



Energy Infrastructures Ltd.

HAIFA, Fuel Port.

VDR Specification

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SCOPE:

This document covers the technical requirements for supply and delivery of VDR for metering station for Diesel oil line as describe hereafter.

Diesel Oil

Density 15 ⁰ C (gr/ml).	0.870
Kinematics viscosity @ 150 C (cst).	5-6
Sulphur content (wt%).	0.25% max
Acidity (mg koh/gr).	0.25
Flash point.	65 ⁰ C
Copper corrosion (2 HRS/100 c).	1 max

SITE CONDITIONS:

The unit shall be installed outdoor.

Site altitude is about 10 m' above sea level.

Ambient temperature varies between 0⁰C- 48⁰C.

Relative humidity varies between 45% - 85%.

Rainfall around 500 mm' / year.

THECNICAL PARAMETERS:

Design Parameters:

The unit capacity:	700 m ³ /hr.
Main pipeline supply diameter,	12".
Maximum working pressure:	16 bar. @ 38 ⁰ C.

Description:

The VDR shall be part of metering station for 12" diameter diesel pipe line. The unit shall install upstream of ultrasonic single direction ultrasonic meter unit.

The device is fitted with tangentially constructed inlet and outlet nozzle, air release valve at the top and three (3) liquid level sensors.

The inlet pipe shall be connected on the top side of the VDR vessel and the outlet pipe shall be connected on the lower side of the vessel.

The liquid sensor shall be mounted on the vessel side.



Efficiency:

The unit shall be capable to release up to 30% volume of air from the flowing liquid stream

Design capacity:

The unit shall be design for a capacity of 700 m³/hr.

Flanges (Class Range):

Flange connections are to be according to ANSI B16.5 150# RF 10" diameter

Flanges shall be installed in horizontal position on a common street line.

Flow direction from left to right

Liquid level sensors:

The unit vessels shall be supplied with three (3) liquid level sensors with ATEX approved explosion proof sensor, stainless steel adapter assembly;

Drain Port:

The unit vessel shall be equipped with at least 2" valve & plug drain, on the lowest body level.

Leges:

The VDR vessel shall be supply with 4 legs.

Materials:

Body: Carbon steel.

Elastomers seals: Viton.

ID plate: Stainless steel.

Painting:

Painting: External painting according to manufacture standard but not less than epoxy paint 250 micron.

Stainless steel parts are not to be painted.



GENERAL TERMS:

In order to evaluate the tender's quotation, the following documentation of information shall be quoted:

Column A: Shows documents to be submitted with bids.

Column B: Shows documents to be submitted for design approval.

Column C: Shows final and certified documents to be supplied with the goods.

Item	Document	Stage of supply		
		A	B	C
		N° of copies		
1	Unit drawings.	2	2	2
2	Operation, maintenance, installation manual	2	-	2
3	Accessories drawings.	2	2	2
4	List of recommended spare parts for two (2) years operation with itemized prices.	2	-	2
5	Price for the offer. The price should include the packing and preparation for seaworthy shipment.	2	-	-
6	List Israeli customers including contact address	2	-	-
7	Delivery date.	1	-	1

GUARANTEE:

The vendor shall guarantee materials and workmanship for a period of 18 months from the date of delivery or 12 months from startup.

Should any defect due to faulty design, materials or bad workmanship become apparent during the guarantee period, the 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.



QUANTITY TABLE:

Item	Size	Rating	Quant.	Note	Unit price
1	10"	150#	1	VDR 700 m ³ /hr. fitted 3 liquid level sensors and air relies unit	