

PRODUCTION PROGRAM



INDUSTRIAL PUMPS

Made in Italy



www.debem.it

ABOUT US



AN IDEAL

A clear idea in mind: to design **innovative high-tech pumps** with components and **materials capable of withstanding** even the most testing and aggressive conditions. **Easy-to-install, high performance pumps. Reliable, long-lasting operation.**

MORE THAN 30 YEARS AT YOUR SERVICE

Debem has been operating in the liquid transfer sector for more than 30 years.

A pioneering business specialising in industrial pumps for highly corrosive and aggressive applications.

The entire company philosophy hinges on close **cooperation** with the **end user** and **customer feedback**, thus establishing a **highly-effective technological design and development system** for products and services that has gained the approval of an increasing number of leading players in various sectors.

THE QUALITY MANAGEMENT SYSTEM



The **certified Quality Management System** is the basic tool used by Management in establishing the **Corporate Quality Policy**, aimed at **complete Customer satisfaction** and demonstrable ability to provide products/services that meet Customer and applicable regulatory requirements.

The quality management system is certified to **UNI EN ISO 9001** and for DEBEM represents a point of both arrival and departure:

ARRIVAL: because the corporate quality system is an organisational and management tool developed in-house.

DEPARTURE: because designing the quality system has stimulated a phase of analysis that will lead to the establishment of new improvement and growth targets.

WAREHOUSE AND ASSEMBLY

A **management system** that **controls the minimum stock** of every **component** and **preassembled part** of all pumps in the catalogue means that when receiving an order Debem can advise **product availability** in real time with **fast assembly** and certain delivery times.



CUBIC and BOXER



DIAPHRAGM PUMPS

Available in PP, PVDF/ECTFE, ALUMINIUM and AISI 316 STAINLESS STEEL;

Use in potentially-explosive atmospheres (ATEX zone 1-2 certification);

Suitable for demanding applications and high-humidity environments;

Dry operation;

Dry self-priming;

Actuated using non-lubricated air;

Stall-prevention pneumatic circuit;

Adjustable flow rate and head;

Fine tuning of motor speed at constant pressure;

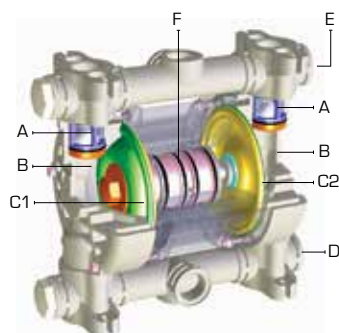
Twin-manifold option (two suction and two delivery);

Bench or ceiling installation;

Three suction and delivery positions;

User-friendly maintenance and parts replacement;

Excellent performance and value for money.



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



Cubic mini diaphragm pumps and Boxer diaphragm pumps are characterized by exceptional performance, power and strength, making them ideal for pumping liquids with high apparent viscosity even if containing suspended solids.

The stall-prevention pneumatic system assures a safe pump running and it does **not need lubricated air**.

Self-priming dry capacity even with considerable suction head, fine tuning of speed without pressure loss and the possibility of dry operation without suffering damage mean that these pumps offer unrivalled versatility. In addition, the huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. They are specifically designed for demanding applications with high humidity or in potentially explosive atmospheres (ATEX certification).

PLASTIC BOXER PUMPS

Ex II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

The plastic BOXER range is designed for the chemical industry's most demanding applications including highly-aggressive liquids and acids.

Materials: **PP - PVDF**
Self-priming capacity: **max 6m**
Max. head: **70m**
Max. flow rate: **30 ÷ 900 l/min**
Viscosity: **up to 50000 cps**



METAL BOXER PUMPS

Ex II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

The metal BOXER range is designed for demanding applications throughout the paint sector and for solvent-based liquids.

Materials: **Aluminium - AISI 316**
Self-priming capacity: **max 6m**
Max. head: **70m**
Max. flow rate: **30 ÷ 900 l/min**
Viscosity: **up to 50000 cps**



CUBIC PUMPS

Ex II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

This compact range with reduced footprint can be used in banks where space is at a premium.

Materials: **PP - ECTFE**
Self-priming capacity: **max 3m**
Max. head: **70m**
Max. flow rate: **5 ÷ 17 l/min**
Viscosity: **up to 5000 cps**



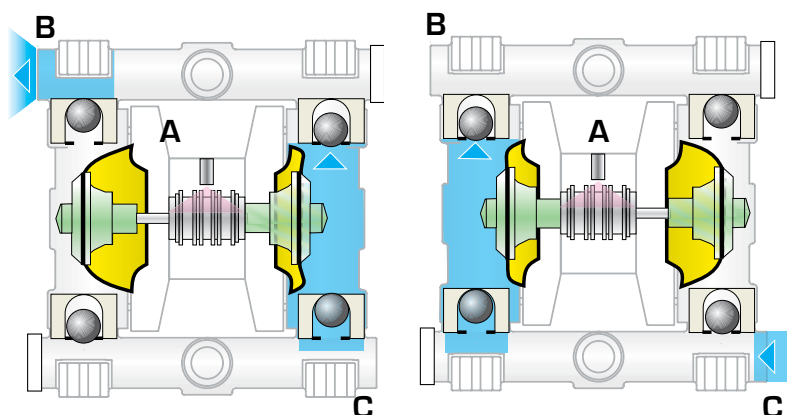
CUBIC and BOXER



DIAPHRAGM PUMPS

HOW IT WORKS

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



For further information regarding operation, please visit our website: www.debem.it/eng/boxer-double-diaphragm-pumps-animazione.htm

INSTALLATION

Diaphragm pumps **should be bolted horizontally** to the feet or holes provided with the exchanger shaft **positioned horizontally**.

Installations:

drum transfer

(max. viscosity 10000 cps at 20° C)

self-priming

(max. viscosity 10000 cps at 20° C)

under head

(max. viscosity 50000 cps at 20° C)

immersed

(max. viscosity 50000 cps at 20° C)

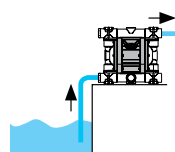
twin suction and delivery manifold

(max. viscosity 50000 cps at 20° C)

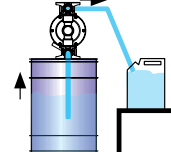
twin delivery manifold

(max. viscosity 50000 cps at 20° C)

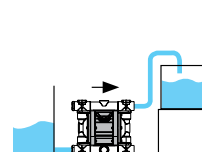
Self-priming



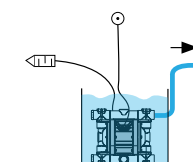
Drum transfer



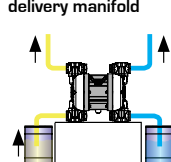
Positive suction head



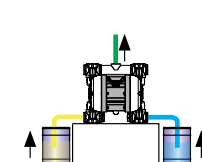
Immersed



Twin suction and delivery manifold



Twin suction manifold



PNEUMATIC EXCHANGERS

The heart of an air-operated diaphragm pump consists of the pneumatic exchanger that DEBEM has succeeded in developing and innovating in a revolutionary manner, patenting the most durable and reliable system the market currently has to offer. This device introduces compressed air to alter the pressure balance of the diaphragms assisted by a stall-prevention circuit that ensures optimum performance even under the most critical conditions.



THE COMPONENTS

It has an extremely compact footprint and the small number of components ensures exceptional sturdiness and service life even under the most exacting conditions.

The air passages are carefully designed and optimised to prevent the formation of ice even in low-temperature and high-head applications.

The DEBEM pneumatic exchanger is an integrated system with a single central cartridge that does not require additional external components.



CUBIC and BOXER



DIAPHRAGM PUMPS

OPERATION

The range of DEBEM diaphragm pumps features a pneumatic exchanger that guarantees faultless operation even with low-pressure compressed air supplies (min 2 bar).

Air-chamber volumes and airways are carefully designed to optimise consumption.

Speed and flow rate can be easily adjusted by regulating air flow, whilst head can be adjusted as a function of compressed air supply pressure.

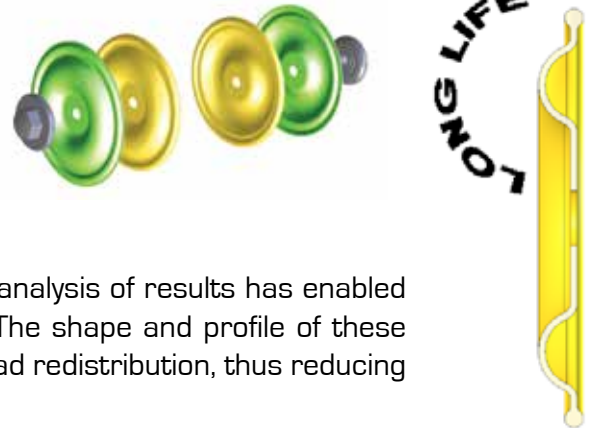


DEBEM DIAPHRAGMS

Diaphragms are the components subjected to greatest stress during suction and pumping, when they must also withstand the liquid's chemical attack and temperature.

Correct assessment and selection is therefore crucial for diaphragm service life, investment decisions and maintenance costs.

A modern process of design, destructive testing and careful analysis of results has enabled DEBEM to develop LONG LIFE new generation diaphragms. The shape and profile of these products provides a greater working surface and improved load redistribution, thus reducing material stress and yield to a minimum.

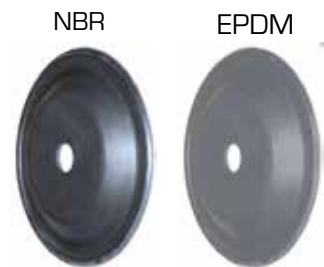


RUBBER DIAPHRAGMS

They are made from rubber compounds with special additives that improve chemical properties as well as mechanical bending and strength characteristics. These diaphragms have a nylon backing cloth that improves stress distribution:

NBR: inexpensive and particularly suited to petroleum- and oil-based liquids;

EPDM: good acid, alkaline and abrasion resistance, as well as good flexibility even at low temperatures.



CUBIC and BOXER



DIAPHRAGM PUMPS

THERMOPLASTIC DIAPHRAGM

They are made from thermoplastic polymers that provide high mechanical stress resistance and distribution.

HYTREL:

good abrasion resistance and suitable for food processing.

HYTREL



SANTOPRENE



SANTOPRENE®:

excellent acid and alkaline resistance, high flexural strength and good abrasion resistance.

PTFE DIAPHRAGM

This material is noted for its excellent resistance to high temperatures, chemicals and corrosive agents. DEBEM PTFE diaphragms are subjected to a double heat treatment in order to increase elasticity and service life. Each batch undergoes random destructive testing in order to verify its performance.

This diaphragm can be fitted together with one of those previously mentioned in order to increase resistance to the liquid's corrosive chemicals and temperature.

PTFE



PUMPS COMPOSITION CODES

BOXER

ex. **B81PDTAPDXC**

Boxer 81 in PP + diaphragm HYTREL + diaphragm PTFE + balls Aisi 316 + ball seats PP + O rings EPDM + twin manifold + conduct

B81	P	H	I	A	P	D	X	C
Pump model	Pump body	Air side diaphragm	Fluid side diaphragm	Balls	Ball seats	O Rings	Twin manifold	Conduct version
Mid - Midgetbox Cu15 - Cubic 15 MICR - Microboxer Min - Miniboxer B50 - Boxer 50 B80 - Boxer 80 B81 - Boxer 81 B100 - Boxer 100 B150 - Boxer 150 B251 - Boxer 251 B502 - Boxer 502 B503 - Boxer 503	P - Polypropylene FC - PVDF+CF E - ECTFE (Halar) AL - Aluminium A - AISI 316	N - NBR D - EPDM H - Hytrel M - Santoprene	T - PTFE	T - PTFE A - AISI 316 D - EPDM G - Glass* * Only Midgetbox	P - Polypropylene F - PVDF A - AISI 316 I - PE-UHMW R - PPS-V E - ECTFE	D - EPDM V - Viton S - Silicone N - NBR T - PTFE	X if requested	(zone 1) II 2/2GD c IIB T135°C C if requested

FOODBOXER

es. **FB100AHTTAT**

Foodboxer 100 in Aisi316 + diaphragms Hytrel + diaphragms PTFE + balls PTFE + ball seats Aisi316 + O rings PTFE

FB100	A	H	I	I	A	I	X	C
Pump model	Pump body	Air side diaphragm	Fluid side diaphragm	Balls	Ball seats	O Rings	Twin manifold	Conduct version
FB30 = Foodboxer 30 FB50 = Foodboxer 50 FB80 = Foodboxer 80 FB100 = Foodboxer 100 FB251 = Foodboxer 251 FB502 = Foodboxer 502 FB503 = Foodboxer 503	A - AISI 316 electropolished	H - Hytrel	T - PTFE	T - PTFE G - Glass	A - AISI 316	T - PTFE	X if requested	(zone 1) II 2/2GD c IIB T135°C C if requested

CUBIC and BOXER





DIAPHRAGM PUMPS

Debem has filed with the TÜV NORD certification body the documentation certifying ATEX compliance pursuant to Directive 94/9/CE for its ranges of **BOXER and CUBIC** pneumatic diaphragm pumps and **EQUAFLUX** automatic pulsation dampeners, as described in the following table.

They are manufactured in a **STANDARD, class II 3/3GD c IIB T135°C** version or - upon request - with special construction materials in a **CONDUCT, class II 2/2GD c IIB T135°C** version.

The equipment user is responsible for classifying its area of use. On the other hand, the manufacturer shall identify and affix the certification class of the manufactured equipment.

PRODUCT SERIES	DESCRIPTION	CERTIFICATION CLASS
STANDARD version - CUBIC - BOXER - EQUAFLUX	Made from non-conductive plastic and/or with non-conductive centre casing or from metal with non-conductive centre casing.	 II 3/3 GD c IIB T135°C (for zone 2)
CONDUCT version - CUBIC - BOXER - EQUAFLUX	Built with pump casings and/or manifolds (PP + carbon fibre, ECTFE/PVDF + carbon fibre), made from conductive plastic and metal materials (aluminium, stainless steel).	 II 2/2 GD c IIB T135°C (for zone 1)



 Safety symbols in accordance with DIN 40012 Annex A

II 2/2 GD: Surface equipment for use in zones in which gases, vapours or mists and clouds of combustible dust in air occur in normal operation occasionally [EN 1127-1 subclause 6.3] in both the external and internal zone.

II 3/3 GD: Surface equipment for use in zones in which gases, vapours or mists and clouds of combustible dust in air are not likely to occur in normal operation or may occur rarely for a short period only in both the external and internal zone.

c: Equipment protected by constructional safety [EN 13463-5].

IIB: Exclusion of the following products: Hydrogen, acetylene, carbon disulphide.

T 135°: Allowed temperature class. The user shall process fluids in accordance with the corresponding temperature classification, bearing in mind the instructions in the manual and the provisions of current legislation. The user shall also consider the ignition temperatures of gases, vapours or mists and clouds of combustible dust in air in the area of use.

CHEMICAL COMPATIBILITY

The type of liquid, temperature and working environment are factors to be considered when deciding on the best choice of construction materials for the pump and its **correct chemical compatibility**.

Some examples are given in the following table:

SUBSTANCE	Polypropylene	PVDF ECTFE (Halair®)	Aluminium	Stainless Steel AISI 316	NBR (Perbunan®)	EPDM (Dutral®)	PTFE (Teflon®)	PPSV (Ryton®)	FPM (Viton®)	Santoprene®	PE-UHMW (Poleszene®)
Acetaldehyde	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 = very good

B = good

C = poor, not recommended

D = severe etching, not recommended

- = information not available

1 = satisfactory up to 22°C (72°F)

2 = satisfactory up to 48°C (120°F)

For further information, please do not hesitate to contact DEBEM's technical service department.

We have obtained this information from reliable sources.

Debem has not performed any form of testing in this regard and therefore accepts no liability for the accuracy of the details provided.

MIDGETBOX



Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



PP

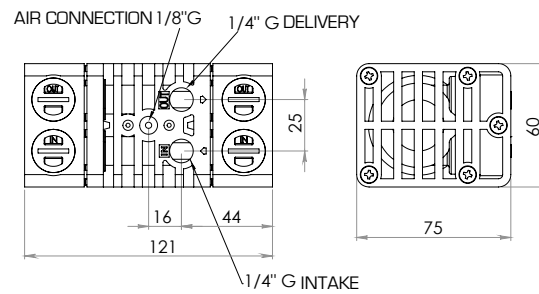
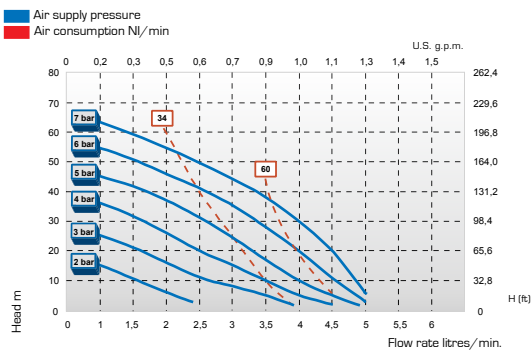
Intake/delivery connections	G 1/4" f
Air connection	G 1/8" f
Max. self-priming capacity	3 m
Max. flow rate*	5 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	0 mm

Construction materials and net weight: PP 0,5 Kg (zone 2) 60°C Max Temp.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

CUBIC 15

Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



ECTFE



PP

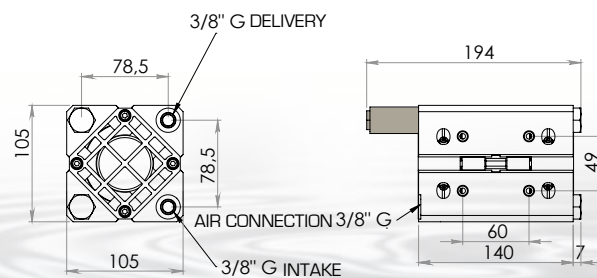
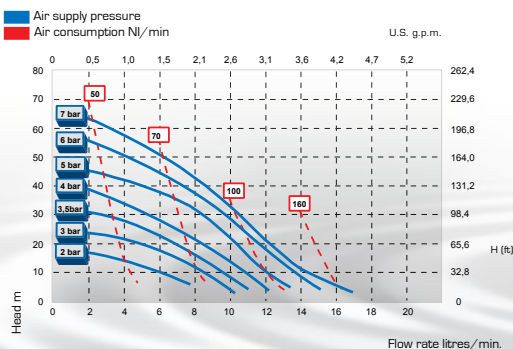
Intake/delivery connections	G 3/8" f
Air connection	G 3/8" f
Max. self-priming capacity	3 m
Max. flow rate*	17 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	0,5 mm

Construction materials and net weight: PP 1 Kg (zone 2) 60°C Max Temp. ECTFE 1,5 Kg (zone 2) 95°C Max Temp.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE

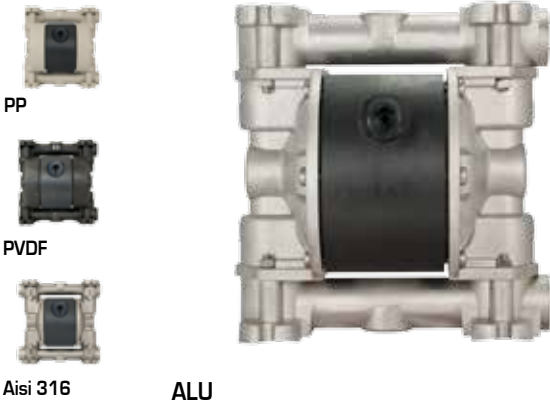


The dimensions shown are in mm

MICROBOXER

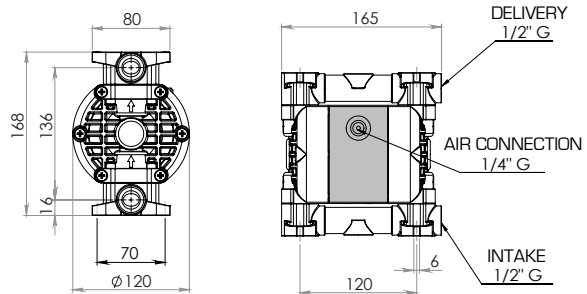
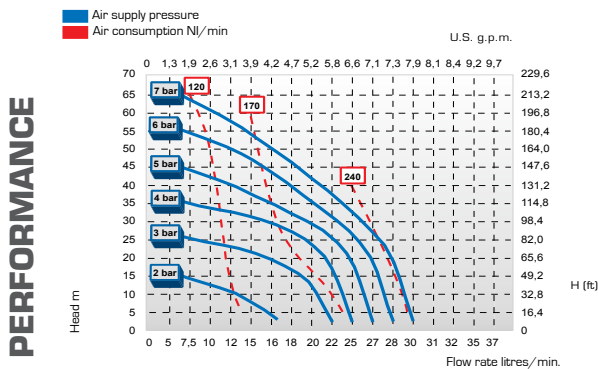


Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Intake/delivery connections	G 1/2" f		
Air connection	G 1/4" f		
Max. self-priming capacity	6 m		
Max. flow rate*	30 l/min		
Max. head*	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	2 mm		
Construction materials and net weight	PP	1,6 Kg	(zone 2) 60°C Max Temp.
	PVDF	1,9 Kg	(zone 2) 95°C Max Temp.
	Alu	2 Kg	(zone 2) 95°C Max Temp.
	Aisi 316	3,8 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA

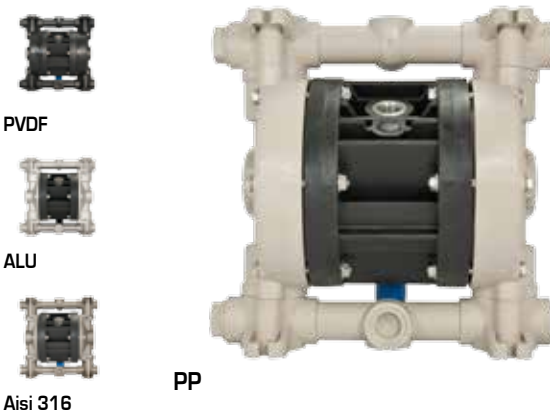


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DIMENSIONS

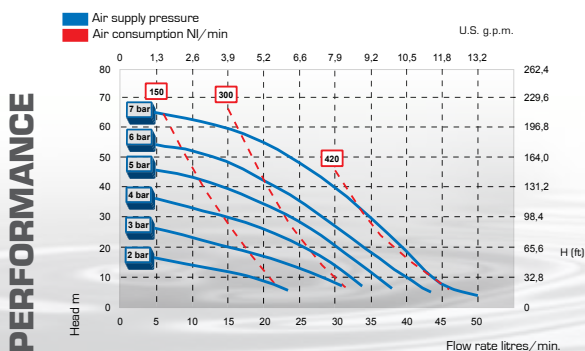
MINIBOXER - B50

Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



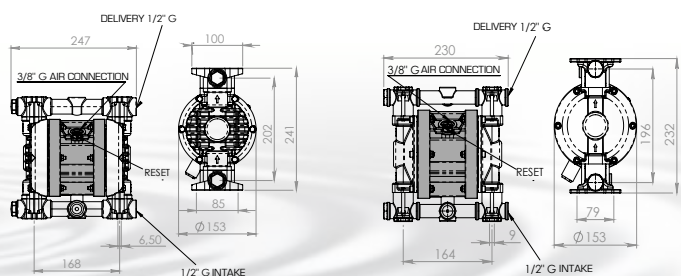
Intake/delivery connections	G 1/2" f or DN 15		
Air connection	G 3/8" f		
Max. self-priming capacity	5 m		
Max. flow rate*	50 l/min		
Max. head*	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	4 mm		
Construction materials and net weight	PP	3,6 Kg	(zone 2) 60°C Max Temp.
	PVDF	4,2 Kg	(zone 2) 95°C Max Temp.
	Alu	4 Kg	(zone 2) 95°C Max Temp.
	Aisi 316	6,5 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA



B50

MINIBOXER Aisi 316



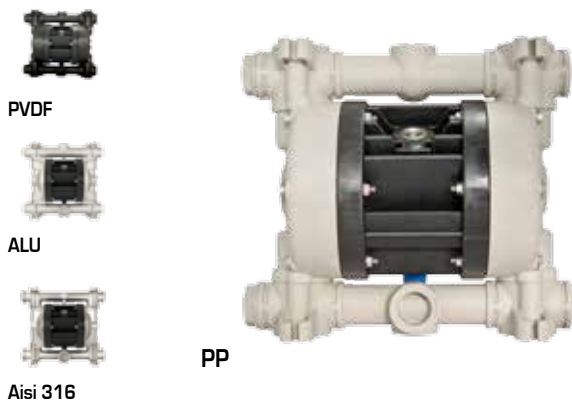
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DIMENSIONS

BOXER 80-81

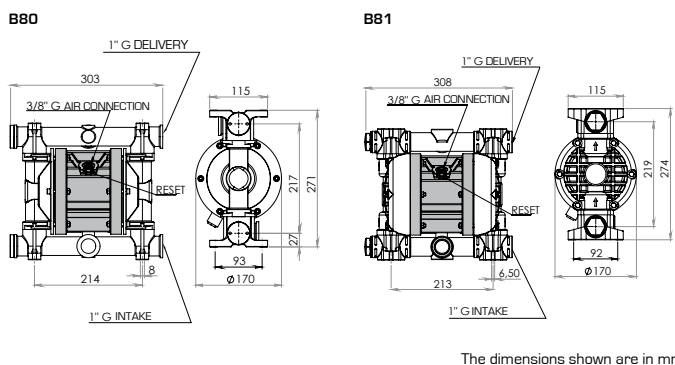
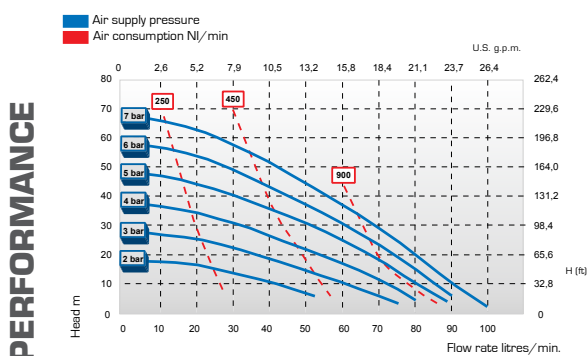


Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Intake/delivery connections	G 1" f or DN 25	
Air connection	G 3/8" f	
Max. self-priming capacity	6 m	
Max. flow rate*	100 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids	4 mm	
Construction materials and net weight	PP	5 Kg (zone 2) 60°C Max Temp.
	PVDF	6,5 Kg (zone 2) 95°C Max Temp.
	Alu	6,5 Kg (zone 2) 95°C Max Temp.
	Aisi 316	10,5 Kg (zone 2) 95°C Max Temp.

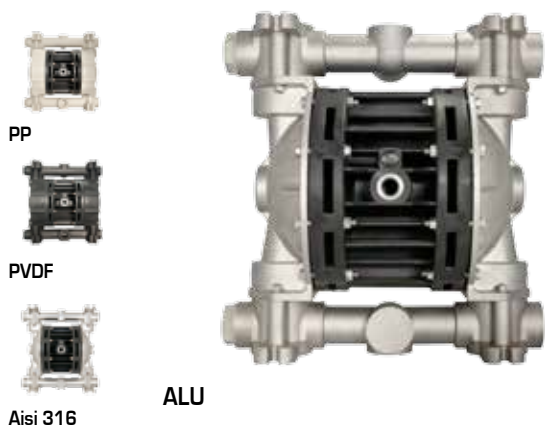
TECHNICAL DATA



DIMENSIONS

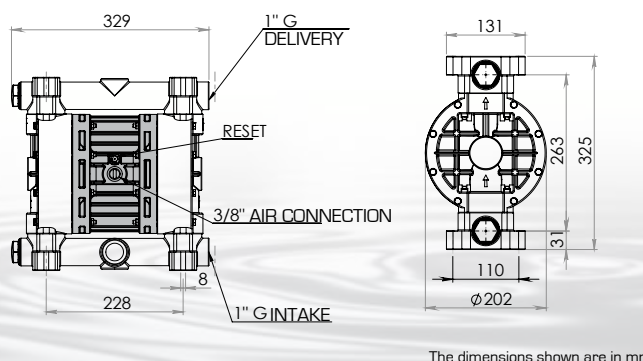
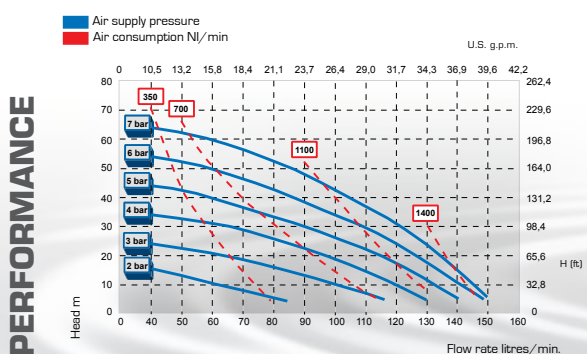
BOXER 100

Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Intake/delivery connections	G 1" f or DN 25	
Air connection	G 3/8" f	
Max. self-priming capacity	5 m	
Max. flow rate*	150 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids	4 mm	
Construction materials and net weight	PP	7,5 Kg (zone 2) 60°C Max Temp.
	PVDF	8,5 Kg (zone 2) 95°C Max Temp.
	Alu	8,2 Kg (zone 2) 95°C Max Temp.
	Aisi 316	11 Kg (zone 2) 95°C Max Temp.

TECHNICAL DATA

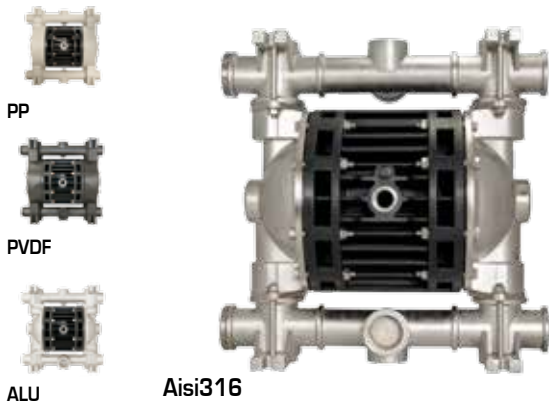


DIMENSIONS

BOXER 150



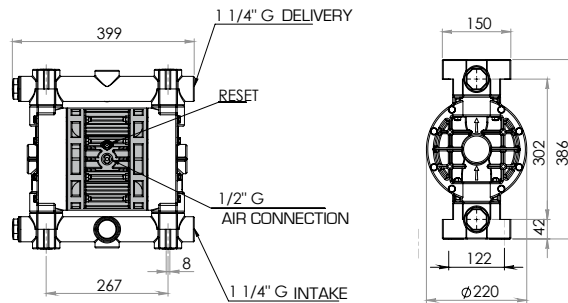
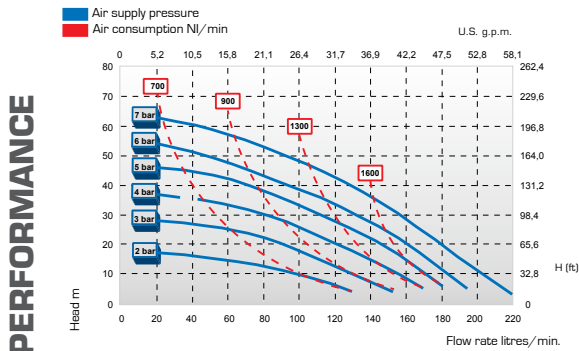
Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Aisi316

Intake/delivery connections	G 1" 1/4 f or DN 32		
Air connection	G 1/2" f		
Max. self-priming capacity	5 m		
Max. flow rate *	220 l/min		
Max. head *	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	5 mm		
Construction materials and net weight	PP	12 Kg	(zone 2) 60°C Max Temp.
	PVDF	14 Kg	(zone 2) 95°C Max Temp.
	Alu	16 Kg	(zone 2) 95°C Max Temp.
	Aisi 316	21 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA

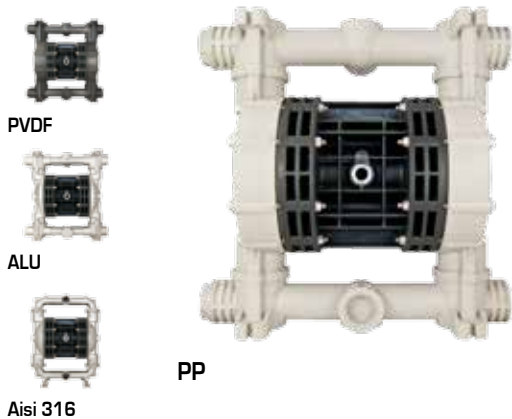


The dimensions shown are in mm

DIMENSIONS

BOXER 251

Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

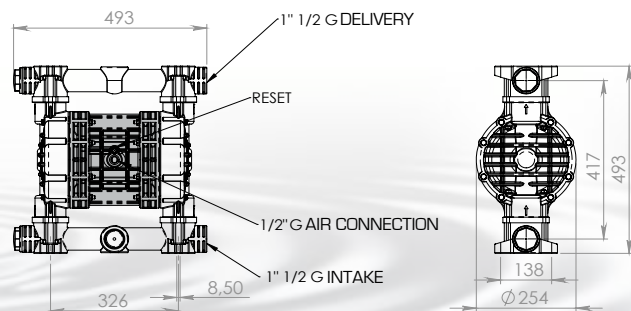
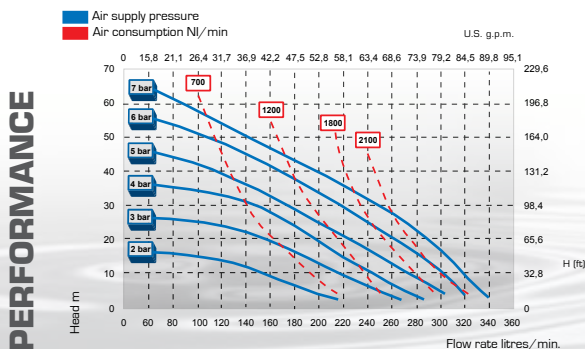


PP

Aisi 316

Intake/delivery connections	G 1" 1/2 f or DN 40		
Air connection	G 1/2" f		
Max. self-priming capacity	6 m		
Max. flow rate *	340 l/min		
Max. head *	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	6 mm		
Construction materials and net weight	PP	16 Kg	(zone 2) 60°C Max Temp.
	PVDF	20 Kg	(zone 2) 95°C Max Temp.
	Alu	21 Kg	(zone 2) 95°C Max Temp.
	Aisi 316	32 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA



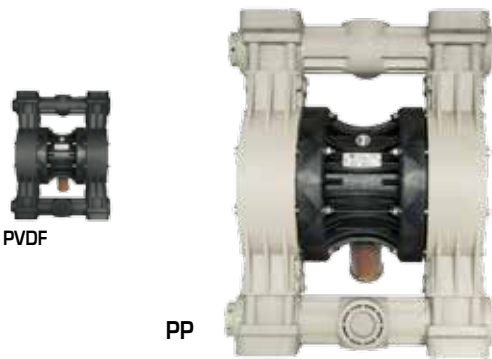
The dimensions shown are in mm

DIMENSIONS

BOXER 502 plastic



EX STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

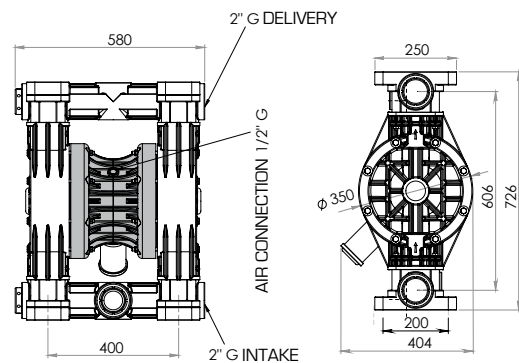
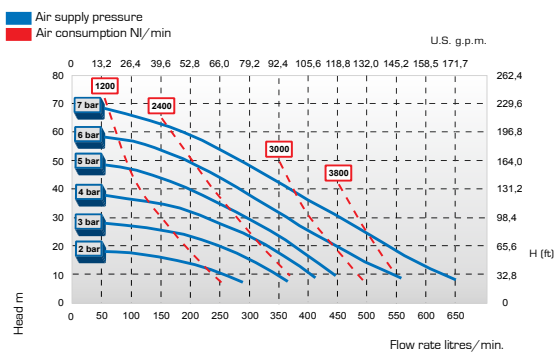


Intake/delivery connections	G 2" f or DN 50
Air connection	G 1/2" f
Max. self-priming capacity	4 m
Max. flow rate*	650 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	8 mm

Construction materials and net weight	PP	48 Kg [zone 2] 60°C Max Temp.
	PVDF	65 Kg [zone 2] 95°C Max Temp.

TECHNICAL DATA

DIMENSIONS



The dimensions shown are in mm

BOXER 502 metal

EX STANDARD: II 3/3 GD c IIB T135°C (zone 2) - CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

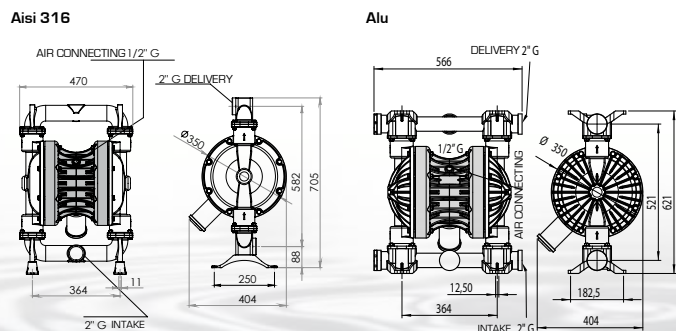
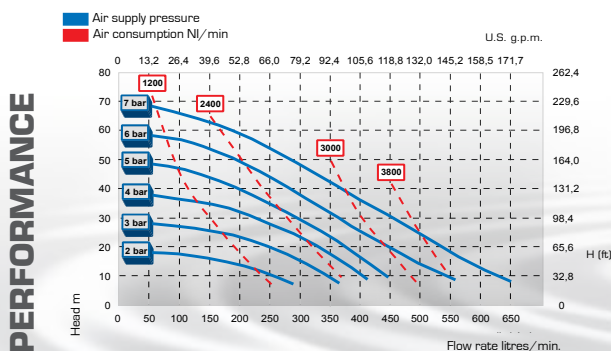


Intake/delivery connections	G 2" f or DN 50
Air connection	G 1/2" f
Max. self-priming capacity	4 m
Max. flow rate*	650 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	8 mm

Construction materials and net weight	Alu	49 Kg [zone 2] 95°C Max Temp.
	Aisi 316	54 Kg [zone 2] 95°C Max Temp.

TECHNICAL DATA

DIMENSIONS



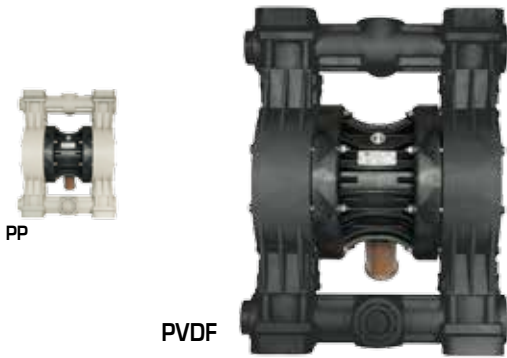
The dimensions shown are in mm

PERFORMANCE

BOXER 503 plastic



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)

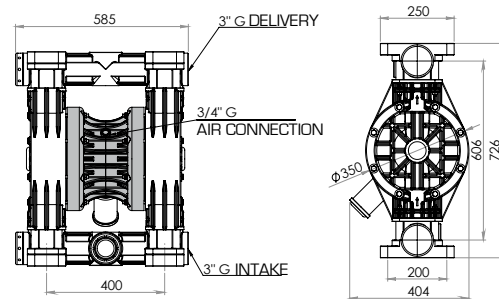
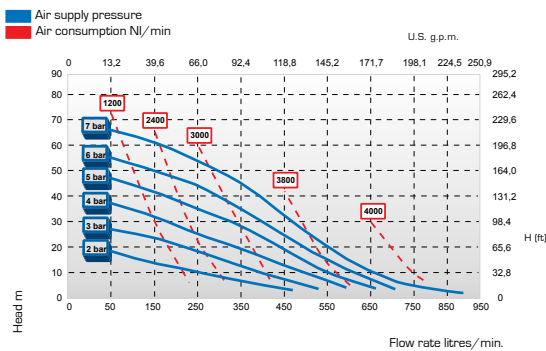


Intake/delivery connections	G 3" f or DN 80		
Air connection	G 3/4" f		
Max. self-priming capacity	5 m		
Max. flow rate*	900 l/min		
Max. head*	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	10 mm		

Construction materials and net weight	PP	50 Kg	(zone 2) 60°C Max Temp.
	PVDF	67 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA

PERFORMANCE

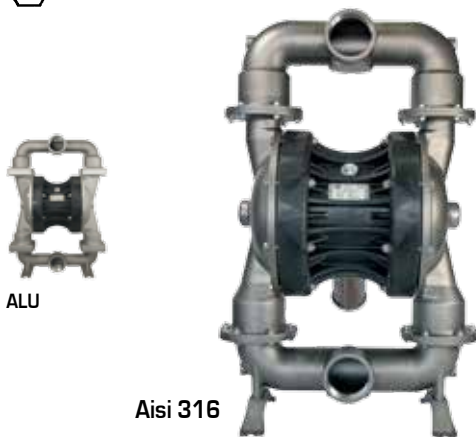


The dimensions shown are in mm

DIMENSIONS

BOXER 503 metal

STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)

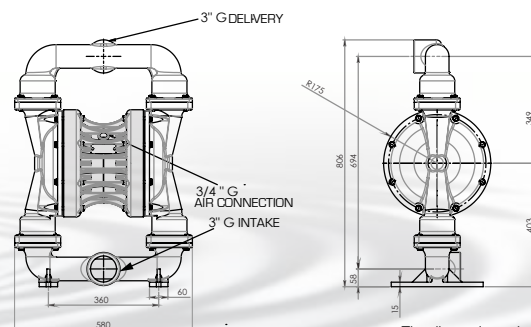
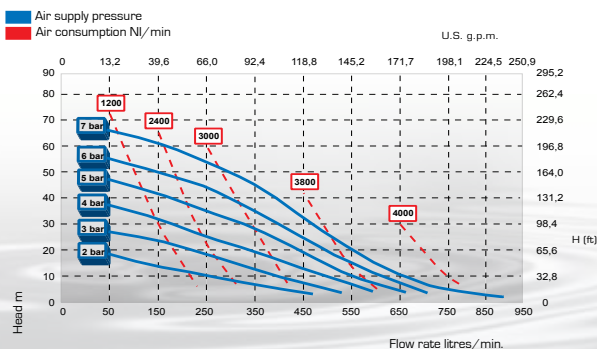


Intake/delivery connections	G 3" f or DN 80		
Air connection	G 3/4" f		
Max. self-priming capacity	5 m		
Max. flow rate*	900 l/min		
Max. head*	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids	10 mm		

Construction materials and net weight	Alu	66 Kg	(zone 2) 95°C Max Temp.
	Aisi 316	71 Kg	(zone 2) 95°C Max Temp.

TECHNICAL DATA

PERFORMANCE



The dimensions shown are in mm

DIMENSIONS

FOODBOXER 30 FDA compliant



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

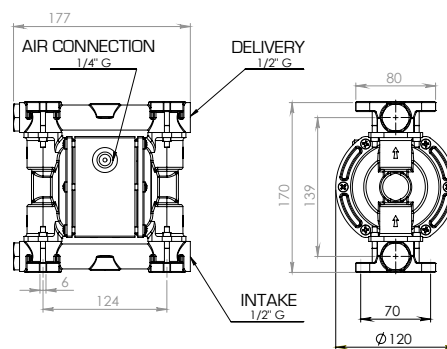
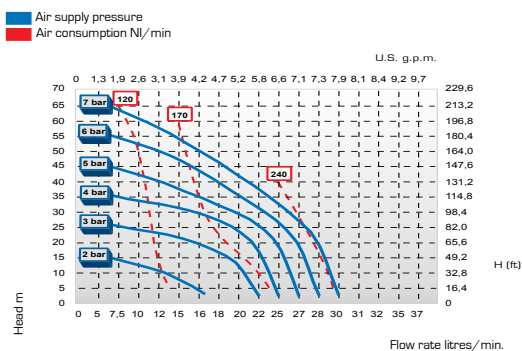
Intake/delivery connections	G 1/2" f[*]
Air connection	G 1/4" f
Max. self-priming capacity	6 m
Max. flow rate*	30 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	2 mm
Construction materials and net weight	Aisi 316 3,8 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

FOODBOXER 50 FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

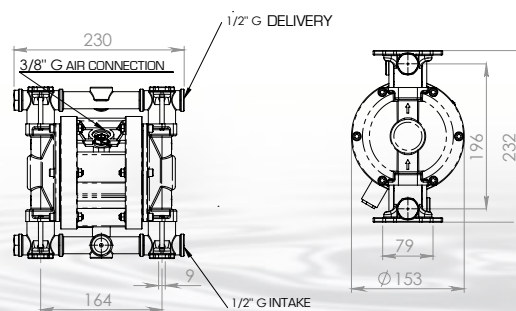
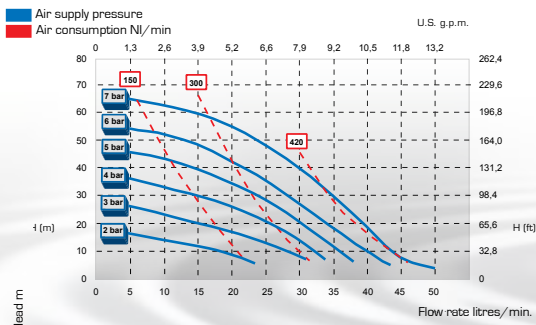
Intake/delivery connections	G 1/2" f[*]
Air connection	G 3/8" f
Max. self-priming capacity	5 m
Max. flow rate*	50 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	4 mm
Construction materials and net weight	Aisi 316 6,5 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

FOODBOXER 80



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

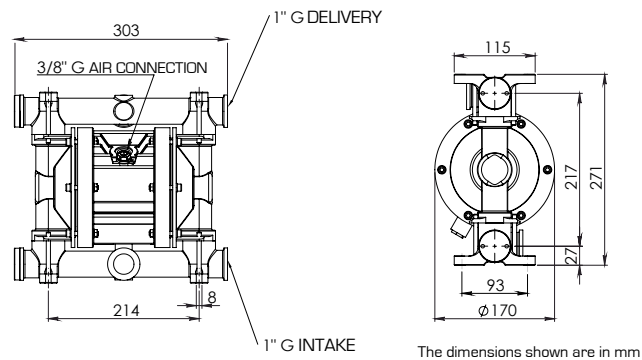
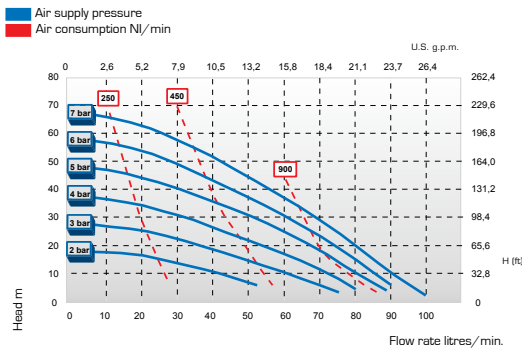
Intake/delivery connections	G 1" f[*]
Air connection	G 3/8" f
Max. self-priming capacity	6 m
Max. flow rate*	100 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	4 mm
Construction materials and net weight	Aisi 316 10,5 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



FOODBOXER 100



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

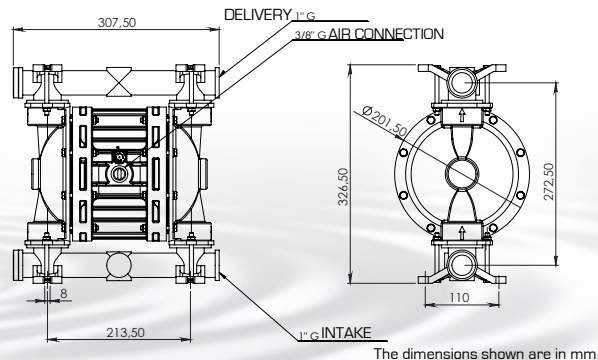
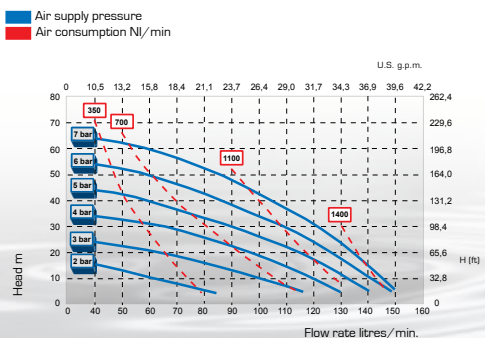
Intake/delivery connections	G 1" f[*]
Air connection	G 3/8" f
Max. self-priming capacity	5 m
Max. flow rate*	150 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	4 mm
Construction materials and net weight	Aisi 316 11 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



FOODBOXER 150



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

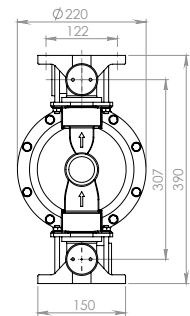
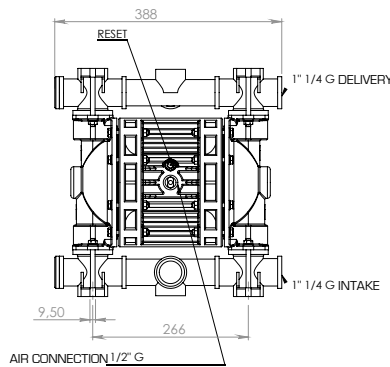
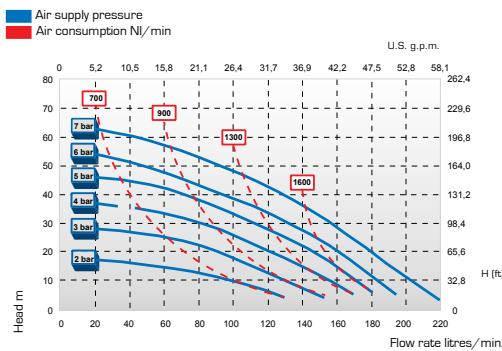
Intake/delivery connections	G 1" 1/4 f[*]	
Air connection	G 1/2" f	
Max. self-priming capacity	5 m	
Max. flow rate*	220 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids	5 mm	
Construction materials and net weight	Aisi 316 21 Kg	(zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

FOODBOXER 251



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

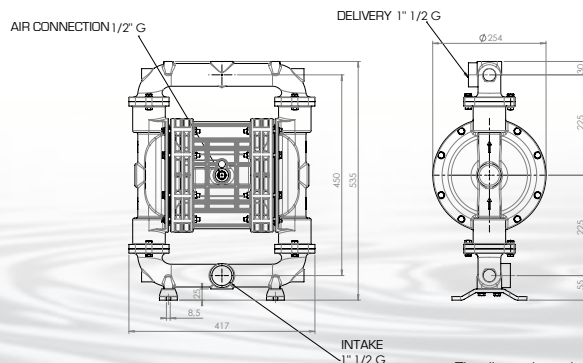
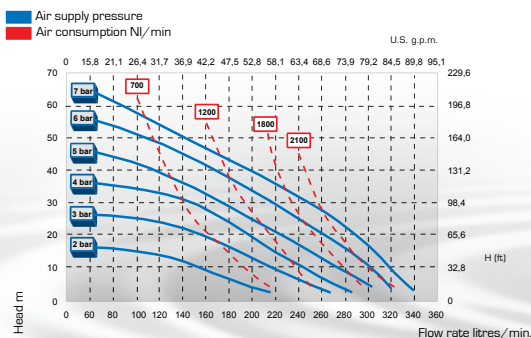
Intake/delivery connections	G 1" 1/2 f[*]	
Air connection	G 1/2" f	
Max. self-priming capacity	6 m	
Max. flow rate*	340 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids	6 mm	
Construction materials and net weight	Aisi 316 32 Kg	(zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

FOODBOXER 502



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

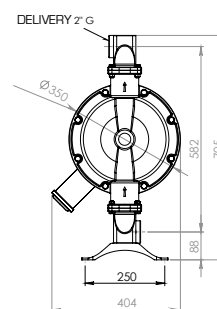
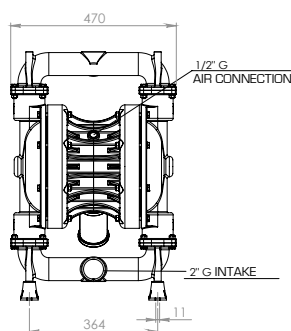
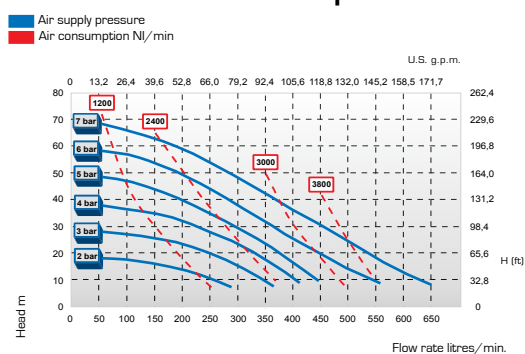
Intake/delivery connections	G 2" f (*)
Air connection	G 1/2" f
Max. self-priming capacity	4 m
Max. flow rate*	650 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	8 mm
Construction materials and net weight	Aisi 316 54 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE

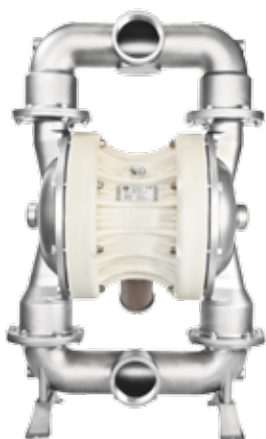


The dimensions shown are in mm

FOODBOXER 503



STANDARD: II 3/3 GD c IIB T135°C (zone 2) - **CONDUCT:** II 2/2 GD c IIB T135°C (zone 1)



Aisi316 electro-polished

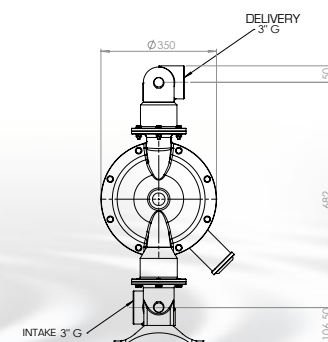
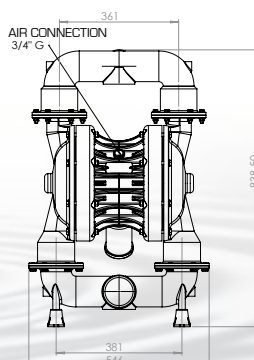
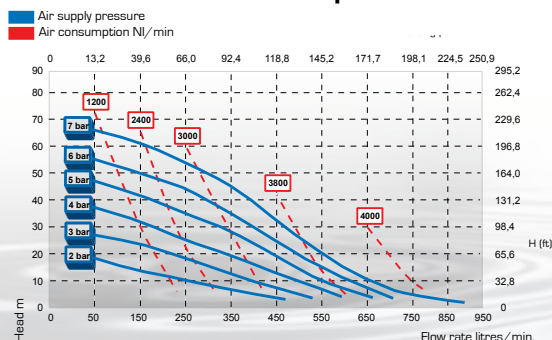
Intake/delivery connections	G 3" f (*)
Air connection	G 3/4" f
Max. self-priming capacity	5 m
Max. flow rate*	900 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	10 mm
Construction materials and net weight	Aisi 316 54 Kg (zone 2) 95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material.

TECHNICAL DATA

DIMENSIONS

PERFORMANCE



The dimensions shown are in mm

SANIBOXER



SANITARY DIAPHRAGM PUMP for handling food and pharmaceutical fluids



3A certified, made with mechanically polished Aisi316, the SANIBOXER pump is designed for the Food-Processing, Cosmetic and Pharmaceutical industry.

EXPECTED USE

The pneumatic SANIBOXER pumps have been designed and constructed to pump liquid food with an apparent viscosity from 1 up to 20.000 cps at 20°C (see "Types of Installations"). They are built with materials compatible with liquid foods and with the chemical substances to be used to clean and sanitize the pump.

The pump may be used at operating temperatures (temperature of the fluid + environmental temperature) compatible with the pump materials and in any case never exceeding 95°C

WORKING PRINCIPLE

The SANIBOXER diaphragm pumps consist of a centrally lodged coaxial pneumatic motor with diaphragms fixed to its shaft.

The ball valves and the seats of the suction and delivery lines are located on the ends of the two pump bodies.

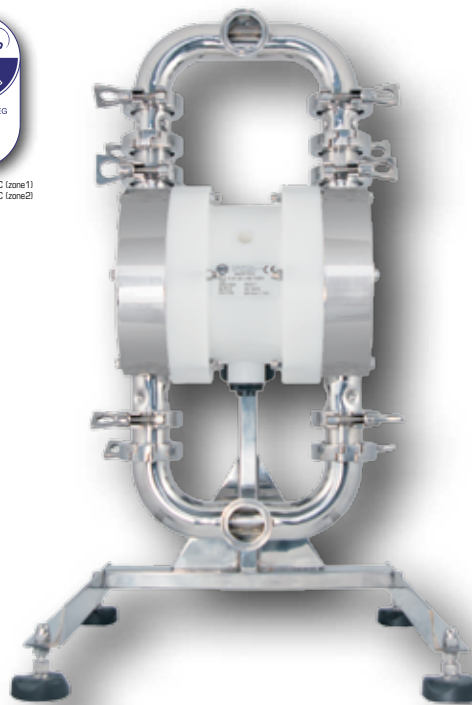
The compressed air injected by the coaxial exchanger behind one of the two diaphragms determines the compression and pushes the product in the delivery line.

At the same time the diaphragm, integral with the exchanger's shaft, creates a depression while sucking the fluid.

Once the run is completed, the pneumatic coaxial exchanger deviates the compressed air behind the opposite diaphragm and the cycle reverses automatically.



II 2/2GD c IB T1 35°C (zone1)
II 3/3GD c IB T1 35°C (zone2)



EASY-CLEAN VALVE

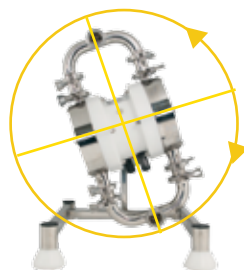
Patent system



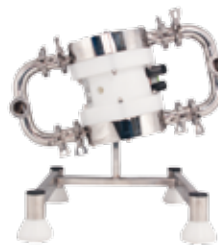
mechanically polished



FAST EMPTYING SYSTEM



360°



TYPES OF INSTALLATIONS

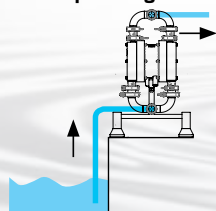
NEGATIVE SUCTION:

with fluids at most up to 5.000 cps at 20°C;

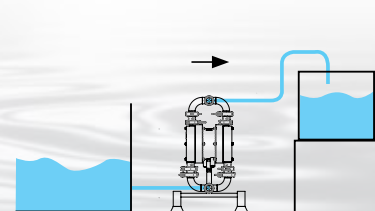
UNDER HEAD SUCTION:

with fluids up to 20.000 cps at 20°C.

Self-priming



Positive suction head



SANIBOXER



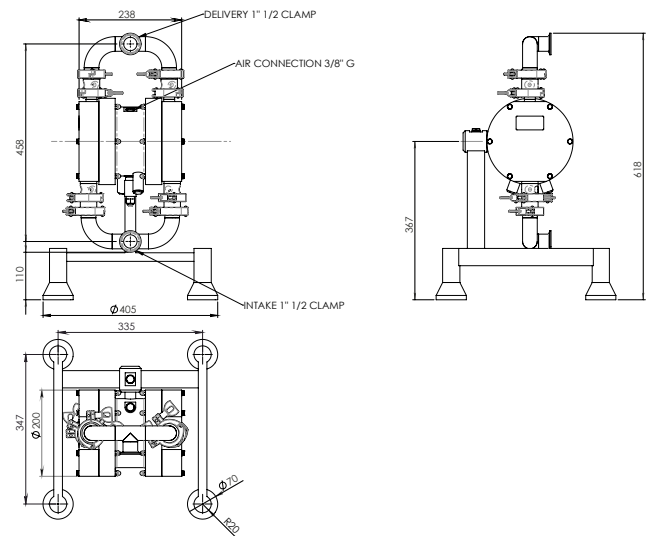
SANITARY DIAPHRAGM PUMP for handling food and pharmaceutical fluids

SANIBOXER 100

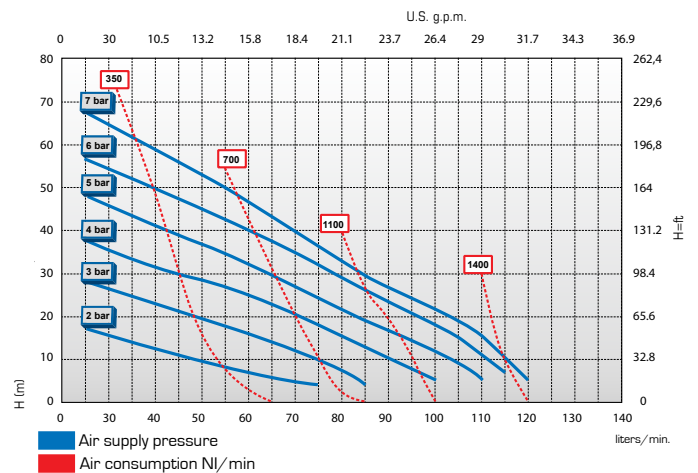
Construction materials:
Mechanically polished Aisi316



Ex STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Suction/delivery connections	1" 1/2 clamp
Air connection	3/8"
Air pressure (max.)	7 bar
Max. operating temperature (fluid + amb.)	95°C
Dry suction capacity (PTFE diaphragm)	4m
Max flow rate (water at 18°C with immersed intake manifold)	120 l/m
Net weight (empty)	26 KG
Max. diameter of passing solids	4 mm

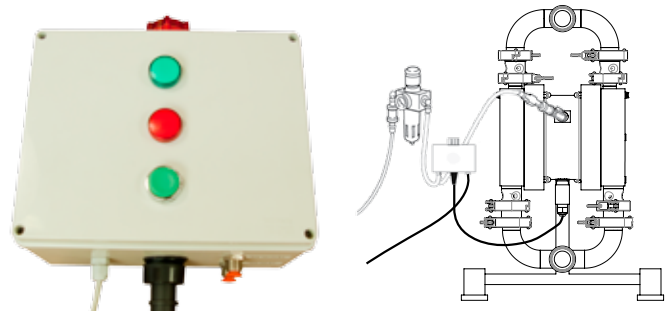


ACCESSORIES - DIAPHRAGM LEAKER SENSOR

This system designed to be used by SANIBOXER diaphragm pumps, is provided with a self-diagnosis function for the contacts and the right operation of the circuit. In the event of a malfunction, the red pilot lamp always lights up and, depending on the irregularity the audible alarm will activate too.

The control unit operates exclusively during the pumping of conductive fluids; it detects the diaphragm breakage through the contacts placed behind the diaphragms, inside the compression chamber.

When the liquid stands between the two sensors, it causes the closing of the electric circuit placed inside the control unit and consequently the switching off of the output relay, deactivating then the solenoid valve which controls the pump, stopping its operation and enabling both a visual and acoustic alarm.



COMPOSITION CODES

es. SB100ADTTA

Saniboxer 100 in Aisi316 + diaphragm EPDM + diaphragm PTFE + balls Aisi 316 + ball seats Aisi316

SB100	A	D	T	T	A	-	-
Pump model	Pump body	Air side diaphragm	Fluid side diaphragm	Balls	Ball seats		
SB 100 = SANIBOXER 100	A - AISI 316 electropolished	D - EPDM	T - PTFE	T - PTFE A - AISI 316	A - AISI 316		

PULSATION DAMPENERS

Available in PP, PVDF, PPS-V, AISI 316

Automatic dampening control;

Suitable for demanding applications;

Use in potentially-explosive atmospheres;
(ATEX certifications)

Use in environments subject to high humidity
and condensation;

Actuated using non lubricated air;

Range of construction materials ensures
correct fluid compatibility;

User-friendly parts replacement and
maintenance;

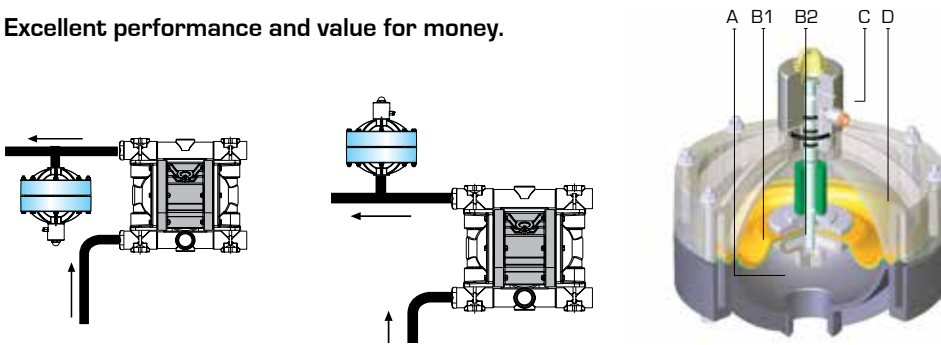
Excellent performance and value for money.

EQUAFLUX automatic diaphragm pulsation dampeners feature solid build and high performance. They are fitted to the discharge line of diaphragm pumps in order to smooth pulsating flows and can be used with liquids having high apparent viscosity even if containing suspended solids of considerable size.

EQUAFLUX dampeners **automatically adapt** to system conditions **without the need for manual adjustment** or calibration.

The ability to minimise pulsations, vibrations and water hammer means that this component provides excellent protection and smooth system flow.

The huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. **Dampeners are also available for use in potentially explosive atmospheres (ATEX certification).**



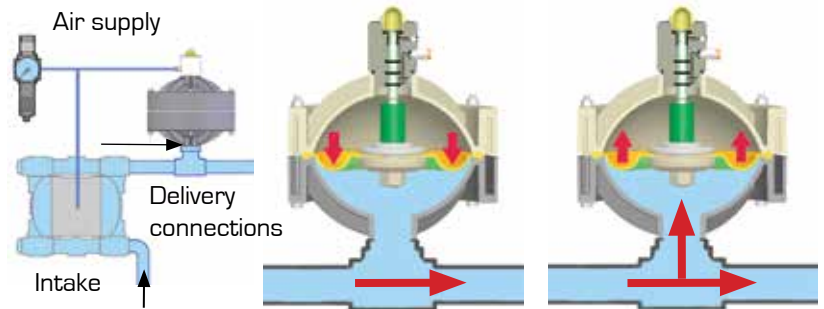
- A** = expansion opening
- B1** = air-side diaphragm
- B2** = fluid-side diaphragm
- C** = automatic pneumatic valve
- D** = compressed-air chamber

HOW IT WORKS

The compressed air entering the back-pressure chamber behind the diaphragm creates a pneumatic cushion that adjusts automatically to compensate the shock produced by the pressure pulse of the fluid generated by the pump.



Air supply:
2 ÷ 7 bar



COMPOSITION CODES

ex. EQ100PHTC

Equaflux 100 in PP + Hytrel diaphragm + PTFE diaphragm + conduct

EQ100	P	H	I	C
Dampener model	Dampener body	Air side diaphragm	Product side diaphragm	Coduct version
EQ 51 - Equaflux 51 EQ 100 - Equaflux 100 EQ 200 - Equaflux 200 EQ 300 - Equaflux 300 EQ 302 - Equaflux 302 EQ 303 - Equaflux 302	P - Polypropylene F - PVDF R - PPS-V A - Aisi 316 AL - Aluminium	H - Hytrel M - Santoprene	T - PTFE	(zone 1) II 2/2GD c IIB T135°C C - if requested

PULSATION DAMPENERS

	Product connection	Air connection	Max. air supply pressure	Applicability	Weight	Max. operating temp.	Dimension mm
EQUAFLUX 51 *	G 3/4"	ø 6 mm	7 bar	PP	0,5 Kg	60°C	121x117
				MIDGETBOX PP, CUBIC 15 PP, MICROBOXER PP			
				PVDF			
EQUAFLUX 100 *	G 1"	ø 6 mm	7 bar	PPS-V	0,6 Kg	95°C	121x117
				MICROBOXER ALU			
				PVDF			
EQUAFLUX 200 *	G 1" 1/2	ø 6 mm	7 bar	PP	1,5 Kg	60°C	177x170
				BOXER 50 PP, BOXER 81 PP			
				PVDF			
EQUAFLUX 51 *	G 3/4"	ø 6 mm	7 bar	PPS-V	1,7 Kg	95°C	177x170
				MINIBOXER Aisi 316, BOXER 50 PVDF, BOXER 81 PVDF, BOXER 80 Aisi 316			
				PVDF			
EQUAFLUX 100 *	G 1"	ø 6 mm	7 bar	PPS-V	1,7 Kg	95°C	177x170
				BOXER 50 ALU, BOXER 81 ALU			
				PVDF			
EQUAFLUX 200 *	G 1" 1/2	ø 6 mm	7 bar	PP	3,8 Kg	60°C	283,2x254
				BOXER 100 PP, BOXER 150 PP, BOXER 251 PP			
				PVDF			

* Aisi 316 if requested

PULSATION DAMPENERS

Product connection	Air connection	Max. air supply pressure	Applicability	Weight	Max. operating temp.	Dimension mm
G 1" 1/2	ø 6 mm	7 bar	BOXER 150 PVDF and Aisi 316, BOXER 251 PVDF and Aisi 316, BOXER 100 PVDF and Aisi 316	4,5 Kg	95°C	283,2x254
G 1" 1/2	ø 6 mm	7 bar	BOXER 150 ALU, BOXER 251 ALU, BOXER 100 ALU	4,5 Kg	95°C	283,2x254
G 2"	Ø 8 mm	7 bar	BOXER 502 PP	23 Kg	60°C	398x516
G 2"	Ø 8 mm	7 bar	BOXER 502 PVDF	28,5 Kg	95°C	398x516
G 2"	Ø 8 mm	7 bar	BOXER 502 ALLUMINIO	26 Kg	95°C	356x352
G 2"	Ø 8 mm	7 bar	BOXER 502 Aisi 316	32 Kg	95°C	356x352
G 3"	Ø 8 mm	7 bar	BOXER 503 PP	23 Kg	60°C	398x516
G 3"	Ø 8 mm	7 bar	BOXER 503 PVDF	28,5 Kg	95°C	398x516
G 3"	Ø 8 mm	7 bar	BOXER 503 ALUMINIO	29 Kg	95°C	356x352
G 3"	Ø 8 mm	7 bar	BOXER 503 Aisi 316	35 Kg	95°C	356x352

PVDF



PPS-V



EQUAFLUX 200*

PP



PVDF



EQUAFLUX 302

Aisi 316/ALU



PP/PVDF



Aisi 316/ALU



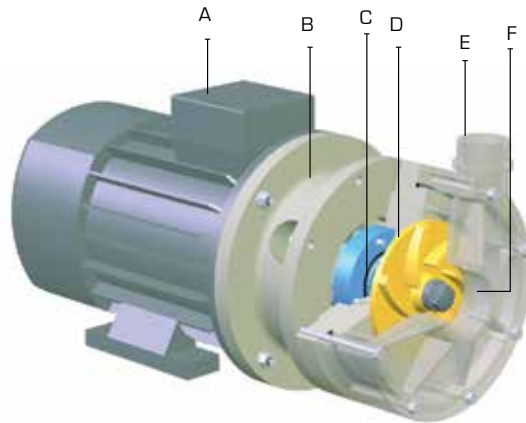
EQUAFLUX 303

*Aisi 316 if requested

HORIZONTAL CENTRIFUGAL PUMPS

- Available in polypropylene, PVDF;
- Positive suction head operation;
- Weldless;
- Mechanical lip or bellows seal;
- Usable even with extremely dirty liquids;
- Flow rates: from 6 to 75 m³/h;
- Head: up to 38 mt;
- Quick and easy maintenance;
- Inexpensive spares.
- Viscosity: up to 500 cps
- European voltage motors:
IP55 - F Class - 2-pole - 230/400 V
50 Hz - three-phase - 2900 RPM
- Max. operating temp.: PP 80°C, PVDF 95°C

Debem manufactured resin-encased horizontal centrifugal pumps are pumps operated by a direct-drive motor (max 3000 rpm) for fast fluid transfer and/or drainage with flow rates ranging from 6 to 75 m³/h. Their special open-impeller design allows pumping even with very dirty liquids having apparent viscosity up to 500 cps (at 20°C) and small suspended solids. There are two versions available with different internal mechanical seal depending on use, TL (lip seal) and TS (bellows seal).



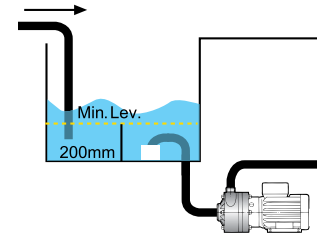
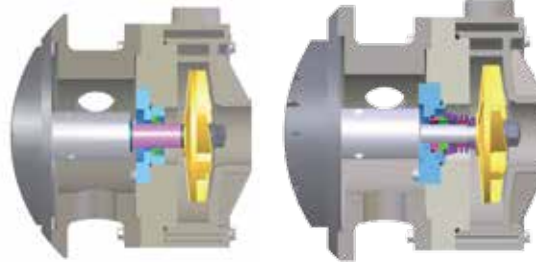
- A = electric motor
- B = inspection lantern
- C = mechanical seal
- D = impeller
- E = delivery duct
- F = intake duct

HOW IT WORKS

The impeller is integral with the shaft and direct-drive electric motor and is rotated at a preset speed with the centrifugal effect producing suction on the intake side and discharge on the delivery side.

TL = lip seal

TS = bellows seal



pump	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

pump	motor power
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

COMPOSITION CODES

ex. MB80PTLVN

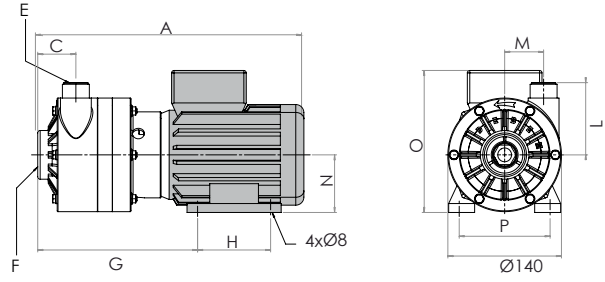
MB 80 in PP +Viton lip seal + Three-phase motor

MB80	P	TLV	N
Pump model	Pump material	Type of seal	Motor
MB 80 - 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 F - PVDF	TLV - Viton lip seal TLD - EPDM lip seal TSV - Viton bellow seal TSD - EPDM bellow seal	N* - Three-phase motor M - Single-phase motor A - ATEX motor

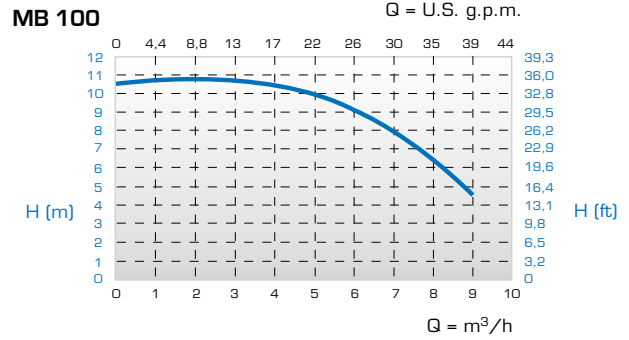
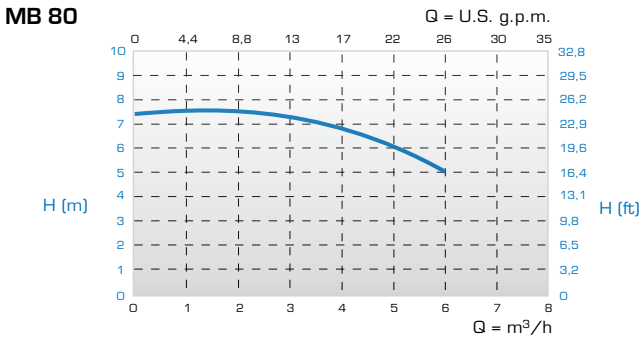
* Standard motor is the three-phase induction type with European voltage (2-pole) 50Hz

HORIZONTAL CENTRIFUGAL PUMPS

MB 80/100



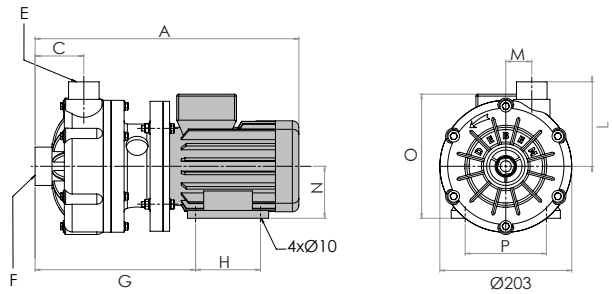
The dimensions shown are in mm



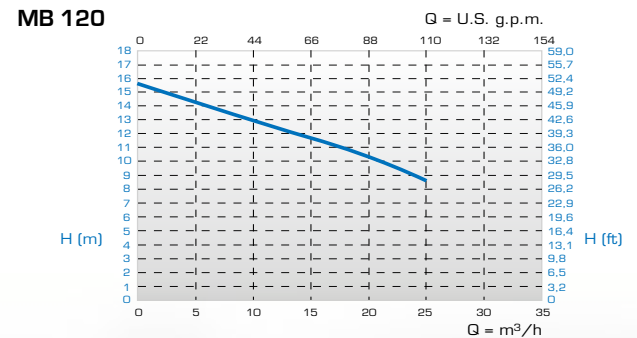
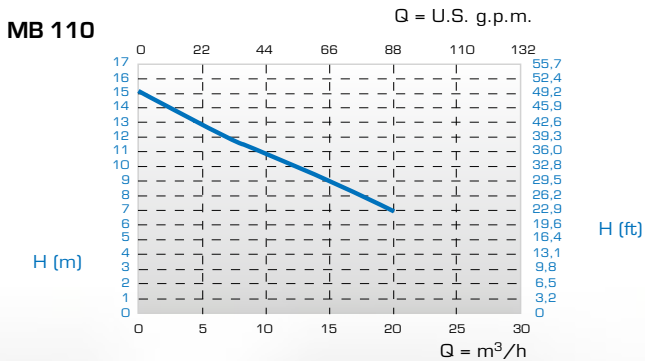
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	seal	power	∅ passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB80	TL-TS	0.37 Kw 0.5 HP	5	328	47	G 1" M or DN25	G 1 1/2" f or DN 40	197	90	89	48	71	175	112	8,5	9,5
MB100	TL-TS	0.55 Kw 0.75 HP	7	328	47	G 1" M or DN25	G 1 1/2" f or DN 40	197	90	89	48	71	175	112	8,5	9,5

MB 110/120



The dimensions shown are in mm



The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	seal	power	∅ passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB110	TL-TS	1.1 Kw 1.5 HP	2	406	75	G 1 1/2" M or DN40	G 2" M or DN50	247	100	130	40	80	191	125	16	17
MB120	TL-TS	1.5 Kw 2 HP	6	426	75	G 1 1/2" M or DN40	G 2" M or DN50	257	100	130	40	90	210	140	16	17

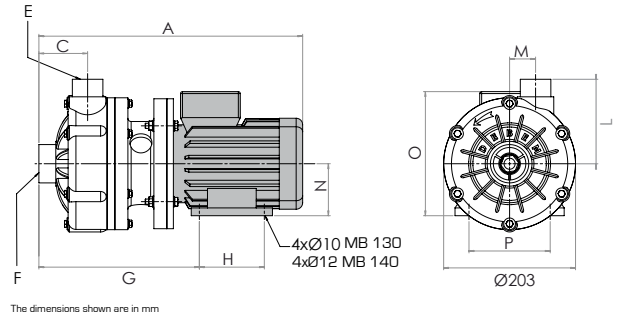
HORIZONTAL CENTRIFUGAL PUMPS

MB 130/140



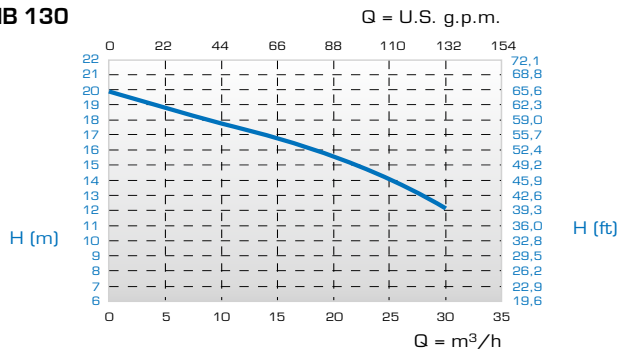
PVDF

PP

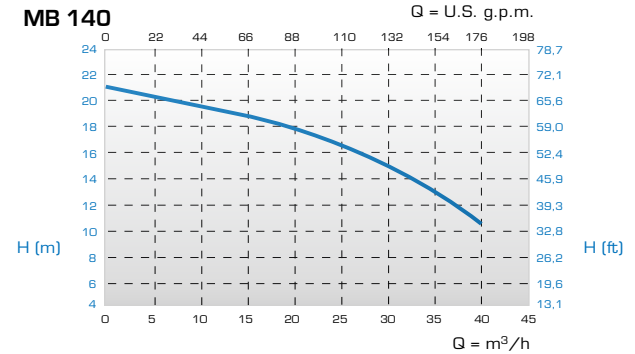


The dimensions shown are in mm

MB 130



MB 140



The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

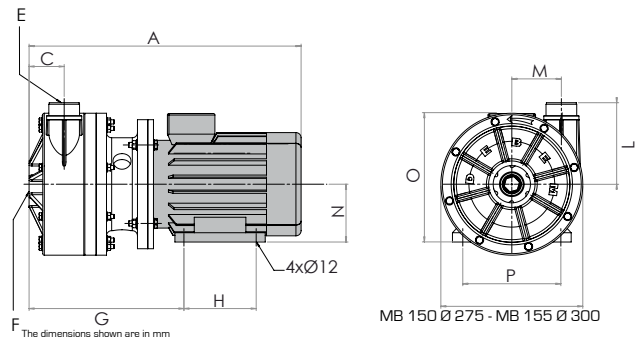
model	seal	power	∅ passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB130	TL-TS	2.2 Kw 3 HP	6	448	75	G 1" 1/2 M or DN40	G 2" M or DN50	257	125	130	40	90	210	140	22,5	23,5
MB140	TL-TS	3 Kw 4 HP	12	505	75	G 1" 1/2 M or DN40	G 2" M or DN50	296	140	130	40	100	227	160	29	30

MB 150/155



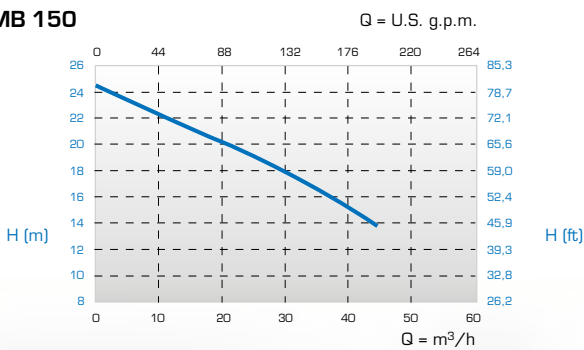
PVDF

PP

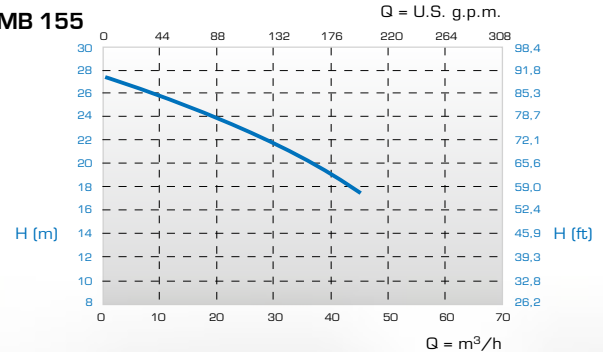


The dimensions shown are in mm

MB 150



MB 155

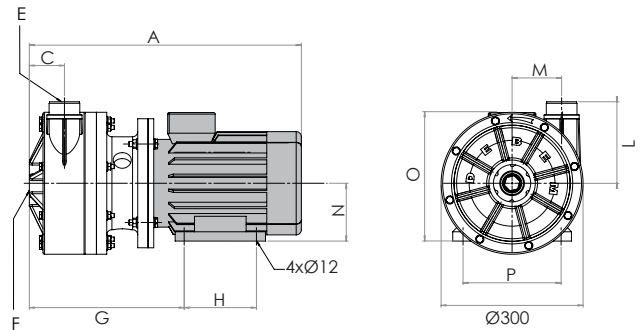


The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	seal	power	∅ passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB150	TL-TS	4 Kw 5.5 HP	2	527	68	G 2" M or DN50	G 2" 1/2 F or DN65	300	140	158	96	112	249	190	44	47
MB155	TL-TS	5.5 Kw 7.5 HP	3	619	68	G 2" M or DN50	G 2" 1/2 F or DN65	329	140	158	96	132	312	216	60	63

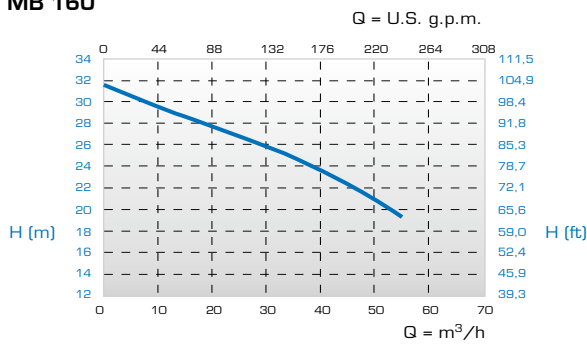
HORIZONTAL CENTRIFUGAL PUMPS

MB 160/180

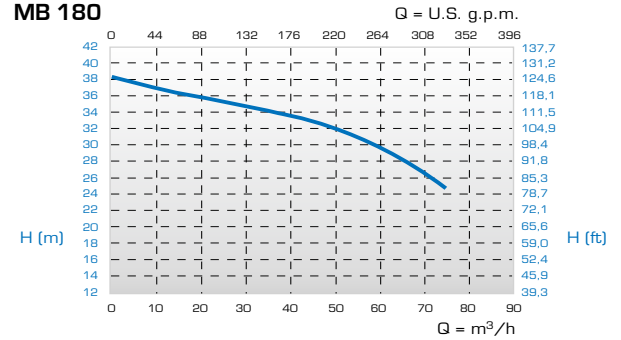


The dimensions shown are in mm

MB 160



MB 180



The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	seal	power	Ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB160	TL-TS	7.5 Kw 10 HP	9	645	68	G 2" M or DN50	G 2" 1/2 F or DN65	335	140	158	96	132	310	216	70	73
MB180	TL-TS	11 Kw 15 HP	9	695	68	G 2" M or DN50	G 2" 1/2 F or DN65	335	178	158	96	132	310	216	96	99

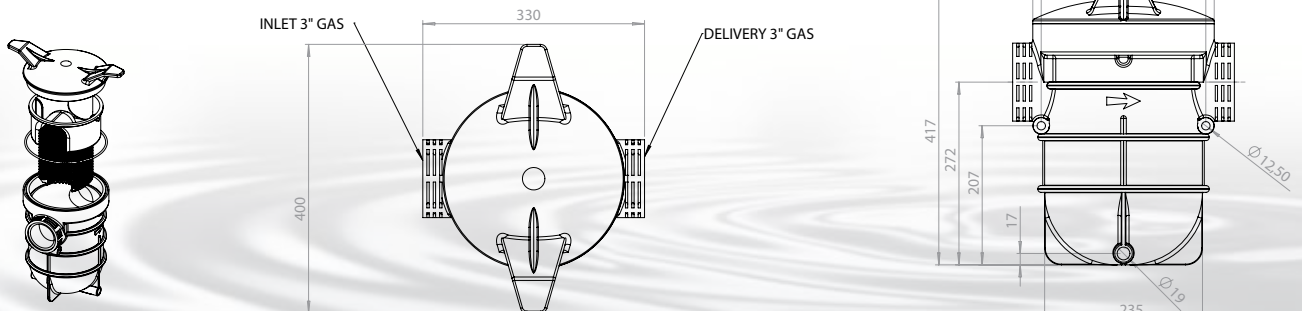
PUMP-PROTECTING BASKET STRAINERS



Polypropylene build, no metal parts and low head loss make them ideal for installation on a pump suction port, providing protection from suspended solids, filaments, algae, etc. The strainer can be easily removed by unscrewing the lid without the need for tools.

Max. operating pressure 1 bar for chemical sector, water treatment plants, fish farming, the galvanising, tanning, textile, paper and printing industries and a host of other applications.

Available in five different connection sizes: 1", 1 1/2", 2", 2 1/2", 3"



MAGNETIC DRIVE CENTRIFUGAL PUMPS

A couple of magnets leads the operation of the pump; the outer magnet placed on the drive shaft transmits the motion to the inner magnet integrated with the impeller that is hermetically insulated. The pump impeller is not physically fixed to the drive shaft, seals are therefore eliminated and this consequently avoids leakages of the liquid drawn by the pump which are usually due to its wear and tear. The pump head is manufactured with few components, thus the maintenance of which becomes extremely easy. The materials used as standard are polypropylene (pp) and polyvinylidene fluoride (pvdf). The pumps can't run dry. Dirty liquids can reduce the pump life.

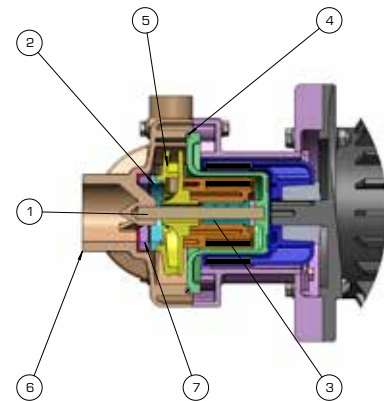
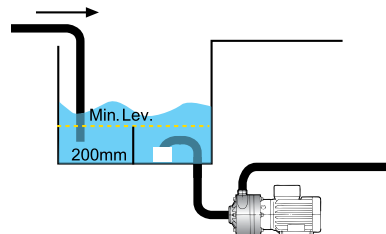
Working temperatures: PP min - 10°C/max 65°C
PVDF min - 10°C/max 90°C.

DEBEM pumps are successfully suitable for many different application fields such as: laboratory technique, medical equipments, photo processors, x rays film processors, laser beam systems, metal finishing machines, graphics, heat exchangers, aquariums, water treatment, filter units, chemical industry, galvanic industry.

INSTALLATION

DM magnetic drive centrifugal pumps should only be installed with the shaft positioned horizontally in a positive suction head arrangement.

Suitable devices should be fitted to prevent dry running and the formation of a vortex and possible air suction. Horizontal centrifugal pumps should only operate **WHILST FILLED**.



components	material
1 Shaft	Alumina Ceramics 99,7%
2 Thrust bearing washer	PTFE + 30% Graphite
3 Bearing	PTFE + 30% Graphite
4 O-ring	VITON/EPDM
5 Impeller	PP/PVDF+CF
6 Pump Casing	PP/PVDF+CF
7 Head thrust bearing washer	Alumina Ceramics 99,7%



COMPOSITION CODES

ex. **DM10P-SD1NE071**

DM10 in PP +Standard Thrust washer + Epdm O-Ring + Impeller Ø 98 + NPT connection + Mec Motor Flange + Motor Casing 071

DM10	P	S	D	1	N	E	071
Pump model	Pump body	Thrust washer	O Rings	Impeller	Connection	Motor Flange	Motor Casing
DM06 DM10 DM15 DM30	P - Polypropylene FC - PVDF +Cf	S - Standard (ceramic + PTFE Graphite)	D - EPDM V - Viton®	DM06 1=Ø 81 2=Ø 70 3=Ø 65 DM10 1=Ø 98 2=Ø 85 3=Ø 70 DM15 1=Ø 123 2=Ø 108 3=Ø 90 DM30 1=Ø 134 2=Ø 122 3=Ø 110	N - NPT B - BSP	E - MEC U - NEMA	DM06 063 071 DM10 071 080 DM15 090 DM30 090 100 112

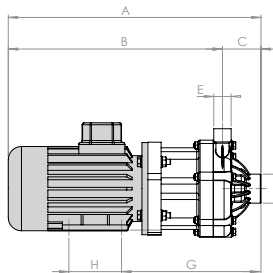
MAGNETIC DRIVE CENTRIFUGAL PUMPS in PP - PVDF

DM06

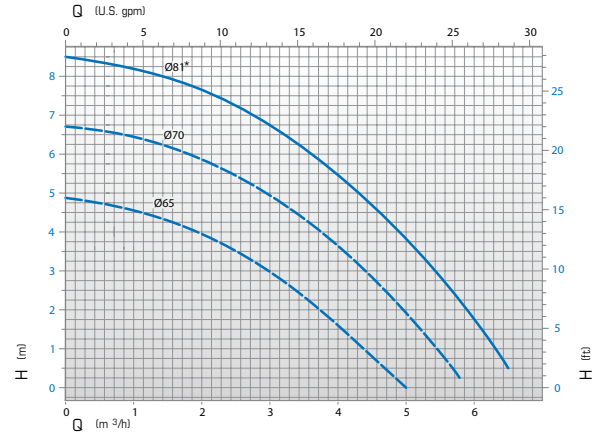
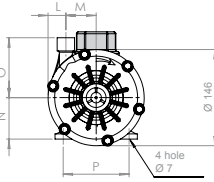


PP

PVDF



The dimensions shown are in mm



girante/impeller	motor 0,25 kW (0.35Hp)	motor 0,37 kW (0.50Hp)
Ø 81mm*	up to 1,2	up to 1,8
Ø 70 mm	up to 1,5	up to 2
Ø 65 mm	up to 1,8	up to 2

*standard

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM06	IEC 63	0,25 Kw	383	325	58	3/4" M*	1" F*	211	80	27	46	63	91	100	6,7	7
DM06	IEC 71	0,37 Kw	404	346	58	3/4" M*	1" F*	217	90	27	46	71	91	112	7,5	7,8
DM06	NEMA 56C	0,5 Hp	436	377	58	3/4" M*	1" F*	228	90	27	46	89	91	112	-	-

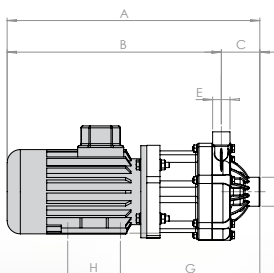
*gas bsp or npt

DM10

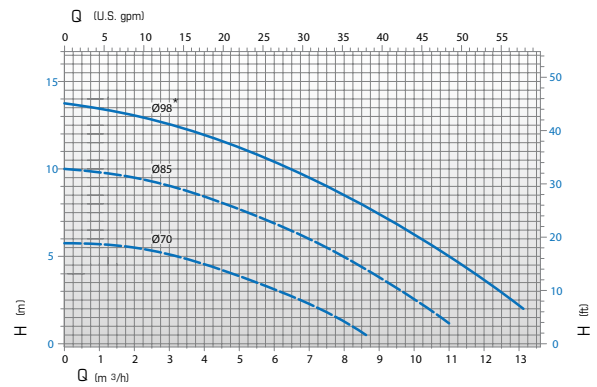
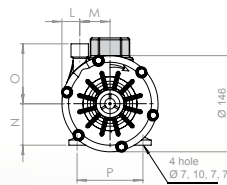


PP

PVDF



The dimensions shown are in mm



girante/impeller	motor 0,55 kW (0.75Hp)	motor 0,75 kW (1Hp)
Ø 98 mm*	up to 1,1	up to 1,5
Ø 85 mm	up to 1,6	up to 2
Ø 70 mm	up to 2	up to 2

*standard

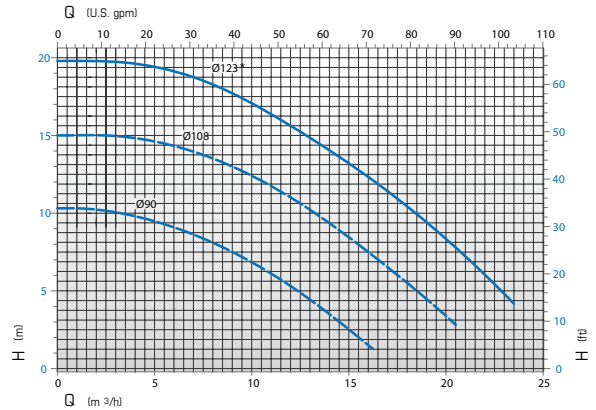
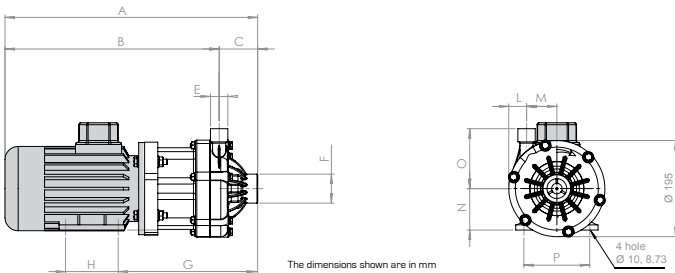
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM10	IEC 71	0,55 Kw	417	349	68	1" M*	1"1/2 F*	229	90	25	47	71	91	112	8,6	9
DM10	IEC 80	0,75 Kw	459	391	68	1" M*	1"1/2 F*	346	100	25	47	80	91	125	10,6	11
DM10	NEMA 56C	0,75 Hp	448	380	68	1" M*	1"1/2 F*	240	90	25	47	89	91	112	-	-
DM10	NEMA 143TC	1,00 Hp	482	414	68	1" M*	1"1/2 F*	245	90	25	47	89	91	112	-	-

*gas bsp or npt

MAGNETIC DRIVE CENTRIFUGAL PUMPS in PP - PVDF

DM015



girante/impeller	motor 1,5 kW (2Hp)	motor 2,2 kW (3Hp)
Ø 123 mm*	up to 1,1	up to 1,8
Ø 108 mm	up to 1,6	up to 2
Ø 90 mm	up to 2	up to 2

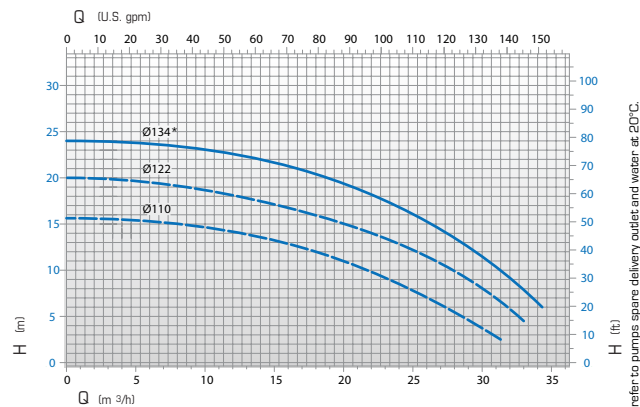
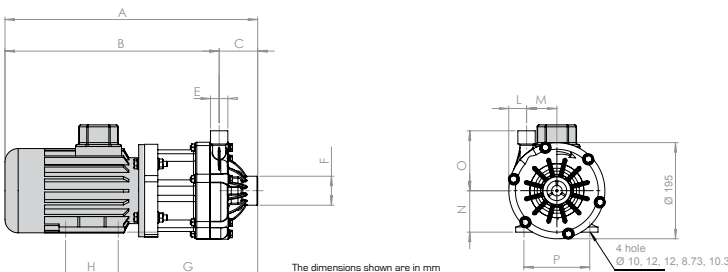
*standard

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM15	IEC 90	1,5 Kw	489	408	81	1"1/4 M"	1"1/2 F"	298	125	35	62	90	125	140	-	-
DM15	IEC 90	2,2 Kw	489	408	81	1"1/4 M"	1"1/2 F"	298	125	35	62	90	125	140	-	-
DM15	NEMA 145 TC	3 Hp	530	449	81	1"1/4 M"	1"1/2 F"	327	127	34	62	88	125	139	-	-

*gas bsp or npt

DM30



girante/impeller	motor 2,2 kW (3Hp)	motor 3 kW (4Hp)	motor 4 kW (5.5Hp)
Ø 134 mm*	up to 1,1	up to 1,5	up to 1,8
Ø 122 mm	up to 1,4	up to 2	up to 2
Ø 110 mm	up to 1,8	up to 2	up to 2

*standard

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM30	IEC 90	2,2 Kw	499	408	91	1"1/2 M"	2 F"	308	125	31	66	90	140	140	-	-
DM30	IEC 100	3 Kw	524	433	91	1"1/2 M"	2 F"	315	140	31	66	100	140	160	-	-
DM30	IEC 112	4 Kw	549	458	91	1"1/2 M"	2 F"	322	140	31	66	112	140	190	-	-
DM30	NEMA 145TC	3 Hp	541	450	91	1"1/2 M"	2 F"	337	127	31	66	88	140	139	-	-
DM30	NEMA 184TC	5 Hp	608	517	91	1"1/2 M"	2 F"	328	139	31	66	114	140	190	-	-

*gas bsp or npt

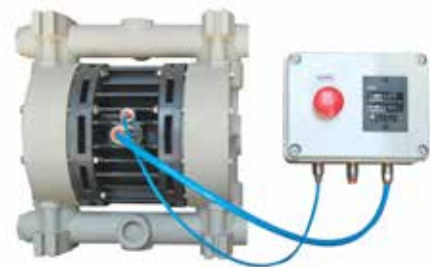
STROKE COUNTER

Devices that are fitted to the pneumatic circuit of diaphragm pumps. They can count the number of strokes made by the diaphragms and therefore the number of cycles. This device allows various types of monitoring, e.g. litres of liquid delivered by the pump as a function of its displacement capacity and it also allows the control of the pump running at distance.



BATCH CONTROLLER

Mechanical batch controller with 5-digit display and start/stop button. Pneumatic operation, no electrical connection required. Designed for CUBIC and BOXER series.



AIR REGULATOR KIT

It is composed of a compressed air filter regulator, fixing bracket, gauge, Elaston tube (5 m) cock and fittings.



FOOT VALVES

Check valves designed for vertical fitting at the bottom end of the suction pipe on both centrifugal and pneumatic pumps. These non-return valves prevent water from flowing out of the suction pipe so that the pump remains primed at all times.

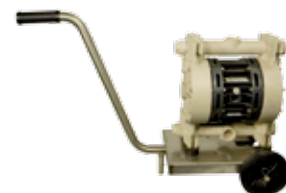
Sizes available: 1", 1 1/4", 1 1/2", 2", 3".

Construction materials: PP and PVDF



TROLLEY FOR BOXER PUMPS

The pump is blocked through fixing holes



FLANGES



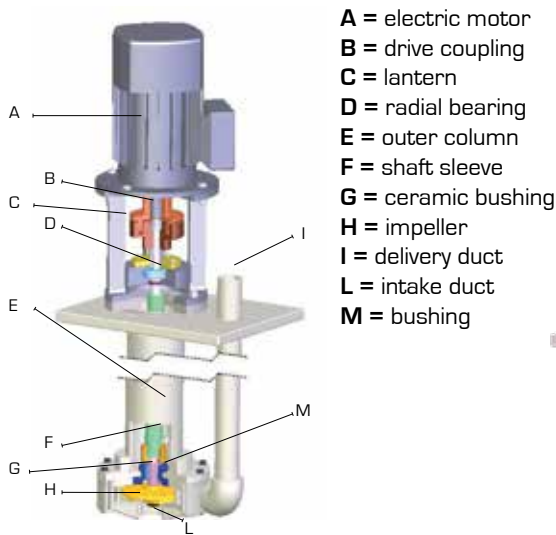
VERTICAL CENTRIFUGAL PUMPS

The **IM** series of resin-encased vertical centrifugal pumps features high-performance pumps for fixed installations with pump immersed directly in the tank and operated by a direct-drive electric motor (**max 3000 rpm**) for fast fluid drainage with **flow rates ranging from 6 to 75 m³/h** and **head up to 38 mt**.

The special design of this type of pump avoids the use of internal mechanical seals (subject to heavy wear) and ensures that any accidental spillages are collected in the tank.

The open impeller allows continuous pumping even with very dirty liquids having **apparent viscosity of up to 500 cps (at 20°C)** and **small suspended solids**.

The choice of pump construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range.



Construction materials: PP, PVDF;

Pump immersed in the tank;

Motor removable even with pump installed;

Weldless;

Usable even with extremely dirty liquids;

High flow rates: from 6 to 75 m³/h;

Motor replaceable without dismantling pump;

User-friendly bushing replacement;

Quick and easy maintenance;

Fully-removable;

Also available without motor;

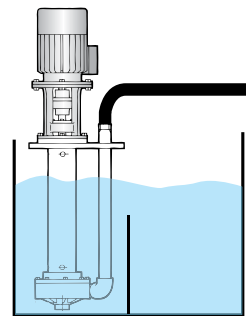
Max. head: 7,2 ÷ 38 m

Viscosity: up to 500 cps

European voltage motors:

IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM

Column length (L): 500/800/1000/1250 mm



pump	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

HOW IT WORKS

The impeller is integral with the shaft and direct-drive electric motor and is rotated at a preset speed with the centrifugal effect producing suction on the intake side and discharge on the delivery side.

COMPOSITION CODES

ex. **IM95PV0800N**

IM95 in PP + O RING Viton + column length 800 + Three-phase motor

IM95	P	V	0800	N
Pump model	Pump material	O RING	Column length	Motor
IM 80 - IM 80 IM 90 - IM 90 IM 95 - 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	P - Polypropylene F - PVDF	D - EPDM V - Viton	0250 - 250 mm ** 0500 - 500 mm 0800 - 800 mm 1000 - 1000 mm 1250 - 1250 mm	N* - Three-phase motor M - Single-phase motor A - ATEX motor

* Standard motor is the three-phase induction type with European voltage (2-pole) 50Hz - ** only available for IM 80/90 pumps

VERTICAL CENTRIFUGAL PUMPS

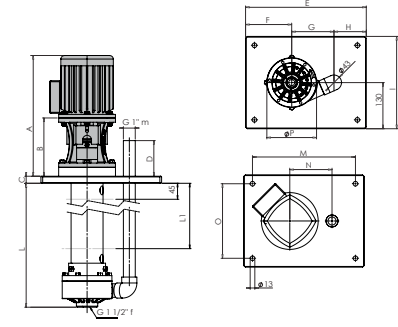
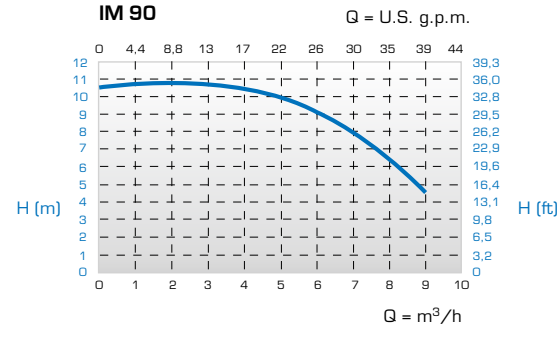
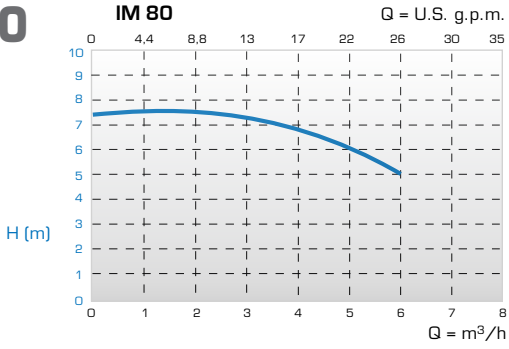
IM 80/90



PP



PVDF



L	Weight	Weight	L1
column	PP	PVDF	max
250	6,5 Kg	7 Kg	100
500	7,5 Kg	8 Kg	350
800	10,5 Kg	11 Kg	650

The dimensions shown are in mm

model	power	∅ passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM80	0.37 Kw 0.5 HP	7	340	164	20	100	340	130	119	91	260	290	119	210	∅140	8
IM90	0.55 Kw 0.75 HP	10	340	164	20	100	340	130	119	91	260	290	119	210	∅140	8

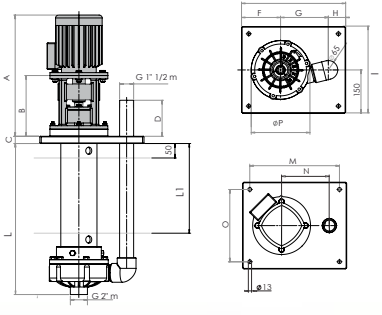
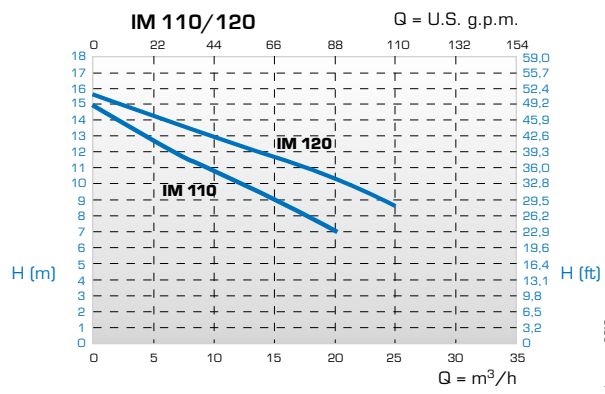
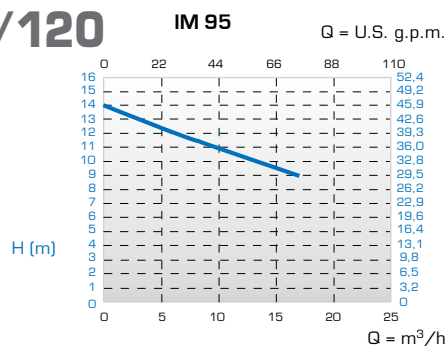
IM 95/110/120



PP



PVDF



L	Weight	Weight	L1
column	PP	PVDF	max
500	15 Kg	16 Kg	300
800	19 Kg	20 Kg	600
1000	22 Kg	23 Kg	800
1250	24 Kg	25 Kg	1050

The dimensions shown are in mm

model	power	∅ passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM95	0.75 Kw 1 HP	6	419	210	25	125	360	135	165	60	300	310	165	250	∅203	12
IM110	1.1 Kw 1.5 HP	6	419	210	25	125	360	135	165	60	300	310	165	250	∅203	13
IM120	1.5 Kw 2 HP	6	446	220	25	125	360	135	165	60	300	310	165	250	∅203	17

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

IM 130/140

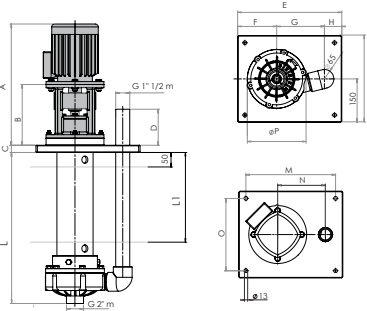
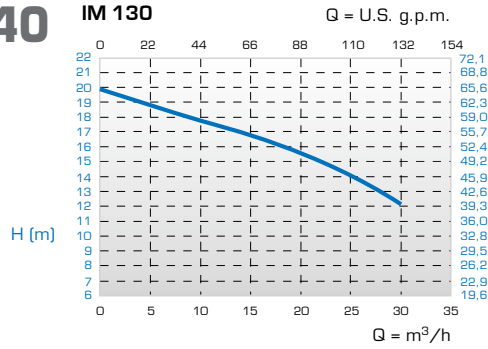


PP

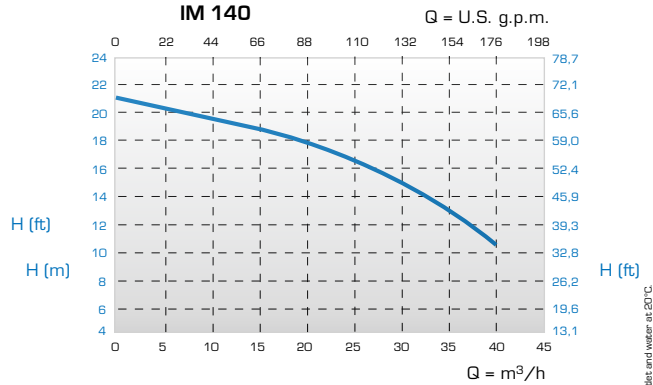


PVDF

IM 130



IM 140



L column	Weight PP	Weight PVDF	L1 max
500	15 Kg	16 Kg	300
800	19 Kg	20 Kg	600
1000	22 Kg	23 Kg	800
1250	24 Kg	25 Kg	1050

The dimensions shown are in mm

model	power	∅ passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM130	2.2 Kw 3 HP	6	467	220	25	125	360	135	165	60	300	310	165	250	∅203	20
IM140	3 Kw 4 HP	12	507	235	25	120	360	135	165	60	300	310	165	250	∅203	34

IM 150/155

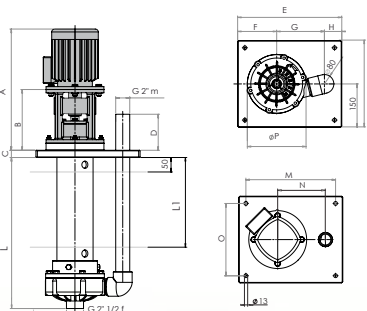
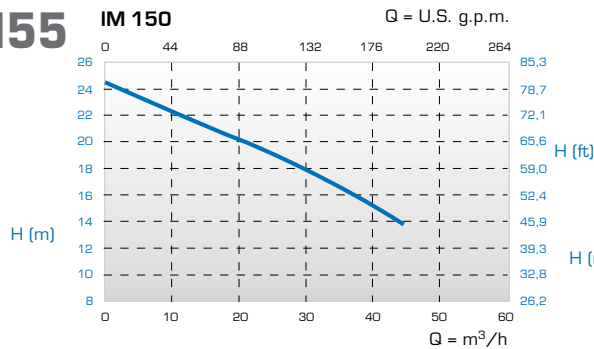


PP

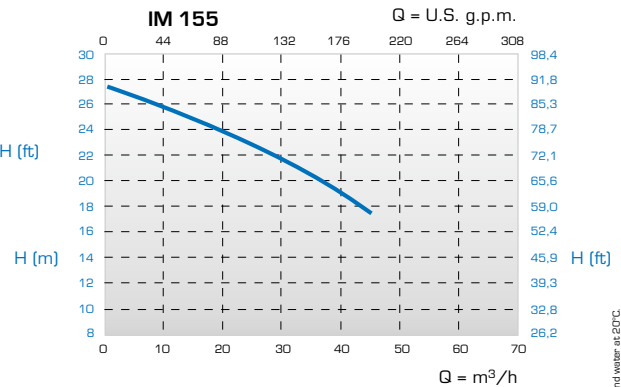


PVDF

IM 150



IM 155



L column	Weight PP	Weight PVDF	L1 max
500	28 Kg	30 Kg	300
800	31 Kg	33 Kg	600
1000	33 Kg	35 Kg	800
1250	36 Kg	38 Kg	1050

The dimensions shown are in mm

model	power	∅ passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM150	4 Kw 5.5 HP	2	532	233	25	132	480	170	215	95	380	430	215	330	∅275	36
IM155	5.5 Kw 7.5 HP	2	682	303	25	130	480	170	215	95	380	430	215	330	∅275	53

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

VERTICAL CENTRIFUGAL PUMPS

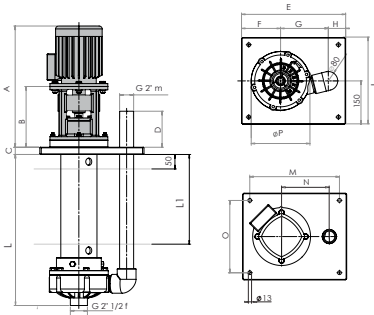
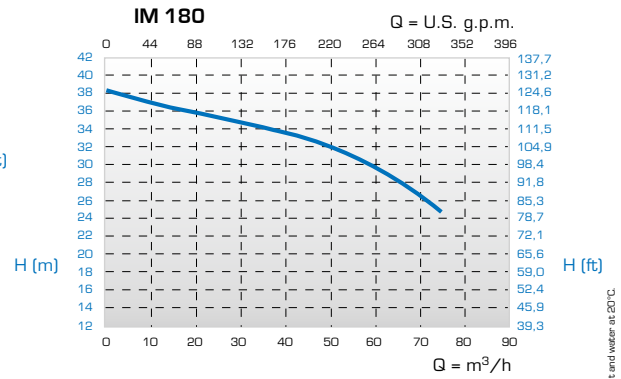
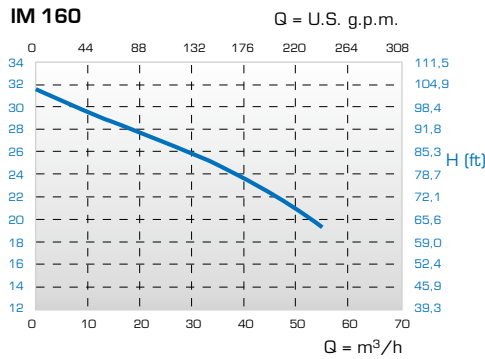
IM 160/180



PP



PVDF



L	Weight	Weight	L1
column	PP	PVDF	max
500	31 Kg	33 Kg	300
800	34 Kg	36 Kg	600
1000	36 Kg	38 Kg	800
1250	39 Kg	41 Kg	1050

The dimensions shown are in mm

The curves and performance values refer to pumps square delivery outlet and water at 20°C

model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM160	7.5 Kw 10 HP	9	702	303	25	130	480	170	215	95	380	430	215	330	Ø275	61
IM180	11 Kw 15 HP	11	752	303	25	130	480	170	215	95	380	430	215	330	Ø275	71



TRANSFER PUMPS

Available in PP, PVDF e Aisi 316

Inexpensive;

Portable;

Handles corrosive liquids;

Viscosity up to 900 cps;

Available with either electric or pneumatic motor;

Adjustable flow rate (pneumatic version);

No mechanical seals;

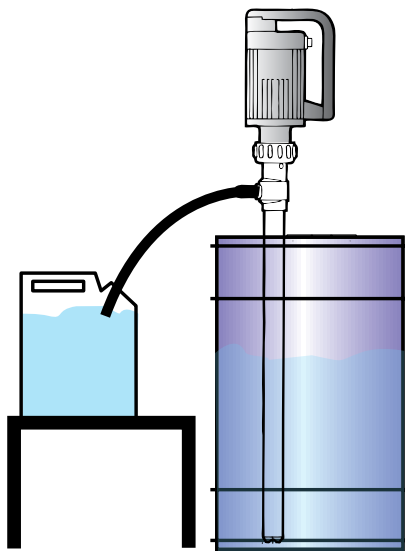
Easily dismantled;

Dip tube length = 900 mm or 1200 mm;

Flow rate up to 90 l/min.

INSTALLATION

TR drum transfer pumps should only be used with the shaft positioned vertically and the pump immersed in the drum, whilst liquid must be present. Running dry or with air bubbles can cause damage to the internal shaft guide bushing.



These **portable** drum-transfer immersion pumps are designed to pump corrosive liquids.

Their special shape ensures that any spillages are collected in the drum.

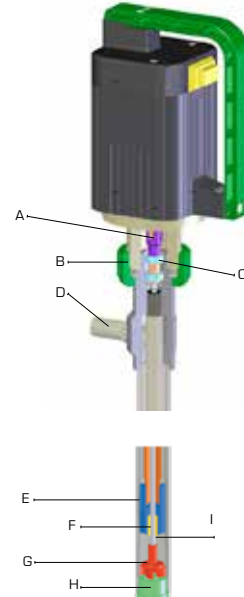
Available with fully-interchangeable **electric or pneumatic motor**, these pumps have an open impeller that allows continuous pumping of clean corrosive liquids having **apparent viscosity of up to 600 cps with 500-watt electric and pneumatic motor (at 20°C) and 900 cps with 800-watt electric motor (at 20°C)**. TR-EL series pumps driven by an electric motor are also fitted with a safety cut-out switch that prevents accidental restart after a power outage.

DESCRIPTION OF THE PUMPS

These drum transfer pumps consist of a dip tube the end of which houses the open impeller that is secured to the driveshaft connected to the pump by means of a ring nut, whilst transmission is provided by a shaft coupling.

HOW IT WORKS

The impeller is integral with the shaft and coupled to the electric or pneumatic motor that makes it rotate, thus creating the centrifugal effect.



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

COMPOSITION CODES

ex. TRP1200EL

TR in PP + Suction hose length 1200 + Electric motor

TR	P	1200	EL
Pump model	Material Pump	Suction hose length	Motor
TR - TRANSFER PUMPS	P - Polypropylene F - PVDF A - Aisi 316	0900 (900 mm) 1200 (1200 mm)	EL* - Electric motor PN - Pneumatic motor

* Standard electric motor is single-phase 50/60Hz

TR PUMPS



construction materials: PP - PVDF - ALU - Aisi 316

TRP BODY PP



Suction hose	ø 42 mm
Hose clamp	ø 25 mm
Max. temp.	60°C
Total Weight Kg	1,4/1,7
Suct. hose mat.	PP
Shaft material	HASTELLOY or Aisi316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	PP
Internal parts	PP+PTFE
Lenght	900/1200

TRF BODY PVDF



Suction hose	ø 40 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	1,6/1,9
Suct. hose mat.	PVDF
Shaft material	HASTELLOY
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PVDF+PTFE
Lenght	900/1200

TRA BODY AISI 316



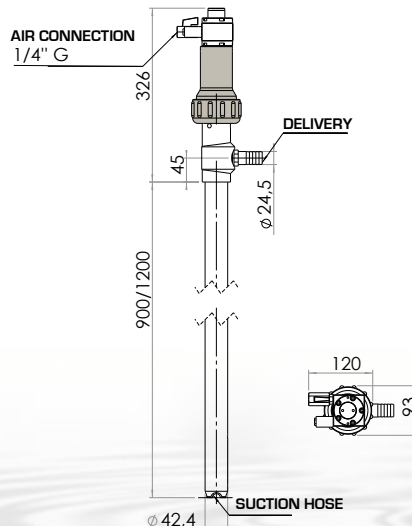
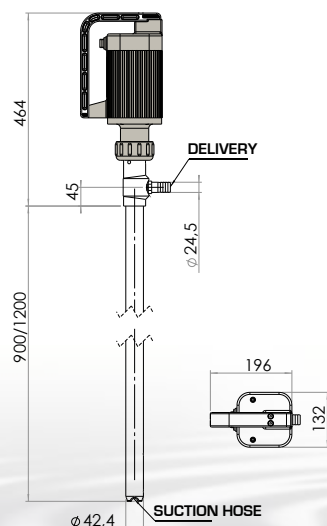
Suction hose	ø 42,5 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	4,3/5,3
Suct. hose mat.	Aisi 316
Shaft material	Aisi 316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PTFE+PPS-V
Lenght	900/1200

TRAX BODY AISI 316

PTB 03 ATEX 400X II 1/2 GB IIB T4



Suction hose	ø 42,5 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	3/4,4/5,3
Suct. hose mat.	Aisi 316
Shaft material	Aisi 316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PTFE+PPS-V
Lenght	700/1000/1200



DIMENSIONS

All the values shown are approximate and not binding

TR - MOTORS



TRANSFER PUMPS

ELECTRIC MOTOR 500 W



Motor power	500 watt
Motor voltage	230 V/115V* single phase
Motor protection	IP 54
Motor class	F
Flow rate	80 l/min
Viscosity	600 cps
Weight Kg	3,7

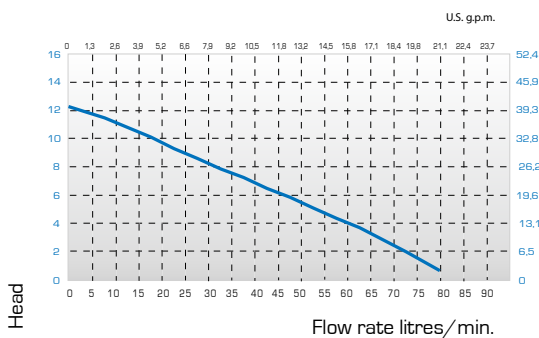
* on request

ELECTRIC MOTOR 800 W

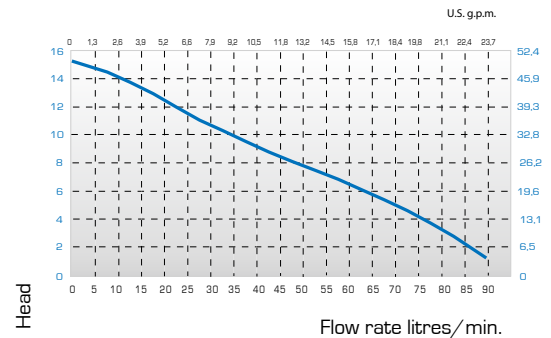


Motor power	800 watt
Motor voltage	230 V single phase
Motor protection	IP 54
Motor class	F
Flow rate	90 l/min
Viscosity	900 cps
Weight Kg	3,7

PERFORMANCE



PERFORMANCE



ELECTRIC MOTOR 550W

with earth cable and EX plug II 2 G EEx de IIA T6



Motor power	550 watt
Motor voltage	230 V single phase
Motor protection	IP 54
Motor class	F
Flow rate	80 l/min
Viscosity	600 cps
Weight Kg	11

PNEUMATIC MOTOR



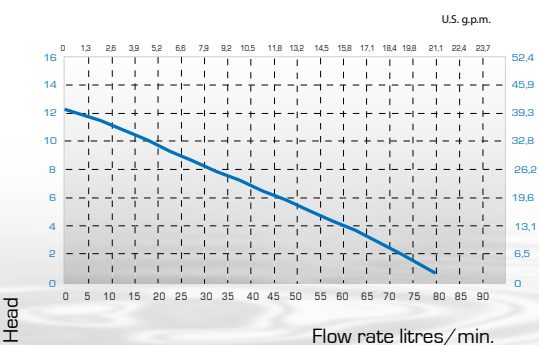
Motor power	0,33 HP at 7bar
Flow rate	80 l/min
Viscosity	600 cps
Weight Kg	1,1

II 2GD c IIC T6 (80°C) X

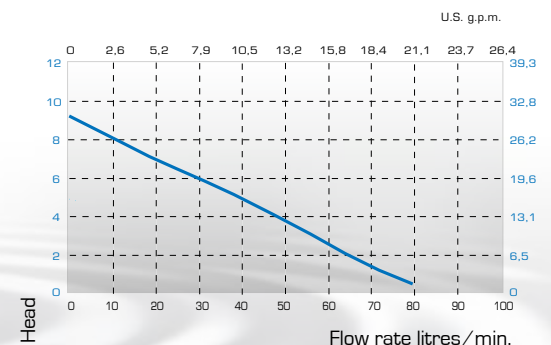


Motor power	0,33 HP at 7bar
Flow rate	80 l/min
Viscosity	600 cps
Weight Kg	3

PERFORMANCE



PERFORMANCE



The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

ACCESSORIES



FLOW METERS PP - PVDF



Flow meters are fitted exclusively to centrifugal or drum-transfer pumps and can measure either the pump's instantaneous flow rate or the total number of litres of liquid delivered. The reading appears on the incorporated display.

DISPENSER PP - ALU - INOX

Made in polypropylene, aluminium alloy, stainless steel and equipped with delivery trigger.



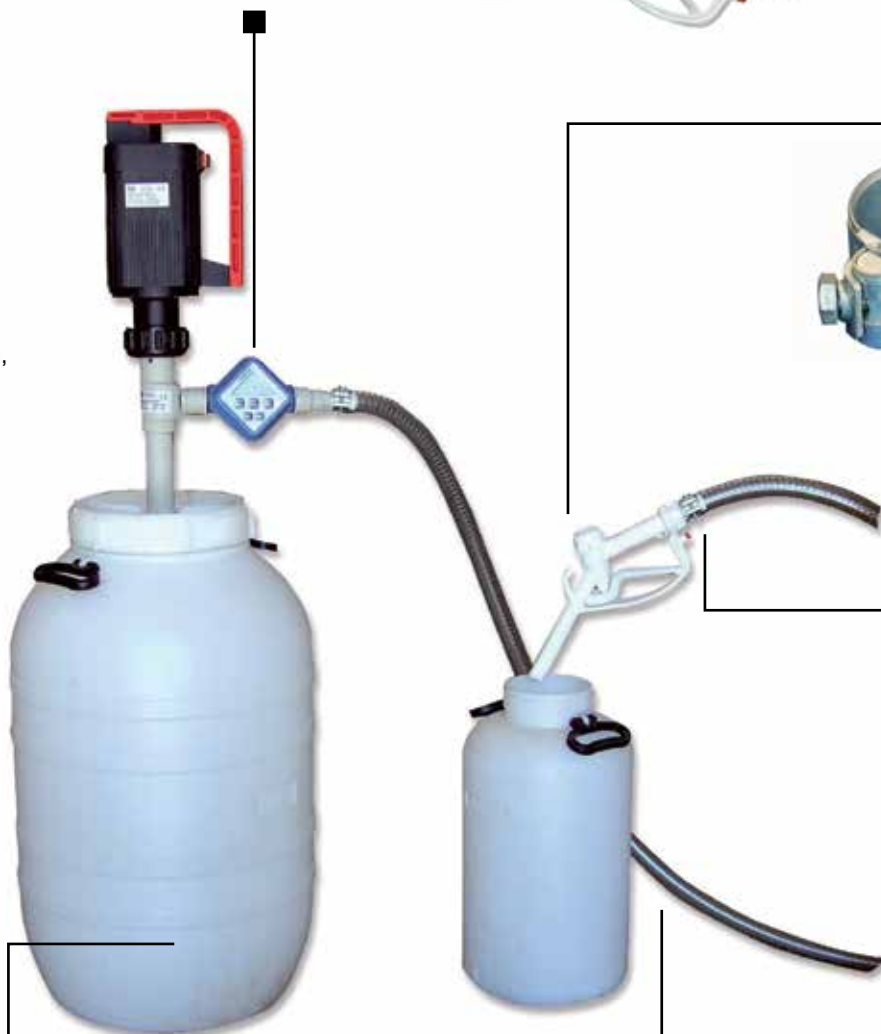
QUICK COUPLINGS

For the chemical industry, high resistance, suitable for reinforced hoses. Max. pressure 13 bar.



T-BOLT CLAMPS

High-strength clamps for spiralled hose



DIP TUBE FILTER PP - INOX

It is made in polypropylene and inox and allows fluids to be filtered at the intake. For TR pumps only.

REINFORCED HOSE

Food-grade pvc construction with metal reinforcement for suction/discharge.



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