



Lavan Oil Refining Company

Specification For Permanent Magnetic Filter

Prepared by:

General Engineering Department

1. Scope

This Specification Covers The Basic Design Of Two Gas Oil Permanent Magnetic Filter As Listed Below For Lavan Oil Refinery Company Located At Storage Tanks Unit. These Magnetic Filters Are Required To Install On The Inlet Of Gas Oil PreMeter To Remove Metalic Parts.

- Gas Oil Permanent Magnetic Filters: MFT-9001 A/B

2. References

1. This Project Specification.

2. I.P.S. Standard

3. ASME Sec. VIII, Div. 1 & Sec. IX. (Last Edition)

Any Deviation From The Above Specifications, Codes And Standards Must Be Made Out-Standing And Brought To The Attention Of The Purchaser For Approval.

3. Site Condition

The Required Permanent Magnetic Filter Shall Be Designed, Fabricated And Tested In Accordance With The Above References, And To Be Suitable For Following Site Conditions:

Max. Ambient Temperature: 50 °C

Min. Ambient Temperature: 0 °C

Average Relative Humidity: 95% ~100%

Site Elevation: Sea Level

Climatic Condition: Tropical, Dusty

Wind Velocity: 161 Km/h

Wind: Velocity=161 Km/h , Exposure C , Iw=1.15

Earthquake: Zone 3, Soil Type: Sc , I=1.25

Project Specification

4. Process DataSheet

Operating Conditions & Fluid Handle		
Fluid	--	Diesel Oil / Gas Oil ⁽¹⁾
Application	--	Iron Particle Removal From Gas Oil
Flow Rate (Operating/Design)	m³/hr	800 ⁽²⁾
Operating Temperature	Min.	°C
	Normal	°C
	Max.	°C
Operating Pressure	Min.	Barg
	Normal	Barg
	Max.	Barg
Design Temperature	°C	85
Design Pressure	Barg	10.2
Surface Tension	dynes/cm	27.9
Sp.Gr. 60°/60°	--	0.8430
Viscosity	C_p	2.3
Magnetic Filters		
Item	--	MFT-9001 A/B
Type	--	Magnetic filter
Number	--	2 Operating (Parallel) ⁽³⁾
Inlet and Outlet Nozzle Size	Inch	12
Type of Flange	--	ASME B16.5/W.N /R.F/150#
Particle size to be removed	µm	10
Allowable pressure drop clean	Barg	-- ⁽⁴⁾
Type of Magnetic Separator	--	Permanent
Model	--	By vendor
Material of Magnet	--	By vendor
Material of Filter Body	--	Stainless Steel
Filter Housing	--	By vendor
Magnetic Rod Diameter	--	By vendor
Magnetic Rod Height	--	By vendor
Quantity of Rods	--	By vendor
Magnetic Absorption	--	Metalic Particle (10 micron) ⁽⁵⁾
Type of Cleaning	--	Manual Cleaning
Welding Standard	--	According to WPS & PQR
Construction Code	--	ASME Sec. VIII, Div. 1 & Sec. IX. (Last Edition)
Pressure Gauge	--	2 pcs
Duty Cycle	--	100%
Pressure drop maximum	Bar	0.50

Project Specification

Notes:

- 1) **Hydrocarbons Middle Distillates (Kerosene+Gas oil+Blending Naphtha+Light vacuum gasoil) With Low (50 ppm wt.) And High (0.79% wt.) Sulphur.**
- 2) **Turdown Rate Is 50%, Max Capacity Is 110%.**
- 3) **Two Gate Valve And A T-Connection For Inlet Of A/B Filters.**
- 4) **Vendor To Confirm The Pressure Drops For Clean And Dirty Filters.**
- 5) **Metalic Particle Such As Iron Particle And Other Metals.**
- 6) **Vent, Drain, Steam Out And Instrument Connections Sizes Shall Be Specified By Vendor.**

5. Schematic Figure

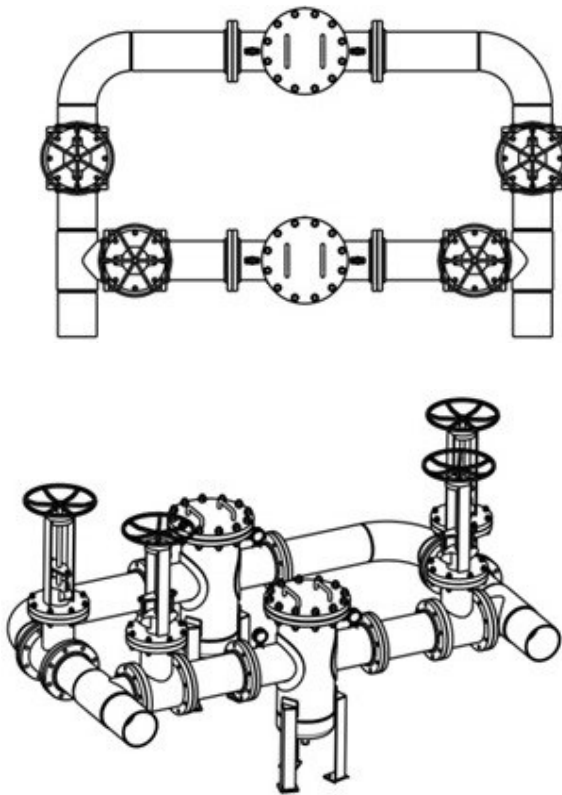


Figure No. 1 : Magnetic Filters (9001 A/B) And By Pass Lines.

6. General Specifications:

1. **Supplier Shall Provide Spare Parts For 2 Years Of Continuous Operation.**
2. **Filters shall be suitable for outdoor installation.**

7. Vendor Documentation

Vendor Shall Provide Three (3) copies All Drawings And Documents Including Specification, Data Sheet, Operating And Maintenance Manuals, Test Certificates, Fabrication Procedures, And Test Procedures As Well As Any Complementary Document Deemed Necessary By The Vendor.

8. Performance Guarantee & Warranty

Vendor Shall Guarantee Permanent Magnetic Filter Free From Fault In Design, Workmanship And Material, And Is Of Sufficient Size, Capacity And Made Of Proper Material To Fulfill Satisfactorily The Operating Condition Specified.

Should Any Defect In Design, Material, Workmanship Or Operation Characteristics Develop After 12 Months Of Operation Or After 24 Months Following Shipment From Supplier's Plant, Whichever Occurs Later, Vendor Guarantee To Make All Necessary Or Desirable Alterations Repairs And Replacement Free Of Charge.

If The Defect Or Failure To Function Cannot Be Corrected, Vendor Guarantees To Replace Promptly, Free Of Charge, Said Equipments Or To Remove The Equipments And Refund The Full Purchase Price.