



Offshore Design Section
Engineering Services
ISO – 9001:2008

FUNCTIONAL SPECIFICATION
FOR
AIR FILTER REGULATOR

Spec. No.	3606
Rev. No.	04
Discipline	Instrumentation
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FUNCTIONAL SPECIFICATION

FOR

AIR FILTER REGULATOR

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1.0 SCOPE OF THIS DOCUMENT:

- 1.1 This functional specification describes the essential design considerations for the selection of Filter Regulator for the intended service.

2.0 CODES & STANDARDS:

2.1 Reference Documents and Specifications:

- a) Instrumentation Design Criteria
- b) Basic Bid Work
- c) Project P & IDs
- d) Process Design Criteria

3.0 SCOPE OF SUPPLY:

- 3.1 The quantity to be supplied and installed shall be as per the requirements indicated in the Basic Bid Work, Design Criteria and the P & IDs.
- 3.2 The vendor shall be responsible for the selection of the Filter Regulator suitable for its intended application, its procurement, tagging, packing, testing & calibration, preparation for shipment, along with accessories, spares, and assistance where required for its installation & commissioning at site. This FS shall be read in conjunction with the Instrument Design Criteria.
- 3.3 The Filter Regulator shall be provided for all instruments requiring regulated gas or air supply. The Filter Regulator shall include integral relief valve and output gauge and all other accessories necessary to make the system complete.

4.0 FILTER REGULATOR:

- 4.1 The Filter Regulator shall be provided with Gauge, Spring & Diaphragm, Drain Cock and Intermittent Bleed.
- 4.2 The inlet pressure to the filter regulator shall be as follows:
- Maximum: 10.6 Kg/cm²g
Normal : 7.5 Kg/cm²g
Minimum: 5.5 Kg/cm²g
- 4.3 The Filter Regulator shall have an adjustable range of 1 to 7 Kg/cm²g. Range adjustment shall be possible with a hand wheel with lock nut.
- 4.4 The output gauge dial size shall be minimum 40mm.
- 4.5 The pneumatic connection size to the filter regulator shall be ¼", ½", ¾" & 3/8" NPTF.
- 4.6 Mounting accessories required for 2" pipe mounting of the filter regulator shall be provided wherever required.
- 4.7 Operating Temperature range for Filter Regulator shall be minimum -20 °C to 80 °C.
- 4.8 Manual drain for filter regulator shall be required.

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4.9 **Material:**

- 4.9.1 The Body of the filter regulator shall be made of SS 316 as minimum and the filter shall be 20-40 micron sintered Bronze/ sintered SS316/Sintered Porous Polyethylene.
- 4.9.2 The Diaphragm shall be made of reinforced Neoprene/Fluorocarbon/Polyester Fabric/Silicon/Viton/ Nitrile/Buna N
- 4.9.3 The internals of the filter regulator shall be SS 316 as minimum.
- 4.9.4 Wherever sour gas is used, the material of construction for the body and the internals shall meet the requirements of NACE MR-01-75 (Latest Edition)



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ANNEXURE-I: TYPICAL DATASHEET FOR FILTER REGULATOR

FILTER REGULATOR		
UNITS: Flow Liquid- M ³ /HR, Gas-NM ³ /HR, Pressure-Kg/cm ² Temperature- °C Level /Length-M		
1.	Regulator type	
2	Fluid	
3	Inlet Pressure	
4	Outlet Pressure	
5	Range	
6	Output gauge size	
7	Regulator range adjustment mechanism	
8	Drain Cock	
9	Connection size	
10	Construction	
11.	Body Material	
	Bowl Material	
	Filter Material	
	Diaphragm Material	
	Internals Material	
	Spring Material	
12	Mounting Accessories	
13	Manufacture	
14	Model	
15	Notes	
Notes:-		
VENDOR SEAL AND SIGNATURE		