

**PETROLEUM & ENERGY INFRASTRUCTURE LTD.**

**SPECIFICATION FOR BASKET FILTER & AIR  
ELIMINATOR**



**SPEC. No. FIL-4031**

**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

  <p>תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>	<b>SPECIFICATION FOR BASKET FILTER &amp; AIR ELIMINATOR</b>			
Project Name / No.:  <b>2533/1-033-001</b>	Document No.:  <b>001-BAR-ESM-SPC-0013</b>	Date:  <b>27-12-2022</b>	Revision:  <b>P0</b>	Page:  <b>Page 2 of 11</b>



## **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:

 <p>Member of Baran group</p>  <p>תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>	<b>SPECIFICATION FOR BASKET FILTER &amp; AIR ELIMINATOR</b>			
Project Name / No.:  <b>2533/1-033-001</b>	Document No.:  <b>001-BAR-ESM-SPC-0013</b>	Date:  <b>27-12-2022</b>	Revision:  <b>P0</b>	Page:  <b>Page 3 of 11</b>

## ATTACHMENTS

- A. BASKET FILTER DATA SHEET
  
- B. BILL OF QUANTITIES

  <p>תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>	<b>SPECIFICATION FOR BASKET FILTER &amp; AIR ELIMINATOR</b>			
Project Name / No.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0013	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/m<sup>3</sup>
- 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-0013	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 – 10".
- 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.

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Project Name / No.:  <b>2533/1-033-001</b>	Document No.:  <b>001-BAR-ESM-SPC-0013</b>	Date:  <b>27-12-2022</b>	Revision:  <b>P0</b>	Page:  <b>Page 6 of 11</b>

- 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 10", 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.:	Document No.:	Date:	Revision:	Page:
2533/1-033-001	001-BAR-ESM-SPC-0013	27-12-2022	P0	Page 7 of 11

## 9. DIMENTION:



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

Nozzles	Flange	Size	Rating
Inlet	RF	10" (See paragraph 5.3)	150#
Outlet	RF	10" (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.

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Project Name / No.:	Document No.:	Date:	Revision:	Page:
<b>2533/1-033-001</b>	<b>001-BAR-ESM-SPC-0013</b>	<b>27-12-2022</b>	<b>P0</b>	<b>Page 8 of 11</b>

## 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.





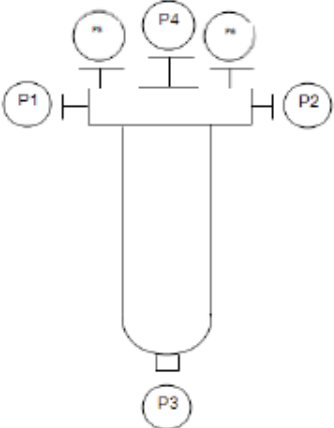
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Project Name / No.:  <b>2533/1-033-001</b>	Document No.:  <b>001-BAR-ESM-SPC-0013</b>	Date:  <b>27-12-2022</b>	Revision:  <b>P0</b>	Page:  <b>Page 9 of 11</b>

# 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-0013	27-12-2022	P0	Page 10 of 11

		<p align="center"><b>SPECIFICATION FOR BASKET FILTER &amp; AIR ELIMINATOR</b></p> <p align="center"><b>FIL-4031</b></p>		 <p align="center">תשתיות נפט ואנרגיה בע"מ קו מוצרי דלק בע"מ</p>			
<b>BARAN Project Number</b>	<b>Client Project Number</b>	<b>Document No.</b>	<b>Revision</b>				
1-033-001	2533	BAR-ESM-SPC-0013	P0				
<b>SERVICE</b>	<b>Diesel fuel Inlet Filters</b>		<b>ITEM:</b>	FIL-4031			
<b>DIAMETER</b> (")	mm		<b>QTY</b>	1			
<b>HEIGHT or LENGTH</b> (")	mm		<b>PLANT UNIT:</b>	ESHEL TRMINAL			
<b>INSTALLATION</b>		<b>SERVICE TYPE</b>	Basket	<b>P&amp;ID</b>			
<b>GAS OR LIQUID</b>		<b>SKETCH</b>					
<b>FLUID</b>	Diesel fuel						
<b>FLOWRATE</b>	m3/h	500					
<b>DESIGN TEMP.</b>	°C	65					
<b>DESIGN PRESS.</b>	bar(g)	20					
<b>BRIX</b>							
<b>DENSITY</b>	kg/m³	820 - 840					
<b>VISCOSITY</b>	cSt	2.5-4					
<b>FLUID HAZARD</b>							
<b>FILTRATION TYPE</b>							
<b>SOLID TO BE FILTERED</b>							
<b>SOLID</b>	SCALING, SAND						
<b>FLOWRATE</b>	kg/h	N/A					
<b>DENSITY</b>	kg/m³						
<b>PARTICLE SIZE</b>	420	mu					
<b>PARTICLE SIZE DISTRIBUTION</b>		mu	%				
		mu	%				
		mu	%				
		mu	%				
<b>OPERATING DATA</b>							
<b>DP CLEANED / DIRTY</b>	mbar	200	/				
<b>TOTAL EFF. REQ'D / ACTUAL</b>	%	99	/				
<b>PARTIAL SEPARATION EFFICIENCY</b>		mu	%				
		mu	%				
		mu	%				
		mu	%				
<b>CONSTRUCTION DATA OF ONE FILTER</b>							
<b>FILTER MEDIA</b>	<b>TYPE</b>	Basket		<b>AREA</b> (")	m²		
	<b>MATERIAL</b>	316 SS		<b>GASKETS</b>	FLEXITALLIC		
<b>PACKING</b>	<b>TYPE</b>			<b>HEIGHT</b> (")	mm		
	<b>MATERIAL</b>						
<b>DESIGN PRESS / HYDRO TEST</b>	bar(g)	COND. 1	COND. 2	F.V. REQUIRED			
<b>DESIGN TEMP.</b>	°C	COND. 1	COND. 2	F.V. TEMP			
<b>BODY MATERIAL</b>	CARBON STEEL			<b>CORR. ALLOW.</b>	3 mm		
<b>NOZZLES GASKETS</b>	FLEXITALLIC			<b>INSULATION NO</b>			
<b>NOZZLES</b>							
<b>POS.</b>	<b>N.</b>	<b>SERVICE</b>	<b>SIZE</b>	<b>RATING</b>	<b>FLANGE</b>	<b>FINISHING</b>	<b>NOTES</b>
P1	1	INLET	10"	150#	WNRF		(*)
P2	1	OUTLET	10"	150#	WNRF		(*)
P3	1	DRAIN	2"	150#	WNRF		(*)
P4	1	VENT	1/2"	3000#	NPT		(*)
P5 / P6	2	DPT	1/2"	3000#	NPT		(*)
<b>NOTES</b>							
(*)To be specified by vendor.							

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## ATTACHMENT B

# BILL OF QUANTITIES

tem	Tag	Type	Size	Qty
BASKET FILTER & AIR ELIMINATOR	FIL-4031	Basket	500 m3/h	1