

ANNEXURE - 1**TECHNICAL SPECIFICATIONS FOR CENTRIFUGAL CHEMICAL PROCESS PUMPS**

Horizontal Centrifugal (back pull out type) Process Pumps in SS304 construction, complete with Drive Motor, base plate, coupling etc. as per details provided below:

ITEM NO : 1

1	Type	SS Horizontal, Centrifugal back pull out type pump set with Gland Packing, Drain Plug and Drip Tray.
2	Pump with drive motor assembly- overall dimensions	Refer Sketch no.I enclosed. Pumps supplied shall be strictly as per the <u>dimensions given in sketch-I</u> . Any deviation from the dimensions shall be disqualification of the offer.
3	Discharge Head	18 meters
4	Discharge Capacity	700 Liters per hour(LPH) (0.7M ³ /hr)
5	Quantity	03 (Three Nos.)
6	Fluid handled & their details a) Concentration b) Temperature c) Specific gravity d) Viscosity e) Vapour Pressure f) Boiling Point g) Solid if any	Aqueous Alkaline solution 2.5 N (max.) or 10 % by Weight 70 Deg. C. (max.) 1.1 Max. 2.00 Cp 235 mm Hg. at 70 Deg. C. 102 Deg. C. Nil
7	NPSH Required	1.0 meter
8	NPSH Available	--
9	BKW Water, KW	0.50
10	BKW Fluid kW	0.55
11	Curve Reference	R2/1001 LF
12	Impeller Diameter in mm	120mm Tr. Keyed (Semi Open Type)
13	Efficiency	6.8%
14	Duty	Continuous
15	Suction	Flooded
16	Nozzle Size	Suction = 40mm , Discharge = 25mm .
17	Flange standard	40x25, IS 6392, T-17
18	Suction nozzle center height from floor after assembled on base frame along with motor	252 mm
19	Discharge nozzle flange top height from floor after assembled on base frame along with motor	417 mm
20	Material of Constr. for Casing, Impeller, shaft , shaft sleeve	AISI-SS304 (A743-CF8)
21	Seals	Pumps to be supplied with Gland packing (TIWA) only . If desired mechanical seal and gland plate (with API Plan 11 & 62) shall be fitted by user for above conversion. <u>Stuffing Box dimensions shall be suitable for fitting "DURA Make RO Mechanical Seal " of size 1.375 inches, SiC/SiC, code E4J-EF-EE with EPR Shaft Packing and insert mounting rings. Taping for API Plan 11 to be provided on pump discharge flange.</u>
22	End Connections	Flanged (Flanges as per IS-6392 (1971), Table-17.
23	Coupling	Lovejoy RRL-095 (coupling Hub dia 19 / 22)
24	Driver - of CG, TEFC	0.75 KW / 2900 RPM
28	Bearing Housing	Oil Cooled
26	Base Plate	Common single base plate for pump and motor.
27	Scope of supply	Pump assembled with motor, common base plate for pump &

		motor , bearing oil drain plug arrangement and constant level oiler with visible oil level, direction on the motor should be marked, double lock arrangement for guiding the leakages , drip tray.
--	--	--

ITEM NO : 2

1	Type	SS Horizontal, Centrifugal back pull out type pump Set with Gland Packing, Drain Plug and Drip Tray.
2	Pump with drive motor assembly-overall dimensions	Refer Sketch no.I enclosed. Pumps supplied shall be strictly as per the <u>dimensions given in sketch-I</u> . Any deviation from the dimensions shall be disqualification of the offer.
3	Discharge Head	30 meters
4	Discharge Capacity	700 Liters per hour(LPH) (0.7M ³ /hr)
5	Quantity	03 (Three Nos.)
6	Fluid details to be handled a) Concentration b) Temperature c) Specific gravity d) Viscosity e) Vapour Pressure f) Boiling Point g) Solid if any	Aqueous Alkaline solution 2.5 N (max.) or 10 % by Weight 70 Deg. C. (max.) 1.1 Max. 2 C.P. 235 mm Hg. at 70 Deg. C. 102 Deg. C. Nil
7	NPSH Required	1.0 mtrs.
8	NPSH Available	--
9	BKW Water, kW	0.85
10	BKW Fluid, kW	0.93
11	Curve Reference	R2/1001 LF
12	Impeller Diameter in mm	143 Tr. Keyed (Semi Open Type)
13	Efficiency	6.72%
14	Duty	Continuous
15	Suction	Flooded
16	Nozzle Size	Suction = 40mm, Discharge = 25mm .
17	Flange standard	40x25, IS 6392, T-17
18	Suction nozzle center height from floor after assembled on base frame along with motor	252 mm
19	Discharge nozzle flange top height from floor after assembled on base frame along with motor	417 mm
20	Material of Constr. for Casing, Impeller, shaft , shaft sleeve	AISI-SS304 (A743-CF8)
21	Seals	Pumps to be supplied with Gland packing (TIWA) only. If desired mechanical seal and gland plate (with API Plan 11 & 62) shall be fitted by user for above conversion. <u>Stuffing Box dimensions shall be suitable for fitting "DURA Make RO Mechanical Seal "</u> of size 1.375 inches, SiC/SiC, code E4J-EF-EE with EPR Shaft Packing and insert mounting rings. Taping for API Plan 11 to be provided on pump discharge flange.
22	End Connections	Flanged (Flanges as per IS-6392 (1971), Table-17.
23	Coupling	Lovejoy RRL-095 (coupling Hub dia 19 / 22)
24	Driver - of CG, TEFC	1. 1 KW / 2900 RPM
25	Bearing Housing	Oil Cooled
26	Base Plate	Common single base plate for pump and motor.
27	Scope of supply	Pump assembled with motor, common base plate for pump & motor , bearing oil drain plug arrangement and constant

		level oiler with visible oil level, direction on the motor should be marked, double lock arrangement for guiding the leakages , drip tray and any other essential / special accessories suggested by party .
--	--	--

ANNEXURE-II

- (1) Pumps offered shall be standard regular products of reputed manufacture's only. The party shall submit the detailed product catalogue along with the offer.
- (2) The parties shall have to indicate the make, model, rating, etc. of all the bought components such as motors, mechanical seal etc., in their offer.
- (3) Party shall have to submit basic dimensional drawing along with the offer for the confirmation of the above specification. Any deviation from the specification shall be clearly brought out in their offer.
- (4) These pumps shall be used for replacement of existing running process pumps. Hence, vendor should quote for the pumps strictly as per the specification and dimensions of the pumps mentioned above. Any other pumps with different dimensions shall not be considered and so offer will be rejected.
- (5) **All details regarding size, weight, material of construction, seals, foundation and mounting details shall be furnished along with the Tender. In the absence of the same, the offer is likely to be rejected.**
- (6) The quotation shall accompany the characteristic curves (Head vs. Capacity, Capacity vs. Power and Capacity vs. Efficiency) of the offered pumps.
- (7) In the event of placement of purchase order the party shall have to submit to the users, the detailed fabrication drawings indicating all the parts and their specifications such as size/dimensions, material of construction with their grade as well as make , type etc. of all the bought components viz. motor, mechanical seals, bearings, couplings within Fifteen days from the date of receipt of the purchase order, for approval .
- (8) The pumps shall be inspected and tested before dispatch by the purchaser's authorised representative at the manufacturer's works for their workmanship, dimensions, hydraulic test of the body, performance etc. The party shall have to make all the arrangements required for the same.
- (9) The party shall have to submit detailed operation and maintenance manual along with the supply of the pumps.
- (10) Vendor must submit the client list along with their name, address and contact numbers. It may be noted that the user may contact them for users feedback for the performance of the pump supplied to them.
- (11) Only original Pump manufacturers/authorized certified dealers will be considered for the tender evaluation.

* * * * *