

SGS IBR JN: 25747A8

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 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: 25747A8	Contact: XXXXXXXXXX
Source: Doc's Diesel	Date Received: 2nd August 2022

Filter Element Identification:

Customer Sample ID: Doc's Premium Fuel Filter DGF430	SGS IBR ID: 25747-17
Housing ID: MOPAR, 68358393AA	
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)	152	156		Initial	Final
			Injection flow (L/min)	0.12	0.12
Base Upstream Gravimetric level (mg/L)	4.6		Gravimetric level (mg/L)	4.6	4.7

Test Results
Element Integrity

Bubble Point to ISO 2942 ("H ₂ O):	<u>4</u>
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Differential Pressure

Filter Assembly	<u>3.6 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	<3	3.0	3.3	3.9

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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: 25747A8
 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 DGF430
 SGS IBR ID: 25747-17

Time MIN	Filter Assembly Differential Pressure psid	Port	Particles / 120 ml at: (micron c)															
			≥3	Beta	≥4	Beta	≥5	Beta	≥6	Beta	≥10	Beta	≥12	Beta	≥15	Beta	≥20	Beta
2	3.6	Upstream	3114563		1523927		756999		208820		87273		45633		28408		12261	
		Downstream	30940	101	1557	979	352	2151	70	2983	20	4364	4	11408	2	14204	0	>12261
		Efficiency	99.01		99.90		99.95		99.97		99.98		>99.99		>99.99		>99.99	
5	3.7	Upstream	3121011		1518892		754543		202796		82415		43054		26253		11625	
		Downstream	31673	99	1416	1073	238	3170	38	5337	8	10302	1	43054	0	>26253	0	>11625
		Efficiency	98.99		99.91		99.97		99.98		>99.99		>99.99		>99.99		>99.99	
10	3.6	Upstream	3173905		1529827		760744		204827		84023		43248		26535		12508	
		Downstream	32374	98	1190	1286	143	5320	19	10780	5	16805	0	>43248	0	>26535	0	>12508
		Efficiency	98.98		99.92		99.98		>99.99		>99.99		>99.99		>99.99		>99.99	
20	3.7	Upstream	3212312		1538908		767634		207389		85383		45015		28337		12508	
		Downstream	32335	99	1123	1370	103	7453	15	13826	8	10673	7	6431	5	5667	2	6254
		Efficiency	98.99		99.93		99.99		>99.99		>99.99		99.98		99.98		>99.99	
30	3.7	Upstream	3263493		1557652		773570		209650		85348		44114		27065		12791	
		Downstream	33852	96	1289	1208	140	5526	11	19059	0	>85348	0	>44114	0	>27065	0	>12791
		Efficiency	98.96		99.92		99.98		>99.99		>99.9		>99.99		>99.99		>99.99	
40	3.7	Upstream	2959043		1415842		704140		192390		78988		40298		25140		11519	
		Downstream	34370	86	1273	1112	93	7571	7	27484	2	39494	1	40298	0	>25140	0	>11519
		Efficiency	98.84		99.91		99.99		>99.99		>99.99		>99.99		>99.99		>99.99	
50	3.6	Upstream	2924752		1401797		697091		189122		76691		40633		25546		12225	
		Downstream	34819	84	1122	1249	47	####	4	47280	2	38346	0	>40633	0	>25546	0	>12225
		Efficiency	98.81		99.92		>99.99		>99.99		>99.99		>99.99		>99.99		>99.99	
60	3.6	Upstream	2991408		1425541		706702		191701		77168		41004		26482		12296	
		Downstream	36542	82	1188	1200	49	####	4	47925	1	77168	0	>41004	0	>26482	0	>12296
		Efficiency	98.78		99.92		>99.99		>99.99		>99.99		>99.99		>99.99		>99.99	
Average	3.7	Upstream	3095061		1489048		740178		200837		82161		42875		26721		12217	
		Downstream	33363	93	1270	1173	146	5083	21	9564	6	14289	2	26384	1	30538	0	48866
		Efficiency	98.92		99.91		99.98		99.99		>99.99		>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:	25747A8
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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