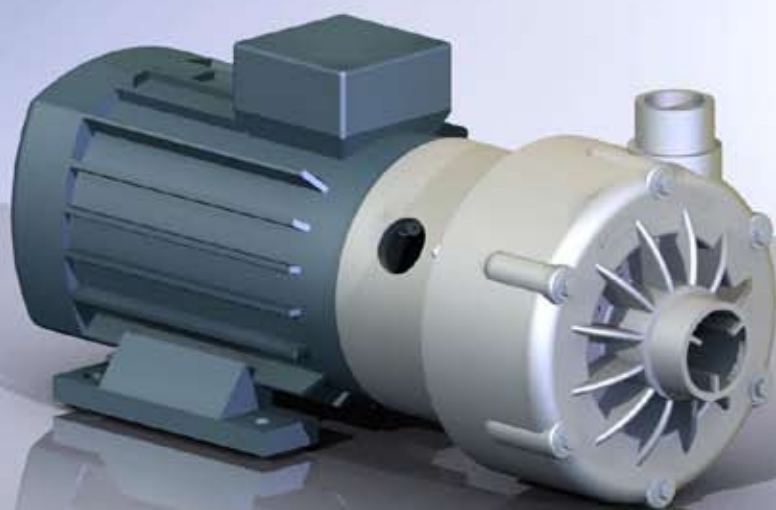


MB



HORIZONTAL CENTRIFUGAL PUMPS

Debem-manufactured resin-encased horizontal centrifugal pumps are high-performance 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/hour**. Their special open-impeller design allows continuous pumping even with very dirty liquids having **apparent viscosity of 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)**.



DEBEM

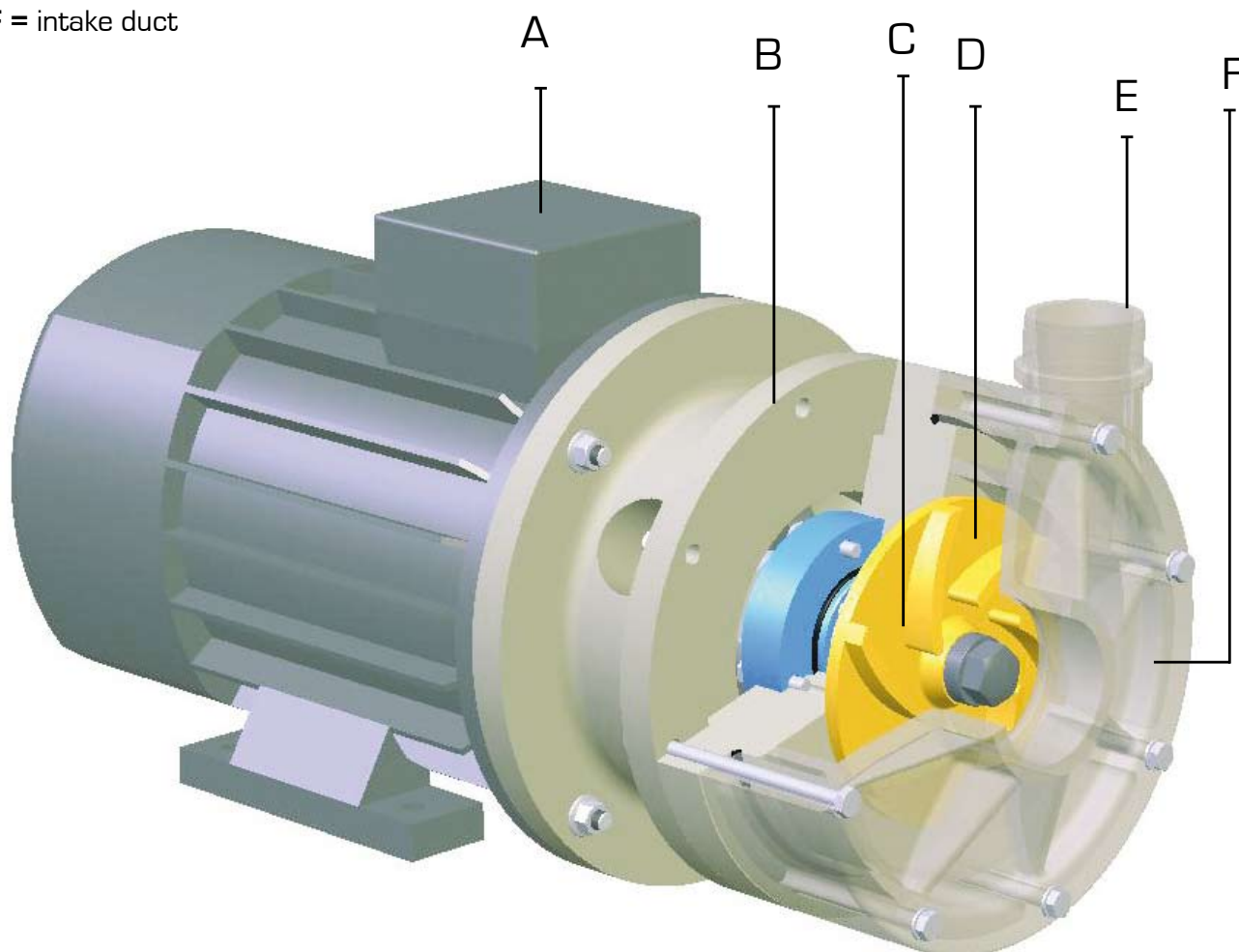
Available in polypropylene, PVDF;
Positive suction head operation;
Weldless;
Mechanical lip or bellows seal;

Usable even with extremely dirty liquids (TS seal);
High flow rates: from 6 to 75 m³/hour;
Quick and easy maintenance;
Inexpensive spares.

DESCRIPTION OF THE PUMP

Resin-encased **horizontal centrifugal pumps** feature a **solid pump casing** and a lantern for connecting the electric motor and inspection of the mechanical seal. The **open impeller** is fitted to the pump shaft that is integral with the drive **shaft** of the **electric motor**. The **shaft mechanical seal** is housed at the rear of the impeller.

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

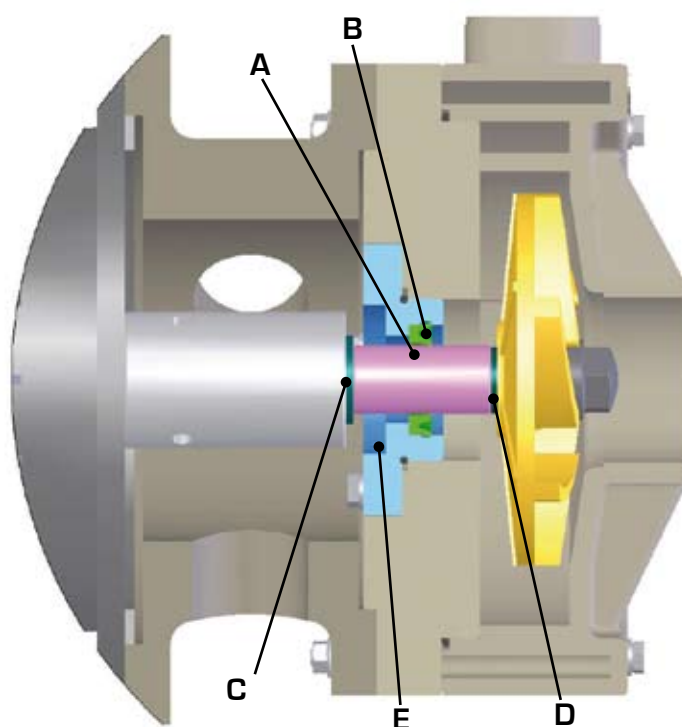


HOW IT WORKS

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.

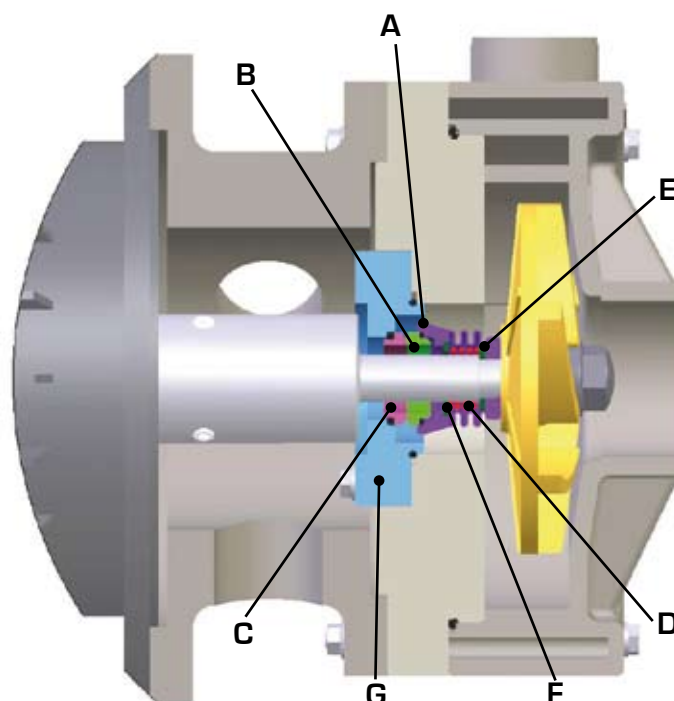
TL = lip seal

- A - Ceramic bushing
- B - O-ring
- C - Bushing spacer
- D - Gasket
- E - Seal-holding flange



TS = bellows seal

- A - Bellows
- B - Dynamic seal ring
- C - Static seal ring
- D - Spring
- E - Washer
- F - Circlip
- G - Seal-holding flange

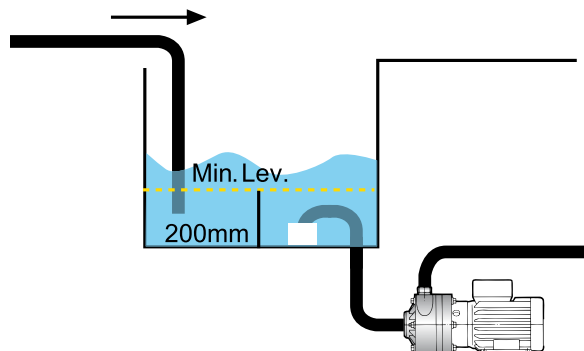




MB

INSTALLATION

MB horizontal 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**. Running dry or with air bubbles can cause damage to the mechanical seal.



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**. The table below gives some examples of the most commonly-used substances:

SUBSTANCE	Polypropylene	PVDF (Halair®)	EPDM (Dutral®)	FPM (Viton®)
Acetaldehyde	A1	D	A	D
Acetamide	A1	C	A	B
Vinyl acetate	B1	A2	B2	A1
Acetylene	A1	A	A	A
Vinegar	A	B	A	A
Acetone	A	D	A	D
Fatty acids	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.

MB PUMPS 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

FLANGED PUMPS

MB pumps are also available with a flange coupling



Model	flange	stub-end material	size
MB 80 PP	PN 16 in PVC	PP	INTAKE DN 40 - DEL. DN 25
MB 100 PP	PN 16 in PVC	PP	INTAKE DN 40 - DEL. DN 25
MB 110 PP	PN 16 in PVC	PP	INTAKE DN 50 - DEL. DN 40
MB 120 PP	PN 16 in PVC	PP	INTAKE DN 50 - DEL. DN 40
MB 130 PP	PN 16 in PVC	PP	INTAKE DN 50 - DEL. DN 40
MB 140 PP	PN 16 in PVC	PP	INTAKE DN 50 - DEL. DN 40
MB 150 PP	PN 16 in PVC	PP	INTAKE DN 65 - DEL. DN 50
MB 155 PP	PN 16 in PVC	PP	INTAKE DN 65 - DEL. DN 50
MB 160 PP	PN 16 in PVC	PP	INTAKE DN 65 - DEL. DN 50
MB 180 PP	PN 16 in PVC	PP	INTAKE DN 65 - DEL. DN 50
MB 80 PVDF	PN 16 in PVC	PVDF	INTAKE DN 40 - DEL. DN 25
MB 100 PVDF	PN 16 in PVC	PVDF	INTAKE DN 40 - DEL. DN 25
MB 110 PVDF	PN 16 in PVC	PVDF	INTAKE DN 50 - DEL. DN 40
MB 120 PVDF	PN 16 in PVC	PVDF	INTAKE DN 50 - DEL. DN 40
MB 130 PVDF	PN 16 in PVC	PVDF	INTAKE DN 50 - DEL. DN 40
MB 140 PVDF	PN 16 in PVC	PVDF	INTAKE DN 50 - DEL. DN 40
MB 150 PVDF	PN 16 in PVC	PVDF	INTAKE DN 65 - DEL. DN 50
MB 155 PVDF	PN 16 in PVC	PVDF	INTAKE DN 65 - DEL. DN 50
MB 160 PVDF	PN 16 in PVC	PVDF	INTAKE DN 65 - DEL. DN 50
MB 180 PVDF	PN 16 in PVC	PVDF	INTAKE DN 65 - DEL. DN 50



MB 80

construction materials: PP - PVDF

Intake connection	G 1" 1/2 f		
Delivery connections	G 1" m		
Max. flow rate*	6 m ³ /h		
Max. head*	7,2 m		
Seal	TL - TS		
Motor power	0.37 kW - 0.5 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	5 mm		
Max. viscosity	500 cps		
Net weight	PP	8.5 Kg	60°C Max. temp.
	PVDF	9.5 Kg	90°C Max. temp.

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

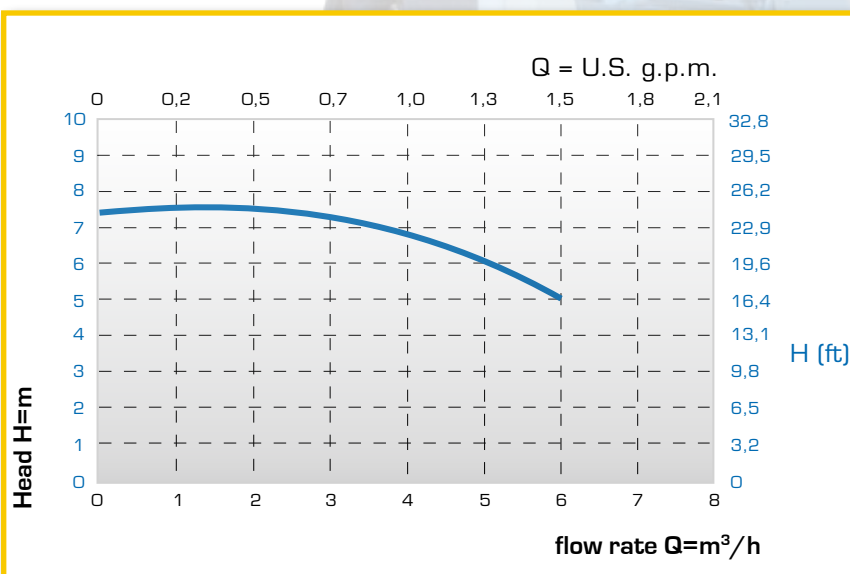


PVDF

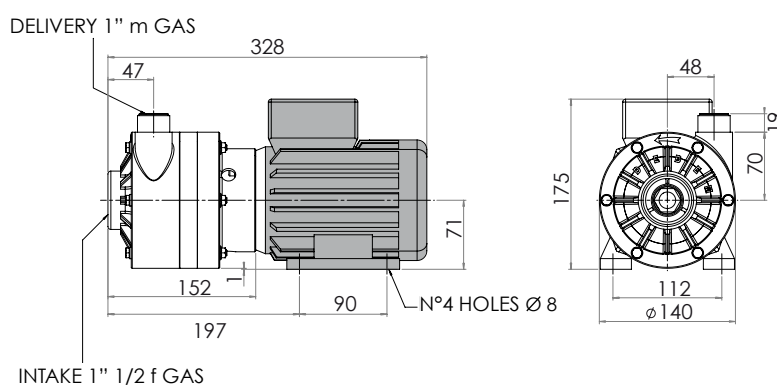
TECHNICAL DATA



PP



PERFORMANCE



m = male - f = female

The dimensions shown are in mm

DIMENSIONS

All the values shown are approximate and not binding

MB 100

construction materials: PP - PVDF



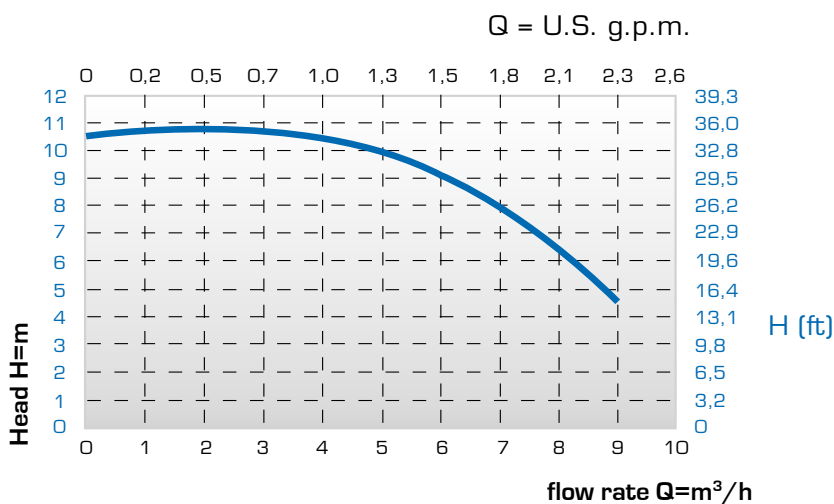
PVDF

Intake connection	G 1" 1/2 f		
Delivery connections	G 1" m		
Max. flow rate*	9 m ³ /h		
Max. head*	10.5 m		
Seal	TL - TS		
Motor power	0.55 kW - 0.75 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	7 mm		
Max. viscosity	500 cps		
Net weight	PP	8.5 Kg	60°C Max. temp.
	PVDF	9.5 Kg	90°C Max. temp.

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

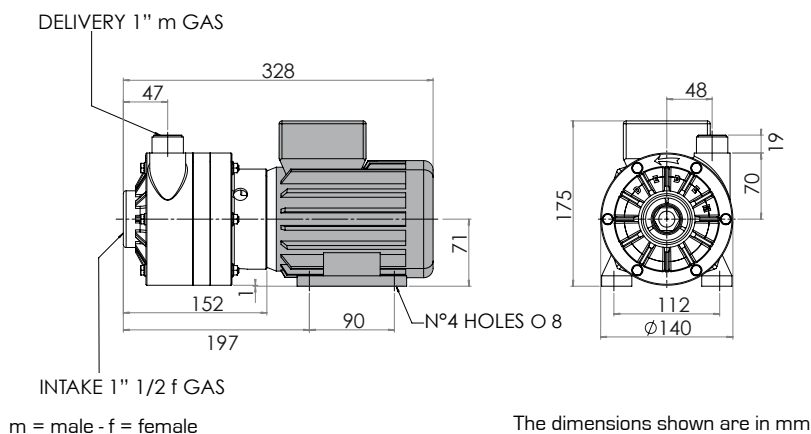
TECHNICAL DATA

PERFORMANCE



PP

DIMENSIONS



All the values shown are approximate and not binding



MB 110

construction materials: PP - PVDF

Intake connection	G 2" m		
Delivery connections	G 1" 1/2 m		
Max. flow rate *	20 m ³ /h		
Max. head *	15 m		
Seal	TL - TS		
Motor power	1.1 kW - 1.5 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	2 mm		
Max. viscosity	500 cps		
Net weight	PP	16 Kg	60°C Max. temp.
	PVDF	17 Kg	90°C Max. temp.

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



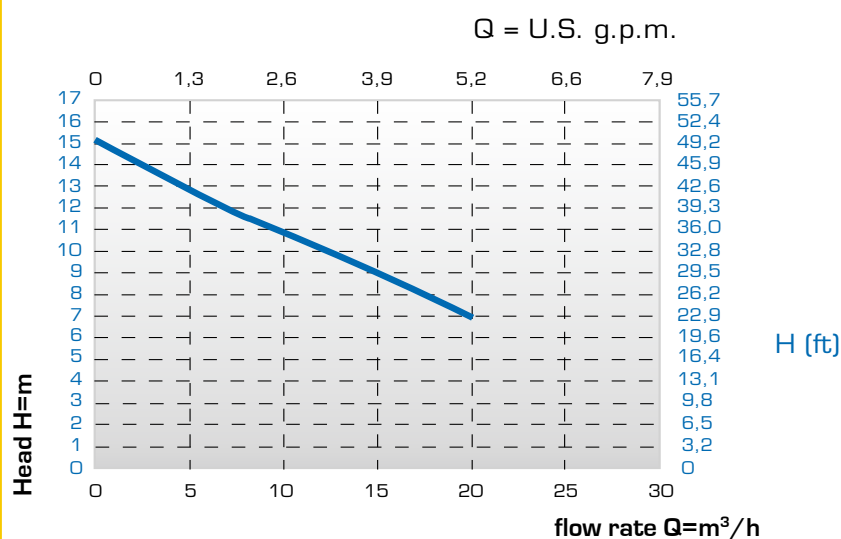
PP



TECHNICAL DATA

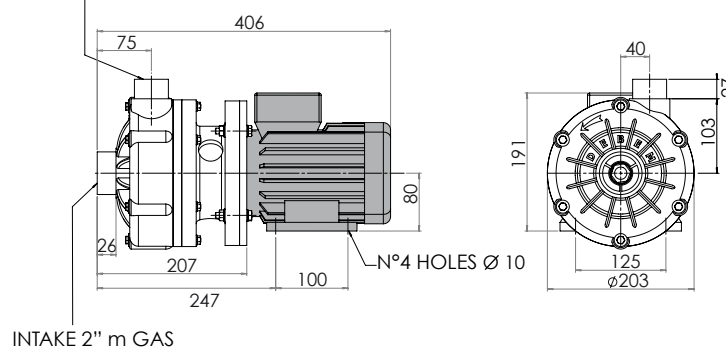


PVDF



PERFORMANCE

DELIVERY 1" 1/2 m GAS



m = male

The dimensions shown are in mm

DIMENSIONS

All the values shown are approximate and not binding

MB 120

construction materials: PP - PVDF



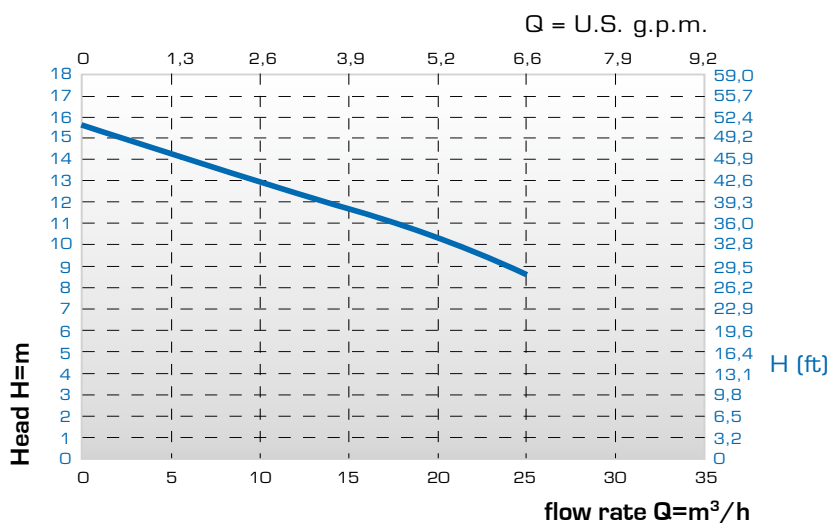
PP

Intake connection	G 2" m
Delivery connections	G 1" 1/2 m
Max. flow rate*	25 m ³ /h
Max. head*	16 m
Seal	TL - TS
Motor power	1.5 kW - 2 HP
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM
Diameter of passing solids	6 mm
Max. viscosity	500 cps
Net weight	PP 20 Kg 60°C Max. temp. PVDF 21 Kg 90°C Max. temp.

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

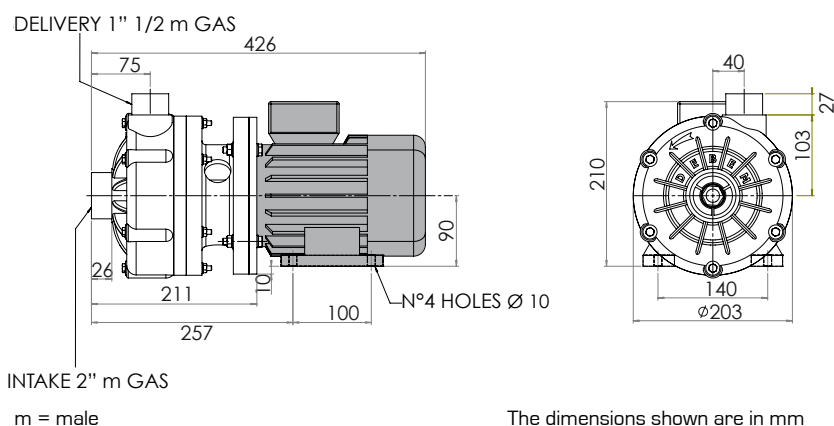
TECHNICAL DATA

PERFORMANCE



PVDF

DIMENSIONS



All the values shown are approximate and not binding



MB 130

construction materials: PP - PVDF

Intake connection	G 2" m		
Delivery connections	G 1 1/2" m		
Max. flow rate *	30 m ³ /h		
Max. head *	20 m		
Seal	TL - TS		
Motor power	2.2 kW - 3 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	6 mm		
Max. viscosity	500 cps		
Net weight	PP	22.5 Kg	60°C Max. temp.
	PVDF	23.5 Kg	90°C Max. temp.

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

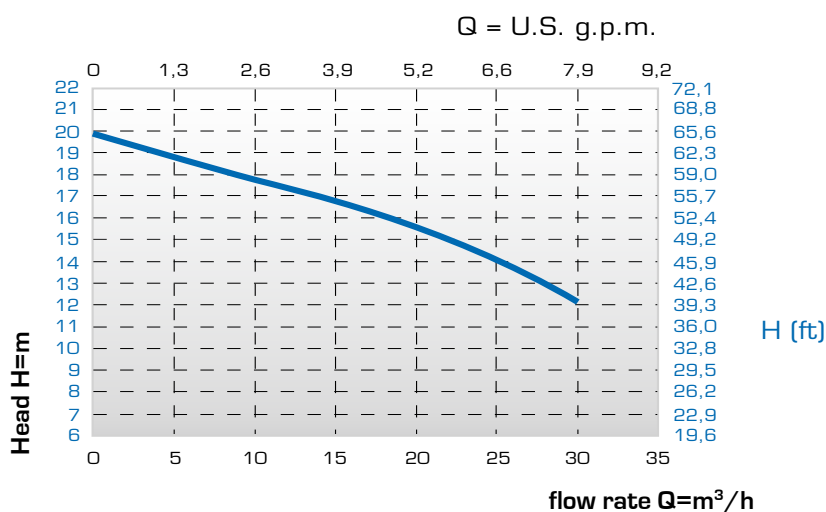


PVDF

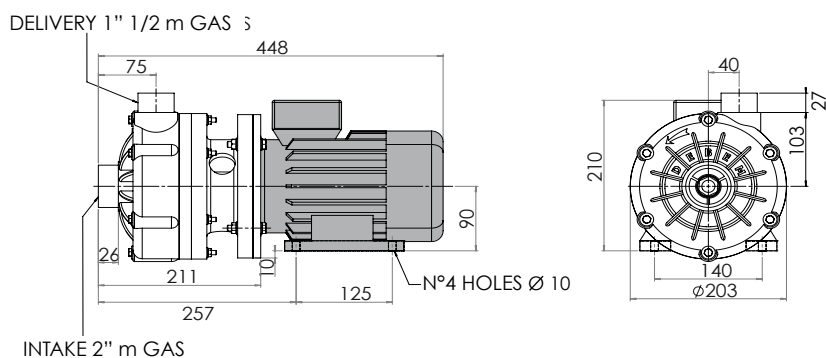
TECHNICAL DATA



PVDF



PERFORMANCE



m = male

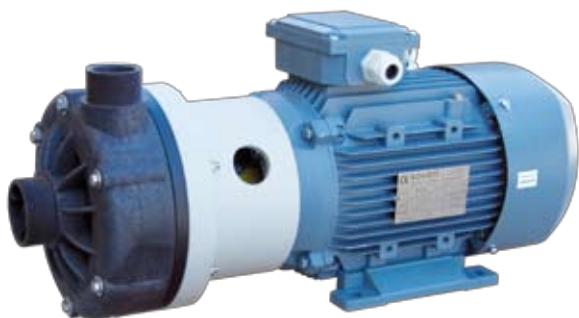
The dimensions shown are in mm

DIMENSIONS

All the values shown are approximate and not binding

MB 140

construction materials: PP - PVDF



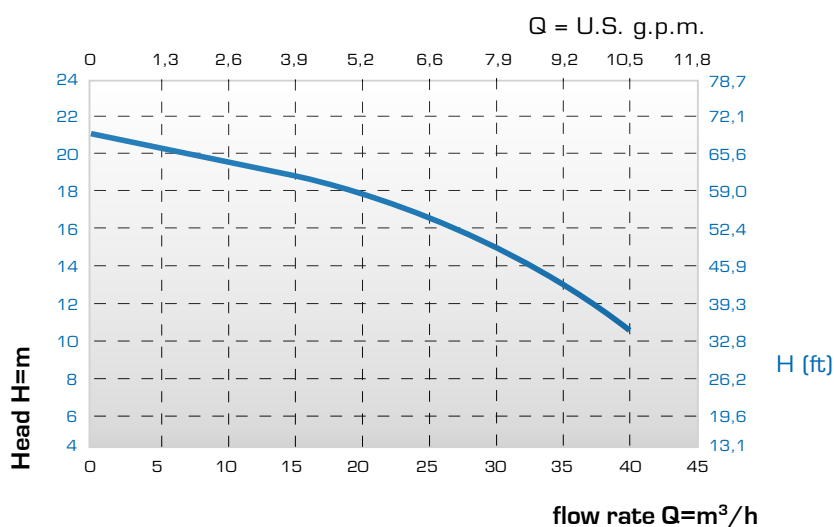
PVDF

Intake connection	G 2" m		
Delivery connections	G 1 1/2" m		
Max. flow rate*	40 m ³ /h		
Max. head*	21 m		
Seal	TL - TS		
Motor power	3 kW - 4 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	12 mm		
Max. viscosity	500 cps		
Net weight	PP	29 Kg	60°C Max. temp.
	PVDF	30 Kg	90°C Max. temp.

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

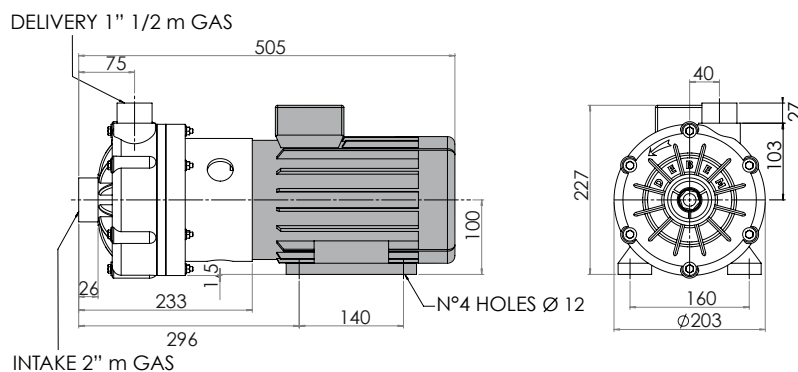
TECHNICAL DATA

PERFORMANCE



PP

DIMENSIONS



All the values shown are approximate and not binding



MB 150

construction materials: PP - PVDF

Intake connection	G 2" 1/2 f		
Delivery connections	G 2" m		
Max. flow rate *	42 m ³ /h		
Max. head *	25 m		
Seal	TL - TS		
Motor power	4 kW - 5.5 HP		
Motor	IP55 - F Class - 2-pole - 230/400 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	2 mm		
Max. viscosity	500 cps		
Net weight	PP	8.5 Kg	60°C Max. temp.
	PVDF	9.5 Kg	95°C Max. temp.

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

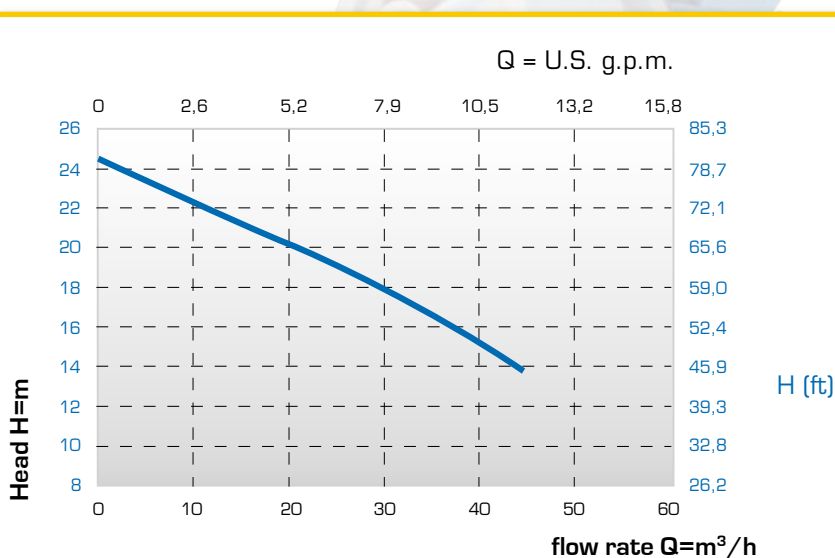


PP

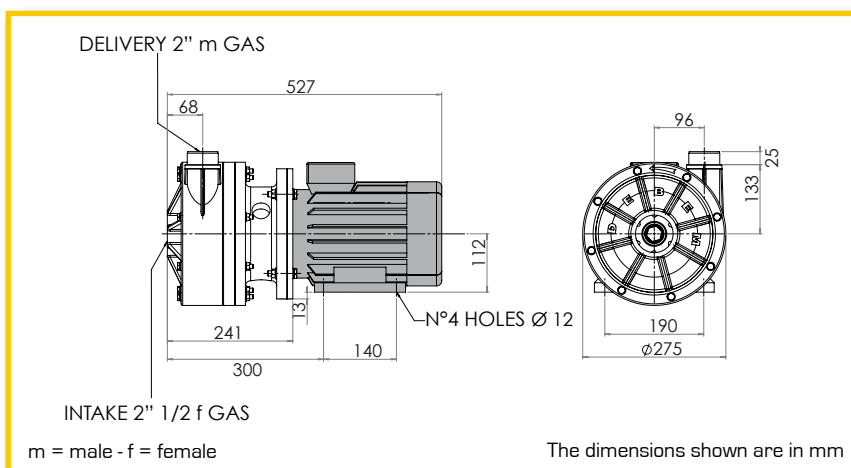


PVDF

TECHNICAL DATA



PERFORMANCE



DIMENSIONS

All the values shown are approximate and not binding

MB 155

construction materials: PP - PVDF



PP

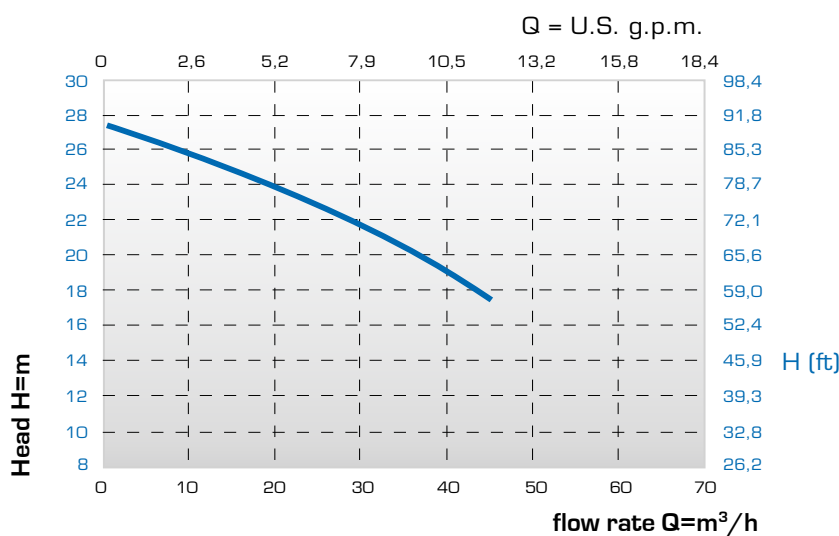


Intake connection	G 2" 1/2 f		
Delivery connections	G 2" m		
Max. flow rate *	45 m ³ /h		
Max. head *	28 m		
Seal	TL - TS		
Motor power	5.5 kW - 7.5 HP		
Motor	IP55 - F Class - 2-pole - 400/690 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	3 mm		
Max. viscosity	500 cps		
Net weight	PP	60 Kg	60°C Max. temp.
	PVDF	63 Kg	95°C Max. temp.

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

TECHNICAL DATA

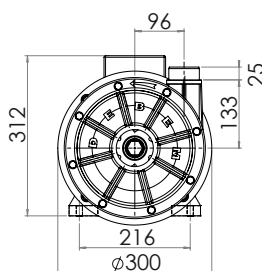
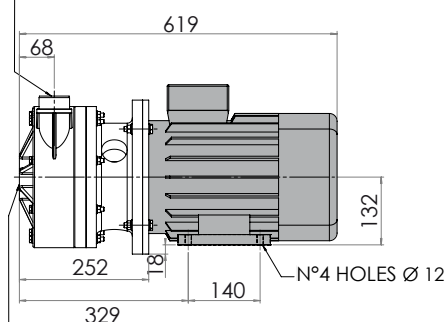
PERFORMANCE



PVDF

DIMENSIONS

DELIVERY 2" m GAS



INTAKE 2" 1/2 f GAS

m = male - f = female

The dimensions shown are in mm

All the values shown are approximate and not binding



MB 160

construction materials: PP - PVDF

Intake connection	G 2" 1/2 f		
Delivery connections	G 2" m		
Max. flow rate*	55 m ³ /h		
Max. head*	32 m		
Seal	TL - TS		
Motor power	7.5 kW - HP 10		
Motor	IP55 - F Class - 2-pole - 400/690 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	9 mm		
Max. viscosity	500 cps		
Net weight	PP	70 Kg	60°C Max. temp.
	PVDF	73 Kg	90°C Max. temp.

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

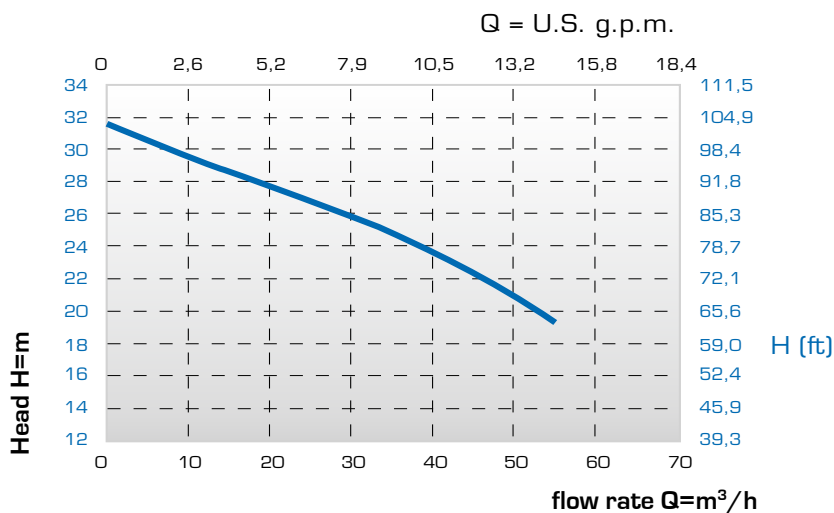


PVDF

TECHNICAL DATA

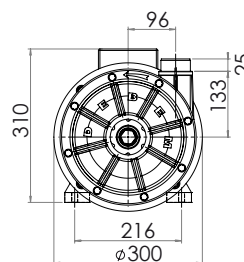
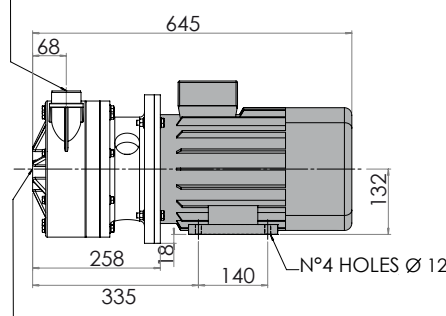


PP



PERFORMANCE

DELIVERY 2" m GAS



m = male - f = female

The dimensions shown are in mm

DIMENSIONS

All the values shown are approximate and not binding

MB 180

construction materials: PP - PVDF



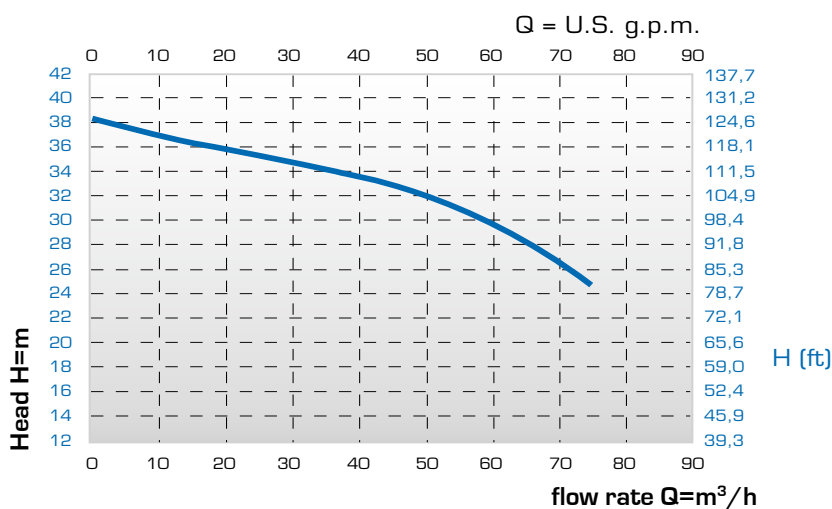
PP

Intake connection	G 2" 1/2 f		
Delivery connections	G 2 m		
Max. flow rate *	75 m ³ /h		
Max. head *	38 m		
Seal	TL-TS		
Motor power	11 kW - HP 15		
Motor	IP55 - F Class - 2-pole - 400/690 V 50 Hz - three-phase - 2900 RPM		
Diameter of passing solids	9 mm		
Max. viscosity	500 cps		
Net weight	PP	96 Kg	60°C Max. temp.
	PVDF	99 Kg	95°C Max. temp.

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

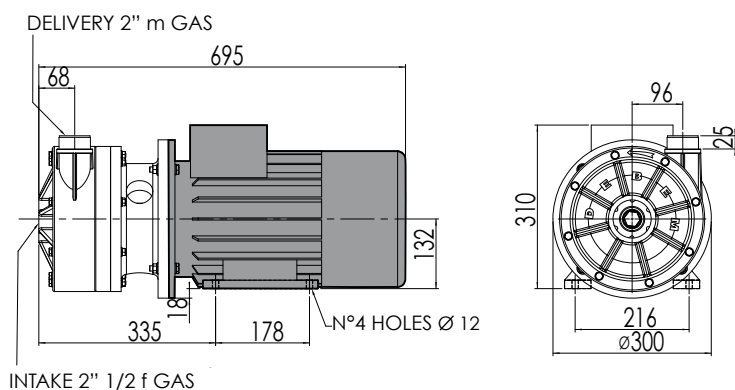
TECHNICAL DATA

PERFORMANCE



PVDF

DIMENSIONS



m = male - f = female

The dimensions shown are in mm

All the values shown are approximate and not binding