

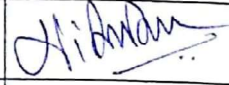



1	TPS NO.	<b>UCTS/TPS/2020-07 R1</b>	
2	STATUS	ENQUIRY	
3	ORIGINATING DEPT.	TECH.SERVICES /MECH MAINT	
4	P.O / W.O No.	ENQUIRY	
5	PROJECT / PLANT	AMMONIA COMPLEX	
6	LOCATION	UDYOGAMANDAL	
7	PURCHASER	FACT UDYOGAMANDAL	
8	VENDOR		
9	PUMP ITEM NO.	P 552C	
10	SERVICE	TRANSFER OF AMMONIA WATER TO TOWER	
11	Units of measurement	Metric system	
<b>OPERATING PARAMETERS</b>			
12	Type of Pump	Reciprocating Pump (Hydraulic Diaphragm)	
13	Pumping Liquid/Service	11% Ammonia Water	
14	Temperature	Normal - 80°C	 Max- 115°C
15	Specific Gravity at PT	0.89	
16	Vapour pressure at PT	7.85Kg/cm <sup>2</sup> A	
17	Viscosity	0.308 cP at PT	
18	Capacity	2320 LPH (min)	
19	Discharge Pressure	28.61 kg / cm <sup>2</sup> g(min)	
20	Suction Pressure	Min- 12 Kg/ cm <sup>2</sup> g	Rated- 15.0 Kg/ cm <sup>2</sup> g
21	Design Pressure	33.8 Kg/cm <sup>2</sup> g	
22	Site Temperature (°c)	Max. 34.3	Min. 19.2
23	Location	Outdoor	
24	Relief Pressure	31.5 Kg/cm <sup>2</sup> g (Relief valve outlet shall be connected back to suction. Hence relief valve shall be able to operate at a back pressure of 15.0 Kg/cm <sup>2</sup> g )	
25	NPSH available	Positive Pressure (~59MLC)	

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0	1/9/20	ENQUIRY	NIBU	VIMALA	NAGESH
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**CONSTRUCTION FEATURES**

26	Suction	
27	Discharge	Flanged ASME B 16.5 RF 2" CI. 300
28	Capacity Control	Flanged ASME B 16.5 RF 2" CI. 300
29	Stroke Adjustment	Variable speed motor (thru VFD) Not Required (Control of flow is achieved through motor speed variation using VFD)

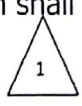
**MATERIALS**




30	Liquid End	SS 316
31	Valve & Valve Seat	SS 316 - Valve / Seat Stellite
32	Plunger	CS
33	Packing	Glandless Design
34	Diaphragm	EPDM
35	Relief Valve	Liquid Contact Parts - SS 316 Body- CS



**Specifications of Motor**

36	Three Phase Squirrel Cage Induction Motor As Per relevant IS/IEC standards With Latest amendments	
37	TYPE	Flameproof (Ex 'd') type suitable for gas groups II A / II B with temperature class T3 suitable for running on VFD
38	Volts	415 +/- 10 % AC
39	Enclosure	TEFC
40	Frequency	50 Hz +/- 5 %
41	Duty	Continuous(S1)
42	Degree of protection	IP 55
43	Insulation class	F
44	Mounting	Selection by vendor

1	27/11/20	ENQUIRY	<i>Handwritten Signature</i>	<i>Handwritten Signature</i>	<i>Handwritten Signature</i>
0	1/9/20	ENQUIRY	NIBU	VIMALA	NAGESH
REV. NO.	DATE	STATUS	PREP'D	CHECKED	APPR'D

45	Motor Power	Selection by Vendor ( Motor power shall be 110% min. of the input power required for the pump at rated capacity)
46	Direction of Rotation	Bidirectional
47	Method of Starting	Variable Frequency Drive
48	Greasing provision	If sealed bearings are provided at drive end and non-drive end, greasing provisions are not required. Otherwise required at both ends.
49	Motor RPM	Selection by Vendor
50	ACCEPTABLE MAKE	SIEMENS/ABB/KIRLOSKAR ELECTRIC/BHARAT BIJLEE / CROMPTON
<b>MANUFACTURER'S DATA</b>		
51	Size and Type	
52	Rated capacity	
53	NPSH required	
54	KW rated	
55	Max. Pressure (Kg/ cm <sup>2</sup> G)	
56	Hydro test Pressure (Kg/ cm <sup>2</sup> G)	
57	Performance standard	
58	Rotation viewed from driver	CW / CCW
<b>SCOPE OF SUPPLY</b>		
59	<ol style="list-style-type: none"> <li>1. BARE PUMP – FLANGED without counter flanges, nuts, bolts &amp; gaskets.</li> <li>2. Base Frame, Coupling, Coupling Guard, Foundation Bolts.</li> <li>3. Drive Electric Motor – Flame Proof type (Zone 2 hazardous area).</li> <li>4. Discharge Safety Relief Valve which shall be able to operate at a back pressure of 15.0 Kg/cm<sup>2</sup> g.</li> <li>5. Diaphragm Rupture Indicator </li> </ol>	

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 <b>FACT</b>	<b>FACT UDYOGAMANDAL COMPLEX</b>	<b>UCTS/TPS/2020-07 R1</b>
<b>TECHNICAL PROCUREMENT SPECIFICATION</b>	<b>AMMONIA WATER TRANSFER PUMP P552C</b>	<b>Page 4 of 4</b>

Note:

60

1. The pumping unit shall be skid mounted and assembled on the base plate. Other accessories may be given separately.
2. Motor shall be VFD compatible.



**Spares**

61

Following Spares required for continuous operation shall be quoted separately.

1. Valve assembly: Suction/Discharge (200%)
2. Gland Packing/Seals (200%)
3. Coupling Elements (200%)
4. Diaphragm (200%)

**Pre-Dispatch Inspection(PDI)**

62

PDI will be conducted at Vendor's work by FACT Personnel.




Scope of PDI: Verification/review of Material test certificates, Hydro test certificate etc. witnessing the performance test of the pump.

**Test Certificates/Documents to be furnished.**

63

Material Test Certificate, Hydro test certificate, Performance test report of the pump, Operation & Maintenance manual with cross sectional and GA drawing, spare parts list, Relevant Motor test Certificates and Operation & Maintenance manual.

(Ref:- DS No.3020-01-DA-P552 (TPS No.3020-01-PS-014) & UC-TS-UD-AC/2017/002R1)

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REV. NO.	DATE	STATUS	PREP'D	CHECKED	APPR'D