

ECOL MOTOR
MODEL D1S 250M1-2
TECHNICAL DATA SHEET

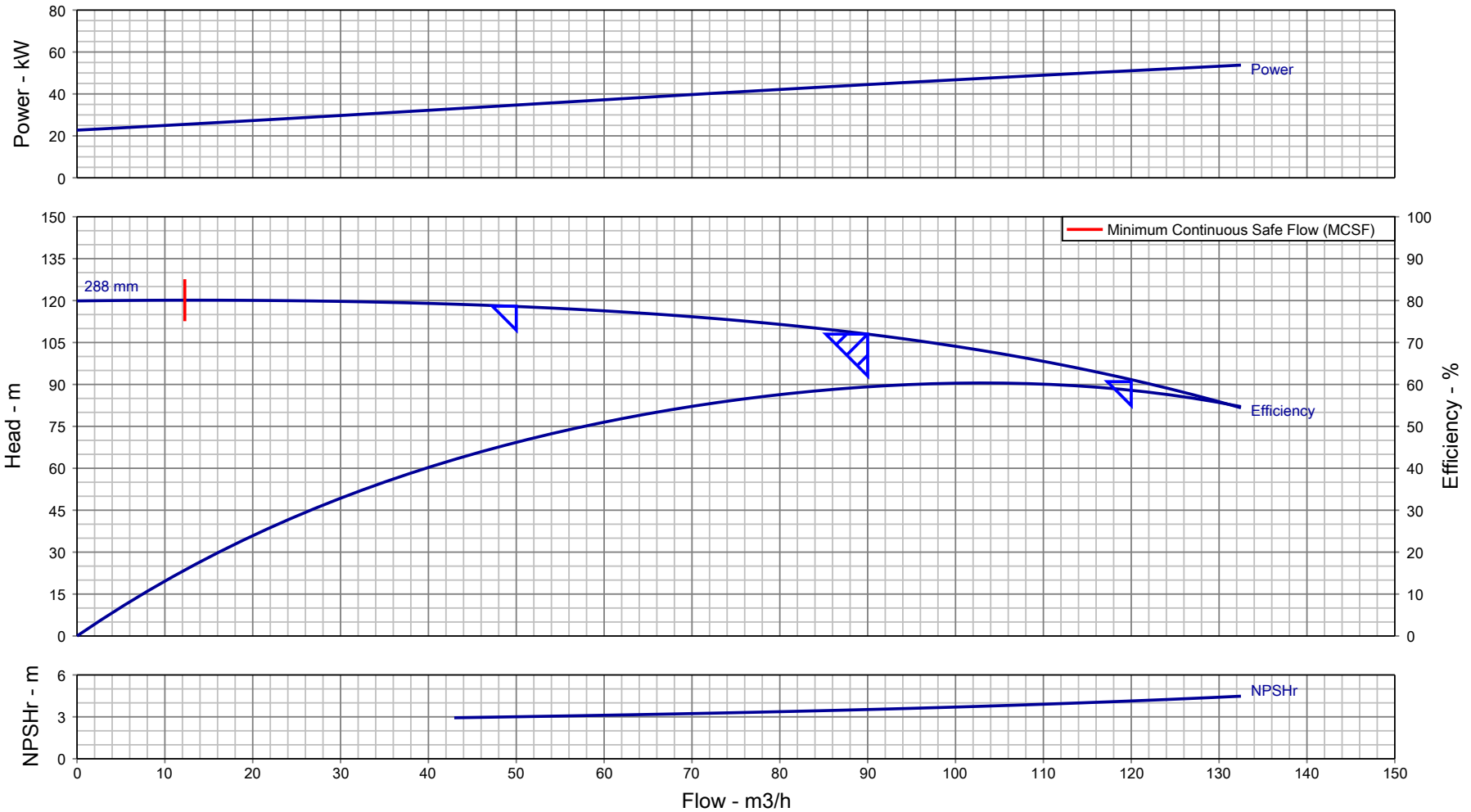
General Data	
Frame size	250
Housing material	Casting iron
Install model	According to the standard
Type of feet	Removable feet (Standard) Fixed feet (Optional)
Net weight	391 kg
Insulation class	F (Standard)
	H (Optional)
Protection degree	IP 55 (Standard)
	IP 56 (Optional)
Thermal protection	Without (Standard)
	Customizable (Optional)
Rotation direction	Clockwise (Standard)
	Counter clockwise (Optional)
Service duty	S1
Vibration level	A
Balance	Half-key balanced
Cable glands	2 - M50x 1.5
Cooling	IC 411
Painting color	RAL 7024 (Standard)
	Customizable (Optional)
Regulations	IEC / DIN / ISO / VDE / EN
Standard	IEC 60034

Environmental conditions	
Ambient temperature	From -20°C to +40°C
Maximum altitude	1000 m above sea level

Electrical Data		
Output	55	kW
Frequency	50	Hz
Voltage (±5%)	400	V Δ @ 50Hz
	690	V Y @ 50Hz
	480	V Δ @ 60Hz
	828	V Y @ 60Hz
Rotation speed	2930	RPM @ 50Hz
	3516	RPM @ 60Hz
Rated current	97.95	A (In) @ Δ 50Hz
	56.55	A (In) @ Y 50Hz
Starting current	7.5	xIn
Rated torque	179.27	Nm (Mn)
Starting torque	2	xMn
	2.3	xMn
Efficiency	IE1	
	92.1	@ 100% load
	92.5	@ 75% load
Power factor cosφ	90.7	@ 50% load
	0.88	@ 100% load

Mechanical Data		
Bearings brand	C&U	(Standard)
	Customizable	(Optional)
Bearings type	6314 C3	(DE)
	6314 C3	(NDE)
Lifetime of bearings	- hours	
Allowed radial load	4641 N	
Allowed axial load	45300 N	
Grease type	polyurea-based grease	
Lubrication interval of NDE bearing	4000 h	
Lubrication interval of DE bearing	4000 h	
Moment of inertia	0.389030	Kg*m ²
Noise level	93	dB(A)

Pump Performance Curve



Customer :	Pump Size/ Stages : CPHM 65/32_2900RPM/ 1	Flow, rated : 90.00 m ³ /h
Customer enquiry :	Speed, rated : 2965 rpm	Differential Head : 108.0 m
Project : Default	Based on curve number : HD13740KA0 Rev 0	Fluid density rated : 0.998 kg/dm ³
Quote number : 312657	Viscosity : 1.00 cSt	Efficiency : 59.43 %
Item number : 001	Cq/Ch/Ce/Cn [HI2010] : 1.00 / 1.00 / 1.00 / 1.00	Power, rated : 44.48 kW
Quantity : 1	Minimum recommended driver rating : 55.00 kW / 73.76 hp	NPSH required : 3.52 m
Date last saved : 09 Oct 2020 8:58 AM	Performance testing standard : ISO 9906 / ANSI-HI 14.6 Gr 2B	Liquid Type/ Application : Water

Notes: 1. Performance at shut off condition is approximate. 2. Rated impeller diameter is approximate. 3. Only duty point is guaranteed as per testing standard.



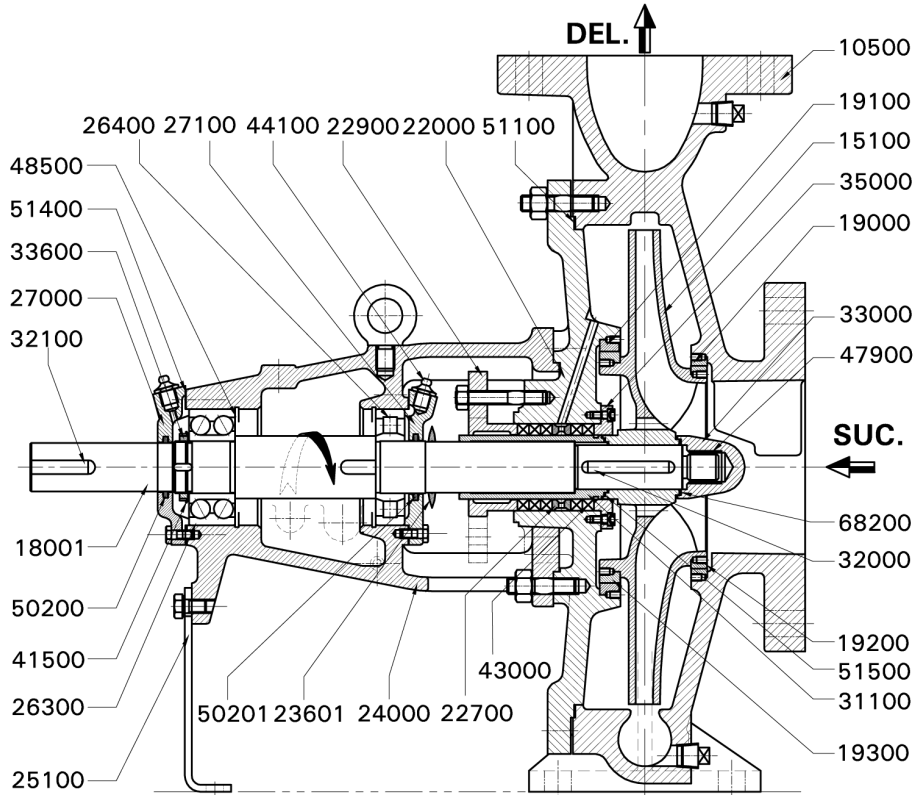
Enriching Lives

Pump Performance Datasheet

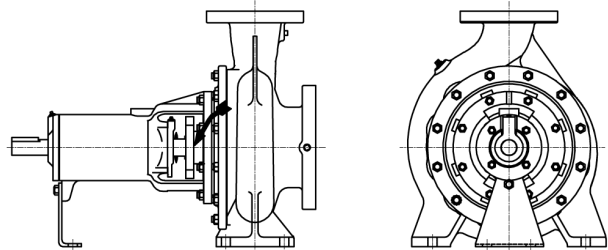
General			
Customer	:	Quote number	: 312657
Customer Enquiry No.	:	Pump model	: CPHM 65/32_2900RPM
Project	: Default	Stages	: 1
End user	: -	Based on curve number	: HD13740KA0 Rev 0
Tag number	: 001	Date last updated	: 09 Oct 2020 8:58 AM
Service	: -	Quantity of pumps	: 1
Operating Conditions		Liquid	
Flow, rated	: 90.00 m3/h	Liquid handled	: Water
Suction pressure, rated / max	: 0.00 bar.g / 0.00 bar.g	Additional liquid description	: Fresh Water
Discharge pressure, rated	: 10.57 bar.g	Temperature, max	: 20.00 deg C
Head, rated (requested)	: 108.0 m	Solids diameter, max	: 0.00 mm
NPSH available, rated	: Value not specified	Solids in suspension by volume	: 0.00 %
Frequency	: 50 Hz	Specific gravity, rated / max	: 0.998 / 0.998 kg/dm3
		Viscosity, Rated / Max.	: 1.00 cSt / -
Performance		Driver & Power Data	
Pump speed, rated	: 2965 rpm	Driver sizing specification	: Maximum Power
Impeller Dia, Rated (Approx.)	: 288 mm	Margin over specification	: 0.00 %
Impeller diameter, maximum	: 329 mm	Power, rated	: 44.48 kW
Impeller diameter, minimum	: 255 mm	-	: -
Efficiency at duty point	: 59.43 %	-	: -
NPSH required / margin required	: 3.52 m / 0.50 m	Driver Rating	: 55KW
MCSF	: 12.27 m3/h		
Cq/Ch/Ce: [-]	: 1.00 / 1.00 / 1.00		
Water eq. duties (Qw/Hw/Ew)	: 90.00 m3/h / 108.0 m / 59.43 %		
Suction / Delivery nozzle size	: 100 mm / 65.00 mm		
Noise level	: 85 dB		
Vibration level (RMS)	: 5.1 mm/s		
Test standard	: ISO 9906 / ANSI-HI 14.6 Gr 2B		
Starting condition	: Closed Delivery Valve		
Material		Pressure Data	
MOC Code	: 01MOC	Maximum working pressure	: 11.76 bar.g
Material (Casing / Impeller / Shaft)	: CI IS210:FG260 (012) / CI IS210:FG260 (012) / CS IS1570:40C8 HOT RLD (053)	Maximum allowable working pressure	: 16.00 bar.g
-	: -	Maximum allowable suction pressure	: 2.00 bar.g
		Hydrostatic test pressure	: 20.59 bar.g
		Construction	
		Basic construction	: End Suction Pump-OH1
		Impeller type	: Enclosed
		Selection status	: Near Miss
		Rec. Pipe Size (Suc / Del)	: 150 mm / 125 mm



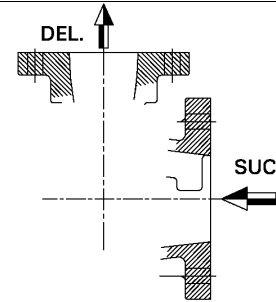
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PART NO.	PART DESCRIPTION	MAT. CODE	MOC DESCRIPTION
10500	PUMP CASING	012	CI IS210:FG260
15100*	ENCLOSED IMPELLER	012	CI IS210:FG260
18001*	PUMP SHAFT	053	CS IS1570:40C8 HOT RLD
19000*	CSG. WEAR RING - SUC. SIDE	012	CI IS210:FG260
19100*	CSG. WEAR RING - DEL. SIDE	012	CI IS210:FG260
19200*	IMP. WEAR RING - SUC. SIDE	012	CI IS210:FG260
19300*	IMP. WEAR RING - DEL. SIDE	012	CI IS210:FG260
22000	CASING COVER	012	CI IS210:FG260
22700*	LANTERN RING	364	NYLON
22900	SPLIT GLAND	012	CI IS210:FG260
23601	LIQUID DEFLECTOR	370	NATURAL RUB ASTM2000AA-70SHORE/7MPa
24000	BEARING HOUSING	012	CI IS 210-FG 260
25100	SUPPORT FOOT	042	MS IS:5986-Fe410WA (OLD-IS:1079)
26300*	ANGULAR CONTACT BEARING	000	STEEL
26400*	CYLINDRICAL ROLLER BEARING	000	STEEL
27000	BEARING COVER DE	012	CI IS 210-FG 260
27100	BEARING COVER NDE	012	CI IS 210-FG 260
31100*	SHAFT SLEEVE	556	ST ST ASTM A276-410(300BHN)-ANLD
32000*	KEY FOR IMPELLER	053	CS IS1570:40C8 HOT RLD
32100	KEY FOR COUPLING	053	CS IS1570:40C8 HOT RLD
33000	IMPELLER NUT	253	ST ST ASTM A276-410 ANLD
33600*	BEARING LOCK NUT	052	CS IS1570:20C8 HOT RLD
35000*	STUFFING BOX BUSH	012	CI IS 210-FG 260
41500*	LOCK WASHER -BRG.LOCK NUT	050	CS IS1570:10C4 HOT RLD
43000*	GLAND PACKING	810	PTFE BRAIDED WITH GRAPHITE (PTFE-NONAS)
44100	GREASE NIPPLE	444	CS IS:1367 Part3 CL4.6 CDP
47900*	HELICOIL SCREW LOCK INSERT	250	ST ST ASTM A276-304 ANLD
48500*	INTERNAL CIRCLIP	054	SPRING ST IS:4072-80C6
50200*	FELT RING -DE SIDE	375	FELT
50201*	FELT RING -NDE SIDE	375	FELT
51100*	GASKET : CASING COVER	702	NON ASBESTOS FERROLITE NAM37 OR EQ
51400*	GASKET : BEARING COVER	702	NON ASBESTOS FERROLITE NAM37 OR EQ
51500*	GASKET : SH. SLEEVE & IMP.	702	NON ASBESTOS FERROLITE NAM37 OR EQ
68200*	GASKET : IMP. & IMP. NUT	702	NON ASBESTOS FERROLITE NAM37 OR EQ



STUFFING BOX SEALING: SELF INTERNAL

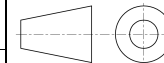


PUMP FLANGES (FF)

- NOTES:**
- * * * INDICATES RECOMMENDED SPARES.
 - FASTENERS IN LIQUID CONTACT ARE IN CS

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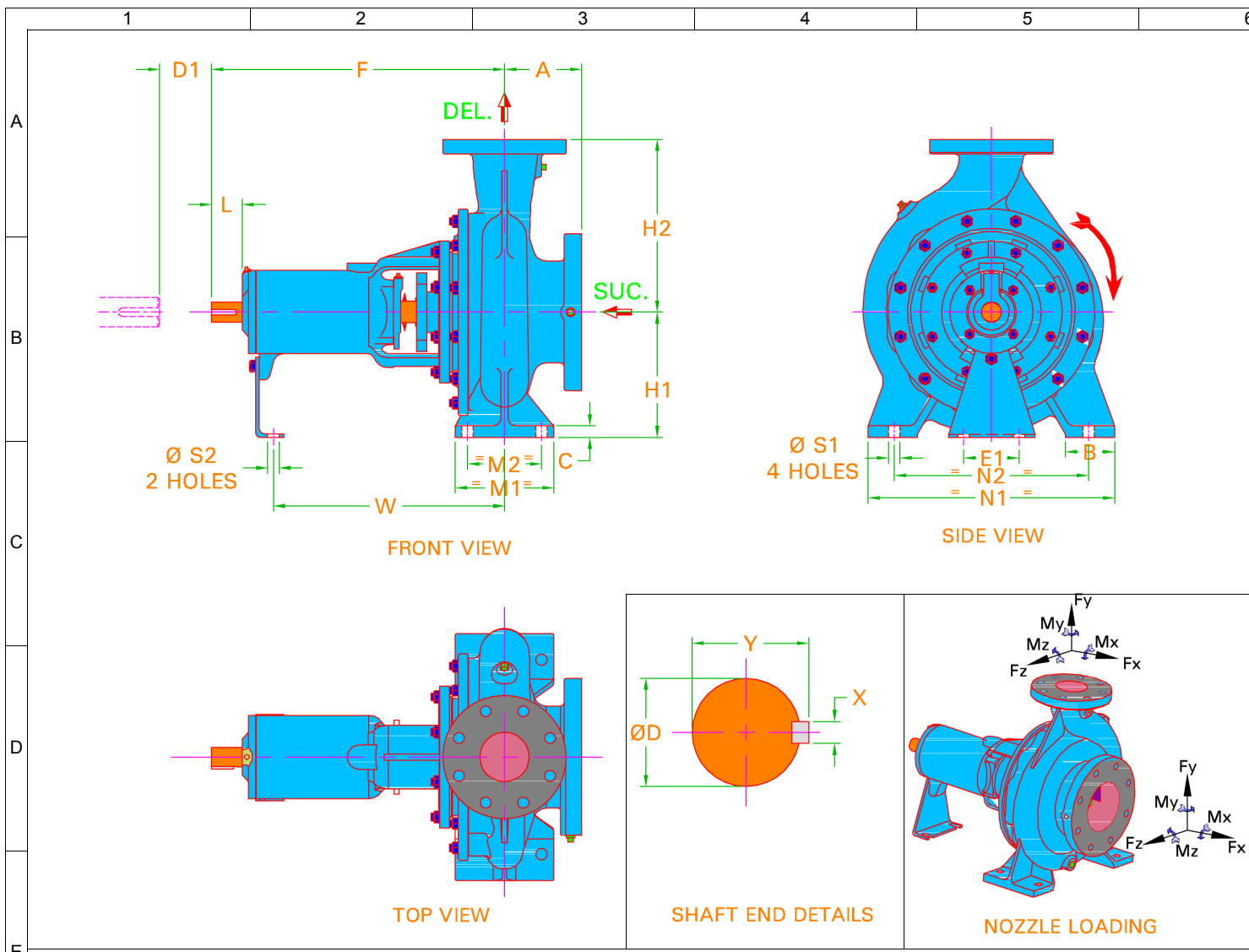
PUMP	CPHM 65/32_2900RPM	MOC	01
ENQUIRY NO./DATE	/	QUANTITY	1
PO. NO./DATE	-	TAG NO.	001
QUOTATION NO.	0	DATE.	-
O/A. NO.	-	MISI.	-
CUSTOMER	-		
END USER	-		
PROJECT	Default		
CONSULTANT	-		
SERVICE	-		



Kirloskar Brothers Limited
KIRLOSKARVADI - 416308, DIST.- SANGLI (INDIA)

CROSS SECTIONAL DRAWING

DRAWING NO. **TC78-1**



Enriching Lives

PUMP DUTIES			
CAPACITY	90.00 m3/h	EFFICIENCY	59.43 %
TOTAL HEAD	108.0 m	PUMP INPUT	44.48 kW
DENSITY	0.998 kg/dm3	NPSHR	3.52 m

FLANGE DRILLING STANDARD AND DETAILS					
SUCTION	BS EN1092 PN16 FF		DELIVERY	BS EN1092 PN16	
	NOM. SIZE	RF DIA.	P.C.D.	NO OF HOLES	HOLE DIA.
SUCTION	100 mm	N.A.	180 mm	8	18.0
DELIVERY	65.00 mm	N.A.	145 mm	4	18.0

ALLOWABLE NOZZLE LOADING						
	FORCES			MOMENTS		
	Fx	Fy	Fz	Mx	My	Mz
SUCTION	170.0 kgf	210.0 kgf	135.0 kgf	883 N.m	490 N.m	392 N.m
DELIVERY	170.0 kgf	210.0 kgf	135.0 kgf	883 N.m	490 N.m	392 N.m

TAPPING DETAILS	
DESCRIPTION	SIZE / TYPE
Suction Gauge	1/2"BSP
Delivery Gauge	1/2"BSP
Casing Drain	1/2"BSP
Casing Vent	NA
Bearing Cooling in / out	NA
Pad Cooling in / out	NA
Priming in	NA
Base Drain	1 BSP



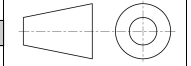
DIRECTION OF ROTATION FROM DE: CLOCKWISE

PUMP	CPHM 65/32_2900R	PUMP WT.	114.0
REC. DRIVER RATING	55KW	RATED SPEED	2965R
ENQ. NO./DATE	/	QUANTITY	1
PO. NO./DATE	-	TAG NO.	001
QUOTATION NO.	0	DATE	-
O/A NO.	-	MISI	-
CUSTOMER	-		
END USER	-		
PROJECT	Default		
CONSULTANT	-		
SERVICE	-		

NOTES:
 • ALL DIMENSIONS ARE IN mm
 • DIM 'D1' INDICATES THE DISTANCE REQUIRED TO REMOVE BACK PULL OUT ASSEMBLY.

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A	F	H1	H2	B	C	M1	M2	N1	N2	S1	E1	S2	W	-	D
125	530	225	280	80.00	16.00	160	120	400	315	18.00	110	15.00	370	-	42.00
X	Y	L	D1	-	-	-	-	-	-	-	-	-	-	-	-
12.00	45.00	110	140	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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PUMP OUTLINE DRAWING

DRAWING NO. TL78-1-