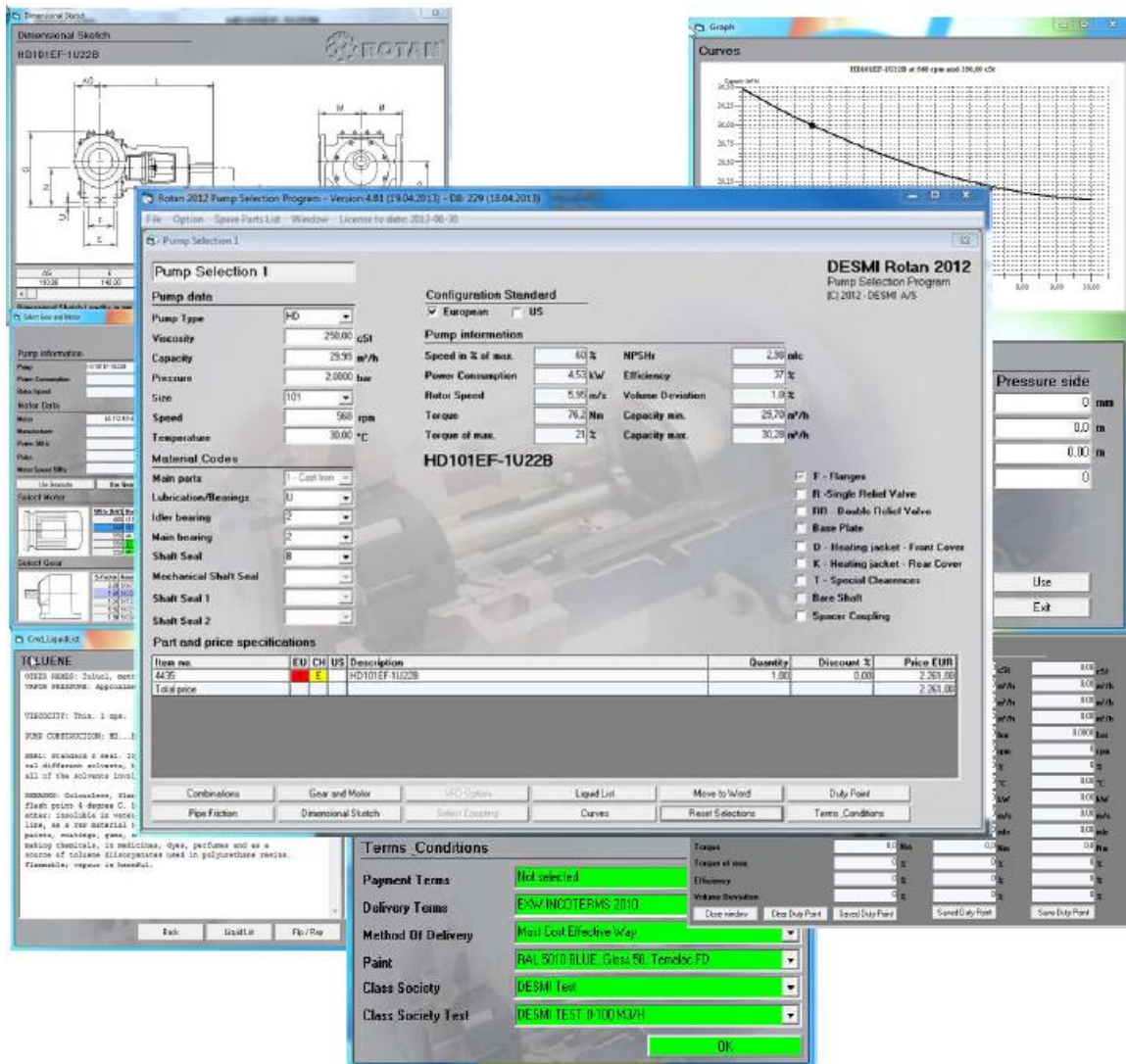


User's Manual  
for

# ROTAN 2013

Pump Selection Program



3. Release 2013.05.01

## Disclaimer

DESMI will not be responsible for any damages caused by the use or misuse of this program.

This program is distributed “as is” with no warranty expressed or implied.

DESMI will not be responsible for any losses incurred, either directly or indirectly, by the use of this program. Use this program entirely at your own risk.

DESMI reserves the right to make modifications at any time.

Prices and specifications are subject to change without notice.

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## 2 Getting Started

### 2.1 Installing the program

The selection program is available for download from the following address:

<http://www.desmi.com/selection-programs.aspx>

Please click:

[“ROTAN SETUP20130311.exe \(new updated version - expiry date:xxxxx\)”](#)

Or:

[“If you experience issues running the selection programs in Windows 7 or Vista, please click here.”](#)

If you have any questions or if you need help please contact us by email at: [desmi@desmi.com](mailto:desmi@desmi.com).

## 3 Using the Program

### 3.1 The program screen

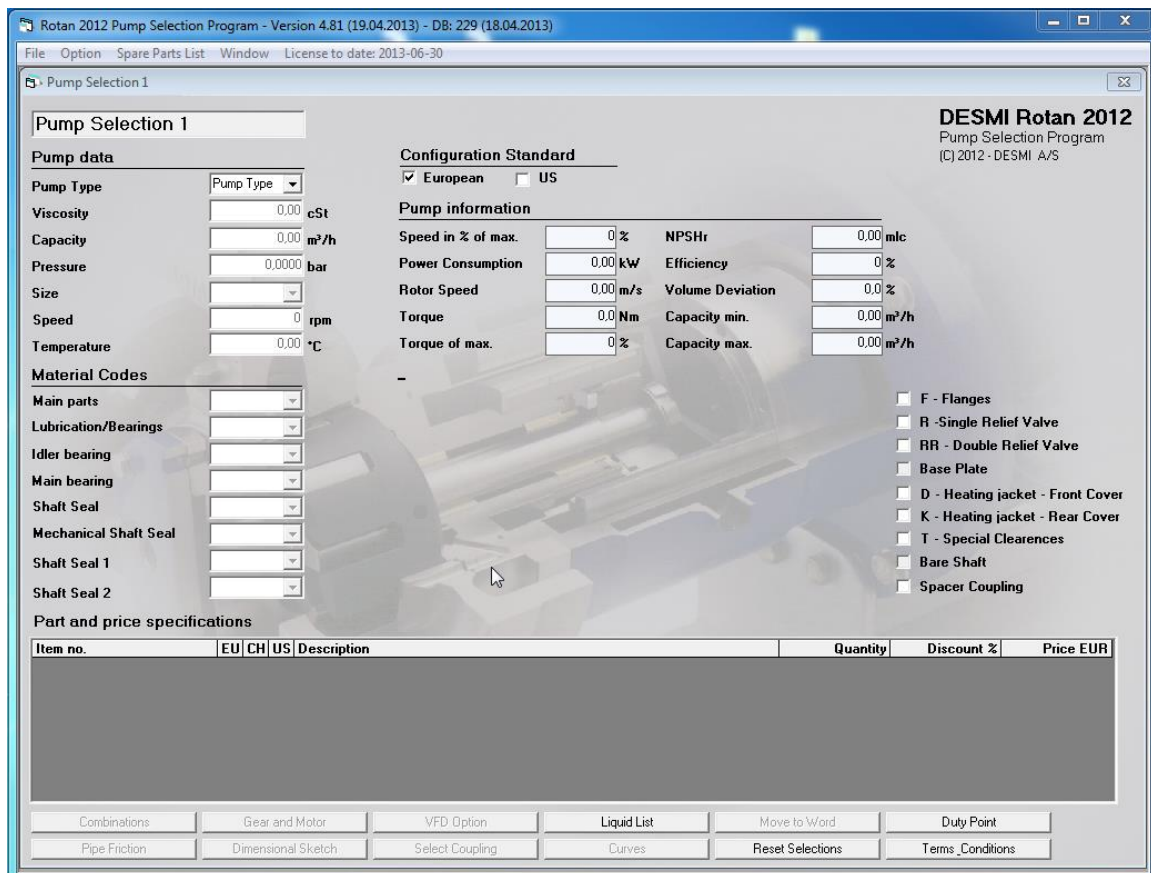


Illustration 1

### 3.2 Menu selection

This section describes the different selection options. At the top of the selection program window, you can choose between the different kinds of menu selections.

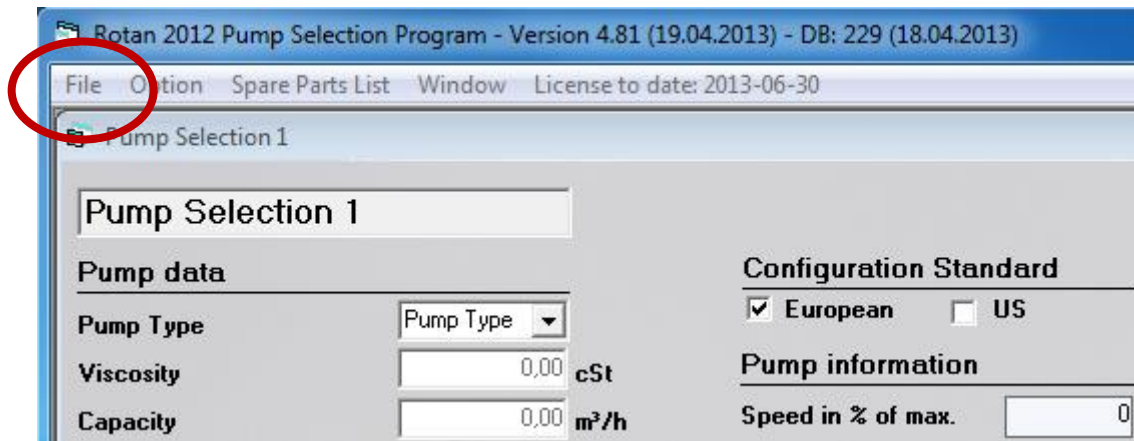


Illustration 2

#### 3.2.1 File

- **New Calc**  
Start a new pump selection window. A total of 10 different selections are possible at the same time.
- **Exit**  
Select this to end the session and leave the selection program.  
(selections are not saved)

### 3.2.2 Options

#### 3.2.2.1 Unit

The Rotan Selection program gives you the flexibility to choose from many different units of measurement. The Options menu lets you select the unit type and size. When you select a specific type and size the program will store the selection and use the selection until another selection has been made – additionally when you stop and start the selection program again.

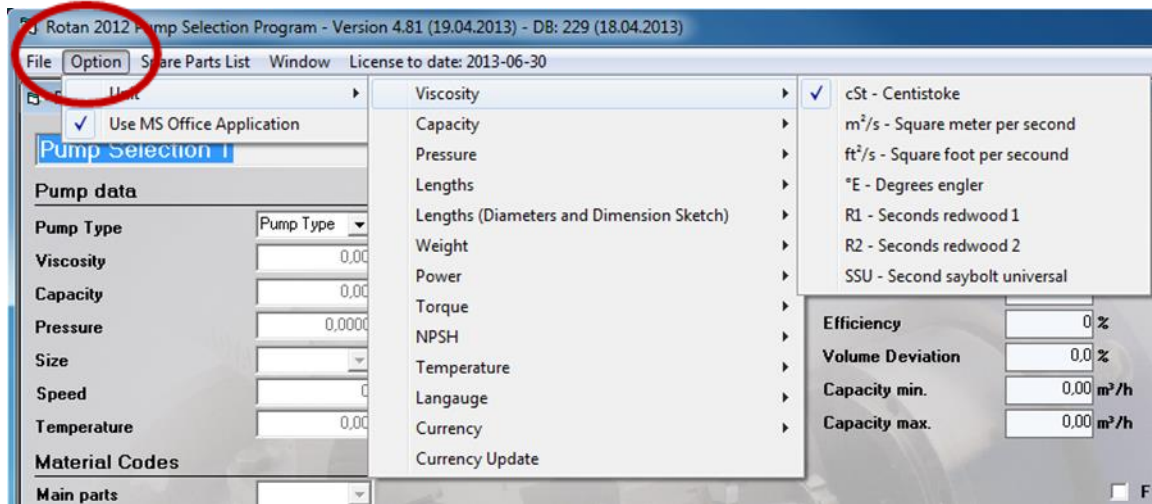


Illustration 3

The following unit types are available:

- Viscosity
- Capacity
- Pressure
- Lengths
- Length (Diameter and Dimension Sketch)
- Weight
- Power
- Torque
- NPSH
- Temperature
- Language
- Currency
- Currency Update

3.2.2.2 Currency update

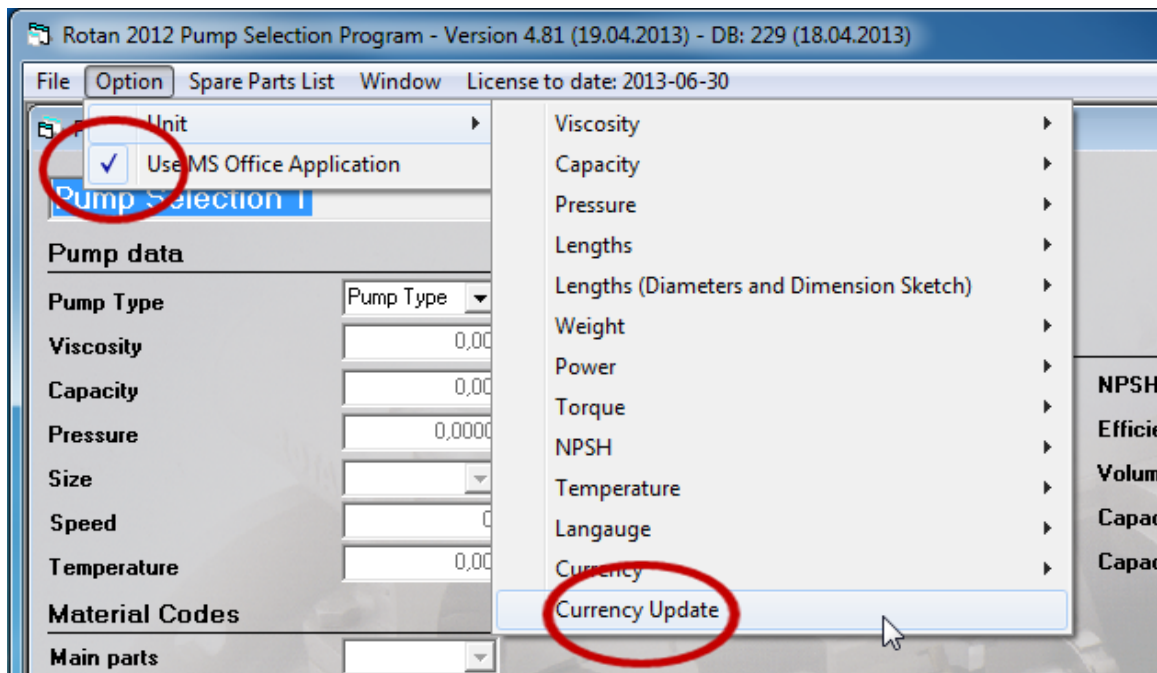


Illustration 4

When you select currency update you are able to update the currency values.

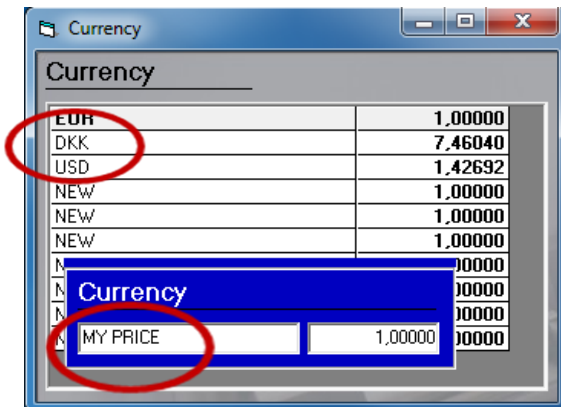


Illustration 5

There are different values in the standard program, but you can change and update the values. The ones labeled NEW, have no values. Furthermore, you have the possibility to either add additional currencies or set up custom discount rates.

3.2.2.3 Use Word application

The selection program is able to use the Microsoft Word application. The selection program moves all the information from your selection to a Word template by automatically generating a new document with all the information, curves and dimensional sketches.

### 3.2.3 Spare Parts List

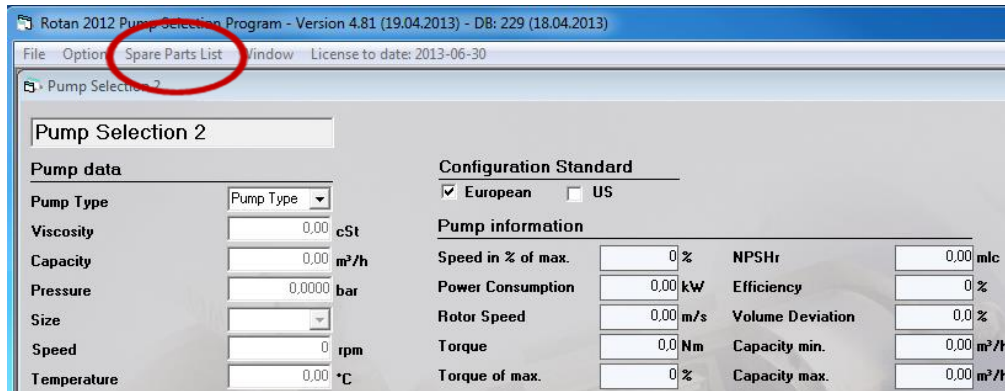


Illustration 6

When you select Spare Parts List you will arrive into a new window with different possibilities.

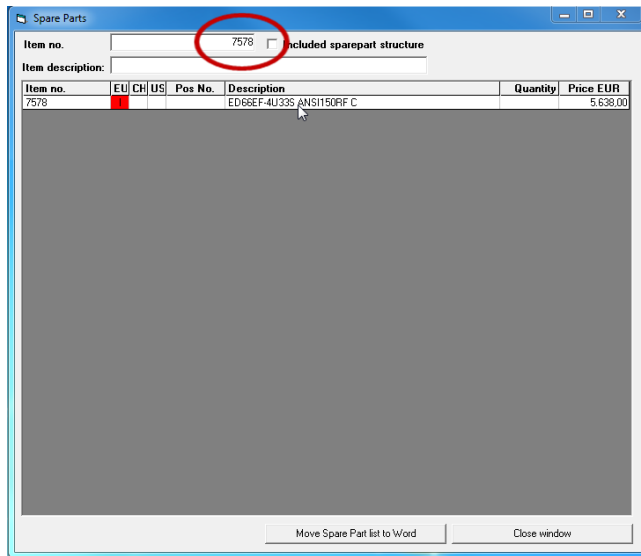


Illustration 7

Type in an item number and press [Enter]

Then you can see the description and price. If you move the cursor to the description line and click on it, all the information will be moved into the Part and price specifications for the selection.



Spare Parts List for a specific pump.

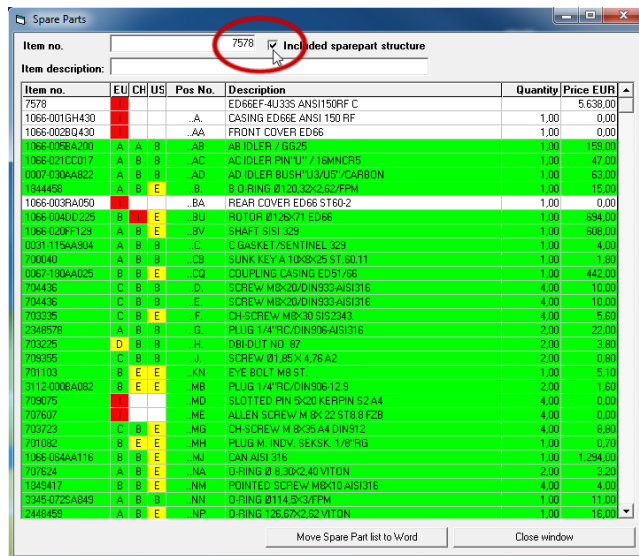


Illustration 8

It is also possible to find a specific Spare Parts List in this window.

Type in an item number and select "Included spare part structure" press [Enter]  
 This will return a complete spare part list. This can then be moved into word by selecting "Move Spare Part list to Word"

Item description.

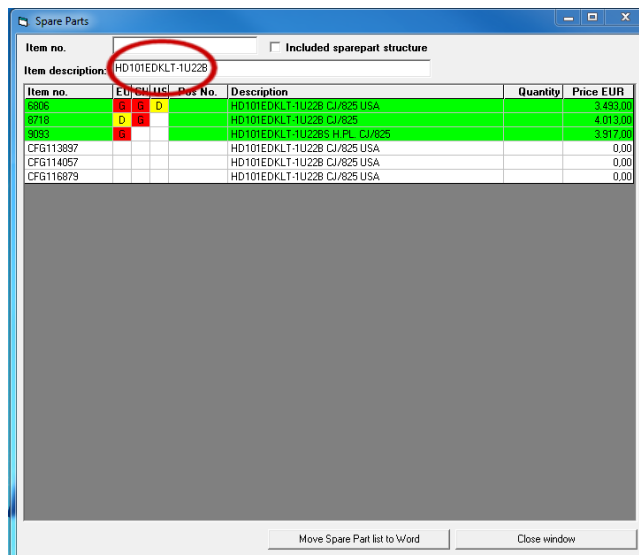


Illustration 9

There is also the possibility to search for an Item by the item description.  
 Example: Type in HD101EDKLT1U22B press [Enter]  
 Then all the existing item numbers with this description will be shown.

In the above example we search by an exact description, but it is also a possible to search for a part of a description.

Searching by part of a description

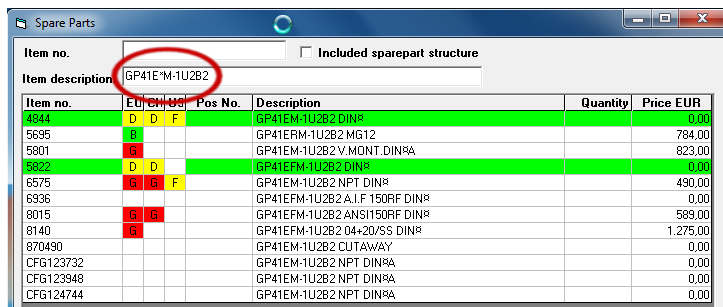


Illustration 10

Example 1:

We are searching an Item number for GP41EM-1U2B2 pump with or without flanges.

By using a wildcard "\*" in the description (GP41E\*M-1U2B2), the program will search any characters in its' place. Characters before and after will be exact as written

Type in GP41E\*M-1U2B2 and press [Enter]

All existing matching descriptions will be listed, including Item numbers.

CFG numbers are only for internal use. These are not available for order.

Searching by part of a description

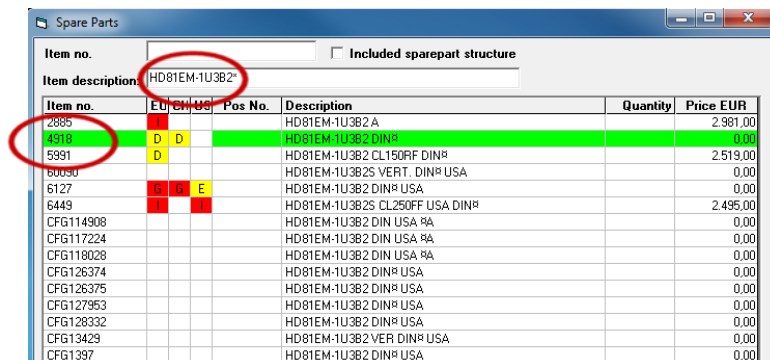


Illustration 11

Example 2:

We are searching an Item number for an HD81EM-1U33B2 with ANSI CL 150 flanges.

Type in: HD81EM-1U33B2\*

By using a wildcard "\*" in the description (HD81EM-1U33B2\*), the program will search any characters after this place. Characters before will be exact as written.

Type in HD81EM-1U33B2\* press [Enter]

All existing matching descriptions will be listed, including Item numbers.

CFG numbers are only for internal use. These are not available for order.

3.2.4 Window

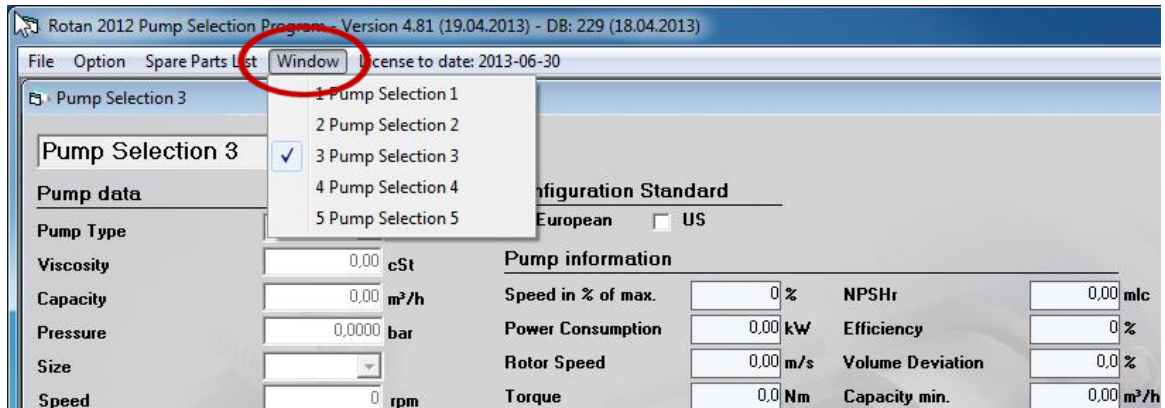


Illustration 12

Here you can choose from all the difference selections currently open. Each pump selection has its own window named by the pump selection title.

4 Pump Selection

4.1 Title and settings with the first selection

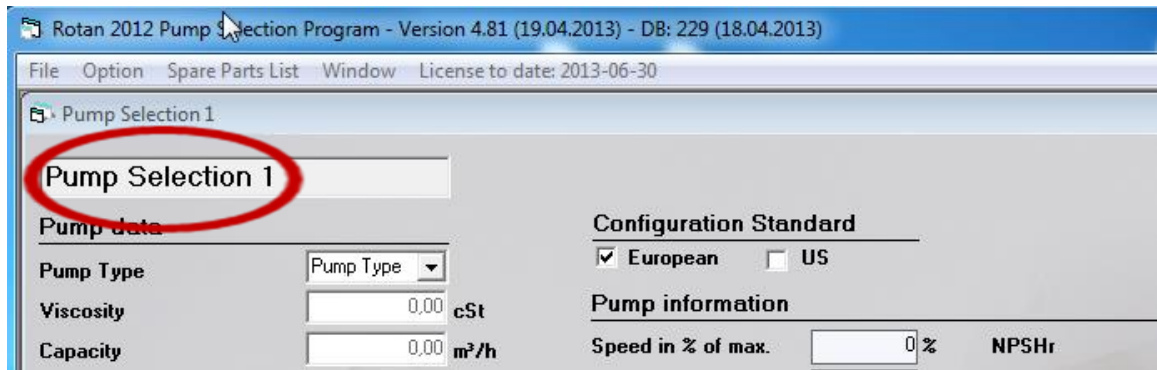


Illustration13

Type the title of the specific pump selection. As standard the program names it "Pump Selection 1". (2, 3, etc...)

This can be renamed by manually writing in the name.

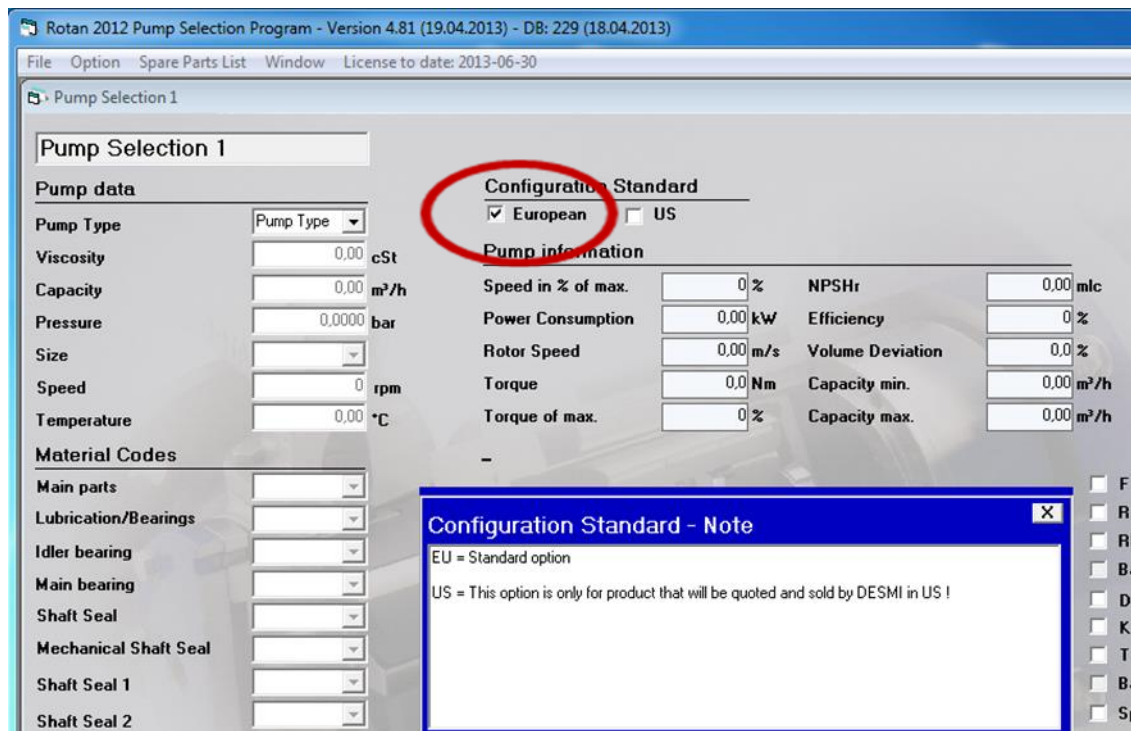
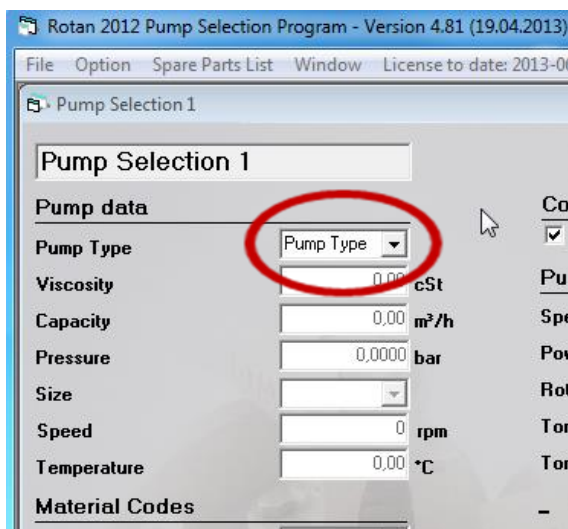


Illustration 14

US option is only for product that will be quoted and sold by DESMI in the US. All others have to be marked "European."

#### 4.2 Setting the pump data



mLc: Metres of liquid column  
 $MLc \times SG/10,3 = \text{bar}$

Illustration 15

##### 4.2.1 Select pump type

Type the pump type or select it by simply clicking the drag-point and choose between the different pump types.

#### 4.2.2 Viscosity, capacity and pressure

This paragraph is the most important part of the program. Here you enter the hydraulic data for the pump calculations.

If you want to change the type of pump, see below.

First you have to enter the viscosity of the liquid. As you will see at the bottom of the screen, you are able to enter values in the interval 1 to 175,000 cSt. When you have entered a value press < Enter > to go to the next field, Capacity. Enter the capacity at which you wish to pump and press < Enter > to continue. Now enter pressure. At the bottom of the screen you will see in which range you are able to enter - from 0 to 10 bar or from 0 to 16 bar dependent on the size of the pump.

#### 4.2.3 Pump size

When you have typed the wanted Viscosity, Capacity and Pressure, the program selects a size within the selected pump type range. If you want to change it to a another size, just click the arrow button on the keyboard or click the drag-point, and select between the different pump sizes.

#### 4.2.4 Speed

If you change the speed, the selection program will maintain the selected pump size and change the capacity. When you select a prime mover, the speed will be changed to fit the capacity of the selected pump.

#### 4.2.5 Temperature

Here you type the temperature of the pump media.

### 4.3 Material Codes

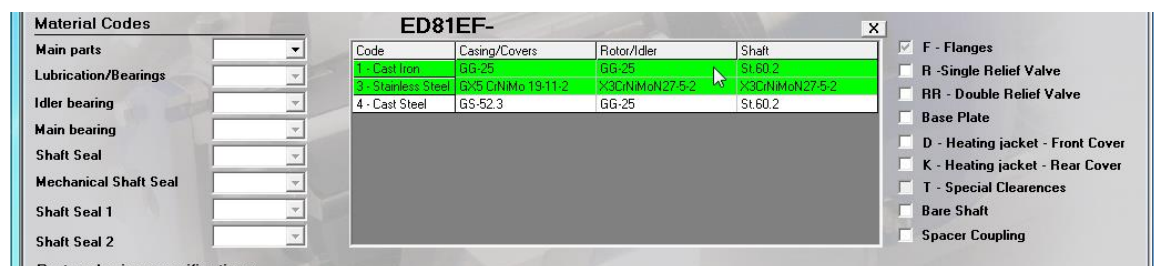


Illustration 16

Here you select the specific material combinations for the selected pump type and pump size. It is only possible to choose between combinations that have been approved by the DESMI ROTAN department.

In each selection you get a specific description of the different selection options at the right side of the window, see above. You can type the pump code or select by clicking the drop-down menu, and choose between the different pump types. It is also possible to make your choice by simply clicking the specific description.

#### 4.3.1 Main parts

Here you select materials for the main parts. Normally the main part is connected to the selected pump type, but with the ED pumps it is possible to select different kinds of material for the main parts.

#### 4.3.2 Lubrication/Bearings

Here you select the kind of Lubrication wanted for the pump selection.

#### 4.3.3 Idler bearing

Here you select materials for the idler bearing.

#### 4.3.4 Main bearing

Here you select materials for the main bearing.

#### 4.3.5 Shaft seals, shaft seal 1 and shaft seal 2

Here you select shaft seals. If you choose mechanical seals, you will be able to select the specific seals in the next one or two selections.

#### 4.3.6 After material selections

When you have finished the material selection, the selection program normally finds a specific pump that corresponds to the selected parameters, and it will insert the part and price specifications as shown below.

Item no.	EU	CH	US	Description	Quantity	Discount %	Price EUR
2577	D			HD81EF-1U11B	1.00	0.00	1.639,00
Total price							1.639,00

Buttons: Combinations, Gear and Motor, VFD Option, Liquid List, Move to Word, Duty Point, Pipe Friction, Dimensional Sketch, Select Coupling, Curves, Reset Selections, Terms Conditions

Illustration 17

4.3.6.1 Discount

In the above illustration you will find a column with the line quantity and discount. If you click on one of these specific lines, you will be able to change the quantity and discount value in % as shown below.

The screenshot displays a software interface for configuring a pump part. On the left, the 'Material Codes' panel includes dropdown menus for 'Main parts' (1 - Cast Iron), 'Lubrication/Bearings' (U), 'Idler bearing' (1), 'Main bearing' (1), 'Shaft Seal' (B), and 'Mechanical Shaft Seal'. A central dialog box titled 'Item Price, Quantity and Discount' for part 'HD81EF-1U11B' shows 'Part original price' at 1639.00, 'Discount %' at 5.00, 'New Part price' at 1557.00, and 'New Quantity' at 4.00. The 'Discount %' and 'New Quantity' fields are circled in red. To the right, a list of options includes 'F - Flanges', 'R - Single Relief Valve', 'RR - Double Relief Valve', 'Base Plate', 'D - Heating jacket - Front Cover', 'K - Heating jacket - Rear Cover', 'T - Special Clearances', 'Bare Shaft', and 'Spacer Coupling'. At the bottom, a 'Part and price specifications' table is shown:

Item no.	EU	CH	US	Description	Quantity	Discount %	Price EUR
2577	D			HD81EF-1U11B	1.00	0.00	1.639.00
Total price							1.639.00

Below the table are several buttons for further configuration: 'Combinations', 'Gear and Motor', 'VFD Option', 'Liquid List', 'Move to Word', 'Duty Point', 'Pipe Friction', 'Dimensional Sketch', 'Select Coupling', 'Curves', 'Reset Selections', and 'Terms\_Conditions'.

Illustration 18

#### 4.4 Other selections

There is a couple of other selections you can make in order to configure the pump. Click those that should be selected. Most of them will show you a detailed description of the selection as shown below. Make your selection and the selection program will look for the specific combination and display it in Part and price specifications.

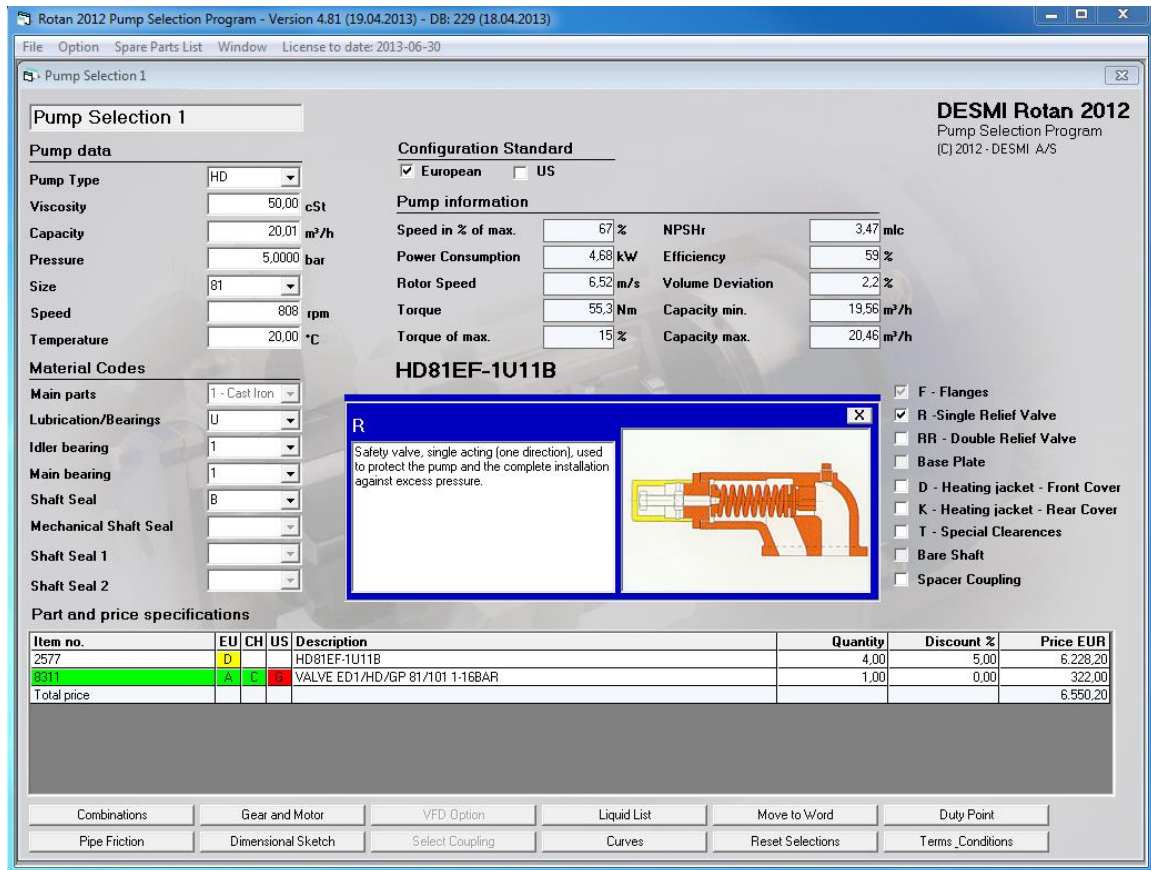


Illustration 19

#### 4.4.1 RR –Double relief valve

The selection program will show you all the parts needed for the double relief valve that fit the pressure values you specified.

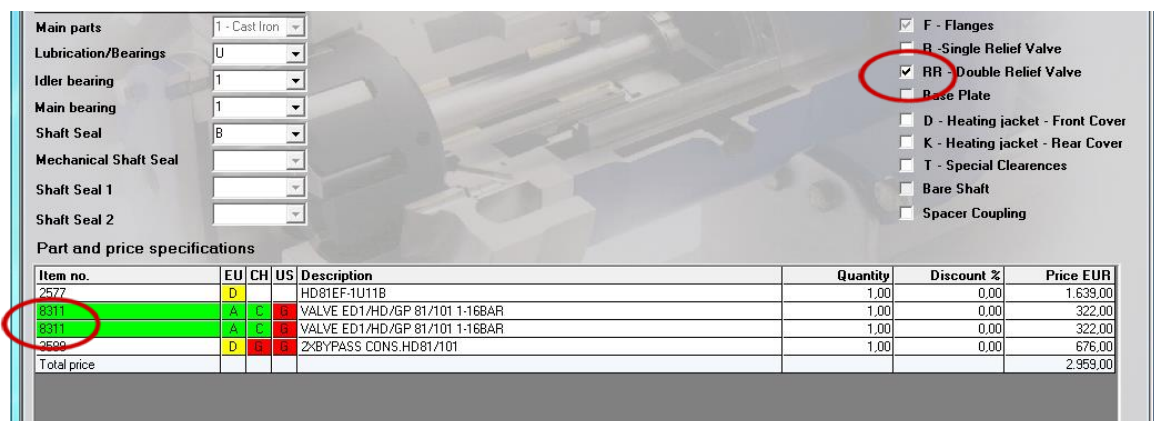


Illustration 20



#### 4.5 Function buttons

When you have selected a specific pump combination, some of the function buttons will be highlighted and function enabled.

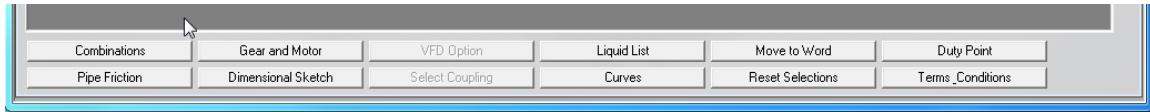


Illustration 21

##### 4.5.1 Combination button

The combinations button lets you choose between different combinations for the selected pump type, size and material combinations. To select, just click the Item number. The selected line is the one that corresponds with the selection at the moment. It will change the other possible selections and change the specific pump combination in the Parts and price specifications.

**Material Codes**

**HD81EF-1U11B**

Item no. (1)	Description	Price EUR
2577	HD81E-1U11B A	1.639,00
2577	HD81E-1U11B A	1.639,00
2577	HD81E-1U11B A	1.639,00
2577	HD81EFT-1U11B	1.869,00
	HD81EFT-1U11B (R)	1.869,00
	HD81EFT-1U11B (RR)	1.869,00
	HD81EFK-1U11B	2.127,00
	HD81EFK-1U11B (R)	2.127,00
	HD81EFK-1U11B (RR)	2.127,00

**Part and price specifications**

Item no.	EU	CH	US	Description	Quantity	Discount %	Price EUR
2577	D			HD81EF-1U11B	1,00	0,00	1.639,00
8311	A	C	G	VALVE ED1/HD/GP 81/101 1-16BAR	1,00	0,00	322,00
8311	A	C	G	VALVE ED1/HD/GP 81/101 1-16BAR	1,00	0,00	322,00
3589	D	G	G	2x BYPASS CONS. HD81/101	1,00	0,00	676,00
Total price							2.959,00

**Options:**

- F - Flanges
- R - Single Relief Valve
- RR - Double Relief Valve
- Base Plate
- D - Heating jacket - Front Cover
- K - Heating jacket - Rear Cover
- T - Special Clearances
- Bare Shaft
- Spacer Coupling

Illustration 22

#### 4.5.2 Pipe friction

It is possible to calculate the friction losses in a **simple piping systems**, but be aware that it might not be working properly in case of turbulent water flows.

When you click the Pipe Friction button a new window as shown below will open.

	Suction side	Pressure side
Pipe Diameter	0 mm	0 mm
Pipe Length	0.0 m	0.0 m
Height	0.00 m	0.00 m
No of fittings	0	0
Specific Gravity	1.00	
Vapour pressure	0.00 bar	
Viscosity	50.00 cSt	
NPSHa	0.00 m	Use
Pressure	0.00 bar	Exit

Illustration 23

Enter the data for your piping system. If you want to represent liquids running to/from a place above the pump, just set the height to a negative number.

When you have finished your calculation, you have four possibilities:

- **Use**  
The calculated data, which means the calculated pressure, is transferred to the main calculation.
- **Exit**  
Leave the pipe calculations.

If SG is different from 1: Do not forget to tip it in.

Please note, there many other factures effecting a pipe system and these figures should only be used as indications.

### 4.5.3 Gear and Motor button

When you click the Gear and Motor button, you can select a drive unit for the selected pump.

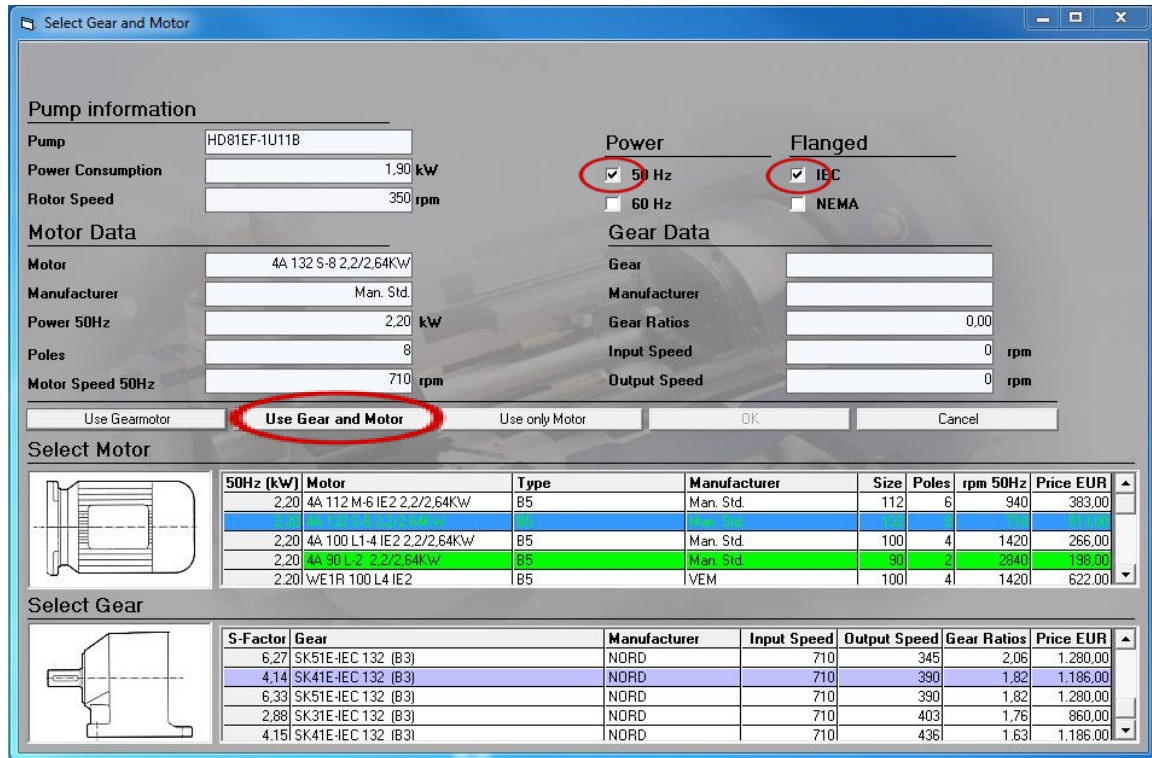


Illustration 24

First you have to select IEC or NEMA. Please note that NEMA option is only for product that will be quoted and sold by DESMI in US.

You can choose between three different kinds of prime mover types as shown above by clicking on the button for the specific use:

- Use Gear Motor
- Use Gear and Motor
- Use only Motor

If you choose to use gear and motor you will be able to use a different brand of motor and gear. The selection program knows what kind of combination you can use; this will prevent you from selecting parts that do not match.

If you want 60Hz instead of 50Hz, you can select another drive unit and the list of gear motors and motors will change to the new type.

When you want to make the selection, click the wanted drive unit, and the specifications for the drive unit will be shown at the top of the window.

When you have selected one, the OK button will be enabled, click it to make your final drive unit selection, and move the information to the main window. If you click Cancel you will leave the Gear and Motor selection without selecting any prime mover for the pump.

If you have selected a prime mover part, this will have an effect on the dimension sketch.

#### 4.5.4 Dimension Sketch button

When you click the Dimension Sketch button you will get information on pump, base plate, and prime mover dimensions, and the selection will open the below window.

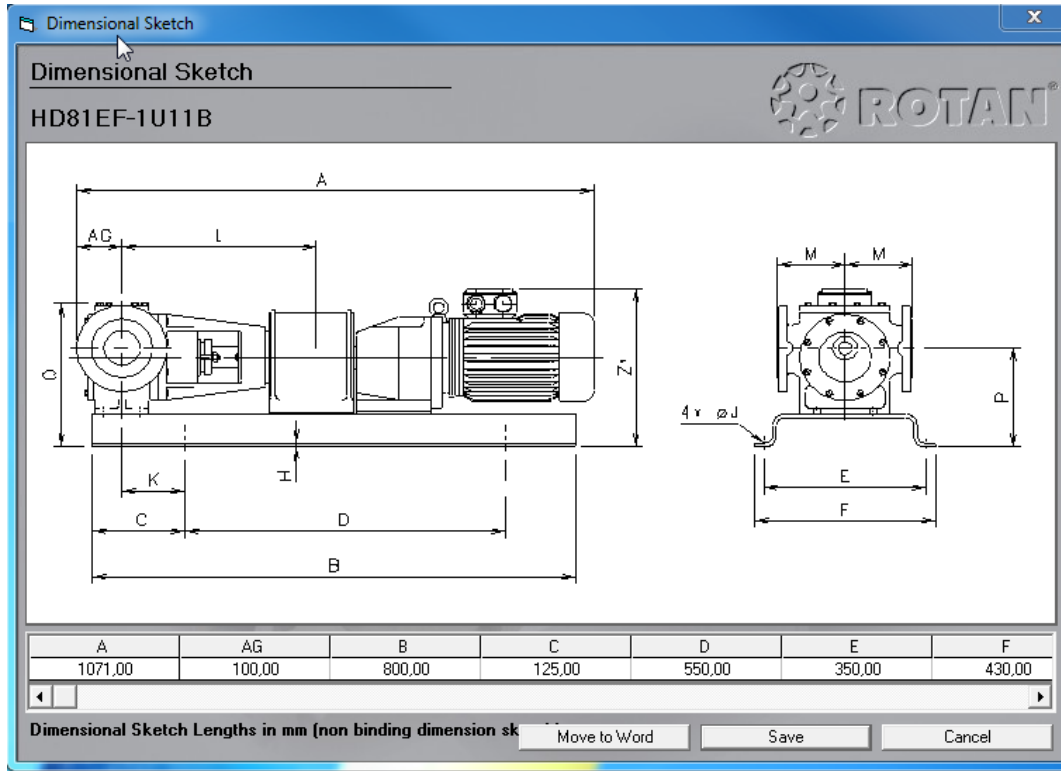


Illustration 25

Here you will see all dimensions for the selected pump configuration. You also have the possibility to move the dimension sketch and the specific dimensions to a new Word document, or to save the dimension sketch as a bmp-file.

#### 4.5.4.1 Duty Point button

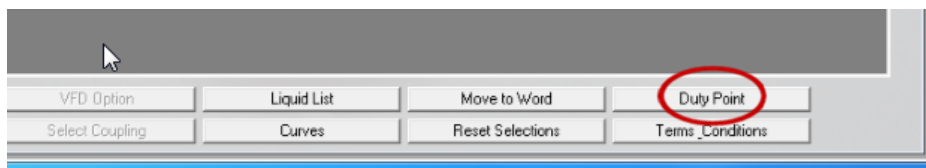


Illustration 26

If a pump has to operate at different duty points – for example different viscosity, pressure etc. Then there is a possibility to list up the different duty points in the selection.

Make a normal selection

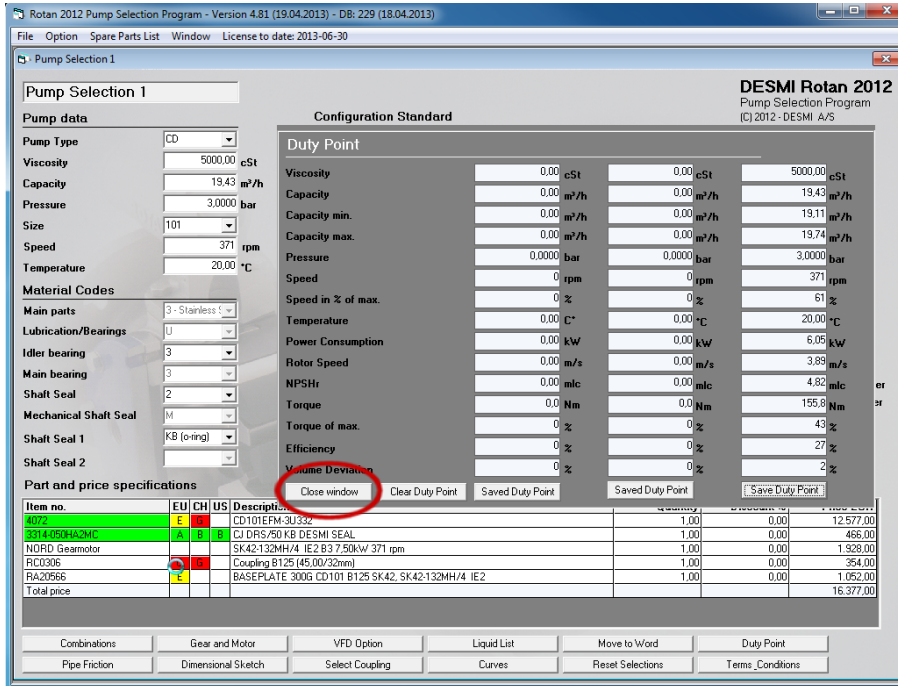


Illustration 27

Press button “Duty Point” and a new window will pop up.  
In the new window press “Save Duty Point” and press “Close window”

Now we are coming back to the front screen, where the new pump data has to be typed in.  
Please note, if there has been selected a drive unit (gear, motor etc.) then this has to be selected again.

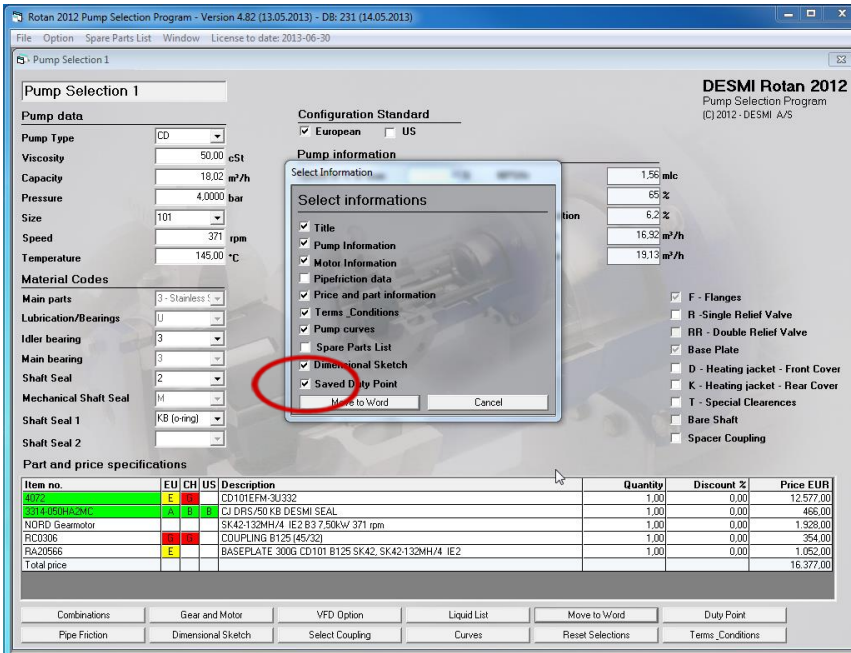


Illustration 28

When the new data is typed in, this will be used as the second Duty Point.  
Now both duty points will be saved and they will be a part of the complete selection when this is moved into word by marking “Saved Duty Point”

#### 4.5.5 Move to Word button

When you click the Move to Word button you can move your selected pump configuration to a new Word document.

When you click the button you will be able to select the information you want to move to the Word document. The choice you make will be stored in the database, and the next time you select Move to Word you will get the same selection as the last time.



Illustration 29

#### 4.5.6 Liquid List button

In the liquid list you can search for information on a lot of liquids.

From time to time you will experience that another type of liquid is referred to. In that case there will be another button at the bottom of the screen with the name of the referenced liquid. To see this liquid just click the button.

If you want to go back in your search just, click the Back button.

It is possible to shift between the Liquid list and the Flip/Flap list. The liquid list describes which pump to use and gives additional information about a certain liquid whereas the Flip/Flap list is a resistance list telling you which materials to use for the given liquid.

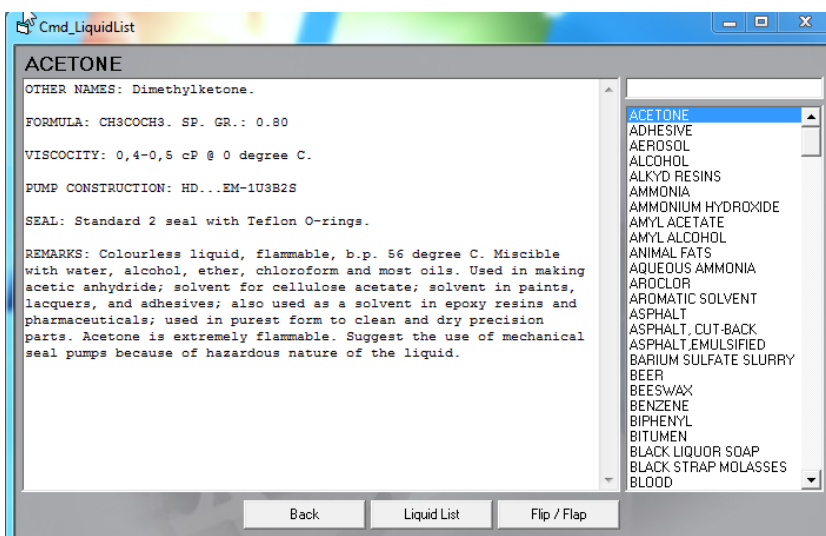


Illustration 30

When you have finished searching, click Exit to go back to the pump selection main window.

#### 4.5.7 Curves button

When you have selected a specific pump configuration you can click the Curves button and get a graphics visualizing drawing with the specific pump's flow, pressure and power use.

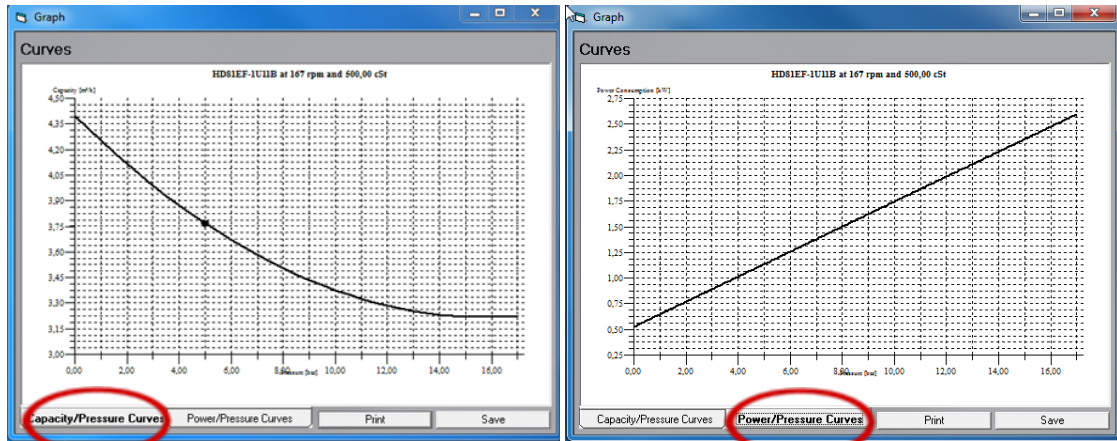


Illustration 31

Just click the buttons if you want to switch between Capacity and Effect. You can also select to print or save the curves by selecting the corresponding buttons

#### 4.5.8 Reset button

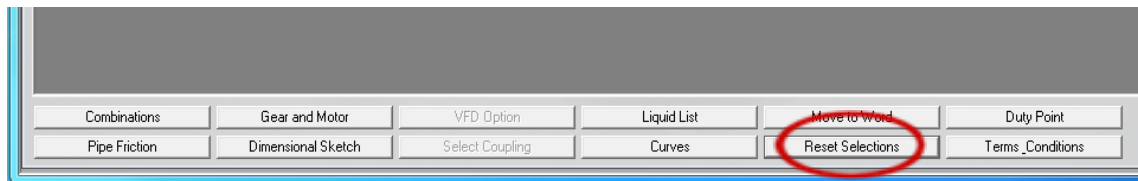
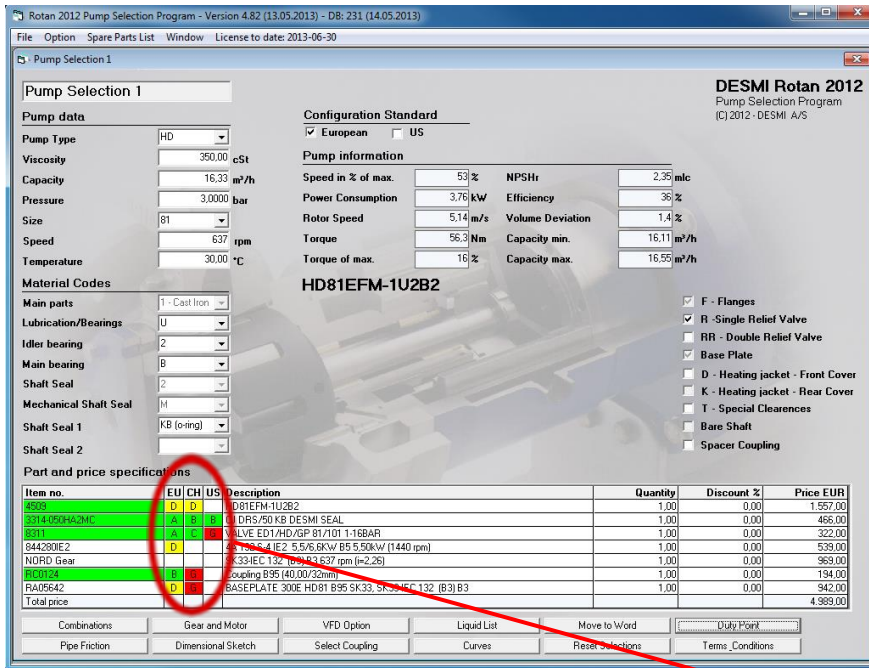


Illustration 32

When you click this one, it will clear the selection at the bottom of the screen, as shown in the illustration below. It will not clear other selections.

5 Delivery categories, Terms and Conditions.

5.1 Delivery categories



Distribution centers:  
 EU = EMEA = Europe, Middle East and Africa (Ordered in Denmark)  
 CH = Asia (Ordered in China)  
 US = North- and South America and Canada (Ordered in UAS)

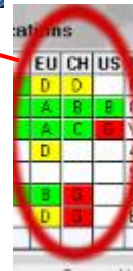


Illustration 33

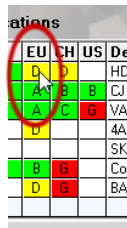


Illustration 34

By pointing on letter, and “click” on it a new window will open

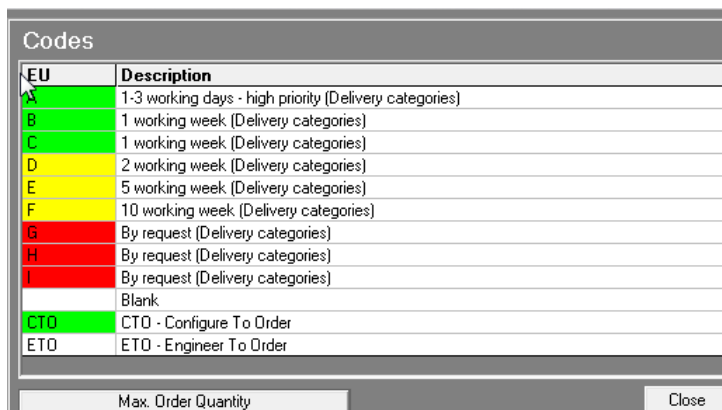


Illustration 35



For EU the delivery time is based in working weeks from the reception of a Purchase Order.

People outside Desmi

Max order quantity: 2-3 units depending on size and type. Please ask the regional Desmi Distribution center for higher quantities.

Internal Desmi sales people:

Click button "Max Order Quantity" where you will be connected to the Desmi NET, where you find an updated list with information for the quantity.

On Desmi NET in "Sales and Support Portal", you will find information's for:

- Delivery categories
- Available stock – Rotan Pumps
- Available stock – Rotan Pumps
- Guideline – Order entry
- Guideline – Max order quantity
- What is Global order Center (GOC)
- KPI – Delivery performance (Key performance indicators)

## 5.2 Terms and conditions.

Click button "Terms Conditions"

The screenshot shows a software dialog box titled "General Information" with a sub-section "Terms\_Conditions". It contains several dropdown menus and one text input field. The settings are as follows:

Field	Value
Delivery Terms	EXW INCOTERMS 2010
Method Of Delivery	Most Cost Effective Way
Paint specifications	RAL 5010 BLUE, Gloss 50, Temalac FD
Class Society	DESMI Test
Class Society Test	Std. Performa test
Material certificate	None
Test criteria	DESMI Rotan (Standard)
Delivery time	[Empty] Working days

An "OK" button is located at the bottom right of the dialog box.

Illustration 36

Default settings as above shown.

Type in the totally delivery time from the delivery categories (Please see 5.1)