

Central
heating
systems

Central
cooling
systems

Energy
optimisation



Frese Marine

Optimise Your Engine Room Cooling Systems



Dynamic Valve Technology with Maximum Reliability and Efficiency

Since we patented the first automatic valve in the 1980s, we have pioneered the industry. Today, you will find our innovative valve technology in critical applications and environments all over the world because of its exceptional reliability and unrivalled level of energy efficiency.

Partnering with us enables you to transition from static to dynamic valves with peace of mind. We have accumulated extensive knowledge about materials, products and applications for more than 75 years, enabling us to keep your operation running at maximum efficiency and reliability.

Pressure Independent Balancing and Control

Frese's patented pressure independent technology is an innovative, energy saving alternative to traditional hydronic balancing and control methods, and it provides efficient and accurate flow and differential pressure control.

By being pressure independent, the valves ensure that design flow conditions are achieved at all times, irrespective of pressure fluctuations in the system, and also eliminate overflows – resulting in significant pump energy savings.

Dynamic valves hold several other advantages over traditional static balancing valves.

They contribute to simplified system design by eliminating the need for additional balancing valves in the distribution pipework and are highly flexible if your system needs to be modified or expanded at a later date.

Pressure independent control valves are also much easier to commission since they require no proportional balancing. They automatically adapt to any changes in the rest of the system.



The Clever Decision for Saving Fuel and Lowering CO2 Emissions

Cooling water systems with static valves are safe. But they are also energy-consuming and labour-intensive to commission and maintain.

Imagine if you could achieve massive energy savings of 20% to 35% of the electric power consumption without compromising reliability and durability. And imagine if you could do it with a simpler system with fewer valves and a much quicker commissioning process.

The key to obtaining this lies in the valve technology in the engine room.

The future-proof valve system

Today, many use traditional static valves in the engine room and have concerns about transitioning to dynamic valves. Will the new system work? Who takes responsibility if it fails? And will the time-consuming task of redesigning the existing system pay off?

When land-based industries transitioned from static to pressure independent valves, they had the same concerns. But today, they reap the benefits of dynamic valve technology. Now, the same change is taking place in the marine industry.

Build on your existing system

The 3-way rotary control valve is standard on most ships. The natural next step is upgrading and improving the engine room with dynamic valves.

You can easily switch to dynamic valves using Frese valve technology because they interact perfectly with the 3-way control valve.

Return on investment in less than two years

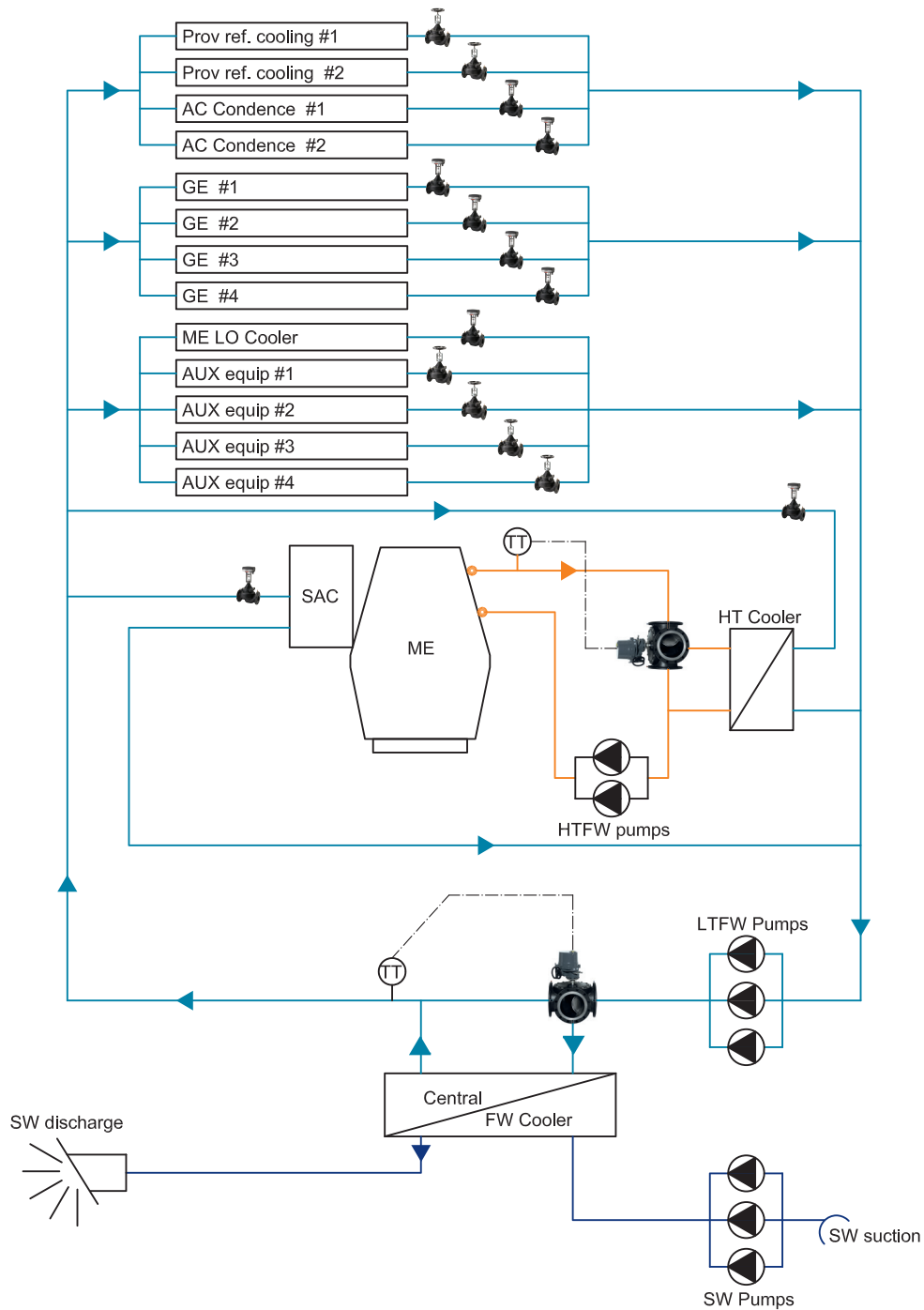
The facts speak for themselves. A system with dynamic valves is much simpler to design. You can reduce commissioning time between 50% and 80%. And the energy savings on the pump alone is up to 50%. On top of that, the return on investment is down to 15 months on average.

The financial benefits as well as the reliability, energy efficiency, commissioning and maintenance levels make dynamic valves the smart long-term decision to achieve energy savings, lower CO2 emissions and a better bottom line.



Benefits to the designer	<ul style="list-style-type: none"> + Simplified system design + Design conditions achieved 	<ul style="list-style-type: none"> + No complicated control valve Kv calculations + Early selection of valves possible
Benefits to the installer	<ul style="list-style-type: none"> + Easy to install + Fewer components to install 	<ul style="list-style-type: none"> + Simplified commissioning + Required flow rate can be adjusted on-site
Benefits to the operators	<ul style="list-style-type: none"> + Minimal maintenance + Energy efficient interaction with variable speed pumps 	<ul style="list-style-type: none"> + No overflow in the system + Cooling water system is always in balance
Applications Fresh water	<ul style="list-style-type: none"> + Chilled water systems + Low temperature fresh water cooling system (LTFW) 	<ul style="list-style-type: none"> + Central heating systems + High temperature fresh water cooling systems (HTFW)
Applications Sea water	<ul style="list-style-type: none"> + Sea water cooling system + Ballast water treatment system (BWTS) 	<ul style="list-style-type: none"> + Sea water for scrubbers

Typical Marine Cooling Water Application



AC Airconditioning
GE Generator Engine
ME Main Engine
LT Low Temperature
HT High Temperature

LO Lube oil
SAC Scavenging air cooler
TT Temperature transmitter
FW Fresh water
SW Sea water

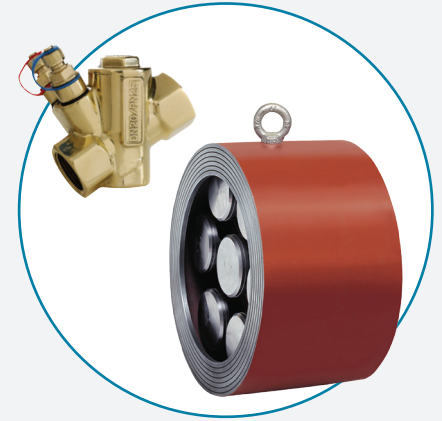
— LTFW System
 — HT FW System
 — SW System

Dynamic Flow Limiting Valves

ALPHA

ALPHA is a fixed flow control valve for systems where the required flow has been specified, and the valve is constructed for this particular flow.

Size:	DN15-DN1000
Flow range:	25 l/h to 6,120 m ³ /h
Pressure rating:	PN16/PN25
Available Materials:	DZR Brass, Ductile Iron, Stainless steel and Nickel-Aluminium-Bronze Other materials on request



Dynamic Flow Limiting Valves - Externally Adjustable

SIGMA Compact

SIGMA is an externally adjustable dynamic balancing valve, which provides simple, accurate and reliable flow limitation and isolation in cooling systems.

Size:	DN15-DN300
Flow range:	40 l/h to 600 m ³ /h
Pressure rating:	PN16/PN25
Available Materials:	DZR Brass, Ductile Iron and Stainless steel



Pressure Independent Control Valves

OPTIMA Compact

OPTIMA Compact combines an externally adjustable automatic balancing valve, a differential pressure control valve and a full authority modulating control valve.

Size:	DN15-DN300
Flow range:	30 l/h to 600 m ³ /h
Pressure rating:	PN16/PN25
Available Materials:	DZR Brass, Ductile Iron and Stainless steel



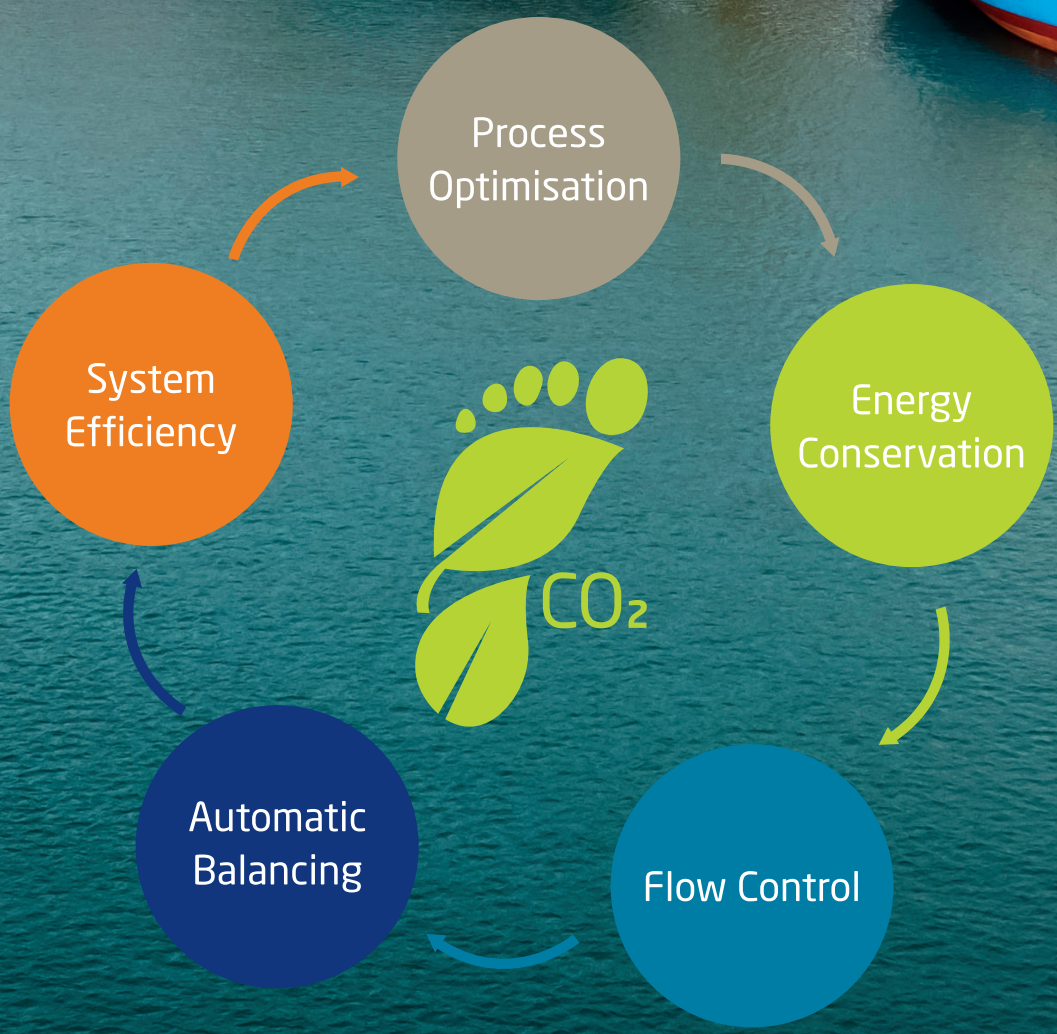
3-way Rotary Control Valves

OMEGA Compact

The OMEGA Compact is a solid 3-way rotary control valve that provides simple, accurate and reliable flow regulation.

Size:	DN 65-DN800
Pressure rating:	PN10/PN16
Available Materials:	Nodular cast iron. Other materials on request
Leakage rate:	Class IV acc. to EN1349 (0.01%)





World's Most Energy Efficient **3-way Rotary Control Valve**

Low Pressure Drop and Zero Leakage

Like all Frese products, the OMEGA Compact is designed with energy savings as a central target.

Compact Solution

Reduced weight and installation space required.

Easy Maintenance and Operation

The OMEGA Compact is designed for easy on-site service and maintenance.



Scan and
read more



OMEGA Compact



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