

**BASIC INSTRUCTIONS ON:**

**"THE SPRING OF DATA"**

**THE PEDROLLO PUMP SELECTOR**

Rev-3b

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# SUMMARY



**The spring of data  
The Pedrollo pump  
selector**

<https://springofdata.pedrollo.com/Selector>

- 1) General features
- 2) Home page
- 3) Login
- 4) Products area
- 5) Filtering
- 6) Duty point
- 7) Support tools
- 8) Results
- 9) Performance comparison
- 10) Product data
- 11) Print-out

# 1) General features

## Introduction

The software «The spring of data» would be a user-friendly tool which purpose is to assist the customer when selecting the pump/s according to given requirements and to provide him base technical data together with the performance curve.

This first release represents the beginning of a journey that we intend to engage in cooperation with users. We have a plan for adding features and data in the next period, but we also want to have the opinions of “key users” in order to get a software of more and more effective support to those who work in the world of centrifugal pumps.

The database, on which the selector works, gets the information directly from the company management system of the technical data (PLM). In this way it will be always updated.

The software speaks in multiple languages as:

Italian		English		German			
French		Spanish		Portuguese			

# 1) General features

## General features

The pump selector contains all data currently available in the catalogue, and in addition to that, offers the possibility (for registered users) to get data and/or curves about:

- the motor input power, to better design the electrical supply line;
- the overall efficiency, to select the electro-pump that works in the best conditions;
- Ratio between Starting current and Rated current , to define the size of the control box.

In the Print-out document are displayed:

- Technical data,
- Performance curves,
- The construction with materials and overall dimensions.

Then there is the possibility to download the instruction manual in PDF format.

To access to further technical informations (pump input power, pump efficiency, NPSH, max sound pressure level) and documents (2D & 3D overall drawings) , please forward a request for an higher authorization level through our sales network.

# 1) General features

## Support tools

The selector offers useful tools in order to better identify:

- the requested flow (flow calculator) based on the specific application,
- The head by means of the fiction losses calculation (still under development).

During the time, they will be added of further cases as the need arises and / or data collection increases. However, despite our efforts, the following warning applies:

### **WARNING**

**The results obtained by this calculator are based on statistical data so they have to be considered purely indicative.**

**If a more accurate or certified calculation is required, refer to a local qualified consultant as Pedrollo S.p.A. has no liability for the conformity of the results to the real needs, to the local regulations or laws of the country where the electro-pump is installed.**

# 1) General features

## Filtering and product classification

Filtering is structured according to the scheme and classification in Pedrollo catalogue.

First filtering level includes:

- Pump typology = surface, borehole, submersible;
- Liquid type = clean water, clear water, dirty water, sewage water;
- Application = household, civil, agriculture, industrial.

The second filtering level goes deeper into the catalogue classification. For each product typology, product groups are suggested and then the families, that are indicated with an abbreviation we hope it will become friendly for the new users too.

The largest families are described with more than one abbreviation according to the size and /or flow rate, as this leads to a different construction style. For example, the single impeller surface pumps CP pumps are classified as follows: CP small; CP Medium; CP Large. A similar classification applies to the standardize centrifugal F 2 poles, to categorize different constructions types according to the size of the motor.

# 1) General features

## NOTES

The software certainly works properly with the following browsers:

**Google CHROME, Microsoft EDGE, Mozilla Firefox**

The software has different behaviours depend on the connection type:

**ADSL = with this connection sometimes the selection could be very slow.**

**If it is taking too long time, click STOP and launch the selection again.**

**Optic fiber = the connection is faster and more regular.**

The software is free and there is no obligation to log in.

For possible log in, you must have an account on one of the main "social media".

Finally, please remember that:

**The software does not work without internet connection.  
It is optimized for desktop, tablet and mobile.**

## 2) Home Page

The screenshot shows the Pedrollo website home page. At the top, there is a language selection menu (IT - EN - ES - DE - FR - PT) and the Pedrollo logo with the tagline 'The spring of data'. Below the logo, there are links for 'Selector' and 'Login / Register'. The main content area is divided into 'Products' and 'Filters'. The 'Products' section has tabs for 'All', 'Surface', 'Borehole', and 'Submersible'. Under 'All', there are various pump categories like 'Peripheral', 'Single impeller centrifugal', etc. The 'Filters' section has a search bar and a 'Liquid Type' dropdown menu. Below the filters, there is a 'Duty point' section with input fields for Capacity, Head, Geodetic head, and NPSHa. At the bottom, there is a 'Results' section with a table of pump specifications.

Code	Model name	Rated output power [kW]	Motor type	Voltage [V]	Frequency [Hz]	Speed [1/min]	Duty Point						
							DN1	DN2	Q	H	$\eta$	$\eta_{gr}$	P2
44CT26CA	CP 160C	1.10	3	220-230/380-400	50	2900	1 1/2"	1"	112	28.8	47.46	37.02	1.11

Language selection

Login and register (on first access)

Work areas:


- Products and selection
- Filtering
- Duty point and support tools
- Results

All areas can be accessed with vertical scrolling



## 3) Log in

IT - EN - ES - DE - FR - PT

 **The spring of data**

Selector Login / Register

Products

All Surface Borehole Submersible

Peripheral Peripheral for industrial use Self-priming  
Single impeller centrifugal Vertical multi-stage Multistage centrifugal  
Standardized centrifugal 3" Borehole Close-coupled 4"

Filters

Search by Family

Liquid Type

Any

Agricultural  Household

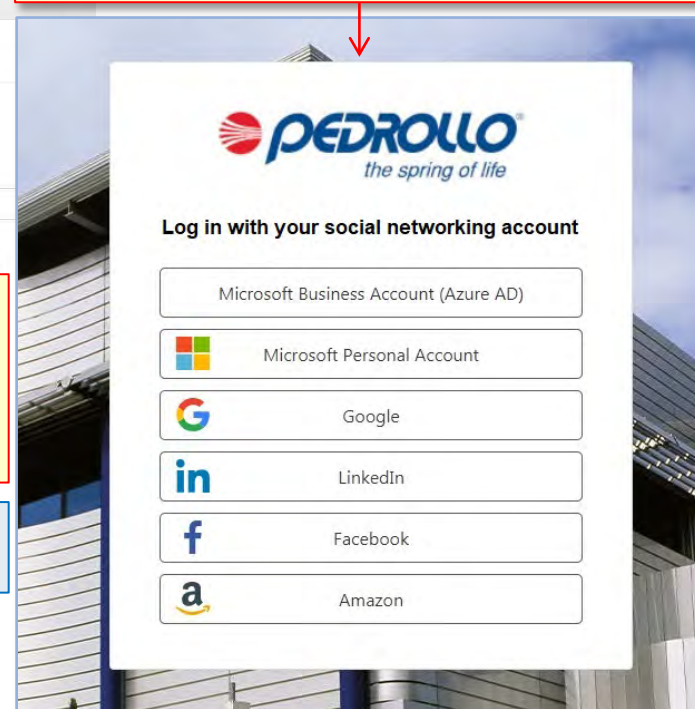
PQ-PRO PQ-Bs PQA PQ 3000


Log in: a new view will appear where you can select which account you want to log in with.

At the first access you will be asked:

- Authorization to get the following account data from your social media: username, e-mail address,
- The insertion of Name and Surname.


These data remain recorded in the selector and give to the user the availability of further technical information than what is reported in the catalog.





  
the spring of life


Log in with your social networking account


Microsoft Business Account (Azure AD)

 Microsoft Personal Account

 Google

 LinkedIn

 Facebook

 Amazon

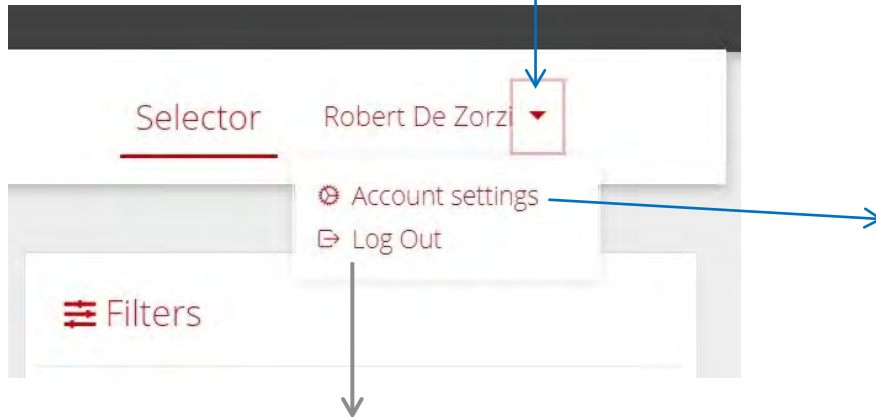
### 3) Log in

IT - EN - ES - DE - FR - PT

Selector Robert De Zorzi ▾

By pressing this button it is always possible to go back to the registration page and update your Name and Surname.

Upon successful login, your Name and Surname appear in this area



**Log Out button:**  
you go back to being a generic user (anonymous)

## 4) Products area

Produkt

Alles Trockenaufgestellte Pumpen Unterwassermotorpumpen Tauchmotorpumpe

Typology selection

Once product type is selected, all related families are displayed and pre-selected

Range selection

If you want to de-select ALL while keeping them visible for selective choice, press on the **x** top left

Family selection

The blu bar below the label means that the family is selected

To go back, select «All»

The screenshot displays a product selection interface for pumps. At the top, there are navigation tabs: 'Alles', 'Trockenaufgestellte Pumpen' (underlined), 'Unterwassermotorpumpen', and 'Tauchmotorpumpe'. Below these are filter buttons: 'Peripheral', 'Peripheral für die Industrie', 'Selbstansaugend', 'Einstufige Kreiselpumpen', 'Vertikal Mehrstufig', 'Horizontal Mehrstufig', and 'Norm Kreiselpumpen'. A grid of pump families is shown below, each with an image and a label: PK, PQ, PKS, PQ-EKO, PQ-PRO, PQ-Bs, PQA, PQ 3000, PV, CK, CKR, and JSW1. A blue horizontal bar is present under the 'PQ 3000' label. A red vertical line connects the 'Range selection' box to the 'Selbstansaugend' filter and the 'Family selection' box to the 'PQ-EKO' pump image. A red arrow points from the 'Typology selection' box to the 'Trockenaufgestellte Pumpen' tab. A grey box with an 'x' icon is located in the top left of the filter area.

## 4) Products area

All Surface Borehole Submersible

×

Peripheral Peripheral for industrial use Self-priming

Single impeller centrifugal Vertical multi-stage Multistage centrifugal

Standardized centrifugal

CP Small CP Medium CP Large CP-ST

AL-RED NGA NGA-PRO HF Medium

HF Large

Once the type has been chosen, the Range can be selected: only the families belonging to the chosen Range will be displayed and pre-selected.

Range choice

Family selection

It is possible to deselect the families you don't need or re-select them in case of mistakes.

To go back, select «X» and then re-select the type.

If you want to select families belonging to multiple ranges, you must do the choice at the upper level, that is, by type.

## 4) Products area

### Typology and Range

#### SURFACE PUMPS

- Peripheral
- Pripheral for industrial use
- Self priming
- Single impeller centrifugal
- Vertical multi-stage
- Horizontal multi-stage
- Standardized centrifugal

#### SUBMERSIBLE PUMPS

- 4" Peripheral
- 4" Close-coupled
- 3" Borehole
- 4" Borehole
- 6" Borehole
- Close-coupled for open wells and tanks

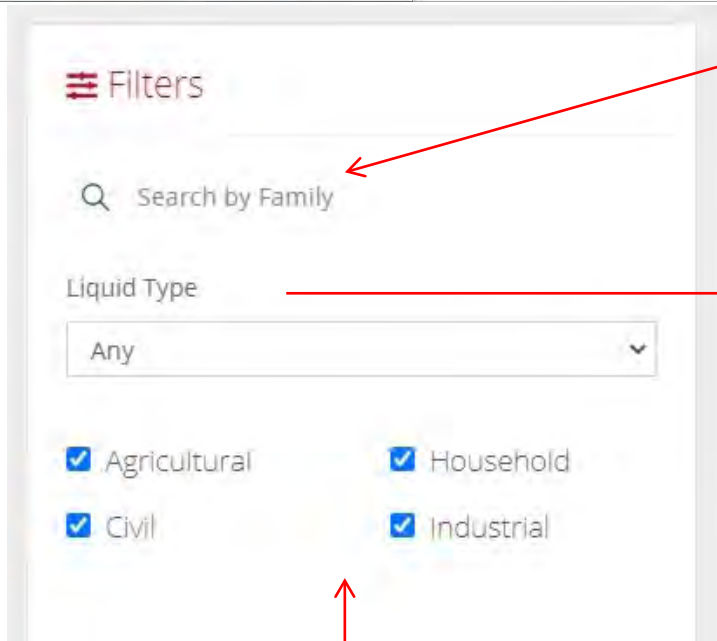
#### SUBMERSIBLE PUMPS

- Clear water drainage
- Dirty water drainage
- Sewage pumps
- Sewage pumps wit grinder

The products that doesn't have a unique performance curve Flowrate-Head, at the moment, are not included in the pump selector. We refer to: Electronic circulator, Variable speed pumps (with integrated Inverter),

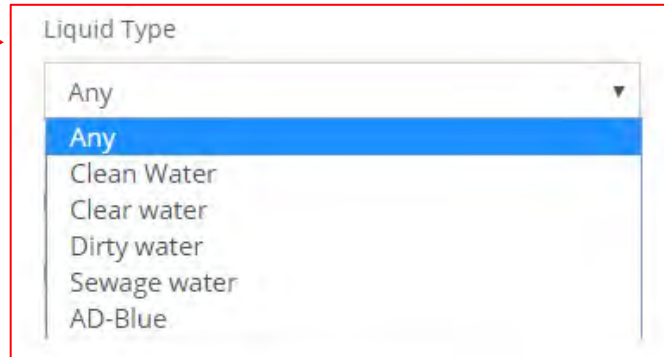
About booster units with two pumps and pumps with accessories, please refer to the base product with which they are composed.

## 5) Filtering



### Selection by family

Quick selection of a specific family when you already have a precise idea of what type of pump you want to select. The selection is refined as you enter the text characters.



Here you can find the sub-division of supported liquids shown in the catalog at the top of the first page of each family

### UTILIZATION selection

Here you can find the subdivision of the different applications listed in the catalog at the top of the first page of each family

## 5) Filtering

### MEANING OF LIQUID TYPE

Liquid Type

- Any
- Any**
- Clean Water
- Clear water
- Dirty water
- Sewage water
- AD-Blue

**Clean water:**

filtered / decanted rainwater,  
well water with little sand content.

**Clear water:**

white water (cooling water coming from industrial plants);  
water used to wash the roads, rainwater or rainwater runoff;  
drainage waters, basements, ramps, roads;  
Groundwater, well water;  
Cloudy water with no fibers / filaments.

**Dirty water:**

utility waste water (not toilet);  
rainwater and drainage in general.

**Sewage water:**

toilet waste water;  
dirty water in general and with suspended bodies.

**AD-Blue:**

Urea-based liquid used for the treatment of exhaust gases of diesel engines.

## 6) Duty point

Duty point

Selection ← Options

Flow rate  l/min

Head  m

Geodetic head  m

NPSHa  m

### Selection

In this section, basic data for the selection must be entered:

- Requested flow rate
- Requested head

With related units of measure:

### Flow rate

l/min

l/min

m<sup>3</sup>/h

l/s

US gpm

Imp. gpm

m<sup>3</sup>/min

Head, Geodetic head, NPSHa  
( unique choice for the three  
parameters)

m

m

ft

If you leave everything at 0, all products of the family are selected



## 6) Duty point

Duty point

Selection Options

Flow rate	<input type="text" value="0"/>	<input type="text" value="l/min"/>
Head	<input type="text" value="0"/>	<input type="text" value="m"/>
Geodetic head	<input type="text" value="0"/>	<input type="text" value="m"/>
NPSHa	<input type="text" value="0"/>	<input type="text" value="m"/>

Selection start

Key that resets the selection and related data including the product family or families

### Selection

It is also possible to add:

- The geodesic height that defines the characteristic curve of the plant
- The available NPSH of the system (when known) to possibly discard pumps that do not have sufficient suction capacity at the operating point.

The geodesic height cannot be greater than the head. In fact, the difference between head and geodetic height corresponds to the friction losses value at the requested flow rate.

## 6) Duty point

### Options

Duty point

The options allow to limit the selection by subjecting other conditions that allow the program to discard products that do not satisfy them.

Selection Options

Liquid Temperature  °C

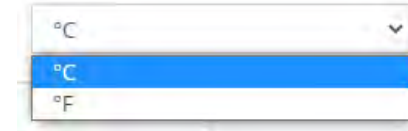
Frequency

Motor type

Capacity Tolerance  %

Head Tolerance  %

Here it is possible to indicate the maximum temperature of the liquid to be pumped which must be satisfied by selected pumps and the related unit of measurement:



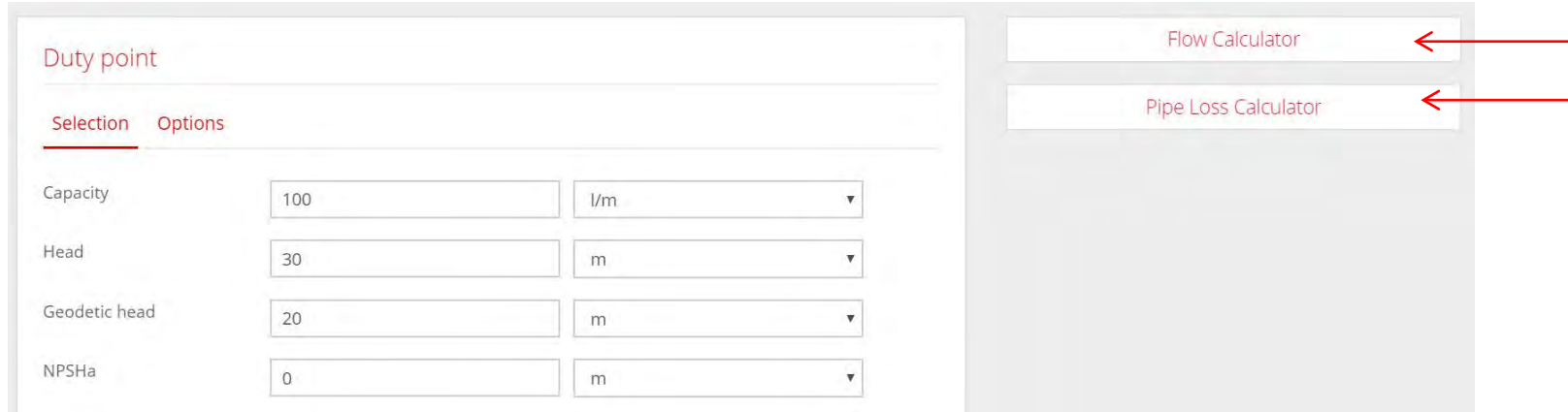
Here it is possible to indicate the basic characteristics of the expected power supply that serves to define the type of motor. All options are active by default.

The flow and head tolerances can be adjusted to widen or narrow the range of product selection. Proposed default values represent a good compromise and it is advisable not to change them, at least in this phase.

## 7) Support tools

### Calculators

To support the user in defining the flow rate and head he needs, two support tools are available.



The screenshot displays a web interface for a calculator. On the left, under the heading "Duty point", there are two tabs: "Selection" (which is active and underlined) and "Options". Below the tabs are four input fields, each with a numerical value and a unit dropdown menu:

Capacity	100	l/m
Head	30	m
Geodetic head	20	m
NPSHa	0	m

On the right side of the interface, there are two buttons: "Flow Calculator" and "Pipe Loss Calculator". Two red arrows point from the right edge of the image towards each of these buttons.

The current **"Flow calculator"** is a base version but it will be improved with new options and standards reference where available.

The **"Pipe loss calculator"** is currently only sketched and it's under development. The tool will also offer the possibility of calculating the NPSH available in the system.

# 7) Support tools

## Flow Calculator

Residential buildings **Communities**

Number of Flats

6

Typology Number

Sink 1

Dish Washer 1

Washing Machine 1

Shower 1

Bath Tub 1

Wash Basin 2

Bidet 2

WC 2

Total Water Usage: 96.86 l/min

The results obtained by this calculator are based on statistical data so they have to be considered purely indicative. If a more accurate or certified calculation is required, refer to a local qualified consultant as Pedrollo S.p.A. has no liability for the conformity of the results to the real needs, to the local regulations or laws of the country where the electro-pump is installed.

Reset

Okay

## Flow rate calculator

The first selection to make is choosing between:

- Residential buildings (houses)
- Not residential (offices, shopping malls, hospitals, hotels...)

## Flow Calculator

Residential buildings **Communities**

Community Type

Offices

Number of People

100

Total Water Usage: 5.11 l/min

Reset

Okay

For «not residential», a further selection is necessary:

Community Type

Please select

Please select

Offices

Shopping Centers

Hospitals

Hotels/Residence

The «Total Water usage» is the sum of the two type of buildings when both sheets are filled in.

By clicking **OK**, we confirm the result which is transferred on the flow rate in the operating point

# 8) Results

## Results table

Choice of the maximum number of rows per table page

10  
10  
25  
50  
100

Tick to select for comparison

Access «product data» details

Results

Show 10 selections

Search

Compare Selected

Start comparison

Here you can select a specific product or group of products from the list

Acting on the arrows is possible to reorder the table for increasing or decreasing values.

Buttons to browse the other pages

	Code	Model name	Rated output power [kW]	Motor type	Voltage [V]	Frequency [Hz]	Speed [1/min]	DN1	DN2	Duty Point					
										Q [l/m]	H [m]	η [%]	η gr [%]	P2 [kW]	
<input checked="" type="checkbox"/>	<a href="#">View</a>	44CM26BA1	CPm 160B	1.50	1	220-230	50	2900	1½"	1"	112	34.0	48.48	34.72	1.29
<input type="checkbox"/>	<a href="#">View</a>	44CT26BA	CP 160B	1.50	3	220-230/380-400	50	2900	1½"	1"	112	34.0	48.48	38.38	1.29
<input checked="" type="checkbox"/>	<a href="#">View</a>	44CI19A1	CPm 190	1.50	1	220-230	50	2900	1¼"	1"	111	33.6	-	24.58	-
<input type="checkbox"/>	<a href="#">View</a>	44CI19A	CP 190	1.50	3	220-230/380-400	50	2900	1¼"	1"	111	33.6	-	26.75	-
<input checked="" type="checkbox"/>	<a href="#">View</a>	44CM216C1A1	CPm 220C	2.20	1	220-230	50	2900	2"	2"	111	33.5	34.93	26.16	1.74
<input type="checkbox"/>	<a href="#">View</a>	44CT216C7A	CP 220C	2.20	3	220-230/380-400	50	2900	2"	2"	111	33.5	34.93	29.55	1.74
<input type="checkbox"/>	<a href="#">View</a>	44CP190I16A	CP 190-ST6	1.50	3	220-230/380-400	50	2900	1¼"	1"	104	31.3	50.61	39.03	1.06
<input type="checkbox"/>	<a href="#">View</a>	44CP190I16A1	CPm 190-ST6	1.50	1	220-230	50	2900	1¼"	1"	104	31.3	50.61	34.41	1.06
<input type="checkbox"/>	<a href="#">View</a>	44CP190IA	CP 190-ST4	1.50	3	220-230/380-400	50	2900	1¼"	1"	104	31.3	50.61	39.03	1.06
<input type="checkbox"/>	<a href="#">View</a>	44CP190IA1	CPm 190-ST4	1.50	1	220-230	50	2900	1¼"	1"	104	31.3	50.61	34.41	1.06

Showing 1 to 10 of 38 selections

Horizontal scroll bar

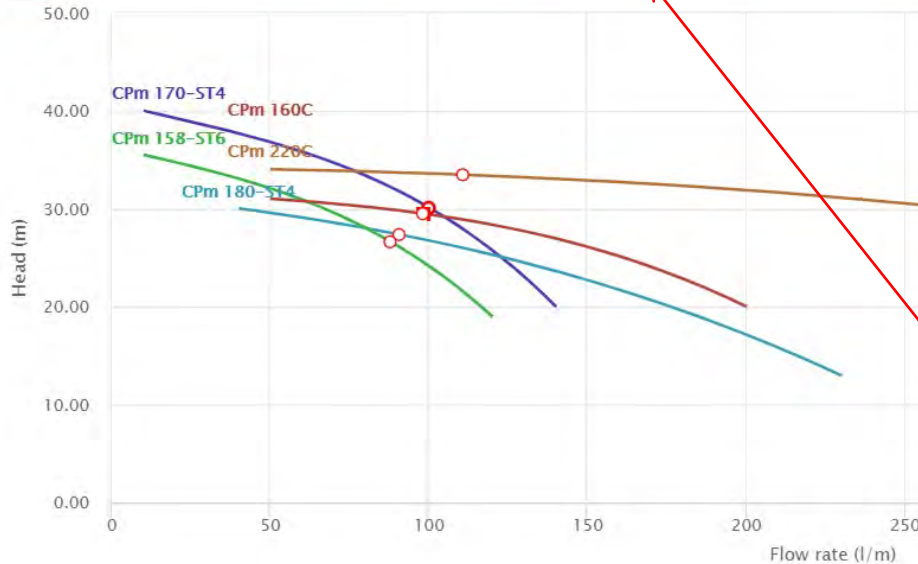
Previous 1 2 3 4 Next

## 9) Comparison

### Performance Charts

Head Motor input power P1 Pump input power P2 Overall efficiency Pump efficiency NPSH

Charts comparison



The comparison between the performance charts is displayed at the top: Head.

In the horizontal top bar you can also select the comparison of other performance charts.







- The type of curves available depends on:
- the product,
  - if you are registered or not
  - if you got an higher authorization level.

It is possible to compare up to 5 products

# 9) Comparison

## Pumps data comparison

The comparison of the selection data is displayed in the lower part.

View	CPm 160C 	View	CPm 170-ST4 	View	CPm 180-ST4 
					
<b>Product</b> Code 44CM26CA1 Family CP Medium Group Single impeller centrifugal Typology Surface		<b>Product</b> Code 44CP170IA1 Family CP-ST Group Single impeller centrifugal Typology Surface		<b>Product</b> Code 44CP180IA1 Family CP-ST Group Single impeller centrifugal Typology Surface	
<b>Duty Point</b> Flow rate (actual) 98 l/m Head (actual) 29.5 m Pump Efficiency 44.76 % Overall Efficiency 33.67 % Pump input power P2 1.06 kW Motor input power P1 1.41 kW NPSH 1.80 m		<b>Duty Point</b> Flow rate (actual) 100 l/m Head (actual) 30.1 m Pump Efficiency 45.00 % Overall Efficiency 32.05 % Pump input power P2 1.10 kW Motor input power P1 1.54 kW NPSH 2.87 m		<b>Duty Point</b> Flow rate (actual) 91 l/m Head (actual) 27.4 m Pump Efficiency 48.90 % Overall Efficiency 34.95 % Pump input power P2 0.83 kW Motor input power P1 1.16 kW NPSH 2.13 m	
<b>Input Data</b> Rated flow rate (requested) 100 l/m		<b>Input Data</b> Rated flow rate (requested) 100 l/m		<b>Input Data</b> Rated flow rate (requested) 100 l/m	

Selecting the "View" button opens the page: «Product Data»

Use horizontal scroll arrows to see all selected products

## 10) Product data

**PEDROLLO** The spring of data Selector: Roberto De Zorzi

Product Information Curves Technical Data Dimensions Construction Documentation

CPM 170-ST4

Centrifugal electro-pumps - stainless steel made

Description

Suitable for use with clean water and with liquids that are not chemically aggressive towards the materials from which the pump is made. Because of its design features these centrifugal pumps are recommended for use in household, agricultural and industrial applications. All the components in contact with the pumped liquid are in stainless steel AISI 304 or AISI 316L thus guaranteeing complete hygiene and maximum resistance against corrosion. The pump should be installed in an enclosed environment or sheltered from inclement weather.

Construction and safety standard

- EN 60335-1, IEC 60335-1
- EN 60034-1, IEC 60034-1
- EU Regulation Nr. 547/2012

Product data are displayed in 6 tabs

Tabs include the contents of the catalog starting from the general information of the pump family to which the selected model belongs.

In terms of performance, all the graphs are displayed versus the flow rate, and, like for the comparison, the types available depend on products and if you are registered or not.

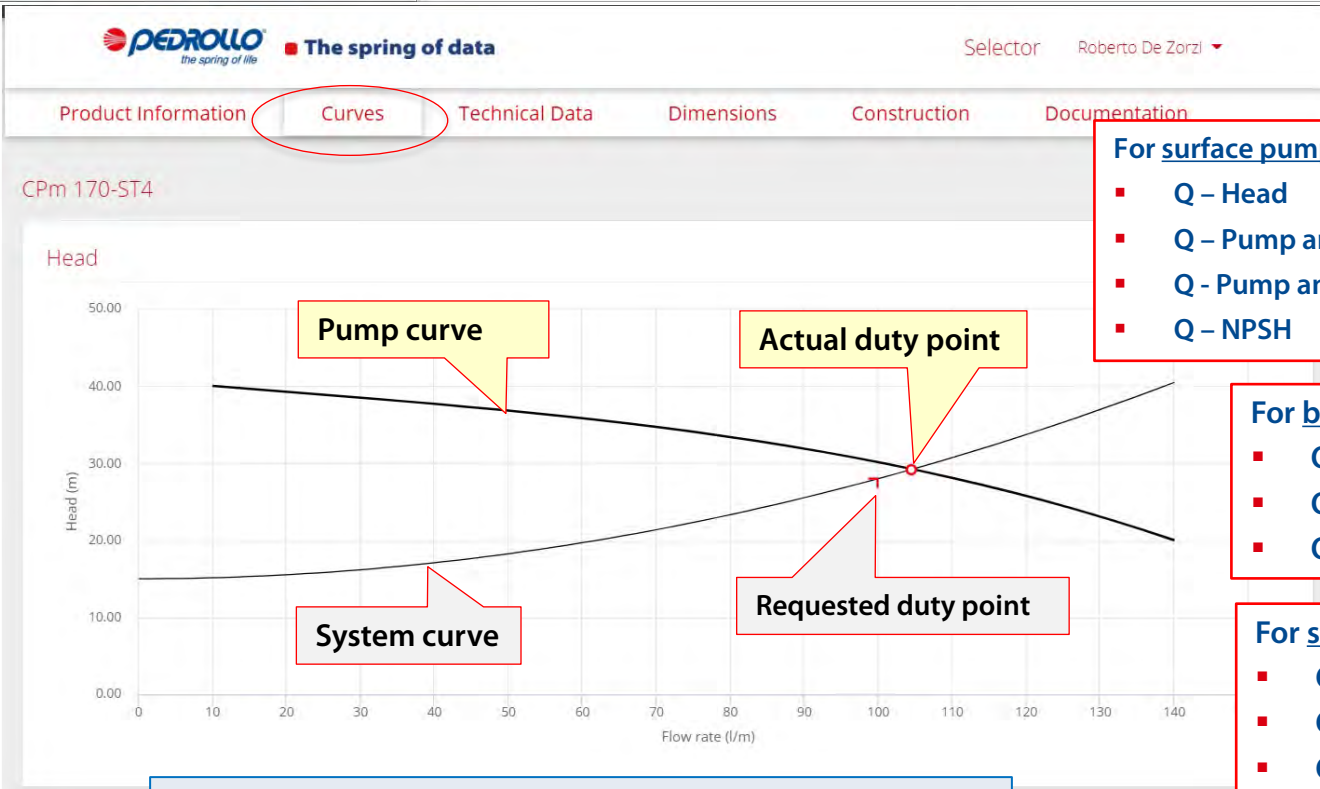


This is the button for printing output data. It is present on all tabs.



# 10) Product data

## Performance curves



For surface pumps the following curves are available:

- Q – Head
- Q – Pump and overall efficiency
- Q - Pump and motor input power
- Q – NPSH

For borehole pumps:

- Q - Head
- Q – Pump and overall efficiency
- Q - Pump and motor input power.

For submersible pumps:

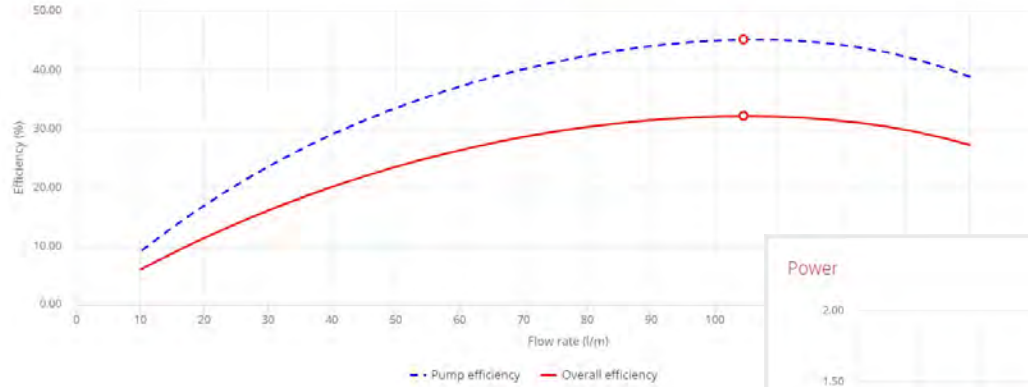
- Q - Head
- Q – Overall efficiency
- Q - Motor input power.

All charts can be displayed by scrolling down the page

# 10) Product data

Efficiency

## Efficiencies

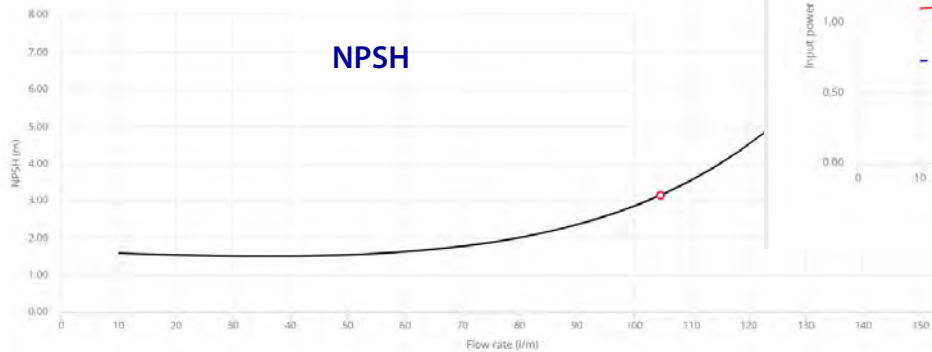


## Performance Curves

**○ Actual duty point**

NPSH

## NPSH



Power

## Input powers



# 10) Product data

Product Information   Curves   **Technical Data**   Dimensions   Construction   Documentation

CPm 170-ST4

## Pump and Motor Data

Product	
Code	44CP170IA1
Family	CP-ST
Group	Single impeller centrifugal
Typology	
Uses	Agricultural Household Industrial
Application limits	
Liquid Type	Clean Water
Minimum liquid temperature	-10 °C
Maximum liquid temperature	90 °C
Maximum Chlorine Content	500 ppm
Maximum Sand Content	0 ppm
Manometric suction lift	7 m
Maximum immersion depth	0 m
Maximum Ambient Temperature	40 °C
Minimum Ambient Temperature	-10 °C
Maximum Working Pressure	8 bar
Connections	
Type of connection	Gas threaded
Size of suction connection	1¼"
Size of delivery connection	1"

### Result

Duty Point	
Flow rate (actual)	105 l/m
Head (actual)	29.2 m
Pump Efficiency	45,15 %
Overall Efficiency	32,11 %
Pump input power P2	1,11 kW
Motor input power P1	1,56 kW
NPSH	3,15 m
Pump nameplate data	
Flow rate	10 - 140 l/min
Head	40 - 20 m
Maximum head	41 m
Minimum head	20 m
Minimum Efficiency Index	MEI≥0,40
Motor nameplate data	
Voltage	220-230 V
Phases	1
Frequency	50 Hz
Rotation Speed	2900 rpm
Rated output power	1,1 kW
Rated Current	7,8 A
Input power P1	1,6 kW
Efficiency grade	Undefined
Capacitor	25 µF
Capacitor Voltage	450 V
Insulation Class	F
Enclosure class IP	X4

### Requested duty point

Input Data	
Rated flow rate (requested)	100 l/m
Rated head (requested)	28,0 m
System geodetic head	15,0 m
System friction losses	13,0 m
NPSH Available	0,000 m
Liquid	Water
Temperature	20 °C
Density	998,1 kg/m³
Kinematic Viscosity	1,00 mm²/s
Vapour Pressure	2,318 Pa
Other Pump Data	
Max Sound Pressure Level (1 m)	64 dBA
Horizontal installation	
Solids free passage	0 mm
Other Motor Data	
Starting/Rated Current	2,654
Max No. Starts Per Hour	20
Service Factor	-
Cos Φ (4/4)	-
Efficiency (4/4)	-
Thermal Protection	Thermally Protected
Plug Type	-
Minimum flow rate for motor cooling	0 cm/s
Minimum submersion for S1 duty	0 mm

## Technical data

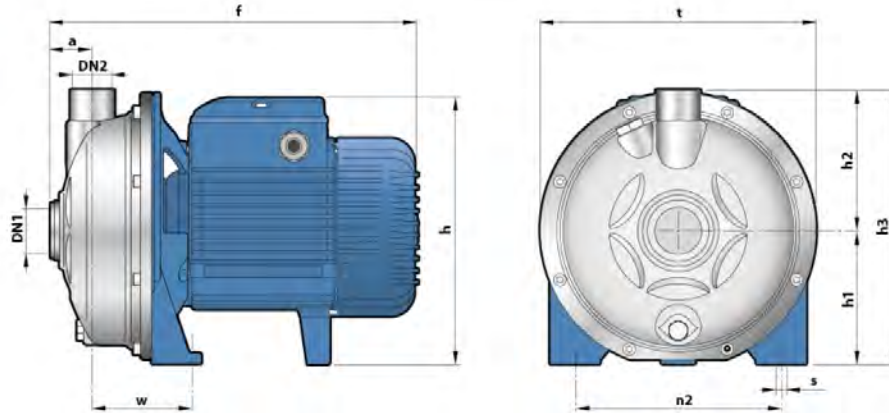
Besides Input data along with Actual duty point results, Catalogue and pump nameplate data are reported and listed as:

- Code and product classification
- Uses
- Application limits
- Connections
- Pump nameplate data
- Motor nameplate data
- Additional pump data (including the dimension about solids free passage)
- Additional motor data (including the ratio between starting current and rated current)

# 10) Product data

CPm 170-ST4

Dimensions

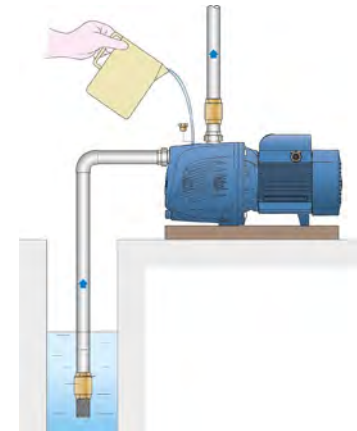


DN1	DN2	a	f	h	h1	h2	h3	n2	s	t	w	Kg
1 1/4"	1"	33.5	368	251	120	117.5	237.5	180	11	245	86.5	14

## Dimensions

Catalog dimensions and weight

When present in the catalog, images of the typical installation are also displayed



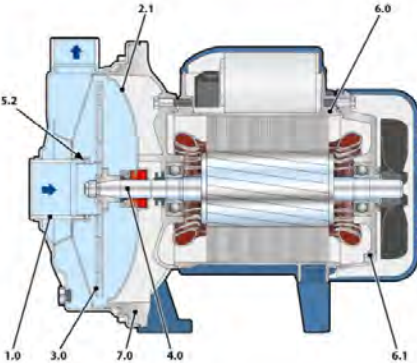
# 10) Product data

**PEDROLLO** The spring of data Selector Roberto De Zordi

Product Information   Curves   Technical Data   Dimension   **Construction**   Documentation

CPm 170-ST4

Construction



Bearings	
Motor bearing - pump side	6204 ZZ
Motor bearing - opposite side	6204 ZZ

Shaft Seal	
Seal Type	Single mechanical seal
Pump Side Model	PN-18
Diameter PS	18
Stationary Ring PS	Graphite
Rotating Ring PS	Ceramic
Elastomer PS	NBR

Materials	
1.0 - Pump casing	Stainless steel EN 1.4301 (AISI 304)
2.1 - Casing Cover	Stainless steel EN 1.4301 (AISI 304)
3.0 - Impeller	Stainless steel EN 1.4301 (AISI 304)
4.0 - Pump Shaft	Stainless steel EN 1.4057 (AISI 431)
5.2 - Liner Ring	PTFE
6.0 - Motor casing	Die cast Aluminium EN-AB 48100
6.1 - Motor Cover	Die cast Aluminium EN-AB 48100

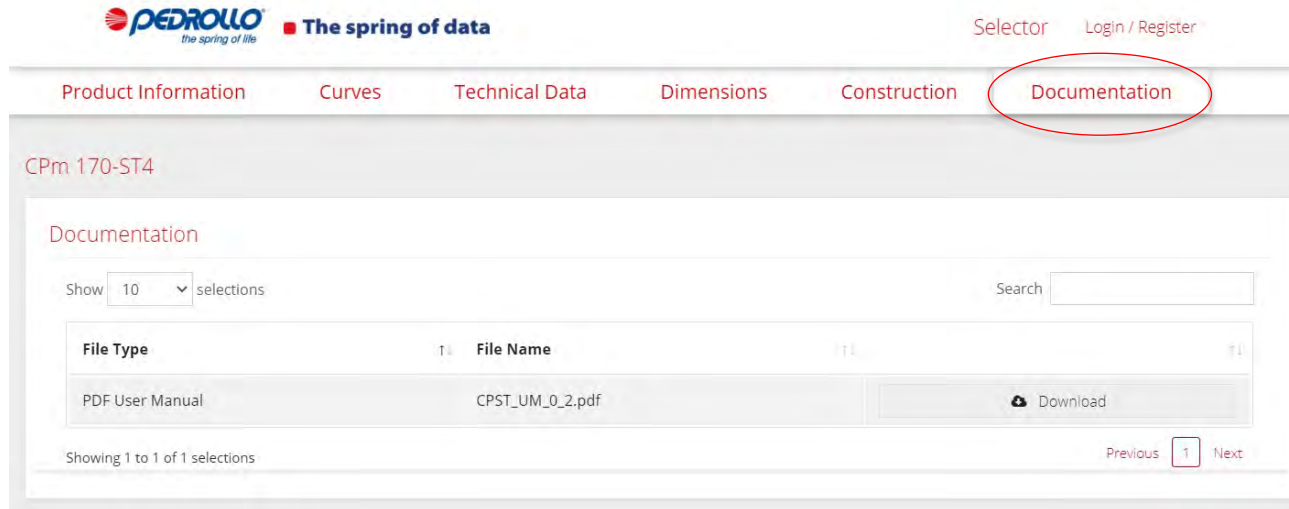
## Construction

Information is provided with reference to:

- Bearings
- Shaft seal
- Materials for main components.

# 10) Product data

## Documentation



**PEDROLLO** ■ The spring of data

Selector Login / Register

Product Information Curves Technical Data Dimensions Construction **Documentation**

CPm 170-ST4

Documentation

Show 10 selections Search

File Type	File Name	
PDF User Manual	CPST_UM_0_2.pdf	Download

Showing 1 to 1 of 1 selections Previous 1 Next

This is the area where it is possible to download the User Manual (PDF format)

Those who have obtained an higher authorization level will be allowed to download:  
2D drawing (DWG format) and 3D drawing (STEP format).

# 11) Print-out

## Data sheet



← This is the button to be selected in order to activate the generation of the Technical Sheet: «print-out» operation. When ready, by selecting «Download» the PDF file is generated and can be saved.

The data sheet collects the information of the selected product in several pages organized as follows:

- Technical data about product and selection
- Performance charts
- Constructions and Dimensions

stainless steel made

Your printout is now ready.

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Close

The Technical data sheet is generated in the selected language.

Generated Print-out is the most updated status, at that moment, of a product. The product document contains: the date and the string found at the bottom of all pages (Copyright © Pedrollo 2020. All rights reserved. Prepared by "User name" | Version 0/0/1 Rev.0 (123)) which reports the version of the database that produced the document..

# 11) Print-out

**PEDROLLO** the spring of life  
CpM 170-ST4      Date: 14/03/2021

**Customer:**  
**Reference:**

**Code:** 44CP170SA  
**Family:** CP-ST  
**Group:** Single impeller centrifugal  
**Typology:** Surface

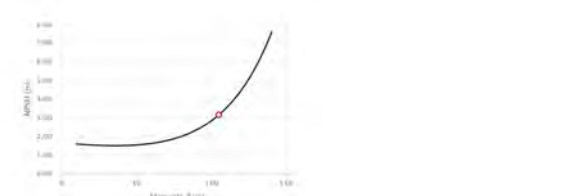
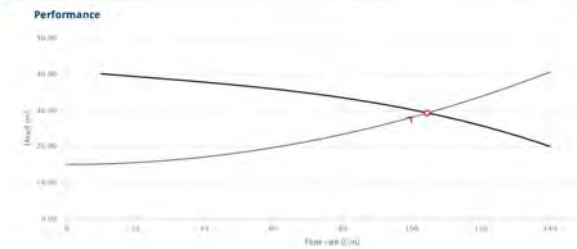
Application limits		Construction and safety standards	
Liquid Type	Clear Water	• EN 60335-1, IEC 60335-1	
Minimum liquid temperature	-10 °C	• EN 60034-1, IEC 60034-1	
Maximum liquid temperature	90 °C	• EU Regulation Nr. 547/2012	
Maximum Obsolete Content	500 ppm		
Maximum Sand Content	0 ppm		
Manometric suction lift	7 m		
Maximum immersion depth	0 m		
Maximum Ambient Temperature	+40 °C		
Minimum Ambient Temperature	-10 °C		
Maximum Working Pressure	8 bar		

Duty Point		Input Data	
Flow rate (actual)	110 l/min	Rated flow rate (requested)	100 l/min
Head (actual)	28.2 m	Rated head (requested)	28.0 m
Pump Efficiency	45.1%	System gudeck head	15.0 m
Overall Efficiency	32.1%	System friction losses	13.0 m
Pump input power P2	1.31 kW	NPSH Available	3.000 m
Motor input power P1	1.56 kW	Liquid	Water
NPSH	3.15 m	Temperature	20 °C
		Density	998.3 kg/m <sup>3</sup>
		Kinematic Viscosity	1.00 mm <sup>2</sup> /s
		Vapour Pressure	2.316 Pa

Pump nameplate data		Other Pump Data	
Flow rate	10 - 140 l/min	Max Sound Pressure Level (1 m)	64 dBA
Head	46 - 20 m	Horizontal installation	
Maximum head	41 m	Solids free passage	0 mm
Minimum head	20 m		
Minimum Efficiency Index	MEI>=40		

Motor nameplate data		Other Motor Data	
Voltage	220-230 V	Starting/Rated Current	2.5/4
Phases	1	Max No. Starts Per Hour	20
Frequency	50 Hz	Service Factor	-
Rotation Speed	2900 rpm	Cos φ (4/4)	-
Rated output power	1.1 kW	Efficiency (4/4)	-
Rated Current	7.8 A	Thermal Protection	Thermally Protected
Input power P1	1.6 kW	Plug Type	UK style
Efficiency grade	Unskanded	Minimum flow rate for motor cooling	0 l/min
Capacitor	25 µF	Minimum submersion for S1 duty	0 mm
Capacitor Voltage	450 V		
Insulation Class	F		
Enclosure class IP	55		

**PEDROLLO** the spring of life  
CpM 170-ST4      Date: 14/03/2021



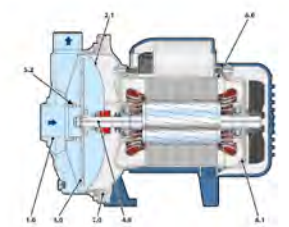
**PEDROLLO** the spring of life  
CpM 170-ST4      Date: 14/03/2021

**Construction**

Bearings	
Motor bearing - pump side	6204 ZZ
Motor bearing - opposite side	6204 ZZ

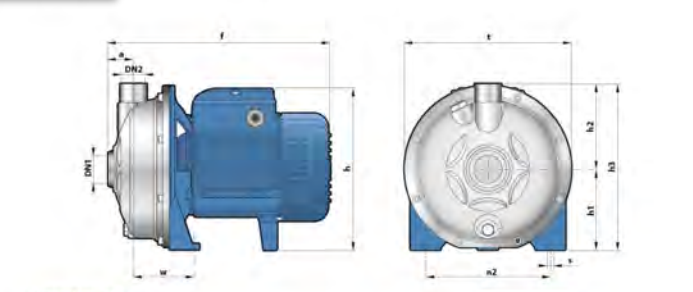
**Shaft Seal**

Seal Type	Single mechanical seal
Pump Side Model	FN-18
Diameter PS	1.8
Stationary Ring PS	Graphite
Rotating Ring PS	Ceramic
Elastomer PS	NBR



**Materials**

1.0 - Pump casing	Stainless steel EN 1.4301 (AISI 304)
2.1 - Casing Cover	Stainless steel EN 1.4301 (AISI 304)
3.0 - Impeller	Stainless steel EN 1.4301 (AISI 304)
4.0 - Pump Shaft	Stainless steel EN 1.4057 (AISI 431)
	PTFE
	Die cast Aluminium EN-AB 46100
	Die cast Aluminium EN-AB 46100
	Die cast Aluminium EN-AB 46100



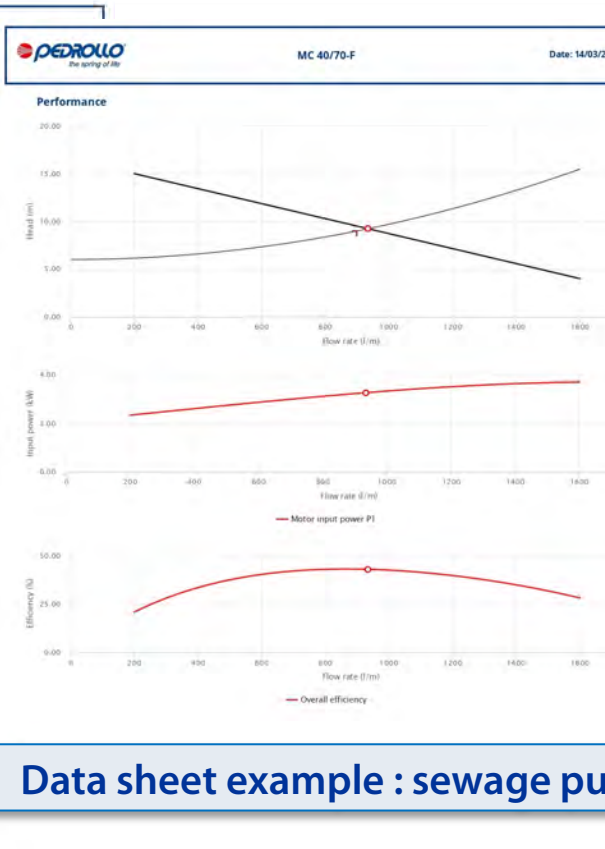
**Dimensions mm**


DN1	DN2	a	f	h	h1	h2	h3	h4	h5	s	t	w	Kg
114	114	33.5	36.8	251	120	117.5	237.5	180	11	245	86.5		14

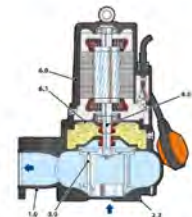




# 11) Print-out

		MC 40/70-F	
Customer:			
Reference:			
Code	405GQ94870A	Uses	Civil, Household, Industrial
Family	MC-F		
Group	Sewage Pumps		
Typology	Submersible		
<b>Application limits</b>		<b>Construction and safety standards</b>	
Liquid Type	Sewage Water	10 m long power cable. External float switch and control box for single phase use	
Minimum liquid temperature	0 °C	<ul style="list-style-type: none"> <li>EN 60335-1, IEC 60335-1</li> <li>EN 60034-1, IEC 60034-1</li> </ul>	
Maximum liquid temperature	40 °C		
Maximum Chlorine Content	0 ppm		
Maximum Sand Content	0 ppm		
Manometric suction lift	0 m		
Maximum immersion depth	19 m		
Maximum Ambient Temperature	0 °C		
Minimum Ambient Temperature	0 °C		
Maximum Working Pressure	0 bar		
<b>Duty Point</b>		<b>Input Data</b>	
Flow rate (actual)	3.14 l/min	Rated flow rate (requested)	900 l/min
Head (actual)	9.27 m	Rated head (requested)	9.00 m
Overall Efficiency	4.00%	System goidetic head	4.00 m
Motor input power P1	1.24 kW	System friction losses	0.00 m
		NPSH Available	0.000 m
		Liquid	Water
		Temperature	20 °C
		Density	998.1 kg/m <sup>3</sup>
		Kinematic Viscosity	1.00 mm <sup>2</sup> /s
		Vapour Pressure	2.318 Pa
<b>Pump nameplate data</b>		<b>Other Pump Data</b>	
Flow rate	2.01 - 1.023 l/min	Max Sound Pressure Level (1 m)	0 dB(A)
Head	13 - 4 m	Horizontal installation	
Maximum head	17 m	Solids free passage	70 mm
Minimum head	0 m		
Minimum Efficiency Index			
<b>Motor nameplate data</b>		<b>Other Motor Data</b>	
Voltage	000-415 V	Starting/Rated Current	1.1/0.94
Phases	3	Max No. Starts Per Hour	20
Frequency	50 Hz	Service Factor	
Rotation speed	2400 rpm	Cos φ (4/4)	
Rated output power	1 kW	Efficiency (4/4)	
Rated Current	1.9 A	Thermal Protection	1 Therm
Input power P1	4.55 kW	Plug Type	
Efficiency grade	Under 4	Minimum flow rate for motor cooling	0 l/min
Capacitor	µF	Minimum submersion for S1 duty	440 mm
Capacitor Voltage	V		
Insulation Class	F		
Enclosure class IP	XH		



		MC 40/70-F		Date: 14/03/2021
<b>Construction</b>				
<b>Bearings</b>				
Motor bearing - pump side	6304 ZZ - C3			
Motor bearing - opposite side	6304 ZZ - C3			
<b>Shaft Seal</b>				
<b>Seal Type</b>				
Two mechanical seals separated by an oil chamber.				
Motor Side Model	STA 20			
Stationary Ring MS	20			
Rotating Ring MS	Ceramic			
Elastomer MS	NBR			
Pump Side Model	STA 19			
Diameter PS	19			
Stationary Ring PS	Silicon Carbide			
Rotating Ring PS	Silicon Carbide			
Elastomer PS	NBR			
<b>Materials</b>				
1.0 - Pump casing	Grey cast iron GJL 200 EN 1561			
2.2 - Suction Cover	Grey cast iron GJL 200 EN 1561			
3.0 - Impeller	Stainless steel EN 1.4301 (AISI 304)			
4.0 - Pump Shaft	Stainless steel EN 1.4057 (AISI 431)			
6.0 - Motor casing	Grey cast iron GJL 200 EN 1561			
6.1 - Motor Cover	Grey cast iron GJL 200 EN 1561			

65 205 131 268 76 140 145 140 468 75 17

X8 44.6

Data sheet example : sewage pump