

# CATALOG

## | Pressurization

«What world lies beyond this sea I do not know, but every sea has another shore, and I will come»

Cesare Pavese  
This Business of Living

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## THE COMPANY

Founded in 1979 by Giancarlo Alberghini who immediately outlines its objective: to solve all problems related to water pumping in a professional, fast and decisive way. The second generation is already integrated in the Company management, contributing to a "smart" vision of the company.



After the introduction of several innovative products in the field of fire prevention, the company obtains great recognition from the market, thanks also to the team of reliable and competent people who the management has been able to develop.



## HISTORY

1979



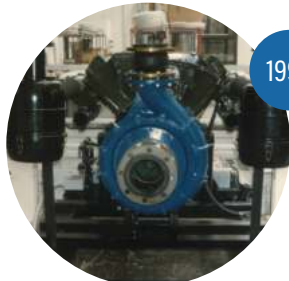
Idroelettrica was founded in San Cesario sul Panaro (MO) by Giancarlo Alberghini, a young entrepreneur, who with his passion created a small workshop for the construction of electric pumps and electrical panels.

1992



The company leaves the small laboratory and moves to a real industrial plant of 4,500 square metres, strengthening its identity on the national territory

1994



The first pumping unit is produced for fire-fighting use according to UNI 9490

1999



It obtains the certification of the ISO 9001 Quality Management System issued by DNV Business Assurance Italia Srl.

2001



Construction of the first prefabricated fire-fighting room called Firebox.

2008



The first FIREBOX made according to UNI 11292 is released. Success is immediate.

2018



The new production site was inaugurated, which tripled the company's space. In addition to the production departments and warehouse, the new plant houses new management offices, research and development, a conference room, a permanent training station and a 130 kW photovoltaic system that provides an important contribution to energy saving policies, in which the company has always been at the forefront.



## CERTIFICATIONS

IDROELETTRICA SPA always works according to the highest quality standards. Since 1999 it has been UNI EN ISO 9001 certified and obtained in 2015 the MANAGEMENT SYSTEM CERTIFICATE according to UNI EN ISO 9001:2015



IDROELETTRICA SPA manufactures all its own steel products, in compliance with UNI EN 1090. For this purpose, it has obtained the relevant certification and has trained all its workshop operators.



## ACKNOWLEDGEMENTS

IDROELETTRICA SPA has a fully paid-up share capital of €2,000,000, and has been recognised as having the highest level of economic and financial reliability by the most accredited European credit scoring institutions



## SAFETY

We believe that quality comes from safety, which is why we consider the culture of the operators that we guarantee through training courses on:

- Work in confined spaces (Legislative Decree 81/2008 and Presidential Decree 177/2011)
- Driving cranes and crane trucks
- Work at height
- Driving forklifts
- Driving elevating mobile platforms (MEWPs)
- Qualified personnel for tasks with electrical risk (PEI, PES, PAV)
- Operation of vehicles for exceptional transport



## MEMBERSHIP

IDROELETTRICA SPA is a UNI member and member of the UNI "ACTIVE FIRE-FIGHTING PROTECTION" UNI/CT 034/GL 07 commission OF WATER SYSTEMS AND COMPONENTS.



IDROELETTRICA SPA produces not only for the domestic market, but also for international markets, where the reference guidelines are the North-American NFPA. With this in mind, it has chosen to become a member of the National Fire Protection Association in order to always be updated on this type of international regulation



IDROELETTRICA SPA is a member of the major industry associations with which it collaborates in the organization of training courses dedicated to the fire-fighting sector throughout Italy.

# PRODUCT RANGE

## PRESSURIZATION



Compact



Supercompact



Pressmatic



Easymatic



Inoxpress





CentriNorm



CentriMAX



VertiMAX



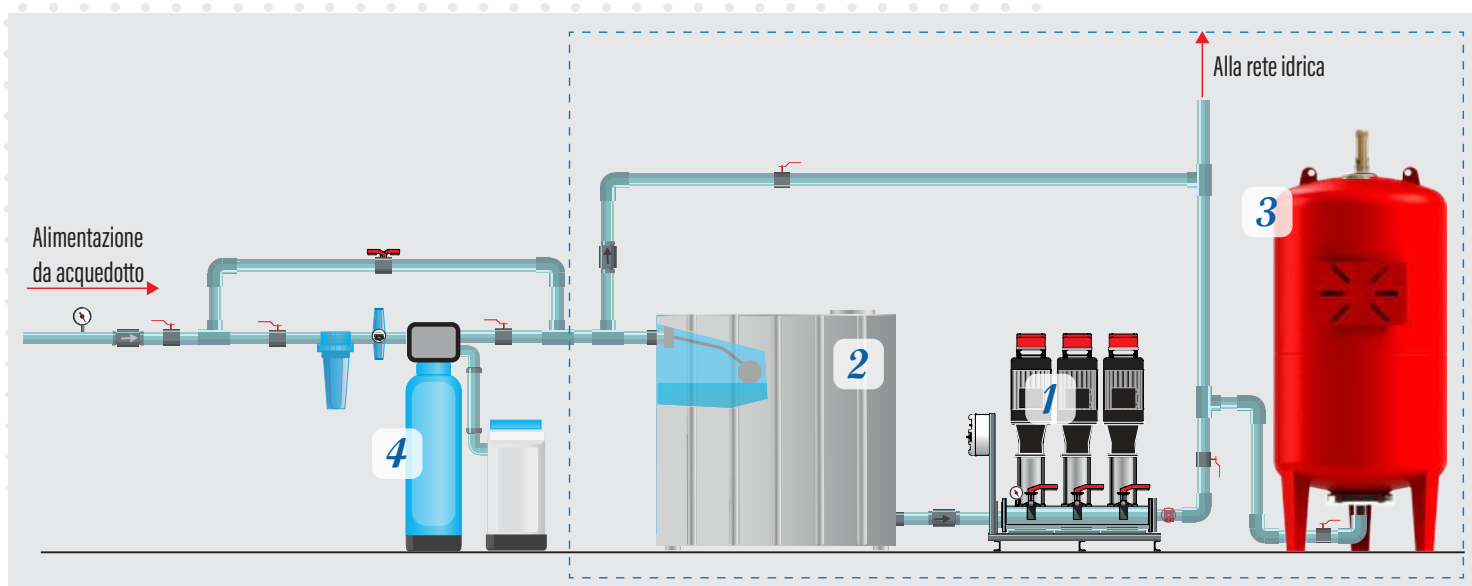
Centripress

PRESSURISATION SYSTEMS  
COMPACT

## What is the task of a **PRESSURISATION UNIT**?

Pressurisation units have the task of raising the pressure inside the hydraulic network up to a value that guarantees a satisfactory distribution of water to all users, even at times of maximum demand **Q** (design flow rate)

## What is a typical example of a pressurisation unit used to ensure **THE WATER SUPPLY OF A CIVIL OR INDUSTRIAL USER**?



1. One or more main electric pumps (Possible active reserve electric pump, in the event that the supply must always be guaranteed, for example in healthcare-related environments – hospitals, RSA)
2. A tank containing the free surface water reserve (atmospheric pressure)
3. One or more pressurized water tanks (autoclave), serves to limit the number of pump start-ups per hour thanks to the pressurized water reserve contained inside. This reserve can be kept under pressure by atmospheric air, or by a membrane made of elastic material.

The system is then completed by:

- ▶ Suction and delivery manifolds
- ▶ Solid base
- ▶ Pressure sensors
- ▶ Pressure gauges and pressure switches
- ▶ Valves and various components
- ▶ Electrical panels equipped with inverter if necessary

### 4. Smoothers










## These are the basic characteristics for choosing an **ELECTRIC PUMP**?

**Q** = design flow rate [m<sup>3</sup>/h]  
**Ht** = design head [m.w.c.]

## How to calculate the design flow rate (**Q**) with the method of the peak flow rate (**Qpk**)?

$$Q_{pk} \text{ (l/min)} = WS \times PC \times NI$$

**Qpk** (peak flow rate) = **WS** (water supply) x **PC** (peak coefficient) x **NI** (number of inhabitants)

	Small rural settlements	Urban settlements/ condominiums	Production activities, industries, aqueducts, distribution networks	Commercial activities, offices	Healthcare facilities, RSA	Hotels
						
<b>WS</b> (l/min) (Water supply) Amount of water allocated to one inhabitant  to meet its drinking water needs	200	300	100	120	120	300
<b>PC</b> (Peak coefficient)	0.0081	0.0081	0.0054	0.0081	0.0124	0.0163

The total flow rate of the unit changes depending on how many pumps are **active**, that is, how many are the pumps that **actively** contribute for the achievement of the design flow rate.

## How to choose the **TANK FOR THE WATER RESERVE**?

To make possible the supply of the internal distribution network, even during peak demand periods, it is necessary to calculate the **Volume of the Water Reserve Vwr**, in order to avoid the undesired emptying of the same, resulting in placing out of service the water supply system.

$$V_{wr} \text{ (l)} = tp \text{ (50\%Qpk)} \times CSI$$

**Vwr** (Water Reserve Volume) = **tp** (Peak periods) x **(50%Qpk** (peak flow)) x **CSI** (Safety Coeff.)

The **safety coefficient (CSI)** is used to take into account any unexpected water demand = **1.3**

How to calculate HT?

$$H_t = H_f + H_g + H_p$$

**H<sub>f</sub>**

(supply pressure to the most disadvantaged user)

The minimum pressure at which the most disadvantaged user will work

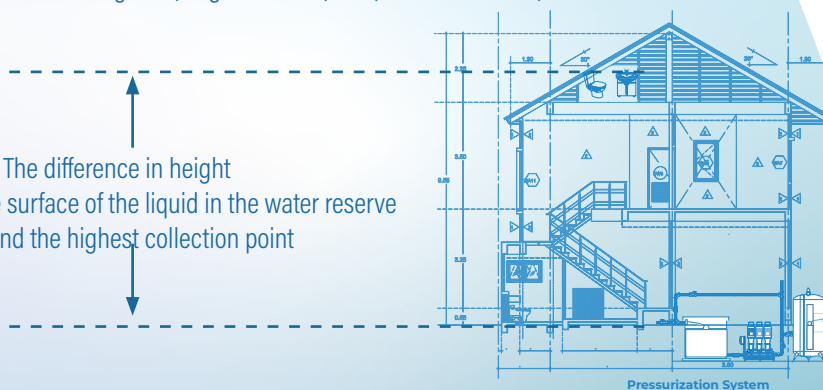
22  
(m.w.c)

**H<sub>g</sub>**

(Geodetic head)

$H_g = h$  (height of floors) x n (number of floors)

The difference in height between the free surface of the liquid in the water reserve tank and the highest collection point



**H<sub>p</sub>**

(Loss of head)

$H_p = E_{nu}$  or  $E_{es}$  x n (number of floors)



$E_{nu}$  (New building)  
0.7(m.w.c./floor)



$E_{es}$  (Old building)  
1.6 (m.w.c./floor)



## How the PRESSURE TANK works (AUTOCLAVE)?

The pressure tank, installed as a branch on the pump delivery pipe, has the purpose of containing a sufficiently large amount of water to avoid an excessive number of pump start-up and shut-down cycles.

## How to choose the PRESSURE TANK (AUTOCLAVE) ?

There are two systems that are normally used:

**Tanks with air cushion**, where the cushion effect is achieved with air from the atmosphere.

- an automatic air feeder
- a compressor
- a compressed air network

**Membrane tanks**, which are pre-loaded with nitrogen to avoid oxidation phenomena of the internal surfaces of the tanks. It is a system similar to that of air cushion tanks, but in this case tanks with natural or artificial rubber membranes are used and the membrane physically separates the gas from the liquid.

This type of tank allows the air intake system to be avoided. The initial pressure of the charged gas, also called the pre-charge pressure, must be slightly lower than the minimum pump start-up pressure, but at the same time must be higher than the hydrostatic pressure of the system in order to avoid pressure loss.

### Calculation of the volume of the air cushion autoclave

$$30 \times (Q_{pk} / \text{Starts}) \times ((P_{max}+1)/(P_{max}-P_{min}))$$

### Calculation of the volume of the membrane autoclave

$$6 \times (Q_{pk} / \text{Starts}) \times ((P_{max}+1)/(P_{max}-P_{min}))$$

**Q<sub>pk</sub>** = Peak flow rate (see page 9)
























**Starts** = Starts per hour (see table)

**P<sub>max</sub>** = Shut-down pressure

























**P<sub>min</sub>** = Start-up pressure

Start-ups	P
START-UPS PER HOUR	MOTOR POWER [kW]
30	< 3
25	> 3 < 5
20	> 5 < 10
10	> 10

# Recommended choice of the product

	Compact	SuperCompact	Pressmatic	Easymatic	
 <b>Best Buy</b> <b>Price/performance</b>	 <b>LOW PRICE</b> 	 <b>LOW PRICE</b> 	 <b>LOW PRICE</b>	 	
	Pag.14	Pag.16	Pag.18	Pag.20	
<b>SMALL RURAL SETTLEMENTS</b> 					
<b>URBAN SETTLEMENTS/CONDOMINIUMS</b> 					
<b>PRODUCTIVE ACTIVITIES, INDUSTRIES, AQUEDUCTS , DISTRIBUTION NETWORKS</b> 					
<b>COMMERCIAL ACTIVITIES, OFFICES</b> 					
<b>HEALTHCARE FACILITIES, RSA</b> 					
<b>HOTELS</b> 					

# depending on the type of user

	InoxPress	CentriPress	VertiMAX	CentriMAX	CentriNorm
					
	Pag.22	Pag.24	Pag.26	Pag.32	Pag.38
					
					
					
					
					
					



# Compact

Units available with **single-phase 230V** or **three-phase 400V POWER SUPPLY**

## PRESSURISATION UNIT

With a submerged electric pump model ID5



### Strengths

- **QUIET** {Low noise}
- **COMPACT** {Small footprint}
- **PERFORMING** {Maximum efficiency}

### Adjustment solutions adopted for the unit control (Version):



#### Version P {DRENABOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

#### Inspection

- Pressure switch



#### Version EV {EasyVAR}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance

#### Inspection

- Pressure transducer



### Components supplied with the unit

- Submerged electric pump model ID5
- 500 litre tank, on request with larger capacity tank
- Shut-off valve
- Non-return valve
- Glycerine pressure gauge
- Mechanical float for replenishing the water reserve
- Electric float against dry running.
- Control pressure switch (P version)
- Electronic control panel for wall mounting (Version P)
- Pressure transducer (EV Version)
- EasyVar inverter

### Submerged electric pump ID 5



#### Construction characteristics:

- **Pump body and impeller:** AISI 304 stainless steel
  - **Diffusers:** AISI 304 stainless steel
- Motor with double mechanical seal separated by an oil chamber to ensure maximum protection of the same



## Fields of use



- Small rural settlements



- Urban settlements
- Condominiums



- Commercial activities
- Offices

## Key features :

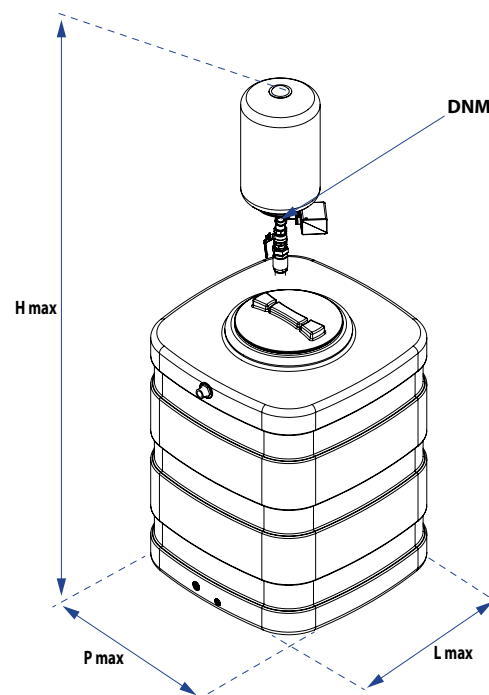
COMPACT pressurisation units are systems made with a submerged electric pump type ID5 with single-phase or three-phase electric motor. The system integrates the first collection tank, the pump, hydraulic and electrical accessories into a single unit. The units are suitable for use inside small urban and rural settlements, condominiums, commercial activities, offices.

## Technical data

	Single-phase		Three-phase	
	Compact P	Compact EV	Compact P	Compact EV
Available units:				
Max. liquid temperature:	40°C	40°C	40°C	40°C
Maximum allowable pressure:	10 bar	10 bar	10 bar	10 bar
Power for each pump kW:	0.55/0.75/1.1/1.5	0.55/0.75/1.1/1.5	1.1/1.5	1.1/1.5
Type of command:	Idrobox	Esyvar	Idrobox	Esyvar
Type of control:	Pressure gauge	Pressure transducer	Pressure gauge	Pressure transducer

## Dimensions and weights

Unit	Version	DNM	Lmax	Pmax	Hmax	Weight
Compact ID5 A075	P/ EV	1"¼	760 mm	760 mm	1680 mm	65 kg
Compact ID5 A100	P/ EV	1"¼	760 mm	760 mm	1680 mm	65 kg
Compact ID5 A150	P/ EV	1"¼	760 mm	760 mm	1680 mm	65 kg
Compact ID5 B150	P/ EV	1"¼	760 mm	760 mm	1680 mm	65 kg
Compact ID5 B200	P/ EV	1"¼	760 mm	760 mm	1680 mm	65 kg



## Hydraulic performance of units with SINGLE-PHASE 230V or THREE-PHASE 400V POWER SUPPLY

Pump Model	Version	P <sub>2</sub>	Pump fitting	Flow rate														
			Delivery	I/min	0	16.6	25	33.3	41.6	50	58.3	66.6	75	83.3	90	100	116	133
		kW	Ø	m³/h	0	1	1.5	2	2.5	3	3.5	4	4.5	5	5.4	6	7	8
ID5 A150	P/EV	1.1	1"¼	H (m.w.c.)	87.5	81	77	71.5	66	60	52	46	37	27.5	18			
ID5 B150	P/EV	1.1	1"¼		66				60	58	56	54	52	49	45.5	42	34	20
ID5 B200	P/EV	1.5	1"¼		88				80	77.5	75	72	68	65	60.5	56	45	28

## Hydraulic performance of units with 230V SINGLE-PHASE

Pump Model	Version	P <sub>2</sub>	Pump fitting	Flow rate										
			Delivery	I/min	0	16.6	25	33.3	41.6	50	58.3	66.6	75	83.3
		kW	Ø	m³/h	0	1	1.5	2	2.5	3	3.5	4	4.5	5
ID5 A075	P/EV	0.55	1"¼	H (m.w.c.)	44	4.5	39.5	36.5	33.5	30	26	21	16	
ID5 A100	P/EV	0.75	1"¼		53	49.5	47	44	40	35	30	25	19	13

# SuperCompact

Units available with single-phase 230V or three-phase 400V POWER SUPPLY

## PRESSURISATION UNIT

With two ID5 submerged electric pumps



### Strengths

- **QUIET** {Low Noise}
- **COMPACT** {Small footprint}
- **PERFORMING** {Maximum efficiency}

### Adjustment solutions adopted for the unit control (Version):



#### Version P

##### {DRENABOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

#### Inspection

- Pressure switch



#### Version EV

##### {EasyVAR}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance

#### Inspection

- Pressure transducer



#### Version IP

##### {VARIBOX}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance
- Low noise

#### Inspection

- Pressure transducer



### Components supplied with the unit

- 2 submerged electric pumps model ID5
- 500 litre tank, on request with larger capacity tank
- Stainless steel manifold
- Shut-off valves,
- Check valves
- Solenoid valve for replenishing the water reserve
- Glycerine pressure gauge
- Mechanical safety float
- Electric float against dry running.
- Electric level float
- 2 control pressure switches (P version) or emergency (IP version)
- Electronic panel made to CEI standards and wired inside a plastic box (P version) Metallic (IP version)
- 1 pressure transducer, (IP version)

### Submerged electric pump ID 5



#### Construction characteristics:

- **Pump body and impeller:** AISI 304 stainless steel
  - **Diffusers:** AISI 304 stainless steel
- Motor with double mechanical seal separated by an oil chamber to ensure maximum protection of the same



## Fields of use



- Small rural settlements



- Urban settlements
- Condominiums



- Commercial activities
- Offices

## Key features :

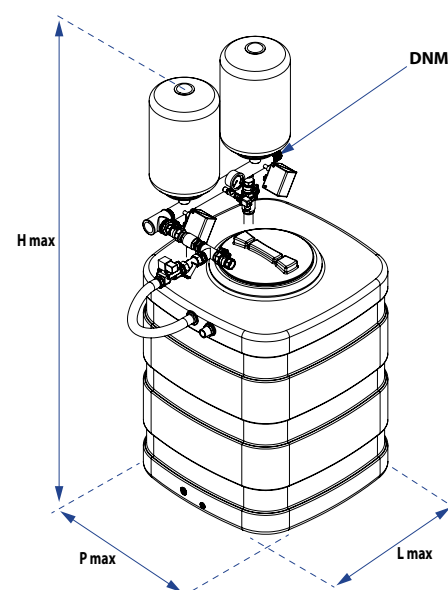
The SUPERCOMPACT pressurisation units are systems made with two ID5 submerged electric pumps with single-phase or three-phase electric motor. The system integrates the first collection tank, the pump, hydraulic and electrical accessories into a single unit. The units are suitable for use inside small urban and rural settlements, condominiums, commercial activities, offices.

## Technical data

Available units:	Single-phase		Three-phase		
	Super compact P	Super compact EV	Super compact P	Super compact EV	Super compact IP
Max. liquid temperature:	40°C	40°C	40°C	40°C	40°C
Maximum allowable pressure:	10 bar	10 bar	10 bar	10 bar	10 bar
Power for each pump kW:	0.55/0.75/1.1/1.5	0.55/0.75/1.1/1.5	1.1/1.5	1.1/1.5	1.1/1.5
Type of command:	Idrobox	Esyvar	Idrobox	Esyvar	Varibox
Type of control:	Pressure gauge	Pressure transducer	Pressure gauge	Pressure transducer	Pressure transducer

## Dimensions and weights

Unit	Version	DNM	Lmax	Pmax	Hmax	Weight
SuperCompact ID5 A075	P/ EV/IP	1"¼	760 mm	760 mm	1680 mm	90 kg
SuperCompact ID5 A100	P/ EV/IP	1"¼	760 mm	760 mm	1680 mm	90 kg
SuperCompact ID5 A150	P/ EV/IP	1"¼	760 mm	760 mm	1680 mm	90 kg
SuperCompact ID5 B150	P/ EV/IP	1"¼	760 mm	760 mm	1680 mm	90 kg
SuperCompact ID5 B200	P/ EV/IP	1"¼	760 mm	760 mm	1680 mm	90 kg



## Hydraulic performance of units with SINGLE-PHASE 230V or THREE-PHASE 400V POWER SUPPLY

Pump Model	Version	P <sub>2</sub>	Pump fitting	Flow rate															
			Delivery	l/min	0	33.2	50	6.6	83.2	100	116.6	132.2	150	166.6	180	200	232	266	
		kW	Ø	m³/h	0	2	3	4	5	6	7	8	9	10	10.8	12	14	16	
ID5 A150	P/EV/IP	2 x 1.1	1"¼	H (m.w.c.)	87.5	81	77	71.5	66	60	52	46	37	27.5	18				
ID5 B150	P/EV/IP	2 x 1.1	1"¼		66				60	58	56	54	52	49	45.5	42	34	20	
ID5 B200	P/EV/IP	2 x 1.5	1"¼		88				80	77.5	75	72	68	65	60.5	56	45	28	

## Hydraulic performance of units with 230VSINGLE-PHASE

Pump Model	Version	P <sub>2</sub>	Pump fitting	Flow rate												
				Delivery	l/min	0	33.2	50	6.6	83.2	100	116.6	132.2	150	166.6	180
				Ø	m³/h	0	2	3	4	5	6	7	8	9	10	10.8
ID5 A075	P/EV	2 x 0.55	1"¼	H (m.w.c.)	44	4.5	39.5	36.5	33.5	30	26	21	16			
ID5 A100	P/EV	2 x 0.75	1"¼		53	49.5	47	44	40	35	30	25	19	13	6.8	

# Pressmatic

**Units available with 230v SINGLE-PHASE**

## PRESSURISATION UNIT

- With one model JET/N Self-priming cast iron threaded pumps
- With one 2C model Single-block pump double impeller with threaded nozzle

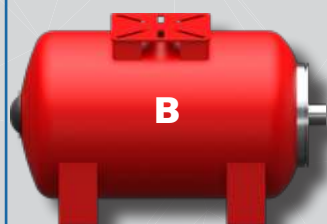


## Strengths

### Interchangeable diaphragm autoclave



**24 LITRES**



**100 LITRES**

## Components supplied with the unit

- Electric pump with two-pole induction motor, 50 Hz ( $n=2900$  / min) single-phase 230 V  $\pm$  10%
- Check Valve
- Pressure gauge
- Interchangeable membrane autoclave, 24 litres (type A) or 100 litres (type B)

### JET/N centrifugal pump

Self-priming cast iron threads

- **Pump body:** Cast iron
- **Motor support:** Cast iron
- **Impeller:** Noryl
- **Shaft:** AISI 420 stainless steel
- **Mechanical seal:** Alumina / Graphite



### Centrifugal pump 2C

Double impeller single-block with threaded nozzles



## Fields of use



- Small urban and rural settlements

## Key features :

The PRESSMATIC pressurisation units are systems made with a single-phase electric pump. They are suitable for solving problems of little or no pressure in domestic, civil and medium-sized industrial systems. They are supplied pre-assembled, pre-calibrated and factory tested. They are therefore ready for installation, which is limited to electrical and hydraulic connections only.

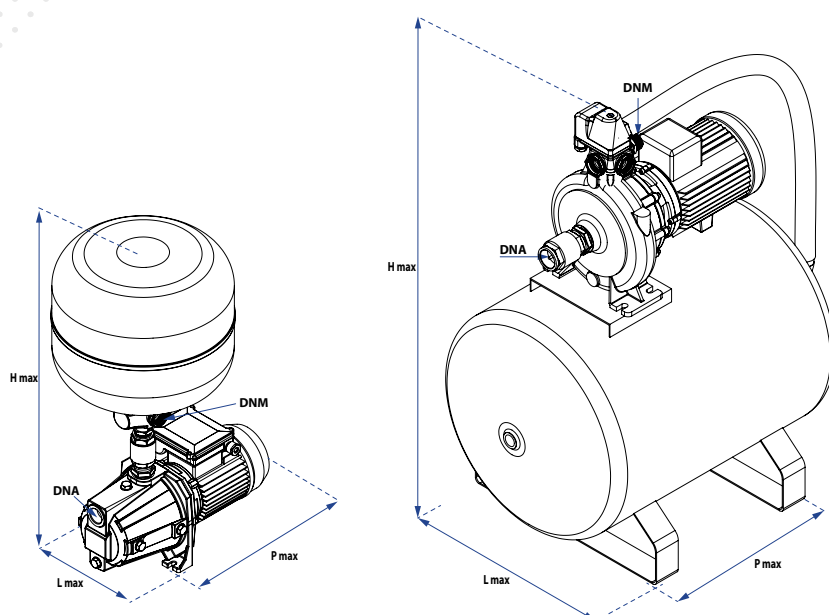
## Technical data

	Pressmatic JET/N		Pressmatic 2C	
Available units:	Pressmatic JET/N (A)	Pressmatic JET/N (B)	Pressmatic 2C (A)	Pressmatic 2C (B)
Autoclave Capacity:	24 litres	100 litres	24 litres	100 litres
Pump Motor:	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles
Pump power kW:	0.75-1.1	0.75-1.1	0.75-1.1-1.5	0.75-1.1-1.5
Maximum pump pressure:	8 Bar	8 Bar	10 Bar	10 Bar

## Dimensions and weights

24 LITRES	DNA	DNM	Lmax	Pmax	Hmax	Weight
	Ø	Ø	mm	mm	mm	kg
Pressmatic JET/N 100	1"	1"	360	389	535	24
Pressmatic JET/N 150	1"	1"	360	506	565	32
Pressmatic 2C 100	1"	1"	360	328	573	24
Pressmatic 2C 150	1 1/4"	1"	360	385	610	24
Pressmatic 2C 200	1 1/4"	1"	360	385	610	24

100 LITRES	DNA	DNM	Lmax	Pmax	Hmax	Weight
	Ø	Ø	mm	mm	mm	kg
Pressmatic JET/N 100	1"	1"	450	830	667	100
Pressmatic JET/N 150	1"	1"	450	830	695	100
Pressmatic 2C 100	1"	1"	450	830	688	100
Pressmatic 2C 150	1 1/4"	1"	450	830	725	100
Pressmatic 2C 200	1 1/4"	1"	450	830	725	100



## Hydraulic performance of electric pumps

Pump Model	Tank	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	I/min	0	10	20	30	40	50	60	70	80	100	120
		kW	Ø	Ø	m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.0	3.6	4.2	4.8	6	7.2
JET/N 100	24 / 100 LITRES	0.75	1"	1"	H (m.w.c.)	50	44	38.5	34	29.5	26	22.5	20			
JET/N 150	24 / 100 LITRES	1.1	1 1/2"	1 1/4"		50.7	48.2	45.7	43.3	41	39	36.8	34.5	32.5	28.5	25
Pump Model	Tank	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	I/min	0	10	20	30	40	60	80	100	120	140	
		kW	Ø	Ø	m <sup>3</sup> /h	0	0.6	1.2	1.8	2.4	3.6	4.8	6	7.2	8.4	
2C 100 B T	24 / 100 LITRES	0.75	1"	1"	H (m.w.c.)	42	41	39.5	37.5	35	30	21				
2C 150 B T	24 / 100 LITRES	1.1	1 1/4"	1"		53	52.5	52	51	50	47	44	40	35		
2C 200 B T	24 / 100 LITRES	1.5	1 1/4"	1"		57.5	57	56	55	54	52	48	44	40	34	



# Easymatic

System available with single-phase 230V or three-phase 400V POWER SUPPLY

## CONSTANT PRESSURE SYSTEM With inverter mounted on the terminal block of the electric motor



### Strengths



#### 20-LITRE MEMBRANE tanks

- **Energy saving:** decrease in the number of pump start-ups
- **Dual utility:** this type of tank also acts as a water hammer damper.



#### EVAR

- Constant pressure
- Decrease in the costs of ordinary maintenance
- Outer casing in die-cast aluminium
- High-quality electronic components
- Optimal performance feature

#### Combined with the control system

- Transducer 0-16 Bar.



### Components supplied with the unit

- IDXV model electric pump with induction motor, 50Hz three-phase 230V/400V,
- Evar inverter at the motor terminal block.
- Transducer 0-16 Bar.
- Ball valves in suction and delivery.
- Pressure gauge.
- Check valve.
- Membrane tank 20 lt

#### DXV-N vertical multi-stage pump

Stainless steel vertical multi-stage centrifugal electric pump.

- **Practical** {the motor unit and the rotating part are removable without removing the pump body from the system }
- **Efficiency** {IE3 & OverHigh efficiency motor }



#### Construction characteristics:

- **Pump body:** Stainless steel
- **Motor support:** Cast iron
- **Shaft and Impeller:** Stainless steel
- **Mechanical seal:** Silicon carbide/EPDM

## Fields of use



- Small rural settlements



- Urban settlements
- Condominiums

## Key features :

The EASYMATIC pressurization units consist of a 230 V/400 V three-phase electric pump and an EVAR inverter that can be connected to a 230 V single-phase or 400 V three-phase network. Therefore a variable speed pressurization system is obtained allowing the network pressure to be kept constant regardless of the user's flow request.

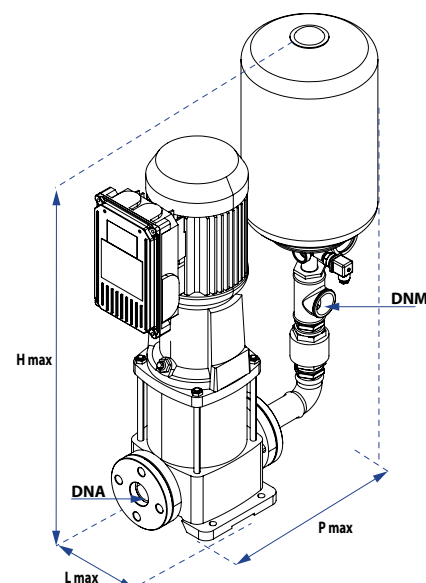
EASYMATIC units are suitable for solving problems of low or lack of pressure in domestic systems and in small civil and industrial applications.

## Technical data

	Single-phase			Three-phase		
Pump families available :	IDXV-N 25	IDXV-N 32	IDXV-N 40	IDXV-N 25	IDXV-N 32	IDXV-N 40
Motor frequency:	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm
Motor efficiency:	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over
Power for each pump kW:	0.75/1.1/1.5	1.1/1.5	1.5/2.2	0.75/1.1/1.5	1.1/1.5	1.5/2.2
Hydraulic efficiency of the pumps	>0.4	>0.4	>0.4	>0.4	>0.4	>0.4

## Dimensions and weights

Unit	Lmax	Pmax	Hmax	DNA	DNM	Weight
EASYMATIC IDXV-N 25-10	400	600	649	25/32	1"	35
EASYMATIC IDXV-N 25-15	400	600	739	25/32	1"	38
EASYMATIC IDXV-N 25-19	400	650	883	25/32	1"	48
EASYMATIC IDXV-N 32-08	400	650	685	25/32	1"	40
EASYMATIC IDXV-N 32-10	400	700	811	25/32	1"	50
EASYMATIC IDXV-N 40-04	400	700	724	40	1"½	60
EASYMATIC IDXV-N 40-06	400	700	784	40	1"½	65



## Electric pump hydraulic performance

Unit	Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate																				
				Suction	Delivery	l/min	0	17	25	33	42	50	58	67	75	83	100	117	133	150	167	183	200	217		
			kW	Ø	Ø	m³/h	0	1	1.5	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10	11	12	13		
EASYMATIC IDXV-N 25-10	IDXV-N 25-10	EV	0.75	25/32	25/32	H (m.w.c.)	62	60	58	55	50	45	38	30	22											
EASYMATIC IDXV-N 25-15	IDXV-N 25-15	EV	1.1	25/32	25/32		96	91	88	82	76	68	58	45	32											
EASYMATIC IDXV-N 25-19	IDXV-N 25-19	EV	1.5	25/32	25/32		122	119	115	108	100	90	78	62	45											
EASYMATIC IDXV-N 32-08	IDXV-N 32-08	EV	1.1	25/32	25/32		51				48	47	46	44	41	38	34	28	22							
EASYMATIC IDXV-N 32-10	IDXV-N 32-10	EV	1.5	25/32	25/32		65				62	60	58	56	54	50	46	40	32							
EASYMATIC IDXV-N 40-04	IDXV-N 40-04	EV	1.5	40	40		39									39	38	36	35	32	30	27	23	20		
EASYMATIC IDXV-N 40-06	IDXV-N 40-06	EV	2.2	40	40		60									59	58	56	53	50	46	41	36	32		

# InoxPress

**Units available with single-phase 230V or three-phase 400V POWER SUPPLY**

## PRESSURISATION UNIT

With 2 IDHX model horizontal axis threaded single-block stainless steel pumps



### Strengths

- **COMPACT** {Small footprint}
- **RELIABLE** {High-quality components}
- **SIMPLE** {Intuitive operation}

### Adjustment solutions adopted for the unit control (Version):



#### Version P

##### {DRENABOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

#### Inspection

- Pressure switch



#### Version EV

##### {EVAR}

- Constant pressure
- Decrease in the costs of ordinary maintenance
- Outer casing in die-cast aluminium
- High-quality electronic components
- Optimal performance feature

#### Inspection

- Pressure transducer



### Components supplied with the unit

- Metal base with antivibration adjustable feet
- Two IDHX electric pumps
- Suction manifold in Steel
- Delivery manifold in Steel
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the delivery manifold.
- Two command and control pressure switches (P version)
- Electronic panel made to CEI standards and wired inside a plastic box (Version P)
- 2 Evar Inverter (EV Version)
- 2 Pressure transducer (EV version)

### IDHX ELECTRIC PUMP

Horizontal axis multi-stage



#### Construction characteristics:

- |                           |                          |
|---------------------------|--------------------------|
| • <b>Pump body:</b>       | AISI 304 stainless steel |
| • <b>Motor support:</b>   | Cast iron                |
| • <b>Impeller:</b>        | AISI 304 stainless steel |
| • <b>Shaft:</b>           | AISI 420 stainless steel |
| • <b>Mechanical seal:</b> | Ceramic / Graphite       |



## Fields of use



- Small rural settlements



- Urban settlements
- Condominiums

## Key features :

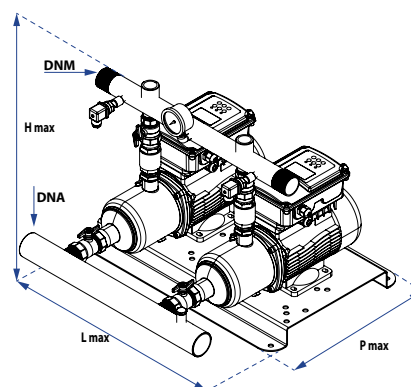
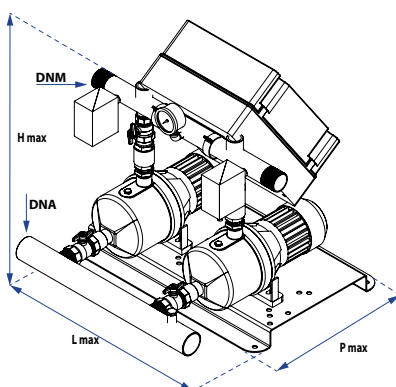
The INOXPRESS pressurization units are systems with two threaded single-block horizontal axis pumps, suitable for use in civil, industrial and agricultural installations.

## Technical data

	Single-phase		Three-phase	
Available units:	Inoxpress P	Inoxpress IV	Inoxpress P	Inoxpress IV
Max. liquid temperature:	110°C	110°C	110°C	110°C
Pump motor:	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles
Power for each pump kW:	1.1/1.5	1.1/1.5	1.1/2.2	1.1/2.2
Maximum Pressure	10 Bar	10 Bar	10 Bar	10 Bar
Type of command:	Drenabox	Evar	Drenabox	Evar
Type of control:	Pressure gauge	Pressure transducer	Pressure gauge	Pressure transducer

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
Inoxpress IDHX 5/5	P/ EV	2"	1"½	600	615	973	46
Inoxpress IDHX 5/7	P/ EV	2"	1"½	600	615	973	55
Inoxpress IDHX 9/6	P/ EV	2"½	2"	600	700	1004	55



## Hydraulic performance of units with SINGLE-PHASE 230V or THREE-PHASE 400V POWER SUPPLY

Unit	Version	Pump Model	P <sub>2</sub>	Pump Fittings		Flow rate and head relative to the sum of the pumps										
				Suction	Delivery	L/min	0	33.2	66.6	100	134	166	200	234	266	
				Ø	Ø	m³/h	0	2	4	6	8	10	12	14	16	
INOXPRESS IDHX 5/5	P/EV	IDHX 5/5	2 x 1.1	2"	1"½	H	58	55.5	53	50	46	42	36	28	18	
INOXPRESS IDHX 5/7	P/EV	IDHX 5/7	2 x 1.5	2"	1"½	(m.w.c.)	81.5	78	74.5	70	65	58	49	38	25	

## Hydraulic performance of units with power supply only in THREE-PHASE 400V

Unit	Version	Pump Model	P <sub>2</sub>	Pump Fittings		Flow rate and head relative to the sum of the pumps												
				Suction	Delivery	L/min	0	33.2	66.6	100	134	166	200	234	266	300	334	400
				Ø	Ø	m³/h	0	2	4	6	8	10	12	14	16	18	20	24
INOXPRESS IDHX 9/6	P/EV	IDHX 9/6	2 x 2.2	2"½	2"	H	71	69	67.5	65.5	64	62	60	57	54	51	47	36
						(m.w.c.)												21

# CentriPress

**Units available with single-phase 230V or three-phase 400V POWER SUPPLY**

## PRESSURISATION UNIT

With 2 horizontal axis threaded single-block stainless steel pumps model 2C



### Strengths

- **COMPACT** {Small footprint}
- **RELIABLE** {High-quality components}
- **SIMPLE** {Intuitive operation}

### Adjustment solutions adopted for the unit control (Version):



#### Version P

##### {DRENABOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

#### Inspection

- Pressure switch



#### Version EV

##### {EVAR}

- Constant pressure
- Decrease in the costs of ordinary maintenance
- Outer casing in die-cast aluminium
- High-quality electronic components
- Optimal performance feature

#### Inspection

- Pressure transducer



### Components supplied with the unit

- Metal base with antivibration adjustable feet
- Two model 2C electric pumps
- Suction manifold in Steel
- Delivery manifold in Steel
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the delivery manifold.
- Two command and control pressure switches (P version)
- Electronic panel made to CEI standards and wired inside a plastic box (Version P)
- 2 Evar Inverter (EV Version)
- 2 Pressure transducer (EV version)

### 2C ELECTRIC PUMP

STAINLESS steel multi-stage horizontal axis

#### Construction characteristics:

- **Pump body:** Cast iron
- **Motor support:** Cast iron
- **Impeller:** Brass
- **Shaft:** AISI 303 stainless steel
- **Mechanical seal:** Ceramic / Graphite



## Fields of use



- Small rural settlements



- Urban settlements
- Condominiums

## Key features :

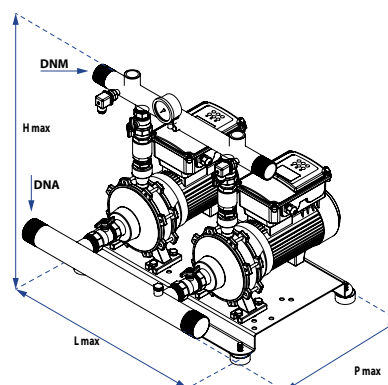
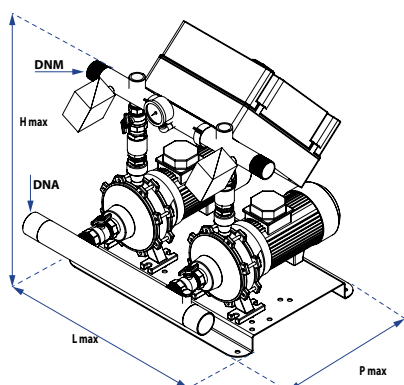
The CENTRIPRESS pressurization units are systems with two threaded single-block horizontal axis pumps, suitable for use in civil, industrial and agricultural installations.

## Technical data

	Single-phase		Three-phase	
Available units:	Centripress P	Centripress EV	Centripress P	Centripress EV
Max. liquid temperature:	70°C	70°C	70°C	70°C
Pump motor:	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles	Asynchronous 2 poles
Power for each pump kW:	0.75/1.1/1.5	0.75/1.1/1.5	0.75/1.1/1.5/2.2/3/4	0.75/1.1/1.5/2.2/3/4
Maximum Pressure	10 Bar	10 Bar	10 Bar	10 Bar
Type of command:	Drenabox	Evar	Drenabox	Evar
Type of control:	Pressure gauge	Pressure transducer	Pressure gauge	Pressure transducer

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
Centripress 2C 100	P/ EV	1"½	1"½	600 mm	550 mm	960 mm	50 kg
Centripress 2C 150	P/ EV	2"	1"½	600 mm	590 mm	960 mm	70 kg
Centripress 2C 200	P/ EV	2"	1"½	600 mm	590 mm	960 mm	71 kg
Centripress 2C 300	P/ EV	2"	1"½	600 mm	590 mm	960 mm	71 kg
Centripress 2C400	P/ EV	2"	1"½	600 mm	590 mm	960 mm	101 kg
Centripress 2C 600	P/ EV	2"½	2"	600 mm	780 mm	960 mm	109 kg



## Hydraulic performance of units with SINGLE-PHASE 230V or THREE-PHASE 400V POWER SUPPLY

Unit	Version	Pump Model	P <sub>2</sub> kW	Pump Fittings		Flow rate relative to the sum of the pumps										
				Suction	Delivery	I/min	0	20	40	60	80	120	160	200	240	
				Ø	Ø	m³/h	0	1.2	2.4	3.6	4.8	7.2	9.6	12	14.4	
CENTRIPRESS 2C 100	P/EV	2C 100	2x0.75	1"	1"	H (m.w.c.)	42	41	39.5	37.5	35	30	21			
CENTRIPRESS 2C 150	P/EV	2C 150	2x1.1	1"¼	1"		53	52.5	52	51	50	47	44	40	35	
CENTRIPRESS 2C 200	P/EV	2C 200	2x1.5	1"¼	1"		57.5	57	56	55	54	52	48	44	40	

## Hydraulic performance of units with power supply only in THREE-PHASE 400V

Unit	Version	Pump Model	P <sub>2</sub> kW	Pump Fittings		Flow rate relative to the sum of the pumps												
				Suction	Delivery	I/min	0	20	40	60	80	120	160	200	240	300	400	450
				Ø	Ø	m³/h	0	1.2	2.4	3.6	4.8	7.2	9.6	12	14.4	18	24	27
CENTRIPRESS 2C 300	P/EV	2C 300	2x2.2	1"¼	1"	H (m.w.c.)	64	63.5	63	62	60.5	58	54	50	46	36		
CENTRIPRESS 2C 400	P/EV	2C 400	2x3	1"½	1"¼		67	66.5	66	65	64	62	60	58	56	52	44	40
CENTRIPRESS 2C 600	P/EV	2C 600	2x4	1"½	1"¼		80.5	80	79	78	77	76	74	72	70	66	58	54



# VertiMAX

2 Pumps

**Units available with single-phase 230V or three-phase 400V POWER SUPPLY**

## PRESSURISATION UNIT

With 2 vertical axis flanged multi-stage pumps model IDVX-N



### Strengths

- **VERSATILE** {Applicable in different areas}
- **COMPACT** {Small footprint}
- **PERFORMING** {High flow rate and head}
- **POWERFUL** {Very high hydraulic efficiency}

### Adjustment solutions adopted for the unit control (Version):



#### Version P

##### {IDROBOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

Inspection

- Pressure gauge



#### Version EP

##### {EPUMP}

Inspection

- Pressure transducer



#### Version IP

##### {VARIBOX}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance
- Low noise

Inspection

- Pressure transducer



#### Version EV

##### {EVAR}

- Constant pressure
- Decrease in the costs of ordinary maintenance
- High-quality electronic components
- Optimal performance feature

Inspection

- Pressure transducer



#### Version PV

##### {PUMPVAR}

- Energy and economic savings
- Increased reliability
- Protects the motor from overload and dry running

Inspection

- Pressure transducer

### Components supplied with the unit

- Metal base with antivibration adjustable feet
- Two electric pumps model IDVX/N
- STAINLESS steel suction and delivery manifold
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the discharge manifold.
- Pressure switches (EP and IP version)
- 2 control pressure switches (P version)
- Electronic panel made to CEI standards and wired inside a plastic box (P and PV version) or metal box (EP and IP version) pressure transducer (EP- IP version, one for each PV version pump)

#### DXV-N DXV vertical multi-stage pump

Stainless steel vertical multi-stage centrifugal electric pump.

- **Practical** {the motor unit and the rotating part are removable without removing the pump body from the system} }
- **Efficiency**{IE3 & Over High-efficiency motor }

Construction characteristics:

- **Pump body:** Stainless steel
- **Motor support:** Cast iron
- **Shaft and Impeller:** Stainless steel
- **Mechanical seal:** Silicon carbide/EPDM



## Fields of use



- Urban settlements
- Condominiums
- Productive activities
- Industries,
- Aqueducts
- Distribution networks
- Commercial activities
- Offices
- Healthcare facilities,
- RSA
- Hotels

## Key features :

The VERTIMAX pressurisation units are systems made with vertical multistage centrifugal pumps coupled to a standardised electric motor powered by three-phase voltage.

The units are suitable for use when high flow rate and heads, continuous operation and limited overall dimensions are required.

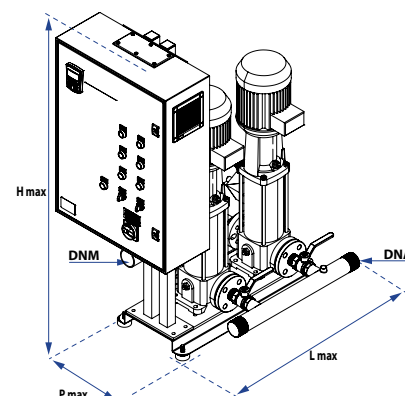
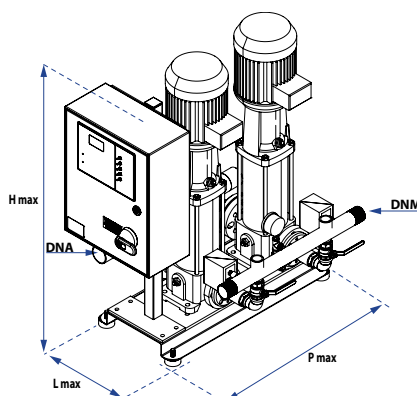
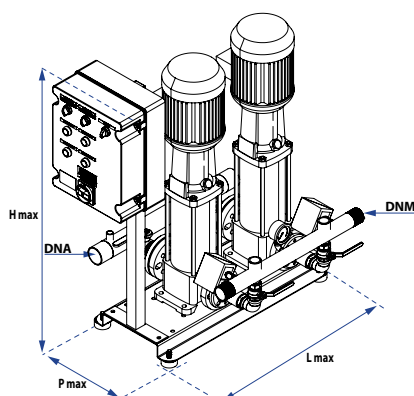
The series of IDXV model electric pumps used feature new design, the motor unit and the upper support part that contains the mechanical seal are removable without removing the pump body from the system. The hydraulic parts in contact with the stainless steel fluid make it possible to obtain a very high hydraulic efficiency and to contain the energies involved.

## Technical data

	Single-phase		Three-phase				
Available units:	Vertimax P	Vertimax EP	Vertimax P	Vertimax EP	Vertimax IP	Vertimax PV	Vertimax EV
Engine:	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm
Motor efficiency:	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over
Single pump power:	from 0.55 to 1.5 kW	from 0.75 to 5.5 kW	from 0.75 to 5.5 kW	from 0.75 to 11 kW	0.55 to 18.5 kW	from 0.55 to 11 kW	from 0.55 to 5.5 kW
Hydraulic efficiency of the pumps	>0.4	>0.4	>0.4	>0.4	>0.4	>0.4	>0.4
Type of command:	Idrobox	Epump	Idrobox	Epump	Varibox	PumpVar	Evar
Type of control:	Pressure gauge	Pressure transducer	Pressure gauge	Pressure transducer	Pressure transducer	Pressure transducer	Pressure transducer

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight	Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
Vertimax 2 25-07	P/ EP/IP/PV/EV	2"	1 1/2"	955	640	1255	66.8	Vertimax 2 50-03	P/ EP/IP/PV/EV	3"	3"	1100	850	1300	127.4
Vertimax 2 25-10	P/ EP/IP/PV/EV	2"	1 1/2"	955	640	1255	66.8	Vertimax 2 50-05	P/ EP/IP/PV/EV	3"	3"	1100	850	1300	146
Vertimax 2 25-15	P/ EP/IP/PV/EV	2"	1 1/2"	955	640	1255	72.6	Vertimax 2 50-07	P/ EP/IP/PV/EV	3"	3"	1100	850	1300	213.4
Vertimax 2 25-19	P/ EP/IP/PV/EV	2"	1 1/2"	955	640	1255	93	Vertimax 2 50-09	P/ EP/IP/PV	3"	3"	1100	850	1300	232.4
Vertimax 2 32-08	P/ EP/IP/PV/EV	2"	2"	955	675	1255	70.2	Vertimax 2 65-03	P/ EP/IP/PV/EV	125	125	1085	1320	1500	230.2
Vertimax 2 32-10	P/ EP/IP/PV/EV	2"	2"	955	675	1255	89.8	Vertimax 2 65-04	P/ EP/IP/PV	125	125	1085	1320	1500	249.2
Vertimax 2 32-16	P/ EP/IP/PV/EV	2"	2"	955	675	1255	102	Vertimax 2 65-06	EP/IP/PV	125	125	1085	1320	1500	342.6
Vertimax 2 32-20	P/ EP/IP/PV/EV	2"	2"	955	675	1255	120.2	Vertimax 2 80-02	P/ EP/IP/PV	125	125	1155	1300	1560	255.6
Vertimax 2 40-04	P/ EP/IP/PV/EV	2 1/2"	2 1/2"	955	730	1255	108	Vertimax 2 80-03	IP/PV	125	125	1155	1300	1560	340.4
Vertimax 2 40-06	P/ EP/IP/PV/EV	2 1/2"	2 1/2"	955	730	1255	117.6	Vertimax 2 80-04	IP	125	125	1155	1300	1500	368.2
Vertimax 2 40-09	P/ EP/IP/PV/EV	2 1/2"	2 1/2"	955	730	1255	138	Vertimax 2 80-05	IP	125	125	1155	1300	1500	425.6
Vertimax 2 40-12	P/ EP/IP/PV/EV	2 1/2"	2 1/2"	955	730	1255	151								



# VertiMAX

3 Pumps

**Units available with three-phase 400V POWER SUPPLY**

## PRESSURISATION UNIT

With 3 vertical axis flanged multi-stage pumps model IDVX-N



### Strengths

- **VERSATILE** {Applicable in different areas}
- **COMPACT** {Small footprint}
- **PERFORMING** {high flow rate and head}
- **POWERFUL** {Very high hydraulic efficiency}

### Adjustment solutions adopted for the unit control (Version):



#### Version EP

##### {EPUMP}

- No sudden pressure changes in the system
- Graphic LCD 3" display, displays the status of the machine/system

#### Inspection

- Pressure transducer



#### Version IP

##### {VARIBOX}

- Energy Saving
- Constant pressure
- Reduced costs of routine maintenance
- Low noise

#### Inspection

- Pressure transducer



#### Version EV

##### {EVAR}

- Constant pressure
- Decrease in the costs of ordinary maintenance
- High-quality electronic components
- Optimal performance feature

#### Inspection

- Pressure transducer



#### Version PV

##### {PUMPVAR}

- Pressure transducer



### Components supplied with the unit

- Metal base with antivibration adjustable feet
- Three electric pumps model IDXV/N
- STAINLESS steel suction and delivery manifold
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the discharge manifold.
- Pressure switches (EP and IP version)
- Electronic panel made to CEI standards and wired inside a plastic box (EV and PV version) or metal box (EP and IP version)
- Pressure transducer (EP- IP version, one for each PV and EV version pump)

#### DXV-N DXV vertical multi-stage pump

Stainless steel vertical multi-stage centrifugal electric pump.

- **Practical** {the motor unit and the rotating part are removable without removing the pump body from the system} }
- **Efficiency**{IE3 & Over High-efficiency motor }

#### Construction characteristics:

- **Pump body:** Stainless steel
- **Motor support:** Cast iron
- **Shaft and Impeller:** Stainless steel
- **Mechanical seal:** Silicon carbide/EPDM





## Fields of use



- Urban settlements
- Condominiums



- Productive activities
- Industries,
- Aqueducts
- Distribution networks



- Commercial activities
- Offices



- Healthcare facilities,
- RSA



- Hotels

## Key features :

The VERTIMAX pressurisation units are systems made with vertical multistage centrifugal pumps coupled to a standardised electric motor powered by three-phase voltage.

The units are suitable for use when high flow rate and heads, continuous operation and limited overall dimensions are required.

The series of ID XV model electric pumps used feature new design, the motor unit and the upper support part that contains the mechanical seal are removable without removing the pump body from the system. The hydraulic parts in contact with the stainless steel fluid make it possible to obtain a very high hydraulic efficiency and to contain the energies involved.

## Technical data

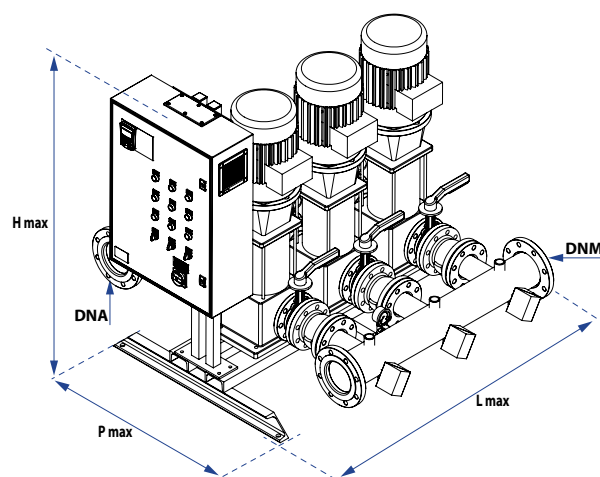
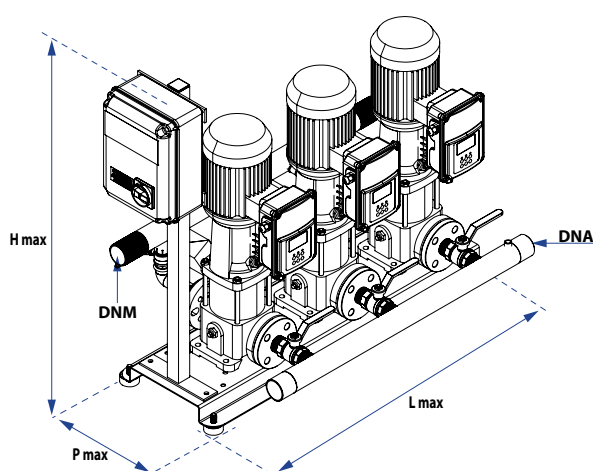
	Three-phase			
Available units:	Vertimax EP	Vertimax IP	Vertimax PV	Vertimax EV
Motor	2900 rpm	2900 rpm	2900 rpm	2900 rpm
Motor efficiency:	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over
Single pump power:	from 0.55 to 11 kW	0.55 to 18.5 kW	from 0.55 to 11 kW	from 0.55 to 5.5 kW
Hydraulic efficiency of the pumps	>0.4	>0.4	>0.4	>0.4
Type of command:	Epump	Varibox	PumpVar	Evar
Type of control:	Pressure transducer	Pressure transducer	Pressure transducer	Pressure transducer

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Vertimax 3 25-07	EP/IP/PV/EV	2"	1½"	1205	630	1255	145.2
Vertimax 3 25-10	EP/IP/PV/EV	2"	1½"	1205	630	1255	145.2
Vertimax 3 25-15	EP/IP/PV/EV	2"	1½"	1205	630	1255	153.9
Vertimax 3 25-19	EP/IP/PV/EV	2"	1½"	1205	630	1255	184.5
Vertimax 3 32-08	EP/IP/PV/EV	2"	2"	1205	700	1255	150.3
Vertimax 3 32-10	EP/IP/PV/EV	2"	2"	1205	700	1255	179.7
Vertimax 3 32-16	EP/IP/PV/EV	2"	2"	1205	700	1255	198
Vertimax 3 32-20	EP/IP/PV/EV	2"	2"	1205	700	1255	225.3
Vertimax 3 40-04	EP/IP/PV/EV	2½"	2½"	1205	760	1255	207
Vertimax 3 40-06	EP/IP/PV/EV	2½"	2½"	1205	760	1255	221.4
Vertimax 3 40-09	EP/IP/PV/EV	2½"	2½"	1205	760	1255	252
Vertimax 3 40-12	EP/IP/PV/EV	2½"	2½"	1205	760	1255	271

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Vertimax 3 50-03	EP/IP/PV	3"	3"	1350	965	1300	239.1
Vertimax 3 50-05	EP/IP/PV/EV	3"	3"	1350	965	1300	258
Vertimax 3 50-07	EP/IP/PV/EV	3"	3"	1350	965	1300	359.1
Vertimax 3 50-09	EP/IP/PV	3"	3"	1350	965	1300	387.6
Vertimax 3 65-03	EP/IP/PV/EV	125	125	1330	1250	1500	384.3
Vertimax 3 65-04	EP/IP/PV	125	125	1330	1250	1500	412.8
Vertimax 3 65-06	EP/IP/PV	125	125	1330	1250	1500	553.2
Vertimax 3 80-02	EP/IP/PV	125	125	1405	1300	1560	416.4
Vertimax 3 80-03	EP/IP/PV	125	125	1405	1300	1560	549.6
Vertimax 3 80-04	EP/IP	125	125	1405	1300	1500	591.3
Vertimax 3 80-05	EP/IP	125	125	1405	1300	1500	667.4



## VERTIMAX 2 PUMPS

### Hydraulic performance of units with SINGLE-PHASE 230V or THREE-PHASE 400V POWER SUPPLY

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps													
			Suction	Delivery	L/min	0	33	50	67	83	100	117	133	150	167	200	233	267
		kW	Ø	Ø	m <sup>3</sup> /h	0	2	3	4	5	6	7	8	9	10	12	14	16
IDXV-N 25-07	P/EP	2 x 0.55	25/32	25/32	H (m.w.c.)	45	42	40	38	35	30.5	26	20	15				
IDXV-N 25-10	P/EP	2 x 0.75	25/32	25/32		62	60	58	55	50	45	38	30	22				
IDXV-N 25-15	P/EP	2 x 1.1	25/32	25/32		96	91	88	82	76	68	58	45	32				
IDXV-N 25-19	P/EP	2 x 1.5	25/32	25/32		122	119	115	108	100	90	78	62	45				
IDXV-N 32-08	P/EP	2 x 1.1	25/32	25/32		51				48	47	46	44	41	38	34	28	22
IDXV-N 32-10	P/EP	2 x 1.5	25/32	25/32		65				62	60	58	56	54	50	46	40	32

### Hydraulic performance of units with power supply only in THREE-PHASE 400V

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps													
			Suction	Delivery	L/min	0	33	50	67	83	100	117	133	150	167	200	233	267
		kW	Ø	Ø	m <sup>3</sup> /h	0	2	3	4	5	6	7	8	9	10	12	14	16
IDXV-N 25-07	IP/PV/EV	2 x 0.55	25/32	25/32	H (m.w.c.)	45	42	40	38	35	30.5	26	20	15				
IDXV-N 25-10	IP/PV/EV	2 x 0.75	25/32	25/32		62	60	58	55	50	45	38	30	22				
IDXV-N 25-15	IP/PV/EV	2 x 1.1	25/32	25/32		96	91	88	82	76	68	58	45	32				
IDXV-N 25-19	IP/PV/EV	2 x 1.5	25/32	25/32		122	119	115	108	100	90	78	62	45				
IDXV-N 32-08	IP/PV/EV	2 x 1.1	25/32	25/32		51				48	47	46	44	41	38	34	28	22
IDXV-N 32-10	IP/PV/EV	2 x 1.5	25/32	25/32		65				62	60	58	56	54	50	46	40	32

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps														
			Suction	Delivery	L/min	0	83	100	117	133	150	167	200	233	267	300	333	367	400
		kW	Ø	Ø	m <sup>3</sup> /h	0	5	6	7	8	9	10	12	14	16	18	20	22	24
IDXV-N 32-16	P/EP/IP/PV/EV	2 x 2.2	25/32	25/32	H (m.w.c.)	108	100	98	96	93	90	85	78	68	54				
IDXV-N 32-20	P/EP/IP/PV/EV	2 x 3	25/32	25/32		135	128	126	123	119	115	109	99	86	70				
IDXV-N 40-04	P/EP/IP/PV/EV	2 x 1.5	40	40		39						39	38	36	35	32	30	27	23
IDXV-N 40-06	P/EP/IP/PV/EV	2 x 2.2	40	40		60						59	58	56	53	50	46	41	36
IDXV-N 40-09	P/EP/IP/PV/EV	2 x 3	40	40		90						89	87	85	80	76	70	64	57
IDXV-N 40-12	P/EP/IP/PV/EV	2 x 4	40	40		120						120	118	115	108	102	95	86	76

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	267	333	400	467	533	600	667	733
		kW	Ø	Ø	m <sup>3</sup> /h	0	16	20	24	28	32	36	40	44
IDXV-N 50-03	P/EP/IP/PV/EV	2 x 3	50	50	H (m.w.c.)	40	38	37	35.5	35.5	32	29	26	22
IDXV-N 50-05	P/EP/IP/PV/EV	2 x 4	50	50		68	66	64	61.5	59	55	51	46	40
IDXV-N 50-07	P/EP/IP/PV/EV	2 x 5.5	50	50		97	93	90	87	82.5	78	72	66	60
IDXV-N 50-09	P/EP/IP/PV	2 x 7.5	50	50		125	120	118	114	108.5	102	94	86	76

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	467	533	600	667	733	800	933	1067
		kW	Ø	Ø	m <sup>3</sup> /h	0	28	32	36	40	44	48	56	64
IDXV-N 65-03	P/EP/IP/PV/EV	2 x 5.5	65	65	H (m.w.c.)	58	56	55	54	52	51	48	45	41
IDXV-N 65-04	P/EP/IP/PV	2 x 7.5	65	65		77	75	74	72	70	69	66	61	55
IDXV-N 65-06	EP/IP/PV	2 x 11	65	65		118	113	112	110	107	104	99	93	85

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps								
			Suction	Delivery	L/min	0	933	1067	1200	1333	1467	1600	1800
		kW	Ø	Ø	m <sup>3</sup> /h	0	56	64	72	80	88	96	108
IDXV-N 80-02	P/EP/IP/PV	2 x 7.5	80	80	H (m.w.c.)	50	48	46	44	41	38	34	31
IDXV-N 80-03	IP/PV	2 x 11	80	80		75	70	68	66	63	60	54	48
IDXV-N 80-04	IP	2 x 15	80	80		101	95	92	89	85	80	74	65
IDXV-N 80-05	IP	2 x 18.5	80	80		126	121	117	112	107	101	94	83

## VERTIMAX 3 PUMPS

### Hydraulic performance of units with power supply only in **THREE-PHASE 400V**

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	50	75	100	125	150	175	200	225
		kW	Ø	Ø	m <sup>3</sup> /h	0	3	4.5	6	7.5	9	10.5	12	13.5
IDXV-N 25-07	EP/IP/PV/EV	2 x 0.55	25/32	25/32	H (m.w.c.)	45	42	40	38	35	30.5	26	20	15
IDXV-N 25-10	EP/IP/PV/EV	3 x 0.75	25/32	25/32		62	60	58	55	50	45	38	30	22
IDXV-N 25-15	EP/IP/PV/EV	3 x 1.1	25/32	25/32		96	91	88	82	76	68	58	45	32
IDXV-N 25-19	EP/IP/PV/EV	3 x 1.5	25/32	25/32		122	119	115	108	100	90	78	62	45

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	125	150	175	200	225	250	300	350
		kW	Ø	Ø	m <sup>3</sup> /h	0	7.5	9	10.5	12	13.5	15	18	21
IDXV-N 32-08	EP/IP/PV/EV	3 x 1.1	25/32	25/32	H (m.w.c.)	51	48	47	46	44	41	38	34	28
IDXV-N 32-10	EP/IP/PV/EV	3 x 1.5	25/32	25/32		65	62	60	58	56	54	50	46	40
IDXV-N 32-16	EP/IP/PV/EV	3 x 2.2	25/32	25/32		108	100	98	96	93	90	85	78	68
IDXV-N 32-20	EP/IP/PV/EV	3 x 3	25/32	25/32		135	128	126	123	119	115	109	99	86

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	250	300	400	450	500	550	600	650
		kW	Ø	Ø	m <sup>3</sup> /h	0	15	18	24	27	30	33	36	39
IDXV-N 40-04	EP/IP/PV/EV	3 x 1.5	40	40	H (m.w.c.)	39	39	38	36	35	32	30	27	23
IDXV-N 40-06	EP/IP/PV/EV	3 x 2.2	40	40		60	59	58	56	53	50	46	41	36
IDXV-N 40-09	EP/IP/PV/EV	3 x 3	40	40		90	89	87	85	80	76	70	64	57
IDXV-N 40-12	EP/IP/PV/EV	3 x 4	40	40		120	120	118	115	108	102	95	86	76

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	400	500	600	700	800	900	1000	1100
		kW	Ø	Ø	m <sup>3</sup> /h	0	24	30	36	42	48	54	60	66
IDXV-N 50-03	EP/IP/PV/EV	3 x 3	50	50	H (m.w.c.)	40	38	37	35.5	35.5	32	29	26	22
IDXV-N 50-05	EP/IP/PV/EV	3 x 4	50	50		68	66	64	61.5	59	55	51	46	40
IDXV-N 50-07	EP/IP/PV/EV	3 x 5.5	50	50		97	93	90	87	82.5	78	72	66	60
IDXV-N 50-09	EP/IP/PV	3 x 7.5	50	50		125	120	118	114	108.5	102	94	86	76

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps									
			Suction	Delivery	L/min	0	700	800	900	1000	1100	1200	1400	1600
		kW	Ø	Ø	m <sup>3</sup> /h	0	42	48	54	60	66	72	84	96
IDXV-N 65-03	EP/IP/PV/EV	3 x 5.5	65	65	H (m.w.c.)	58	56	55	54	52	51	48	45	41
IDXV-N 65-04	EP/IP/PV	3 x 7.5	65	65		77	75	74	72	70	69	66	61	55
IDXV-N 65-06	EP/IP/PV	3 x 11	65	65		118	113	112	110	107	104	99	93	85

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps								
			Suction	Delivery	L/min	0	1200	1400	1800	2000	2200	2400	2700
		kW	Ø	Ø	m <sup>3</sup> /h	0	72	84	108	120	132	144	162
IDXV-N 80-02	EP/IP/PV	3 x 7.5	80	80	H (m.w.c.)	50	48	46	44	41	38	34	31
IDXV-N 80-03	EP/IP/PV	3 x 11	80	80		75	70	68	66	63	60	54	48
IDXV-N 80-04	EP/IP/PV	3 x 15	80	80		101	95	92	89	85	80	74	65
IDXV-N 80-05	EP/IP/PV	3 x 18.5	80	80		126	121	117	112	107	101	94	83



# CentriMAX

2 Pumps

**Units available with 400V three-phase POWER SUPPLY**

## PRESSURISATION UNIT

With 2 horizontal axis flanged single-block pumps model FL



### Strengths

- **COMPACT** {Small footprint}
- **PERFORMING** {High flow rate and head}
- **POWERFUL** {Very high hydraulic efficiency}

### Adjustment solutions adopted for the unit control (Version):



#### Version P

##### {IDROBOX}

- Simple to use
- With programmable control
- Protective device for direct start of pump

#### Inspection

- Pressure switch



#### Version IP

##### {VARIBOX}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance
- Low noise

#### Inspection

- Pressure transducer



### Components supplied with the unit

- Metal base with antivibration adjustable feet
- 2 FL electric pumps
- STAINLESS steel suction manifold
- STAINLESS steel delivery manifold
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the discharge manifold.
- Circuit with emergency pressure switches (IP version)
- 2 control pressure switches (P version)
- Idrobox panel (Version P)
- 1 pressure transducer (IP version)
- Varibox inverter control panel (IP version)

### FL electric pump

Single-block flanged horizontal axis



#### Construction characteristics:

- **Pump body:** Cast iron
- **Motor support:** Cast iron
- **Impeller:** Cast iron
- **Shaft:** AISI 303 stainless steel
- **Mechanical seal:** Ceramic / Graphite

## Fields of use



- Urban settlements
- Productive activities
- Commercial activities
- Healthcare facilities,
- Hotels
- Condominiums
- Industries,
- Aqueducts
- Offices
- RSA
- Distribution networks

## Key features :

The CENTRIMAX pressurisation units are systems made with standardised centrifugal electric pumps with horizontal axis in a monobloc version with IE3 & Over three-phase electric motor. The range includes units from TWO to THREE pumps. The units are suitable for use in civil, industrial and agricultural installations, when high flow rate and head and continuous operation are required.

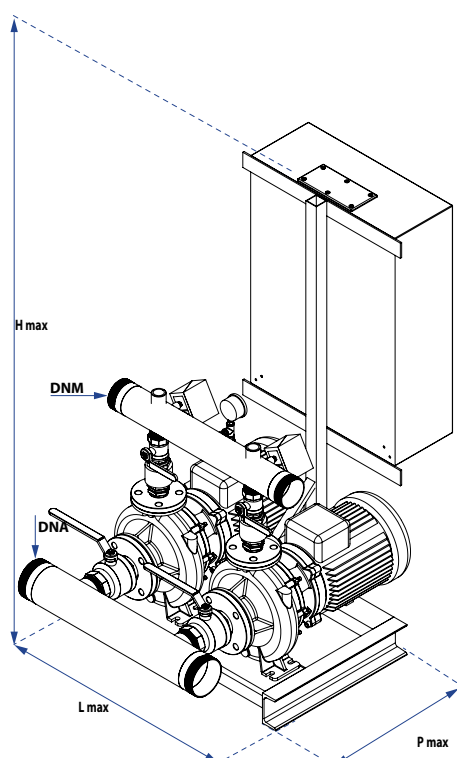
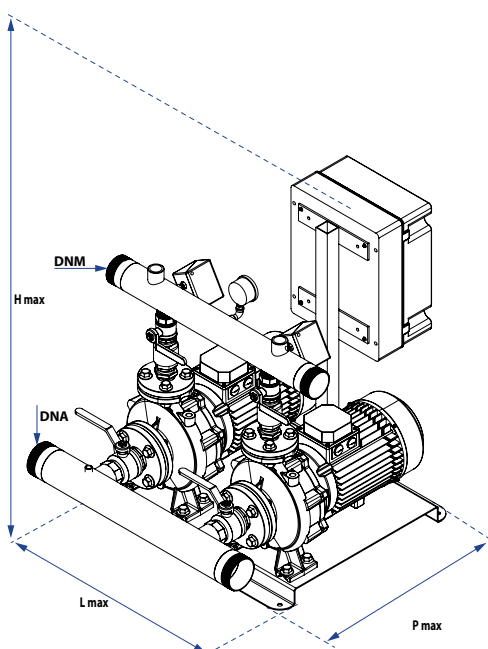
## Technical data

	Three-phase					
Family of units available:	Centrimax 32-200	Centrimax 32-250	Centrimax 40-200	Centrimax 40-250	Centrimax 50-160	Centrimax 50-200
Version:	P/IP	P/IP	P/IP	P/IP	P/IP	P/IP
Engine:	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm
Motor efficiency:	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over
Power for each pump kW:	4/5.5/7.5	9.2/11/13.5/17	4/5.5/7.5/11	15/17	7.5	9.2/11/15
Hydraulic efficiency of the pumps	>0.4	>0.4	>0.7	>0.7	>0.4	>0.6

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Centrimax 2 32-200N	P/IP	3"	2 1/2"	800	700	1310	143
Centrimax 2 32-200NB	P/IP	3"	2 1/2"	800	700	1310	147
Centrimax 2 32-200NA	P/IP	3"	2 1/2"	800	700	1310	273
Centrimax 2 32-250D	P/IP	3"	2 1/2"	870	700	1250	312
Centrimax 2 32-250C	P/IP	3"	2 1/2"	870	700	1250	320
Centrimax 2 32-250B	P/IP	3"	2 1/2"	870	700	1250	344
Centrimax 2 32-250A	P/IP	3"	2 1/2"	870	700	1250	356
Centrimax 2 40-200C	P/IP	4"	3"	870	1010	1310	151
Centrimax 2 40-200B	P/IP	4"	3"	870	1010	1310	163

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Centrimax 2 40-200A	P/IP	4"	3"	870	1010	1310	286
Centrimax 2 40-200NA	P/IP	4"	3"	870	1010	1310	304
Centrimax 2 40-250ND	P/IP	4"	3"	1200	1235	1250	354
Centrimax 2 40-250NC	P/IP	4"	3"	1200	1235	1250	372
Centrimax 2 40-250NA	P	4"	3"	1120	1235	1250	418
Centrimax 2 50-160A	P/IP	4"	3"	1120	845	1250	300
Centrimax 2 50-200SD	P/IP	4"	3"	1120	1180	1250	334
Centrimax 2 50-200SC	P/IP	4"	3"	1120	1180	1250	356
Centrimax 2 50-200SA	P/IP	4"	3"	1050	1180	1250	361



# CentriMAX

3 Pumps

**Units available with 400V THREE-PHASE POWER SUPPLY**

## PRESSURISATION UNIT

With 3 horizontal axis flanged single-block pumps model FL



### Strengths

### Adjustment solutions adopted for the unit control (Version):



#### Version EP

##### {EPUMP}

- No sudden pressure changes in the system
- Graphic LCD 3" display, displays the status of the machine/system



#### Version IP

##### {VARIBOX}

- Energy saving
- Constant pressure
- Reduced costs of routine maintenance
- Low noise

### Components supplied with the unit

- Metal base with antivibration adjustable feet
- 3 FL electric pumps
- STAINLESS steel suction manifold
- STAINLESS steel delivery manifold
- Expansion vessel connection.
- Shut-off ball valves, on suction and delivery
- Check valve on the delivery.
- Pressure gauge on the discharge manifold.
- Pressure switches (EP and IP version)
- 1 pressure transducer (IP version)
- Varibox inverter control panel (IP version)

### FL electric pump

Single-block flanged horizontal axis



#### Construction characteristics:

- **Pump body:** Cast iron
- **Motor support:** Cast iron
- **Impeller:** Cast iron
- **Shaft:** AISI 303 stainless steel
- **Mechanical seal:** Ceramic / Graphite



## Fields of use



- Urban settlements
- Productive activities
- Commercial activities
- Healthcare facilities,
- Hotels
- Condominiums
- Industries,
- Aqueducts
- Offices
- RSA
- Distribution networks

## Key features :

The CENTRIMAX pressurisation units are systems made with standardised centrifugal electric pumps with horizontal axis in a monobloc version with IE3 & Over three-phase electric motor. The range includes groups of TWO or THREE pumps. The units are suitable for use in civil, industrial and agricultural installations, when high flow rate and heads and continuous operations are required

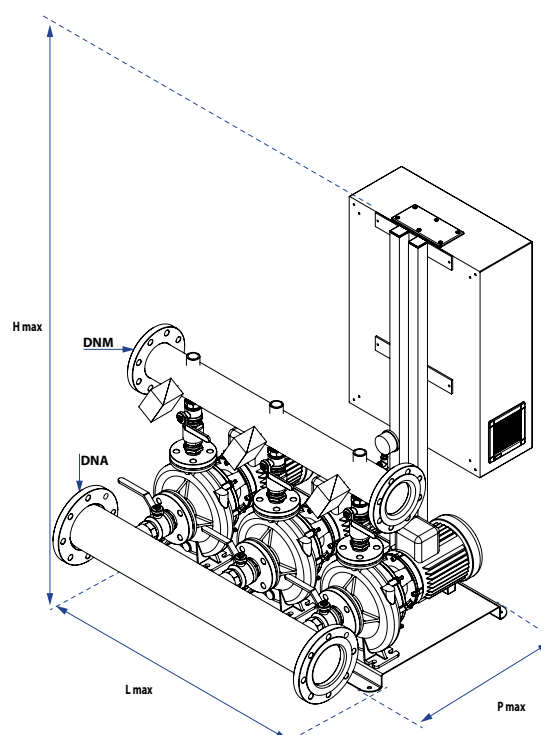
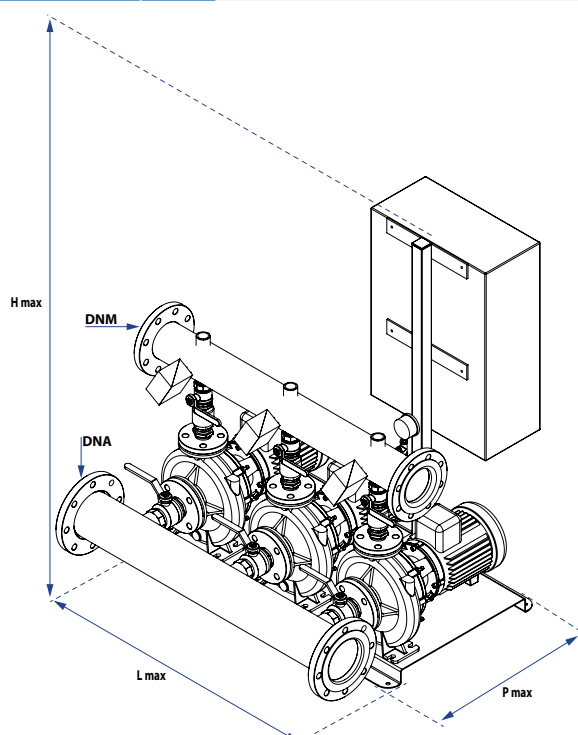
## Technical data

	Three-phase					
Family of units available:	Centrimax 32-200	Centrimax 32-250	Centrimax 40-200	Centrimax 40-250	Centrimax 50-160	Centrimax 50-200
Version:	EP/IP	EP/IP	EP/IP	EP/IP	EP/IP	EP/IP
Engine:	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm	2900 rpm
Motor efficiency:	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over	IE3 & Over
Pump power kW:	4/5.5/7.5	9.2/11/13.5/17	4/5.5/7.5/11	15/17	7.5	9.2/11/15
Hydraulic efficiency of the pumps	>0.4	>0.4	>0.7	>0.7	>0.4	>0.6

## Dimensions and weights

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Centrimax 3 32-200N	EP/IP	125	100	1040	1040	1170	210
Centrimax 3 32-200NB	EP/IP	125	100	1040	1040	1170	216
Centrimax 3 32-200NA	EP/IP	125	100	1040	1040	1170	385
Centrimax 3 32-250D	EP/IP	125	100	1230	1040	1150	448
Centrimax 3 32-250C	EP/IP	125	100	1230	1040	1150	460
Centrimax 3 32-250B	EP/IP	125	100	1230	1040	1150	496
Centrimax 3 32-250A	EP/IP	125	100	1230	1040	1150	514
Centrimax 3 40-200C	EP/IP	150	125	1180	1200	1160	222
Centrimax 3 40-200B	EP/IP	150	125	1180	1200	1160	240

Unit	Version	DNA	DNM	Lmax	Pmax	Hmax	Weight
		Ø	Ø	mm	mm	mm	kg
Centrimax 3 40-200A	EP/IP	150	125	1180	1200	1160	420
Centrimax 3 40-200NA	EP/IP	150	125	1180	1200	1160	447
Centrimax 3 40-250ND	EP/IP	150	125	1275	1180	1160	522
Centrimax 3 40-250NC	EP/IP	150	125	1275	1180	1160	534
Centrimax 3 50-160A	EP/IP	150	125	1160	1220	1250	432
Centrimax 3 50-200SD	EP/IP	150	125	1250	1300	1250	483
Centrimax 3 50-200SC	EP/IP	150	125	1250	1300	1250	516
Centrimax 3 50-200SA	EP/IP	150	125	1250	1300	1250	523



# CENTRIMAX 2 PUMPS

## Hydraulic Performance

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps															
			Suction	Delivery	l/min	0	200	266	333	400	466	500	533	667	766	833	934	1000	1100	1167
		kW	Ø	Ø	m <sup>3</sup> /h	0	12	16	20	24	28	30	32	40	46	50	56	60	66	70
FL 32-200N	P/IP	2 X 4	50	32	H (m.w.c.)	56	55	54	53	52	50	51	48.5							
FL 32-200NB	P/IP	2 X 5.5	50	32		53.5	53	53	52.5	52	51.5	51	50.5	47.5	45	43	38.5	35		
FL 32-200NA	P/IP	2 X 7.5	50	32		63	62.5	62.5	62	62	61.5	61.5	61.5	60	58	56.5	53	50	44	38

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps										
			Suction	Delivery	l/min	0	267	400	533	667	766	833	934	1000	1100
		kW	Ø	Ø	m³/h	0	16	24	32	40	46	50	56	60	66
FL 32-250D	P/IP	2 X 9.2	50	32	H (m.w.c.)	70	69.5	69	68.5	67.5	66.5	65.5	64	63	
FL 32-250C	P/IP	2 X 11	50	32		76.5	76	75.5	75	74	73	72	70.5	69	
FL 32-250B	P/IP	2 X 13.5	50	32		84	83	82	81	80	79	78.5	77	75	
FL 32-250A	P/IP	2 X 17	50	32		96	95.5	95	94	93	92.5	92	91.5	89	75

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps													
			Suction	Delivery	l/min	0	400	532	600	666	834	1000	1166	1332	1434	1500	1666	1834
		kW	Ø	Ø	m³/h	0	24	32	36	40	50	60	70	80	86	90	100	110
FL 40-200C	P/IP	2 X 4	65	40	H (m.w.c.)	45	43.5	43	42	41	37.5	33.5						
FL 40-200B	P/IP	2 X 5.5	65	40		49	48.5	47.5	47	46	43.5	40.5	36.5	31.5				
FL 40-200A	P/IP	2 X 7.5	65	40		58	58	57.5	57	56.5	55	52	48	42				
FL 40-200NA	P/IP	2 x 11	65	40		61				60	59	58	56	54	52	50.5	47	41.5

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps																
			Suction	Delivery	l/min	0	333	400	532	666	834	1000	1166	1332	1434	1500	1666	1834	2000	2166	2334
		kW	ØØ	Ø	m³/h	0	20	24	32	40	50	60	70	80	86	90	100	110	120	130	140
FL 40-250ND	P/IP	2 x 15	65	40	H (m.w.c.)	74	73	72.5	72	71	69.5	68	66	64	63	62	60	57	54		
FL 40-250NC	P/IP	2 x 17	65	40		82	81	80.5	80	79	77.5	76	74.5	73	71.5	70.5	68	65	62	59	55
FL 40-250NA	P	2 x 22	65	40		98	95.5	95	94	93	91	89	87	85	83.5	82.5	79	76	71	66	61

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps													
			Suction	Delivery	l/min	0	833	1000	1167	1333	1500	1667	2000	2135	2500	2266	2334	2500
		kW	Ø	Ø	m³/h	0	50	60	70	80	90	100	120	128	130	136	140	150
FL 50-160A	P/IP	2 x 7.5	65	50	H (m.w.c.)	40.5	40	39.5	39	38	37	35.5	32	30.5	30	28.5	27.5	25.5

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps														
			Suction	Delivery	l/min	0	833	1000	1167	1333	1500	1667	2000	2135	2500	2266	2334	2500	2667
		kW	Ø	Ø	m³/h	0	50	60	70	80	90	100	120	128	130	136	140	150	160
FL 50-200SD	P/IP	2 x 9.2	65	50	H (m.w.c.)	50	49	48	47	46	45	42.5	37	29					
FL 50-200SC	P/IP	2 x 11	65	50		54	53	52.5	52	51	50	48.5	44	40.5	40	33	31		
FL 50-200SA	P/IP	2 x 15	65	50		62	61.5	61.5	61	60	59	57.5	54	53	52.5	51	49.5	45	36

# CENTRIMAX 3 PUMPS

## Hydraulic Performance

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps														
			Suction	Delivery	l/min	0	300	400	500	600	700	750	800	999	1149	1251	1401	1500	1650
		kW	Ø	Ø	m³/h	0	18	24	30	36	42	45	48	60	69	75	84	90	99
FL 32-200N	EP/IP	3 X 4	50	32	H (m.w.c.)	56	55	54	53	52	50	51	48.5						
FL 32-200NB	EP/IP	3 x 5.5	50	32		53.5	53	53	52.5	52	51.5	51	50.5	47.5	45	43	38.5	35	
FL 32-200NA	EP/IP	3 x 7.5	50	32		63	62.5	62.5	62	62	61.5	61.5	61.5	60	58	56.5	53	50	44

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps										
			Suction	Delivery	l/min	0	399	600	801	999	1149	1251	1401	1500	1650
		kW	Ø	Ø	m³/h	0	24	36	48	60	69	75	84	90	99
FL 32-250D	EP/IP	3 x 9.2	50	32	H (m.w.c.)	70	69.5	69	68.5	67.5	66.5	65.5	64	63	
FL 32-250C	EP/IP	3 x 11	50	32		76.5	76	75.5	75	74	73	72	70.5	69	
FL 32-250B	EP/IP	3 x 13.5	50	32		84	83	82	81	80	79	78.5	77	75	
FL 32-250A	EP/IP	3 x 17	50	32		96	95.5	95	94	93	92.5	92	91.5	89	75

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps											
			Suction	Delivery	l/min	0	300	400	500	600	800	1000	1250	1500	1750	2000
		kW	Ø	Ø	m <sup>3</sup> /h	0	18	24	30	36	48	60	75	90	105	120
FL 40-200C	EP/IP	3 X 4	65	40	H (m.w.c.)	45	44.8	44.4	44	43.9	44	41	37	34		
FL 40-200B	EP/IP	3 X 5.5	65	40		48.8	48.6	48.4	48.3	48.2	48	46	44	40	36	31
FL 40-200A	EP/IP	3 X 7.5	65	40		58.2	58.1	58.1	58	58	58	57	55	52	48	42

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps											
			Suction	Delivery	l/min	0	1000	1250	1500	1750	2000	2150	2250	2500	2750	3000
		kW	Ø	Ø	m <sup>3</sup> /h	0	60	75	90	105	120	129	135	150	165	180
FL 40-200NA	EP/IP	3 x 11	65	40	H (m.w.c.)	61	60	59	58	56	54	52	50.5	47	41.5	35

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps																
			Suction	Delivery	l/min	0	500	600	800	1000	1250	1500	1750	2000	2150	2250	2500	2750	3000	3250	3500
		kW	Ø	Ø	m³/h	0	30	36	48	60	75	90	105	120	129	135	150	165	180	195	210
FL 40-250ND	EP/IP	3 x 15	65	40	H (m.w.c.)	74	73	72.6	72	71	69.5	68	66	64	63	62	60	57	54		
FL 40-250NC	EP/IP	3 x 17	65	40		82	81	80.6	80	79	77.5	76	74.5	73	71.5	70.5	68	65	62	59	55

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps													
			Suction	Delivery	l/min	0	1250	1500	1750	2000	2250	2500	3000	3200	3250	3400	3500	3750
		kW	Ø	Ø	m³/h	0	75	90	105	120	135	150	180	192	195	204	210	225
FL 50-160A	EP/IP	3 x 7.5	65	50	H (m.w.c.)	40.5	40	39.5	39	38	37	35.5	32	30.5	30	28,5	27,5	25,5

Pump Model	Version	P <sub>2</sub>	Pump Fittings		Flow rate relative to the sum of the pumps														
			Suction	Delivery	l/min	0	1250	1500	1750	2000	2250	2500	3000	3200	3250	3400	3500	3750	4000
		kW	Ø	Ø	m³/h	0	75	90	105	120	135	150	180	192	195	204	210	225	240
FL 50-200SD	EP/IP	3 x 9.2	65	50	H (m.w.c.)	50	49	48	47	46	45	42.5	37	29					
FL 50-200SC	EP/IP	3 x 11	65	50		54	53	52.5	52	51	50	48.5	44	40.5	40	33	31		
FL 50-200SA	EP/IP	3 x 15	65	50		62	61.5	61.5	61	60	59	57.5	54	53	52.5	51	49.5	45	36



# CentriNorm

**Asynchronous motor 2 or 4 poles IE3 available**

## NORMALISED BASE-MOUNTED ELECTRIC PUMPS

Construction according to EN 733

High-efficiency motors IE3 & Over



### Strengths

- **VERSATILE** {Applicable in different areas}
- **COMPACT** {Small footprint}
- **PERFORMING** {High flow rate and head}
- **POWERFUL** {Very high hydraulic efficiency}

### Benefits

- For civil, industrial and agricultural applications: water distribution systems, irrigation, fountains and water sprays, construction, etc.
- Also suitable for recirculation, heating, air conditioning and circulation systems in general, for fire pumping stations and for pressurisation systems in general. Suitable for pumping clean water without abrasive particles and chemically non-aggressive liquids.
- It is possible to supply pumps with fittings (metals and sealing systems) for particular applications and liquids.

### Coupling joint



#### SPACER JOINT

- It makes the maintenance operations of the "back pull-out" centrifugal units extremely simple and fast.



#### ELASTIC JOINT

### Single-impeller centrifugal pumps with central axial suction (END-SUCTION)



#### Construction characteristics:

- **Pump body:** Cast iron
- **Motor support:** Cast iron
- **Shaft:** AISI 431 stainless steel
- **Mechanical seal:** Ceramic / Graphite
- **Maximum Pressure:** 10 Bar

## Fields of use



- Urban settlements
- Condominiums



- Productive activities
- Industries,
- Aqueducts
- Distribution networks



- Commercial activities
- Offices



- Healthcare facilities,
- RSA



- Hotels

## Key features :

Single-impeller base-joint centrifugal electric pump coupled by means of an elastic joint to an asynchronous motor of closed construction with high-efficiency external ventilation IE3 both assembled on a base in thick painted steel profiles.

Pump body standardised according to UNI standards. The motor can be replaced without removing the pump body from the system pipes. The standard construction is in G25 UNI 5007 cast iron. Other metal constructions on request.

## Technical data

Available units:	NORMALISED BASE-MOUNTED ELECTRIC PUMP	
	BG2	BG4
Engine:	2900 rpm	1450 rpm
Motor efficiency:	IE3	IE3
Pump power kW:	1.1...160	1.1...90
Hydraulic efficiency of the pumps:	>0.4...>0.7	>0.4...>0.7
Maximum Pressure:	10 Bar	10 Bar
Maximum Temperature:	120°C	120°C

## Dimensions and weights Centrinorm 2 Poles

Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight	Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight	Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight
	ø	ø	mm	mm	mm	kg		ø	ø	mm	mm	mm	kg		ø	ø	mm	mm	mm	kg
32-125	50	32	410	900	360	116	40-250N	65	40	500	1250	505	256	65-160	80	65	450	1200	460	211
32-160	50	32	410	1000	374	140	40-315	65	40	600	1600	575	502	65-200N	80	65	550	1350	505	310
32-200	50	32	410	1050	422	172	50-125	65	50	410	1000	375	147	65-250N	80	65	600	1600	630	455
32-250	50	32	500	1250	505	229	50-160	65	50	410	1050	422	182	80-160	100	80	500	1250	505	255
32-250S	50	32	450	1200	505	206	50-160N	65	50	440	1200	422	182	80-200	100	80	600	1600	550	490
40-125	65	40	410	950	330	142	50-200S	65	50	500	1200	460	219	80-250	100	80	670	1700	630	799
40-160N	65	40	410	1050	372	171	50-200N	65	50	500	1250	480	250	100-200	125	100	600	1700	600	577
40-200	65	40	410	1050	422	177	50-250N	65	50	550	1350	505	340	100-250	125	100	710	1800	630	851
40-200N	65	40	440	1200	422	195	65-125	80	65	450	1030	440	175	125-250R	150	125	810	2100	775	851

## Dimensions and weights Centrinorm 4 Poles

Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight	Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight	Pump families	DNA	DNM	Lmax	Pmax	Hmax	Weight
	ø	ø	mm	mm	mm	kg		ø	ø	mm	mm	mm	kg		ø	ø	mm	mm	mm	kg
32-200	50	32	420	900	415	124	65-160	80	65	450	940	535	133	100-315	125	100	560	1550	685	402
40-200	65	40	420	900	415	128	65-200	80	65	440	1000	485	156	100-400	125	100				994
40-250N	65	40	440	1000	485	164	65-200N	80	65	440	1000	485	156	125-250	150	125	610	1400	705	403
40-315	65	40	610	1200	562	237	65-250S	80	65	500	1200	527	215	125-315	150	125	660	1800	755	591
50-160N	65	50	420	900	415	130	80-160	100	80	440	1000	485	161	125-250	150	125	610	1400	735	403
50-200S	65	50	500	940	450	140	80-200	100	80	600	1140	507	195	125-315	150	125	660	1800	775	591
50-200N	65	50	510	1000	465	169	80-250	100	80	600	1400	585	263	125-400	150	125	730	1850	875	1035
50-250N	65	50	440	1000	850	170	100-200	125	100	500	1270	557	248	150-315	200	150	710	1750	805	717
50-315	65	50	600	1200	590	220	100-250	125	100	610	1400	610	358	150-400	200	150	730	1900	890	1097

## Hydraulic Performance 2-pole electric pumps

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	L/min	0	67	100	133	200	267	333	383	417	467	500
		kW	Ø	Ø	m³/h	0	4	6	8	12	16	20	23	25	28	30
32-125SC	ZI23GG	1.1	50	32	H (m.w.c.)	18	17.5	17	17	16	15	14	13			
32-125SB	ZI24GG	1.5	50	32		22	21.5	21.5	21	20	19	18	17			
32-125SA	ZI25GG	2.2	50	32		26	25.5	25	25	24	23	22	21	20.5	19	18

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	L/min	0	100	133	200	267	333	383	417	467	500	
			kW	Ø	Ø	m³/h	0	6	8	12	16	20	23	25	28	30
32-160SC	ZI67GG	2.2	50	32	H (m.w.c.)	25.5	25	24.5	23	21	18					
32-160SB	ZI68GG	3	50	32		32.5	32	31.5	31	29	27	25.5	24	20		
32-160SA	ZI69GG	4	50	32		41	40.5	40	39.5	38	35	33	31	29	27	

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	100	133	200	267	333	383	417	467	500	550	583
		kW	Ø	Ø	m³/h	0	6	8	12	16	20	23	25	28	30	33	35
32-200NC	Z201GG	4	50	32	H (m.w.c.)	46	45	44	41.5	38.5	34.5	30	27.5				
32-200NB	Z202GG	5.5	50	32		53.5	53	53	52	50.5	47.5	45	43	38.5	35		
32-200NA	Z203GG	7.5	50	32		63	62.5	62.5	62	61.5	60	58	57	53.5	50	42.5	38.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	133	200	267	333	383	417	467	500	550
		kW	Ø	Ø	m³/h	0	8	12	16	20	23	25	28	30	33
32-250E	Z251GG	7.5	50	32	H (m.w.c.)	64	63	62.5	61.5	59.5	58	57	55.5		
32-250D	Z252GG	11	50	32		70	69.5	69	68.5	67.5	66.5	65.5	64	63	
32-250C	Z253GG	11	50	32		76.5	76	75.5	75	74	73	72	70.5	69	
32-250B	Z254GG	15	50	32		84	83	82	81	80	79	78.5	77	75	
32-250A	Z255GG	18.5	50	32		96	95.5	95	94	93	92.5	92	91.5	89	75

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	200	267	333	383	417	467	500	550	583	633	700
		kW	Ø	Ø	m³/h	0	12	16	20	23	25	28	30	33	35	38	42
32-250SE	Z256GG	7.5	50	32	H (m.w.c.)	62	57	56.5	56	54	52.5	49	45				
32-250SC	Z257GG	11	50	32		76	71	70	69	68.5	68	66.5	65	62.5	60.5	56.5	50

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	133	150	167	200	266	333	417	500	583	667	717	750	833
		kW	Ø	Ø	m³/h	0	8	9	10	12	16	20	25	30	35	40	43	45	50
40-125SD	AI24GG	1.5	65	40	H (m.w.c.)	19	18	17.8	17.7	17.5	17	16	14	12					
40-125SC	AI25GG	2.2	65	40		24.5	24	23.8	23.7	23.5	23	22.5	21	19	17				
40-125SB	AI26GG	3	65	40		27.5		27	26.5	26.5	26	24.5	24	23	21	19	17		
40-125SA	AI27GG	4	65	40		30			29	29	28.5	28	27	26	25	23	21.5	20	17

Cells with grey background  highlighted NPSHr values > 5 m.





Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	167	200	266	333	417	500	583	666	717	750	833	917	1000	1083
		kW	Ø	Ø	m³/h	0	10	12	16	20	25	30	35	40	43	45	50	55	60	65
40-160NC/A	A161GG	4	65	40	H (m.w.c.)	32	31.5	31.5	31	30	29	26.5	23	21	18.5	16				
40-160NB/A	A162GG	5.5	65	40		36.5		36	35.5	35	34	32	30	27.5	26	24.5	20.5			
40-160NA	A163GG	5.5	65	40		39		39	38.5	38	37.5	36	33.5	32	31.5	28.5	25.5	22		
40-160NO	A164GG	7.5	65	40		41.5		41.5	41.5	41	40.5	39.5	38	36	34.5	34	31	28.5	25.5	22

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate									
			Suction	Delivery	L/min	0	200	266	300	333	417	500	583	666
		kW	Ø	Ø	m³/h	0	12	16	18	20	25	30	35	40
40-200C	A201GG	4	65	40	H (m.w.c.)	45	43.5	42.7	42	41	37.5	33.5		
40-200B	A202GG	5.5	65	40		49	48.5	47.6	47	46	43.5	40.5	36.5	31.5
40-200A	A203GG	7.5	65	40		58	58	57.5	57	56.5	55	52	48	42

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	L/min	0	333	417	500	583	666	717	750	833	917	1000
		kW	Ø	Ø	m³/h	0	20	25	30	35	40	43	45	50	55	60
40-200NB	A204GG	7.5	65	40	H (m.w.c.)	53	52.5	51.5	49.4	47	44	42.5	41	37.5	30.5	
40-200NA	A205GG	11	65	40		61	59.5	59	58	56	53.5	51.5	50	46.5	41.5	35

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate																
			Suction	Delivery	L/min	0	167	200	266	333	417	500	583	666	717	750	833	917	1000	1083	1167
		kW	Ø	Ø	m³/h	0	10	12	16	20	25	30	35	40	43	45	50	55	60	65	70
40-250NE	A251GG	15	65	40	H (m.w.c.)	67.5	67	66.5	65.5	64	62	60	57	54	51.5	50	46	43			
40-250ND	A252GG	15	65	40		74	73	72.5	72	71	69.5	68	66	64	63	62	60	57	54		
40-250NC	A253GG	18.5	65	40		82	81	80.5	80	79	77.5	76	74.5	73	71.5	70.5	68	65	62	59	55
40-250NB	A254GG	18.5	65	40		89	88	87.5	87	86	85	84	82	80	78.5	77.5	75	71.5	68	64	59.5
40-250NA	A255GG	22	65	40		97	95	94.5	94	93	91	89	87	85	83.5	82.5	79.5	76	71.5	67	62

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	500	583	666	717	750	833	917	1000	1083	1167	1333
		kW	Ø	Ø	m³/h	0	30	35	40	43	45	50	55	60	65	70	80
40-315C	A311GG	37	65	40	H (m.w.c.)	100	96	95.5	95	94.5	94	93	92	90	87.5	85.5	80
40-315B	A312GG	45	65	40		129	128	127.5	127	126.5	126	125	124	123	121.5	120.5	118

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	L/min	0	333	417	500	583	667	750	833	1000	1067	1083
		kW	Ø	Ø	m³/h	0	20	25	30	35	40	45	50	60	64	65
50-125C	B121GG	2.2	65	50	H (m.w.c.)	17.5	17	16.6	16	15	14	13	11.7	8		
50-125B	B122GG	3	65	50		21	20.5	20.2	19.5	18.5	17.5	16.4	15	12.5	11.3	11
50-125A	B123GG	4	65	50		24			23.5	23.2	22.6	21.5	20.5	18.1	17.2	17

Cells with grey background highlighted NPSHr values > 5 m.

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Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	417	500	583	667	750	833	1000	1067	1083	1133	1167	1250
		kW	Ø	Ø	m³/h	0	25	30	35	40	45	50	60	64	65	68	70	75
50-160B	B161GG	5.5	65	50	H (m.w.c.)	32.5	31.8	31.2	30	29	27.5	26	22	20.5	20	19	18	16.5
50-160A	B162GG	7.5	65	50		40.5	40	39.5	38.9	38	37	35.5	32	30.5	30	28.5	27.5	25.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	667	750	833	1000	1083	1133	1167	1250	1333	1417	1500
			Ø	Ø	m <sup>3</sup> /h	0	40	45	50	60	65	68	70	75	80	85	90
50-160NC	B163GG	5.5	65	50	H (m.w.c.)	30.5	27.5	26	26	23.5	22.3	21	20.5	20			
50-160NB	B164GG	7.5	65	50		39	36.5	36	35	32	30.5	29.5	29	27	25		
50-160NA	B165GG	11	65	50		44	40.5	40	39	36	35	34.5	34	32	30	28	26

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	417	500	583	667	750	833	1000	1067	1083	1133	1167	1250	1333
		kW	Ø	Ø	m³/h	0	25	30	35	40	45	50	60	64	65	68	70	75	80
50-200SC	B204GG	11	65	50	H (m.w.c.)	54	53	52.5	51	50	48	44	33	31					
50-200SA	B205GG	15	65	50		62	61.5	61.5	61	60	59	57.5	54	51	50	48.5	47.5	45	36

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	833	1000	1083	1133	1167	1250	1333	1417	1500	1667	1750	2000
		kW	Ø	Ø	m³/h	0	50	60	65	68	70	75	80	85	90	100	105	120
50-200NC	B206GG	15	65	50	H (m.w.c.)	53	49	47.5	46.5	45.5	45	44	43	41	39.5	36		
50-200NB	B207GG	18.5	65	50		62	59	57	55.5	54.5	54	52.5	51	49.5	48	44		
50-200NA	B208GG	22	65	50		70	67	65	63.5	62.5	62	60	57.5	55.5	53	49.5	47.5	41

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate																	
			Suction	Delivery	L/min	0	417	500	583	667	750	833	1000	1067	1083	1133	1167	1250	1333	1417	1500	1667
		kW	Ø	Ø	m³/h	0	25	30	35	40	45	50	60	64	65	68	70	75	80	85	90	100
50-250ND	B251GG	18,5	65	50	H (m.w.c.)	70	69	68	67	66	64,5	62,5	57	54,5	54	52	51	48	45			
50-250NC/B	B252GG	18,5	65	50		81	79	78,5	78	77,5	76,5	75	71	68,5	68	66,5	65					
50-250NB/A	B253GG	22	65	50		81	79	78,5	78	77,5	76,5	75	71	68,5	68	66,5	65	61	56	52,5		
50-250NB/B	B254GG	22	65	50		89	88,5	88	87,5	87	86	84,5	80	78	77,5	76	74,5	70,5	66			
50-250NB/A	B255GG	30	65	50		89	88,5	88	87,5	87	86	84,5	80	78	77,5	76	74,5	70,5	66	62	57	
50-250NA	B256GG	30	65	50		100	99	98,5	98	97	96	94,5	90,5	88,5	88	86	85	81	78,5	74,5	70	62

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	500	667	750	833	917	1000	1167	1333	1417	1583	1667	1833
		kW	Ø	Ø	m³/h	0	30	40	45	50	55	60	70	80	85	95	100	110
65-125D	C121GG	3	80	65	H (m.w.c.)	17	16.5	16	15.5	15	14.5	14	12					
65-125C	C122GG	4	80	65		21	20.5	20	19.5	19	18.5	18	16	15	14			
65-125B	C123GG	5.5	80	65		24	23.5	23	22.5	22	22	22	21	19	18	16		
65-125A	C124GG	7.5	80	65		27	26.5	26	26	25.5	25	25	24	23.5	23	21	20	19

Cells with grey background  highlighted NPSHr values > 5 m.



Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	500	667	750	833	917	1000	1167	1333	1417	1583	1667	1833	2000	2167
		kW	Ø	Ø	m <sup>3</sup> /h	0	30	40	45	50	55	60	70	80	85	95	100	110	120	130
65-160C	C161GG	11	80	65	H (m.w.c.)	33.5	33	32.5	32	31.5	31	30.5	29	27.5	26.5	24.5	23			
65-160B	C162GG	11	80	65		38.5	38	37.5	37	37	36.5	36	35	33.5	32.5	31	30	28		
65-160A	C163GG	15	80	65		45.5	45	44.5	44	44	43.5	43	42	41	40.5	39	38.5	37	35	33

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	667	750	833	917	1000	1167	1333	1417	1583	1667	1833	2000	2167	2333
		kW	Ø	Ø	m <sup>3</sup> /h	0	40	45	50	55	60	70	80	85	95	100	110	120	130	140
65-200NC	C204GG	18.5	80	65	H (m.w.c.)	46	45	45	44.5	44.5	43	42	40.5	38.5	37	34.5	32	27	24	
65-200NB	C205GG	22	80	65		54	53	52.5	52	51.5	51	50	49	48	46	45	42.5	40	36	32
65-200NA	C206GG	30	80	65		66	65	65	65	64.5	64.5	64.5	64	63	61	60	58	56	53	50

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	833	917	1000	1167	1333	1417	1583	1667	1833	2000	2167	2333	2500
		kW	Ø	Ø	m³/h	0	50	55	60	70	80	85	95	100	110	120	130	140	150
65-250NC	C251GG	22	80	65	H (m.w.c.)	69	68.5	68.5	68	66.5	65	65	63.5	62.5					
65-250NB	C252GG	30	80	65		76	75	75	74.5	73.5	72.5	71.5	70	69	67	63.5			
65-250NA	C253GG	37	80	65		89.5	89	89	89	88	87	86.5	85	84	82	79.5	76		
65-250NO	C254GG	45	80	65		95.5	95	95	94.5	94	93	92.5	91	90	87.5	85	81.5	78	74

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	1083	1167	1333	1500	2000	2333	2750	3000	3250	3333	3500	3667	3750	
		kW	Ø	Ø	m³/h	0	65	70	80	90	120	140	165	180	195	200	210	220	225	
80-160G	D161GG	5.5	100	80	H (m.w.c.)	18	17	16.7	16	15	12	10								
80-160F	D162GG	7.5	100	80		20	19.4	19.2	18.7	18	15.5	13.5	10.5							
80-160E	D163GG	11	100	80		25.5	25	24.9	24.5	24	21	19	16							
80-160D	D164GG	11	100	80		26.5	26	25.9	25.5	25	22.5	20.5	17.5	14.5						
80-160C	D165GG	15	100	80		30.5	30.2	30.1	30	29.5	27	24	20.5	18.5	17					
80-160B	D166GG	18.5	100	80		37	36.2	36	35.5	34.5	31.5	29.5	26	24	21					
80-160A	D167GG	22	100	80		40.5	40.1	40	39.9	39.5	37.5	36	33	30.5	28.2	27.1	25.5	24	23.4	

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate																		
			Suction	Delivery	L/min	0	1333	1500	2000	2333	2750	3000	3250	3333	3500	3667	3750	3833	4000	4167	4250	4500	4667
		kW	Ø	Ø	m³/h	0	80	90	120	140	165	180	195	200	210	220	225	230	240	250	255	270	280
80-200B	D201GG	30	100	80	H (m.w.c.)	52	51.5	51	50	49	46	44	41.5	41	39.5	38	37	35	33	31			
80-200O	D202GG	45	100	80		64	63.5	63.5	63	62.5	60	58	56.5	56	54.5	53	52	51	49.5	48	47	44	42

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate																
			Suction	Delivery	L/min	0	1333	1500	2000	2333	2750	3000	3250	3333	3500	3667	3750	3833	4000	4167	4250
		kW	Ø	Ø	m³/h	0	80	90	120	140	165	180	195	200	210	220	225	230	240	250	255
80-250C	D151GG	45	100	80	H (m.w.c.)	71	71	70.5	69	67.5	65	63.5	61.5	61	59.5	57.6	57				
80-250B	D152GG	55	100	80		80	80	78.5	77	75	73.5	72	71.5	70	68.5	68	67	65	63.3	62	
80-250A	D153GG	75	100	80		102	102	102	102	101.5	100	99	97.5	97	95.8	95	94.5	93.7	92.5	91	90.5

Cells with grey background highlighted NPSHr values > 5 m.

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Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	1083	1667	2167	2500	3000	3500	4000	4500	5000	5250	5833	6250
			Ø	Ø	m³/h	0	65	100	130	150	180	210	240	270	300	315	350	375
100-200D	E201GG	22	125	100	H (m.w.c.)	37.5	37.5	36.5	34.7	33.5	31	28	24.5	19.5	14.5	12.5		
100-200C	E202GG	30	125	100		43	43	42.5	41.5	40.5	38.7	37	34	31	27	25	19	
100-200B	E203GG	37	125	100		51	50.5	50	49	48	46.5	44.5	41.5	38	33.5	30	20	
100-200A	E204GG	55	125	100		62	61.5	61	60.5	60	59	57.5	55.5	52.6	49.5	47	40	34.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	2167	2500	3000	3500	4000	4500	5000	5250	5833	6250	6667
		kW	Ø	Ø	m <sup>3</sup> /h	0	130	150	180	210	240	270	300	315	350	375	400
100-250D	E251GG	45	125	100	H (m.w.c.)	60	59	58.5	56.5	53.5	50	46	41.5	39	32.5	28.5	
100-250C	E252GG	75	125	100		73.5	72	71	69.5	66.5	63	58.5	53.5	51	44	38.5	31.5
100-250B	E253GG	75	125	100		80	79.5	79	77.5	75.5	72.5	68.5	64	61.5	54.5	49.5	44
100-250A	E254GG	90	125	100		98.5	97	95.5	94.5	92	89.5	86	83	80.5	75.5	70.6	65

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	3333	3500	3750	4250	4667	5250	5845	6666	7098	7500	7933	8333	9166
			Ø	Ø	m³/h	0	200	210	225	255	280	315	355	400	425	450	475	500	550
125-250RC	F253GG	90	150	125	H (m.w.c.)	64	63	62.5	61.8	60.4	59	57	54	53	51	49	46	41	
125-250RB	F254GG	132	150	125		79	77.5	77.2	76.9	76	75	73.3	71.5	70	68.7	67	65.8	63	59
125-250RA	F255GG	160	150	125		93	92.1	91.7	91.5	91	90.5	89.8	88	86	85	84	82.3	81	77

## Hydraulic Performance 4-pole electric pumps

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate									
			Suction	Delivery	L/min	0	67	100	133	167	200	233	267	300
			Ø	Ø	m³/h	0	4	6	8	10	12	14	16	18
32-200NA	Z203GG	1.1	50	32	H (m.w.c.)	16.5	16	15.5	15	14	12.5	11	9.5	7.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate								
			Suction	Delivery	L/min	0	100	167	233	267	333	383	417
			Ø	Ø	m³/h	0	6	10	14	16	20	23	25
40-200A	A203GG	1.1	65	40	H (m.w.c.)	16	16	15.5	14.5	13.9	12.5	11.3	10

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate									
			Suction	Delivery	L/min	0	100	167	233	267	333	383	417	433
			Ø	Ø	m³/h	0	6	10	14	16	20	23	25	26
40-250NC	A253GG	2.2	65	40	H (m.w.c.)	20	19.5	19.2	18.8	18.5	17.9	17.1	16.5	16.2
40-250NA	A255GG	3	65	40		23.5	23.5	23.1	22.5	22	21.1	20.5	20	19.7

Cells with grey background ■ highlighted NPSHr values > 5 m.



Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	100	167	233	267	333	383	417	433	500	583	667	800
		kW	Ø	Ø	m <sup>3</sup> /h	0	6	10	14	16	20	23	25	26	30	35	40	48
40-315C	A311GG	4	65	40	H (m.w.c.)	25	25	24.8	24.6	24.5	24.2	24	23.7	23.6	22.9	21.5	20	
40-315B	A312GG	5.5	65	40		31.5	31.2	30.9	30.6	30.5	30.2	30	29.7	29.6	29	28	27	25

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	267	333	367	433	500	550	583	667	717
		kW	Ø	Ø	m <sup>3</sup> /h	0	16	20	22	26	30	33	35	40	43
50-160NB	B164GG	1.1	65	50	H (m.w.c.)	10.5	10	9.8	9.6	9.3	8.9	8.5	8.2	7.5	7.1
50-160NA	B165GG	1.5	65	50		11.5	11.3	11.1	11	10.6	10.2	9.8	9.5	8.7	8.2

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	200	267	333	367	433	500	550	583	667
		kW	Ø	Ø	m <sup>3</sup> /h	0	12	16	20	22	26	30	33	35	40
50-200SA	B205GG	1.5	65	50	H (m.w.c.)	15	14.5	14.1	13.5	13.2	12.5	11.5	10.8	10.2	9

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate													
			Suction	Delivery	L/min	0	200	267	333	367	433	500	550	583	667	717	800	917
		kW	Ø	Ø	m <sup>3</sup> /h	0	12	16	20	22	26	30	33	35	40	43	48	55
50-200NB	B207GG	2.2	65	50	H (m.w.c.)	16	15.8	15.5	15.1	14.8	14.2	13.5	12.8	12.3	10.8	10	8.2	
50-200NA	B208GG	3	65	50		18	17.9	17.7	17.3	17	16.5	16	15.5	15	13.8	13	11.5	9.1

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	167	200	267	333	367	433	500	550	583	667	717	800	917
		kW	Ø	Ø	m³/h	0	10	12	16	20	22	26	30	33	35	40	43	48	55
50-250ND	B251GG	2.2	65	50	H (m.w.c.)	17	16.5	16.4	16	15.5	15.2	14.5	13.5	12.6	12	10			
50-250NA	B256GG	4	65	50		24.5	24.1	23.8	23.5	23.4	22.9	22.2	21.6	21.2	20	19	17	13.5	11

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	500	550	583	667	717	800	917	1000	1167
		kW	Ø	Ø	m <sup>3</sup> /h	0	30	33	35	40	43	48	55	60	70
50-315D	B311GG	5.5	65	50	H (m.w.c.)	27	24	23.5	23	22	21.3	20	18	16.5	
50-315C	B312GG	7.5	65	50		31	28	27.5	27	26	25	23.8	22	20.5	17
50-315A	B313GG	11	65	50		41	40	39.5	39	37.9	37.2	36	34	32.5	29

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate							
			Suction	Delivery	L/min	0	417	500	667	750	833	1000
		kW	Ø	Ø	m³/h	0	25	30	40	45	50	60
65-160A	C163GG	1.5	80	65	H (m.w.c.)	10.5	10.3	10.1	9.5	9.1	8.6	7.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate									
			Suction	Delivery	L/min	0	417	500	667	750	833	1000	1250	1333
		kW	Ø	Ø	m³/h	0	25	30	40	45	50	60	75	80
65-200A	C203GG	3	80	65	H (m.w.c.)	14.5	14.5	14.3	13.8	13.4	13	11.5	9	8.2

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Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	417	500	667	750	833	1000	1083	1250	1333
		kW	Ø	Ø	m³/h	0	25	30	40	45	50	60	65	75	80
65-200NA	C206GG	3	80	65	H (m.w.c.)	18	17.3	17	16	15.5	15	13.5	12.5	10.5	9.4

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	417	500	667	750	833	1000	1083	1250	1333
			Ø	Ø	m³/h	0	25	30	40	45	50	60	65	75	80
65-250SB	C255GG	4	80	65	H (m.w.c.)	19.5	19.2	19	18.5	18	17.5	16	15.1	13	
65-250SA	C256GG	5.5	80	65	H (m.w.c.)	23	22.7	22.6	22.2	21.9	21.5	20.5	19.8	18.4	17.4

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate								
			Suction	Delivery	L/min	0	667	1000	1167	1333	1583	1667	2000
			Ø	Ø	m³/h	0	40	60	70	80	95	100	120
80-160C	D165GG	2.2	100	80	H (m.w.c.)	8.5	8	7.4	6.8	6	4.8		
80-160A	D167GG	2.2	100	80	H (m.w.c.)	10.5	10.1	9.5	9.1	8.5	7.5	7.1	5.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate									
			Suction	Delivery	L/min	0	667	1000	1167	1333	1583	1667	2000	2167
			Ø	Ø	m³/h	0	40	60	70	80	95	100	120	130
80-200B	D201GG	4	100	80	H (m.w.c.)	13	12.6	12.4	12.1	11.5	10.4	10	8	7

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	667	1000	1167	1333	1583	1667	2000	2167	2333	2500	2667
			Ø	Ø	m³/h	0	40	60	70	80	95	100	120	130	140	150	160
80-250C	D151GG	7.5	100	80	H (m.w.c.)	18.5	18.3	17.8	17.5	17	16	15.6	14	12.5	11		
80-250A	D153GG	11	100	80	H (m.w.c.)	25	25	24.8	24.6	24.4	23.8	23.5	22.5	21.9	21	20	19.2

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate								
			Suction	Delivery	L/min	0	1000	1333	1667	2000	2500	2667	3000
			Ø	Ø	m³/h	0	60	80	100	120	150	160	180
100-200C	E202GG	5.5	125	100	H (m.w.c.)	11.8	11.6	11.2	10.2	8.8	6	5.2	
100-200A	E204GG	7.5	125	100	H (m.w.c.)	15.5	15.2	15	14.7	14.1	12	11.4	10

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate										
			Suction	Delivery	L/min	0	1333	1667	2000	2500	2667	3000	3333	3667	4167
			Ø	Ø	m³/h	0	80	100	120	150	160	180	200	220	250
100-250B	E253GG	11	125	100	H (m.w.c.)	21	20.5	20.1	19.5	17.5	16.6	14.8	12.5	10	6.5
100-250A	E254GG	15	125	100	H (m.w.c.)	24.5	24.3	24	23.5	22	21.5	20	18.2	16.4	13

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate											
			Suction	Delivery	L/min	0	1667	2000	2500	2667	3000	3333	3667	4167	4583	5000
			Ø	Ø	m³/h	0	100	120	150	160	180	200	220	250	275	300
100-315C	E311GG	18.5	125	100	H (m.w.c.)	28.5	28.3	27.8	26.3	25.6	24.5	23	21	18		
100-315B	E312GG	22	125	100	H (m.w.c.)	33.5	33	32.5	31.5	31	29.8	28.5	27.3	25	23	
100-315A	E313GG	30	125	100	H (m.w.c.)	39	38.5	38	37	36.5	35	33.5	32	29.5	27.5	24.8

Cells with grey background  highlighted NPSHr values > 5 m.





Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	1333	1667	2000	2500	2667	3000	3333	3667	4167	4583	5000	5417	5833	6667
		kW	Ø	Ø	m <sup>3</sup> /h	0	80	100	120	150	160	180	200	220	250	275	300	325	350	400
100-400NC	E401GG	37	125	100	H (m.w.c.)	45.5	45	44.5	44	42.5	42	40.5	39	36.5	33	29	25	20.5		
100-400NB	E402GG	45	125	100		52	51.5	51	50.5	49	48.5	47.5	46	44	41	38	34.5	30.5	25.5	
100-400NA/B	E403GG	55	125	100		64.5	64.5	64	63.5	62.5	62	60.5	59	57	54	51.5	48			
100-400NA/A	E404GG	75	125	100		64.5	64.5	64	63.5	62.5	62	60.5	59	57	54	51.5	48	44.5	39.5	27.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	1333	2000	2500	3000	3333	3667	4167	4667	5000	5500	6333	6667		
		kW	Ø	Ø	m <sup>3</sup> /h	0	80	100	120	160	180	220	250	280	300	330	360	400		
125-250B	F251GG	11	150	125	H (m.w.c.)	18	17.7	17.4	17	16	15.5	14	12.7	11	10					
125-250A	F252GG	18.5	150	125		23.5	23.3	23	22.8	22	21.6	20.9	20	19	18	16.5	14.5	12		

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate														
			Suction	Delivery	L/min	0	1667	2000	2667	3000	3667	4167	4667	5000	5500	6000	6667	7000	7500
		kW	Ø	Ø	m³/h	0	100	120	160	180	220	250	280	300	330	360	400	420	450
125-315C	F311GG	18.5	150	125	H (m.w.c.)	28	27	26.5	24.5	23.5	21	18	15	13					
125-315B	F312GG	30	150	125		34	33.4	33	32	31.4	29.5	28	26	24.5	22	19	15		
125-315A	F313GG	37	150	125		40	39.5	39	38	37.5	36	34.5	33	31.5	29	26	22	20	16.5

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	3000	3667	4167	4667	5000	5500	6000	6667	7000	7500	8333
		kW	Ø	Ø	m <sup>3</sup> /h	0	180	220	250	280	300	330	360	400	420	450	500
125-400C	F401GG	45	150	125	H (m.w.c.)	45	42	40.5	39.5	38	36.5	35	32.5	28.5	26	22	
125-400B	F402GG	55	150	125		52.5	49	48	47	46	45	43.5	41.5	38.5	37	34	29
125-400A	F403GG	75	150	125		59.5	57	55.5	54.5	53	52	50.5	48.5	46.5	45	43	38

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate												
			Suction	Delivery	L/min	0	3333	4167	5000	5833	6667	7500	8333	9167	10000	10417	10833
		kW	Ø	Ø	m³/h	0	200	250	300	350	400	450	500	550	600	625	650
150-315C	G311GG	30	200	150	H (m.w.c.)	27	26	25	23.5	22	19.5	17	14.5				
150-315B	G312GG	37	200	150		32.5	31.5	31	30	28.5	26.5	24	21.5	18.5	14.5		
150-315A	G313GG	55	200	150		39	39	38.5	37.5	36.5	35	33	31	28.5	25.5	23.5	21

Pump Model	Pump ID	P <sub>2</sub>	Pump Fittings		Flow rate															
			Suction	Delivery	L/min	0	3333	4167	5000	5833	6667	7500	8333	9167	10000	10417	10833	11250		
		kW	Ø	Ø	m <sup>3</sup> /h	0	200	250	300	350	400	450	500	550	600	625	650	675		
150-400C/B	G401GG	55	200	150	H (m.w.c.)	45	45	44.5	43	41	38.5	35.5	32.5							
150-400C/A	G402GG	75	200	150		45	45	44.5	43	41	38.5	35.5	32.5	28.5	24.5	22	20			
150-400B	G403GG	75	200	150		54	53	52.5	51.5	50.5	49	47	45	42	38	36				
150-400A	G404GG	90	200	150		62.5	62.5	62	61	60	58	56	53.5	50.5	47	45	42.5	40		

Cells with grey background highlighted NPSHr values > 5 m.

The technical data are not binding and can be modified without notice | The images are only indicative and not binding

# Water reserve

## Of First Collection

### Polyethylene tanks

Tanks in extruded polyethylene for high density food use resistant to corrosion, coloured in mass and absolutely non-transparent against the development of algae, monolithic seamless, prepared for fittings, resistant to frost and heat (-60° +80°), resistant to UVA rays, lightweight and easily transportable. Standard vertical or horizontal execution; other shapes or capacities on request.



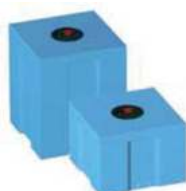
VERTICAL

Execution	Capacity	Diameter Ø mm	Height mm	Width mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Vertical	300	630	1100	-	210	¾"	/	¾"	0014700F/RT •
Vertical	500	680	1520	-	300	¾"	1"	¾"	001470A/RT •
Vertical	1000	850	1930	-	300	1"	1"	¾"	001471A/RT •
Vertical	2000	1150	2100	-	400	1"	1"	¾"	001471B/RT •
Vertical	3000	1350	2300	-	400	1"	1"	¾"	001472/RT
Vertical	10000	2460	2600	-	600	-	-	-	001473CG/RT



HORIZONTAL

Execution	Capacity	Diameter Ø mm	Height mm	Width mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Horizontal	300	630	660	1130	195	¾"	/	¾"	0014720/RT •
Horizontal	565	800	835	1200	195	¾"	/	¾"	001472A/RT
Horizontal	1020	970	1090	1555	300	1"	1"	1"	001473/RT
Horizontal	2200	1250	1320	1900	400	1"	1"	1"	001473A/RT
Horizontal	3260	1450	1520	2100	400	1"	1"	1"	001473B/RT
Horizontal	5000	1730	1920	2200	520	-	-	-	001473BF/RT



CUBIC

Execution	Capacity	Diameter Ø mm	Height mm	Width mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Cubic	470	/	980	760	195	-	1"	¾"	001473M/RT •



SUITCASE

Execution	Capacity	Diameter Ø mm	Height mm	Width mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Suitcase	500	650	1050	990	210	-	1"	¾"	001474BM/RT
Suitcase	1000	800	1150	1390	210	-	1"	¾"	001474BN/RT •



ATTIC

Execution	Capacity	Diameter Ø mm	Height mm	Width mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Attic	300	500	420	1600	195	-	1"	¾"	001474BS/RT

## Cylindrical polyethylene underground tanks



Execution	Capacity	Diameter Ø mm	Height mm	Length mm	Ø Useful manhole cover mm	Code
Underground	500	580	1200	920		001477H •
Underground	1000	1000	1090	1400	300	001474DE/RT
Underground	1665	1150	1220	1700	400	001474DG/RT
Underground	2200	1250	1320	1900	400	001474DH/RT
Underground	3100	1500	1720	2090	630	001474DL/RT
Underground	5700	1920	2100	2420	630	001474DN/RT
Underground	10700	2430	2580	2780	630	001474DO/RT

Accessories Polyethylene underground tanks						Code
LEAF FILTER SUMP						001474DR/RT •
NECK EXTENSION FOR UNDERGROUND TANK x CAP D.40						001474DP/RT
TILT EXTENSION FOR UNDERGROUND TANK 5000/10000						001474DQ/RT

## First collection tanks in polyethylene



Complete with solenoid valve + two double-chamber floats and mechanical float

Capacity litres	Diameter mm	Height mm		Manhole cover Ø mm	Diameter unloading	Emptying diam.	Code
300	630	1100	V	195	/	3/4"	049496E
500	760	980	Q	300	1"	3/4"	049496H
1000	850	1930	V	300	1"	3/4"	049497/I
1800	1150	2100	V	400	1"	3/4"	049497B/3

## Galvanised parallelepiped tanks



Galvanised steel parallelepiped tanks for non-food use.

Execution	Capacity Lt	Width mm	Height mm	Depth mm	Ø Useful manhole cover mm	Filling "G	Emptying "G	Total Emptying "G	Code
Vertical	500	1010	1135	500	240	1"	1"	-	001487LD
Vertical	1000	1250	1380	600	320	1"¼	1"¼	-	001487LF •
Vertical	1500	2015	1380	600	320	1"¼	1"¼	-	001487LK •
Vertical	2000	2120	1630	615	400	1"½	1"½	1"½	001487LM •



# Autoclave

## In painted steel

### Cold water autoclaves with normalised interchangeable membrane **CE**

Autoclaves for water distribution systems in painted steel, with butyl rubber membrane for water for food use. Flange for replacing carbon steel membrane (AISI 304 and 316 stainless steel on request). Preloaded at 2 bar. Pre-load valve in brass or chromed steel protected by plastic cover. They can be used for calcareous waters and also in the presence of stray currents, as the water is in contact exclusively with the membrane and not with the metal parts.

### Multifunction model **CE**:

For cold and hot water, butyl membrane. Operating temperature 0 + 90 °C.



Version	Capacity (lt)	Pressure Max. (bar)	Diameter D (mm)	Height H (mm)	Fittings ("G)	Packaging (volume m³)	Code
Spherical	20	8	250	492	1"	0.042	001373
Spherical	24	8	360	335	1"	0.05	001378



Version	Capacity (lt)	Pressure Max. (bar)	Diameter D (mm)	Height H (mm)	Fittings ("G)	Packaging (volume m³)	Code
Horizontal	20	10	275	492	1"	0.042	001375

### High pressure model:

Max. pressure 16 bar. Operating temperature 0 + 90 °C.



Version	Capacity (lt)	Pressure Max. (bar)	Diameter D (mm)	Height H (mm)	Fittings ("G)	Packaging (volume m³)	Code
Cylindrical	20	16	250	492	1"	0.042	001379

## Approved model

Operating temperature 0 + 90 °C.



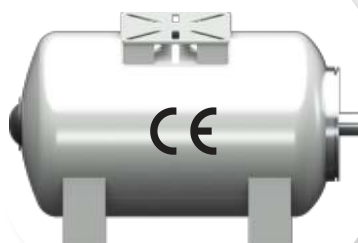
Version	Capacity (lt)	Diameter D (mm)	Height H (mm)	Fittings ("G)	Packaging (volume m3)	Max. pressure 10bar Code	Max. pressure 16bar Code
Vertical	100	450	950	1"	0.24	<b>001380</b>	<b>001380/16</b>
Vertical	200	550	1255	1" 1/2	0.4	<b>001382</b>	<b>001382/16</b>
Vertical	300	630	1405	1" 1/2	0.9	<b>001384</b>	<b>001384/16</b>
Vertical	500	780	1550	1" 1/2	1.3	<b>001386</b>	<b>001386/16</b>
Vertical	750	780	1940	1" 1/2	2	<b>001386F</b>	
Vertical	1000	930	1970	2"	2.2	<b>001386H</b>	



Version	Capacity (lt)	Pressure Max. (bar)	Height H (mm)	Length L (mm)	Fittings ("G)	Packaging (volume m3)	Code
Horizontal	100	10	450	820	1"	0.20	<b>001381</b>
Horizontal	200	10	550	1070	1" 1/2	0.36	<b>001383</b>
Horizontal	300	10	630	1225	1" 1/2	0.56	<b>001385</b>

## Stainless steel model

For hot and cold water (including kettles), particularly suitable against water hammer. Operating temperature 0 + 90 °C. Membrane stop flange in stainless steel execution as standard. Completely stainless steel body.



Version	Capacity (lt)	Pressure Max. (bar)	Diameter D (mm)	Height H (mm)	Fittings ("G)	Packaging (volume m³)	Code
Vertical	20	8	260	492	1"	0.042	<b>001371</b>
Horizontal	20	8	275	490	1"	0.042	<b>001372</b>
Horizontal	100	8					<b>001372C</b>

# Autoclave

## Galvanised steel

Autoclaves in hot-dip galvanised steel against corrosion, suitable for water intended for human consumption, vertical, bare.

The models are equipped with a safety valve: if installed individually, they are exempt from first system verification and periodic annual verification. The inspection door is available on request, starting from the model with capacity of 1500 lt. 10 and 12 bar models are available on request, models treated internally with P.T.F.E. (organic enamelling suitable for contact with drinking water), models in stainless steel AISI 316, models with different sizes and position of the connections, horizontal models.

### Vertical tested model:

Operating temperature 0 + 50 °C.

On request: horizontal executions and different versions.



Capacity (lt)	Pressure Max. (bar)	Fittings ("G") Inlet/Outlet	De (mm)	H (mm)	Code
200	11	1" ¼	480	1440	001452
300	8	1" ¼	550	1520	001453
500	8	1" ¼	650	1810	001454
500	11	1" ¼	650	1810	001454B
750	8	1" ¼	750	2100	001455B
1000	8	1" ½	800	2315	001456D
1500	8	2"	950	2450	001457G
2000	8	2"	1100	2500	001458C
2500	8	2"	1200	2720	001459D
3000	8	2"	1250	2900	001460B
5000	8	2"	1450	3500	001460D

### Accessory kit for galvanised autoclave tank:

The accessory kit includes all the components necessary for the correct operation of the autoclave tank. The accessories are supplied assembled and complete with fittings. The kit must be chosen according to the type of air cushion supply desired (see also the following diagrams).

A - with air supply from submerged electric pump (excluding check valve and air renewal valve).

B - with air supply from centrifugal electric pump.

C - with air supply from compressor (excluded) or from the existing air line and complete with solenoid valve control panel (excluded)..



Capacity tank (lt)	Pressure Max. tank (bar)	Type of air supply		
		A Code	B Code	C Code
200	11	001465	001466	001467
500	12	001465	001466	001467
300	8	001465AC	001466AC	001467AC
500	8	001465AC	001466AC	001467AC
750	8	001465AC	001466AC	001467AC
1000	8	001465AF	001466AF	001467AF
1500	8	001465BC	001466BC	001467BC
2000	8	001465BL	001466BL	001467BL
3000	8	001465DF	001466DF	001467DF
5000	8	NOT RECOMMENDED	NOT RECOMMENDED	001467DF

	A	B	C
<b>Composition of the kit air supply</b>	<ul style="list-style-type: none"> <li>- Check valve</li> <li>- Air supply valve</li> <li>- Vent regulator</li> <li>- Safety valve</li> <li>- Pressure gauge</li> <li>- Pump pressure switch</li> <li>- Visual level indicator</li> </ul>	<ul style="list-style-type: none"> <li>- Air feeder</li> <li>- Pump pressure switch</li> <li>- Safety valve</li> <li>- Pressure gauge</li> <li>- Visual level indicator</li> </ul>	<ul style="list-style-type: none"> <li>- Solenoid valve 24V.</li> <li>- Level switch</li> <li>- Air pressure switch (no pump)</li> <li>- Safety valve</li> <li>- Pressure gauge</li> <li>- Visual level indicator</li> </ul>

# Accessories

## Autoclave kit (Milano type):

Pipe and taps for level viewing

- Check Valve
- 2 Pressure switches
- Level switch
- 3 Full passage ball valves
- Safety valve
- Solenoid valve
- Miscellaneous Fittings

Autoclave capacity	Code
LT. 300-500-750/8	<b>001468E</b>
LT. 1000/6	<b>001468G</b>
LT. 1500/6	<b>001468H</b>
LT. 1500/8	<b>001468J</b>
LT. 2000/8	<b>001468L</b>

## Compressor:

To replenish the air cushion in the autoclave tank. Oil-free air supply to avoid water contamination; maintenance-free, complete with tank and pressure switch, single-phase supply voltage.



Power kW	Pressure max. (bar)	Flow rate (m3/h)	Tank capacity (litres)	Weight (kg)	Length (mm)	Height (mm)	Width (mm)	Code
1.1	8	12.3	8	16	410	430	210	<b>001468R</b>
0.55	15	5.1	3	22	450	480	285	<b>001468V</b>

## Replacement membranes for autoclaves



Replacement membranes for autoclaves	Litres	Code
Replacement membrane for painted steel models	19-20-24	<b>001432A</b>
Replacement membrane for painted steel models	100	<b>001433</b>
Replacement membrane for painted steel models	200	<b>001434</b>
Replacement membrane for painted steel models	300	<b>001435</b>
Replacement membrane for painted steel models	500	<b>001436</b>
Replacement membrane for painted steel models	750-1000-2000	<b>001437</b>
Replacement membrane for stainless steel models	20	<b>001427</b>

## Solenoid valve control panel for restoring the autoclave air cushion:

It allows the solenoid valve to be opened (with the simultaneous consent of the pressure switch and level switch or probes) thus allowing the air to be replenished in the autoclave. The air must be supplied by a special compressor.



Operation	Code
With level switch	<b>QU011710</b>
With Probes	<b>QU011712</b>

## Level switch:

Level regulator consisting of 38 mm diameter float with 10 m cable and suitable 1" 1/4 male gas threaded hermetic cable gland for compressor control or air supply solenoid valve for galvanised autoclaves.



Description	Code
Level switch	<b>003693H</b>
Cable gland	<b>003693P</b>

## Level probes:

Electric probes to be used on panels for restoring the autoclave air cushion



Description	Code
THREADED PROBE x TANK (CM.30)	<b>020098A</b>



# Accessories

## Certified safety valve:

Pre-set and sealed with ISPESL calibration certificate; calibrated from 2.5 to 10 bar; brass body; gas threaded connection from 3/4 to 1" 1/4.



Bar	Fitting	Code
4.6	3/4"	001464G
5.6	3/4"	001464H
7.4	3/4"	001464I
10	3/4"	001464L
11.2	3/4"	001464M
5.6	1"	001464N
7.4	1"	001464O
10.4	1"	001464P
11.2	1"	001464Q

## Vent regulator:

Air discharger with float, with 1" 1/4 gas connection, galvanized.



Code
003274

## Hydraulic accessories



Description	Code
Level indicator: pair of taps diam 1/2"	003655
Level indicator: acrylic tube 12 mm per metre	003645
Valve + pressure gauge : for diaphragm tanks	001389I
Extended 5-way fitting 1"	003019

## Air supply valve:

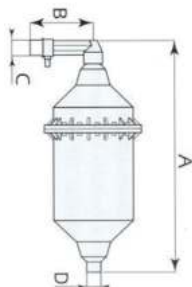
For systems powered by a submerged electric pump without a check valve: it allows the entry into the autoclave of an amount of air equal to that contained in the pipe between the groundwater level and the position of the valve. Execution in brass PN 20 bar at 20°C; for water, air, hydrocarbons, alkalis,...; operating temperature max. 90°C; gas connections. To be mounted upstream of a check valve.



A (inches)	B (mm)	C (mm)	D (mm)	E (mm)	Weight Kg	Code
1"	15	47	15	43	0.30	003269L
1" 1/4	16	48	16	48	0.35	003269M
2"	18	55	18	57	0.53	003269O

## Air supply for autoclave:

To automatically adjust the air cushion in the autoclave tanks and integrate the amount of air that has dissolved in water in the meantime, with each start-up of the surface pump. Polyamide and brass construction; max. pressure 10 bar at 20°C.



Capacity autoclave(lt)	A (mm)	B (mm)	C (G)	D (G)	Code
25-500	210	66	1/2	1/2	003054
500-2000	286	108	1/2	3/4	003055
2000-4000	406	108	1/2	3/4	003056
4000-6000	526	108	1/2	3/4	003057

Average calibration pressure (bar)	Autoclave capacity									
	100	200	300	500	700	1000	1500	2000	2500	3000
2.05	003054			003055			003056			003057
3.5	003054			003055			003056			003057
4.5	003054			003055			003056			003057
5.5	003054			003055			003056			003057
6.5	003054			003055			003056			003057
7.5	003054			003055			003056			003057

# Butterfly valve

## Wafer type

Butterfly valves with body and lens in cast iron, EPDM sleeve. With the possibility of coupling with PN 6/10/16 flanges

Operating limits:

- Maximum operating pressure 16 bar
- Pneumatic and electric drives on request.



Diameter	Gauge	Code
DN 40	33	003266
DN 50	43	003266A
DN 65	46	003267
DN 80	46	003267A
DN 100	52	003268

## Lug TYPE

"LUG" type butterfly valves with body and lens in cast iron, EPDM sleeve.

Operating limits:

- Maximum operating pressure 16 bar
- Pneumatic and electric drives on request.



Diameter	Gauge	Code
DN 40	33	003269C2
DN 50	43	003269C3
DN 65	46	003269C4
DN 80	46	003269C5
DN 100	52	003269C6

## Wafer type with manual gearbox

Butterfly valves with body and lens in cast iron, EPDM sleeve.

Operating limits:

- Maximum operating pressure 16 bar.
- Pneumatic and electric drives on request.



Diameter	Gauge	Code
DN 100	52	003269G5
DN 125	56	003269G6
DN 150	56	003269G7
DN 200	60	003269G8
DN 250	68	003269G9
DN 300	78	003269G10

## Lug TYPE with manual gearbox

Butterfly valves of the "LUG WITH REDUCER" type with body and lens in cast iron, EPDM sleeve.

Operating limits:

- Maximum operating pressure 16 bar



Diameter	Gauge	Code
DN 100	52	003269GM
DN 125	56	003269GP
DN 150	56	003269GQ
DN 200	60	003269GR
DN 250	68	003269GS
DN 300	78	003269GT

## Valves with segregated contacts

Lockable butterfly valves with lever or gear reducer control, equipped with two limit switches for monitoring the ON/OFF status; with cast iron body and lens, EPDM sleeve, coupling with PN 6/10/16 flanges possible.

Operating limits:

- Maximum operating pressure 16 bar



Diameter	Gauge	Code
DN 50	43	003280L
DN 65	46	003280N
DN 80	46	003280P
DN 100	52	003280R
DN 125	56	003280T
DN 150	56	003280V
DN 200	60	003280X

## In brass

Brass shutters with body, screw, brass wedge and cap, EPDM rod gasket and fibre body gasket

Operating limits:

- Temperature 0°C + 100°C
- Maximum operating pressure 16 bar



Diameter	PN	Gauge	Code
G 2"	16	60	003606
G 2 1/2"	16	65	003607
G 3"	16	75	003608
G 4"	16	85	003609

## Flat body cast iron with rubber wedge

Flat body cast iron shutters for hydraulic systems with non-aggressive liquids. Possibility of installation in vertical or horizontal position. With body, lid and wedge in G25 cast iron, and sealing of the stuffing box (maintenance-free) by means of "O" rings in EPDM rubber.

Operating limits:

- Max. temperature + 120°C
- Maximum operating pressure 10 bar



Diameter	Gauge	Code
DN 40	140	003417
DN 50	150	003417A
DN 65	170	003417B
DN 80	180	003417C
DN 100	190	003417D
DN 125	200	003417E
DN 150	210	003417F
DN 200	230	003417G
DN 250	250	003417J
DN 300	270	003417K

# Check valves

## With brass clapet

Threaded brass clapet valve with rubber seat.

Operating limits:



Diameter	PN	Gauge	Code
G 1"	10	63	002804
G 1" 1/4	10	70	002806
G 1" 1/2	10	88	002808
G 2"	10	97	002810
G 2" 1/2	10	117	002812
G 3"	10	135	002814

## In brass

Body, cap and guide pin in brass, plate and spring in STAINLESS STEEL

Operating limits:

- Liquid temperature -20°C + 90°C
- Air temperature -20°C + 110°C
- Gas temperature -20°C + 60°C

Max. operating pressure see table



Diameter	PN	Gauge	Code
G 1/2"	25	58,5	003021
G 3/4"	25	65	003022
G 1"	25	74,5	003023
G 1" 1/4	18	83	003024
G 1" 1/2	18	93	003025
G 2"	18	101	003026
G 2" 1/2	12	122	003027
G 3"	12	141,5	003028
G 4"	12	158,5	003029

## Stainless steel

Body in AISI 304 STAINLESS steel (316 STAINLESS STEEL on request)

interchangeable sealing ring in FPM.

Operating limits:

- Temperature -20°C + 150°C
- Max. operating pressure 16 bar



Diameter	PN	Gauge	Code
G 1/2"	16	55	003000
G 3/4"	16	70	003001
G 1"	16	84	003002
G 1" 1/4	16	99	003003
G 1" 1/2	16	119	003004
G 2"	16	123	003005
G 2" 1/2	16	147	003006
G 3"	16	166	003007

## Bottom valves

Threaded brass bottom valve with strainer and double rubber seal guide.

Operation limits. "cylindrical":

- Temperature -10°C + 100°C
- Operating pressure from 0 to 10 bar

Operation limits. "onion":

- Temperature 0°C + 60°C



Type	Diameter	Gauge (with filter)	Code
cylindrical	G 3/4"	95	002852
cylindrical	G 1"	112	002854
cylindrical	G 1" 1/4	129	002856
cylindrical	G 1" 1/2	140	002858
cylindrical	G 2"	170	002860
onion	G 1" 1/2	102	002830
onion	G 2" 1/2	134	002832
onion	G 3"	150	002834
onion	G 4"	182	002836
onion	G 5"	240	002838
onion	G 6"	270	002840

## PVC valve filters

Threaded strainers with mesh and PVC threaded sleeve



Diameter	Gauge	Code
G 1/2"	30	003032
G 3/4"	32	003033
G 1"	36	003034
G 1" 1/4	45	003035
G 1" 1/2	50	003036
G 2"	55	003037
G 2" 1/2	73	003038
G 3"	90	003039
G 4"	115	003040

## Stainless steel valve filters

Threaded strainers with stainless steel mesh and threaded sleeve



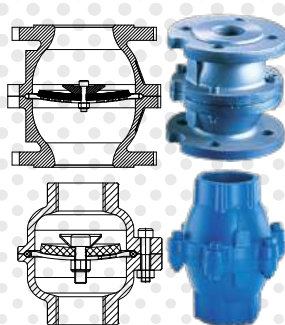
Diameter	Gauge	Code
G 1/2"	55	003010
G 3/4"	62	003011
G 1"	71	003012
G 1" 1/4	80	003013
G 1" 1/2	90	003014
G 2"	101	003015
G 2" 1/2	111	003016
G 3"	125	003017
G 4"	144	003018

## Membrane

Water hammer damping check valve for hydraulic systems and compressed air. With cast iron body and EPDM gasket. The special construction without moving parts makes it particularly quiet.

Operating limits:

All valves are supplied with PN 10 drilling



Diameter	PN	Gauge	Code
G 1"	16	96	003260
G 1 1/4"	16	100	003260A
G 1 1/2"	16	132	003261
G 2"	16	172	003261A
G 2 1/2"	16	196	003262
G 3"	16	234	003262A
DN 50	16	158	003262C
DN 65	16	176	003262B
DN 80	16	196	003263
DN 100	16	213	003263A
DN 125	16	228	003264
DN 150	16	266	003264
DN 200	10	439	003265

## Flanged check valve filters

- Galvanised steel



Diameter	Gauge	Code
DN 50	80	003211H
DN 65	100	003211I
DN 80	120	003211M
DN 100	150	003211N
DN 125	175	003211O
DN 150	200	003211P
DN 200	256	003211P00
DN 250	306	003211P01
DN 300	366	003211P03

## Cast iron flanges

Check valve with G25 cast iron body and shutter, STAINLESS steel spring and 80SH NBR gasket. The special construction allows low pressure drops.

Operating limits:

- Temperature -10°C + 100°C
- Maximum operating pressure 16 bar



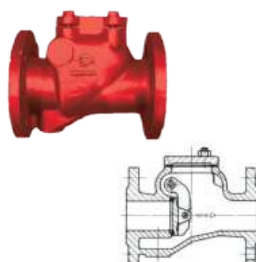
DN	PN	Gauge Gauge	Code
50	16	100	003205
65	16	120	003206
80	16	140	003207
100	16	170	003208
125	16	200	003209
150	16	230	003210
200	10	289	003211
250	10	354	003211A
300	10	396	003211B

## Clapet flanges

Clapet check valve with body and shutter in G25 cast iron, rubber hinged seal ring (brass on request).

Operating limits:

- Maximum temperature + 200°C
- Maximum operating pressure 16 bar



Diameter	Gauge	Code
DN 40	180	003375
DN 50	200	003377
DN 65	240	003379
DN 80	260	003382
DN 100	300	003383
DN 125	350	003385
DN 150	400	003387
DN 200	500	003389
DN 250	600	003391



# Electro-hydraulic and hydraulic valves

## Electro-hydraulic valves

Membrane valve that is controlled by a 3-way solenoid that introduces fluid onto the membrane and allows it to escape. The solenoid is normally de-energized and the valve is closed accordingly.

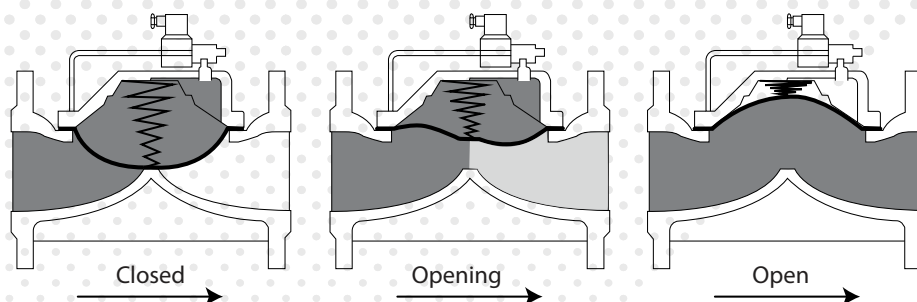
Operating limits:

- Maximum pressure 16 bar minimum pressure 1 bar.

The valve is complete with 24V pilot solenoid valve.



Diameter	Gauge	Code
G 1"1/4	175	003373
G 1"1/2	175	003373A
G 2"	175	003373B
DN 50	280	003373C
DN 80	280	003373E
DN 100	300	003373F
DN 125	325	003373G
DN 150	350	003373H
DN 200	400	003373I



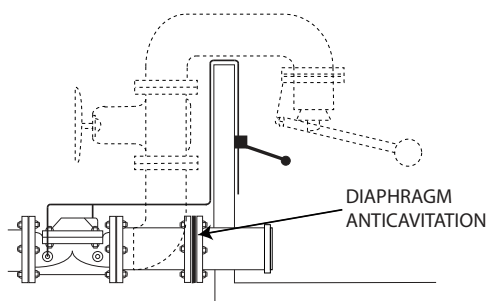
## Float-controlled water valves

Membrane valve composed practically in two parts: the valve body that must be installed on the pipeline and the float that must be mounted in the tank at the desired level. On the servo control during the filling phase it will open the valve and when it reaches the desired level it will command its progressive and gradual closure. We recommend the use of an anti-cavitation diaphragm placed downstream of the valve in cases of high pressure differences between upstream and downstream.

Operating limits:

- Maximum pressure 16 bar minimum pressure 1 bar.

The valve is complete with float.



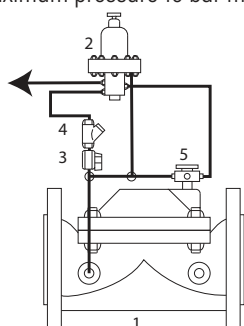
Diameter	Gauge	Code
G 1"	116	003373LS
G 1"1/4	175	003373LT
G 2"	175	003373M
G 2"1/2	200	003373MK
G 3"	230	003373N
DN 50	240	003373Y
DN 65	260	003373Z
DN 80	280	003374
DN 100	300	003374A
DN 125	325	003374B

## Overpressure overflow valves

Membrane valve that keeps the pressure upstream of the valve at a constant and predetermined value. If the pressure upstream of the valve is lower than the pre-set pressure, the valve remains closed; when the pressure upstream approaches the pre-set pressure, the valve starts to open.

Operating limits:

- Maximum pressure 16 bar minimum pressure 7 bar.



- 1 - Valve body
- 2 - 3-way pilot
- 3 - 2-way valve
- 4 - Y filter
- 5 - Manual Command

## Pressure reduction hydro-membrane valves



Diameter	Code
2"	
DN 80	003374Q
DN 100	003374R
DN 125	003374S

## Quick-discharge valves



Diameter	Gauge	Code
1"	116	TEE000394
1"1/4	175	TEE000396
1"1/2	175	TEE000398
2"	175	TEE000400
2"1/2	200	TEE000404
3"	205	TEE000406

# Solenoid valves

## Solenoid valves

Brass solenoid valves normally closed. To be combined with 24V -110V-220V AC coil and connector, IP 65 protection

Operating limits:

- MAX pressure PN 25
- Liquid temperature from -10°C to +90°C
- Ambient temperature from -10°C to +55°C



Example of Solenoid valve complete with Coil

Solenoid valve without coil		
Diameter	Gauge	Code
G 1/2"	60	003353/D
G 3/4"	75	003355/D
G 1"	96	003357/D
G 1 1/4"	144	003359/D
G 1 1/2"	144	003361/D
G 2"	152	003363/D

Coil	Diam. Solenoid valve	Code
24 V C.A.	1/4" - 2"	003367/D
230 V C.A.	1 1/4" - 2"	003365/D
Connector	= all models	003371/D

## Filters

### Brass line

Threaded Y-shaped brass filter with impurity collector with AISI 304 STAINLESS steel cartridge.

Operating limits:

- Temperature up to a max. of 100°C
- Operating pressure from 0 to 16 bar



Diameter	Gauge	Code
G 1/2"	56	002780
G 3/4"	66	002782
G 1"	78	002784
G 1 1/4"	101	002786
G 1 1/2"	113	002788
G 2"	126	002790

### Self-cleaning

Threaded Y-shaped brass filter with impurity collector with AISI 304 STAINLESS steel cartridge.

Operating limits:

- Temperature up to a max. of 100°C
- Operating pressure from 0 to 16 bar



Diameter	Code
G 1/2"	019065FC2
G 3/4"	019065FC4
G 1"	019065FC6
G 1 1/4"	019065FC8
G 1 1/2"	019065FC9
G 2"	019065FD
Filter cartridge 1/2"	019065FG
Filter cartridge 3/4"	019065FH
Filter cartridge 1"	019065FI
Filter cartridge 1 1/4"	019065FK
Filter cartridge 1 1/2"	019065FL
Filter cartridge 2"	019065FM
Pressure gauge	003673

### In-line cast iron

In-line filters for hot, cold and non-aggressive liquids. G25 cast iron body and lid, interchangeable stainless steel cartridge. Installed vertically or horizontally, the cartridge must always be tilted downwards.

Operating limits:

- Maximum operating pressure 10 bar



Diameter	Gauge	Code
DN 32	180	003490
DN 40	200	003490M
DN 50	230	003490N
DN 65	290	003490O
DN 80	310	003490P
DN 100	350	003490Q
DN 125	400	003490R
DN 150	480	003490S
DN 200	600	003490T

# Anti-vibration and compensating joints

## Rubber mouthpiece joints

Anti-vibration joints with mouthpiece fittings in cast iron. Galvanized cast iron mouthpieces, neoprene rubber joint reinforced with nylon.

Operating limits:

- Temperature -10°C + 105°C



Diameter	PN	Gauge	Possible operating compensation				Code
			Axial		Motion		
			Compr.	Elongation.	Transv.	Ang.	
G 1"	10	200	22 mm	6 mm	22 mm	20°	003232
G 1 1/4	10	200	22 mm	6 mm	22 mm	20°	003233
G 1 1/2	10	200	22 mm	6 mm	22 mm	20°	003234
G 2"	10	200	22 mm	6 mm	22 mm	20°	003235
G 2 1/2	10	225	22 mm	6 mm	22 mm	20°	003236

## Flanged rubber joints

Anti-vibration joints with flanged connections. Swivel flanges in chrome steel, neoprene rubber joint reinforced with metal wires and synthetic fibre.

Operating limits:

- Temperature -10°C + 115°C



Diameter	PN	Gauge	Possible operating compensation				Code
			Axial		Motion		
			Compr.	Elongation.	Transv.	Ang.	
DN 32	16	95	8 mm	4 mm	8 mm	15°	003250
DN 40	16	95	8 mm	4 mm	8 mm	15°	003251
DN 50	16	105	8 mm	5 mm	8 mm	15°	003252
DN 65	16	115	12 mm	6 mm	10 mm	15°	003253
DN 80	16	130	12 mm	6 mm	10 mm	15°	003254
DN 100	16	135	18 mm	10 mm	12 mm	15°	003255
DN 125	16	170	18 mm	10 mm	12 mm	15°	003256
DN 150	16	180	18 mm	10 mm	12 mm	15°	003257
DN 200	16	205	25 mm	14 mm	22 mm	15°	003258
DN 250	16	240	25 mm	14 mm	22 mm	15°	0032582
DN 300	16	260	25 mm	14 mm	22 mm	15°	0032583
DN 350	8	265	25 mm	14 mm	22 mm	15°	0032584

## Pressure reducer

Adjustable compensated pressure reducer, with hammer damping action. Threaded couplings with nozzle, with provision for pressure gauge fitting.

Operating limits:

- Max. temperature + 80°C
- Maximum upstream pressure 25 bar
- Adjustable 0.8 - 5.5 bar up to Ø 1"
- Adjustable 0.8 - 7.0 over Ø 1"



Diameter	Gauge	Code
G 1/2"	163	<b>005735M</b>
G 3/4"	175	<b>005736M</b>
G 1"1/4	216.5	<b>005738M</b>
G 1"1/2	238.5	<b>005739M</b>
G 2"	266	<b>005740M</b>

## Instant-closing hydraulic regulator

Servo-controlled float device suitable for mounting on any pipe diameter. The closing torque increases as the pressure in the inlet pipe increases. Made of non-toxic polycarbonate, suitable for continuous service and for operating pressures up to 6 bar, with tips up to 10 bar. Connections available from 3/4" to 1" 1/2



Hydraulic regulator	
Diameter	Code
G 3/4"	<b>003762</b>
G 1"	<b>003762B</b>
G 1"1/4	<b>003762D</b>
G 1"1/2	<b>003762F</b>

Float	
Diameter	Code
G 2"	<b>003754</b>
G 3"	<b>003754D</b>
G 4"	<b>003754E</b>

## High pressure float, adjustable

Adjustable float tap for high pressures, with brass rod and STAINLESS steel seat. Plastic ball with connection for fixing floating rod



Plastic Ball	
Diameter	Code
220 mm	<b>003758</b>
300 mm	<b>003759</b>

Stainless steel float	
Diameter	Code
G 1"1/2	





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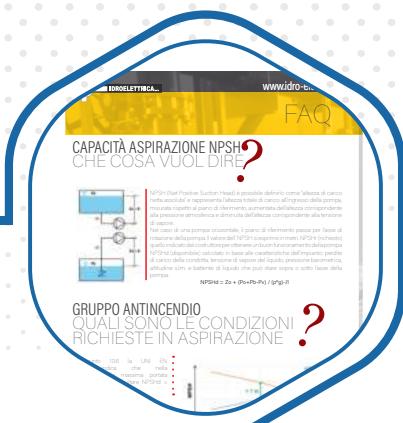
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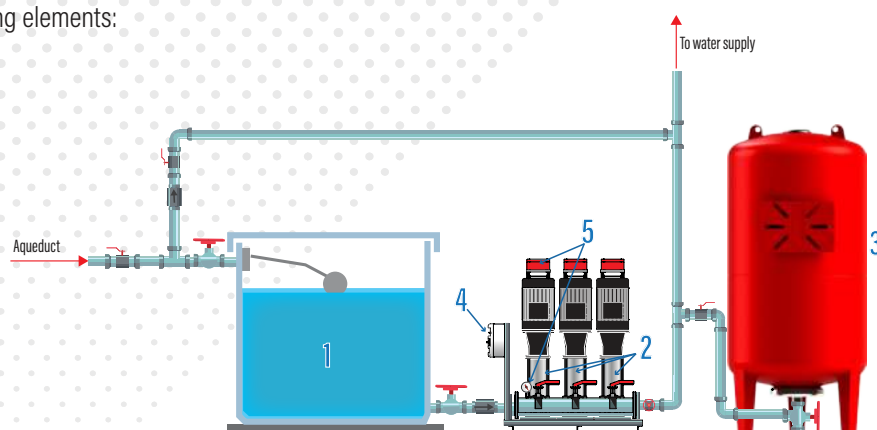


# FAQ

## HOW TO CREATE A VERY SILENT AND LOW FOOTPRINT PRESSURIZATION SYSTEM?

Pressurisation systems normally consist of the following elements:

1. Free surface water reservoir (first collection tank)
2. Pressurisation unit
3. Pressure storage system
4. Electric command and control panel
5. Electric and hydraulic accessories



The operation of the system is very simple and has been addressed in detail in the chapter dedicated to TECHNICAL NOTES at the beginning of this publication

As far as we are concerned, the water reserve and the pressurisation unit are the elements with higher space requirements and the pressurisation unit is the only component that, during its operation, generates noise.

Usually these systems are installed in rooms that are in some way adjacent to the inhabited areas of a building. The danger is to generate noise in the apartments that is not appreciated by the inhabitants.

In addition, the technical rooms that are used for housing pressurisation systems are often small and involve access difficulties for components and confined spaces for assembly and especially for maintenance.

What we would like then is to find a system scheme that minimizes the noise and the size of the system.

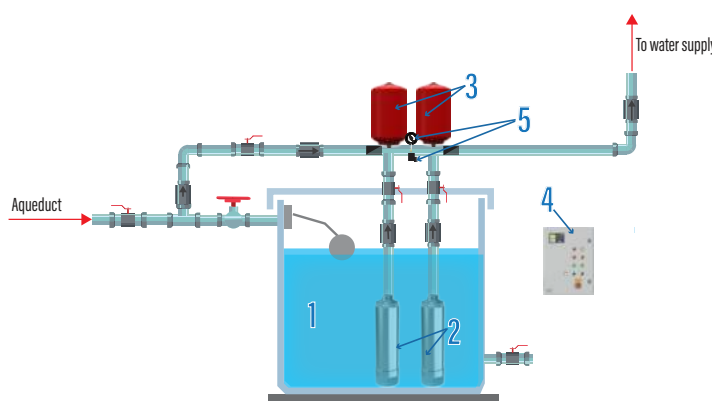
This arrangement exists and is the one that requires the use of submerged electric pumps mounted directly inside the free surface water reserve.

With this arrangement there is an immediate decrease in the space requirements because:

- The external pressurisation unit is no longer present and is replaced by the submerged electric pumps installed directly in the water reserve
- A large external pressure tank is no longer necessary as the submerged machines are able to cool down very quickly and therefore two 20-litre pressure tanks are sufficient to obtain cycle times (on/off), compatible with the proper functioning of the system
- The water reserve can be easily arranged by placing multiple tanks in parallel (connected with pipes of appropriate diameter). In this way, the storage volume envisaged by the calculation can be reached (see "Dimensioning the volume of the first collection water reserve" on page 9) without having to face problems related to the size of the passages necessary to reach the technical room

Therefore, the use of submerged machines makes the system very silent, eliminating all the problems related to the noise generated by the operation of the external motors and the transmission of vibrations along the pipes.

Finally, these systems are adequate, like all others, to be controlled by inverters, in order to achieve a match of the performance of the machines with the demands of the system, and consequently great savings in terms of energy and maintenance needs.

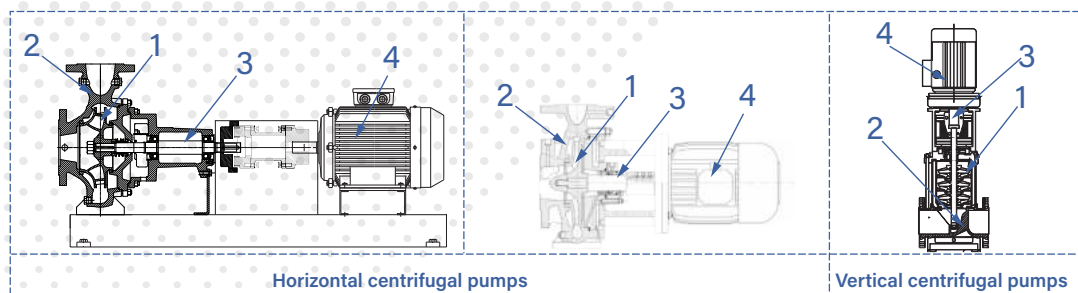


## HOW DOES A CENTRIFUGAL PUMP WORK?

Centrifugal pumps are pumps in which the movement of the fluid is induced by the moment generated by rotating mechanical parts (commonly called "impellers").

The main constituent components of a centrifugal pump are:

1. Moving part, called impeller, which transfers energy
2. Pump body, the volute that channels the flow first in suction and then in delivery
3. Shaft, on which the impeller is fixed, usually connected to the motor
4. Motor, which can be electric or internal combustion



### CLASSIFICATION AND INSTALLATION

Depending on how the shaft and motor are positioned, the following arrangements are possible:

- Horizontal centrifugal pumps
  - Vertical centrifugal pumps
- The pumps can then be placed hydraulically :
- BELOW WATER LEVEL
  - ABOVE WATER LEVEL

See FAQ on page 64

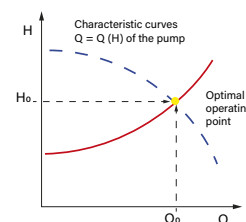
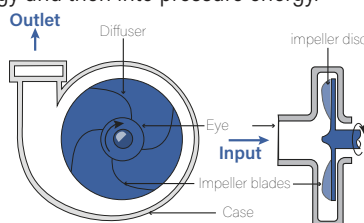
### CENTRIFUGAL PUMP: OPERATION

The centrifugal pump, for its operation, uses the centrifugal effect of the impeller to move the fluid, transforming the mechanical energy (coming from a motor that in most cases is electric), first into kinetic energy and then into pressure energy.

The movement of the impeller causes a depression in the suction tube and the fluid, pushed by atmospheric pressure, runs through the tube and enters the pump. The impeller, after suctioning the liquid, projects it against the periphery of the pump body by means of the centrifugal force produced by the speed

The centrifugal pump impeller is equipped with a series of curved blades that form channels with increasing section from the centre towards the periphery. The fluid exits the impeller with speed  $V_t$ , therefore still having kinetic energy, and enters the volute.

The body of the centrifugal pump, or volute, is also built in increasing section so that the remaining portion of kinetic energy is transformed into pressure energy, thus increasing the available head.



### THE EFFICIENCY OF A CENTRIFUGAL PUMP

The characteristics of a centrifugal pump are described by the characteristic curve in which the trend of the head supplied by the pump is plotted against the flow rate that it is able to provide.

### WHAT ARE THE PARAMETERS TO IDENTIFY THE MOST SUITABLE PUMP?

The choice of a pump must be made based on the characteristics of the system that you want to operate

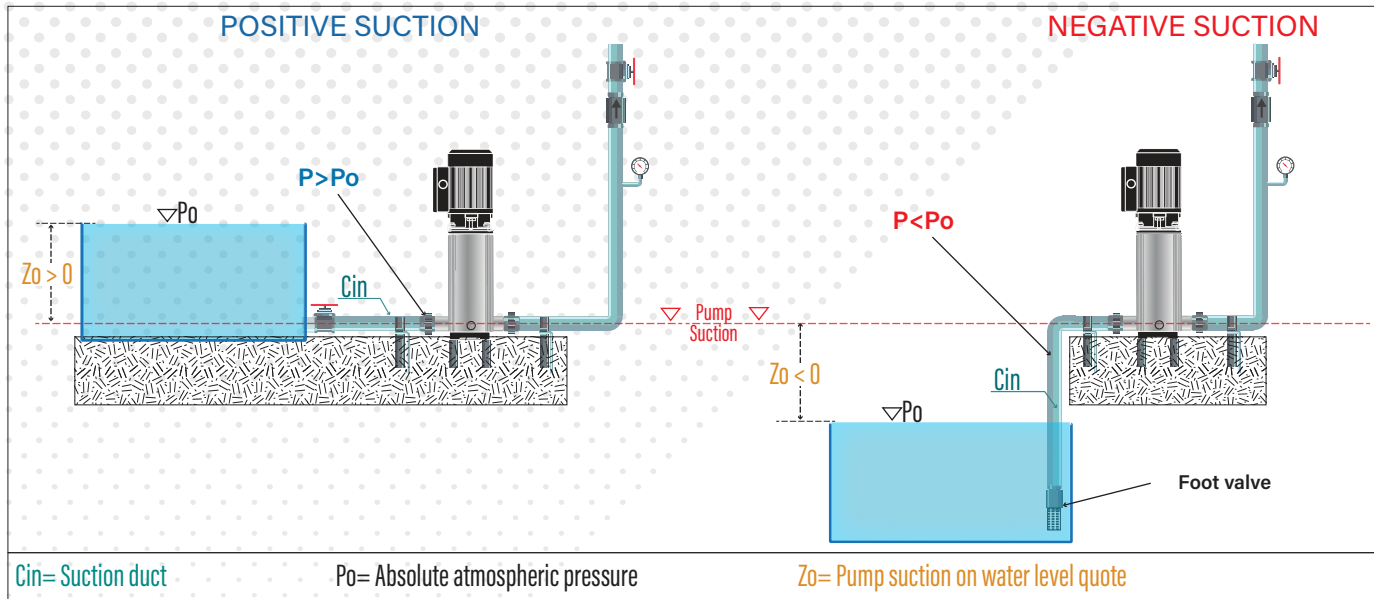
Flow rate and head, in other words, what is the flow rate ( $m^3/h$ ) that must be reached and the head must be overcome. Several elements must be taken into account when calculating the head of a pump:

- the characteristics of the system
  - difference in level to be overcome to move the fluid from point A to point B (geodetic height)
  - losses due to the normal flow of fluid along the pipeline (distributed losses);
  - losses due to plant elements along the line (concentrated losses), such as valves, elbow curves, check valves, etc.
- the characteristics of the fluid
  - temperature
  - density
  - viscosity
  - presence or absence of particles present in it.

# FAQ

## WHY MULTI-STAGE VERTICAL ELECTRIC PUMPS ARE TO BE USED, PREFERABLY, ONLY IN BELOW WATER LEVEL CONDITIONS?

From a hydraulic point of view, the possible arrangements for the operation of a pump are only two:



They differ substantially in whether or not it is possible to take advantage of the potential hydraulic energy available in the mass of water inside the suction tank. This energy is greater as much as  $Z_o$  is greater.

$Z_o$  can be positive (**UNDER WATER LEVEL**) or negative (**OVER WATER LEVEL**).

In the first case, the suction pipe and the machine are always full of water and the pump is primed and ready to start at any time  $P > P_o$ .

In the second case, the machine remains full only in the presence of a bottom valve (check valve placed at the lower end of the suction pipe) that allows filling (before starting the pump) both the suction pipe and the pump itself.

Pumps in the **OVER WATER LEVEL** hydraulic arrangement must overcome the force of gravity to move the water to its own suction flange and, to do so, must place in depression the suction duct. The pressure inside the duct therefore becomes lower than the atmospheric pressure  $P < P_o$ . This generates the possibility that, inside the duct (through the existing joints on the duct and between the valves), there may be a draw of air from the atmosphere.

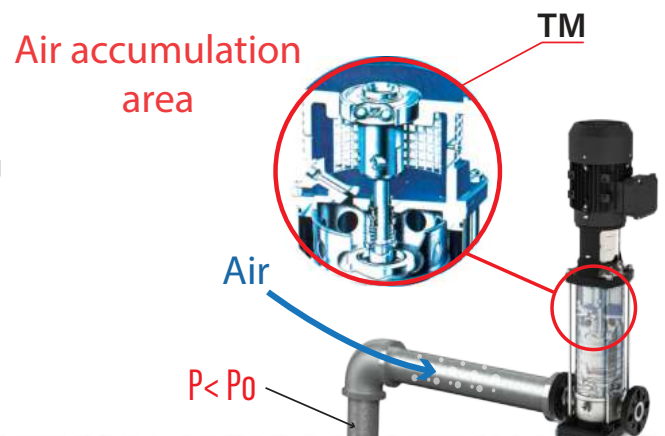
Air will tend to accumulate in the high points of the system.

For this reason, care must be taken to always make suction ducts always directly towards the pump, so that there are no high points before the pump. This prevents machine malfunctions.

In the case of vertical multi-stage surface pumps, their configuration is such as to create a high point inside them. The figure shows that air accumulates **right at the sealing chamber** (TM).

The presence of air prevents lubrication of the mechanical seal, leading to its rapid damage. In addition, the amount of air can reach a volume such as to decrease the performance of the pump and/or lead to its decay, followed not only by a zeroing of Q/H delivered, but the mechanical destruction of the rotating parts.

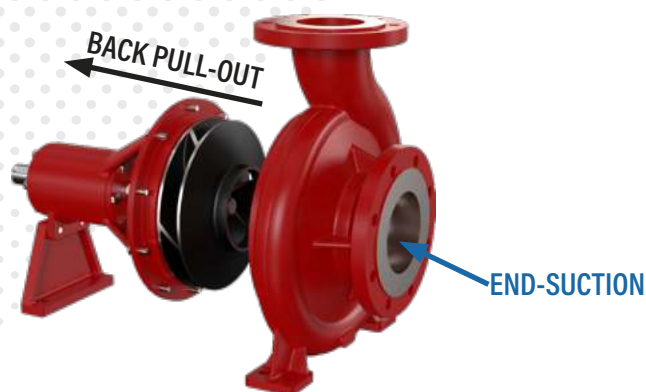
For the above reasons, it is advisable to use the multi-stage vertical pumps, and consequently the pressurisation units that use them, only where a **BELOW WATER LEVEL** hydraulic solution is provided.



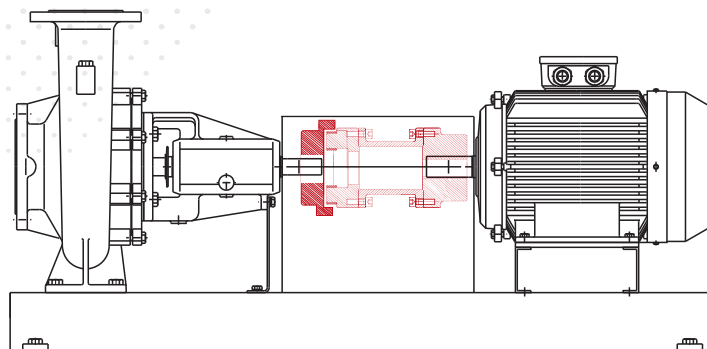
## WHY A SPACER JOINT SHOULD BE ADOPTED IN A BASE-MOUNTED PUMPING UNIT?

Centrifugal pumps with central axial suction (so-called **END-SUCTION**), with support, have nominal performance and are built according to EN 733.

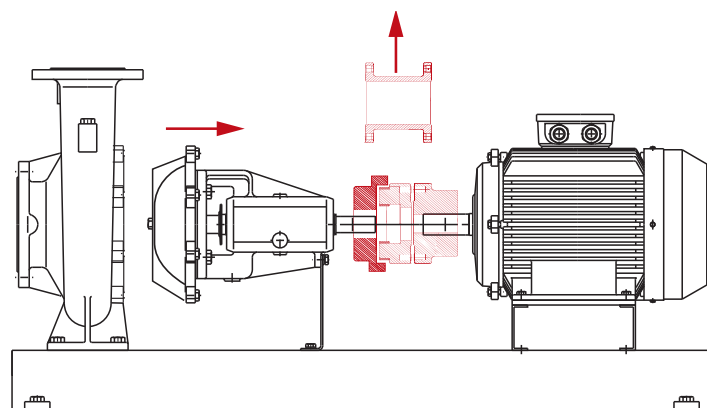
Among them we can find those with **BACK PULL-OUT** construction, this type of construction allows access to the pump parts, without having to disassemble the suction and delivery pipes.



It is possible to take advantage of this very useful feature, if the electric pump is connected to its electric motor with a spacer (also called a spacer joint).



In this case it is possible, simply by removing the spacer (the central part of the joint) to remove the bearing support with the entire rotating part without having to disassemble the suction and delivery pipes. The motor can stay in place.



If, on the other hand, the electric pump does not have a spacer joint, the motor must be disassembled and removed from the base, before disassembling the pump.

The subsequent repositioning of the motor, will involve a precise realignment of the shafts, which in the case of the presence of a spacer joint, will be much easier to perform.

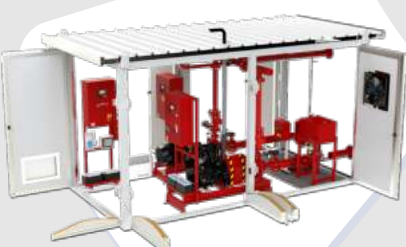
This is why the choice of using spacer joints makes the maintenance operations of the "back pull-out" centrifugal units extremely simple and fast.



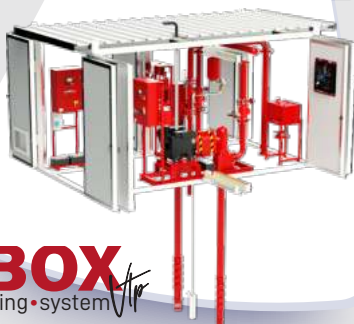
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