

**PROJECT: 2 X 660 MW
MAITREE THERMAL POWER
PROJECT**

SPEC NO.: STE-Z11-458-01

REV. NO.: R0

DATE: 07/12/2020

CHEMICAL DOSING SYSTEM BARREL PUMP SPECIFICATION

REVISION HISTORY

REV.	REVISION DATE	PREPARED BY	CHECKED BY	APPROVED BY	DESCRIPTION
R0	07.12.2020	ANKIT SINGH	ABHINAV KUMAR	DIPAK BAG	

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1 General

1.1 Responsibility

The Supplier is responsible for compliance with all requirements listed in this specification. Purchaser's approval of the application of the equipment does not relieve the Supplier's responsibility in any way.

1.2 Scope of Supply

This specification establishes the technical requirements for design, materials, fabrication, shop testing, and delivery of pumps.

Sr. No.	Item Description	Type of Pump	Tot Qty (Set)	Remarks
1	Ammonia Barrel Pump with Motor & SS flexible hose	Dispensing Type	2	Refer Datasheet A
2	NaOH Barrel Pump with Motor & SS flexible hose	Dispensing Type	2	Refer Datasheet B

2 Datasheet

Barrel Pump with Motor for Ammonia Dosing System (Datasheet A)

Sr. No.	Description	Details
1)	Medium to be handled	29.4 % Ammonia
2)	Type of Pump	Motorized Barrel Pump
3)	Service temperature	45 Deg C
4)	Capacity	200 LPH
5)	Suction pipe upto	1200 mm
6)	Working pressure	2 Kg/cm ² (g)
7)	Design Pressure	2.5 Kg/cm ² (g)
8)	All Wetted parts of pumps	SS-316
9)	Voltage Level	240/415 V (±10%), 50 Hz
10)	Motor Rating	##Supplier to fill
11)	Connection at suction, position	25 NB Pipe, SS 316
12)	Connection at discharge (of barrel pump)	316 Stainless Steel, Non-Spill Quick Coupling Socket type with NPT threaded end, 1" Size , at Barrel Pump Discharge (See photo of quick coupling)
13)	SS flexible Hose of Length 5 m with non-spill quick coupling compatible with discharge line	1" plug type quick coupling at each end + one end coupling of socket type with 1" NPT Thread.

Barrel Pump with Motor for NaOH Dosing System (Datasheet F)

Sr. No.	Description	Details
1)	Medium to be handled	48% NaOH
2)	Type of Pump	Motorized Barrel Pump
3)	Service temperature	45 Deg C
4)	Capacity	30 LPH
5)	Suction pipe upto	1200 mm
6)	Working pressure	2 Kg/cm ² (g)
7)	Design Pressure	2.5 Kg/cm ² (g)
8)	All Wetted parts of pumps	SS-316
9)	Voltage Level	240/415 V (±10%), 50 Hz
10)	Motor Rating	Supplier to fill
11)	Connection at suction	25 NB Pipe, SS 316
12)	Connection at discharge, position	316 Stainless Steel, Non-Spill Quick Coupling Socket type with NPT threaded end, 1" Size, at Barrel Pump Discharge. (Refer page 5 for drawing and photo of quick coupling)
13)	SS flexible Hose of Length 5 m with non-spill quick coupling compatible with discharge line	1" plug type quick coupling at each end + one end coupling of socket type with 1" NPT Thread. (Refer page 5 for drawing and photo of quick coupling)

3 Surface Preparation and Cleaning

- External surfaces of carbon steel components shall be painted.
- Stainless steel components shall not be painted. Pickling and Passivation shall be carried out on SS material.

3.1 Color

Sr. No	Surface Location	Surface preparation	Coating system	No of coats	Generic type	(DFT) per coat (microns)	Total DFT (microns)
1)	Motors	SA 2.5	Primer	1	Zinc-Epoxy	80	180
			Finish	2	Epoxy High Solid	50	
2)	Pumps, Motors	Final Color - Signal Violet (RAL 4008)					

4 Document Submittal List**4.1 Document Submittal List-during detail engineering**

The supplier shall provide all the following documentation to Purchaser. All documents shall be written in English.

Sr No		
1.1	Technical data sheet with GA	Within 4 weeks of P.O date
1.2	O&M manual	With Supply
1.3	Quality documentation	

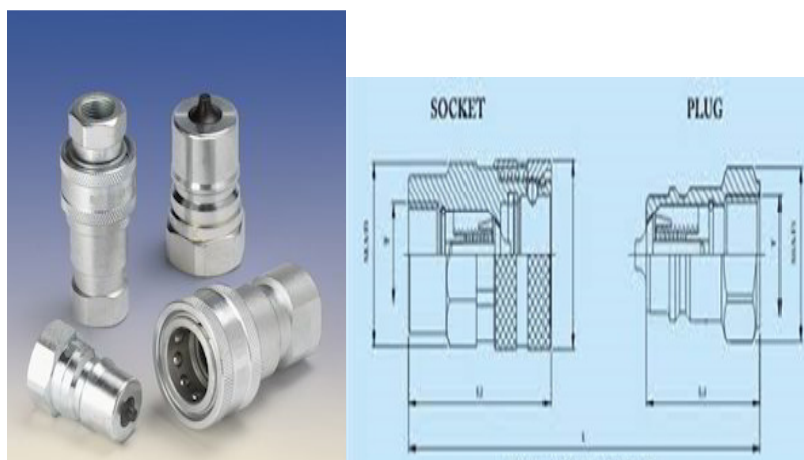
4.2 List of documents to be submitted with offer

Sr. no	Details	Due date
1)	Compliance to specification	
2)	Technical data sheet with GA drawing and pump catalogue	With offer
3)	Quality assurance plan	With offer

5 Annexure

Sr. No.	Details	Remarks
1.	Sample Quality Plan	Annexure 1

Drawing of socket and plug type quick coupling:



5.1 ANNEXURE-1: SAMPLE QUALITY PLAN

SN	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS
									M	C	B	
1	2	3	4	5	6	7	8	9	*10			11
1	MOTORS	ROUTINE TEST	MA	MFG. TC	100%	APPD. DATA SHEET	APPD. DATA SHEET	TC	P	W	V	
		DEGREE OF PROTECTION	MA	MFG. TC	1/ SIMILAR FRAME SIZE	APPD. DATA SHEET	APPD. DATA SHEET	TC	P	W	V	
2	BARREL PUMP											
2.1	RAW MATERIAL	CHEM & PHY. PROP.	MA	CHEM. & PHY. TEST	1/ LOT	APPD. DATA SHEET	APPD. DATA SHEET	TC/LAB REPORT	P	W	V	
2.2	SS FLEXIBLE HOSE	CHEM & PHY. PROP.	MI	MFG. TC	100%	-	-	CoC	P	V	V	
2.3	SS QUICK COUPLING	CHEM & PHY. PROP.	MI	MFG. TC	APPD. DATA SHEET	AS PER MANUFACTURER STANDARD	TC/LAB REPORT	CoC	V	V	V	
3	FINAL INSPECTION											
3.1	PUMP WITH MOTOR	PERFORMANCE TEST	MA	PERFORMANCE	100%	AS PER MANUFACTURER STANDARD	FLOW SHALL NOT BE LESS THAN 3%	IR	P	W	V	SHALL BE TESTED WITH JOB MOTOR
		DIMENSIONS	MA	MEASUREMENT	100%	APPD.DATA SHEET/DWG	APPD.DATA SHEET	IR	P	W	V	
5	PAINTING	PAINTING	MA	VISUAL & MEASUREMENT	100%	APPD. PAINTING SCHEME	APPD. PAINTING SCHEME	IR	P	W	V	
6	PACKING	PACKING OF COMPONENT	MA	VISUAL	100%	BHEL APPROVED PROCEDURE	BHEL APPROVED PROCEDURE	IR	P	W	V	
7	END OF MANUFACTURING REPORT	DOCUMENTS	MA	-	-	-	-		P	V	V	
NOTE-1) LATEST REVISION OF STANDARD & SPECIFICATION SHALL APPLY ONLY INTERNATIONAL STANDARDS ARE APPLICABLE INDIAN & CHINESE STANDARDS ARE NOT APPLICABLE.												
NOTE-2) MATERIAL SHALL BE PROCURED IN COMPLIANCE TO FUNCTIONAL TECHNICAL SPECIFICATION.												
NOTE-3) INSPECTION SHALL BE IN COMPLIANCE WITH APPROVED QUALITY CONTROL PROCEDURE FOR THE PRODUCT.												
NOTE-4) ONLY APPROVED WELDING CONSUMABLES SHALL BE USED AS PER APPROVED WELDING CONSUMABLE LIST.												
NOTE-5) GAUGES AND MEASURING INSTRUMENTS, WITH VALID CALIBRATION ONLY SHALL BE USED.												
NOTE-6) CLEANING AND PAINTING OF PRODUCTS SHALL BE CARRIED OUT AS PER APPROVED PAINTING SCHEDULE.												

PREPARED BY	APP / CHECKD BY	Date:	LEGEND: * M: MANUFACTURER/SUB-VENDOR C: BHEL B: M/s BIFPCL TC: TEST CERTIFICATE CoC: CERTIFICATE OF COMPLIANCE IR: INSPECTION REPORT P: PERFORM W: WITNESS AND V: VERIFICATION, AS APPROPRIATE	FOR BHEL USE	DOC. NO.	REV.	CAT
					REVIEWED BY	APPROVED BY	APPROVAL SEAL