

PARTNERSHIP INNOVATES NEW MARINE SCRUBBER PUMP APPLICATION

CIRCOR'S GERMAN ENTITY ALLWEILER GMBH RECEIVED BIG PUMP ORDER TO BE INSTALLED IN BILFINGER ENGINEERING & TECHNOLOGIES' (BET) EXHAUST GAS CLEANING SYSTEM FOR SHIPS

BET Bilfinger sought to expand its environmentally-focused service, construction and component-systems networking capabilities into new sectors. Traditionally serving power and industrial customers having stringent process and material requirements, BET Bilfinger identified marine applications as a natural fit.

The reason: Enforcement of the International Maritime Organization's (IMO) global sulphur cap on emissions from commercial vessels, with an enforcement date of 1 January 2020. The cap calls for a 0.5% Global Sulphur Limit on fuel content from its present level of 3.5%. To support this while still operating on traditional and price-efficient Heavy Fuel Oil (HFO), commercial vessels will require enhanced scrubber systems onboard to clean emissions from main and auxiliary engines.

THE CHALLENGE

BET Bilfinger's industrial Exhaust Gas Cleaning Systems became a subject of focus. What would it take to operate, within the IMO requirements, what is essentially a chemical process onboard a commercial marine vessel? A team from CIRCOR's German Allweiler entity was enlisted to help.

Scrubber pump systems chemically facilitate the filtering of sulphur oxides, soot and larger particulates from exhaust emissions at high temperatures and varying pH levels. Standard water pumps cannot withstand this operation.

Over the span of two years, CIRCOR worked with BET Bilfinger to map out the specifics of the new pump application for sulphur emission control. It had to be suitable for specification by shipyards and ship owners in time for 2020's enforcement of the new IMO regulations



Photos courtesy of BET Bilfinger

THE SOLUTION

For customers, the most critical criteria include vessel space limitations; material requirements according to fluid specification and temperature; and time from order to delivery. Two Allweiler centrifugal pump series – NIM and MA-S – were suitable candidates to fulfill such requirements.

Using CIRCOR's 3D modeling, Bilfinger pinpointed the optimal configuration of a scrubber system within an engine room, and planned its piping accordingly. Each scrubber system would be comprised of three seawater pumps and one quencher pump to cool the sulphur gases.

THE RESULTS

Once the solution had been established and knowing that Allweiler runs its own foundry which guarantees reliable delivery times, BET Bilfinger placed an order for 168 pumps for 42 vessels to be delivered in quick-turn intervals over two years for the first ships by the required deadline.

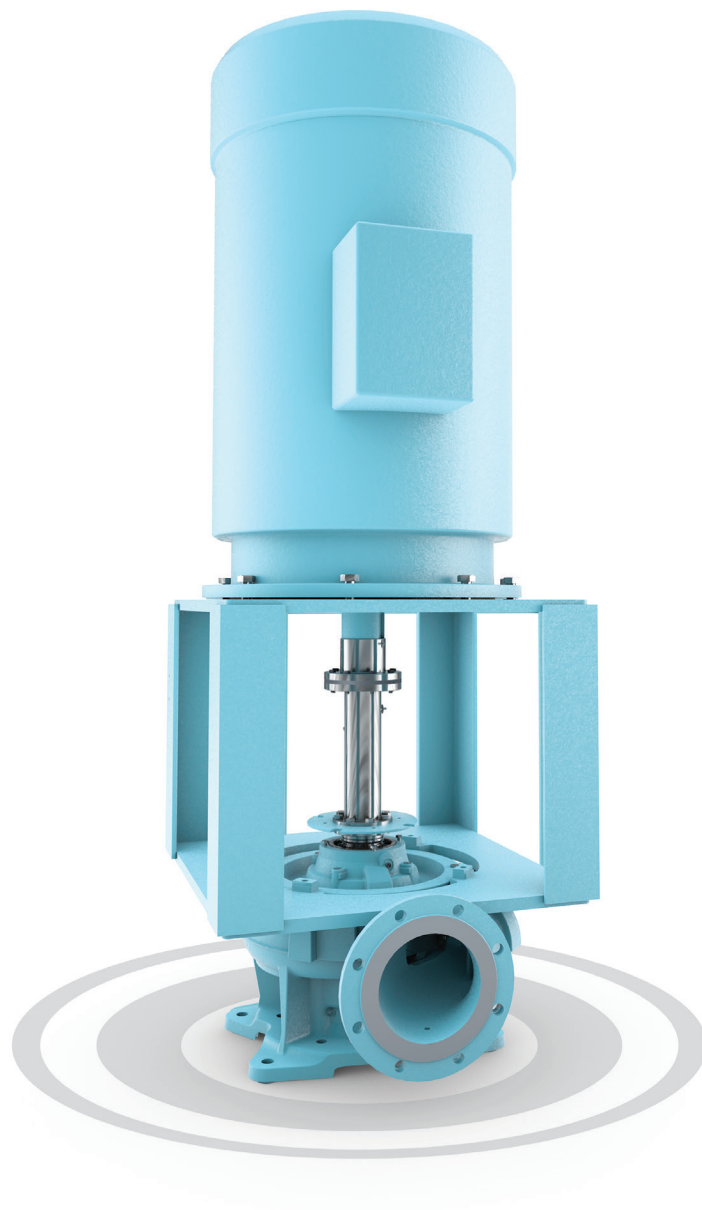
Cooperation among CIRCOR's global commercial marine sales team, its German sales department and distributors in the marine sector enabled BET Bilfinger to launch its new product offering to the market with the promise of an ongoing relationship to fulfill the market's needs.

ALLWEILER® MA-S CENTRIFUGAL PUMP

MA-S is distinguished by having couplings that incorporate a spacer section. This eliminates the need to disassemble the motor and volute casing from the piping during maintenance activities such as replacing wear parts like a mechanical seal and bearings.

MA-S PERFORMANCE DATA

Capacity	Q	up to	1800	m ³ /h
Delivery head	H	up to	65	m
Discharge pressure	P _d	up to	10	bar
Fluid temperature	t	up to	100	°C



FOR ADDITIONAL INFORMATION VISIT:
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