
	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL.	
	LSTK-A PACKAGE : TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS ADDENDUM 05	

ADDENDUM 05

To

MRPL Tender No. 3200000495 dated 26.03.2021

**TENDER FOR: TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS
(LSTK-A PACKAGE) MRPL MARKETING TERMINAL PROJECT
AT DEVANGONTHI, BANGALORE MARKETING INFRASTRUCTURE PROJECTS, MRPL**

With reference to the above tender and subsequent Addendum 1, Addendum 2, Addendum 3 and Addendum 4 Bidders are requested to note the following:



The items, conditions, specification and stipulations of the Bidding Documents are modified to the extent indicated as follows

a. Annexure 01 – Technical Addendum.

The implications of the same, elsewhere in the tender shall be taken care of appropriately by the bidders. All other terms and conditions, stipulations and specifications of tender shall remain unaltered.



Note:

Bidders shall upload the copy of these documents along with the technical- commercial bid, **Digitally Signed**, as a token of having read and understood the same.



	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL.	
	LSTK-A PACKAGE : TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS ADDENDUM 05	

ANNEXURE 01 –TECHNICAL ADDENDUM



Sl. No.	Volume	Section No./Clause No.	Page No.	Existing Tender Clause	Addition / Deletion / Modification
1.	Volume II, Technical Section Part 28	C.3.51	3184-3187 of 3638	20005-GEN-M-DS-4036-1 Rev 0	<u>Modification</u> Replaced with Rev 1. 20005-GEN-M-DS-4036-1 Rev01
2.	Volume II, Technical Section Part 28	C.3.52	3188-3191 of 3638	20005-GEN-M-DS-4036-2 Rev 0	<u>Modification</u> Replaced with Rev 1. 20005-GEN-M-DS-4036-2 Rev01
3.	Volume II, Technical Section Part 30	D.38	3267 of 3638	20005-GEN-P-PID-1005 Rev 2.	<u>Modification</u> Replaced with Rev. 1 20005-GEN-P-PID-1005 Rev 3.
4.	Volume II, Technical Section Part 28	C.3.25	3022 to 3029 of 3638	20005-GEN-P-SPE-1001 Rev0	<u>Modification</u> Replaced with Rev.1 20005-GEN-P-SPE-1001 Rev 1.
5.	Volume_II_Technical_Section_Part_1	Part II – Technical Part./ Part B MARKETING TERMINAL DESIGN BASIS / 3.19.1	1093 f 3638	Coalescer & separator (1W+1S) Filters with micron filters are to be provided	<u>Modification</u> Coalescer & separator (2W+1S) Filters with micron filters are to be provided
6.	Volume_II_Technical_Section_Part_1	Part II – Technical Part./ Part B MARKETING TERMINAL DESIGN BASIS / 3.20.1.	1093 f 3638	Coalescer & separator filter package with Micron filter (1W +1SB) to be provided on 14” ATF receipt pipeline in PLT Manifold to ATF storage tanks.	<u>Modification</u> Coalescer & separator filter package with Micron filter (2W +1SB) to be provided on 14” ATF receipt pipeline in PLT Manifold to ATF storage tanks.

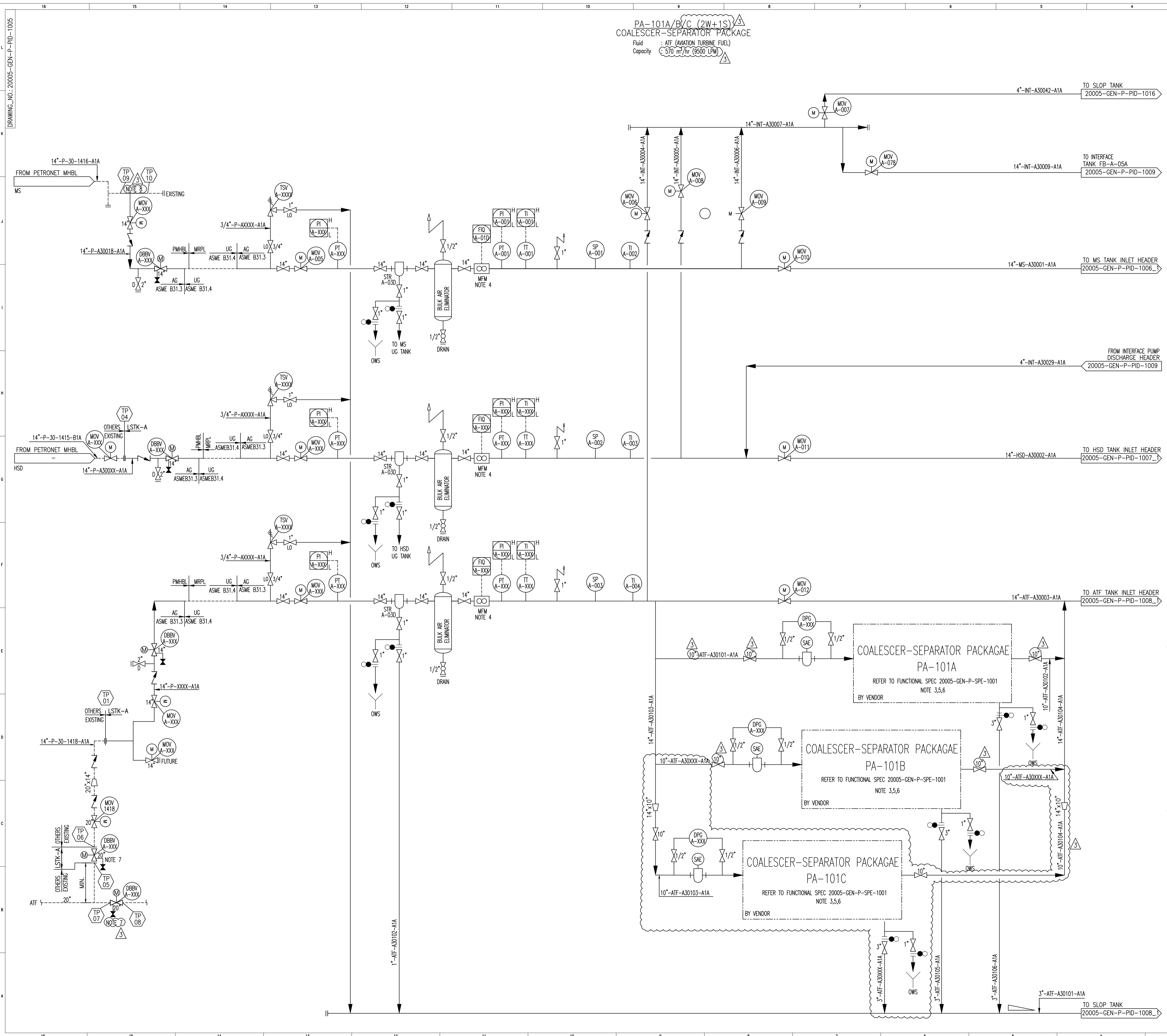
 ONGC एन.आर.पी.एल. MRPL	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL.	 N nauvata ENGINEERING SOLUTIONS
	LSTK-A PACKAGE : TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS ADDENDUM 05	

Sl. No.	Volume	Section No./Clause No.	Page No.	Existing Tender Clause	Addition / Deletion / Modification
7.	Volume_II_Technical_Section_Part_1	Part II – Technical Part./ Part B MARKETING TERMINAL DESIGN BASIS /6.12.1	1110 of 3638	Coalescer & separator filters along with Micro filters (1W+1S) to be provided	Coalescer & separator filters along with Micro filters (2W+1S) to be provided.
8.	Volume_II_Technical_Section_Part_1	Part II – Technical Part./ Part B MARKETING TERMINAL DESIGN BASIS /7.5.1.	1218 of 3638	For removal of dirt and water, Coalescer & Separator Filters (1W+1S) along with micron filters to be provided on 1) Common receipt header to ATF tanks 2) Common ATF delivery pipeline to truck loading bays.	<u>Modification</u> For removal of dirt and water, Coalescer & Separator Filters along with micron filters to be provided on i) Receipt header to ATF tanks, 2 working+1 standby. ii) ATF delivery pipeline to truck loading bays, 1 working+1 standby.
9.	Volume_II_Technical_Section_Part_1	Part II – Technical Part./ Part B MARKETING TERMINAL DESIGN BASIS /7.5.4.	1218 of 3638	Coalescer & separator filter package units shall be designed as per API-1581 Category C Type S and shall meet the DGCA/OISD requirement for supply of ATF to civil aviation.	<u>Modification</u> Coalescer & Separator filter package units shall be designed as per EI-1581 Category C Type S and shall meet the DGCA/OISD requirement for supply of ATF to civil aviation. The Coalescer Separator filter package units shall also comply with EI-1582 and EI-1596. The micron filter units shall be designed as per EI-1590.
10.	Volume_II_Technical_Section_Part_1	Part II – Technical Part, PACKAGE SCOPE OF WORK / 16. 16. SCOPE OF WORK FOR MECHANICAL (TANK,	1386 of 3638	For removal of dirt and water, Coalescer & Separator Filters (1W+1S) along with	<u>Modification</u>

 ONGC एन.आर.पी.एल. MRPL	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL.	 nauvata ENGINEERING EXCELLENCE
	LSTK-A PACKAGE : TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS ADDENDUM 05	

Sl. No.	Volume	Section No./Clause No.	Page No.	Existing Tender Clause	Addition / Deletion / Modification
		PACKAGE AND PUMPS)/16.2.4.3.1		micron filters to be provided on 1) Common receipt header to ATF tanks 2) Common ATF delivery pipeline to truck loading bays.	For removal of dirt and water, Coalescer & Separator Filters along with micron filters to be provided on iii) Receipt header to ATF tanks, 2 working+1 standby. iv) ATF delivery pipeline to truck loading bays, 1 working+1 standby.
11.	Volume_II_Technical_Section_Part_1	Part II – Technical Part, PACKAGE SCOPE OF WORK / 16. 16. SCOPE OF WORK FOR MECHANICAL (TANK, PACKAGE AND PUMPS)/16.2.4.3.1	1387 of 3638	Coalescer & Separator filter package units shall be designed as per API-1581 Category C Type S and shall meet the DGCA/OISD requirement for supply of ATF to civil aviation.	<u>Modification</u> Coalescer & Separator filter package units shall be designed as per EI-1581 Category C Type S and shall meet the DGCA/OISD requirement for supply of ATF to civil aviation. The Coalescer Separator filter package units shall also comply with EI-1582 and EI-1596. The micron filter units shall be designed as per EI-1590.
12.	Volume_II_Technical_Section_Part_1	Part II – Technical Part, PACKAGE SCOPE OF WORK / 14. APPLICABLE CODES, STANDARDS AND SPECIFICATIONS	1354 of 3638	90. API-1581 - Specifications and qualification procedures for aviation jet fuel filter/separators	<u>Deleted</u>
13.	Volume_II_Technical_Section_Part_1	Part II – Technical Part, PACKAGE SCOPE OF WORK / 14. APPLICABLE CODES,	1357 of 3638	-	<u>Addition</u> EI -1581 - Specifications and qualification procedures for aviation jet fuel filter/separators.

		MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL.			
		LSTK-A PACKAGE : TANKAGE AND ASSOCIATED CIVIL, MECHANICAL, PIPING, ELECTRICAL, INSTRUMENTATION & FIRE FIGHTING WORKS ADDENDUM 05			
Sl. No.	Volume	Section No./Clause No.	Page No.	Existing Tender Clause	Addition / Deletion / Modification
		STANDARDS AND SPECIFICATIONS			EI-1582 - Specification for similarity for EI 1581 aviation jet fuel filter/water separators. EI-1596 - Design and construction of aviation fuel filter vessels. EI-1590 - Specifications and qualification procedures for aviation filter fuel microfilters.



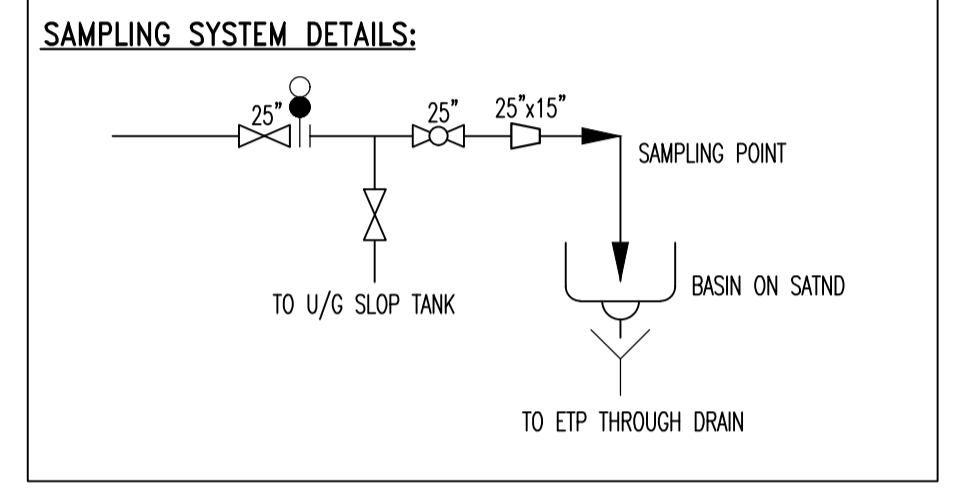
PA-101A/B/C (2W+1S)
 COALESCER-SEPARATOR PACKAGE
 Fluid : ATF (AVIATION TURBINE FUEL)
 Capacity : 570 m³/hr (6500 LPM)

NOTES

1. ALL SIZES ARE IN INCH, UNLESS OTHERWISE SPECIFIED.
2. P & ID IS BASED ON DESIGN BASIS FOR DEVANGONTHI.
3. DETAILED DESIGN/ENGINEERING OF COALESCER/SEPARATOR BY LSTK CONTRACTOR/PACKAGE VENDOR DURING DETAILED ENGINEERING.
4. FLOW MEASUREMENT SHALL BE PRESSURE & TEMPERATURE COMPENSATED.
5. COALESCER-FILTER PACKAGE UNIT SHALL BE DESIGNED AS PER (E-1581) CATEGORY (C) TYPE (S) AND SHALL MEET DGCA REQUIREMENT.
6. EACH COALESCER PACKAGE SHALL ALSO INCLUDES MICRO FILTER, MICRO FILTER SHALL DESIGN AS PER E-1590.
7. NEW 20" DBBV SHALL BE PROVIDED IN THE EXISTING LINES BY CUT AND WELDED (HOT JOINT) INSIDE THE PMHBL UNIT.
8. CUT AND WELD (HOT WORK).

ALL INSTRUMENTS AND CONTROLS SHOWN IN THIS P&ID, (EXCLUDING INSTRUMENTS AND CONTROLS RELATED TO PACKAGE UNITS AND INLINE INSTRUMENTS LIKE MOV, DBBV, PSV/TSV) ARE IN LSTK-C CONTRACTOR SCOPE.

ALL SAMPLING SYSTEMS SHALL BE IN LSTK-A CONTRACTOR SCOPE.



LEGENDS.

- CHV
- GATE VALVE
- NEEDLE VALVE
- BASKET STRAINER
- BUTTERFLY VALVE
- BALL VALVE
- AUTO RECIRCULATION VALVE
- DOUBLE BLOCK BLEED VALVE
- OPEN DRAIN FUNNEL
- FIELD INSTRUMENTS INDIVIDUALLY SPECIFIED
- BLIND FLANGE
- MOV (GATE VALVE)
- MOTOR
- INTERLOCK
- MASS FLOW METER
- EXISTING LINE

REFERENCE DRAWINGS

SLNO	REV.	TITLE
3	17-MAY-21	RE-ISSUED FOR BID
2	07-MAY-21	RE-ISSUED FOR BID
1	02-MAR-21	RE-ISSUED FOR BID
0	12-FEB-21	ISSUED FOR BID
C2	14-DEC-20	RE-ISSUED FOR APPROVAL
C1	08-DEC-20	ISSUED FOR APPROVAL

CLIENT:
MANGALORE REFINERY AND PETROCHEMICALS LIMITED
 (A subsidiary of Oil & Natural Gas Corpn. Ltd - ONGC)



PROJECT:
CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.

PROJECT MANAGEMENT CONSULTANT:
NAUVATA ENGINEERING PVT. LTD.

DRAWING TITLE:
PIPING AND INSTRUMENTATION DIAGRAM PLT MANIFOLD

CLIENT TENDER No:	DRAWING No:	SHT NO.	REV	SCALE:
	20005-GEN-P-PID-1005	1 OF 1	3	1:1

ALL RIGHTS RESERVED. NO PART OF THIS DRAWING MAY BE REPRODUCED / STORED IN RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC, MECHANICAL, PHOTOCOPYING, XEROXING OR OTHERWISE WITHOUT PRIOR PERMISSION FROM NAUVATA ENGINEERING LTD./MRPL

	MRPL Marketing Terminal Project at Devangonhi, Bangalore			
	Marketing Infrastructure Projects, MRPL			
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE	Project No :	
Section – C-3	Document No:		20005-GEN-P-SPE-1001	
Subsection – C-25		Rev:	1	

C-3	SPECIFICATIONS AND DATASHEETS
C-25	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE

MRPL Marketing Terminal Project at Devangonhi, Bangalore

PROJECT : Marketing Infrastructure Projects, MRPL

OWNER : MANGALORE REFINERY AND PETROCHEMICALS LTD

PMC : Nauvata Engineering Pvt. Ltd.

JOB NO. : JBG20005

1	17-05-2021	Re-issued for Bid	SK	NSN	ASN
0	09-03-2021	Issued for Bid	SK	NSN	ASN
Rev. No.	Date	Description	Prepared By	Checked By	Approved By





	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL			
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE	Project No : 3200000495	
	Section – C-3		Document No: 20005-GEN-P-SPE-1001	
Subsection – C-25		Rev: 1		

TABLE OF CONTENTS

1.	INTRODUCTION.....	3
2.	GENERAL	3
3.	SCOPE	4
4.	DESIGN DATA.....	5
5.	SCHEMATIC FOR FILTER WATER SEPARATOR (TYPICAL)	6
6.	CODES & STANDARDS.....	7
7.	ABBREVIATION AND DEFINATION	7
8.	DOCUMENT PRECEDENCE.....	8

	MRPL Marketing Terminal Project at Devangonhi, Bangalore			
	Marketing Infrastructure Projects, MRPL			
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE		
Section – C-3	Document No:		20005-GEN-P-SPE-1001	
Subsection – C-25		Rev:	1	

1. INTRODUCTION

This document describes the functional specification for the selection design, installation, commissioning and start-up of Coalescer-Separator filter packages PA-101A/B and PA-102A/B at MRPL Devangonhi Marketing terminal, Bengaluru

2. GENERAL

This Functional specification has been produced in order to specify the requirements for the design, Engineering, Manufacturing & supply of Coalescer-separator filter PACAKGE for ATF (Aviation Turbine fuel).

Contractor shall ensure the hydraulic and performance guarantee of the coalescer-separator filter package. If required Bidder to make necessary design changes to achieve performance guarantees without any additional cost and time implication to Owner.

Notwithstanding that this document sets out the specification for coalescer–separator filter package and is the CLIENT’s preferred solution, its use does not absolve CONTRACTOR from any responsibility for the design, manufacture and supply, neither does its existence constrain the Equipment/Package VENDOR from using alternatives, provided such alternatives can be demonstrated to provide a result of equal safety, quality and cost effectiveness.

It is not the intention of this document to completely specify all details required during design engineering, manufacture and construction. Nevertheless, the equipment supplied shall conform to the highest standards in a manner acceptable to Owner/PMC.

2.1 GENERAL REQUIREMENTS

2.1.1 Environmental conditions

The complete package equipment shall be designed for outdoor installation. Items shall be unaffected by frost, tropical rain and high humidity and shall be suitable for the ambient temperatures stated in the data sheets.

2.1.2 Design pedigree

Only standard designs in current production, with a proven history of reliable operation in ATF fuels / hydrocarbon service should be offered. Prototype or unproven designs will not be considered.

2.1.3 Preservation



The complete package shall be prepared for dispatch to site as follows:

All openings to atmosphere shall be closed by means of flanges or plugs securely bolted or screwed in place oil filled compartments or equipment shall be emptied and a rust inhibitor applied suitable supports shall be provided for internal parts, which might become damaged in transit.

Any special requirements for the removal of preservative shall be clearly indicated on the equipment and repeated in the commissioning instructions.

2.1.4 Special tools and spare parts

The equipment manufacturer shall provide one set of commissioning spares and special tools, together with a list of recommended operating spares, for two-year period.

	MRPL Marketing Terminal Project at Devangonhi, Bangalore					
	Marketing Infrastructure Projects, MRPL				Project No :	3200000495
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE			Document No:	20005-GEN-P-SPE-1001
Section – C-3	Rev:		1			
Subsection – C-25						

3. SCOPE

3.1 APPLICATION

Coalescer-separator package used to remove dirt, particulate and water contamination from hydrocarbons. The separator is of a two-stage design, the first set of elements coalesce water droplets in the fuel, whilst the second removes particulate matter.

3.2 SCOPE OF SUPPLY

The filter water separator manufacturer's scope of supply shall include, but not be limited to, the following for each separator:

- Separator
- Set of coalescer and separator elements
- Differential pressure gauge
- Relief valve
- Automatic air vent
- Automatic water drain valve
- Inspection and testing
- Painting and preservation
- Documentation
- Special tools and spare parts.

3.3 DOCUMENTATION REQUIREMENTS

Proposal requirements:

- General arrangement drawing showing overall dimensions, weights, location, type and size of all termination points; foundation requirements and element removal distances
- Completed data sheets
- Cross-sectional drawing showing internal layout of all elements and flow paths.

'As-installed' requirements:

- All of the documentation submitted at the time of the proposal but revised to indicate a true record of the equipment supplied
- Relief valve test certification
- Differential pressure gauge calibration certificate
- Hydrostatic test certification
- Installation and commissioning procedures
- Operation and maintenance manuals.

3.4 PRESSURE CONTAINMENT



Coalescer-separator filter packages pressure vessels shall be designed and constructed to meet the specification ASME section VIII, Div. 1.

The design pressure and temperature shall be as defined on the data sheet.

Any element or part of the vessel, which will be subjected to differential pressure due to normal flow of fuel, shall be capable of being tested at twice the differential pressure without any damage.

3.5 FLANGE TERMINATIONS

All termination flanges shall be in accordance with ASME 16.5 (up to 24") and as per ASME B16.47 (Above 24") for Steel Flanges. Flanges shall be Class 150 unless otherwise stated on the data sheet. Bolt holes shall straddle centerlines.

	MRPL Marketing Terminal Project at Devangonhi, Bangalore			
	Marketing Infrastructure Projects, MRPL			
	Part – C	FUNCTIONAL SPECIFICATION-COALESCE SEPERATOR FILTER PACAKGE		
Section – C-3	Document No:		20005-GEN-P-SPE-1001	
Subsection – C-25		Rev:	1	

3.6 AUXILIARY PIPING

Auxiliary piping, pipe fittings and valves shall be in accordance with Project specific PMS and VMS (Refer to documents 20005-GEN-L-SPE-31001 and 20005-GEN-L-SPE-31002)

AUXILIARY EQUIPMENT

The coalescer- separator shall be fitted with the following:

- Automatic air vent.
- Pressure relief valve
- Differential pressure gauge
- An armored sight glass shall be installed on the sump to observe the level of water accumulation. The sight glass shall extend to; as close as possible to or below the bottom of the sump and shall contain a colored density sensitive ball that floats on water and sinks in fuel. The sight glass shall be equipped with stainless steel isolation valves and a bottom drain cock.
- Inlet and outlet sample points
- Manual drain valve
- An automatic drain valve
- Differential pressure-sensing instrument shall be fitted, which shall be capable of providing an audible and visual alarm in the control room. The instrument shall be certified for the hazardous area classification, gas grouping and environmental protection as defined on the data sheet.

3.8 ACCESS

The equipment design shall allow access for the inspection of all interior surfaces when opened for maintenance purposes.

MATERIALS OF CONSTRUCTION

Materials in contact with the fuel shall not be affected by the fuel, by water, or by water containing soluble fuel additives nor shall the materials have any effect upon the fuel. Metals and alloys that are fuel wetted shall be corrosion resistant or protected by a coating system in accordance with DGCA requirements about Internal Coating of Aviation Fuel Tanks. Dissimilar metals that will initiate and promote corrosion, if in contact, shall not be allowed. Copper, copper alloys, light metal alloys containing more than 4% copper, zinc or zinc alloys, cadmium, lead and lead alloys shall not be used in components exposed to the fuel.

4. DESIGN DATA

4.1 Design pressure and design temperature



Design Pressure: 10 kg/cm²g

Design Temperature: 65 Deg C

Allowable pressure Drop : Not more than 0.3 kg/cm² for filter water separator and Not more than 0.2 kg/cm² for micro filter

4.2 Number of Package units

3 sets (2W+1S) package units are to be provided on ATF receipt line and 02 sets (1W+1S) on ATF delivery pipeline for removal of water and dirt. Each package unit shall have micro filter and filter water separator.

	MRPL Marketing Terminal Project at Devangonhi, Bangalore		
	Marketing Infrastructure Projects, MRPL		
	Part – C Section – C-3 Subsection – C-25	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PAKAKGE	

4.2.1 Package units PA-101A/101B for ATF product on Receipt line

Coalescer-separator-filter package units PA-101A/B/C (2W+1S) with design flow rate of 570 m³/h (9500 LPM) shall be provided on the ATF receipt pipeline in PLT Manifold to ATF storage tanks.

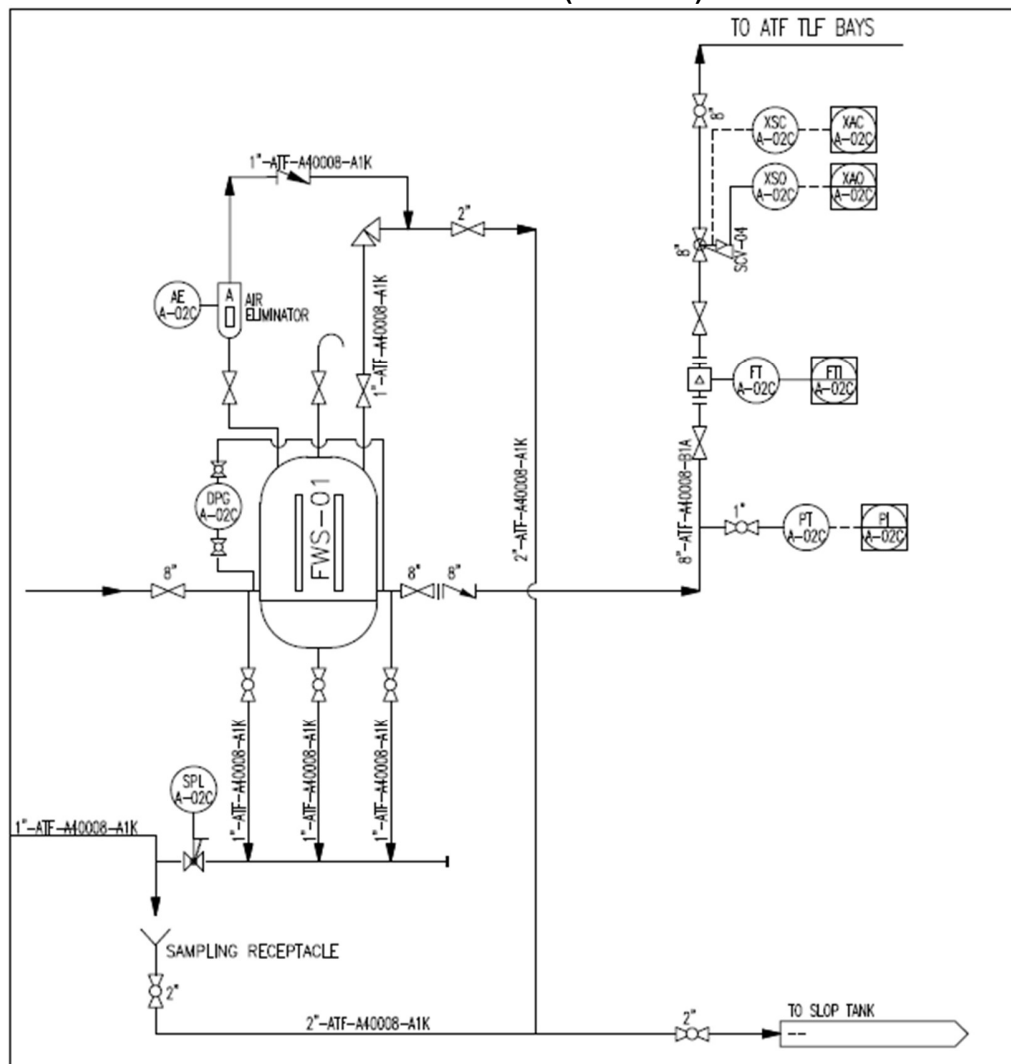
As a minimum the each coalescer separator filter package will have separate equipment for Micro filter and filtered water separator (FWS). Each filtered water separator (FWS) and Micro filter shall have PSVs, associated instruments and piping.



4.2.2 Package Units PA-102A/102B for ATF product on delivery line

Coalescer-separator-filter package units PA-102A/B (1W+1S) with design flow rate of 360 m³/h shall be provided on the 10" ATF delivery line from TLF pumps discharge header to truck loading bays.

As a minimum the each coalescer separator filter package will have separate equipment for Micro filter and filtered water separator (FWS). Each filtered water separator (FWS) and Micro filter shall have PSVs, associated instruments and piping.

5. SCHEMATIC FOR FILTER WATER SEPARATOR (TYPICAL)



	MRPL Marketing Terminal Project at Devangonhi, Bangalore		
	Marketing Infrastructure Projects, MRPL		
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE	
Section – C-3	Document No: 20005-GEN-P-SPE-1001		
Subsection – C-25		Rev: 1	

The pipe size indicated in the schematic are for Filter Water separators for the packages PA-102A/B and are tentative and minimum. LSTK contractor/package vendor shall be responsible for piping and equipment sizing for FWS and Micro filter based on the design flow rates and allowable pressure drop specified for each Coalescer-separator-filter package units PA-101A/B/C and PA-102A/B.

6. CODES & STANDARDS

The Micro Filter (MF) shall be designed as per EI-1590 and Filter Water separator (FWS) shall be designed as per EI-1581 Category C Type S and shall meet the DGCA/OISD requirement for supply of ATF to civil aviation.

7. ABBREVIATION AND DEFINATION

7.1 ABBREVIATION

MRPL	Mangalore Refinery & Petrochemical Limited
ESD	Emergency Shut Down
OISD	Oil Industry Safety Directorate
DGCA	Directorate General of Civil Aviation
NFPA	National Fire Protection Association
DCP	Dry chemical Powder
AFFF	Aqueous Film forming foam
BIS	Bureau of Indian standards
QBD	Quartzoid Bulb Detectors
TAC	Tariff Advisory Committee
FZ	Fire zone
PMHBL	Petronet Mangalore-Hassan-Bangalore Ltd
IOCL	Indian Oil Corporation limited
OWS	Oily water Sever
MS	Motor Spirit (Gasoline)
HSD	High Speed Diesel
ATF	Aviation Turbine Fuel
MOV	Motor Operated Valve
ROSOV	Remote Operated Shut-Off Valve
FWS	Filter water separator

6.2. DEFINITION



The CLIENT / COMPANY / OWNER where used in this specification shall mean the ultimate user / owner of the plant and facilities.

The LSTK CONTRACTOR / PURCHASER where used in this specification shall mean the party, who undertake LSTK / EPC contract for the above project.

The VENDOR / SUPPLIER where used in this specification shall mean the party, who manufactures or supplies the equipment and services specified.

The INSPECTOR / TPIA / TPI where used in this specification shall mean the PURCHASER / COMPANY or their authorized Third Party Agency for carrying out the inspection.

The PMC where used in this specification shall mean the party, who perform Project

	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL				
	Part – C	FUNCTIONAL SPECIFICATION-COALESCER SEPERATOR FILTER PACAKGE	Project No :		3200000495
	Section – C-3		Document No:		20005-GEN-P-SPE-1001
Subsection – C-25	Rev:		1		

Management for COMPANY.

COMPANY / OWNER: Mangalore Refinery & Petrochemical Limited (MRPL)

SUBCONTRACTOR The party(s) which carry(s) out all or part of the design, procurement, installation and testing of the system(s) as specified by the CONTRACTOR



SHALL The word indicates a mandatory requirement

8. DOCUMENT PRECEDENCE

In case of conflict, the order of precedence in general shall be as follows:

- Local Authority and Statutory Regulations.
- MRPL Project Philosophies & Specifications for Devangonhi Project.
- MRPL General Specifications.
- International Codes & Standards.

However, in case of conflict, it shall be referred to COMPANY for clarifications and the decision of COMPANY shall be final and binding on

	MRPL Marketing Terminal Project at Devangonhi, Bangalore				
	Marketing Infrastructure Projects, MRPL				
	Part – C	DATASHEET FOR COALESCER & SEPARATOR PACKAGE -1	Tender No. :		3200000495
	Section – C-3		Doc No.:		20005-GEN-M-DS-4036-1
Subsection – C-3.51	Rev :		1		

C-3	SPECIFICATION AND DATASHEETS
C-3.51.	DATASHEET FOR COALESCER & SEPARATOR PACKAGE -1

MRPL Marketing Terminal Project at Devangonhi, Bangalore

PROJECT : Marketing Infrastructure Projects, MRPL

OWNER : MANGALORE REFINERY AND PETROCHEMICALS LTD

PMC : Nauvata Engineering Pvt. Ltd.

JOB NO. : JBG20005

1	17-05-2021	RE-ISSUED FOR BID	YG	KSH	KSH
0	09-03-2021	ISSUED FOR BID	YG	KSH	KSH
C1	18-01-2021	ISSUED FOR REVIEW/COMMENTS	YG	KSH	ASN
Rev No.	Date	Description	Prepared By	Checked by	Approved by

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR COALESCER & SEPARATOR PACKAGE -1		PAGE NO.: 1	
				TENDER NO.: 3200000495	
				SHT. 3 OF 7	REV.: 1
DOC.NO. : 20005-GEN-M-DS-4036-1		EQUIP. NO.: FWS-101A/101B/101C		QTY.: 3	
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.					
SUPPLIER DETAILS					
1					
2	MAKE	*			
3	MODEL	*			
4	DESIGN FLOW	m ³ /hr	*		
5	DESIGN FLUX RATE	m ³ /m ² /hr	*		
6	FILTRATION AREA	m ²	*		
7	FILTERING ELEMENT DETAILS				
8	FILTERING ELEMENT TYPE	AS PER CODE EI-1581			
9	NO. OF ELEMENTS	*			
10	ELMENT DIMENSION (O.D X I.D X L)	mm	*		
11	DIRECTION OF FLOW	*			
12	ELEMENT FIXING DETAILS	*			
13	RECOMMENDED FLOW RATE PER ELEMENT	m ³ /hr.	*		
14	EXPECTED LIFE OF ELEMENT	*			
15	DIRT HOLDING CAPACITY	*			
16	BURSTING PRESSURE	kg/cm ² g	*		
17	ELEMENT CHANGE OUT PRESSURE ΔP	kg/cm ²	*		
18	BACKWASHING				
19	MODE OF BACKWASH	N/A.			
20	BACKWASH MEDIUM	N/A.			
21	BACK WASH FLOW RATE	m ² /hr	N/A.		
22	INTERVAL BETWEEN TWO SUCCESSIVE BACKWASHING	hr	N/A.		
23	DURATION OF BACKWASH APPROX.	hr	N/A.		
24	QTY. OF FLUID/GAS REQUIRED FOR BACKWASH	m ³ /hr	N/A.		
25	PRESSURE OF BACKWASH FLUID / GAS	kg/cm ² g	N/A.		
26					
27	MATERIAL OF CONSTRUCTION (NOTE - 6)				
28	HOUSING (SHELL / HEAD)	CS			
29	FILTER ELEMENT	SS316			
30	ELEMENT SUPPORTS	*			
31	FLANGES	* CS			
32	NOZZLES	* CS			
33	RF PADS	*			
34	INTERNALS IF ANY	SS316			
35	STUDS / NUTS (EXTERNAL)	AS PER PMS			
36	BOLTS / NUTS (INTERNAL)	AS PER PMS			
37	GASKET	AS PER PMS			
38	EXT. SUPPORTS & MISC. STRUCTURALS	*			
39	INSPECTION & TESTING				
40	HYDROTEST	AS PER CODE			
41	ANY OTHER REQUIREMENTS	AS PER CODE			
42	PAINTING				
43	PAINTING STANDARD				
44	INTERNAL :				
45	SURFACE PREPARATION				
46	PRIMER				
47	INTERMEDIATE				
48	FINISH				
49	TOTAL PAINT THICKNESS				
50	EXTERNAL :				
51	SURFACE PREPARATION				
52	PRIMER				
53	INTERMEDIATE				
54	FINISH				
55	TOTAL PAINT THICKNESS				
56					
57					
58					
59					
60					
61					
62					

REVISION MARK

As Per Engineering Design Basis Surface Preparation And
Protective Coating (20005-GEN-G-EDB-9122)



NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR COALESCER & SEPARATOR PACKAGE -1				PAGE NO.: 1		REVISION MARK		
						TENDER NO.: 3200000495				
DOC.NO. : 20005-GEN-M-DS-4036-1		EQUIP. NO.: FWS-101A/101B/101C		SHT. 4 OF 7		REV. : 1				
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.										
NOZZLE DATA										
MARK	QTY.	SIZE	SCH./ THK.	FLANGE			R.F. PAD		PROJ. FROM CENT. LINE	SERVICE/REMARKS
				RATING	TYPE	FACING	O/D.	THK.		
*	*	*	*	*	*	*	*	*	*	*
GENERAL NOTES :										
1 ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED.										
2 VENDOR TO FILL THE DATAS WHEREEVER MARKED " * " .										
3 COALESCER-SEPARATOR FILTER PACKAGES SHALL COMPLY WITH THE PROJECT SCOPE OF WORK, DESIGN BASIS, SPECIFICATIONS ATTACHED ELSE WHERE IN THE BID. CONTRACTOR TO INDICATE THE RELEVANT DOCUMENTS DURING DETAIL ENGINEERING.										
4 ALL INTERNALS SHALL BE SECTIONALISED FOR INSTALLATION AND REMOVAL THROUGH MANHOLE / TOP COVER.										
5 OPERATING CONDITIONS INDICATED ARE PRELIMINARY AND TO BE VERIFIED AND UPDATED BY CONTRACTOR DURING DETAIL ENGINEERING.										
6 MATERIALS INDICATED ARE PRELIMINARY AND CONTRACTOR TO VERIFY AND PREPARE MATERIAL SELECTION CHART AND SUBMIT FOR PMC APPROVAL .										
7 THE COALESCER-SEPARATOR FILTER PACKAGE UNITS SHALL BE DESIGNED AS PER EI-1581 CATEGORY C TYPE S AND SHALL MEET THE DGCA/OISD REQUIREMENT FOR SUPPLY OF ATF TO CIVIL AVIATION.										
8 CONTRACTOR TO SUBMIT INSPECTION TEST PLAN DURING DETAIL ENGINEERING FOR PMC APPROVAL.										
9 NOZZLES DATA SHALL BE FILLED BY VENDOR & VENDOR TO DECIDE BASED ON PROCESS PERFORMANCE.										
10 COALESCER-SEPARATOR FILTER'S PRESSURE VESSEL SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE SPECIFICATION ASME SECTION VIII, DIV. 1.(LATEST EDITION)										
11 VENDOR SHALL PROVIDE ALLOWABLE NOZZLELOADS DURING DETAIL ENGG.										
12 VENDOR SHALL FURNISH THE PRESSURE DROP CALCULATIONS FOR PMC REVIEW AND APPROVAL										
13 THIS DATASHEET SHALL BE READ IN CONJUNCTION WITH FUNCTIONAL SPECIFICATION FOR COALESCER-SEPARATOR PACKAGE (20005-GENP-SPE-1001) AND ENGINEERING DESIGN BASIS FOR STATIC EQUIPMENTS (20005-GEN-M-EDB-4002).										
14 THE COALESCER-SEPARATOR FILTER PACKAGE UNITS SHALL ALSO COMPLY WITH EI-1582 & EI-1596.										
15 BIDDER MUST SUBMIT BACK-UP AUTHORIZATION LETTER FROM LICENSOR FOR FILTER COALESCER SEPARATOR.										
16 MICRON FILTER SHALL BE PROVIDED UPSTREAM OF COALSCER FILTER WATER SEPARATOR, REFER PAGE 5 TO 7 OF 7 OF THIS DATA SHEET FOR MICRON FILTER TECHNICAL DETAILS.										
17 COALESCER-SEPARATOR FILTER VESSEL SHALL BE PROVIDED WITH MANUAL DRAIN.										
18 COALESCER-SEPARATOR AND MICRON FILTER PACKAGE TAG NO. (PA-101A/101B/101C)										

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR MICRON FILTER FOR COALESCER & SEPARATOR PACKAGE -1		PAGE NO.: 1	
				TENDER NO.: 3200000495	
				SHT. 6 OF 7	
				REV.: 1	
DOC.NO. : 20005-GEN-M-DS-4036-1		EQUIP. NO.: MF-101A/101B/101C		QTY.: 3	
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.					
SUPPLIER DETAILS					
1					
2	MAKE	*			
3	MODEL	*			
4	DESIGN FLOW	m ³ /hr	*		
5	DESIGN FLUX RATE	m ³ /m ² /hr	*		
6	FILTRATION AREA	m ²	*		
7	FILTERING ELEMENT DETAILS				
8	FILTERING ELEMENT TYPE	AS PER CODE EI-1590			
9	NO. OF ELEMENTS	*			
10	ELMENT DIMENSION (O.D X I.D X L)	mm	*		
11	DIRECTION OF FLOW	*			
12	ELEMENT FIXING DETAILS	*			
13	RECOMMENDED FLOW RATE PER ELEMENT	m ³ /hr.	*		
14	EXPECTED LIFE OF ELEMENT	*			
15	DIRT HOLDING CAPACITY	*			
16	BURSTING PRESSURE	kg/cm ²	*		
17	ELEMENT CHANGE OUT PRESSURE ΔP	kg/cm ²	*		
18	BACKWASHING				
19	MODE OF BACKWASH	N/A.			
20	BACKWASH MEDIUM	N/A.			
21	BACK WASH FLOW RATE	m ² /hr	N/A.		
22	INTERVAL BETWEEN TWO SUCCESSIVE BACKWASHING	hr	N/A.		
23	DURATION OF BACKWASH APPROX.	hr	N/A.		
24	QTY. OF FLUID/GAS REQUIRED FOR BACKWASH	m ³ /hr	N/A.		
25	PRESSURE OF BACKWASH FLUID / GAS	kg/cm ²	N/A.		
26					
27	MATERIAL OF CONSTRUCTION (NOTE-6)				
28	HOUSING (SHELL / HEAD)	CS			
29	FILTER ELEMENT	SS316			
30	ELEMENT SUPPORTS	*			
31	FLANGES	* CS			
32	NOZZLES	* CS			
33	RF PADS	*			
34	INTERNALS IF ANY	SS316			
35	STUDS / NUTS (EXTERNAL)	AS PER PMS			
36	BOLTS / NUTS (INTERNAL)	AS PER PMS			
37	GASKET	AS PER PMS			
38	EXT. SUPPORTS & MISC. STRUCTURALS	*			
39	INSPECTION & TESTING				
40	HYDROTEST	AS PER CODE			
41	ANY OTHER REQUIREMENTS	AS PER CODE			
42	PAINTING				
43	PAINTING STANDARD				
44	INTERNAL :				
45	SURFACE PREPARATION				
46	PRIMER				
47	INTERMEDIATE				
48	FINISH				
49	TOTAL PAINT THICKNESS				
50	EXTERNAL :				
51	SURFACE PREPARATION				
52	PRIMER				
53	INTERMEDIATE				
54	FINISH				
55	TOTAL PAINT THICKNESS				
56					
57					
58					
59					
60					
61					
62					

REVISION MARK

As Per Engineering Design Basis Surface Preparation And Protective Coating (20005-GEN-G-EDB-9122)

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR MICRON FILTER FOR COALESCER & SEPARATOR PACKAGE -1				PAGE NO.: 1		REVISION MARK		
						TENDER NO.: 3200000495				
DOC.NO. : 20005-GEN-M-DS-4036-1		EQUIP. NO.: MF-101A/101B/101C		SHT. 7 OF 7		REV. : 1				
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.										
NOZZLE DATA										
MARK	QTY.	SIZE	SCH./ THK.	FLANGE			R.F. PAD		PROJ. FROM CENT. LINE	SERVICE/REMARKS
				RATING	TYPE	FACING	O/D.	THK.		
*	*	*	*	*	*	*	*	*	*	*
GENERAL NOTES :										
<ol style="list-style-type: none"> 1 ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. 2 VENDOR TO FILL THE DATAS WHEREEVER MARKED " * " 3 MICRON FILTER PACKAGES SHALL COMPLY WITH THE PROJECT SCOPE OF WORK, DESIGN BASIS, SPECIFICATIONS ATTACHED ELSE WHERE IN THE BID. CONTRACTOR TO INDICATE THE RELEVANT DOCUMENTS DURING DETAIL ENGINEERING. 4 ALL INTERNALS SHALL BE SECTIONALISED FOR INSTALLATION AND REMOVAL THROUGH MANHOLE / TOP COVER. 5 OPERATING CONDITIONS INDICATED ARE PRELIMINARY AND TO BE VERIFIED AND UPDATED BY CONTRACTOR DURING DETAIL ENGINEERING. 6 MATERIALS INDICATED ARE PRELIMINARY AND CONTRACTOR TO VERIFY AND PREPARE MATERIAL SELECTION CHART AND SUBMIT FOR PMC APPROVAL . 7 THE MICRON FILTER UNITS SHALL BE DESIGNED AS PER EI-1590. 8 CONTRACTOR TO SUBMIT INSPECTION TEST PLAN DURING DETAIL ENGINEERING FOR PMC APPROVAL. 9 NOZZLES DATA SHALL BE FILLED BY VENDOR & VENDOR TO DECIDE BASED ON PROCESS PERFORMANCE. 10 MICRON FILTER'S PRESSURE VESSEL SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE SPECIFICATION ASME SECTION VIII, DIV. 1.(LATEST EDITION) 11 VENDOR SHALL PROVIDE ALLOWABLE NOZZLELOADS DURING DETAIL ENGG. 12 VENDOR SHALL FURNISH THE PRESSURE DROP CALCULATIONS FOR PMC REVIEW AND APPROVAL 13 THIS DATASHEET SHALL BE READ IN CONJUNCTION WITH FUNCTIONAL SPECIFICATION FOR COALESCER-SEPERATOR PACKAGE (20005-GENP-SPE-1001) AND ENGINEERING DESIGN BASIS FOR STATIC EQUIPMENTS (20005-GEN-M-EDB-4002). 14 MICRON FILTER SHALL BE PROVIDED WITH MANUAL DRAIN VALVE. 										

	MRPL Marketing Terminal Project at Devangonhi, Bangalore Marketing Infrastructure Projects, MRPL				
	Part – C	DATASHEET FOR COALESCER & SEPARATOR PACKAGE -2	Tender No. :	3200000495	
	Section – C-3		Doc No.:	20005-GEN-M-DS-4036-2	
Subsection – C-3.52	Rev :		1		

C-3	SPECIFICATION AND DATASHEETS
C-3.52.	DATASHEET FOR COALESCER & SEPARATOR PACKAGE - 2

MRPL Marketing Terminal Project at Devangonhi, Bangalore

PROJECT : Marketing Infrastructure Projects, MRPL
OWNER : MANGALORE REFINERY AND PETROCHEMICALS LTD
PMC : Nauvata Engineering Pvt. Ltd.
JOB NO. : JBG20005

1	17-05-2021	RE-ISSUED FOR BID	YG	KSH	KSH
0	09-03-2021	ISSUED FOR BID	YG	KSH	KSH
C1	18-01-2021	ISSUED FOR REVIEW/COMMENTS	YG	KSH	ASN
Rev No.	Date	Description	Prepared by	Checked by	Approved by

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR COALESCER & SEPARATOR PACKAGE -2		PAGE NO.: 1					
				TENDER NO.: 3200000495					
				SHT. 3 OF 7	REV.: 1				
DOC.NO. : 20005-GEN-M-DS-4036-2		EQUIP. NO.: FWS-102A/B		QTY.: 2					
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.									
SUPPLIER DETAILS									
1									
2	MAKE	*							
3	MODEL	*							
4	DESIGN FLOW	m ³ /hr	*						
5	DESIGN FLUX RATE	m ³ /m ² /hr	*						
6	FILTRATION AREA	m ²	*						
FILTERING ELEMENT DETAILS									
7									
8	FILTERING ELEMENT TYPE	AS PER CODE EI-1581							
9	NO. OF ELEMENTS	*							
10	ELMENT DIMENSION (O.D X I.D X L)	mm	*						
11	DIRECTION OF FLOW	*							
12	ELEMENT FIXING DETAILS	*							
13	RECOMMENDED FLOW RATE PER ELEMENT	m ³ /hr.	*						
14	EXPECTED LIFE OF ELEMENT	*							
15	DIRT HOLDING CAPACITY	*							
16	BURSTING PRESSURE	kg/cm ² g	*						
17	ELEMENT CHANGE OUT PRESSURE ΔP	kg/cm ²	*						
BACKWASHING									
18									
19	MODE OF BACKWASH	N/A.							
20	BACKWASH MEDIUM	N/A.							
21	BACK WASH FLOW RATE	m ² /hr	N/A.						
22	INTERVAL BETWEEN TWO SUCCESSIVE BACKWASHING	hr	N/A.						
23	DURATION OF BACKWASH APPROX.	hr	N/A.						
24	QTY. OF FLUID/GAS REQUIRED FOR BACKWASH	m ² /hr	N/A.						
25	PRESSURE OF BACKWASH FLUID / GAS	kg/cm ² g	N/A.						
26									
MATERIAL OF CONSTRUCTION (NOTE - 6)									
27									
28	HOUSING (SHELL / HEAD)	CS							
29	FILTER ELEMENT	SS316							
30	ELEMENT SUPPORTS	*							
31	FLANGES	* CS							
32	NOZZLES	* CS							
33	RF PADS	*							
34	INTERNALS IF ANY	SS316							
35	STUDS / NUTS (EXTERNAL)	AS PER PMS							
36	BOLTS / NUTS (INTERNAL)	AS PER PMS							
37	GASKET	AS PER PMS							
38	EXT. SUPPORTS & MISC. STRUCTURALS	*							
INSPECTION & TESTING									
39									
40	HYDROTEST	AS PER CODE							
41	ANY OTHER REQUIREMENTS	AS PER CODE							
PAINTING									
42									
43	PAINTING STANDARD	As Per Engineering Design Basis Surface Preparation And Protective Coating (20005-GEN-G-EDB-9122)							
44	INTERNAL :								
45	SURFACE PREPARATION								
46	PRIMER								
47	INTERMEDIATE								
48	FINISH								
49	TOTAL PAINT THICKNESS								
50	EXTERNAL :								
51	SURFACE PREPARATION								
52	PRIMER								
53	INTERMEDIATE								
54	FINISH								
55	TOTAL PAINT THICKNESS								
56									
57									
58									
59									
60									
61									
62									

REVISION MARK

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR COALESCER & SEPARATOR PACKAGE -2				PAGE NO.: 1		REVISION MARK		
						TENDER NO.: 3200000495				
DOC.NO. : 20005-GEN-M-DS-4036-2				EQUIP. NO.: FWS-102A/B		REV. : 1	QTY.: 2			
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.										
NOZZLE DATA										
MARK	QTY.	SIZE	SCH./ THK.	FLANGE			R.F. PAD		PROJ. FROM CENT. LINE	SERVICE/REMARKS
				RATING	TYPE	FACING	O/D.	THK.		
*	*	*	*	*	*	*	*	*	*	*
<p>GENERAL NOTES :</p> <ol style="list-style-type: none"> ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. VENDOR TO FILL THE DATAS WHEREEVER MARKED " * " COALESCER-SEPARATOR FILTER PACKAGES SHALL COMPLY WITH THE PROJECT SCOPE OF WORK, DESIGN BASIS, SPECIFICATIONS ATTACHED ELSE WHERE IN THE BID. CONTRACTOR TO INDICATE THE RELEVANT DOCUMENTS DURING DETAIL ENGINEERING. ALL INTERNALS SHALL BE SECTIONALISED FOR INSTALLATION AND REMOVAL THROUGH MANHOLE / TOP COVER. OPERATING CONDITIONS INDICATED ARE PRELIMINARY AND TO BE VERIFIED AND UPDATED BY CONTRACTOR DURING DETAIL ENGINEERING. MATERIALS INDICATED ARE PRELIMINARY AND CONTRACTOR TO VERIFY AND PREPARE MATERIAL SELECTION CHART AND SUBMIT FOR PMC APPROVAL . THE COALESCER-SEPARATOR FILTER PACKAGE UNITS SHALL BE DESIGNED AS PER EI-1581 CATEGORY C TYPE S AND SHALL MEET THE DGCA/OISD REQUIREMENT FOR SUPPLY OF ATF TO CIVIL AVIATION. CONTRACTOR TO SUBMIT INSPECTION TEST PLAN DURING DETAIL ENGINEERING FOR PMC APPROVAL. NOZZLES DATA SHALL BE FILLED BY VENDOR & VENDOR TO DECIDE BASED ON PROCESS PERFORMANCE. COALESCER-SEPARATOR FILTER'S PRESSURE VESSEL SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE SPECIFICATION ASME SECTION VIII, DIV. 1.(LATEST EDITION) VENDOR SHALL PROVIDE ALLOWABLE NOZZLELOADS DURING DETAIL ENGG. VENDOR SHALL FURNISH THE PRESSURE DROP CALCULATIONS FOR PMC REVIEW AND APPROVAL THIS DATASHEET SHALL BE READ IN CONJUNCTION WITH FUNCTIONAL SPECIFICATION FOR COALESCER-SEPARATOR PACKAGE (20005-GENP-SPE-1001) AND ENGINEERING DESIGN BASIS FOR STATIC EQUIPMENTS (20005-GEN-M-EDB-4002). THE COALESCER-SEPARATOR FILTER PACKAGE UNITS SHALL ALSO COMPLY WITH EI-1582 & EI-1596. BIDDER MUST SUBMIT BACK-UP AUTHORIZATION LETTER FROM LICENSOR FOR FILTER COALESCER SEPARATOR. MICRON FILTER SHALL BE PROVIDED UPSTREAM OF COALSCEER FILTER WATER SEPARATOR, REFER PAGE 5 TO 7 OF 7 OF THIS DATA SHEET FOR MICRON FILTER TECHNICAL DETAILS. COALESCER-SEPARATOR FILTER VESSEL SHALL BE PROVIDED WITH MANUAL DRAIN. COALESCER-SEPARATOR AND MICRON FILTER PACKAGE TAG NO. (PA-102A/102B) 										

NAUVATA ENGINEERING PRIVATE LIMITED		DATASHEET FOR MICRON FILTER FOR COALESCER & SEPARATOR PACKAGE -2		PAGE NO.: 1	
				TENDER NO.: 3200000495	
				SHT. 6 OF 7	
				REV.: 1	
DOC.NO. : 20005-GEN-M-DS-4036-2		EQUIP. NO.: MF-102A/B		QTY.: 2	
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.					
SUPPLIER DETAILS					
1					
2	MAKE	*			
3	MODEL	*			
4	DESIGN FLOW	m ³ /hr	*		
5	DESIGN FLUX RATE	m ³ /m ² /hr	*		
6	FILTRATION AREA	m ²	*		
7	FILTERING ELEMENT DETAILS				
8	FILTERING ELEMENT TYPE	AS PER CODE EI-1590			
9	NO. OF ELEMENTS	*			
10	ELMENT DIMENSION (O.D X I.D X L)	mm	*		
11	DIRECTION OF FLOW	*			
12	ELEMENT FIXING DETAILS	*			
13	RECOMMENDED FLOW RATE PER ELEMENT	m ³ /hr.	*		
14	EXPECTED LIFE OF ELEMENT	*			
15	DIRT HOLDING CAPACITY	*			
16	BURSTING PRESSURE	kg/cm ² g	*		
17	ELEMENT CHANGE OUT PRESSURE ΔP	kg/cm ²	*		
18	BACKWASHING				
19	MODE OF BACKWASH	N/A.			
20	BACKWASH MEDIUM	N/A.			
21	BACK WASH FLOW RATE	m ² /hr	N/A.		
22	INTERVAL BETWEEN TWO SUCCESSIVE BACKWASHING	hr	N/A.		
23	DURATION OF BACKWASH APPROX.	hr	N/A.		
24	QTY. OF FLUID/GAS REQUIRED FOR BACKWASH	m ² /hr	N/A.		
25	PRESSURE OF BACKWASH FLUID / GAS	kg/cm ² g	N/A.		
26					
27	MATERIAL OF CONSTRUCTION (NOTE - 6)				
28	HOUSING (SHELL / HEAD)	CS			
29	FILTER ELEMENT	SS316			
30	ELEMENT SUPPORTS	*			
31	FLANGES	* CS			
32	NOZZLES	* CS			
33	RF PADS	*			
34	INTERNALS IF ANY	SS316			
35	STUDS / NUTS (EXTERNAL)	AS PER PMS			
36	BOLTS / NUTS (INTERNAL)	AS PER PMS			
37	GASKET	AS PER PMS			
38	EXT. SUPPORTS & MISC. STRUCTURALS	*			
39	INSPECTION & TESTING				
40	HYDROTEST	AS PER CODE			
41	ANY OTHER REQUIREMENTS	AS PER CODE			
42	PAINTING				
43	PAINTING STANDARD				
44	INTERNAL :				
45	SURFACE PREPARATION				
46	PRIMER				
47	INTERMEDIATE				
48	FINISH				
49	TOTAL PAINT THICKNESS				
50	EXTERNAL :				
51	SURFACE PREPARATION				
52	PRIMER				
53	INTERMEDIATE				
54	FINISH				
55	TOTAL PAINT THICKNESS				
56					
57					
58					
59					
60					
61					
62					

REVISION MARK

As Per Engineering Design Basis Surface Preparation And
Protective Coating (20005-GEN-G-EDB-9122)

NAUVATA ENGINEERING PRIVATE LIMITED				DATASHEET FOR MICRON FILTER FOR COALESCER & SEPARATOR PACKAGE -2				PAGE NO.: 1		REVISION MARK
								TENDER NO.: 320000495		
DOC.NO. : 20005-GEN-M-DS-4036-2				EQUIP. NO.: MF-102A/B				REV. : 1		
PROJECT : CONSTRUCTION OF MARKETING TERMINAL PROJECT AT DEVANGONTHI, BANGALORE.								QTY.: 2		
NOZZLE DATA										
MARK	QTY.	SIZE	SCH./ THK.	FLANGE			R.F. PAD		PROJ. FROM CENT. LINE	SERVICE/REMARKS
				RATING	TYPE	FACING	O/D.	THK.		
*	*	*	*	*	*	*	*	*	*	*
<p>GENERAL NOTES :</p> <ol style="list-style-type: none"> 1 ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED. 2 VENDOR TO FILL THE DATAS WHEREEVER MARKED " * " 3 MICRON FILTER PACKAGES SHALL COMPLY WITH THE PROJECT SCOPE OF WORK, DESIGN BASIS, SPECIFICATIONS ATTACHED ELSE WHERE IN THE BID. CONTRACTOR TO INDICATE THE RELEVANT DOCUMENTS DURING DETAIL ENGINEERING. 4 ALL INTERNALS SHALL BE SECTIONALISED FOR INSTALLATION AND REMOVAL THROUGH MANHOLE / TOP COVER. 5 OPERATING CONDITIONS INDICATED ARE PRELIMINARY AND TO BE VERIFIED AND UPDATED BY CONTRACTOR DURING DETAIL ENGINEERING. 6 MATERIALS INDICATED ARE PRELIMINARY AND CONTRACTOR TO VERIFY AND PREPARE MATERIAL SELECTION CHART AND SUBMIT FOR PMC APPROVAL . 7 THE MICRON FILTER UNITS SHALL BE DESIGNED AS PER EI-1590. 8 CONTRACTOR TO SUBMIT INSPECTION TEST PLAN DURING DETAIL ENGINEERING FOR PMC APPROVAL. 9 NOZZLES DATA SHALL BE FILLED BY VENDOR & VENDOR TO DECIDE BASED ON PROCESS PERFORMANCE. 10 MICRON FILTER'S PRESSURE VESSEL SHALL BE DESIGNED AND CONSTRUCTED TO MEET THE SPECIFICATION ASME SECTION VIII, DIV. 1.(LATEST EDITION) 11 VENDOR SHALL PROVIDE ALLOWABLE NOZZLELOADS DURING DETAIL ENGG. 12 VENDOR SHALL FURNISH THE PRESSURE DROP CALCULATIONS FOR PMC REVIEW AND APPROVAL 13 THIS DATASHEET SHALL BE READ IN CONJUCTION WITH FUNCTIONAL SPECIFICATION FOR COALESCER-SEPERATOR PACKAGE (20005-GENP-SPE-1001) AND ENGINEERING DESIGN BASIS FOR STATIC EQUIPMENTS (20005-GEN-M-EDB-4002). 14 MICRON FILTER SHALL BE PROVIDED WITH MANUAL DRAIN VALVE. 										