

The company, a synonym of quality and high specialisation, offers the international market a full range of products which meet the needs of diverse applications.

CSF Inox offers a series of centrifugal, self-priming, progressive cavity, twin screw, sinusoidal rotor and pneumatic pumps.

## CSF Inox - Our strengths



### ORGANISATION AND PERSONNEL

- A lean and efficient organisation with precise levels of competence and responsibilities.
- Continuous training and refresher courses for all operational personnel.

### QUALITY IN DESIGN AND DEVELOPMENT

- Computer-aided design.
- Careful analysis of information and experience acquired on the market.
- Execution of meticulous testing

### COMMERCIALISATION AND MARKETING

- Careful product choice.
- Market research to follow the evolution of the market and technology.
- Effective orders management to ensure fast and punctual delivery times.
- Maximum production flexibility (motors and components) and collaboration with customers.

### SUPPLIERS AND PRODUCTION

- Careful selection of strategic suppliers.
  - Modern production technologies.
  - Planned and monitored production.
  - Pre-established checks and tests at each stage of the process.
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# Our history



1976

First expansion of the production site



1990

CSF Inox becomes part of a group



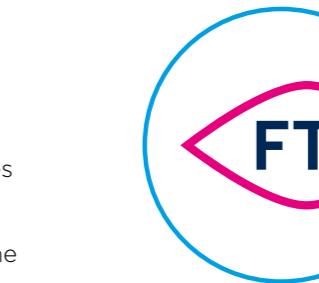
1996

CSF Inox obtains UNI EN ISO 9001 quality certification



2002

The CSA Series achieves recognition of its compliance with hygiene standards of the highest levels and observance of EHEDG guidelines.



2020

Opening of the new production plant built in accordance with the highest design criteria (BIM).

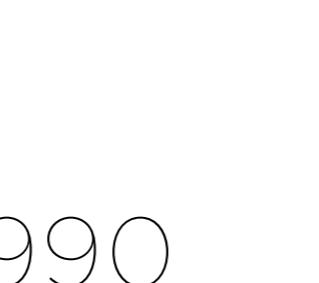
1970

The first sanitary volumetric pump is developed and CSF Inox is born



1981

Second expansion of the industrial plant



1993

The CSA Series obtains 3-A certification for the American market



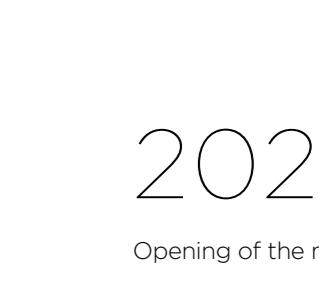
2001

Fourth expansion of the industrial production plant open



2016

Ing and start-up of the sales organisation in North America FTC (Flow Technology Components)



CSF



## FLOW TECHNOLOGY COMPONENTS

The CSF Inox Group presents itself to the market with two important strengths: quality products and maximum operational flexibility.

CSF Inox Group's business purpose is the production and marketing of components (pumps, valves, heat exchangers) primarily for the hygiene/sanitary sector, in this case the food & beverage, cosmetics, pharmaceutical and biotechnology sectors.



# CSF INOX GROUP

## Group history

The idea of bringing together small but productive businesses capable of operating on the market as a valid alternative to large-scale industries came into being in the 1990s with the formation of the CSF Inox Group.

The group's strength lies in having the flexibility of a small business with the catalogue of a leading player. Over the last 20 years, the CSF Group acquired Bardiani in Fornovo Taro, a promising company which manufactures sanitary valves, then OMAC in Reggio Emilia, whose range of lobe volumetric pumps makes it the only Italian manufacturer of its kind, and most recently, MBS in Parma, a company specialized in corrugated tube heat exchangers.

Today the group has more than 300 employees with a turnover of over € 60 million.

## Our values

While remaining focused on a policy of market expansion, people and the values we attach to them still remain our number one priority. This is why we are known the world over for the relationships we manage to build with our customers, suppliers and partners.

This principle has allowed us to consolidate relationships which have been tried and tested through the years; relationships people can trust.

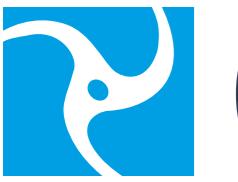
In our plants, wherever they may be, a part of our Italian heart always beats.

## Together we're stronger

The companies belonging to the CSF Inox Group seek proudly to serve an extremely demanding and highly selective clientele in industrial sectors characterised by cutting-edge and constantly evolving technologies. The CSF Inox Group presents itself to the market with two important strengths: quality products and maximum operational flexibility.

The latter point, difficult to achieve for large multinationals for obvious organizational and bureaucratic reasons, is what really sets us apart. This involves endless research into innovation both in terms of products and technologies as well as internal processes and services offered. Competitiveness, industrial policy, innovation and growth of human resources are all parts of a single business model to which our Group adheres.



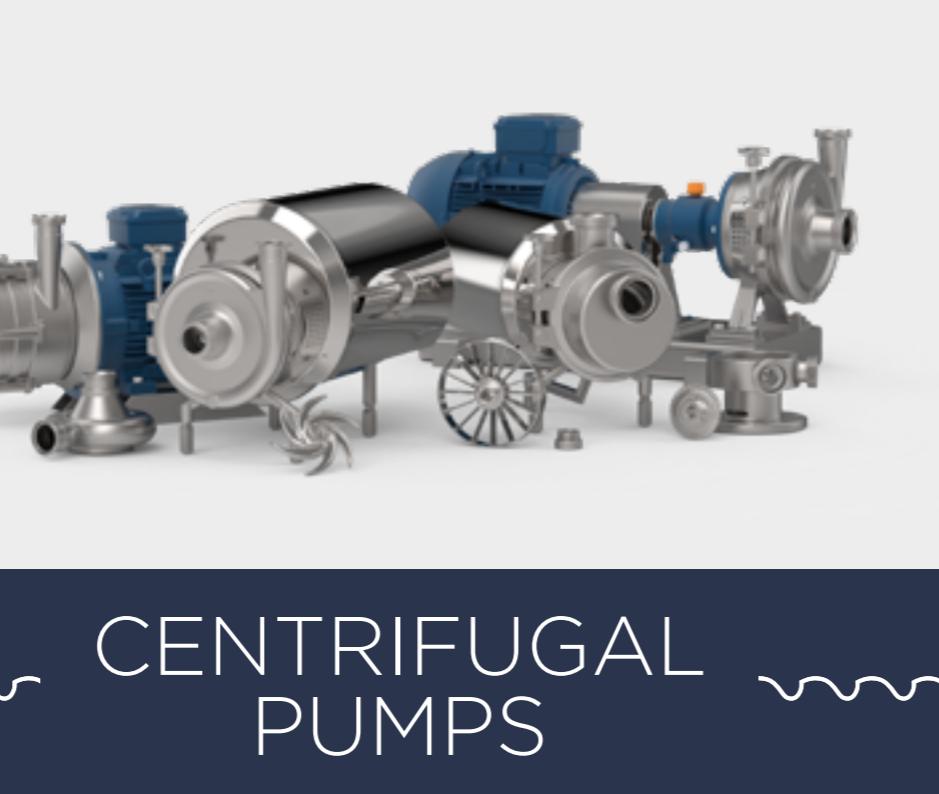


# CSF

## Hygienic sanitary pumps

We produce more than 600 different types of pumps for the food, pharmaceutical and beverage industries, each with all the characteristics needed to satisfy even the most demanding customers.

The main aim is to offer a higher standard of quality for each and every product. Since the very beginning, the engineering, production and sales guidelines of the company have been based on the conviction that "CFS pumps must stand out for their stability and reliability while guaranteeing excellent performance."



## CENTRIFUGAL PUMPS



## VOLUMETRIC PUMPS



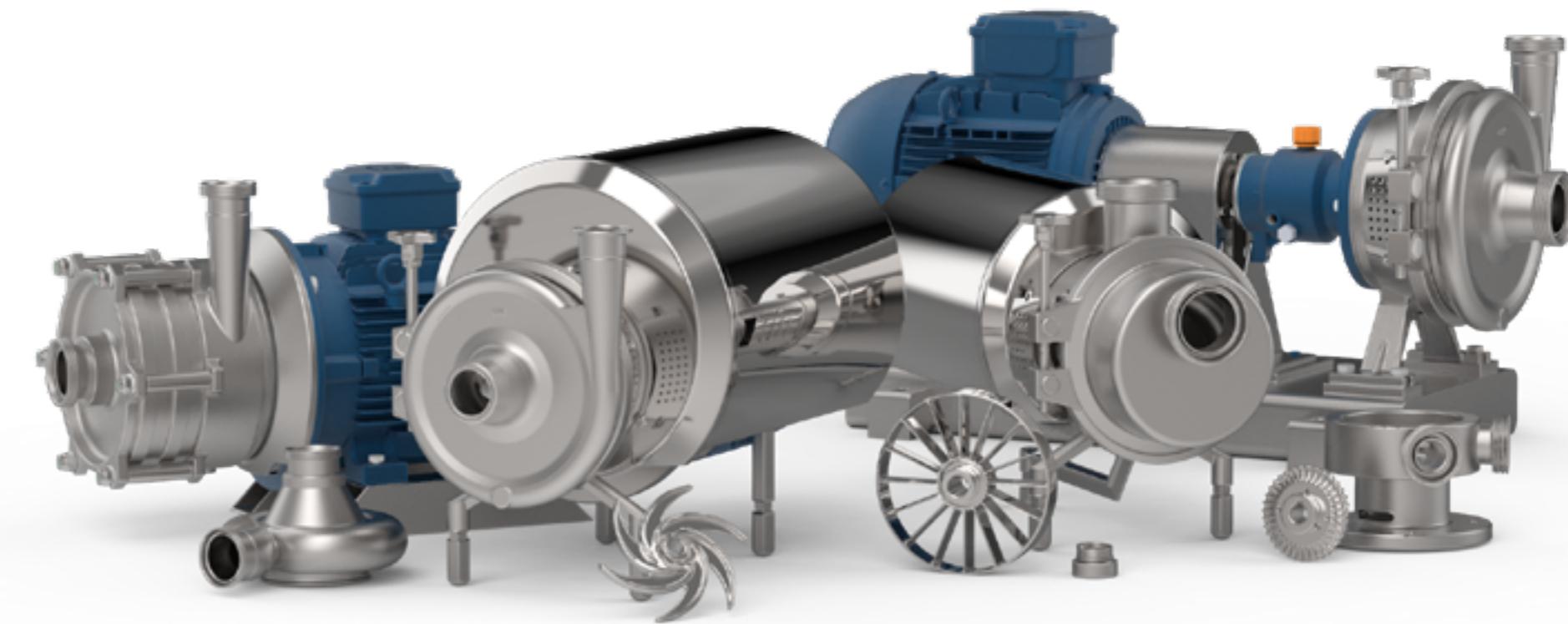
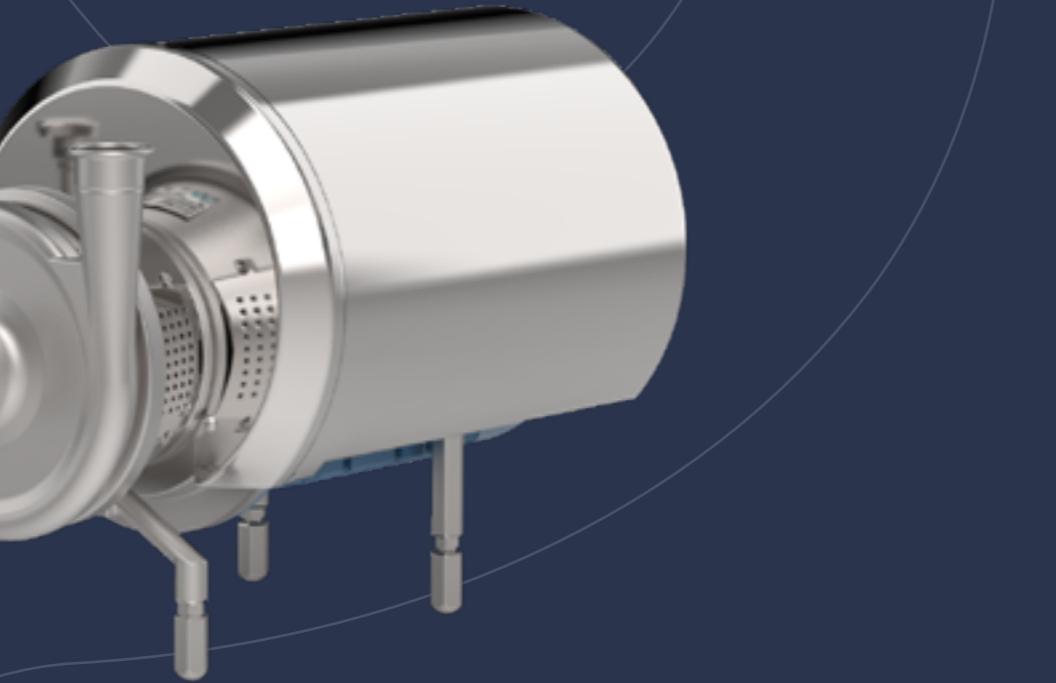
## OTHER PRODUCTS

## The main points

- Providing competitive, reliable and safe products.
- Ability and flexibility to satisfy customers also with customised solutions.
- Attentive customer service during product selection and after sale.
- Setting and meeting quick delivery times.

# CENTRIFUGAL PUMPS

CSF produces the widest range of sanitary centrifugal pumps available on the market, starting from an entry-level series for light operation and service uses up to the highest standards in terms of efficiency and sanitary and pharmaceutical certification.

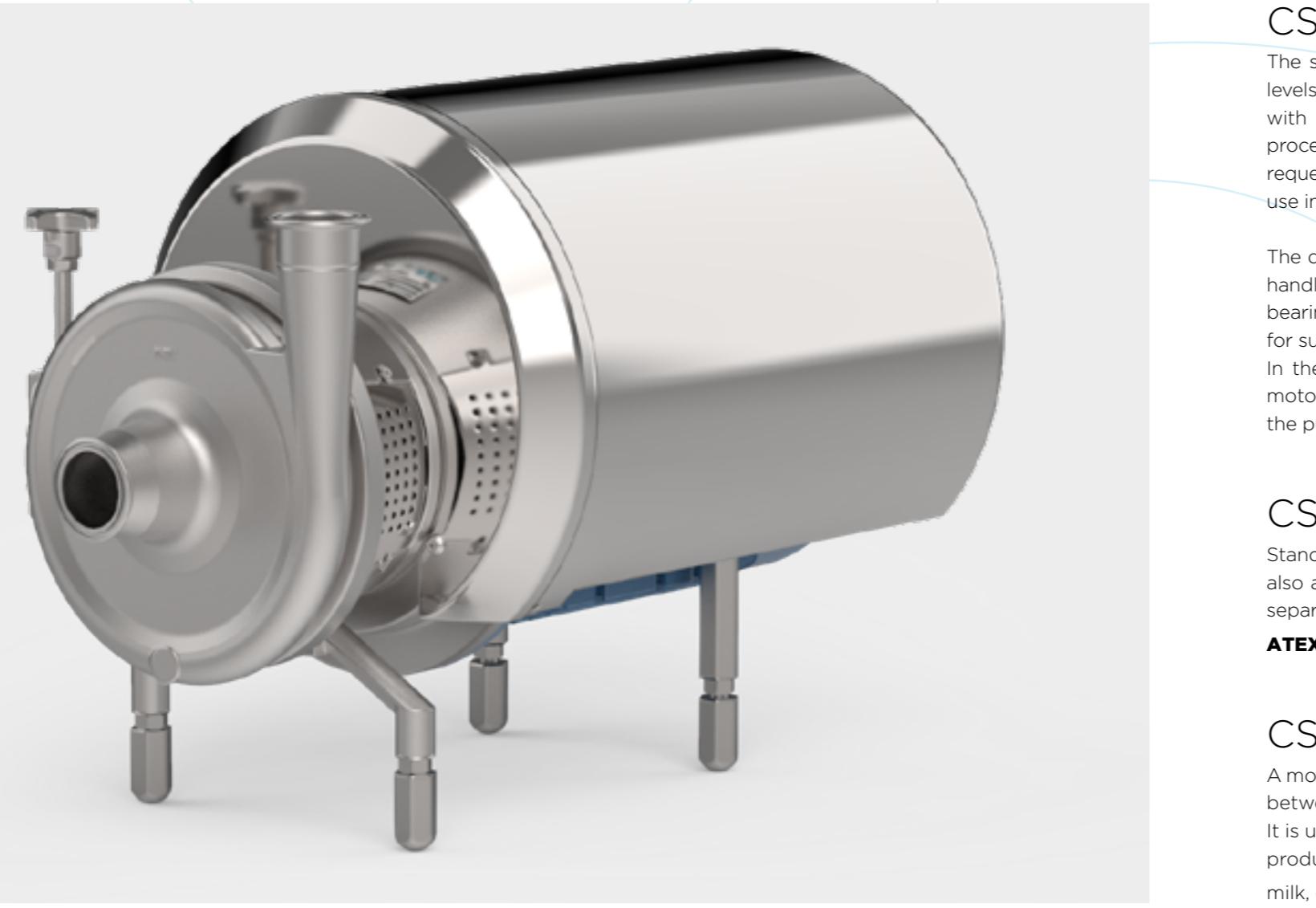


# CENTRIFUGAL PUMPS

## CS, CSX, CSA, CSD, CSK SERIES

The "CS" single-stage centrifugal pumps are made in a large range of models for specific uses, mainly in the food, beverage, pharmaceutical and chemical industries.

Thanks to the maximum modularity of its components, no less than 29 different sizes are available for a precise and correct selection for the requested application.



## CS, CSX, CSA SERIES

The special design of the "CS" pump range means it can guarantee high levels of operation and top-of-the range performance. The parts in contact with the product are cast in AISI 316L stainless steel using the lost-wax process and are electrochemically polished. They can be supplied (on request) made from special alloys such as Super Duplex and Hastelloy for use in particularly aggressive operating environments.

The design of the open 6-vane impeller is optimized to guarantee delicate handling of the pumped liquids. The special construction with shaft support bearing means that the "CS" series pumps can be bought with a bare shaft for subsequent quick and easy coupling with standard IEC electric motors. In the hygienic version, they have a stainless steel casing to protect the motor, supported on adjustable feet. It is possible to install an inducer on the pump intake to reduce the required NPSH value.

## CSK SERIES

Standard execution for electric motors with power ratings over 30kW, but also available (on request) for smaller sizes, it is coupled on the base to a separate support with oil-lubricated double bearing.

**ATEX 2G versions available (For CS, CSX, CSA and CSK series)**

## CSD SERIES

A model derived from the "CS" series with a sterile steam protection barrier between the pumped product and the external environment.

It is used in food and filling applications in aseptic systems for pasteurised products that must not come into contact with the atmosphere, such as milk, other.



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# CENTRIFUGAL PUMPS

## CL-CLC, CN, CNH SERIES

The single-block multistage centrifugal pumps are designed and manufactured for high pressure applications with medium-low flow rates, thanks to the possibility of mounting more than one impeller on each shaft.



### SERIE CL-CLC

Made with an open three-vane impeller installed directly on the motor shaft for use in a wide range of applications. Made entirely from AISI 316L polished stainless steel, these pumps guarantee a high level of hygiene and consequently can be used for the low pressure transfer of juices, creams, ice-cream, dairy cream, milk, wine, alcohol and whey.

**ATEX 3G versions available.**

## CN SERIES

Mixed rolled/cast AISI 316L (1.4404) stainless steel construction, these pumps are also available with 3A sanitary standards compliance. Made up of three models with independent pump shaft and standard IEC electric motor. NEMA standard motor supports available.

Design optimized to guarantee high levels of hygiene in the food, dairy, beverage, chemical, cosmetic and pharmaceutical industries. The open 5-vane impeller means it can be used for low-pressure transfer of fruit juices, creams, ice-creams, dairy cream, milk, wine, alcohol and whey.

**Versions available: ATEX 2G - 3A / EHEDG.**

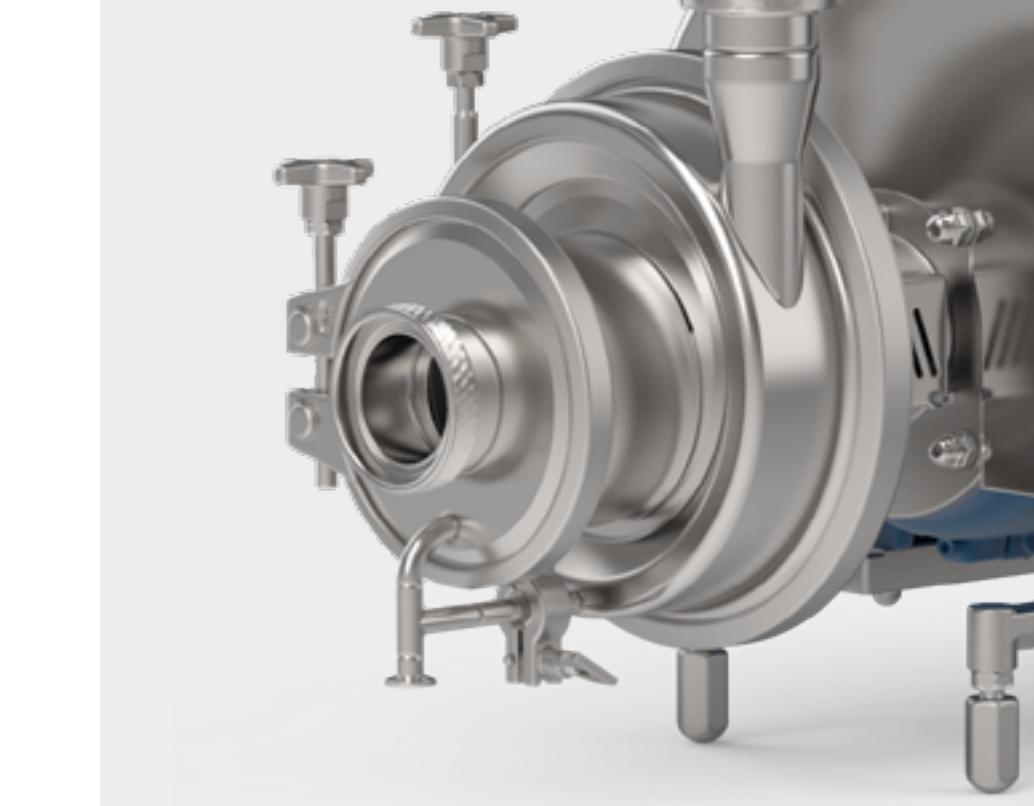


## CNH SERIES

Range of single-stage centrifugal pumps equipped with a self-priming device. This component guarantees pump operation in applications handling biphasic fluids. Open 5-vane impeller.

Made in three models with combined pressed/cast AISI 316L (1.4404) stainless steel. They have internal surfaces polished to Ra 0.8 microns and are therefore particularly popular when a high level of interior finish is required.

**Available with 3-A Certification on request.**

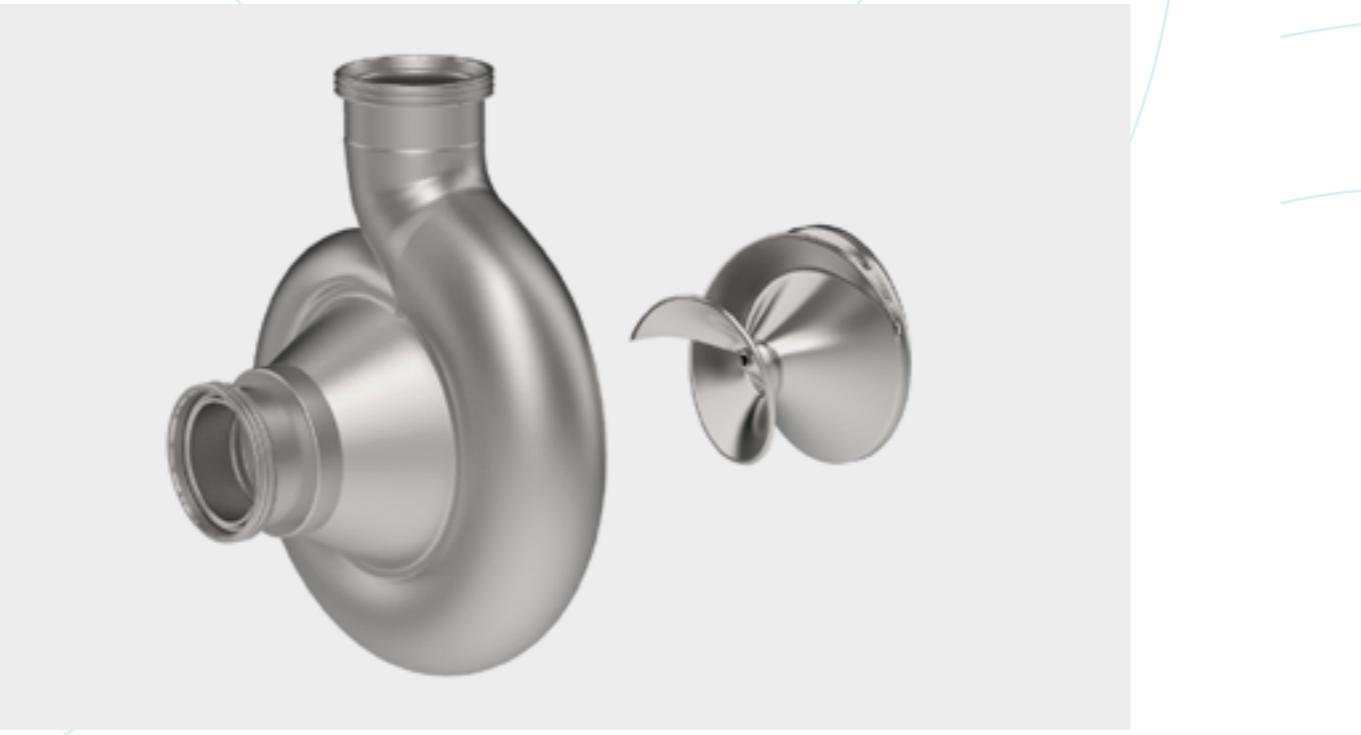


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# CENTRIFUGAL PUMPS

## CR, CV, CSM, CP SERIES

The peripheral pumps are ideal for handling clean liquids with no abrasive particles at very low flow rates and with high heads in various food and/or industrial sectors.



### CR SERIES

The special spiral impeller, together with the casing shape, large volute and reduced operating speed (max. 1750 rpm) make this pump suitable for handling delicate liquids with suspended particles, combining the properties of a centrifugal pump with the delicate handling of a progressive cavity pump.

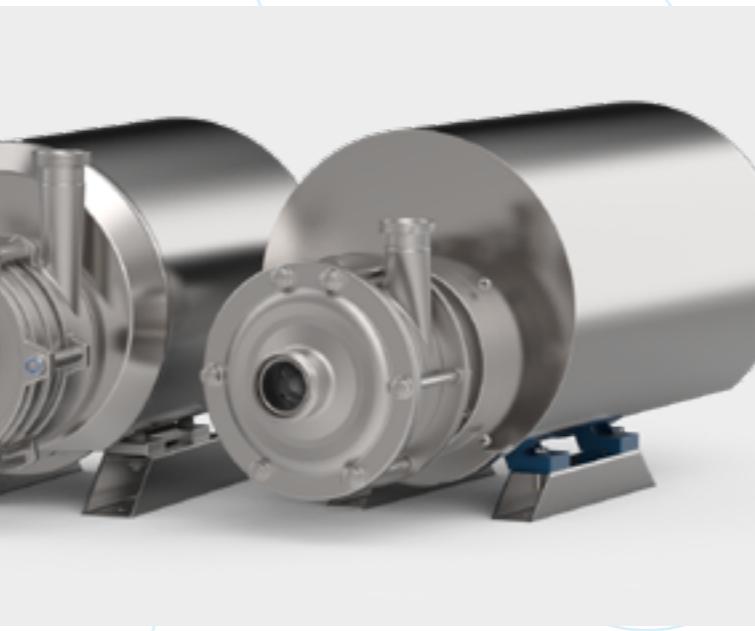
In fact, the "CR" is widely used to handle high consistency products containing solids. For example in the production of wine, beer, transfer of cereals, chopped fruit, vegetables, meat and poultry.

## CV SERIES

Made entirely from AISI 316 stainless steel, the "CV" pumps are single-block components with closed vane impellers, installed directly on the electric motor shaft. Widely used for industrial duties such as washing, filtering, racking and water treatment circuits.

## CSM SERIES

The "CSM" is built for use in high pressure applications, operating at up to 40 bar. It is made from solid AISI 316L stainless steel with an excellent surface finish. Available in both single- and multistage versions with up to 4 impellers.



## CP SERIES

Thanks to the special design of the casing and impeller and the absence of pulsations, these single-block peripheral impeller pumps are widely used for dosing liquids, in laboratory micro-systems, in-line measuring systems, spray systems and applications where medium-high heads and low flow rates are required.

They are also used to transfer clean, non-abrasive liquids with no suspended solids with a maximum viscosity of 250 cps in the food, dairy, beverages and syrups, oil and liqueur industries, in CIP process or in the chemical sector with acid and base solutions as well as in the cosmetic and pharmaceutical sectors. Made from laminated AISI 316L steel they have excellent levels of surface finish.

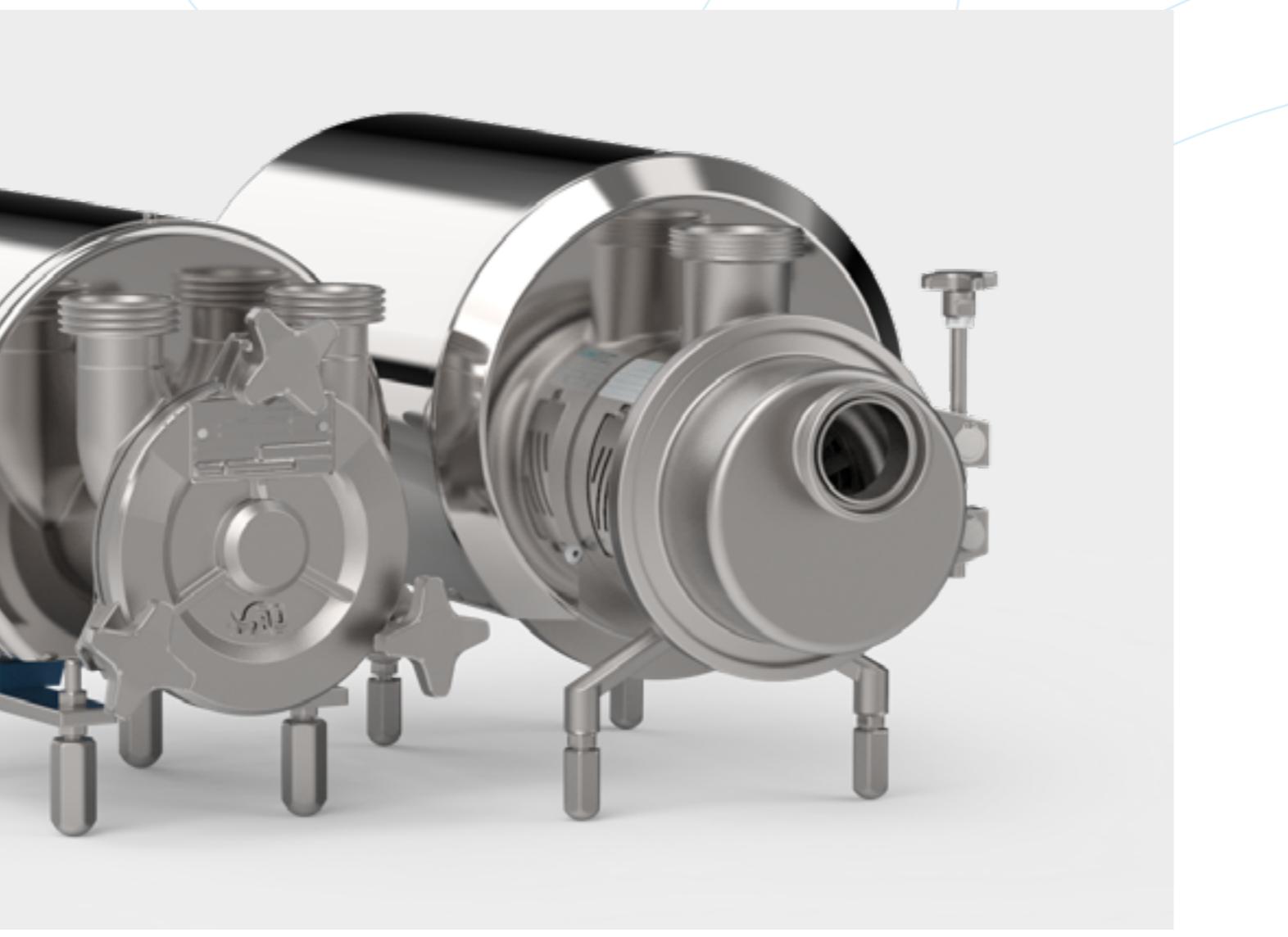


# CENTRIFUGAL PUMPS

## A, AS, ASH SELF-PRIMING SERIES

CSF Inox self-priming pumps come in a wide range of models, both hygienic and industrial. They are able to handle liquids containing bubbles or which create foam or with the suction pipe only partly filled.

The parts in contact with the product are made from AISI 316L or AISI 316 stainless steel and the quick disassembly make them particularly suitable for all uses.



### A SERIES

Single-block version with the impeller supported directly by the electric motor shaft on the "A21" and "A31" models and with independent IEC motor with elastic coupling on the rest of the range. There is also a model with a special flange support for hydraulic motors for installation on tanker trucks. These pumps are suitable for transporting various types of liquid, such as oil, wine, liquors and chemical products.

**ATEX 3G version available on request**

### AS SERIES

Single-block self-priming sanitary pump with independent support and standard IEC motors. The materials and easy to disassemble construction make these pumps ideal for different sectors. They are widely used in CIP cleaning recovery systems, tank filling/emptying and for transferring various types of clear liquids. The parts in contact with the fluid are made from AISI 316L stainless steel using the lost-wax casting process and electrochemical polishing to guarantee optimum surface finishes.

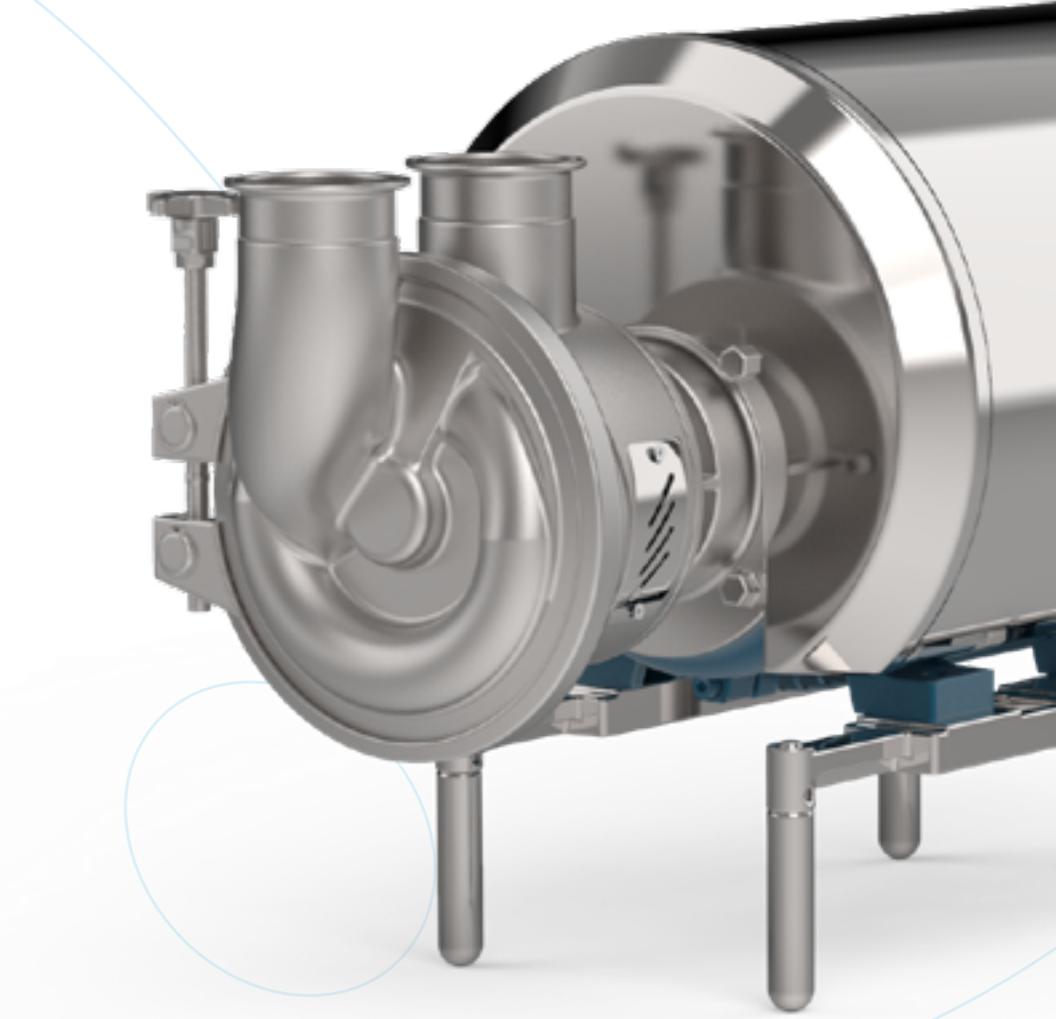
**ATEX 2G versions available**

### ASH SERIES

The "ASH" self-priming pumps are approved in accordance with US 3A sanitary standards. Made for different application needs, they are a top product thanks to the design features, materials and technologies used. They can handle liquids which release gas or create foam and with the suction pipe only partly filled. Made from AISI 316L using the lost-wax casting process, product contact parts are polished to Ra 0.8 microns.

**ATEX 2G versions available**

 A3  
N° 62-12



CSF

# VOLUMETRICAL PUMPS

Dedicated to handling all high viscosity products that need to be transferred while preserving their organoleptic properties. CSF produces a totally unique range, from traditional progressive cavity pumps, to the latest twin-screw pumps or piston pumps driven by air motors.



# VOLUMETRICAL PUMPS

## TWIN-SCREW DISPLACEMENT SERIES

Volumetric pumps designed and approved in accordance with the EHEDG (European Hygienic Engineering & Design Group) specifications and the American 3A sanitary standards.

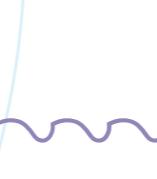
### TWIN-SCREW SERIES

The "TS" pump is the best solution for a multitude of applications. It is ideal for handling delicate products, products with soft suspended particles which are susceptible to cutting and shear sensitive viscous liquids in the food, cosmetic and pharmaceutical industries. These pumps are perfect for operating during CIP washing phases.

All parts in contact with the product are made from AISI 316L stainless steel with standard surface finishes of Ra 0.8 micron and support systems made entirely from AISI 304 stainless steel.

Synchronization of the shafts, made from high-strength stainless steel, is achieved thanks to gear wheels with optimized helical tooth profile. The seals may be hygienic single or flushed double balanced mechanical seals with standard DIN 11851/11864 series connectors or clamps, SMS, RJT, flanges and special connectors on request. Wide range of options available to meet all requirements, such as anti-wear surface treatments, installation on stainless steel base or trolley, versions with wall cavity, by-pass, flow or pressure sensors.

**Versions available: ATEX 2G / 2D - 3A / EHEDG**



### M SERIES

The "M" series is the right solution for transferring a constant quantity of liquid, viscous and delicate products, as well as abrasive products or liquids with suspended solids.

Furthermore they are self-priming and can operate at slow rotation speed, while keeping high levels of performance. They are made in a variety of different set-



ups to suit the application and customer specific preferences.

As with all versions, they are available with support bearings and a flexible coupling (M.N) or for minimum installation space requirements with a drive coupled directly to the pump support flange (M..E).

# VOLUMETRICAL PUMPS

## DRUM EMPTYING STATION SERIES FOR "PA" PUMPS

Wide range of drum emptying systems. Versatile and flexible, this series of drum emptying piston pumps offers various sizes and equipment. The structure is made entirely of AISI 304/EN stainless steel 1.4301.

These pumps were conceived for the most varied product transfer needs. For high viscosity products, for racking, feeding, spraying and whenever necessary with an adjustable flow rate.

The special watertight pumping elements are offered in a huge range of materials and component profiles. They have been developed and tested by extensive research into numerous applications.



## DRUM EMPTYING - MAV SERIES

The "MAV" range of vertical progressive cavity pumps, made from AISI 316 stainless steel, are designed for vertical installation with the inlet immersed directly in the product. Used for racking operations and the emptying drums or containers. Suitable for fluids with various characteristics. Such as abrasive media, with a low to medium viscosity or with suspended fibres and solids.

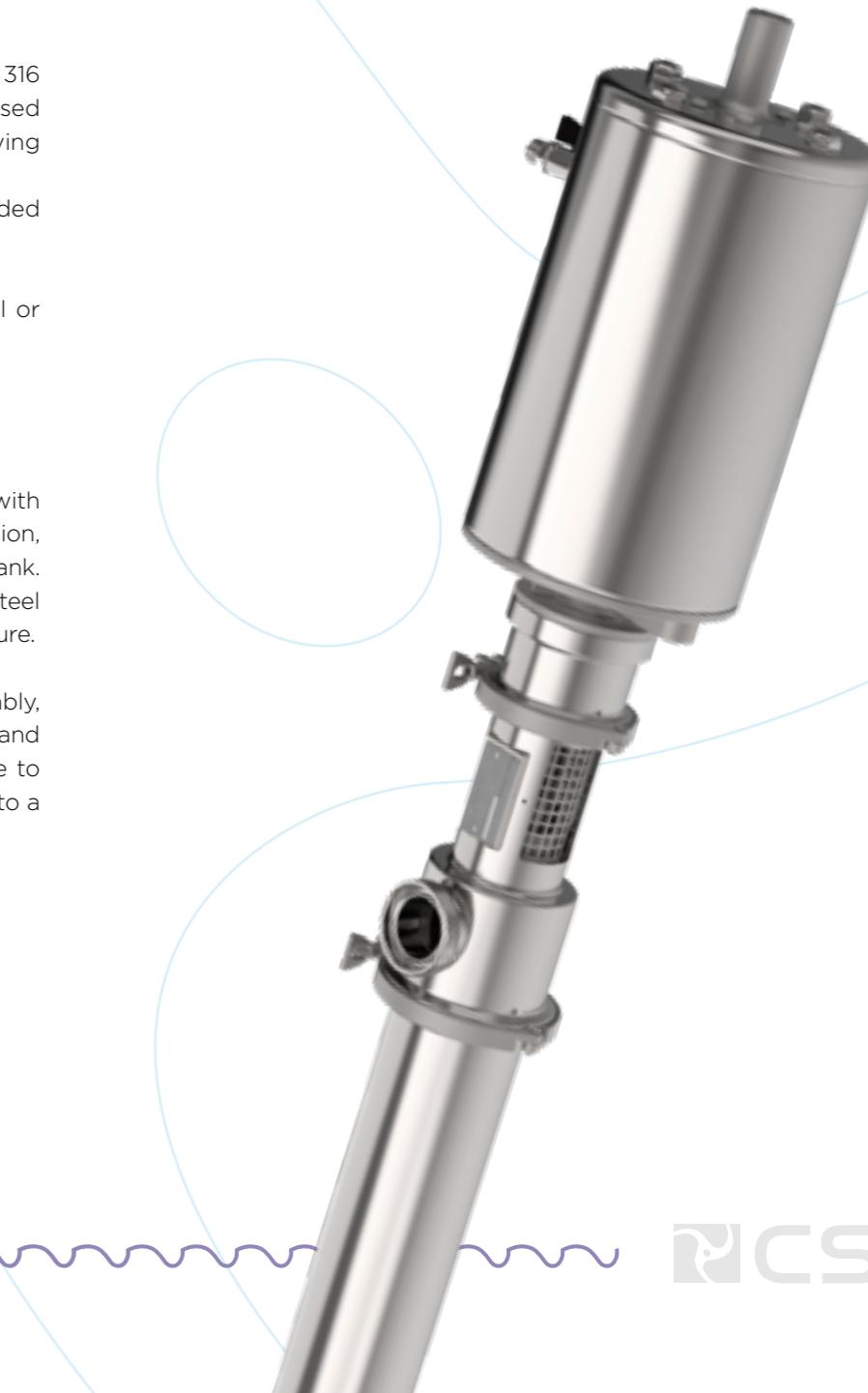
They can be mounted on a special drum-holding trolley with manual or pneumatic movement.

## PNEUMATIC PISTON SERIES

In "PA-AM" pneumatic pumps, the metal parts which come into contact with the product are made from AISI 316 stainless steel. With the "long" version, it is possible to immerse the cylinder directly into the drum and/or tank. The powerful double effect pneumatic motor, protected by a stainless steel casing, can cover a wide range of performances for flow rate and pressure.

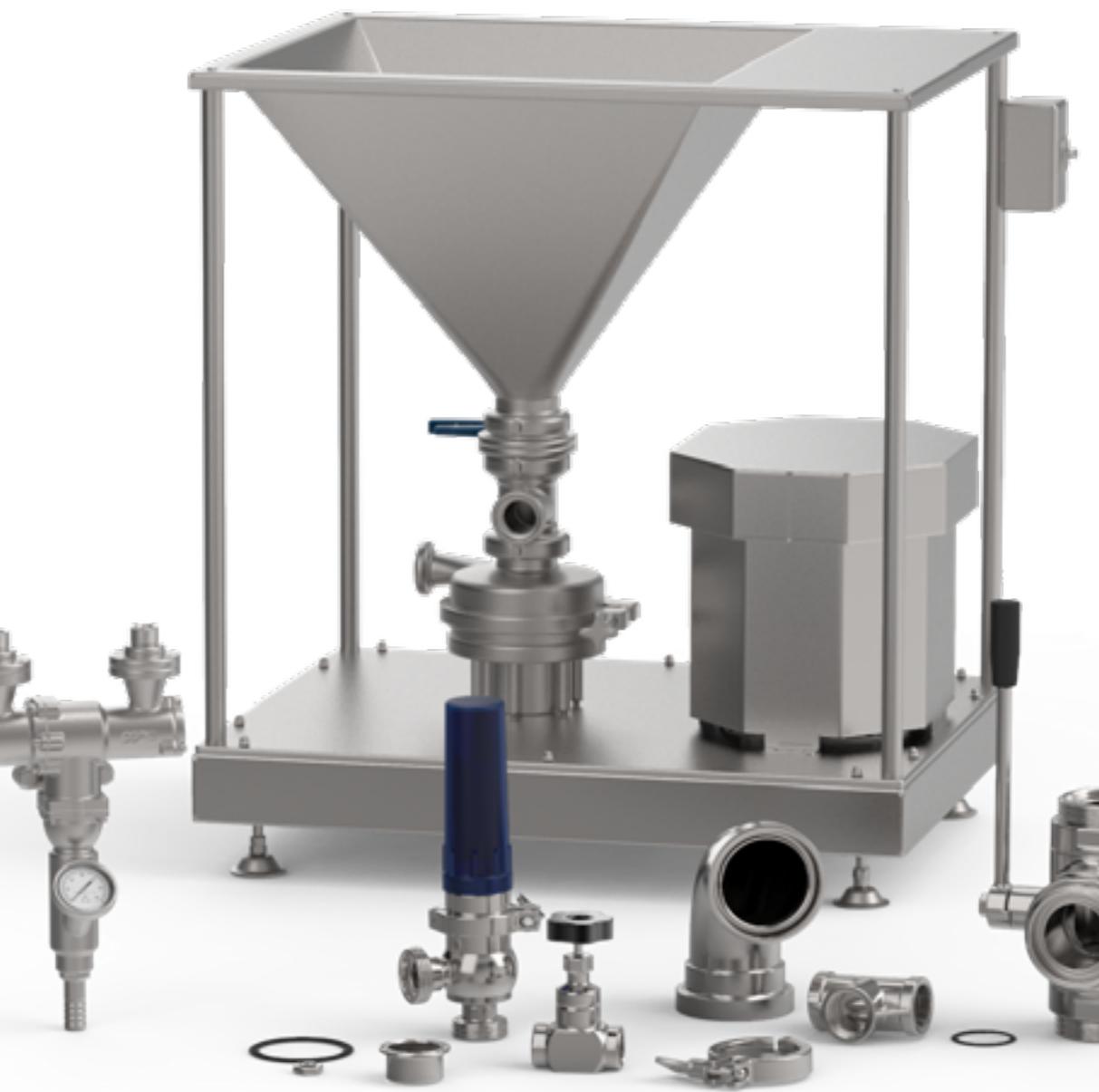
The components are assembled with clamps for quick and easy disassembly, for periodical inspection and cleaning. Usually the pumps are light and easy to handle. For larger, heavier models special trolleys are available to secure the pumps to vertical lifts or to clamps which secure the pump to a container during emptying or for mounting on a wall.

### ATEX version available



# OTHER PRODUCTS

CSF dissolvers are designed and built to achieve perfect mixing of powders and additives in liquids and, thanks to integration with centrifugal or volumetric pumps, they can handle both low viscosity products and products that are extremely difficult to dissolve.



# OTHER PRODUCTS

## DISSOLVERS - TV, TMV, DR, TMVS

Equipment made to disperse and dissolve soluble powders and crystals into a liquid.

Made in various versions with or without tanks, these dissolvers were conceived to replace traditional stirrers with the benefit of being faster, more flexible, easier to move from department to department, while guaranteeing complete homogeneity of the end product.

## TV AND TMV SERIES

Equipment for handling large quantities of product to be dispersed with direct vertical suction of powders or crystals on pump inlet and tangential suction of the dissolving liquid for direct mixing at pump inlet.

The product mixed by centrifugal force then passes through a special grille which acts as a mill for maximum product homogenisation with no lumps. Heavy products such as sugar, salt, starch, protein, pectin, casein, carrageenan and other totally micronized products are dissolved to make a final solution with minimum viscosity and maximum homogeneity and solubility thus avoiding sedimentation and issues during the subsequent solution filtering stage (when used).

The equipment can be installed on the line for batch production with the dissolving liquid supplied either by a second pump or directly from an adjacent tank. In the latter case, the tank must be close by in order to reduce pressure drops in the dissolver infeed supply with the liquid arriving from the tank by gravity without the need for a second pump.

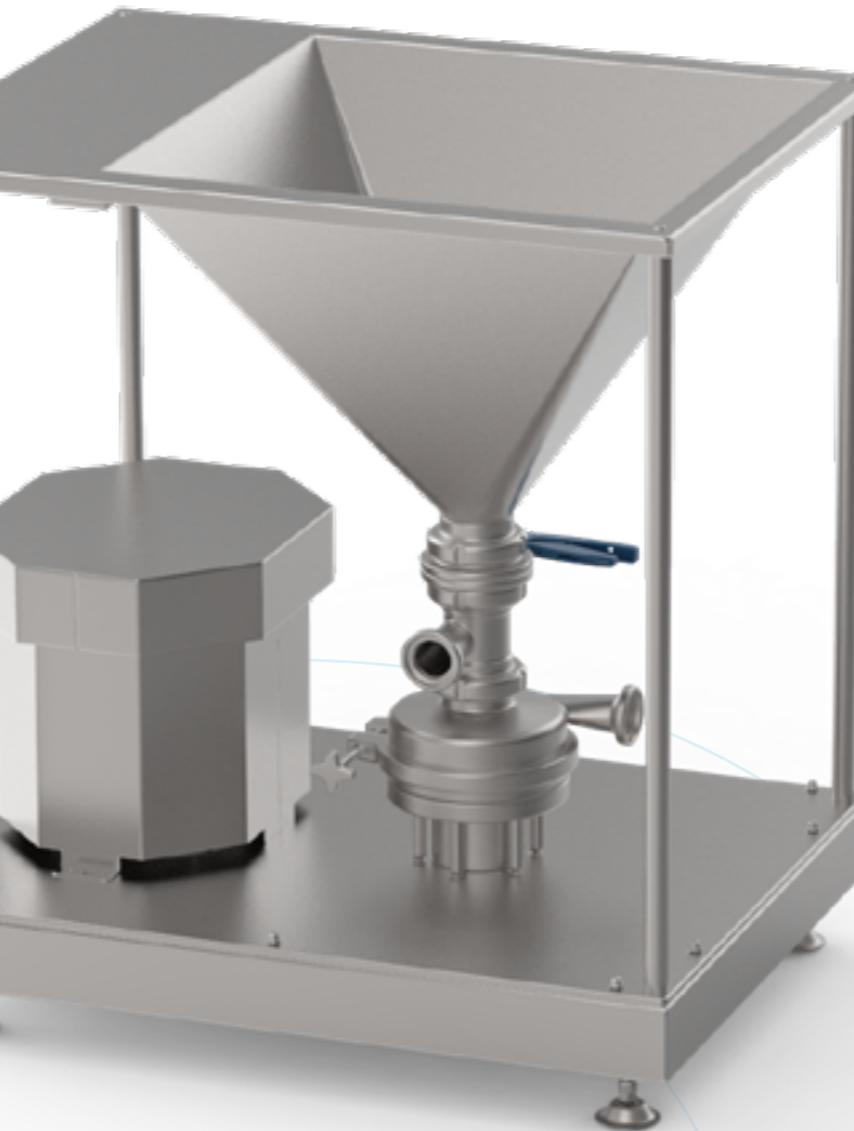
Pressure drops and head in the TV-TMV dissolver must be kept to a minimum to ensure maximum mixing efficiency.

## DR SERIES

Equipment made to disperse and dissolve soluble powders and crystals into a liquid. These appliances were created to replace traditional stirrers with the benefit of being faster, more flexible and easier to move from one location to another while guaranteeing complete homogeneity of the end product. Operation is very simple: a centrifugal pump takes the liquid from a tank containing the batch of liquid and pumps it through a venturi tube, creating the vacuum necessary to draw the powders or crystals in from the relative loading hopper and incorporate them into the liquid.

Once the solution has been made, the final product is recycled in the tank until perfect homogeneity is achieved, after which, by acting on the valves, the same pump is used to send the finished product batch on for the next use.

To use the device in an automated installation, the manual powder inlet valve is replaced with a pneumatic ON - OFF valve controlled exclusively by a PLC. During the powder suction and dissolving phase, the pressure drop after the dissolver must be less than 1 bar. The maximum suction capacity is only achieved with negligible pressure drops.



## TMVS SERIES

Single device without a powder cut-off valve designed for continuous operation when large quantities of product to be dissolved are handled, especially non-clumping products.

The infeed of powders and liquid sent by a second pump at the base of the hopper is facilitated by installation of an inducer.

## VALVES, FITTINGS, MIXERS

The wide range of accessories is specifically designed for all types of CSF pneumatic pumps. They enable easy installation and handling, with control features to satisfy each customer specific request. Guaranteeing high levels of operational flexibility for the most varied uses.

In fact we can offer trolleys for vertical lifting, fixed or wheel-mounted tripods, flow regulation plenum chambers, automatic solenoid valves, scraper plates for emptying drums containing highly viscous products and various types of brackets and clamps for fastening the pump to the wall or to a drum or container.

## OTHER PRODUCTS

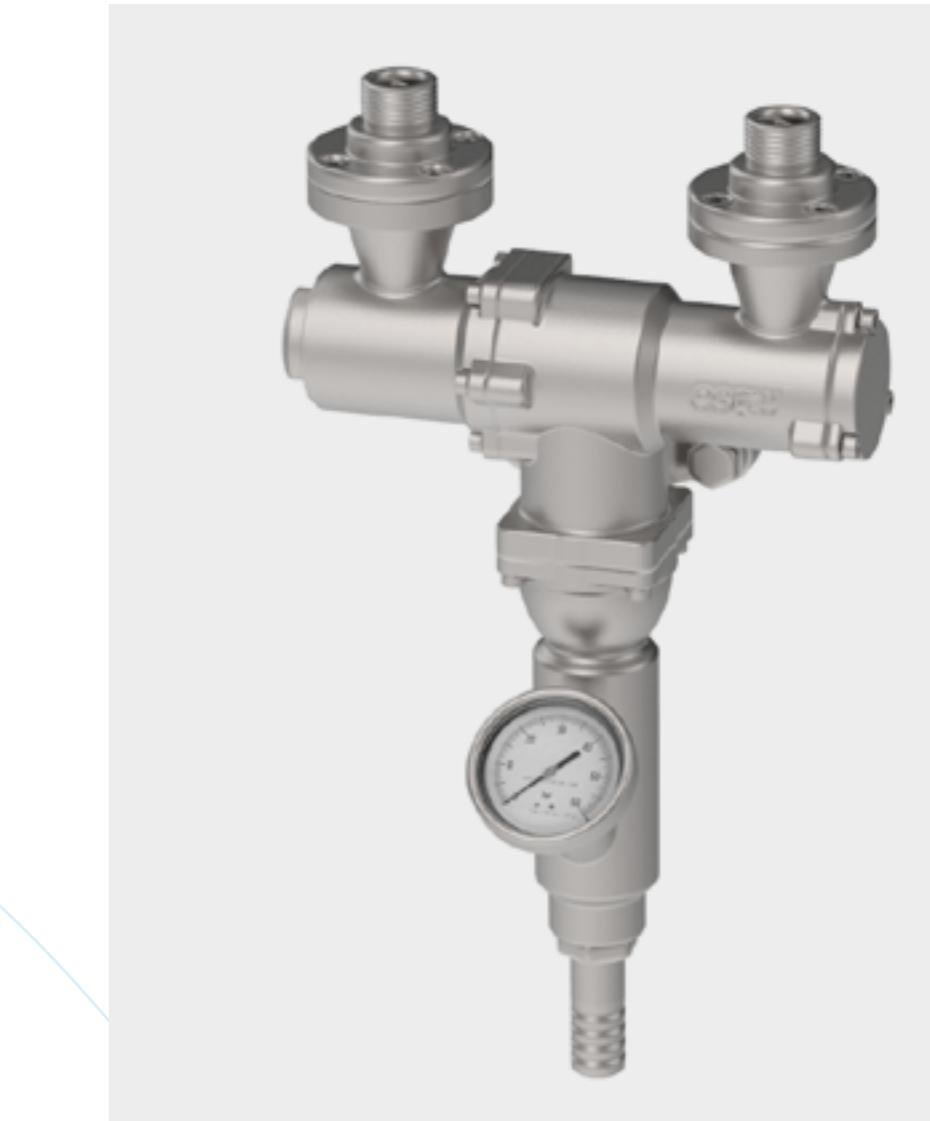


## VALVES AND FITTINGS

The CSF series of products is completed by a huge range of manual and pneumatic valves, fittings and accessories in AISI 304 or 316 stainless steel. Standardization above all DIN11851, GAS, SMS, CLAMP, RJT-BS and also for winemaking with over 5000 articles available ready for shipment in stock.

## MIXERS

The "M34" and "M114" steam/water mixers are an instant and economic source of low pressure hot water which uses the existing steam and cold water networks. Safe, efficient, versatile, quiet, easy to install and cheap to use, they are ideal for washing, sterilization and the production of hot water with an outlet temperature of 35° - 95°C. Available in two sizes: M34 (approx. 1500 l/h) and M114 (approx. 3000lt/h). For greater safety of use, these appliances are fitted with valves to prevent the accidental release of steam.

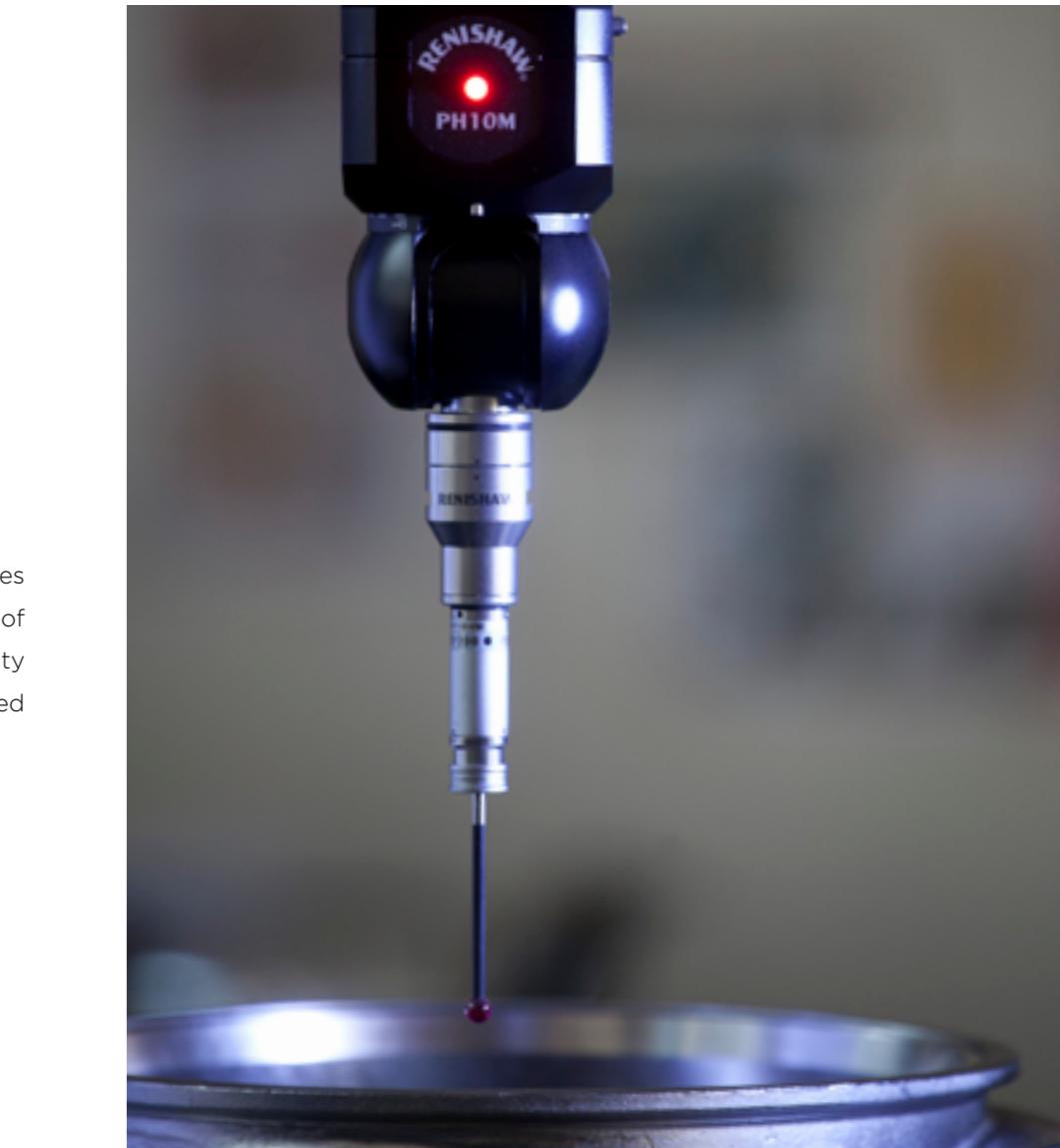


# RESEARCH AND DEVELOPMENT

## CSF Inox quality policy

CSF Inox has always paid the utmost attention to satisfying the requests of its customers; moreover, in order to launch a process of continuous improvement, in terms of product and customer service and the production process, Management introduced Quality Control several years ago that has subsequently developed into a Quality Assurance System. The Quality Assurance System assigns rules of conduct, responsibilities and objectives for product and service quality, at every operational level, in order to always guarantee compliance of the technical/qualitative requirements of its products.

The Quality Assurance System imposes systematic collection of data so that the objectives set out in the Quality Policy can be assessed periodically, according to a strategy of continuous improvement. Aware of market demands, CSF Inox decided to certify its Quality Assurance System, structured according to the UNI EN ISO 9001 standard and achieved this important result in 1996.





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