

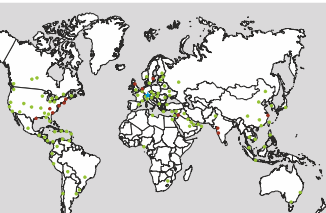


AT THE HEART OF EVERY OPERATION: THE BEST FLUID-MANAGEMENT SYSTEM

When it comes to pumping liquids, pumps and systems from CIRCOR are among the most trusted solutions in the world.

The team at CIRCOR is committed to developing the best solutions for your specific requirements. We refer to this as Total Savings of Ownership (TSO), which aims to minimize total operating costs. At CIRCOR, savings begin with fair prices. But Total Savings of Ownership also means having the knowledge of what it takes to optimize the profitability of an industrial system throughout its entire service life.

Our extensive know-how, technical experience, and application competence give us the ability to optimize system performance and ensure that your employees receive the application experience and training they need. We have a global presence, coupled with the right tools for simplifying your engineering and technical processes. This gives us the unique ability to ensure that you receive what you need—precisely when you need it. CIRCOR is committed to your success. We redefine what is possible for you and your customers.



REDEFINING WHAT'S POSSIBLE

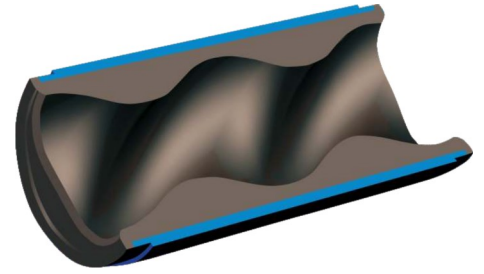
CIRCOR has a global network of sales, production, and service capabilities to ensure that our customers receive competent and optimal support.

- ★ Headquarters
- Regional production and consultation centers
- Global sales network

CIRCOR

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ALLDUR® :
EXTREMELY WEAR-RESISTANT STATORS
FOR ALLWEILER® PROGRESSING CAVITY PUMPS

EXTENDED SERVICE LIFE
UP TO
500%



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COMMERCIAL MARINE DEFENSE OIL & GAS **POWER & INDUSTRY** RELIABILITY SERVICES

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ROTORS AND ALLDUR® STATORS IN ORIGINAL ALLWEILER® TECHNOLOGY
 THE DREAM TEAM FOR ACHIEVING EXTREME WEAR RESISTANCE WITH ABRASIVE LIQUIDS

ALLDUR® Stators
 A stator's chemical formula determines how long it will provide its original pumping capacity and, therefore, how much you will spend on maintenance and spare parts. This savings, or extra expense, will be a factor over the life of the pump and can significantly impact your operation and your total cost of ownership.

Economical
 With this in mind, CIRCOR developed the new ALLDUR® formula specifically to maximize durability and efficiency. With ALLDUR® stators, now you can pump even extremely abrasive liquids economically!

Guaranteed quality
 Each elastomer mixture and the entire production process are subject to stringent and continuous quality control. Therefore, as an operator you will experience uniform quality for decades. You can also expect the highest available safety, since ALLDUR® stators utilize cutting edge technology and comply with current regimes and regulations, e. g. Atex and machines directives.

Cutting edge technology
 Modern technologies and processes reliably ensure that every stator leaves our plant in flawless condition.

Universal in use
 ALLDUR® stators are specially developed for Allweiler progressing cavity pumps. New pumps can be provided with ALLDUR® stators, and existing pumps can be retrofitted at any time.

STATORS MADE OF ALLDUR®
 TECHNICAL CHARACTERISTICS AND FINANCIAL BENEFITS

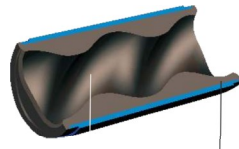
- Ready for dynamic loads**
 High resistance against even dynamic mechanical loads. ALLDUR® stators recover from deformation caused by solids by assuming their original shape and size.
- High impact resilience**
 Solids that impact the elastomer are repelled without causing damage.
- Low compression set**
 Even long periods of downtime will not result in permanent deformation of the stator elastomer at the sealing lines.
- Good liquid resistance**
 No or only marginal swelling, brittleness, contraction, or hardness alteration.
- High durability**
 Extremely good abrasion qualities for pumping liquids with abrasive solids.
- High tear-growth resistance**
 Even stators that receive localized damage can stay in service without the condition worsening.
- Wide temperature range**
 Reliable and economic pumping of liquids from -22°F to +212°F.
- High aging resistance**
 The elastomer can stay in service for years without maintenance or replacement.

ROTORS FROM ALLWEILER®
 VERY LONG SERVICE LIFE

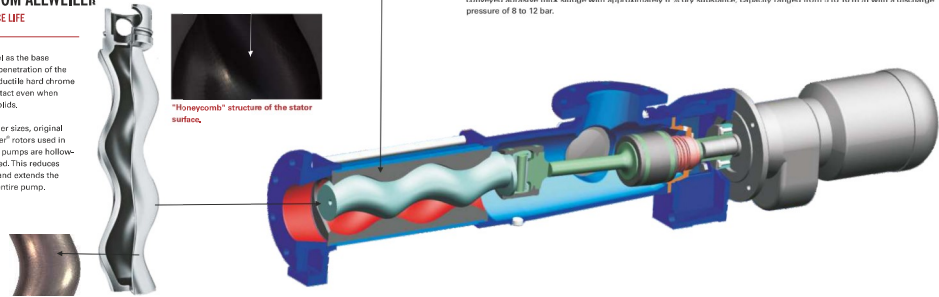
Hardened tool steel as the base material prevents penetration of the chrome layer. The ductile hard chrome coating remains intact even when pumping coarse solids.

Particularly on larger stators, original technology Allweiler® rotors used in progressing cavity pumps are hollow-cast or hollow-bored. This reduces centrifugal forces and extends the service life of the entire pump.

"Shark skin" structure of the rotor surface.



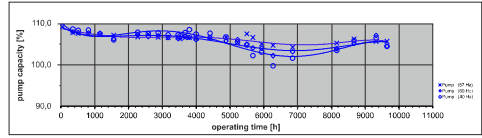
"Honeycomb" structure of the stator surface.



ALLDUR® IN USE
 RESULTS OF AN EXPERIMENT AT THE COLOGNE-STAMMHEIM LARGE CLARIFICATION PLANT

The large Cologne-Stammheim sewage plant uses Allweiler® pumps for pumping thick sludge, among other uses. The new stator material has been undergoing long-term durability tests since December of 2012. Two identical pumps – one with a standard stator and another with ALLDUR® – were tested while pumping thick sludge from a thickening machine. Capacity was measured at regular intervals at a variety of pressures and speeds over several thousand hours. The test results confirm the new material's ideal characteristics as a stator material. The pump with a conventional stator exhibited initial signs of wear after four months and a continual linear loss of capacity.

After an additional three months, pump capacity in the lower speed range was no longer sufficient and it was necessary to replace the stator. Berndt Fritsche, Director of Maintenance: "We were able to extend pump operation by another three months only by increasing its speed. In contrast, the capacity of the pump with the ALLDUR® stator remained constant for more than two years."



With the ALLDUR® stator, capacity had dropped only marginally with a flat reduction of the capacity values. The test pumps conveyed abrasive thick sludge with approximately 4 % dry substance; capacity ranged from 4 to 10 m³/h with a discharge pressure of 8 to 12 bar.