



BHARAT HEAVY ELECTRICALS LIMITED, HARIDWAR
STE-TL ENGINEERING DEPARTMENT

**PRE-QUALIFICATION REQUIREMENT
DIRT CATCHER**

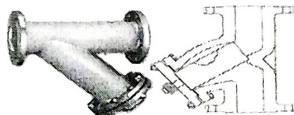
DOCUMENT NO.
STE-TL/DC/PQR/2024001
Rev:00 Dt:05.02.2024

The Pre- Qualification Requirements pertaining to Engineering are as follows:

1. The Bidder should have successfully designed, manufactured, tested & supplied of DIRT CATCHER (Y-STRAINER) for water/oil application. Vendor should have supplied one (1) no. in at least one power/process plants in last seven (7) years from the date of issuance of enquiry with following technical details mentioned in table-1.

Table-1

Type:	Y - STRAINER
Size Range:	NB25 & above
Rating:	CL150 & above
Body Material	Carbon Steel & above grade

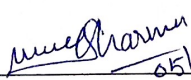
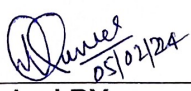
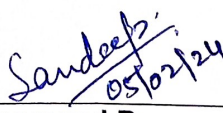


2. The Bidder shall furnish the following documents in line with criteria given in above sl.no.1.
 - a. Executed Purchase order (P.O.) which should not be older than seven (7) years from the date of issuance of enquiry.
 - b. Dispatch document w.r.t above executed P. O. i.e. Approved GA drawing, Delivery challan, Tax invoice, Inspection report & Lorry way bill for our review.

Note: -

1. BHEL reserves the right to verify the information submitted by vendor. Submission of false/incorrect information shall lead to rejection of offer and shall be taken seriously by BHEL.
2. BHEL reserves the right to ask for more pertinent information /documents / clarifications. Vendor shall provide this information to BHEL in a timely manner so that project schedule doesn't hamper.
3. All the documents furnished to BHEL shall be in English language only. If the documents are not in English, then they must be accompanied with duly certified English translations of the same.

----End of PQR----

 05/02/24	 05/02/24	 05/02/24
Prepared By SUNIL KR. SHARMA Engineer/STE-TL	Checked BY NILESH KUMAR Manager/STE-TL	Approved By S.K. SONKAR DGM/STE-TL

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CHECK LIST (PQR)

Vendors are supposed to fill relevant columns with Yes/ No.		
PQR Clause Nos./infomration asked in PQR	Vendor Response in Yes/No	Additonal Information by vendor
Meeting Clause 1		
Filled table 2 Submitted		
Copy of P.O submitted inline with clause 2.a		
Copy of GA, Technical Datasheet etc submitted inline with clause 2.b		



SIGN & DATE

**SUPERSEDES
INVENTORY NO.**

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PURCHASE SPECIFICATION FOR DIRT CATCHER.




1. **SCOPE:** The specification covers the Y-type dirt catcher employed to protect the spray nozzle at downstream.
2. **TECHNICAL DATA:**

	VAR. I	VAR. II	VAR. III	VAR. IV	VAR. V	VAR.VI
SIZE	NB 25	NB 40	NB 40	NB 65	NB 40	NB 40
PRESSURE RATING	40 ata	64 ata	40 ata	40 ata	64 ata	64 ata
Medium FLOW RATE	Condensate 0.88 kg/sec.	Condensate 2.08 kg/sec.	Condensate 2.08 kg/sec.	Condensate 3.1 kg/sec.	Condensate 2.8 kg/sec.	Condensate 3.33 kg/sec.
END CONN. FLANGE ALONG WITH COUNTER FLANGE	DIN 2635	DIN 2636	DIN 2635	DIN 2635	DIN 2636	DIN 2636
APERTURE SIZE	Ø 0.6 mm	Ø 0.6 mm	Ø 0.6 mm	Ø 1.2 mm	Ø 0.6 mm	Ø 0.6 mm
WIRE DIA	Ø 0.4 mm	Ø 0.4 mm	Ø 0.4 mm	Ø 0.6 mm	Ø 0.4 mm	Ø 0.4 mm

3. MATERIAL:

- 3.1 Body with integrally cast flanges along with counter flange -Carbon steel ASTMA216Gr.WCB**
- 3.2 Wire mesh - Stainless steel , AISI 321**
- 3.3 Bolts and nuts – Bolts- 8.8, IS 1367 & Nuts- 8, IS 1367 as per IS 1364**
- 3.4 Washer - IS:3063,Mat:- SPR ST , IS 4072**
- 3.5 Gasket – Grafoil Sheet /Grafoil filled spiral wound as per DIN2690 , thickness 3mm**

				NAME	SIGNATURE & DATE
TSX	B. CHAUDHARY	(B. Chaudhary) 16.12.13	WORKED BY	SUDHIR K. GAUTAM	Sudhir 21/11/13
QAX	VIBHUTISHAN	(Vibhuti) 14/01/13	CHECKED BY	UTKARSH GOGIA	Utkarsh 21/11/13
AGREED DEPTT.	NAME	DATE & SIGNATURE	SUPERVISED BY	ANUJ JAIN	Anuj 21/11/13
			APPROVED :	(A.B.GUPTA) AGM, PED	Gp.No 8.20
REV.NO. 10	SUPERSEDES		PREPARED : PED	ISSUED : TSX	DATE : 18.12.81
Dt. 08/01/13					

SIGN & DATE		PRODUCT STANDARD (PROJECT ENGINEERING DEPARTMENT)				ST46003		
						Page 2 of 5		
SUPERSEDES INVENTOR NO.	SIGN & DATE 16/11/13	4. <u>END CONNECTIONS:</u> Dirt Catcher end connections shall be provided by Vendor which includes Flanges, counter flanges, Gaskets, bolt, nuts and washer, all shall be as per Technical Data table given above.						
		5. <u>DOCUMENTS:</u> A. <u>Documents required along with the tender:</u> The tenderer shall submit the following documents/along with the offer. If any information/documents listed below are missing/ incomplete; the offer shall not be considered by BHEL. <ol style="list-style-type: none"> 1. Cross sectional drg. of the dirt catcher giving part nos. , description, part material overall dimensions, space required and direction for removal of element & direction of flow. 2. End connection details. 3. Filled in data sheet-1 4. Quality check programme. 5. List of commissioning spares / spare for operation of 3 years and 5 years. 6. Any special requirement. <p>The document submitted along with tender and approved by BHEL shall be the basis of the order and no changes shall be made without approval from BHEL.</p> <p>Examination and approval of documents submitted along with the tender by BHEL shall not release the manufacturer and his sub-contractors of their responsibility under the contract.</p> B. <u>Documents after placement of the order:</u> Supplier shall submit the documents (as given in Clause 5, A.) with Project name & P.O. number in the title block. <ol style="list-style-type: none"> 1. 10 copies of finalized contract drawing incorporating BHEL comments if any for each station – 8 weeks. 2. 10 copies of Operation / Maintenance / erection Instructions for each station – 12 weeks. 3. 2 copies of Operation / Maintenance / erection Instructions along with dispatch box & soft copies shall be made available to BHEL. 4. Instruction on conservation and deconservation – 12 weeks. 						
6. <u>INSPECTION & TESTS:</u>								
Inventory No.	P-5398	REV. NO. 10				WORKED BY	UTKARSH GOGIA	 8/11/13
						CHECKED BY	ANU J JAIN	 8/11/13



PRODUCT STANDARD

(PROJECT ENGINEERING DEPARTMENT)

ST46003

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SUPERSEDES
INVENTORY
NO.

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DATE
&
SIGNATURE

INVENTORY NO.

6.1 Hydraulic Test:

Hydraulic test shall be carried out on each body using water containing a suitable inhibitor to prevent rusting of the body & internals after test. No leakage shall occur during the test. After the hydraulic test the internals shall be wiped clean & dry. With reference from ANSI/API6D test pressure will be 1.5 times the nominal pressure for duration of 2 minutes. BHEL or BHEL's customer shall have the right to witness the test. However the test certificate shall be furnished to BHEL. The test certificate should specifically mentioned the test pressure & duration of test along with following information:

1. Tag No.
2. Size
3. Name of manufacturer
4. Plant order No.
5. Date of testing.

6.2 Test Certificate of mesh size from recognized test house.

7. IDENTIFICATION:

Following information should be engraved on a metal sheet properly fixed at a convenient location of the body or body cover. All inscriptions shall be in two languages i.e. Hindi & English, with Hindi on top.

Direction of flow should be engraved on the body.

- | | | |
|-------------|---------------------|--------------------------|
| (1) Tag No. | (3) Pressure rating | (5) Year of manufacturer |
| (2) Size | (4) Manufacturer | (6) P.O. No. |

8. PROTECTION FOR DESPATCH:

- 8.1 Ends shall be protected from external damage and sealed against the ingress of dirt.
- 8.2 A wooden blank should be bolted to the flanges using a minimum of four bolts.
- 8.3 To prevent any effect of salt laden atmosphere high humidity & moisture during shipment & storage. The dirt catcher and other accessories shall be properly conserved suitable to last for 2 years & covered by polythene sheet before packing in the wooden box.

9. GUARANTEE:

The supplier shall guarantee trouble free and satisfactory operation of the equipment for a period of 2 years after installation and commissioning or a period of 36 months from the day the equipment leaves the supplier's works whichever is earlier.

If during commissioning / erection at site any deficiency in a part is detected, BHEL site representative shall prepare the assessment report and a copy of the same shall be forwarded to the supplier. The supplier shall replace / rectify the concerned items free of charge.

The supplier if he so desires may depute his representative to site at his own cost otherwise the findings of BHEL representative shall be final and binding on the supplier of the Dirt catcher.

REV. NO.

10

WORKED BY

UTKARSH
GODIYA

CHECKED BY

ANUS
JAIN

8/11/13

8/11/13



PRODUCT STANDARD
(PROJECT ENGINEERING DEPARTMENT)

ST46003

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SIGN & DATE

INVENTORY NO.

10. SPARES:

The supplier shall quote item wise price of recommended spares for 3 years & 5 years operation respectively. Vendor to supply 2 sets of extra gaskets in spare as per clause no. 3.5.

11. QUALITY CHECK PLAN:

The supplier shall indicate his production plan & BHEL shall indicate the check hold points for stage checking. BHEL / BHEL's costumer shall have right to witness the checking.

12. STANDARDS:

Wherever standards have been quoted the latest issue and amendments shall apply.

13. GENERAL:

The tenderer can make suitable offers even if there are minor deviations which do not affect the efficient functioning of the equipment. However the deviation must be clearly spelt out. Suppliers shall also fill the Data sheet-1 and submit the same along with the offer.

The offer may not be considered if all the technical particulars and information called for in the specification are not submitted along with the offer.

NOTE: - All dimension are given in mm except otherwise specified.

REV. NO.

10

WORKED BY

UTKASH
GOGIA

CHECKED BY

ANUJ
JAIN

8/1/13.

8/1/13



PRODUCT STANDARD

(PROJECT ENGINEERING DEPARTMENT)

ST46003

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SIGN & DATE

INVENTORY NO.

REV. NO.

10

WORKED BY

UTKARSH
GOHIL

CHECKED BY

ANUS
JAIN

DATA SHEET--1

Variant No-

1. Nominal pressure rating
2. End connection to DIN 2635 / DIN 2636
3. Nominal size
4. Pressure drop. A) Normal Operation
B) 50% choke condition
5. Hole dia.
6. Wire dia.
7. Gross filtering area
8. Net filtering area
9. Documents as envisaged in clause No. 5
10. Test Certificates
- 10.1 Hydraulic Testing of body
- 11.2 Material composition & Mech.
Properties of following parts
- 11.2.1 Body
- 11.2.2 Cover / Bonnet
- 11.2.3 Mesh
- 11.2.4 Seat
- 11.2.5 Seat ring
12. Mesh size from recognized test house.
13. Dirt holding capacity

Yes / No

Yes / No

Yes / No

Yes/No

8/11/13

8/11/13

Vendors are supposed to fill relevant columns with Yes/ No. It may be noted that this is not the specification. Incase of any discrepancy between the info in this document and the specification, the same is to be informed to BHEL in writing and clarified. Incase of any dispute, the specification shall prevail.

Technical Data	BHEL requirement	Vendor Response in Yes/No	Remarks (mention here the if equivalent or better or any deviation)
SIZE OF OFFERED DIRT CATCHER	40 NB		
PRESSURE RATING OF OFFERED DIRT CATCHER	64 ATA		
RATED FLOW OF OFFERED DIRT CATCHER	3.3 KG/SEC		
APERTURE SIZE OF OFFERED DIRT CATCHER	MAX 0.6MM		
DEVIATION TAKEN WRT TO BHEL SPEC	No deviation		
GA DRG OF DIRT CATCHER ALONGWITH OFFER	Submission required		
DATASHEET OF DIRT CATCHER ALONGWITH OFFER	Submission required		

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN									
BHEL	VENDOR'S NAME	ITEM	DIRT CATCHER		QP NO.	QA/BE/QP/002						
				DATED & REV	05.02.2025 02							
		DRG. NO.	AS PER PO									
		SPEC.	AS PER PO									
		REV	AS PER PO		Page 1 of 1							
SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS
									M	B	N	
1	2	3	4	5	6	7	8	9	D	10		11

1.0 RAW MATERIAL												
1.1	BODY	CHEMICAL ANALYSIS & MECHANICAL	MAJOR	CHEMICAL	1/HEAT	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	TC	✓	P	V	
1.2	MESH	SIZE	MAJOR	MEASUREMENT	100%	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	IR	✓	P	V	FROM RECOGNIZED TEST HOUSE
		CHEMICAL ANALYSIS	MAJOR	CHEMICAL	1/HEAT	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	TC	✓	P	V	
2.0 IN- PROCESS INSPECTION												
2.1	FLANGES (MACHINING)	DIMENSION	MAJOR	MEASUREMENT	100%	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	IR	-	P	-	
		SURFACE FINISH	MAJOR	VISUAL	100%	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	IR	-	P	-	
3.0 FINAL INSPECTION												
3.1	ASSEMBLY	HYDRAULIC TEST	MAJOR	HYDRAULIC	100%	BHEL APPD DWG/ BHEL APPD DATASHEET	NO LEAKAGE	TC	✓	P	W	
3.2		OVERALL DIMENSIONS	MAJOR	MEASUREMENT	100%	BHEL APPD DWG/ BHEL APPD DATASHEET	BHEL APPD DWG/ BHEL APPD DATASHEET	IR	✓	P	W	
3.3		Paint, packing & Preservation	-	MAJOR	VISUAL	100%	BHEL SPEC	BHEL SPEC	-	-	P	-

Note1: All instruments to be used for testing/ inspection shall have valid 'calibration certificates' to be verified by agencies, manufacturer and the contractor.

Note2: All pages of the inspection documents shall be numbered in chronology with the QAP clauses, duly mentioning the corresponding QAP clause no. at the top of each page.

Note3: One 'index' page containing the document descriptions, their page no's & QAP cl no. shall be attached upfront the inspection documents.

Note4: Painting can be done only after inspection clearance, as per customer's approved paint specification / schedule (if mentioned),


Note5: For any spares item, apart from 'visual inspection' the 'interchangeability fitment certificate' or 'material TC' are to be submitted, with specific mentioning of the 'pert no/ item no of the approved GA/ x-sec drg.'

MANUFACTURER/ SUBCONTRACTOR		RECORDS IDENTIFIED WITH '✓' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION.	APPROVED BY
		M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION	
		ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	

PAINTING SCHEME

Painting Scheme

Paint (Coat - air less)	Paint Type	No. of coat	DFT*
Primer Paint	: Epoxy base Zinc rich primer paint (IS:14946)	1 Coat	75
Intermediate Paint	: Epoxy MiO Polyamide Cured Paint	1 Coat	100
Finish (Final) Paint	: Aliphatic Acrylic Polyurethane Finish paint	1 Coats	50
		Total DFT	225 (microns)



Stainless Steel Surfaces shall not be painted in general.

The painting environment shall be considered as C-4 as per ISO 12944.
