Technical Specifications

Generator Unit Type	Type: 3-φ Y T174-160
Turbine Model Series (GE Design)	Type : MS-5001(Frame-5), Model: 5361P
Name of Manufacturer	Alsthom Atlantique, FRANCE – GE Design
No. of turbine stages	2
No. of Compressor stages	17 (Axial)
Base Output	24800 KW At 40ºC Peak load,
Type of Operation	Continuous
Compressor Inlet Temperature	35ºC
Turbine Exhaust Temperature	532ºC
Control	Mark VI (e)

Total air flow of each unit	436 tons/Hr
Total filtration area of each unit	a) For Turbine: 360 sft. b) For Generator: 48 sft
Temperature range	+ 5° C to 45°C
Weather Condition	Typical High Humidity (90%) Rainy, Dirty, Foggy and Dusty Insects, Flies, Mosquitoes
Place of Use	Turbine Intake.
Type of filter	Disposable pad & Cylindrical.
Number of stage	2 (two) (Pre filter pad & high efficiency filter).
Type of dust	Dry. Moistured, Corrosive, Sooty-Oily, Erosive.

7.3. Technical Specification of Turbine Air Inlet Filter for GT Units 1 & 2

Air Filter Inlet system Overview:

The performance and operation reliability of the gas turbine have close relationship to the air quality and the cleanness that go into the unit. So in order to ensure reliable and efficient gas turbine operation, there must be excellent air inlet system. Filter the air that goes into the units and remove the impurities. An excellent air inlet system can improve the air quality in any temperature, any humidity or any polluted surroundings, and guarantee the unit operates reliably and efficiently.

1. Turbine Inlet Air Filter (Cylindrical)

Sl.	Subject	Requirements
1.	Manufacturers Name	To be mentioned
2.	Year of Manufacturing	To be mentioned
3.	Country of origin (USA/ European Country)	To be mentioned
4.	Model	To be mentioned
5.	Size: Top Rectangular Cap: Outer Dia: Inner Dia: Length:	406 x 358 x 1.5 mm 320 mm 212.34 ± 0.5 mm 660 mm (26")
6.	Filter Type	Cylindrical
7.	Filter Media	100% Synthetic Filter media consisting of manmade fibers. By controlling the material, shape, and diameter of the fibers we've designed this multi-layered media to perform effectively in most environments.
8.	Surface (media) Area	210 Sq. Ft.
9.	Air flow capacity	650 CFM
10.	Pleat Depth	50mm ± 1.0 mm
11.	Filter Class	F8 as per EN779:2012
12.	Average Efficiency @ 0.4µm	≥ 90%
13.	End Caps	Galvanized with filter media potted in PLASTISOL to ensure a leak-free seal. (Upper and lower portion should be fixed by galvanized plate)
14.	Gasket	EPDM Gasket to eliminate bypass
15.	Inner & Outer Liners	Galvanized expanded and flattened steel with 72% open area.
16.	Spiral Beading on filter elements	Filter media with liners should be fixed with Hot melt adhesive spiral beading on Inside & outside of filter elements to ensure rigidity & media pack geometry.
17.	Packing	Filters shall be packed in Corrugated box with protective sheet on the top and bottom to ensure safety.

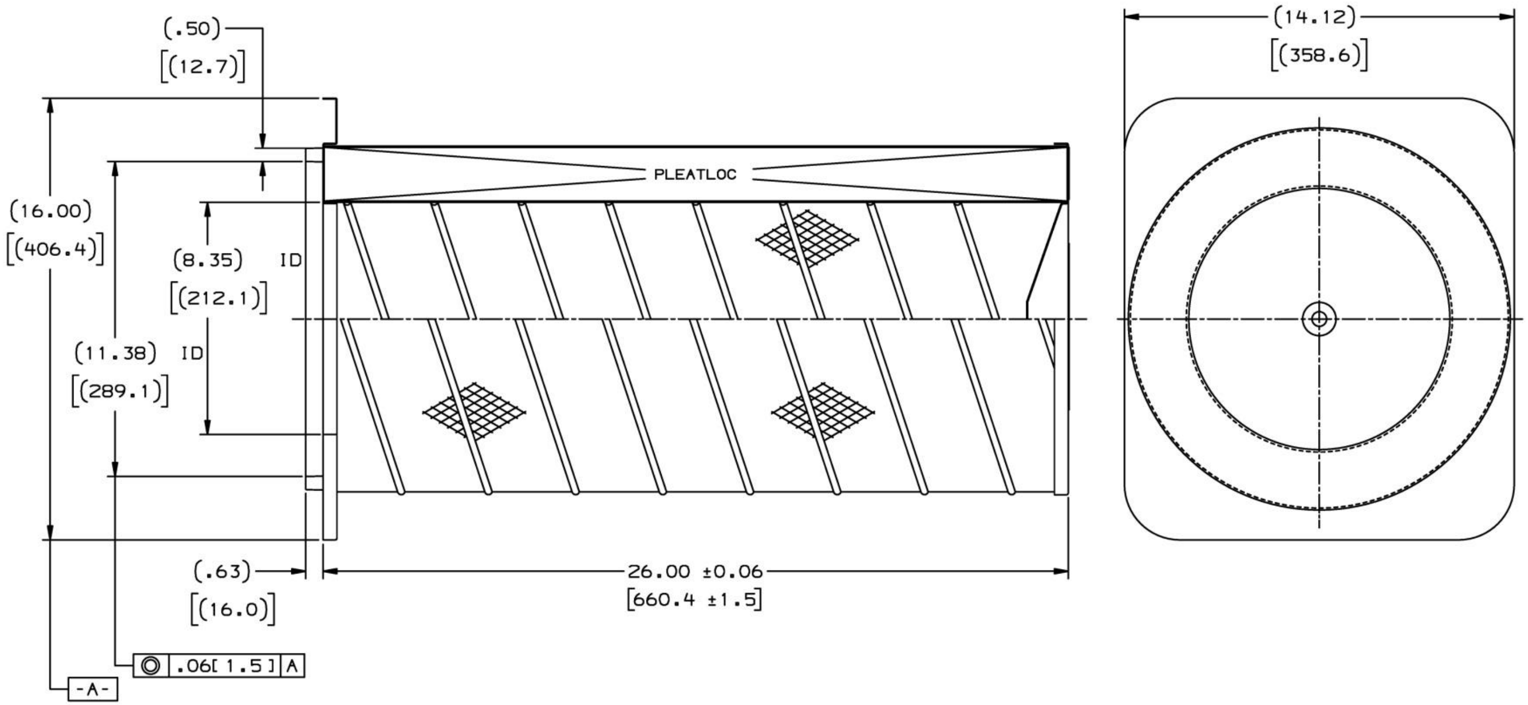
2. Pre-Filter Wraps (Synthetic)

Sl.	Subject	Requirements
1.	Manufacturers Name	To be mentioned
2.	Year of Manufacturing	To be mentioned
3.	Country of origin (USA/ European Country)	To be mentioned
4.	Model	To be mentioned
5.	Type	Coalescing high loft fully synthetic, prefilter media washable and reusable
6.	Thickness	20 mm
7.	Initial Pressure Drop	Less than 40 mm of WC
8.	Filter Class	G3 as per EN779:2012
9.	Average Arrestance	≥ 80%
10.	Dust Holding Capacity	> 350g/m^2
11.	Fixing Arrangement	Velcro through length of filter element
12.	Length	26"

Drawings

Turbine Inlet Air filter (Cylindrical):

REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE



NOTES

1. DIMENSIONS ARE IN INCHES [MILLIMETERS].
2. ELEMENT ASSEMBLY IN ACCORDANCE WITH EN0401001 EXCEPT AS NOTED.
3. FILTER MEDIA IN ACCORDANCE WITH EN0701301.
4. EFFECTIVE AREA APPROX 210 SQ FT.
5. ELEMENT ASSEMBLY TO HAVE 300 $^{+2}_{-0}$ TOTAL PLEATS (12 PLTS/IN REF).
6. POTTING COMPOUND IN END CAPS TO MEASURE .21± .01 MINIMUM WET LEVEL.

MATERIAL	
REFERENCE	
PREVIOUS DRAWING NO.	
DO NOT SCALE	TOLERANCES UNLESS OTHERWISE SPECIFIED: 2 PL ± / 3 PL ± / ANGLES ± °
RELEASE NO.	
DATE	
EXP DATE	
DWN	OP
DATE	NOV 02, 2017
CHK	
DATE	
APVD	
DATE	
THIRD ANGLE PROJECTION	
TITLE	ELEMENT ASSEMBLY OUTLINE
NUMBER	P039630
SCALE	NONE
SHEET	1 OF 1
REVISION	0
C/C	NB/CADD
SECTIONAL SIZE	C
OUTLINE SIZE	X
DESIGN CONTROL	K005
DWG LOCATION	K101
VERSION	K
	GTS
	L / C

Donaldson.
Donaldson Co. Inc. Minneapolis, MN USA

Pre-Filter Wrap (Synthetic):