



 **MBS** TUBULAR
HEAT
EXCHANGERS





We strongly believe in innovation, we are aware that in the field of thermal exchange new materials and process technologies may arise and we want to be an active player in this direction. We only aim for excellence with the courage to admit mistakes and changing.

MBS's STRENGTH

INNOVATION

Since its beginning MBS has believed in the importance of research and development of new technology that delivers value and worth for the customer.

QUALITY AND KNOWLEDGE

Thanks to the skilled workmanship and the expertise of its team, MBS offers high-quality products.

CUSTOMER'S SATISFACTION

MBS aims to meet the customers' needs by offering technical and commercial support to ensure customized solutions in line with key industry regulations.

PRODUCTION EFFICIENCY

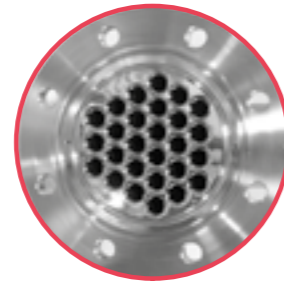
MBS has introduced a LEAN production system for several years now with a view to continuous production improvement.

Our history



1995

MBS Ltd birth/establishment



2008

Join CSF Inox group



2011

Manufacturing of the first Scraped Heat Exchanger **Hercules** series



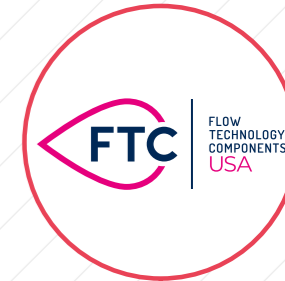
2016

- Opening **Flow Technology Components Mexico** (FTC Mexico) branch commercial office
- **EHDG** certification



2019

- Manufacturing of the first **DOUBLE** scraped surface heat exchanger "**HERCULES**" series
- **FTC DEUTCHLAND**



1993-95

In partnership with the **University of Parma**, the effects of pipes scraping during thermal exchange are studied and thus a computing software is developed



1999

Heat Exchanger nr. 1000



2009

Production department in Godega di Sant'Urbano (Treviso)



2014

MBS obtains **ISO 9001:2015 Certification** for quality Company Organization



2018

- Parma's new head office
- **3-A** certification



2024

Opening **Flow Technology Components Usa** (FTC USA)

CSFinoxGroup

FLOW TECHNOLOGY COMPONENTS

Enjoying CSF's GROUP, MBS begins a phase of expansion and entry into worldwide markets.

CSF Inox Group aims to produce and sell components (Pumps, Valves, Heat Exchangers) to the hygienic and sanitary industry sectors including; Food, Beverage, Cosmetic, Pharmaceutical and bio-technologies.





FOOD AND
BEVERAGE



PHARMA



INDUSTRIAL



SCRAPED
SURFACE

Corrugated Tubular Heat Exchanger

Corrugation is the process of creating an internal corrugated surface from smooth pipe which allows a higher flow turbulence optimizing heat exchanger efficiency.

The MBS Heat Exchanger sizing is carried out through a complicated calculation software, this device/instrument is constantly evolving with many years of partnership with Parma's University (Technical Physics Department)

Benefits

- Reduction of the required areas
- Contact times and product's permanence reduction inside the item
- Reduced washing times due to a higher mechanical action generated by turbulence
- Vertical or horizontal installation
- Ability to work with high pressures and temperatures
- Minimum maintenance cost due to gasket-free design
- Easy to assembly - heat exchanger's modularity

FOOD & BEVERAGE

Our MBS Heat Exchangers range are designed and manufactured for the Food industry according to the strictest/highest hygienic standards. Suitable to process high and medium viscosity products such as milk, juices, nectars and fruits puree, wine, beer, cream, ice cream etc. MLW version is EHEDG and 3A certified.

STANDARD TECHNICAL CHARACTERISTICS

Material Product side.....**AISI 316L**
(other materials available on request)

Finishing Product side.....**Ra < 0,8 µm**

Pressure Project.....**10 bar**

Max temperature project.....**184°C**



SANITARY MIXFLO MONOTUBE MNW SERIE

Monotube mixflo Heat Exchanger consists in two concentric corrugated tubes.

The product to be thermally treated runs/flows/slides inside the smaller tube while service fluid flows into external jacket.

Particularly suitable for products having a **medium or high viscosity** even with particulates in suspension such as **pressed grapes, fruit and vegetables' concentrate.**

SANITARY MIXFLO MULTITUBE MLW SERIE

Multitube mixflo Heat Exchanger consists of small corrugated tubes inside a shell welded from one end to the other. An expansion joint is fitted on the external shell.

Particularly suitable for products having a **medium or low viscosity** even with pulps and fiber, small particulates such as **milk, juices, nectar, cream, sugar solutions etc.**



MULTITUBE MIXFLO DISASSEMBLED

Manufactured with small corrugated tubes placed inside the shell.

The tube bundle can be removed from the shell. It is not equipped with expansion joint due to floating plates.

Particularly suitable for products having a **medium or low viscosity** even with pulps, fiber, small particulates such as **milk, juices, nectar, cream, sugar solutions etc.**

MIXFLO SANITARY ANULAR SPACE SERIE

Manufactured with 3 or 4 corrugated concentric tubes. Product's side can be examined. Installed expansion joint on the external shell.

Particularly suitable for products having a **medium or high viscosity** even with particulates such as **fruit or vegetable concentrates, ketchup etc.**



FOOD & BEVERAGE



PHARMA

Our MBS Heat Exchangers range are designed and manufactured for the pharmaceutical industry according to the strictest/highest hygienic standards. Particularly suitable for products having a low viscosity such as: injectable water, ethanol, protein solutions etc. MLP version is EHEDG and 3A certified

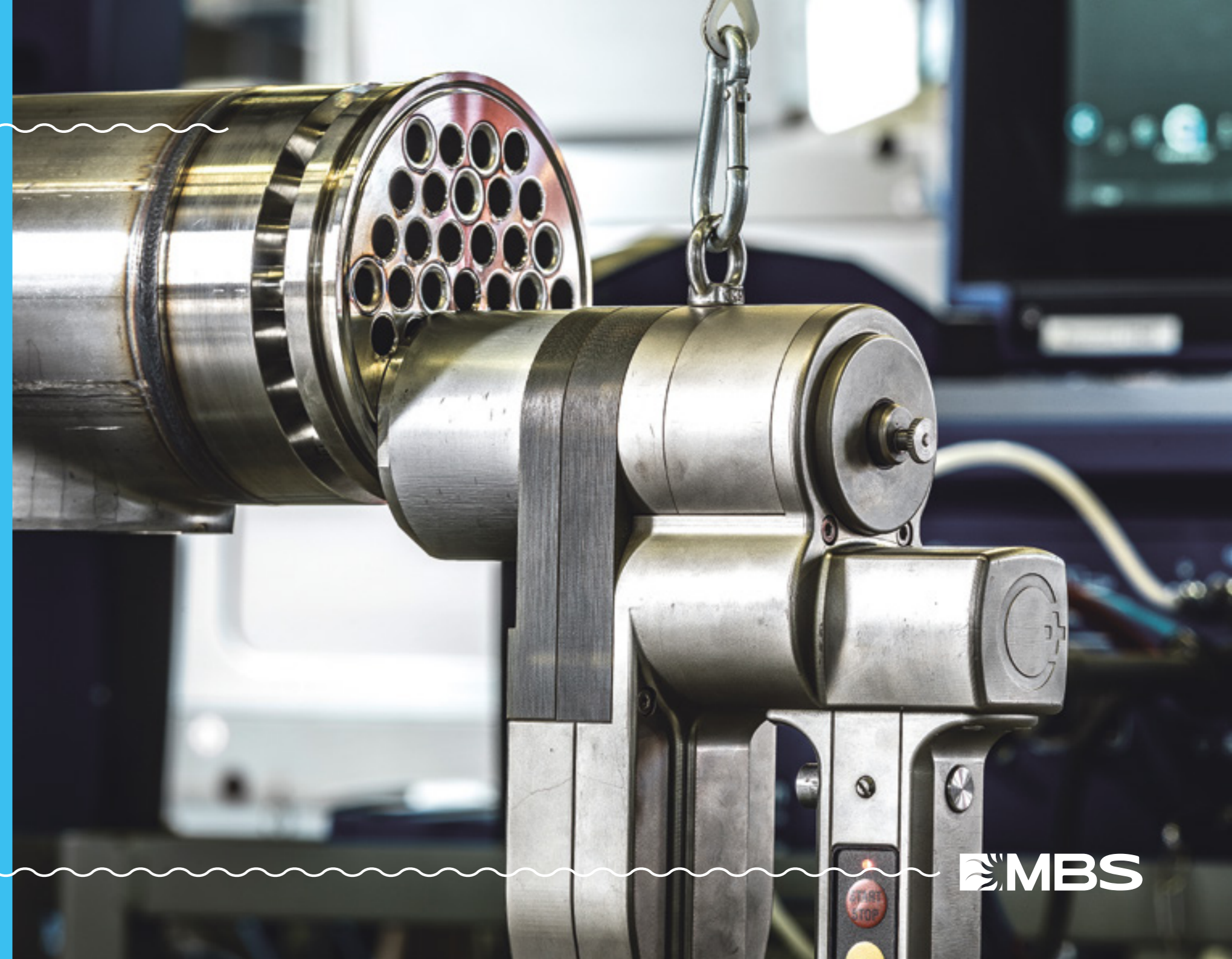
STANDARD TECHNICAL CHARACTERISTICS

Material Product side.....**AISI 316L**
(other materials available on request)

Finishing Product side.....**Ra < 0,8 µm**
.....**Ra < 0,5 µm electro polished**

Pressure Project.....**10 bar**

Max temperature project.....**184°C**



MLP MULTITUBE

Manufactured to meet pharmaceutical industry standards of **hygienic and safety demands**.

PHARMAFLO Heat Exchanger consists of small diameter corrugated tubes inside a shell with plates on both ends.

With this design all kind of contamination between sterile product and service fluid is avoided.

Particularly suitable for products having a **medium or low viscosity** such as **wfi, point of use cooling, wfi heating, condensation, protein solution etc.**



PHARMA



INDUSTRIAL

Our Heat Exchangers range are designed and manufactured for the industrial field according to the strictest/highest construction standards. Particularly suitable for CIP, combustion gases, process water, biogas, oils etc.

STANDARD TECHNICAL CHARACTERISTICS

Material Product side.....**AISI 316L**
(other materials available on request)

Finishing Product side.....**Spazzolata**

Pressure Project.....**10 bar**

Max temperature project.....**184°C**



CROSSFLO INDUSTRIAL MULTITUBE MLI SERIE

Manufactured with small corrugated tubes placed inside the shell welded from one end to the other. An Expansion joint is fitted on the external shell.

Particularly suitable for products having a **medium or low viscosity** such as **water, cip, different kind of oils, gases, combustion gases** etc.

MULTIFLO INDUSTRIAL MULTITUBE MULTIPASSAGING MLM SERIE

Manufactured with small corrugated tubes placed inside the shell welded from one end to the other.

The MULTIFLO exchanger is multi-passaging and the exchange is as result of the special headboards.

Particularly suitable for products having a **medium or low viscosity** such as **water, cip, different kind of oils**.



MULTIFLO U TUBES MLU INDUSTRIAL

The MULTIFLO U can be disassembled and "U" shaped the tube bundle inside the shell is easily removable for any maintenance.

Particularly suitable for products having a **medium or low viscosity** such as **water, cip, different kind of oils**.



INDUSTRIAL

SCRAPED SURFACE HEATH EXCHANGER

Hercules

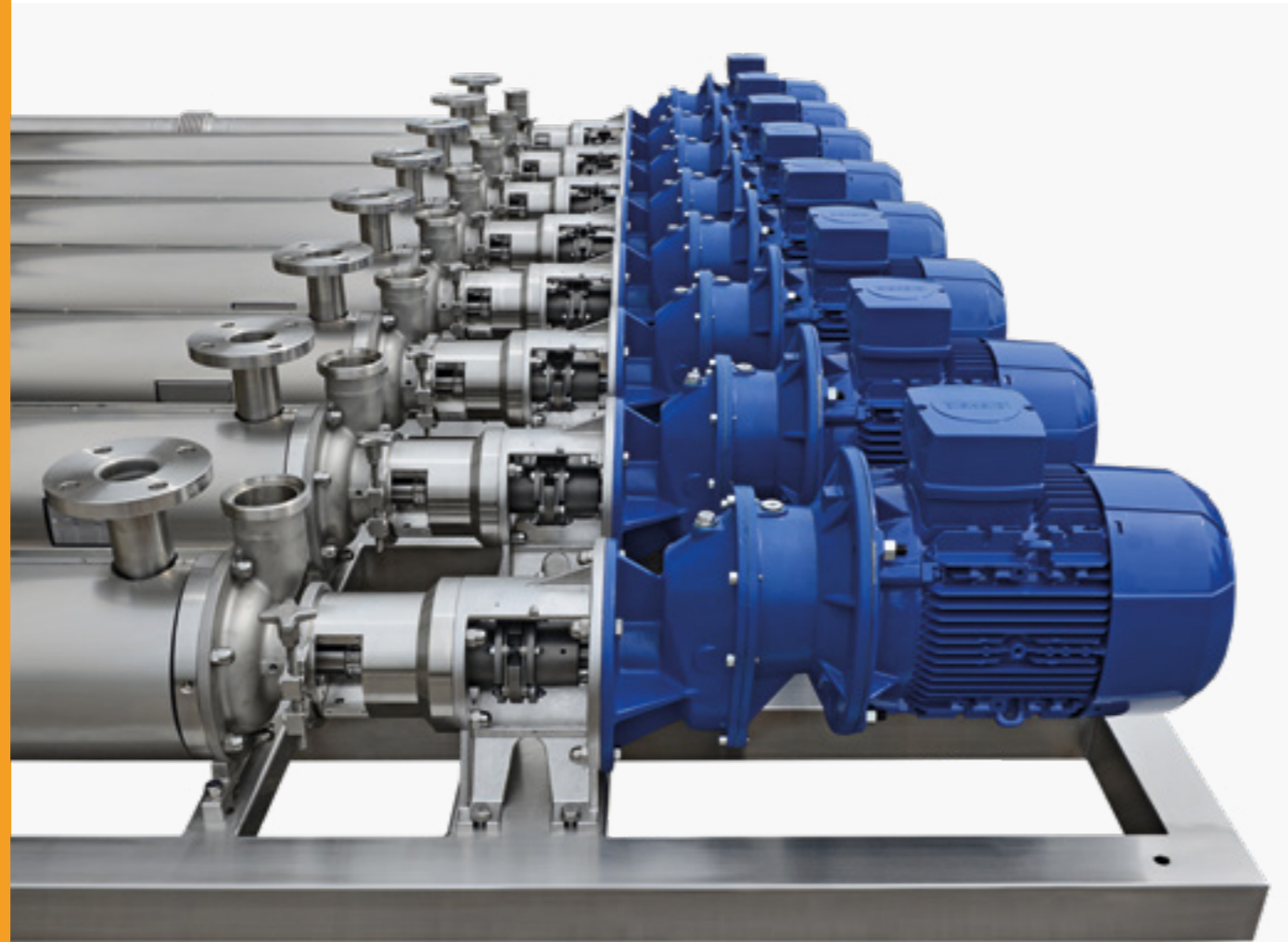
For the Hercules project, we worked closely with Parma University by means of extensive research to develop better heat exchange parameters, power absorptions and materials studies in presence of the tested products.



HERCULES

Particularly suitable for products having high viscosity, with particulates in suspension and the tendency to adhere to the exchange surfaces, in order to turn the process from "batch" into "continuous".

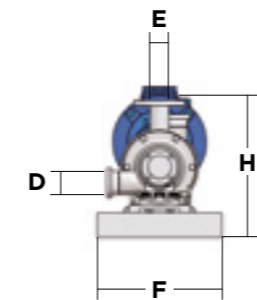
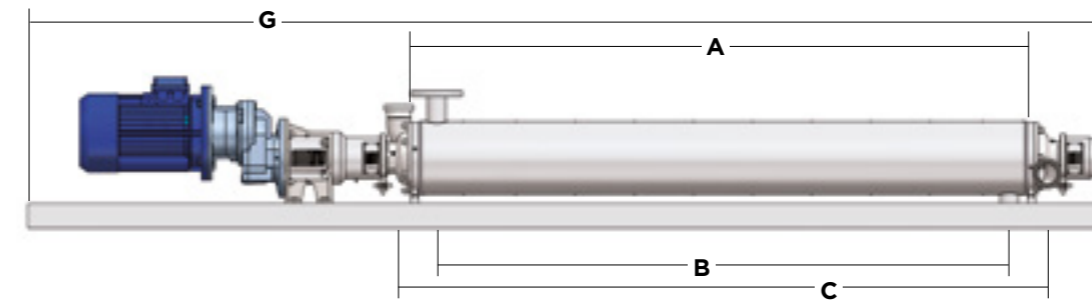
Products such as: jams, ketchup, mayonnaise, soups, dressings, chocolate, meat sauces, gelatins, baby food, honey, butter, curds, ice cream, oils, fats.



SCRAPED SURFACE

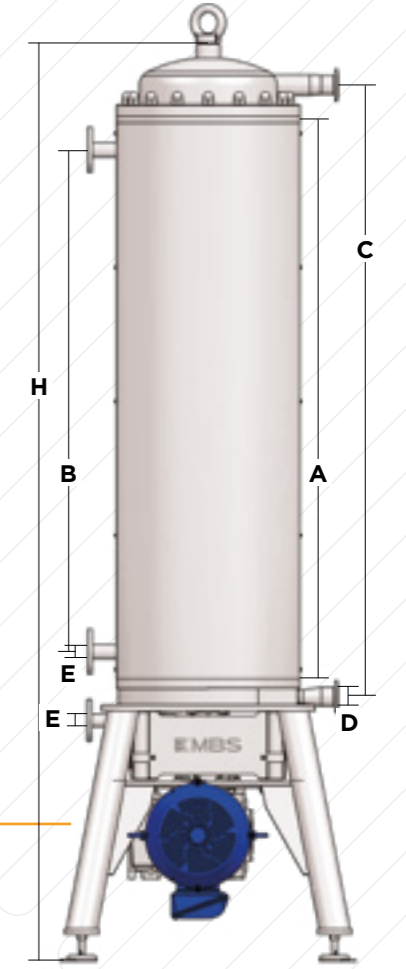
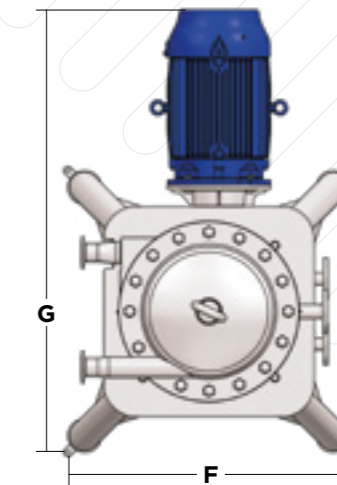


Model	DIMENSION (mm)								
	A	B	C	Exchange Surface	D	E	F	G	H
H5	1000	840	1082	0,5 m ²	DIN 11851 DN 65 F CLAMP 3	EN 1092-1 DN 50 PN 16	400	2350	482
H10	2000	1840	2082	1 m ²				3350	
H15	3000	2840	3082	1,5 m ²				4350	
H30	1370	1138	1503	3,2 m ²	DIN 11864-2 2" 1/2	EN 1092-1 DN 40/32 PN 16	950	1500	2517
H45	1900	1666	2031	4,5 m ²				3045	



H5-H10-H15

H30-H45



RESEARCH AND DEVELOPEMENT

Certificates

The following certificates acquired by MBS are showing our compromise to a constant improvement both operational and industrial.
All the exchangers are compliant with PED 2014/68/UE.



Co-operation

MBS has cooperated from more than 25 years with Parma University.
Thanks to this co-operation, in particular with Technical Physics, we developed our products on an adequate scientific basis.





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