

# Filtration Group application example – Marine Industry

## Duplex Filters for transmission oil filtration on ships – Pi 210



Marine Industry

### Initial situation

Working ships like tug- and fishing-boats or ferries need to be very maneuverable to operate on limited space.

Hydraulic controlled turning transmissions are installed to enable the ship to do the assigned job in an economic and cost efficient way. **A failure of these transmissions can cause disastrous dangers for humans and machines on the ship.** Even under extreme conditions the transmission need to work reliably. A continuously high cleanliness of the lubrication oil has highest priority.



### Solution statement

- The lubrication oil is filtered by a Filtration Group duplex filter of the Pi 210 series with a **25µm Premium Select filter element**
- Thanks to the duplex design of the Pi 210, the elements **can be changed under full load** by a simple switch of the operating filter
- The Premium Select Technology ensures high cleanliness levels of the lubrication oil and extends the lifetime of bearings
- The Inline filter could be installed easily **directly at the housing** without any additional pipings



### Customer value

- The aluminum filter housing is **light and cost efficient**
- Filtration Group Premium Select elements provide an up to **30% higher dirt holding capacity** at reduced differential pressure in combination with a constantly high well-defined retention rate
- This leads to **significantly reduced maintenance requirements**
- Easy operation of the duplex filters thanks to **lever lock, pressure adjustment and user friendly single hand operation**
- Operating pressure up to 32 bar** possible
- The Pi 210 Series is **approved** by the established certification offices in the marine industry (Lloyds, BV, GL, DNV)

### Challenge

- Only one shared filter unit** for the lubrication circuit and the hydraulic switching multi disk clutch
- The filter unit shall be easily accessible from the outside and shall be **easy to operate and to maintain**
- The maintenance has to be possible **without interruption of operation**
- The filter unit has to be approved by the established certification offices in the marine industry

### Technical data

Viscosity: 68 mm<sup>2</sup>/s at 40°C  
Volume flow: 30 l/min  
Filtration rate: 25 µm  
Operating pressure: 25 bar

