DATA SHEET
FOR
CENTRIFUGAL PUMP
(GA-2018)

Item No.: **GA-2018**	No. (pcs): **1** Main/Stand by: **1 / 0**
Liquid: **Propylene Pump**	Type of driver: **Electrical**
Location:	Standard: **API 610, 9th**
Manufacturer:	Pump Model No.: **By Vendor**

Item	Rev.	OPERATING CONDITOINS	LIQUID
1		Flowrate@PT_{nor}: Normal: **1.0** Rated: **3.0** (m^3/h)	Type/Name of Liquid: **Propylene**
2		Suction Temp: **-20** (ºC)	Pumping Temperature(Normal): **-20** (ºC)
3	A	Suction pressure max./ rated: **18 / 10** (Barg)	Design: **100** Min.**-48** (ºC)
4	A	Discharge pressure: **36** (Barg)	Vapor Pressure @ -20$_r$: **3** (Barg)
5	A	Differential pressure: **26** (Barg)	Specific gravity **0.576/0.500**
6	A	Differential head rated: **520** (mlc)	Max. Min
7		Liquid Mass Density nor/rated **576/500** (kg/m^3)	Specific heat (Cp): (kg / kgºC)
8		Viscosity : **0.11** (cP)	Viscosity: **0.11** (mpa.s@ P.T)
9		Liquid: o Hazardous õ Flammable o Other	Chloride concentration (ppm)
10		Corr/Eros Caused By: **none**	H_2S Concentration (ppm)
11		Service: •Continuous oIntermittent**(see note 13)**	PH Valve:
12		Parallel operation required:	
13		NPSHA: **3** (mlc) **(see note 9)**	**Cooling Water**
14		Installation : o indoor õ outdoor **(see notes 1&5)**	Supply Press:**4.5 barg** Supply Temp: **35** ºC
15			Return Press: **2.5 barg** Return Temp: **41** ºC
16			PH Valve: **7**
17		**PERFORMANCE(to be filled by Vendor)**	
18		Proposal curve No.:	**SITE DATA**
19		Impeller Dia. Rated (mm)	Location :
20		Max. Min.	oIndoor oUn-Protected
21		Rated Power (BKw)	õOutdoor o Unheated oUnder Roof
22		Max. Power Driver (kw)	Electrical area classification **zone 2**
23		Rated speed: (Rpm)	o Winterization reqd. o Tropicalization reqd.
24		Efficiency (%)	Altitude (m) : **2** (from sea level)
25		Minimum continuous flow **(see note 4)**	Range of ambient temp.: Min/Max. **0/48** (ºC)
26		Preferred operating region to (m^3/h)	Relative humidity: Max./Mix. **30/90** (%)
27		Allowable operating region to (m^3/h)	Unusual condition: o Dust o Fumes
28		Max. head @ rated impeller (mlc)	**MATERIAL (see note 11)**
29		NPSH required @ rated cap. **(see notes 2&9)** (m)	API class: **S1**
30		Suction specific speed	Casing: **LTCS** Impeller: **SS**
31		Guar. Noise level **≤ 85** (dBA)	Casing/Impeller wear rings
32		BEP/Rated capacity (%)	Shaft
33		Head Rise (%)	Sleeve(s): **SS**
34		1st/2nd critical speed (RPM)	Remarks:
35			Corrosion Allowance: **1.5**
36		**MECHANICAL SEAL OR PACKING**	**WEIGHTS (kg)**
37		Seal manufacturer: **(3)**	Pump:
38		Type: **Mechanical seal /seal flush plan 52+13**	Motor:
39		API code: **682 , Double (Back to Back)**	base plate:
40		Seal Flush Fluid**: by vendor**	gear:
			Total weight:

Item	Rev.	CONSTRUCTION	BEARINGS AND LUBRICATION
1		Nozzle connections:	Bearing (Type/Number):
2		SIZE / RATING / FACING / POSITION	Redial:
3		SUCTION	Thrust:
4		DISCHARGE	Lubrication:
5		STD. FLG. **ANSI B-16.5**	o Grease o Flood ● Ring Oil
6		Pressure casing connections:	o Flinger o Purge Oil mist o Pure oil Mist
7		No. / Size (NPS) / Type	Constant level oiler preference:
8		Drain — 1	Oil visc. ISO grade
9		Vent — 1	o Oil heater req'd o Electric o Steam
10		Pressure gauge — 1	o Oil press to be greater than coolant press.
11		Temp gauge	Remarks
12		Warm-up	
13			
14			**MOTOR DRIVE**
15			Motor Type: õFixed Speed oVVVF
16		COUPLING-TYPE: Disc / Gear / Rigid	Manufacturer :
17		Spacer / Closed Coupled	(kw) (RPM)
18		Coupling Guard: õ Non-sparking	o Horizontal o Vertical
19		o Manufacturer Standard	Frame
20		Model:	Service factor
21		Make: **Flexibox , Metastream**	Volts/Phase/Hertz **400 / 3 / 50**
22		Spacer Length (mm)	Type
23		Rotation (viewed from coupling end):	Enclosure
24		Driver half coupling mounted by:	Minimum starting voltage
25		o Pump MFR. o Driver MFR. o Purchaser	Temperature rise
26		Base plates:	Full load amps
		Non-grout (constructions:)	Locked rotor amps
27		Pump type: õ Horizontal o Vertical	Insulation
28		No. of stages:	Staring method
29		Impeller type: Half / Open / Closed	Lube
30		Inducers:	Vertical thrust capacity
31		Casing mounting:	Up (N) Down (N)
32		● Centerline o Near centerline	Bearing (Type/Number) Radial Thrust
33		o Foot o Separate mounting plate	
34		o Inline	Electrical Area Class :**EEx d IIC T4**
35		Casing split:	Starting Current :
36		● Axial o Radial	Cable Gland :
37		Casing Type:	Degree of Protection : **Min. IP-55**
38		o Single volute o Multiple volume o Diffuser	Efficiency :
39		o Overhung o Between Bearings o Barrel	Successive Start-Up No. :
40		MAWP @ MAWT: (barg) @ ºC	Duty :
41		Hydrostatic test pressure (barg)	Cooling :
42		Gland Taps:	Max. / Nominal / Starting / Locked Rotor
43		o Quench o Drain	Torque :
44		o Flush o Vent	Other Accessories :

Item	Rev.	MECHANICAL SEAL	MECHANICAL SEAL (CONT.)
1		Note: Information to be completed: o By purchaser □ By vendor	
2		**SEAL DATA**	o Vapor pressure (kPa)@ (ºC)
3		o API-682	o Hazardous o Flammable o Other
4		o Non API-682 SEAL	□ Flow rate max/min / (m^3/h)
5		o API-610 Seal code	□ Pressure required max/min / (kPa)
6		□ Seal manufacturer	□ Temperature required max/min / (ºC)
7		□ Size and type	**QUENCH FLUID:**
8		□ Manufacturer code	o Name of fluid
9		**SEAL CHAMBER DATA:**	□ Flow Rate (m^3/h)
10		□ Temperature (ºC)	**SEAL FLUSH PIPING**
11		□ Pressure (kPa)	o Seal flush piping plan
12		□ Flow (m^3/h)	o Tubing □ Carbon Steel
13		□ Seal Chamber size	□ Pipe o Stainless Steel
14		□ Total Length (mm) □ Clear length (mm)	□ Auxiliary flush plan
15		**SEAL CONSTRUCTION:**	□ Tubing □ Carbon Steel
16		□ Sleeve material	□ Pipe □ Stainless Steel
17		□ Gland Material	o Piping Assembly
18		□ Aux. Seal Device	□ Threaded □ Unions □ Socket Welded
19		□ Jacket Required	□Flanged □Tube type fittings □Seal Welded
20		**GLAND TAPS:**	□ Pressure Switch (Plan 52/53)
21		□ Flush (F) □ Drain (D) □ Vent (V)	o Pressure gauge (Plan 52/53)
22		□ Barrier / Buffer (B) □ Quench (Q)	□ Level Switch (Plan 52/53)
23		□Cooling (C) □ Lubrication (G)	o Level Gauge (Plan 52/53)
24		□Heating (H) □ Leakage □ Pumped Fluid (P)	o Temp indicator (Plans 21, 22, 32, 41)
25		□ Balance Fluid (E) □ External Fluid Injection (X)	o Heat Exchanger (Plan 52/53)
26		**SEAL FLUIDS REQUIREMENT AND AVAILABLE FLUSH LIQUID:**	Remarks:
27		Note: If flush liquid is pumpage liquid (As in flush piping plans 11 to 41). Following flush liquid data is not req'd	
28		o Normal/Max. Temperature / (ºC)	
29		o Normal / Max. Pressure / (barg)	**STEAM AND COOLNG WATER PIPING**
30		o Name of fluid	□ Cooling Water Piping Plan
31		o Rating and Facing	□ Cooling Water Requirements
32		o Vapor Pressure (kPa abs) @ (ºC)	Seal Jacket / BRG HSG (m^3/h)@ (kPa)
33		o Hazardous o Flammable o Other	Seal Heat Exchanger (m^3/h)@ (kPa)
34		□ Flow Rate Max/Min (m^3/h)	Quench (m^3/h)@ (kPa)
35		□ Pressure required Max/Min / (kPa)	Total Cooling Water (m^3/h)
36		□ Temperature required Max/Min / (ºC)	o Steam Piping: o Tubing o Pipe
37		**BARRIER/BUFFER FLUID**	REMARKS:
38		□ Supply Temperature Max/Min / (ºC)	
39		□ Specific Gravity	
40		o Name of Fluid **:**	
41			
42			
43			
44			

Note:

1. Sand and Dust storms to be Considered
2. Vendor to Specify the Datum line.
3. John Crane, Burgman and Flowserve are Acceptable but John Crane is our Preference.
4. Minimum flow of Pump to be added to rated flow while designing Pump(by Vendor).
5. Pump located in hazardous area .
6. Commissioning and two-years spare parts are in the vendor's scope of supply.
7. Vendor is requested to submit his recommendation for the Purchaser's approval.
8. Vendor shall supply all necessary instruments to ensure safe and good operation of equipment.
9. NPSHA has been calculated based on Pump foundation. Vendor to calculate and issue NPSHR based on both pump foundation and suction nozzle.
10. Deleted.
11. Pump Design temperature to be -48 deg C.
12. Vendor to fill all points of present data sheet in accordance with requested standards and codes.
13. Deleted.