

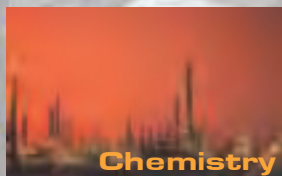
GENERAL CATALOGUE



DEBEM



INDUSTRIAL PUMPS



Chemistry



of paints



Ecological



Galvanic


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OUR PRODUCTION




Debem's production is composed of five ample product ranges that favour specific uses. Cost is one of several determining factors that must be considered when choosing a pump. The vast choice of material, together with the technological principles that DEBEM uses in the preparation of its pumps, determines their potential summarised for each range. The data contained in this catalogue is indicative and not binding in any way. Due to continuous technological innovation, this data may change without prior warning.

- A = high
- B = low
- M = medium
- r = adjustable
- C = continuous
- I = intermittent
- E = raised
- ESP = potent. explos.
- AG = aggressive
- CR = corrosive
- GR = severe, dirty, dusty

 = Explosion proof

 = Air supply

 = Electric supply

CUBIC AND BOXER PUMPS



CUBIC and BOXER diaphragm pumps, operated by compressed air, are noted for their sturdiness and power, for their self-priming use (dry negative suction) even in severe conditions and for use with high viscosity fluids that may contain suspended particles. ATEX ZONE 1 version available on request.



Flow rates	M/B-r
Heads	M/A-r
Operation	C/I
Viscosity	E
Ambient	ESP AG CR GR

EQUAFLUX DAMPENERS



The automatic diaphragm pulsation dampeners are devices operated by compressed air and installed on delivery circuits with fluid pressure differentials, to minimise fluid pulsation and subsequent vibration or water hammer thereby safeguarding the process equipment. ATEX ZONE 1 version available on request.



Flow rates	M/B
Operation	C/I
Viscosity	E
Ambient	ESP AG CR GR

MB PUMPS



The horizontal centrifugal pumps in resin are operated by an electric motor in direct drive and are recommended for fixed installations outside of the positive suction head tank and for high flow rates and transfer speeds of corrosive fluids.



Flow rates	A
Operation	C
Viscosity	B
Ambient	AG CR GR

IM PUMPS



The vertical centrifugal pumps in resin are operated by a direct drive electric motor mounted using transmission joints and are recommended for fixed installations with the pump immersed in the tank and for high flow rates and transfer speeds of very dirty corrosive fluids.



Flow rates	A
Operation	C
Viscosity	B
Ambient	AG CR GR

TR PUMPS



The drum pumps are operated by a compressed air motor or an electric motor (see models) direct drive mounted using a transmission joint and being portable they are particularly suitable for rapid transfer of clean corrosive fluid from drums.



Flow rates	B
Operation	C-I
Viscosity	B
Ambient	AG CR





ATEX COMPLIANCE



DEBEM has deposited the documentation with TÜV NORD that attests ATEX conformity in accordance with the 94/9/CEE directive for BOXER and CUBIC Pneumatic Diaphragm Pumps and for EQUAFLUX Automatic Pulsation Dampeners, as described in the following table.

They are produced in the STANDARD version, class II 3/3GD c IIB T 135°C or, on request and with a suitable composition, in the CONDUCT version, class II 2/2G c IIB T 135°C. It is the user's responsibility to classify the zone of use; the manufacturer of the component must identify and label the equipment produced in accordance with the relevant certification class.

PRODUCT SERIES	DESCRIPTION	CERTIFICATION CLASS
STANDARD version <ul style="list-style-type: none"> • CUBIC • BOXER • EQUAFLUX 	Constructed in non-conductive plastic and/or with a non-conductive central body, or in metallic material with a non-conductive central body.	 II 3/3GD c IIB T 135°C (for ZONE 2)
CONDUCT version <ul style="list-style-type: none"> • CUBIC • BOXER • EQUAFLUX 	Constructed with bodies and/or manifolds made from conductive plastic material (PP + Carbon Fibre, ECTFE/PVDF + Carbon Fibre) and metallic material (Aluminium, Stainless Steel)	 II 2/2GD c IIB T 135°C (for ZONE 1)



Safety symbol in accordance with the DIN 40012 standard, Appendix A

II 2/2 GD: Surface equipment for use in areas where gases, vapours, mists or clouds of combustible powder in the air may occasionally occur during normal operation (EN 1127-1 para. 6.3), both in external and internal areas.

II 3/3 GD: Surface equipment for use in areas where gases, vapours, mists or clouds of combustible powder in the air are unlikely to occur during normal operation, both in external and internal areas, or may occur on rare occasions and for a brief amount of time.

c: Equipment protected by constructional safety (EN 13463-5).

IIB: Excluding the following products: **Hydrogen, acetylene, carbon disulphide.**

T 135°C: Allowed temperature class The user must process fluids in temperatures that conform to this classification considering the instructions contained in the manual and the dispositions of the standards in force. The user must also consider the ignition temperature of the gases, vapours, mists or clouds of combustible powder that may be present in the air within the area of use.

CUBIC AND BOXER DIAPHRAGM PUMPS



CUBIC and BOXER diaphragm pumps are known for their high performance, power and sturdiness that make them suitable for pumping fluid with a very high apparent viscosity, of up to 50.000 cps (at 20° C) even when suspended solid parts are present.

The dry suction capacity from considerable suction heights when the pump is not flooded, together with the possibility to fine-tune the speed without a loss in pressure, flow rate and head, and the possibility of loadless operation without causing any damage, make these pumps extremely versatile.

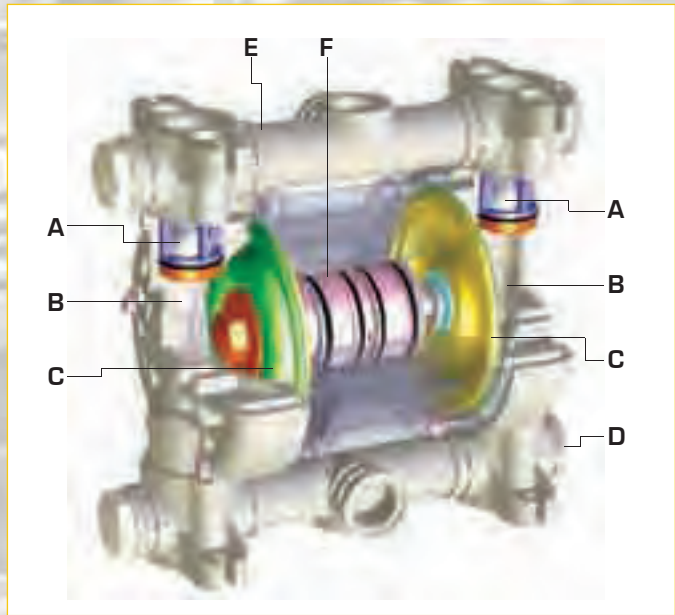
The vast choice of composition materials allows you to determine the best chemical compatibility with the fluid and/or the environment without neglecting the temperature aspect.

Their construction makes them particularly suitable for severe environments with high humidity or in potentially explosive environments (ATEX certification).

QUALITIES.....

DESCRIPTION OF THE PUMP

Diaphragm pumps are composed of a coaxial centrally housed pneumatic motor, with new-generation diaphragms (Long Life profile) fixed to the shaft. At the two ends, the two pump bodies house the ball valves and the relative seats of the product intake and delivery ducts.

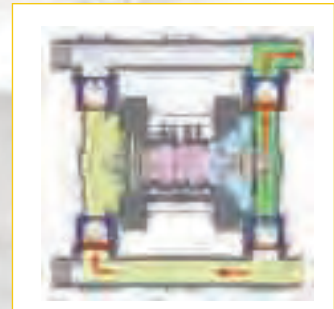
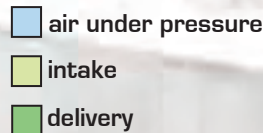


HOW IT WORKS

The compressed air from the coaxial exchanger that enters behind one of the two diaphragms causes it to compress and pushes the product into the delivery duct. Simultaneously, the diaphragm that is opposed and integral with the shaft of the exchanger creates a depression, sucking up the fluid. Once the stroke is completed, the pneumatic coaxial exchanger deviates the compressed air to behind the opposed diaphragm and the cycle is inverted.



A = ball valves
B = pumping chamber
C = diaphragms
D = intake manifold
E = delivery manifold
F = pneumatic motor



STROKE COUNTER SENSOR

(from Cubic 15 to Boxer 250)

It is composed of a pneumatic circuit of the pump that allows a proximity sensor to be read.



AIR REGULATING KIT

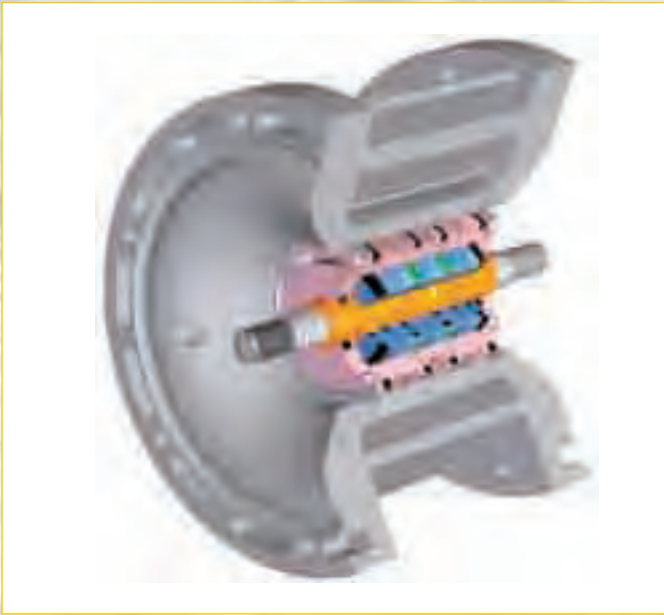
It is composed of a compressed air filter regulator, fixing bracket, gauge, Elaston tube (5 mt.), cock and fittings.



THREE WAY VALVE

To automate remote activation and deactivation of the pump's operation.

- | | | |
|-----------|--|--|
| 1 | - executions in: | Polypropylene,
PVDF/ECTFE,
Aluminium,
Stainless Steel AISI 316; |
| 2 | - use in explosive atmospheres (ATEX certification); | |
| 3 | - suitable for severe environments and with high humidity; | |
| 4 | - dry operation; | |
| 5 | - dry self-priming; | |
| 6 | - supply with non-lubricated air; | |
| 7 | - adjustable flow rate and head; | |
| 8 | - fine-tuning of the speed at constant pressure; | |
| 9 | - possibility of twin manifolds (two separate intakes and deliveries); | |
| 10 | - bench or ceiling installation; | |
| 11 | - three delivery and intake positions; | |
| 12 | - ease of maintenance and replacement of parts; | |
| 13 | - very good performance/cost ratio. | |



COAXIAL PNEUMATIC EXCHANGERS

The pneumatic exchangers that DEBEM has developed and innovated in a revolutionary manner, patenting the most reliable and long-lasting system available today, are the heart of the pneumatic diaphragm pumps.

The device is pneumatically unbalanced thanks to a stall-prevention circuit that ensures optimum operation even in the most critical conditions.



THE COMPONENTS

Its compact construction and limited number of components give it added strength and ensure a long life even in the most extreme conditions.

The air passages have been carefully studied and improved to prevent the formation of ice even at low temperatures and high head values

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



OPERATION

DEBEM diaphragm pumps have a coaxial pneumatic exchanger ensuring perfect operation even at the lowest air supply pressure (min. 2 bar).

The residual chambers and the air passages have been carefully studied to optimize air consumption. The speed and flow rate can be adjusted easily by choking the air supply, whilst the head can be adjusted by changing the air supply pressure.



DEBEM DIAPHRAGMS

Diaphragms are the parts that are most affected and stressed by the suction and pumping process, during which they must also resist to chemical aggression and fluid temperature. Therefore, evaluating and choosing the diaphragms correctly plays an important role in extending the life of the diaphragms and affects investments and maintenance costs. Thanks to a modern design process, destructive tests and thorough analyses of the results, DEBEM has developed a new generation of diaphragms called LONG LIFE that offer, thanks to their profile and construction, a greater work surface and an improved load redistribution that reduces material stress and yield to a minimum.

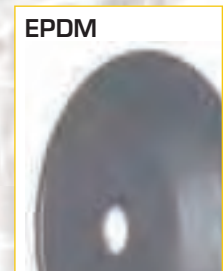


RUBBER DIAPHRAGMS.....

They are made from rubber compounds with suitable additives that improve the chemical characteristics and the mechanical bending and strength characteristics. These diaphragms are reinforced by a sheet of nylon for a better distribution of stress:

NBR.....: low cost and particularly suitable for petroleum and oil based fluids;

EPDM.....: offers good resistance to acids, alkalines and abrasion combined with good flexibility even at low temperatures.



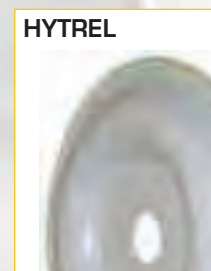
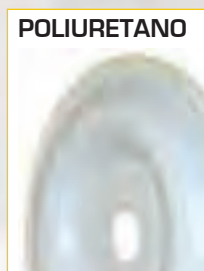
THERMOPLASTIC DIAPHRAGMS.....

They are made in thermoplastic polymers that offer good resistance and mechanical stress distribution.

POLYURETHANE: offers excellent resistance to abrasion and is suitable for all-purpose use;

HYTREL.....: good abrasion resistance and suitable for alimentary use;

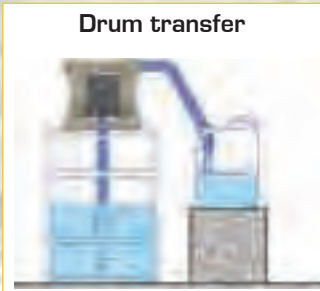
SANTOPRENE...: offers excellent resistance to acids and alkalines, a high resistance to bending and good resistance to abrasion.



PTFE DIAPHRAGMS (teflon®).....

This material is known for its high resistance to temperatures and corrosive chemical agents. DEBEM PTFE diaphragms are subjected to double heat treatment to increase the elasticity and life of the product. Each batch is subjected to destructive testing, using a sampling system, to guarantee its suitability. This diaphragm can be assembled together with one of the previously mentioned types to increase resistance to corrosive chemical agents and fluid temperature.





Drum transfer



Self-priming

The type of fluid, the temperature and the area of use are all influencing factors in determining the choice of materials for the pump and their correct chemical compatibility. The following table is shown here below as an example related to



Positive suction head

some of the more commonly used substances:

- drum transfer (fluids with a viscosity of up to 5,000 cps at 20°C);
- self-priming (fluids with a viscosity of up to 5,000 cps at 20°C);
- below head (fluids with a viscosity of up to 50,000 cps at 20°C).

CHEMICAL COMPATIBILITY

SUBSTANCE	Polypropylene	PVDF ECTFE (Halar®)	Aluminium	Stainless Steel AISI 316	NBR (Perbunan®)	EPDM (Dutral®)	Polyurethane	PTFE (Teflon®)	PPS-V (Ryton®)	FPM (Viton®)	Santoprene®	PE-UHMW (Polizene®)
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	D	A	A	A	-	-
Vinegar	A	B	D	A	B	A	D	A	A	A	-	A
Acetone	A	D	A	A	D	A	D	A	A	D	A1	A2
Fatty acids	A	A	A	A	B	D	D	A	-	A	D	A

CHEMICAL COMPATIBILITY

- 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.

B80	P	D	T	A	P	D	X	C
PUMP MODEL MID = Midgetbox CU15 = Cubic 15 MICR = Microboxer MIN = Miniboxer B80 = Boxer 80 B81 = Boxer 81 B100 = Boxer 100 B150 = Boxer 150 B250 = Boxer 250 B251 = Boxer 251 B502 = Boxer 502 B503 = Boxer 503	PUMP BODY P = polypropylene F = PVDF E = ECTFE (Halar) AL = Aluminium A = AISI 316	AIR SIDE DIAPHRAGM N = NBR D = EPDM U = Polyurethane H = Hytrel M = Santoprene	FLUID SIDE DIAPHRAGM T = PTFE	BALLS T = PTFE A = AISI 316 D = EPDM *C = Ceramic *G = Glass	BALL SEATS P = polypropylene F = PVDF A = AISI 316 I = PE-UHMW R = PPS-V E = ECTFE	O RINGS D = EPDM V = Viton S = Silicone N = NBR T = PTFE	TWIN MANIFOLD X = if requested	CONDUCT VERSION (zone 1) II 2/2GD c IIB T135°C (c = if requested)

* Components on request available up to the size B80

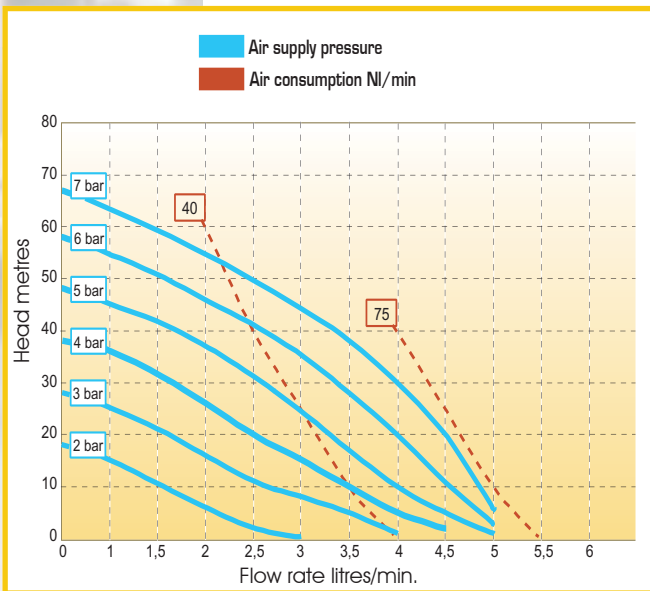


MIDGETBOX

1/4" connections



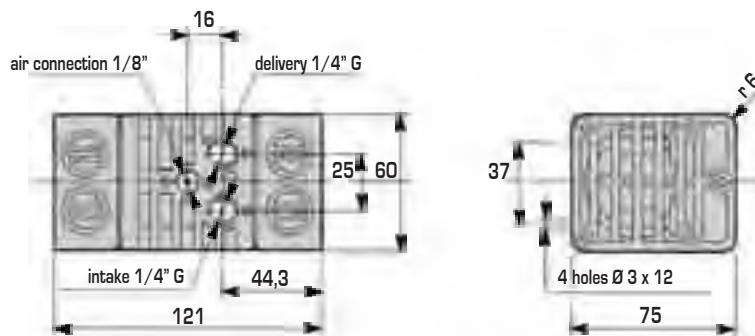
PERFORMANCE



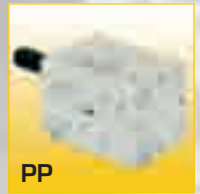
Intake/delivery connections	G 1/4
Air connection	G 1/8
Max. dry suction capacity*	3 m
Max. flow rate*	5 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	0 mm
Net weight	PP 0,5 Kg (zone 2) 60°C Max temp.
Construction material	PP
* The curves and 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



The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.



PP

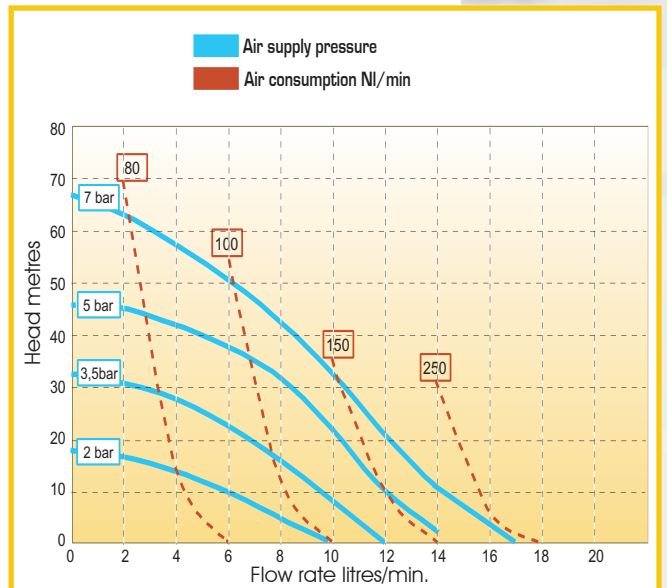


ECTFE

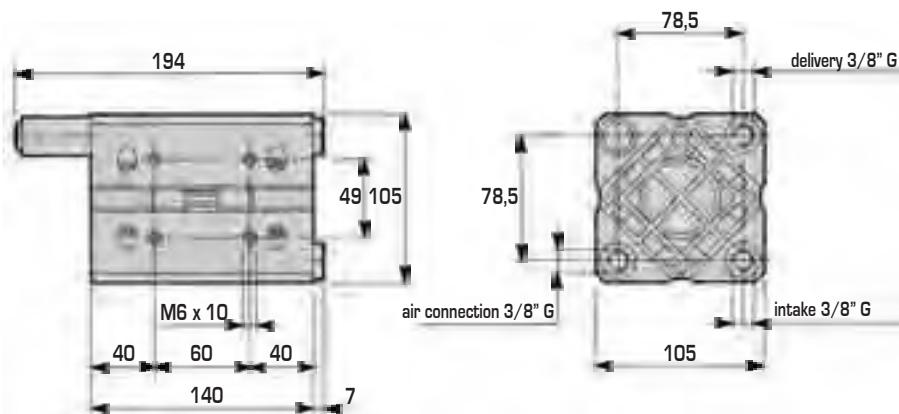
TECHNICAL DATA..

Intake/delivery connections	G 3/8		
Air connection	G 3/8		
Max. dry suction capacity*	3 m		
Max. flow rate*	17 l/min		
Max. head*	70 m		
Max. air supply pressure	7 bar		
Max. diameter of passing solids (spherical particles)	0,5 mm		
Net weight	PP	1 Kg	(zone 2) 60°C Max temp.
	ECTFE	1,5 Kg	(zone 2) 95°C Max temp.
Construction materials	PP - ECTFE		

* 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.



PERFORMANCE



DIMENSIONS

The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

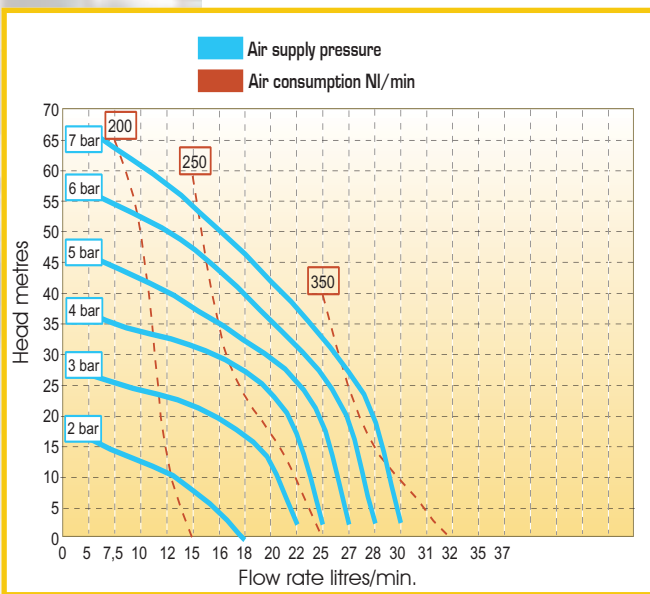


MICROBOXER

1/2" connections



PERFORMANCE

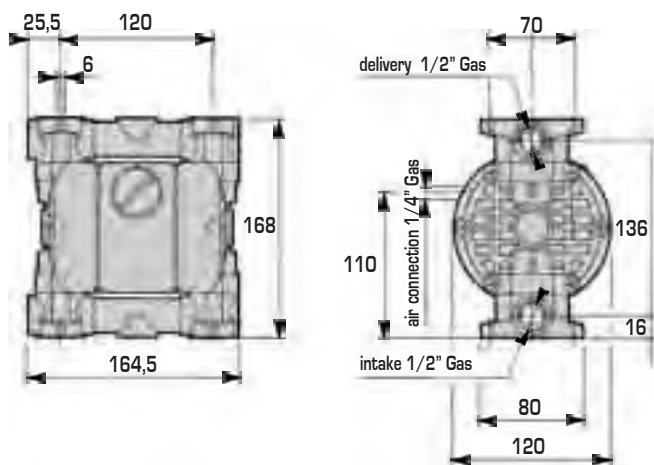


Intake/delivery connections	G 1/2"
Air connection	G 1/4"
Max. dry suction capacity*	5 m
Max. flow rate *	30 l/min
Max. head *	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	2 mm
Net weight	PP 1,6 Kg (zone 2) 60°C Max. Temp.
	ECTFE 1,9 Kg (zone 2) 95°C Max. Temp.
	Alu - Kg (zone 2) 95°C Max. Temp.
	Aisi 316 - Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE - Alu - Aisi 316

* 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



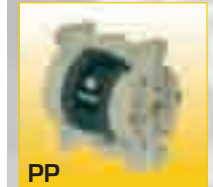
The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

1/2" connections

MINIBOXER



Aisi 316



PP



ECTFE

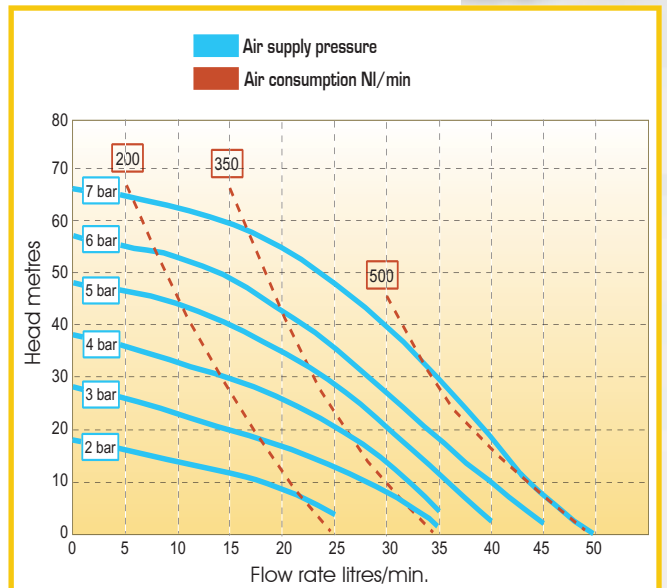


ALU

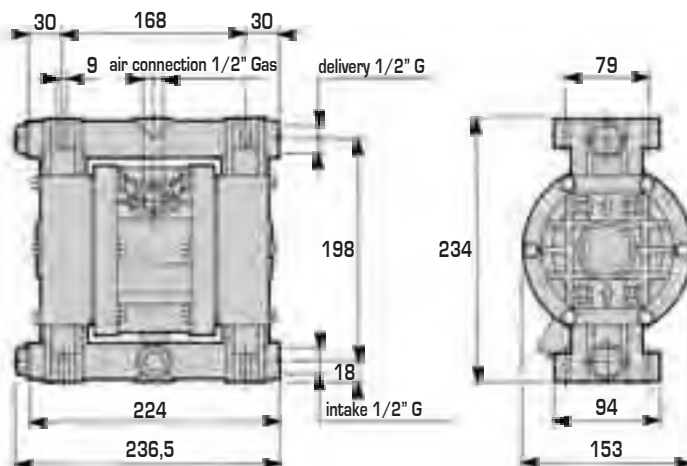
TECHNICAL DATA..

Intake/delivery connections	G 1/2"
Air connection	G 1/2"
Max. dry suction capacity*	5 m
Max. flow rate *	50 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	3 mm
Net weight	PP 3,6 Kg (zone 2) 60°C Max. Temp.
	ECTFE 4,2 Kg (zone 2) 95°C Max. Temp.
	Aluminium 4,2 Kg (zone 2) 95°C Max. Temp.
	Aisi 316 6,5 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE - Alu - Aisi 316

* 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.



PERFORMANCE



DIMENSIONS

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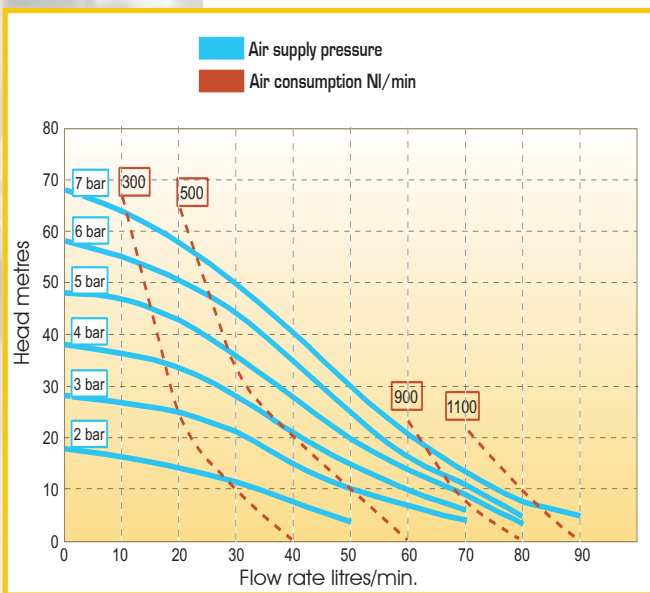


BOXER 80

1" connections



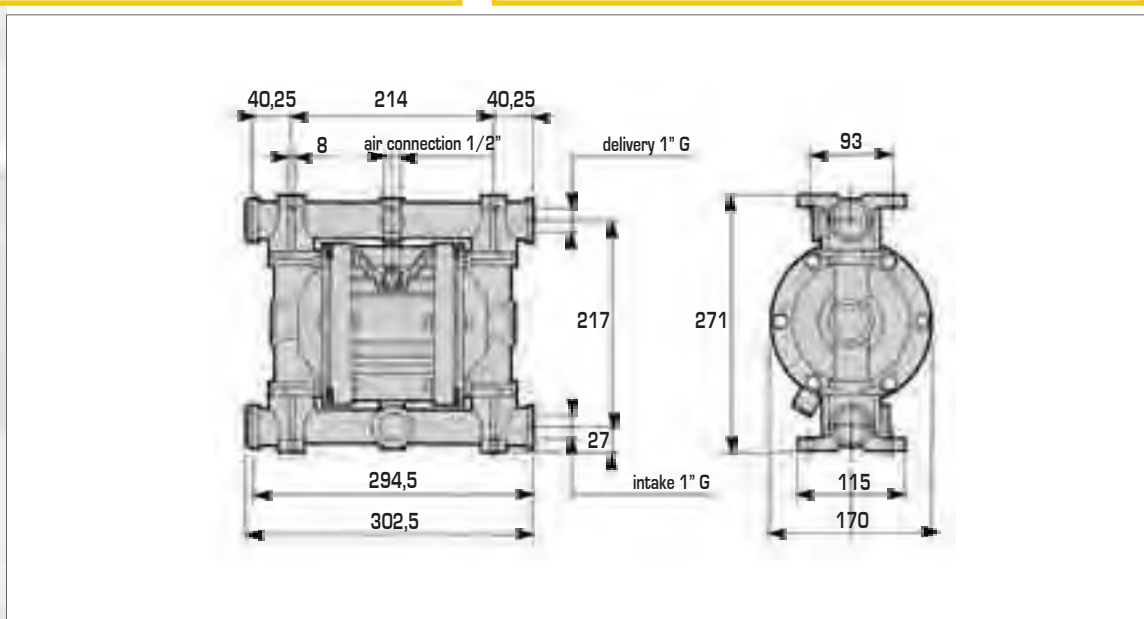
PERFORMANCE



Intake/delivery connections	G 1"
Air connection	G 1/2"
Max. dry suction capacity*	5 m
Max. flow rate *	90 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	4 mm
Net weight Aisi 316	10,5 Kg (zone 2) 95°C Max. Temp.
Construction materials	Aisi 316
* 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..

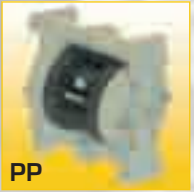
DIMENSIONS



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1" connections

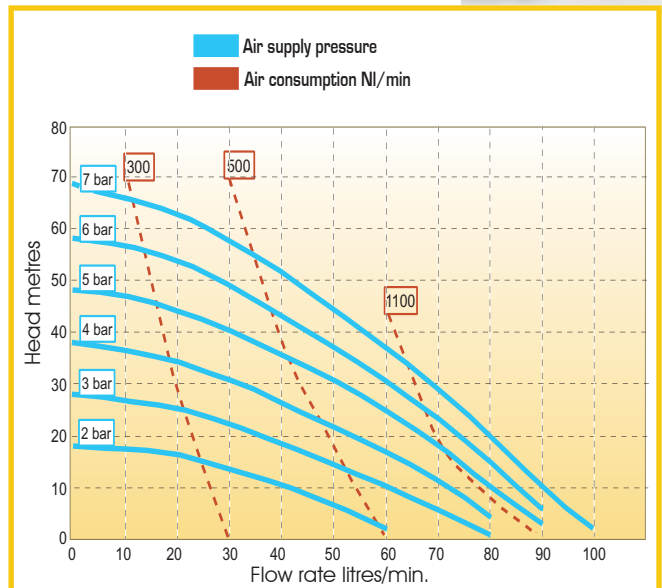
BOXER 81



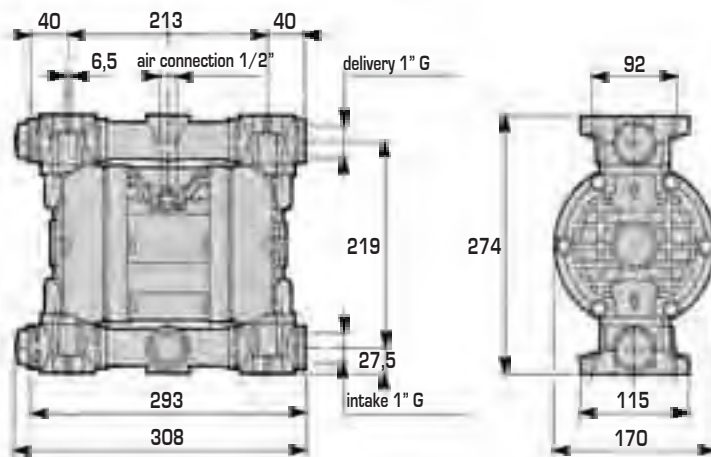
TECHNICAL DATA..

Intake/delivery connections	G 1"	
Air connection	G 1/2"	
Max. dry suction capacity*	6 m	
Max. flow rate *	100 l/min	
Max. head *	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids (spherical particles)	4 mm	
Net weight	PP	5 Kg (zone 2) 60°C Max. Temp.
	ECTFE	6,5 Kg (zone 2) 95°C Max. Temp.
	Aluminium	6,5 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE - Alu	

* 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.



PERFORMANCE ...



DIMENSIONS

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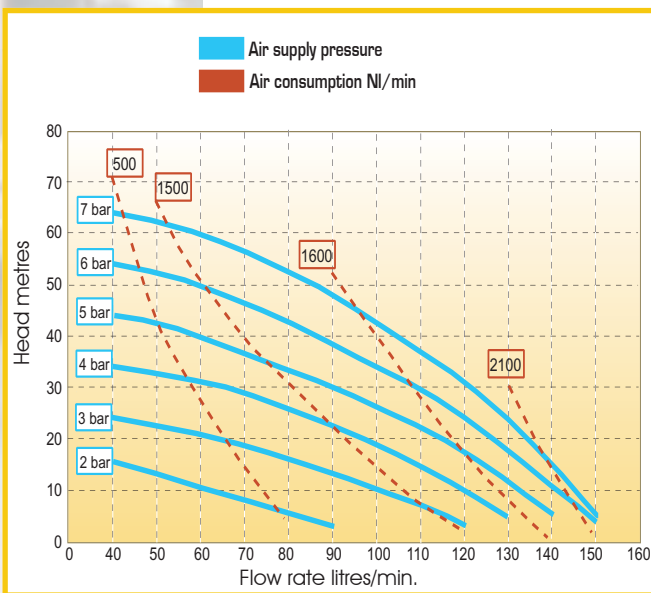


BOXER 100

1" connections



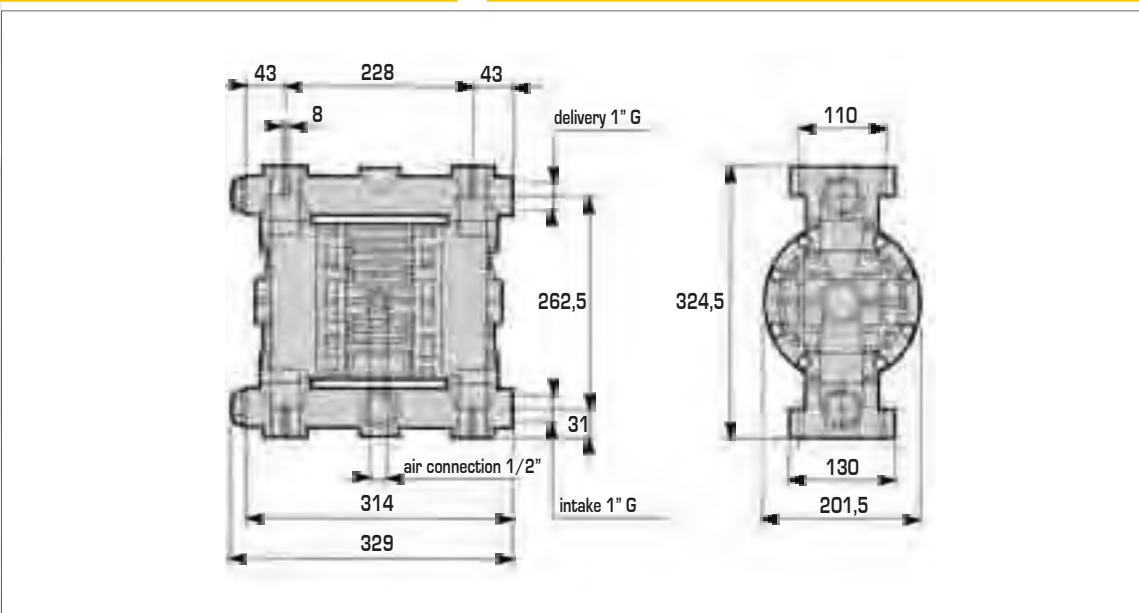
PERFORMANCE



Intake/delivery connections	G 1"	
Air connection	G 1/2"	
Max. dry suction capacity*	5 m	
Max. flow rate *	150 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids (spherical particles)	4 mm	
Net weight	PP	7,5 Kg (zone 2) 60°C Max. Temp.
	ECTFE	8,5 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE	
* 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



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1 1/4" connections

BOXER 150



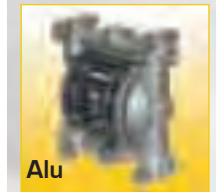
Aisi 316



PP



ECTFE

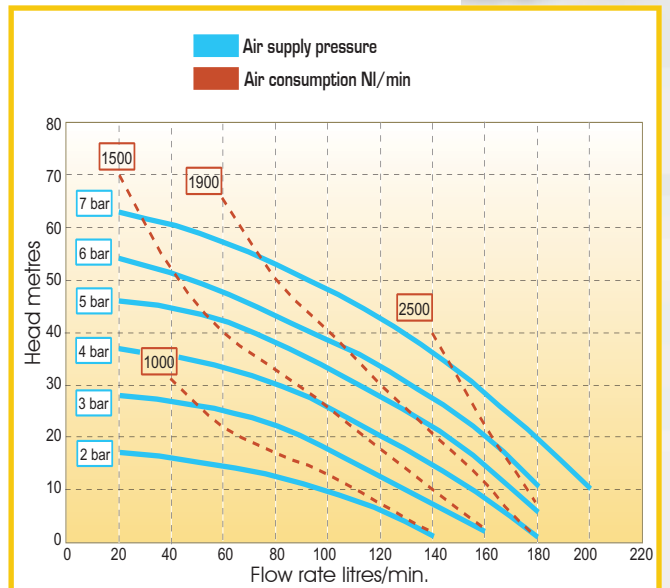


Alu

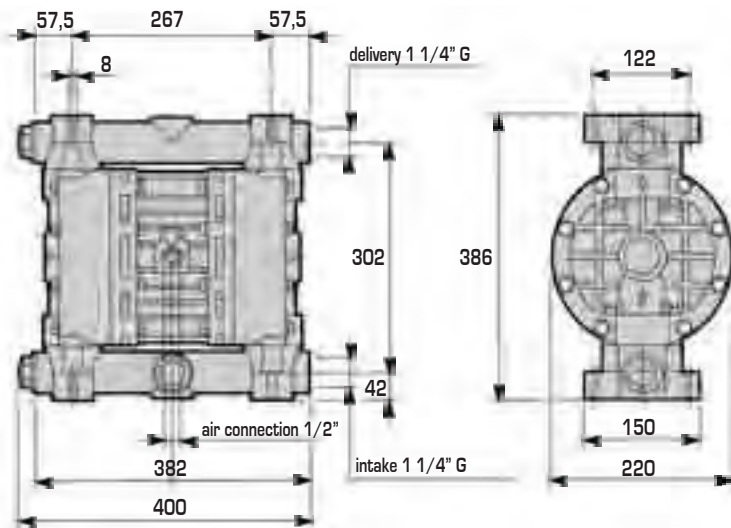
TECHNICAL DATA..

Intake/delivery connections	G 1 1/4"	
Air connection	G 1/2"	
Max. dry suction capacity*	5 m	
Max. flow rate *	220 l/min	
Max. head*	70 m	
Max. air supply pressure	7 bar	
Max. diameter of passing solids (spherical particles)	5 mm	
Net weight	PP	12 Kg (zone 2) 60°C Max. Temp.
	ECTFE	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.
Construction materials	PP - ECTFE - Alu - Aisi 316	

* 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.



PERFORMANCE ...



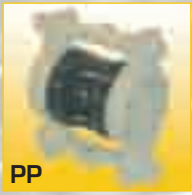
DIMENSIONS

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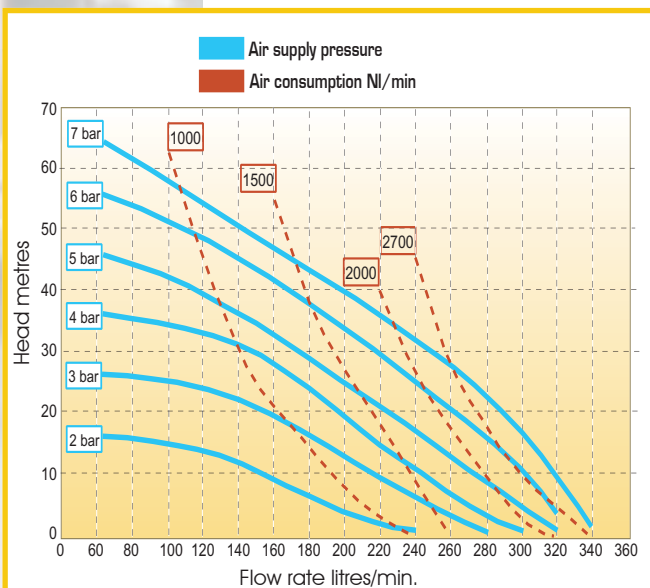


BOXER 250

1 1/2" connections



PERFORMANCE

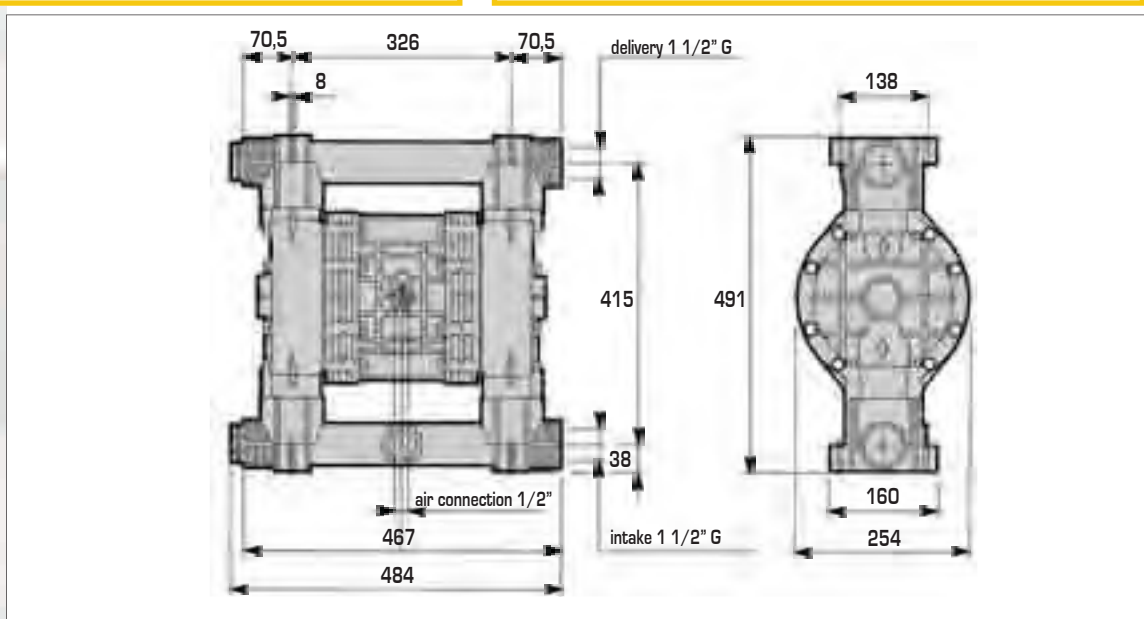


Intake/delivery connections	G 1 1/2"
Air connection	G 1/2"
Max. dry suction capacity*	5 m
Max. flow rate*	340 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	6 mm
Net weight	PP 16 Kg (zone 2) 60°C Max. Temp. ECTFE 20 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE

* 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..

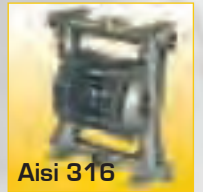
DIMENSIONS



The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

1 1/2" connections

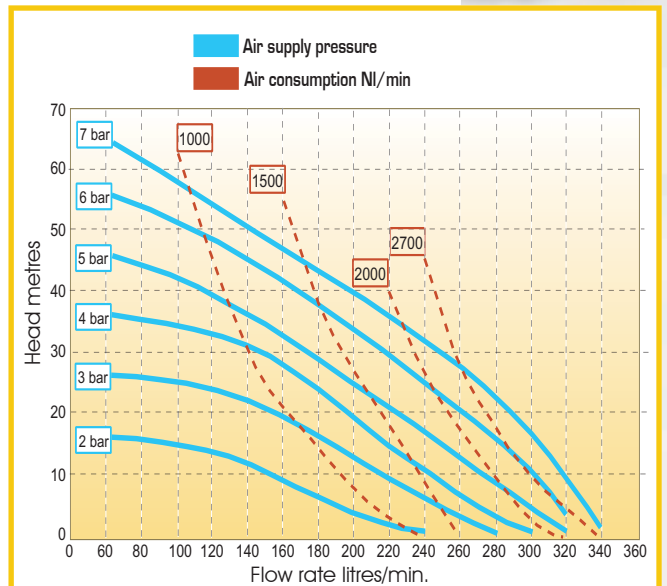
BOXER 251



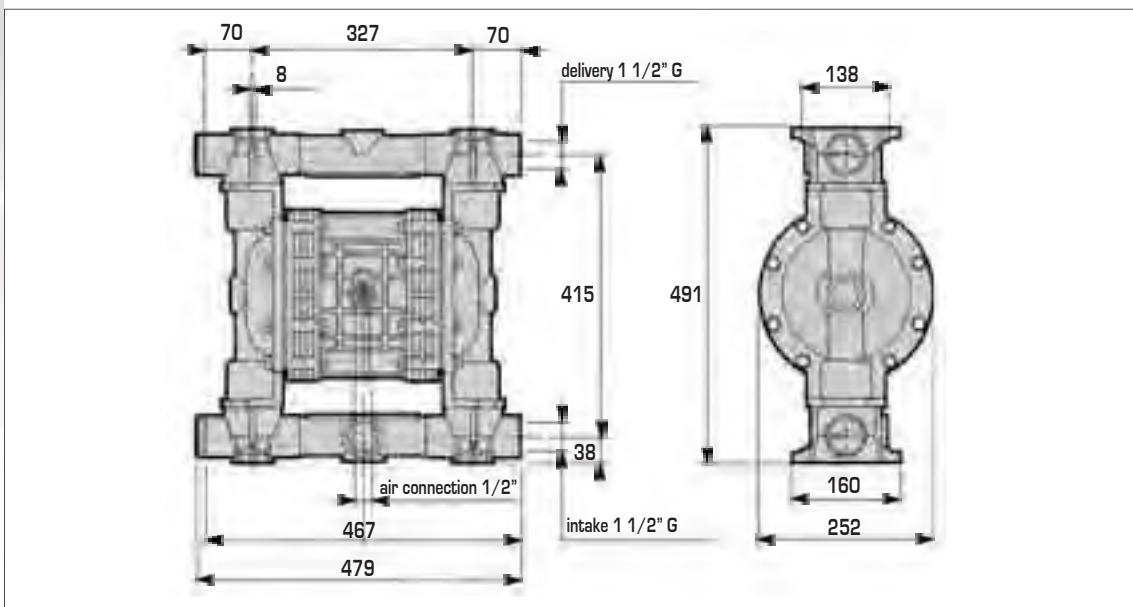
TECHNICAL DATA..

Intake/delivery connections	G 1 1/2"
Air connection	G 1/2"
Max. dry suction capacity*	6 m
Max. flow rate *	340 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	6 mm
Net weight	Alu 21 Kg (zone 2) 60°C Max. Temp. Aisi 316 32 Kg (zone 2) 95°C Max. Temp.
Construction materials	Alu - Aisi 316

* 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.



PERFORMANCE



DIMENSIONS

The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

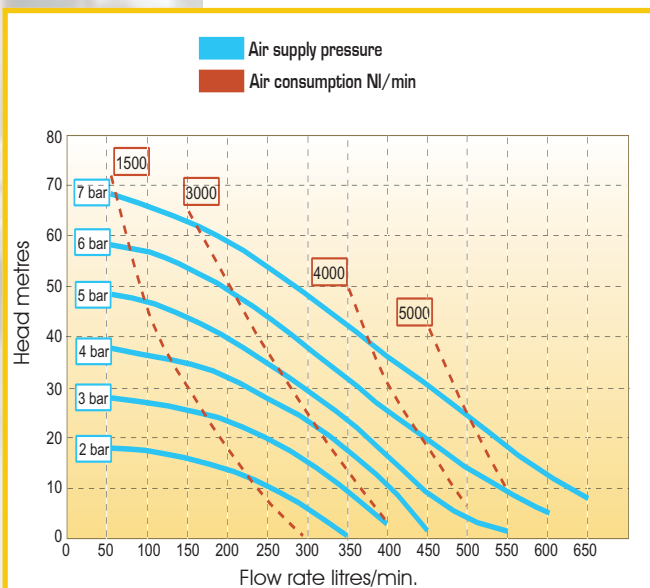


BOXER 502

2" connections



PERFORMANCE

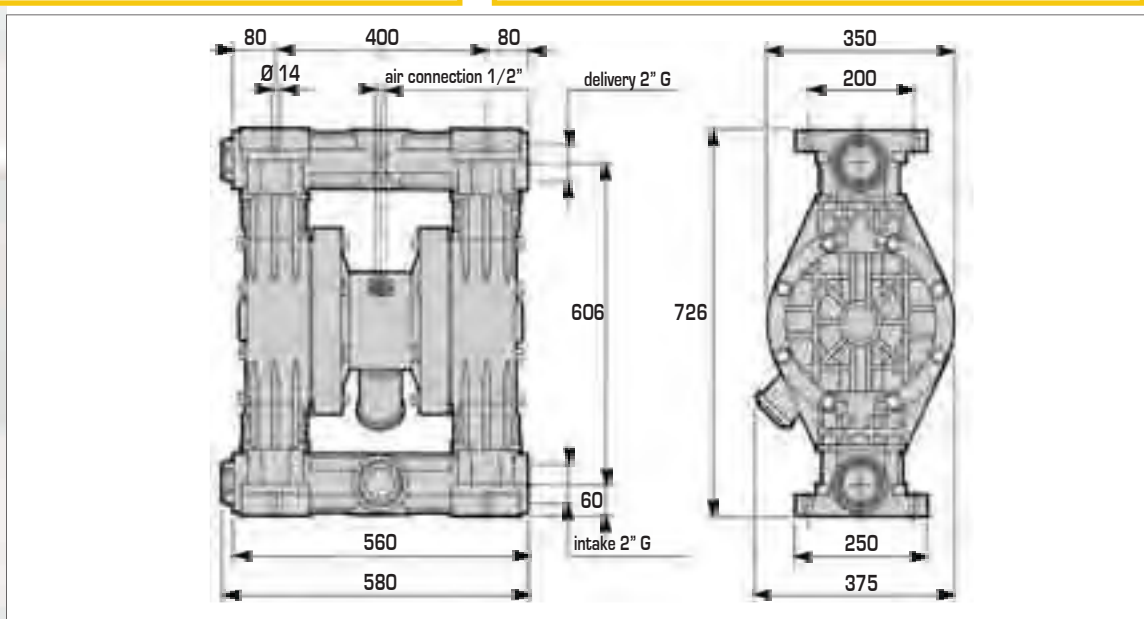


Intake/delivery connections	G 2"
Air connection	G 1/2"
Max. dry suction capacity*	4 m
Max. flow rate*	650 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	8 mm
Net weight	PP 54 Kg (zone 2) 60°C Max. Temp. PVDF 65 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - PVDF

* 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



The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

3" connections

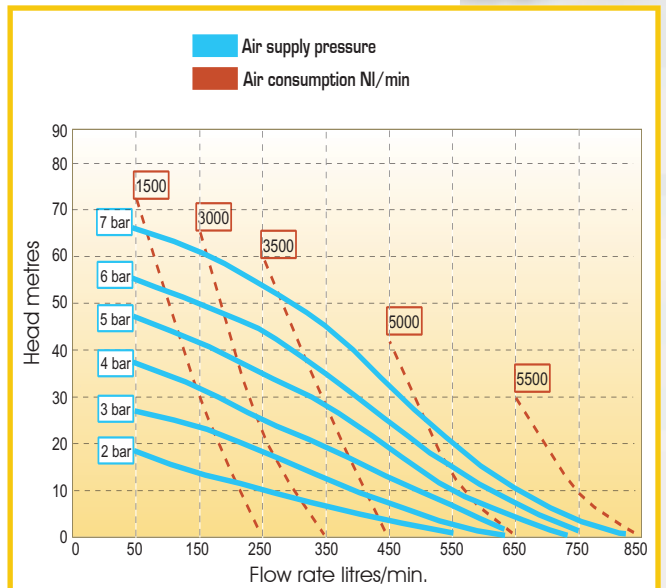
BOXER 503



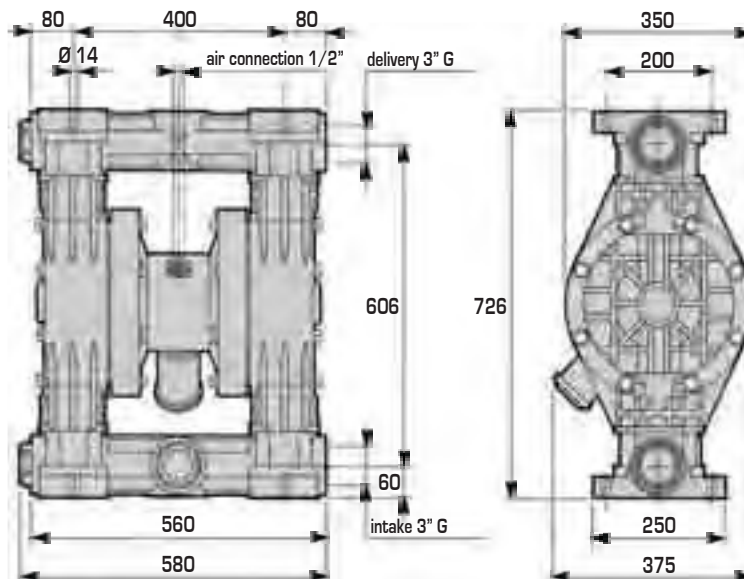
TECHNICAL DATA..

Intake/delivery connections	G 3"
Air connection	G 1/2"
Max. dry suction capacity*	5 m
Max. flow rate*	850 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids (spherical particles)	10 mm
Net weight	PP 56 Kg (zone 2) 60°C Max. Temp. PVDF 67 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - PVDF

* 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.



PERFORMANCE



DIMENSIONS

The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.



EQUAFLUX PULSATION DAMPENERS



DEBEM automatic pulsation diaphragm dampeners are known for their high performance and sturdiness. They are used below stream from diaphragm pumps on the delivery circuit to minimise pressure differential; they are used with fluids that have an apparent viscosity of up to 50.000 cps (at 20°C) even with the presence of suspended solid parts of a considerable size.

DEBEM dampeners adapt automatically to the system's conditions without the need for manual regulation or calibration.

Its high capacity to minimise pulsations, vibration and air hammer make it a piece of equipment that safeguards and evens the fluid pumped.

The vast choice of construction materials allows you to determine the best chemical compatibility with the fluid and/or the environment without forgetting the right temperature field.

The dampeners are also available for use in potentially explosive environments (ATEX certification).

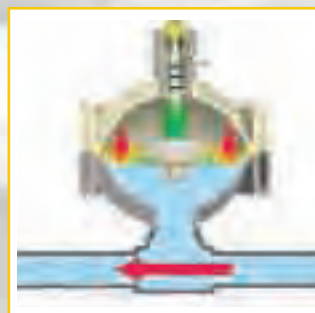
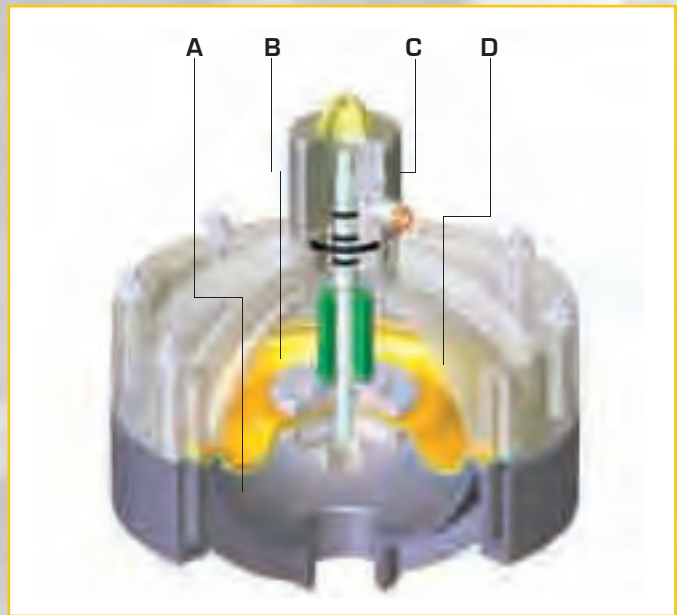
QUALITIES

DESCRIPTION OF THE DAMPENER

The automatic diaphragm dampener is composed of a pneumatic actuator connected to a new-generation diaphragm (Long Life profile). The sturdy external body makes up, on one side of the diaphragm, the actuator's pneumatic chamber for dampening the pressure peak, and on the other side the fluid passage chamber.

HOW IT WORKS

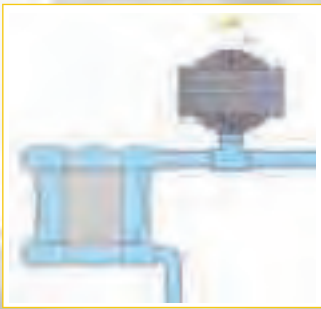
The compressed air that enters the counter-pressure chamber behind the diaphragm creates a pneumatic dampening cushion that regulates itself according to the stress exercised by the impulse of fluid pressure generated by the system.



A = dampening chamber
 B = diaphragms
 C = automatic pneumatic pilot
 D = air supply pneumatic chamber



- 1 - executions in: Polypropylene, ECTFE, PPS-V;
- 2 - automatic self-regulating dampening;
- 3 - suitable for severe services;
- 4 - use in explosive atmospheres (ATEX certification);
- 5 - environments with high humidity and condensate;
- 6 - dry operation is also possible;
- 7 - supply with non-lubricated air;
- 8 - range of construction materials for fluid compatibility;
- 9 - ease of maintenance and replacement of parts;
- 10 - very good performance/cost ratio.



INSTALLATION EXAMPLES

Diaphragm dampeners must be installed on delivery ducts below stream from pneumatic pumps or wherever pressure differentials of dangerous fluids are generated.

CHEMICAL COMPATIBILITY

The type of fluid, the temperature and the area of use are all influencing factors in determining the choice of materials for the dampener and their correct chemical compatibility. The following table is shown here below as an example related to some of the more commonly used substances.

SUBSTANCE	Polypropylene	ECTFE (Halati®)	PTFE (Teflon®)	PPS-V (Ryton®)	FPM (Viton®)	Santoprene®
Acetaldehyde	A1	D	A	A	D	-
Acetamide	A1	C	A	A	B	-
Vinyl acetate	B1	A2	A2	-	A1	-
Acetylene	A1	A	A	A	A	-
Vinegar	A	B	A	A	A	-
Acetone	A	D	A	A	D	A1
Fatty acids	A	A	A	-	A	D

CHEMICAL COMPATIBILITY

- 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.

EQ 100	P	H	T	C
DAMPENER MODEL	DAMPENER BODY	AIR SIDE DIAPHRAGM	PRODUCT SIDE DIAPHRAGM	CONDUCT VERSION (zone 1)
EQ 51 = Equaflex 51 EQ 100 = Equaflex 100 EQ 200 = Equaflex 200 EQ 300 = Equaflex 300	PP = polypropylene E = ECTFE R = PPS-V	H = Hytrel M = Santoprene	T = PTFE	II 2/2GD c IIB T135°C (c = if requested)



EQUAFLUX 51

3/4"- f connections



PP



ECTFE



PPS-V

IN PREPARATION



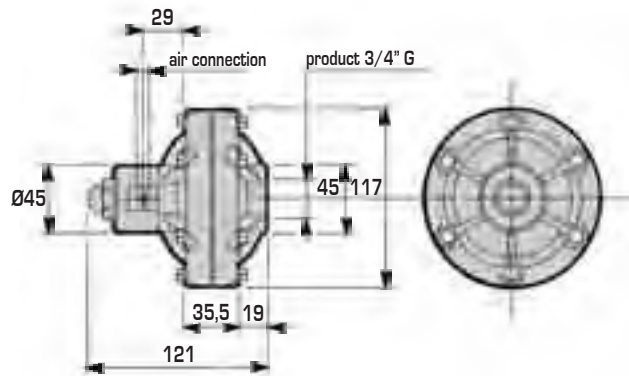
APPLICABILITY

EQ 51 PP	EQ 51 ECTFE	EQ 51 PPS-V	FOR PUMPS:	
•	-	-	MIDGETBOX	PP
•	-	-	CUBIC 15	PP
•	-	-	MICROBOXER	PP
-	•	-	CUBIC 15	ECTFE
-	•	-	MICROBOXER	ECTFE
-	•	-	MICROBOXER	Aisi
-	-	•	MICROBOXER	Alu

Product connection	G 3/4"	
Air connection	Ø 6 mm	
Max. air supply pressure	7 bar	
Net weight	PP	0,5 Kg (zone 2) 60°C Max. Temp.
	ECTFE	0,5 Kg (zone 2) 95°C Max. Temp.
	PPS-V	0,6 Kg (zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE - PPS-V	
For MIDGETBOX, CUBIC 15 and MICROBOXER pumps		
* The values shown depend on the construction materials		

TECHNICAL DATA..

DIMENSIONS



The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

1"- f connections

EQUAFLUX 100

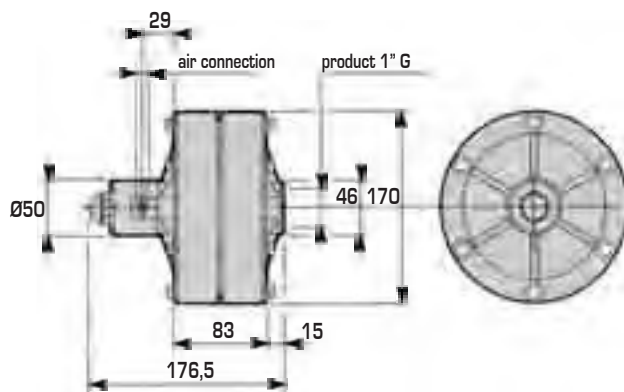


TECHNICAL DATA..

Product connection	G 1"		
Air connection	Ø 6 mm		
Max. air supply pressure	7 bar		
Net weight	PP	1,5 Kg	(zone 2) 60°C Max. Temp.
	ECTFE	1,7 Kg	(zone 2) 95°C Max. Temp.
	PPS-V	1,7 Kg	(zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE - PPS-V		
For MINIBOXER, BOXER 80, BOXER 81 and BOXER 100 pumps			
* The values shown depend on the construction materials			

EQ 100 PP	EQ 100 ECTFE	EQ 100 PPS-V	FOR PUMPS:	
●	-	-	MINIBOXER	PP
●	-	-	BOXER 81	PP
●	-	-	BOXER 100	PP
-	●	-	MINIBOXER	ECTFE
-	●	-	MINIBOXER	Aisi
-	●	-	BOXER 80	Aisi
-	●	-	BOXER 81	ECTFE
-	●	-	BOXER 100	ECTFE
-	-	●	MINIBOXER	Alu
-	-	●	BOXER 81	Alu

APPLICABILITY



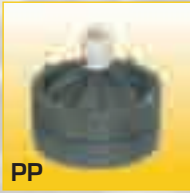
DIMENSIONS

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EQUAFLUX 200

1 1/2"- f connections



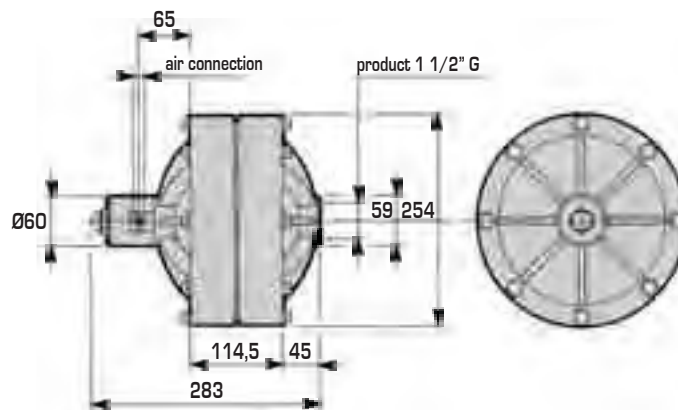
APPLICABILITY

EQ 200 PP	EQ 200 ECTFE	EQ 200 PPS-V	FOR PUMPS:	
●	-	-	BOXER 150	PP
●	-	-	BOXER 250	PP
-	●	-	BOXER 150	ECTFE
-	●	-	BOXER 250	ECTFE
-	●	-	BOXER 150	Aisi
-	●	-	BOXER 251	Aisi
-	-	●	BOXER 150	Alu
-	-	●	BOXER 251	Alu

Product connection	G 1 1/2" f		
Air connection	Ø 6 mm		
Max. air supply pressure	7 bar		
Net weight	PP	3,8 Kg	(zone 2) 60°C Max. Temp.
	ECTFE	4,5 Kg	(zone 2) 95°C Max. Temp.
	PPS-V	4,5 Kg	(zone 2) 95°C Max. Temp.
Construction materials	PP - ECTFE- PPS-V		
For BOXER 150, BOXER 250 and BOXER 251 pumps			
* The values shown depend on the construction materials			

TECHNICAL DATA..

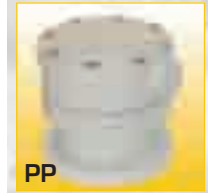
DIMENSIONS



The dimensions shown are in millimetres, are indicative and are not binding; ask for the specific drawing.

2"- f connections
3"- f connections

EQUAFLUX 300

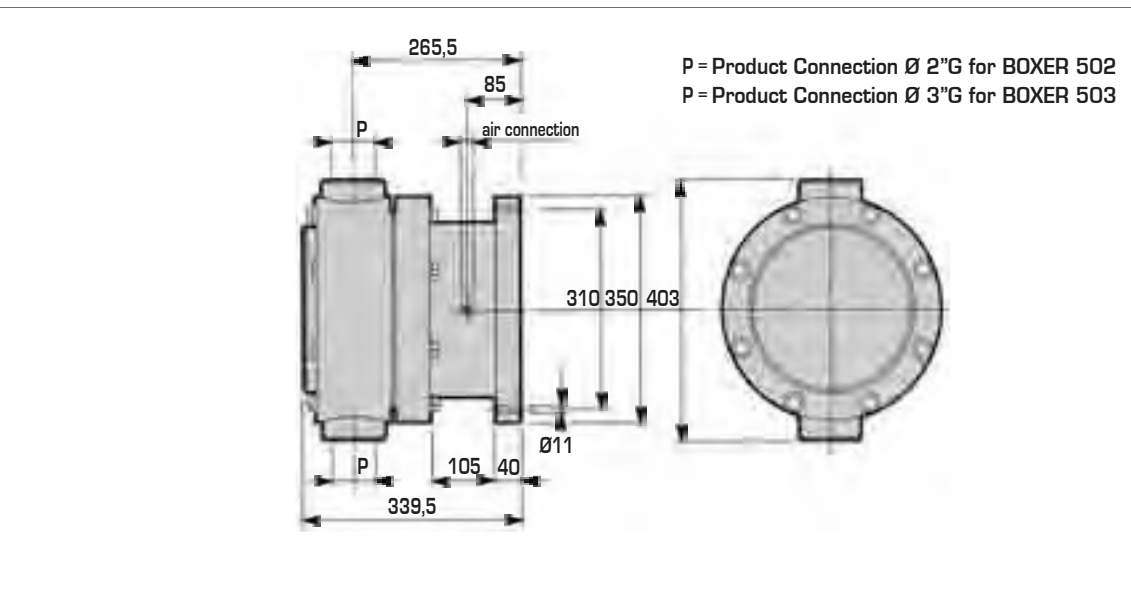


TECHNICAL DATA..

Product connection	G 2" o G"3		
Air connection	Ø 8 mm		
Max. air supply pressure			
Net weight	PP	23 Kg	(zone 2) 60°C Max. Temp.
Construction materials	PP		
For BOXER 502 and BOXER 503 pumps			
* The values shown depend on the construction materials			

EQ 300 2" f PP	EQ 300 3" f PP		FOR PUMPS:	
•	-	-	BOXER 502	PP
-	•	-	BOXER 503	PP

APPLICABILITY

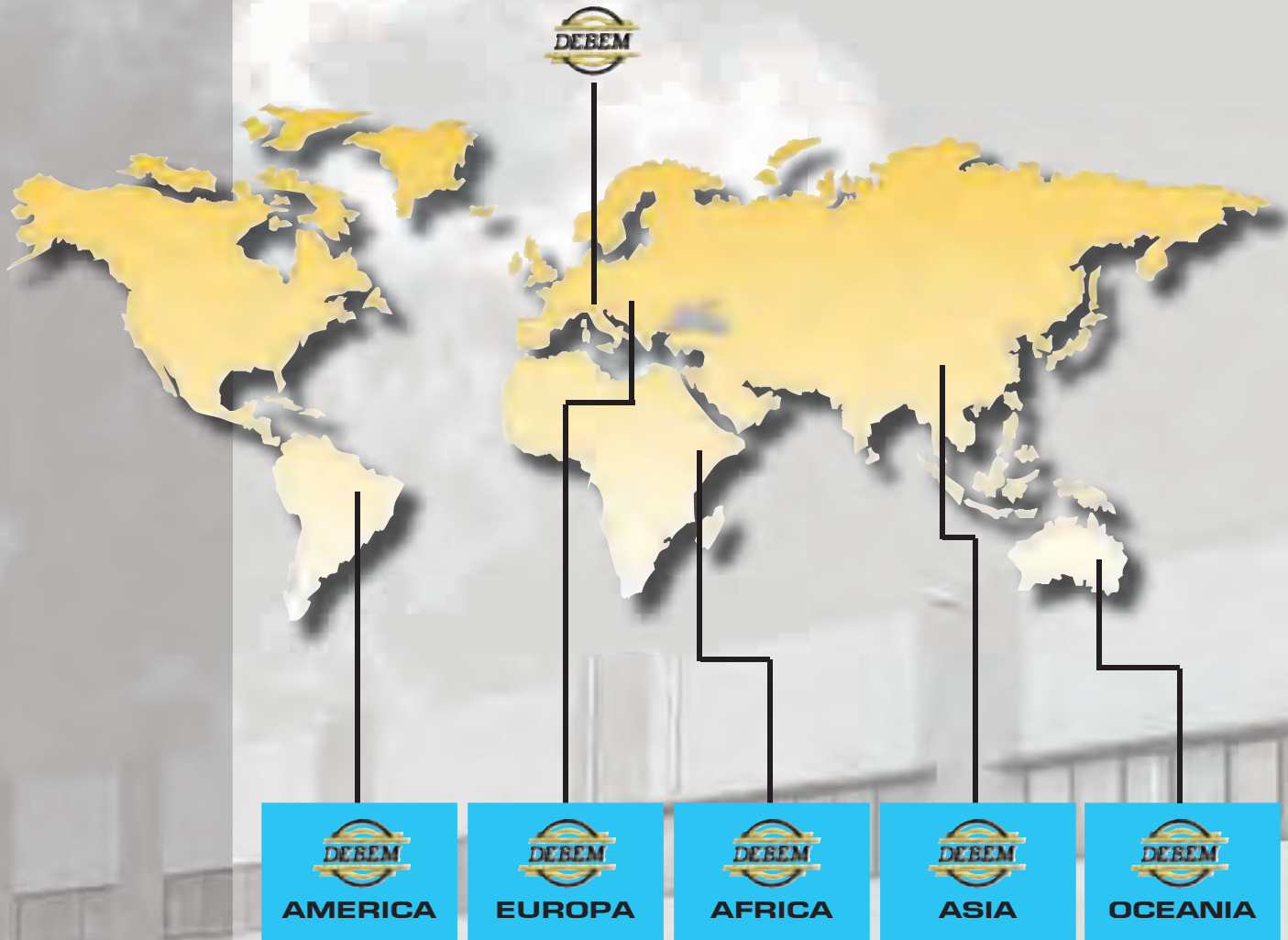


DIMENSIONS

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