



# CARGO HANDLING SOLUTIONS

OFFSHORE SUPPORT VESSELS



## OPTIMIZED CARGO HANDLING

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CIRCOR offers efficient cargo handling with optimized solutions that provide the highest levels of reliability, efficiency and longevity at the lowest total cost of ownership. You and your team can work with our specialists, people who understand your business challenges and the marine industry. You can rely on a portfolio of high-performance products, everything from stand-alone pumps to complete integrated systems, all from brands you know and trust: Allweiler®, Houttuin™ and Imo®. And you can count on prompt response and continuous support from a global network of experts.

## DEVELOPING EFFICIENT SOLUTIONS

### APPLICATION EXPERTISE

Our cargo pumping systems engineering and designs are based on customer requirements and cover the following:

- › Pre-project evaluation and planning
- › Complete engineering and technical documentation/drawings
- › Commissioning of main pump equipment and controls
- › Installation
- › After sales, spare parts and onboard service
- › Training

### DURABLE PUMPS, RELIABLE PERFORMANCE

We are recognized around the world as a one-stop shop for total pump delivery and accessory supply, and probably the only global pump manufacturer able to deliver the complete range of pump packages and turnkey operation capabilities. Regardless of your liquid cargo handling operation – from LNG and ammonia to crude, bitumen or asphalt applications – you can count on a tailored cost-effective and reliable solution from CIRCOR.

Our individual pump capacities offer total discharge rates up to 15,000 m<sup>3</sup>/h. With excellent suction, low vibration pulsations and high viscosity handling, our pumps load and discharge multiple grades of cargoes and tackle the most demanding operations including ballast, oil tank washing, de-bottoming and stripping, slop discharge and chemical dozing.

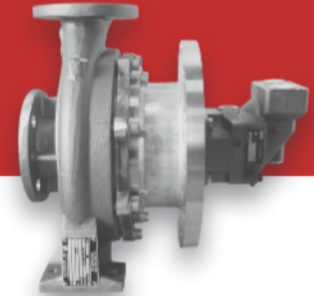
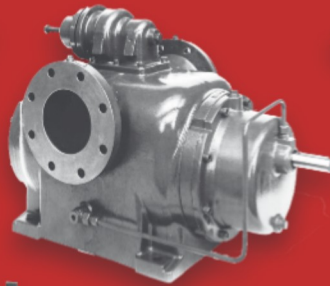
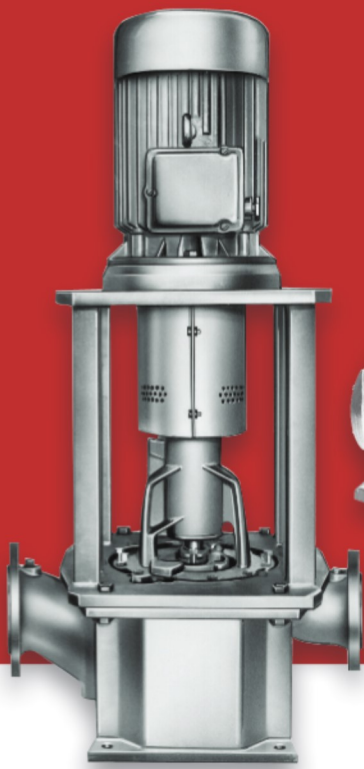


### REDEFINING LIQUID CARGO HANDLING

Liquid cargo handling brings ship owners and operators like you a specific set of pumping challenges. CIRCOR responds with experts in cargo handling applications and total service dedication. We bring you innovative technologies that deliver not only reliable, precision performance of your systems but minimal maintenance, reducing costly downtime and overall lifecycle cost.

You can turn to us with confidence for solutions that involve the most sensitive liquids – edible oils, flammables, chemicals, crude oil (including its derivatives), hazardous and toxic liquids – as well as highly viscous and high

## PUMP TECHNOLOGIES FOR CARGO HANDLING PRODUCTS AND ENGINE ROOM APPLICATIONS



### THREE-SCREW PUMPS

Simple design with only three rotating parts and one shaft seal, pulse-free flow with extremely low vibration and noise levels and high-pressure boost capabilities even when handling low-viscosity fluids.

### TWO-SCREW PUMPS

Versatile self-priming horizontal and vertical screw pumps with tremendous product viscosity range for lubricating and non-lubricating liquids.

### FUEL OIL

Positive displacement pumps or centrifugal pumps in vertical or horizontal execution - hydraulic or electric drive

HOUTTUIN 231, 236, 211, 216

### MUD, BRINE, SPECIAL CARGO

Horizontal positive displacement pumps in both executions – hydraulic or electric drive

SHP, AEB 2N, CENTRIFUGAL PUMPS

### METHANOL, SPECIAL CARGO

Centrifugal pumps or screw pumps with hydraulic drive for submerged installation

NB(SF), CNB(SF), 131 SF

### MUD & SLOP MIXING

Electric operated agitators in 316L Steel for densities up to 2,8kg/l

Allweiler/ABS electric operated mud mixer

Hydraulic operated slow running agitators with large diameter

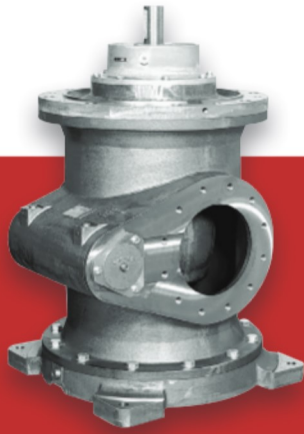
Allweiler hydraulic operated mud mixer

Alarm central and control system for cargo handling, LCC

Allweiler/PMC hydraulic power units

Tank Cleaning Systems

Co-operation with Alfa Laval



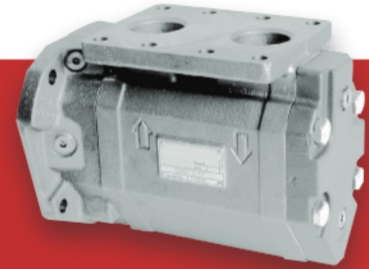
### CENTRIFUGAL PUMPS

Custom designed to specific application requirements with a wide range of low viscosity aggressive and non-aggressive fluids and dynamically balanced impeller to reduce vibration.



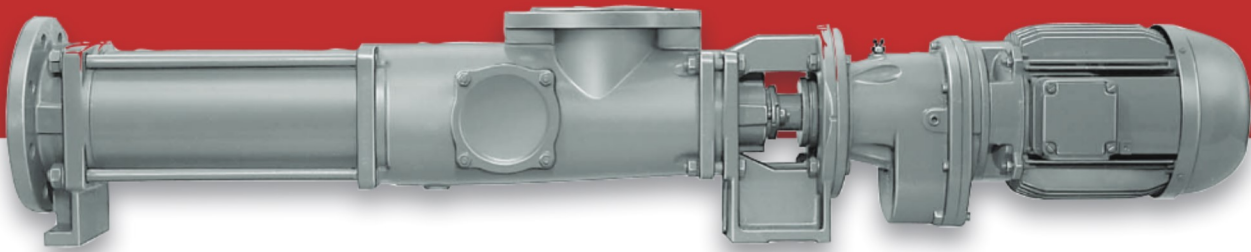
### PROGRESSING CAVITY PUMPS

Simple and economical pump design requiring only one shaft seal, able to handle fluids contaminated with large percentages of abrasive solids.



### PROPELLER PUMPS

Space-saving inline pump design for shipbuilding applications with large flow rates, delivery heads up to 20 meters, integrated motor and reversible flow direction.



## WATER

Fresh water, mineral water (base oil), ballast, drillwater, oily water, brine.

NAM, NIM, NB, NISM, NT

## BALLAST WATER

Ballast water treatment systems

Co-operation with Optimarin

## FRESH & SEA WATER, FIRE

Centrifugal pumps

NB, NT, NI, NISM, NAM, MI, MA, NAM-F/NIM

## SLUDGE & BILGE

Eccentric screw pumps AE, AEB

Centrifugal pumps with open impellers 4 HK

## SEWAGE

Eccentric screw pumps TECFLOW, AE, AEB

Centrifugal pumps with open impellers 4 HK

## LUBE, FUEL, HYDR. OILS

Three spindle screw pumps TRILub-Range

Two spindle screw pumps 211, 216

## GENERAL SERVICE

Side channel pumps

SOB, SOV, SOHB

## HYDROPHORE SYSTEMS

Side channel pumps SOB, SOV, SOHB

Centrifugal pumps



## EXCELLENCE IN FLOW CONTROL

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You can turn to CIRCOR with confidence for a broad portfolio of technologies, products, systems and services from names you know and trust – Allweiler, Houttuin, Imo – along with a deep base of application and engineering expertise. CIRCOR specialists will work with you and your team to understand and focus on your toughest business challenges, then, back you up with service and technical support wherever and whenever you need it.

Together, we can find and deliver the best solutions to meet your cargo handling and other needs, solutions that provide the highest levels of reliability, efficiency and longevity with the lowest total cost of ownership.



CIRCOR is a market-leading, global provider of integrated flow control solutions, specializing in the manufacture of highly engineered valves, instrumentation, pumps, pipeline products and services, and associated products, for critical and severe service applications in the oil and gas, power generation, industrial, process, maritime, aerospace, and defense industries.

## Excellence in Flow Control

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