DEBEM

Каталог продукции

По вопросам продаж и поддержки обращайтесь:

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Оренбург (3532)37-68-04
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Саранск (8342)22-96-24
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Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
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Тула (4872)33-79-87
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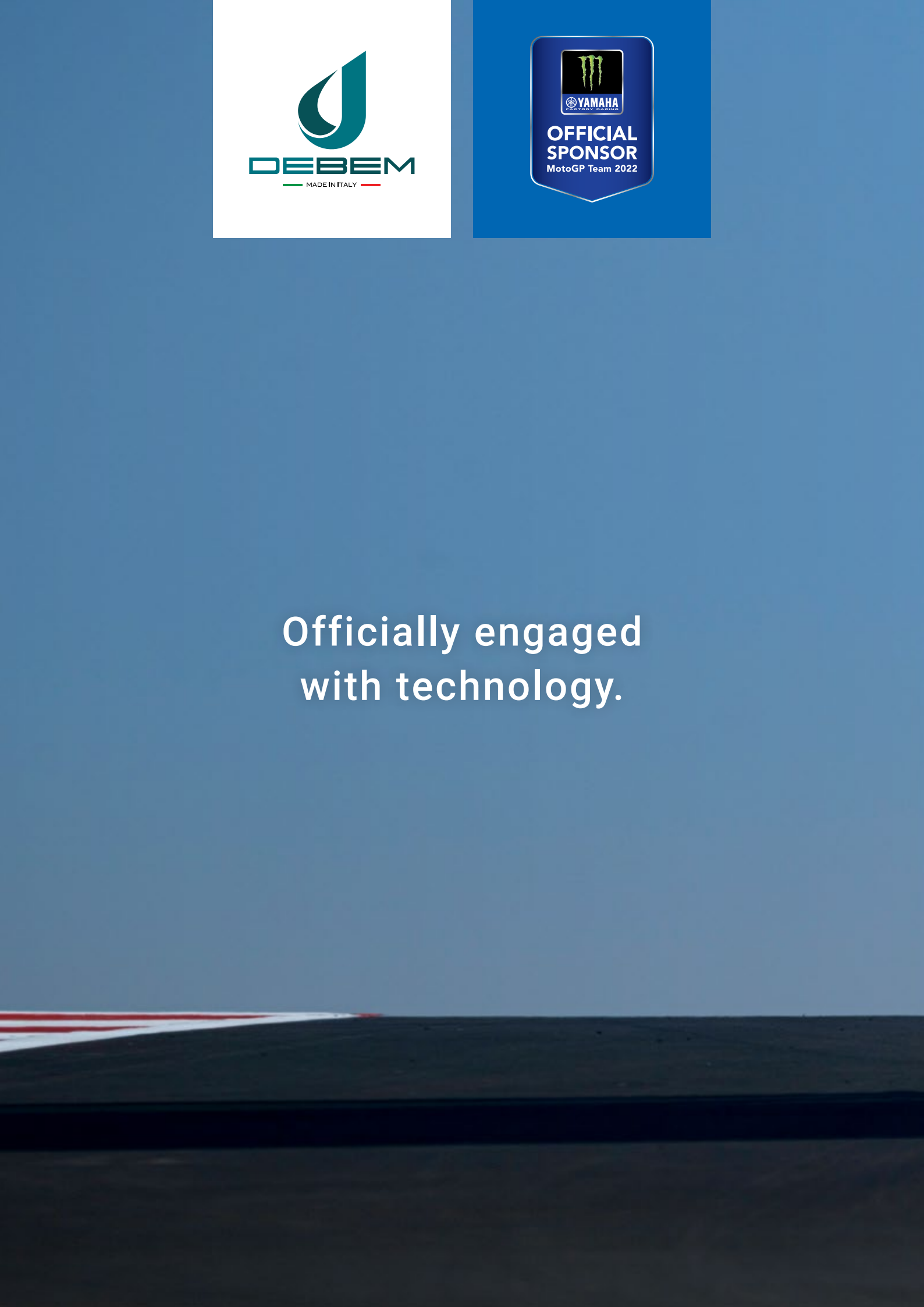
Россия +7(495)268-04-70 Казахстан +7(7172)727-132 Киргизия +996(312)96-26-47

эл.почта: dfb@nt-rt.ru || сайт: https://debem.nt-rt.ru/


DEBEM
MADE IN ITALY
YAMAHA
FACTORY RACING
OFFICIAL
SPONSOR
MotoGP Team 2022
Officially engaged
with technology.


ENEOS
20
MONSTER

DEBEM
MADE IN ITALY

YAMAHA
OFFICIAL SPONSOR
MotoGP Team 2022

Debem is Official Sponsor of

Monster Energy Yamaha MotoGP

Debem S.r.l. has chosen to become **Official Sponsor of Monster Energy Yamaha MotoGP**. Debem is proud to be part of the **MotoGP World Champion Team**, sharing founding values such as **performance, technology, precision and efficiency**.

The three-year contract that joins Debem to the currently MotoGP World Champion Team represents a clear declaration of intent on how the company is projected to the challenges of the future.

Monster Energy Yamaha MotoGP welcomes new Official Sponsor Debem

Yamaha Motor Racing and the **Monster Energy Yamaha MotoGP team** have formed a new strong alliance with **Debem**, producer of industrial pumps. Together they will be striving for high performance and efficiency during the **2022 MotoGP World Championship**.

Gerno di Lesmo (Italy), 28th February 2022
Yamaha Motor Racing and the Monster Energy Yamaha MotoGP Team are delighted to announce Debem as their new Official Sponsor for 2022-2023-2024. Debem is a cutting-edge company specialised in designing, constructing, and producing industrial pumps for highly demanding environments.
Debem has 40 years of experience in the fluid transfer and movement sectorand has become a market leader thanks to the company's innovative and unique product designs as well as their ethical testing of their products' quality and performance.
As Yamaha Motor Racing and Debem share the same drive to be global market leaders and innovators in their respective sectors, the match between the two companies is a perfect fit.

LIN JARVIS

MANAGING DIRECTOR, YAMAHA MOTOR RACING

It is always a pleasure to welcome a new partner onboard our racing program and we are very pleased to introduce new Official Sponsor Debem.

The Monster Energy Yamaha MotoGP Team base is at Yamaha Motor Racing's Headquarters in Gerno di Lesmo, where most of the preparation takes place for our trackside activities. YMR's technical staff will be using Debem products on a daily basis in our workshops and engine maintenance facilities.

Debem shares our desire and motivation to continuously improve the performance and the efficiency in the working environment by developing tailor made high-tech solutions.

MARCO DE BERNARDI

PRESIDENT, DEBEM

The idea of a connection between Debem and Monster Energy Yamaha MotoGP is the epitome of our common goals, sharing founding values such as performance, technology, precision and efficiency.

Values on which the Yamaha MotoGP team delivers big time in his sporting activity, with the recently conquered World Title being just one of its many achievements.

Our obsession with research and development of new solutions in the industrial sector, combined with the worldwide extension of our market, perfectly combine with the evolved, dynamic and winning image of Yamaha Factory Racing.

General Catalogue - 2022

Index

COMPANY

Who we are

Debem has been active in the liquid transfer sector for over 40 years. A cutting edge company, specialised in pumps for numerous industries and for highly demanding environments.

Our close collaboration with the end user and our customer's feedback have been the key factors of the company's philosophy. We have developed a virtuous system of research and development of the product and service, which has garnered growing appreciation from leading companies in different sectors. Debem's growth figures are important: from a small artisan business to a modern industrial reality, a forty-year step, always projected towards evolution. Debem offers its customers new and effective services, providing them with technical and commercial information to make it easier to choose the most suitable product and meet every operating requirement. Our customers can count on a call centre able to resolve questions tied to product selection and the most suitable chemical compatibility for their requirements.

Moreover we also provide a technical support service that can respond to any queries of a technical nature, about the installation, pump optimisation, system or about the fluid pumping process.

Debem: tradition and innovation

The history of Debem srl began in 1975 when its founder, Mr. Marco De Bernardi, thanks to theoretical and practical experience gained in the field, decided to embark on his first independent project: an industrial pump; specifically a 1.5 HP plastic centrifugal pump.

The prototype was an immediate success, so much so that Mr. De Bernardi decided to go it alone and create his own line of industrial pumps. The main sectors focused on were the chemical industry, in all its variants, and the textile industry. At the time the latter was particularly successful in Italy, especially in the province of Varese. As the demand for pumps continued growing, Debem increased its product range, always striving to be ahead and looking for new solutions to overcome the difficulties of the production process.

Continuous technical study and industrial innovation thus led to the first patent (dated 1987) in which the engineering study of the pneumatic operation system of the “distributor” was filed. The pneumatic distributor, still in use today in Debem's AODD pumps, was a later inspiration for several Italian and international competitors.

The newly developed system, completely unique for its time, was an immediate success, so much so that it opened the door to exponential growth, which over the years has established Debem as one of Italy's excellences, both in the field of pneumatic double-diaphragm pumps and as an industrial pump manufacturer.

Debem, 1980

Debem's technical office, alongside the research and development department, is constantly developing new projects and innovating current products. Our primary objective of customer satisfaction has led to the development of a modular design of the pumps, which allows for tailor-made and custom assemblies with components and materials that are ideally suited for their use.

One of the strengths is the ever-growing research and development department within the company. Initially introduced with the aim of improving existing products (with studies on the use of new materials, rationalisation of footprints, optimisation of existing technology). The research project resulted in the development of highly innovative products.

Certifications

ATEX:
All the Boxer air operated pumps are ATEX certified and are explosion proof protected, in compliance with the directive 2014/34/EU and the harmonised European standards EN60079-10 and EN 1127-1.

ISO 9001:2015 certification

IECEx:
The Boxer air operated pumps are IECEx certified and are explosion proof protected, in compliance with the international IECEx standards and the standards IEC 60079-10 and EN 1127-1. The Boxer air operated pumps are produced in compliance with IECEx, with class Ex h IIB T4 Gb and Ex h IIIB T135° Db for uses in the presence of flammable gases and dust.

American Bureau of Shipping:
Debem manufactures AODD pumps for marine applications in accordance with A.B.S. - American Bureau of Shipping rules.

Debem has decided to use 100% Zero Impact® certified renewable energy

Pumps for the chemical, textile and leather, galvanic and electronics, graphics, paint, glue, paper and paper mills, automotive, oil and many other industries.

STRENGTHS

Why choose us

The Debem DNA: Cohesion, quality, innovation, customer focus.

Innovative and technologically advanced pumps built with materials and components resistant to aggressive conditions

History

Over 40 years of innovation, research, quality and excellence.

Patents made in Italy

The products are entirely designed, patented and built in Italy by Debem.

International distribution

Debem's products can count on an extensive global distribution (see network).

Materials and Technologies

Debem's products are constructed with the finest quality, certified Italian materials. We use the latest generation technologies in line with the industry 4.0 standards.

Service and consultancy

A call centre able to resolve questions tied to product selection and the most suitable chemical compatibility for their requirements. Support service that responds to technical, installation and pump optimisation queries.

Customised solutions

Debem's air-operated double diaphragm pumps can be customised based on the customer's requirements and application needs.

Research & Development – Innovation

Debem's technical office, alongside the research and development department, is constantly developing new projects and innovating current products.

Ability to handle emergencies

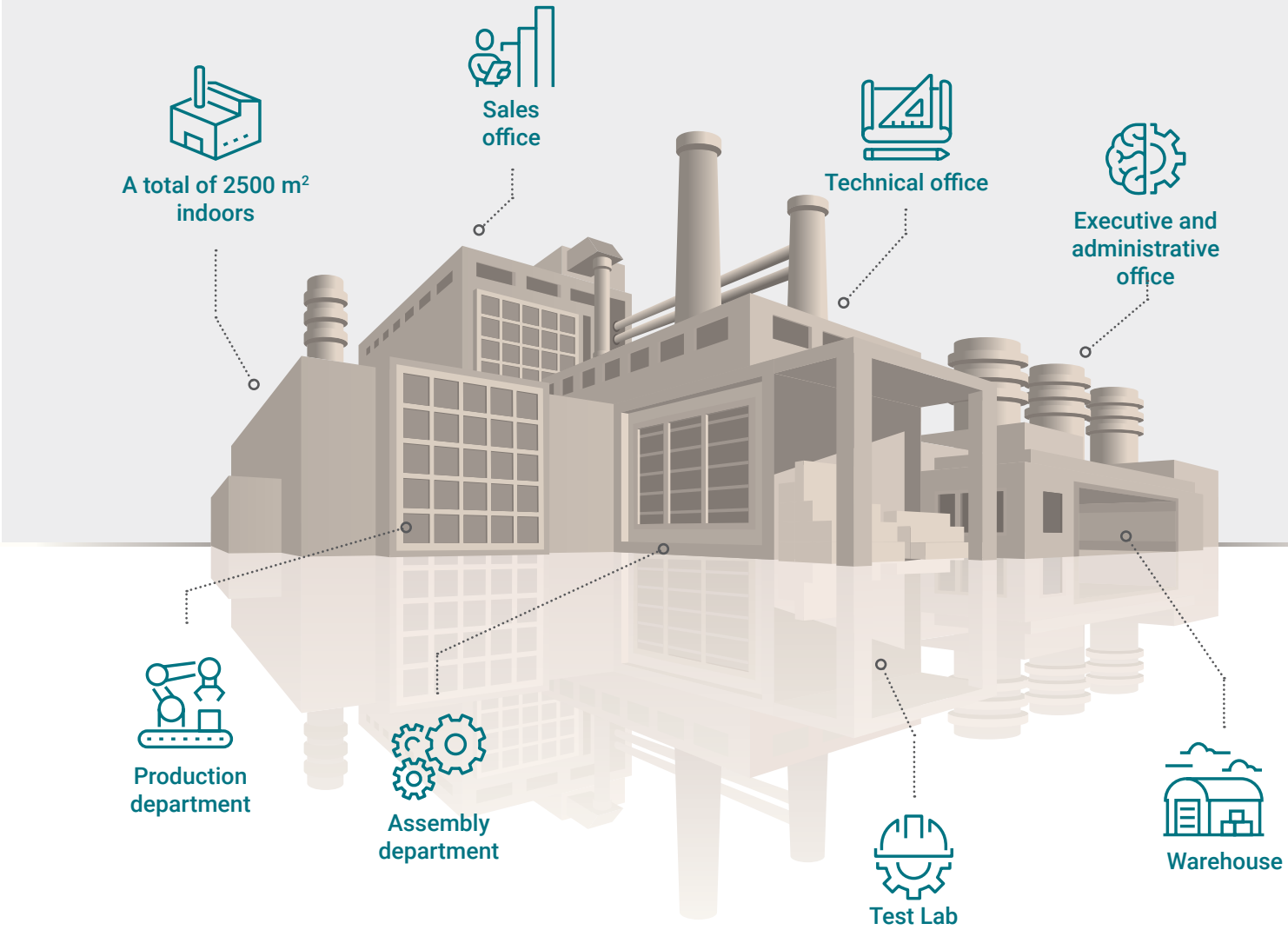
Extremely quick deliveries of finished products and of spare parts for every pump model in the catalogue.

Quality

All the products that leave the company are stamped with a code that includes the production data entered into a database, to ensure utmost quality through every stage of the production process.

COMPANY

The structure



COMPANY

Test Lab

We are very happy to present the new Debem TEST-LAB, an internal analysis and product refinement laboratory. Open to the public for technical courses and certified tests for customers, it is Italy's first IECEx certified laboratory for air-operated pumps.

Consisting of a 4000-litre polypropylene anti-cavitation tank with a compartmentalised structure, the TEST-LAB features two air lines to supply the pumps up to 6000 NL/min and three fluid lines to provide up to 3000 L/min.

The technical equipment includes digital instruments certified to analyse air consumption, flow rates and hydraulic head, for centralised data collection and graphics and for issuing test certificates.

SETTINGS

Global network


RUSSIAN FEDERATION
KAZAKHSTAN
MONGOLIA
UZBEKISTAN
KYRGYZSTAN
TURKMENISTAN
TAJIKISTAN
CHINA
IRAN
AFGHANISTAN
PAKISTAN
NEPAL
BHUTAN
INDIA
BANGLADESH
BURMA (MYANMAR)
LAOS
THAILAND
CAMBODIA
VIETNAM
SRI LANKA
OMAN
NORTH KOREA
SOUTH KOREA
JAPAN
TAIWAN
PHILIPPINES
BRUNEI
MALAYSIA
SINGAPORE
INDONESIA
EAST TIMOR
PAPUA NEW GUINEA
SOLOMON ISLANDS
VANUATU
FIJI
NEW CALEDONIA
AUSTRALIA
NEW ZELAND
MAURITIUS
Key
Head quarter
German branch
Commercial presence

Our products

Air-operated double diaphragm pumps

CUBIC

BOXER

REMOTE CONTROL

FULLFLOW

Our air-operated diaphragm pumps are sturdy and powerful, self-priming (dry negative vacuum), also in demanding conditions. They can transfer liquids with high viscosity and/or with suspended solids.

Pulsation dampers

EQUAFLUX

Automatic diaphragm pulsation dampers. Compressed air-driven devices that are installed on the delivery side of air-operated pumps. They minimise the pulsations of the fluid and the consequent vibrations, or water hammer, to protect the process equipment.

Electric centrifugal pumps

DM HORIZONTAL MAGNETIC DRIVE

KM HORIZONTAL MAGNETIC DRIVE

MB HORIZONTAL WITH MECHANICAL SEALS

IM VERTICAL CENTRIFUGAL PUMPS

Resin centrifugal pumps with horizontal axis mechanical seal, with magnetic drive and vertical axis centrifugal pumps.

Drum transfer pumps

Compressed air motor

Electric motor

TR DRUM TRANSFER PUMPS

Compressed air or electrical motor driven drum transfer pumps, with the motor installed in direct drive or with a drive coupling. Their portable design renders them ideally suited to quickly transfer clean corrosive liquids from drums.

Main application sectors

AUTOMOTIVE

CERAMIC,
STONE, MARBLE,
GLASS AND MINING INDUSTRY

GALVANIC
AND ELECTRONIC INDUSTRY

GRAPHIC
INDUSTRY

TEXTILE
AND LEATHER INDUSTRY

PRODUCTION AND STORAGE OF
BIODIESEL

CHEMICAL
INDUSTRY

PACKING, GLUE,
PAPER AND PAPER MILLS

MECHANICAL
AND METALLURGIC INDUSTRY

WATER
AND SLUDGE TREATMENT

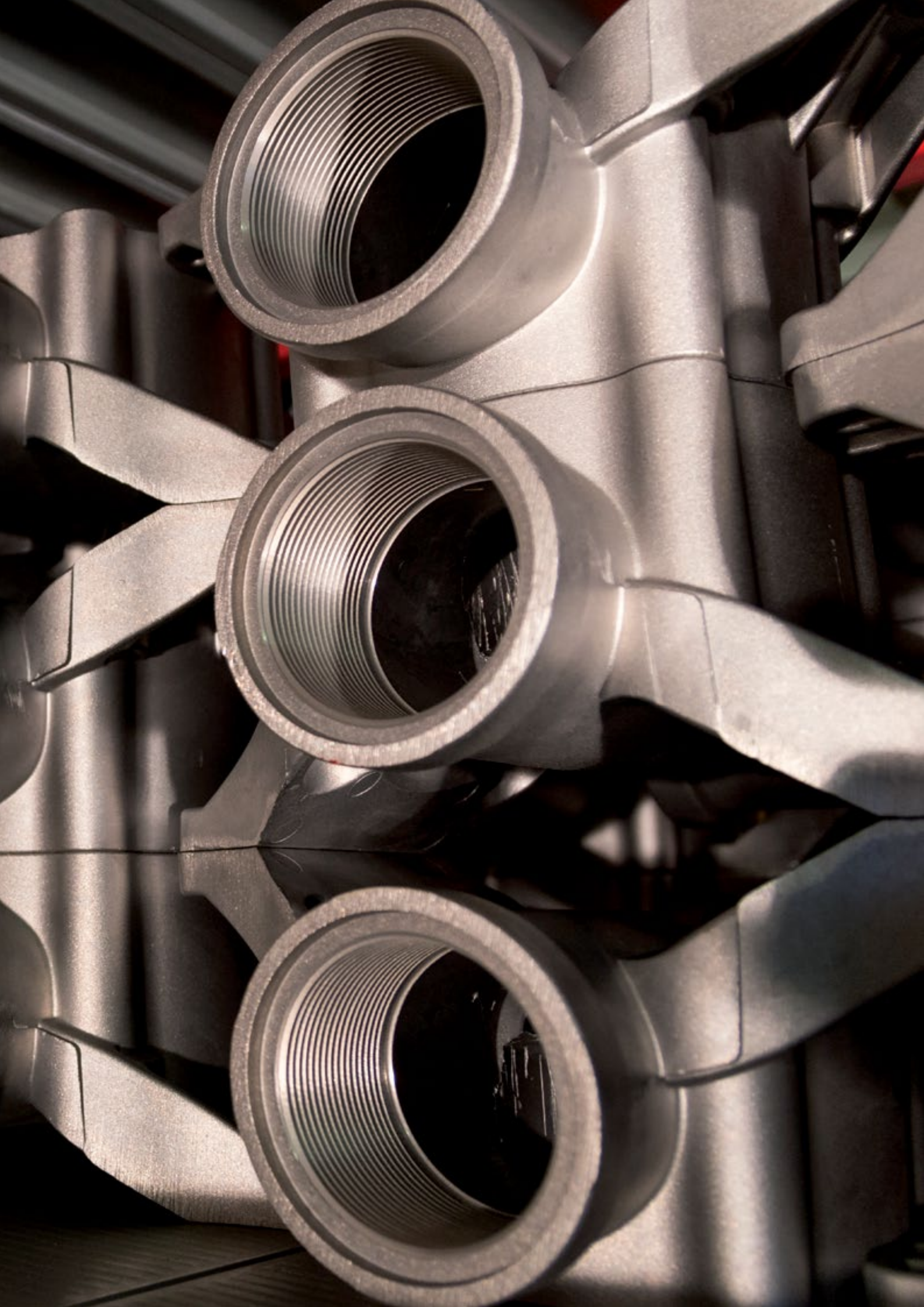
PAINT
INDUSTRY

OIL & GAS

GOLD PROCESSING
INDUSTRY

DEBEM

MADE IN ITALY

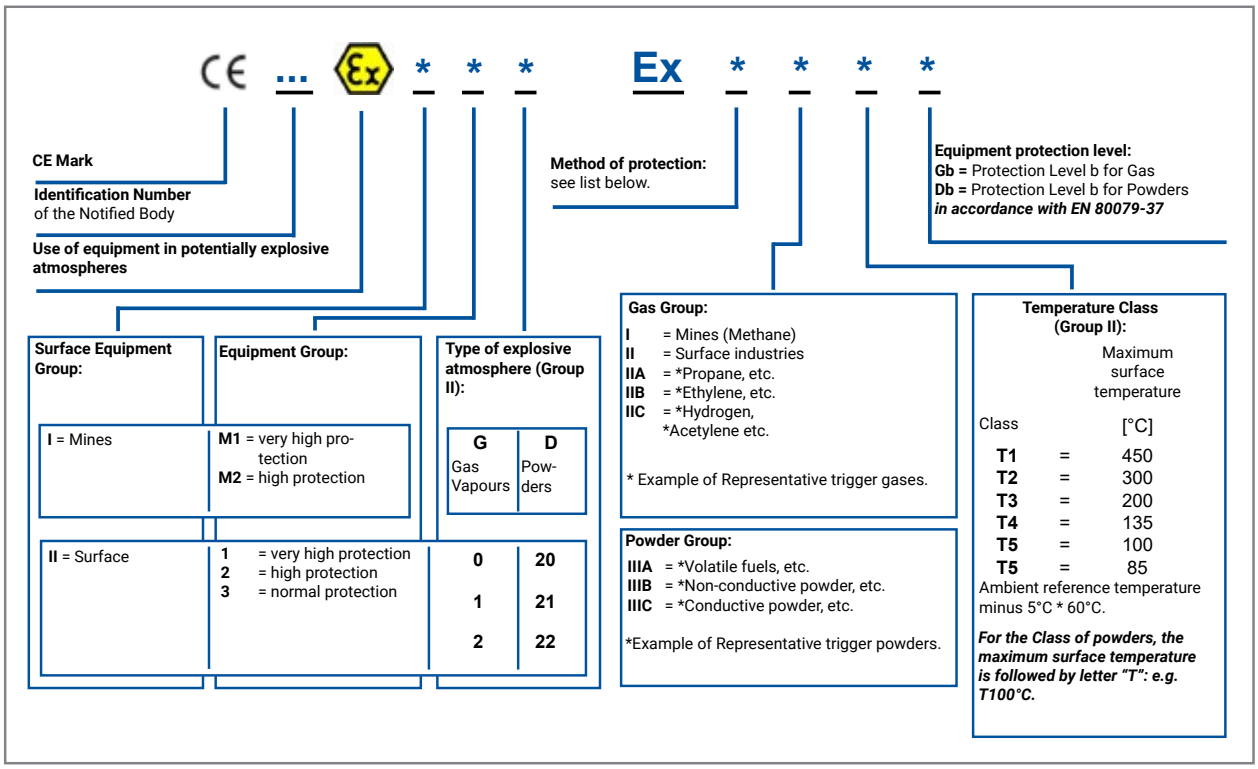


ATEX compliance

All Boxer Air Pumps comply with the Community Directives for the free circulation of goods applicable to them (see Declaration of Conformity).

They are manufactured in STANDARD version in ATEX **II 3G Ex h IIB T4 Gc** and **II 3D Ex h IIIB T135°C DcX** execution for use in *"Zone 2-Zone 22"* (in the presence of flammable gas and powders) and in ATEX **I M2 Ex h I Mb X** execution for use in mines in areas with low impact risk *"Zone M2"* (in the presence of potentially explosive atmosphere consisting of fireside and coal dust).

Upon specific Order request, pumps can be supplied in CONDUCT version in ATEX **II 2G Ex h IIB T4 Gb** and **II 2D Ex h IIIB T135°C DbX** execution for use in *"Zone 1 - Zone 21"*.



ATTENTION: The Identification Plate of the pump shows the ATEX marking and the category of the equipment. **Check compliance with the classification of the installation "Zone" before carrying out the installation. The equipment user is responsible for classifying their installation zone.** Below is the definition of the ATEX marking for each execution.

: safety symbol in accordance with DIN 40012 attachment A.

II 3 G/ II 3 D : surface equipment for use in areas where the presence of gases, vapours or mists in addition to clouds of combustible powder in the air is unlikely during normal operation, both in external and internal areas and, if it does occur, it will only persist for a short period (Zone 2 - Zone 22).

II 2 G/ II 2 D : surface equipment for use in areas with the presence of gases, vapours or mists in addition to clouds of combustible dust in the air that occur occasionally during normal operation, both in external and internal areas (Zone 1 - Zone 21).

I M2 : M2 category equipment that can be installed in mines in "hazardous condition 2", i.e. in a potentially explosive atmosphere consisting of firedamp and coal dust.

Ex h : Protection equipment «c», or «b», or «k», in accordance with EN 80079-37.

IIB : excluding the following gases: hydrogen, acetylene, carbon disulphide.

IIIB : excluding the following powders: conductive powder.

I : product suitable for installation in mines (in a low impact risk area).

MB : EPL Mb protection level in accordance with EN 80079-36:16.

X : The internal area of the pump is not ATEX, that is, it cannot process powders.

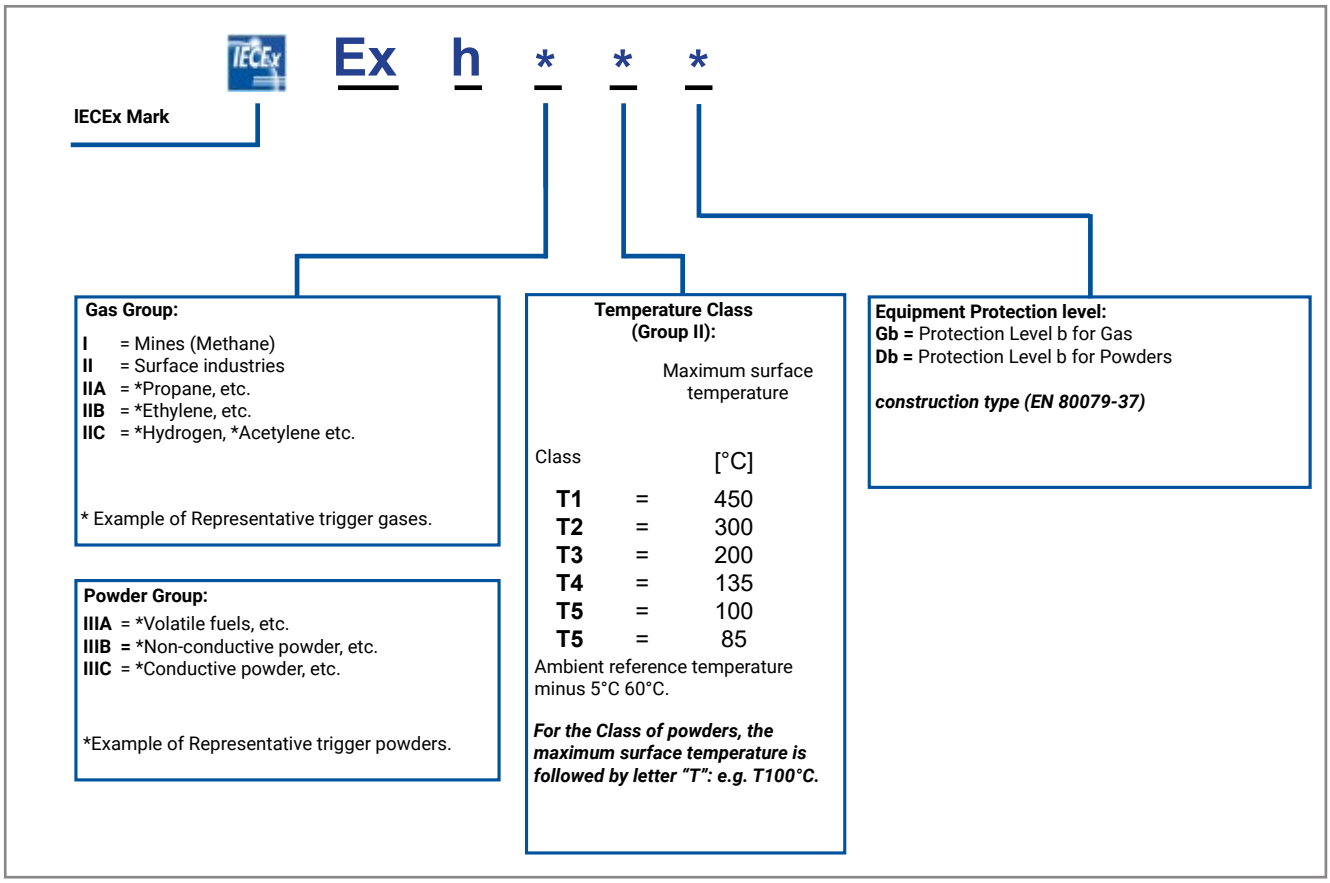
T4/T135°C : temperature class permitted. The processed fluid temperature value must fall within such class range and the user must comply with the instructions contained in the manual and with the current laws. Furthermore, the user must take into account the ignition points of the gases, vapours and mists in addition to clouds of combustible powder in the air existing in the area of use.

The Technical File is deposited with TÜV NORD CERT of Hannover.

IECEx compliance

All Boxer Air Pumps comply with the Community Directives for the free circulation of goods applicable to them *(see Declaration of Conformity)*.

BOXER Air pumps are manufactured in CONDUCT version in IECEx execution with class **Ex h IIB T4 Gb and Ex h IIIB T135°C Db.**



CAUTION: The Identification Plate of the pump shows the IECEx marking and the category of the equipment. **Check compliance with the classification of the installation "Zone" before carrying out the installation. The equipment user is responsible for classifying their installation zone. The pumps in IECEx execution are not available with Hytrel® components and do not have a different use relating to the Ambient Temperature shown on the plate.**

Below is the definition of the IECEx marking of each execution.

Ex h : Protection equipment «c», «b», or «k», in accordance with EN 80079-37.

IIB : excluding the following gases: hydrogen, acetylene, carbon disulphide.

IIIB : excluding the following powders: conductive powder.

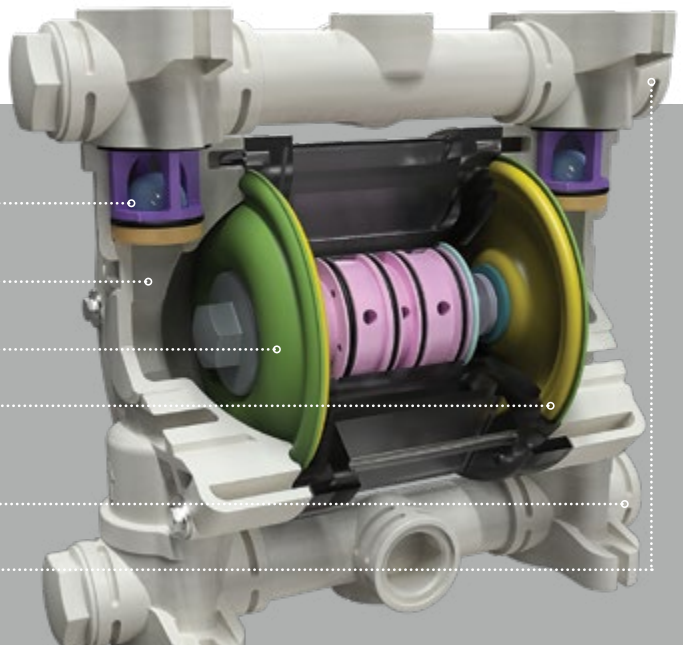
T4/T135°C : temperature class permitted. The processed fluid temperature value must fall within such class range and the user must comply with the instructions contained in the manual and with the current laws. Furthermore, the user must take into account the ignition points of the gases, vapours and mists in addition to clouds of combustible powder in the air existing in the area of use.

The Technical File is deposited with IEC EUROFINS (EX-3935 Certificate).

Main advantages

The Cubic diaphragm mini pumps and the Boxer diaphragm pumps feature high levels of performance. High power and their sturdiness make them ideal for pumping liquids with high viscosity, even if containing suspended solids. The pneumatic anti-stall circuit ensures safe operation and does not require lubricated air.
These pumps have achieved unprecedented levels of versatility due to their dry self-priming capacity with a considerable suction head, the ability to fine-tune the speed without losses of pressure as well as the possibility of empty-running without suffering damage. The vast range of construction materials allows us to select the best chemical compatibility with the fluid and/or the environment, without neglecting the operating temperature range. Their construction principle makes them ideally suited for demanding applications with high levels of humidity or in potentially explosive atmospheres (ATEX and IECEx certification).

- PP+GF, PP+CF, PVDF, ECTFE, PTFE, Aluminium, Stainless Steel AISI 316, Stainless Steel AISI 316 L, Stainless Steel AISI 316 Electropolished, Stainless Steel AISI 316 L Electropolished
- Use in explosive atmospheres (ATEX certification zone 1 – 2, IECEx certification)
- Suitable for demanding applications and in atmospheres with high levels of humidity
- Dry-running
- Dry self-priming
- Supply with non-lubricated air
- Patented stall protection pneumatic circuit
- Adjustable flow rate and head
- Fine adjustment of the speed at constant pressure
- Possibility of split manifolds (two suctions and two deliveries)
- Bench or ceiling installation
- Customisable positions
- Easy maintenance and parts replacement
- Excellent ratio between performance and costs
- Operating temperatures:
  - PP / PP+CF from +3°C to +65°C
  - PVDF / ECTFE from +3°C to +95°C
  - AISI 316 / AISI 316 L / Aluminium from +3°C to 95°C



A = ball valves
B = pumping chamber
C1 = product-side diaphragm
C2 = air-side diaphragm
D = suction manifold
E = delivery manifold
F = pneumatic exchanger

Cubic mini diaphragm pumps and Boxer diaphragm pumps

CUBIC

ATEX ZONE 1
ON REQUEST

II 2G Ex h IIb T4 Gb
II 2D Ex h IIIB T135°C Db X

ATEX ZONE 2
STANDARD ON ALL MODELS

II 3G Ex h IIB T4 Gc
II 3D Ex h IIIB T135°C Dc X

This range of pumps, with their unique design and compact dimensions, can be used in series in small spaces.

MATERIALS: PP, PP+CF, ECTFE
Dry suction max. 3m

PLASTIC BOXER

ATEX ZONE 1
ON REQUEST

II 2G Ex h IIb T4 Gb
II 2D Ex h IIIB T135°C Db X
Ex h IIB T4 Gb
Ex h IIIB T135°C Db

ATEX ZONE 2
STANDARD ON ALL MODELS

II 3G Ex h IIB T4 Gc
II 3D Ex h IIIB T135°C Dc X
I M2 Ex h I Mb X

IECEx

The plastic Boxer range is designed for demanding uses, for very aggressive and acid liquids, in the numerous applications of the chemical industry.

MATERIALS: PP, PP+CF, PVDF, ECTFE, PTFE
Dry suction max. 5m

METAL BOXER

ATEX ZONE 1
ON REQUEST

II 2G Ex h IIb T4 Gb
II 2D Ex h IIIB T135°C Db X
Ex h IIB T4 Gb
Ex h IIIB T135°C Db

ATEX ZONE 2
STANDARD ON ALL MODELS

II 3G Ex h IIB T4 Gc
II 3D Ex h IIIB T135°C Dc X
I M2 Ex h I Mb X

IECEx

The metal Boxer range is designed for demanding uses, for solvent-based liquids and for numerous uses in the paint industry.

MATERIALS: Aluminium, Stainless Steel AISI 316, Stainless Steel AISI 316 L, Stainless Steel AISI 316 Electropolished, Stainless Steel AISI 316 L Electropolished
Dry suction max. 5m

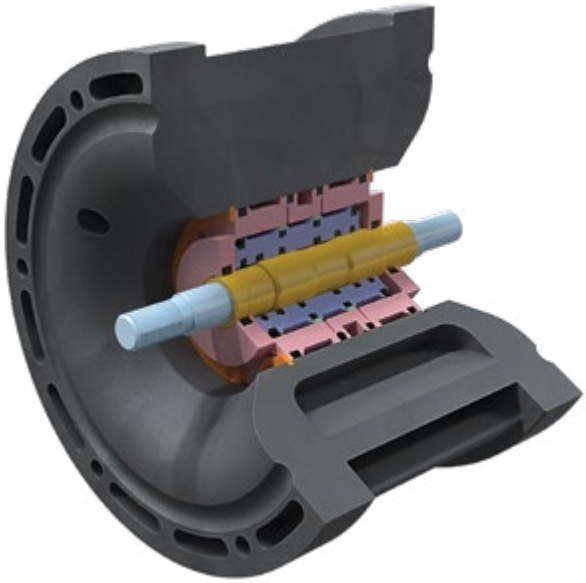
PATENTED STALL-PREVENTION COAXIAL PNEUMATIC EXCHANGER

Patented exchanger

Debem pumps use a patented stall-prevention coaxial pneumatic exchanger. This device introduces compressed air to change the equilibrium of the pressure of the diaphragms, assisted by a stall-prevention circuit, that guarantees optimal performance, even in the most critical conditions. The control part (spool) and the power part (exchanger) are both housed inside the pump in a single block, which limits further losses of load when compressed air flows in the pump. The Debem pneumatic exchanger is easy to repair and/or replace. The internal exchanger is built entirely with plastic parts (except for the shaft connecting the two diaphragms), rendering it resistant to corrosive fluids and fumes.

The Debem exchanger is pre-lubricated, therefore the supply air for the pump does not require lubrication, quite the opposite, it must be dried and free of impurities, such as oil, dust or condensation. Debem's pneumatic exchanger (unique in its kind) is built with an extremely low number of parts, making parts replacement and maintenance extremely easy.

- Low cost of spare parts (single or kit)
- Easy installation
- Self-lubricated system
- No metal parts (only the shaft)
- Stall-prevention system
- Long-life device: more than 50.000.000 cycles



Amongst the lowest air consumptions on the market

The air consumption data (expressed in Nl/minute) of Debem pumps are real and verified through certified state-of-the-art instrumentation. The figures are among the lowest on the market to date. Debem pumps are specifically designed to optimise the space at the back of the diaphragms. The volumetric space profiles are specially developed to ensure total expansion of the membranes with very low air volumes.Debem pumps are designed to optimise air consumption regardless of the use of electronic control systems, which the competition sells as an accessory, but which from certain misleading advertisements seem to be a production standard instead. Be suspicious of all companies that claim technical data without having the instruments necessary to determine their veracity.

Debem is equipped in-house with a newly developed test bench with state-of-the-art certified instrumentation. The test bench is used to test and certify the parameters of its products and the efficiency of pumps in compliance with the latest regulations and in accordance with the new European project for INDUSTRY 4.0.

Membrane Long Life

The diaphragms are the parts subjected to the greatest stresses during suction and pumping, whilst also having to resist the chemical attack and temperature of the liquid and the mechanical fatigue. Their correct assessment and selection is therefore of fundamental importance for the life of the diaphragm, as well as for the investment decisions and maintenance costs.

A modern design process, destructing testing, as well as an in-depth analysis of the results have allowed Debem to develop the new generation LONG LIFE diaphragms. Thanks to their profile and construction shape, these products offer a larger working surface and improved redistribution of the load, reducing the stress and yield of the material to a minimum.

BOXER / CUBIC FAMILY

RUBBER DIAPHRAGMS

They are produced with rubber mixtures and special additives that improve their chemical characteristics as well as their mechanical flexural and resistance characteristics. These diaphragms have a nylon cloth reinforcement that improves stress distribution.

NBR

Inexpensive and particularly suited for petroleum-based liquids, oil and abrasive fluids.

EPDM

Good resistance to acids, alkaline and abrasion as well as a good flexibility also at low temperatures.

NBR

EPDM

BOXER FAMILY

THERMOPLASTIC DIAPHRAGMS

Made with thermoplastic polymers, these diaphragms provide a high level of mechanical resistance and stress distribution.

HYTREL®

Exceptional toughness and springback: high resistance to creep, impact and fatigue under bending: excellent flexibility at low temperatures, also retaining its properties to a good extent at high temperatures. It is also resistant to the attack of many industrial chemicals, oils and solvents.

SANTOPRENE®

Excellent resistance to acid and alkaline fluids, high flexural resistance and good abrasion resistance.

HYTREL®

SANTOPRENE®

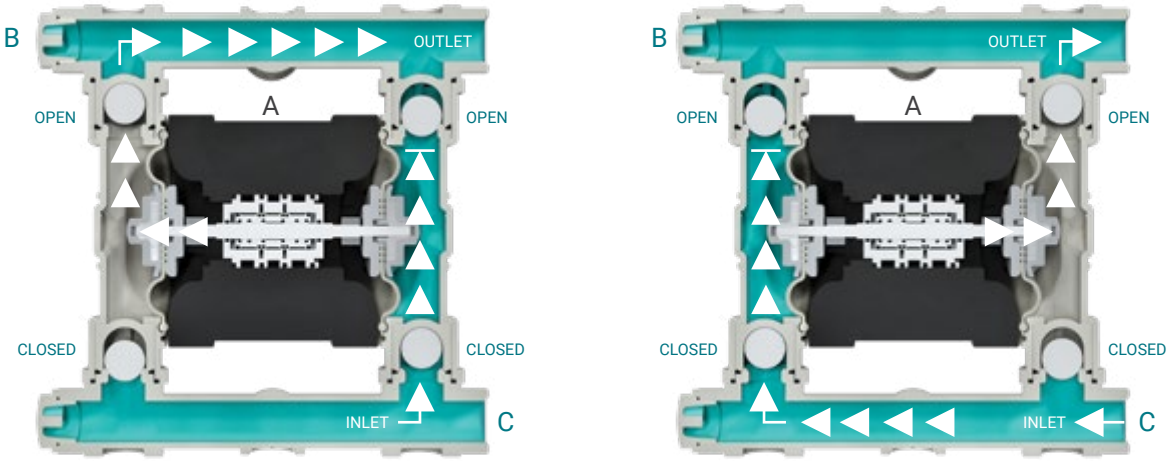
BOXER / CUBIC FAMILY

PTFE DIAPHRAGMS

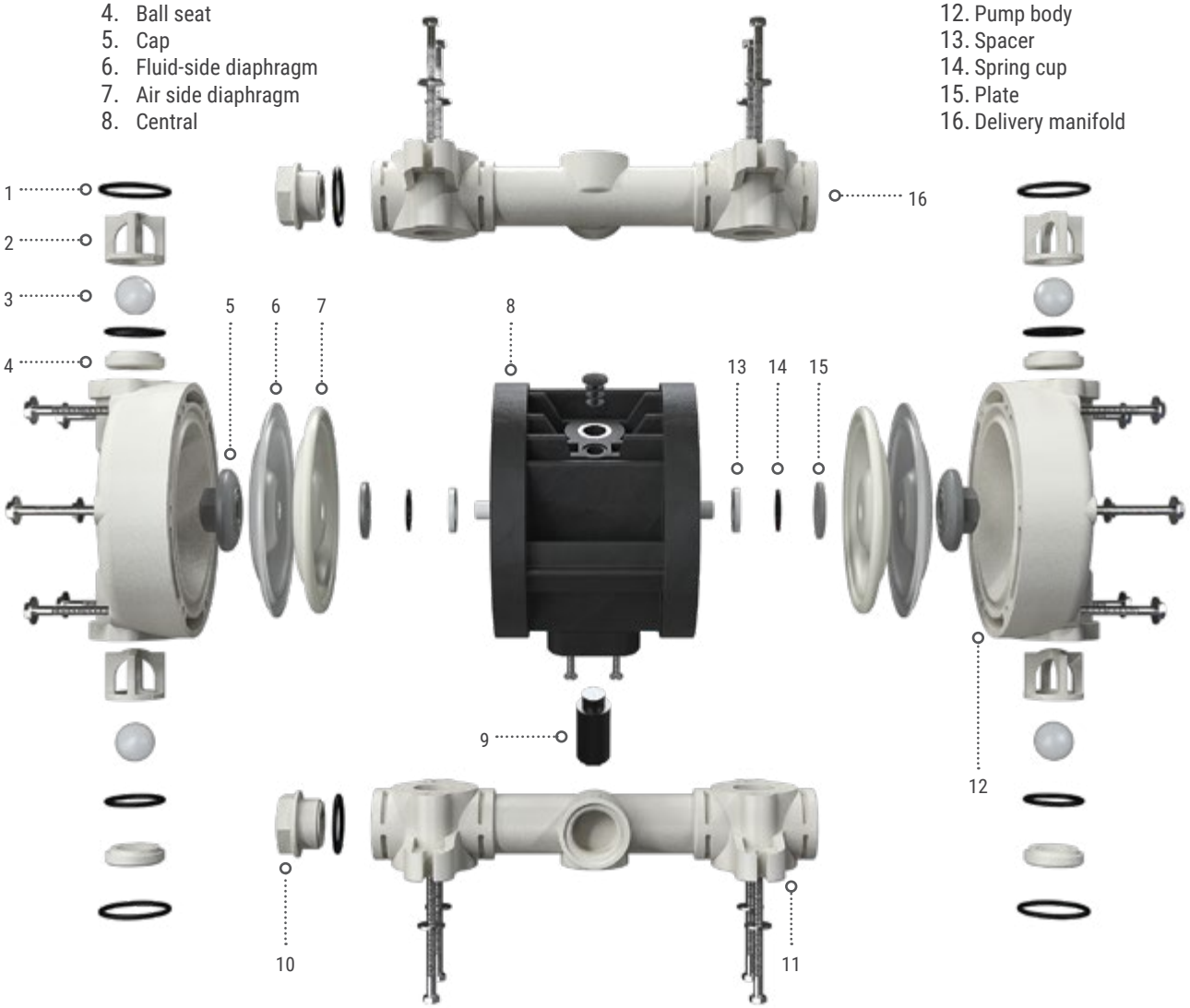
This material is known for its considerable resistance to temperature and chemical and corrosive agents. Diaphragms in Debem PTFE undergo a double heat treatment to increase their elasticity and service life. A sample of each batch is subject to destructive tests to check their compliance with the technical requirements. This diaphragm can be installed combined with one of the ones examined earlier, in order to increase the resistance to the corrosive chemical agents and temperature of the fluid.

How does it work?

The compressed air introduced by the pneumatic exchanger (A) behind one of the two diaphragms generates the compression and pushes the product in the delivery duct (B) at the same time, the opposing diaphragms that is integral with the exchanger shaft creates a vacuum and intakes the liquid (C). Once the stoke has been completed, the pneumatic exchanger diverts the compressed air behind the opposing diaphragm and the cycle is reversed.



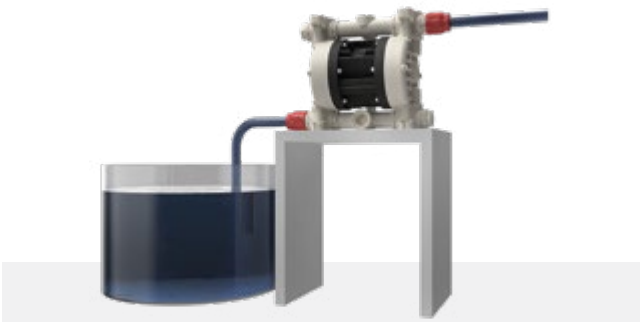
1. O-ring
2. Cage
3. Ball
4. Ball seat
5. Cap
6. Fluid-side diaphragm
7. Air side diaphragm
8. Central
9. Filter silencer
10. Plug
11. Suction manifold
12. Pump body
13. Spacer
14. Spring cup
15. Plate
16. Delivery manifold



Installations

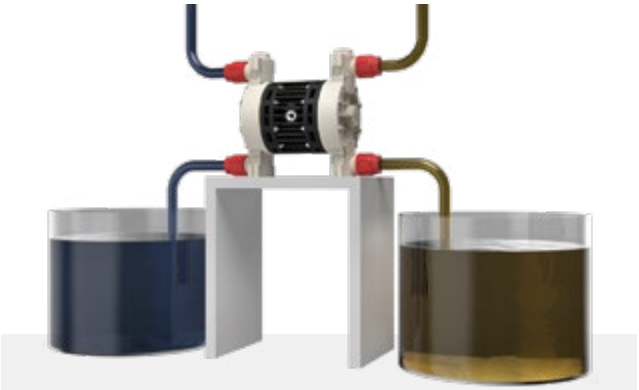
BOXER / CUBIC FAMILY

Self priming



BOXER FAMILY

Split Suction and Delivery

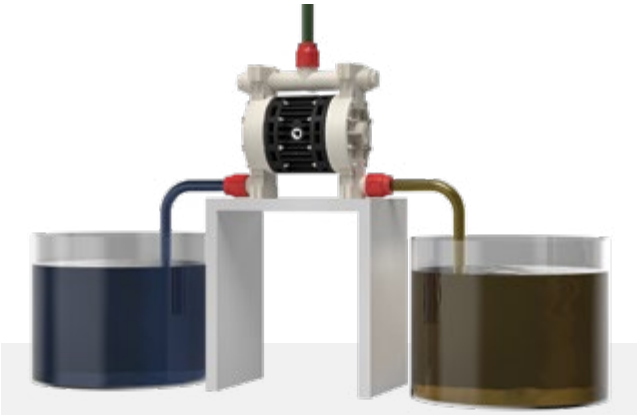


BOXER / CUBIC FAMILY

Under head

BOXER FAMILY

Split Suction



BOXER / CUBIC FAMILY

Immersed

BOXER / CUBIC FAMILY

Drum Transfer

LINE INTRODUCTION

Cubic

Air-operated double diaphragm pumps with a unique design and ATEX certification. They have been designed to have small dimensions that make them particularly suitable for installation directly on industrial equipment for the chemical industry, ink and paint handling, printing machines, oil circulation, and all applications that need to move discrete quantities of fluid in small spaces. The Cubic range includes the Midgetbox pump which is currently the smallest and highest performing pump on the market for the chemical sector.

Debem's Cubic diaphragm pumps are fitted with a centrally positioned coaxial pneumatic motor.

- Product designed and constructed in Italy
- Patented stall protection pneumatic circuit
- Works with non-lubricated air
- Self priming
- Supports dry running
- ATEX certification for ZONE 1 - ZONE 2
- Adjustable operating speed
- Versatility of use
- Suitable for pumping fluids in demanding applications
- Possibility of pumping fluids containing suspended solids (Cubic 15)
- Possibility of suspended installation
- Suitable for continuous use

CODING CUBIC FAMILY CODES

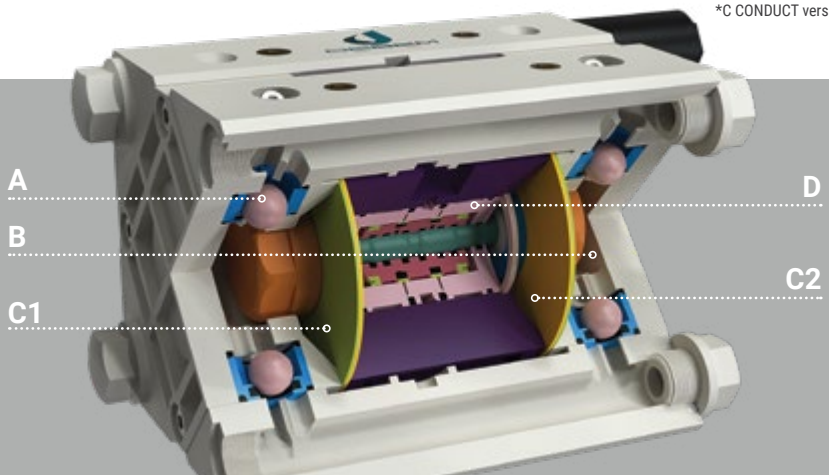
Example table, for table with complete codes contact Debem sales department.
ex. ICU15P-NTTPV- - Internal distributor, Cubic 15, PP casing, NBR air side diaphragm, PTFE product side diaphragm, PTFE balls, PP ball seats, Viton® o-ring.

I	CU15	P	N	T	T	P	V	-	-
INTERNAL DISTRIBUTOR	PUMP MODEL	PUMP BODY	MEMBRANE AIR SIDE	MEMBRANE FLUID SIDE	BALLS	BALL SEATS	O-RING	MANIFOLD	VERSION
I	MID - Midgetbox CU15 - Cubic 15	P - Polypropylene EC - ECTFE (Halar®) PC - PP+CF	N - NBR	T - PTFE	G - Pyrex®1 A - AISI 316 L T - PTFE	R - PPS K - PEEK1 P - PP E - ECTFE A - AISI 316 L I - PE-UHMW	D - EPDM V - Viton® N - NBR T - PTFE	X *Split manifold* Y *NPT thread*	C*

1) Only for Midgetbox

*C CONDUCT version for ATEX ZONE 1

A = ball valves
B = pumping chamber
C1 = product-side diaphragm
C2 = air-side diaphragm
D = pneumatic exchanger



Midgetbox

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

Suction / delivery connections	1/4" f BSPP (*)
Air fitting	1/8" f BSPP
Max. flow rate*	6 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0 mm
Noise	60 dB
Volume per stroke	3.2 cc

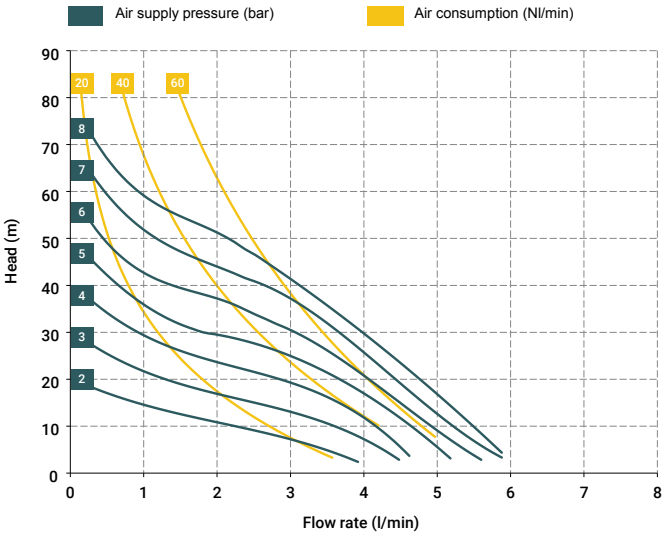
(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

Any colour variations in our plastic products are due to the special mixtures of the raw materials used. The use of high fillers, glass and long-fibre carbon, provides a distinctive aesthetic that in no way detracts from the quality of the product, but rather emphasises its high technical content, to the benefit of performance.

MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

PLASTIC MATERIAL - PP (GF/CF)	Midgetbox
Maximum dimensions	
Height	75 mm
Width	122 mm
Depth	60 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	0.52 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	0.52 Kg Temp. 3°C min. 65°C max



Cubic 15

Specifications and types

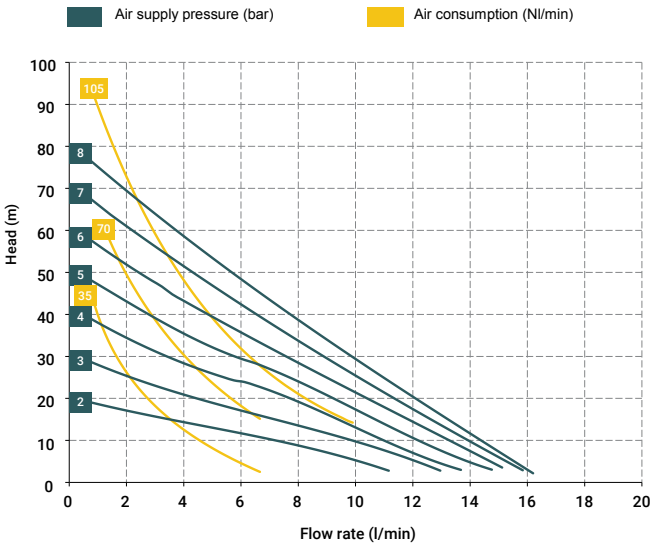
Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

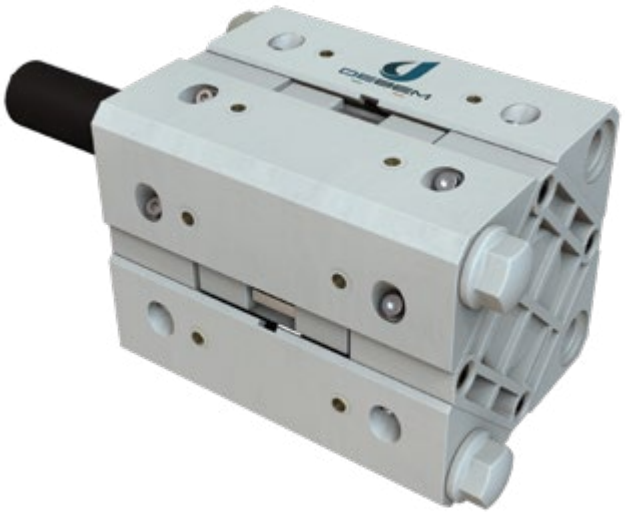
Suction / delivery connections	3/8" f BSPP (*)
Air fitting	3/8" f BSPP
Max. flow rate*	17 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	10.3 cc

Cubic diaphragm pumps: high performance levels, excellent power and sturdiness, ideal for pumping liquids with high apparent viscosity, even if containing suspended solids. Particularly suited for small spaces.

MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- PACKING, GLUE, PAPER AND PAPER MILLS
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY





PLASTIC MATERIAL - PP (GF/CF) — Cubic 15

Maximum dimensions	
Height	105 mm
Width	201 mm
Depth	105 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.35 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.35 Kg Temp. 3°C min. 65°C max

PLASTIC MATERIAL - ECTFE — Cubic 15

Maximum dimensions	
Height	105 mm
Width	201 mm
Depth	105 mm

Construction mat. (casing and manifolds) and net weight	
ECTFE	1.6 Kg Temp. 3°C min. 95°C max

Any colour variations in our plastic products are due to the special mixtures of the raw materials used. The use of high fillers, glass and long-fibre carbon, provides a distinctive aesthetic that in no way detracts from the quality of the product, but rather emphasises its high technical content, to the benefit of performance.

LINE INTRODUCTION

Boxer

Air-operated double diaphragm volumetric pumps, ATEX – IECEx certified, constructed in polypropylene or PVDF in the plastic version or in aluminium or AISI 316L for the metal versions. Boxer pumps are ideal for pumping liquids with high apparent viscosity, even if containing suspended solids. The vast range of materials available for the parts in contact with the flu id, such as pump casings and manifolds, diaphragms, balls, ball seats and o-rings, makes them compatible with any type of fluid present on the market. They can be used in numerous applications such as the following industries: chemical, graphic, paint, galvanic, ceramic, naval, textile, leather, mechanical, oil and many more.

- Product designed and constructed in Italy
- Patented stall protection pneumatic circuit
- Operation with non-lubricated air
- Self priming
- Supports dry running
- ATEX certification for ZONE 1 - ZONE 2
- IECEx certification
- Possibility of adjusting the operating speed
- Versatility of use
- Suitable for pumping fluids with high viscosity and for demanding applications
- Possibility of pumping fluids containing suspended solids
- Possibility of suspended installation
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP – PP+CF – PVDF
- Nozzles available with clamp connections and DIN 11851 (only pumps in AISI 316)
- Long Life profile diaphragms (available in different elastomers) for greater resistance and longer life
- Suitable for continuous use

CODING BOXER FAMILY CODES

ex. IB07-P-HTTPV--
Internal distributor, Boxer 07, PP casing, Hytrel® air side diaphragm, PTFE product side diaphragm, AISI 316 L balls, PP ball seats, EPDM. O-ring.

IB07-	P	H	T	T	P	V	-	-
PUMP MODEL	PUMP BODY	MEMBRANE AIR SIDE	MEMBRANE FLUID SIDE	BALLS	BALL SEATS	O-RING	MANIFOLD	VERSION
IB07 - Boxer 07 IB15 - Boxer 15 IMICR - Microboxer IB35 - Boxer 35 IB50 - Boxer 50 IMIN - Miniboxer IB81 - Boxer 81 IB90 - Boxer 90 IB100 - Boxer 100 IB150 - Boxer 150 IB251 - Boxer 251 IB252 - Boxer 252 IB522 - Boxer 522 IB502 - Boxer 502 IB503 - Boxer 503	P - PP PC - PP+CF FC - PVDF+CF A - AISI 316 (L) AL - ALU	N - NBR D - EPDM H - Hytrel® M - Santoprene®	T - PTFE	T - PTFE A - AISI 316 L D - EPDM N - NBR	P - Polypropylene F - PVDF A - AISI 316 L I - PE-UHMW R - PPS L - Aluminium	D - EPDM V - Viton® N - NBR T - PTFE	X* 3* Y* W* K*	C* Z*

Example table, for table with complete codes contact Debem sales department.

*X = split manifold
*3 = 3rd hole on manifold
*Y = manifold with NPT connection
*W = clamp manifold
*K = manifold with reinforcement rings (all on request only)

C = CONDUCT version for ATEX ZONE 1
Z = version for IECEx standard

Boxer 7

Specifications and types

Zone 2 - Zone 22 II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db

*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections	1/4" f BSPP(*)
Air fitting	1/8" f BSPP
Max. flow rate*	9 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	3.2 cc

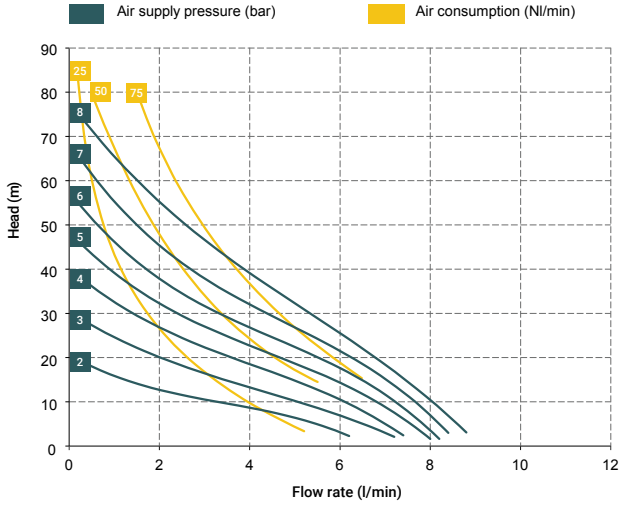
(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

PLASTIC MATERIAL - PP (GF/CF)	Boxer 7
Maximum dimensions	
Height	120 mm
Width	137 mm
Depth	69 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	0.7 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	0.7 Kg Temp. 3°C min. 65°C max

PLASTIC MATERIAL - PVDF	Boxer 7
Maximum dimensions	
Height	120 mm
Width	137 mm
Depth	70 mm
Construction mat. (casing and manifolds) and net weight	
PVDF (with carbon additive)	0.7 Kg Temp. 3°C min. 95°C max

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- PACKING, GLUE, PAPER AND PAPER MILLS
- GRAPHIC INDUSTRY
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- PAINT INDUSTRY



BOXER

Boxer 15

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

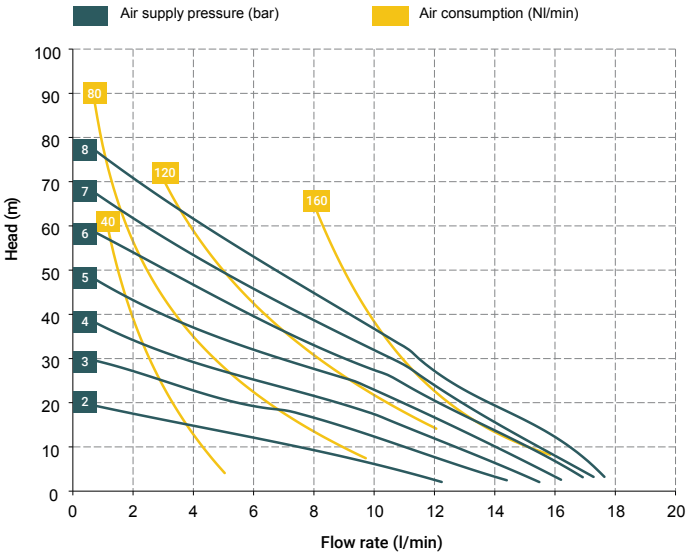
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 15	3/8" f BSPP (*)
Suction / delivery connections Foodboxer 15	3/4" Clamp
Air fitting	3/8" f BSPP
Max. flow rate*	17 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	10.3 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- PACKING, GLUE, PAPER AND PAPER MILLS
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- FOODBOXER 15



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 15

Maximum dimensions	
Height	149 mm
Width	148 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.1 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.1 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	1.38 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Boxer 15

Maximum dimensions	
Height	151 mm
Width	149 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
ALU	1.9 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316 L	Boxer 15

Maximum dimensions	
Height	141 mm
Width	153 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	2.4 Kg Temp. 3°C min. 95°C max

FOODBOXER 15

METAL MATERIAL - AISI 316 L ELECTROPOLISHED	Foodboxer 15

Maximum dimensions	
Height	141 mm
Width	153 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L (electropolished)	2.4 Kg Temp. 3°C min. 95°C max

BOXER

Microboxer

Specifications and types

Zone 2 - Zone 22 II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db

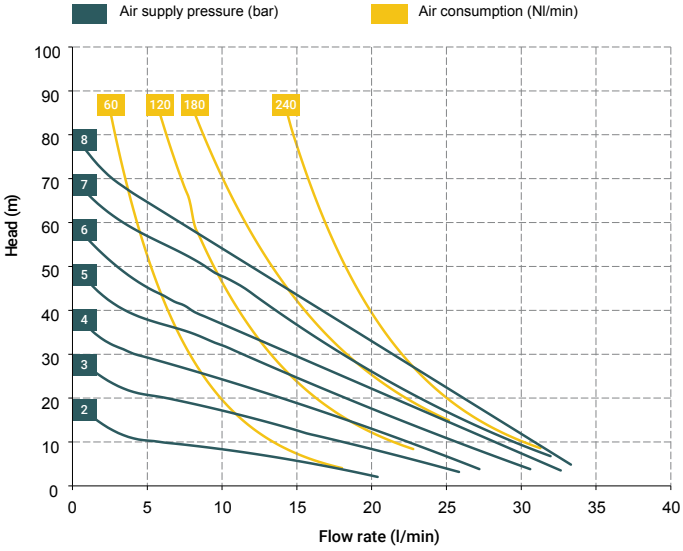
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Microboxer	1/2" f BSPP(*)
Suction / delivery connections Foodboxer 30	3/4" - 1" Clamp
Air fitting	1/4" f BSPP
Max. flow rate*	35 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	2 mm
Noise	65 dB
Volume per stroke	30 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- PAINT INDUSTRY
- GOLD PROCESSING INDUSTRY
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- PRODUCTION AND STORAGE OF BIODIESEL
- FOODBOXER 30



PLASTIC MATERIAL PP (GF/CF) - PVDF

Microboxer	
Maximum dimensions	
Height	168 mm
Width	167 mm
Depth	120 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.6 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.6 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	1.98 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Microboxer

Maximum dimensions	
Height	172 mm
Width	164 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
ALU	2.1 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316 L	Microboxer

Maximum dimensions	
Height	171 mm
Width	177 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	3.75 Kg Temp. 3°C min. 95°C max

FOODBOXER 30

FDA

METAL MATERIAL - AISI 316 L ELECTROPOLISHED	Foodboxer 30

Maximum dimensions	
Height	171 mm
Width	177 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L (electropolished)	3.75 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 50 / Miniboxer

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

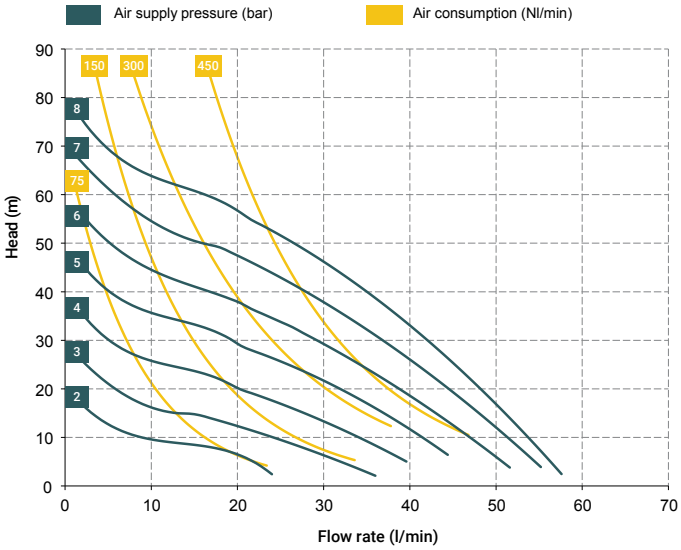
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 50 / Miniboxer	1/2" f BSPP (*)
Suction / delivery connections Foodboxer 50	3/4" - 1" Clamp
Air fitting	3/8" f BSPP
Max. flow rate*	60 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	70 dB
Volume per stroke	67 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- PRODUCTION AND STORAGE OF BIODIESEL
- PACKING, GLUE, PAPER AND PAPER MILLS
- GRAPHIC INDUSTRY
- CHEMICAL INDUSTRY
- GOLD PROCESSING INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- PAINT INDUSTRY
- OIL & GAS
- GALVANIC AND ELECTRONIC INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY
- FOODBOXER 50



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 50
Maximum dimensions	
Height	240 mm
Width	247 mm
Depth	153 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	3.75 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	3.75 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	4.25 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Boxer 50

Maximum dimensions	
Height	234 mm
Width	241 mm
Depth	153 mm

Construction mat. (casing and manifolds) and net weight	
PVDF (with carbon additive)	4.07 Kg Temp. 3°C min. 95°C max

MINIBOXER

METAL MATERIAL - AISI 316 L	Miniboxer

Maximum dimensions	
Height	232 mm
Width	232 mm
Depth	152 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	6.03 Kg Temp. 3°C min. 95°C max

FOODBOXER 50

FDA

METAL MATERIAL - AISI 316 L ELECTROPOLISHED	Foodboxer 50

Maximum dimensions	
Height	232 mm
Width	232 mm
Depth	152 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L (electropolished)	6.03 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 81 / Boxer 90

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

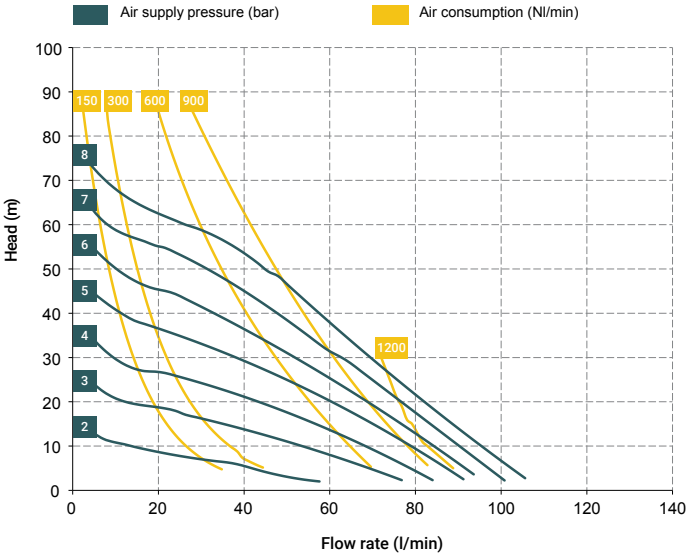
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 81 / 90	1" f BSPP (*)
Suction / delivery connections Foodboxer 81	1"1/2 Clamp
Air fitting	3/8" f BSPP
Max. flow rate*	110 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	70 dB
Volume per stroke	100 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- TEXTILE AND LEATHER INDUSTRY
- PACKING, GLUE, PAPER AND PAPER MILLS
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- GRAPHIC INDUSTRY
- PAINT INDUSTRY
- GOLD PROCESSING INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY
- CHEMICAL INDUSTRY
- WATER AND SLUDGE TREATMENT
- OIL & GAS
- PRODUCTION AND STORAGE OF BIODIESEL
- FOODBOXER 81



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 81

Maximum dimensions	
Height	274 mm
Width	308 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	5 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	5 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	6 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316	Boxer 81

Maximum dimensions	
Height	275 mm
Width	305 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	10.6 Kg Temp. 3°C min. 95°C max

FOODBOXER 81

METAL MATERIAL - AISI 316 L ELECTROPOLISHED	Foodboxer 81

Maximum dimensions	
Height	275 mm
Width	305 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	10.6 Kg Temp. 3°C min. 95°C max

BOXER 90

METAL MATERIAL - ALU	Boxer 90

Maximum dimensions	
Height	291 mm
Width	293 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
ALU	7 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 100

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

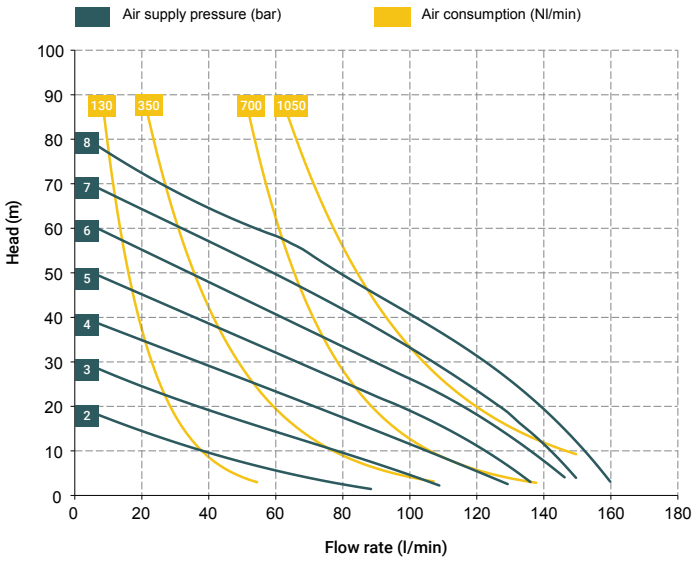
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 100	1" f BSPP (*)
Suction / delivery connections Foodboxer 100	1"1/2 Clamp
Air fitting	3/8" f BSPP
Max. flow rate*	160 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	75 dB
Volume per stroke	222 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- TEXTILE AND LEATHER INDUSTRY
- PACKING, GLUE, PAPER AND PAPER MILLS
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- GRAPHIC INDUSTRY
- PAINT INDUSTRY
- GOLD PROCESSING INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY
- CHEMICAL INDUSTRY
- WATER AND SLUDGE TREATMENT
- OIL & GAS
- PRODUCTION AND STORAGE OF BIODIESEL
- FOODBOXER 100



PLASTIC MATERIAL PP (GF/CF) - PVDF — Boxer 100

Maximum dimensions	
Height	325 mm
Width	329 mm
Depth	202 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	7.6 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	7.6 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	9.6 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Boxer 100

Maximum dimensions	
Height	324 mm
Width	315 mm
Depth	202 mm

Construction mat. (casing and manifolds) and net weight	
ALU	8.5 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316	Boxer 100

Maximum dimensions	
Height	327 mm
Width	308 mm
Depth	202 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	11.7 Kg Temp. 3°C min. 95°C max

FOODBOXER 100

METAL MATERIAL - AISI 316 ELECTROPOLISHED	Foodboxer 100

Maximum dimensions	
Height	327 mm
Width	308 mm
Depth	202 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	11.7 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 150

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

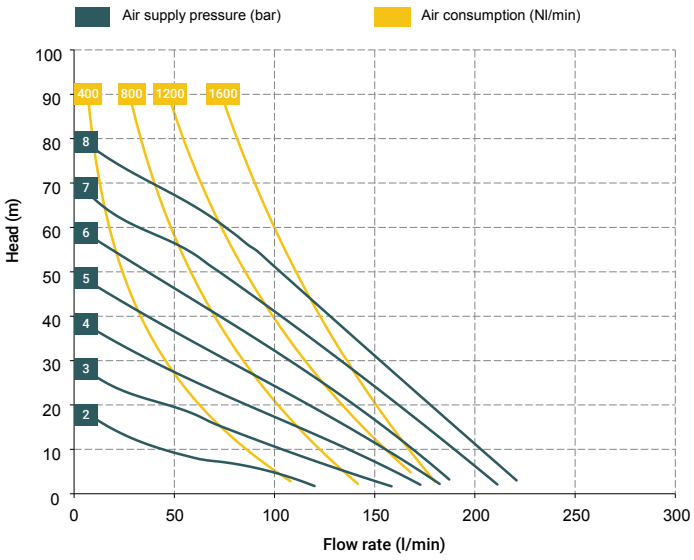
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 150	1”1/4 f BSPP (*)
Suction / delivery connections Foodboxer 150	1"1/4 Clamp (ISO) for manifold size
Air fitting	1/2" f BSPP
Max. flow rate*	220 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	5 mm
Noise	75 dB
Volume per stroke	340 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- TEXTILE AND LEATHER INDUSTRY
- PACKING, GLUE, PAPER AND PAPER MILLS
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- GRAPHIC INDUSTRY
- PAINT INDUSTRY
- GOLD PROCESSING INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY
- CHEMICAL INDUSTRY
- WATER AND SLUDGE TREATMENT
- OIL & GAS
- PRODUCTION AND STORAGE OF BIODIESEL
- FOODBOXER 150



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 150

Maximum dimensions	
Height	386 mm
Width	399 mm
Depth	220 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	12 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	12 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	14 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Boxer 150

Maximum dimensions	
Height	385 mm
Width	394 mm
Depth	220 mm

Construction mat. (casing and manifolds) and net weight	
ALU	15 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316	Boxer 150

Maximum dimensions	
Height	390 mm
Width	388 mm
Depth	220 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	23 Kg Temp. 3°C min. 95°C max

FOODBOXER 150

METAL MATERIAL - AISI 316 ELECTROPOLISHED	Foodboxer 150

Maximum dimensions	
Height	390 mm
Width	388 mm
Depth	220 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	23 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 251 / Boxer 252

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

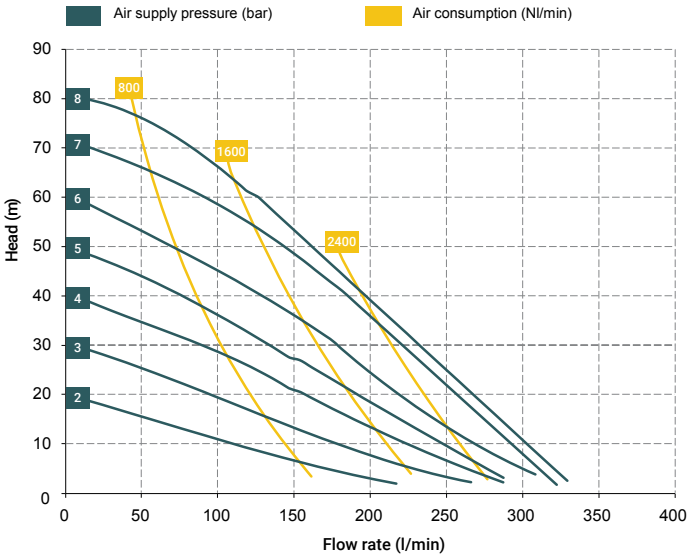
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 251 / Boxer 252	1 1/2" f BSPP (*)
Suction / delivery connections Foodboxer 252	2" Clamp
Air fitting	1/2" f BSPP
Max. flow rate*	340 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	6 mm
Noise	80 dB
Volume per stroke	552 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- PRODUCTION AND STORAGE OF BIODIESEL
- PACKING, GLUE, PAPER AND PAPER MILLS
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- TEXTILE AND LEATHER INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- PAINT INDUSTRY
- OIL & GAS
- GALVANIC AND ELECTRONIC INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY
- FOODBOXER 252



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 251

Maximum dimensions	
Height	492 mm
Width	493 mm
Depth	254 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	17.5 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	20 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	20 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU	Boxer 251

Maximum dimensions	
Height	491 mm
Width	490 mm
Depth	254 mm

Construction mat. (casing and manifolds) and net weight	
ALU	19 Kg Temp. 3°C min. 95°C max

BOXER 252

METAL MATERIAL - AISI 316	Boxer 252

Maximum dimensions	
Height	537 mm
Width	417 mm
Depth	254 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	26.2 Kg Temp. 3°C min. 95°C max

FOODBOXER 252

FDA

METAL MATERIAL - AISI 316 ELECTROPOLISHED	Foodboxer 252

Maximum dimensions	
Height	537 mm
Width	417 mm
Depth	254 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	26.2 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 522 / Boxer 502

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

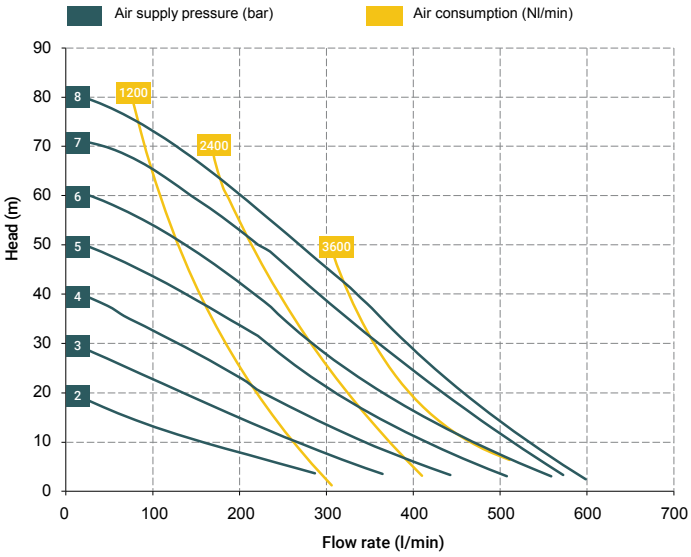
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 522 / Boxer 502	2" f BSPP (*)
Suction / delivery connections Foodboxer 502	2"1/2 Clamp
Air fitting	1/2" f BSPP
Max. flow rate*	600 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	5 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	8 mm
Noise	80 dB
Volume per stroke	1825 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- MECHANICAL AND METALLURGIC INDUSTRY
- PRODUCTION AND STORAGE OF BIODIESEL
- PACKING, GLUE, PAPER AND PAPER MILLS
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- CHEMICAL INDUSTRY
- TEXTILE AND LEATHER INDUSTRY
- WATER AND SLUDGE TREATMENT
- PAINT INDUSTRY
- OIL & GAS
- GALVANIC AND ELECTRONIC INDUSTRY
- FOODBOXER 502



PLASTIC MATERIAL PP (GF/CF) - PVDF — Boxer 522

Maximum dimensions	
Height	650 mm
Width	590 mm
Depth	404 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	38 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	34.5 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	45 Kg Temp. 3°C min. 95°C max

BOXER 502

METAL MATERIAL - ALU	Boxer 502
Maximum dimensions	
Height	621 mm
Width	566 mm
Depth	404 mm
Construction mat. (casing and manifolds) and net weight	
ALU	37 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316	Boxer 502
Maximum dimensions	
Height	705 mm
Width	470 mm
Depth	404 mm
Construction mat. (casing and manifolds) and net weight	
AISI 316	54 Kg Temp. 3°C min. 95°C max

FOODBOXER 502

FDA

METAL MATERIAL - AISI 316 ELECTROPOLISHED	Foodboxer 502
Maximum dimensions	
Height	705 mm
Width	470 mm
Depth	404 mm
Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	54 Kg Temp. 3°C min. 95°C max

BOXER

Boxer 503

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

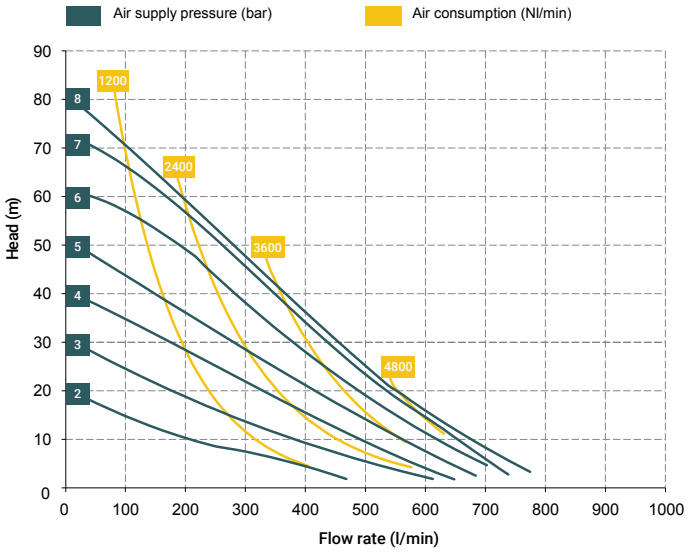
*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections Boxer 503	3" f BSPP (*)
Suction / delivery connections Foodboxer 503	4" Clamp
Air fitting	3/4" f BSPP
Max. flow rate*	800 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	10 mm
Noise	80 dB
Volume per stroke	1825 cc

(*) NPT fittings on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

MAIN APPLICATION SECTORS

- WATER AND SLUDGE TREATMENT
- TEXTILE AND LEATHER INDUSTRY
- PACKING, GLUE, PAPER AND PAPER MILLS
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- CHEMICAL INDUSTRY
- PAINT INDUSTRY
- OIL & GAS
- PRODUCTION AND STORAGE OF BIODIESEL
- MECHANICAL AND METALLURGIC INDUSTRY
- FOODBOXER 503



PLASTIC MATERIAL PP (GF/CF) - PVDF	Boxer 503
Maximum dimensions	
Height	726 mm
Width	585 mm
Depth	404 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	50 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	50 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	67 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - ALU | **Boxer 503**

Maximum dimensions	
Height	806 mm
Width	580 mm
Depth	404 mm

Construction mat. (casing and manifolds) and net weight	
ALU	66 Kg Temp. 3°C min. 95°C max

METAL MATERIAL - AISI 316 | **Boxer 503**

Maximum dimensions	
Height	826 mm
Width	546 mm
Depth	404 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	71 Kg Temp. 3°C min. 95°C max

FOODBOXER 503

FDA

METAL MATERIAL - AISI 316 ELECTROPOLISHED | **Foodboxer 503**

Maximum dimensions	
Height	826 mm
Width	546 mm
Depth	404 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 (electropolished)	71 Kg Temp. 3°C min. 95°C max

Aluminium cores

Boxer series pumps, irrespective of the material of construction of bodies and manifolds, can be supplied with an aluminium control unit. Our aluminium cores are die-cast and manufactured from material of certified Italian origin.

The aluminium core conducts heat and electricity excellently. The high conductivity of aluminium makes it a good electrical conductor, excellent for installation on conductive pumps for ATEX ZONE 1. The aluminium core gives the metal pumps an 88% recyclability rate.

- Die-cast aluminium cores
- Material of certified Italian origin
- Excellent electrical conductivity for applications in ATEX ZONE 1
- Total recyclability of components

Pumps with aluminium cores for the rubber, plastics, metal, graphic industry, mechanical engineering, metallurgy, glass, furniture and woodworking industries, automotive, ceramics and construction.

Zone 2 - Zone 22 II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

Models and materials

MICROBOXER PP

MICROBOXER PVDF

MICROBOXER ALU

MICROBOXER STAINLESS STEEL

MICROBOXER

BOXER 50 PP

BOXER 50 PVDF

BOXER 50 ALU

MINIBOXER STAINLESS STEEL

BOXER 50 - MINIBOXER

BOXER 81 PP

BOXER 81 PVDF

BOXER 81 STAINLESS STEEL

BOXER 90 ALU

BOXER 81 – BOXER 90

BOXER 100 PP

BOXER 100 PVDF

BOXER 100 ALU

BOXER 100 STAINLESS STEEL

BOXER 100

BOXER 150 PP

BOXER 150 PVDF

BOXER 150 ALU

BOXER 150 STAINLESS STEEL

BOXER 150

BOXER 251 PP

BOXER 251 PVDF

BOXER 251 ALU

BOXER 252 STAINLESS STEEL

BOXER 251 - BOXER 252

BOXER 522 PP

BOXER 522 PVDF

BOXER 502 ALU

BOXER 502 STAINLESS STEEL

BOXER 522 – BOXER 502

BOXER 503 PP

BOXER 503 PVDF

BOXER 503 ALU

BOXER 503 STAINLESS STEEL

BOXER 503

NEW PRODUCTS

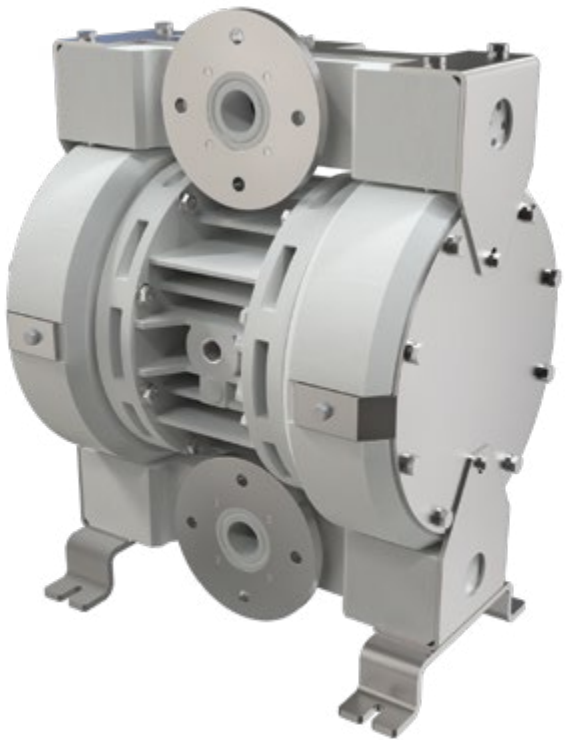
Boxer FPC 100

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections	1" ANSI flanged - DN 25
Air fitting	3/8" f BSPP
Max. flow rate *	130 l/min
Max. supply air pressure	8 bar
Max. head	80 m
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	75 dB
Volume per stroke	250 cc



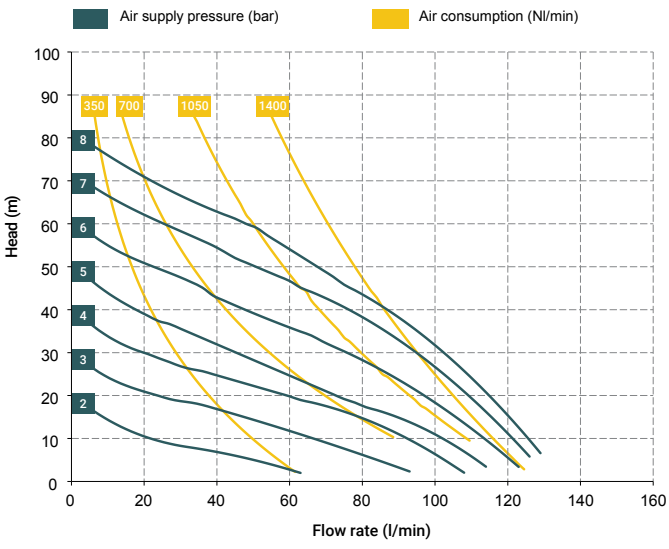
PLASTIC MATERIAL - PTFE | **FPC 100**

Maximum dimensions	
Height	399 mm
Width	299 mm
Depth	241 mm

Construction mat. (casing and manifolds) and net weight	
PTFE	21.6 Kg
	Temp. 3°C min.
	95°C max

MAIN APPLICATION SECTORS

CHEMICAL INDUSTRY



Boxer 35

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections	1/2" f BSPP (*)
Air fitting	3/8" f BSPP
Max. flow rate*	35 l/min
Max. supply air pressure	8 bar
Max. head*	80 m
Max negative suction head - dry-running**	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	2 mm
Noise	65 dB
Volume per stroke	30 cc

(*) NPT fittings only on request
* The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.
** The value depends on the pump configuration.

PLASTIC MATERIAL - PP (GF/CF) — Boxer 35

Maximum dimensions	
Height	168 mm
Width	288 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.8 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	Temp. 3°C min. 65°C max

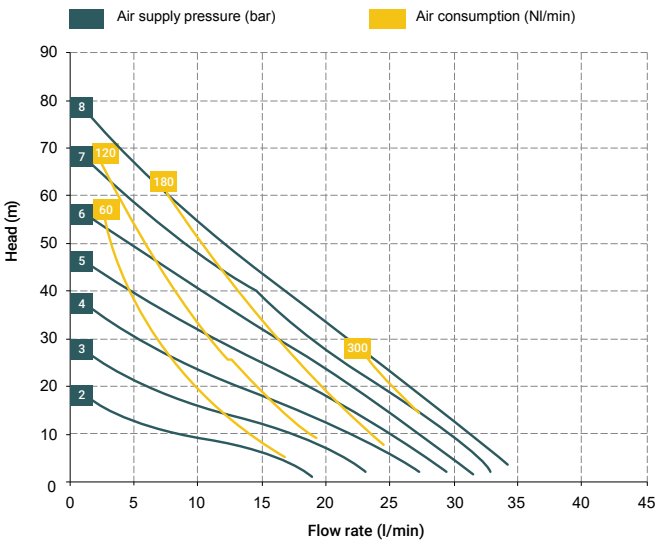
PLASTIC MATERIAL - PVDF — Boxer 35

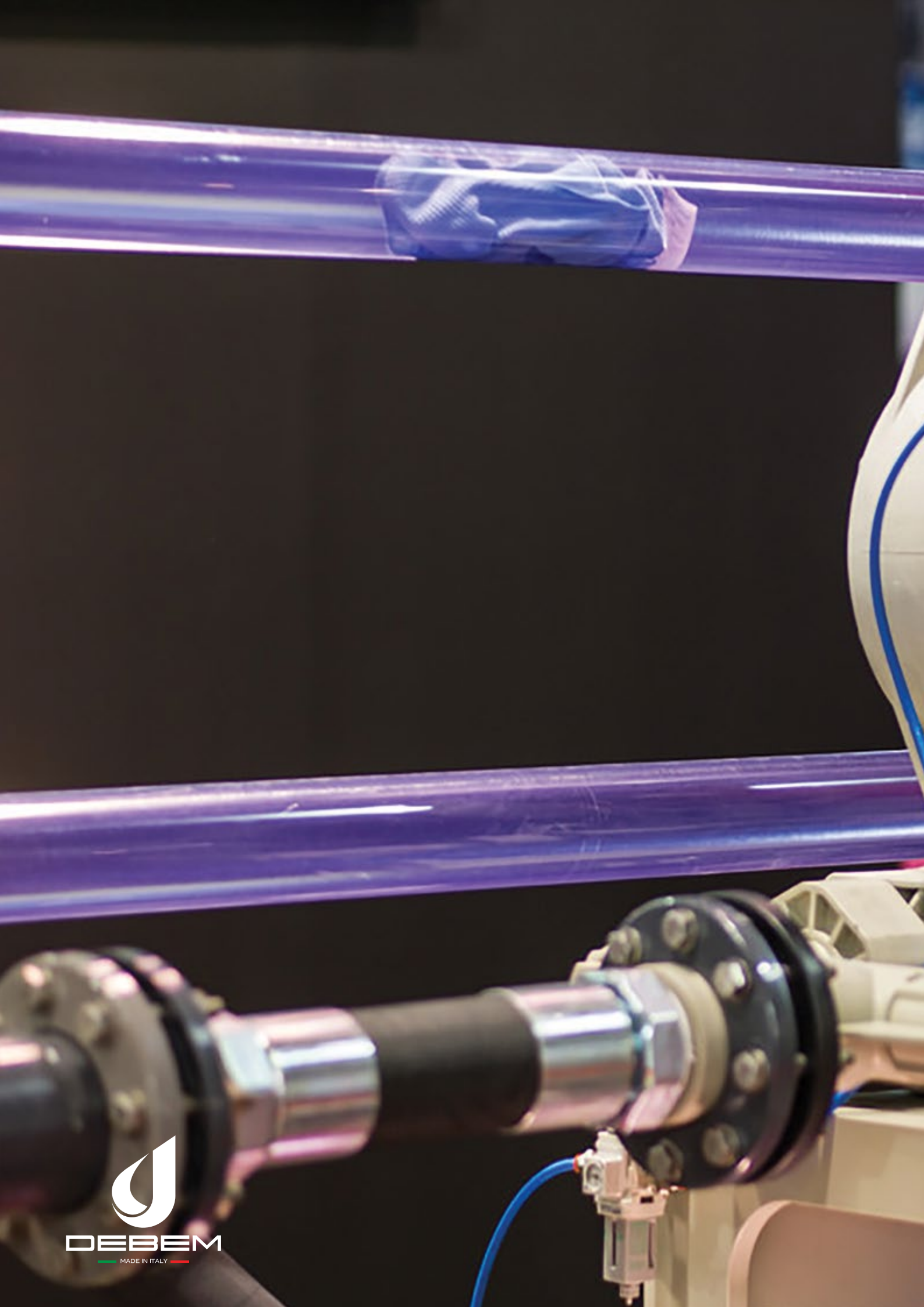
Maximum dimensions	
Height	168 mm
Width	288 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
PVDF (with carbon additive)	1.98 Kg Temp. 3°C min. 95°C max

MAIN APPLICATION SECTORS

- PRODUCTION AND STORAGE OF BIODIESEL
- GOLD PROCESSING INDUSTRY
- GRAPHIC INDUSTRY
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- PAINT INDUSTRY

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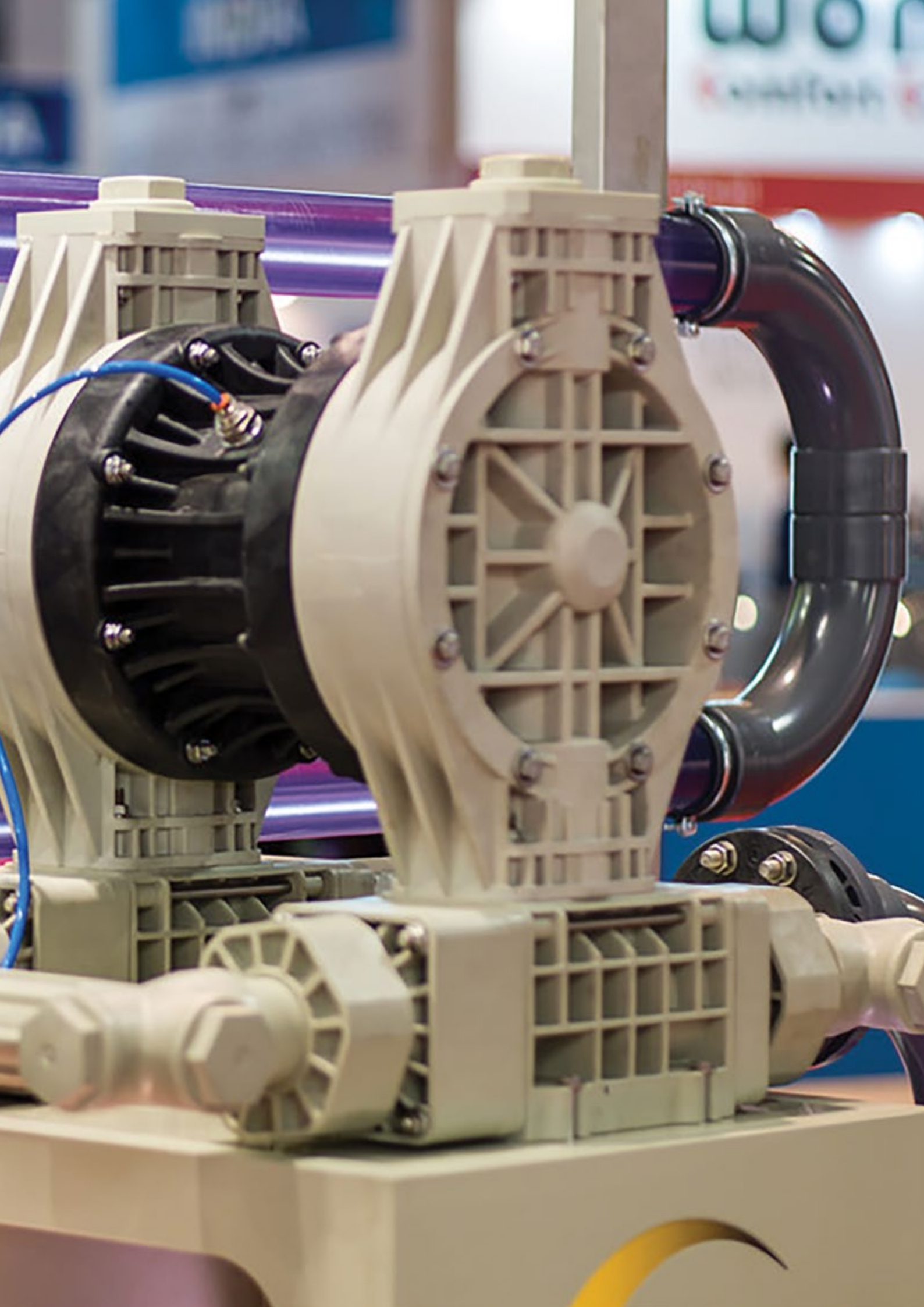


LINE INTRODUCTION

RC Remote Control

Debem's double diaphragm pumps in the RC line are designed for all needs to control the pump remotely or directly from the machine on which the pump may be installed, e.g. during product measurement or dosing.

The RC pumps are always operated with compressed air.
All the pumps of the RC line are ATEX certified, constructed in Polypropylene or PVDF in the plastic version or in Aluminium or AISI 316 L for the metal versions. Boxer pumps are ideal for pumping liquids with high apparent viscosity, even if containing suspended solids. The vast range of materials available for the parts in contact with the fluid, such as pump casings and manifolds, diaphragms, balls, ball seats and o-rings, makes them compatible with any type of fluid present on the market. They can be used in numerous applications.

- Product designed and constructed in Italy
- Executions in PP+GF, PP+CF, ECTFE, PVDF, Stainless Steel AISI 316 (L), Aluminium
- ATEX certification for ZONE 1 – ZONE 2
- Self priming
- Supports dry running
- Operation with non-lubricated air
- Adjustable flow rate and head
- Fine adjustment of the speed at constant P
- Total control of diaphragm stroke
- Suitable for pumping fluids with high viscosity and for demanding applications
- Possibility of pumping fluids containing suspended solids
- Manifolds can be supplied with stainless steel reinforcement rings for pumps in PP+GF – PP+CF – PVDF
- Manifolds: can be split on request
- Possibility of suspended installation
- Customisable delivery and suction connections
- Quick and fast maintenance
- Long Life profile diaphragms (available in different elastomers) for greater resistance and longer life
- Operating Temperatures:
  - PP+GF, PP+CF DA +3°C A +65°C
  - ECTFE, PVDF, Aluminium, AISI 316 (L) +3°C at + 95°C

Smidgetbox

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

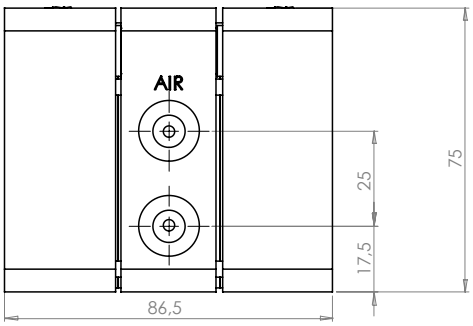
Suction / delivery connections	BSPP 1/4" f (*)
Air fitting	BSPP 1/8" f
Max. flow rate	6 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0 mm
Noise	60 dB
Volume per stroke	3.2 cc

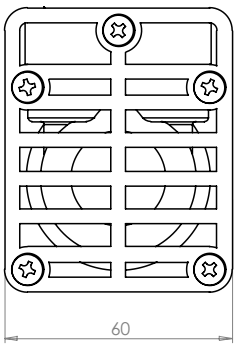
(*) NPT fittings on request

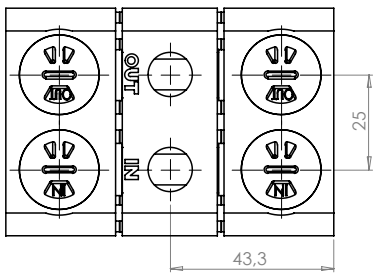
PLASTIC MATERIAL - PP (GF/CF)	Smidgetbox

Maximum dimensions	
Height	75 mm
Width	86 mm
Depth	60 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	0.4 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	0.4 Kg Temp. 3°C min. 65°C max







MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY

WATER AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

GALVANIC AND ELECTRONIC INDUSTRY

PNEUMATIC REMOTE-CONTROLLED PUMPS

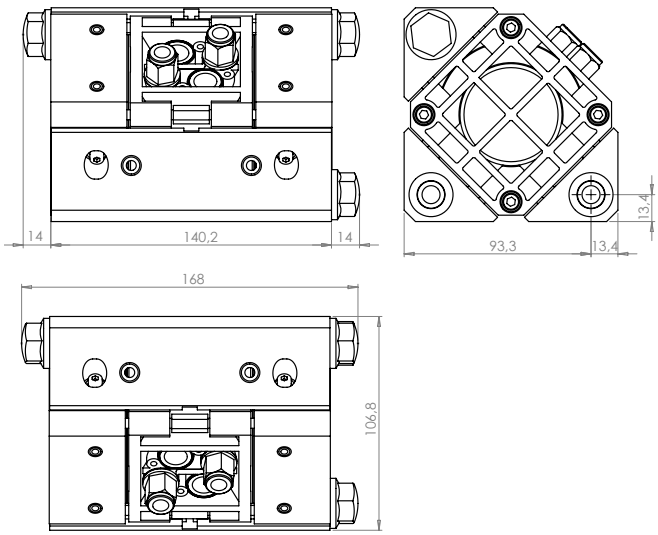
Scubic 15

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

Suction / delivery connections	BSPP 3/8" f (*)
Air fitting	BSPP 3/8" f
Max. flow rate	17 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	10.3 cc

(*) NPT fittings on request



PLASTIC MATERIAL - PP (GF/CF)	Scubic 15
Maximum dimensions	
Height	106 mm
Width	168 mm
Depth	106 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.25 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.25 Kg Temp. 3°C min. 65°C max

PLASTIC MATERIAL - ECTFE	Scubic 15
Maximum dimensions	
Height	106 mm
Width	168 mm
Depth	106 mm
Construction mat. (casing and manifolds) and net weight	
ECTFE	1.25 Kg Temp. 3°C min. 95°C max

MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- PACKING, GLUE, PAPER AND PAPER MILLS
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY

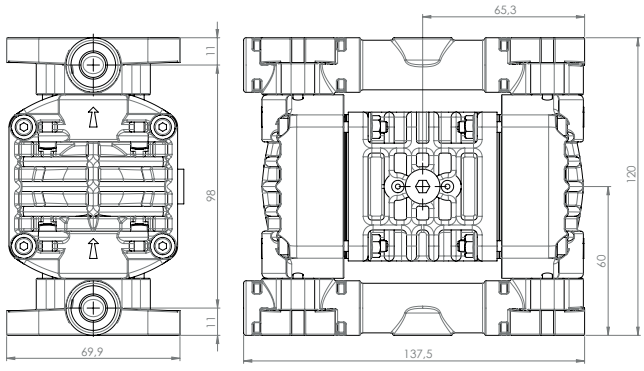
Sboxer 7

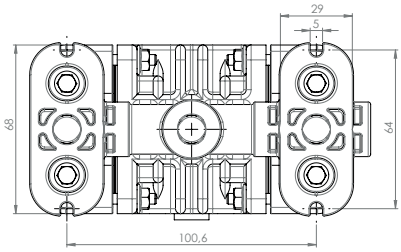
Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

Suction / delivery connections	BSPP 1/4" f (*)
Air fitting	BSPP 1/8" f
Max. flow rate	9 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	3.2 cc

(*) NPT fittings on request





PLASTIC MATERIAL - PP (GF/CF)	Sboxer 7
Maximum dimensions	
Height	120 mm
Width	137 mm
Depth	69 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	0.68 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.25 Kg Temp. 3°C min. 65°C max

PLASTIC MATERIAL - PVDF	Sboxer 7
Maximum dimensions	
Height	120 mm
Width	137 mm
Depth	69 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	0.83 Kg Temp. 3°C min. 95°C max

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- PACKING, GLUE, PAPER AND PAPER MILLS
- GRAPHIC INDUSTRY
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- PAINT INDUSTRY

PNEUMATIC REMOTE-CONTROLLED PUMPS

Sboxer 15

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

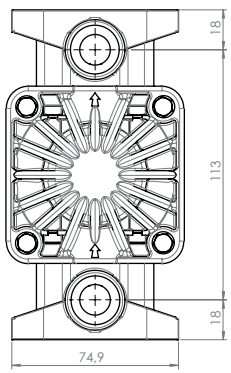
Suction / delivery connections	BSPP 3/8" f (*)
Air fitting	BSPP 3/8" f
Max. flow rate	17 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	3 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	0.5 mm
Noise	65 dB
Volume per stroke	10.3 cc

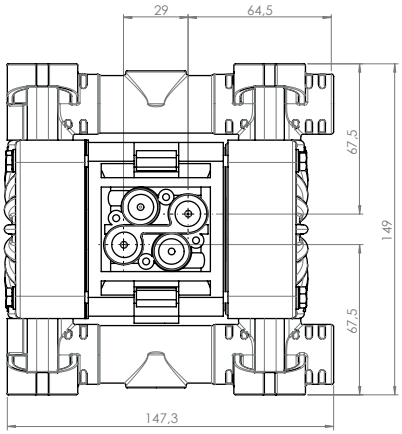
(*) NPT fittings on request

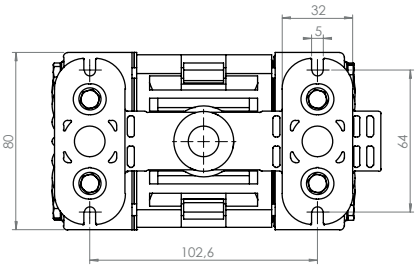
PLASTIC MATERIAL PP (GF/CF) - PVDF	Sboxer 15

Maximum dimensions	
Height	149 mm
Width	147 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.1 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.3 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	1.38 Kg Temp. 3°C min. 95°C max





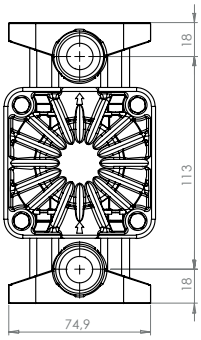


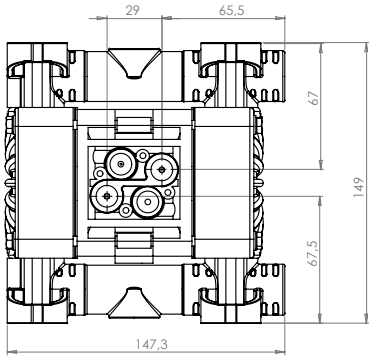
METAL MATERIAL - ALU

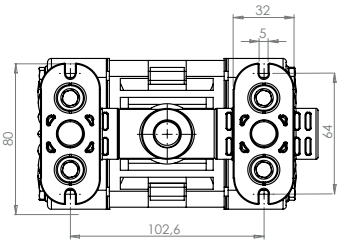
Sboxer 15

Maximum dimensions	
Height	149 mm
Width	147 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
ALU	1.9 Kg Temp. 3°C min. 95°C max





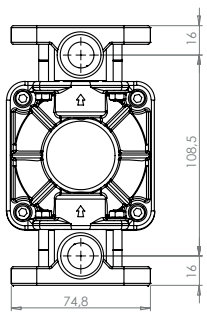


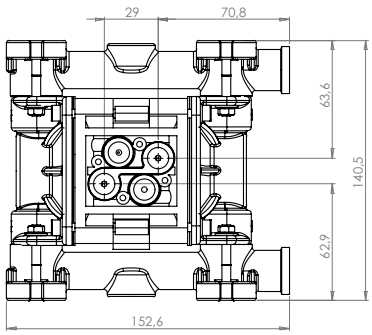
METAL MATERIAL - AISI 316 L

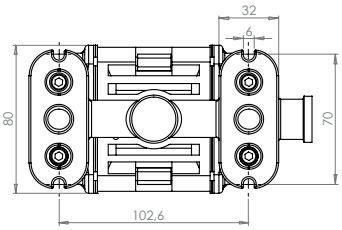
Sboxer 15

Maximum dimensions	
Height	140 mm
Width	152 mm
Depth	80 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	2.4 kg Temp. 3°C min. 95°C max







MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY

WATER AND SLUDGE TREATMENT

PACKING, GLUE, PAPER AND PAPER MILLS

CHEMICAL INDUSTRY

GALVANIC AND ELECTRONIC INDUSTRY

CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY

PNEUMATIC REMOTE-CONTROLLED PUMPS

Smicroboxer

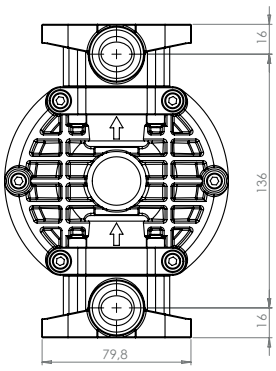
Specifications and types

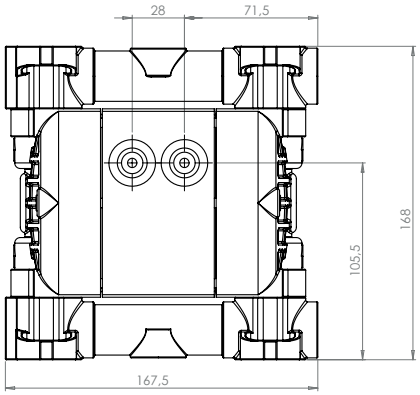
Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

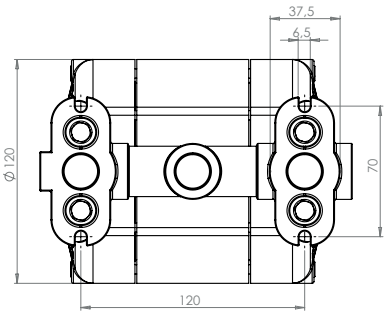
Suction / delivery connections	BSPP 1/2" f (*)
Air fitting	BSPP 1/4" f
Max. flow rate	35 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	2 mm
Noise	65 dB
Volume per stroke	30 cc

(*) NPT fittings on request

PLASTIC MATERIAL PP (GF/CF) - PVDF	Smicroboxer
Maximum dimensions	
Height	168 mm
Width	167 mm
Depth	120 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	1.63 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	1.63 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	1.93 Kg Temp. 3°C min. 95°C max





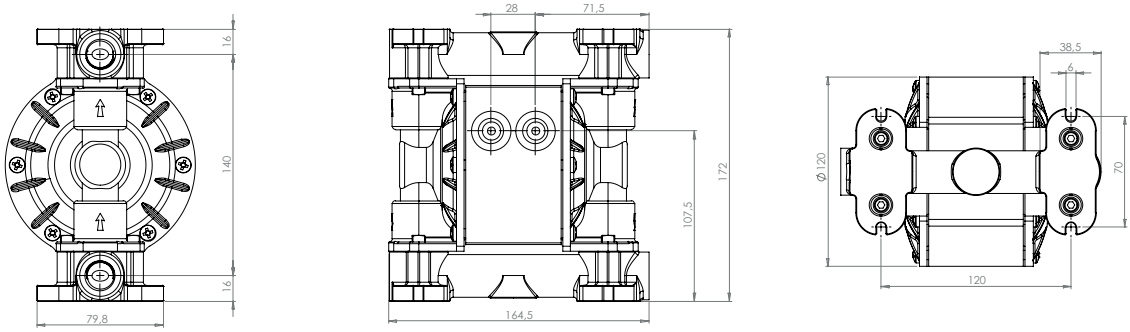


METAL MATERIAL - ALU

Smicroboxer

Maximum dimensions	
Height	172 mm
Width	164 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
ALU	2.03 Kg Temp. 3°C min. 95°C max

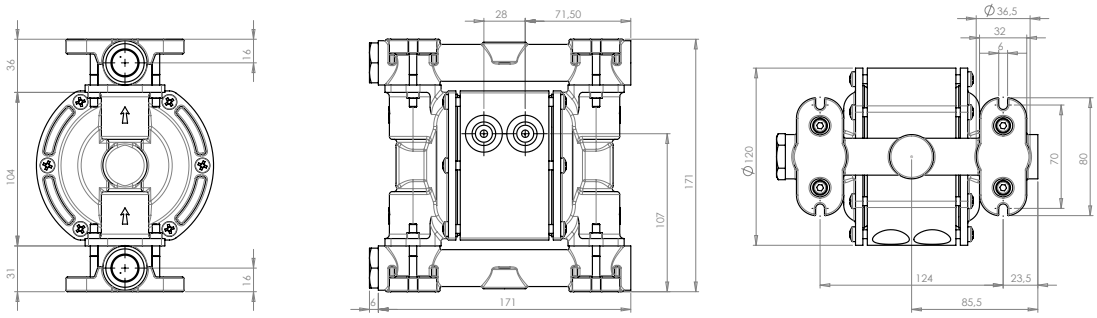


METAL MATERIAL - AISI 316 L

Smicroboxer

Maximum dimensions	
Height	171 mm
Width	171 mm
Depth	120 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	3.83 Kg Temp. 3°C min. 95°C max



MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY

GOLD PROCESSING INDUSTRY

PRODUCTION AND STORAGE OF BIODIESEL

CHEMICAL INDUSTRY

GALVANIC AND ELECTRONIC INDUSTRY

PAINT INDUSTRY

PNEUMATIC REMOTE-CONTROLLED PUMPS

Sboxer 50 / Sminiboxer

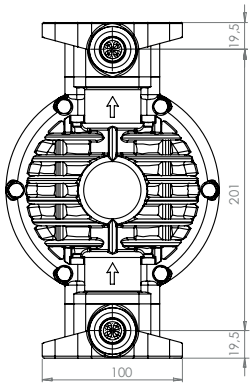
Specifications and types

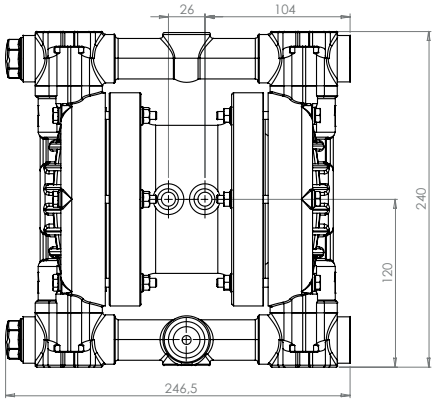
Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

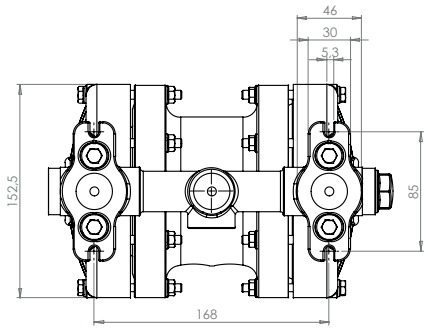
Suction / delivery connections	BSPP 1/2" f (*)
Air fitting	BSPP 3/8" f
Max. flow rate	60 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	70 dB
Volume per stroke	67 cc

(*) NPT fittings on request

PLASTIC MATERIAL PP (GF/CF) - PVDF	Sboxer 50
Maximum dimensions	
Height	240 mm
Width	246 mm
Depth	152 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	2.98 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	2.98 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	2.98 Kg Temp. 3°C min. 95°C max



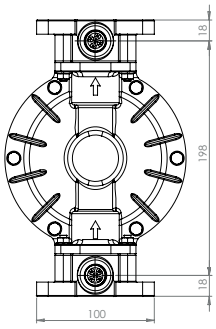


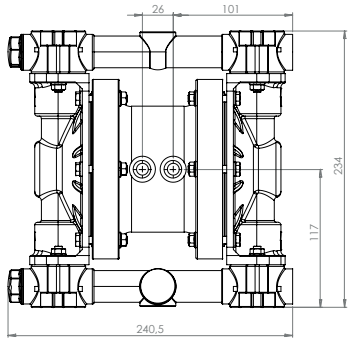


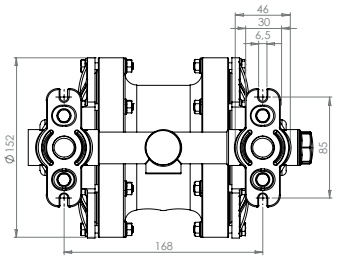
METAL MATERIAL - ALU	Sboxer 50

Maximum dimensions	
Height	234 mm
Width	240 mm
Depth	152 mm

Construction mat. (casing and manifolds) and net weight	
ALU	3.92 Kg Temp. 3°C min. 95°C max





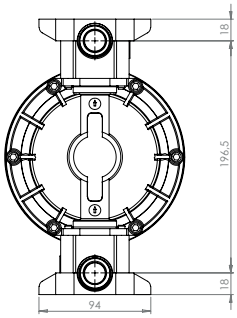


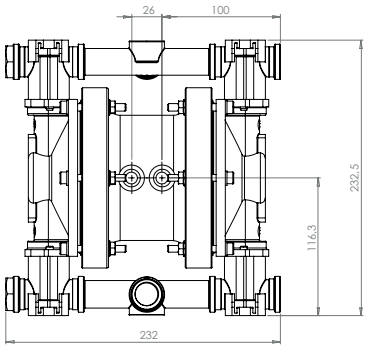
SMINIBOXER

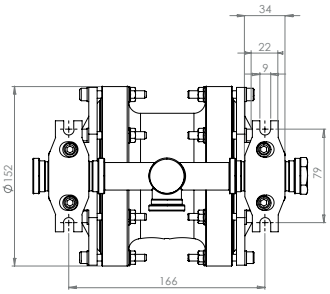
METAL MATERIAL - AISI 316 L	Sminiboxer

Maximum dimensions	
Height	232 mm
Width	232 mm
Depth	152 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316 L	6.15 Kg Temp. 3°C min. 95°C max







MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY
CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
PRODUCTION AND STORAGE OF BIODIESEL
CHEMICAL INDUSTRY
OIL & GAS
PAINT INDUSTRY
GOLD PRO-CESSING INDUSTRY
PACKING, GLUE, PAPER AND PAPER MILLS
MECHANICAL AND METALLURGIC INDUSTRY
GALVANIC AND ELECTRONIC INDUSTRY
AUTOMOTIVE

PNEUMATIC REMOTE-CONTROLLED PUMPS

Sboxer 81 / Sboxer 90

Specifications and types

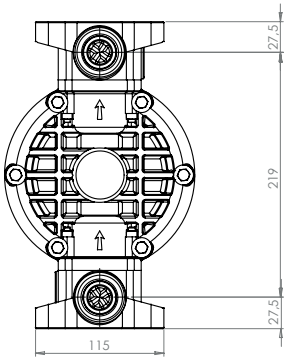
Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

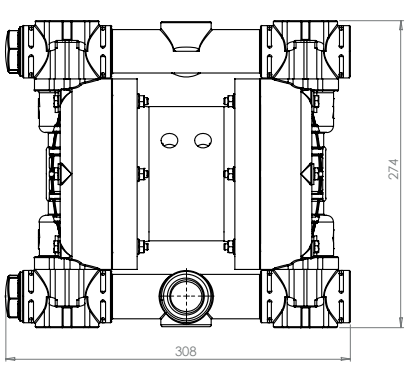
Suction / delivery connections	BSPP 1" f
Air fitting	BSPP 3/8" f
Max. flow rate	110 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	70 dB
Volume per stroke	100 cc

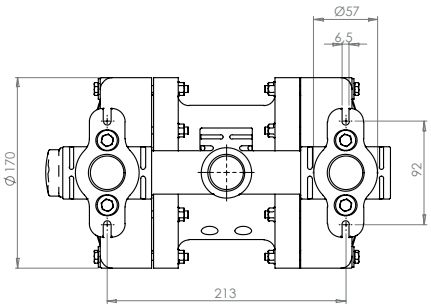
PLASTIC MATERIAL PP (GF/CF) - PVDF | **Sboxer 81**

Maximum dimensions	
Height	274 mm
Width	308 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	5 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	5 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	6.4 Kg Temp. 3°C min. 95°C max



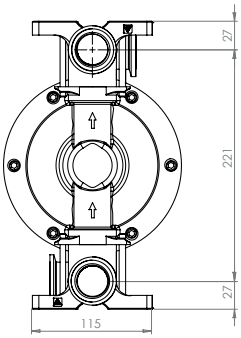


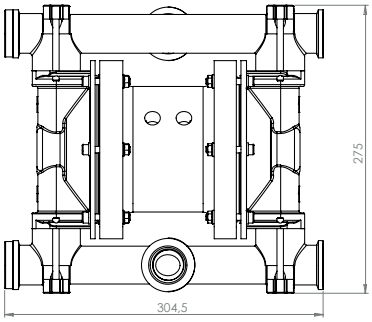


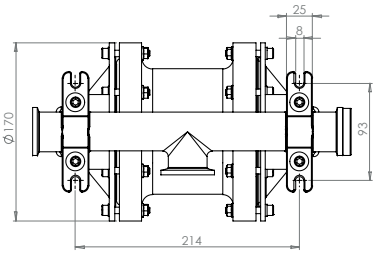
METAL MATERIAL - AISI 316	Sboxer 81

Maximum dimensions	
Height	275 mm
Width	304 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	11 kg
	Temp. 3°C min.
	95°C max





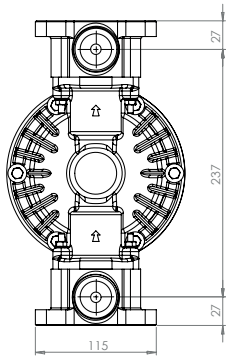


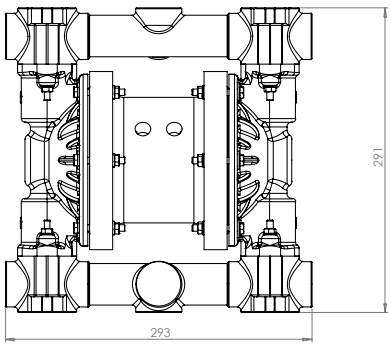
SBOXER 90

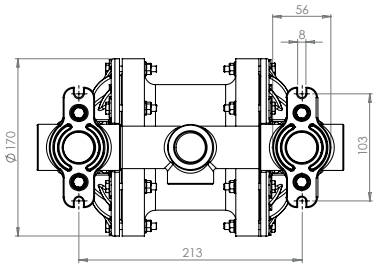
METAL MATERIAL - ALU	Sboxer 90

Maximum dimensions	
Height	291 mm
Width	293 mm
Depth	170 mm

Construction mat. (casing and manifolds) and net weight	
ALU	7.4 Kg
	Temp. 3°C min.
	95°C max







MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY
CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
PRODUCTION AND STORAGE OF BIODIESEL
CHEMICAL INDUSTRY
OIL & GAS
PAINT INDUSTRY
GOLD PRO-CESSING INDUSTRY
PACKING, GLUE, PAPER AND PAPER MILLS
MECHANICAL AND METALLURGIC INDUSTRY
GALVANIC AND ELECTRONIC INDUSTRY
AUTOMOTIVE
WATER AND SLUDGE TREATMENT
TEXTILE AND LEATHER INDUSTRY

PNEUMATIC REMOTE-CONTROLLED PUMPS

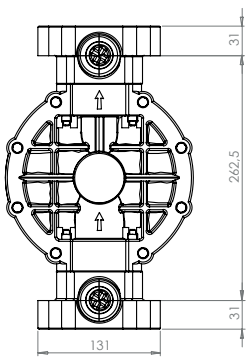
Sboxer 100

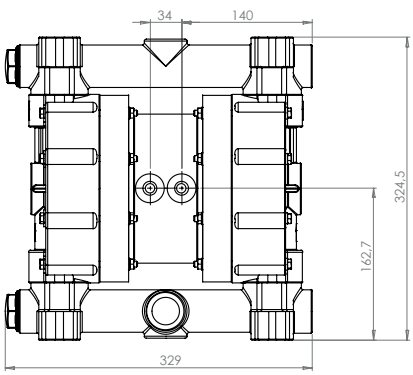
Specifications and types

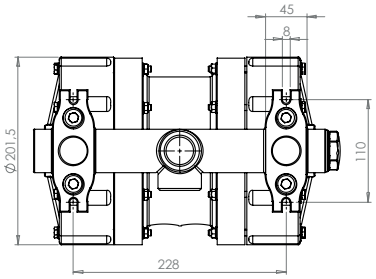
Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

Suction / delivery connections	BSPP 1“ f
Air fitting	BSPP 3/8” f
Max. flow rate	160 l/min
Max. supply air pressure	8 bar
Max negative suction head - dry-running	4 m
Max negative suction head - with pump primed	9.5 m
Max. diameter suspended solids	4 mm
Noise	75 dB
Volume per stroke	222 cc

PLASTIC MATERIAL PP (GF/CF) - PVDF	Sboxer 100
Maximum dimensions	
Height	324 mm
Width	329 mm
Depth	201 mm
Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	7.87 Kg Temp. 3°C min. 65°C max
CONDUCTIVE POLYPROPYLENE (with carbon additive)	7.87 Kg Temp. 3°C min. 65°C max
PVDF (with carbon additive)	7.87 Kg Temp. 3°C min. 95°C max





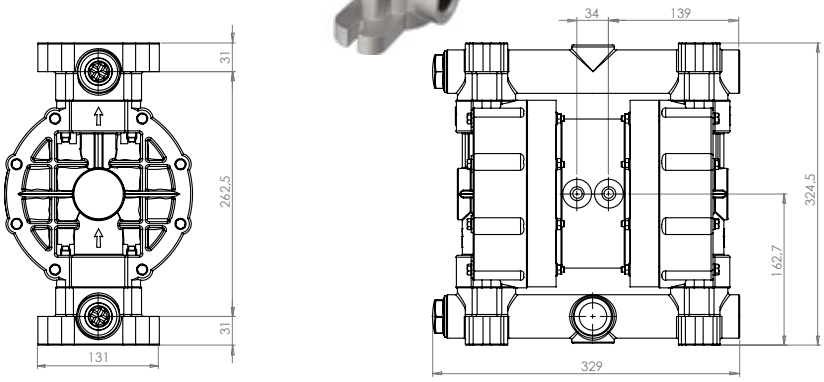


METAL MATERIAL - ALU

Sboxer 100

Maximum dimensions	
Height	322 mm
Width	307 mm
Depth	200 mm

Construction mat. (casing and manifolds) and net weight	
ALU	8.5 kg
	Temp. 3°C min.
	95°C max

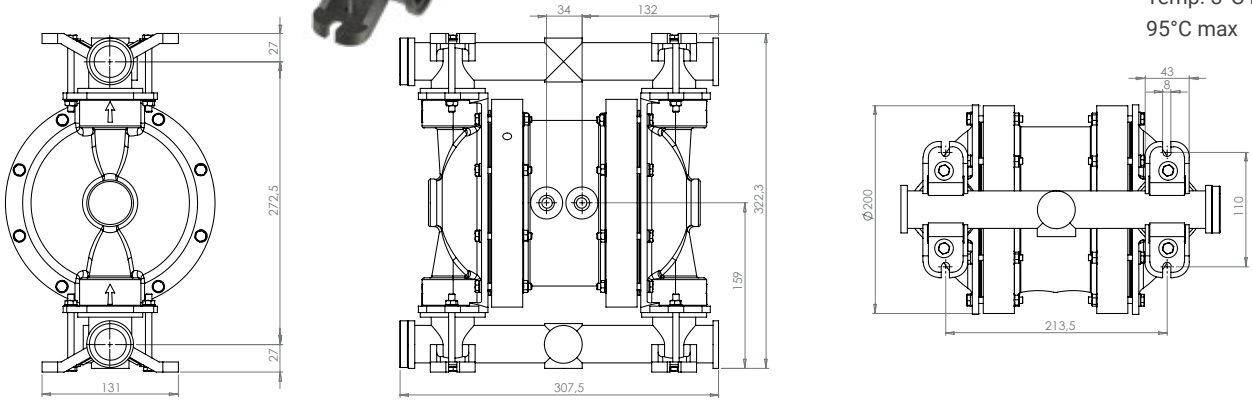


METAL MATERIAL - AISI 316

Sboxer 100

Maximum dimensions	
Height	324 mm
Width	329 mm
Depth	201 mm

Construction mat. (casing and manifolds) and net weight	
AISI 316	12.2 Kg
	Temp. 3°C min.
	95°C max



MAIN APPLICATION SECTORS

GRAPHIC INDUSTRY
CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
PRODUCTION AND STORAGE OF BIODIESEL
CHEMICAL INDUSTRY
OIL & GAS
PAINT INDUSTRY
GOLD PRO-CESSING INDUSTRY
PACKING, GLUE, PAPER AND PAPER MILLS
MECHANICAL AND METALLURGIC INDUSTRY
GALVANIC AND ELECTRONIC INDUSTRY
AUTOMOTIVE
WATER AND SLUDGE TREATMENT
TEXTILE AND LEATHER INDUSTRY

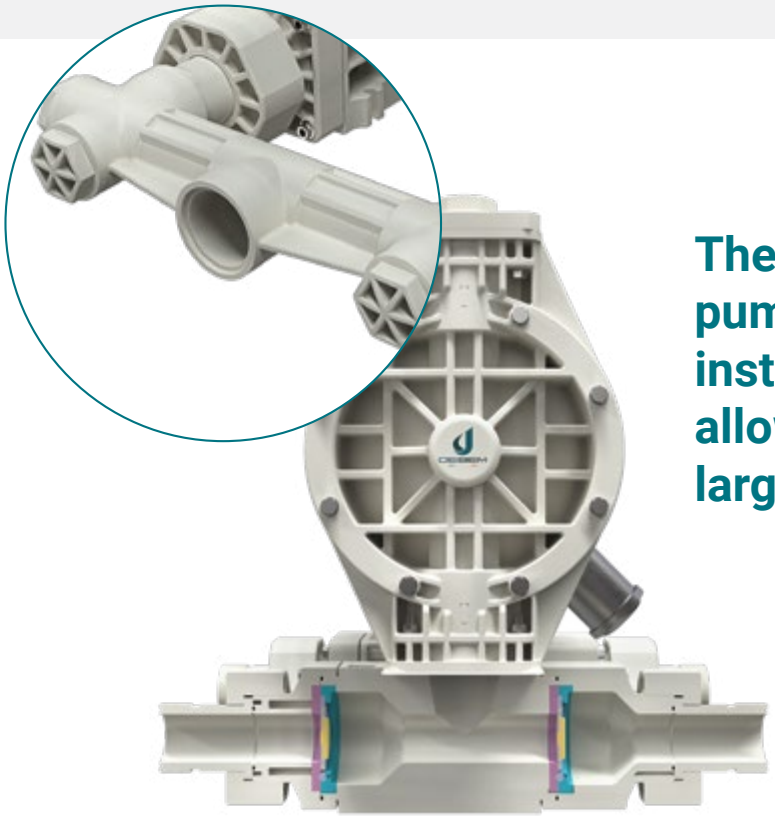
LINE INTRODUCTION

Fullflow 502

The new Fullflow 502 pump is fitted with flaps instead of balls, which allow the passage of large-sized solids, reducing at the same time the crushing normally associated to the passage through balls and cages.

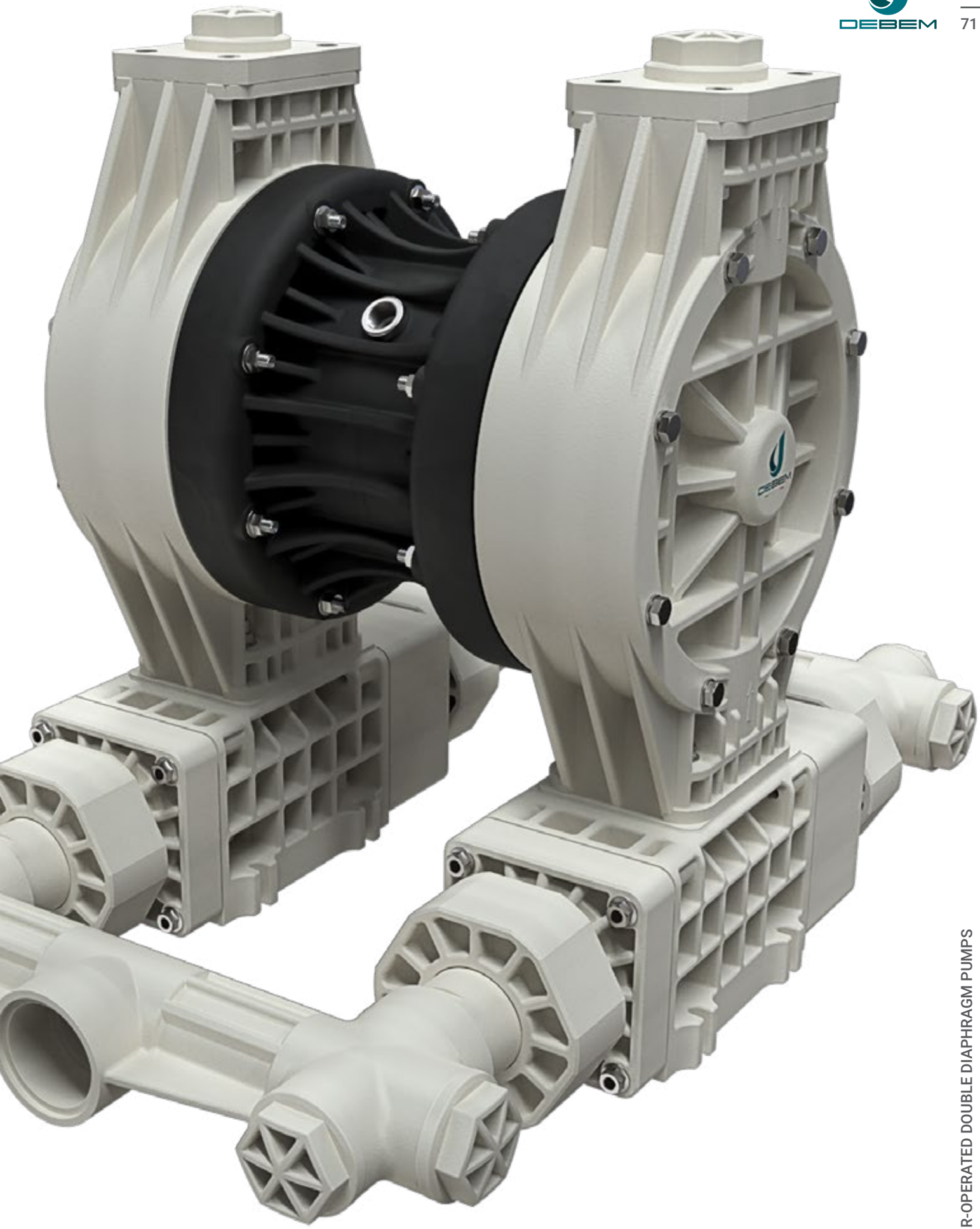
Although the maximum diameter of the solids passage, 45 mm, is not unique, their maximum length of 600 mm for this type of pump is. Similarly, the flap circuit placed below, perpendicular to the fluid chambers rather than on axis, is a patented exclusive: the fluid-dynamic consequences of this choice mean that the solids flow out of the pump casing, following a linear path at the lower level of the pump.

The maximum flow rate of the pump is about 530 litres per minute.



The new Fullflow 502 pump is fitted with flaps instead of balls, that allow the passage of large solids

- Product designed in Italy
- Polypropylene casing
- Patented stall protection pneumatic circuit
- Operation with non-lubricated air
- Flap in EPDM or NBR or natural rubber, core in AISI 316 (not in contact with the fluid)
- Can be split in suction and delivery
- Self priming
- Supports dry running
- Adjustable operating speed
- Versatility of use
- Possibility of pumping fluids containing suspended solids
- Suitable for continuous use



Fullflow 502

Specifications and types

Zone 2 - Zone 22	II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21	II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X
M2 Zone	I M2 Ex h I Mb X*
Ex h IIB T4 Gb e Ex h IIIB T135°C Db	

*The mining application string does not apply to aluminium pumps in the Boxer range

Suction / delivery connections	2"1/2 f (BSPP) or DN 65
Air fitting	1/2" f BSPP
Max. flow rate*	530 l/min
Max. supply air pressure	4 bar
Max. head*	40 m
Max negative suction head - dry-running	3.5 m
Max. diameter suspended solids	45 m
Max length of solids	600 mm

*The curves and the performances refer to pumps with immersed suction and open delivery outlet, with water at 20°C and vary depending on material composition.

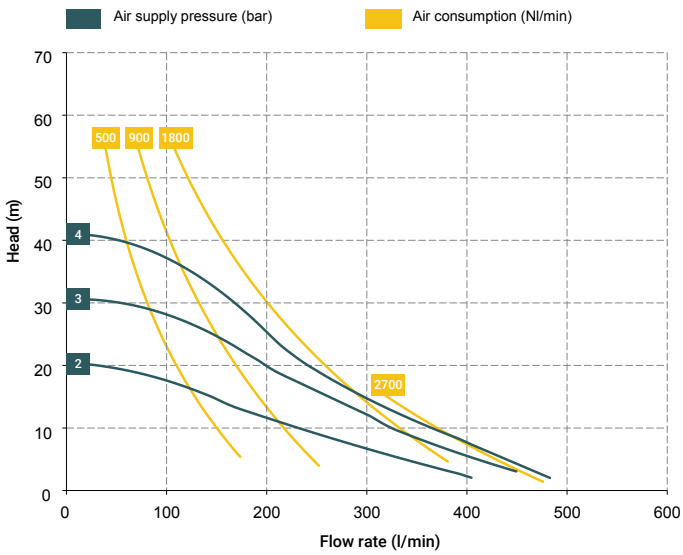
PLASTIC MATERIAL - PP (GF/CF) | **Fullflow 502**

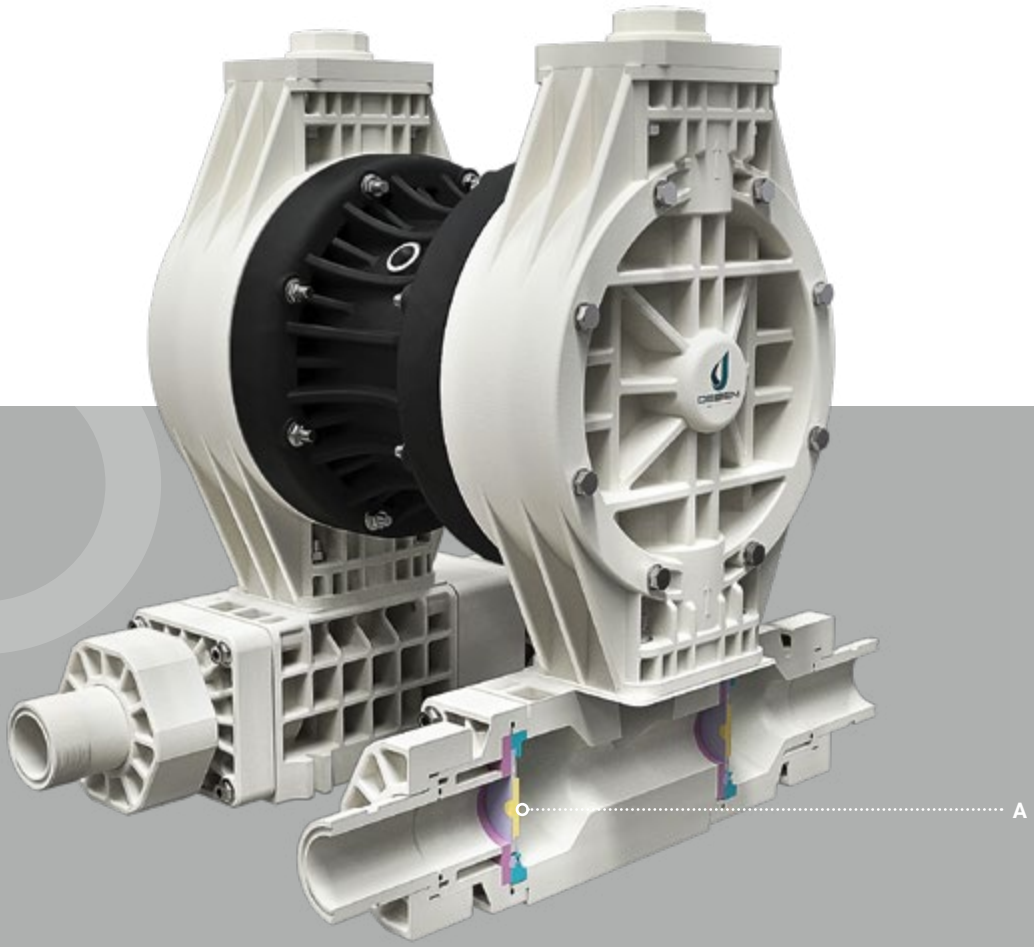
Maximum dimensions	
Height	696 mm
Width	580 mm
Depth	952 mm

Construction mat. (casing and manifolds) and net weight	
POLYPROPYLENE (with glass additive)	55 Kg
	Temp. 3°C min.
	65°C max

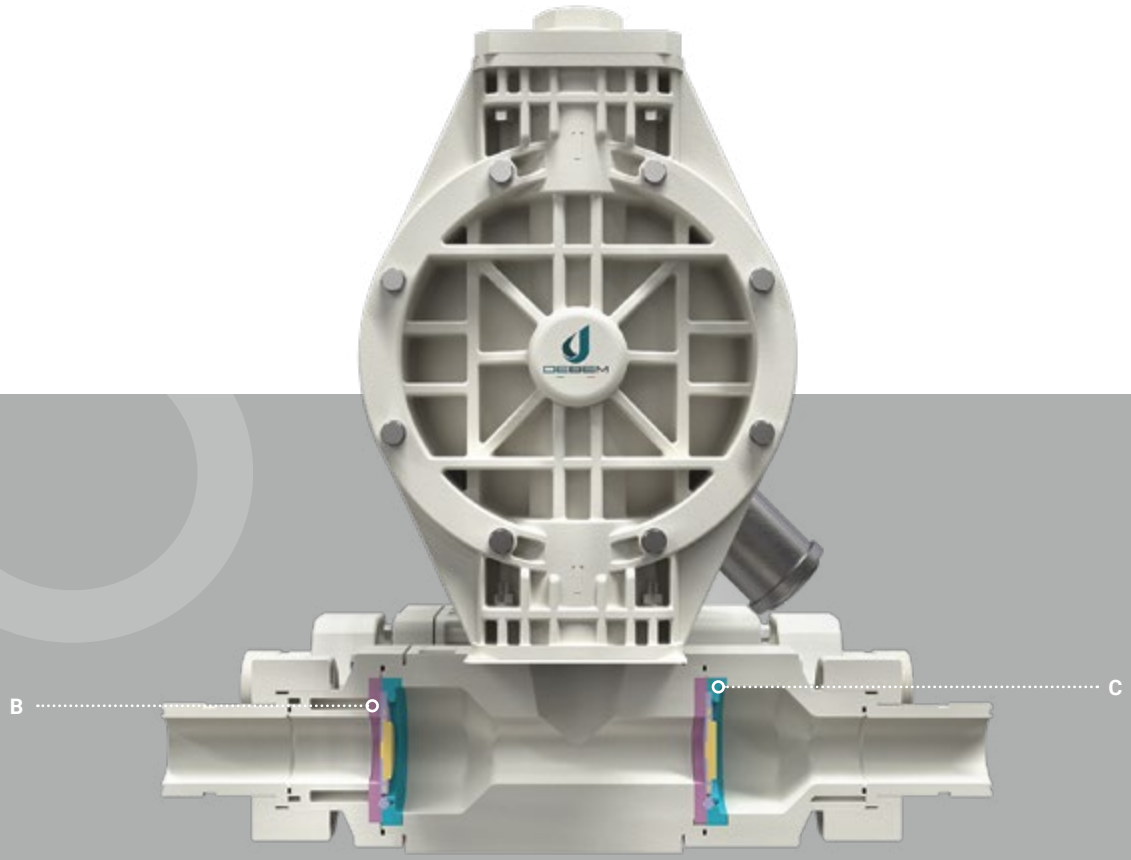
MAIN APPLICATION SECTORS

- PACKING, GLUE, PAPER AND PAPER MILLS
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY





A = Plate
B = Flap seat
C = Flap Wear Ring



FULLFLOW 502

Chemical compatibility

The type of fluid, the temperature and the operating environment are the factors that influence the selection of the pump materials and its correct chemical compatibility.

The table below is included by way of example. For more information don't hesitate to contact the Debem technical support. We have collected the information from reliable sources.

Debem, not having carried any verification of the data, cannot be held responsible for the correctness of the information. The table refers to pure polypropylene and PVDF, our plastics have glass and carbon fillers that may affect the chemical compatibility of the pump. The user, with their in-depth knowledge of their product, can make the most accurate decision regarding the chemical compatibility.

WARNING

The information in this table has been supplied to Debem from other reliable sources and must be used exclusively as a guide in selecting the materials for the pump parts in contact with the fluid, such as: Pump casing and manifolds, diaphragms, balls, ball seats and o-rings.

The assessment of the chemical reaction listed in this table refers to an exposure period of 48 hours. Debem has no knowledge of the possible effects after this period. Debem does not guarantee (neither expressly nor implicitly) that the information contained in this table is accurate or complete or that any material is suitable for any use.

DANGER

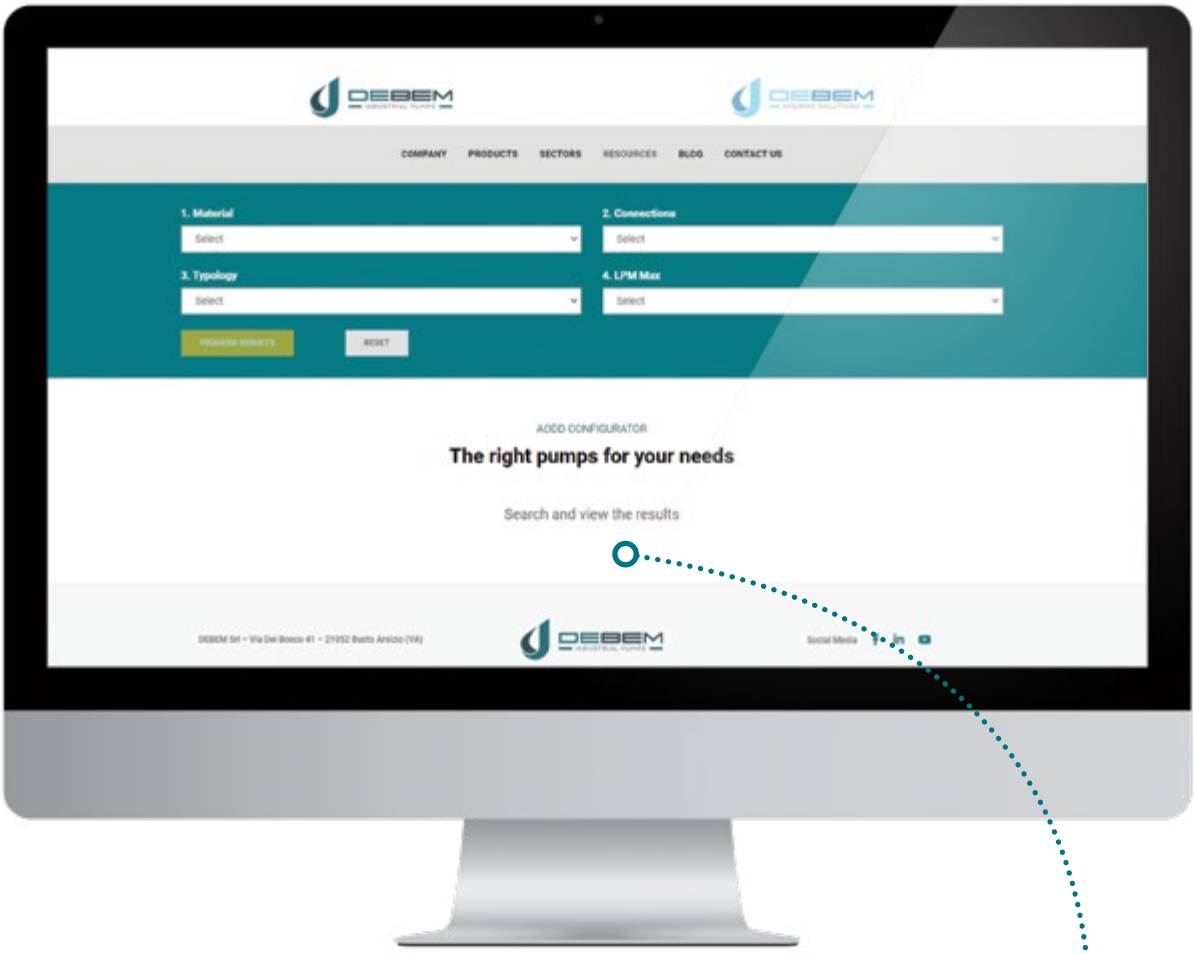
Changes in the chemical behaviour during handling, due to factors such as temperature, pressure and concentrations, could trigger issues in the pump.
Use adequate protections and/or personal protection equipment when installing the pump in the circuit or when performing maintenance on the pump. Read the use and maintenance manual before any operation on the pump.

SUBSTANCE	Polypropylene	PVDF ECTFE (Halar®)	Aluminium	Stainless steel AISI 316	NBR (Perbunan®)	EPDM (Dutral®)	PTFE (Teflon®)	PPS-V (Ryton®)	FPM (Vitron®)	Santoprene®	PE-UHMW (Polizene®)
ACETALDEIDE	A1	D	B	A	D	A	A	A	D	-	B
ACETAMIDE	A1	C	A	A	A	A	A	A	B	-	-
VINYL ACETATE	B1	A2	A1	B	D	B2	A2	-	A1	-	D
ACETYLENE	A1	A	A	A	B	A	A	A	A	-	-
VINEGAR	A	B	D	A	B	A	A	A	A	-	A
ACETONE	A	D	A	A	D	A	A	A	D	A1	A2
FATTY ACIDS	A	A	A	A	B	D	A	-	A	D	A

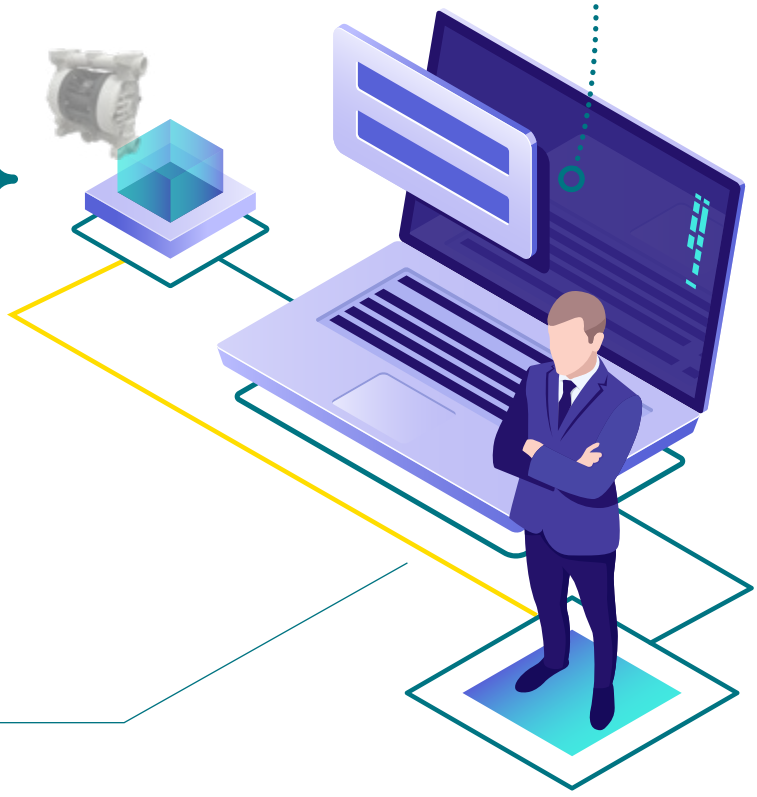
A = Excellent
B = Good
C = Poor (not recommended)
D = Serious attack (not recommended)

- = Information not available
1 = Satisfactory up to 22°C (72°F)
2 = Satisfactory up to 48°C (120°F)

Online configurator



Configure your Debem industrial pump with a few simple clicks adapted to your needs

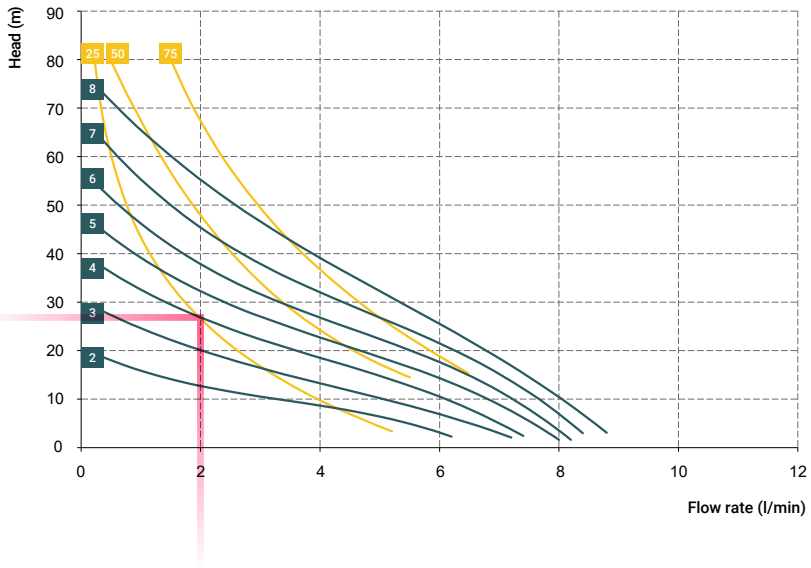


Go to www.debem.com and in the CONFIGURE section you will find the pumps configurator, which will help you in choosing the most suitable solution from the various products available.

www.debem.com

Technical data

Example illustrating the graphic reading of the performance



air supply pressure

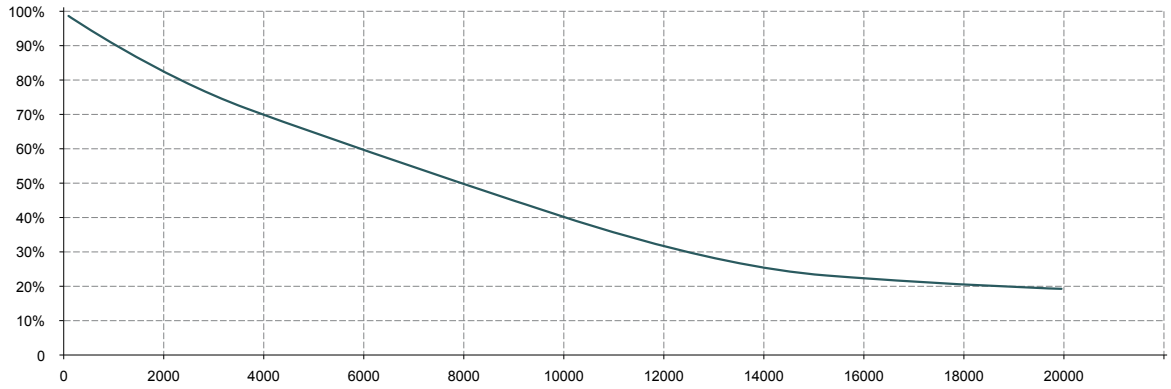
air consumption (Nl/min)

example:

· Flow rate 2 l/min
· Head 27 mt/ac
· Supply pressure 4 bar
· Air consumption 25 Nl/min

Decrease in the flow rate relating to the viscosity

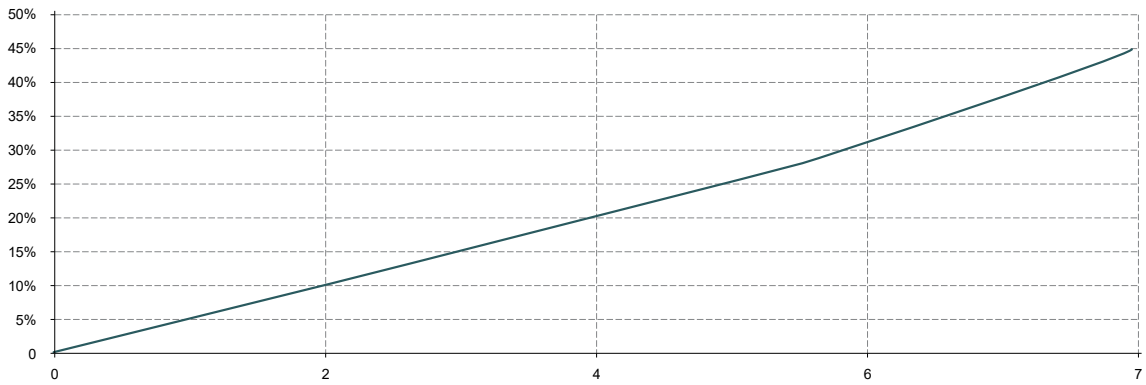
Available flow rate



Fluid viscosity (mPa.s)

Boxer pumps - loss of flow capacity on the suction height

Flow loss



Suction height (M)

Flow loss as a percentage, depending on suction height.

COMPRESSOR TABLE

Air consumption	Approximate power compressor
Nl/min	HP
50	0.5
100	1
200	2
250	2.5
350	3.5
450	4.5
550	5.5
850	8.5
1000	10
1500	15
2000	20
3500	30
4000	40

The power effectively absorbed by the compressor is about =70% of the value indicated in the table. We recommend using a compressor with a tank.

CYLINDER CAPACITY TABLE

Pump type	Displacement
BOXER 7	3.2 cc
BOXER 15	10.3 cc
MICROBOXER	30 cc
BOXER 50 / MINIBOXER	67 cc
BOXER 81 / BOXER 90	100 cc
BOXER 100	222 cc
BOXER 150	340 cc
BOXER 251 / BOXER 252	552 cc
BOXER 522 / BOXER 502	1,825 cc
BOXER 503	1,825 cc
BOXER FPC	250 cc
BOXER 35	30 cc
SMIDGETBOX	3.2 cc
SCUBIC 15	10.3 cc
SBOXER 7	3.2 cc
SBOXER 15	10.3 cc
SMICROBOXER	30 cc
SBOXER 50 / SMINIBOXER	67 cc
SBOXER 81 / SBOXER 90	100 cc
SBOXER 100	222 cc

Warning: when operating with an OPEN OUTLET, the actual flow rate is much higher than the ratio between number of cycles measured and displacement, due to the quantity of movement.

LINE INTRODUCTION

Equaflux

The Equaflux dampers are used with fluids with a high apparent viscosity, also with large suspended solids. They adapt automatically to the system conditions, without any manual adjustments or calibrations. The high capacity of minimising pulsations, vibrations and water hammer renders this component ideal for protecting the system, providing a regular outlet flow.
The vast range of construction materials allows us to select the best chemical compatibility with the fluid and/or the environment, without neglecting the correct temperature range. The dampers are also available for use in potentially explosive atmospheres (ATEX certification).

The Equaflux is operated by the same compressed air that drives the pump. The compressed air, introduced in the counter-pressure chamber (behind the diaphragm), creates a self-adjusting pneumatic damping cushion based on the pressure exerted by the pump.

- Product designed and constructed in Italy
- Works with non-lubricated air
- High output and sturdiness
- Suitable for minimising flow pulsations
- Suitable for minimising vibrations during the operation of the pump

EQUAFLUX DAMPERS CODES ENCODING

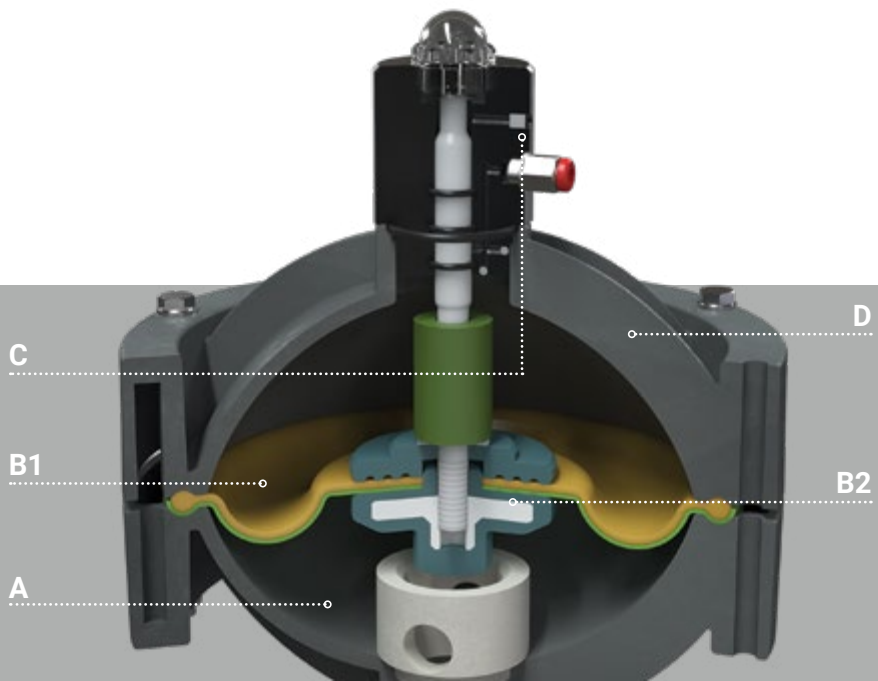
ex. EQ100PCHTC
Equaflux 100 PP+CF, Hytrel®, air side diaphragm, PTFE product side diaphragm, conduct.

EQ100	PC	H	T	C
DAMPER MODEL	DAMPER CASING	C MEMBRANE AIR SIDE PUMP CASING	MEMBRANE PRODUCT SIDE	VERSION CONDUCT
EQ 051 - Equaflux 51 EQ 100 - Equaflux 100 EQ 200 - Equaflux 200 EQ 302 - Equaflux 302 EQ 303 - Equaflux 303	P - Polypropylene PC - PP + CF FC - PVDF+CF R - PPS A - AISI 316 (excluding EQ 303) AL - Aluminium	H - Hytrel® M - Santoprene® D - EPDM N - NBR	T - PTFE	C* Z*

*C = CONDUCT version for ATEX Zone 1
*Z = Version for IECEx standard

CE Ex

A = expansion chamber
B1 = air-side diaphragm
B2 = fluid-side diaphragm
C = automatic pneumatic valve
D = pneumatic chamber



Equaflux 51

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PPS

PLASTIC MATERIAL
PVDF

METAL MATERIAL
AISI 316 L

FOODEQUAFLUX 51
AISI 316 L Electropolished

PP - ALU	Equaflux 51
Dimensions	
Height	117 mm
Diameter Ø	121 mm
Width	117 mm

AISI	Equaflux 51
Dimensions	
Height	133 mm
Diameter Ø	120 mm
Width	117 mm

Air side half-casing material

- PP
- PP+CF
- Aluminium

Diaphragm materials

- NBR
- EPDM
- Hytrel®
- Santoprene®
- PTFE

Caps materials

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- AISI 316 L

Packaging

Cardboard box

Product Fitting	Air Attach-ment	Operating Pressure	Applicability	Material* (half-casing in con-tact with the fluid)	Weight	Operating temperature	Dim. (mm)
G 3/4"	Ø 6 mm	Min 2 Bar - Max 8 Bar	Sidgetbox, Cubic15, Boxer7, Boxer15, Microboxer, Boxer35	Polypropylene	0.5 Kg	+3°C to +65°C	117x121x117
G 3/4"	Ø 6 mm	Min 2 Bar - Max 8 Bar	Midgetbox, Cubic15, Boxer7, Boxer15, Microboxer, Boxer35	PP + CF	0.5 Kg	+3°C to +65°C	117x121x117
G 3/4"	Ø 6 mm	Min 2 Bar - Max 8 Bar	Cubic15, Boxer7, Boxer15, Microboxer, Boxer35	PVDF	0.5 Kg	+3°C to +95°C	117x121x117
G 3/4"	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer7, Boxer15, Microboxer, Boxer35	PPS	0.6 Kg	+3°C to +95°C	117x121x117
G 1/2"	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer7, Boxer15, Microboxer, Boxer35	AISI 316 L	1.33 Kg	+3°C to +95°C	117x120x133
clamp*	Ø 6 mm	Min 2 Bar - Max 8 Bar	Foodboxer15, Foodboxer30	AISI316 L Electropolished	1.33 Kg	+3°C to +95°C	*

*Dimensions variable, please contact our technical sales department

EQUAFLUX

Equaflux 100

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

PLASTIC MAT
PP

PLASTIC MAT
PPS

PLASTIC MAT
PTFE

PLASTIC MAT
PVDF

METAL MATERIAL
AISI 316

FOODEQUAFLUX 100
AISI 316 Electropolished

PP - PPS	Equaflux 100
Dimensions	
Height	177 mm
Diameter Ø	169 mm
Width	169 mm

AISI	Equaflux 100
Dimensions	
Height	183 mm
Diameter Ø	170 mm
Width	170 mm

Air side half-casing material

- PP
- PP+CF

Diaphragm materials

- NBR
- EPDM
- Hytrel®
- Santoprene®
- PTFE

Caps materials

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- PPS
- Natural ECTFE
- AISI 316 L

Packaging

Cardboard box

Product Fitting	Air Attach-ment	Operating Pressure	Applicability	Material* (half-casing in contact with the fluid)	Weight	Operating temperature	Dim. (mm)
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer50, Boxer81	Polypropylene	1.5 Kg	+3°C to +65°C	169x169x177
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer50, Boxer81	PP+CF	1.5 Kg	+3°C to +65°C	169x169x177
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer50, Boxer81	PVDF	1.7 Kg	+3°C to +95°C	169x169x177
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer50, Boxer90	PPS	1.7 Kg	+3°C to +95°C	169x169x177
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	FPC 100, Miniboxer, Boxer 50, Boxer 81/90	PTFE	1.7 Kg	+3°C to +65°C	169x169x177
G 1”	Ø 6 mm	Min 2 Bar - Max 8 Bar	Miniboxer, Boxer81	AISI 316	2.56 Kg	+3°C to +95°C	170x170x183
clamp*	Ø 6 mm	Min 2 Bar - Max 8 Bar	Foodboxer50, Foodboxer81	AISI 316 Electropolished	2.56 Kg	+3°C to +95°C	*

*Dimensions variable, please contact our technical sales department

Equaflux 200

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PPS

PLASTIC MATERIAL
PVDF

METAL MATERIAL
AISI 316

FOODEQUAFLUX 200
AISI 316 Electropolished

PP - PPS	Equaflux 200
Dimensions	
Height	284 mm
Diameter Ø	254 mm
Width	254 mm

AISI	Equaflux 200
Dimensions	
Height	254 mm
Diameter Ø	260 mm
Width	265 mm

Air side half-casing material

- PP
- PP+CF

Diaphragm materials

- NBR
- EPDM
- Hytrel®
- Santoprene®
- PTFE

Caps materials

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- Aluminium
- AISI 316 L

Packaging

Cardboard box

Product Fitting	Air Attach-ment	Operating Pressure	Applicability	Material* (half-casing in con-tact with the fluid)	Weight	Operating temperature	Dim. (mm)
G1"1/2	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer100, Boxer150, Boxer251	Polypropylene	3.8 Kg	+3°C to +65°C	254x254x284
G 1"1/2	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer100, Boxer150, Boxer251	PP + CF	3.8 Kg	+3°C to +65°C	254x254x284
G 1"1/2	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer100, Boxer150, Boxer251	PVDF	4.5 Kg	+3°C to +95°C	254x254x284
G 1"1/2	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer100, Boxer150, Boxer251	PPS	4.5 Kg	+3°C to +95°C	254x254x284
G 1"1/2	Ø 6 mm	Min 2 Bar - Max 8 Bar	Boxer100, Boxer150, Boxer252	AISI 316	7.45 Kg	+3°C to +95°C	254x260x265
clamp*	Ø 6 mm	Min 2 Bar - Max 8 Bar	Foodboxer100, Foodboxer150, Foodbox-er252	AISI 316 Electropolished	7.45 Kg	+3°C to +95°C	*

*Dimensions variable, please contact our technical sales department

EQUAFLUX

Equaflux 302

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

METAL MATERIAL
ALU

METAL MATERIAL
AISI 316

FOODEQUAFLUX 302
AISI 316 Electropolished

PP — **Equaflux 302**

Dimensions	
Height	398 mm
Diameter Ø	516 mm
Width	350 mm

AISI — **Equaflux 302**

Dimensions	
Height	355 mm
Diameter Ø	352 mm
Width	350 mm

ALU — **Equaflux 302**

Dimensions	
Height	366 mm
Base	467 mm
Width	350 mm

Air side half-casing material

- PP
- PP+CF

Diaphragm materials

- NBR
- EPDM
- Hytrel®
- Santoprene®
- PTFE

Caps materials

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- Aluminium
- AISI 316

Packaging

Wooden case

Product Fitting	Air Attach-ment	Operating Pressure	Applicability	Material* (half-casing in contact with the fluid)	Weight	Operating temperature	Dim. (mm)
G 2”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer522	Polypropylene	23 Kg	+3°C to +65°C	350x516x398
G 2”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer522	PP + CF	23 Kg	+3°C to +65°C	350x516x398
G 2”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer522	PVDF	28.5 Kg	+3°C to +95°C	350x516x398
G 2”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer502	ALU	26 Kg	+3°C to +95°C	350x467x366
G 2”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer502	AISI 316	32 Kg	+3°C to +95°C	350x352x355
clamp*	Ø 8 mm	Min 2 Bar - Max 8 Bar	Foodboxer502	AISI 316 Electropolished	32 Kg	+3°C to +95°C	*

*Dimensions variable, please contact our technical sales department

Equaflux 303

Specifications and types

Zone 2 - Zone 22 — II 3G Ex h IIB T4 Gc and II 3D Ex h IIIB T135°C Dc X
Zone 1 - Zone 21 — II 2G Ex h IIB T4 Gb and II 2D Ex h IIIB T135°C Db X

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

METAL MATERIAL
ALU

PP | **Equaflux 303**

Dimensions	
Height	398 mm
Diameter Ø	516 mm
Width	350 mm

ALU | **Equaflux 303**

Dimensions	
Height	419 mm
Diameter Ø	509 mm
Width	350 mm

Air side half-casing material

- PP
- PP+CF

Diaphragm materials

- NBR
- EPDM
- Hytrel®
- Santoprene®
- PTFE

Caps materials

- Polypropylene (with glass additive)
- Conductive polypropylene (with carbon additive)
- PVDF
- Aluminium

Packaging

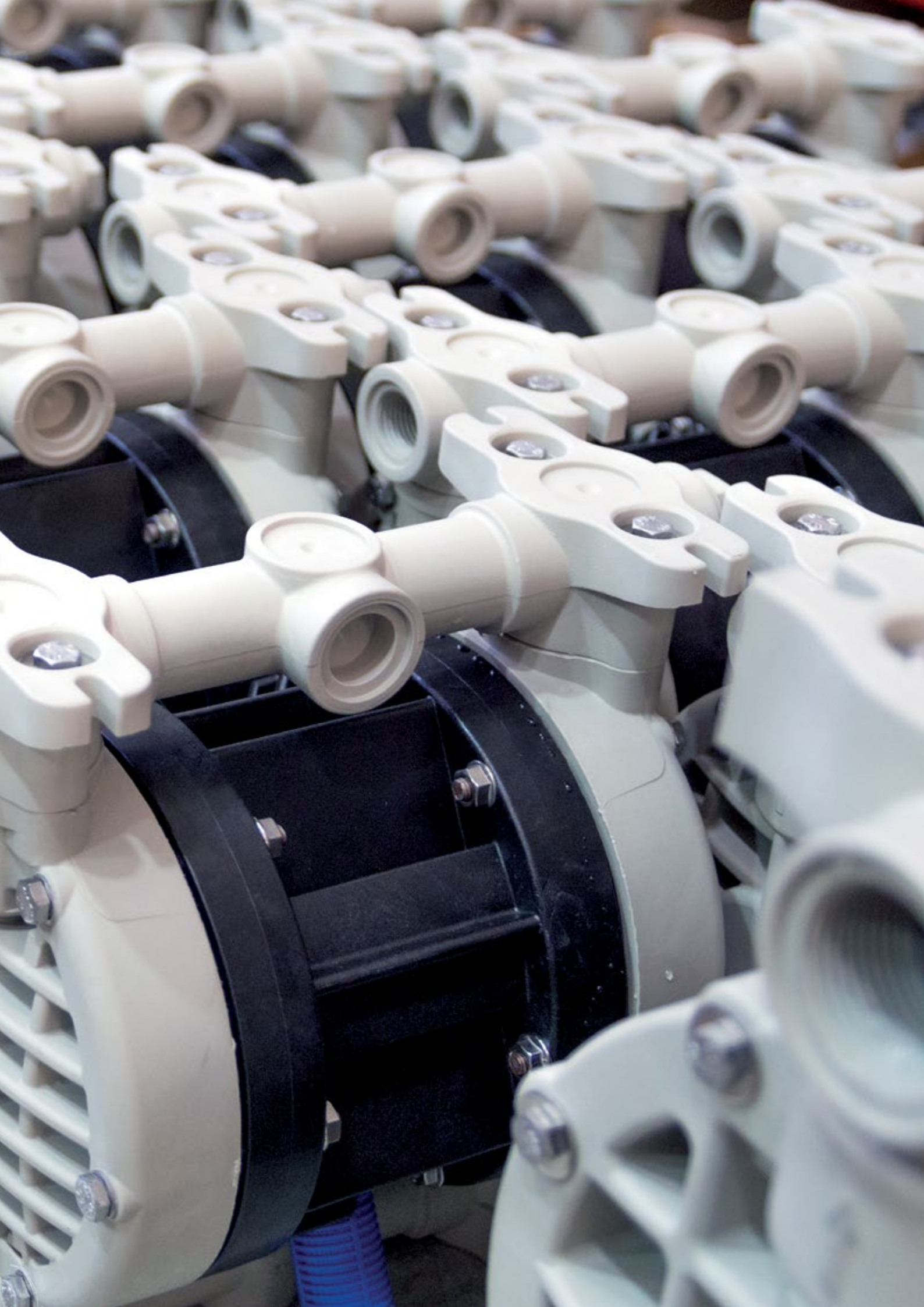
Wooden case

Product Fitting	Air Attach-ment	Operating Pressure	Applicability	Material* (half-casing in con-tact with the fluid)	Weight	Operating temperature	Dim. (mm)
G 3”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer503	Polypropylene	23 Kg	+3°C to +65°C	350x516x398
G 3”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer503	PP + CF	23 Kg	+3°C to +65°C	350x516x398
G 3”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer503	PVDF	28.5 Kg	+3°C to +95°C	350x516x398
G 3”	Ø 8 mm	Min 2 Bar - Max 8 Bar	Boxer503	ALU	29 Kg	+3°C to +95°C	350x509x419

*Material on request: DUPLEX/S.DUPLEX

DEBEM

MADE IN ITALY



LINE INTRODUCTION

DM

Debem's magnetic drive centrifugal pumps are the ideal solution for numerous applications: laboratory machines, medical equipment, photographic developing machines, X-ray processes, silver recovery systems, graphics industry, heat exchangers, aquariums, water treatment, filtering systems, galvanic and chemical industry and the transfer of acids and corrosive fluids.

The DM pumps must be installed exclusively with the axis horizontal under head. In order to avoid dry running, vortex formation and possible air intake, appropriate devices must be provided. The DM pumps must operate exclusively with the overflown pump. the outer magnet is positioned on the motor shaft and transmits the motion to the inner magnet integrated with the hermetically sealed impeller. The pump impeller is not physically fixed to the motor shaft, thereby eliminating the need for seals and consequently any leaks of the liquid being pumped due to wear. The pump unit is constructed with a low number of components, making it extremely easy to maintain. The materials used as standard are polypropylene (PP) and polyvinylidene fluoride (PVDF). The pumps cannot operate dry. Dirty liquids can reduce their life.

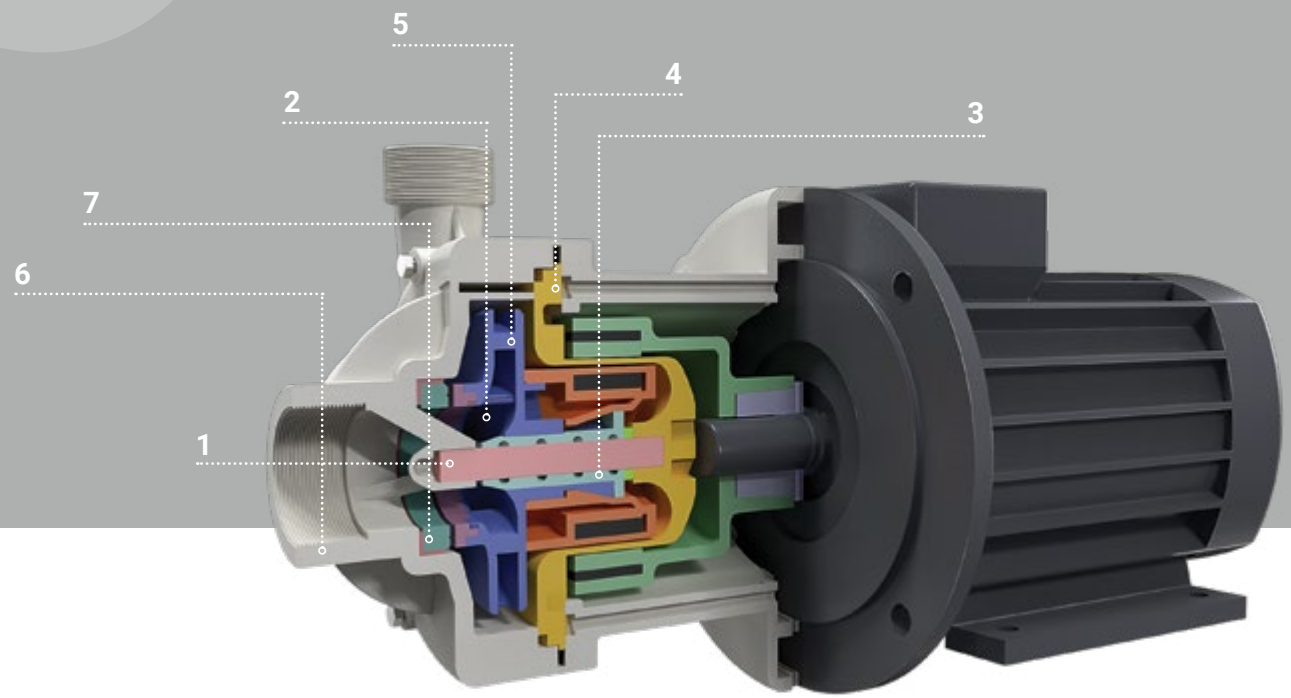
- Product designed and constructed in Italy
- Constructed in polypropylene or PVDF
- Below head use
- Extremely easy maintenance
- Suitable for continuous use

DM PUMPS CODES ENCODING

ex. DM10P-SD1BE071
DM10 PP, standard thrust bearing, EPDM o-ring, Ø 98 mm impeller, BSPP fitting, MEC motor flange, 071 casing.

DM10	P	S	D	1	B	E	071	T
PUMP MODEL	**PUMP CASING**	**THRUST BEARING**	**O-RING**	**IMPELLER**	**FLANGE**	**ATTACHMENT MOTOR**	**BOX**	**MOTOR**
DM06 DM10 DM15 DM30	P - Polypropylene FC - PVDF+CF	S - Standard (ceramic + PTFE Graphite)	D - EPDM V - Viton®	**DM06** 1=Ø 81 mm 2=Ø 70 mm 3=Ø 65 mm **DM10** 1=Ø 98 mm 2=Ø 85 mm 3=Ø 70 mm **DM15** 1=Ø 123 mm 2=Ø 108 mm 3=Ø 90 mm **DM30** 1=Ø 134 mm 2=Ø 122 mm 3=Ø 110 mm	N - NPT B - BSPP	E - MEC U - NEMA*	**DM06** 063 071 **DM10** 071 080 **DM15** 090 **DM30** 090 100 112	M - Single-phase** T - Three-phase A - Atex** S - Without Motor

* Only the pump can be supplied, with American flange, for coupling with NEMA motor
**On request



	COMPONENTS	MATERIALS
1	Shaft	Alumina ceramic 99.7%
2	Impeller thrust bearing	PTFE + 30% Graphite
3	Bushing	PTFE + 30% Graphite
4	O-Ring	Viton®/EPDM
5	Impeller	PP/PVDF+CF
6	Pump body	PP/PVDF+CF
7	Head thrust bearing	Alumina ceramic 99.7%

MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

MAGNETIC DRIVE CENTRIFUGAL PUMPS

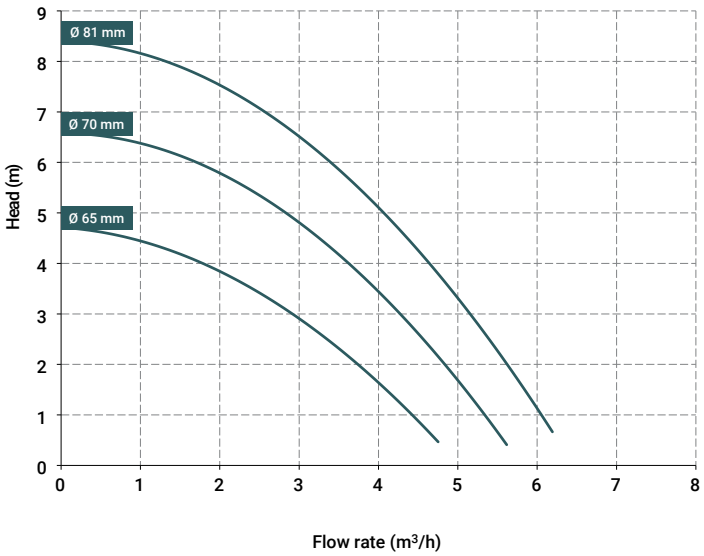
DM 06

Specifications and types

Suction fittings	1” f BSPP or DN 25 - NPT
Delivery fittings	3/4” m BSPP or DN 20 - NPT
Max. flow rate	7 m3/h
Min. flow rate	0.75 m3/h
Max. head	8.5 m
Viscosity up to	150 cps

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw 0.25 HP 0.35

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V**
- 50/60 HZ
- 2 Poles IE2 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 0.37 HP 0.5

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V**
- 50/60 HZ
- 2 Poles IE2 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 0.25 HP 0.35

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

Kw 0.37 HP 0.5

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

ELECTRIC MOTORS AVAILABLE ON REQUEST:

- Single-phase (up to 3 kw)
- ATEX
- NEMA 56C*

*(only pump available, with American flange, for coupling with NEMA motor - the motor is not available in our standard)

IMPELLER	Motor 0.25 Kw (0.35 HP)	Motor 0.37 Kw (0.5 HP)
Ø 81 mm (Standard)	up to 1.2 g/cm3	up to 1.8 g/cm3
Ø 70 mm	up to 1.5 g/cm3	up to 2 g/cm3
Ø 65 mm	up to 1.8 g/cm3	up to 2 g/cm3

OPERATING TEMPERATURES** AND WEIGHTS

PP (with glass additive)	da 0°C a + 70°C, 2,2 Kg*
PVDF (with carbon additive)	da -10°C a + 100°C, 2,5 Kg*

*The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

DM 10

Specifications and types

Suction fittings	1”1/2 f BSPP or DN 40 - NPT
Delivery fittings	1” m BSPP or DN 25 - NPT
Max. flow rate	13 m3/h
Min. flow rate	1.2 m3/h
Max. head	14 m
Viscosity up to	150 cps

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw 0.55 HP 0.75

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE2 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 0.75 HP 1

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 0.55 HP 0.75

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

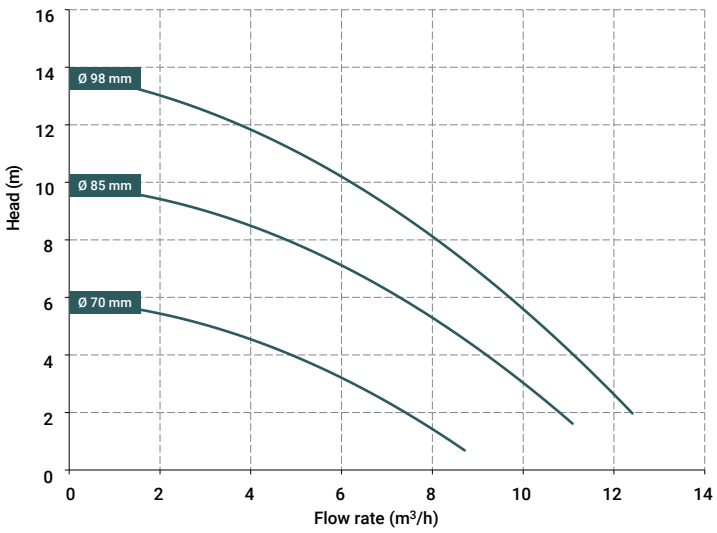
Kw 0.75 HP 1

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

ELECTRIC MOTORS AVAILABLE ON REQUEST:

- Single-phase (up to 3 kw)
- ATEX
- NEMA 56C* / 143TC*

*(only pump available, with American flange, for coupling with NEMA motor - the motor is not available in our standard)



IMPELLER	Motor 0.55 Kw (3 HP)	Motor 0.75 Kw (4 HP)
Ø 98 mm (Standard)	up to 1.1 g/cm3	up to 1.5 g/cm3
Ø 85 mm	up to 1.6 g/cm3	up to 2 g/cm3
Ø 70 mm	up to 2 g/cm3	up to 2 g/cm3

OPERATING TEMPERATURES** AND WEIGHTS

PP (with glass additive)	da 0°C a + 70°C, 2,2 Kg*
PVDF (with carbon additive)	da -10°C a + 100°C, 2,5 Kg*

*The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

MAGNETIC DRIVE CENTRIFUGAL PUMPS

DM 15

Specifications and types

Suction fittings	1”1/2 f BSPP or DN 40 - NPT
Delivery fittings	1”1/4 m BSPP or DN 32 - NPT
Max. flow rate	23.5 m3/h
Min. flow rate	2 m3/h
Max. head	20 m
Viscosity up to	150 cps

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw 1.5 HP 2

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 2.2 HP 3

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 1.5 HP 2

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

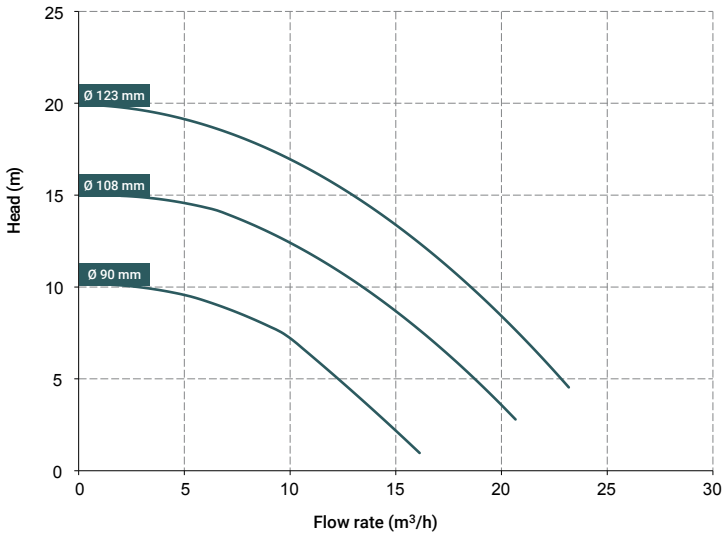
Kw 2.2 HP 3

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

ELECTRIC MOTORS AVAILABLE ON REQUEST:

- Single-phase (up to 3 kw)
- ATEX
- NEMA 56C*/NEMA 145 TR

*(only pump available, with American flange, for coupling with NEMA motor - the motor is not available in our standard)



IMPELLER	Motor 1.5 Kw (2 HP)	Motor 2.2 Kw (3 HP)
Ø 123 mm (Standard)	up to 1.1 g/cm3	up to 1.8 g/cm3
Ø 108 mm	up to 1.6 g/cm3	up to 2 g/cm3
Ø 90 mm	up to 2 g/cm3	up to 2 g/cm3

OPERATING TEMPERATURES** AND WEIGHTS

PP (with glass additive)	da 0°C a + 70°C, 2,2 Kg*
PVDF (with carbon additive)	da -10°C a + 100°C, 2,5 Kg*

*The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

DM 30

Specifications and types

Suction fittings	2”f BSPP or DN 50 - NPT
Delivery fittings	1”1/2 m BSPP or DN 40 - NPT
Max. flow rate	35 m3/h
Min. flow rate	4 m3/h
Max. head	24 m
Viscosity up to	150 cps

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw 2.2 HP 3

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 3 HP 4

- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 4 HP 5.5

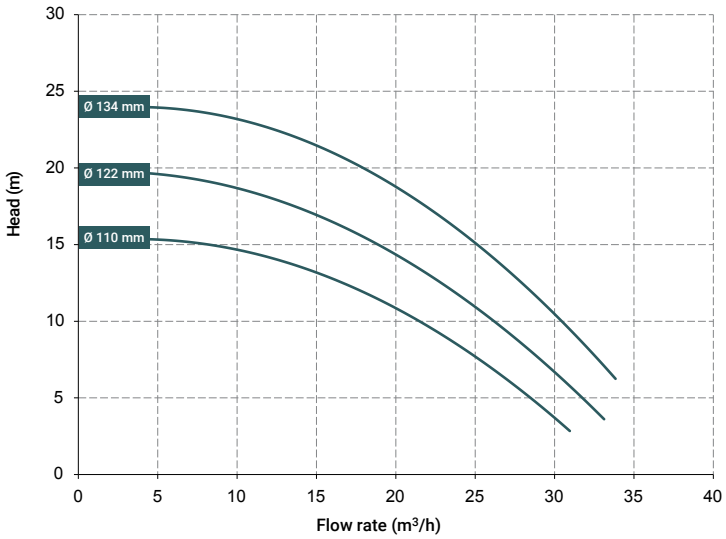
- Constructive Form B3+B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- 2 Poles IE3 Protection IP55
- Ambient temperature -30°C + 45°C

Kw 2.2 HP 3

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C

Kw 3 HP 4

- Constructive Form B3+B5
- RPM 2900
- **Single-phase**
- Ambient temperature -30°C + 45°C



ELECTRIC MOTORS AVAILABLE ON REQUEST:

- Single-phase (up to 3 kw)
- ATEX
- NEMA 145TC* / 184TC*

*(only pump available, with American flange, for coupling with NEMA motor - the motor is not available in our standard)

IMPELLER	M. 2.2 Kw (3 HP)	M. 3 Kw (4 HP)	M. 4 Kw (5.5 HP)
Ø 134 mm (Standard)	up to 1.1 g/cm3	up to 1.5 g/cm3	up to 1.8 g/cm3
Ø 122 mm	up to 14 g/cm3	up to 2 g/cm3	up to 2 g/cm3
Ø 110 mm	up to 1.8 g/cm3	up to 2 g/cm3	up to 2 g/cm3

OPERATING TEMPERATURES** AND WEIGHTS

PP (with glass additive)	da 0°C a + 70°C, 2,2 Kg*
PVDF (with carbon additive)	da -10°C a + 100°C, 2,5 Kg*

*The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

MAGNETIC DRIVE CENTRIFUGAL PUMPS

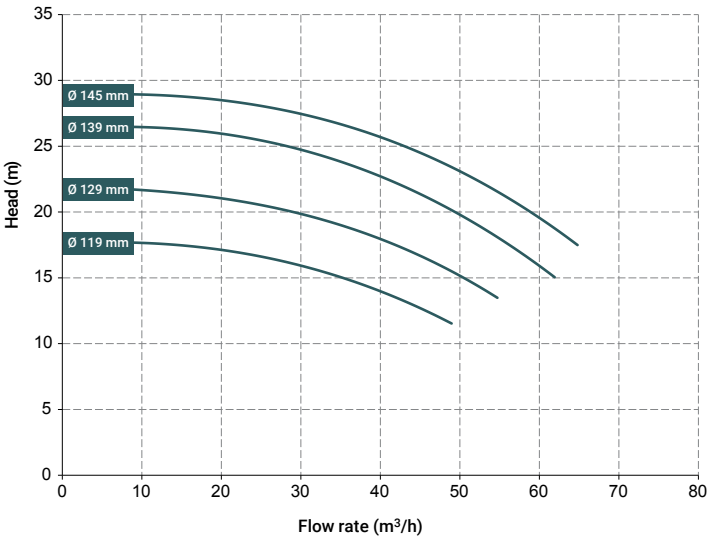
KM 70

Specifications and types

Suction fittings	3" f BSPP or DN 80 - NPT on request
Delivery fittings	2"1/2 m BSPP or DN 65 - NPT on request
Max. flow rate	65 m3/h
Max. head	29 m
Viscosity up to	150 cps

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw 4 HP 5.5

- Constructive Form B5
- RPM 2900
- **Three-phase 230/400 V - 50/60 HZ**
- ATEX available on request

Kw 5.5 HP 7.5

- Constructive Form B5
- RPM 2900
- **Three-phase 400/690 V - 50/60 HZ**
- ATEX available on request

Kw 7.5 HP 10

- Constructive Form B5
- RPM 2900
- **Three-phase 400/690 V - 50/60 HZ**
- ATEX available on request

OPERATING TEMPERATURES** AND WEIGHTS

PP (with glass additive)	da 0°C a + 70°C, 33 Kg*
PVDF (with carbon additive)	da -10°C a + 100°C, 34.5 Kg*

*The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

MAIN APPLICATION SECTORS

- CHEMICAL INDUSTRY
- WATER AND SLUDGE TREATMENT
- GALVANIC AND ELECTRONIC INDUSTRY

IMPELLER

- Ø 145 mm (Standard)
- Ø 139 mm
- Ø 129 mm
- Ø 119 mm

LINE INTRODUCTION

MB

The horizontal centrifugal pumps with a resin casing, are driven by a direct drive electric motor (max 3000 RPM) to transfer and/or empty liquids quickly, with flow rates from 6 to 80 m3/hour.

Their unique open impeller design allows them to pump even very dirty fluids with an apparent viscosity up to 500 cps (at 20°C) and small-sized suspended solids. They are available in two version with different internal mechanical seal, based on their use, TL (lip seal) and TS (bellows seal).

They are driven by the impeller that, integrated with the shaft and the electric motor (direct drive), is rotated creating, due to centrifugal effect, a suction on the central duct and a delivery on the peripheral duct.

- Product designed and constructed in Italy
- Constructed in polypropylene or PVDF
- Under head use
- No welded seams
- Can also be used with fluids with suspended solids
- Extremely easy maintenance
- Suitable for continuous use
- Available with:
  - Mechanical bellows seal (new generation "Self-locking" system)
  - Aisi 304 spring - Seal ring in Silicon Carbide + Ceramic / Silicon Carbide + Silicon Carbide
  - Lip seal: VITON® o EPDM

MB PUMPS CODES ENCODING

ex. MB080--P-TLVN
MB 80 PP, Viton® lip seal, three-phase motor.

MB80	P	TLV	N
PUMP MODEL	PUMP MATERIAL	TYPE OF SEAL	MOTOR
MB 080 - MB 80 MB 100 - MB 100 MB 110 - MB 110 MB 120 - MB 120 MB 130 - MB 130 MB 140 - MB 140 MB 150 - MB 150 MB 155 - MB 155 MB 160 - MB 160 MB 180 - MB 180	P - Polypropylene FC - PVDF+CF	TLV - Lip seal Viton® TLD - EPDM lip seal TSV - bellows seal Viton® TSD - EPDM bellows seal	N* - Three-phase M - Single-phase A - ATEX S - Without Motor

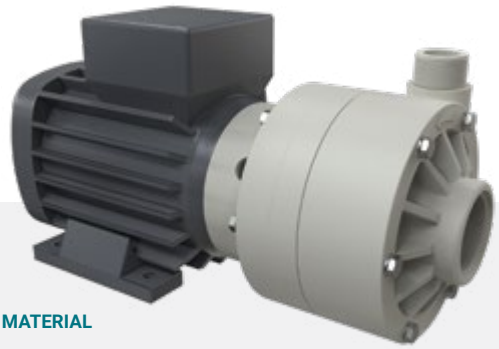
* Three-phase asynchronous eurotension motor fitted as standard (2 poles) 50Hz

MB 80

Specifications and types

Suction fittings	1”1/2 f BSPP or DN 40
Delivery fittings	1” m BSPP or DN 25
Max. flow rate	6 m3/h
Max. head	7.5 m
Viscosity up to	500 cps
Standard open impeller	Ø 85 mm H 9 mm *
Solids passing	Ø max 5 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

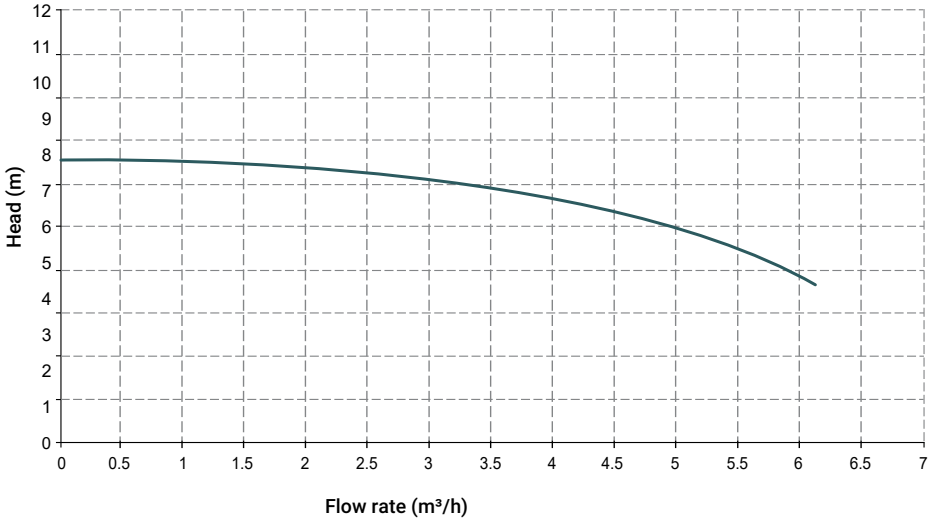
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	1.7 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	2.2 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	0.37
HP	0.5
Constructive Form	B3 + B14
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE2
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

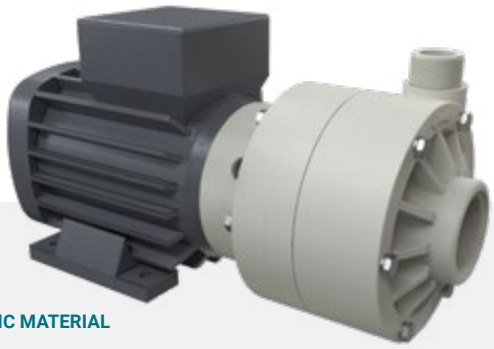
HORIZONTAL CENTRIFUGAL PUMPS

MB 100

Specifications and types

Suction fittings	1”1/2 f BSPP or DN 40
Delivery fittings	1” m BSPP or DN 25
Max. flow rate	9 m3/h
Max. head	12 m
Viscosity up to	500 cps
Standard open impeller	Ø 97 mm H 12 mm *
Solids passing	Ø max 7 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

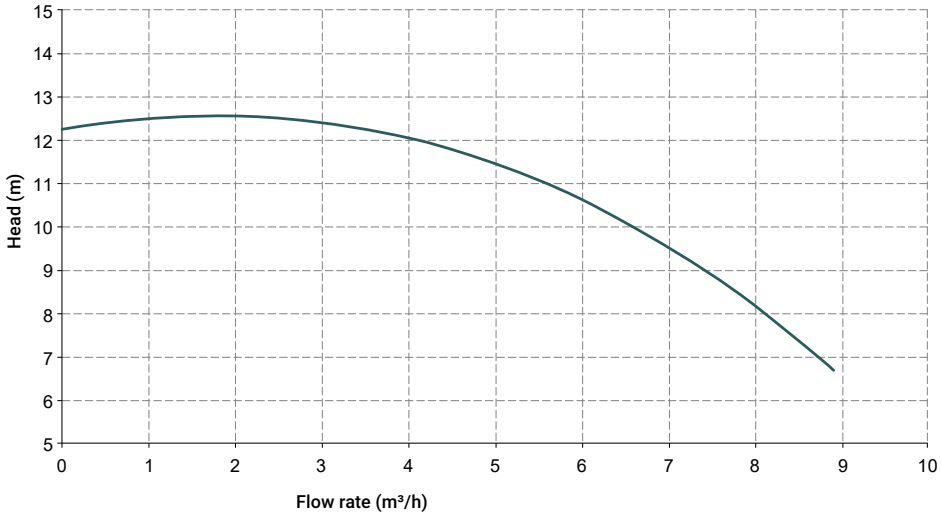
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	1.7 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	2.2 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	0.55
HP	0.75
Constructive Form	B3 + B14
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE2
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

MB 110

Specifications and types

Suction fittings	2” m BSPP or DN 50
Delivery fittings	1”1/2 m BSPP or DN 40
Max. flow rate	18 m3/h
Max. head	16 m
Viscosity up to	500 cps
Standard open impeller	Ø 130 mm H 4 mm *
Solids passing	Ø max 2 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

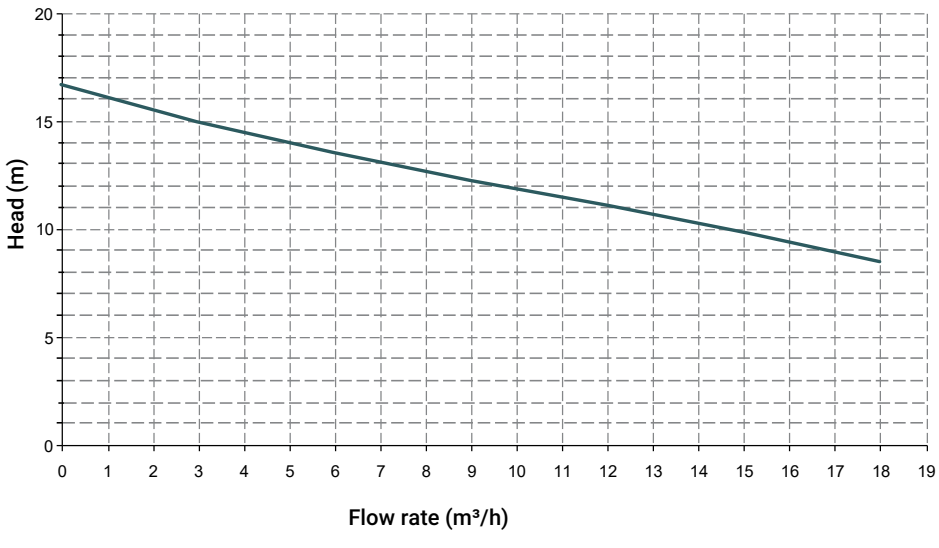
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	3.4 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	4.3 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	1.1
HP	1.5
Constructive Form	B3 + B5
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

HORIZONTAL CENTRIFUGAL PUMPS

MB 120

Specifications and types

Suction fittings	2” m BSPP or DN 50
Delivery fittings	1”1/2 m BSPP or DN 40
Max. flow rate	25 m3/h
Max. head	17 m
Viscosity up to	500 cps
Standard open impeller	Ø 120 mm H 8 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

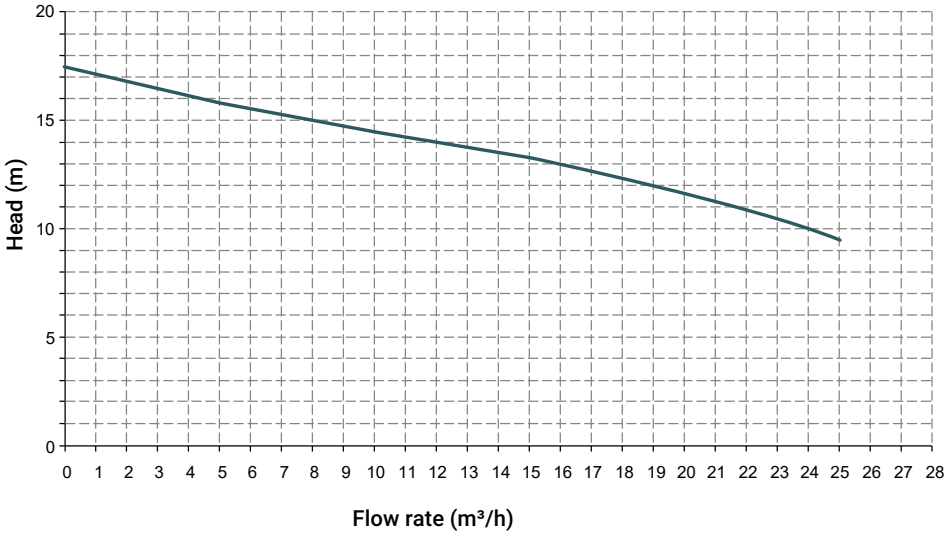
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	3.8 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	4.9 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	1.5
HP	2
Constructive Form	B3 + B5
RPttM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

MB 130

Specifications and types

Suction fittings	2” m BSPP or DN 50
Delivery fittings	1”1/2 m BSPP or DN 40
Max. flow rate	30 m3/h
Max. head	22 m
Viscosity up to	500 cps
Standard open impeller	Ø 130 mm H 8 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

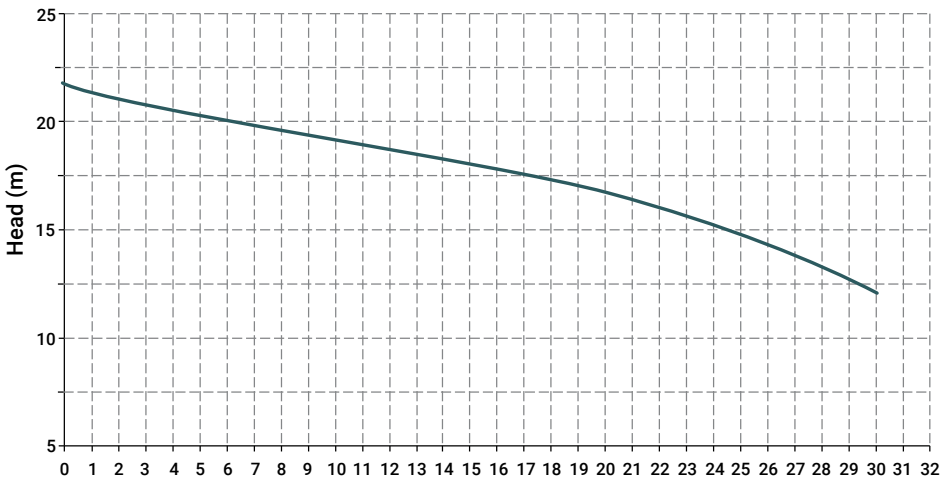
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	3.8 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	4.9 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	2.2
HP	3
Constructive Form	B3 + B5
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY

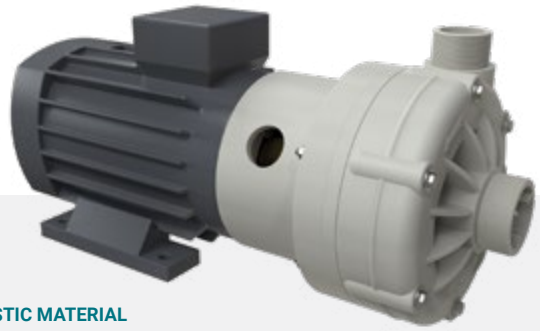
HORIZONTAL CENTRIFUGAL PUMPS

MB 140

Specifications and types

Suction fittings	2” m BSPP or DN 50
Delivery fittings	1”1/2 m BSPP or DN 40
Max. flow rate	38 m3/h
Max. head	23 m
Viscosity up to	500 cps
Standard open impeller	Ø 130 mm H 14 mm *
Solids passing	Ø max 12 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

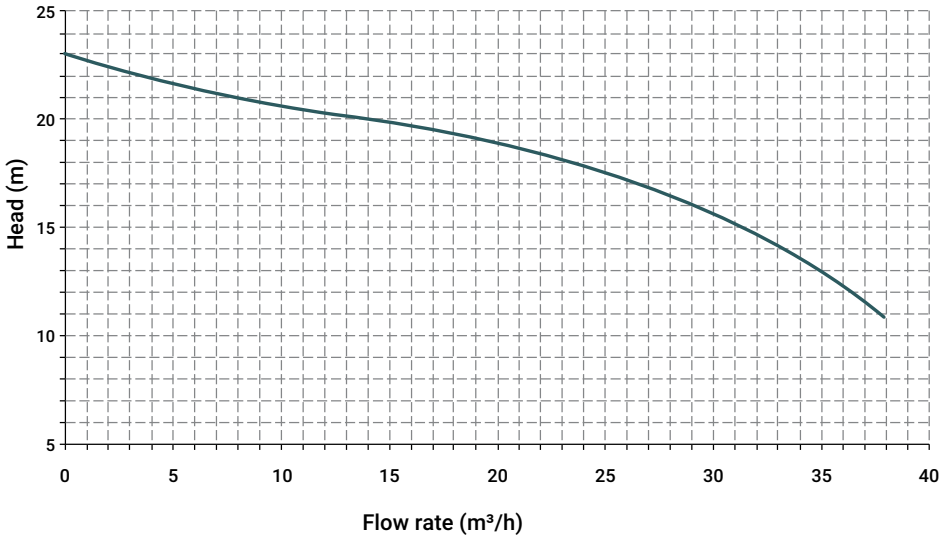
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	4 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	5 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	3
HP	4
Constructive Form	B3 + B14
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	-
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request



MAIN APPLICATION SECTORS

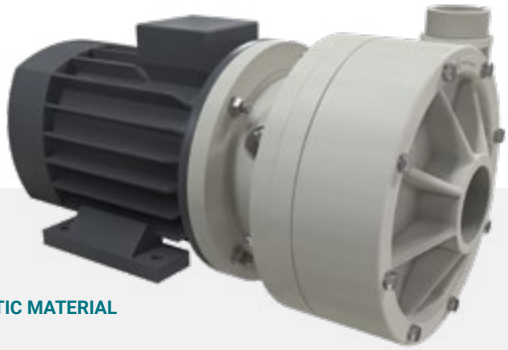
- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

MB 150

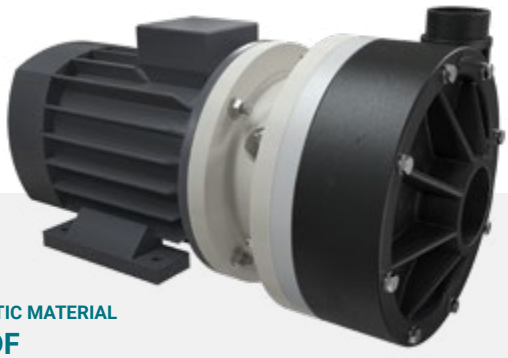
Specifications and types

Suction fittings	2”1/2 f BSPP or DN 65
Delivery fittings	2” m BSPP or DN 50
Max. flow rate	50 m3/h
Max. head	26 m
Viscosity up to	500 cps
Standard open impeller	Ø 160 mm H 5.5 mm -10° *
Solids passing	Ø max 2 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP



PLASTIC MATERIAL
PVDF

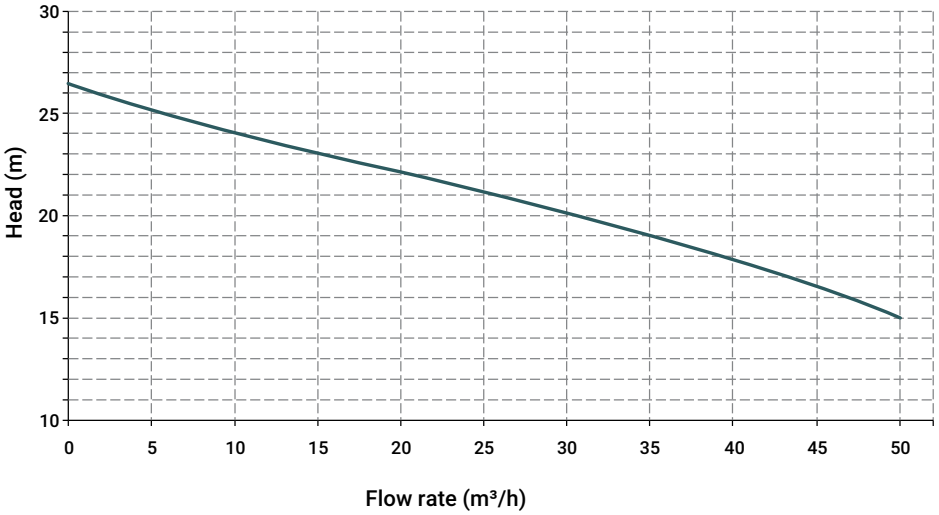
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	8.1 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	11 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	4
HP	5.5
Constructive Form	B3 + B5
RPM	2900 / 3600
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request



MAIN APPLICATION SECTORS

- AUTOMOTIVE
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GALVANIC AND ELECTRONIC INDUSTRY

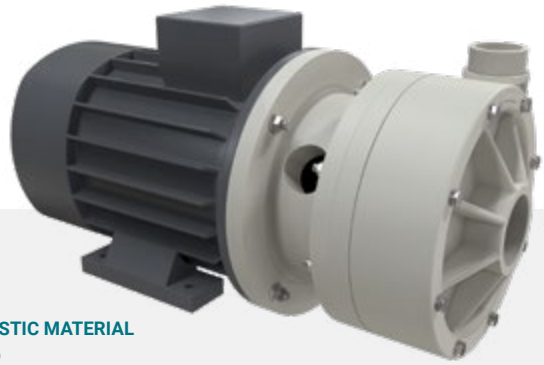
HORIZONTAL CENTRIFUGAL PUMPS

MB 155

Specifications and types

Suction fittings	2”1/2 f BSPP or DN 65
Delivery fittings	2" BSPP m or DN 50
Max. flow rate	60 m3/h
Max. head	26 m
Viscosity up to	500 cps
Standard open impeller	Ø 162 mm H 5 mm -10 ° *
Solids passing	Ø max 3 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
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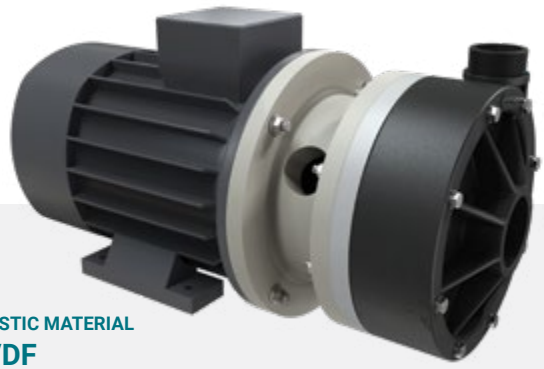


PLASTIC MATERIAL
PVDF

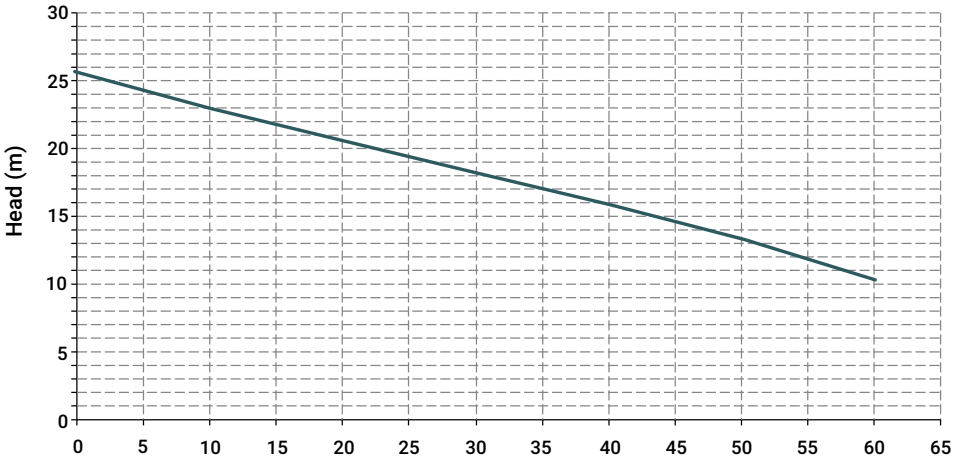
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	9.5 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	12.4 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	5.5
HP	7.5
Constructive Form	B3 + B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request



MAIN APPLICATION SECTORS

GALVANIC AND ELECTRONIC INDUSTRY

WATER AND SLUDGE TREATMENT

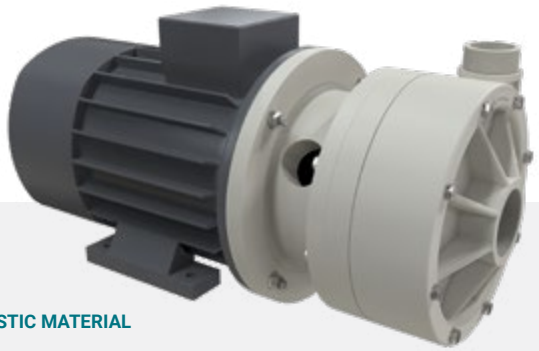
CHEMICAL INDUSTRY

MB 160

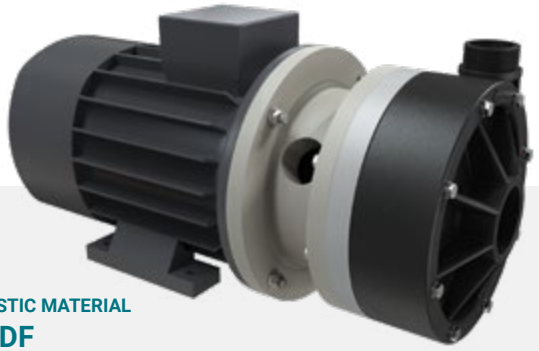
Specifications and types

Suction fittings	2”1/2 f BSPP or DN 65
Delivery fittings	2” m BSPP or DN 50
Max. flow rate	70 m3/h
Max. head	32 m
Viscosity up to	500 cps
Standard open impeller	Ø 162 mm H 11 mm -10 ° *
Solids passing	Ø max 9 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP



PLASTIC MATERIAL
PVDF

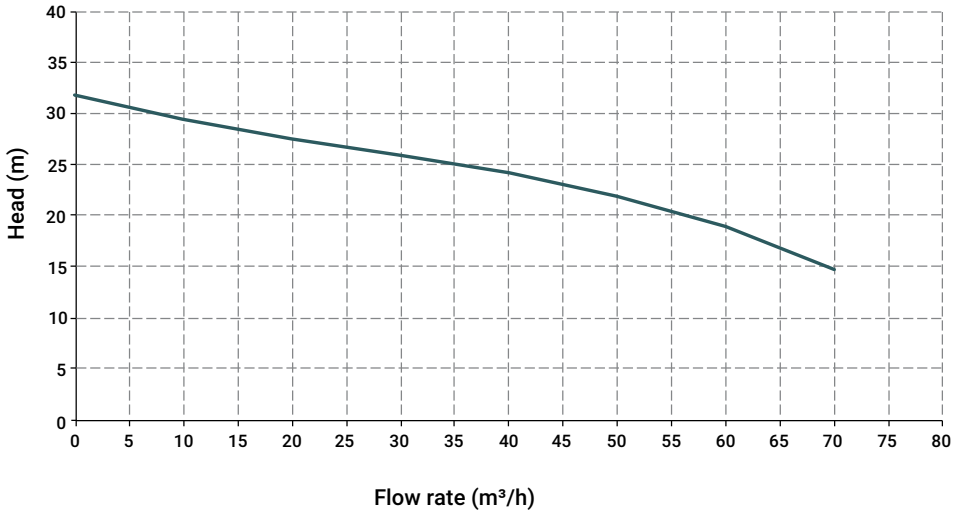
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	9.8 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	12.2 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	7.5
HP	10
Constructive Form	B3 + B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request



MAIN APPLICATION SECTORS

- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY

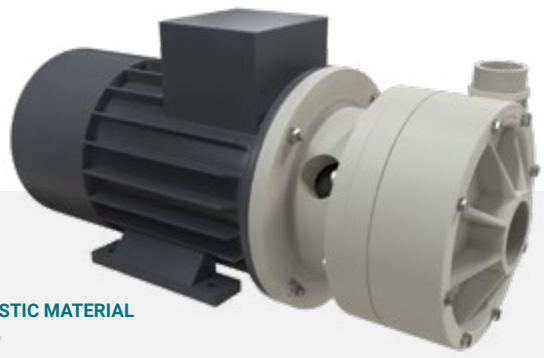
HORIZONTAL CENTRIFUGAL PUMPS

MB 180

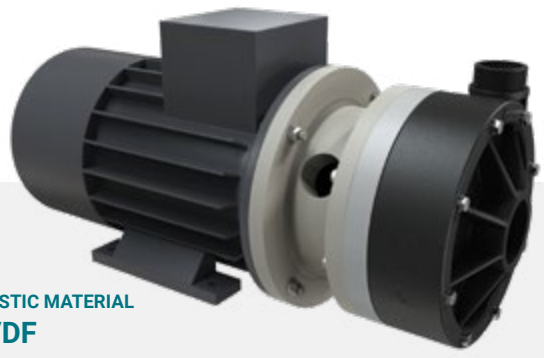
Specifications and types

Suction fittings	2”1/2 f BSPP or DN 65
Delivery fittings	2” m BSPP or DN 50
Max. flow rate	80 m3/h
Max. head	43 m
Viscosity up to	500 cps
Standard open impeller	176 mm H 15 mm -10 ° *
Solids passing	Ø max 9 mm

* Special versions are available on request for the fluid pumped



PLASTIC MATERIAL
PP



PLASTIC MATERIAL
PVDF

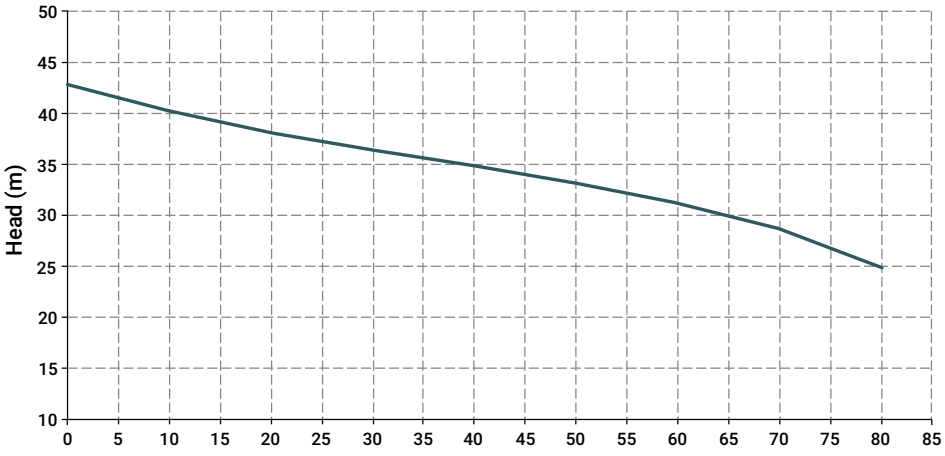
MATERIALS OF CONSTRUCTION PUMP CASING, OPERATING TEMPERATURES** AND NET WEIGHT

POLYPROPYLENE (with glass additive)	9.9 Kg* Temp. 0°C min. +70°C max
PVDF (with carbon additive)	12.2 Kg* Temp. -10°C min. +100°C max

* The weights refer to the pump without the motor
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

STANDARD ELECTRIC MOTOR:

Kw	11
HP	15
Constructive Form	B3 + B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request



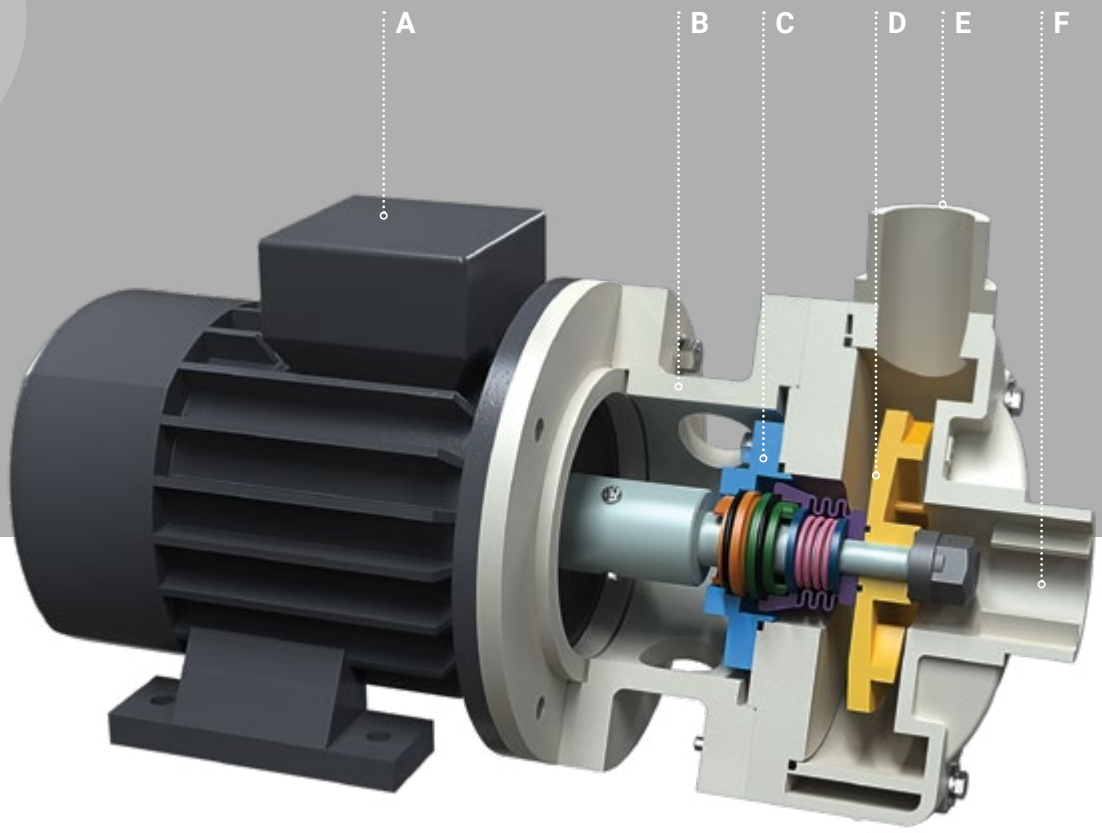
MAIN APPLICATION SECTORS

GALVANIC AND ELECTRONIC INDUSTRY

WATER AND SLUDGE TREATMENT

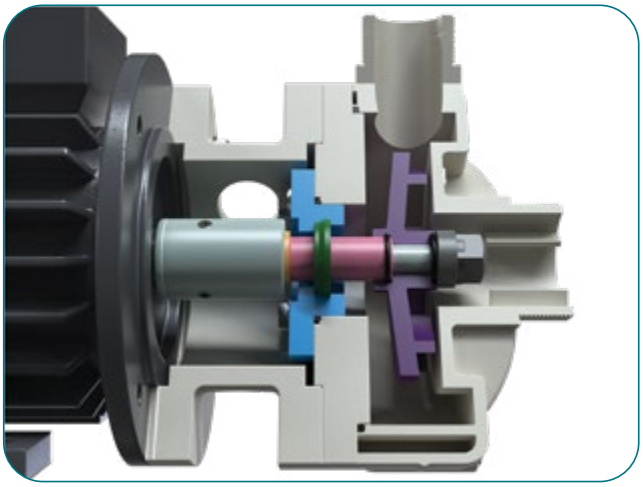
CHEMICAL INDUSTRY

A = electric motor
B = inspection lantern
C = mechanical seal
D = impeller
E = delivery duct
F = suction duct

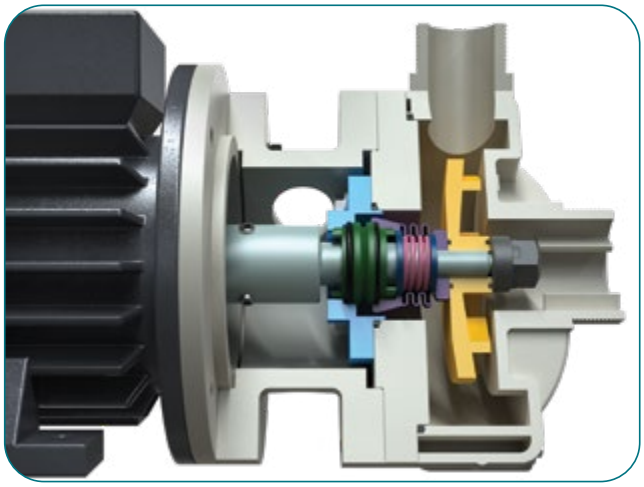


Pump type	Motor power
MB 80	0.37 Kw - 0.5 HP
MB 100	0.55 Kw - 0.75 HP
MB 110	1.1 Kw - 1.5 HP
MB 120	1.5 Kw - 2 HP
MB 130	2.2 Kw - 3 HP
MB 140	3 Kw - 4 HP
MB 150	4 Kw - 5.5 HP
MB 155	5.5 Kw - 7.5 HP
MB 160	7.5 Kw - 10 HP
MB 180	11 Kw - 15 HP

TL = LIP SEAL



TS = BELLOWS SEAL



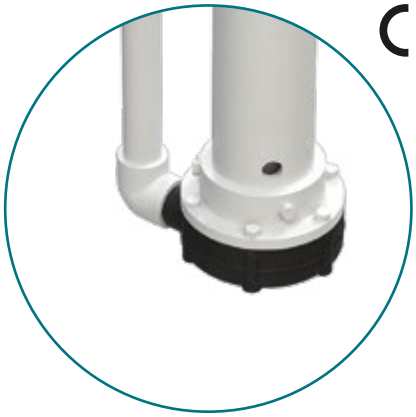
LINE INTRODUCTION

IM

The IM series vertical resin centrifugal pumps are high-efficiency pumps for fixed installations with the pump immersed directly in the tank. The pumps are driven by an electric motor (max 3000 rpm) in direct drive for fast emptying of the fluid with flow rates from 6 to 170 m3/hour and heads over 40 m.

The unique construction shape of this type of pump, as well as not using internal mechanical seals (subject to considerable wear), guarantees the collection in the tank of any accidental spillages of fluid. The open impeller design allows them to pump (in continuous flow) even very dirty fluids with an apparent viscosity up to 500 cps (at 20°C) and small-sized suspended solids. The vast range of construction materials available for the pump allows us to select the best chemical compatibility with the fluid and/or the environment, without neglecting the correct temperature range.

They are driven by the impeller that, integrated with the shaft and the electric motor (direct drive), is rotated at a set speed creating, due to centrifugal effect, a suction on the central duct and a delivery on the peripheral duct.



- Product designed and constructed in Italy
- Constructed in polypropylene or PVDF
- Normalised electric motor
- Support lantern and connection between pump and motor with a flexible coupling
- Can also be used with fluids with suspended solids
- Suitable for continuous use

IM PUMPS CODES ENCODING

ex.IM140P-V-0800-N
IM140 PP, O-Ring Viton®, column height 800 mm, three-phase motor

IM140	P	V	0800	N
PUMP MODEL	PUMP MATERIAL	O-RING	COLUMN HEIGHT	MOTOR
IM 080 - IM 80 IM 090 - IM 90 IM 095 - IM 95 IM 110 - IM 110 IM 120 - IM 120 IM 130 - IM 130 IM 140 - IM 140 IM 150 - IM 150 IM 155 - IM 155 IM 160 - IM 160 IM 180 - IM 180 IM 200 - IM 200	P - Polypropylene FC - PVDF+CF	D - EPDM V - Viton®	0250 - 250 mm 0500 - 500 mm 0800 - 800 mm 1000 - 1000 mm 1250 - 1250 mm	**N* - Three-phase** **M - Single-phase** **A - ATEX** **S - Without Motor**

* Three-phase asynchronous eurotension motor fitted as standard (2 poles) 50Hz

IM 80

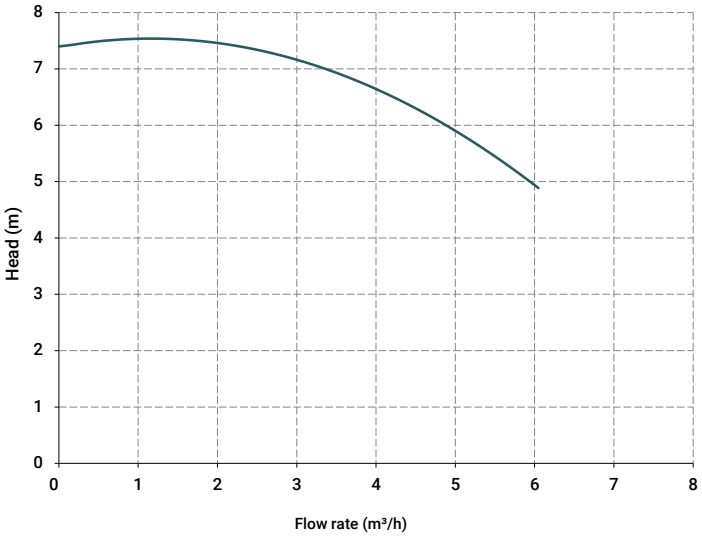
Specifications and types

Suction fittings	1”1/2 f BSPP or DN 40
Delivery fittings	G 1” BSPP m o DN 25
Max. flow rate	6 m3/h
Max. head	7.5 m
Viscosity up to	500 cps
Standard open impeller	Ø 85 mm H 9 mm*
Solids passing	Ø max 7 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	0.37
HP	0.5
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE2
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
250 mm	6.5 Kg	7 Kg
500 mm	7.5 Kg	8 Kg
800 mm	10.5 Kg	11 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 250 mm to max. 1000 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 90

Specifications and types

Suction fittings	1"1/2 f BSPP or DN 40 on request
Delivery fittings	1" m BSPP or DN 25 on request
Max. flow rate	9 m3/h
Max. head	10.5 m
Viscosity up to	500 cps
Standard open impeller	Ø 97 mm H 12 mm *
Solids passing	Ø max 10 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw	0.55
HP	0.75
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE2
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
250 mm	6.5 Kg	7 Kg
500 mm	7.5 Kg	8 Kg
800 mm	10.5 Kg	11 Kg

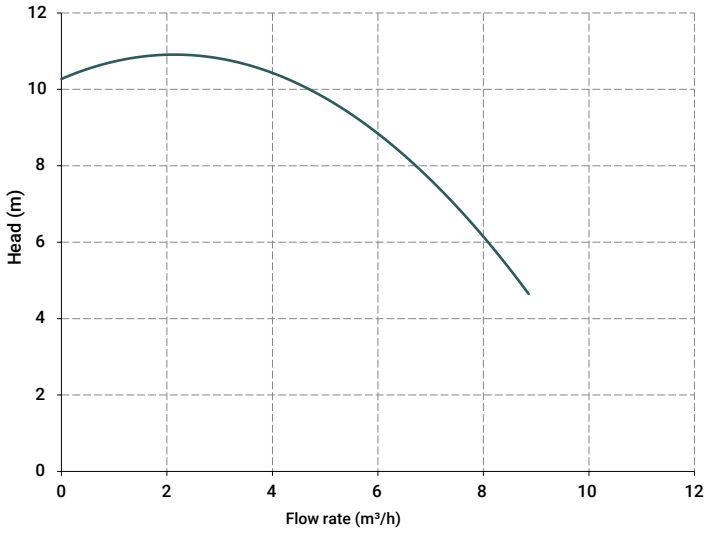
* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 250 mm to max. 1000 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85



MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

GOLD PROCESSING INDUSTRY

IM 95

Specifications and types

Suction fittings	2" m BSPP or DN 50 on request
Delivery fittings	1"1/2 m BSPP or DN 40 on request
Max. flow rate	15 m3/h
Max. head	12 m
Viscosity up to	500 cps
Standard open impeller	Ø 100 mm H 7 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw	0.75
HP	1
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	15 Kg	16 Kg
800 mm	19 Kg	20 Kg
1000 mm	22 Kg	23 Kg
1250 mm	24 Kg	25 Kg

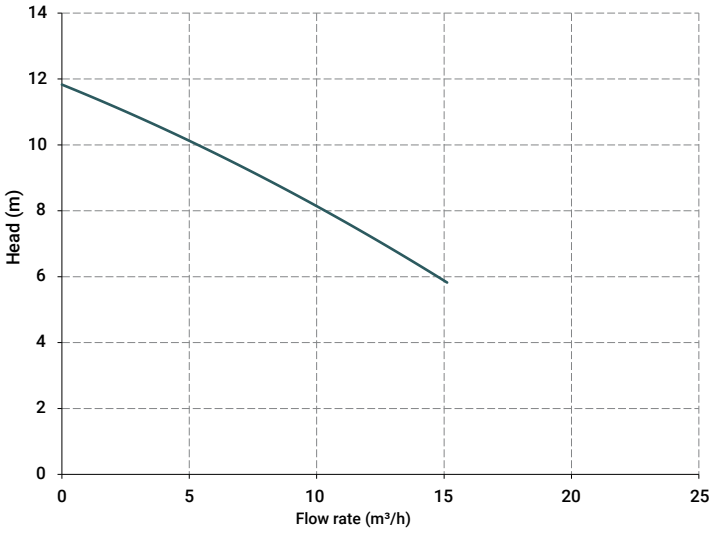
* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 350 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85



MAIN APPLICATION SECTORS

- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GOLD PROCESSING INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 110

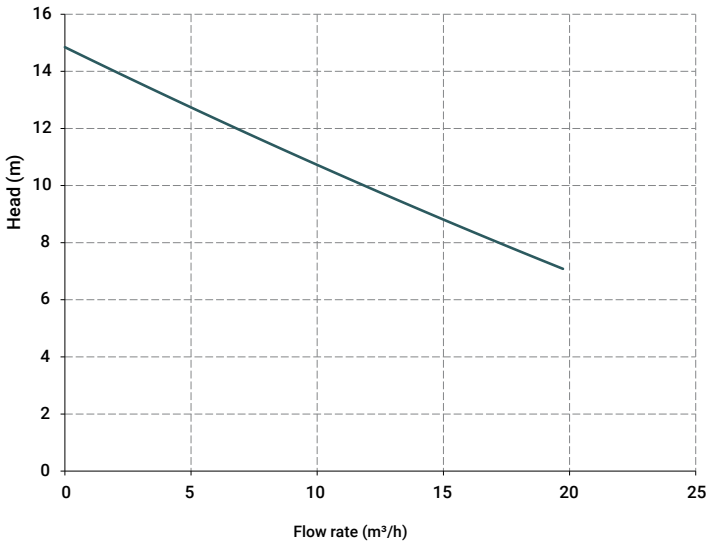
Specifications and types

Suction fittings	2" m BSPP or DN 50 on request
Delivery fittings	1"1/2 m BSPP or DN 40 on request
Max. flow rate	20 m3/h
Max. head	15 m
Viscosity up to	500 cps
Standard open impeller	Ø 120 mm H 8 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	1.1
HP	1.5
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	15 Kg	16 Kg
800 mm	19 Kg	20 Kg
1000 mm	22 Kg	23 Kg
1250 mm	24 Kg	25 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 350 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

GOLD PROCESSING INDUSTRY

IM 120

Specifications and types

Suction fittings	2" m BSPP or DN 50 on request
Delivery fittings	1"1/2 m BSPP or DN 40 on request
Max. flow rate	25 m3/h
Max. head	15.5 m
Viscosity up to	500 cps
Standard open impeller	Ø 125 mm H 8 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw	1.5
HP	2
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	15 Kg	16 Kg
800 mm	19 Kg	20 Kg
1000 mm	22 Kg	23 Kg
1250 mm	24 Kg	25 Kg

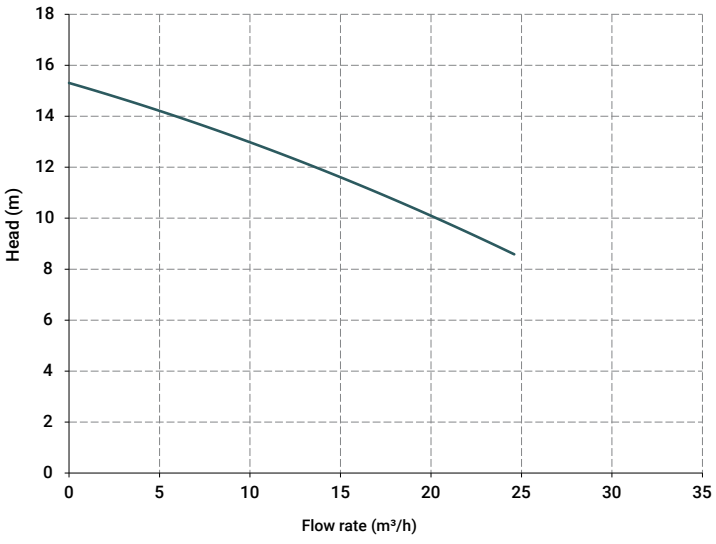
* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 350 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85



MAIN APPLICATION SECTORS

- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- GOLD PROCESSING INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 130

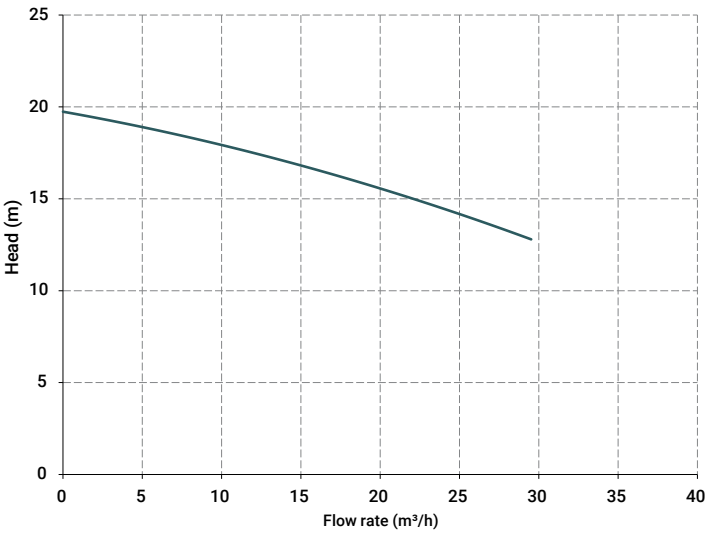
Specifications and types

Suction fittings	2" m BSPP or DN 50 on request
Delivery fittings	G 1"1/2 m BSPP or DN 40 on request
Max. flow rate	30 m3/h
Max. head	20 m
Viscosity up to	500 cps
Standard open impeller	Ø 130 mm H 8 mm *
Solids passing	Ø max 6 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	2.2
HP	3
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	15 Kg	16 Kg
800 mm	19 Kg	20 Kg
1000 mm	22 Kg	23 Kg
1250 mm	24 Kg	25 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 350 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

GOLD PROCESSING INDUSTRY

IM 140

Specifications and types

Suction fittings	2" m BSPP or DN 50 on request
Delivery fittings	1"1/2 m BSPP or DN 40 on request
Max. flow rate	40 m3/h
Max. head	21 m
Viscosity up to	500 cps
Standard open impeller	Ø 130 mm H 14 mm *
Solids passing	Ø max 12 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF

STANDARD ELECTRIC MOTOR:

Kw	3
HP	4
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
Single-phase (up to 3 kw)	on request
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	15 Kg	16 Kg
800 mm	19 Kg	20 Kg
1000 mm	22 Kg	23 Kg
1250 mm	24 Kg	25 Kg

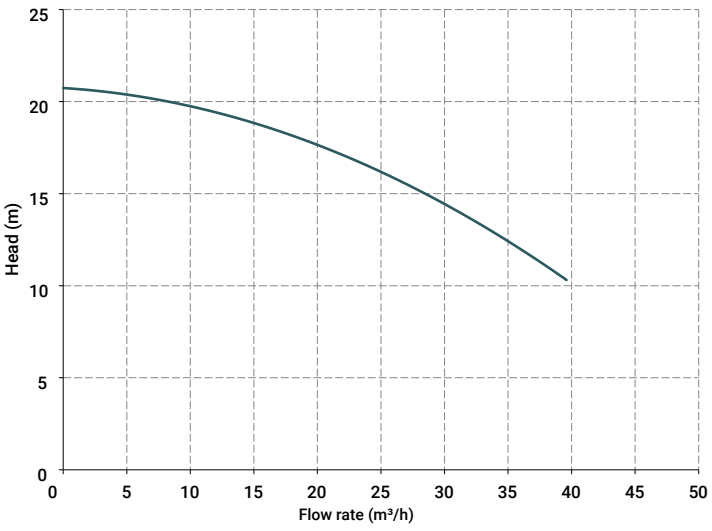
* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 350 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85



MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 150

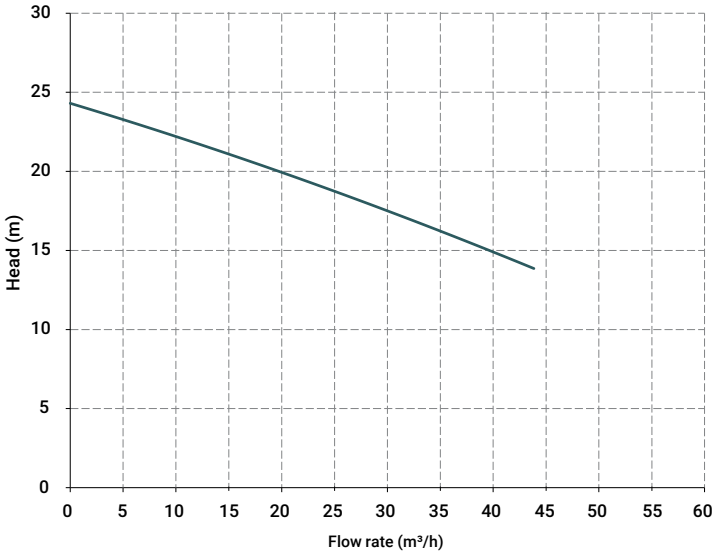
Specifications and types

Suction fittings	2"1/2 f BSPP or DN 65 on request
Delivery fittings	2" m BSPP or DN 50 on request
Max. flow rate	42 m3/h
Max. head	24 m
Viscosity up to	500 cps
Standard open impeller	Ø 160 mm H 4 mm -10° *
Solids passing	Ø max 2 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	4
HP	5.5
Constructive form	B5
RPM	2900
Three-phase 230/400 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	28 Kg	30 Kg
800 mm	31 Kg	33 Kg
1000 mm	33 Kg	35 Kg
1250 mm	36 Kg	38 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 400 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

IM 155

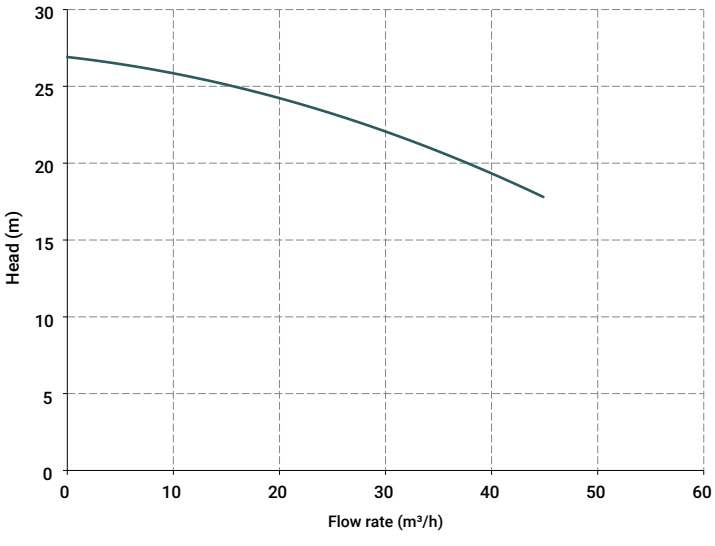
Specifications and types

Suction fittings	2"1/2 f BSPP or DN 65 on request
Delivery fittings	2" m BSPP or DN 50 on request
Max. flow rate	42 m3/h
Max. head	27 m
Viscosity up to	500 cps
Standard open impeller	Ø 162 mm H 4 mm -10° *
Solids passing	Ø max 2 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	5.5
HP	7.5
Constructive form	B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	28 Kg	30 Kg
800 mm	31 Kg	33 Kg
1000 mm	33 Kg	35 Kg
1250 mm	36 Kg	38 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 400 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 160

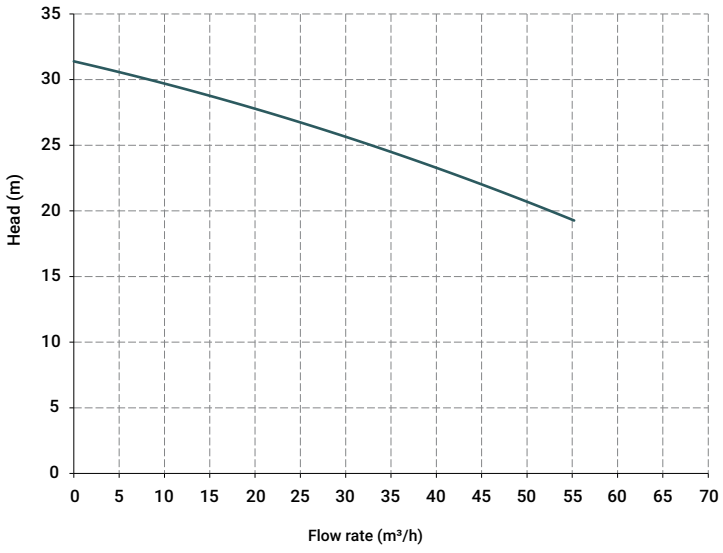
Specifications and types

Suction fittings	2"1/2 f BSPP or DN 65 on request
Delivery fittings	2" m BSPP or DN 50 on request
Max. flow rate	55 m3/h
Max. head	32 m
Viscosity up to	500 cps
Standard open impeller	Ø 162 mm H 11 mm -10° *
Solids passing	Ø max 9 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	7.5
HP	10
Constructive form	B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	31 Kg	33 Kg
800 mm	34 Kg	36 Kg
1000 mm	36 Kg	38 Kg
1250 mm	39 Kg	41 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 400 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

GALVANIC
AND ELECTRONIC INDUSTRY

WATER
AND SLUDGE TREATMENT

CHEMICAL INDUSTRY

MECHANICAL AND
METALLURGIC INDUSTRY

IM 180

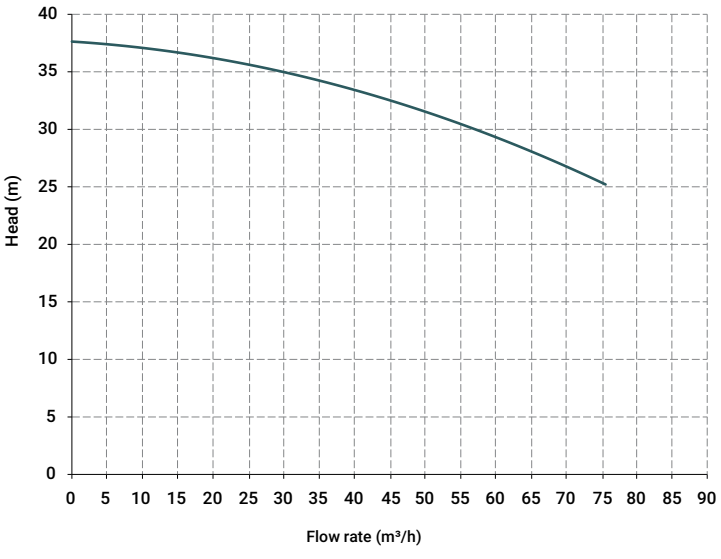
Specifications and types

Suction fittings	2"1/2 f BSPP or DN 65 on request
Delivery fittings	2" m BSPP or DN 50 on request
Max. flow rate	75 m3/h
Max. head	38 m
Viscosity up to	500 cps
Standard open impeller	Ø 176 mm H 13 mm -10° *
Solids passing	Ø max 11 mm

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

PLASTIC MATERIAL
PVDF



STANDARD ELECTRIC MOTOR:

Kw	11
HP	15
Constructive form	B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	-
ATEX	on request

STD COLUMN LENGTH	PP WEIGHT*	PVDF WEIGHT*
500 mm	31 Kg	33 Kg
800 mm	34 Kg	36 Kg
1000 mm	36 Kg	38 Kg
1250 mm	39 Kg	41 Kg

* The weights refer to the pump without the motor
NB: Special executions only on request with column length from min. 400 mm to max. 1400 mm

OPERATING TEMPERATURES**:

PP (with glass additive)	0°C to + 70°C
PVDF (with carbon additive)	-10°C to + 100°C

**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

MAIN APPLICATION SECTORS

- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- MECHANICAL AND METALLURGIC INDUSTRY

VERTICAL CENTRIFUGAL PUMPS

IM 200

Specifications and types

Suction fittings	DN 102 (threadable on request)
Delivery fittings	3" m BSPP or DN 80 on request
Max. flow rate	170 m3/h
Max. head	46 m
Viscosity up to	500 cps
Standard open impeller	Ø 200 mm H 18.4 mm *
Solids passing	Ø max 15 mm
Available column length (mm)	600 / 800 / 1000

* Special versions are available on request for the fluid pumped

PLASTIC MATERIAL
PP

STANDARD ELECTRIC MOTOR:

Kw	15-18.5
HP	20.8-25
Constructive form	B5
RPM	2900
Three-phase 400/690 V	-
50/60 Hz	-
2 poles	-
Efficiency class	IE3
Protection	IP55
Ambient temperature	-30°C + 45°C
Aluminium/Cast iron	on request
ATEX	on request

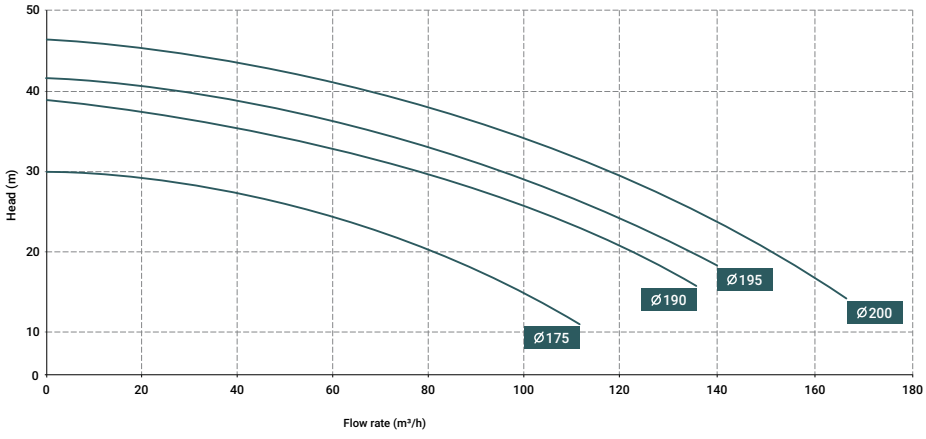
STD COLUMN LENGTH	PP WEIGHT*
600 mm	62 kg
800 mm	65 kg
1000 mm	67 kg

OPERATING TEMPERATURES**:

PP (with glass additive) 0°C to + 70°C

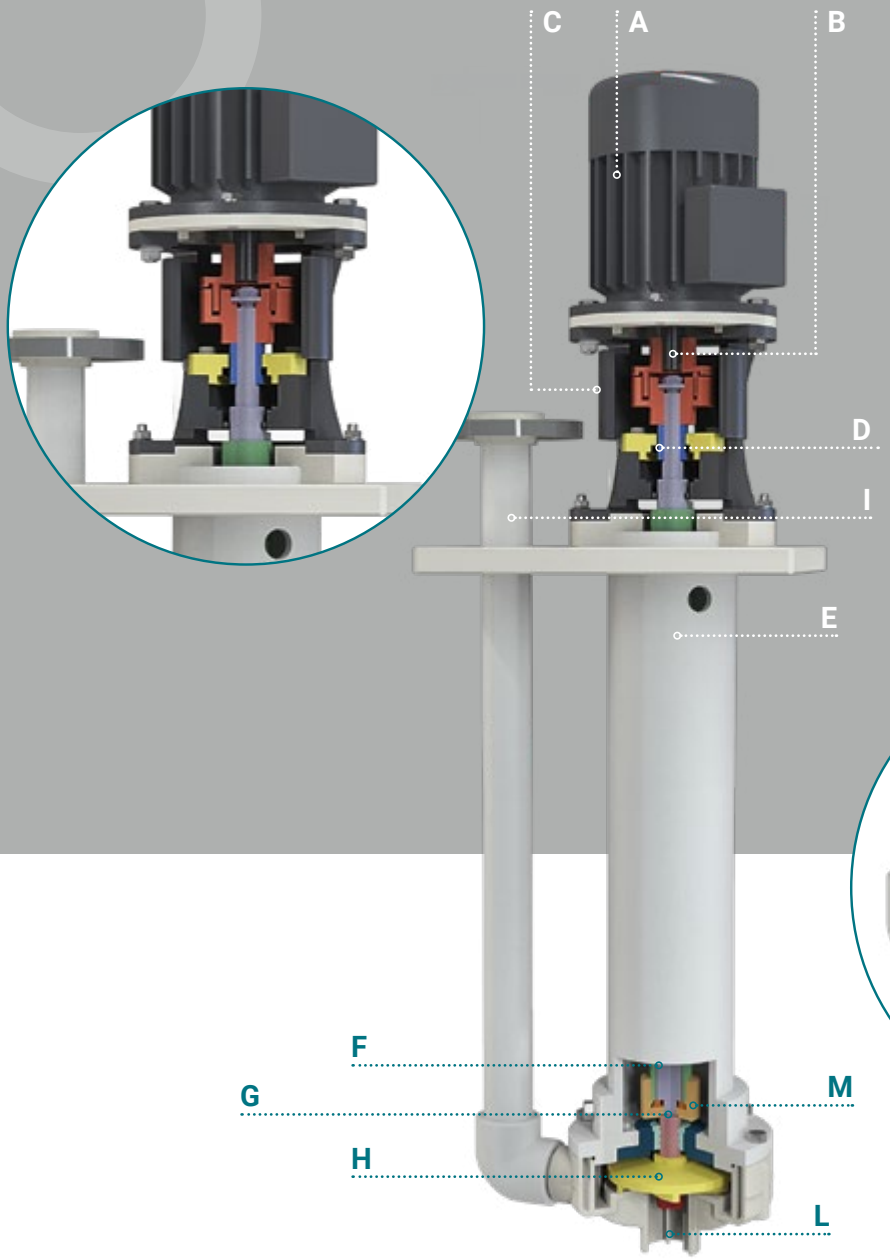
**Measurements should be taken with agitated water; temperatures may vary depending on the conditions of the system and/or the processed liquid

LENGTH	Tmax (PP)	Tmax (PVDF)
500 mm	70	100
800 mm	65	95
1000 mm	60	90
1250 mm	55	85

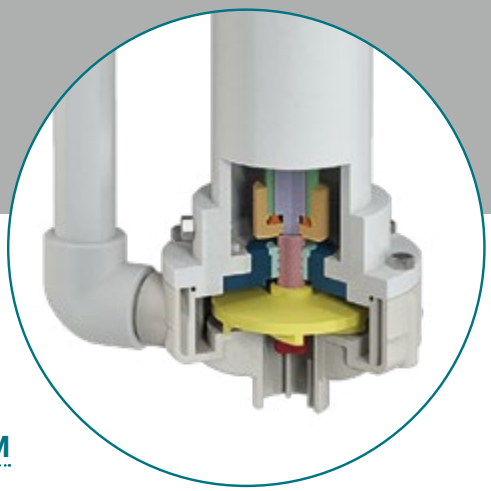


MAIN APPLICATION SECTORS

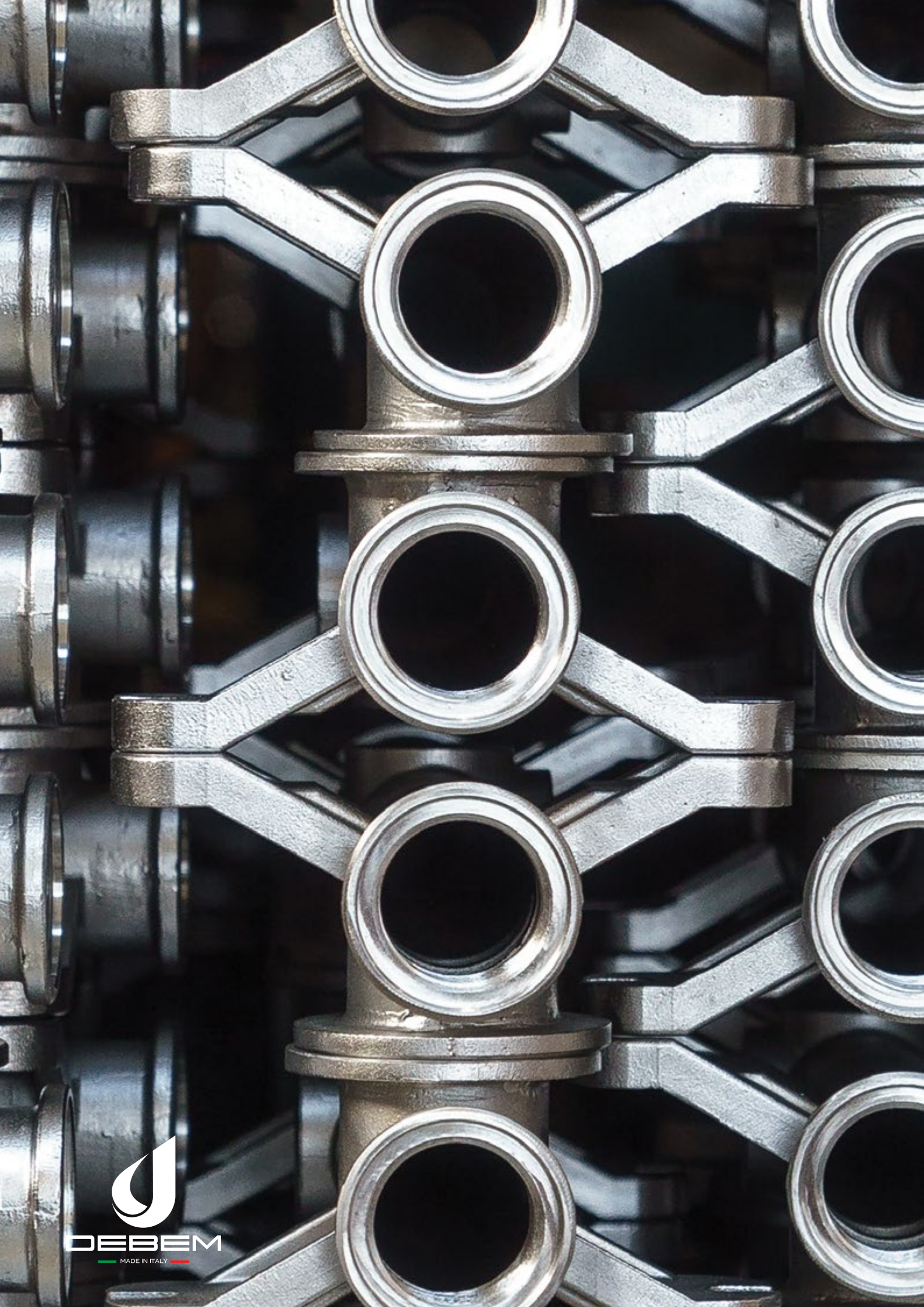
- GALVANIC AND ELECTRONIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY



A = electric motor
B = drive coupling
C = lantern
D = radial bearing
E = outer column
F = shaft cover
G = ceramic bushing
H = impeller
I = delivery pipe
F = suction duct
M = wear bushing



Pump type	Motor power
IM 80	0.37 Kw - 0.5 HP
IM 90	0.55 Kw - 0.75 HP
IM 95	0.75 Kw - 1 HP
IM 110	1.1 Kw - 1.5 HP
IM 120	1.5 Kw - 2 HP
IM 130	2.2 Kw - 3 HP
IM 140	3 Kw - 4 HP
IM 150	4 Kw - 5.5 HP
IM 155	5.5 Kw - 7.5 HP
IM 160	7.5 Kw - 10 HP
IM 180	11 Kw - 15 HP
IM 200	18.5 Kw - 25 HP


DEBEM
MADE IN ITALY

LINE INTRODUCTION

TR

The drum transfer pumps consist of a dip tube, at the end of which the open impeller is fitted. It is secured to the drive shaft, connected to the pump with a ring nut. The operation consists of an impeller integrated with the shaft, connected to the electric or pneumatic motor with a coupling joint.

The transfer pumps must be used exclusively vertically and with the pump immersed in the fluid. Dry-running or the presence of air bubbles could damage the shaft guide internal bushing. **These portable drum transfer pumps are ideally suited for pumping corrosive fluids and work by being immersed in the liquid**. Their construction shape has been designed to collect any product spillages in the drum.

- Product designed and constructed in Italy
- Portable
- Suitable for corrosive fluids
- Possibility of adjusting the flow rate (in the version with pneumatic motor)
- No mechanical seals
- Easy disassembly
- Viscosity up to 900 cps
- Max flow rate 90 l/minute

TR PUMPS CODES ENCODING

ex. TRPH1200
TR PP, Hastelloy shaft, dip tube length 1200 mm

TR	P	H	1200
PUMP MODEL	PUMP MATERIAL	SHAFT MATERIAL	TUBE LENGTH
TR - Drum transfer	P - Polypropylene F - PVDF A - AISI 316	H - Hastelloy A - AISI 316	0900 - 900 mm 1200 - 1200 mm

TRP - Polypropylene Casing

Dip tube	Ø 42 mm
Hose holder	Ø 25 mm
Max Operating temp	65° C
Total weight in Kg*	1.4 for length of 900 mm / 1.7 for length of 1200 mm
Mat. Dip tube	Polypropylene
Mat. Shaft	HASTELLOY or AISI 316
Mat. Impeller	ECTFE
Mat. Suction outlet	Polypropylene
Mat. Seal gasket in contact with the fluid - MIM	Viton®
Length mm	900 or 1200
Max Operating temp	3°C to 65°C

*The weight refers to the pump without the motor.

TRF - PVDF casing

Dip tube	40 mm
Hose holder	Ø 25 mm
Max Operating temp	95° C
Total weight in Kg*	1.6 for length of 900 mm / 1.9 for length of 1200 mm
Mat. Dip tube	PVDF
Mat. Shaft	HASTELLOY
Mat. Impeller	ECTFE
Mat. Suction outlet	ECTFE
Mat. Seal gasket in contact with the fluid - MIM	Viton®
Length mm	900 or 1200
Max Operating temp	3°C to 95°C

*The weight refers to the pump without the motor.

TRA - AISI 316 casing

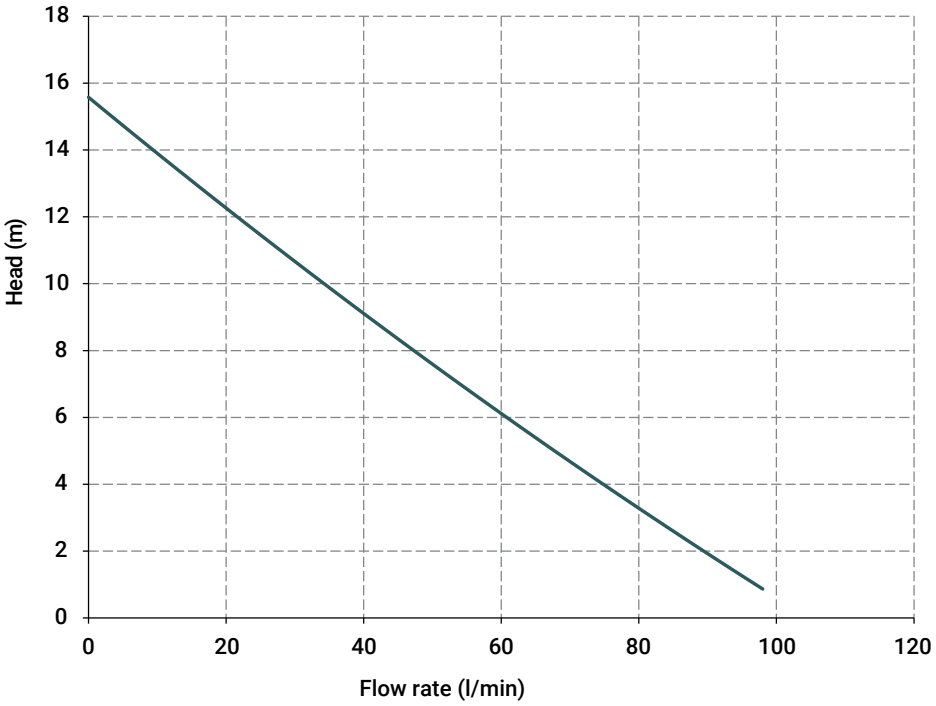
Dip tube	Ø 42.5 mm
Hose holder	Ø 25 mm
Max Operating temp	95° C
Total weight in Kg*	4.3 for length of 900 mm / 5.3 for length of 1200 mm
Mat. Dip tube	AISI 316
Mat. Shaft	AISI 316
Mat. Impeller	ECTFE
Mat. Suction outlet	ECTFE
Mat. Seal gasket in contact with the fluid - MIM	Viton®
Length mm	900 or 1200
Max Operating temp	3°C to 95°C

*The weight refers to the pump without the motor.

TR

TR-EL SERIES - Electric motor

Drum transfer pumps with electric motor at 800 Watt equipped with open impeller that allows the continuous pumping of clean corrosive fluids with apparent viscosity up to 900 cps.



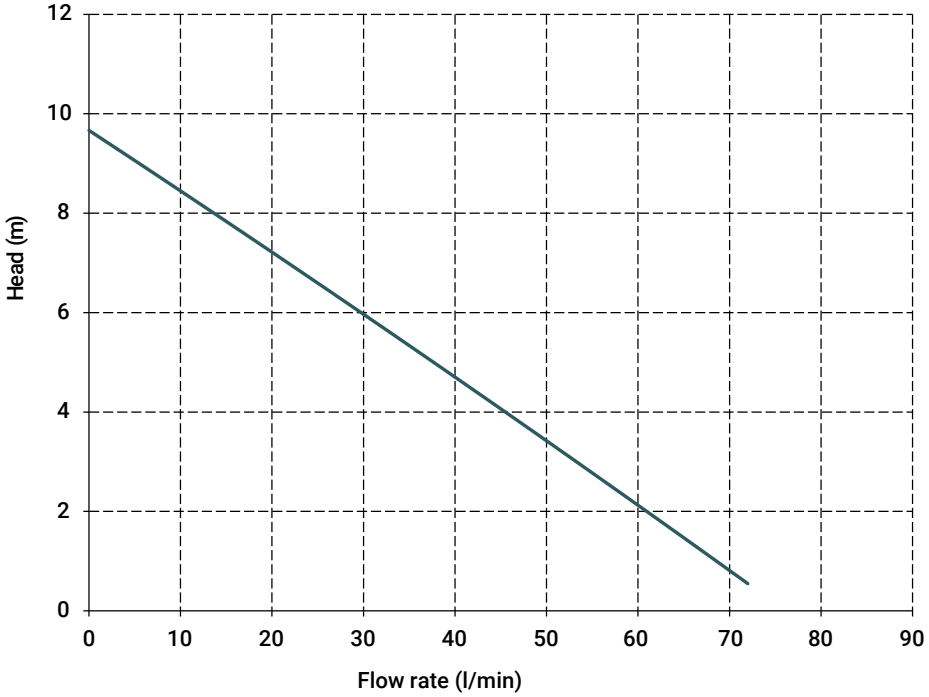
TECHNICAL SPECIFICATIONS ELECTRIC MOTORS

Power	800 Watt
Voltage	230 V single-phase (50/60 HZ)
RPM	10500
Class	F
Flow rate	90 l/min
Viscosity	900 cps
Density	1.6 g/cm3
Weight in Kg	3.8
ATEX motor	on request

(NB: The electrical cable is supplied without plug)
Contact the sales office for information on the ATEX motor

TR-PM SERIES - Pneumatic motor

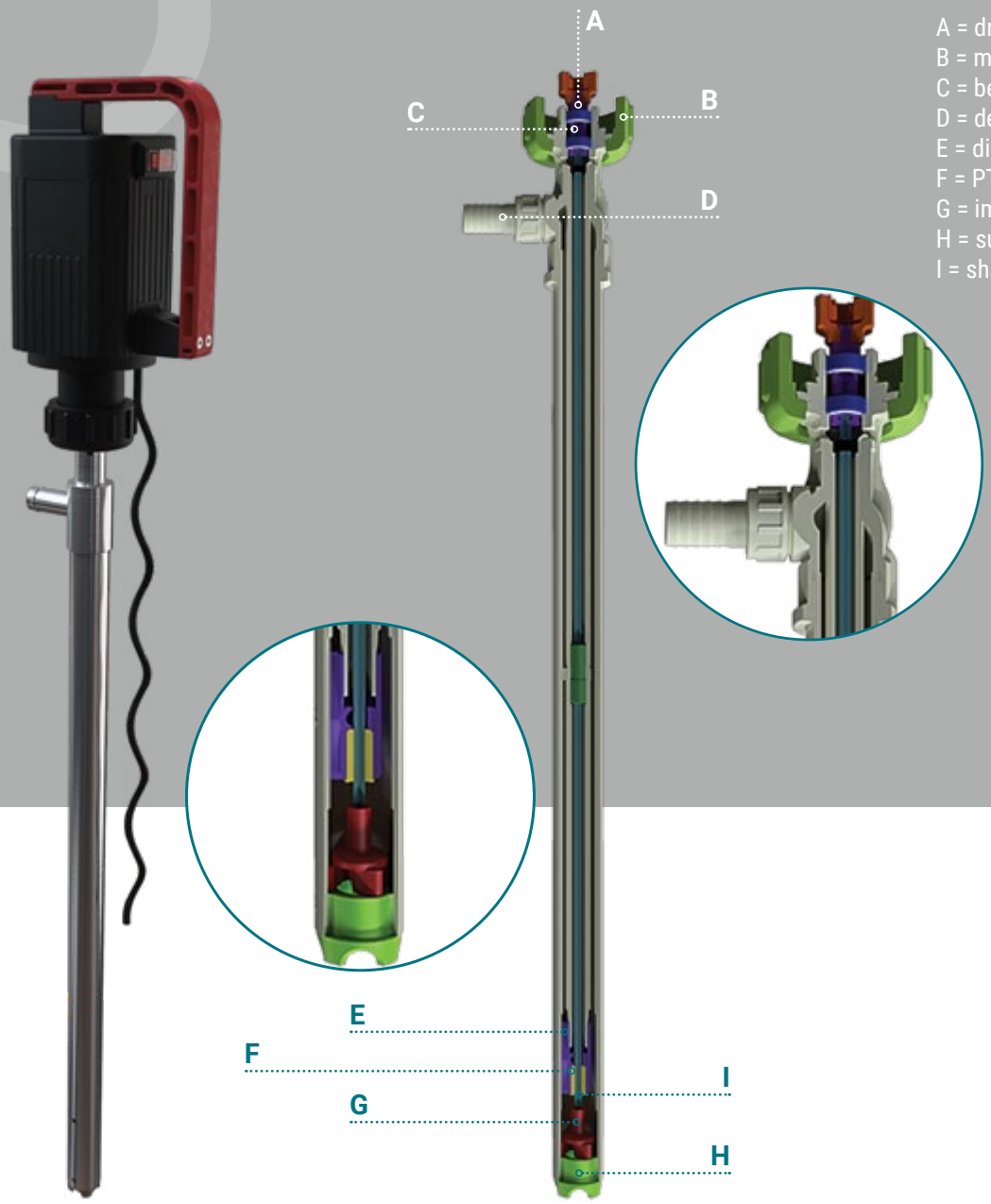
Drum transfer pumps with pneumatic motor equipped with open impeller that allows the continuous pumping of clean corrosive fluids with apparent viscosity up to 600 cps. The pump allows the flow rate adjustment.



TECHNICAL SPECIFICATIONS PNEUMATIC MOTORS

Pneumatic motor	Standard
Power	0.42 HP (300 Watt)
Flow rate	70 l/min
Viscosity	600 cps
Density	1.2 g/cm3
Weight in Kg	1.1
ATEX motor	on request

Contact the sales office for information on the ATEX motor



A = drive coupling
B = motor fastening ring nut
C = bearing
D = delivery duct
E = dip tube
F = PTFE bushing + Graphite
G = impeller
H = suction outlet
I = shaft

	MAIN APPLICATION SECTORS			
	AUTOMOTIVE	CHEMICAL INDUSTRY	OIL & GAS	GALVANIC AND ELECTRONIC INDUSTRY
TRA - ELECTRIC MOTOR	●	●	●	
TRA - PNEUMATIC MOTOR	●	●	●	
TRF - ELECTRIC MOTOR	●	●	●	●
TRF - PNEUMATIC MOTOR	●	●	●	●
TRP - ELECTRIC MOTOR	●	●	●	●
TRP - PNEUMATIC MOTOR	●	●	●	●

Accessories

Debem offers a wide range of accessories for all the types of pumps in its catalogue. Accessories from other manufacturers or designed and built directly by the company, which are the result of our technical experience and specific research in pump applications.

Foot valve

BOXER FAMILY

Check valves are designed to be installed vertically at the end of the suction pipes of centrifugal and pneumatic pumps. They function as check valves that prevent the suction hose from emptying so that the pumps remain always primed. Sizes available: 1", 1" ¼, 1" ½, 2", 3". Construction material: PP and PVDF.

Truck for Boxer pumps

BOXER FAMILY

Equipment used to move the pump. The pump is blocked with the fixing holes.

Cycle counter

BOXER FAMILY

Device that is installed on the pneumatic circuit of diaphragm pumps. It measures the number of strokes performed by the diaphragms and therefore the number of cycles. This device therefore allows different types of control to be activated, such as the number of litres of liquid delivered by the pump depending on its displacement, and the control of the remote operation of the pump itself. *Attention: the device must be connected to a PLC or an external source for reading and monitoring data. The remote operation of the pump is subject to the use of a solenoid valve, again controlled by a PLC or other equipment.*

Pressure booster

BOXER FAMILY

The Debem pressure booster can be used when the air line does not allow sufficient pressure to be reached to supply the pump properly. By using this accessory, the mains pressure will be doubled (e.g. 3 bar mains pressure will become 6 bar), so that the pump can fulfil the required operating conditions. *Attention: under no circumstances should the use of the pressure booster cause the pump to exceed the operating pressure of 8 bar.*

Reinforcement rings

BOXER FAMILY

Steel rings press-fitted on the manifolds of the PP and PVDF pumps prevent them from breaking or being damaged when connecting the pump to the circuit.

Batch controller

BOXER FAMILY

Mechanical batch controller with 5-digit display and start/stop button. Pneumatically driven it doesn't require any electrical connection. Designed to control Debem's air-operated double diaphragm pumps.

Air regulation kit

BOXER FAMILY

The kit is designed to regulate and/or set the pressure of the compressed air. They consist of: compressed air reduction filter, fixing bracket, reducer, pressure gauge, Elaston hose (5 m), tap and fittings.

Microvalves

BOXER FAMILY

These valves are used to manually regulate the pump air supply flow rate.

Anti-vibration feet kit

BOXER FAMILY

These help to decrease the vibrations produced by the pump during its operation.

Three-way valves

BOXER FAMILY

With electric or pneumatic drive. They are used to remotely switch the pump on or off.

Valves, fittings and pipes

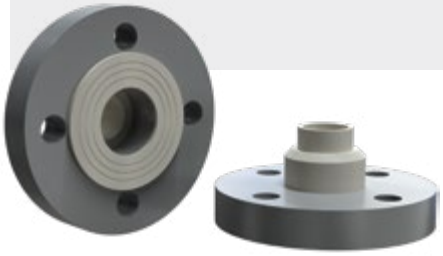
FAMILY BOXER - CUBIC - MB - DM - IM - TR

Valves and fittings in polypropylene, PVC and stainless steel. High-resistance clamps for spiral hoses. Reinforced hoses made with food-grade PVC with metal reinforcement, designed to be installed on the delivery/suction side of pumps with hose holders and locking clamps.
Hose made with polyethylene, a high density material, with a spiral, covered in rubber, to be applied on the delivery/suction side of the pump. Flexible and crushproof the hose is supplied complete with swivel fittings and plate type clamps. High chemical resistance.

Flange kit

FAMILY BOXER - MB - DM - IM

DIN flange connections (ANSI available on request), available in the following materials: Polypropylene, PVDF, Aluminium and AISI 316”.



Quick-release couplings

BOXER FAMILY

Designed for the chemical sector, they provide a high level of resistance and can be used with reinforced hoses. Max operating pressure 13 bar.

IM Filter

IM FAMILY

Filters the suction fluid. For IM series pumps. Construction material polypropylene and PVDF.

Dispensers

TR FAMILY

Built with Polypropylene, aluminium, stainless steel or PVDF. They include a lever used to control the delivery.

Flow meters

TR FAMILY

The flow meters are installed exclusively on drum transfer pumps and are used to measure the pump's instantaneous flow rate, or the total number of litres delivered. They include a display for the reading. They are built in polypropylene or PVDF.

Dip tube filter

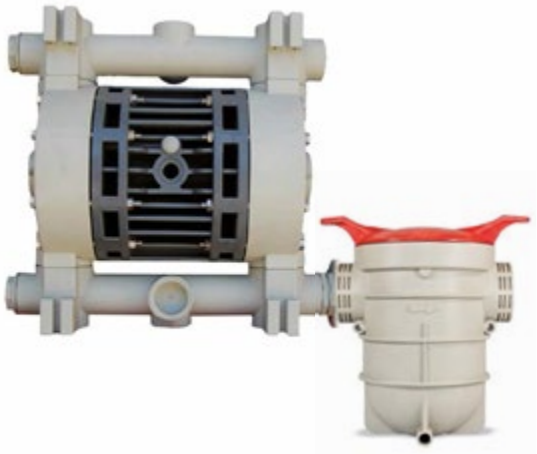
TR FAMILY

Filters the suction fluid. For TR series drum transfer pumps. Construction material polypropylene and stainless steel.

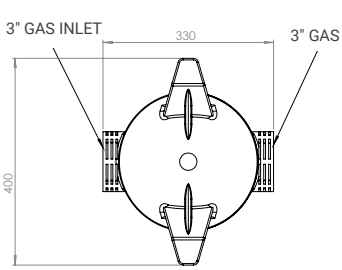
FAMILY BOXER - MB

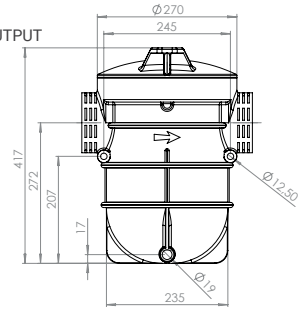
Pump protection basket strainer

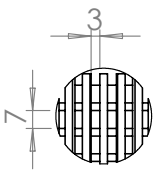
Thanks to the large total passage surface of the basket, these filters are ideally **suited to be installed on the suction fitting of the pumps, to protect them from suspended solids, filaments, algae and foreign bodies,** without causing excessive drops in capacity. It is an ideal accessory for the chemical industry**, water treatment, fish farming, galvanic industry, leather and textile industry, paper industry, graphic industry** and many more. They are made of plastic **(PP or PVDF)**. There are also no metal parts. The basket can be easily inspected and removed; the expected operating pressure is 1 bar. Different types of attachments are available: 1" ½ f, 2" f, 2" ½ f, 3" f.



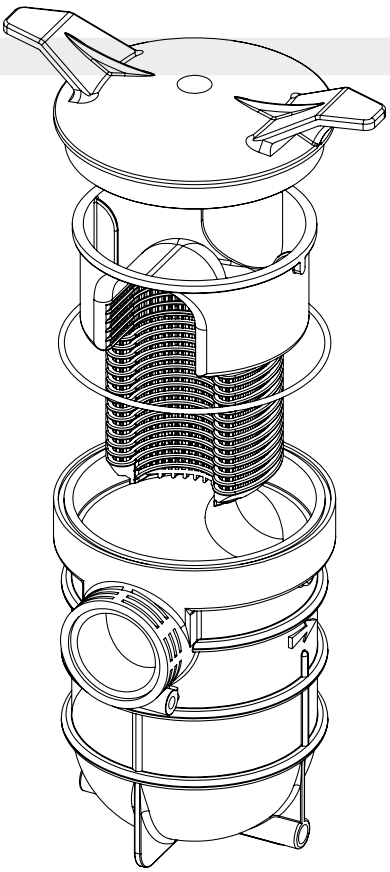
- Product designed and constructed in Italy
- No metal parts
- Basket is easy to inspect and remove
- Built in PP and PVDF
- Operating pressure 1 bar







DEGREE OF FILTRATION
3x7 mm



MAIN APPLICATION SECTORS

- GRAPHIC INDUSTRY
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- PACKING, GLUE, PAPER AND PAPER MILLS
- GALVANIC AND ELECTRONIC INDUSTRY
- TEXTILE AND LEATHER INDUSTRY

MIXERS AND PERISTALTIC PUMPS

Mixers: E/EH/F/FR/H/J/RV

Compact mixers designed for a wide range of applications, they can be used regardless of the shape and size of the basin. Fields of use: **water treatment plants**, biogas **plants**, production of **liquid feedstuffs**, **transport vehicles**, etc.

- Built in PP, PVDF, AISI 316
- Great versatility

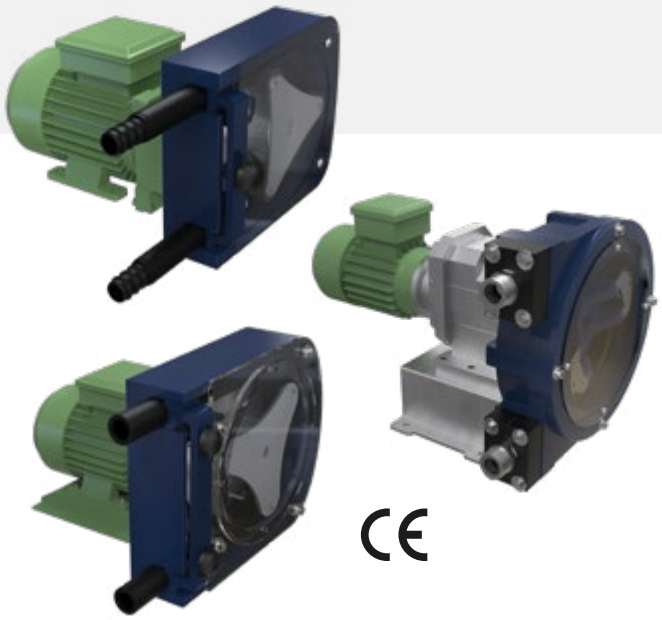
MAIN APPLICATION SECTORS

- OIL & GAS
- WATER AND SLUDGE TREATMENT
- AUTOMOTIVE

MIXERS AND PERISTALTIC PUMPS

Peristaltic pumps

Peristaltic pumps operate with a "**flowing pressure**" exerted on a flexible hose with rollers, rotating parallel to an axis, and supported by a rollers holder. Peristaltic pumps are an ideal solution for many sectors such as **water treatment, the chemical industry, the food industry, cosmetics, mining,** the **ceramic** industry, the construction industry and the **paper industry.**



MAIN APPLICATION SECTORS

- PACKING, GLUE, PAPER AND PAPER MILLS
- WATER AND SLUDGE TREATMENT
- CHEMICAL INDUSTRY
- PHARMACEUTICAL COSMETIC AND TRICHOLOGICAL INDUSTRY
- CERAMIC, STONE, MARBLE, GLASS AND MINING INDUSTRY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Россия +7(495)268-04-70 Казахстан +7(7172)727-132 Киргизия +996(312)96-26-47

эл.почта: dfb@nt-rt.ru || сайт: https://debem.nt-rt.ru/