

SGS IBR JN: 25747A10

Report to: XXXXXXXXXX
 Docs Diesel
 614 E. Edgerton St.
 Bryan, OH 43506

PO Number: Credit Card

Sample Description: Spin-on Filter
 Sample Source: Doc's Diesel
 Sample Received Date: 2nd August 2022

Test Method: SAE J1985 (OCT2013) Fuel Filter- Initial Single-Pass Efficiency Test Method



Signed: *Michael Conrad*
 Michael Conrad
 Senior Test Technician

Authorized by: *Casey L. Frantz*
 Casey L. Frantz
 Liquid Lab Manager

Revision	Editorial or Technical	Description	Approved By	Release Date
		Initial Report Release	cf	5-Aug-22

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Test Method: SAE J1985 (OCT2013) Fuel Filter- Initial Single-Pass Efficiency Test Method

Test Laboratory: SGS IBR Laboratories	Test Date: 3rd August 2022
Performed for: Docs Diesel	Location: Bryan, OH 43506
SGS IBR Test No: 25747A10	Contact: XXXXXXXX
Source: Doc's Diesel	Date Received: 2nd August 2022

Filter Element Identification:

Customer Sample ID: Doc's Premium Fuel Filter DGF401	SGS IBR ID: 25747-19
Housing ID: IFJF 68157290AB	
Filter Orientation: Vertical	Flow Direction: Outside to Inside

Operating Conditions

Test Fluid: <u>Viscor L4264 V96D</u>	Batch: <u>176014</u>
Viscosity at test Temperature (mm ² /s) <u>2.7</u>	Temperature: <u>40-41°C</u>

Test Contaminant: ISO 12103-1 A2 Fine Test Dust	Analysis # 14855F
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Test System:

Flow Rate: 4 lpm	System Volume (L): 7
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Injection System

Injection Parameters	Initial	Final	Average injection parameters		
Injector Gravimetric Level (mg/L)	183	173		Initial	Final
			Injection flow (L/min)	0.12	0.12
Base Upstream Gravimetric level (mg/L)	5.3		Gravimetric level (mg/L)	5.5	5.2

Test Results

Element Integrity

Bubble Point to ISO 2942 ("H2O):	<u>18</u>
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Differential Pressure

Filter Assembly	<u>2.3 psid</u>
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Filtration Ratio and Efficiency

Average Filtration Ratio	2	10	75	100	200	1000
Average Efficiency	50%	90%	98.7%	99%	99.5%	99.9%
Particle Size, µm	<3	<3	4.3	3.8	4.6	6.8

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Performed by: MAC

Data Location: MAC-220803

Notice: These data relate only to the samples tested. This report may be copied only in its entirety.

SGS IBR 11599 Morrissey Rd Grass Lake MI USA 49240 Phone 517-522-8453 Fax 517-522-3695

Performed for: Docs Diesel
 SGS IBR Test No: 25747A10
 Test Date: 3rd August 2022

Location: Bryan, OH 43506
 Contact: Max Nihart
 Date Received: 2nd August 2022

Customer Sample ID: Doc's Premium Fuel Filter DGF401
 SGS IBR ID: 25747-19

Time	Filter Assembly Differential Pressure psid	Port	Particles / 120 ml at: (micron c)															
			≥3	Beta	≥4	Beta	≥5	Beta	≥8	Beta	≥10	Beta	≥12	Beta	≥15	Beta	≥20	Beta
2	2.3	Upstream	2784567		1353655		661970		169282		69607		37259		22613		9699	
		Downstream	181631	15	19599	69	1804	367	126	1344	37	1881	5	7452	1	22613	0	>9699
		Efficiency	93.48		98.55		99.73		99.93		99.95		99.99		>99.99		>99.99	
5	2.3	Upstream	2938320		1423545		695431		180695		74129		39308		24345		10317	
		Downstream	194351	15	21310	67	1939	359	125	1446	23	3223	5	7862	2	12172	0	>10317
		Efficiency	93.39		98.50		99.72		99.93		99.97		99.99		>99.99		>99.99	
10	2.3	Upstream	2933956		1409023		688753		179158		73122		39308		23921		10635	
		Downstream	205294	14	23373	60	2177	316	137	1308	22	3324	5	7862	0	>23921	0	>10635
		Efficiency	93.00		98.34		99.68		99.92		99.97		99.99		>99.99		>99.99	
20	2.1	Upstream	3046246		1451529		709158		183857		76868		40510		24380		10423	
		Downstream	226308	13	26707	54	2349	302	48	3830	5	15374	3	13503	0	>24380	0	>10423
		Efficiency	92.57		98.16		99.67		99.97		>99.99		>99.99		>99.99		>99.99	
30	2.1	Upstream	2875020		1368071		668507		172727		71833		38390		23832		10494	
		Downstream	232057	12	28233	48	2524	265	46	3755	3	23944	0	>38390	0	>23832	0	>10494
		Efficiency	91.93		97.94		99.62		99.97		>99.99		>99.99		>99.99		>99.99	
40	2.2	Upstream	2943549		1408104		688788		180271		70967		37418		23214		10264	
		Downstream	235724	12	30024	47	2765	249	44	4097	4	17742	2	18709	2	11607	0	>10264
		Efficiency	91.99		97.87		99.60		99.98		>99.99		>99.99		>99.99		>99.99	
50	2.1	Upstream	2980473		1404359		682764		177956		74129		39043		24327		10989	
		Downstream	251389	12	32457	43	2996	228	46	3869	5	14826	0	>39043	0	>24327	0	>10989
		Efficiency	91.57		97.69		99.56		99.97		>99.99		>99.99		>99.99		>99.99	
60	2.1	Upstream	3276160		1557458		760833		192408		78546		40510		24451		10936	
		Downstream	275211	12	36594	43	3390	224	61	3154	5	15709	1	40510	0	>24451	0	>10936
		Efficiency	91.60		97.65		99.55		99.97		>99.99		>99.99		>99.99		>99.99	
Average	2.2	Upstream	2972286		1421968		694525		179544		73650		38968		23885		10470	
		Downstream	225246	13	27287	52	2493	279	79	2269	13	5665	3	14845	1	38217	0	>10470
		Efficiency	92.42		98.08		99.64		99.96		99.98		>99.99		>99.99		>99.99	

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Performed by: MAC

Data Location: MAC-220803

SGS IBR 11599 Morrissey Rd Grass Lake MI USA 49240 Phone 517-522-8453 Fax 517-522-3695

INSTRUMENT LIST - Reported Values

Performed for:	Docs Diesel
SGS IBR Test No:	25747A10
Test Date:	3rd August 2022
Data Location:	MAC-220803

Reported Instruments:

Function	Range	Manufacturer	Model#	SGS IBR #	Calibration Due
Differential Pressure	2-20 psid	Omega	PX60600WCDI	ODP-44	October 2022
Test Flow	0.4-30 lpm	Endress + Hauser	63FS08	OF-103	November 2023
Temperature	-40 - 200 °C	Extech	407907	T-32	November 2022

Particle Counters (calibrated per ISO 11171)

Location	Range	Manufacturer	Model#	Serial #	Next Primary Calibration
Upstream Sensor	N/A	Pacific Scientific	8000A	G01101	November 2022
Downstream Sensor	N/A	Pacific Scientific	8000S	E12106	November 2022
Upstream Counter	3-100 µm	Pacific Scientific	LD-400	D6062701	July 2023
Downstream Counter	3-100 µm	Pacific Scientific	LD-400	D6062702	July 2023

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