


## SAER PUMPS SELECTOR

### USER'S GUIDE

#### Login / Register

In order to use the pump selector, it is necessary to log in

SPAIX 5	User login	VERSION 2022	User unknown 
---------	------------	--------------	--

**A**

User login

Login name / E-mail:

User password:

Remember me: ☐

Password lost?


**B**

A: If you are already registered, enter your username and password in these fields. You can then proceed to use the pump selector.

B: If you are NOT already registered, register by clicking on “Register user account”

#### Registration

In order to register and generate a unique user, it is necessary to fill in the required data in the form, read and accept the Privacy Policy and perform the security check by completely deleting the text in the respective input field

SPAIX 5	Registration	VERSION 2022	
---------	--------------	--------------	---

Registration

Login name \*

First name \*

Last name \*

E-mail \*

User password \*

Confirm password \*

☐ I have read the [Privacy Policy](#) and hereby agree to these terms.

Security check \*

Then click on “Register”.

You will then receive an email confirming your registration at the email address given in the registration form field.

You have to open the email and click on the confirmation link in it.

You will now be able to enter your username and password to login and use the pump selector.

## Use

The following buttons can be found at the top right:



### Units

This button allows you to set the units of measurement to be used when using the pump selector.



### Language

This button allows you to set the language to be used when using the pump selector.

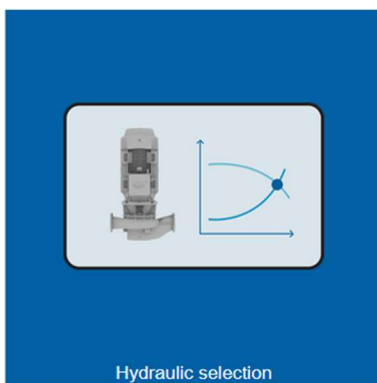


### Help

This button displays a more in-depth guide to the functionality of the pump selector.

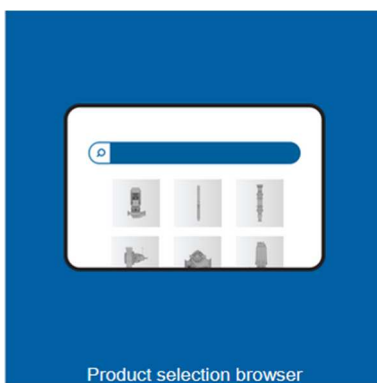
Main screen:





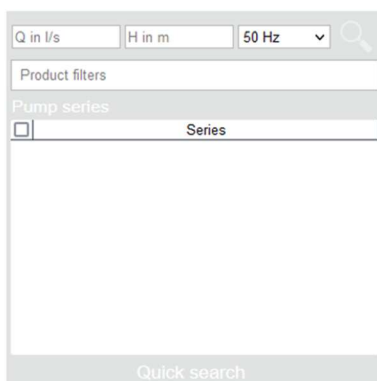
### Hydraulic selector

This function is to be used if you have a duty point (flow rate and head) and need the selector to indicate a suitable pump for this performance.



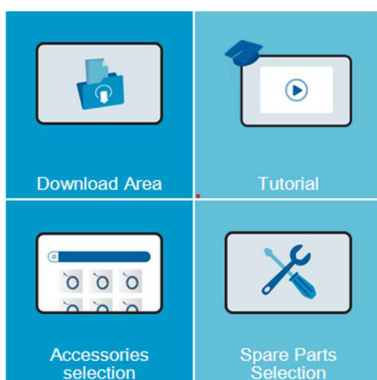
### Product selection browser

This function is to be used if you know the pump type and the model desired and want to search independently without the need to enter a specific operating point (flow rate and head).



### Quick Search

This function is to be used when you have a working point (flow rate and head) and need to have a quick indication of the series available for these performances and then only select the one you are interested in.



### Additional features

By clicking on 'Download area' you will be redirected to the reserved area of the saer.com website where you can download documents such as catalogues and more. Access requires authorisation by SAER.

By clicking on "Tutorial" you will be redirected to the company's cloud where you can download in your language the guides for the use of the selector.

By clicking on "Accessories selection" it will be possible to select the desired accessory (for further information please consult the specific guide)

The "Spare part selection" will be soon available.

## Hydraulic selector

You can filter the pumps and make the selection by type or application.

**Area of application**

- ▼ SAER
  - ▼ All the uses
    - Groundwater supply
    - Industrial applications
    - Infrastructure & Building services
    - Irrigation & Agriculture
    - Water supply & Municipal services
    - Waste water and sewage
  - ▼ All products
    - Submersible groundwater electric pumps
    - Vertical multistage electric pumps
    - Horizontal multistage electric pumps
    - End-Suction centrifugal electric pump
    - End-suction centrifugal pump
    - Centrifugal pumps
      - Axially split casing pumps
      - Vertical in-line pumps
      - Submersible wastewater electric pumps



You then need to select Drive/Frequency, Number of poles and the series from which to select pumps in the “Series” box.

**Series**

☒ Duty chart view

☐ Hide picture  
☐ Hide invalid

Drive   
 Number of poles

<input type="checkbox"/>	Series
<input type="checkbox"/>	 MG
<input type="checkbox"/>	 NCA

To display only the eligible series and not the red “invalid” ones, select the “Hide invalid” flag as in the following example:

☒ Duty chart view

☐ Hide picture  
☒ Hide invalid  
☐ Select all

It is therefore necessary to insert the duty point (flow rate and head) in the appropriate fields.

▲ Show more options

Circuit type

Nature of system \* Single head pump ▼

Operating data

Duty point name A1

Flow \*  m³/h ▼

Head \*  m ▼

Total static head  m ▼

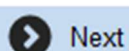
Medium data

Fluid \* Water ▼

Temperature \* 20 °C ▼

Density \* 998.2 kg/m³ ▼

Viscosity \* 1.001 mm²/s ▼



Next

Then press “Next”

Select the desired pump from those proposed:

Pumps			
	<input type="checkbox"/>	<input type="checkbox"/>	Product name
	<input type="checkbox"/>	<input type="checkbox"/>	Recommendation
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MG 100-315A-225-4P
	<input type="checkbox"/>	<input type="checkbox"/>	NCB 100-315A-4P
	<input type="checkbox"/>	<input type="checkbox"/>	MG 125-315B-225-4P
	<input type="checkbox"/>	<input type="checkbox"/>	NCB 125-315B-4P
	<input type="checkbox"/>	<input type="checkbox"/>	MG 80-200C-180-2P
12 entries found			

Attention: If the search does not produce results, repeat it after carefully checking the data entered and the relative units of measurement.

To view only the selected curve, open the “Diagram layout” drop-down menu and select “Selected curve”

MG 100-315A-225-4P: Pump performance curves

Diagram layout ▼ Diagram options ▼

—— ALL PRODUCTS ——

Show all hydraulics

Selected curve of each hydraulics

Preview single curves

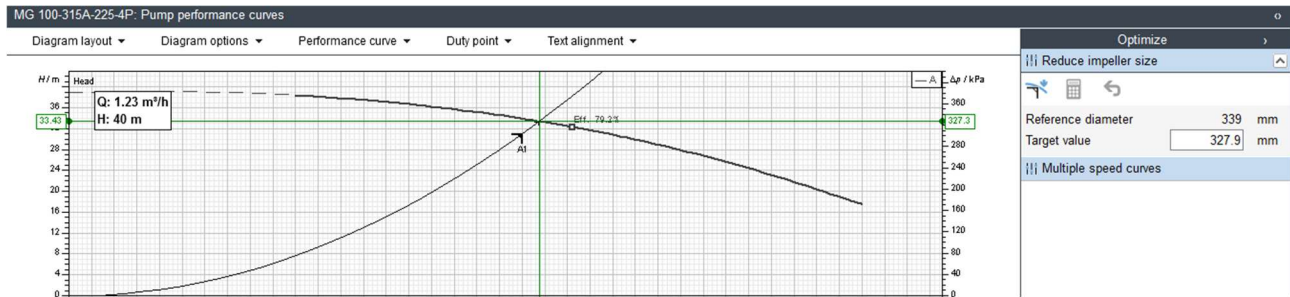
—— MARKED PRODUCT ——

Show duty chart

Display max. / sel. / min. curve

Selected curve (scaled automatically)

Show multiple speed curves



## CURVE OPTIMIZATION AND PERSONALIZATION

It is then possible to optimise the selection and customise the machine with the functions to the right of the screen.

The 'Optimisation' function to the right of the curve allows the curve to be adapted to the duty point.

Depending on the pump series, various functions may be available:

- Reduce impeller diameter: the optimised curve will no longer have the standard impeller diameter but instead a reduced one adapted to the duty point entered.
- Curves at different speeds: the optimised curve will be shown with reduced revolutions, adapted to the duty point.

Each function optimisation method has three main functions:

- Adapt to duty point: the optimised curve will adapt to the duty point;
- Calculate curve for entered values: the curve will be calculated but will not be adapted to the duty point;
- Restore: the last curve created will be deleted;

The pump customisation function is located on the right-hand side of the screen and consists of various options that can be selected in order to choose every aspect of the pump.

For customisation, the main selectable options are listed below (the availability of these options varies depending on the series selected):

- Hydraulic selection: In this section you can select the desired diameter.

- Motor: in this section you can select the desired motor from those available as well as its supply voltage and any other specifications.

- Other options: In this section you can select additional options for the motor.  
(Currently not available for all pump series)

- Installation type: in this section you can choose the type of installation, e.g. vertical or horizontal.

- Material combination: in this section you can select the desired materials.

Hydraulic selection	
Duty chart	3000
Performance curve	A
Motor	
Make	SAER
Main category	3~ motor
Motor design	SAER MT2 - IE3
Frequency, poles	50 Hz - 2 poles
Motor	90-2P-2 1.5 kW
Degree of protection	IP 55
Type of protection	--
Design acc. standard	IE3
Electrical connection	400 V
Motor options	
Motor protection	Without (Standard)
Additional motor pr...	Without (Standard)
Additional motor o...	Without (Standard)
Additional motor o...	Without (Standard)
Additional motor o...	Without (Standard)
Material combination	
Material combination	NCB-1
Shaft	Stainless steel AISI 431 (1.4057)
Impeller	Cast iron EN-GJL-250
Pump body	Cast iron EN-GJL-250
Seal disc	Cast iron EN-GJL-250
Gasket	Aramid fiber
Bearing frame	Cast iron EN-GJL-250



- Bearing bracket: In this section you can select the bearing type and, if available, the bearing material.

- Shaft seal: in this section you can select the type of seal.

- Pump options and Additional pump options: In this section you can select the options available for the pump.

(Also, this section like the motor section is currently not available for all pump series)

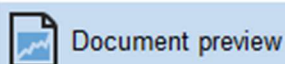
- Pipe connection: In this section you can select the pressure and the nominal diameter of the flange.


<b>Bearing bracket</b>	
Bearing bracket	Grease bearing
<b>Bearing frame materials</b>	
Material combination	Bearing bracket
Support	Cast iron EN-GJL-250
<b>Shaft seal</b>	
Type of seal	Mech. seal EN 12756
Make	SAER
Shaft seals	BVEGG
<b>Seal materials</b>	
Material combination	BVEGG
Seal face	Carbon impregnated with resin
Seat	Alumina oxide
Rubber elements	Rubber EPDM
Spring and metal b...	Stainless steel AISI 316 (1.4401)
<b>Pump options</b>	
Design pressure	PN10 (Standard)
Coating	Painting cycles C3 Durability medium (Standard)
<b>Additional pump options</b>	
Additional pump op...	Without (Standard)
Additional pump op...	Without (Standard)
<b>Pipe connections</b>	
Inlet/Outlet	UNI EN 1092 Standard
<b>Inlet</b>	
Flange standard	UNI EN 1092-1/2
Pressure rating	PN10/16
Nominal pipe size	DN50
<b>Outlet</b>	

Once you have finished your selection, press “Finish”



To view the data sheet , click on “Document preview”



It is possible to generate a PDF of the data sheet either by using the print function  or the Export function available in the menu at the top left.





## Direct pump selection

It is necessary to select the frequency and the series from which to select the pumps in the “Pumps” box

**Pumps**

Frequency

Series

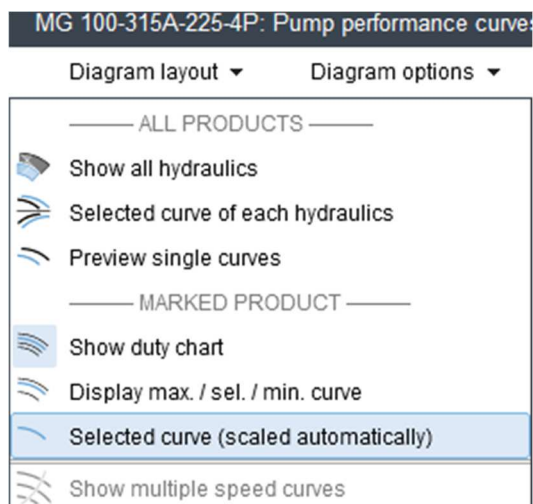
☐ Minimize picture

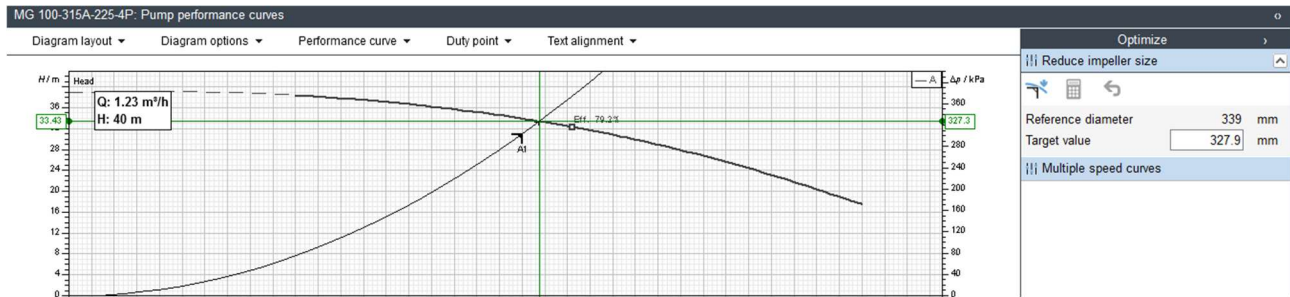
Circuit type

Then Select the desired pump from those listed:

	Product name
	MG 32-125A-80-4P
	MG 32-160A-80-4P
	MG 32-160SA-80-4P
	MG 32-200NA-90-4P
	MG 32-250A-100-4P
80 entries found	

To view only the selected curve, open the “Diagram layout” drop-down menu and select 'Selected curve'.





## CURVE OPTIMIZATION AND PERSONALIZATION

It is then possible to optimise the selection and customise the machine with the functions to the right of the screen.

The 'Optimisation' function to the right of the curve allows the curve to be adapted to the duty point.

Depending on the pump series, various functions may be available:

- Reduce impeller diameter: the optimised curve will no longer have the standard impeller diameter but instead a reduced one adapted to the duty point entered.
- Curves at different speeds: the optimised curve will be shown with reduced revolutions, adapted to the duty point.

Each function optimisation method has three main functions:

- Adapt to duty point: the optimised curve will adapt to the duty point;
- Calculate curve for entered values: the curve will be calculated but will not be adapted to the duty point;
- Restore: the last curve created will be deleted;

The pump customisation function is located on the right-hand side of the screen and consists of various options that can be selected in order to choose every aspect of the pump.

For customisation, the main selectable options are listed below (the availability of these options varies depending on the series selected):















- Hydraulic selection: In this section you can select the desired diameter.

- Motor: in this section you can select the desired motor from those available as well as its supply voltage and any other specifications.

- Other options: In this section you can select additional options for the motor.  
(Currently not available for all pump series)

- Installation type: in this section you can choose the type of installation, e.g. vertical or horizontal.

- Material combination: in this section you can select the desired materials.

<b>Hydraulic selection</b>	
Duty chart	3000
Performance curve	A 
<b>Motor</b>	
Make	SAER
Main category	3~ motor
Motor design	SAER MT2 - IE3
Frequency, poles	50 Hz - 2 poles
Motor	90-2P-2 1.5 kW 
Degree of protection	IP 55
Type of protection	--
Design acc. standard	IE3
Electrical connection	400 V 
<b>Motor options</b>	
Motor protection	Without (Standard) 
Additional motor pr...	Without (Standard) 
Additional motor o...	Without (Standard) 
Additional motor o...	Without (Standard) 
Additional motor o...	Without (Standard) 
<b>Material combination</b>	
Material combination	NCB-1 
Shaft	Stainless steel AISI 431 (1.4057) 
Impeller	Cast iron EN-GJL-250 
Pump body	Cast iron EN-GJL-250 
Seal disc	Cast iron EN-GJL-250 
Gasket	Aramid fiber
Bearing frame	Cast iron EN-GJL-250 

- Bearing bracket: In this section you can select the bearing type and, if available, the bearing material.

- Shaft seal: in this section you can select the type of seal.

- Pump options and Additional pump options: In this section you can select the options available for the pump.

(Also, this section like the motor section is currently not available for all pump series)

- Pipe connection: In this section you can select the pressure and the nominal diameter of the flange.

<b>Bearing bracket</b>	
Bearing bracket	Grease bearing
<b>Bearing frame materials</b>	
Material combination	Bearing bracket
Support	Cast iron EN-GJL-250
<b>Shaft seal</b>	
Type of seal	Mech. seal EN 12756
Make	SAER
Shaft seals	BVEGG
<b>Seal materials</b>	
Material combination	BVEGG
Seal face	Carbon impregnated with resin
Seat	Alumina oxide
Rubber elements	Rubber EPDM
Spring and metal b...	Stainless steel AISI 316 (1.4401)
<b>Pump options</b>	
Design pressure	PN10 (Standard)
Coating	Painting cycles C3 Durability medium (Standard)
<b>Additional pump options</b>	
Additional pump op...	Without (Standard)
Additional pump op...	Without (Standard)
<b>Pipe connections</b>	
Inlet/Outlet	UNI EN 1092 Standard
<b>Inlet</b>	
Flange standard	UNI EN 1092-1/2
Pressure rating	PN10/16
Nominal pipe size	DN50
<b>Outlet</b>	

Once you have finished your selection, press “Finish”



To view the data sheet, click on “Document preview”



Document preview

## DATA SHEET

### 1. Order summary

This sheet shows the main data for the pump and motor, together with the materials and options selected and whether these are standard or optional.

**THIS SHEET SHOWS THE OPTIONS CHOSEN DURING THE CONFIGURATION PHASE. DO NOT REMOVE IT DURING PRINTING.**

#### Pump

IR4P-32-125A

Required flow m<sup>3</sup>/h 9.31

Required head m 4.566

Flow m<sup>3</sup>/h 9.32

Head m 4.58

Impeller size ø 140

#### Materials

IR-1

Shaft Stainless steel AISI 431 (1.4057)

Impeller Cast iron EN-GJL-250

Pump body Cast iron EN-GJL-250

Seal disc Cast iron EN-GJL-250

Gasket Aramidic fiber

Standard  
Standard  
Standard  
Standard  
Standard

Mechanical seal

Q1VEGG

#### Additional pump options

Design pressure PN10 (Standard)

Coating Painting cycles C3 Durability medium (Standard)

Drinking water certified version No (Standard)

#### Motor

Frame size 80

Rated power kW 0.37

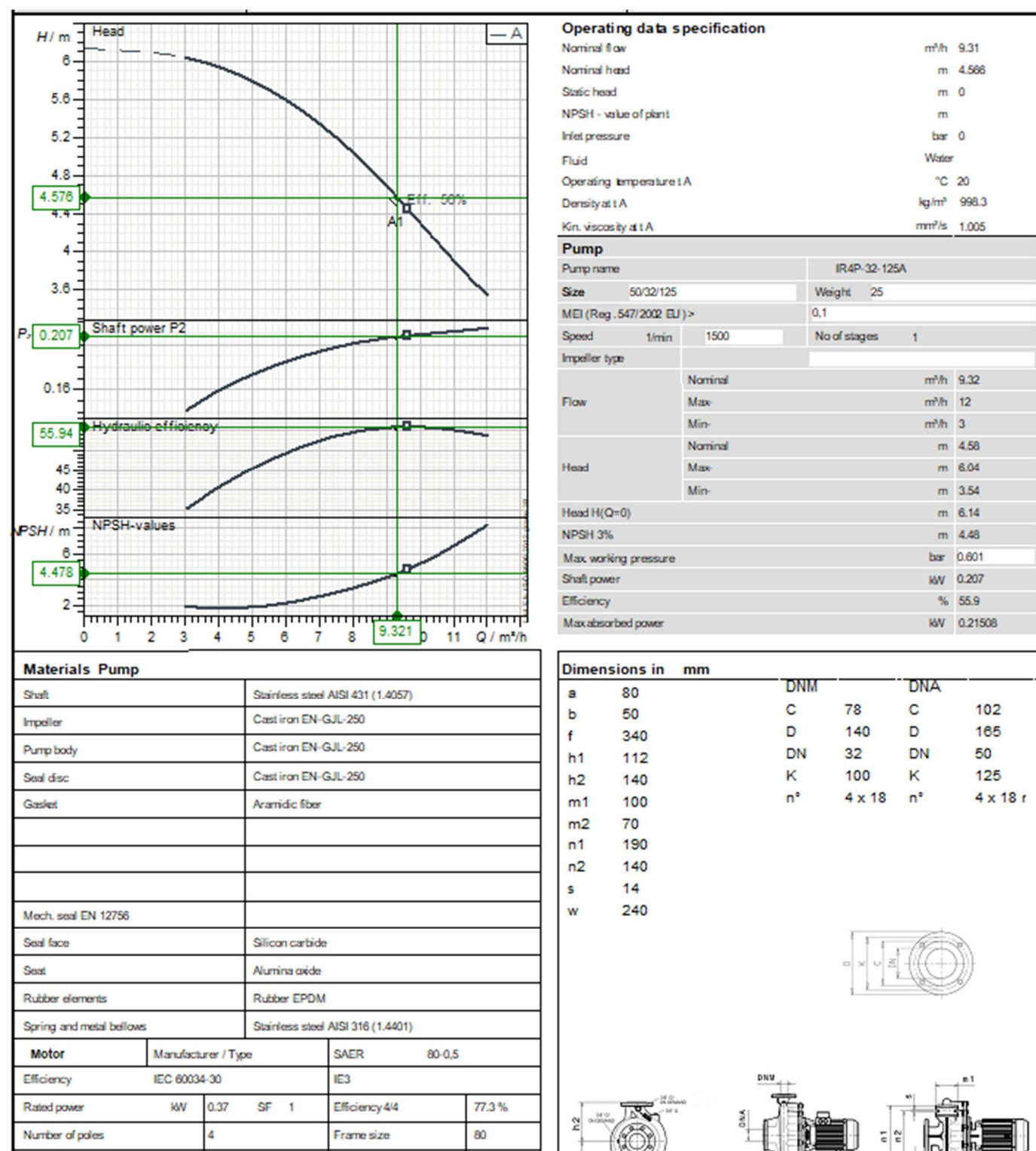
Frequency Hz 50

Electric voltage V 230 V

Efficiency Class IEC 60034-30 IE3

## 2. General technical data sheet

This sheet provides detailed technical data on the pump and motor.





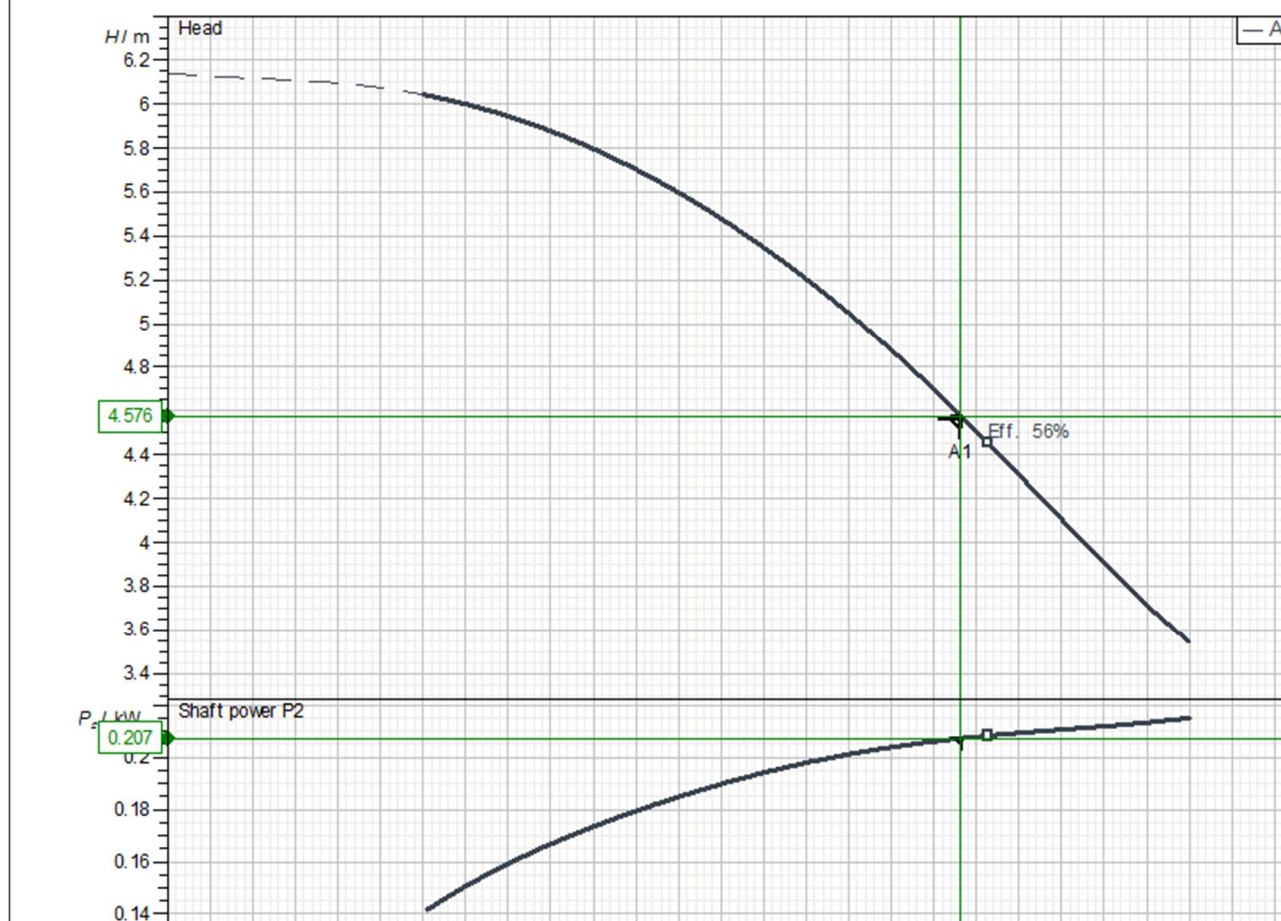
### 3. Performance curve sheet

The third sheet shows the diagram with the pump performance curves, also showing the duty point entered.

Operating data specification		9.31		m³/h		4.566		m		Impeller construction		Closed			
Pump data		9.32		m³/h		4.58		m		Sense of rotation		Clockwise from the drive end			
										Outlet width		DN32			
	Flow			Head		Shaft power P2			Speed					1/min	1500
	Min.	Max.	$\eta$ Max.	H (Q=0)	$\eta$ Max.	P2 (Q=0)	Max.	$\eta$ Max.	Frequency					Hz	50 Hz
	m³/h	m³/h	m³/h	m	m	kW	kW	kW							
	3	12	9.64	6.14	4.45	0.142	0.215	0.208							

Performance data based to: Water; 20°C; 998.3kg/m³; 1.005mm²/s

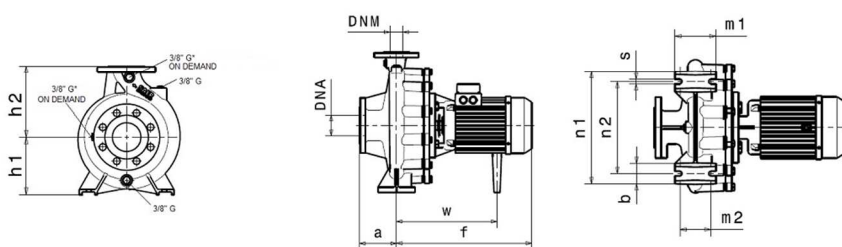
UNI EN ISO 9906:2012 - Grade 3B





#### 4. Drawing and dimensions sheet


The fourth sheet contains the technical drawing and dimensions of the pump.

Pump dimensions		Connections	
	DN50 PN10/16	Discharge port DN32 PN10/16	
		Dimensions in mm	
		a	80
		b	50
		f	340
rational warning, weight and picture are not binding. Saer reserves the right to make changes without prior notice	DN50 PN10/16	h1	112
		h2	140
		m1	100
		m2	70
		n1	190
		n2	140
		s	14
		w	240

#### 5. Motor data sheet

If a surface electric pump has been selected, the last sheet shows the motor data in detail.  
This sheet is not present for bare shaft pumps.

Operating data specification		Data			Unit
Model		IR4P-32-125A			
Frame					
Mounting		Close coupled			
Rated power	P <sub>n</sub>	0.37			kW
Rated voltage		230			V
Rated frequency		50			Hz
Rated speed	n	1460			
Service factor		1			
Rated current	I <sub>n</sub>	1.9			A
Service factor current	I <sub>sf</sub>	-			A
Nominal motor torque	T <sub>n</sub>	2.4267			Nm
Thermal class / Temperature rise		F / B			
Starting current	I <sub>s</sub> /I <sub>n</sub>	8.7			
Locked rotor torque	T <sub>v</sub> /T <sub>n</sub>	4.1			
Max. torque	T <sub>m</sub> /T <sub>n</sub>	4.2			
Efficiency Class IEC 60034-30		IE3 = Premium Efficiency			
Efficiency	η	50%	75%	100%	%
		73.7	77.3	77.3	
Power factor	cos φ	0.66			
Sound pressure level L <sub>pA</sub> - 1 m		52			dBA
Type of duty		S1			
Cooling		IC411			
Degree of protection		IP 55			
Ambient temperature		40			°C
Max. installation site elevation		1000			
Bearing design		Radial ball bearing with permanent grease			
Bearing type		DE: 6204-2Z / NDE: 6204-2Z			
Sense of rotation		CW / CCW			
Terminal box position		At top			
Cable entry (Number x hole type)		2+2 x n.2 M20x1,5 + n.2 M16x1,5			

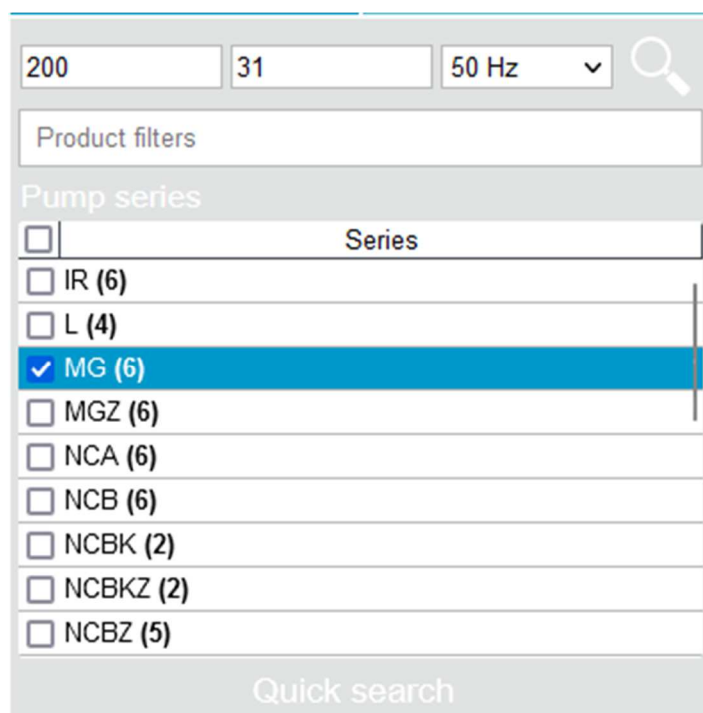
It is possible to generate a PDF of the data sheet either by using the print function  or the Export function available in the menu at the top left.



## Quick search

It is necessary to insert the duty point (flow rate and head) in the appropriate fields.

It is then necessary to select the desired series from those proposed.

The screenshot shows the 'Quick search' interface. At the top, there are three input fields: '200', '31', and '50 Hz' with a dropdown arrow. To the right of these fields is a magnifying glass icon. Below the input fields is a 'Product filters' section. Underneath that is the 'Pump series' section, which contains a list of pump series with checkboxes. The series listed are: IR (6), L (4), MG (6) (which is selected with a blue background and a checkmark), MGZ (6), NCA (6), NCB (6), NCBK (2), NCBKZ (2), and NCBZ (5). At the bottom of the list is a 'Quick search' button.

Then proceed as for “Hydraulic Selection”

**If you encounter difficulties or problems using the pump selector, we kindly ask you to send an email to [pumpselector@saer.it](mailto:pumpselector@saer.it) describing the problem in as much detail as possible.**