSI 250#FF												
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø / RF FLANGE	RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF Ø / RF FLANGE	RF.THK

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRAWING FOR 6HF13

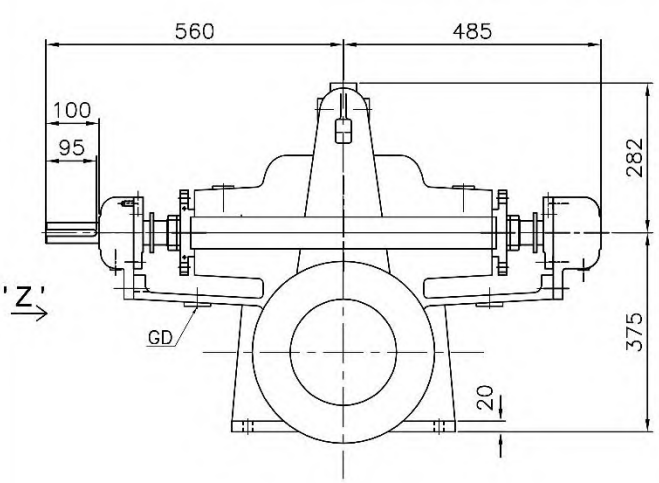
DRN	AD	11.09.14	DRG. NO. 6HF13/GA–01(I)/0 8092640–I
CHKD	SP	11.09.14	
APPD	HS	11.09.14	

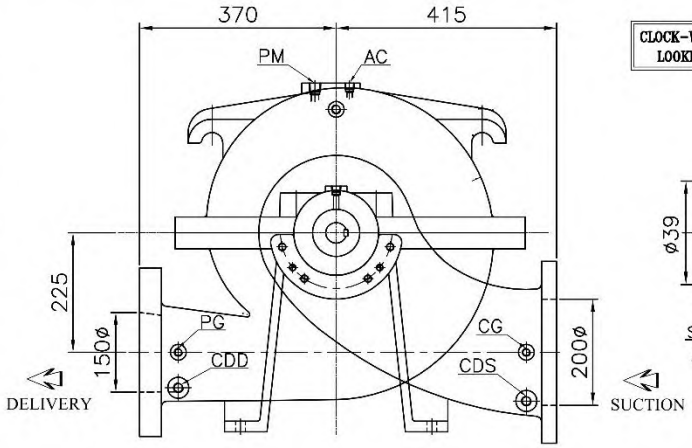
SCALE 1:1

REV 0

PUMP MODEL– 6HF14K

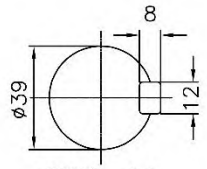
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF14K



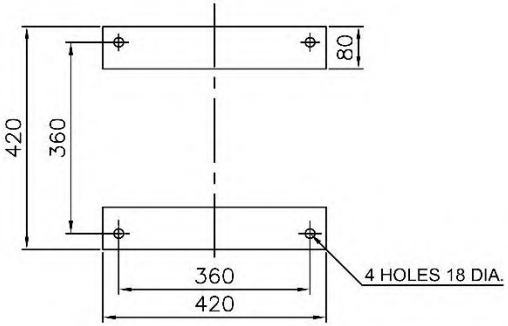


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 407kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI 125# FF	13-1/2"	11-3/4"	1-1/8"	8, ø7/8"	--	--							
D	ANSI 250# FF							12-1/2"	10-5/8"	1-7/16"	12, ø7/8"	--	--	
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	
		SUCTION~ 200ø (8")						DELIVERY~ 150ø (8")						

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE: GA DRAWING FOR 6HF14K

DRN	AD	05.08.17
CHKD	ST	05.08.17
APPD	HS	05.08.17

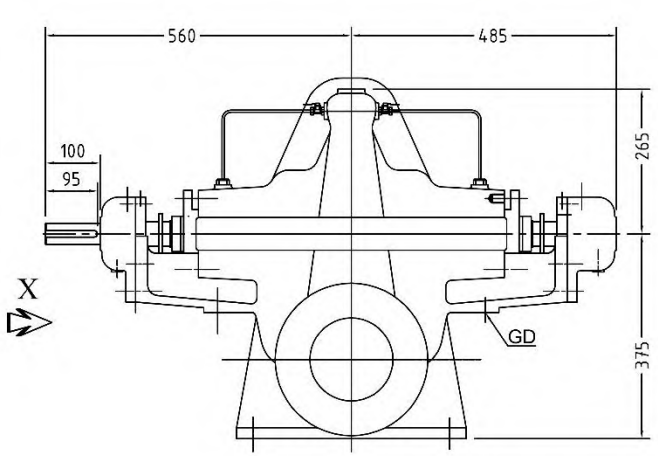
DRG. NO. PSF/6HF14K/GA-01

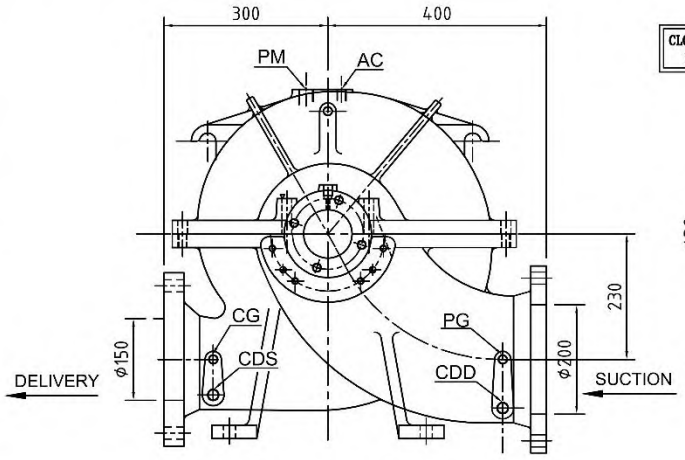
SCALE 1:1

REV 0

PUMP MODEL – 6HF15

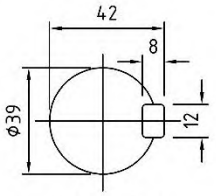
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL - 6HF15



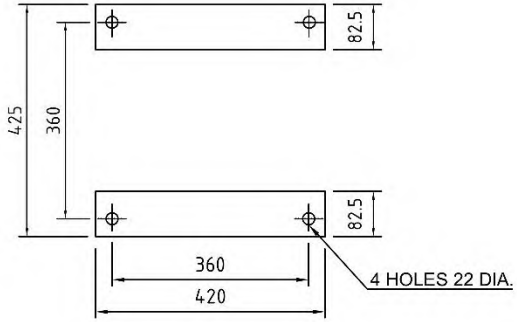


VIEW IN DIRECTION `X'

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE - 5:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NETT WEIGHT – 400kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE (NPT)
GD	GLAND DRAIN	3/4"
CG	COMP. GAUGE FOR SUCTION	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCT.SIDE)	1/2"
CDD	CASING DRAIN(DELY.SIDE)	1/2"

S	ANSI 125# FF	13-1/2"	11-3/4"	1-1/8"	8, ø7/8"	--	--								
D	ANSI 250# FF							12-1/2"	10-5/8"	1-7/16"	12, ø7/8"	--	--		
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE		
		SUCTION– 200(8")						DELIVERY– 150(6")							

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE: GA DRG. FOR 6HF15

DRN	AD	28.11.16
CHKD	ST	28.11.16
APPD	HS	28.11.16

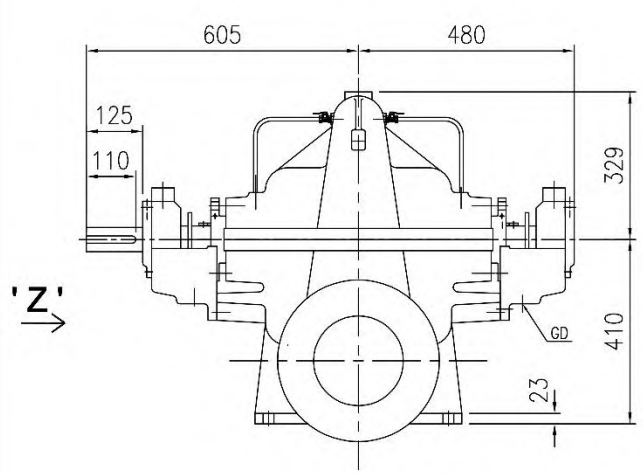
DRG. NO. 6HF15/GA-01/0

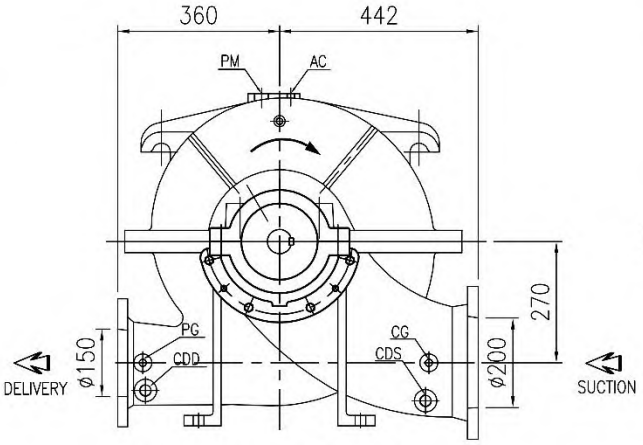
SCALE 1:1

REV 0

PUMP MODEL – 6HF18

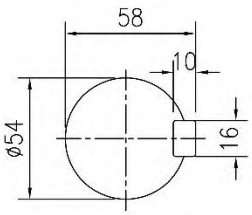
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF18



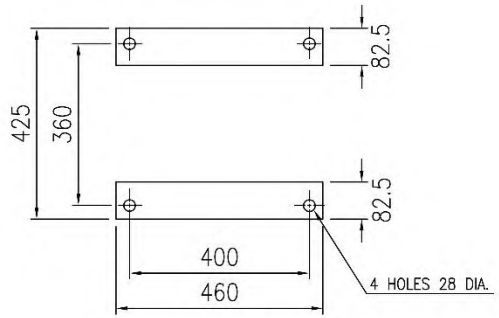


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 660kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

		SUCTION – ø200						DELIVERY – ø150					
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK RF FLANGE	
S	PN 16	340	295	24	12, ø22	—	—	285	240	22	8, ø22	—	—
D	PN 16												

REV	DESCRIPTION	TOLLERANCE	DRN	CHKD

TITLE– GA DRG. FOR 6HF18

PUMPSENSE

DRG. NO. PSF/6HF18/GA-01 | 8102640

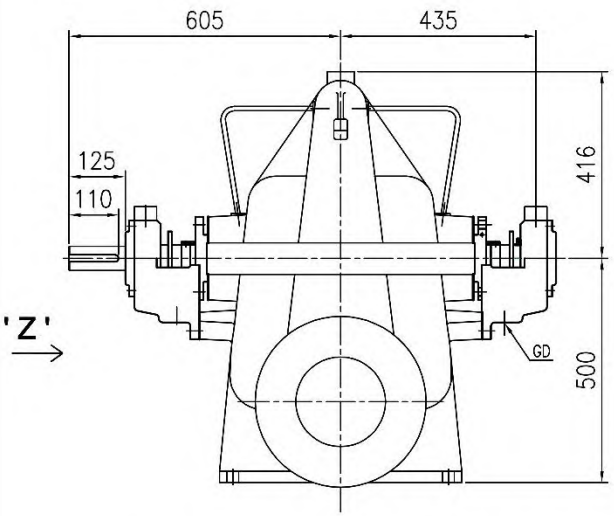
DRN	AD	04.04.16
CHKD	SP	04.04.16
APPD	HS	04.04.16

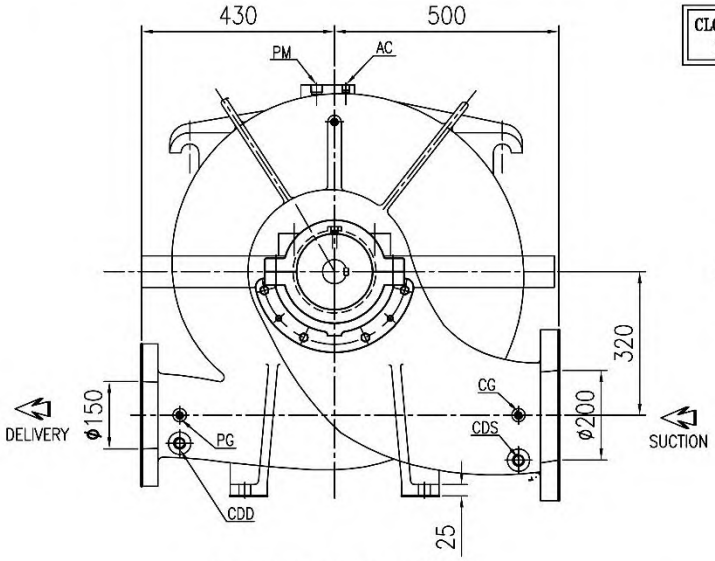
SCALE 1:1

REV 0

PUMP MODEL – 6HF20

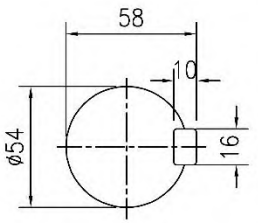
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF20



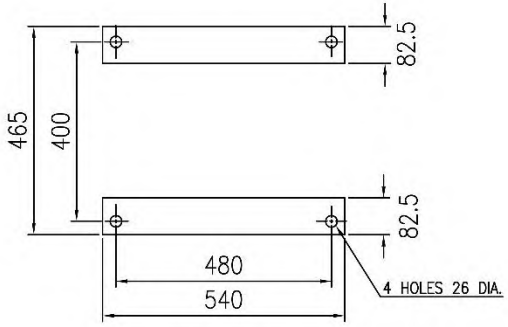


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 550kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

DEL 150Ø	ANSI 250#FF	12-1/2"	10-5/8"	1-7/16"	12,Ø7/8"	—	---
SUC 200Ø	ANSI 250#FF	15"	13"	1-5/8"	12,Ø1"	—	---
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO & HOLE Ø	RFØ	RF THK
						RF FLANGE	

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE– GA DRG. FOR 6HF20

DRN	AD	16.09.19	DRG. NO. PSF/6HF20/GA-01
CHKD	SP	16.09.19	
APPD	HS	17.09.19	

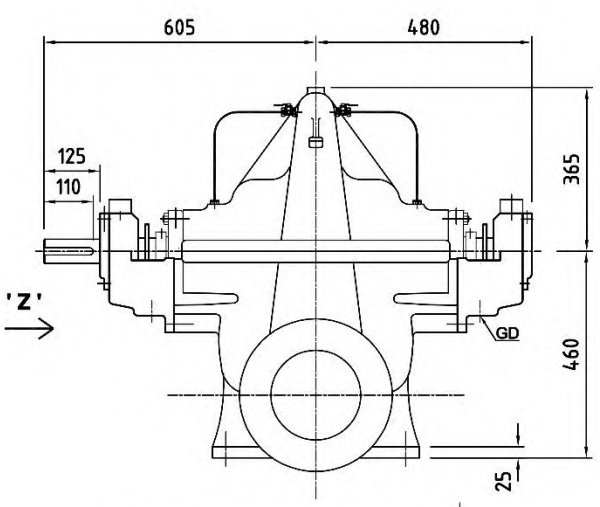
SCALE 1:1

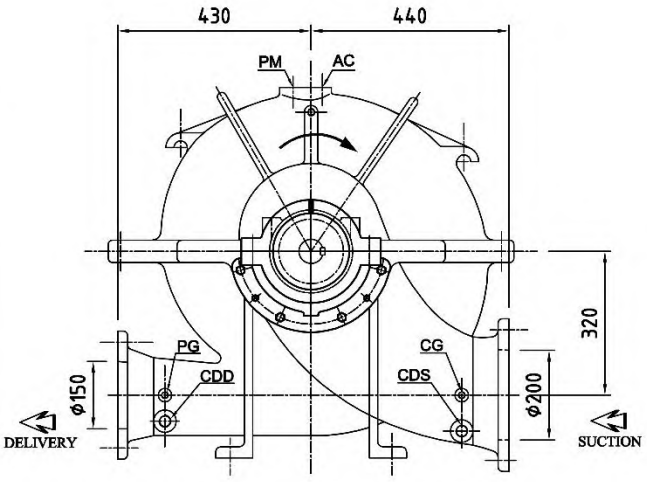
REV 0

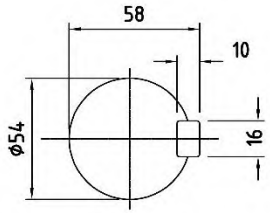
PUMP MODEL – 6HF21

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 6HF21

CLOCK-WISE ROTATION
LOOKING FROM DRIVE END

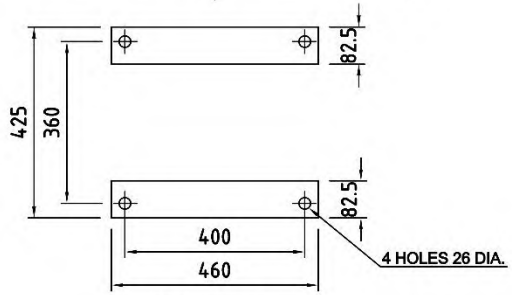






SCALE - 5:1
DETAIL OF SHAFT AT COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 600kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1/2"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

S	PN 16	340	295	24	12, ø22	—	—						
D	PN 16							285	240	22	8, ø22	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK
		SUCTION – ø200(8")						DELIVERY – ø150(6")					

REV	DESCRIPTION	TOLERANCE	DRN	CHKD	DATE

TITLE– GA DRG. FOR 6HF21

PUMPSENSE

DRG. NO. PSF/6HF21/GA–01 8172640

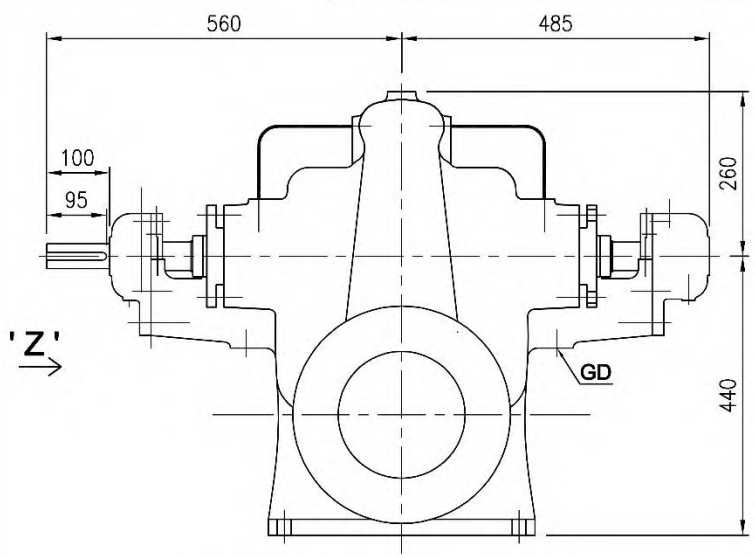
DRN	AD	05.04.16
CHKD	SP	05.04.16
APPD	HS	05.04.16

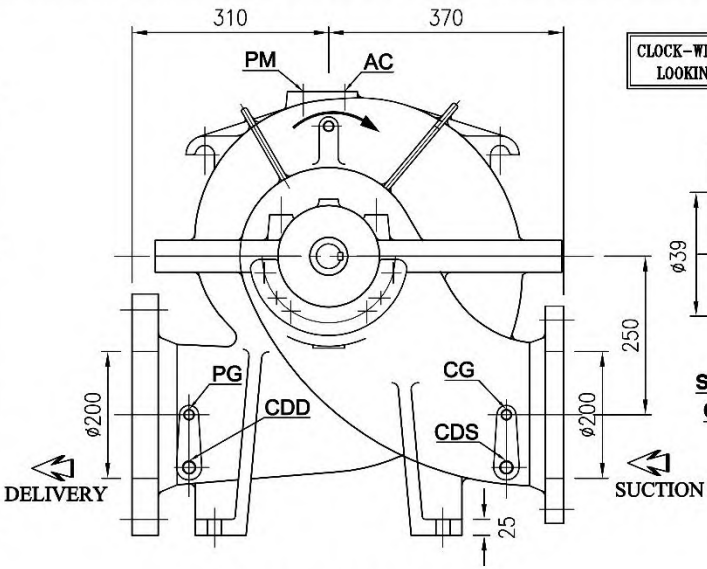
SCALE 1:1

REV 0

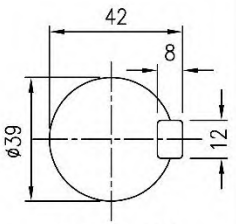
PUMP MODEL- 8HF12H

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF12H



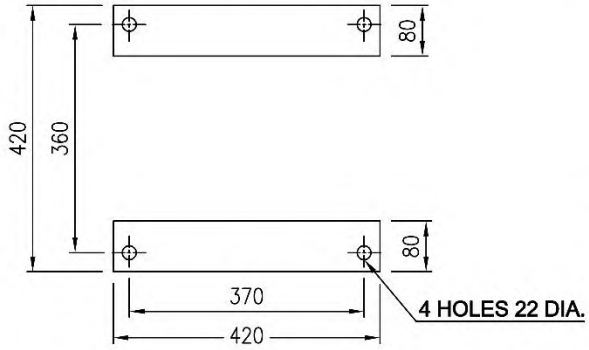


CLOCK-WISE ROTATION
LOOKING FROM DRIVE END



SCALE - 5:1
SHAFT DETAIL AT
COUPLING END

VIEW IN DIRECTION OF ' Z '



APPROX. NET WEIGHT - 650kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

S	ANSI 125# RF	13-1/2"	11-3/4"	1-1/8"	8, ø7/8"	--	--							
D	ANSI 250# RF							15"	13"	1-5/8"	12, ø1"	--	--	
REF. NO.	TYPE OF FLANGE.	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	
		SUCTION~ 200ø(8")						DELIVERY~ 200ø(8")						

REV	DESCRIPTION	DRN	CHKD	DATE

PUMPSENSE

TITLE-
GA DRAWING FOR 8HF12H

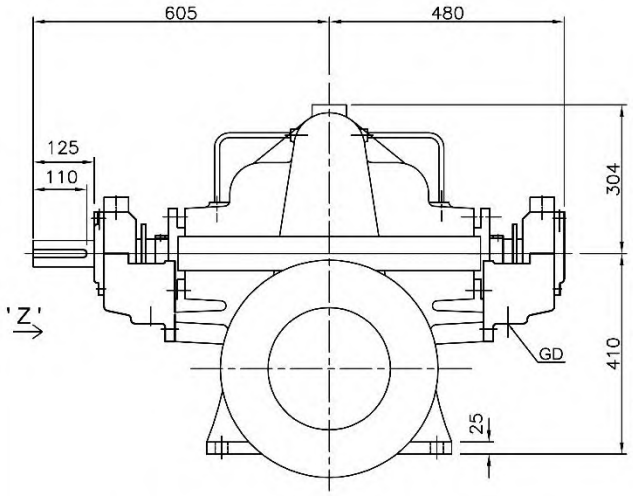
DRN	AD	03.07.14	DRG. NO. PSF/8HF12H/GA-01	PART NO. 5122640-I
CHKD	SR	03.07.14		
APPD	HS	03.07.14		

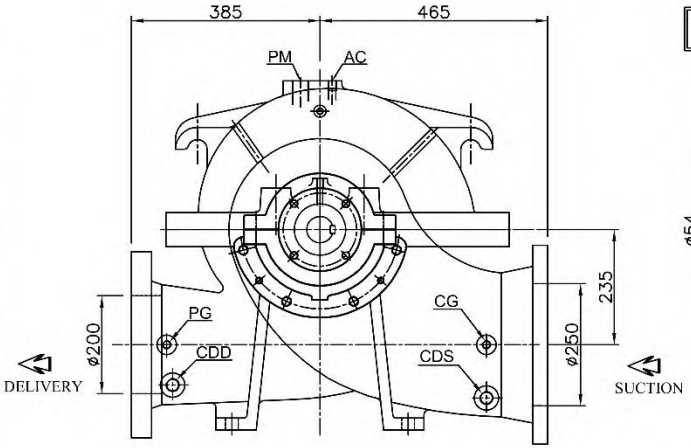
SCALE 1:1

REV 0

PUMP MODEL– 8HF13

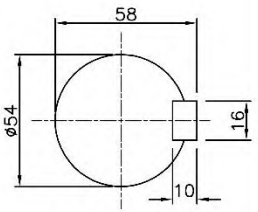
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF13



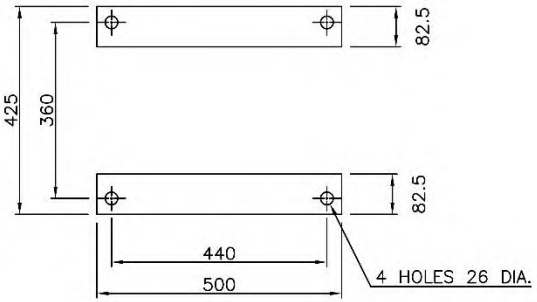


VIEW IN DIRECTION OF ' Z '

CLOCK–WISE ROTATION
LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT
COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 620.5kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

REF. NO.	TYPE OF FLANGE.	SUCTION 250 DIA. O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	DELIVERY 200 DIA O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RFø	RF THK FLANGE
S	ANSI 125#FF	16"	14–1/4"	1–3/16"	12, ø1"	–	–						
D	ANSI 250#FF							15"	13"	1–5/8"	12, ø1"	–	–

REV	DESCRIPTION	DRN	CHKD	DATE
1	CASING FEET PATTERN CHANGED FEET THICKNESS 25MM INSTEAD OF 24 MM	AD	ST	17.05.18

PUMPSENSE

TITLE–
GA DRAWING FOR 8HF13

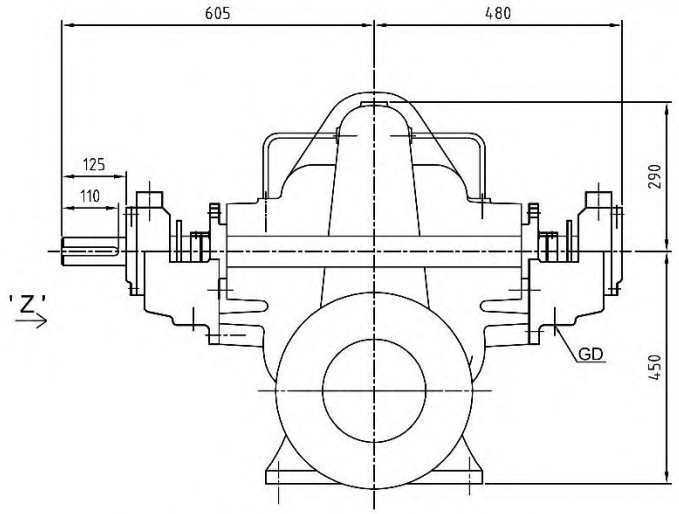
DRN	AD	21.12.16	DRG. NO. PSF/8HF13/GA–01
CHKD	ST	21.12.16	
APPD	HS	21.12.16	

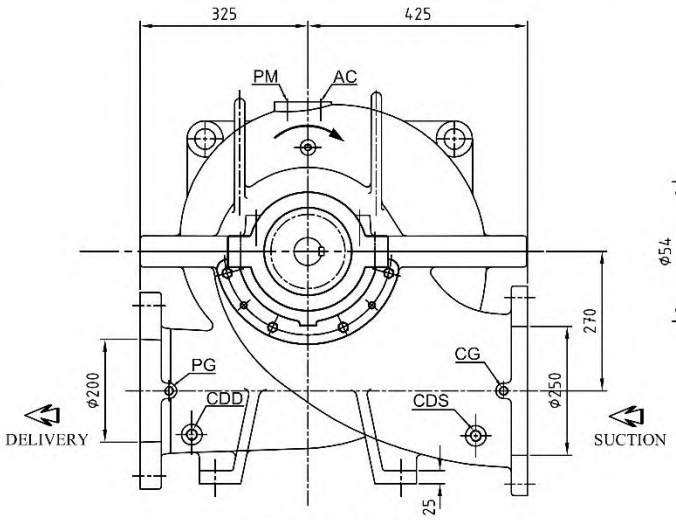
SCALE 1:1

REV 1

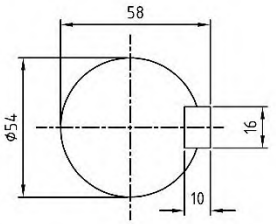
PUMP MODEL– 8HF14

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF14

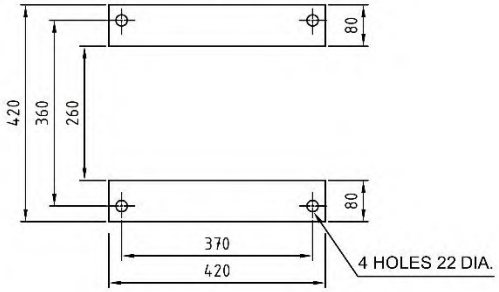




VIEW IN DIRECTION OF ' Z '



SCALE - 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT - 623kg.

ALL DIMENSIONS ARE IN MM.

CONNECTION

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	3/4"
CDS	CASING DRAIN(SUCTION SIDE)	1/2"
CDD	CASING DRAIN(DELIVERY SIDE)	1/2"

REF. NO.	TYPE OF FLANGE	SUCTION – ø250(10") O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK	DELIVERY – 200(8") O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK
S	ANSI 125#FF	16"	14–1/4"	1–3/16"	12, ø1"	—	—						
D	ANSI 250#FF							15"	13"	1–5/8"	12, ø1"	—	—

REV	DESCRIPTION	DRN	CHKD	APPD

PUMPSENSE

TITLE– GA DRAWING FOR 8HF14

DRN	AD	23.03.14
CHKD	ST	23.03.14
APPD	HS	23.03.14

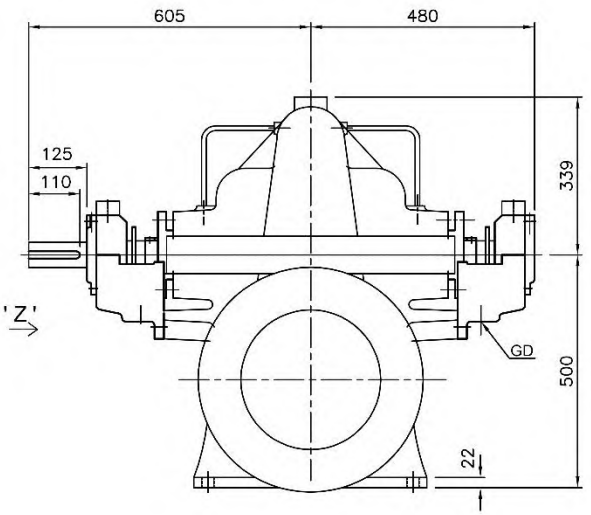
DRG. NO. PSF/8HF14/GA–01

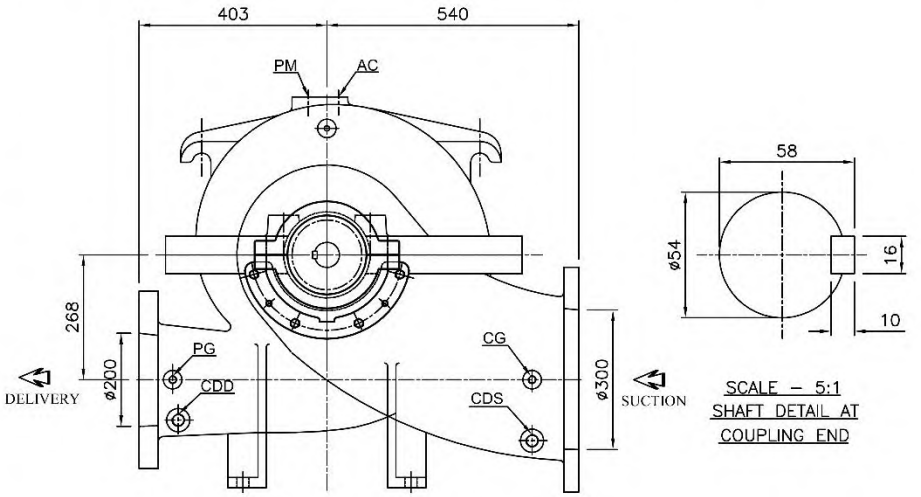
SCALE 1:1

REV 0

PUMP MODEL– 8HF15

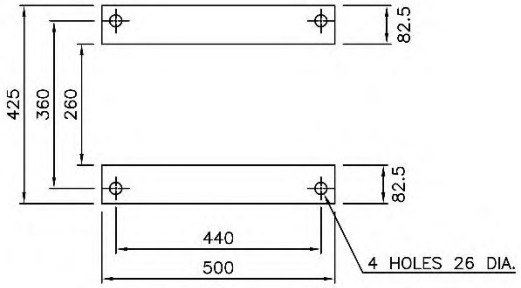
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF15





VIEW IN DIRECTION OF ' Z '

SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT –726 kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS

ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

REF. NO.	TYPE OF FLANGE.	SUCTION 300 DIA. O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE	RFø R.F.	RF THK FLANGE	DELIVERY 200 DIA O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RFø RF	RF THK FLANGE
S	ANSI 250#FF	20-1/2"	17-3/4"	2"	16, ⌀1-1/4"	–	–						
D	ANSI 250#FF							15"	13"	1-5/8"	12, ⌀1"	–	–

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRAWING FOR 8HF15

DRN	AD	03.08.17
CHKD	ST	03.08.17
APPD	HS	03.08.17

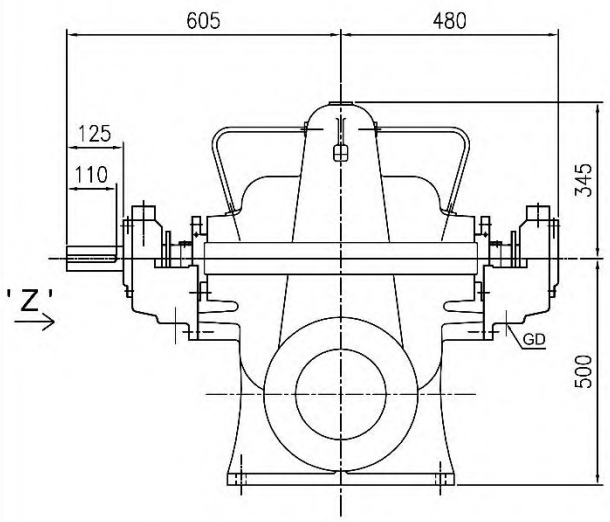
DRG. NO. PSF/8HF15/GA–01

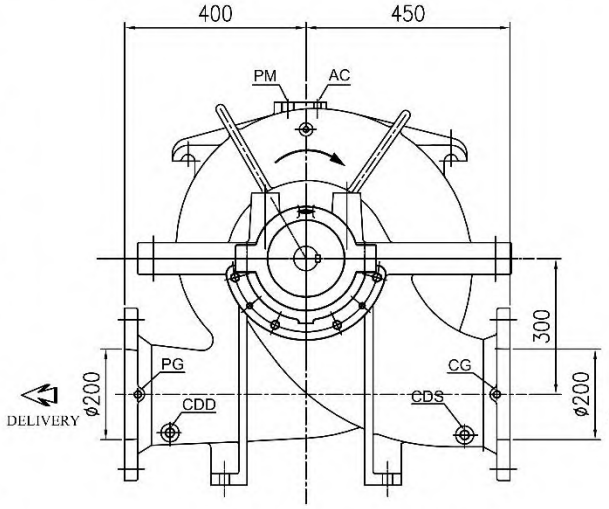
SCALE 1:1

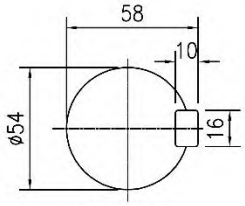
REV 0

PUMP MODEL –8HF17

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF17

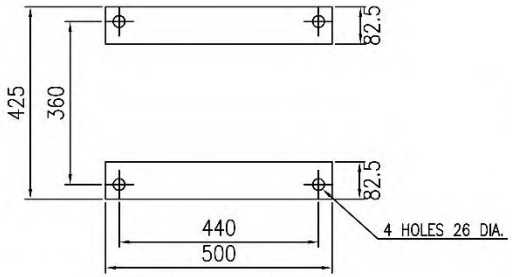






SCALE – 5:1
SHAFT DETAIL AT COUPLING END

VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 615kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

		SUCTION – ø200						DELIVERY – ø200					
S	PN 16	340	295	24	12, ø22	—	—	360	310	30	12, ø26	—	—
D	PN 25												
	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF FLANGE	ØRF.THK

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRG. FOR 8HF17

DRN	AD	04.04.16
CHKD	SP	04.04.16
APPD	HS	04.04.16

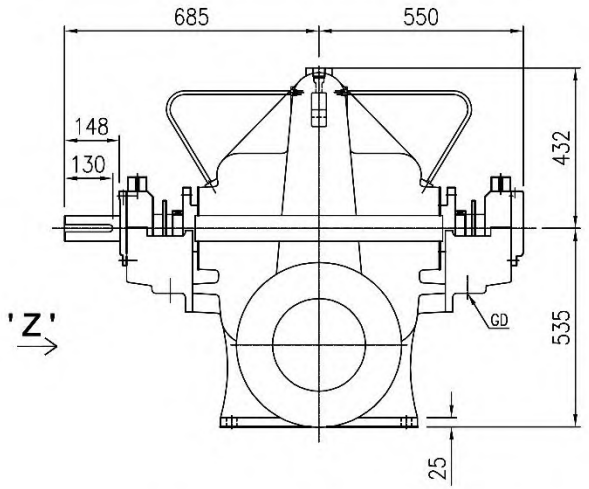
DRG. NO. PSF/8HF17/GA–01

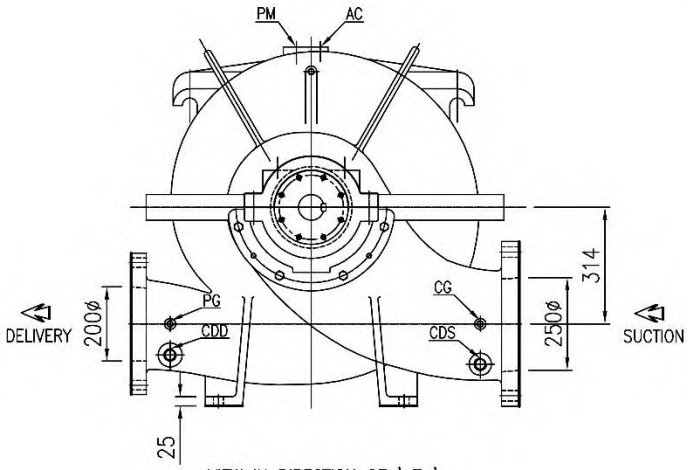
SCALE 1:1

REV 0

PUMP MODEL – 8HF20

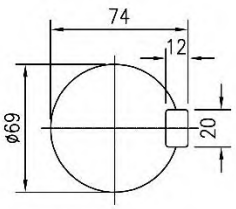
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF20



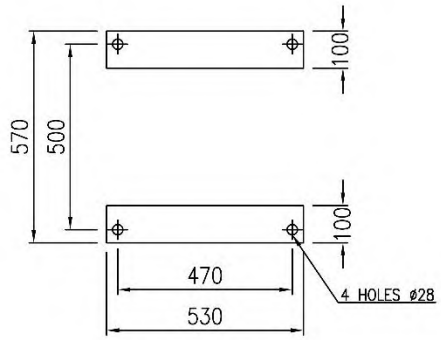


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 750kg.

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1-1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1"
CDD	CASING DRAIN(DELIVERY SIDE)	1"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE.	SUCTION– ø250 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø R.F.	RF THK FLANGE	DELIVERY– ø200 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø R.F.	RF THK FLANGE
S	ANSI#250	17-1/2"	15-1/4"	1-7/8"	16, ø1-1/8"	—	—						
D	ANSI#250							15"	13"	1-5/8"	12, ø1"	—	—

REV	DESCRIPTION	DRN	CHKD	DATE

PROJECT NAME– | JOB NO.–

PUMPSENSE

TITLE– **GA DRG. FOR 8HF20**

DRN	AD	18.09.19
CHKD	TK	18.09.19
APPD	HS	18.09.19

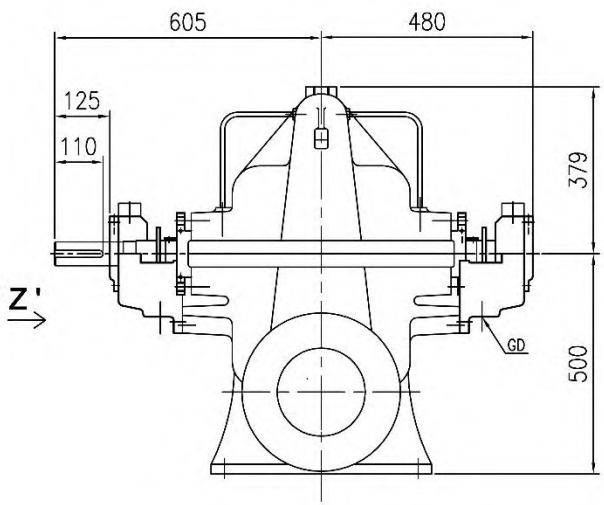
DRG. NO. 831GA10Y

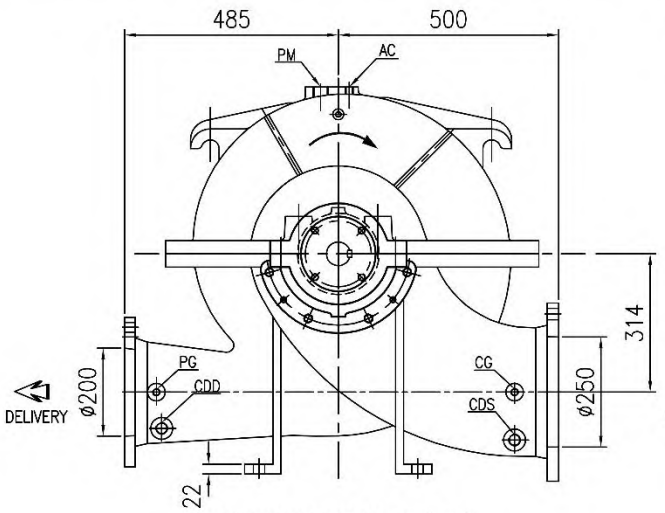
SCALE 1:1

REV 0

PUMP MODEL – 8HF21

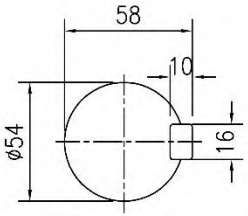
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 8HF21



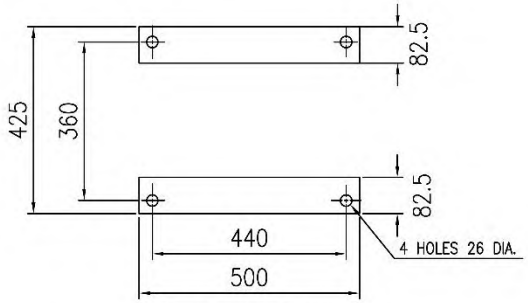


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

APPROX. NET WEIGHT – 840kg.
ALL DIMENSIONS ARE IN MM.

CONNECTION		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	3/4"
CDD	CASING DRAIN(DELIVERY SIDE)	3/4"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE	SUCTION – ø250						DELIVERY – ø200					
		O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ø RF FLANGE	RF.THK
S	PN 16	405	355	26	12, ø26	—	—						
D	PN 16							340	295	24	12, ø22	—	—

REV	DESCRIPTION	DRN	CHKD

PUMPSENSE

TITLE– GA DRG. FOR 8HF21

DRN	AD	05.04.16
CHKD	SP	05.04.16
APPD	HS	05.04.16

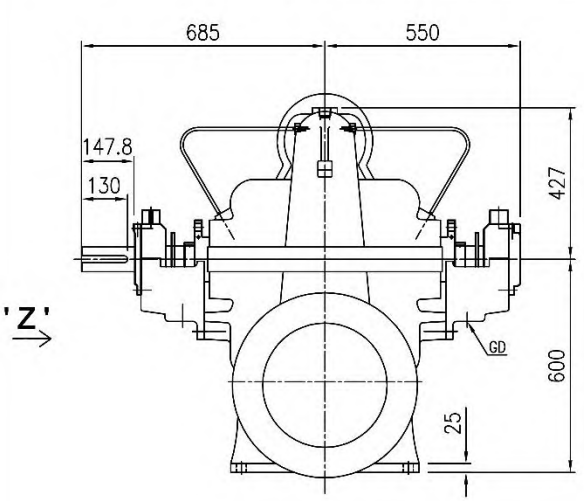
DRG. NO. PSF/8HF21/GA-01

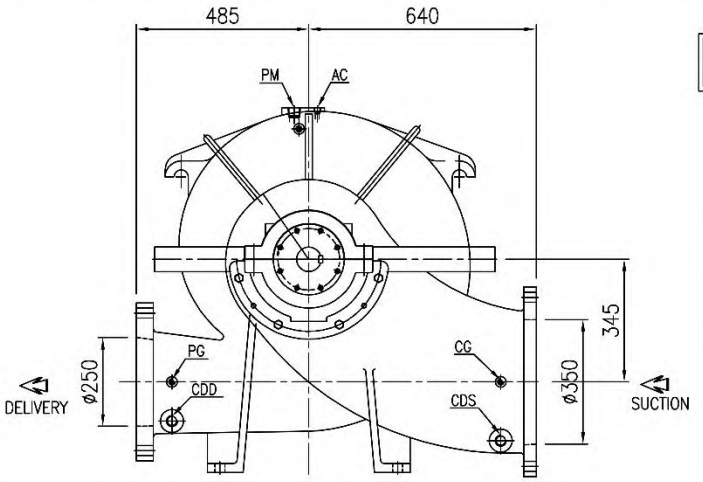
SCALE 1:1

REV 0

PUMP MODEL – 10HF20

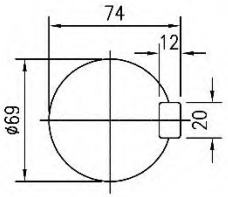
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 10HF20



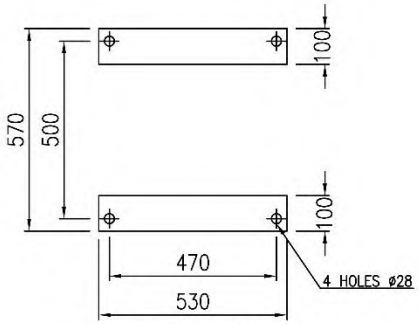


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

PUMP WEIGHT = 1000kg

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1–1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1"
CDD	CASING DRAIN(DELIVERY SIDE)	1"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE.	SUCTION– ø350 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK R.F. FLANGE	DELIVERY– ø250 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK R.F. FLANGE
S	ANSI#250	23"	20–1/4"	2–1/8"	20, ø1–1/4"	—	—						
D	ANSI#250							17–1/2"	15–1/4"	1–7/8"	16, ø1–1/8"	—	—

REV	DESCRIPTION	DRN	CHKD	DATE

PROJECT NAME– | JOB NO.–

PUMPSENSE

TITLE– **GA DRG. FOR 10HF20**

DRN	SP	18.09.14
CHKD	SP	18.09.14
APPD	HS	18.09.14

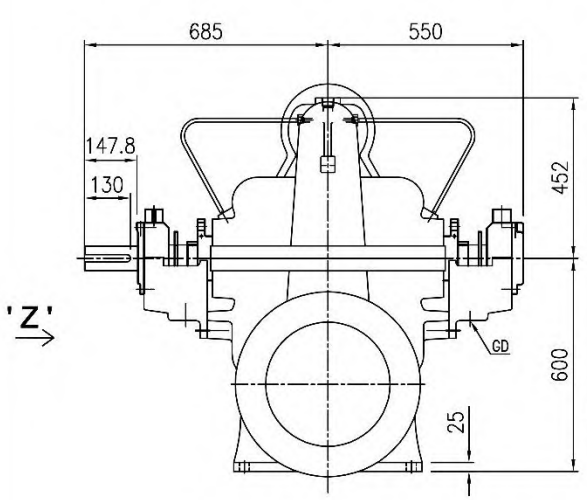
DRG. NO. 827GA10Y

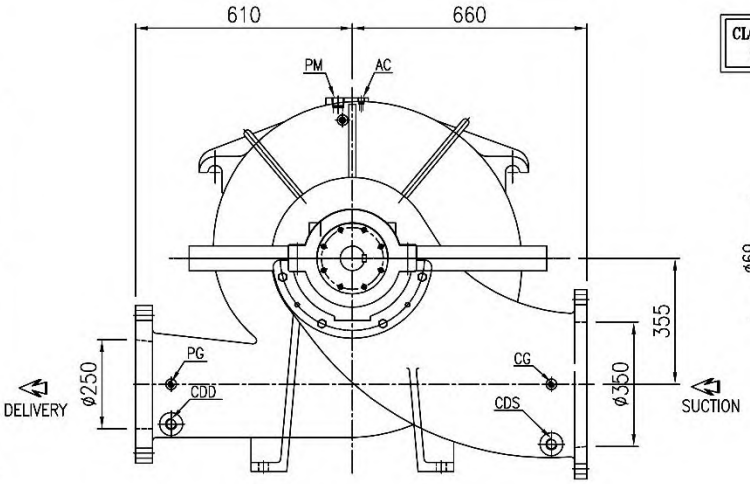
SCALE 1:1

REV 0

PUMP MODEL – 10HF22

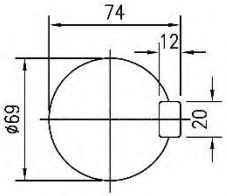
GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 10HF22



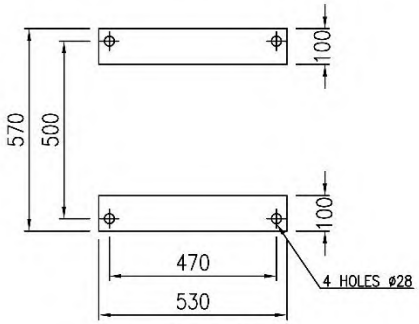


VIEW IN DIRECTION OF ' Z '

CLOCK-WISE ROTATION LOOKING FROM DRIVE END



SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

PUMP WEIGHT = 1208 kg

ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	1"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1–1/2"
CDS	CASING DRAIN(SUCTION SIDE)	1"
CDD	CASING DRAIN(DELIVERY SIDE)	1"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

REF. NO.	TYPE OF FLANGE.	SUCTION– ø350 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK R.F. FLANGE	DELIVERY– ø250 O.D.	P.C.D.	THK MIN	NO SIZE OF HOLE OFF C/L	RFø	RF THK R.F. FLANGE
S	ANSI#250	23"	20–1/4"	2–1/8"	20, ø1–1/4"	—	—						
D	ANSI#250							17–1/2"	15–1/4"	1–7/8"	16, ø1–1/8"	—	—

REV	DESCRIPTION	DRN	CHKD	DATE

PROJECT NAME– PUMPSENSE | JOB NO.–

TITLE– GA DRG. FOR 10HF22

DRN	SP	18.09.14
CHKD	SP	18.09.14
APPD	HS	18.09.14

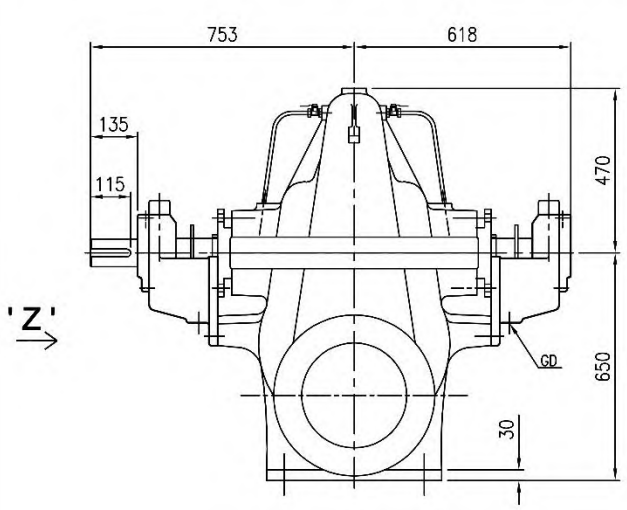
DRG. NO. PSF/10HF22/GA–01

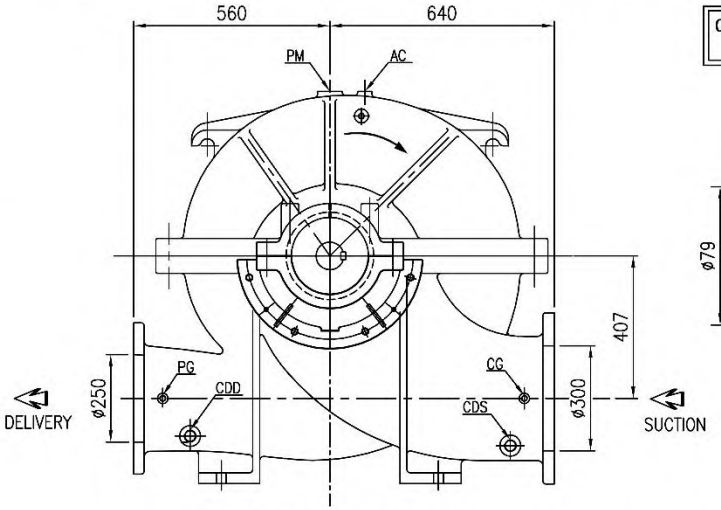
SCALE 1:1

REV 0

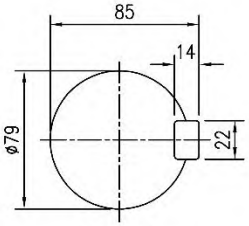
PUMP MODEL – 10HF27

GENERAL ARRANGEMENT DRAWING FOR SINGLE STAGE AXIALLY SPLIT CASE PUMP MODEL – 10HF27

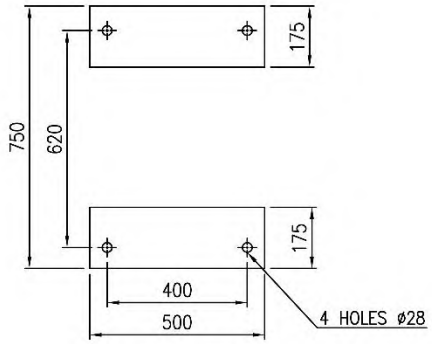




CLOCK-WISE ROTATION LOOKING FROM DRIVE END

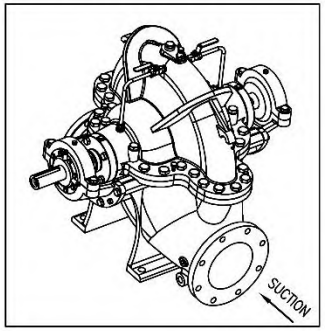


SCALE – 5:1
SHAFT DETAIL AT COUPLING END



PLAN OF PUMP FEET

VIEW IN DIRECTION OF ' Z '



APPROX. NET WEIGHT – 1493kg.
ALL DIMENSIONS ARE IN MM.

CONNECTIONS		
ITEM	DESCRIPTION	SIZE(NPT)
GD	GLAND DRAIN	3/4"
CG	COMPOUND GAUGE FOR SUCTION	3/8"
PG	PRESSURE GAUGE FOR DELIVERY	3/8"
AC	AIR COCK	3/8"
PM	PRIMING	1"
CDS	CASING DRAIN(SUCTION SIDE)	1"
CDD	CASING DRAIN(DELIVERY SIDE)	1"

** GAUGE CONNECTIONS DRILLED AND TAPPED ONLY WHEN SPECIFICALLY REQUESTED BY THE CUSTOMER.

		SUCTION – ø300						DELIVERY – ø250					
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK	RF FLANGE	O.D.	P.C.D.	THK MIN	NO. SIZE OF HOLE	RF ØRF.THK	RF FLANGE
S	PN 16	460	410	28	12, 26	—	—						
D	PN 16							405	355	26	12, 26	—	—

REV	DESCRIPTION	DRN	CHKD

PROJECT NAME– PUMPSENSE | JOB NO.–

TITLE– GA DRAWING FOR 10HF27

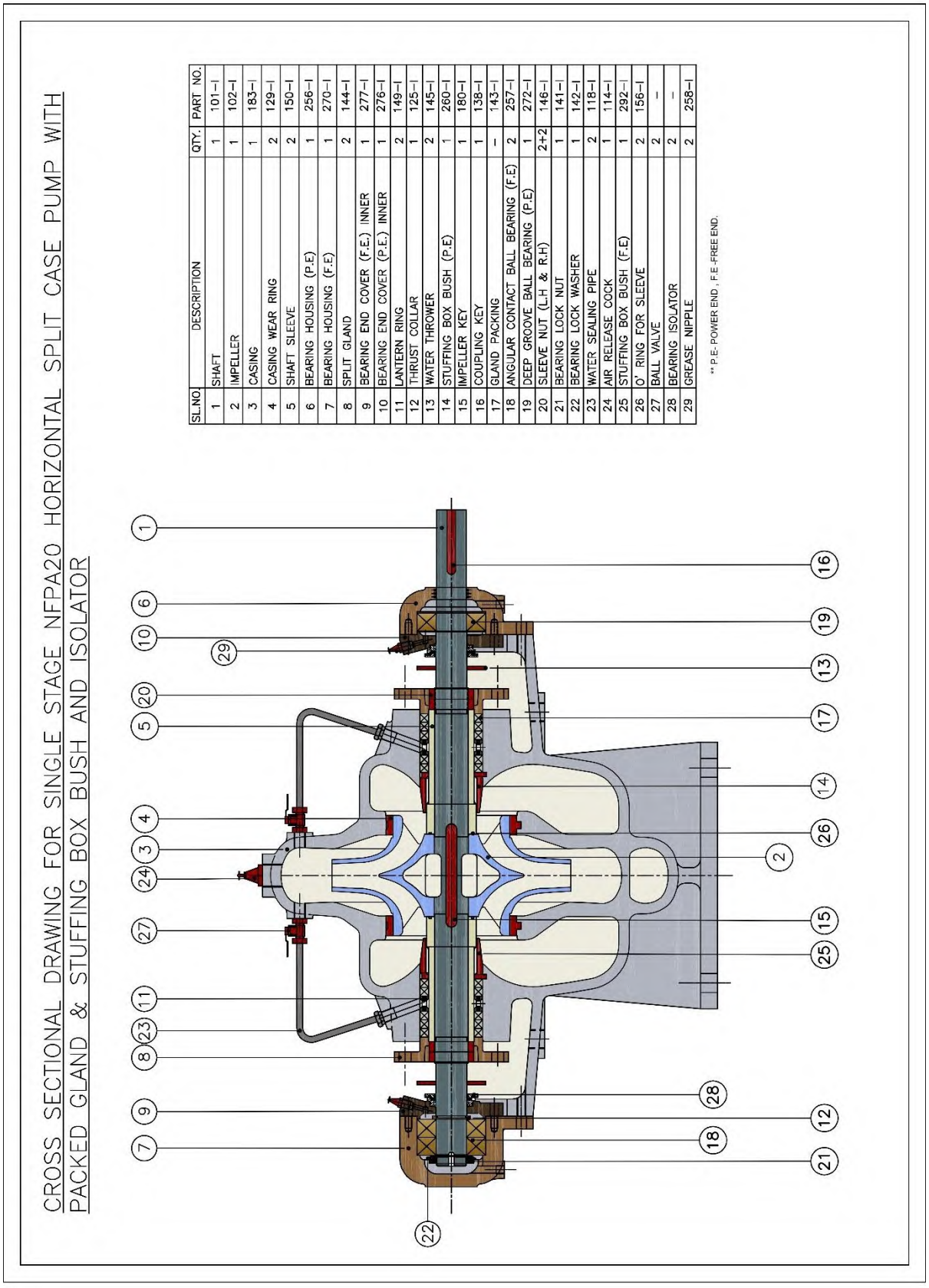
DRN	AD	07.07.15
CHKD	SP	07.07.15
APPD	HS	07.07.15

DRG. NO. PSF/10HF27/GA-01

SCALE 1:1

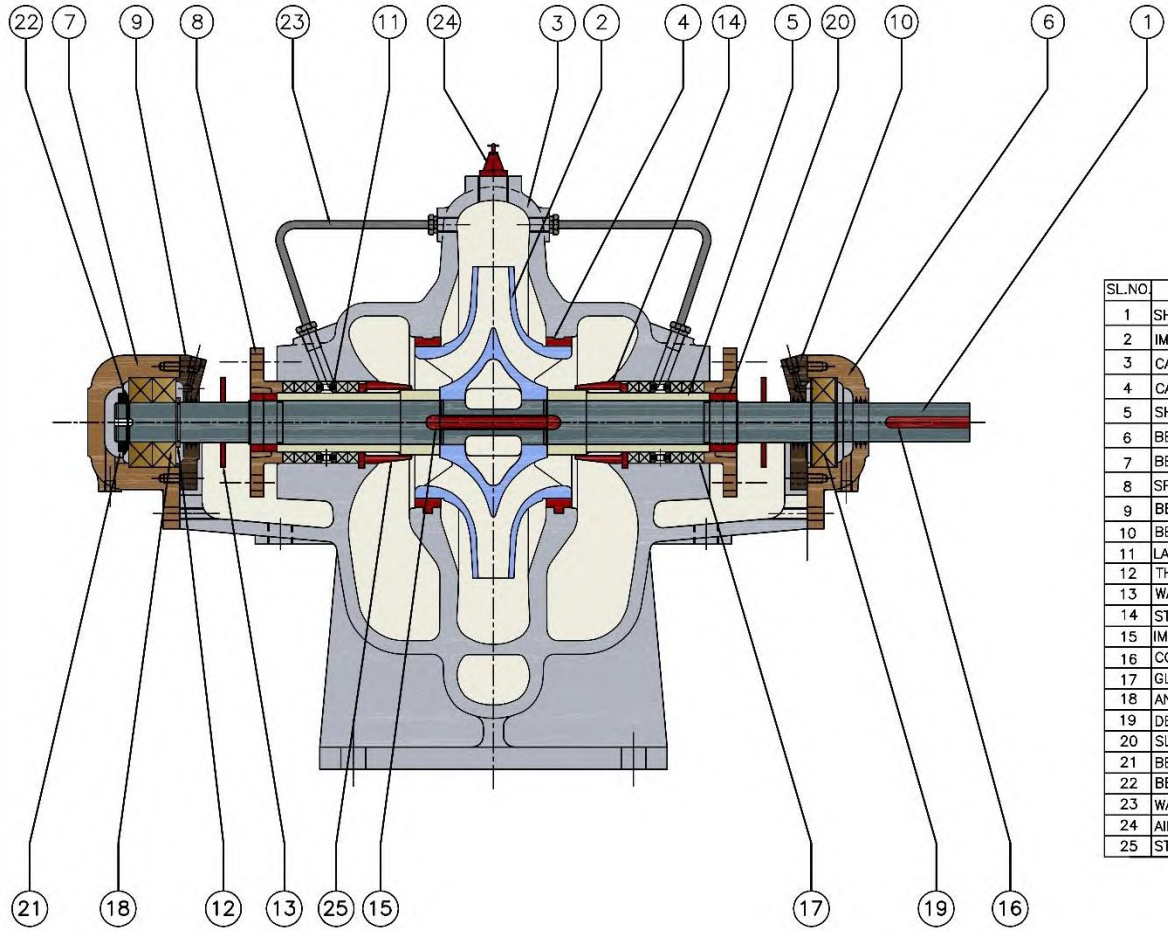
REV 0

13. Sectional Drawings



SL.NO	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101–I
2	IMPELLER	1	102–I
3	CASING	1	183–I
4	CASING WEAR RING	2	129–I
5	SHAFT SLEEVE	2	150–I
6	BEARING HOUSING (P.E)	1	256–I
7	BEARING HOUSING (F.E)	1	270–I
8	SPLIT GLAND	2	144–I
9	BEARING END COVER (F.E.) INNER	1	277–I
10	BEARING END COVER (P.E.) INNER	1	276–I
11	LANTERN RING	2	149–I
12	THRUST COLLAR	1	125–I
13	WATER THROWER	2	145–I
14	STUFFING BOX BUSH (P.E)	1	260–I
15	IMPELLER KEY	1	180–I
16	COUPLING KEY	1	138–I
17	GLAND PACKING	–	143–I
18	ANGULAR CONTACT BALL BEARING (F.E)	2	257–I
19	DEEP GROOVE BALL BEARING (P.E)	1	272–I
20	SLEEVE NUT (L.H & R.H)	2+2	146–I
21	BEARING LOCK NUT	1	141–I
22	BEARING LOCK WASHER	1	142–I
23	WATER SEALING PIPE	2	118–I
24	AIR RELEASE COCK	1	114–I
25	STUFFING BOX BUSH (F.E)	1	292–I
26	O' RING FOR SLEEVE	2	156–I
27	BALL VALVE	2	–
28	BEARING ISOLATOR	2	–
29	GREASE NIPPLE	2	258–I

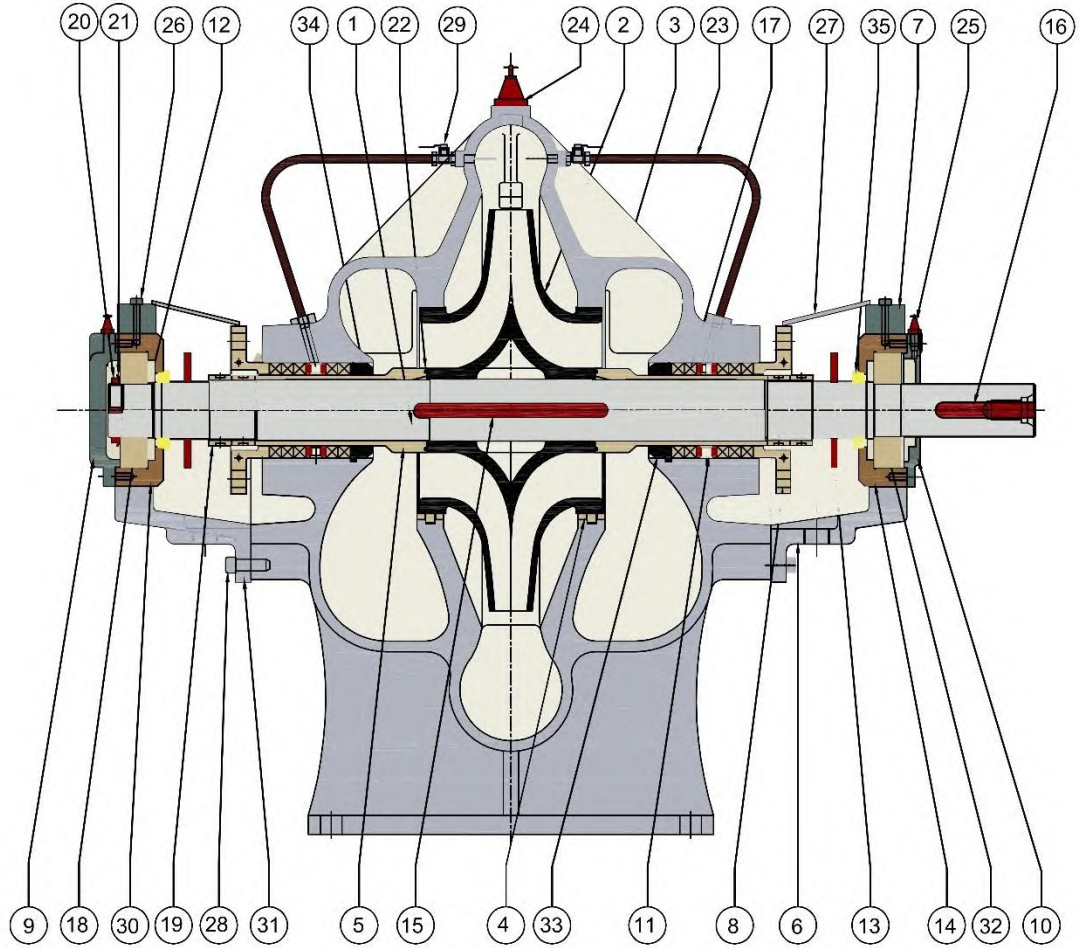
CROSS–SECTIONAL DRAWING FOR NFPA 20 SINGLE STAGE FIRE PUMP WITH PACKED GLAND



SL.NO.	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101–I
2	IMPELLER	1	102–I
3	CASING	1	183–I
4	CASING WEAR RING	2	129–I
5	SHAFT SLEEVE	2	150–I
6	BEARING HOUSING (P.E)	1	256–I
7	BEARING HOUSING (F.E)	1	270–I
8	SPLIT GLAND	2	144–I
9	BEARING END COVER (F.E.) INNER	1	277–I
10	BEARING END COVER (P.E.) INNER	1	276–I
11	LANTERN RING	2	149–I
12	THRUST COLLAR	1	125–I
13	WATER THROWER	2	145–I
14	STUFFING BOX BUSH (P.E)	1	260–I
15	IMPELLER KEY	1	180–I
16	COUPLING KEY	1	138–I
17	GLAND PACKING	–	143–I
18	ANGULAR CONTACT BALL BEARING (F.E)	2	257–I
19	DEEP GROOVE BALL BEARING (P.E)	1	272–I
20	SLEEVE NUT (L.H & R.H)	2+2	146–I
21	BEARING LOCK NUT	1	141–I
22	BEARING LOCK WASHER	1	142–I
23	WATER SEALING PIPE	2	118–I
24	AIR RELEASE COCK	1	114–I
25	STUFFING BOX BUSH (F.E)	1	292–I

** P.E- POWER END ; F.E -FREE END.

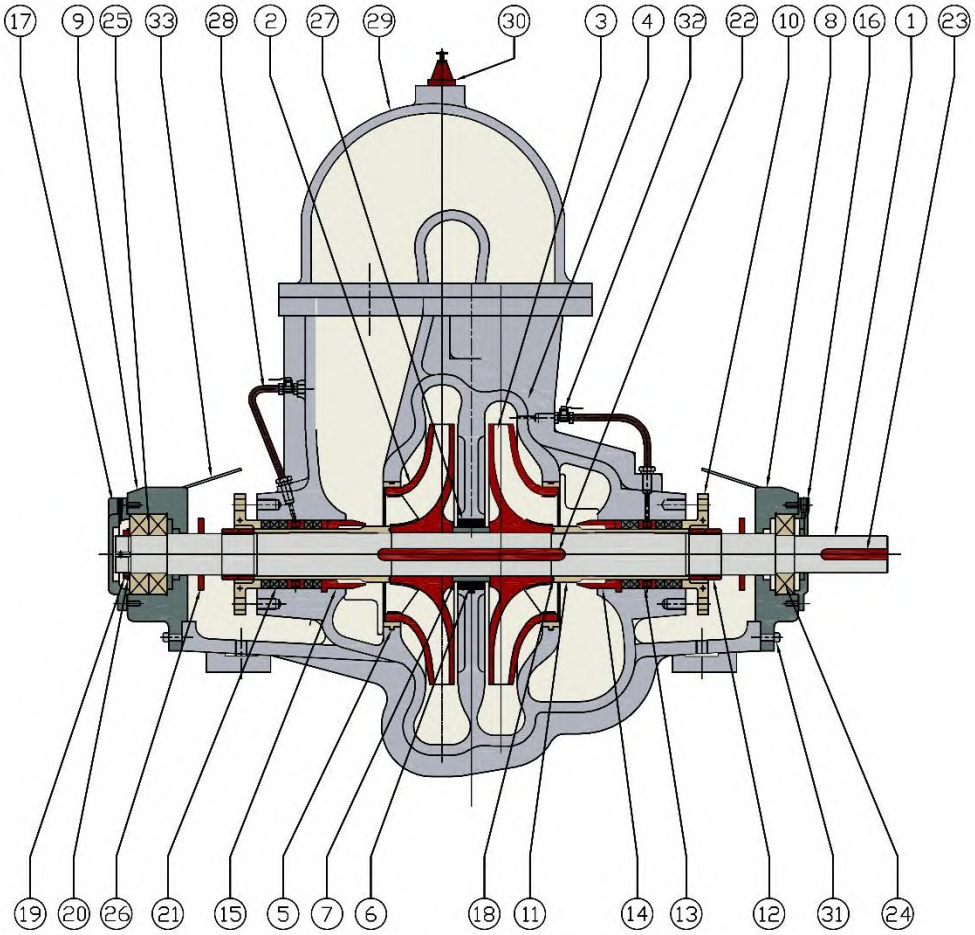
CROSS SECTIONAL DRAWING FOR SINGLE STAGE HORIZONTAL SPLIT CASE PUMP WITH PACKED GLAND & STUFFING BOX BUSH AND ISOLATOR



SL.NO.	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101
2	IMPELLER	1	102
3	CASING	1	183
4	CASING WEAR RING	2	129
5	SHAFT SLEEVE	2	150
6	BEARING BRACKET (P.E)	1	254
7	BEARING BRACKET TOP CLAMP	2	255
8	SPLIT GLAND	2	144
9	BEARING END COVER (F.E.)	1	133
10	BEARING END COVER (P.E.)	1	134
11	LANTERN RING	2	149
12	THRUST COLLAR	1	125
13	WATER THROWER	2	145
14	BEARING HOUSING (P.E)	1	256
15	IMPELLER KEY	1	180
16	COUPLING KEY	1	138
17	GLAND PACKING	–	143
18	DEEP GROOVE BALL BEARING (F.E)	1	257
19	SLEEVE NUT (L.H & R.H)	2+2	146
20	LOCK NUT	1	141
21	LOCK WASHER	1	142
22	'O'–RING (SLEEVE)	2	156
23	WATER SEALING PIPE	2	118
24	AIR RELEASE COCK	1	114
25	GREASE NIPPLE	2	258
26	LOCKING PIN FOR TOP CLAMP	2	259
27	SHAFT GUARD	2	252
28	DOWEL PIN FOR BEARING BRACKET	4	245
29	BALL VALVE	2	–
30	BEARING HOUSING (F.E)	1	270
31	BEARING BRACKET (F.E)	1	271
32	DEEP GROOVE BALL BEARING (P.E)	1	272
33	STUFFING BOX BUSH (P.E)	1	260
34	STUFFING BOX BUSH (F.E)	1	292
35	BEARING ISOLATOR	2	–

** P.E– POWER END , F.E –FREE END.

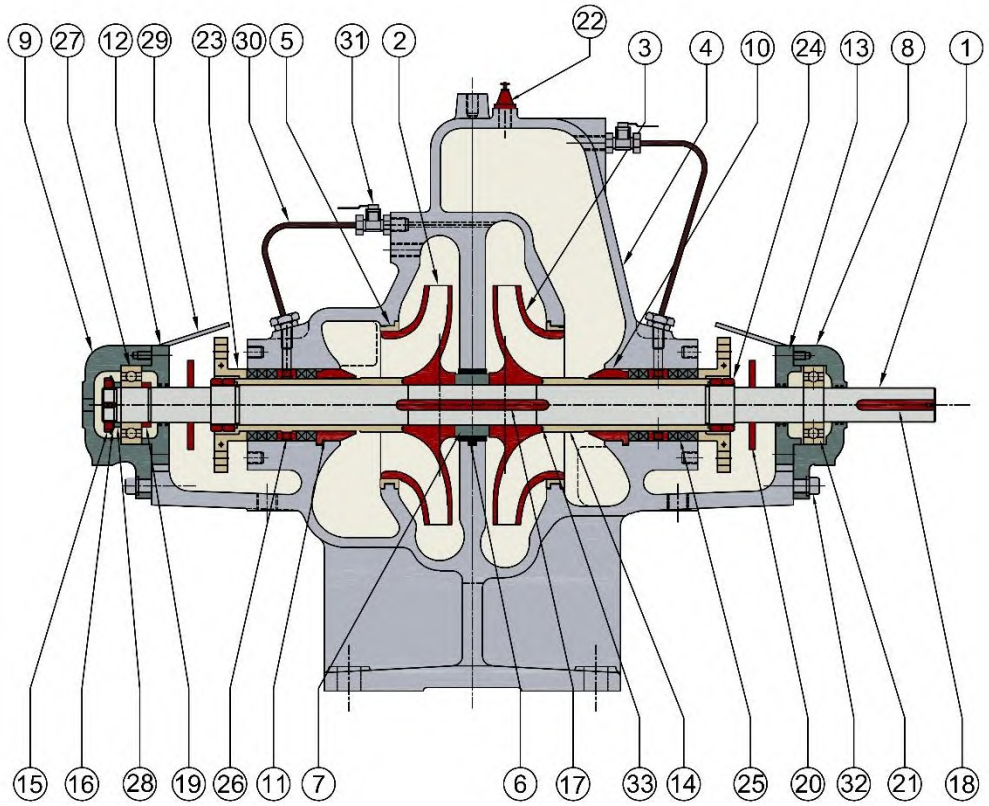
CROSS SECTIONAL DRAWING FOR SINGLE ENTRY IMPELLER WITH EXTERNAL CROSS–OVER TWO STAGE PUMP WITH PACKED GLAND



SL.NO.	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101
2	IMPELLER 1st STAGE (L.H.)	1	102-L
3	IMPELLER 2nd STAGE (R.H.)	1	102-R
4	CASING	1	183
5	CASING WEAR RING	2	129
6	INTER STAGE BUSH	1	300
7	INTER STAGE COLLAR	1	301
8	BEARING BRACKET (P.E)	1	254
9	BEARING BRACKET (F.E)	1	271
10	SPLIT GLAND	2	144
11	SHAFT SLEEVE	2	150
12	SLEEVE NUT (L.H & R.H)	2+2	146
13	LANTERN RING	2	149
14	STUFFING BOX BUSH (P.E)	1	260
15	STUFFING BOX BUSH (F.E)	1	292
16	BEARING END COVER OUTER (P.E)	1	134
17	BEARING END COVER OUTER (F.E)	1	133
18	`O' RING FOR SLEEVE	2	156
19	BEARING LOCK NUT	1	141
20	BEARING LOCK WASHER	1	142
21	GLAND PACKING	-	143
22	IMPELLER KEY	1	180
23	COUPLING KEY	1	138
24	BEARING AT POWER END	1	272
25	BEARING AT FREE END	2	257
26	WATER THROWER	2	145
27	`O' RING FOR INTER STAGE BUSH	1	305
28	WATER SEALING PIPE	2	118
29	EXTERNAL CROSS OVER	1	306
30	AIR COCK	1	114
31	DOWEL PIN FOR BEARING BRACKET	4	245
32	BALL VALVE	2	-
33	SHAFT GUARD	2	252

** P.E- POWER END , F.E -FREE END.

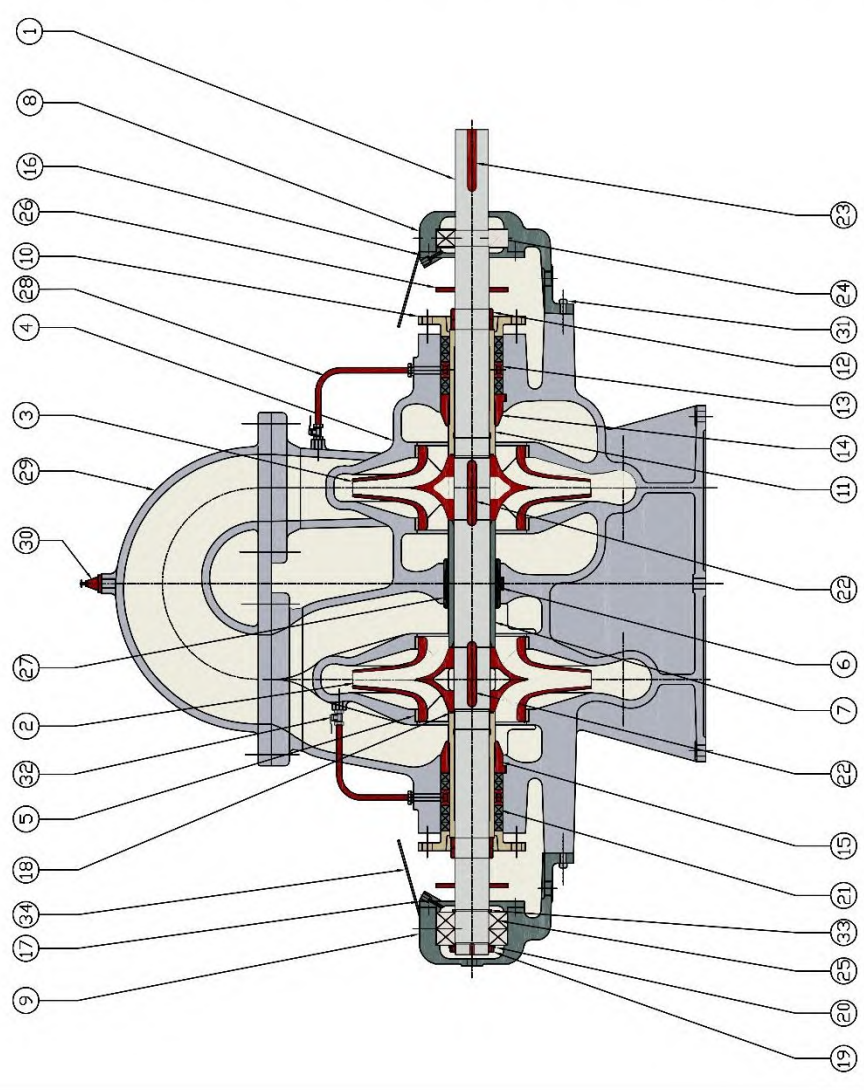
CROSS SECTIONAL DRAWING FOR SINGLE ENTRY IMPELLER WITH INTERNAL CROSS–OVER TWO STAGE PUMP WITH PACKED GLAND



SL.NO.	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101
2	IMPELLER 1st STAGE (L.H.)	1	102-L
3	IMPELLER 2nd STAGE (R.H.)	1	102-R
4	CASING	1SET	183
5	CASING WEAR RING	2	129
6	INTER STAGE BUSH	1	300
7	INTER STAGE COLLAR	1	301
8	BEARING BRACKET (P.E)	1	254
9	BEARING BRACKET (F.E)	1	271
10	STUFFING BOX BUSH (P.E)	1	260
11	STUFFING BOX BUSH (F.E)	1	292
12	BEARING END COVER INNER (F.E.)	1	277
13	BEARING END COVER INNER (P.E.)	1	276
14	SHAFT SLEEVE	2	150
15	BEARING LOCK NUT	1	141
16	BEARING LOCK WASHER	1	142
17	IMPELLER KEY	1	180
18	COUPLING KEY	1	138
19	THRUST COLLAR	1	125
20	WATER THROWER	2	145
21	DEEP GROOVE BALL BEARING (P.E)	1	272
22	AIR COCK	2	114
23	SPLIT GLAND	2	144
24	SLEEVE NUT (L.H & R.H)	2+2	146
25	GLAND PACKING	-	143
26	LANTERN RING	2	149
27	DEEP GROOVE BALL BEARING (F.E)	1	257
28	BEARING SPACER	1	228
29	SHAFT GUARD	2	252
30	WATER SEALING PIPE	2	118
31	BALL VALVE	2	-
32	DOWEL PIN FOR BEARING BRACKET	4	245
33	'O' RING FOR SLEEVE	2	156

** P.E- POWER END , F.E -FREE END.

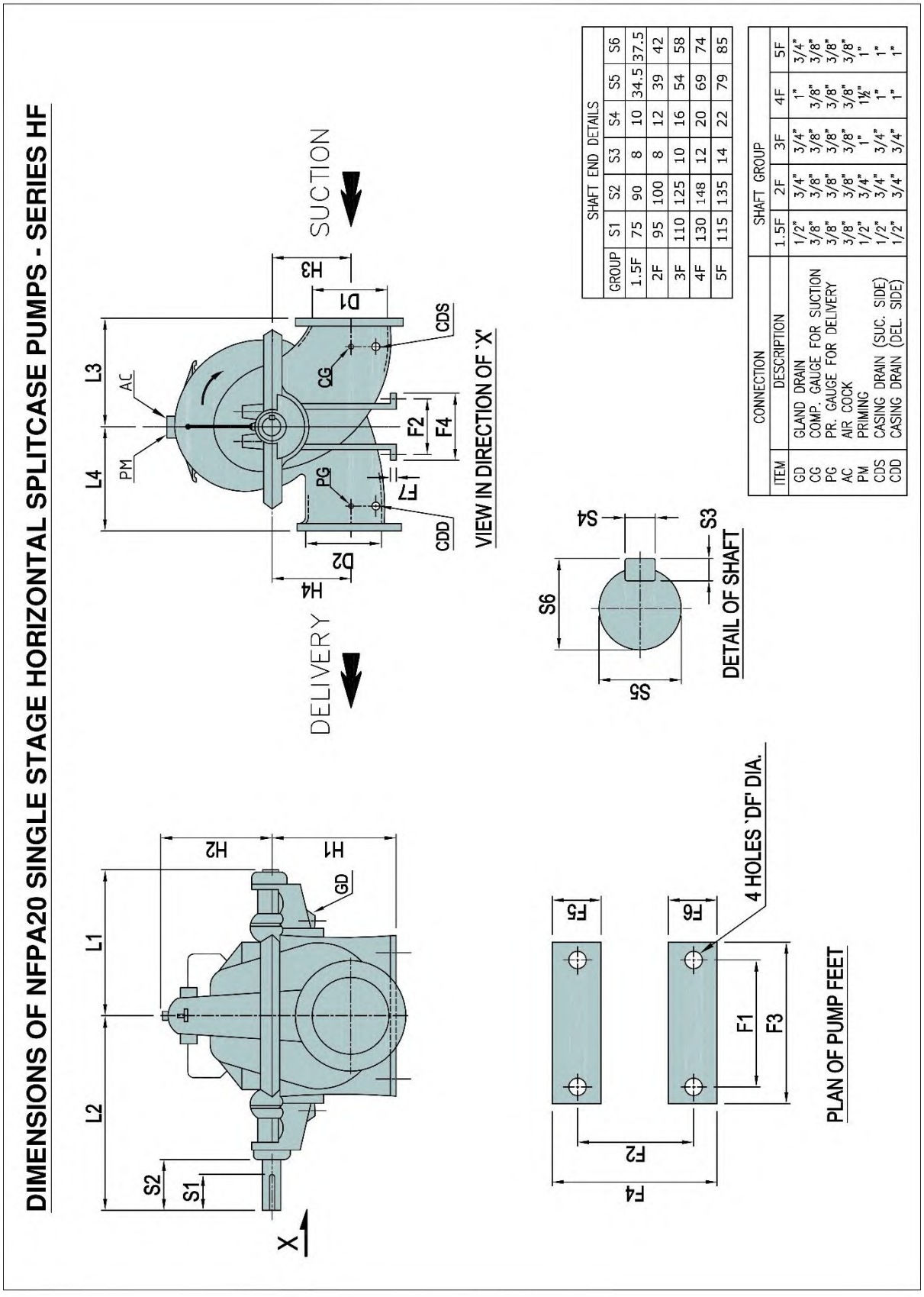
TWO STAGE FIRE PUMP WITH TWO DOUBLE ENTRY IMPELLERS WITH PACKED GLAND



SL.NO.	DESCRIPTION	QTY.	PART NO.
1	SHAFT	1	101
2	IMPELLER 1st STAGE (L.H.)	1	102-L
3	IMPELLER 2nd STAGE (R.H.)	1	102-R
4	CASING	1	183
5	CASING WEAR RING	4	129
6	INTER STAGE BUSH	1	300
7	INTER STAGE COLLAR	1	301
8	BEARING BRACKET (P.E)	1	254
9	BEARING BRACKET (F.E)	1	271
10	SPLIT GLAND	2	144
11	SHAFT SLEEVE	2	150
12	SLEEVE NUT (L.H & R.H)	2+2	146
13	LANTERN RING	2	149
14	STUFFING BOX BUSH (P.E)	1	260
15	STUFFING BOX BUSH (F.E)	1	292
16	BEARING END COVER INNER (P.E)	1	276
17	BEARING END COVER INNER (F.E)	1	277
18	'O' RING FOR SLEEVE	2	156
19	BEARING LOCK NUT	1	141
20	BEARING LOCK WASHER	1	142
21	GLAND PACKING	-	143
22	IMPELLER KEY	2	180
23	COUPLING KEY	1	138
24	BEARING AT POWER END	1	272
25	BEARING AT FREE END	2	257
26	WATER THROWER	2	145
27	'O' RING FOR INTER STAGE BUSH	1	305
28	WATER SEALING PIPE	2	118
29	EXTERNAL CROSS OVER	1	306
30	AIR COCK	1	114
31	DOWEL PIN FOR BEARING BRACKET	4	245
32	BALL VALVE	2	-
33	THRUST COLLAR	1	125
34	SHAFT GUARD	2	252

** P.E- POWER END , F.E - FREE END.

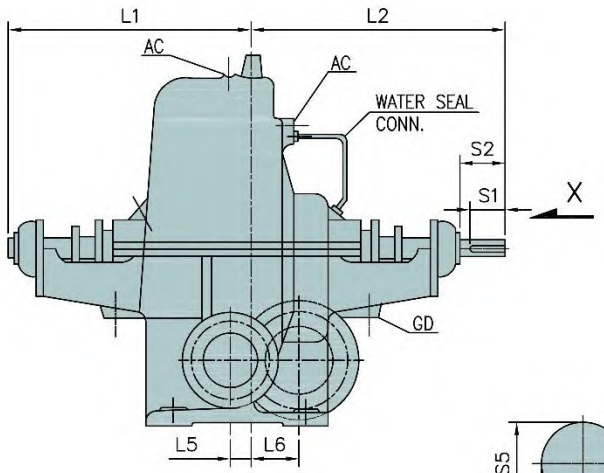
14. Common GA and Dimensional Sheet

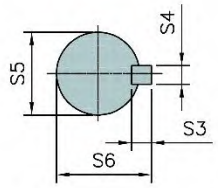


DIMENSION SHEET FOR NFPA20 SINGLE STAGE HORIZONTAL SPLIT CASE PUMPS

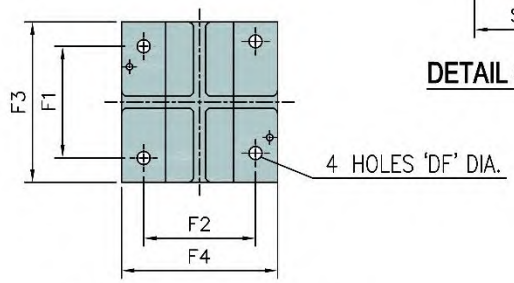
No	PUMP	SIZE		SHAFT	OVERALL DIMENSIONS								MOUNTING DIMENSIONS								SHAFT END						APPROX
	MODEL	D1	D2	GROUP	H1	H2	H3	H4	L1	L2	L3	L4	F1	F2	F3	F4	F5	F6	F7	DF	S1	S2	S3	S4	S5	S6	WT(Kg)
1	**3HF12**	100	80	1.5F	300	218	190	190	362	425	280	250	200	210	270	260	62.5	62.5	25	20	75	90	8	10	34.5	37.5	200
2	**4HF10**	150	100	1.5F	280	200	180	180	362	425	280	250	200	210	270	260	62.5	62.5	25	20	75	90	8	10	34.5	37.5	150
3	**4HF12L**	150	100	1.5F	310	223	180	180	362	425	330	295	250	285	310	350	82.5	82.5	25	20	75	90	8	10	34.5	37.5	224
4	**4HF12**	150	100	1.5F	310	223	180	180	362	425	330	295	250	285	310	350	82.5	82.5	25	20	75	90	8	10	34.5	37.5	224
5	**4HF13**	150	100	2F	375	266	222	222	485	560	400	292	370	360	420	420	80	80	25	22	95	100	8	12	39	42	285
6	**4HF16**	150	100	2F	350	275	230	230	485	560	415	310	370	360	420	420	80	80	25	22	95	100	8	12	39	42	230
7	**5HF11**	150	125	2F	375	253	212	212	485	560	345	270	370	360	420	420	80	80	25	22	95	100	8	12	39	42	353
8	**6HF12**	200	150	2F	375	245	228	228	452	552	370	330	370	360	420	420	80	80	20	22	95	100	8	12	39	42	392
9	**6HF13**	200	150	3F	400	275	240	240	525	615	390	325	370	360	420	420	80	80	25	22	110	125	10	16	54	58	464
10	**6HF14K**	200	150	2F	375	282	225	225	485	560	415	370	360	360	420	420	80	80	20	18	95	100	8	12	39	42	407
11	**6HF15**	200	150	2F	375	265	230	230	485	560	400	300	360	360	420	425	82.5	82.5	25	22	95	100	8	12	39	42	400
12	**6HF18**	200	150	3F	410	329	270	270	480	605	442	360	400	360	460	425	82.5	82.5	23	28	110	125	10	16	54	58	660
13	**6HF20**	200	150	3F	500	416	320	320	435	605	500	430	480	400	540	465	82.5	82.5	25	26	110	125	10	16	54	58	550
14	**6HF21**	200	150	3F	460	365	320	320	480	605	440	430	400	360	460	425	82.5	82.5	23	28	110	125	10	16	54	58	600
15	**8HF12H**	200	200	2F	440	260	250	250	485	560	370	310	370	360	420	420	80	80	25	22	95	100	8	12	39	42	650
16	**8HF13**	250	200	3F	410	304	235	235	480	605	465	385	440	360	500	425	82.5	82.5	25	26	110	125	10	16	54	58	620
17	**8HF14**	250	200	3F	450	290	270	270	480	605	425	325	370	360	420	420	80	80	25	22	110	125	10	16	54	58	623
18	**8HF15**	300	200	3F	500	339	268	268	480	605	540	403	440	360	500	425	82.5	82.5	22	26	110	125	10	16	54	58	726
19	**8HF17**	250	200	3F	490	340	295	295	480	605	450	365	440	360	500	425	82.5	82.5	25	26	110	125	10	16	54	58	615
20	**8HF20**	250	200	4F	535	432	314	314	550	685	560	485	470	500	530	570	100	100	25	28	130	148	12	20	69	74	750
21	**8HF21**	250	200	3F	500	379	314	314	480	605	500	485	440	360	500	425	82.5	82.5	22	26	110	125	10	16	54	58	840
22	**10HF20**	350	250	4F	600	452	355	355	550	685	660	610	470	500	530	570	100	100	25	28	130	148	12	20	69	74	1000
23	**10HF22**	350	250	4F	600	452	355	355	550	685	660	610	470	500	530	570	100	100	25	28	130	148	12	20	69	74	1208
24	**10HF27**	300	250	5F	650	470	407	407	618	753	640	560	400	620	500	750	175	175	30	28	115	135	14	22	79	85	1493

DIMENSIONS OF TWO STAGE HORIZONTAL SPLITCASE PUMPS WITH INTERNAL CROSS-OVER - SERIES HFT

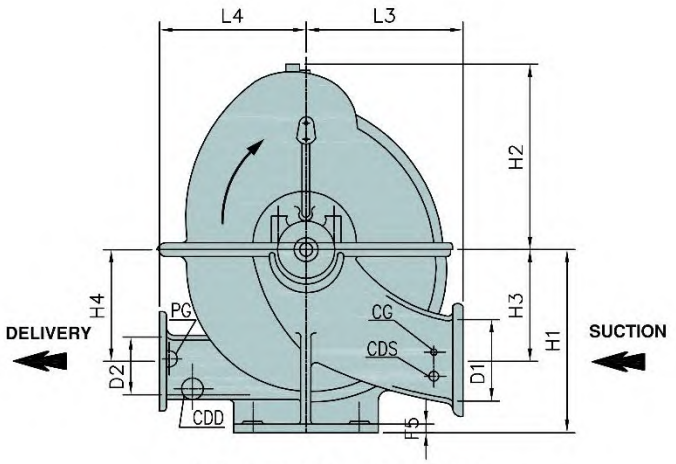




DETAIL OF SHAFT



PLAN OF PUMP FEET

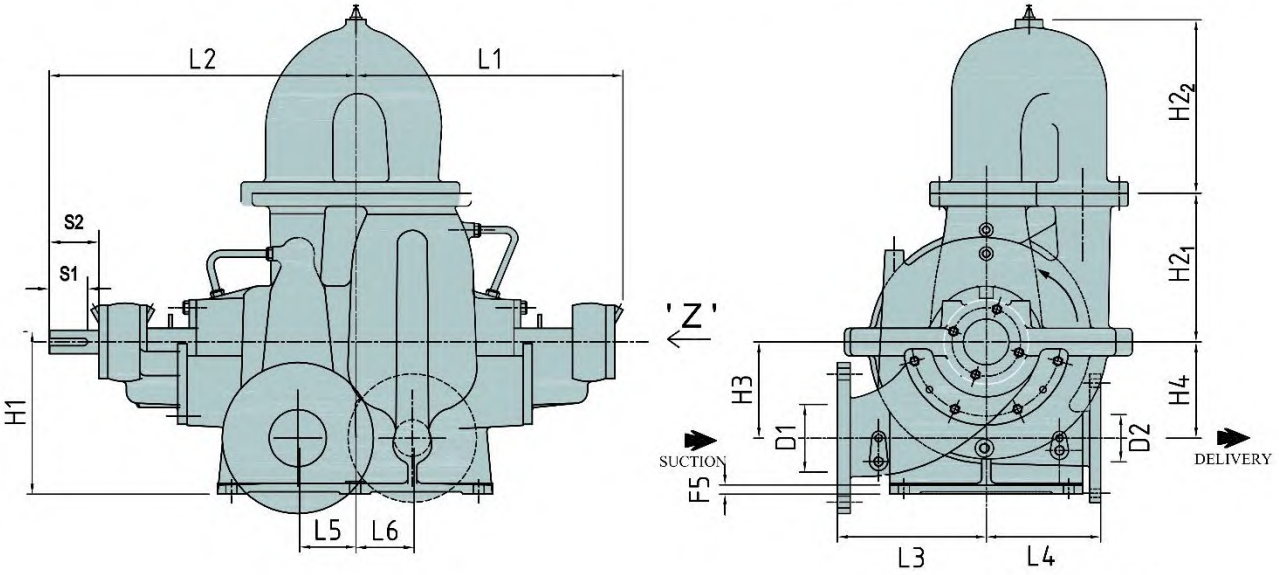


VIEW FROM ARROW 'X'

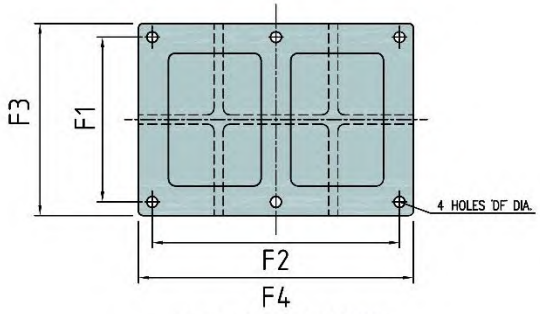
SHAFT END DETAILS						
GROUP	S1	S2	S3	S4	S5	S6
1F	70	87	7	8	24	27
1.5F	80	90	8	10	34.5	37.5
3F	110	125	10	16	54	58

CONNECTION		SHAFT GROUP		
ITEM	DESCRIPTION	1F	1.5F	3F
GD	GLAND DRAIN	1/2"	1/2"	3/4"
CG	COMP. GAUGE FOR SUCTION	3/8"	3/8"	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"	3/8"	3/8"
AC	AIR COCK	1/4"	3/8"	3/8"
PM	PRIMING	1/4"	1/2"	3/4"
CDS	CASING DRAIN(SUCT.SIDE)	1/2"	1/2"	1/2"
CDD	CASING DRAIN(DELY.SIDE)	1/2"	1/2"	1/2"

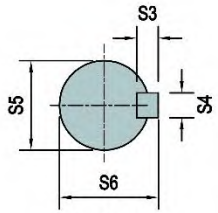
DIMENSIONS OF NFPA20 TWO STAGE HORIZONTAL SPLIT CASE PUMP WITH EXTERNAL CROSS-OVER-SERIES HFT



VIEW IN DIRECTION OF ' Z '



PLAN OF PUMP FEET



SHAFT DETAILS AT COUPLING END

SHAFT END DETAILS						
GROUP	S1	S2	S3	S4	S5	S6
2.5F	125	150	8	12	43	45.3
3F	110	138	10	16	54	58
3.5F	132	159	11	18	59	63
4F	140	185	12	20	74	78.9

CONNECTION		SHAFT GROUP			
ITEM	DESCRIPTION	2.5F	3F	3.5F	4F
GD	GLAND DRAIN	3/4"	3/4"	3/4"	1"
CG	COMP. GAUGE FOR SUCTION	3/8"	3/8"	3/8"	3/8"
PG	PR. GAUGE FOR DELIVERY	3/8"	3/8"	3/8"	3/8"
AC	AIR COCK	3/8"	3/8"	3/4"	3/8"
PM	PRIMING	3/8"	1"	3/4"	1"
CDS	CASING DRAIN(SUCT.SIDE)	1/2"	1/2"	1/2"	1/2"
CDD	CASING DRAIN(DELY.SIDE)	1/2"	1/2"	1/2"	1/2"

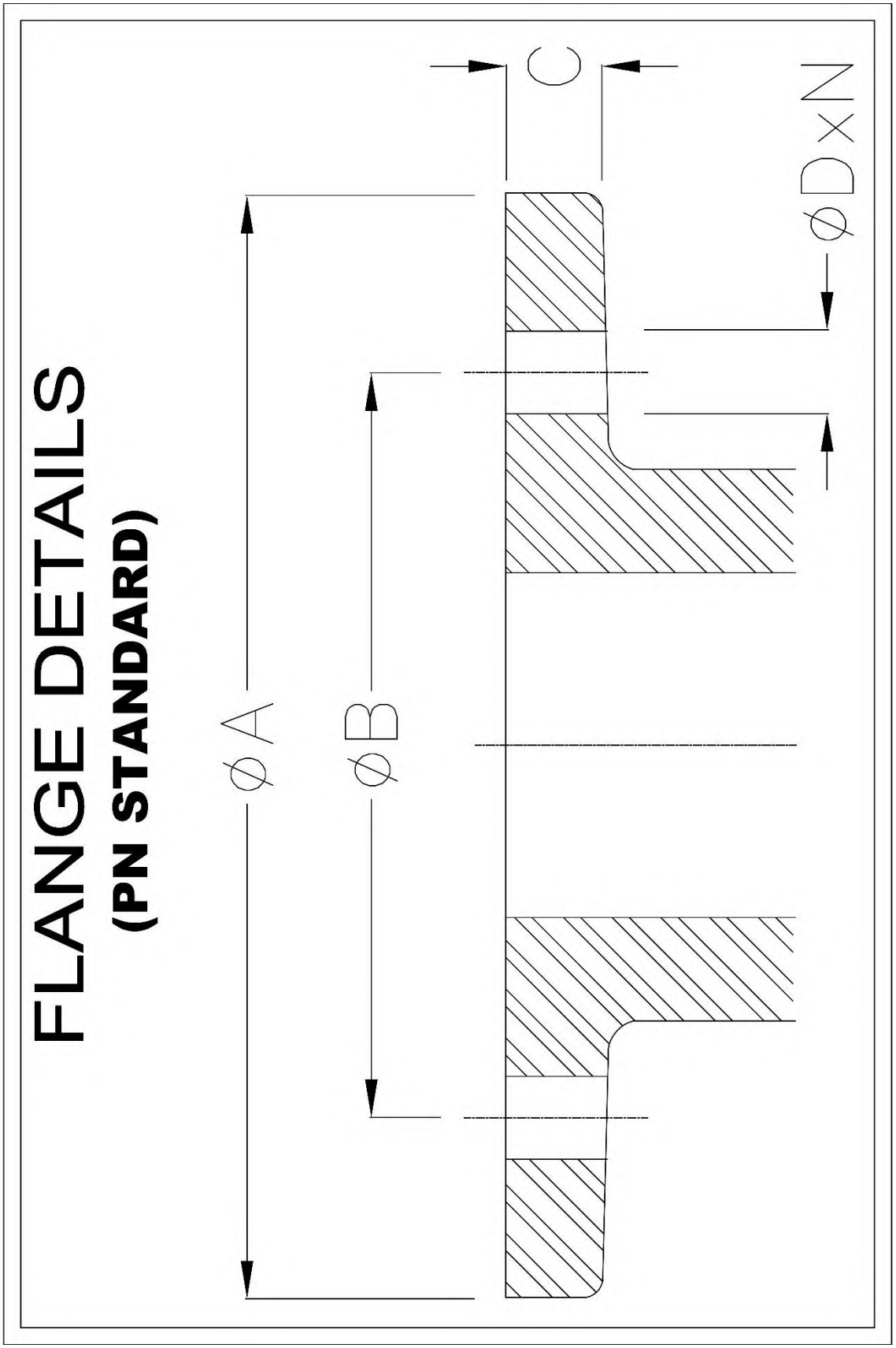
DIMENSIONAL SHEET FOR TWO STAGE PUMPS WITH TWO SINGLE SUCTION IMPELLERS HAVING INTERNAL CROSS OVER

NO.	PUMP	SIZE		SHAFT	OVERALL DIMENSIONS										MOUNTING DIMENSIONS						SHAFT END						APPROX.
	MODEL	D1	D2	GROUP	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	F1	F2	F3	F4	F5	DF	S1	S2	S3	S4	S5	S6	WT. (kg)
1	**2.5HFT9**	80	65	**1F**	285	248	145	145	347	414	230	200	22.5	22.5	150	200	250	300	24	16	70	87	7	8	24	27	245
2	**2.5HFT12**	80	65	**1.5F**	340	235	185	185	395	469	290	230	60	37	180	230	250	300	20	16	80	90	8	10	34.5	37.5	225
3	**3HFT11**	100	80	**1.5F**	290	315	180	180	395	469	270	250	40	40	250	250	300	300	20	24	80	93	8	10	34.5	37.5	312
4	**4HFT14**	150	100	**3F**	400	440	230	230	552	642	370	360	52.0	131	330	330	400	400	25	34	110	125	10	16	54	58	593
5	**4HFT19**	150	100	**3F**	455	470	270	270	508	636	400	360	45.0	95	330	330	400	400	25	34	110	140	10	16	54	58	725

DIMENSIONAL SHEET FOR TWO STAGE PUMPS WITH TWO DOUBLE SUCTION IMPELLERS HAVING EXTERNAL CROSS OVER

NO.	PUMP	SIZE		SHAFT	OVERALL DIMENSIONS										MOUNTING DIMENSIONS						SHAFT END						APPROX.
	MODEL	D1	D2	GROUP	H1	$H2_1$	$H2_2$	H3	H4	L1	L2	L3	L4	L5	L6	F1	F2	F3	F4	F5	DF	S1	S2	S3	S4	S5	S6	WT. (kg)
1	**3HFTD14**	125	80	**3F**	355	325	388	210	210	569	672	325	250	125	125	360	540	420	600	24	24	110	138	10	16	51	55	320
2	**4HFTD13**	150	100	**2.5F**	375	342	325	222	222	670	764	400	292	183	183	290	726	350	786	24	18	125	150	8	12	43	45.3	525
3	**6HFTD12**	200	150	**3F**	375	325	370	190	190	602	705	325	325	150	150	285	620	350	670	24	22	110	138	10	16	54	58	684
4	**6HFTD12S**	200	150	**3F**	410	385	348	245	245	724	816	450	325	195	195	290	660	350	720	22	24	110	138	10	16	54	58	1300
5	**6HFTD12L**	200	150	**3F**	410	366	329	215	215	669	760	420	385	175	175	285	670	350	720	25	22	110	138	10	16	54	58	850
6	**6HFTD13**	200	150	**3F**	410	390	611	215	215	641	745	390	390	170	170	285	650	350	710	20	24	110	138	10	16	54	58	940
7	**6HFTD18**	200	150	**3.5F**	480	405	510	295	295	703	815	430	405	####	190	385	606	450	670	35	25	132	159	11	18	59	63	1206
8	**6HFTD21**	200	150	**4F**	525	450	389	320	320	859	1020	500	430	####	215	385	750	485	810	28	27	140	185	12	20	74	78.9	1220

15. Flange Details



FLANGES TO PN10

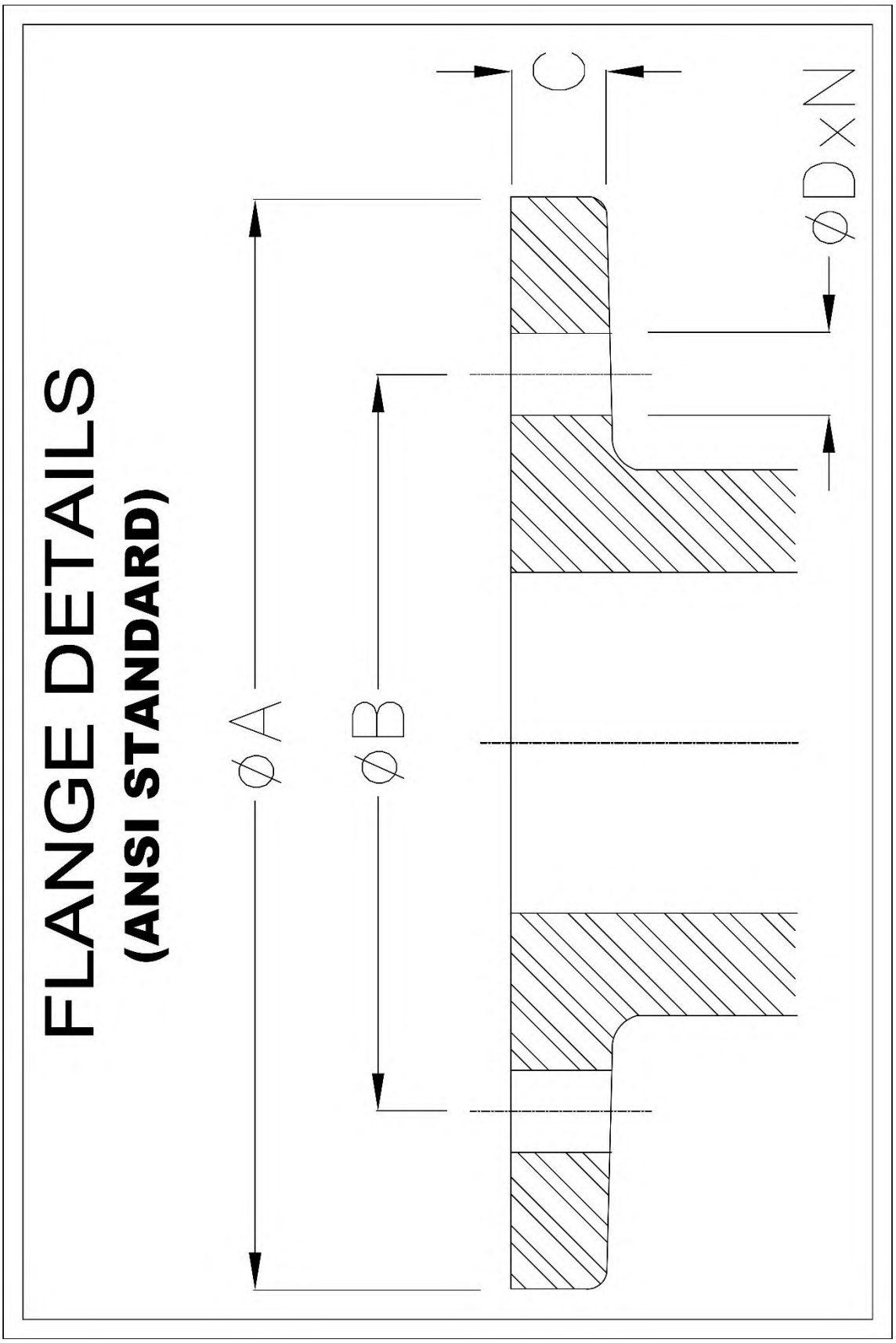
NOMINAL FLANGE SIZE		50	65	80	100	125	150	200	250	300	350	400	450	500
FLANGE DIAMETER	A	165	185	200	220	250	285	340	395	445	505	565	615	670
HOLE P.C.D.	B	125	145	160	180	210	240	295	350	400	460	515	565	620
FLANGE THICKNESS	C	18	18	20	20	22	22	24	26	26	26	32	32	34
HOLE DIAMETER	D	18	18	18	18	18	22	22	22	22	22	25	25	25
NUMBER OF HOLES	N	4	4	4	8	8	8	8	12	12	16	16	20	20

FLANGES TO PN16

NOMINAL FLANGE SIZE		50	65	80	100	125	150	200	250	300	350	400	450	500
FLANGE DIAMETER	A	165	185	200	220	250	285	340	405	460	520	580	640	715
HOLE P.C.D.	B	125	145	160	180	210	240	295	355	410	470	525	585	650
FLANGE THICKNESS	C	18	18	20	20	22	22	24	26	28	30	32	34	34
HOLE DIAMETER	D	18	18	18	18	18	22	22	26	26	26	30	30	33
NUMBER OF HOLES	N	4	4	8	8	8	8	12	12	12	16	16	20	20

FLANGES TO PN25

NOMINAL FLANGE SIZE		50	65	80	100	125	150	200	250	300	350	400	450	500
FLANGE DIAMETER	A	165	185	200	235	270	300	360	425	485	555	620	670	730
HOLE P.C.D.	B	125	145	160	190	220	250	310	370	430	490	550	600	660
FLANGE THICKNESS	C	20	22	24	24	26	28	30	32	34	38	40	42	44
HOLE DIAMETER	D	18	18	18	22	26	26	26	30	30	33	36	36	36
NUMBER OF HOLES	N	4	8	8	8	8	8	12	12	16	16	16	20	20


FLANGE DETAILS
(ANSI STANDARD)
C
ØD×N
Ø A
Ø B

FLANGES TO ANSI#125

Nominal Pipe Size	Flange Diameter (A)	Flange Thickness (C)	PCD (B)	No. of Bolts (N)	Diameter of Bolt Holes (D)
2	6	5/8	4-3/4	4	3/4
2-1/2	7	11/16	5-1/2	4	3/4
3	7-1/2	3/4	6	4	3/4
4	9	15/16	7-1/2	8	3/4
5	10	15/16	8-1/2	8	7/8
6	11	1	9-1/2	8	7/8
8	13-1/2	1-1/8	11-3/4	8	7/8
10	16	1-3/16	14-1/4	12	1
12	19	1-1/4	17	12	1
14	21	1-3/8	18-3/4	12	1-1/8
16	23-1/2	1-7/16	21-1/4	16	1-1/8
18	25	1-9/16	22-3/4	16	1-1/4
20	27-1/2	1-11/16	25	20	1-1/4

FLANGES TO ANSI#250

Nominal Pipe Size	Flange Diameter (A)	Flange Thickness (C)	PCD (B)	No. of Bolts (N)	Diameter of Bolt Holes (D)
2	6-1/2	7/8	5	8	3/4
2-1/2	7-1/2	1	5-7/8	8	7/8
3	8-1/4	1-1/8	6-5/8	8	7/8
4	10	1-1/4	7-7/8	8	7/8
5	11	1-3/8	9-1/4	8	7/8
6	12-1/2	1-7/16	10-5/8	12	7/8
8	15	1-5/8	13	12	1
10	17-1/2	1-7/8	15-1/4	16	1-1/8
12	20-1/2	2	17-3/4	16	1-1/4
14	23	2-1/8	20-1/4	20	1-1/4
16	25-1/2	2-1/4	22-1/2	20	1-3/8
18	28	2-3/8	24-3/4	24	1-3/8
20	30-1/2	2-1/2	27	24	1-3/8

16. Material equivalence chart

MATERIAL EQUIVALENT CHART

PART NO	PART NAME	STANDARD FITTED PUMP	BRITISH STANDARD	ASTM STANDARD	DIN STANDARD	DIN MATERIAL NUMBER	DIN SPECIFICATION
1	Bearing Housing	Cast Iron	BS1452 Gr 260	A48 Class 25	GG20	0.602	DIN1691
2	Split Gland	Bronze	BS1400 LG2	B584 C83600	G -CuSn 5 ZnPb	2.1096.01	DIN1705
3	Casing	Cast Iron	BS1452 Gr 260	A48 Class 35	GG25	0.6025	DIN1691
4	Impeller	Bronze	BS1400 LG2	B584 C83600	G-CuSn 5 ZnPb	2.1096.01	DIN 1705
5	Casing Wear Ring	Bronze	BS1400 LB2	B584 C93700	G-CuPb 15 Sn	2.1096.01	DIN1705
6	Lantern Ring	Bronze	BS1400 LG2	B584 C83600	G-CuSn 5 ZnPb	2.182.01	DIN1705
7	Impeller Key	Stainless Steel	BS970 410 S21	A 182 Type 410	X 10 Cr 13	2.1096.01	DIN1705
8	Coupling Key	Stainless Steel	BS970 410 S21	A182 Type 410	X 10 Cr 13	2.1096.01	DIN1705
9	Gland Packing	Graphite Impregnated					
10	Shaft	Stainless Steel	BS970 410 S21	A182 Type 410	X 10 Cr 13	2.1096.01	DIN1705
11	Thrust Collar	MS					
12	Bearing End Cover Inner	Cast Iron	BS1452 Gr 260	A 48 Class 25	GG20	0.602	DIN 1691
14	Shaft Sleeve & nuts	Bronze	BS1400 CT1	B30 C 90700	G-CuSn10	2.1050.01	DIN 1705
15	Water Thrower	Neoprene					
16	Deep Groove Ball Bearing	SKF					
16A	Angular Contact Ball Bearing	SKF					
17	Lock Nut	SKF					
18	Locking Washer	SKF					
20	Baering End Cover Outer	Cast Iron	BS1452 Gr 260	A48 Class 25	GG20	0.602	DIN1691
21	Seal piping	Stainless Steel					

17. Recommended spare parts

Recommended spares parts for Split-case Pumps (Series HF)
PACKED GLAND PUMPS

Sr. No.	Component	Material Specification	No of Set	Qty in esch set	Photo
Recommended spare parts for two years operation					
1	Bearings (Drive end and non-drive end) & lock nut & lock washer	SKF make bearing (6300 / 7300 series), lock nut(KM series) and lock washer(MB series)	1 Set	1 set of bearings, 1 no of lock nut and 1 no of lock washer	
2	Casing Wear Rings	Bronze LB2 BS 1400	1 Set	2 nos	
3	Casing Gaskets	0.4 mm Vegetable Fibre	1 Set		
4	Gland Packing s	Non-Asbestos Packing	1 Set	10 nos	
5	'O' Rings	Nitrile Rubber	1 Set	2 nos	
Recommended spare parts for five years operation					
1	Bearings (Drive end and non-drive end) & lock nut & lock washer	SKF make bearing (6300 / 7300 series), lock nut(KM series) and lock washer(MB series)	3 Sets	3 sets of bearings, 3 nos of lock nut and 3 nos of lock washer	
2	'O' Rings	Nitrile Rubber	3 Sets	6 nos	
3	Impellers	Bronze LG2	1 Set	1 no	
4	Casing Wear Rings	Bronze LB2	2 Sets	4 nos	
5	Shaft with keys	AISI 410	1 Set	1 no each	
6	Shaft Sleeves	Bronze CT1	1 Set	2 nos	
7	Sleeve Nuts	Bronze CT1	1 Set	4 nos	
8	Stuffing Box Bushes	Bronze LB2	1 Set	2 nos	
9	Split Glands	Bronze LG2	1 Set	2 nos	
10	Lantern Rings	Bronze LG2	1 Set	2 nos	
11	Gland Packing	Non-Asbestos Packing	3 Sets	30 Nos	
12	Casing Gaskets	0.4 mm Vegetable Fibre	3 Sets		