

NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

## PERFORMANCE CURVE OF 4HST19 @1480 R.P.M

4HST19/Y/311054



HST RANGE

MODEL 4HST19

WORKING PRESS. 20 bar

SIZE 150x100-470

TEST PRESS. 30 bar

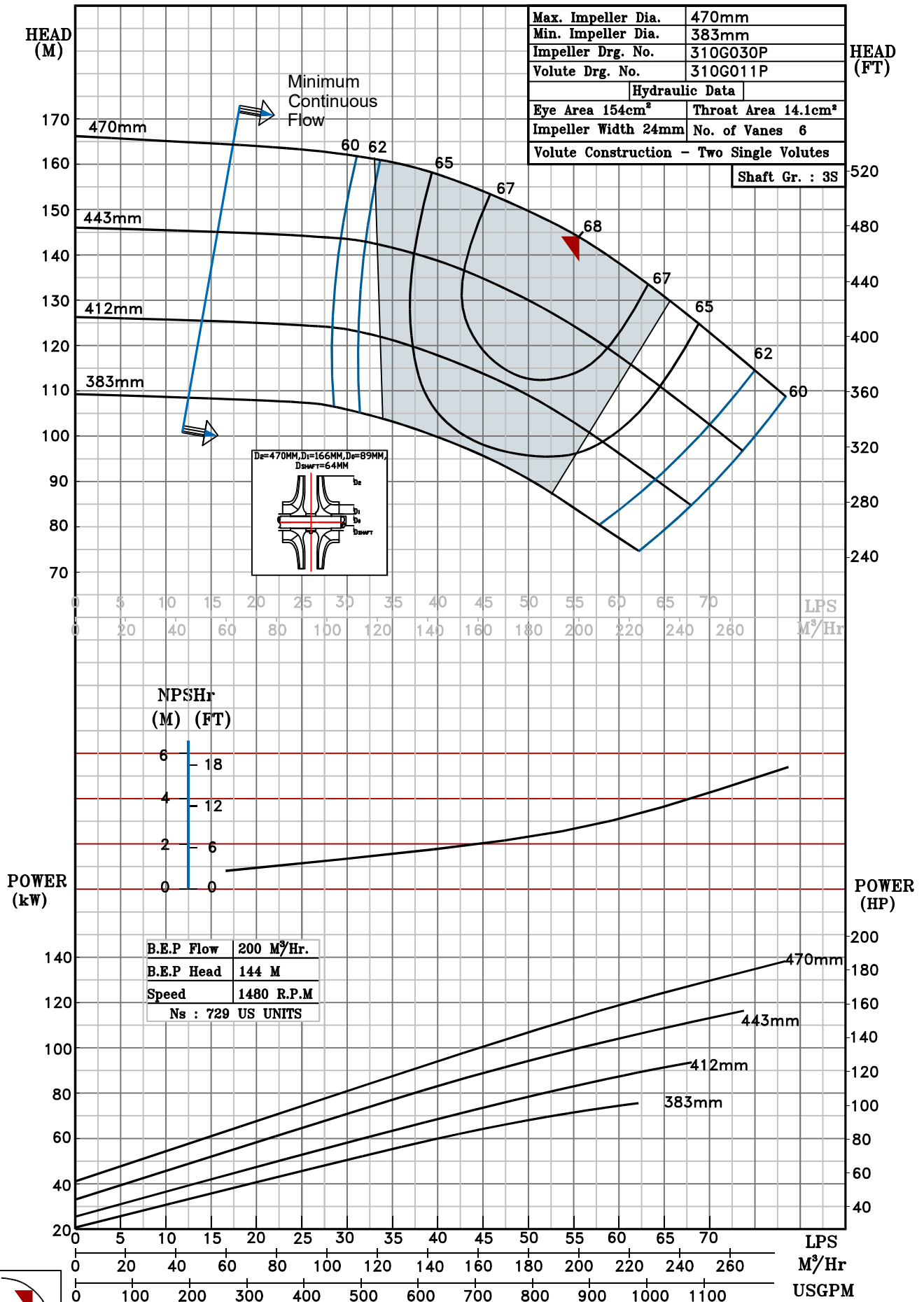
TYPE-AXIALLY SPLIT CASE TWO STAGE

SPEED 1480 rpm

DATE - 04.10.23

SHADED REGION ON THE H-Q CURVE REPRESENTS OPTIMUM SELECTION ZONE

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



NOTE- PERFORMANCE AS PER ISO 9906 GRADE-2B

# PERFORMANCE CURVE OF 4HST19 @1780 R.P.M

4HST19/Y/311064



HST RANGE

MODEL 4HST19

SIZE 150x100-470

TYPE-AXIALLY SPLIT CASE TWO STAGE

WORKING PRESS. 30 bar

TEST PRESS. 45 bar

SPEED 1780 rpm

DATE - 10.12.14

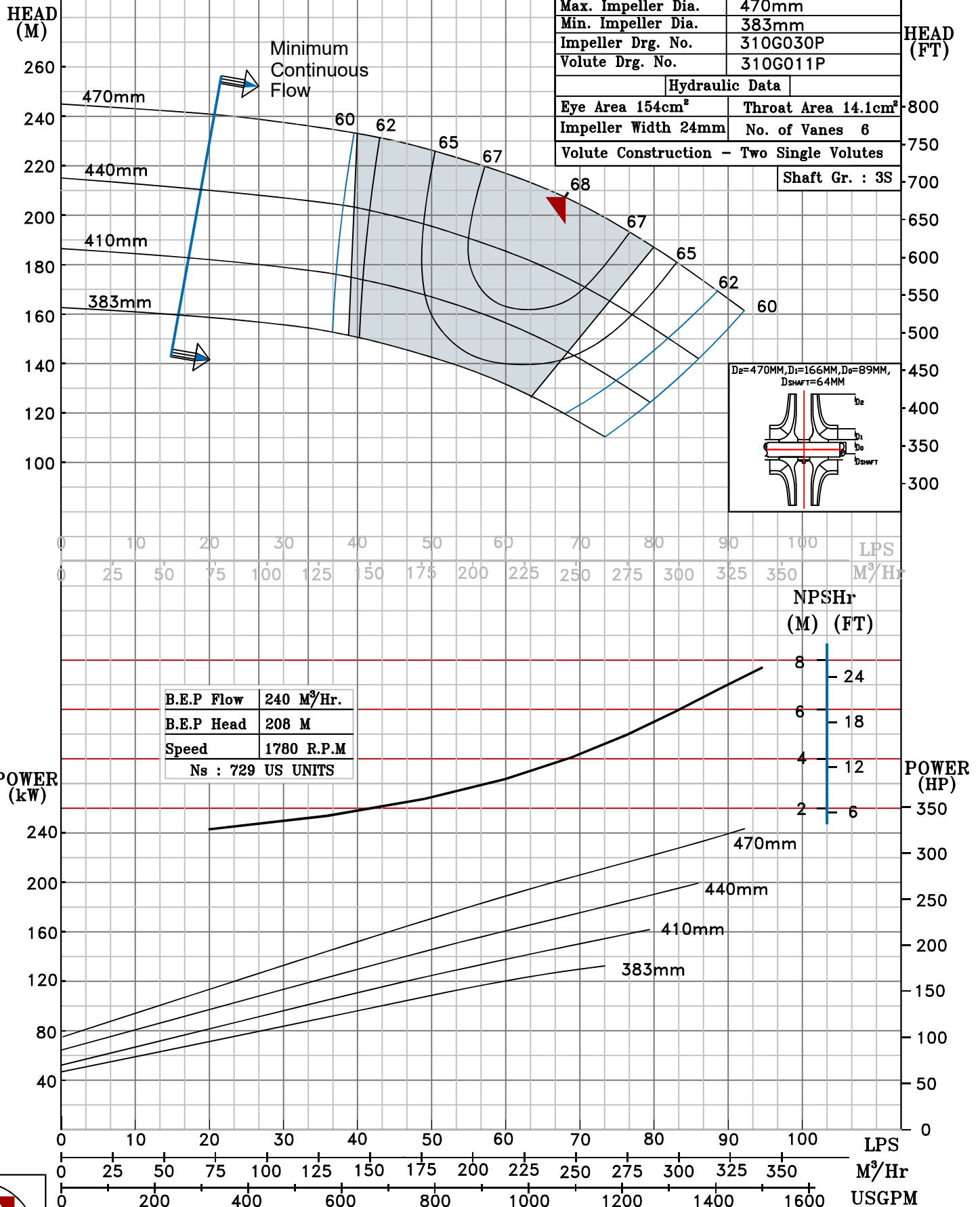
SHADED REGION ON THE H-Q CURVE REPRESENTS OPTIMUM SELECTION ZONE

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

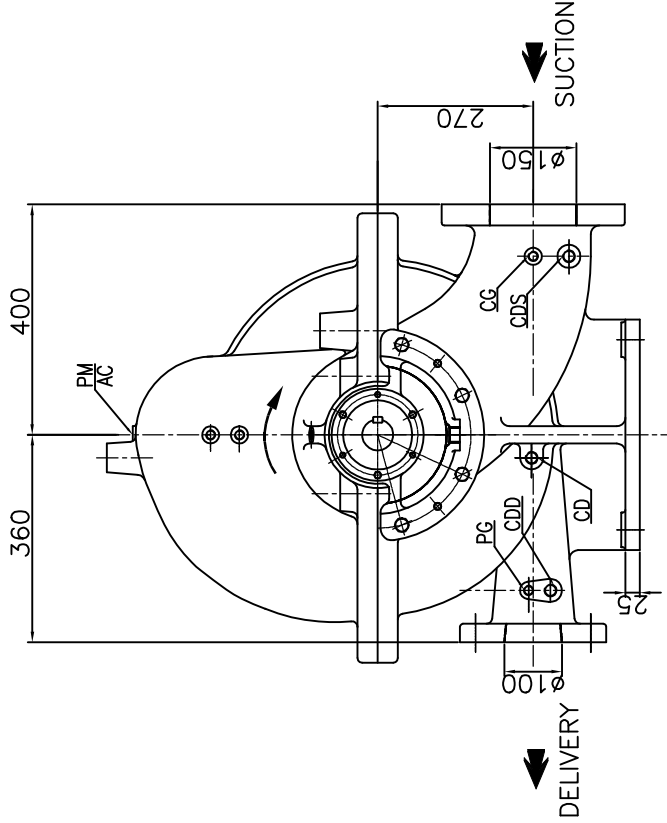
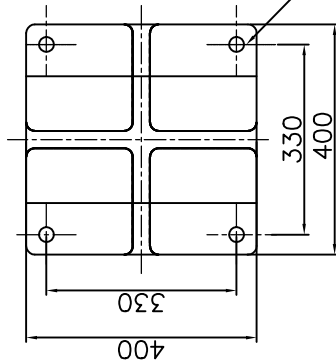
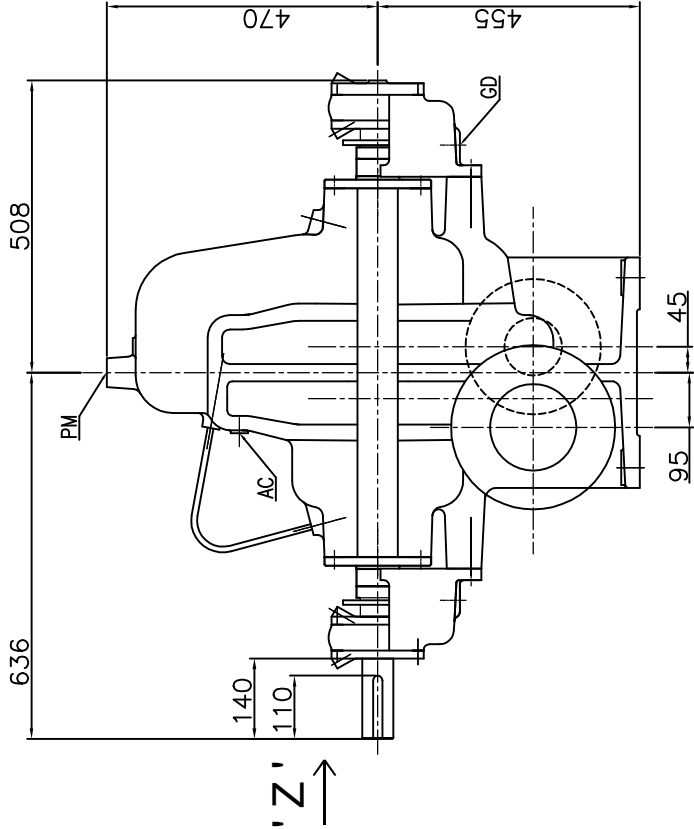
Max. Impeller Dia.	470mm
Min. Impeller Dia.	383mm
Impeller Drg. No.	310G030P
Volute Drg. No.	310G011P

Hydraulic Data	
Eye Area 154cm <sup>2</sup>	Throat Area 14.1cm <sup>2</sup>
Impeller Width 24mm	No. of Vanes 6
Volute Construction - Two Single Volute	

Shaft Gr. : 3S

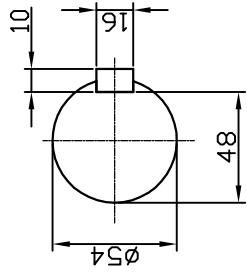


1780 RPM



VIEW IN DIRECTION OF 'Z'

CLOCK WISE ROTATION  
LOOKING FROM DRIVE END



SCALE-4:1  
SHAFT DETAIL AT  
COUPLING END

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"

DETAIL OF PUMP FEET

S	PN 25	300	250	28	8, $\phi 26$	—	—	—	—	—	—	—
D	PN 25	—	—	—	—	235	190	24	8, $\phi 22$	—	—	—
REF. NO.	TYPE OF FLANGE	O.D.	P.C.D.	THK NO. MIN OF HOLE	SIZE OF HOLE	RF THK	O.D.	P.C.D.	THK NO. MIN OF HOLE	SIZE OF HOLE	RF THK	RF FLANGE
SUCTION - $\phi 150$						DELIVERY - $\phi 100$						

PROJECT NAME -

JOB NO. -

PUMPSENSE

TITLE

GA DRG. FOR 4HST19(CW)

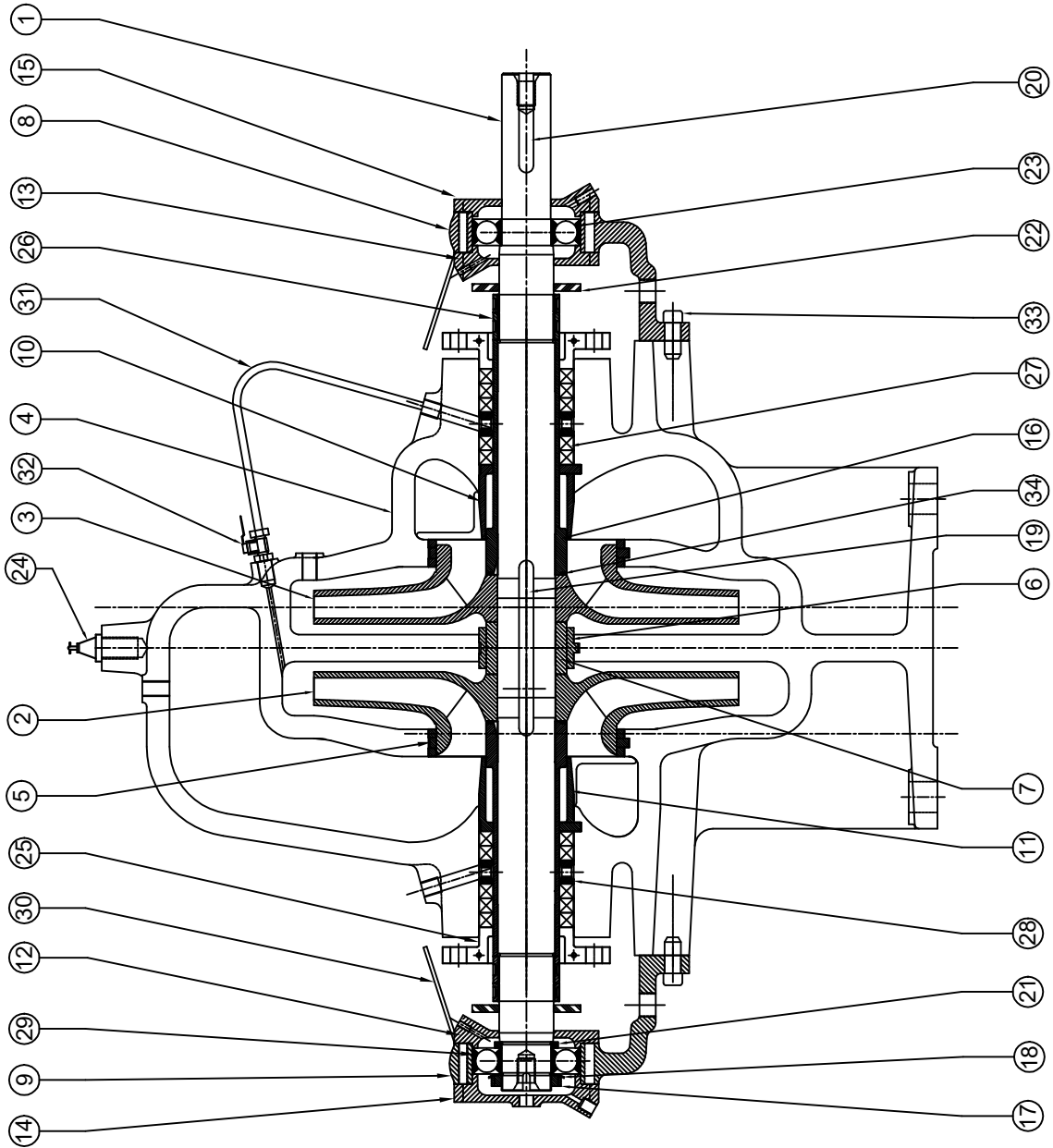
SCALE

1:1

REV

0

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	BEARING END COVER OUTER (F.E.)	1	133
15	BEARING END COVER OUTER (P.E.)	1	134
16	SHAFT SLEEVE	2	150
17	BEARING LOCK NUT	1	141
18	BEARING LOCK WASHER	1	142
19	IMPELLER KEY	1	180
20	COUPLING KEY	1	138
21	THRUST COLLAR	1	125
22	WATER THROWER	2	145
23	DEEP GROOVE BALL BEARING (P.E.)	1	272
24	AIR COCK	2	114
25	SPLIT GLAND	2	144
26	SLEEVE NUT (L.H & R.H)	2*2	146
27	GLAND PACKING	-	143
28	LANTERN RING	2	149
29	DEEP GROOVE BALL BEARING (F.E.)	1	257
30	SHAFT GUARD	2	252
31	WATER SEALING PIPE	1	118
32	BALL VALVE	1	-
33	DOWEL PIN FOR BEARING BRACKET	4	245
34	O' RING FOR SLEEVE	2	156

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

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# PUMPSENSE FLUID ENGINEERING PVT LTD

Datasheet For: 4HST19

	PARAMETERS	UNIT	VALUE
RATED DUTY	Capacity	M <sup>3</sup> /hr	240.0
	Total Head	Mt	208.0
	Speed	RPM	1780
	Type of Pump		Horizontal Two Stage Pump
	Liquid		Clear Water
	Specific Gravity		1
	Temperature	°C	32
	Driver		Diesel Engine
	No. Off		1
PUMP DETAILS	Make		PUMPSENSE
	Model No.		4HST19
	Stages		Two stage
	Cross Over Design		Internal Cross Over Design
	Discharge	mm	100
	Flange Rating Discharge		PN 16 - BS EN 1092-2
	Suction	mm	150
	Suction Flange Rating		PN 16 - BS EN 1092-2
	Type of Casing		Single Volute
	Type of Impeller		Two Shrouded Single Entry - Axially Balance
	Impeller Diameter Max	mm	470
	Impeller Diameter Min	mm	383
	Rotation		CW
PERFORMANCE DETAILS AS RATED DUTY	Efficiency	%	68
	Rated Speed	RPM	1780
	NPSHr	Mt	2.6
	Power Absorbed	kW	200.0
	Recommended Driver Power	kW	240
	Driver Details		Diesel Engine @ 1800 RPM
	AT SHUT-OFF POINT		
	Closed Valve Head (Approx.)	Mt	245
	Head Rise to Shut-Off Head	%	18
	Working Pressure	Bar	30
	Test Pressure	Bar	45
MECHANICAL DATA	Bare Pump Weight	kg	725
	Shaft dia. at coupling	mm	54
	N.D.E. Bearing		1 X SKF 6311
	D.E. Bearing		1 X SKF 6311
	Packing Size		16 x 16 - Soft Packing
MATERIALS OF CONSTRUCTION	Casing		Ductile Iron GGG 50
	Impeller		ASTM A743 Gr CF 8M
	Casing Wear Ring		Leaded Bronze BS 1400 LB2
	Shaft		ASTM A 276/ A 182 Type 410
	Shaft Sleeve & Nuts		Tin Bronze/ Zinc Free Bronze BS 1400 CT1
	Bearing Bracket		Cast Iron CI FG 260
	Split Gland		Leaded Gunmetal BS 1400 LG2
	Lantern Ring		Leaded Gunmetal BS 1400 LG2
	Stuffing Box		Gland Packed Fitted
	Packing		CARRARA Make Soft Packing Style R 4804
	Fastners		HTS GR. 10.9