

HYDAC INTERNATIONAL

Professional Tank Optimization



HYDAC

Technology Platform
Tank Optimization

EN 7.025.0/07.17



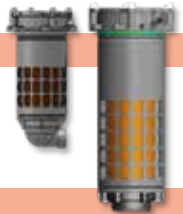
Standard Product Range for Tank Optimization

IN-to-OUT Filtration

- Upstream flow from the bottom – outlet close to oil surface
- Low outlet velocity
- Minimized turbulences in the tank
- Smooth oil blending in the tank
- Additional options (Quality Protection to secure the spare parts business)

Integrated Deaeration Windows

- Guidance of flow above oil level
- Coalescence of air bubbles



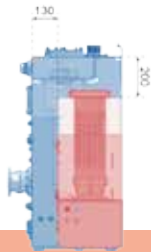
Different Designs

Within the HYDAC standard product range of filters we offer different designs such as e. g.

- Filter solutions with upstream flow from the bottom,
- Filter solutions with upstream flow from side,
- Integrated Quality Protection (as an option),

which enable maximum tank optimizing potential.

Besides to standard filters we provide even customized solutions.



Advantages

- Reduction of oil volume
 - ➔ Environmental protection, cost savings for end user
- Reduction of tank size
 - ➔ Available design space for additional components
 - ➔ Cost savings for OEM (material)
- Lower complexity of tank, fittings and connections ...
 - ➔ Cost savings for OEM (material, assembly)

Why Do We Recommend a Tank Optimization?

Legal requirements and global competition put strong pressure on OEMs: decreasing costs and increasing energy efficiency as key to be competitive as well as high requirements based on emission's directive belong to the usual daily challenges of OEMs. It is tough to install additional engine components in the already quite limited design space to match certain standards.

Changes in design engineering driven by the market and the resulting increased space demand for new components HYDAC faces with system-optimized tank reduction securing the reliability of the machine in the end.

In every existing tank system HYDAC sees the opportunity of optimizing and reducing the tank. OEMs and end user can benefit from lower costs thanks to less material demand as well as smaller oil volume, environmentally friendly products and from additional space in the engine compartment.

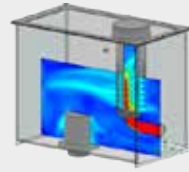
How HYDAC Supports You

Our optimizing experts in the field of tank and filtration systems support you during the design-engineering revision of your machine through:

- **Simulations, tests and experience**
- **Optimized filter systems**
- **Reduction of complexity of the tank and optimization of space**
- **Spare part management**

Tools for System Optimization

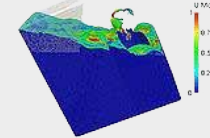
Tank Simulation (Computer-aided optimization of tank systems)



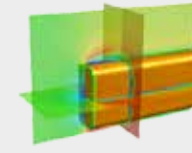
Flow



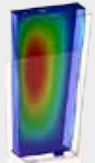
Deaeration



Sloshing

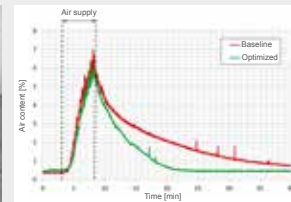


Thermal



Structural

Laboratory Tests



- Experimental investigation of the deaeration performance of tank systems
- Unique air content sensor for quantitative characterization, optimization and validation of tank systems

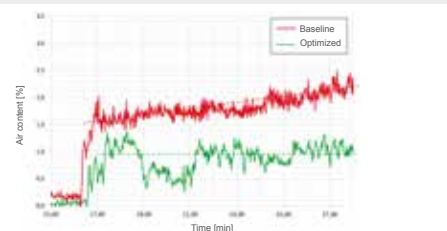
Experience & Know-How

HYDAC FluidCareCenter®



- Many years of experience in the field of "Air in oil"
- Research & Development Center for Filtration
- Innovative laboratory and test equipment
 - ➔ Individual system analysis
 - ➔ Customized and application-specific solutions

Field Tests (Characterization & validation under real working conditions)



- Measuring the air content in the real hydraulic system
- Investigation of the influence of working conditions to the air content
- Final validation of optimized tank systems





HYDAC Provides You

- Many years of project experience and know how
- Extensive system optimization tools like simulation and testing
- Application-oriented filter solutions
- **Comprehensive optimization of filter-tank system**



Your Benefits

- **Professional support during tank system selection**
- **Design space optimized tank systems**
- **Cost reduction due to lower level of complexity**
- **Increase of machine reliability**
- **Environmentally friendly products**
- **Securing the spare part business**

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