



Transformer Plant,
BHARAT HEAVY ELECTRICAL LIMITED,
BHEL, JHANSI.

Machine No	SP/CA/9041/A
Quantity	1 No
Spec. No.	CA/9041/A

Note:-

1. The "Offered" Column and where applicable, the "Deviations" Column of this format shall be filled in by the Bidder/ Vendor and submitted along with the offer. An adequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications / requirements shall be treated as non-compliance.

2. The offer and all documents enclosed with offer should be in English language only.

3. Vendor(OEM) must submit complete information against clause no. 18. The offer meeting this clause would only be processed.

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM STATIONARY, AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:

S No.	Description - BHEL's Requirement	Specified	Offered	Deviation (Y/N)	Remarks
1.0	SCOPE The specification covers the requirements of design, manufacturing, supply, erection and commissioning of 1000 CFM capacity air dryer complete in all respect	Vendor to confirm			
2.0	GENERAL FEATURES				
2.1	Vendor to furnish details about general construction features alongwith literature, leaflets and sketches	Vendor to submit			
3.0	SPECIFICATION				
3.1	Type - Refrigeration	Vendor to confirm			
3.3	Inlet Flow/Capacity - 1000 CFM (Min)	Vendor to confirm			
3.4	Inlet Pressure- 9 Kg/cm ²	Vendor to confirm			
3.5	Max. Working Pressure-16Kg/cm ²	Vendor to confirm			
3.6	Outlet Pressure-Inlet Pressure-(0.3Kg/cm ²)	Vendor to confirm			
3.7	Relative Humidity -100 %	Vendor to confirm			
3.9	Outlet Air Temperature	Vendor to specify			
3.10	Dew point Pressure	Vendor to specify			
3.11	Tonnage of Refrigeration	Vendor to specify			
3.12	Power consumption	Vendor to specify			
3.13	In let and outlet pipe sizes - 3"	Vendor to confirm			
3.14	Refrigerant gases used must be non chloroflorocarbon type and preferably 134a	Vendor to confirm			
4.0	Essential Accessories- Vendor to furnish details related to following and any other accessory used				
4.1	Heat exchanger	Vendor to submit			

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM STATIONARY AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:

S No.	Description - BHEL's Requirement	Specified	Offered	Deviation(Y/N)	Remarks
4.2	Moisture separator	Vendor to submit			
4.3	Evaporator	Vendor to submit			
4.4	Automatic drain valve	Vendor to submit			
4.5	Compressor	Vendor to submit			
4.6	Control system /displays	Vendor to submit			
4.7	Pre filter	Vendor to submit			
4.8	After Filter	Vendor to submit			
5.0	ELECTRICAL:				
5.1	Input Power Supply: 3 Phase, 415 ± 10% Volt, 50 ± 3% Hz	Vendor to confirm			
5.2	Tropicalisation: All electrical / electronic equipment shall be tropicalized.	Vendor to confirm			
5.3	All electrical & electronic control cabinets & panels should be dust and rodent proof.	Vendor to confirm			
5.4	Motors shall conform to IEC or Indian Standards .	Vendor to confirm			
6.0	SAFETY ARRANGEMENTS:				
6.1	Safety feature should be incorporated for safety of operator and the dryer	Vendor to confirm			
6.2	Anti Vibration Mountings should be provided on the dryer frame for vibration isolation from Screw element, Motor and Oil Separator Tank.	Vendor to confirm			
6.3	All the pipes, cables etc. on the dryer should be well supported and protected.	Vendor to confirm			
7.0	ENVIRONMENTAL PERFORMANCE				
7.1	The dryer shall conform to following factors related to environment :	Vendor to confirm			
	(a) If any safety / environmental protection enclosure is required it should be built in the dryer by the vendor.	Vendor to confirm			
	(b) Paint of the dryer should be oil / coolant resistant	Vendor to confirm			
8.0	LEVELLING & ANCHORING SYSTEM				
8.1	Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc should be supplied .	Vendor to confirm			
9.0	SPARES:				

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM STATIONARY AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:

S No.	Description - BHEL's Requirement	Specified	Offered	Deviation(Y/N)	Remarks
9.1	Supplier should quote spares & consumables for 2 years continuous operation (@ 24 hr / day basis) of the dryer Unit. Complete list of spares & consumables is to be provided (along with the offer itself), giving individual item's part identification no, its application, life (in hrs of use), recommended quantity and unit cost.	Vendor to confirm and submit			
10.0	DOCUMENTATION : Three sets of following documents (Hard copies) in English language should be supplied along with the dryer	Vendor to confirm			
10.1	Operating manuals	Vendor to confirm			
10.2	Detailed electrical circuit should also be supplied	Vendor to confirm			
10.3	Detailed Maintenance manual of dryer	Vendor to confirm			
10.4	Detailed specification of all rubber items and hydraulic/lube fittings	Vendor to confirm			
10.5	Complete Master List of parts used in the dryer shall be submitted by the vendor.	Vendor to confirm			
11.0	CIVIL WORK				
11.1	Vendor shall submit the foundation and layout drawing for getting BHEL's approval within one month from the date of Letter of Intent (LOI) / P.O. . The layout should consist of all requirements pertaining to complete dryer including space requirement for any accessories. BHEL shall construct complete foundation for the dryer under supervision of supplier and at supplier's responsibility. Vendor should arrange equipments required for the testing of foundation, if required by the vendor. The vendor shall also indicate detailed specifications of grouting compound and Grouting procedure etc. for foundation bolts of the dryer.	Vendor to confirm			
12.0	ERECTION & COMMISSIONING				

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM STATIONARY AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:

S No.	Description - BHEL's Requirement	Specified	Offered	Deviation(Y/N)	Remarks
12.1	Supplier to take full responsibility for carrying out the erection, start up, testing of dryer, it's control & all types of other supplied equipment, etc. Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by supplier in their foundation/layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. Details of these requirements should be informed by vendor in advance.	Vendor to confirm			
12.2	Commissioning spares, required for commissioning of the dryer within stipulated time, shall be brought by the supplier on returnable basis.	Vendor to confirm			
12.3	Portion, if any, of the dryer, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colours of paint used.	Vendor to confirm			
12.4	Schedule of Erection and Commissioning shall be submitted with the offer.	Vendor to confirm and submit			
12.5	Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.	Vendor to confirm and submit			
13.0	OPERATING CONDITIONS :				
13.1	dryer should work trouble free and efficiently under following operating conditions and should give specified accuracies. Power Supply: Voltage: 415 V - 10%, +10% Frequency: 50 Hz +3%, - 3% No. of phases = 3 Ambient Conditions: Temperature = 5 to 45 degree celsius Relative Humidity = 95% max.	Vendor to confirm			
14.0	ACCEPTANCE: (Tests/Activities to be Performed by Vendor)	Vendor to confirm			
14.1	Tests/Activities to be witnessed by BHEL representatives at supplier's works before dispatch :	Vendor to confirm			

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM STATIONARY AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:					
S No.	Description - BHEL's Requirement	Specified	Offered	Deviation(Y/N)	Remarks
14.1.1	Test certificates, Specification compliance and performance of the complete supplied system shall be checked and verified.				
14.1.2	Demonstration of all features of the dryer, control system & accessories.	Vendor to confirm			
14.2	Tests/Activities to be carried out at BHEL works while commissioning the dryer :	Vendor to confirm			
	Demonstration of all features of the dryer, control system & accessories to the satisfaction of BHEL for efficient and effective use of the dryer	Vendor to confirm			
14.2.1					
14.2.2	Training of BHEL operators/maintenance personnel in operation/maintenance of complete dryer & accessories etc by the supplier's experts / engineers during their stay at BHEL works	Vendor to confirm			
14.2.3	Demonstration by actual use of all supplied attachments and accessories to their full capacity.	Vendor to confirm			
15.0	PACKING:				
15.1	Sea worthy & rigid packing for all items of complete dryer , all Accessories and other supplied items to avoid any damage/loss in transit. Whendryer is despatched in containers, all small loose items shall be suitably packed in boxes	Vendor to confirm			
16.0	GUARANTEE :				
16.1	24 months from the date of acceptance of the dryer.	Vendor to confirm			
17.0	GENERAL : The vendor should submit the following information:				
17.1	Equipment Model	Vendor to furnish			
17.2	Dimension of dryer	Vendor to furnish			
17.2	Total weight of the system	Vendor to furnish			
18.2	Detailed catalogues , sketch/ photographs of the compressor and accessories/ attachments should be submitted with the offer.	Vendor to furnish			
18.0	QUALIFYING CONDITION :				

SPECIFICATION CUM COMPLIANCE CERTIFICATE FOR SUPPLY, ERECTION AND COMMISSIONING OF 1000 CFM

STATIONARY AIR DRYER COMPLYING WITH SPECIFICATION AS BELOW:

S No.	Description - BHEL's Requirement	Specified	Offered	Deviation (Y/N)	Remarks
18.1	Only those Vendors/Dealers should quote who have supplied and commissioned at least two similar air dryers of 800 CFM or more capacity in the past ten years (on the date of opening of tender) and such dryers are presently working satisfactorily for more than one year after commissioning (on the date of opening of tender).	Vendor to accept and submit			

<p align="center"><i>[Signature]</i> Arjun Singh Mgr. (WE&S)</p>	<p align="center"><i>[Signature]</i> Y K Dhingra Sr. Engr (WEX)</p>
<p align="center"><i>[Signature]</i> S.J.Chakraborty Sr. DGM (WEX & TEX)</p>	<p align="center"><i>[Signature]</i> A K Shivpuri Sr. Mgr (WEX)</p>
	<p align="center"><i>[Signature]</i> S S Nigam Sr. Mgr (WEX)</p>

[Signature]
Amit Goyal
Engr (WEX)

[Signature]
S S Nigam
Sr. Mgr (WEX)