

PETROLEUM & ENERGY INFRASTRUCTURE LTD.

**SPECIFICATION FOR BASKET FILTER & AIR
ELIMINATOR**



SPEC. No. FIL-4000 / FIL-4001 / FIL-4002

PEI PROJECT No. 2533

PEI – Engineering Division



December 2022

P0	27.12.2022	FOR BID	N.Z./Y.S	G.A	
REV.	DATE	ISSUE	PREPARED	APPROVED	CLIENT APP'D

 Member of Baran group	 תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ	SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR			
Project Name / No.: 2533/1-033-001	Document No.: 001-BAR-ESM-SPC-0012	Date: 27-12-2022	Revision: P0	Page: Page 2 of 11	

CONTENT



1. GENERAL
2. DEVIATIONS AND EXCLUSIONS
3. DIESEL FUEL PROPERTIES
4. SITE CONDITIONS
5. TECHNICAL REQUEST
6. FLANGE (Class Range)
7. MATERIALS:
8. PROCESS DATA:
9. DIMENTION:
10. GENERAL TERMS:
11. GUARANTEE:

 Member of Baran group  תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ	SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR			
Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 3 of 11

ATTACHMENTS

- A. BASKET FILTER DATA SHEET

- B. BILL OF QUANTITIES

  <p>תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>	SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR			
Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 4 of 11

1. GENERAL

This document covers the technical requirements for manufacturing, assembly, testing, supply and delivery of basket filter fitted with air eliminator device. The filter shall be operating in Petroleum & Energy Infrastructure LTD. at ESHEL TERMINAL site.

The filter shall handle commercial diesel fuel described hereafter:

2. DEVIATIONS AND EXCLUSIONS



The Supplier shall identify any requirement for which he is unable to comply and shall list all deviations and exclusions to all requirements in question. Unless deviations / exclusions are specifically identified by the Supplier in the bid proposal and agreed by the Client, the Supplier shall be deemed to have confirmed full compliance with all listed requirements.

3. DIESEL FUEL PROPERTIES

- Petroleum products: Diesel fuel
- Density (@15 °C): 820-840 kg/m³
- Viscosity (@15 °C): 2.5-4 cSt



4. SITE CONDITIONS

- The filter shall be installed outdoor.
- Site approximate is about 0-200 m' above sea level.
- Ambient temperature varies between 5°C- 45°C.
- Relative humidity varies between 15% - 90%.
- Rainfall around 200-400 mm' / year.
- Dusty environment

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Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 5 of 11

5. TECHNICAL REQUEST

- 5.1 The filter is to meet the duty and material requirements of the data sheet
- 5.2 Flange connections are to be according to ANSI B16.5 150# RF, in standard, non – offset horizontal nozzle position.
- 5.3 Inlet and outlet nozzles size – 12".
- 5.4 Max Differential pressure on clean Basket – 200 mbar
- 5.5 Basket: reinforced heavy gauge 316 stainless steel constructions with perforation 40 mesh (420 mu).
- 5.6 Threaded connection is to be according to NPT.
- 5.7 Filter casing to be designed to the latest editions of ASME code, Section VIII, Div. 1 for the rate design condition.
- 5.8 Filter will be installed with 0.5" NPT connections for a DPT system (differential pressure transmitter).
- 5.9 Strainer is to be offered with quick opening cover (BLIND FLANGE) with eye bolted, lifting davit and O-Ring seal.
- 5.10 Strainer is to be offered with drain 2" .The strainer shall be fitted with self-supporting legs.
- 5.11 The max length between the offset horizontal nozzles and the bottom legs will be 1100 mm'.
- 5.12 Cover to be provided with an air eliminator device.
- 5.13 Ultrasonic RT tests will be performed as required for welds.
- 5.14 Painting:
- Surface preparation – sa 2.5
 - Primer - Zinc rich epoxy 70 micron thick SSPC. Primer will contain over 80% zinc by weight of the dry film.
 - Intermediate - tolerant epoxy mastic surface thick at 150 microns minimum, two layers as needed.

  <p>תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>	SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR			
Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 6 of 11

- Upper - polyurethane oval white 80 micron thick single layer or two separate layers of 40 microns each Ready Made. Hue of upper layers will be white matte, reflective level of about 84%
- Total dry thickness – at least 300 microns.
Manufacture shall provide his detailed painting procedures to pei (with proposal).

6. FLANGE (Class Range):



- The filter shall have flanged ends.
- Inlet and Outlet connection ends shall be 12", ANSI B16.5 150# RF (See paragraph 5.3)
- Drain end shall be 2" ANSI 150#, RF.
- Vent Connection - AIR ELIMINATOR be according to ½" NPT plugged 3000#
- Differential Pressure Transmitter be according to ½"NPT plugged. 3000#

7. MATERIALS:

- Filter shell Body: CS, A 216 Gr. WCB.
- Corr.' Allow: 3 mm.
- Basket: S.S 316
- Gasket Material: FLEXITALLIC
- ID plate: Stainless steel.

8. PROCESS DATA:

- Max Flow-rate: 500 m3/h
- Temperature operating: varies between 5°C- 50°C.
- Design Temperature: 65 °C.
- Design pressure: 20 bar.
- Max Allowable Pressure drop: 200 mbar

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Project Name / No.: 2533/1-033-001	Document No.: 001-BAR-ESM-SPC-0012	Date: 27-12-2022	Revision: P0	Page: Page 7 of 11	

9. DIMENTION:



ITEM FIL-309 (500 m3/h). See paragraph 5.3.

Nozzles	Flange	Size	Rating
Inlet	RF	12" (See paragraph 5.3)	150#
Outlet	RF	12" (See paragraph 5.3)	150#
Drain	RF	2"	150#
DPT	NPT	1/2"	3000#
Air eliminator unite.	NPT	1/2"	3000#

10. GENERAL TERMS:



In order to evaluate the tender's quotation, the following information must be given:

- 10.1 Filter drawings.
- 10.2 Accessories drawings.
- 10.3 List of recommended spare parts (for 2 years) with pricing.
- 10.4 Delivery date.
- 10.5 List of Israeli suppliers including contact address.
- 10.6 Price for the offer.
- 10.7 The price should include the packing and preparation for seaworthy shipment and delivery CIF ASHDOD Port.

 Member of Baran group  תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ	SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR			
Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 8 of 11

11. GUARANTEE:

Product warranty for 18 months from the date of installation.
 Any defect due to faulty design, materials or bad workmanship become apparent during the warranty period, a vendor shall repair or otherwise rectify the defects, and free of charge to purchaser. Changes shall be made at a time and a manner agreeable to the client.

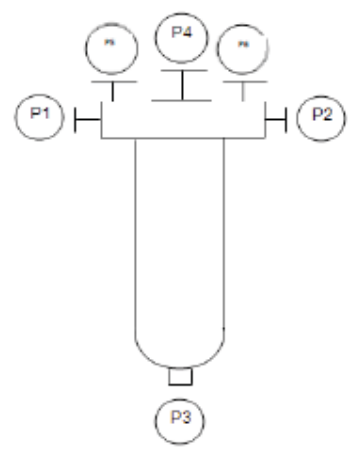
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Project Name / No.: 2533/1-033-001	Document No.: 001-BAR-ESM-SPC-0012	Date: 27-12-2022	Revision: P0	Page: Page 9 of 11

ATTACHMENT A

BASKET FILTER DATA SHEET

SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR

Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0012	27-12-2022	P0	Page 10 of 11

BARAN EPCO Member of Baran group		SPECIFICATION FOR BASKET FILTER & AIR ELIMINATOR		תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ			
BARAN Project Number		Client Project Number		Document No.			
1-033-001		2533		BAR-ESM-SPC-0012			
Revision		Revision		Revision			
P0		P0		P0			
SERVICE Diesel fuel Inlet Filters		ITEM: FIL-4000 / FIL-4001 / FIL-4002		QTY 3			
DIAMETER (*) mm		PLANT UNIT: ESHEL TRMINAL		INSTALLATION			
HEIGHT or LENGTH (*) mm		SERVICE TYPE Basket		PSID			
GAS OR LIQUID		SKETCH					
FLUID Diesel fuel							
FLOWRATE m3/h 500							
DESIGN TEMP. °C 65							
DESIGN PRESS. bar(g) 20							
BRUX							
DENSITY kg/m³ 820 - 840							
VISCOSITY cSt 2.5-4							
FLUID HAZARD							
FILTRATION TYPE							
SOLID TO BE FILTERED							
SOLID SCALING, SAND							
FLOWRATE kg/h N/A							
DENSITY kg/m³							
PARTICLE SIZE 420 mu							
PARTICLE SIZE DISTRIBUTION							
mu %							
mu %							
mu %							
mu %							
mu %							
OPERATING DATA							
DP CLEANED / DIRTY mbar 200 /							
TOTAL EFF. REQD / ACTUAL % 99 /							
PARTIAL SEPARATION EFFICIENCY							
mu %							
mu %							
mu %							
mu %							
mu %							
CONSTRUCTION DATA OF ONE FILTER							
FILTER MEDIA TYPE Basket		AREA (*) m²					
MATERIAL 316 SS		GASKETS FLEXITALLIC					
PACKING TYPE		HEIGHT (*) mm					
MATERIAL							
DESIGN PRESS / HYDRO TEST bar(g)		COND. 2 F.V. REQUIRED					
DESIGN TEMP. °C		COND. 2 F.V. TEMP					
BODY MATERIAL CARBON STEEL		CORR. ALLOW. 3 mm					
NOZZLES GASKETS FLEXITALLIC		INSULATION NO					
NOZZLES							
POS.	N.	SERVICE	SIZE	RATING	FLANGE	FINISHING	NOTES
P1	1	INLET	12"	150#	WNRF		(*)
P2	1	OUTLET	12"	150#	WNRF		(*)
P3	1	DRAIN	2"	150#	WNRF		(*)
P4	1	VENT	1/2"	3000#	NPT		(*)
P5 / P6	2	DPT	1/2"	3000#	NPT		(*)
NOTES							
(*)To be specified by vendor.							

Project Name / No.:

2533/1-033-001

Document No.:

001-BAR-ESM-SPC-0012

Date:

27-12-2022

Revision:

P0

Page:

Page 11 of 11

ATTACHMENT B

BILL OF QUANTITIES

tem	Tag	Type	Size	Qty
BASKET FILTER & AIR ELIMINATOR	FIL-4000	Basket	500 m3/h	1
BASKET FILTER & AIR ELIMINATOR	FIL-4001	Basket	500 m3/h	1
BASKET FILTER & AIR ELIMINATOR	FIL-4002	Basket	500 m3/h	1