CLEANDiesel™

DI & DSO – *WATER COALESCING AND SEPARATION*

Particulate and Water Removal from Diesel Fuel

Benefits

- Extend Equipment Up-time
- Reduced operating costs
- Reliable fuel injector performance
- Improved equipment uptime
- Reduced fuel system maintenance

Description

As fuel is transported from the refinery to its point-of-use, it can quickly become contaminated from silica, pipe scale, and water condensate. These contaminates rapidly deteriorate fuel cleanliness far beyond engine manufacturers minimum requirement for fuel cleanliness.

The combination of Velcon's DI and DSO filters transform contaminated fuels to meet stringent downstream ISO 4406 and ASTM D975 water and particulate cleanliness standards for petroleum based diesel fuels.

The first stage in the DI coalescer removes particulates through an inside-out flow and coalesces emulsified water into large droplets, which then fall to the housing sump. In the second stage, an outside-in process of the DSO separator creates a hydrophobic barrier to block the coalesced water droplets from flowing downstream of the housing. This multi-stage design assures the fuel is conditioned to a clean and dry state, ready for use.

Tiered Ratings

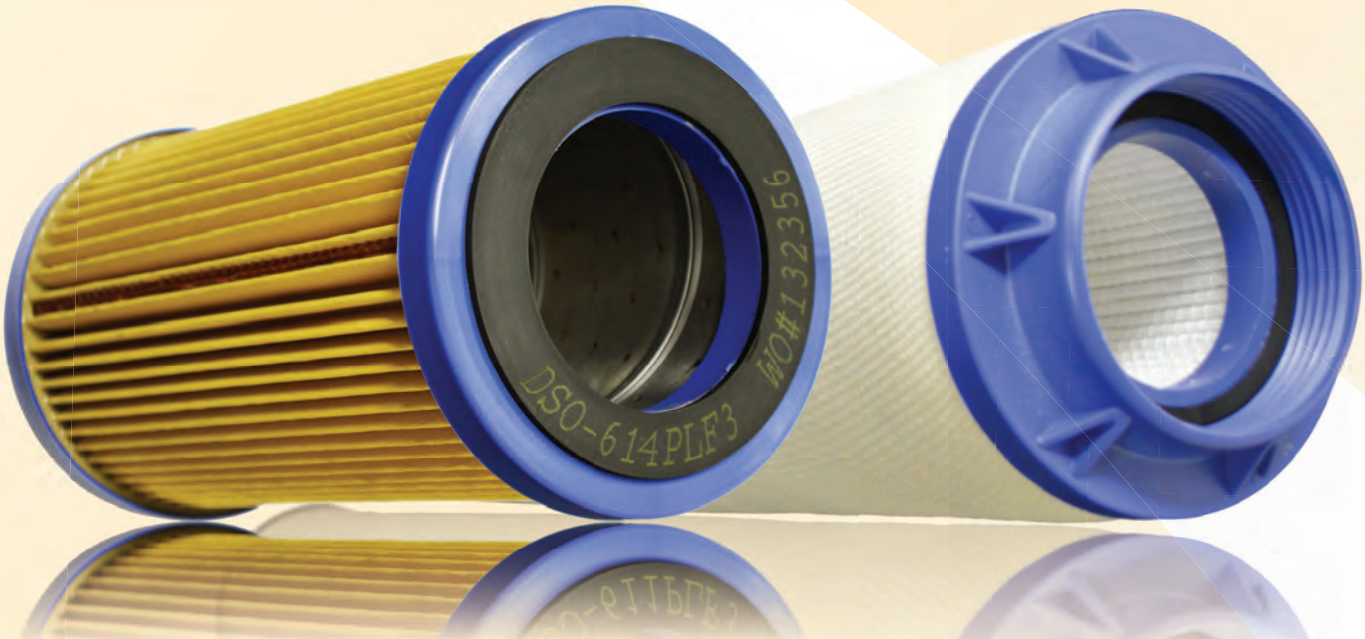
- Velcon's 4 micron coalescer combines leading-edge particle removal with world-class coalescing technology to provide optimal technology.
- The 10 and 25 micron rated filter coalescer provides effective particle removal with industry proven coalescing technology.

Specifications

- All filter components compatible with petroleum based diesel fuels
- Downstream free-water level typically below 50ppm
- Recommended change out pressure – 25 psid (1.7 bar)
- Buna-N sealing materials standard
- Maximum operating temperature – 160°F (71°C)
- 6 inch (15.2 cm) outer diameter
- DI - coalescing flow direction – inside to outside
- DSO - separator flow direction – outside to inside

Surfactants

- Water coalescing is not effective in the presence of fuels containing high levels of surfactants/alcohols or unrefined biofuels.
- Detergents and additives inhibits the ability of coalescers to effectively remove water by reducing Interfacial Tension (IFT) and can eventually disarm coalescers.
- Contact Velcon Filters Laboratories for further analysis of your fuel for presence of surfactants.

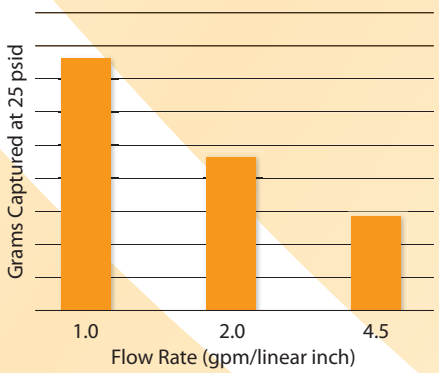


System Sizing

Velcon is a recognized leader in the development and application of water coalescing technology. Our 60 years of experience has proven that the successful implementation of coalescing systems is dependent on the initial system sizing and configuration. Many companies commonly under-size filtration systems while increasing filtration flow rates in order to minimize up-front costs. Sizing a filtration system solely on flow while failing to account for incoming fluid contamination levels results in reduced filter life and high operating costs. Velcon's extensive bulk fuel handling experience and our state-of-the-art fuel testing laboratory have quantitatively proven that increased system/housing will allow for lower flow rates per filter while dramatically extending the service life of the elements. ***Systems "sized for life" commonly see a full repayment of the additional system cost through operating savings***. Using Velcon's proprietary software, ***SizeRight™***, for system sizing, we can help you select the right housing and elements for your application based on your ISO 4406 cleanliness requirements and specified change-out interval while also providing you estimated yearly operating cost.

For additional information on this powerful tool, please contact Velcon or our local representative to have your filtration system ***SizeRight™*** for your specific needs.

Flow vs Filter Loading



ISO Code *vs* Mass

ISO Code	lbs/yr *(kg/yr)*
24/22/20	1609 *(730)*
22/20/18	564 *(256)*
17/15/13	20 *(9.1)*
12/9/7	4 *(1.8)*

Notes:
1. *Values are based on usage of +3.5M Liter per year*
2. *Field results may vary*

DI Part Numbering

Velcon recommends use of threaded base endcaps for ease of installation and to minimize components.

		O.D. *in. (mm)*	Length *in. (mm)*		Rating *(µm)*	Endcap
DI	–	**6** *6 (152)*	**14** – *14 5/8 (371)* **28** – *27 7/8 (709)* **38** – *38 (965)* **44** – *44 (1118)* **56** – *56 (1422)*	**PLF**	**4, 10, 25**	**TB** *(Threaded base)*

Example:

DI-6**28**PLF**25**

Variables that often change for the DI part numbers when placing an order are the length and the µm ratings; as seen in the case of the above example with the number 28 (length) and the number 25 (µm rating).

DSO Part Numbering

		O.D. *in. (mm)*	Length *in. (mm)*	
DSO	–	**6** *6 (152)*	**14** – *14 5/8 (371)* **29** – *29 1/8 (737)* **33** – *33 1/4 (914)* **44** – *44 (1118)*	**PLF3** *(paper)* **C** *(screen)*

Example:

DSO-6**14PLF3**

Variables that often change for the DSO part numbers when placing an order are the length and the hydrophobic material. In the case of the above example with the number 14 (length) and the PLF3 (hydrophobic material) change.

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Velcon®

Products are sold and serviced by a worldwide network of representatives.
To order, contact Velcon corporate headquarters or a local Velcon representative:

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Due to continuing product improvement, Velcon Filters' drawings, specifications and pictures are subject to change without notice.
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