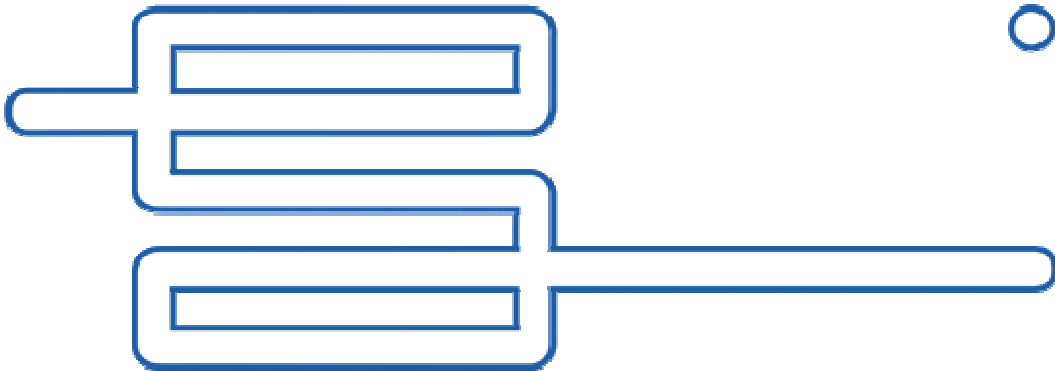


# EDGE - Help Online

v1.6.0.3



speroni®

*precision by design*



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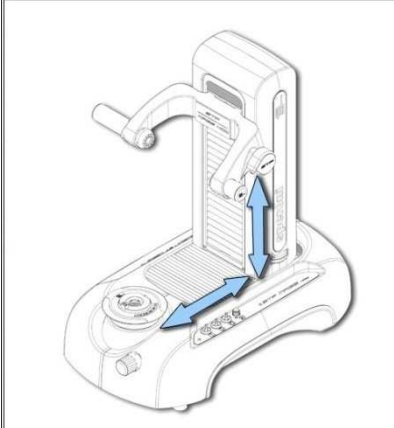




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**Homing STP**

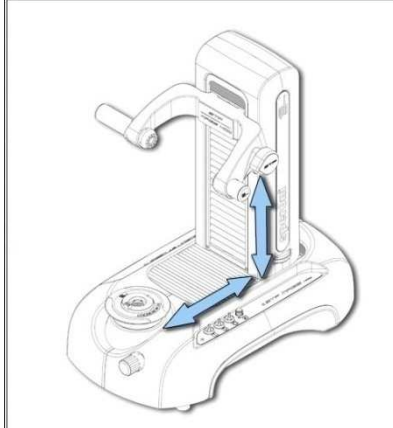
For the correct use of the Speroni Tool Presetter it is necessary to carry out the 'Homing' procedure.  
 1 - Move the machine's axis to carry out the Homing procedure.





**Homing STP**

For the correct use of the Speroni Tool Presetter it is necessary to carry out the 'Homing' procedure.  
 1 - Click on the 'F2 - Homing Key'.  
 2 - Move the machine's axis to carry out the Homing procedure.



On the left we note the Homing window, where the presetting system is not equipped of the automatic spindle.

On the right, on the contrary, where the spindle axis is automatic, you must require the equipment's homing by pushing the button, for security issue.



**Homing**

## Common components of EDGE windows

The common components of EDGE windows are:

1. The function bar;
2. The Main Menu;
3. The dimensions display with their functions ;
4. The vision system window;
5. The list of measures macro.

The common components will now be described.

### The function bar

The function bar is positioned at the foot of each window and allows the use of the features associated with it. The features bar looks like this:



Each bar icon consists of an image identifying the function and of a number present at foot that indicates the FUNCTION KEY associated with each icon (F1...F12).

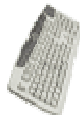


You have also the possibility to see other icons appearing on the far left of the bar. These are:



**Show Main Menu:**

this icon allows you to open the main menu. It will be described later.



**Show Virtual Keyboard:**

this icon allows you to open virtual keyboard **when you have a touch screen monitor.**

## The Main Menu

The Main Menu is used to access the various EDGE pages. Its layout is very simple.



Starting from the upper center the icons are so displayed:



### History

It allows you to see the history of each window.



### Manual measure

It shows you the manual measure window.



### Exit

It allows windows to exit or the equipment to shutdown.



### Post Processor

It shows the Post Processor window.



### Database Management

It opens the Database Management window



### SEF

It shows the SEF function window



### Quick Report Management

It shows the QRM window



### External Devices

It shows the External Devices window



### **Backup / Restore**

It shows the Backup Restore window



### **NC Manager Program**

It shows the management programs to send to numerical control.



### **Preset**

It shows the Presetting tools window



### **Configuration**

It shows the configuration window



### **Remote support**

It shows the remote support window



### **SVS Utility**

It shows the Vision System utility window



## The dimensions display with their functions

The dimensions display shows the machine axis position or the current measure of tools according to the measurement units and method set.



The dimensions display shows:

**X D R**

### The inscription of X axis (horizontal).

It can vary from "D" to "R" according to the setting respectively of Diameter or Radius. Where is not selected the "View D / R in X dimension" parameter, the inscription will be "X".

**Z**

### The inscription of Z axis (vertical).

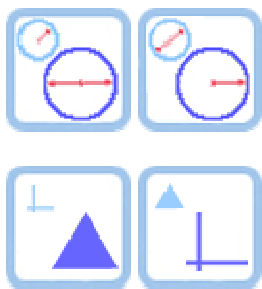
It can vary from "Z" to "X" according to a configuration parameter.

**107.513**

### The axis dimensions.

The dimensions color can be various; each color has a meaning

- GREEN:** axis ok;
- WHITE:** zero axes enabled;
- YELLOW:** out of tolerance;
- PINK:** axis not zeroed;
- RED:** axis error;
- BLUE:** axis waiting homing;
- LIGHT BLUE:** frozen axis.



### Diameter / Radius.

It sets the measure unit in Diameter or Radius

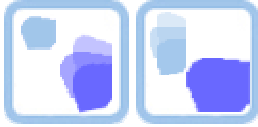
### Enable / Disable the reset dimensions function

It enables the possibility to set a point of zero on a given axis to make distance measures.

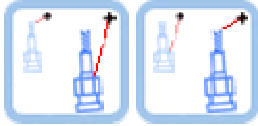
To reset given axes simply click you on its inscription.

The dimension of selected axis will be set to "0.000" and the color will become WHITE.

### MaxP On / OFF



It allows to enable or disable the "Maximum Profile" function.



#### **Absolute / Offset**

It sets the display mode of Absolute measure (measures referred to adapter) or Offset (measures referred to theoretical dimensions)



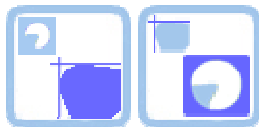
### Millimeters / Inch

It sets the measure unit to Millimeters or Inch.



### Frozen dimensions ON / OFF

It enables or disables the possibility to block the value of the dimensions. They assume the color LIGHT BLUE.



### AutoMeasure / Projector

It sets the vision system measure mode in Auto Measure (calculates the maximum diameter and the maximum height of the placed tool) or digital projector.

Adapter: 01 - ISO\_50  
Tool:Ute\_001 - Utensile #001  
Tagliente:0001

### The selected adapter and tool

It shows the selected adapter and tool. If any adapter is selected appears written in red "No adapter selected"



### Enable / Disable "Radius" Measure

It measures the placed tool Radius. It is active in Auto Measure mode.



### Enable / Disable "Upper angle" measure

It measures the upper angle of placed tool. It is active in Auto Measure mode.



### Enable / Disable "Lower angle" measure

It measures the lower angle of placed tool. It is active in Auto Measure mode.



### Enable / Disable "Including angle" measure

It measures the including angle of placed tool. It is active in Auto Measure mode.



### Show / Hide Alpha Axis (Spindle)

It allows to show or hide the third Alpha (Spindle) only when it is automatic.

## The vision system window

The vision system shows the image framed with the camera



Before making any measurement put the tool in the correct position. To do this, above the vision system window is placed the tool's position indicator. If the indicator is green, the tool is in the correct position. If, however, the indicator is red or blue, rotate the tool until the indicator becomes green.

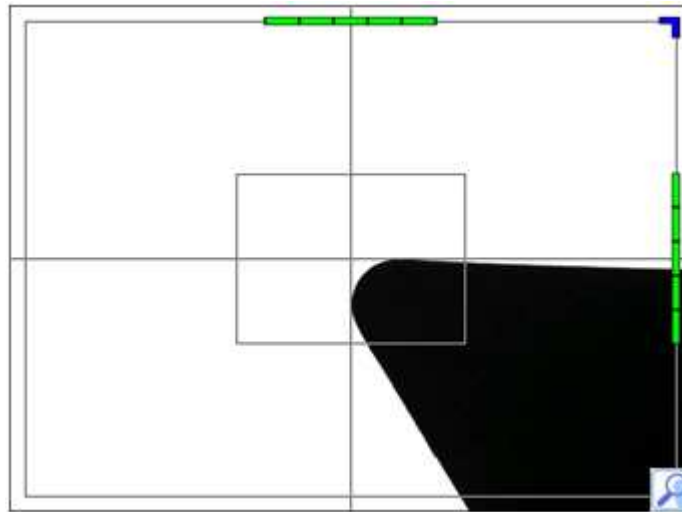
The vision system window can occur in two ways:

- Digital projector;
- AutoMeasure.

To activate the "digital projector" system is necessary to disable the "AutoMeasure" function by clicking on the button.



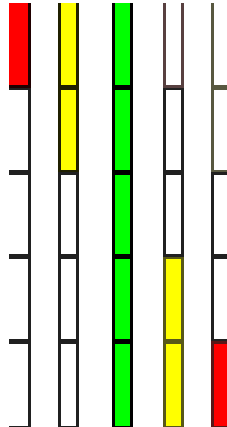
The vision system will look like this:



In this window we note:

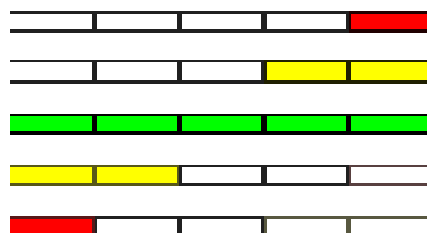
- The indicators of horizontal position;
- The indicators of vertical position;
- The indicator of central position;
- The ZOOM button.

The indicators of Z position axes (vertical);



It helps the operator to fit the vision system image with the horizontal axis by shifting the Z axis.

The indicators of X position axes (horizontal);



It helps the operator to fit the vision system image with the vertical axis by shifting the X axis.

These two indicators can be:

- Green: if it is exactly in collimation;
- Yellow: if you are at a distance within 10 microns from collimation;
- Red: if you are at a distance within 30 microns from collimation.

Furthermore, the position indicators show which side is excess by coloring above or below (for Z axis indicator) or right or left (for X axis indicator).

The indicator of central position



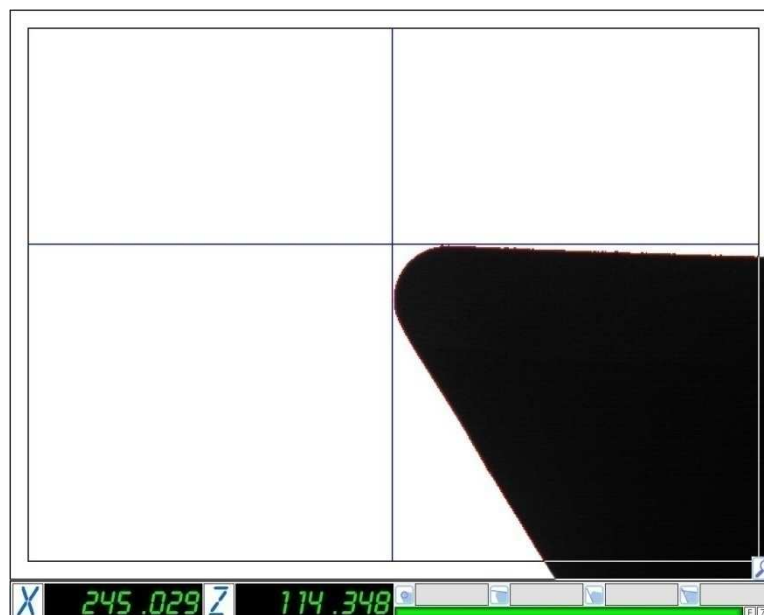
is usually used for tools that require a collimation at the center of the vision system. If it is blue, the image does not cover the center of vision system. If it is red, the image covers the center of vision system. If it is green, it is exactly in collimation with the center of vision system.

The zoom button



It is used to zoom the image of the camera. Clicking repeatedly on this button will zoom the image many times until you return to actual size.

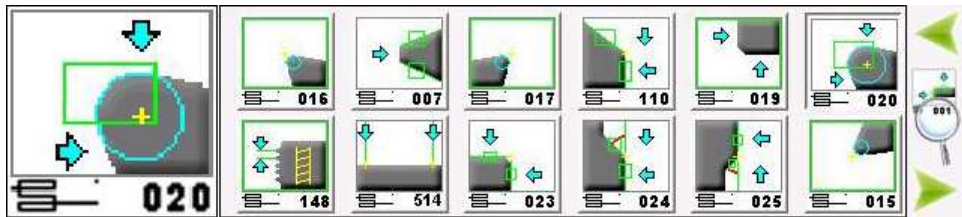
Moreover, if you do not have dual-monitor, you can zoom to full-screen the vision system window by **"double click"** on it. At this point the system will appear full-screen viewing:



You can return again to the reduced window by **"double click"**

## The list of measure Macro

The list of Macro measure shows all the usable macro.



A macro is a special measure that can be performed on a tool that has particular characteristics.

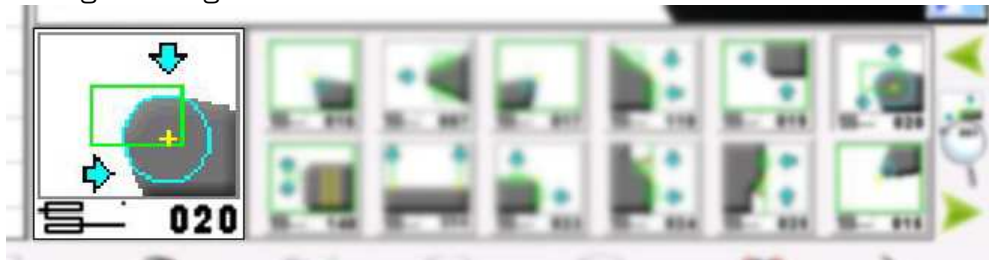
This list can be modified through the Macro configuration of SVS measure's window (see **Manual Measure**), accessible by button



### SVS Macro Configuration

Found in the Manual Measure window.

Clicking on a macro, the vision system will activate the required measure that is shown, enlarged, alongside the list. Clicking on the enlarged image macro is disabled



You can browse the list of measure macro using the arrow buttons

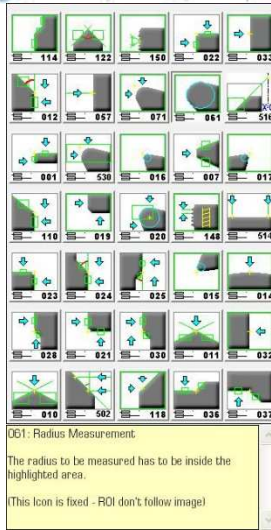


You can also search measures macro pressing the button "Search"



With this function, the system will provide a list of measure macro selected automatically according to the displayed image.

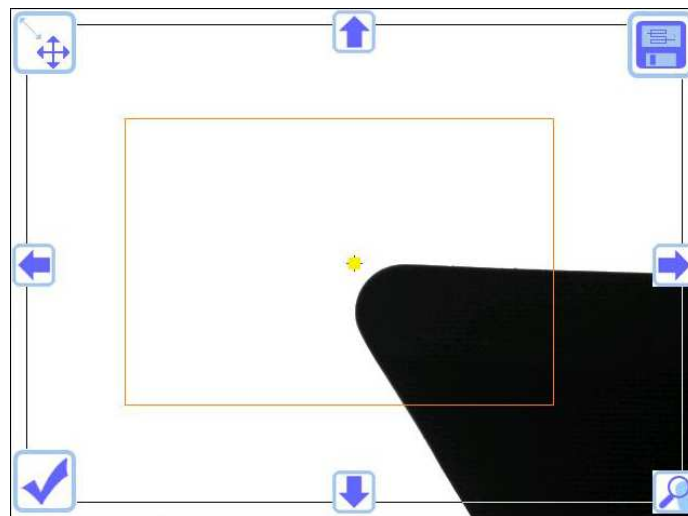
The list of measure macro will also present as follows:



We note at the top the list of icons, and below the description of selected icon.

If there is no measure the vision system will show a red box and the respective measurement areas through rectangles or lines.

**If you have purchased a license "Click & Drag"** you have the ability to modify the measurement areas. To do this, simply click the desired area and, through the buttons that appear, move or resize the area. This function is activated by clicking on the vision system window even when the macro properly functions.



The area selected for editing will be highlighted in yellow.

The buttons for editing are:



**Move / Resize**

It allows you to change the mode from "Move Area" to "Scale Area" and vice versa.



**Right**

If in "Move Area", the area moves to the right.



If in "resize Area", increases the horizontal dimension.



#### **Left**

If in "Move Area", the area moves to left.  
If in "Resize Area", decreases the horizontal dimension of the area.



#### **Top**

If in "Move Area" the area moves to the top.  
If in "Resize Area", decreases the vertical dimension



#### **Low**

If in "Move Area" the area moves to the low.  
If in "Resize Area", increases the vertical dimension



#### **Change confirmation**

To confirm the Macro change and hide the measurement areas



#### **Save Macro measure**

It allows to save the modified measure macro.



#### **Zoom**

It allows you to do a digital zoom of the displayed image.



#### **Full-screen**

It allows you to see the full-screen vision system.



#### **Remove screen**

It allows you to exit the full-screen mode.



#### **Camera selection**

It allows you to select different mounted cameras where there was more than one.  
The selected camera is highlighted in red.

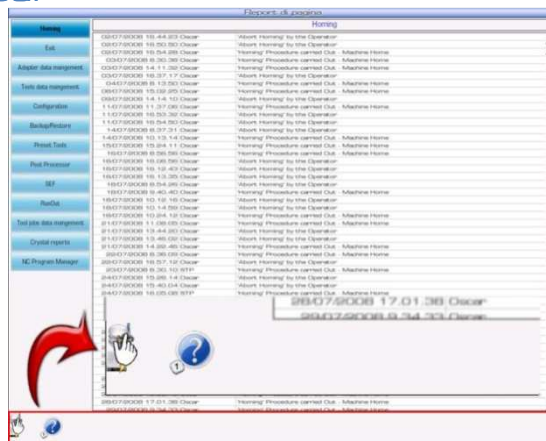
## Page report - History

Report di pagina		
Homing		
Homing	02.07/2008 16.44.23 Decar	'Abort Homing' by the Operator
Exit	02.07/2008 16.50.50 Decar	'Abort Homing' by the Operator
Adapter data mangement	02.07/2008 16.54.28 Decar	'Homing' Procedure carried Out - Machine Home
	03.07/2008 8.30.38 Decar	'Homing' Procedure carried Out - Machine Home
Tools data mangement	03.07/2008 14.11.32 Decar	'Homing' Procedure carried Out - Machine Home
	03.07/2008 16.37.17 Decar	'Abort Homing' by the Operator
Configuration	04.07/2008 8.13.50 Decar	'Homing' Procedure carried Out - Machine Home
	08.07/2008 15.02.25 Decar	'Homing' Procedure carried Out - Machine Home
Backup/Restore	09.07/2008 14.14.10 Decar	'Abort Homing' by the Operator
	11.07/2008 11.37.06 Decar	'Homing' Procedure carried Out - Machine Home
Preset Tools	11.07/2008 16.53.32 Decar	'Abort Homing' by the Operator
	11.07/2008 16.54.50 Decar	'Abort Homing' by the Operator
Post Processor	14.07/2008 9.37.31 Decar	'Abort Homing' by the Operator
	14.07/2008 10.13.14 Decar	'Homing' Procedure carried Out - Machine Home
SEF	15.07/2008 15.24.11 Decar	'Homing' Procedure carried Out - Machine Home
	16.07/2008 8.58.58 Decar	'Homing' Procedure carried Out - Machine Home
RunOut	16.07/2008 16.08.56 Decar	'Abort Homing' by the Operator
	16.07/2008 16.12.43 Decar	'Abort Homing' by the Operator
Crystal reports	16.07/2008 16.13.35 Decar	'Abort Homing' by the Operator
	16.07/2008 8.54.26 Decar	'Abort Homing' by the Operator
NC Program Manager	16.07/2008 9.40.40 Decar	'Homing' Procedure carried Out - Machine Home
	18.07/2008 10.12.16 Decar	'Abort Homing' by the Operator
Tool jobs data mangement	18.07/2008 10.14.59 Decar	'Abort Homing' by the Operator
	18.07/2008 10.24.12 Decar	'Homing' Procedure carried Out - Machine Home
Crystal reports	21.07/2008 11.08.05 Decar	'Homing' Procedure carried Out - Machine Home
	21.07/2008 13.44.20 Decar	'Abort Homing' by the Operator
NC Program Manager	21.07/2008 13.46.02 Decar	'Abort Homing' by the Operator
	21.07/2008 14.22.46 Decar	'Homing' Procedure carried Out - Machine Home
NC Program Manager	22.07/2008 8.36.09 Decar	'Homing' Procedure carried Out - Machine Home
	22.07/2008 16.57.12 Decar	'Abort Homing' by the Operator
NC Program Manager	23.07/2008 8.30.10 STP	'Homing' Procedure carried Out - Machine Home
	24.07/2008 15.28.14 Decar	'Abort Homing' by the Operator
NC Program Manager	24.07/2008 15.40.04 Decar	'Abort Homing' by the Operator
	24.07/2008 16.05.08 STP	'Homing' Procedure carried Out - Machine Home
NC Program Manager	25.07/2008 8.31.07 Decar	'Abort Homing' by the Operator
	25.07/2008 9.08.44 Decar	'Abort Homing' by the Operator
NC Program Manager	25.07/2008 9.11.46 Decar	'Abort Homing' by the Operator
	25.07/2008 9.26.06 Decar	'Abort Homing' by the Operator
NC Program Manager	25.07/2008 11.13.02 Decar	'Homing' Procedure carried Out - Machine Home
	25.07/2008 14.56.12 Decar	'Homing' Procedure carried Out - Machine Home
NC Program Manager	25.07/2008 16.50.24 Decar	'Abort Homing' by the Operator
	25.07/2008 16.51.10 Decar	'Abort Homing' by the Operator
NC Program Manager	25.07/2008 16.54.15 Decar	'Abort Homing' by the Operator
	26.07/2008 8.25.55 STP	'Homing' Procedure carried Out - Machine Home
NC Program Manager	26.07/2008 11.01.59 Decar	'Homing' Procedure carried Out - Machine Home
	26.07/2008 12.12.33 Decar	'Homing' Procedure carried Out - Machine Home
NC Program Manager	26.07/2008 13.55.16 Decar	'Homing' Procedure carried Out - Machine Home
	26.07/2008 17.01.38 Decar	'Homing' Procedure carried Out - Machine Home
NC Program Manager	26.07/2008 17.01.38 Decar	'Homing' Procedure carried Out - Machine Home
	26.07/2008 17.01.38 Decar	'Homing' Procedure carried Out - Machine Home

The history window is made of:

- 1) The function bar;
- 2) The list of windows with history;
- 3) The history of each window;

### The functions bar



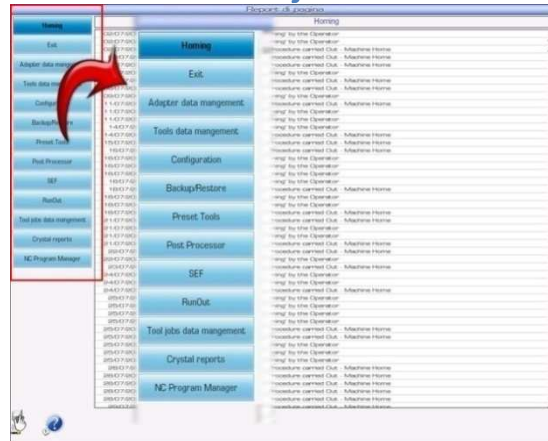
The functions bar is represented by a series of images that are:

## Help



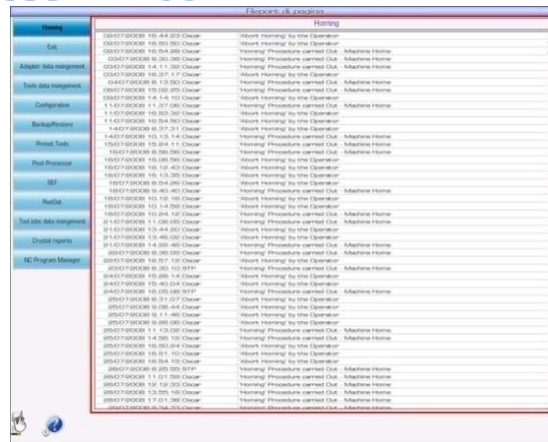
This button allows you to open the help window

## The list of windows with history



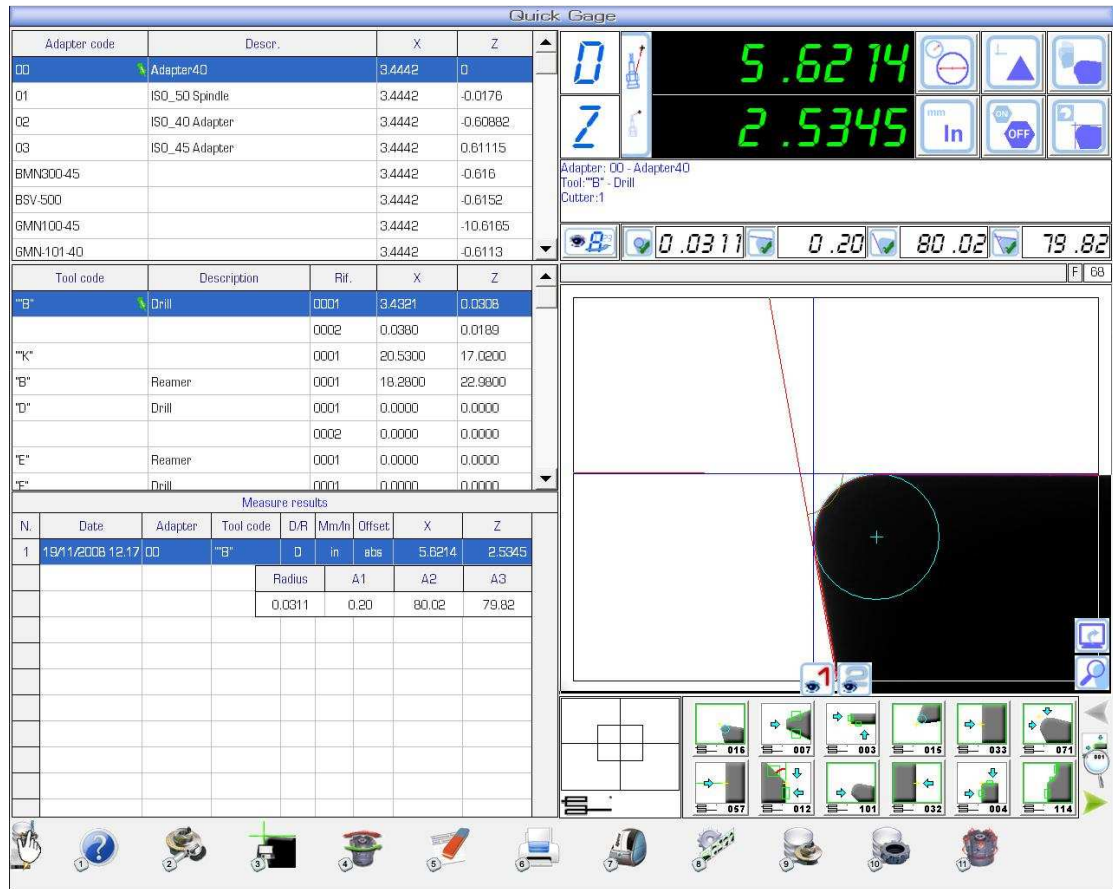
Selecting a window will display the history associated with it.

## The history of each window



The grid of history displays the history belonging to the selected window

## Manual Measure



Adapter code	Descr.	X	Z
00	Adapter40	3.4442	0
01	ISO_50 Spindle	3.4442	-0.0176
02	ISO_40 Adapter	3.4442	-0.00882
03	ISO_45 Adapter	3.4442	0.61115
BMN300-45		3.4442	-0.616
BSV 500		3.4442	-0.6152
GMN100-45		3.4442	-10.6165
GMN-101-40		3.4442	-0.6113

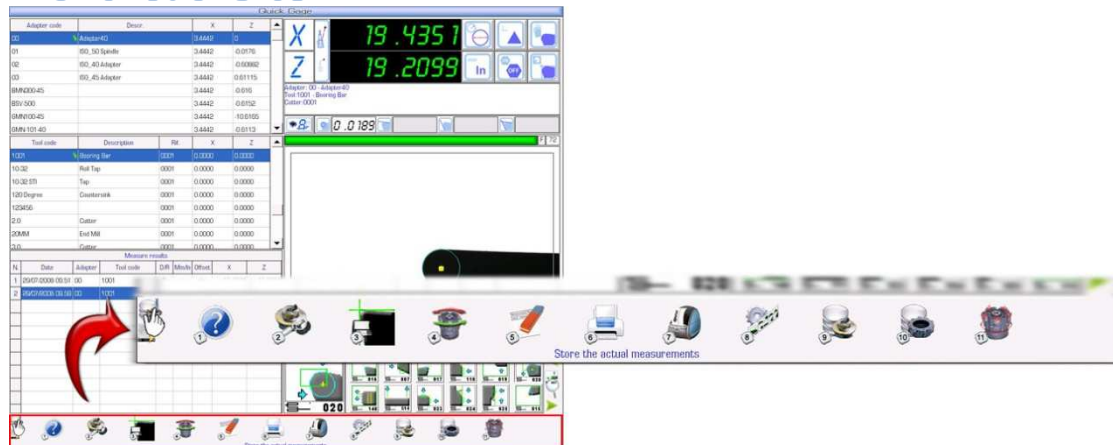
Tool code	Description	Rif.	X	Z
"B"	Drill	0001	3.4321	0.0308
		0002	0.0380	0.0189
"K"		0001	20.5300	17.0200
"B"	Reamer	0001	18.2800	22.9800
"D"	Drill	0001	0.0000	0.0000
		0002	0.0000	0.0000
"E"	Reamer	0001	0.0000	0.0000
"F"	Drill	0001	0.0000	0.0000

N.	Date	Adapter	Tool code	D/R	Mm/in	Offset	X	Z
1	19/11/2008 12.17	00	"B"	D	in	abs	5.8214	2.5345
				Radius	A1	A2	A3	
					0.0311	0.20	80.02	79.82

The manual measure window is made of:

- 1) The functions bar;
- 2) The adapters grid;
- 3) The tools grid;
- 4) The measure results grid;
- 5) The dimensions display with their functions. This will not be described because it has been described previously.
- 6) The measure macro list. This will not be described because it has been described previously.

### The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window

### Zero adapter



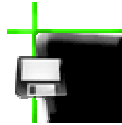
This button allows you to perform the origin's reset procedure to the selected adapter.

After pressing the button will appear a confirmation request:



To confirm the reset of the origins press "Yes".

### Stores dimensions



This button allows the storage of the measure and its inclusion in the grid of results.

### Autofocus



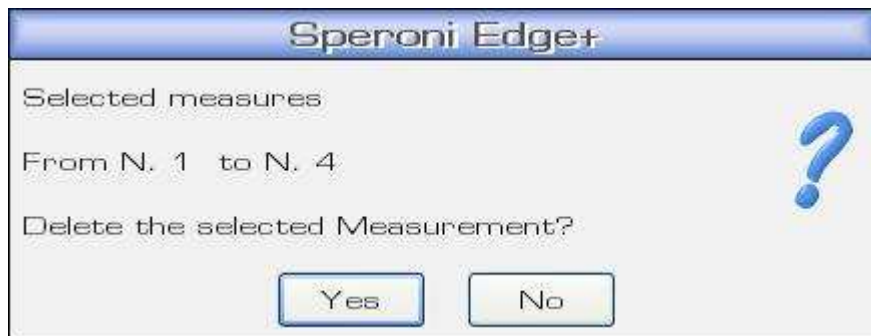
If the equipment owns the automatic spindle axis, this button allows the focus of the tool.

### Delete results grid



This button allows to **delete** the results grid

A window confirms what lines you are about to erase. In the example below you will erase from **line 1** to **line 4**.



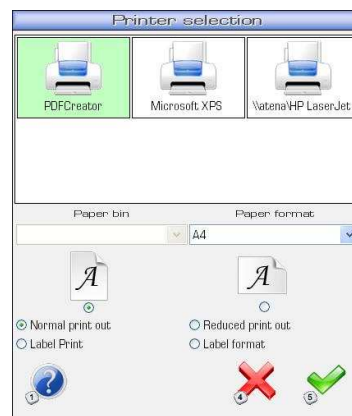
To confirm press "Yes".

### Print measures grid



This button allows to **print** the results grid

A window appears for selecting the printer to use:



Click on the printer to use, choose the paper size and the truck on which print, and press "**Confirm**" to print



Or "**Cancel**" to cancel.



You can also select different types of printing including:

- **Normal print:** the print format of selected measures is standard

- **Reduced print:** the print format is similar to the "normal" but with fewer fields of data.
- **Labels print:** if configured it prints as so many label as the selected measures
- **Labels format:** the selected measures are printed listed but with the labels format.

#### Labels print



It allows to **print a label**

#### Macro SVS configuration



It allows to open the **Macro SVS measures** that will be described later

#### Adapter management



It opens the **Management adapter** window that will be described later (see "The Adapter Management window" in "Data Management")

#### Tools management



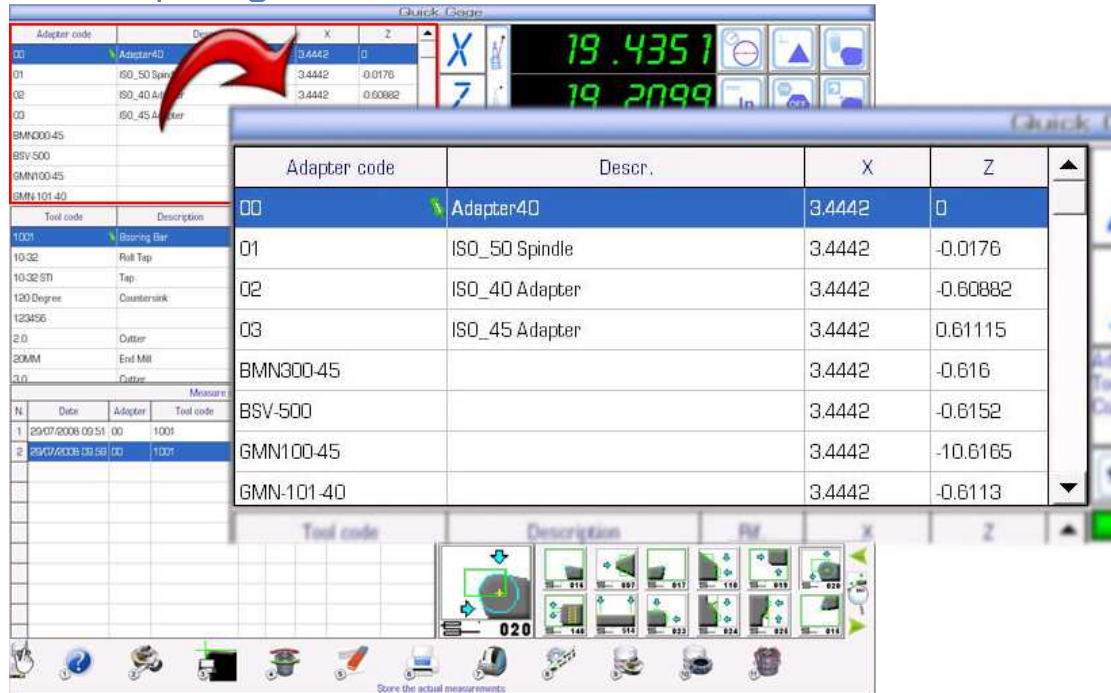
It opens the **Tools management** window that will be described later (see "The Tools Management window" in "Data Management")

#### RunOut function



It opens the **RunOut function** that will be described later.

## The Adapter grid



Adapter code	Descr.	X	Z
00	Adapter40	3.4442	0
01	ISO_50 Spindle	3.4442	-0.0176
02	ISO_40 Adapter	3.4442	-0.60882
03	ISO_45 Adapter	3.4442	0.61115
BMN300-45		3.4442	-0.616
BSV-500		3.4442	-0.6152
GMN100-45		3.4442	-10.6165
GMN-101-40		3.4442	-0.6113

In the Adapter grid are displayed all coded adapter.  
The grid is formed by:

- **Adapter code:** the code with which the adapter was coded;
- **Description:** adapter's description;
- **X:** X dimension of adapter;
- **Z:** Z dimension of adapter.

To select an adapter click you once on it. A green "pin"



will show you the selected adapter.

Once selected an adapter, the list of tools present only the tools associated to the just selected adapter.

If there is only one adapter listed, it will be automatically selected.

You can sort the adapter grid data clicking on any column.



## The tools grid



Tool code	Description	Rif.	X	Z
1001	Booring Bar	0001	0.0000	0.0000
10-32	Roll Tap	0001	0.0000	0.0000
10-32 STI	Tap	0001	0.0000	0.0000
120 Degree	Countersink	0001	0.0000	0.0000
123456		0001	0.0000	0.0000
2.0	Cutter	0001	0.0000	0.0000
20MM	End Mill	0001	0.0000	0.0000
3.0	Cutter	0001	0.0000	0.0000

In the Tools grid are displayed all coded tools.  
The grid is formed by:

- **Tool code:** the code with which the tool was coded;
- **Description:** tool's description;
- **X:** X dimension of tool;
- **Z:** Z dimension of tool.

To select a tool click you once on it. A green "pin"

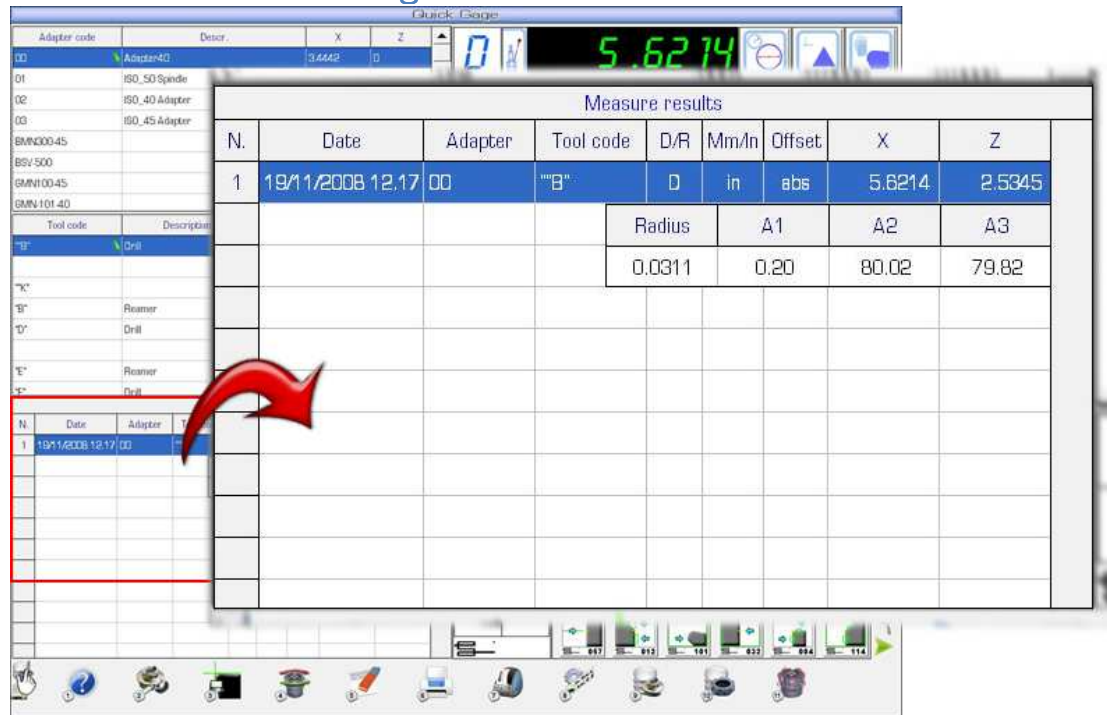


will show you the selected tool.

You can sort the adapter grid data clicking on any column.

You can sort the adapter grid data clicking on any column.

## The measure results grid



N.	Date	Adapter	Tool code	D/R	Mm/In	Offset	X	Z
1	19/11/2008 12,17	00	"B"	D	in	abs	5.6214	2.5345
				Radius		A1	A2	A3
				0.0311		0.20	80.02	79.82

In the Measure Results grid are displayed all the taken measures. The grid is formed by:

- **N.:** the taken measure's number. Clicking on it you select all the grid;
- **Data:** data and time of the measure;
- **Adapter:** the adapter code used;
- **Tool code:** the tool code used;
- **D/R:** specifies whether the measure was made in diameter or radius;
- **Mm/In:** specifies whether the measure was made in millimetres or Inch;
- **Offset:** specifies whether the measure was made in Absolute or Offset;
- **X e Z:** the taken dimensions.

In addition, clicking a line of measurement will appear additional fields that are:

- **Radius:** the value of taken radius.
- **A1:** the value of taken upper angle.
- **A2:** the value of taken lower angle.
- **A3:** the value of taken including angle.

This data will disappear after some seconds.

To **delete** one or more lines of the grid push the button



**Results grid delete**  
after selecting lines to erase.

To **print** one or more lines push the button

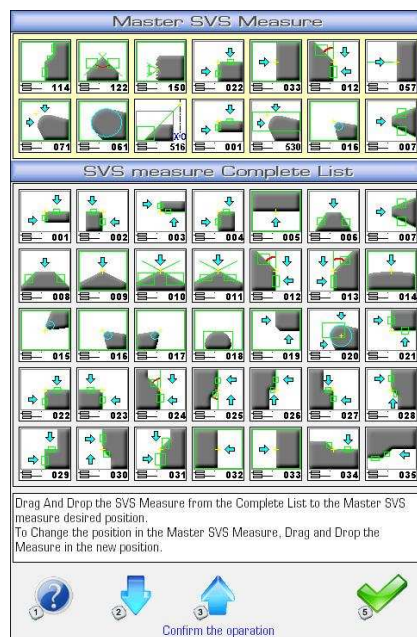


### Results grid print

after selecting lines to print.

To select **ALL THE GRID** click on the title of the grid that identifies the number of measurement "N."

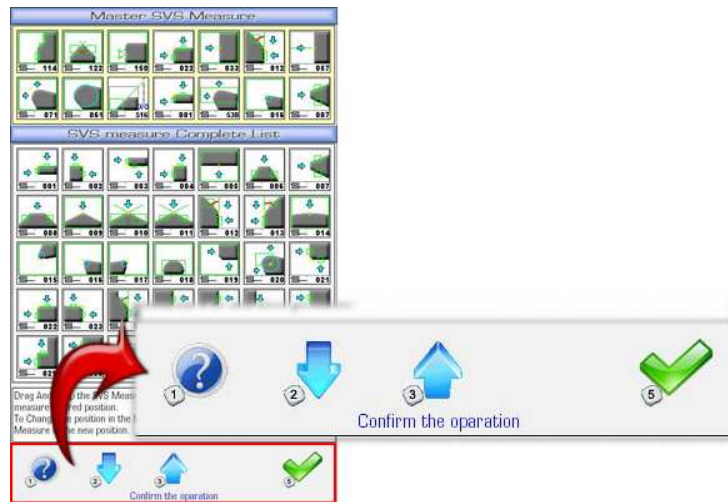
### The SVS measure Macro window



The SVS measure Macro window is made of:

- 1) The functions bar;
- 2) The main SVS Macro list;
- 3) The complete SVS Macro list.

## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window

### Show previous



This button allows to open previous icons.

### Show next



This button allows to open next icons

### Changes confirm



This allows you to confirm your changes

## The main SVS Macro list and the complete list



The list of macros visible in the main window can be edited by dragging macro icons from one position to another. During the dragging of an icon in this list, the mouse will take this form:



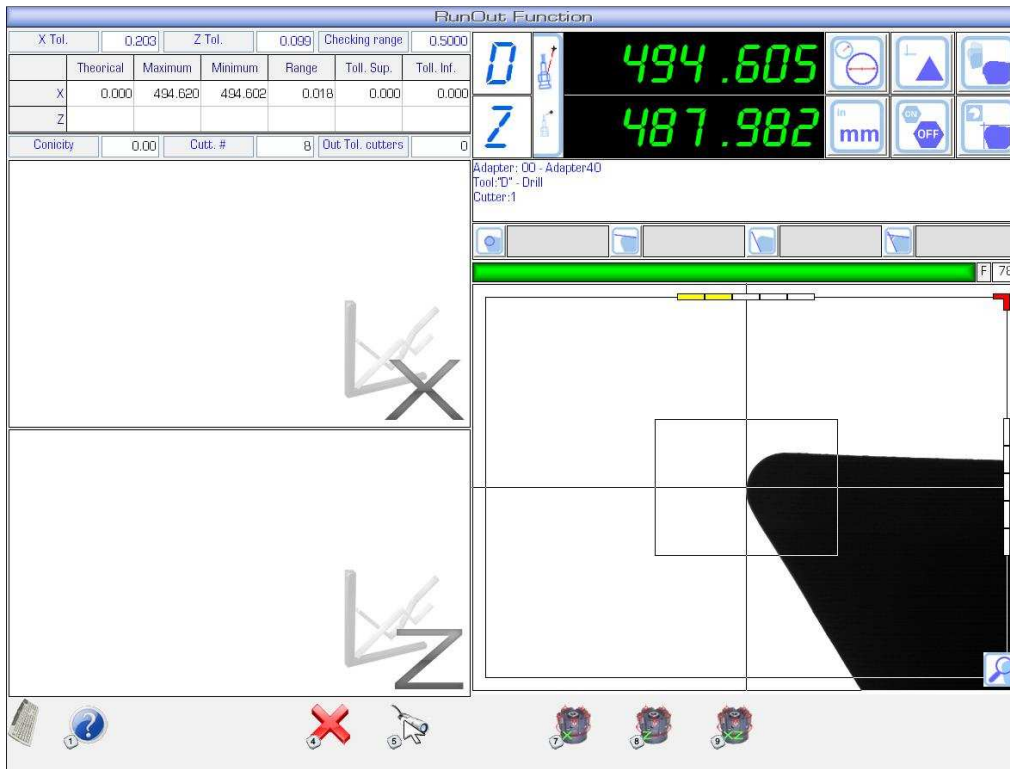
You can also modify the list of icons visible in the main window by dragging over the icon you want to replace, the new one present in the below complete list of macro:



The mouse cursor will take another form:



## The RunOut



X Tol.	0,200	Z Tol.	0,000	Checking range	0,5000	
	Theoretical	Maximum	Minimum	Range	Toll. Sup.	Toll. Inf.
X	0.000	494.620	494.602	0.018	0.000	0.000
Z						

Conicity: 0,00    Out. #    B    Out.Tol. cutters    0

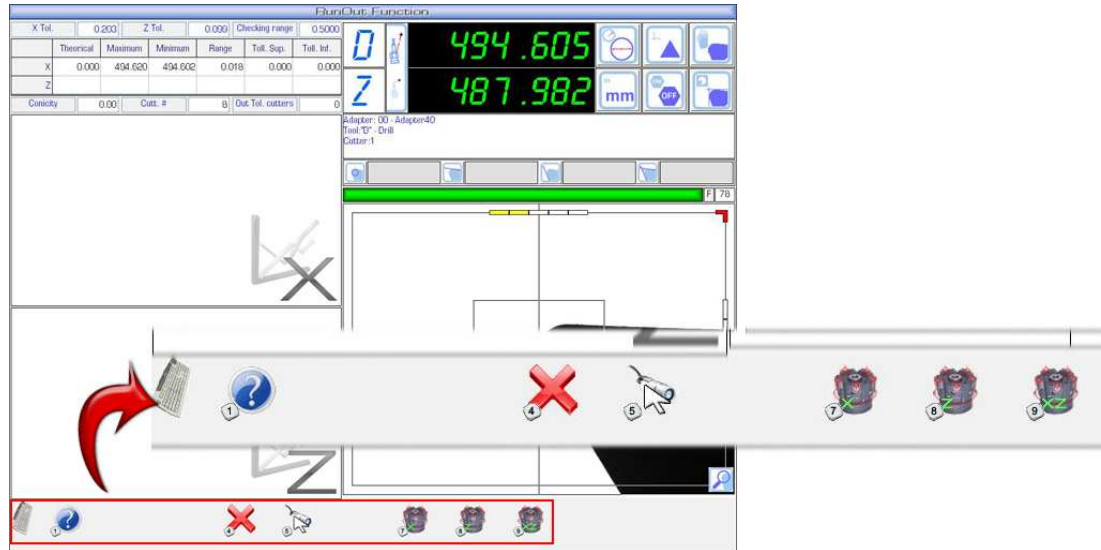
Adapter: 00 - Adapter40  
Tool: D\* - Drill  
Cutter: 1

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The RunOut window is made of:

- 1) The functions bar;
- 2) The RunOut data;
- 3) The RunOut graphs;
- 4) The display of the dimensions with their functions. This will not be described because it has been described previously;
- 5) The vision system. This will not be described because it has been described previously.

## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window

### Annulla



This button allows you to **exit** from RunOut function.

### SVS Macro select



This button allows you to display the list of SVS Macro to be used during the RunOut operation.

### RunOut X



This allows you to make the RunOut **of the only X axis**.

### RunOut Z



This allows you to make the RunOut **of the only Z axis**.

### RunOut XZ

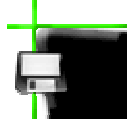


This allows you to make the RunOut **of both the axes X and Z**.

After pressing one of the three RunOut buttons the vision system will show one or two green lines, vertical or horizontal, according to the chosen type of RunOut.

Now the system is ready to recognize the transition of the tool cutter and the functions bar will show new icons that are:

### Memo quote



This allows you to save the maximum value referred to the tool selected in database. This button appears only if selecting a tool in the QuickGage window.

### Conicity



This button allows you to calculate the tool's conicity.

### Create CSV



This button allows you to create a CSV file with current RunOut data.

### New CSV



This button allows you to delete the CSV file and then create a new one.

### Label print



This button allows you to print a label with the current RunOut data.

### Stop RunOut



This button allows you to end the current RunOut procedure and to start a new one. The graph and the RunOut data will be reset.

Clicking on any bar of the graph, the procedure of cutter's acquiring stops and other two buttons appear:

### Cutter regulation



This button allows you to regulate the selected cutter. After regulation the following icons appear:

### End regulation



This button allows you to end the regulation of the selected cutter.



### Update graph



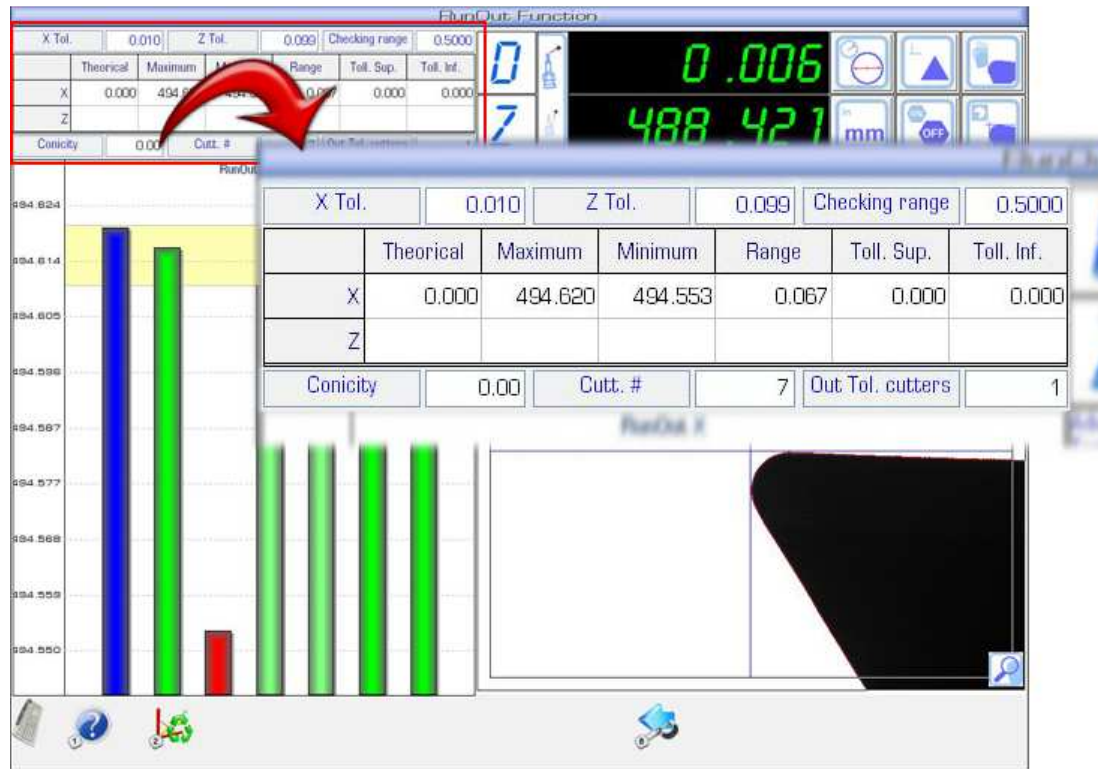
This button allows you to acquire the new dimensions and update the RunOut graph.

### Delete cutter



This button allows you to delete the selected cutter.

## RunOut Data



The data related to RunOut are:

- X Tol.: it identifies the tolerance band value referred to the X axis;
- Z Tol.: it identifies the tolerance band value referred to the Z axis;
- Ril Band.: it identifies the value of the detection band tool;

The data described above can be edited. To confirm any changes to data press **"Enter"** key on keyboard.

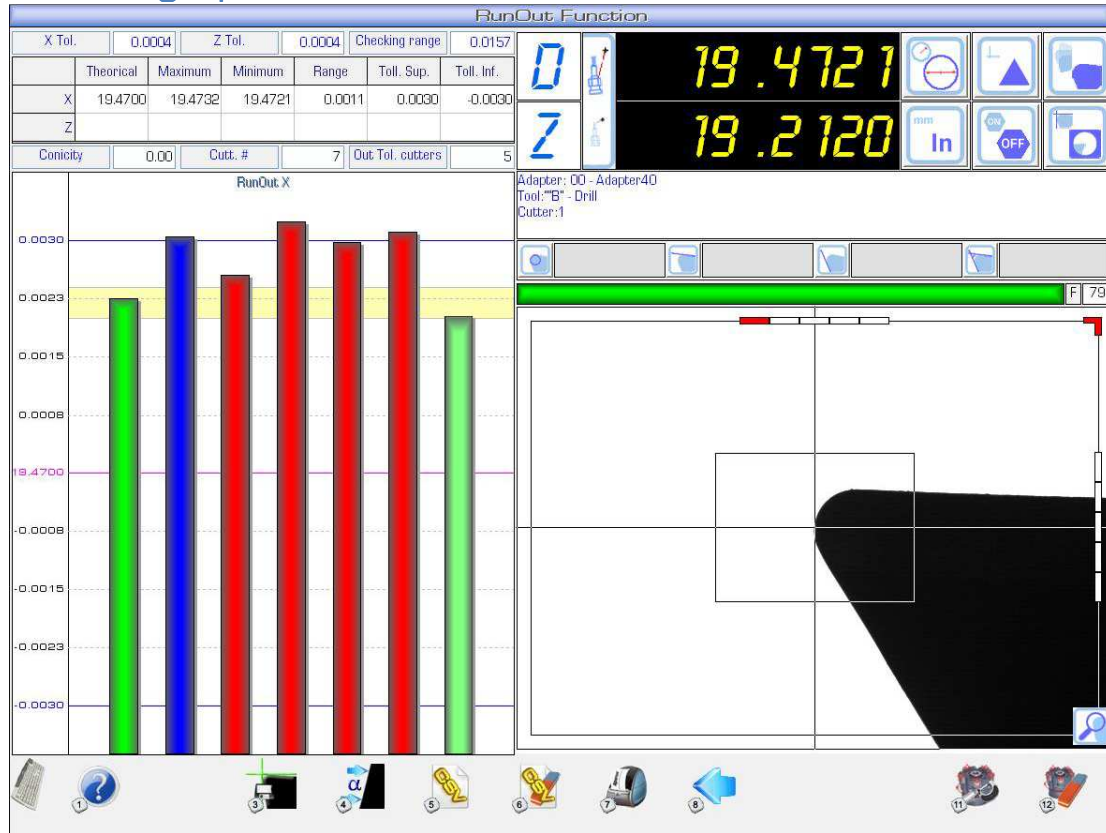
The data automatically calculated are:

- Conicity: it identifies the tool's conicity value;
- Teeth N.: it shows the taken teeth number;
- Out Tol. Teeth: it is the number of teeth out of tolerance

In the grid, referred to the X and Z axes, we notice:

- Theoretical: it shows the theoretical value;
- Maximum: it shows the maximum taken value;
- Minimum: it shows the minimum taken value;
- Range: it shows the Range (difference) between the maximum and the minimum value;
- Upper Tol.: it shows the upper tool's tolerance;
- Lower Tol.: it shows the lower tool's tolerance.

## RunOut graphics



The RunOut graphics show the measurements of cutters being acquired during RunOut. Every single histogram corresponds to a cutter and can take on different colors:

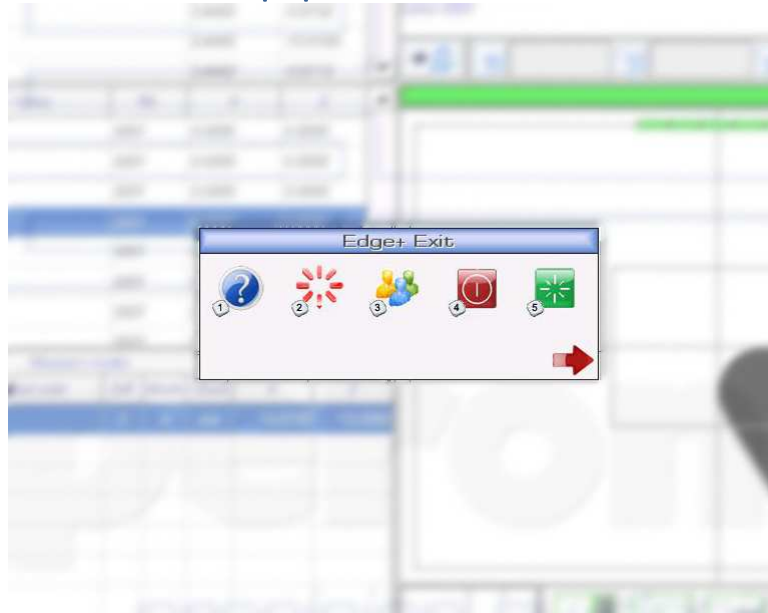
- **GREEN:** the cutter corresponding to that measurement is in tolerance;
- **RED:** the cutter corresponding to that measurement is not in tolerance;
- **BLUE:** It indicates that the histogram was selected and that cutter is ready to be regulated.

Other characteristics of the RunOut graph are the tolerances and the theoretical value. The tolerances can be of two types:

- **Tolerance Tool:** This is designed with a BLUE line and it identifies the tool's tolerance value declared in the Data Management (see "Data Management").
- **The RunOut band:** this has priority on tool's tolerance and it cannot be major than the latter (eg: if the tool's tolerance is  $\pm 0015$  mm the RunOut band cannot be major than  $0030$  mm). It is designed with a YELLOW area and it is calculated dynamically. Indeed, it is placed at a dimension such that could include as many cutters.

The **theoretical value** is designed with a PINK line and indicates the tool's theoretical dimension declared in Data Management (see "Data Management").

## Exit and shutdown equipment



The exit window presents a series of buttons that are:

### Help



This button allows you to open the help window

### Exit to Windows



This button allows to **close Edge** and to go to Windows only if there is an adequate level user.

### User change



This button allows to **change the current user** if there is an adequate level user.

### Equipment shutdown



This button allows you to **shutdown** the equipment.

### Equipment restarting



This button allows you to **restarting** the equipment.

### Close window



This button allows you to **close** the exit window.

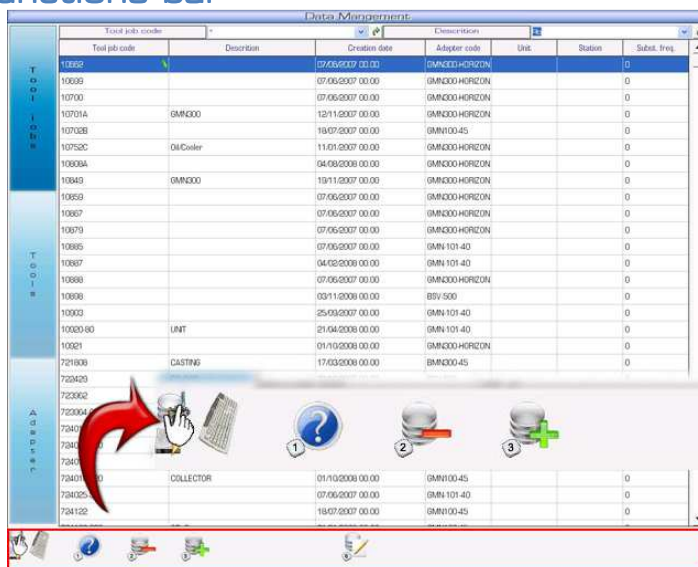
## Data Management

Tool job code		Description				
Tool job code	Description	Creation date	Adapter code	Unit	Station	Subst. freq.
10682		07/08/2007 00.00	GMN300-HORIZON			0
10689		07/06/2007 00.00	GMN300-HORIZON			0
10700		07/06/2007 00.00	GMN300-HORIZON			0
10701A	GMN300	12/11/2007 00.00	GMN300-HORIZON			0
10702B		18/07/2007 00.00	GMN100-45			0
10752C	Oil Cooler	11/01/2007 00.00	GMN300-HORIZON			0
10806A		04/08/2008 00.00	GMN300-HORIZON			0
10849	GMN300	19/11/2007 00.00	GMN300-HORIZON			0
10859		07/06/2007 00.00	GMN300-HORIZON			0
10867		07/06/2007 00.00	GMN300-HORIZON			0
10879		07/06/2007 00.00	GMN300-HORIZON			0
10885		07/06/2007 00.00	GMN-101-40			0
10887		04/02/2008 00.00	GMN-101-40			0
10888		07/06/2007 00.00	GMN300-HORIZON			0
10898		03/11/2008 00.00	BSV-500			0
10903		25/09/2007 00.00	GMN-101-40			0
10920-80	UNIT	21/04/2008 00.00	GMN-101-40			0
10921		01/10/2008 00.00	GMN300-HORIZON			0
721808	CASTING	17/03/2008 00.00	BMN300-45			0
722429	BSV500	23/10/2007 00.00	BSV-500			0
723962		18/07/2007 00.00	GMN-101-40			0
723964-020	CASTING	23/04/2008 00.00	GMN100-45			0
724014		07/06/2007 00.00	GMN100-45			0
724014-020	CASTING	15/04/2008 00.00	GMN100-45			0
724016	collector	01/10/2008 00.00	GMN100-45			0
724016-020	COLLECTOR	01/10/2008 00.00	GMN100-45			0
724025-3		07/06/2007 00.00	GMN-101-40			0
724122		18/07/2007 00.00	GMN100-45			0

The data management window is made of:

- 1) The functions bar;
- 2) The data menu;
- 3) The data grid.

### The functions bar



The functions bar is represented by a series of images that are:

## Help



This button allows you to open the help window.

## Remove selected data



This button allows you to **remove** the selected data. It will appear a confirmation window.

## Add new data



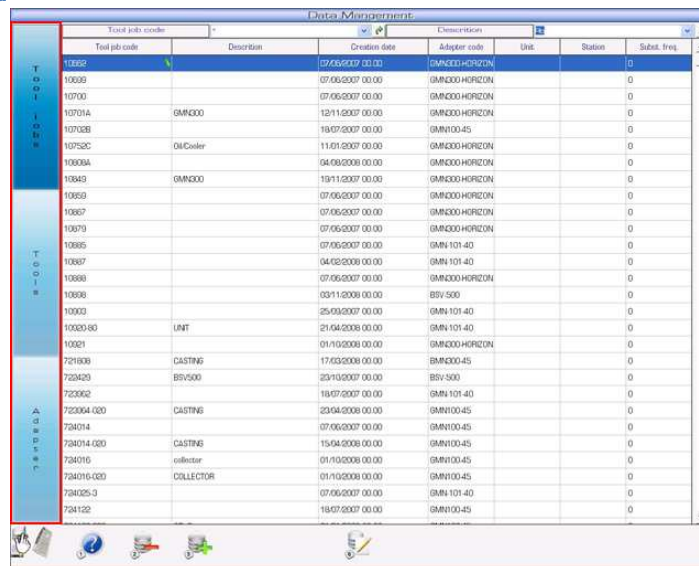
This button allows **to add** new data to database. Depending on the type of data that can be cards, adapters or tools, it will appear a different window for entering. These are described below.

## Modify selected data



This button allows **to modify** selected data. Depending on the type of data that can be cards, adapters or tools, it will appear a different window for entering. These are described below.

## Data Menu



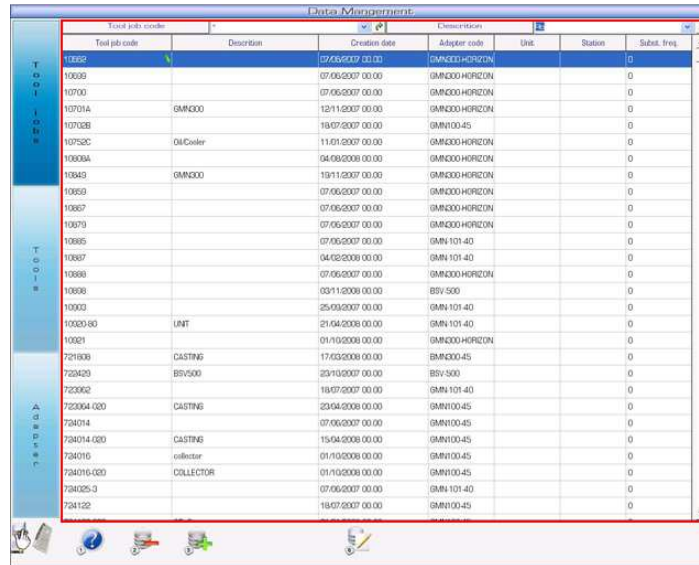
Tool job code	Description	Creation date	Adapter code	Unit	Station	Subst. freq.
10000		07/05/2007 00:00	GMK000-HORIZON			0
10009		07/05/2007 00:00	GMK000-HORIZON			0
10700		07/05/2007 00:00	GMK000-HORIZON			0
10701A	GMK000	12/11/2007 00:00	GMK000-HORIZON			0
10702B		18/07/2007 00:00	GMN100-45			0
10752C	Oil Cooler	11/01/2007 00:00	GMK000-HORIZON			0
10800A		04/08/2008 00:00	GMK000-HORIZON			0
1084B	GMK000	19/11/2007 00:00	GMK000-HORIZON			0
10859		07/05/2007 00:00	GMK000-HORIZON			0
10867		07/05/2007 00:00	GMK000-HORIZON			0
10870		07/05/2007 00:00	GMK000-HORIZON			0
10885		07/05/2007 00:00	GMN101-40			0
10887		04/02/2008 00:00	GMN101-40			0
10888		07/05/2007 00:00	GMK000-HORIZON			0
10898		03/11/2008 00:00	BSV-500			0
10000		25/03/2007 00:00	GMN101-40			0
10200-80	UNIT	21/04/2008 00:00	GMN101-40			0
10001		01/10/2008 00:00	GMK000-HORIZON			0
72180B	CASTING	17/03/2008 00:00	GMK000-45			0
72342B	BSV-500	23/10/2007 00:00	BSV-500			0
72300C		18/07/2007 00:00	GMN101-40			0
72300A-020	CASTING	23/04/2008 00:00	GMN100-45			0
724014		07/05/2007 00:00	GMN100-45			0
724014-020	CASTING	15/04/2008 00:00	GMN100-45			0
724016	collector	01/10/2008 00:00	GMN100-45			0
724016-020	COLLECTOR	01/10/2008 00:00	GMN100-45			0
724025-3		07/05/2007 00:00	GMN101-40			0
724122		18/07/2007 00:00	GMN100-45			0

Through the Data menu you can browse the data present in the database. Possible items in the menu are

- Cards, only if the "Tool Card" license is active;
- Tools;
- Adapters.

When you click on one of the items you will see a grid of data corresponding to the selected item.

## Data's grid



Tool job code	Description	Creation date	Acheter code	Unit	Status	Subst. freq.
12892		07/05/2007 00:00	GMK00-HORIZON		0	
10688		07/05/2007 00:00	GMK00-HORIZON		0	
10700		07/05/2007 00:00	GMK00-HORIZON		0	
107014	GMK00	12/11/2007 00:00	GMK00-HORIZON		0	
107028		18/07/2007 00:00	GMN100-45		0	
107520	Oil Cooler	11/01/2007 00:00	GMK00-HORIZON		0	
108004		04/08/2008 00:00	GMK00-HORIZON		0	
10849	GMK00	19/11/2007 00:00	GMK00-HORIZON		0	
10859		07/05/2007 00:00	GMK00-HORIZON		0	
10867		07/05/2007 00:00	GMK00-HORIZON		0	
10879		07/05/2007 00:00	GMK00-HORIZON		0	
10885		07/05/2007 00:00	GMN101-40		0	
10887		04/02/2008 00:00	GMN101-40		0	
10888		07/05/2007 00:00	GMK00-HORIZON		0	
10888		03/11/2008 00:00	BSV-500		0	
10900		25/09/2007 00:00	GMN101-40		0	
10920-80	UNIT	21/04/2008 00:00	GMN101-40		0	
10921		01/10/2008 00:00	GMK00-HORIZON		0	
721808	CASTING	17/03/2008 00:00	GMK00-45		0	
722429	BSV500	23/10/2007 00:00	BSV-500		0	
722962		18/07/2007 00:00	GMN101-40		0	
723004-020	CASTING	23/04/2008 00:00	GMN100-45		0	
724014		07/05/2007 00:00	GMN100-45		0	
724014-020		15/04/2008 00:00	GMN100-45		0	
724016	collector	01/10/2008 00:00	GMN100-45		0	
724016-020	COLLECTOR	01/10/2008 00:00	GMN100-45		0	
724025-3		07/05/2007 00:00	GMN101-40		0	
724122		18/07/2007 00:00	GMN100-45		0	


Once clicked an item on data menu, there is a grid corresponding to the selected item. The data grids have two main peculiarities.


Through the text area, visible below, you can apply a filter such that the data in the grid are filtered with the criterion typed in it, which will refer to the field described on the left. In addition, clicking on the blue light arrow, you can see the last 5 filters used.



You can refresh the data grid by pressing the button with the green arrow.

## The Tool Jobs Management window

Tool jobs management				
Tool job code	10662		Tool job photo	
Description				
Creation date	07/06/2007			
Tool job type				
CNC machine				
Num. control				
Class				
Mach. part type	10662			
Operation	035			
Material	Aluminum	Aluminum material		
Unit				
Station				
Subst. freq.	0		Op. notes	
Mm / Poll	Inches			
Measure type	Diameter			
Rel / Off	Offset			
Adapter code	GMN300-HORIZONTAL			
Pos.	Tool code	Descr.	Adapter code	Type 1
0001	2.0	Cutter	00	Cutter
0002	.250	End Mill	00	End Mill
0003	#4	Center Drill	00	Center Drill
0004	# 13	Drill	00	Drill
Tool job code				

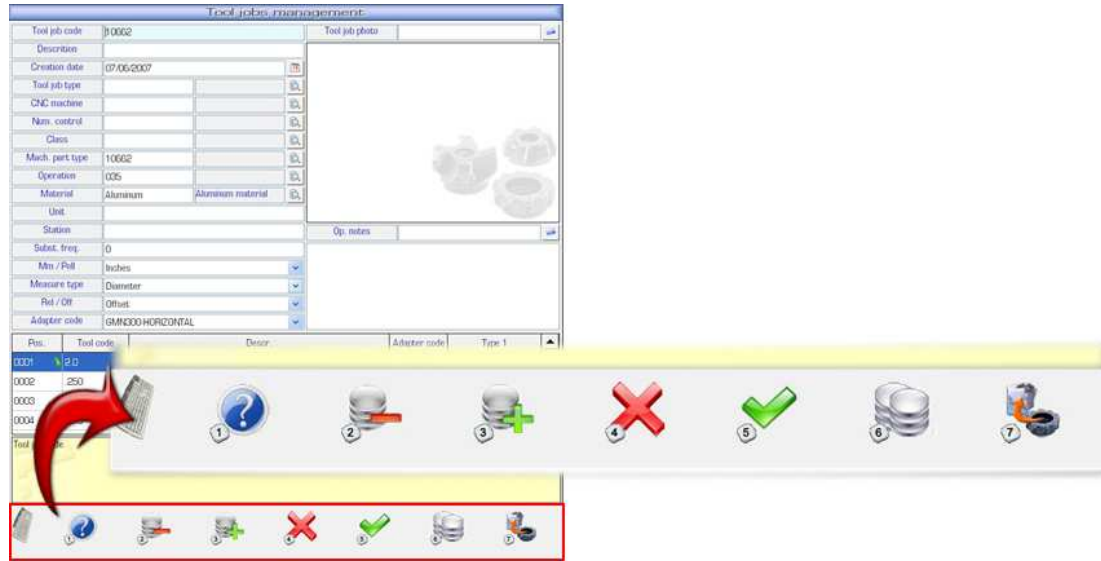


The Tools Cards Management window is made of:

- 1) The functions bar;
- 2) The fields relating to the selected card;
- 3) The grid of associated tools.



## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window.

### Remove selected data



This button allows you to **remove** the selected card from database. It will appear a confirmation window.

### Add new data



This button allows **to add** a new tool card to database.

### Close window



This button allows **to close** the window of the Tool Cards Data Management.

### Change data confirmation



This button allows **to confirm** any changes and **to close** the window of the Tool Cards Data Management.

### Duplicate data



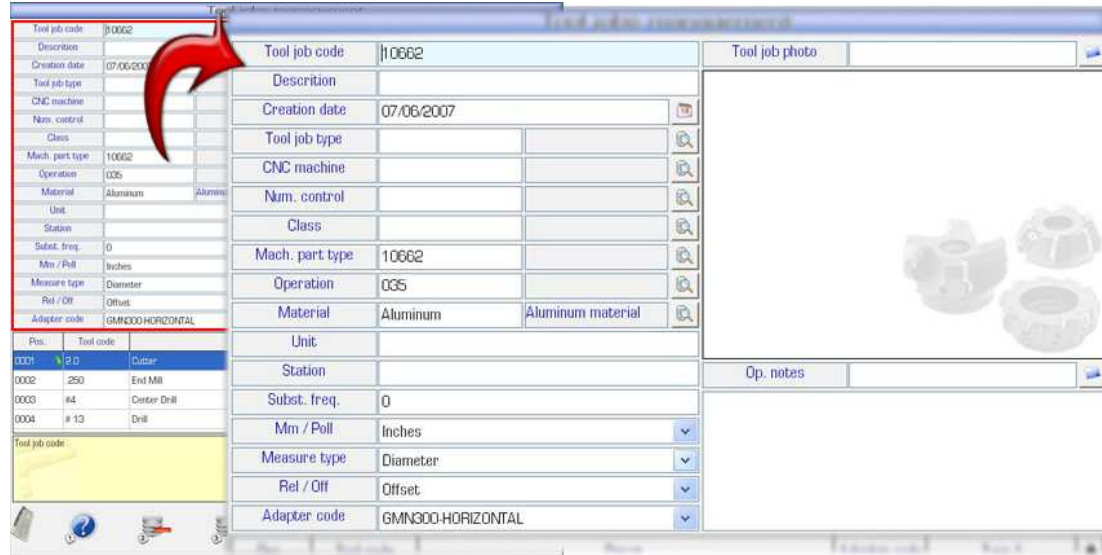
This button allows **to duplicate** the selected tool card.

## Open window tools association




This button allows you to **open** the window of tools management associated with the selected tool card. The latter will be described later (see "Association tools window")


## The fields related to the selected card



The data related to the card are:

1. **Card code:** shows the univocal identification code of the card. 24 alphanumeric characters type. Obligatory.
2. **Description:** extended description of the card. Field of 50 alphanumeric characters.
3. **Creation date:** it's the creation date of the selected card.
4. **Tool card type:** it shows the code referred to the type of card. The classification of the type of card may be made according to the piece that will be worked or according to the tool machine which is used.
5. **Tool Machine:** it shows the tool machine on which will be used the card's tools.
6. **Numerical Control:** it shows the numerical control of the machine tool.
7. **Class:** it indicates the category of tools or particulars to work
8. **Particular worked:** it indicates the particular or piece that is worked.
9. **Operation:** indicates the operation in the whole process of the piece.
10. **Material:** it indicates the worked material.
11. **Unit:** it indicates the group membership of the machine tool.
12. **Station:** it indicates the station name in the group.
13. **Replacement cadence:** it indicates the number of pieces worked before replacing tools.
14. **Measure Unit:** it indicates the unit of measurement used in the dimensions visualization during the associated tools measurement.
15. **Measure type:** indicates the measure unit applied to the theoretical dimension and the relative tolerance of X axes.
16. **Relative / Offset:** visualization of measure dimensions in real or distance from theoretical dimensions.
17. **Adapter code:** indicates the Adapter code to use for the tool's Preset associated to this card.
18. **Photo Card:** indicates the image file associated to the selected card. To change this field click on the **browse** button .

It will appear the images browser. It will be described later (see "Images Browser").

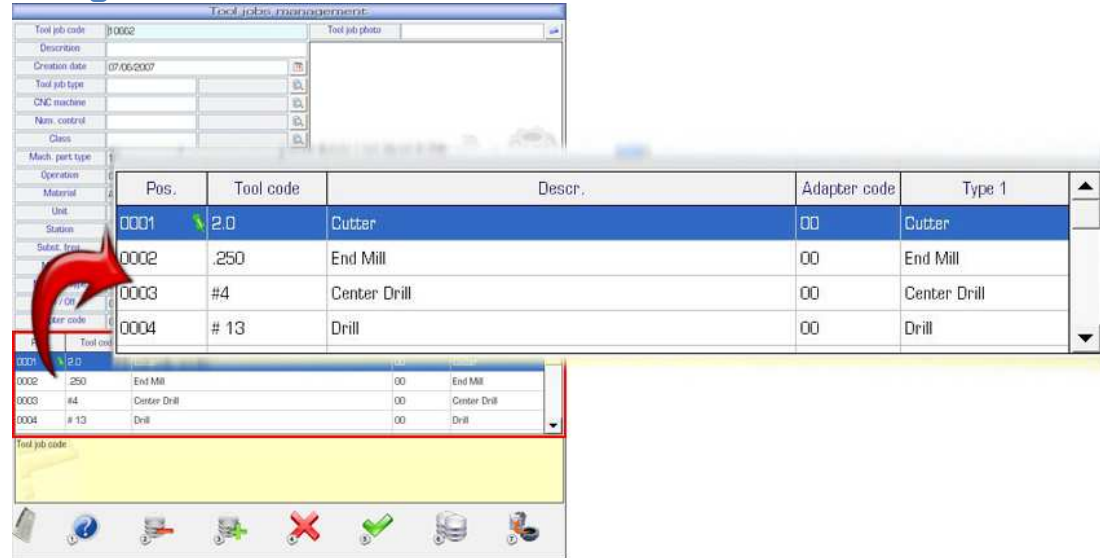
19. **Operator notes:** indicates the file containing the operator notes associated to the selected card. To change this field click on the **browse** button . It will appear the operator notes browser. It will be described later (see "Operator notes Browser"). To create a new operator notes file write manually the name that will have the file, add the contents in the below text area and confirm your changes with **"Confirm"** button.

The data number 4, 5, 6, 7, 8, 9 and 10 are data definition. Beside the field you can note a button



With whom you can open the management window of the selected definition field. This will be described later (see "Definition Browser").

### The grid of associated tools.



Pos.	Tool code	Descr.	Adapter code	Type 1
0001	2.0	Cutter	00	Cutter
0002	.250	End Mill	00	End Mill
0003	#4	Center Drill	00	Center Drill
0004	# 13	Drill	00	Drill

The grid of associated tools displays all the tools associated to the selected card. The grid is made of:

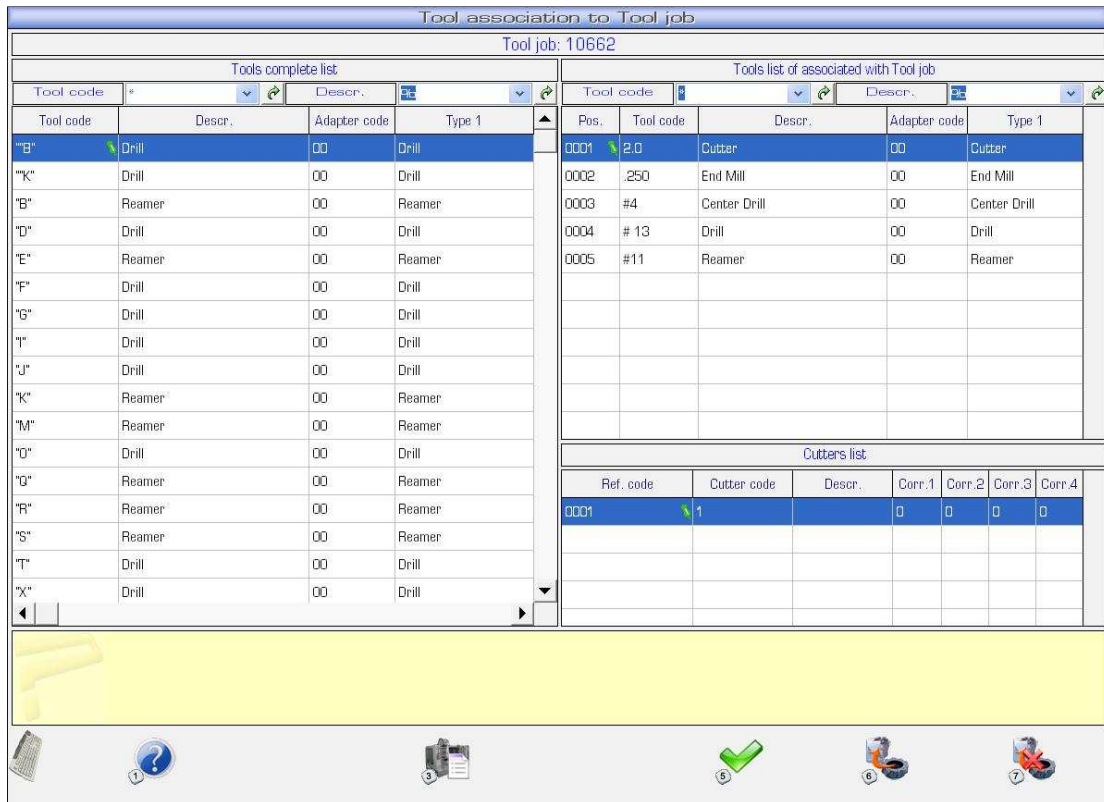
- **Position:** the code of the tool's position in the card;
- **Tool code:** the tool code associated in the card;
- **Description:** the description of the tool associated to the card;
- **Adapter code:** the adapter code used by the tool;
- **Tool type:** it indicates the tool type.

To manage the associations of the various tools to the selected card press the button "Associate tool"



It will appear the **"Tool association to tool card"** window

## The tool association window



Tools complete list				Tools list of associated with Tool job				
Tool code	Descr.	Adapter code	Type 1	Pos.	Tool code	Descr.	Adapter code	Type 1
B*	Drill	00	Drill	0001	2.0	Cutter	00	Cutter
K*	Drill	00	Drill	0002	.250	End Mill	00	End Mill
B*	Reamer	00	Reamer	0003	#4	Center Drill	00	Center Drill
D*	Drill	00	Drill	0004	# 13	Drill	00	Drill
E*	Reamer	00	Reamer	0005	#11	Reamer	00	Reamer
F*	Drill	00	Drill					
G*	Drill	00	Drill					
T*	Drill	00	Drill					
U*	Drill	00	Drill					
K*	Reamer	00	Reamer					
M*	Reamer	00	Reamer					
D*	Drill	00	Drill					
G*	Reamer	00	Reamer					
R*	Reamer	00	Reamer					
S*	Reamer	00	Reamer					
T*	Drill	00	Drill					
X*	Drill	00	Drill					

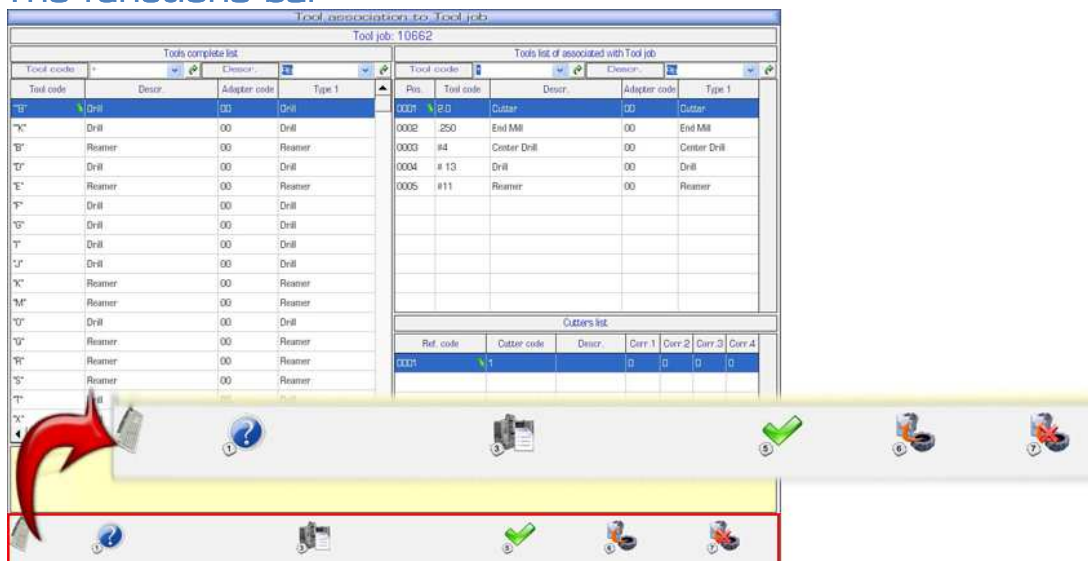
  

Cutters list						
Ref. code	Cutter code	Descr.	Corr.1	Corr.2	Corr.3	Corr.4
0001	1		0	0	0	0

The tool association window shows, at the top, the tool card. It is made of:

- 1) The functions bar;
- 2) The complete list of tools grid;
- 3) The grid of tools associated to selected card
- 4) The cutters grid with relative offset.

## The functions bar



The functions bar is represented by a series of images that are:

## Help



This button allows you to open the help window.

## Offset



This button allows to **open the Offset Management window**. The Offset window

Correttori Riferimento: 0001		
Scheda: 10662		
Utensile: 2.0		
Posizione: 0001		
Corr.1	0	Correttore 1: indica il valore della posizione in memoria sulla macchina utensile del correttore n° 1.
Corr.2	0	
Corr.3	0	
Corr.4	0	

Navigation icons: keyboard, help (?), cancel (X), confirm (checkmark)

shows, at the top, the card code, the code and the position of selected tool. To modify the Offset push **Confirm**



To close the window without saving changes push **Cancel**



## Confirmation



This button allows to **confirm** the taken changes and to close the window.

## Associate selected tool



This button allows to **associate to the card** the selected tool. This operation can be done by selecting a tool in the complete tools list and dragging it on the list of tools associated to the card.

The mouse cursor will show the following icon



and will be required the tool position in the card.

## Remove associated tool



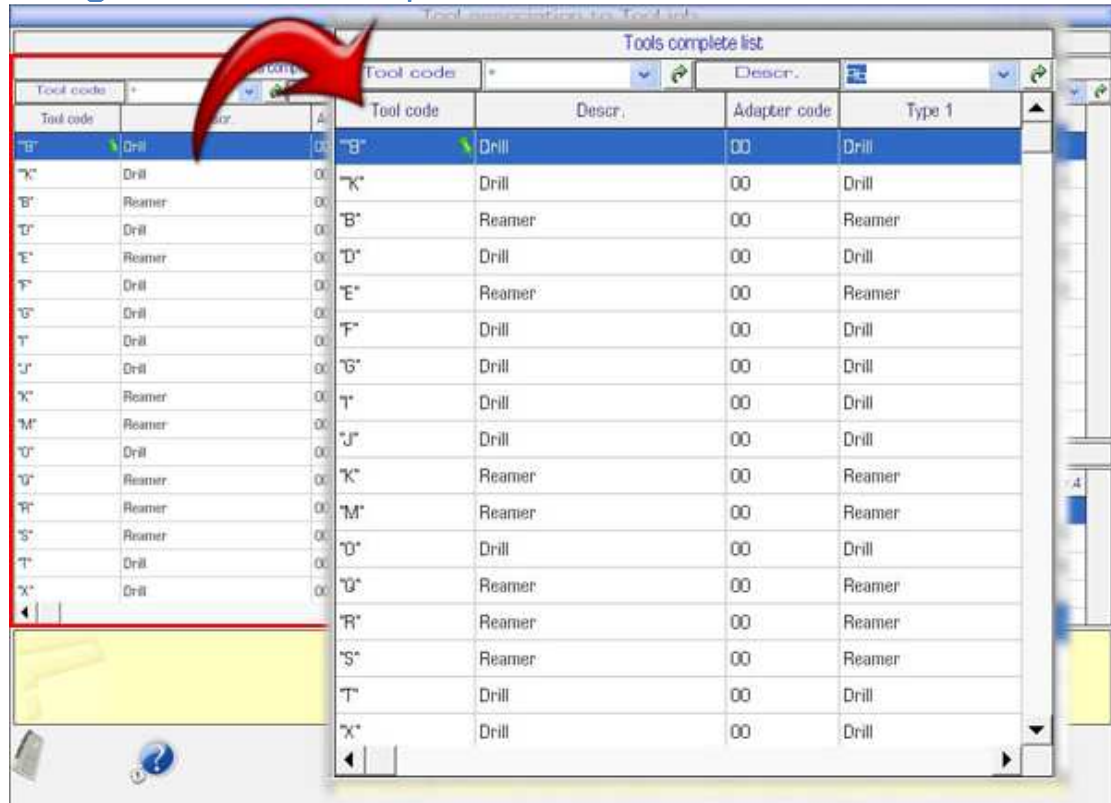
This button allows to **remove the tool associated to the card**. This operation can be done by selecting a tool in the associated tools list and dragging it on the complete list of tools.

The mouse cursor will show the following icon



Once finished, the tools grid will be updated automatically with the made changes.

## The grid of Tools complete List

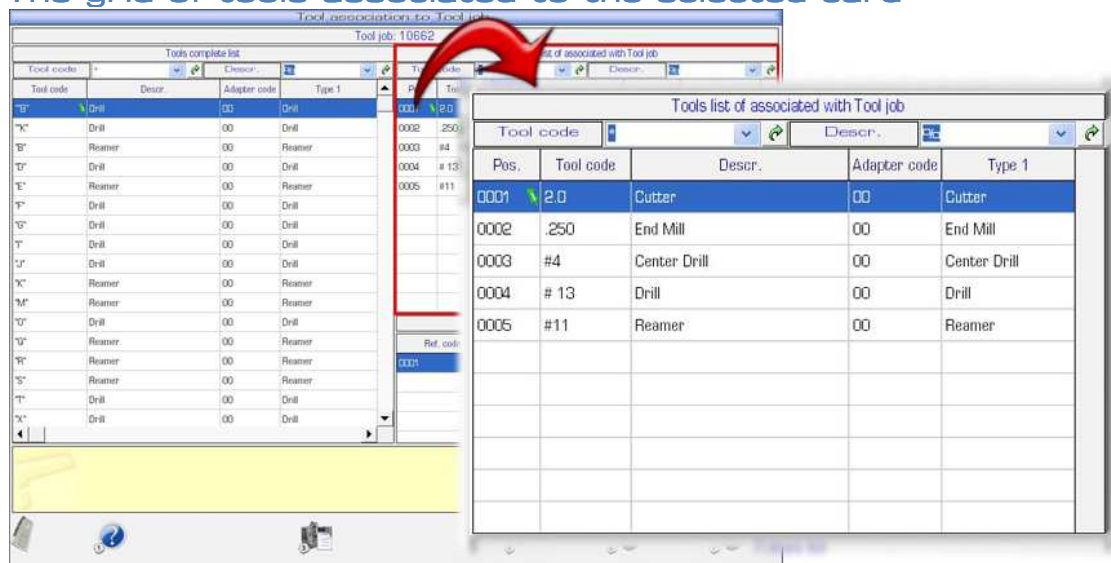


Tool code	Descr.	Adapter code	Type 1
B	Drill	00	Drill
K	Drill	00	Drill
B	Reamer	00	Reamer
D	Drill	00	Drill
E	Reamer	00	Reamer
F	Drill	00	Drill
G	Drill	00	Drill
T	Drill	00	Drill
J	Drill	00	Drill
K	Reamer	00	Reamer
M	Reamer	00	Reamer
O	Drill	00	Drill
U	Reamer	00	Reamer
R	Reamer	00	Reamer
S	Reamer	00	Reamer
T	Drill	00	Drill
X	Drill	00	Drill

The tools complete list grid is the list of all tools present in database. It is made of:

- **Tool code:** the code of the tool;
- **Description:** the tool description;
- **Adapter Code:** The code of the adapter used by the tool;
- **Type 1:** the type of the tool.

## The grid of tools associated to the selected card



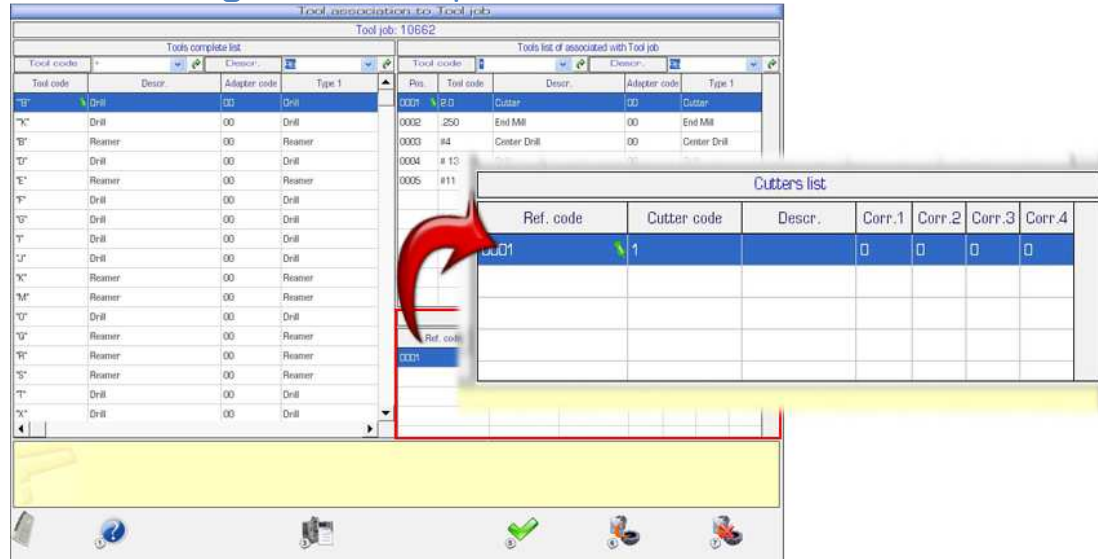
Pos.	Tool code	Descr.	Adapter code	Type 1
0001	2.0	Cutter	00	Cutter
0002	.250	End Mill	00	End Mill
0003	#4	Center Drill	00	Center Drill
0004	# 13	Drill	00	Drill
0005	#11	Reamer	00	Reamer

The grid of tools associated to the selected card shows the list of all tools associated to the selected card. It is made of:

- **Position:** the code of tool position in the card;
- **Tool code:** The code of the tool;

- **Description:** the tool description;
- **Adapter Code:** The code of the adapter used by the tool;
- **Type 1:** the type of the tool.

## The Cutter grid with respective Offset





The screenshot shows two main tables. The left table, 'Tools complete list', has columns: Tool code, Descr., Adapter code, and Type 1. The right table, 'Tools list of associated with Tool job', has columns: Pos., Tool code, Descr., Adapter code, and Type 1. A red arrow points from a selected tool in the right table to a 'Cutter's list' grid. The grid has columns: Ref. code, Cutter code, Descr., Corr.1, Corr.2, Corr.3, and Corr.4. The first row of the grid is highlighted in blue and contains the values: 0001, 1, Drill, 0, 0, 0, 0.

The cutter grid shows the list of all cutters of selected tool associated to the card, with respective offsets. It is made of:

- **Reference code:** The cutter's reference code;
- **Cutter code:** the cutter code;
- **Description:** the cutter description;
- **Offset 1:** the number 1 offset value;
- **Offset 2:** the number 2 offset value;
- **Offset 3:** the number 3 offset value;
- **Offset 4:** the number 4 offset value;

## The tools management window

Tools management											
Tool code		"B"		Tool photo		C:\Edge\Grafici\UTENSILI\DRILLS\PI					
Descr.		Drill									
Creation date		28/06/2007									
Class		01 Class 01									
Absorption		0									
Exp. Factor		0									
Cut. Speed		0									
Pockets taken up		10									
Type 1		Drill Drill tool type									
Type 2		Fase1 The first fase									
Adapter code		00						Tool schema			
Mm / Poll		Inches						Op. notes		NoteOP2.PRE	
Meas. type		Diameter									
Rel / Off		Offset									
		<input type="checkbox"/> Mirror X <input type="checkbox"/> Mirror Z <input type="checkbox"/> Swap XZ									
Ref. code	Cutter code	Descr.						Theoretical X	Theoretical Z	Theoretical A	
0001	1			3.4321	0.0308	-40					
0002	0002	#2		0.038	0.0189	0					
Codice Tool: indica il codice con il quale l'Tool selezionato viene identificato.											
											

The tools management window is made of:

- 1) The functions bar;
- 2) The fields related to selected tool;
- 3) The grid of cutters of selected tool.



## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window.

### Remove selected data



This button allows you to **remove** the selected card from database. It will appear a confirmation window.

### Add new data



This button allows **to add** a new tool card to database.

### Close window



This button allows **to close** the window of the Tool Cards Data Management.

### Change data confirmation



This button allows **to confirm** any changes and **to close** the window of the Tool Cards Data Management.

### Duplicate data



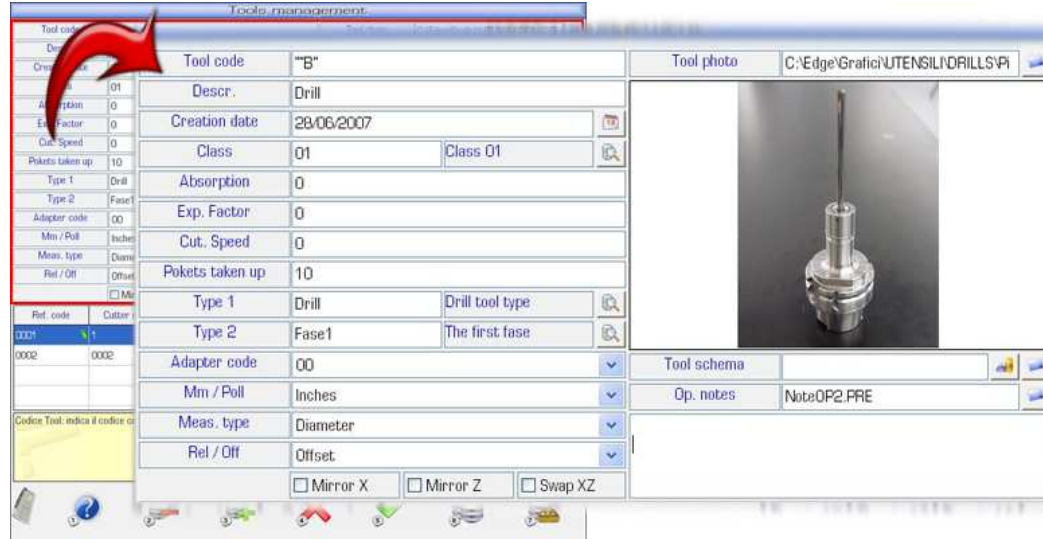
This button allows **to duplicate** the selected tool. It will required the new tool code.

## Cutters Management



This button allows **to open** the Cutters management window. It will be described later (see "Cutters Management" window)



## The fields related to the selected tool



Tool code	Tool photo
"B"	C:\Edge\Grafici\UTENSILI\DRILLS\PI
Descr.	Drill
Creation date	28/06/2007
Class	01 Class 01
Absorption	0
Exp. Factor	0
Cut. Speed	0
Pockets taken up	10
Type 1	Drill Drill tool type
Type 2	Fase1 The first fase
Adapter code	00
Mm / Poll	Inches
Meas. type	Diameter
Rel / Off	Offset
<input type="checkbox"/> Mirror X <input type="checkbox"/> Mirror Z <input type="checkbox"/> Swap XZ	


The data related to the card are:

- **Tool code:** it shows the univocal identification code of the tool. 24 alphanumeric characters field. Obligatory.
- **Description:** extended description of the tool. Field of 50 alphanumeric characters.
- **Creation date:** it's the creation date of the selected tool.
- **Class:** indicates the category to which the tool belongs. The classification can vary according to the different reality. Examples of classification can be size, form and type of material.
- **Absorption:** it indicates the power applicable to the tool during processing.
- **Expansion Factor:** indicates the feed's speed of the machine tool's spindle during processing.
- **Cutting speed:** indicates the rotation speed of the machine tool's spindle during processing.
- **Pockets taken up:** indicates the number of seats occupied in the machine tool's chain.
- **Type 1:** indicates the type of tool. It's the first level of type classification. Examples of the first level of classification could be: MILL, BORING BAR, DRILL, TAP, REAMER, ecc...
- **Type 2:** indicates a second level of tool's type classification. Referring to the first level of classification previously described, some examples may be:
  - For MILLS: FLAT, CANDLE, HELICAL ecc...
  - For BORING BAR: MONOCUTTING, FINISHERROUGH-SHAPING, ecc...
  - For DRILLS: HELICAL, PIERCING, ecc...
- **Adapter Code:** indicates the code of Adapter to use for Preset.
- **Measure Unit:** indicates the unit of measurement applied to theoretical dimensions and tolerances.

- **Measure type:** the unit of measurement applied to theoretical dimension and tolerance of X axes.
- **Relative / Offset:** visualization of measure dimensions in absolute or distance from theoretical dimensions.
- **Mirror X:** it mirrors the X dimension (diameter). Normally used for lathe applications.
- **Mirror Z:** it mirrors the Z dimension (height). Normally used for lathe applications.
- **Invert XZ:** you can invert the dimensions. The X dimension will be expressed in the dimension Z field and vice versa. Normally used for lathe applications.
- **Photo tool:** indicates the image file associated to the selected tool. To change this field click on the **browse** button . It will appear the image browser that will be described later (see "Images *Browser*").
- **3D graphic:** indicates the 3D file associated to the selected tool.. This field is available under license. To modify this field click on **browse** button . It will appear the image browser that will be described later (see "Images *Browser*").

To see the 3D graphics associated click the button **shows 3D**

. It will appear the 3D visualization window that will be described later ( see "*3D visualization*")

20. **Operator note:** indicates the file containing the operator notes associated to the selected tool. To modify this field click on **browse** button . It will appear the operator note browser that will be described later ( see "*operator note browser*")

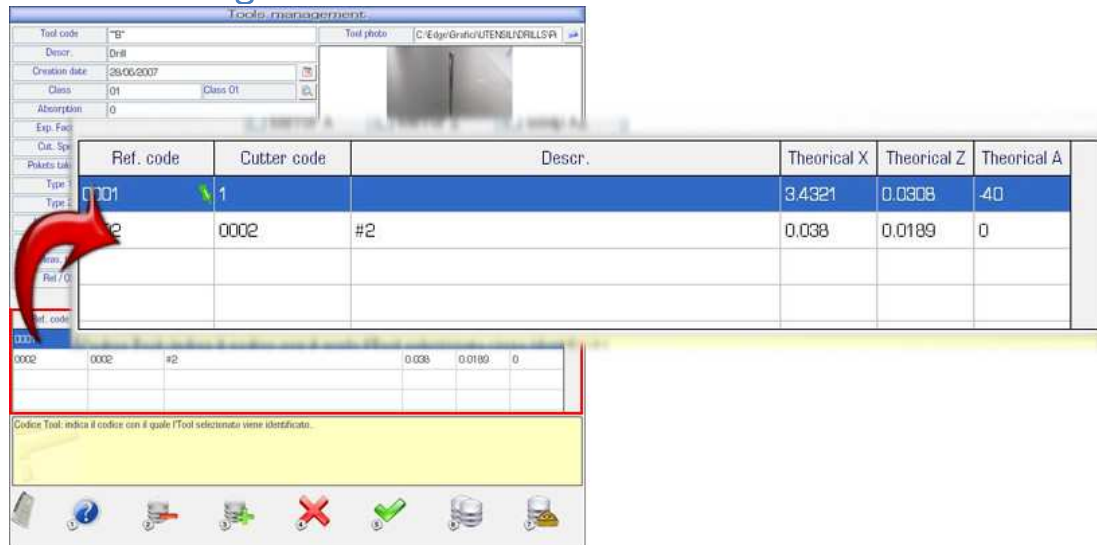
To create a new file of notes operator write manually the name that will have the file, add the contents in the below text area and confirm your changes with the "**Confirm**" button.

The number 4, 9 and 10 data are definition data. Beside the field you can note a button



with which is possible to open the management window of the selected definition field. This will be described later (see "Definition management window")

## The cutters grid.



Ref. code	Cutter code	Descr.	Theoretical X	Theoretical Z	Theoretical A
0001	1		3.4321	0.0308	-40
0002	0002	#2	0.038	0.0189	0

Codice Tool: indica il codice con il quale il Tool selezionato viene identificato.

In the cutters grid are visualized all the selected tool's cutters. The grid is made of:

- **Reference code:** the reference code of cutter;
- **Cutter code:** The cutter's code;
- **Description:** the cutter's description;
- **X theoretical:** the theoretical X dimension of cutter;
- **Z theoretical:** the theoretical Z dimension of cutter;
- **A theoretical:** the theoretical Alpha dimension of cutter;


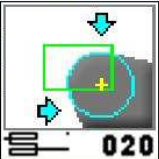
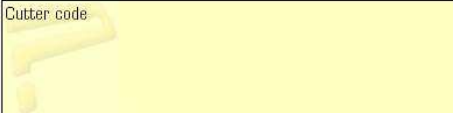
To manage the cutters of selected tool click on **"Cutter Management"**









It will appear the **"Cutter Management"** window

## The cutters management window

Cutters management - Tool: "B"

Cutter code	1			Cutter photo		
Ref. code	0001	Label type	ManualMeasure			
Descr.						
Creation date	0.00.00					
Quantity	0	New life	0			
Min. life	0	Resh. life	0			
Cutter gages						
	Theoretical	Low Toll.	Upp. Toll.	Obl.	Tag. Incr.	SVS icon
X	3.4321	0.0000	0.0000	<input type="checkbox"/>	NO	
Z	0.0308	0.0000	0.0000	<input type="checkbox"/>	NO	
A	40.0000	0.0000	0.0000	<input type="checkbox"/>	NO	
Radius	0.0190	0.0000	0.0000	<input type="checkbox"/>		
Angle	0.0000	0.0000	0.0000	<input type="checkbox"/>		
Center Height Camera function			Autofocus type			
<input checked="" type="checkbox"/> Enable C.H.C.			<input checked="" type="radio"/> Autofocus with same Macro			
C.H.C. axe: Horizontal			<input type="radio"/> Autofocus without Macro			
C.H.C. value: 0			<input type="radio"/> Autofocus with standard Macro			




1  2  3  4  5  6 







The tools management window is made of:

- 1) The functions bar;
- 2) The fields related to selected cutter;

## The functions bar

Cutters management - Tool: "B"

Cutter code	1			Cutter photo		
Ref. code	0001	Label type	ManualMeasure			
Descr.						
Creation date	0.00.00					
Quantity	0	New life	0			
Min. life	0	Resh. life	0			
Cutter gages						
	Theoretical	Low Toll.	Upp. Toll.	Obl.	Tag. Incr.	SVS icon
X	3.4321	0.0000	0.0000	<input type="checkbox"/>	NO	
Z	0.0308	0.0000	0.0000	<input type="checkbox"/>	NO	
A	40.0000	0.0000	0.0000	<input type="checkbox"/>	NO	
Radius	0.0190	0.0000	0.0000	<input type="checkbox"/>		
Angle	0.0000	0.0000	0.0000	<input type="checkbox"/>		
Center Height Camera function			Autofocus type			
<input checked="" type="checkbox"/> Enable C.H.C.			<input checked="" type="radio"/> Autofocus with same Macro			
C.H.C. axe: Horizontal			<input type="radio"/> Autofocus without Macro			
C.H.C. value: 0			<input type="radio"/> Autofocus with standard Macro			

1  2  3  4  5  6 

The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window.

### Remove selected data




This button allows you to **remove** the selected cutter from database. It will appear a confirmation window.

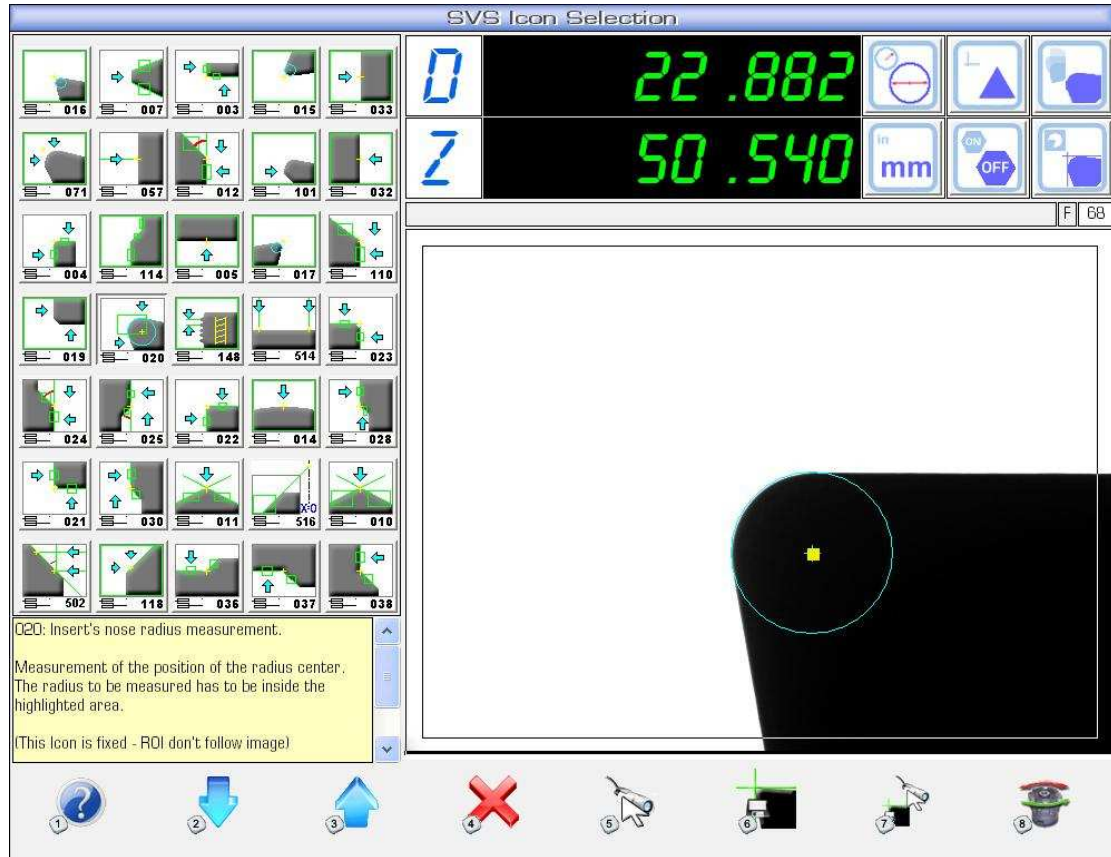


- **Sharpened shelf life:** indicates the cutter's shelf life when sharpened.
- **X dimension:** X dimension axes definition (diameter).
- **Z dimension:** Z dimension axes definition (height).
- **A dimension:** A dimension axes definition (spindle).
- **Radius:** indicates the plate radius value.
- **Angle:** indicates the angle's value.

For each dimensions there are additional fields that are:

- **Theoretical:** it indicate the theoretical value of dimensions.
  - **Lower tolerance:** it indicates the value of the lower tolerance applied to the dimensions.
  - **Upper tolerance:** it indicates the value of the upper tolerance applied to the dimensions.
  - **Required tolerance:** it inhibits the ability to store the dimension's storage if it is outside the set tolerances
  - **Cutter code for incremental:** indicates the cutter code from which to calculate the dimension in incremental of the selected cutter. This field is not available for Radius and Angle dimensions.
- **SVS icon:** indicates the SVS measure Macro associated to the cutter that will be used in Preset. It is possible to change the SVS measure Macro clicking on it and pushing he the appropriate function button above described (Associate SVS Macro).
  - **Comparator function :**
    - **Comparator enable :** this parameter indicates whether the function is enabled;
    - **Comparator reference axis:** indicates the comparator reference axis. The vertical axis refers to the Z and horizontal axis refers to the X;
    - **Comparator value:** indicates the value to be applied to comparator.
  - **Autofocus type:** indicates the method to perform the Autofocus procedures during the cutter measurement and can be:
    - **Autofocus with the same Macro:** it will be used the measure Macro associated to the cutter;
    - **Autofocus without Macro:** it will be used Macro of any type;
    - **Autofocus with Standard Macro:** it will be used the standard measure Macro editable in configuration (see *Configuration of System*).
  - **Cutter photo:** indicates the image file associated to the selected cutter. To change this field click on the **browse** button . It will be described later (see "*Browser Images*").

## Measure Macro Selection Window



The measure macro selection window is made of:

- 1) The functions bar that present the following icons:

### Help



This button allows you to open the **help window**.

### Next Icons



This button allows to **browse the next pages** of measure macro.

### Previous Icons



This button allows to **browse previous pages** of measure macro.

### Cancel



This button allows to **cancel** the operation and to **close** the window.

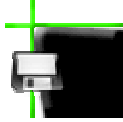


### Selection of Measure Macro



This button allows to **select** the chosen measure macro.

### Self-teach dimensions



This button allows to **self-teach** the dimensions and use it for theoretical dimensions field of the cutter.

### Select Macro and auto-learn dimensions



This button allows to make both the operations of measure macro **selection** and dimensions **auto-learn**.

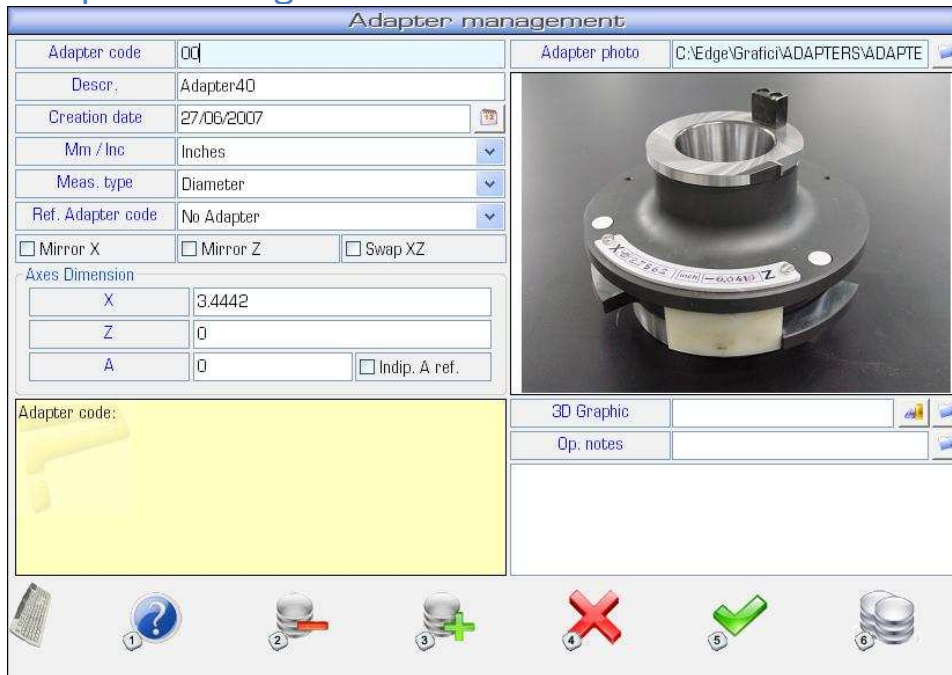
### Autofocus



This button allows to make an operation of **automatic autofocus**.

- 2) The measure macro list (see *Common components of EDGE window > The measure macro list*);
- 3) The dimensions display (see *Common components of EDGE dimensions > The dimensions display with relative functions*).

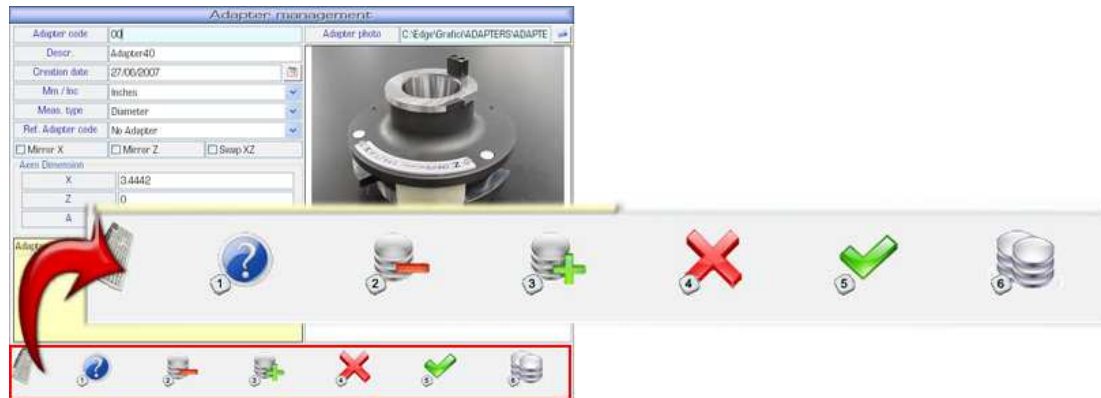
## The Adapter Management window



The Adapter Management window is made of:

- 1) The functions bar;
- 2) The selected adapter fields;

## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window.

### Remove selected data



This button allows you to **remove** the selected adapter from database. It will appear a confirmation window.

### Add new data



This button allows to **add** a new adapter to database

### Close window



This button allows to **close** the adapter data management window.

### Change data confirmation



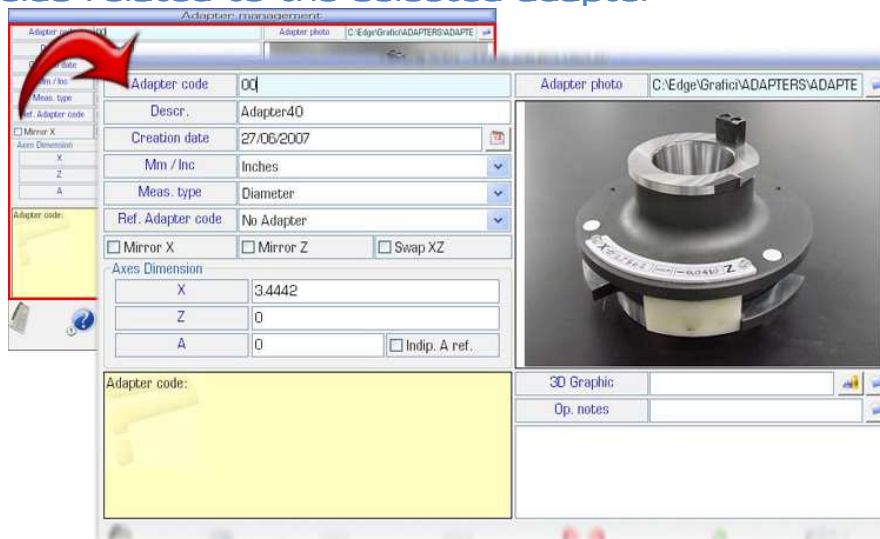
This button allows to **confirm** any taken changes and to **close** the adapter data management window.

### Duplicate data







This button allows to **duplicate** the selected adapter. It will be required the new adapter code.

### The fields related to the selected adapter

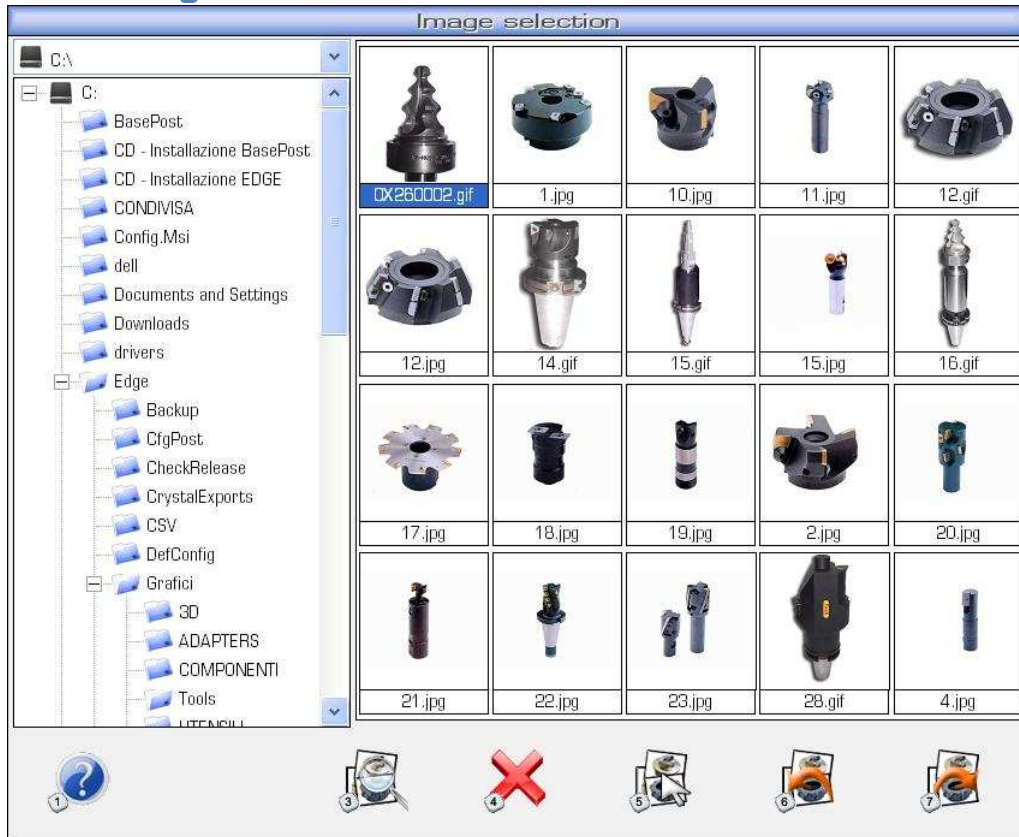


The fields related to the adapter are:

- **Adapter Code:** It shows the univocal identification code of the adapter. 24 alphanumeric characters field. Obligatory
- **Description:** extended description. 50 alphanumeric characters field.
- **Creation date:** it is the selected adapter creation date.
- **Measure unit:** indicates the unit of measure by which are expressed zero dimensions.
- **X dimension:** indicates the way for viewing the X dimension. It can be Diameter or Radius.
- **Adapter reference code :** indicates the referenced Adapter code.
- **Mirror X:** it allows to mirror the X dimension (diameter) Normally used for lathe applications.
- **Mirror Z:** it allows to mirror the Z dimension (height) Normally used for lathe applications.

- **XZ Reverse:** allows to reverse the dimensions. The X dimension will be expressed in the Z dimension field and vice versa. Normally used for lathe applications.
- **X dimension:** dimension of X axes (diameter). Report the X dimensions stamped on equipment.
- **Z dimension:** dimensions of Z axes (height). Report the Z dimension stamped on equipment.
- **A dimension:** indicates the A dimension value (spindle).
- **Separate Store Alpha Dimension:** it allows to store separately Alpha dimension (spindle) during adapter zeroing process.
- **Adapter photo:** indicates the image file associated to the selected Adapter. To change this field click on **browse** button . It will appear the image browser that will be described later (see "Images *Browser*").
- **3D graphic:** indicates the 3D file associated to the selected Adapter. To modify this field click on **browse** button . It will appear the image browser that will be described later (see "Images *Browser*"). To see the associated 3D graphic click on the button **shows 3D** . It will appear the 3D visualization window that will be described later ( see "*3D visualization*")
- **Operator notes:** indicates the file containing the operator notes associated to the selected adapter. To modify this field click on **browse** button . It will appear the operator note browser that will be described later ( see "*operator note browser*")

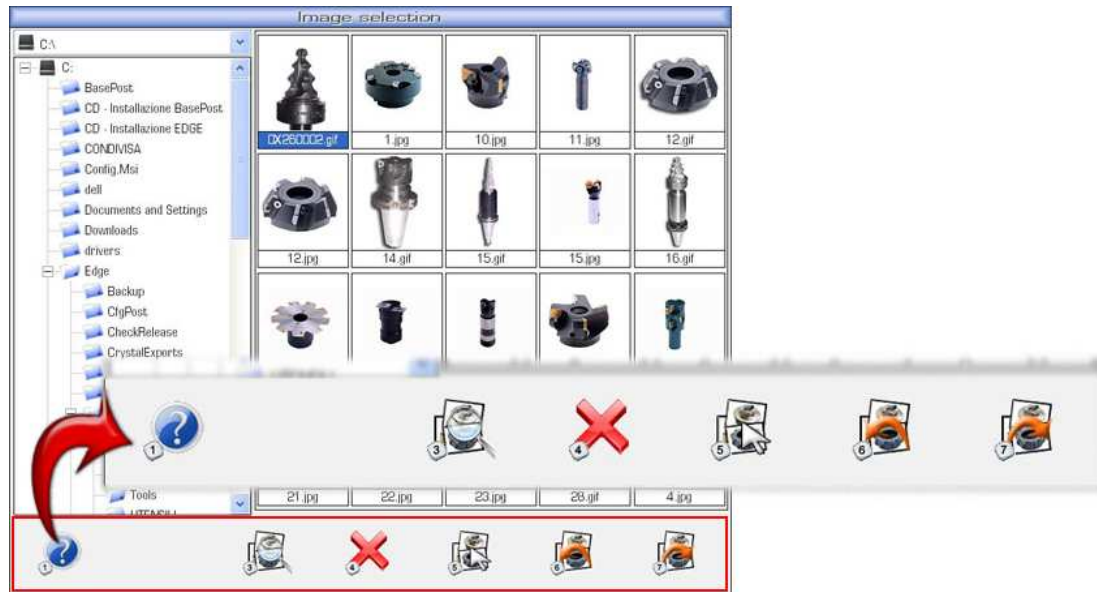
## Browse Images



The images selection window is made of:

- 1) The functions bar;
- 2) The list of folders;
- 3) The images present in the selected folder.

## The functions bar



The functions bar is represented by a series of images that are:

### Help



This button allows you to open the help window

### Zoom



This button allows to enlarge, if necessary, the selected image. It will appear the icon to return to the list of all the images.



### Cancel



This button allows to cancel the operation and close the window.

### Select



This allows you to confirm the association of selected image and close the window. To select an image just click on it or on its inscription.

### Previous Page



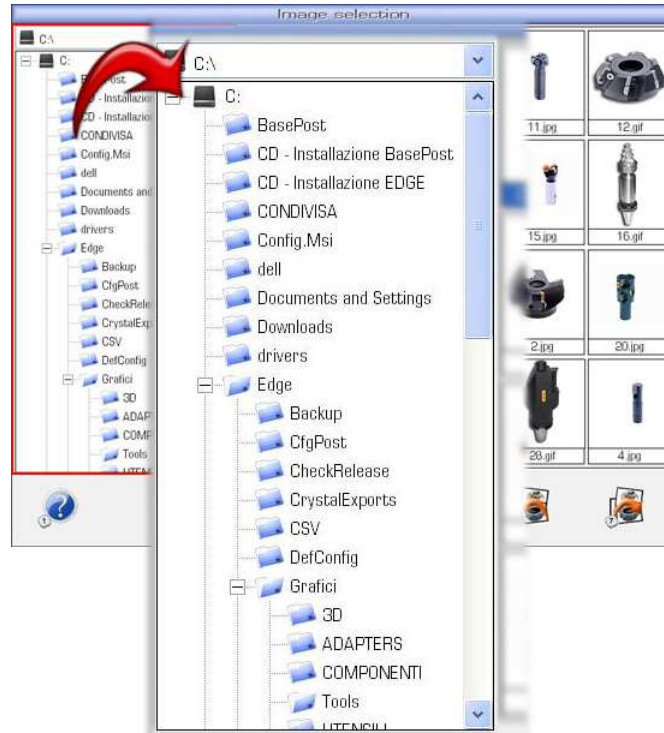
This button allows **to browse** the previous page of images if present.

### Next page



This button allows **to browse** the next page of images if present.

### La lista delle cartelle



Through the list of folders you can browse the contents of the equipment in local and any network drivers to enable the images selection or viewing.



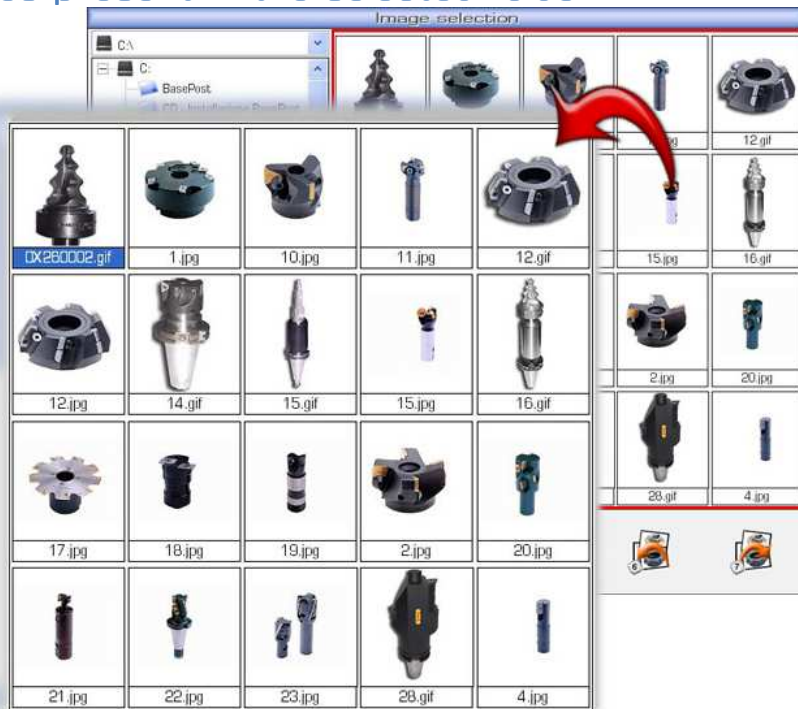
In the following case, the list of drivers presents the local drivers "C: \" and two network drivers "S: \" and "X: \". By selecting one available driver, the list of folders will show the contents of selected driver.



In the following case the list of folders presents the contents of local driver "C: \", highlighting the current folder with the icon



The images present in the selected folder



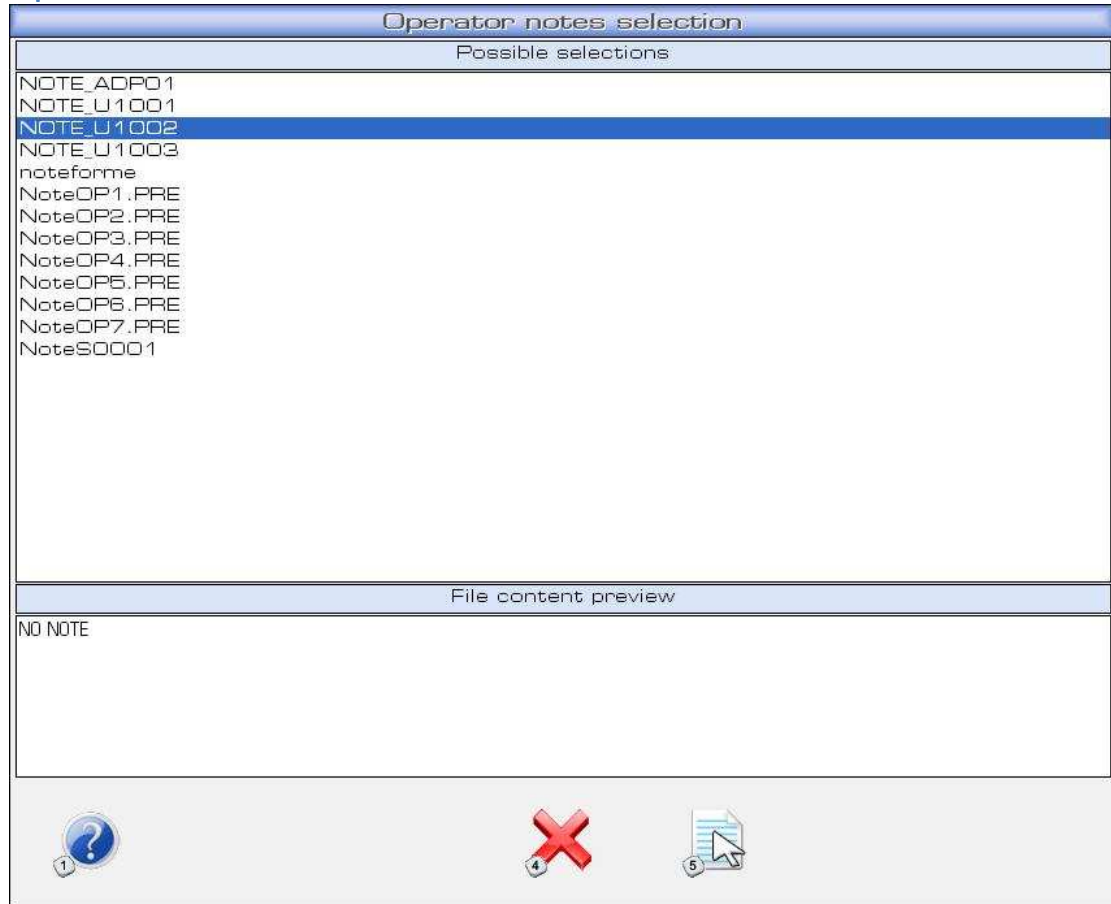
The list of images shows the preview of all the images supported by the system which, by default, may have formats **JPG, JPEG, BMP, DXF, DWG, WMF, PCX**.

If you have the license **extension graphs**, in addition to the extensions listed above, are also supported formats **WMF, TIF, TIFF, PNG, TGA, GIF**.

An additional license, **3D Graphics**, will allow the selection and display of 3D graphics. These types of file may have formats **EPRT, EASM, EDRW, SLDPRT, SLDASM, SLDDRW, 3DXML, PRT, ASM**. The preview of these files in the selection images window is not available.



## Operator notes Browse



The operator notes selection window is made of:

- 1) The functions bar that presents the following icons:

### Help



This button allows you to open the help window.

### Cancel



This button allows to cancel the operation and close the window

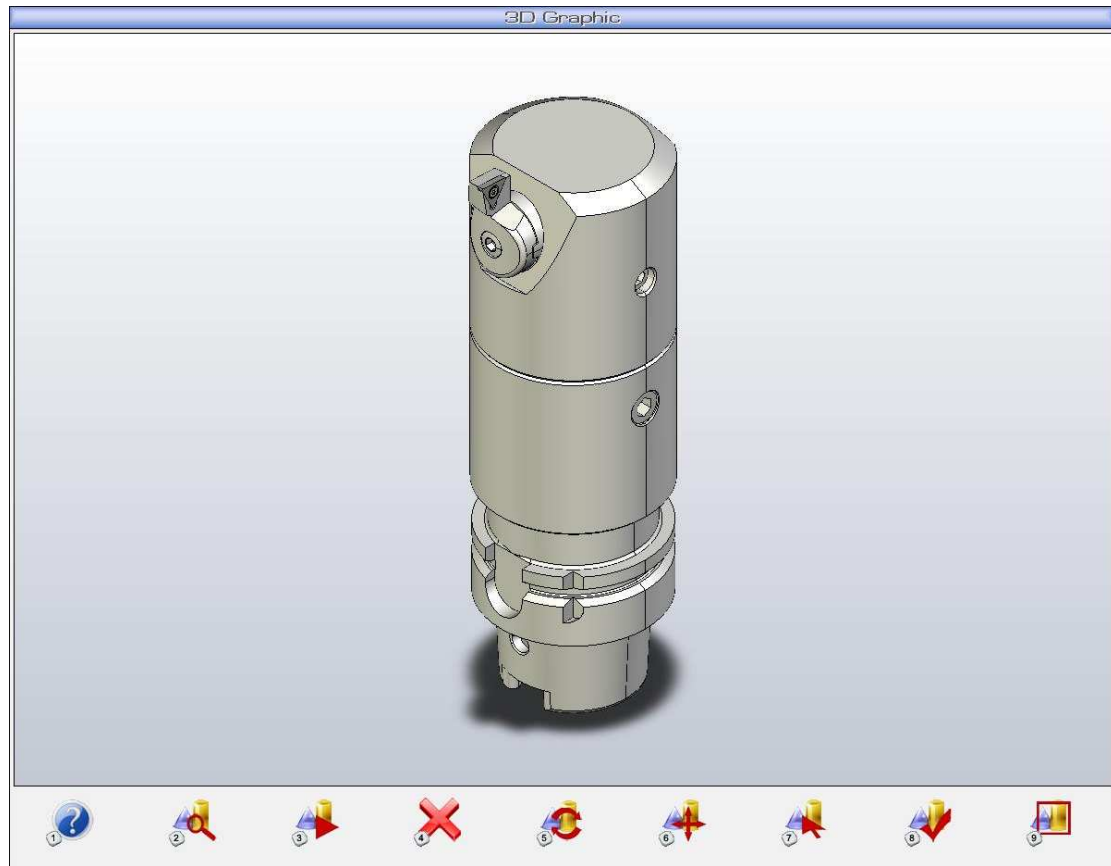
### Select



This allows you to confirm the association of selected image and close the window.

- 2) The list of notes files available and the file preview. Selecting a file of operator notes from the list will be automatically displayed its contents.

## 3D Viewer



The 3D viewer window is made of:

1) The functions bar that is made of:

### Help



This button allows you to open the help window.

### 3D Zoom



This button allows to enable the **3D zoom** function.

### 3D Animation



This button allows to enable the **3D graphic Animation**. It will appear a **Stop Animation** button



### Cancel



This button allows to **close** the window.

### 3D Rotate



This button allows to enable the **3D Rotate** function.

### 3D Move



This button allows to enable the **3D move** function.

### Selection



This button allows to enable the **Selection** function.

### Return to 3D Home



This allows you to move the **3D graphics** to its original position.

### Optimize 3D zoom



This allows you to **optimize the zoom** of 3D graphics.

## QRM - Quick Report Management

Quick Report Management

**Tool jobs**

Print the Tool jobs list

Print the Tools associated to Tool job

Print the Tool jobs complete list

---

**Tools**

Print the Tools list

Print the Tools complete list with Tool jobs associated to

---

**Adapter**

Print the Adapter list

Print the Adapter complete list

---

Tool code	
Descr.	
Adapter code	
Type 1	
Type 2	
Class	
Order by...	Tool code

Lista Completa Utensili

Codice Utensile: 1001  
 Descrizione: Utensile #1001  
 Adapter: 01  
 Tipo Utensile: BAR01  
 Tipo Misura:   
 Millimetri:       Diametro:   
 Mirror X:       Inverti XZ:   
 Mirror Z:

Nome Operatore:

Taglieri				
Rif.	Componente	Vericale	Data Pres	
0001		0		
	X	Z	Angolo	Raggio
	Quota Teorica	230,7200	121,4100	
	Tali Ind.			
	Tali Sup.			
	Quota Reale			

Rif.	Componente	Vericale	Data Pres	
0001		0		
	X	Z	Angolo	Raggio
	Quota Teorica	230,7200	121,4100	
	Tali Ind.			
	Tali Sup.			
	Quota Reale			

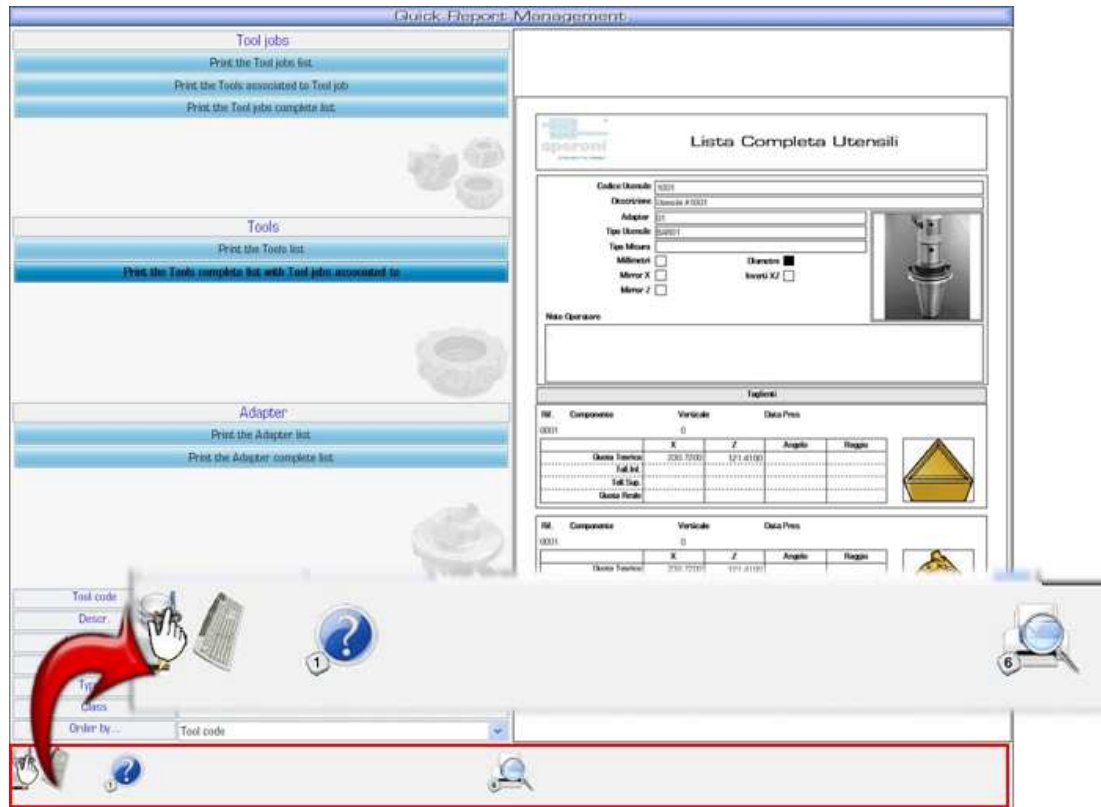
Data: 07/05/2008      Pagina: 1 / 3

Through the QRM you can make prints of various kinds, including the data in the database.

The window of QRM is formed by:

- 1) The bar functions;
- 2) The list of prints available;
- 3) The fields for filtering data;

## The functions bar



The functions bar is made of a series of images that are:

### Help



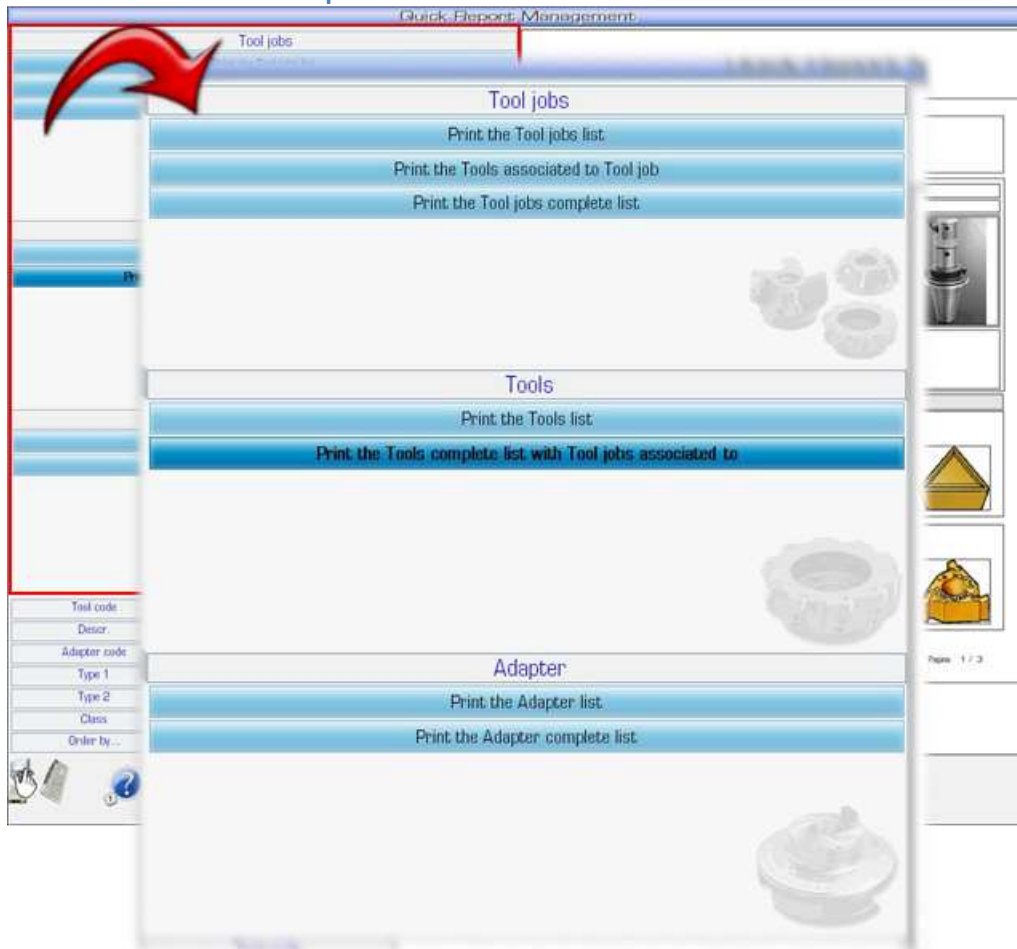
This button allows you to open the help window.

### Print Preview



This button shows the print preview. It will open the **Report Viewing** window that will be described later (see *Report Viewing*)

## The list of available prints



The available prints by default are:

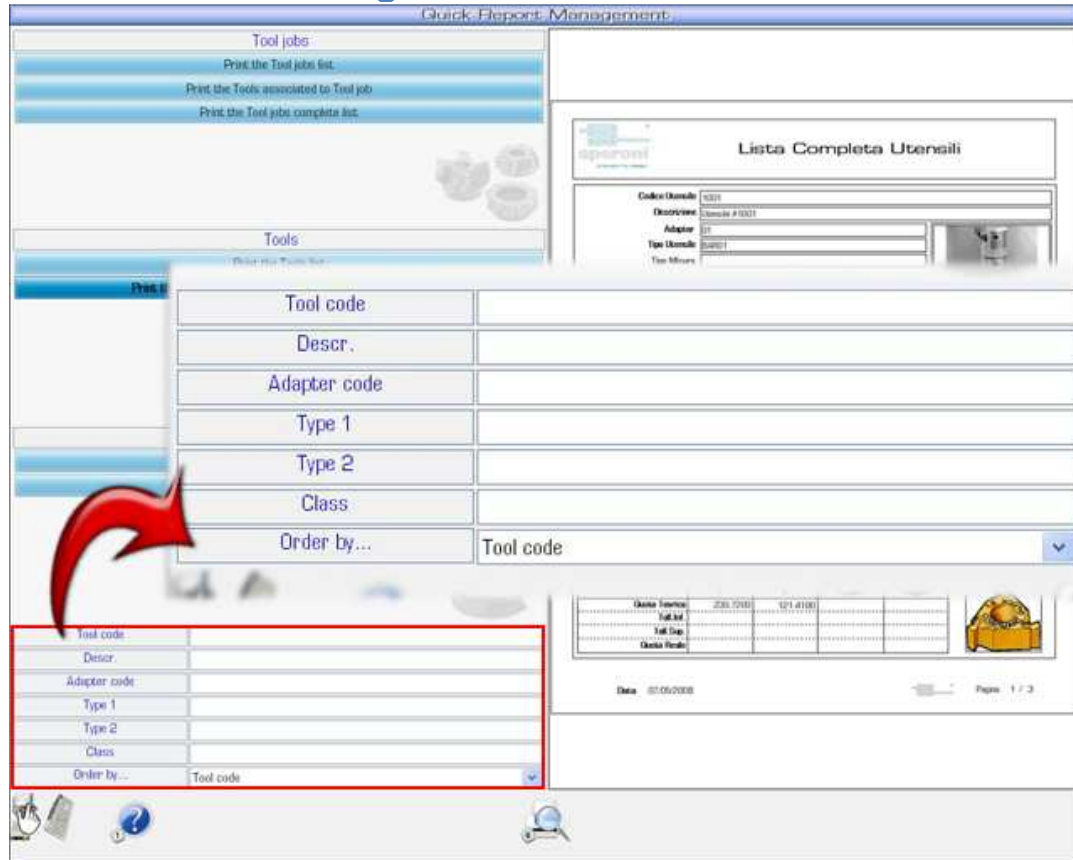
- **List of tools:** this print will show a list of all the tools;
- **Complete list of tools:** this print will show a list of all the tools and, for each tool, the list of cutters. In this print will be shown also associated graphics tools and cutters.
- **List of adapter:** This print shows a list of all the adapters.
- **Complete list of the adapter:** this print will show a list of all the adapters and graphics associated with them.

If you have the tools cards management license will be available the following prints:

- **Complete list of cards:** this print will show a list of all the cards tools.
- **List of cards and related tools:** this print will show a list of cards with a list of its associated tools.
- **Complete list of cards:** shows the list of cards with a list of its associated tools and for each tool the relative list of cutters.

To select a print, simply click on one of the buttons blue light. So doing will be shown on the left also the layout that will have the print.

## The fields for filtering data

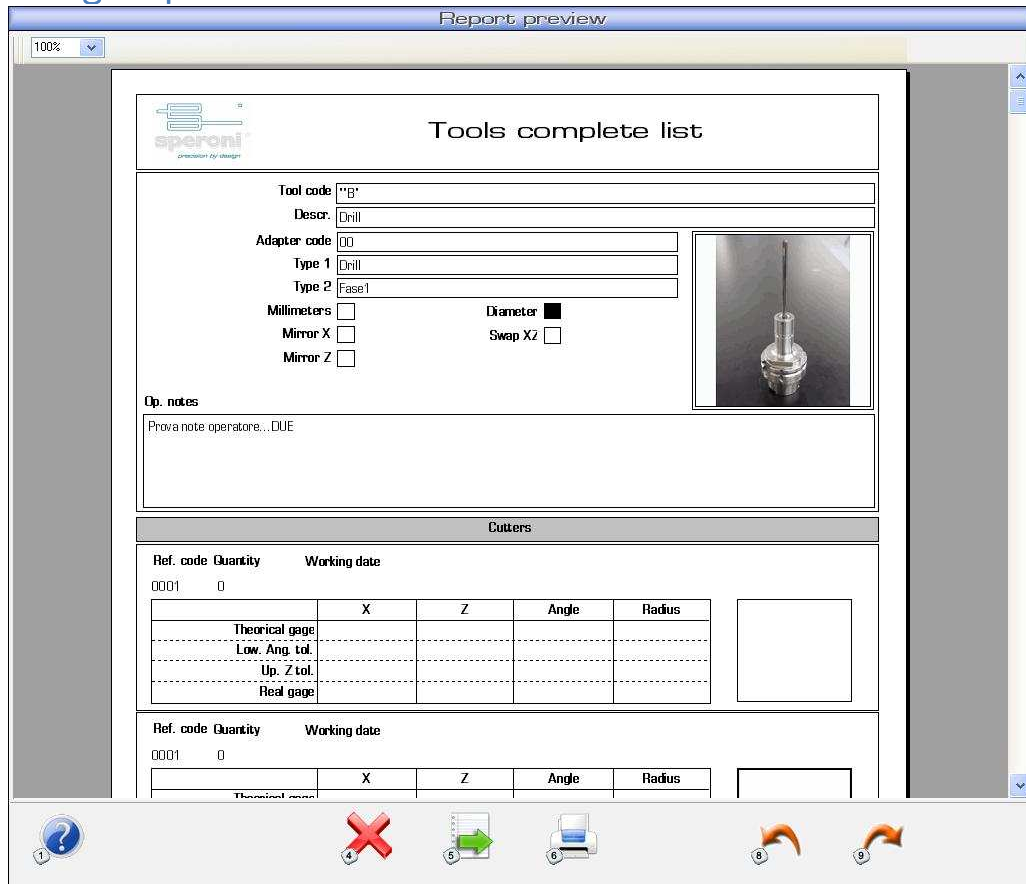


The fields for filtering data are used to filter the reports content. There are filtering fields for of cards, tools and Adapters.

- **Filtering fields for cards:** the fields available for cards data filtering are: **Card Code**, **Description**, **Card Type**, **Tool Machine**, **Adapter code**.
- **Filtering fields for tools:** the fields available for cards data filtering are: **Tool Code**, **Description**, **Adapter Code**, **Type 1**, **Type 2**, **Class**.
- Filtering fields for Adapters: **Adapter Code**, **Description**.

In addition, for each type of print you can apply a sort of data through the **Order for** field

## Viewing Report window



In the viewing report window we note at the centre the print preview, with the zoom factor of the report at the upper right, and the functions bar that present the following icons:

### Help



This button allows you to open the **help** window.

### Cancel

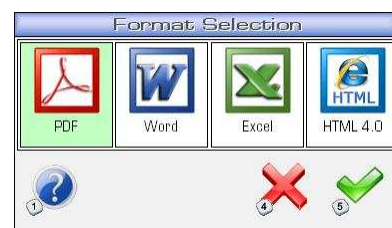


This button allows to **close** the window.

### Export report



This button allows to **export** the report **PDF, WORD, EXCEL e HTML** formats. It will appear the export window in which you can select the export type.





### Print



This button allows **to print** the current report. It will appear the print selection window.

### Previous page



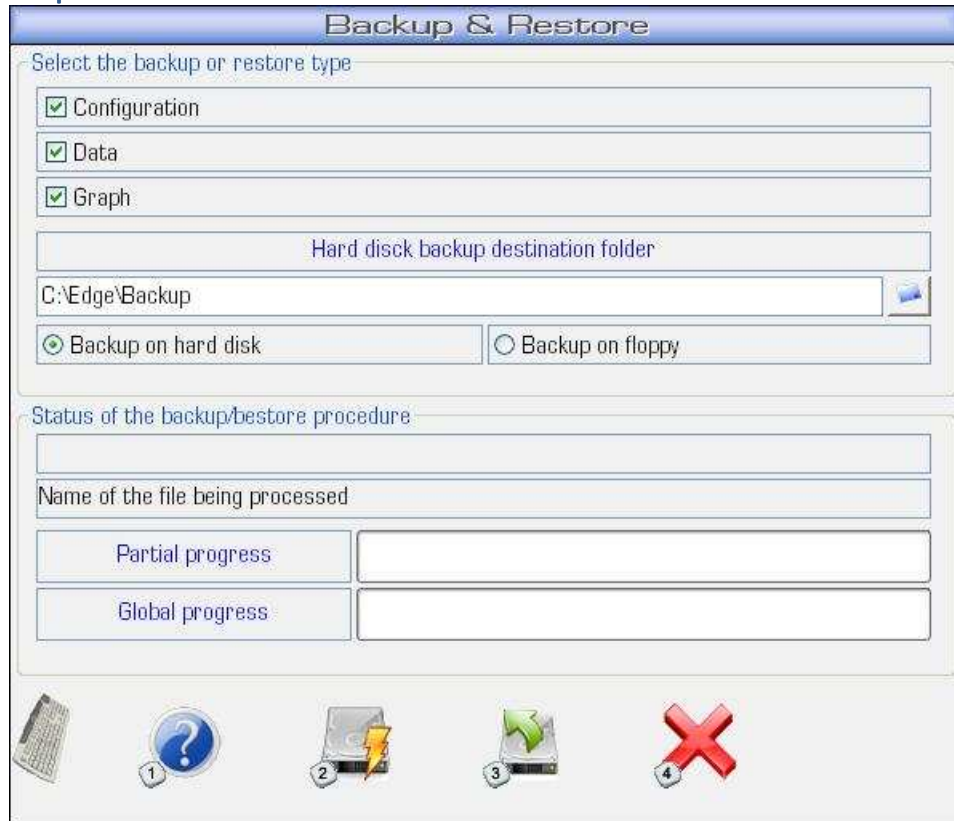
This button allows **to browse** the previous page if present.

### Next page



This button allows **to browse** the next page if present.

## Backup and Restore



The Backup and Restore window is made of:

1) The functions bar that is made of:

### Help



This button allows you to open the **help window**.

### Run Backup



This button allows to run the selected **backup**.

### Run Restore



This button allows to run the selected **restore**.

### Cancel



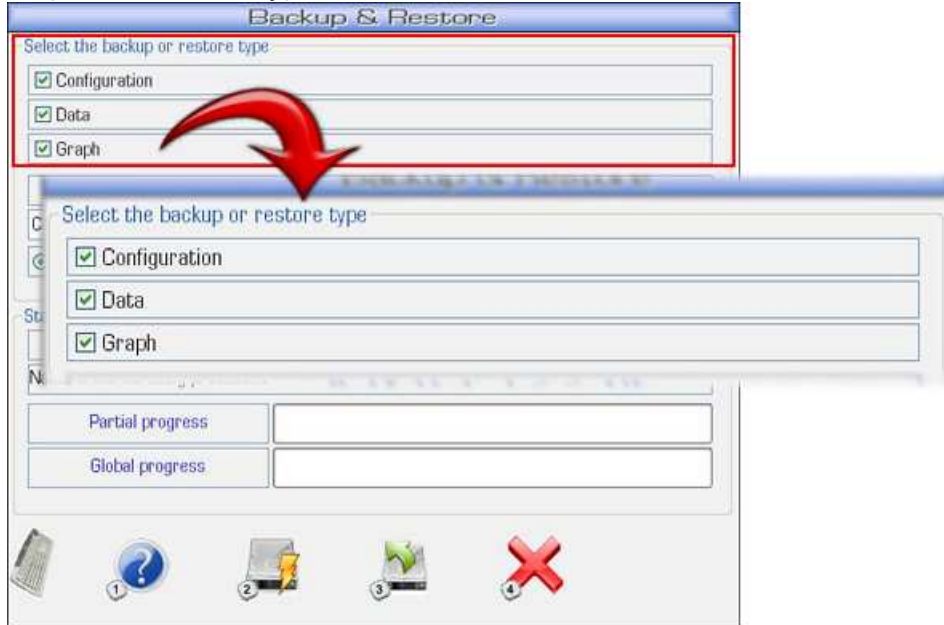
This button allows to **close** the window.

2) The Backup and Restore information;

## The Backup and Restore information

During the procedures for backup or restore is available parameters and information that are:


- **Backup or restore type**



These parameters indicate the type of backup or restore you want to do. Selecting **configuration** will be copied or restored only configuration files. By selecting **data** are copied or restored only the data (and thus the database containing information on tools, adapters and cards). Selecting **Graphics** are copied or restored only graphics files associated with tools, adapters and cards.

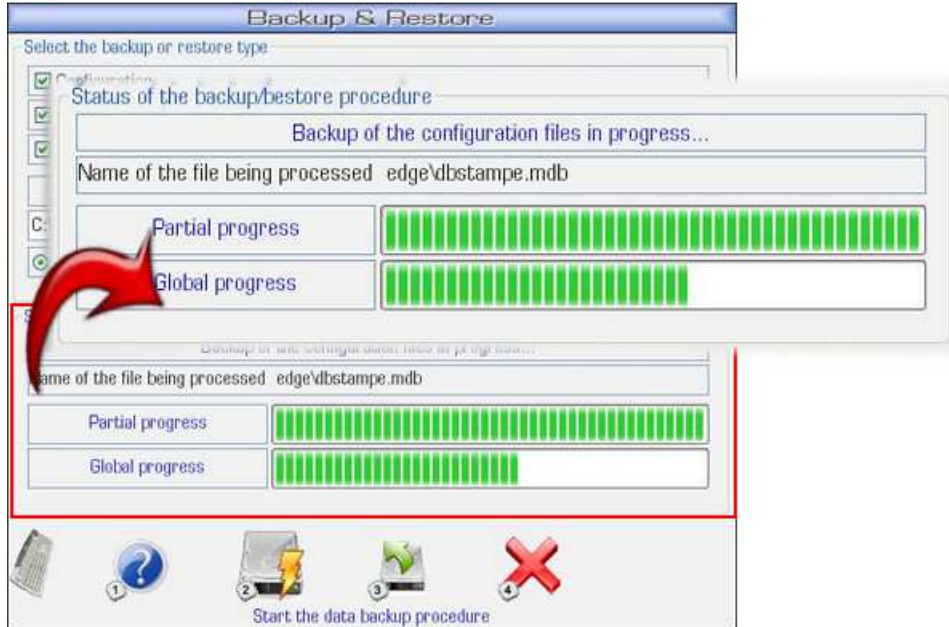
- **The backup destination**



You can select a destination backup different from the default by clicking on the **browse**  icon. It will appear a window for selecting the destination folder.

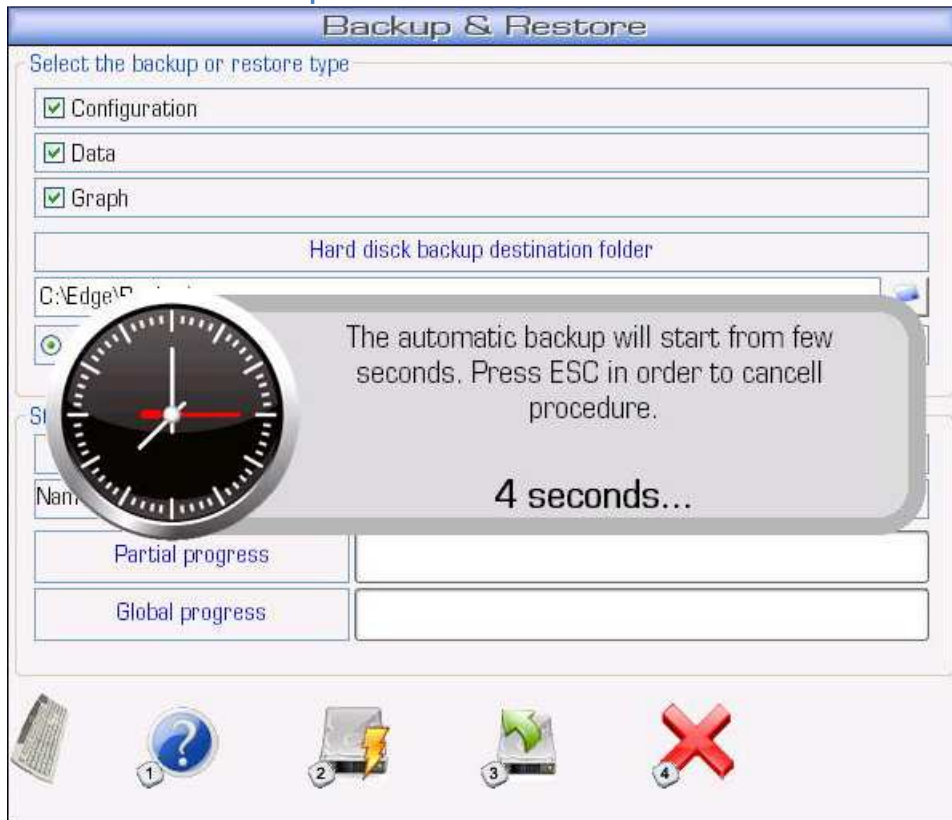
There is also the possibility of allocating a backup on floppy selecting the parameter **backup on floppy**

- **Backup and Restore process**



Once you start the backup or restore will run all kinds of backup selected. The progress of the current procedure and the file are highlighted through a partial progress bar and a global progress bar. After completing the backup or restore it will show a message on the screen.

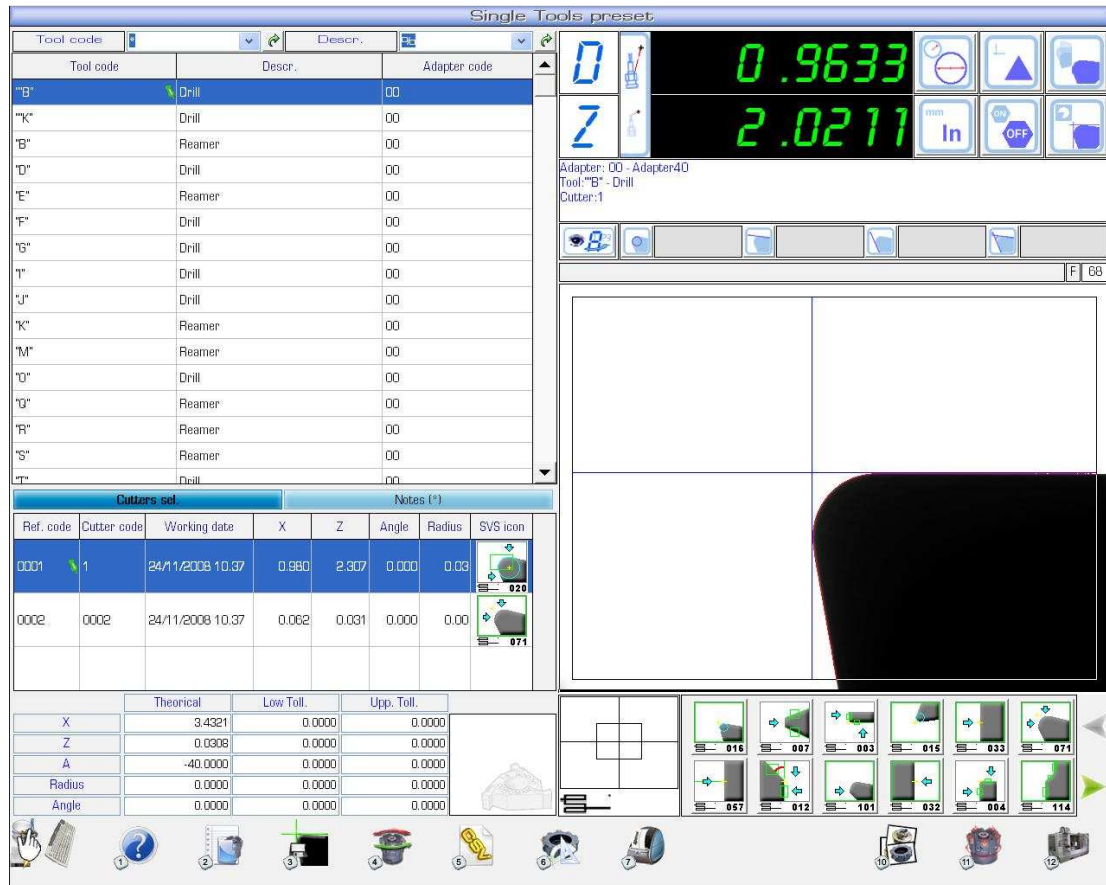
## The scheduled backup



Speroni Edge has also the option of scheduling a set of backup (see *Schedule Backup*).

This procedure will automatically select all of backups available and make a backup disk in the default directory. To cancel the automatic backup press the **ESC** key before the end of the countdown.

## Preset



Tool code	Descr.	Adapter code
"B"	Drill	00
"K"	Drill	00
"B"	Reamer	00
"D"	Drill	00
"E"	Reamer	00
"F"	Drill	00
"G"	Drill	00
"H"	Drill	00
"I"	Drill	00
"J"	Drill	00
"K"	Reamer	00
"M"	Reamer	00
"N"	Drill	00
"O"	Reamer	00
"P"	Reamer	00
"S"	Reamer	00
"T"	Drill	00

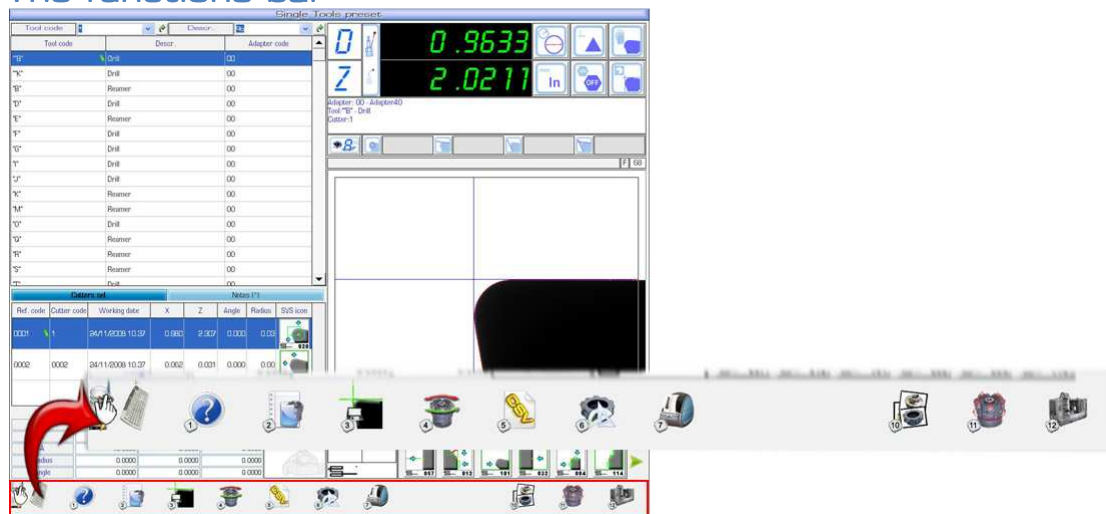
Ref. code	Cutter code	Working date	X	Z	Angle	Radius	SVS icon
0001	1	24/11/2008 10.37	0.980	2.307	0.000	0.03	020
0002	0002	24/11/2008 10.37	0.062	0.031	0.000	0.00	071

	Theoretical	Low Toll.	Upp. Toll.
X	3.4321	0.0000	0.0000
Z	0.0308	0.0000	0.0000
A	-40.0000	0.0000	0.0000
Radius	0.0000	0.0000	0.0000
Angle	0.0000	0.0000	0.0000

The window of preset, beside common components such as *Display dimensions*, *Vision System* and *Measure Macro List*, is formed by:

- 1) The bar functions;
- 2) The data presetting;

### The functions bar



The functions bar is made of:

## Help



This button allows you to open the **help window**.

## Preset for Cards



This button, if you have the **Tools Cards** license allows you to switch from **presets for a single tool** to **preset for tools cards**. Presetting for tools cards it will appear the **preset for single tool** button.



## Store dimensions



This button allows **to store** the current dimensions of the selected cutter.

## Autofocus



This button, if you have the third automatic ALPHA axis, allows to make an **Autofocus**.

## Create CSV



This button, if you have the **Creating CSV** license allows you **to create a CSV file** with the presetting dimensions.

## Enable / Disable Comparator function



This button allows you to enable the **comparator function** that will be described later (see *comparator function CHC*).



## Label print



This button allows you **to print a label** with tools presetting dimensions present **in the database**.

## Read Balluff



This button, if you have the **external devices** license, can **read data** from an external Balluff device.

### Write Balluff



This button, if you have the **external devices** license, allows you to **write data** to an external Balluff device.

### Select data from graphic



This button allows you **to select the data** through the graphic associated with them (see *selected through graphic*).

### RunOut Function



This button allows you **to enable the RunOut function** described previously (see *Manual Measures > The RunOut*)

### PostProcessor Function



This button, if you have the **PostProcessor** license, can **enable the PostProcessor function** which will be described later (see *PostProcessor and EditPost*).



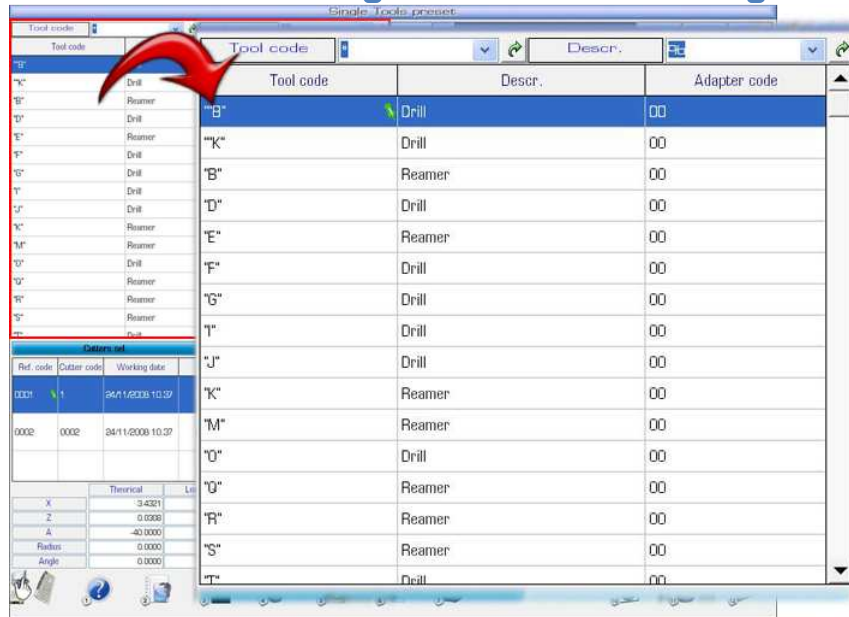
## The Presetting data

EDGE has the ability to carry out two types of presetting: *Presetting for Single Tool* and *Presetting for Tools Cards*.

In the case of presetting for single tool a window shows data referred to tool card present in the database.

In the case of presetting for tools cards, the window shows data referred to the tools cards present in database and data referred to the tools associated with the selected tool card.



## SINGLE TOOL - The tools grid and the cutters grid



Tool code	Descr.	Adapter code
B	Drill	00
K	Drill	00
B	Reamer	00
D	Drill	00
E	Reamer	00
F	Drill	00
G	Drill	00
I	Drill	00
J	Drill	00
K	Reamer	00
M	Reamer	00
O	Drill	00
R	Reamer	00
S	Reamer	00
T	Drill	00

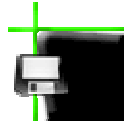
The tools grid shows the list of all tools present in database. It is formed by data: **Tool Code**, **Description** and **Adapter Code**.



Ref. code	Cutter code	Working date	X	Z	Angle	Radius	SVS icon
0001	1	24/11/2008 10.37	0.980	2.307	0.000	0.03	
0002	0002	24/11/2008 10.37	0.062	0.031	0.000	0.00	

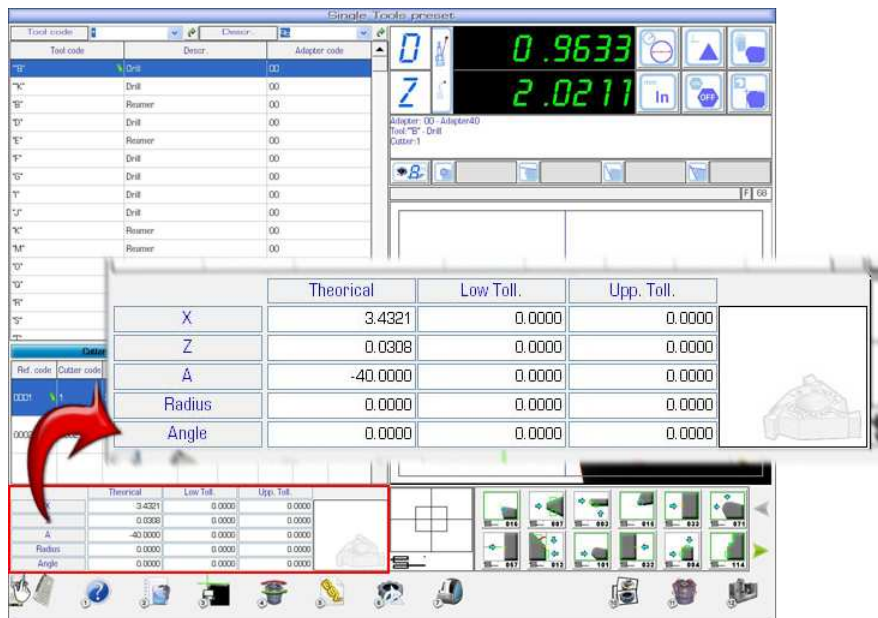
Selecting a tool from the list in the cutters grid below, you'll see all the cutters of the selected tool. The grid have this fields: **Reference Code**, **Cutter Code**, **Last presetting Date**, **Real X dimension**, **Real Z dimension**, **Angle**, **Radius** and **Macro Measuring associated**. Selecting a

tool from the list, you can store dimension viewed on display of the dimensions through the **Store Dimension** button.



In cases where the selected cutter had a measure macro associated, the system will automatically launch it, and will make the measurement. When the measure is completed, the cutters grid will be refreshed with automatically stored dimensions.

Both grids can use a selection filter through the two fields in head of them. Writing in one of two fields grids will update in real time with data that meet the search criteria.



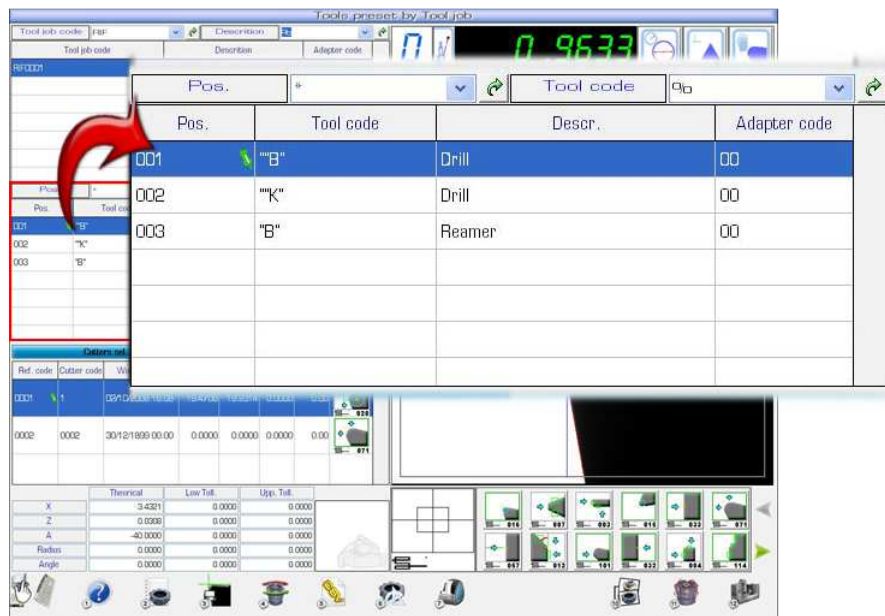
	Theoretical	Low Toll.	Upp. Toll.
X	3.4321	0.0000	0.0000
Z	0.0308	0.0000	0.0000
A	-40.0000	0.0000	0.0000
Radius	0.0000	0.0000	0.0000
Angle	0.0000	0.0000	0.0000

The **theoretical** selected cutter's dimensions are displayed in the area below the cutters grid. In this area are presents all theoretical dimensions, with their tolerances, and the image associated with the selected cutter.

## TOOL JOBS - The tool jobs grid, the tools grid and the cutters grid.



The Tool jobs grid shows you the list of all the tools jobs in the database. It is made by the field: **Tool job code**, **Description** and **Adapter code**.



If you select a Tool job in the grid you can see, in the tool grid below, the tool associated to the Tool job selected.

It is made by the field: **Position**, **Tool code**, **Description**, **Adapter code**.

Selecting a tool from the list, in the cutters grid will be showed the cutters of the selected tool and the first cutter will be selected, showing you the Store Dimension button like previously.

Also in this case you can use selection filters.

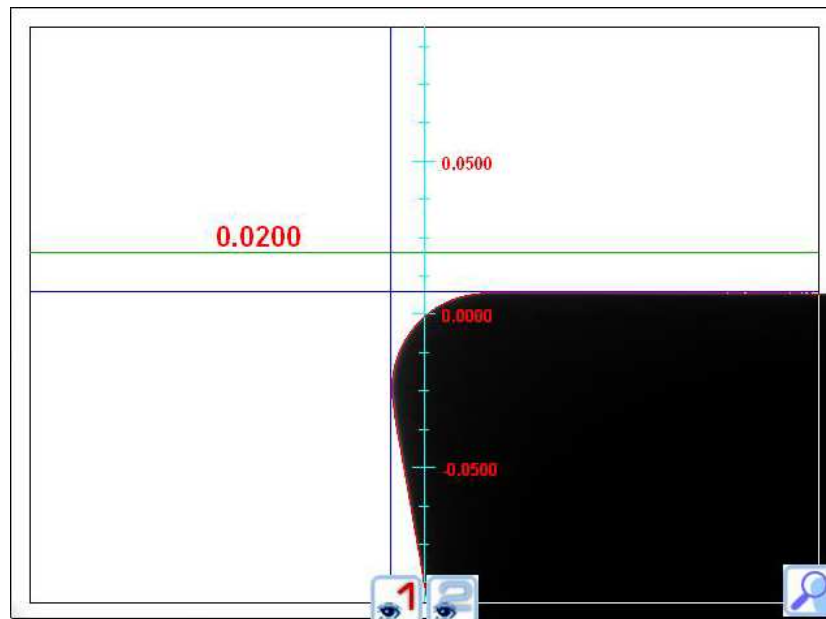
## CHC Comparator Function

The Center Height Camera function allows a particular setting of a cutter off-axis. To enable the Center Height Camera regulation on a cutter it is sufficient to change the cutter data in management data (see *Data Management > Cutters Management Window*).

To enable the CHC click **Enable CHC** icon.



The vision system will show a line that will allow you to regulate the cutter as in the example



To exit the CHC regulation click on **Disable CHC**



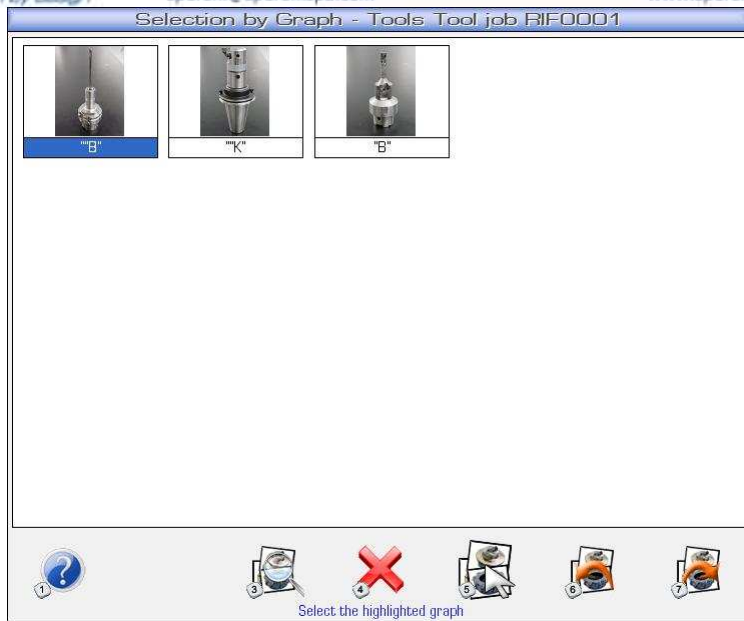
## The selection by graphic

The selection by graphic allows the selection of data through the graph associated with them.

Clicking on the **selection data from graph** icon



Will appear the selection graphic window.



The images displayed within this window will refer to the data contained in the last selected grid.

This information is visible on the title of the window and in the next example we note that the images displayed are referred to the tools associated with the card with code "RIF0001."

The icons present in the functions bar are:

#### Help



This button allows you to open the **help window**

#### Zoom



This button allows **to enlarge**, if necessary, the selected image. It will appear the icon to return to the list of all the images.



#### Cancel



This button allows to **cancel** the operation and close the window.

#### Select



This button allows to **confirm the data selection**.

#### Previous page



This button allows to **browse** the previous image page if present.

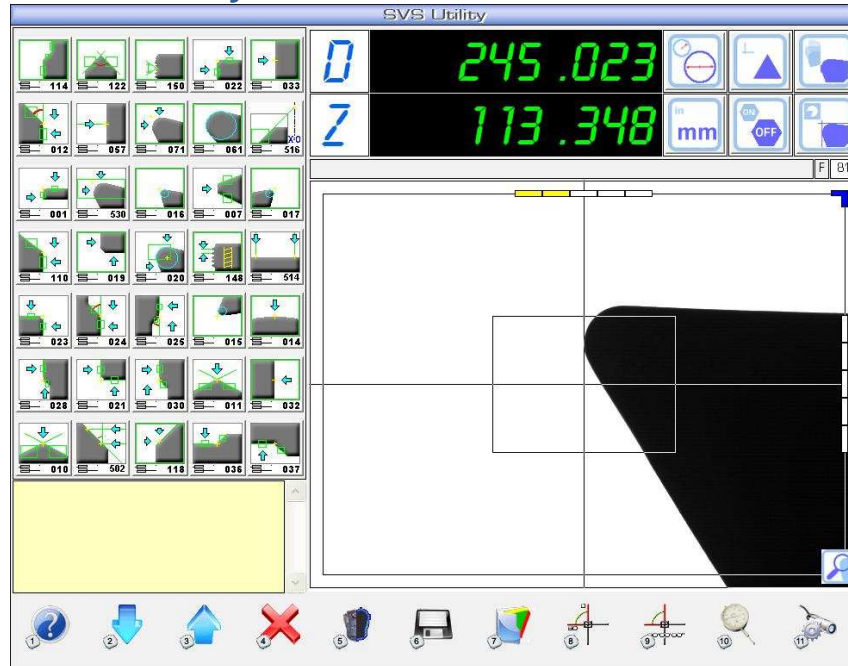
### Next page



This button allows to **browse** the next image page if present.

Confirming the data selection, this will be highlighted.

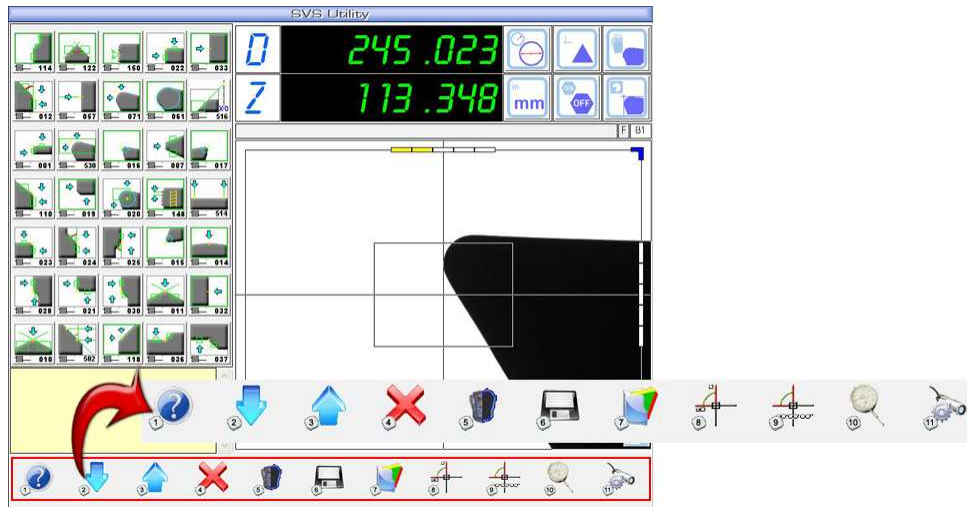
## Utility of Vision System



The Vision System Utility window consists of:

- 1) The bar functions;
- 2) The list of SVS Macro. This will not be described in what has been described previously;
- 3) The display of the dimensions. This will not be described in what has been described previously;
- 4) The vision system. This will not be described in what has been described previously.

## The functions bar



The functions bar is made of:

### Help



This button allows you to open the **help window**

### Show previous



This button allows to display the previous icons.

### Show next



This button allows to display the previous icons.

### Cancel



This button allows you to close the SVS Utility window.

### Binary On / Off



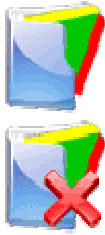
This button allows you to activate the **"Binary"** function. Once activated it will appear the **"Disable Binary"** button.

### Save SVS Image



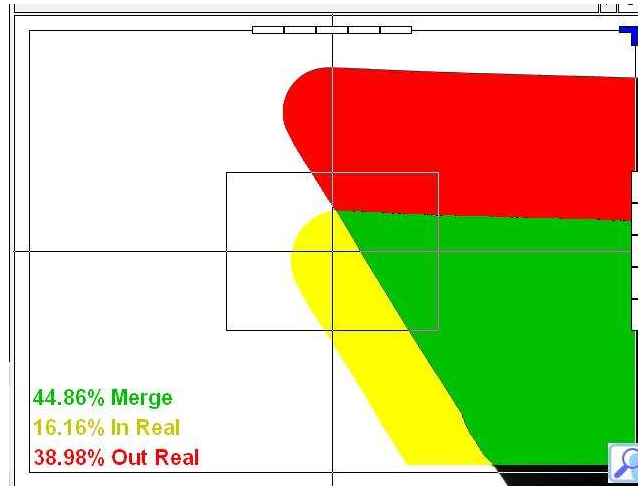
This button allows to save the image shown by the vision System as Bitmap image.

### Load images for comparison / Remove image for comparison

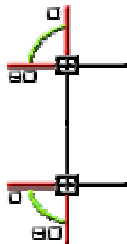


This button allows you to load a Bitmap image and make the comparison of the current image with the loaded one.

Once loaded the desired image will appear the **"Remove image of comparison"** button and the vision system will display the result of the comparison like this:

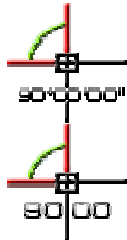


### Enable / Disable normal angle



This button allows to enable or disable the normal display of angles.

### Enable / Disable centesimal angle



This button allows to enable or disable the centesimal display of angles.

### Enable analog comparator function



This button allows to enable the **"Analog Comparator"** function. This function will be described later.

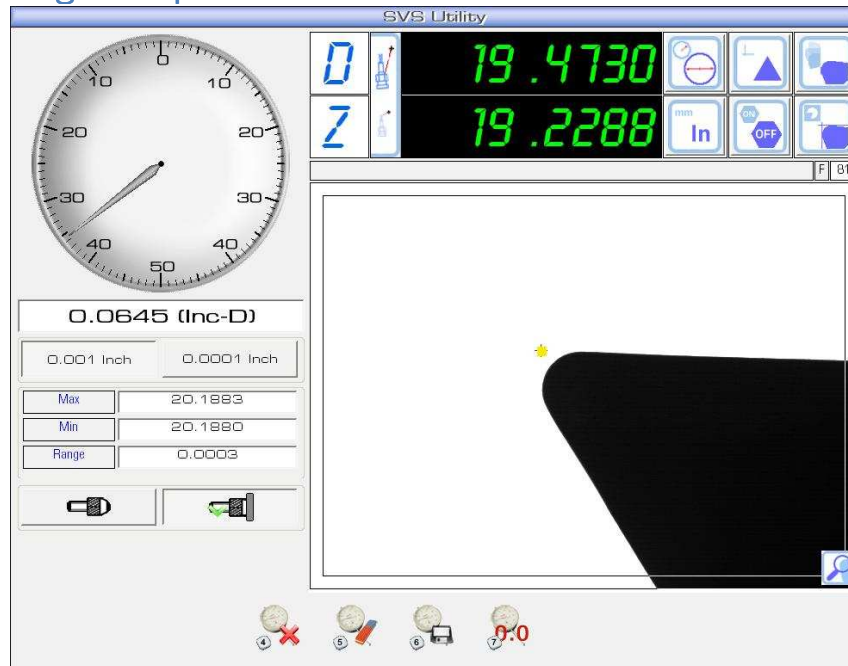
### Show Vision System configuration.



This button allows to display the SVS configuration.



## The analog Comparator function



Once enabled the analog Comparator function, the functions bar will present the following icons:

### Enable analog Comparator function



This button allows to disable the "Analog Comparator" function.

### Reset Comparator



This button allows to reset the comparator and cancel all the taken measurements.

### Store comparator dimension



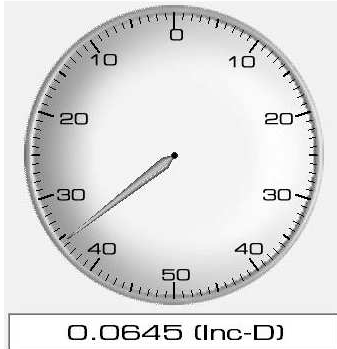
This button allows you to store the current dimension. The system displays in the appropriate fields (described below) the value of the **maximum and minimum** dimensions, and the **difference** between the two (**range**).

### Zero comparator



This button allows you to reset the comparator and take the current dimension as "0".

The comparator is as follows:



Comparator with their hands and the dimension measured. In this case **Inch Diameter**

0.001 Inch		0.0001 Inch	
Max	20.1883		
Min	20.1880		
Range	0.0003		

Change of resolution of comparator.

Units of measure inches: from **0.001** to **0.0001**.

Units of measurement mm: from **0.01** to **0.001**.

Value of maximum and minimum dimension measured and their Range (difference).



Type of measurement. You can measure a single point or get the maximum diameter within a specific area.

If you have been selected a SVS Macro the comparator using the measure will make it.