Water pumping

STAR PUMPING STATIONS
POLYETHYLENE

Single houses and small communities

Edition 07/2008

Techneau
Ingénierie de l'eau

Please consult our pumping stations looking at all the cover pages.

Techneau

15 YEARS OF INNOVATION

Since 1991, Techneau have been constantly improving their own approach to developping their activities: imagination, research, and the intention of going far beyond that.

From water treatment to water pumping, from hydraulic accessories to ground equipment, Techneau undertake, in the long term, to provide you with the best equipment adjusted to your requirements in a concern for long-lasting and confident co-operation. For more than 20 years, our teams have been continuously innovating, imagining and improving with one view only: to complyi with your requirements and provide you with the best technologies.

4 production units over more than 30,000 m²

How to choose your pump?

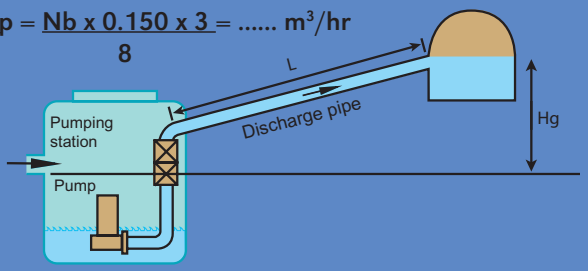
For each model, we offer several pumps in accordance with the peak flow rate and the total water height.
Make your own calculations and find the pumping graphs corresponding to your model.

• Peak flow rate (Qp) in m3/hr

For waste water, the flow rate is calculated in relation to the number of users (Nb) on the basis of 150 litres a day per user.
The flow rate of the pump is given by the following formula: $Qp = \frac{Nb \times 0.150 \times 3}{8} = \ldots\ldots\ m^3/hr$

• Total water height (HMT)

It is the water height to be pumped (Hg)
+ leakage in discharge pipes



1 • 1. for a flow rate of 5 m3/hr

HMT is defined with a PVC discharge pipe, **53/63 pressure**

Geometrical height	Length of discharge pipe in metres											
	10	20	30	40	50	60	70	80	90	100	110	120
1	1.17	1.34	1.51	1.68	1.85	2.02	2.19	2.36	2.53	2.7	2,87	3,04
2	2.17	2.34	2.51	2.68	2.85	3.02	3.19	3.36	3.53	3.7	3,87	4,04
3	3.17	3.34	3.51	3.68	3.85	4.02	**4.19**	4.36	4.53	4.7	4,87	5,04
4	4.17	4.34	4.51	4.68	4.85	5.02	5.19	5.36	5.53	5.7	5,87	6,04
5	5.17	5.34	5.51	5.68	5.85	6.02	6.19	6.36	6.53	6.7	6,87	7,04
6	6.17	6.34	6.51	6.68	6.85	7.02	7.19	7.36	7.53	7.7	7,87	8,04
7	7.17	7.34	7.51	7.68	7.85	8.02	8.19	8.36	8.53	8.7	8,87	9,04
8	8.17	8.34	8.51	8.68	8.85	9.02	9.19	9.36	9.53	9.7	9,87	10,04

2 • for a flow rate of 10 m3/hr

HMT is defined with a PVC discharge pipe, **63/75 pressure**

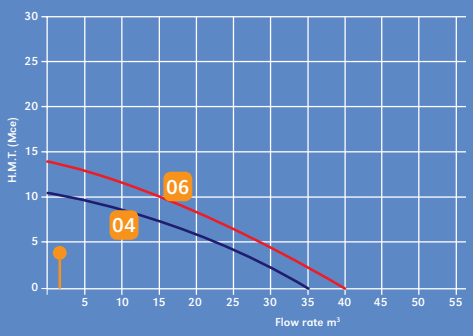
Geometrical height	Length of discharge pipe in metres											
	10	20	30	40	50	60	70	80	90	100	110	120
1	1.15	1.3	1.45	1.6	1.75	1.9	2.05	2.2	2.35	2.5	2.65	3.8
2	2.15	2.3	2.45	2.6	2.75	2.9	3.05	3.2	3.35	3.5	3.65	4.8
3	3.15	3.3	3.45	3.6	3.75	3.9	4.05	4.2	4.35	4.5	4.65	5.8
4	4.15	4.3	4.45	4.6	4.75	4.9	5.05	5.2	5.35	5.5	5.65	6.8
5	5.15	5.3	5.45	5.6	5.75	5.9	6.05	6.2	6.35	6.5	6.65	7.8
6	6.15	6.3	6.45	6.6	6.75	6.9	7.05	7.2	7.35	7.5	7.65	8.8
7	7.15	7.3	7.45	7.6	7.75	7.9	8.05	8.2	8.35	8.5	8.65	9.8
8	8.15	8.3	8.45	8.6	8.75	8.9	9.05	9.2	9.35	9.5	9.65	10.8

Example: Design of the flow rate and water height for 20 persons,
- geometrical height: 3 m,
- length of discharge pipe: 70 m
- PVC discharge pipe, **53/63 pressure**

Flow rate (Qp) = $\frac{20 \times 0.150 \times 3}{8}$ = 1.125 m³/hr

HMT (see table n°1) = **4,19 m.**

The pump will process a flow rate of 1.125 m3/hr at 4.20 m



Standards

All pumping stations must satisfy the requirements laid down by the regulations on the following standards:
NF EN 12050-1 for wastewater **containing** faecal matter,
NF EN 12050-2 for **faecal-free** wastewater.

CE Mark

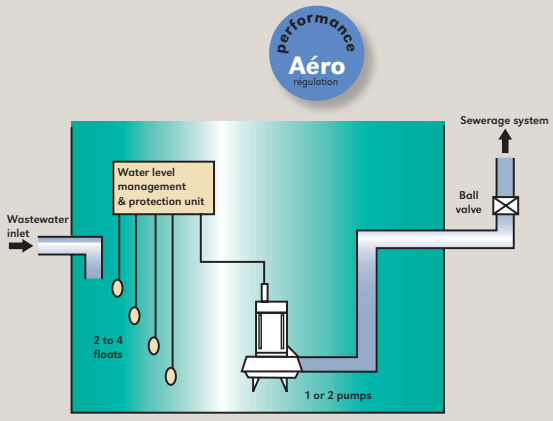
Use of the CE mark requires an initial compliance certificate (**Test Report**) delivered by an approved agency (**CSTB**). Our pumping stations have this certificate and are thus allowed to carry the **CE** mark. **Annex Z** of the above-mentioned standards defines all points tested and validated.

Water Management

The well-known performance of the air control detecting system

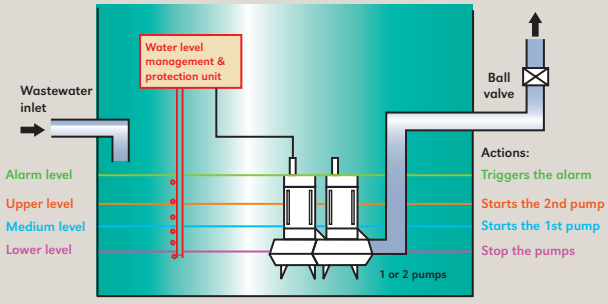
Operating principle
In order to pump the water out of the tank, the present control systems are floats that detect four levels: lower level, medium level, higher level, alarm level. According to the level detected in the tank, the detector can start or stop one or two pumps, and it may also trigger a fault alarm.

Disadvantages
When the level has to be measured accurately, it is not easy to adjust the ball floats. They tend to be blocked either by sludges or by their own cables. Furthermore, they need to be maintained on a regular basis to prevent any grease deposits that may disrupt the correct operation of the system.



Techneau's solution is the air control detecting system for both water level management and pump protection. It includes a micro controller that is designed to store and process the station data, and to display the operating conditions on its front part.

The water level is checked by metering the pressure.
When the tank is empty: the air is blown periodically into the pipe to prevent clogging and to update all metering data. The water rises and goes beyond the pipe level: the increase in water level is immediately detected by the detector.
When the water reaches the medium level, the detector starts the first pump.
When the water goes down again and reaches the lower level, the detector stops the pump.
When the water rises on, the detector starts the second pump immediately.
When the water rises on after the second pump has been started, the detector triggers the overflow alarm.
When the water goes down, the detector detects the lower level and stops the two pumps.



A safety unit ('alarm float') can be provided. In case of failure of the pressure metering system, the system will automatically trigger the safety float and start the pumps to avoid any overflow. An alarm is displayed: 'detector failure'.
Similarly, when the detector displays normal level variations while the alarm float is triggered (float blocked), it will display 'float failure' and will no longer take the float information into consideration.

contents

Polyethylene pumping stations

For single houses and small communities. The unit is to be installed in areas without water table. For other installations, please see our polyester catalogue.

IMPORTANT

How to use this catalogue:

1 choose your station in accordance with your project criteria on page 6 (additional data are given on page 7)

2 consult the page corresponding to your station models

3 open the cover folds to determine your pump model.

CHOOSE YOUR PUMPING STATION

1) Determine your model and consult the page giving the relevant technical data.

You will choose your model in accordance with the criteria that are necessary to design your installation: single house or small community, type of installation, inlet water level...

SINGLE HOUSES

OUTSIDE INSTALLATION, BURIED UNIT:

Deep inlet water level FEA (-800 mm)

STAR 700 with or without base, 1 pump
5 models of pumps, of which 1 for low contaminated water p12

Not deep inlet water level FEA (-150 mm)

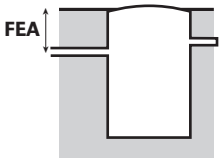
STAR 160 with base, 1 pump
2 models of pumps p10

INSIDE INSTALLATION:

STAR 270 with base, float or air control detecting system, 1 or 2 pumps
3 models of pumps p8

SMALL COMMUNITIES

OUTSIDE INSTALLATION, BURIED UNIT:



Not deep inlet water level FEA (-280 mm)

STAR 400 Not deep inlet water level, 1 or 2 pumps
For models with 2 pumps, ball float or air control detecting system
4 models of pumps, 220 V one-phase only
2 models of pumps, 380 V three-phase only p14

Deep inlet water level FEA (-700 or -1000 mm)

STAR 800 2 heights 1300 or 1600, 1 or 2 pumps
For models with 2 pumps, ball float or air control detecting system
For 1600 height, built-in valves if need be
2 models of pumps, 220 V one-phase or 380 V three-phase
2 models of pumps, 380 V three-phase only p16

Very deep inlet water level FEA (-1400 or -1900 mm)

STAR 1000 2 water heights 2000 or 2500, 1 or 2 pumps
For models with 2 pumps, ball float or air control detecting system
2 models of pumps, 220 V one-phase or 380 V three-phase
2 models of pumps, 380 V three-phase only p18

2) Calculate the total water height and peak flow rate corresponding to your project requirements (see on the cover fold).

Operation

The pump starts or stops in accordance with the water level in the pumping tank.

The water level is detected by:
- an air control detecting system metering the pressure in order to prevent clogging. It requires two pumps working alternately or simultaneously in case of an incoming volume in excess of the flow rate of the pump (see on page 4).
- ball floats that are to be cleaned 5 to 6 times a year, with 1 or 2 pumps.

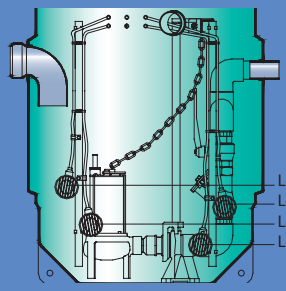
Operation with 1 pump:
The water rises in the tank and reaches level 1. A level detector starts the pump. The water goes down again and reaches level 2 at which point the detector stops the pump.

Operation with 2 pumps:

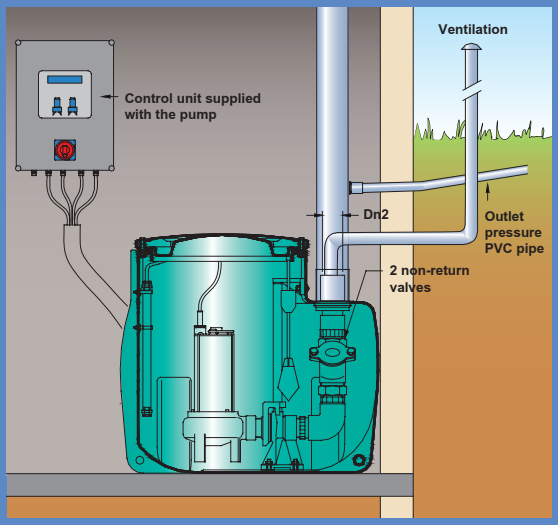
Normal operation is the same as with a single pump, but the control unit alternates the pump starts: 1st cycle = **pump** 1; 2nd cycle = **pump** 2, etc...

In case of an operating failure on one of the pumps or an incoming volume in excess of the flow rate of the pump in service (**level 3** reached), the level detector will start the second pump.

The **level 4** detector is the alarm level.

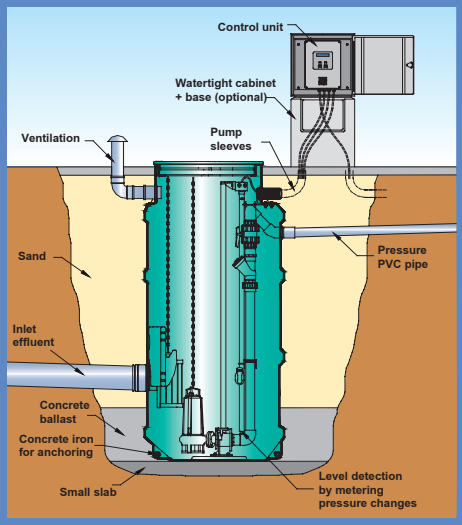


Installation



STAR 270
Inside installation
In basement

Other STAR models buried installation with ventilation & outside control unit



Initial start-up

All our stations are supplied **pre-connected**. The level detectors and pumps are **connected to the control** unit. We offer onsite start-up to installers who wish to take advantage of this service.

Maintenance

Generally speaking, all pumping stations require **regular maintenance.** The frequency depends on the nature of the water processed. We recommend at least 3 to 4 inspections per year. Regular maintenance consists in cleaning the floats and rinsing thoroughly the tank walls and all lines and accessories in contact with the waste water. **Twice a year**, the pumps must be taken out and inspected.

STAR 270

Reference: PU02F102M

Anti-grease compartment: Allows the floats attached inside to move freely in very light waste water

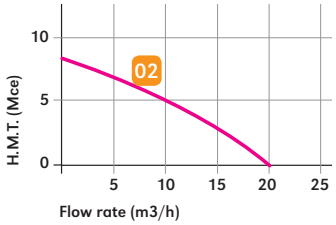
1 pump, single-phase,230 V
with ball float detecting system.

Pump 02

SEMISOM 265 single-phase, 230 V

Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use: contaminated waste water
Flow cross-section: 40 mm **discharge** 2''
0.55 Kw
4.2 A

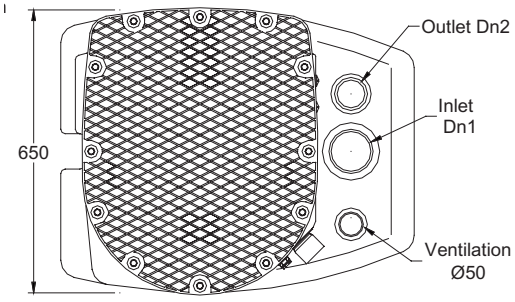
with start control unit



IMPORTANT :

Check that the pump curve is fit to your requirements:
• You know the total water height and the peak flow rate: please see the pump graph,
• You do not know them: please see the cover folds to calculate them.

If your needs are over the pump data, go to the following page.

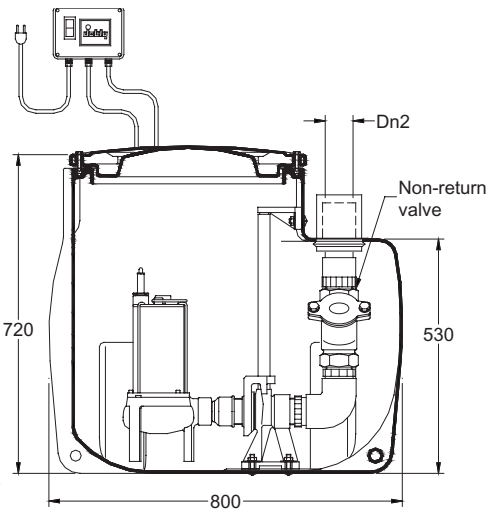


Design

- Polyethylene tank with anchoring rings
- Volume 270 litres, non-corroding
- Resists pressure of 0.5 bar
- Polyethylene lid closed by 12 bolts
- PVC intake sleeve ø100
- PVC outlet sleeve, pressure PN 16
- Ventilation sleeve DN 50

Inner equipment

- 1 submersible pump with VORTEX impeller
- Base system with guide bars
  (to facilitate mounting and dismounting the pump)
- PVC discharge pipe, pressure PN 16
- Level controller in compartment separate from the grease
- Non-return ball valve Dn 50
- Start control unit with capacitor and 230V plug + ground



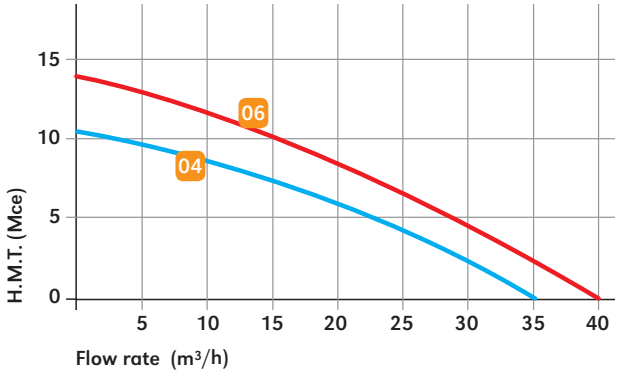
YOU CAN HOWEVER CHOOSE YOUR STAR 270 PUMPING STATION

• Float control for models with 1 pump, single-phase,230 V or air control detecting system for models with 2 pumps, single-phase,230 V

performance Aéro régulation

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 04

SEMISOM 450 M

single-phase, 230 V
Construction: Cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** waste water • **Flow cross-section:** 50 mm **discharge** 2'' • 1.1 Kw • 7.3 A

Pump 06

FEKA VX 1200 M

single-phase, 230 V
Construction: technopolymere pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Utilisation:** waste water • **Flow cross-section:** 50 mm **discharge** 2'' • 1.2 Kw • 8.6 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU02	Aéro or Floats	1 or 2	02/04/06	M

Options

• Spherical plug valve (1 valve per pump)

VB050 Dn50 for PVC 53/63, Total PVC flow path, pressure 16 bar, Female / female, assembled with glue

• High-level audible alarm

ASF sound level: 90 db, Single-phase 230V,
can be plugged into a wall outlet delivered with high-level float and 10 m RB10 cable

• Audible and visual alarm unit

CP01+RB10 with float switch

• Polyester watertight control

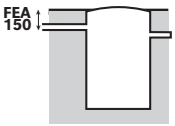
CP510 with base for outside installation, L540 x H520 x W240 mm, base height: 580 mm
to install an electrical unit 1 or 2 pumps

• Drilling kit

KITP100 Dn100 to close the standard inlet and to drill another Dn100 better adapted inlet
complete kit, with 1 saw, 1 joint, and 1 plug.

STAR 160

Reference PU01F102M



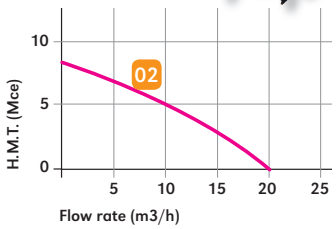
1 pump, single-phase,230 V
with ball float detecting system.

Pump 02

SEMISOM 265
single-phase, 230 V

Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use: contaminated waste water
Flow cross-section: 40 mm **discharge** 2''
0,55 Kw
4,2 A

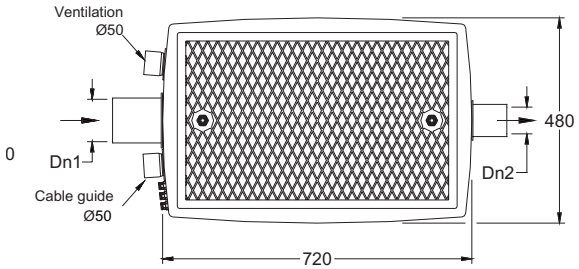
with start control unit

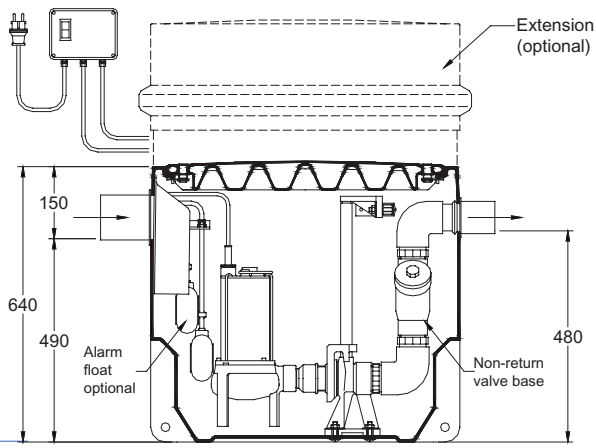


IMPORTANT :

Check that the pump curve is fit to your requirements:
• You know the total water height and the peak flow rate: please see the pump graph,
• You do not know them: please see the cover folds to calculate them.

If your needs are over the pump data, go to the following page.





Design

- Polyethylene tank with anchoring rings,
- Volume 160 litres, non-corroding
- Non-skid polyethylene lid with key locks for buried installation in green area
- PVC intake sleeve ø100,
- PVC outlet sleeve, pressure PN16
- Ventilation sleeve Dn 50, cable guide Dn 50 and cable gland

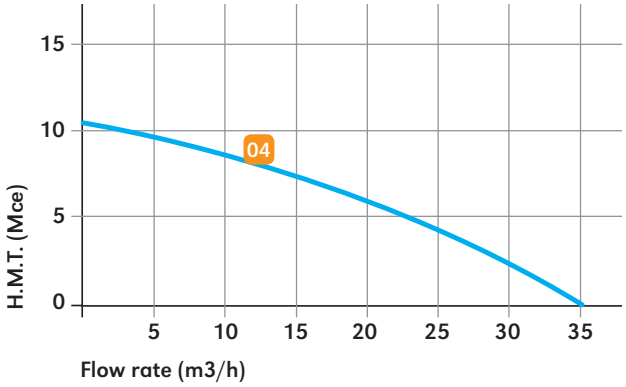
Inner equipment

- 1 cast iron submersible pump with VORTEX impeller
- Base system with guide bars (to facilitate mounting and dismounting the pump)
- PVC discharge line, pressure PN 16
- Level controller with 10 m cable
- Non-return ball valve Dn 50
- Start unit with capacitor and 230V plug + ground

YOU CAN HOWEVER CHOOSE YOUR STAR 160 PUMPING STATION:

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 04

SEMISOM 450 M

single-phase, 230 V
Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 50 mm **discharge** 2'' • 1.1 Kw • 7.3 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU01	**F**loats	**1**	**02/04**	**M**

Options

• Polyethylene telescopic extensions

R47AT adjustable height, 250 to 450 mm
R65AT adjustable height, 430 to 600 mm

• Spherical plug valve

VB050 Dn50 for PVC 53/63, Total PVC flow path, pressure 16 bar Female / female, assembled with glue

• High-level audible alarm

ASF sound level: 90 db, Single-phase 230V
can be plugged into a wall outlet delivered with high-level float and 10 m RB10 cable

• Audible and visual alarm unit

CP01+RB10 with float switch

• Polyester watertight control

CP510 with base for outside installation

• Drilling kit

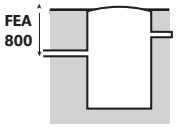
KITP100 Dn100 to close the standard inlet and to drill another Dn100 better adapted inlet
complete kit, with 1 saw, 1 joint, and 1 plug.

STAR 700

Reference: PU07F102M

1 pump, single-phase,230 V

with ball float detecting system



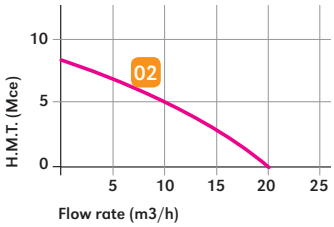
Pump 02

SEMISOM 265

single-phase, 230 V

Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use: contaminated waste water
Flow cross-section: 40 mm **discharge** 2'' (1" ½ for the models without base)
0,55 Kw
4,2 A

with start control unit



IMPORTANT :

Check that the pump curve is fit to your requirements:

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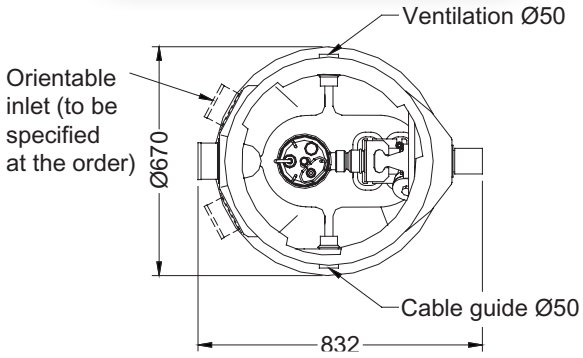
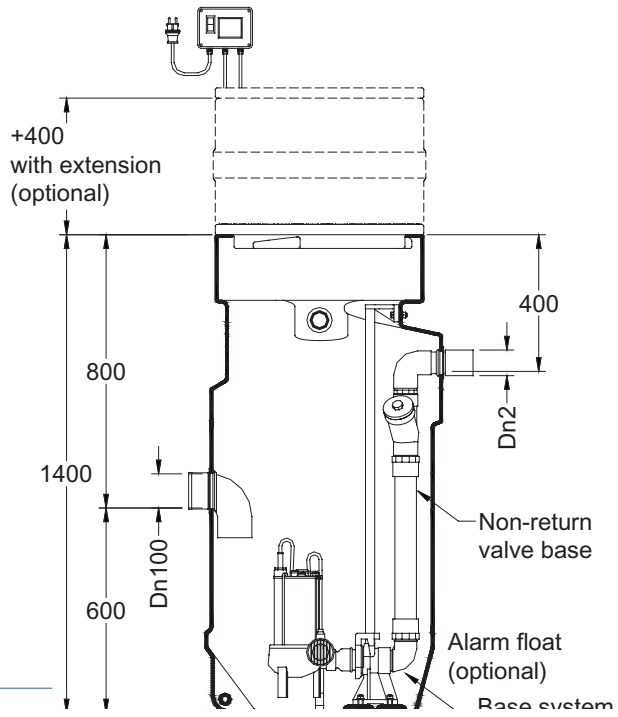




Design

- Polyethylene tank with inclined bottom and 3 anchoring rings,
- Volume 400 litres, non-corroding
- Polyethylene lid with 1/3 turn locked with 1 bolt
- PVC intake sleeve ø100,
- PVC outlet sleeve, pressure PN16
- Ventilation sleeve Dn 50, cable guide Dn 50 and cable gland

Inner equipment

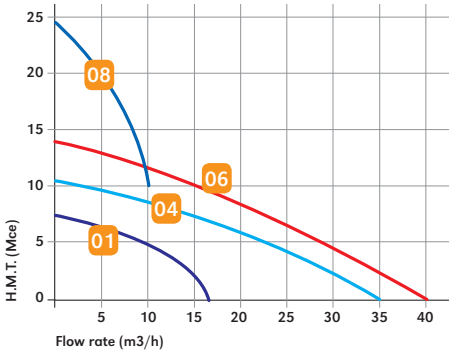
- 1 cast iron submersible pump with VORTEX impeller
- Base system with guiding bars (to facilitate mounting and dismounting the pump)
- PVC discharge line, pressure PN 16
- Level controller with 10 m cable
- Non-return ball valve Dn 50
- Start unit with capacitor and 230V plug + ground

YOU CAN HOWEVER CHOOSE YOUR STAR 700 PUMPING STATION:

• Without base (PS07) for models with pumps 01 and 02

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 01

FÉKA 600 M

single-phase, 230 V
Construction: techno propylene pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** light waste water • **Flow cross-section:** 25 mm **discharge** 1''1/4 **connection** with 230 V + earth socket • 0.55 Kw • 4.3 A

Pump 04

SEMISOM 450 M

single-phase, 230 V
Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • **Flow cross-section:** 50 mm **discharge** 2'' • 1.1 Kw • 7.3 A

Pump 06

FÉKA VX 1200 M

single-phase, 230 V
Construction: technopolymere pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 50 mm **discharge** 2'' • 1.2 Kw • 8.63 A

Pump 08

GRINDER 1400 M

single-phase, 230 V
Construction: cast iron pump body and Vortex impeller with grinding system • **Protection:** IP68, insulation class F • **Use:** highly contaminated waste water • 1.1 Kw • 8.7 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU07/PS07	Floats	1	01/02/04/06/08	M

Options

• Spherical plug valve

VB032 Dn32 for pump n°1,
VB050 Dn50 for pumps n°2, 4, 6 & 8,

• High-level audible alarm

ASF sound level: 90 db, Single-phase 230V
can be plugged into a wall outlet delivered with high-level float and 10 m RB10 cable

• Audible and visual alarm unit

CP01+RB10 with float switch

• Polyester watertight control

CP510 with base for outside installation

• Polyethylene extensions

03405 height: 400 mm

• Drilling kit

KITP100 Dn100 to close the standard inlet and to drill another Dn100 better adapted inlet
complete kit, with 1 saw, 1 joint, and 1 plug.

STAR 400

Reference: PU04A204 M

Large capacity tank for long self-operation and fewer starts of the pump

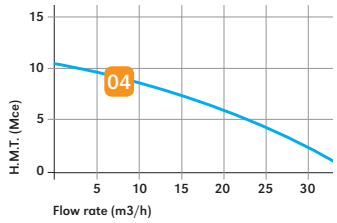
Pump 04

SEMISOM 450

single-phase, 230 V

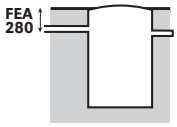
Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use: contaminated waste water
Flow cross-section: 50 mm **discharge** 2'' • 1.1 Kw • 7.3 A

with DRCP control unit



performance Aéro régulation

2 pumps, single-phase,230 V
with air control detecting system.



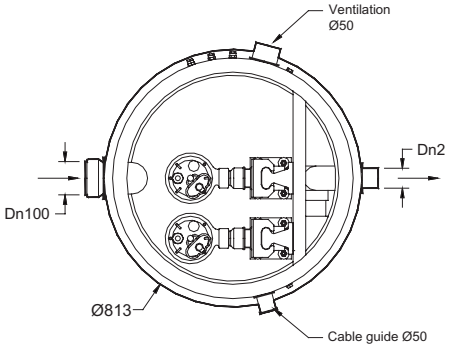
IMPORTANT :

Check that the pump curve is fit to your requirements:

• You know the total water height and the peak flow rate: please see the pump graph,

• You do not know them: please see the cover folds to calculate them.

If your needs are over the pump data, go to the following page.

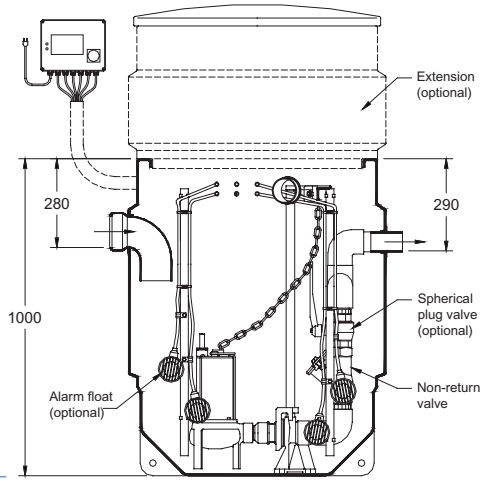


Design

- Polyethylene tank with anchoring rings,
- Volume 400 litres, non-corroding
- Non-skid polyethylene lid locked onto the joint for buried installation in green area
- PVC intake sleeve ø100,
- PVC outlet sleeve, pressure PN16
- Ventilation sleeve Dn 50, cable guide Dn 50 and cable gland

Inner equipment

- 2 submersible pumps with VORTEX impeller
- 2 Base systems with guiding bars (to facilitate mounting and dismounting the pump)
- 2 PVC discharge lines, pressure PN 16
- Non-return ball valve Dn 50
- 1 alarm float
- 1 DRCP protection and control unit (see on page 20)

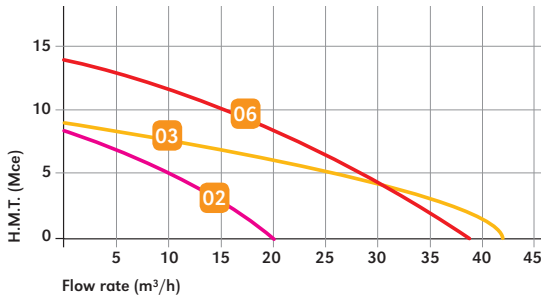


YOU CAN HOWEVER CHOOSE YOUR STAR 400 PUMPING STATION:

- **Float control for models with 1 o 2 pumps, single-phase,230 V**
- **Or air control detecting system for 2 pumps model, 230V only**

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 02

SEMISOM 265 M

single-phase, 230 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 40 mm **discharge** (1" 1/2 for models without base) • 0.55 Kw • 4.2 A

Pump 03 (only for the models with 1 pump)

SEMISOM 650 M

Model with non cloggable large flow cross section

single-phase, 230 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** highly contaminated waste water • Flow cross-section: 65 mm **discharge** 2'' 1/2 • 1.5 Kw • 12 A

Pump 06

FÉKA VX 1200 M

single-phase, 230 V

Construction: technopolymere pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 50 mm **discharge** 2'' • 1.2 Kw • 8.63 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU04	Aéro or Floats	1 or 2	02/03/04/06	M

Options

- **Polyethylene telescopic extensions**
  - R47ET — adjustable height, 250 to 450 mm
  - R65ET — adjustable height, 430 to 600 mm

- **Spherical plug valve (1 valve per pump)**
  - VB050 — Dn50 for pumps n° 04, 05, 06
  - VB065 — Dn65 for pump n°03

- **Polyester watertight control panel**
  - CP510 — with base for outside installation.

- **High-level audible alarm**
  - ASF — Sound level: 90 db, Single-phase 230V
    can be plugged into a wall outlet delivered with high-level float and 10 m RB10 cable

- **Audible and visual alarm unit**
  - CP01+RB10 — with float switch

- **Drilling kit**
  - KITP100 — Dn100 to close the standard inlet and to drill another Dn100 better adapted inlet
    complete kit, with 1 saw, 1 joint, and 1 plug.

STAR 800

Reference: PU13A204T

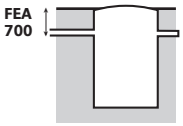
Height: 1.30 m

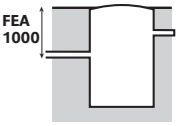
Reference: PU16A204T

Height: 1.60 m

performance Aéro régulation

2 pumps, 400 V three-phase
with air control detecting system





IMPORTANT:

Check that the pump curve is fit to your requirements:

- You know the total water height and the peak flow rate: please see the pump graph,
- You do not know them: please see the cover folds to calculate them.

If your needs are over the pump data, go to the following page.

Design

- Polyethylene tank, two heights: 1.30 m and 1.60 m,
- Non-corroding
- Non-skid polyethylene lid with key locks for buried installation in green area
- PVC intake sleeve ø160, • PVC outlet sleeve, pressure PN16
- Ventilation sleeve Dn 50, cable guide Dn 90,
- 4 anchoring feet, 2 lifting rings

Inner equipment

- 2 submersible pumps with Base systems and guide bars (to facilitate mounting and dismounting the pump)
- 2 PVC discharge lines, pressure PN 16
- Non-return ball valve Dn 50
- 1 alarm float
- 1 DRCP protection and control unit (see on page 20)

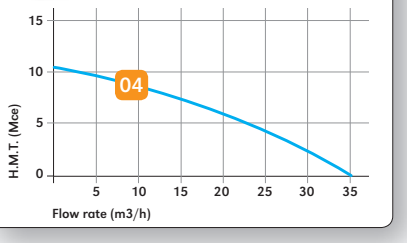
Pump 04

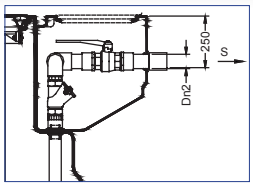
SEMISOM 450

Three phase, 400 V

Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use : contaminated waste water
Flow cross-section: 50 mm **discharge** 2'' • 1.1 Kw • 2.7 A.
Model with single phase, 230 V (7.3 A)

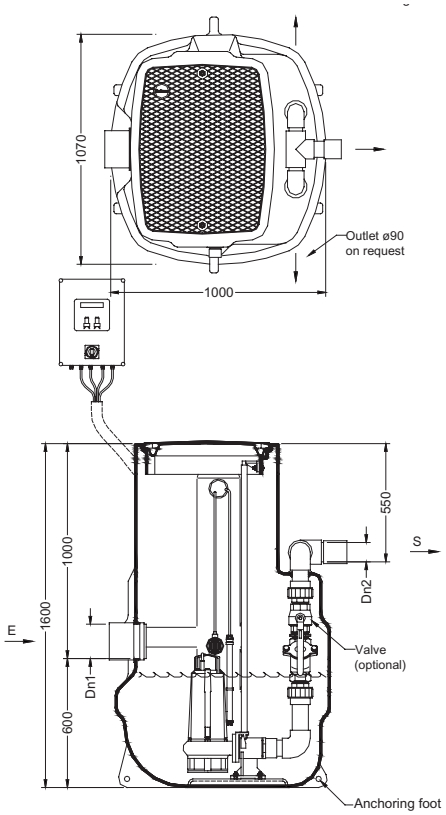
with DRCP control unit





Reference: PUR16A204T

Height: 1.60 m
with built-in valve chamber to facilitate valve maintenance

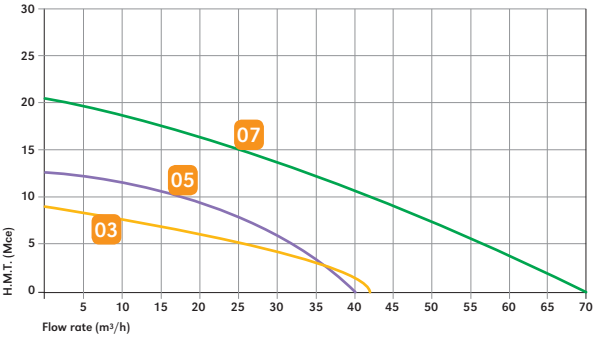


YOU CAN HOWEVER CHOOSE YOUR STAR 800 PUMPING STATION:

- **Height: 1.30 m (PU13) or Height: 1.60 m (PU16)**
- **Float control for models with 1 or 2 pumps, single-phase,230 V or three-phase,400 V**
- **Valve chamber (PUR16)**
- **Air control detecting system only for models with 2 pumps.**

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 03

SEMISOM 650 T

Model with non cloggable large flow cross section

three-phase,400 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** highly contaminated waste water • Flow cross-section: 65 mm **discharge** 2'' 1/2 • 1.5 Kw • 4.6 A

Pump 05

SEMISOM 800/50 M or T

single-phase, 230 Vor three-phase,400 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • **Section de passage :** 50 mm **discharge** 2'' • 1.5 Kw • **M** 10 A • **T** 3.3 A

Pump 07

SEMISOM 1000/50 T

three-phase,400 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 50 mm **discharge** 2'' 1/2 • 2.2 Kw • 4.8 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU13/PU16/PUR16	**A**éro or **F**loats	**1** or **2**	**03/04/05/07**	**M** or **T**

Options

- **Separated valve chamber** (to be ordered compulsorily with the pumping station)

RAD050PO to facilitate maintenance operations • only for models with 2 x Dn 50 pumps
Equipped with 2 x Dn 50 valves and flaps, L 900 x W 660 x H 740 mm weight 30 kg

- **Screen basket**

OP366 galvanised steel with lifting chain • Basket dimension: L 280 x D 120 x H 400 mm, weight: 6 kg

- **Polyethylene telescopic extensions**

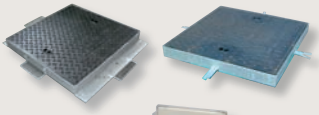
R47BT adjustable height, 250 to 450 mm
R65BT adjustable height, 430 to 600 mm

- **Polyethylene telescopic extensions for the PUR16 valve chamber**

R47AT adjustable height, 250 to 450 mm
R65AT adjustable height, 430 to 600 mm

- **Cast iron covers, 250 Kn**

TC1B cast iron cover with galvanised steel sealing frame mounted on the station • 680 x 680 – weight 50 kg
TC1A cast iron cover with sealing frame for the PUR16 valve chamber • 640 x 480 – weight 35 kg



- **Polyester watertight control panel with base**

CP510 for outside installation. 1 or 2 pumps • L 540 x D 240 x H 520 mm, base height: 580 mm

STAR 1000

Reference: PU20A204T

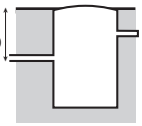
Height: 2.00 m

Reference: PU25A204T

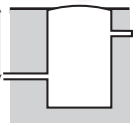
Height: 2.50 m

performance Aéro regulation

FEA 1400



FEA 1900



2 pumps, 400 V three-phase with air control detecting system.

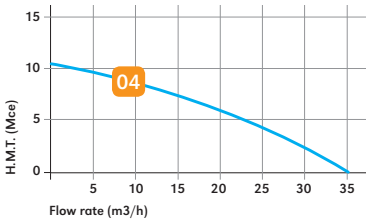
Pump 04

SEMISOM 450

Three phase, 400 V

Construction: cast iron pump body and Vortex impeller
Protection: IP68, insulation class F
Use: contaminated waste water
Flow cross-section: 50 mm
discharge 2'' • 1.1 Kw • 2.7 A.
Model with single phase, 230 V (7.3 A).

with DRCP control unit

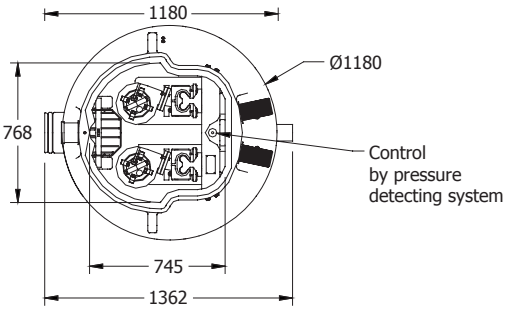


IMPORTANT:

Check that the pump curve is fit to your requirements:

- You know the total water height and the peak flow rate: please see the pump graph,
- You do not know them: please see the cover folds to calculate them.

If your needs are over the pump data, go to the following page.

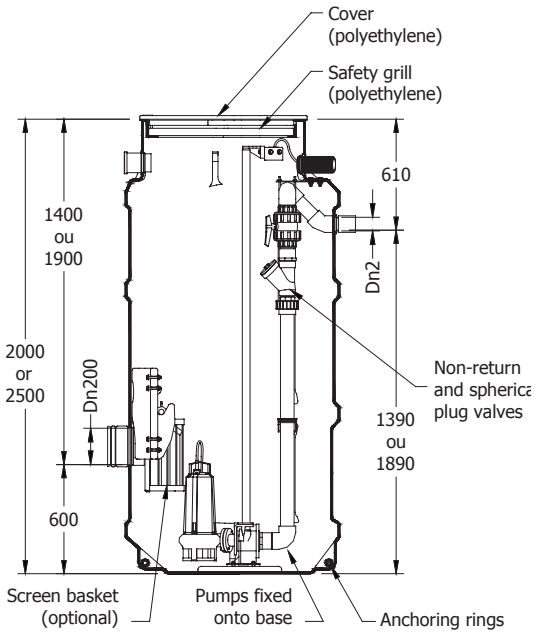


Design

- High density Polyethylene tank, reinforced for better mechanical resistance
- Two heights: 2000 mm (ref. PU20_) or 2500 mm (ref. PU25_) ø1180,
- Non-skid polyethylene lid with key locks for buried installation in green area
- Safety grill
- PVC intake sleeve ø200,
- PVC ventilation sleeve Dn 100,
- PVC outlet sleeve, Dn 53/63, 63/75
- Anchoring rings to facilitate mounting and dismounting the pump

Inner equipment

- 2 cast iron submersible pumps, three-phase, 400 V for better safety, 4 models available
- 2 Base systems and guiding bars (to facilitate mounting and dismounting the pump)
- 2 PVC discharge lines, Dn 50
- 2 non-return ball valves and 2 flap valves, Dn 50
- 1 alarm float
- 1 DRCP protection and control unit (see on page 20)

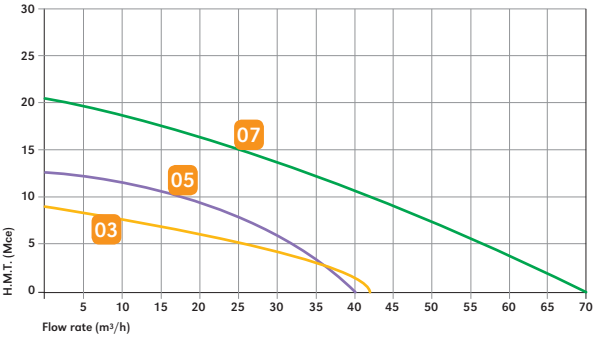


YOU CAN HOWEVER CHOOSE YOUR STAR 1000 PUMPING STATION:

- **Height: 2.00 m (PU20) or Height: 2.50 m (PU25)**
- **Float control for models with 1 or 2 pumps, single-phase,230 V or three-phase,400 V**
- **Air control detecting system only for models with 2 pumps.**

CHOOSE YOUR PUMP IN RELATION TO ITS POWER:

Write the flow rate and water height on the graph to display what model you need.



Pump 03

SEMISOM 650 T

Model with non cloggable large flow cross section

single-phase, 230 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** highly contaminated waste water • Flow cross-section: 65 mm **discharge** 2'' 1/2 • 1.5 Kw • 4.6 A

Pump 05

SEMISOM 800/50 M or T

single-phase, 230 V or three-phase,400 V

Construction: cast iron pump body and Vortex impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • Flow cross-section: 50 mm **discharge** 2'' • 1.5 Kw • **M** 10 A • **T** 3.3 A

Pump 07

SEMISOM 1000/50 T

three-phase,400 V

Construction: cast iron pump body and bi-channel impeller • **Protection:** IP68, insulation class F • **Use:** contaminated waste water • **Flow cross-section:** 50 mm **discharge** 2'' 1/2 • 2.2 Kw • 4.8 A

ESTABLISH YOUR CODE

Station model	Control	Nb of pumps	Pump models	1 or 3-phase
PU20/PU25	**A**éro or **F**loats	**1** or **2**	**03/04/05/07**	**M** or **T**

Options

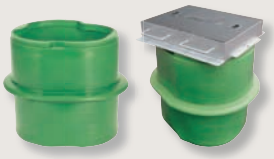
• Screen basket

12905 aluminium with lifting chain, Basket dimension: L 280 x D 120 x H 400 mm, weight : 6 kg

• Polyethylene extensions

RE207 sliding, adjustable in height from 310 to 650 mm

TCRE207 with cast iron cover, 250 Kn, sliding, adjustable in height from 440 to 780 mm



• Polyester watertight control panel with base

CP510 for outside installation • L 540 x D 240 x H 520 mm, base height: 580 mm

DRCP CONTROL UNIT (DRCP: pumping station with pressure detecting system)

The control unit is designed to ensure complete protection and management of the pumping station trhough a pressure metering device made of a tube dipped in the tank and connected to the detecting system. A permanent injection system blows the air into the tube so as to prevent clogging. The control unit is also used to protect the pumps from over-currents, under-currents, and phase failures.

- **Automated operation of the pumps controlled by the level in the tank,**
- **Automated alternation when a pump starts,**
- **Audible and visual alarm with alarm float,**
- **Built-in circuit-breaker (1 per pump)**
- **Built-in starting capacitor (1 per pump)**
- **Forced operation switch**
- **Switch/circuit breaker**
- **Start/stop switch,with lockable outdoor push button (1 per pump) to EN 60204 standard,**
- **Power on light,**
- **ON/OFF display (1 per pump)**
- **Size: L 300 x D 140 x H 380 mm**

SUMMING UP OF THE PUMPING

STAR 270	1 Pump, single-phase, 230 V with ball float detecting system
STAR 160	1 Pump, single-phase, 230 V with ball float detecting system
STAR 700	1 Pump, single-phase, 230 V with ball float detecting system
STAR 400	2 Pumps, single-phase, 230 V with air control detecting system
STAR 800	2 Pumps, three-phase, 400 V with air control detecting system
STAR 1000	2 Pumps, three-phase, 400 V with air control detecting system

FORM TO BE FILLED IN FOR THE DESIGN OF A PUMPING STATION

The installation of a pumping station requires a special design. We have developped a specific data processing programme that enables us to state the specifications of a station very quickly. Please **photocopy** this questionnaire, fill it in and fax it to +**33 (0)2 33 56 61 93.**

YOUR CONTACT DETAILS _____

Company name: _____

First name: _____ Name: _____

Complete address: _____

_____

Postal code: _____ Town: _____ Country: _____

Telephone: _____ Fax: _____

Mobile: _____ E-mail: _____

Date : _____ Name of the project: _____

Nature of the water: ❑ waste water ❑ rain water ❑ sewage water

Flow rate: _____ or number of users: _____

Number of pumps: _____

Power: ❑ three-phase, 400 V ❑ single-phase, 230 V

GROUND LEVELS

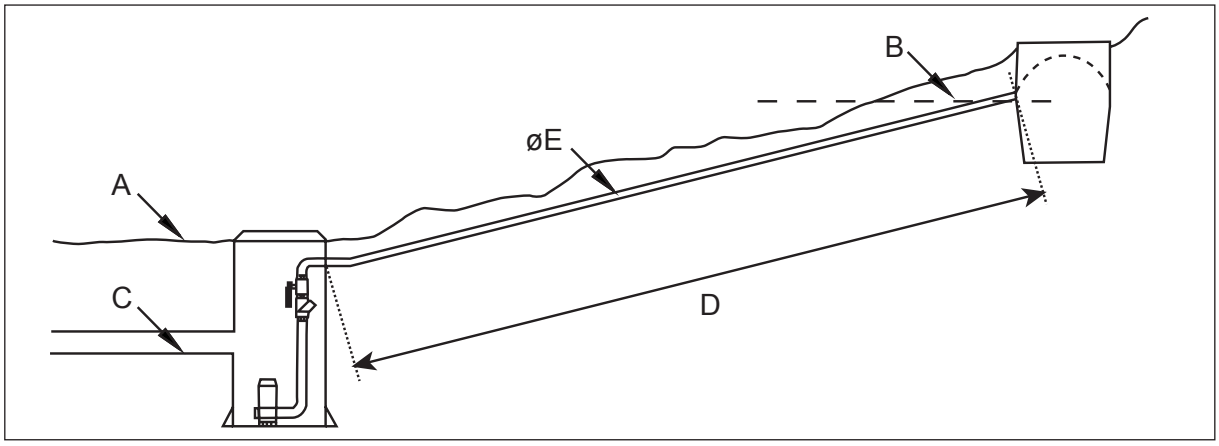
A ground level: _____

B upper level: _____

C intake level: _____

D length of the discharge pipe: _____

E diameter of the discharge pipe: _____



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