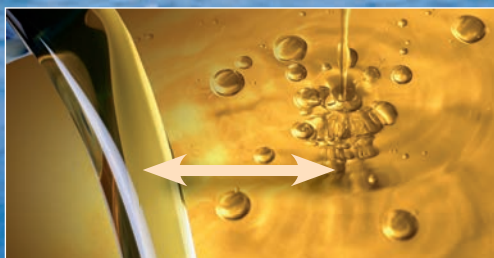


DIESEL SWITCH

Change over or blending



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Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48

Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
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Красноярск (391)204-63-61
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Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41

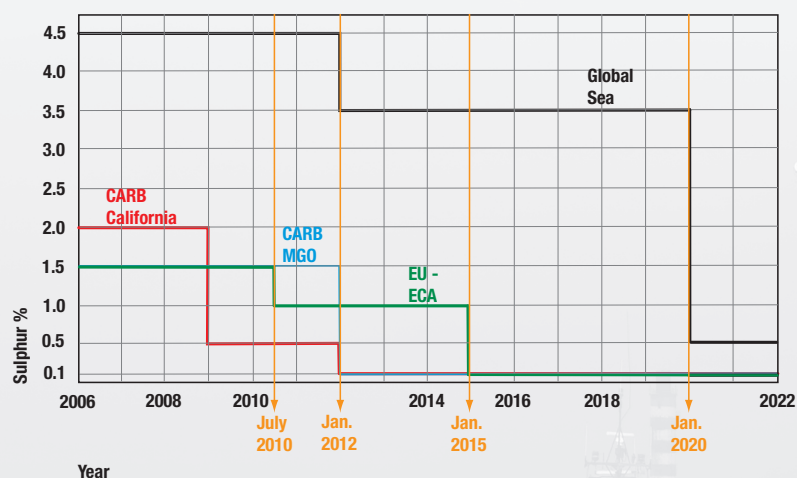
Нижний Новгород (831)429-08-12
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Новосибирск (383)227-86-73
Орел (4862)44-53-42
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Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78

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Worldwide emission control areas (ECA)



Timeline for sulphur limitations in fuel oil

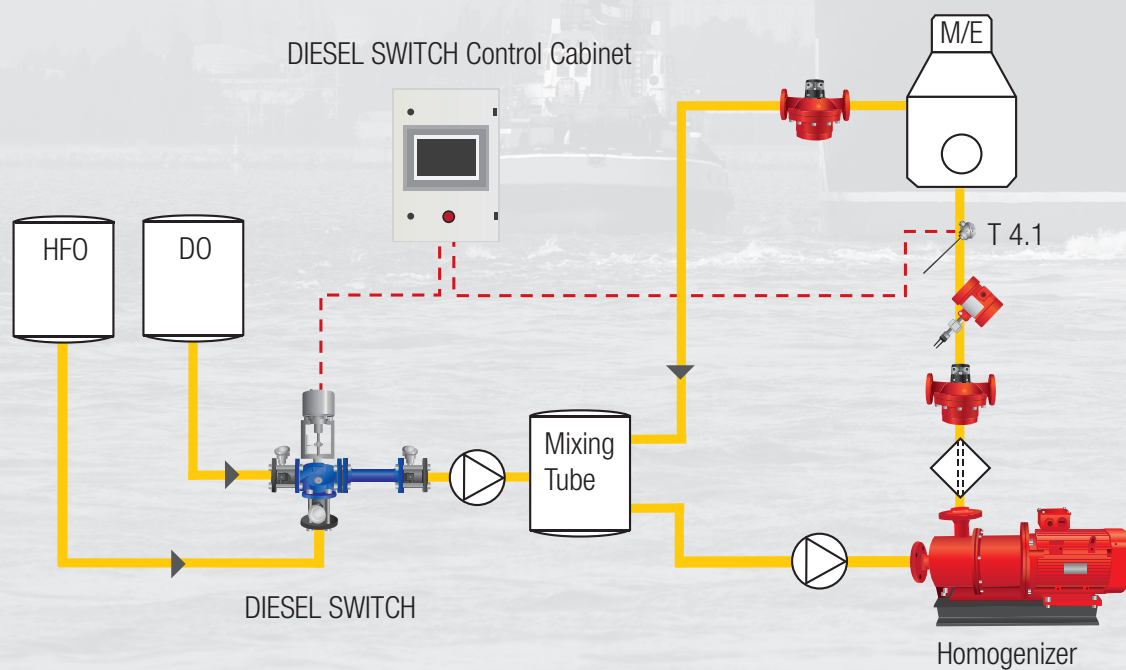


MARPOL ANNEX VI Regulation 14 and Regulation 18

EU Directive 1999/32/EC and 2005/33/EC for Baltic and North Sea ECA

CARB - California Air Resources Board - Regulation 13 CCR §2299.2(e) and 17 CCR § 93118.2(e)

System Application Layout



DIESEL SWITCH Technical benefits

Manual change over valve

- ! risk of incidents due to uncontrolled change over
- ! risk of damages in fuel system due to temperature shocks

DIESEL SWITCH

- ✓ automatic and safe change over unit with safety functions
- ✓ no risk of incidents
- ✓ improved temperature separation of fuel systems
- ✓ effective change over or blending procedure
- ✓ simple and universal design - easy installation
- ✓ new and improved algorithm for fuel change
- ✓ viscosity monitoring with alarm function

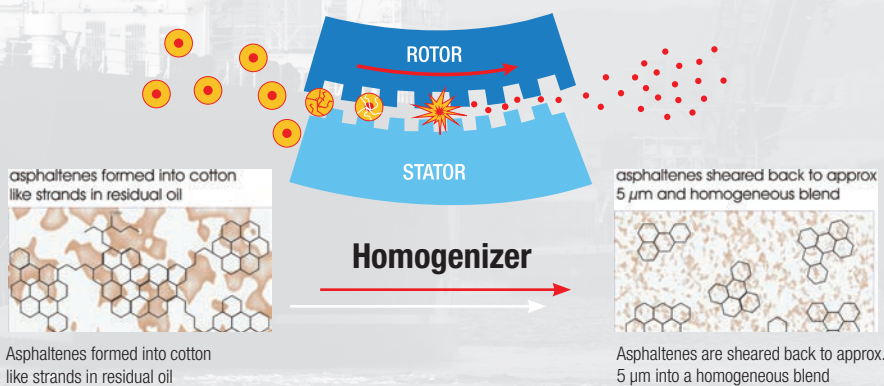
Saving potentials considering fuel oil blending

Example

- Sulphur-limit of 1 % in ECA
- Price of MDO EURO 750.-/mt, price of HFO EURO 480.-/mt
- 3 % Sulphur in HFO, 0.3 % Sulphur in MDO
- Price of blend oil EURO 680.-/mt (Ratio = 26:74 = HFO:MDO)

ROI will be between 3...12 months!

Homogenizer (optional)

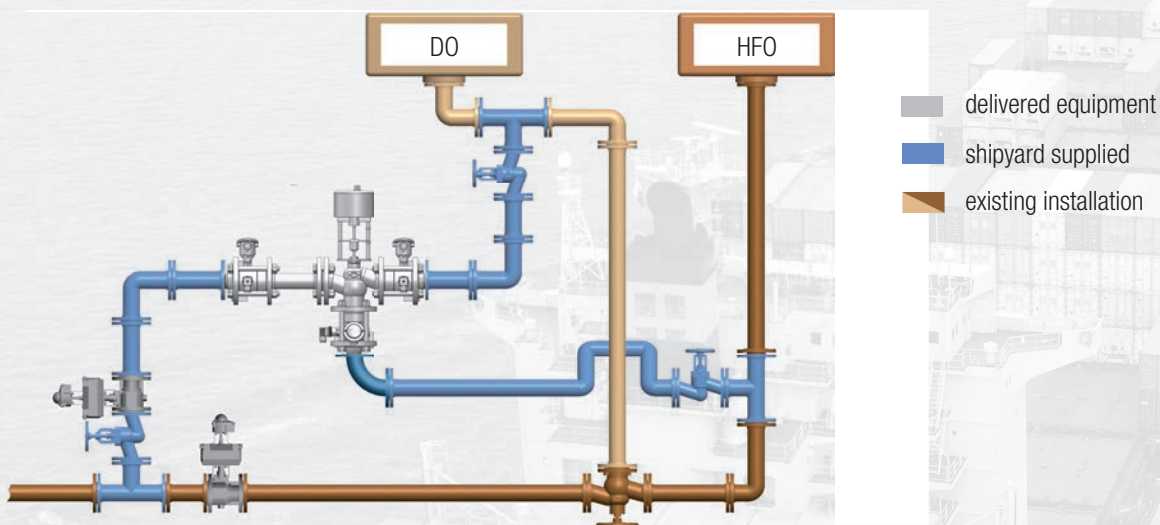


Homogenizing of fuel oil and fuel oil blends

- Continuous HFO homogenizing on board
- Pure mechanical and no chemical treatment
- Improved combustion process
- Reduced exhaust emissions

Specifications and ordering information

DIESEL SWITCH



Power supply	230VAC; 50/60Hz; 80W		
Air supply	6bar dry and clean air (for pneumatic shut off valve)		
Size / type	Flange connections		Art. No.
DIESEL SWITCH DN32	DN32; PN16		94716
DIESEL SWITCH DN40	DN40; PN16		94717
DIESEL SWITCH DN50	DN50; PN16		94718
DIESEL SWITCH DN65	DN65; PN16		94719
DIESEL SWITCH DN80	DN80; PN16		94720

Options	Art. No.
Fuel Compatibility Kit	94721
Profibus - cable	80682
Temperature transmitter T4.2 (DN32-50)	80782
Temperature transmitter T4.2 (DN65-80)	80786
Record Book	94722
2nd display	94728
GPS option	95190
Valve Position Switch Box V5	95306
Valve Position Relay Box V5	95317
Manual Shut off valves available	

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