



PAA CE

Pars Arian Ab Consulting Engineers

پیوست شماره ۲

(دیتاشیت مربوط به پمپ های موجود سایت *SMP* جهت

انتقال پساب بلودان ها)



مهندسین مشاور پارس آیرین آب

EPC + F Contractors: 		Project:  Golgothar Iron and Steel Development Company 3 MTPY GISDCO SMP and ESP Plant Project		Consultants: 	
Contractor: MACHINE SAZI VIJEH CO. 		Client Doc. No.:			
Contract Number: 95/2777	Contractor Doc. No.: C.RCL0.WT.81.ZO3.FDW.1001/TDB.001 Supplier Doc. No.: C.RCL0.WT.81.ZO3.FDW.1001/TDB.001-03		Date: 12/01/2022	Rev: 03	
Document Title: Data Sheet For Disposal Waste Water Transfer Pump			Date: 12/01/2022	Rev: 03	
Area : WWTP & RWTP					
Plant: Raw Water Treatment Plant Arya Sepehr Kayhan MODEL: OHI-CH 200-315 / 75 4 11m C1A1A11 A / SA			Service: Waste Water Collection Unit Specification class: ISO 9908		
	No. req.	Pump type and size		Manufacturer serial No.	
		Horizontal	Vertical		
Operation	1				
Standby	1				
Customer:	Enquiry No.:	Date:	Supplier:	Proposal No.:	Date:
	Order No.:	Date:		Contract No.:	Date:
Site Condition					
Location: ☒ Under roof ☐ Indoor ☐ Unheated		Elevation / Barometer: 1720/820		m/mbar	
☐ Winterization REQ'D ☐ Tropicalization REQ'D		Design ambient temps: (Min/Max) (Note 21)		-9.3/38 °C	
Unusual condition: ☐ Dust ☐ Fumes ☐ Others		Relative humidity (Max): 70		%	
Operating Condition					
Liquid	Industrial Waste Water		Flow	rated normal/max	475.2 m³/h
Solids content (% of mass)				min. required perm.	410 / 713.5 m³/h
Corrosion by (Note 3)					164.7 m³/h
Erosion by (Note 3)			Inlet gauge pressure	rated min/max.	0.2 / 0.10,32 barg
Operating Temp.	15/29.4/35	°C	Outlet gauge pressure	rated min/max.	2.7 / 2.82 barg
Min/Norm./Max					
Density at O.T.	996	kg/m³	Diff. pressure rated (Note 27)		2.5 bar
Dynamic vis. at O.T.	0.91	cP	Total head rated		25.5 m
Vapour press. at O.T.	0.0317	bara	Shut-off head		28.82 m
Hazard					
Starting Condition	Open Valve				
Construction Features					
MAWP	16 barg @ 38C	barg	Total clearance	Wear ring/ plates	According ISO 5199 & API 610
Rated pressure	Pump	bar at °C		Shaft bushes	mm
Auxiliaries		bar at °C		Balance drum	mm
Test pressure	24 barg @ 38C	barg	Thrust reduction by		N/A
Number of stages	1		Radial bearing	Type	6313
Impeller diameter	rated/installed	mm	Thrust bearing	Size	2 * 6313
	max/min	mm	Lubrication/supply		Oil
	Type	mm			1
Rotation facing Pump	Pump *)	CW	Arrangement		Burgmann
	Driver **)	CCW	Type, size (Note 26)		Mech. Seal (Seal Plan: 11)
Inlet flange	Size/Position	10" / End (Note 25)	Pressure limit		Refer to Seal Datasheet
	Rating/facing	#150 / RF	Static pressure		
		#150 / RF	Dynamic pressure		
Outlet flange	Size/Position	8" / Top (Note 25)	Temperature		15/35 °C
Vent, tapped		Self-Vent	Arrangement		C1A1A11
Drain, tapped		1/2" , SW RF #150	Supplied by		Vendor
Casing support		Foot-Mounted	Total weight incl. drive		1515 kg
Casing split		Radial	Volute/diffuser		Single Volute
Auxiliaries					
Coupling	Manufacturer	ASK	Coupling guard supplied by	Vendor	Supplier
	Type, Size	Flexible with non sparking coupling guard	For	Electro Pump Unit	Driver
	Service Factor	1.5	Type	Rim Type	Auxiliary piping supplied by
	DBSE	209 mm	Supplied by	Vendor	Anchor bolts supplied by
	Supplied by	Vendor			
Electrical Data (Note 5-7)					
Driver Power Output Rated		75 kW	Motor Speed		1450 rpm
Kind of Driver		Elect. Motor	Driver (Voltage / Frequency / Phase)		400 V / 50 HZ / 3 PH
Type of Protection		IP 55	Temperature Rise Class / Insulation Class		B / F
Electric Area Classification		Safe Area	Starting Method (Note 8)		D.O.L.
*) Viewd from the driver to the pump **) Viewd from the pump to the driver					

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Area : WWTP & RWTP								
Material (Note 3)								
Casing	ASTM A48 Class 25B	Shaft sleeve	ASTM A276 type 420		Stuffing box	Gland follower	N/A	
External bolting	N/A	Throat bush	N/A			Packing	N/A	
Casing gaskets	Fiber	Seal end plate	N/A			Lantern ring	N/A	
Impeller	ASTM A48 Class 25B	Throttle bush	N/A		Coupling	Hub/Spacer	Cast Iron	
Wear ring	Impeller	pump side	atmosph. side	N/A		Flexible	N/A	
	Casing					Guard	Carbon Steel	
Wear plate/lining	N/A	Plain bearing	Rotating ring	N/A	Baseplate			
Shaft	ASTM A276 type 420		Stationary ring	N/A		Paint (Note 9)		
Case bush	N/A		Secondary seal	N/A				
Bearing housing adaptor	N/A		Rotating	N/A				
Bearing housing	Cast Iron		Stationary	N/A				
		Spring	N/A					
		Other metal parts	N/A					
Test								
Test (Note 10)	Material	Hydrostatic	Inspection	Performance	NPSH (Note 11)	Sound Level (Note 12)	Final inspection	Approved documents
Reference	ASTM	ISO 5199	ISO 5199	ISO 9906	ISO 5199	ISO 5199	As per ITP	As per ITP
Witn. by	Certified	Witnessed	As per ITP	Witnessed	Witnessed	Witnessed	Witnessed	Witnessed
Documentation								
Performance curve No.	Proposal	1408017		Drawings	Installation dimensions		Required	
	Test				Piping	Seal	Required	
Instruction manual			Required			Auxiliary system	Required	
Spare part list No.					Assembly	pump	Required	
Explosion-proof certificate					Shaft seal	Required		
Remarks:								
No.	Description							
1								
2								
3	Material shall be finalized/specified and guaranteed by manufacturer.(Liquid specification: pH : 7.5-9, TDS=3533 ppm, TSS =16.6 ppm).							
4	hydraulic power is 33 kW. Considering pump efficiency of 73% , shaft power estimation is 45.05 kW. Vendor to confirm or Modify.							
5	QSS form shall be filled by manufacturer.							
6	Specification for LV motor, MV motor and Electrical design criteria shall be considered to select motor by manufacturer.							
7	For electrical consumption power of motors above 200 kW, voltage shall be 6.6 kV and below 200 kW, voltage shall be 400V.							
8	If motor power more than 160 kW and less than 200 kW, soft starter shall be considered.							
9	Painting shall be considered acc. to Surface Preparation, coating and Painting Instruction for Industrial Area (C.RCL0.0/FAB001)							
10	Vendor shall submit ITP (Inspection & Testing Plan) with his proposal. All tests shall be done as per approved ITP.							
11	NPSH test shall be performed when the difference between NPSH available and required is 1.0 m or less.							
12	Maximum Allowable Sound Pressure is 85 dB(A)@ 1 meter.							
13	Corrosion allowance for each piece of equipment shall be determined for individual case and shall be specified in the respective data sheets and detailed drawings. Corrosion allowance shall be 1.5 mm for Carbon Steel and Nil for Stainless Steel or as per requirement.							
14	Pump sizing to be done and submitted by Vendor. Vendor to confirm size of suction and discharge lines at bid stage.							
15	Valves in the piping system shall be Flanged type as per ASME B16.5.							
16	Size of drain line to be confirmed / proposed by vendor at bid stage.							
17	Dynamic balancing of the impeller and major rotating parts shall be done according to ISO1940-1 grade G6.3. Coupling dynamic balancing shall be done according ISO1940-1 grade G6.3.							
18	The margin between required and available NPSH shall be at least 0.6 m over the entire operating range.							
19	Vent connections shall be all welded and provided with flange, blind flange, bolting and gasket.							
20	Spare parts shall be supplied by vendor Acc. Appendix 11.							
21	Based on Design Criteria Document : Maximum Mechanical design temperature for indoor equipment is maximum ambient temperature or the maximum operating temperature whichever is greater.							
22	Rating and facing of vent and drain connection to be advise by vendor.							
23	Pumps that have a suction specific speed greater than 13000 (in terms of US gpm) (252 in terms of Metric) are not acceptable and will not be considered.							
24	Drain valves and required Piping shall be considered by Vendor.							
25	This item will be finalized by vendor.							
26	Mechanical seals type shall be "Single cartridge ".							
27	According to Attached Hydraulic Calculation (Hydraulic Calculation - Cooling Tower of ASU - Disposal Waste - Water Transfer Pump)							
28	Flanges drilling shall conform to project piping material specification (PMS). Also Fittings, necessary tubing, etc. which has connected to client piping system shall be in accordance with PMS.							

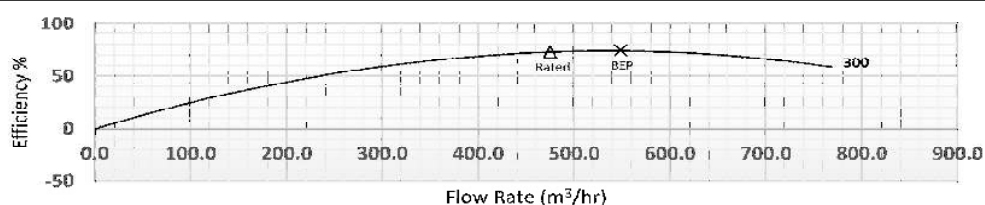
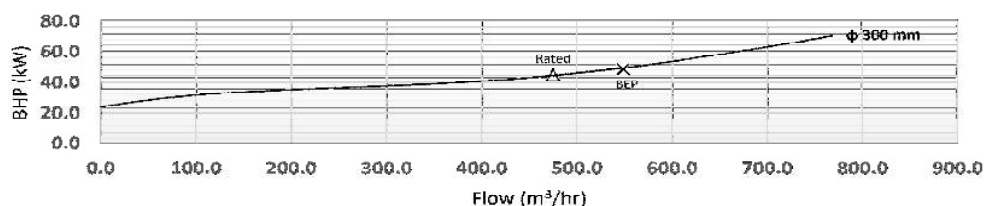
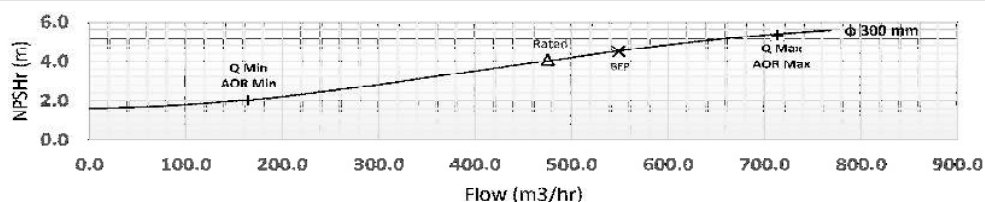
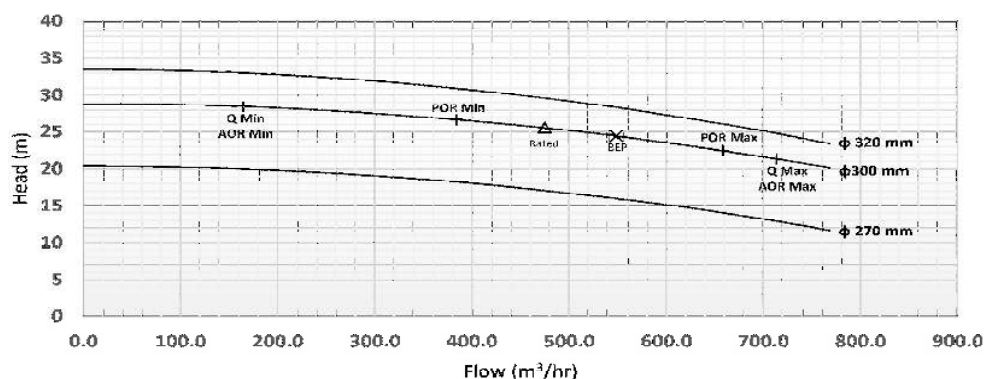
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Area : WWTP & RWTP					

PERFORMANCE CURVE

ARYA SEPEHR KAYHAN - PERFORMANCE CURVES



Customer:	Machine Sazi Vijej Co.				Curve No.:	1408017
Project:	3 MTPY GISCO SMP and ESP Plant Project				Date:	1400/08/29
Q _{Rated}	475.20	m ³ /hr	NPSH _{3%} (m)	4.09	Rated Imp. Dia	300
H _{Rated}	25.50	m	Density (kg/m ³)	996.00	Efficiency (%)	73.00
P _{BHP}	45.05	kW	Ns (rpm,m ³ /s,m)	46.15	Nss (rpm,m ³ /s,m)	183.25
Model No.:	OH1-CH 200-315 / 75 4 I1m C1A1A11 A / SA				TAG No.:	900-WWT-PP02 03/04





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کد پستی: ۸۱۶۸۶۵۳۱۴۱

تلفن: ۳۶۶۸۱۱۴۹

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