

SAATIMOTION

Advanced woven media for fuel-water separation

Advanced Diesel injection systems are working at high pressure under strict mechanical tolerances making continuous lubrication a priority.

The presence of water droplets and solid particles could seriously affect the lubrication performance and therefore the overall efficiency of the water separation system.

SAATI understands that fine filtration is necessary in order to meet these increasing demands and have developed a complete range of advanced woven media.

The SAATIMotion range of products are characterized by several features:

- Customized hydrophobic treatment (Hyphobe®)
- Consistent pore structure
- Uniform thickness
- Exceptional tensile strength
- Eco-friendly (fully recyclable)

Thanks to Hyphobe® and monofilament woven meshes, SAATIMotion guarantees high filtration efficiency and a high water separation rate (from Diesel fuel). The advantages of SAATIMotion for fuel-water applications are:

- High levels of fuel filtration performance
- High performance of water separation
- High open area and thus low pressure drop at the filter
- The capability to capture small droplets even with fuel showing low interfacial tension

Ask your SAATI representative for more information about the SAATIMotion range of products for the automotive industry. The R&D and Sales Department are at your disposal; they can offer support and have the experience to help you select the correct media for your application.

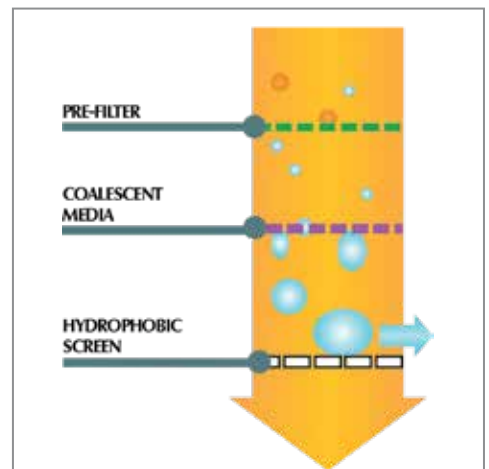


Fig. 1: water separation scheme

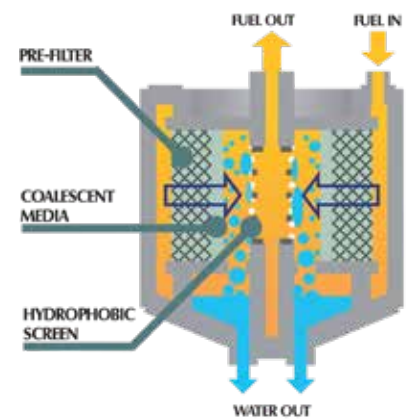


Fig.2: possible filter configuration if coalescent media is used

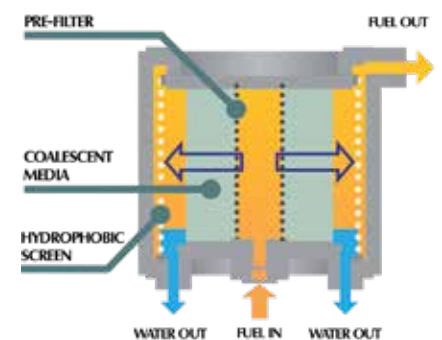


Fig. 3: another possible filter configuration if coalescent media is used

Within out standard polyester mesh range a new set of fabrics, characterized by an increased open area, have been introduced. High open area means lower pressure drop at the filter and thus an improved water separation efficiency even whith low IFT fuels.

SAATIMotion Hyphobe® Polyester

Product No.	Mesh Opening	Open Area	Weight	Thickness	Air Permeability 20mm WG
	µm	%	g/m ²	µm	l/m ² s
PES 53/40	53	40	27	48	4700
PES 41/28	41	28	37	60	3575
PES 30/30*	30	30	24	44	3790
PES 30/24	30	24	35	60	2800
PES 25/27*	25	27	28	44	2100
PES 25/17	25	17	38	49	1400
PES 21/23*	21	23	28	42	1700
PES 18/18*	18	18	32	44	1200
PES 18/13	18	13	48	60	800

The listed technical specifications are referred to the arithmetic mean value of production samples and are subject to change without any notification, in accordance with our policy of continuously improving our products.

This is just a small selection of possible SAATIMOTION range of mesh for the fuel water separation. Complete mesh range is available on request., including **SAATIMotion Hyphobe® Polyamide items**

PES (PET) = polyester

* new item - high open area

SAATI customization

At our state-of-the-art facilities, we also provide tailor-made solutions, guaranteeing superior quality and lot-to-lot consistency of the products.



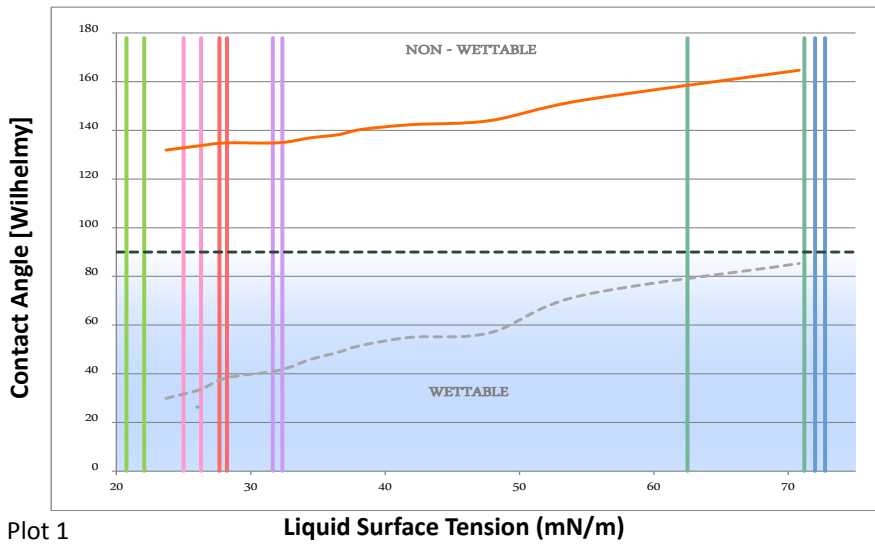
Fabricated parts



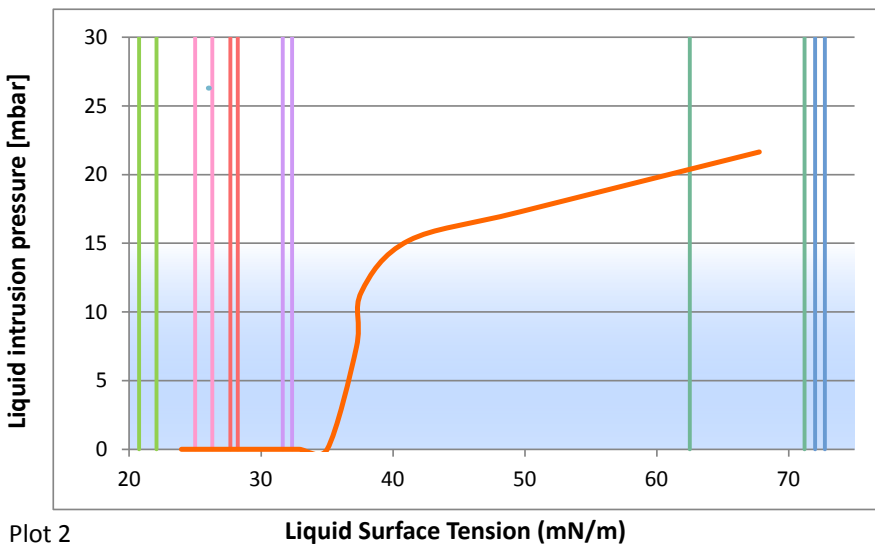
Dyeing



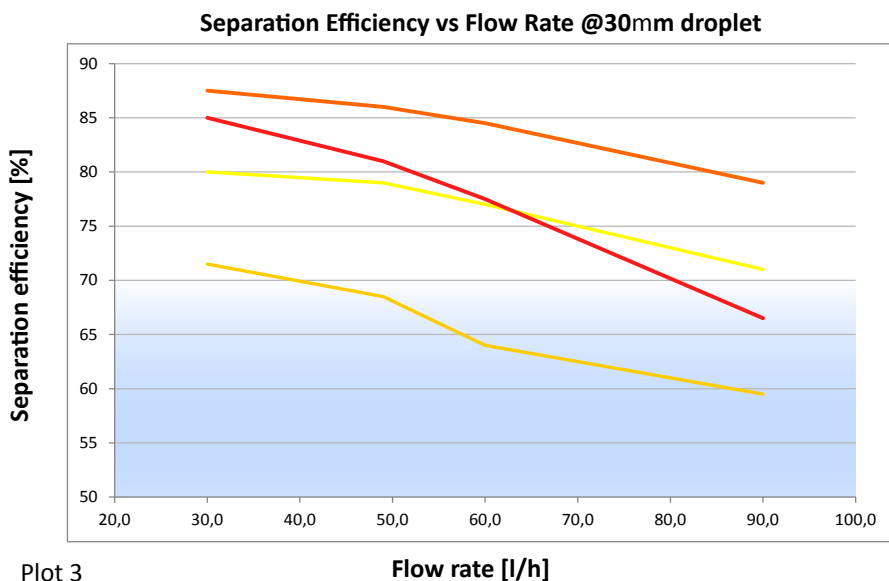
Metal Coating



- Water
- Salt Water
- Oil
- Diesel
- Jet Fuel
- Gasoline
- PES Hyphobe®**
- PES untreated



High repellent behavior against water and many other liquids, having a surface tension down to 20 mN/m (as shown in plot 1). Polyester fabrics perform effectively in diesel/water separation because the liquid intrusion pressure decreases dramatically when the liquid surface tension decreases (as shown in plot 2). Therefore if the contact angle is high, the liquid having lower surface tension can flow through the mesh easier than water. This behaviour makes SAATIMotion Polyester fabrics with Hyphobe treatment an excellent solution for diesel / water separation.



- PES 25/27**
- PES 25/17
- PES 18/18
- PES 18/13

In plot 3 new items with increased open area are compared with standard fabrics in terms of diesel water separation efficiency (ISO/TS 16332:2006). Keeping fixed the pore size, due to the reduced pressure drop at the filter, granted by the higher open area, the water separation efficiency increases considerably. The higher permeability that characterizes this new meshes allows to choose items with smaller mesh opening, without affecting too much flow conditions, with a dramatic increase of the separation efficiency.

Contrary to metal wire mesh, SAATIMotion products are **fully recyclable** being made of the same polymers used in plastic filter housings in vehicles.



Addresses

SAATI S.p.A - Headquarters
Via Milano 14
22070 Appiano Gentile (Co)
Italy
T: +39 031 9711
F: +39 031 933392
Email: info.IT@saati.com
Website: www.saati.com

SAATI AMERICAS CORP.
201 Fairview Street Extension
SC 29644 Fountain Inn
USA
T: +1 (864) 601 8300

SAATI FRANCE SAS
74 Route de Bapaume
80360 Sailly Saillisel
France
T: +33 12300 7700

SAATI Serigrafia Iberica S.A
12550 Almazora (Castellon)
Pol. Ind. 'El Mijares' C/Industria 13
Spain
T: +34 964 550688

SAATI DEUTSCHLAND GmbH
Ostring 22
46348 Raesfeld
Germany
T: +49 2865 95800

SAATI RUSSIA
23 Shvetsova str.
198095 Saint-Petersburg
Russia
T: +79 062788343

SAATI KOREA LTD.
IT valley B101, Hogye-dong Dongan-gu
Anyang-Si Gyeonggi-do 431-848
Korea
T: +82 31 421 6957

SAATI INDIA PVT LTD.
Plot no. 147-175 Samayapuram main road,
600116 Karambakkam, Porur, Chennai
India
T: +91 44 24760 420

SAATI TECHNICAL FABRIC (TIANJIN) CO., LTD.
Cross of Saida 2nd Branch Road and Saida
Century Avenue,
Xiqing Economic Development Area,
300385, Tianjin
P.R.C
T: +86 22 23960843

Company Profile

SAATI s.p.a is leader in the development, production and commercialization of high-tech precision monofilament and multifilament fabrics for advanced industrial application in several business segment.

SAATI –Filtration specializes in the production of technical fabrics and components in polyamide, polyester and polypropylene, with special finishing treatments.

The products are used in a wide range of different filtration fields, such as automotive, water, medical industries, acoustic, appliance sectors, milling, along with many other industrial applications.