PERFORMANCE TEST OF "CYLINDRICAL GAS TURBINE CARTRIDGES" FOR GENERAL VENTILATION APPLICATIONS GAS TURBINE CARTRIDGES

Nominal Flow: 1250 m^3/h
DHC Measured @ 450 Pa

Test Report
Report Number: R-1400-LS-940-1
07/06/2021
According to EN 779:2002

Order by:Deylaman Filter

En.Salehi

Dr.Hamdami

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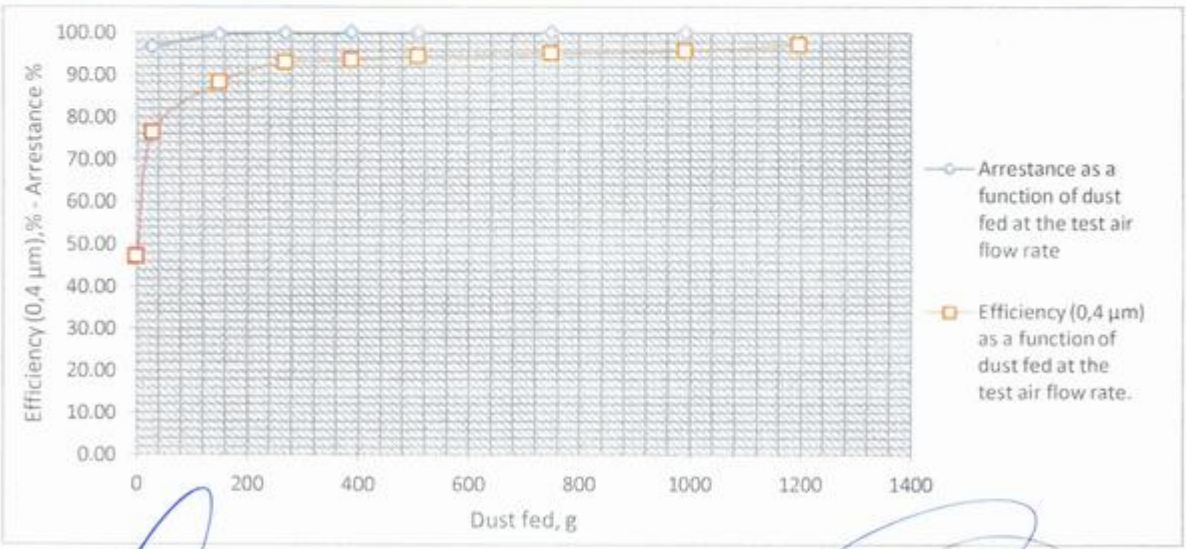
Date: 1401/03/25
Doc No: D-1400-LS-940

EN-779-2002 Air Filter Test Result

Report No: R-1400-LS-940

Testing Organization: ISTT Filtration Lab.			**Report No:**	R-1400-LS-940	
General					
Test No:	1400-LS-940-1	**Data Of Test:**	7/6/2022	Supervisor: Dr.Hamdami	
Test Requested By:	Deylaman Filter	**Device Receiving data:** 1/6/2022			
Device Delivered By:	Deylaman Filter				
Device Tested					
Model:	Cylindrical filter	**Manufacturer:**	Deylaman Filter	**Project No:**	6006
Type Of Media:	Air Filter Media	**F.A:(m2)**	18.7	**Filter Dimension:**	328×216×600 mm
Test Data					
Test Air Flow Rate:(CMH)		**Test Air Temperature:**	**Humidity:**	**Test Aerosol:**	**Loading Dust:**
1250		21 To 23 c	38 To 39%	DEHS	Ashrae Dust
Results					
Initial Pressure Drop: (Pa)		**Initial Arrestance: %**	**Initial Efficiency: %**	**Test Dust Capacity:**	Untreated %/ discharged efficiency% of media (0,4 µm):
155 Pa at 100% test air flow		96.47	46.9% at 0.4µm	1199.0 at 450 Pa	
Final Test Pressure: (Pa)		**Average Arrestance:%**	**Average Efficiency: %**	**Filter Class:**	34.9
450		99.82	92.3	**F8**	27.8
Remarks					



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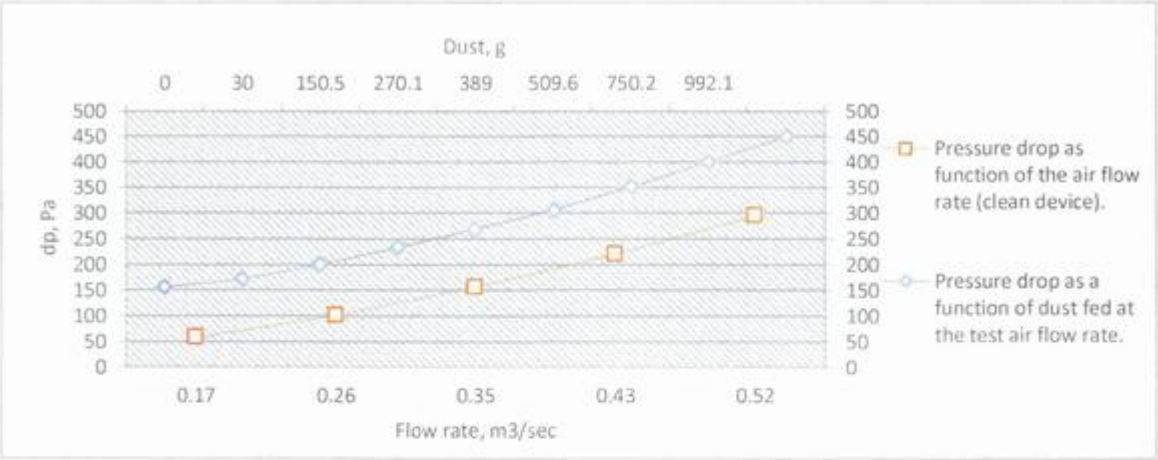
Report No: R-1400-LS-940



Note:
The uncertainty of the measured efficiencies is reported on a 95% confidence level.

The Tester	The Head of the Department
En.Salehi	Dr.Hamdami

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Fractional efficiency after different dust loading phases		Report No: R-1400-LS-940
Air filter:	Cylindrical filter	
Test no:	1400-LS-940-1	
Test aerosol:	DEHS	
Air flow rate: (CMH)	1250	

Particle size (µm)		Efficiency %								
		Pressure drop (Pa)/ dust fed (g)								
Interval	Mean	155	171	200	234	268	306	351	400	450
		0	30	151	270	389	510	750	992	1199
0.25 - 0.35	0.3	35.22	52.96	63.96	67.96	73.01	84.06	86.33	89.67	91.56
0.35 - 0.45	0.4	46.92	75.96	87.96	92.69	93.20	94.23	95.00	95.62	97.21
0.45 - 0.55	0.5	55.62	81.00	90.96	93.21	94.66	95.36	96.33	97.20	98.30
0.65 - 0.75	0.7	59.96	83.91	92.01	93.62	95.23	96.20	97.21	98.34	99.32
0.85 - 0.95	0.9	63.96	86.96	94.21	95.97	96.33	97.98	98.30	99.16	99.45
1.15 - 1.25	1.2	69.61	91.21	95.32	96.20	97.21	98.33	99.40	99.47	99.66
1.65 - 1.75	1.7	74.31	93.01	96.96	97.01	98.22	98.92	99.65	99.90	99.94

The uncertainty of the measured efficiencies is reported on a 95 % confidence level.

	0.3	0.4	0.5	0.7	0.9	1.2	1.7
Series1	35.22	46.92	55.62	59.96	63.96	69.61	74.31
Series2	52.96	75.96	81.00	83.91	86.96	91.21	93.01
Series3	63.96	87.96	90.96	92.01	94.21	95.32	96.96
Series4	67.96	92.69	93.21	93.62	95.97	96.20	97.01
Series5	73.01	93.20	94.66	95.23	96.33	97.21	98.22
Series6	84.06	94.23	95.36	96.20	97.98	98.33	98.92
Series7	86.33	95.00	96.33	97.21	98.30	99.40	99.65
Series8	89.67	95.62	97.20	98.34	99.16	99.47	99.90
Series9	91.56	97.21	98.30	99.32	99.45	99.66	99.94

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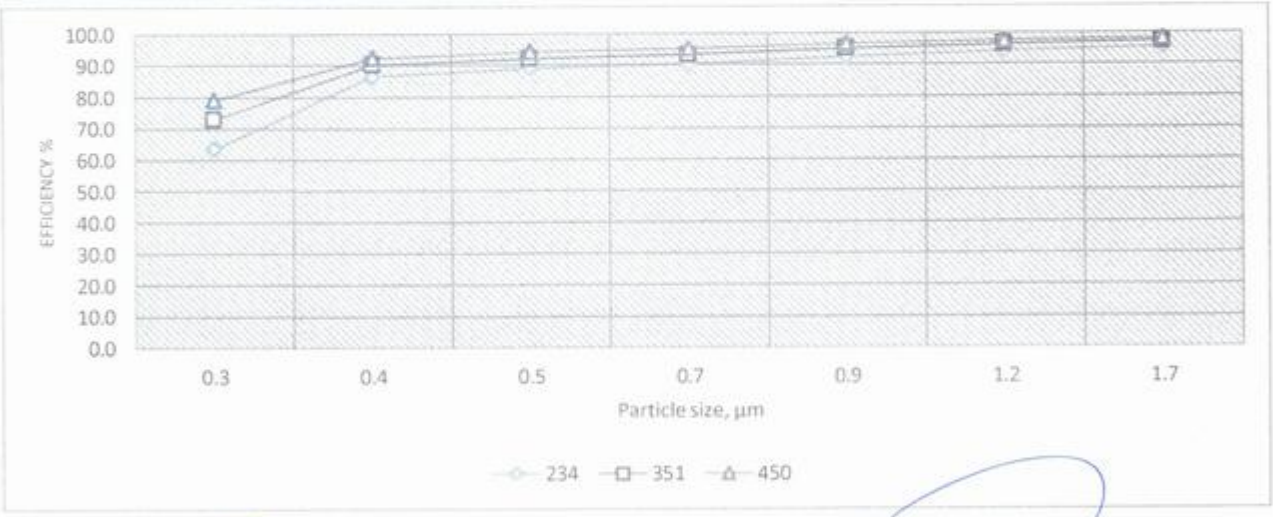
Average efficiency at different final test pressure drops

Report No: R-1400-LS-940

Air filter:	Cylindrical filter
Test no:	1400-LS-940-1
Test aerosol:	DEHS
Air flow rate: (CMH)	1250

Particle size (µm)		**Average Efficiency %**		
		Final Pressure drop (Pa)		
Interval	Mean	**234**	**351**	**450**
0.25 - 0.35	0.3	63.3 ±1.69	72.8 ±1.59	78.9 ±1.66
0.35 - 0.45	0.4	86.3 ±2.06	90.2 ±2.00	92.3 ±1.39
0.45 - 0.55	0.5	88.9 ±1.65	92.1 ±1.87	94.0 ±1.85
0.65 - 0.75	0.7	90.2 ±1.85	93.2 ±1.69	95.1 ±1.64
0.85 - 0.95	0.9	92.5 ±1.69	95.1 ±1.57	96.5 ±1.58
1.15 - 1.25	1.2	94.1 ±1.49	96.2 ±1.63	97.4 ±1.74
1.65 - 1.75	1.7	95.5 ±1.52	97.2 ±1.85	98.2 ±1.66
Test dust capacity		750.2	992.1	1199.0
Filter class		_	_	F8

The uncertainty of the measured efficiencies is reported on a 95 % confidence level.



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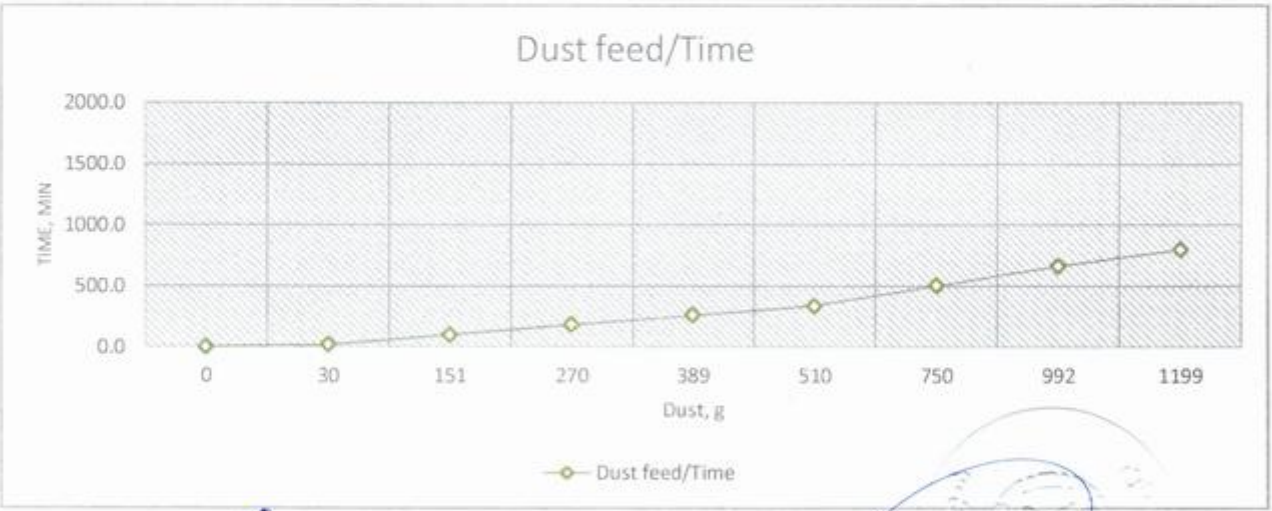
Report No: R-1400-LS-940

Inject time after different dust loading phases

Air filter:	Cylindrical filter
Test no:	1400-LS-940-1
Test aerosol:	DEHS
Dust concentration: (mg/m3)	70

Dust feed/Time	**Efficiency %**								
	Pressure drop (Pa)/ dust fed (g)								
	155	171	200	234	268	306	351	400	450
	0	30	151	270	389	510	750	992	1199
Time (min)	0.0	20.0	100.3	180.1	259.3	339.7	500.1	661.4	799.3

The uncertainty of the measured efficiencies is reported on a 95 % confidence level.



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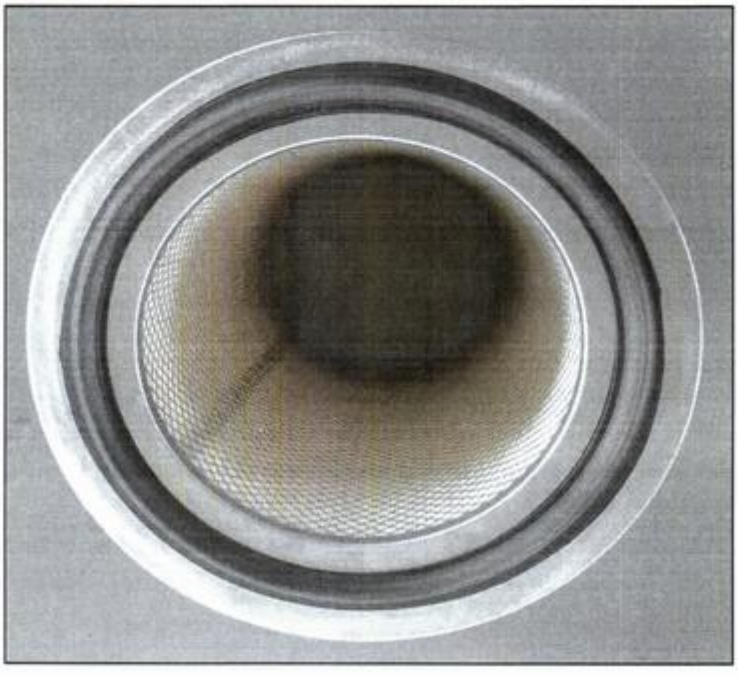

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