

2015

WinFlow Manual



Polyfa

Kalima

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WinFlow Manual

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English

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Main Form

This manual will illustrate a large part of the message boxes and menus in WinFlow.

WinFlow - Polyfa-71 Log off system (Bjarne Madsen)

Files Edit Functions Help

Place number information

Place no. 2

Mould no. 102 Article a223

Mould name rør 2

Mould no. 101 Article

Mould name lille rør

Maskine 1

Shot 1/1

Mould no. 102

Status Waiting MH open

	Set	Actual	
Time	1.000	0.000	Sec.
Weight	0.280	0.000	Kg.
Ratio	1.460	1.462	
Index	100.0		

Polyol

	Set	Actual	
Flow	113.8	0.1	Gr/S
Pressure	150.0	195.1	Bar
Temperature	25.0	25.0	C°

Iso

	Set	Actual	
Flow	166.2	0.2	Gr/S
Pressure	150.0	149.9	Bar
Temperature	25.0	25.0	C°

Maskine 2

Shot 1/1

Mould no. 101

Status Waiting MH open

	Set	Actual	
Time	0.995	0.000	Sec.
Weight	0.970	0.000	Kg.
Ratio	1.875	0.967	
Index	125.0		

Iso BH 2

	Set	Actual	
Flow	339.1	0.2	Gr/S
Pressure	171.0	15.2	Bar
Temperature	25.0	21.0	C°

p5

	Set	Actual	
Flow	635.8	0.1	Gr/S
Pressure	170.0	17.4	Bar
Temperature	25.0	23.0	C°

Total 0.000 Kg. Shot robot 3

Total right mould 0.000 Kg.

Shot counter 3

Shot counter right 31

Precount left (lefts) 14997

Precount right (lefts) 14969

Shot ongoing Servoreg1

MeassEnable

1=10.00 volt 2=10.00 volt 4=5.36 volt 5=9.58 volt

Figure 1 Main Form

The illustrated main form is from a machine setup with 2 mixing heads and “Left/Right” mould handling.

The small box in the bottom right corner will change between green and yellow, when connected to the embedded program.

Menus

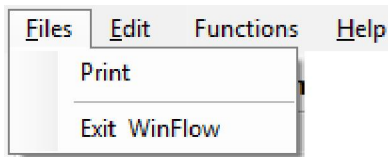


Figure 2 Menu Files

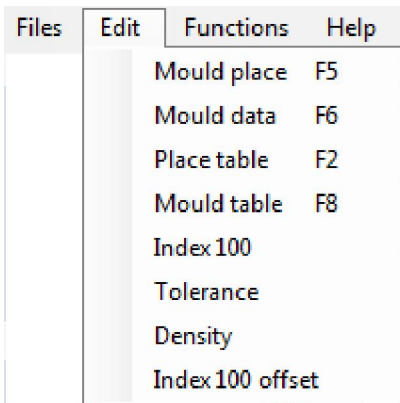


Figure 3 Menu Edit

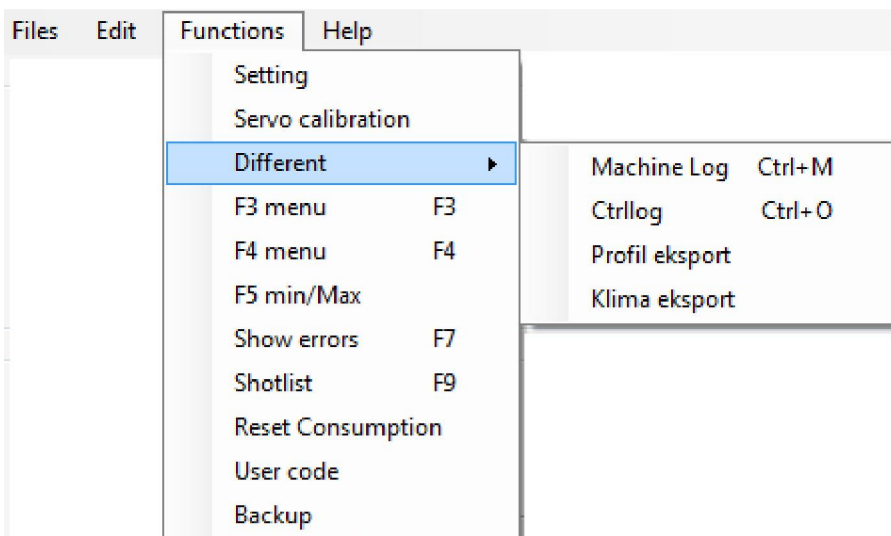


Figure 4 Menu Functions

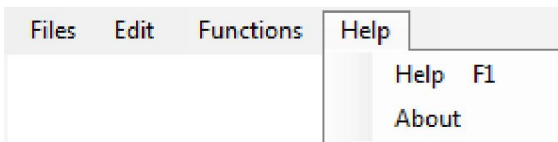


Figure 5 Menu Help

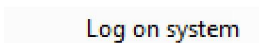


Figure 6 Menu Log On

User Code Form

In this form the user code is entered to log onto the system.

To make the form appear, click the menu item "Log On System" or use the shortcut keys <CTRL> + <TAB>.

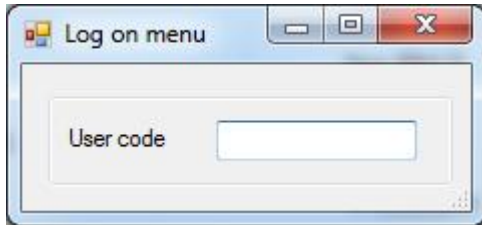


Figure 7 User Code

Press "ENTER" after entering the user code.

To log off use the menu item or shortcut keys again.

The super user can create new users in the menu "Setup User Codes", see page 9.

Setup User Codes Form

This form is used to create new users with individual user codes, so they can log onto the system.

Amongst other things the user name is used to log into the “Machine Log”, see page 12 and to make adjustments in the “Index Offset”, see page 16.

The screenshot shows a Windows-style dialog box titled "Enter password". Inside, there is a table with three columns: "Name", "Code", and "Profile". The "System" row is highlighted in blue. To the right of the table is a "Profile" button. Below the table are "Save" and "OK" buttons.

	Name	Code	Profile
▶	System		Administrator
	Bjame Madsen	bhm	Administrator
	Jacob	pcflow	Operator
	Chris	jes	Administrator
	Suzanne	12345	Production

Figure 8 Setup User Codes

The table shows existing users.

Functions:

- Create a new user:**
 Select the bottom row marked "*" type name, code and select a profile from the drop down box.
 Then click the "Save" button.
- Make changes to an existing user:**
 In the appropriate row type the changes or select a new profile.
 Then click the "Save" button.
- Delete a user:**
 Mark an entire row, by clicking to the far left.
 Then press the key "DEL".
 Then click the "Save" button.

Please note! The user "System" cannot be deleted.

Setup User Profile Form

To create new profiles, click the “Profile” button and the illustrated form will appear.

The screenshot shows a window titled "Adjust user profile" with a table of user profiles. The table has columns for id, Name, Mould, Mould, Tolerance, F4, Mould view, Setting, Index 100, Index 100 offset, Density, and Servo. The first row is highlighted in blue.

	id	Name	Mould	Mould	Tolerance	F4	Mould view	Setting	Index 100	Index 100 offset	Density	Servo
▶	1	Administrator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3	Operator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5	Production	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	13	Chemi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	14	Cleaning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
*			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Buttons: Save, OK

Figure 9 Configuration User Profiles

A profile allows access to one or more functions in WinFlow. Each profile is identified by a name of your choice.

The user profile id in the column “id” is automatically created by the system and cannot be changed.

Functions:

- Create a new profile:**
 Select the bottom row marked “*”.
 Type a name and tick the functions the profile is allowed access to.
 Then click the “Save” button.
- Make changes to an existing profile:**
 In the appropriate row type the changes and tick/untick the appropriate functions.
 Then click the “Save” button.

- **Delete a profile:**

Mark an entire row, by clicking to the far left.

Then press the key “DEL”.

Then click the “Save” button.

If you try to delete a profile that is already in use, the following error message will appear when you click the “Save” button:

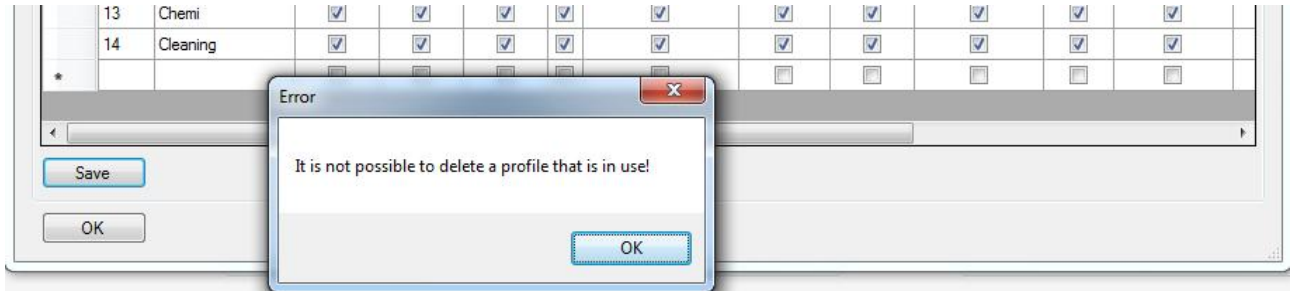
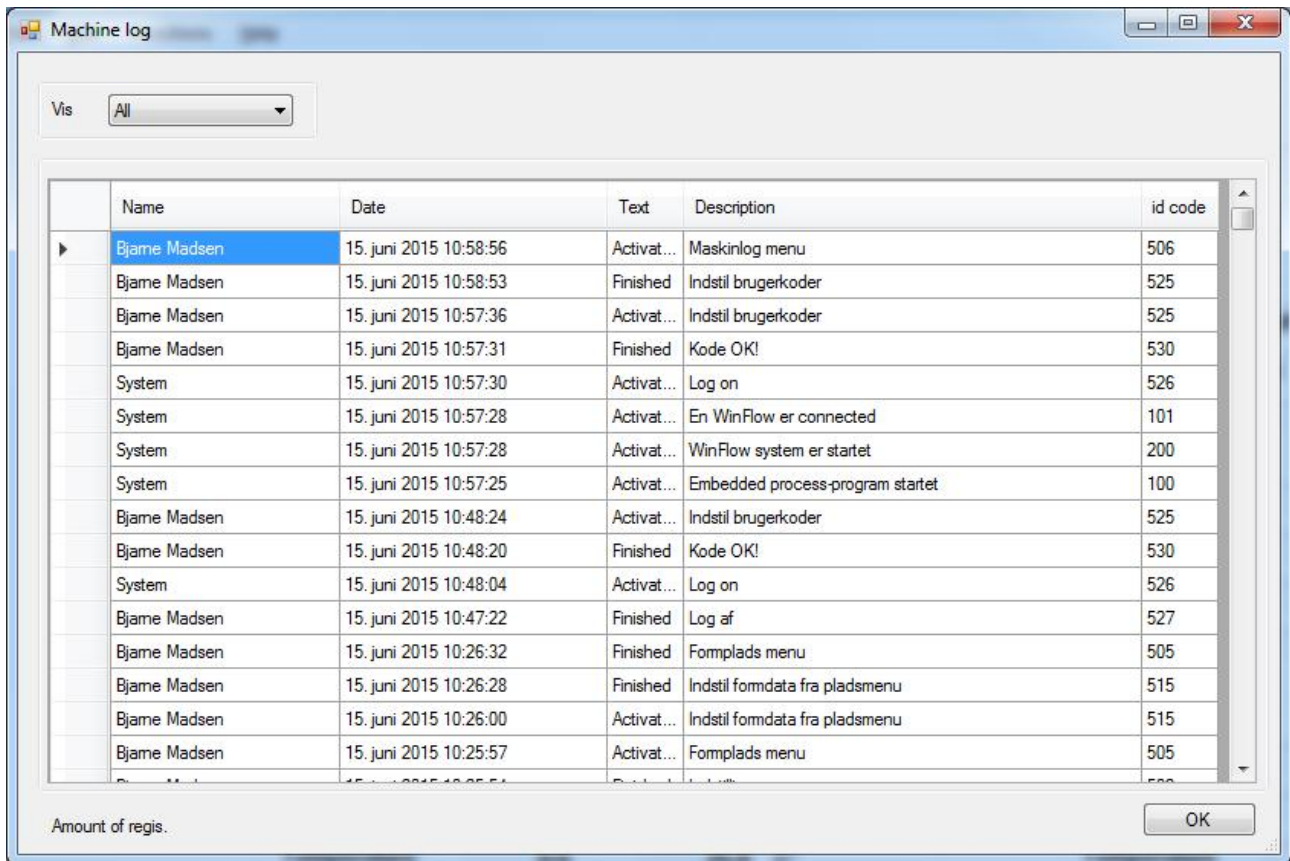


Figure 10 Cannot Delete User Profile

Machine Log



The screenshot shows a window titled "Machine log" with a "Vis" dropdown menu set to "All". Below the menu is a table with the following data:

	Name	Date	Text	Description	id code
▶	Bjame Madsen	15. juni 2015 10:58:56	Activat...	Maskinlog menu	506
	Bjame Madsen	15. juni 2015 10:58:53	Finished	Indstil brugerkoder	525
	Bjame Madsen	15. juni 2015 10:57:36	Activat...	Indstil brugerkoder	525
	Bjame Madsen	15. juni 2015 10:57:31	Finished	Kode OK!	530
	System	15. juni 2015 10:57:30	Activat...	Log on	526
	System	15. juni 2015 10:57:28	Activat...	En WinFlow er connected	101
	System	15. juni 2015 10:57:28	Activat...	WinFlow system er startet	200
	System	15. juni 2015 10:57:25	Activat...	Embedded process-program startet	100
	Bjame Madsen	15. juni 2015 10:48:24	Activat...	Indstil brugerkoder	525
	Bjame Madsen	15. juni 2015 10:48:20	Finished	Kode OK!	530
	System	15. juni 2015 10:48:04	Activat...	Log on	526
	Bjame Madsen	15. juni 2015 10:47:22	Finished	Log af	527
	Bjame Madsen	15. juni 2015 10:26:32	Finished	Fomplads menu	505
	Bjame Madsen	15. juni 2015 10:26:28	Finished	Indstil formdata fra pladsmenu	515
	Bjame Madsen	15. juni 2015 10:26:00	Activat...	Indstil formdata fra pladsmenu	515
	Bjame Madsen	15. juni 2015 10:25:57	Activat...	Fomplads menu	505

At the bottom of the window, there is a label "Amount of regis." and an "OK" button.

Figure 11 Machine Log

The machine log is a list of recent activities.

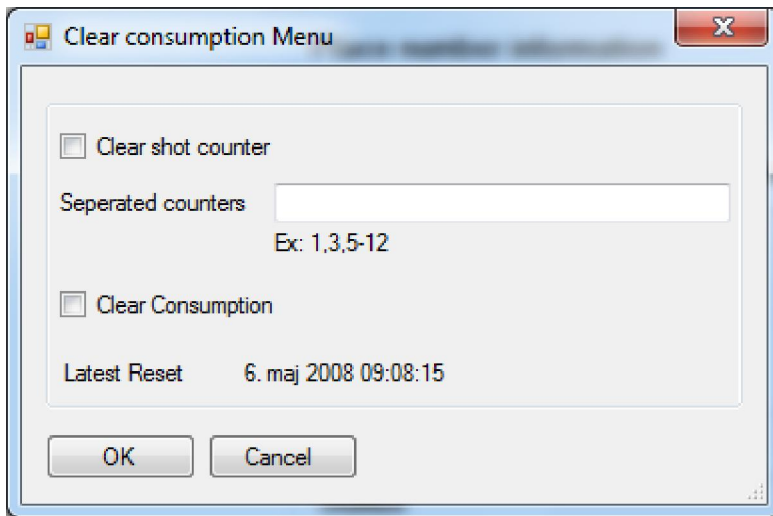
The column "id code" to the far right is used for software development and/or troubleshooting.

Functions:

- The green fields indicate the time a function has been started.
- By clicking the column header the list will be sorted by this column. The first click will sort the data in ascending order, the second click in descending order.
- The data can be filtered selecting "All", "Only Users", "Only System" or "Only Embedded" from the combo box.

The log registers all activities made by users, the system itself and activities from another PC.

Clear Consumption Form



Clear consumption Menu

☐ Clear shot counter

Seperated counters
Ex: 1,3,5-12

☐ Clear Consumption

Latest Reset 6. maj 2008 09:08:15

OK Cancel

Figure 12 Clear Consumption

The consumption counters can be reset in this form.

Shot List

Date	Mo...	Name	Shot time Actual	Shot time Set	We...	Weight Set	Flow Polyl Actual	Flow Iso Actual	Pressure Polyl Actual	Pressure Iso Actual	Temperature Polyl Actual	Temperature Iso Actual	Shot counter	OK	Error
15. juni 2015 10:15:27	102	nr 2	0.000	0.000	0.000	0.000	0.0	0.0	0	0	0.0	0.0	37	34	✓
15. juni 2015 10:14:44	102		0.000	0.000	0.000	0.000	0.0	0.0	0	0	0.0	0.0	4	3	✓
15. juni 2015 10:14:42	102	26-90 L930 ståform 419 g	0.000	0.000	0.000	0.000	0.0	0.0	0	0	0.0	0.0	3	3	
26. maj 2015 14:11:44	110	26-90 L930 ståform 419 g	10.622	10.599	2.829	2.816	108.2	158.1	195	150	25.0	25.0	33	19	✓
26. maj 2015 13:52:17	110	26-90 L930 ståform 419 g	10.622	10.599	2.829	2.816	108.2	158.1	195	150	25.0	25.0	32	19	✓
26. maj 2015 13:51:39	110	26-90 L930 ståform 419 g	10.622	10.599	2.835	2.816	108.4	158.5	195	150	25.0	25.0	31	19	

Figure 13 Shot List

This function shows a list of the last 30 shots including the most relevant information.

The shortcut key <F9> will show /hide the list.

When WinFlow is closed the size and position of the window will be saved.

Index 100 Form

The ratio between the individual components for each mixing head is entered in this form.

Index 100 menu	Maskine 1	Maskine 2	MK3
Polyol	100,0	100,0	100
Iso	146,0	150,0	100
Index 100 ratio	1,460	1,500	0,000

Figure 14 Adjust Index 100

Polyol:

Enter the index for Polyol.

Iso:

Enter the index for Iso.

Index 100 ratio:

This is a readonly field showing the Iso/Poly ratio.

OK:

When clicking “OK” all the mould data will be updated using the new index. The data will be validated during the update. Possible errors found during the validation can include that the recommended flow set value for the mould exceeds or falls short of the limit of the work range selected in the “Servo Calibration”, see page 17.

If any errors are detected after the update, the below message box will pop-up, containing a list of all the errors.

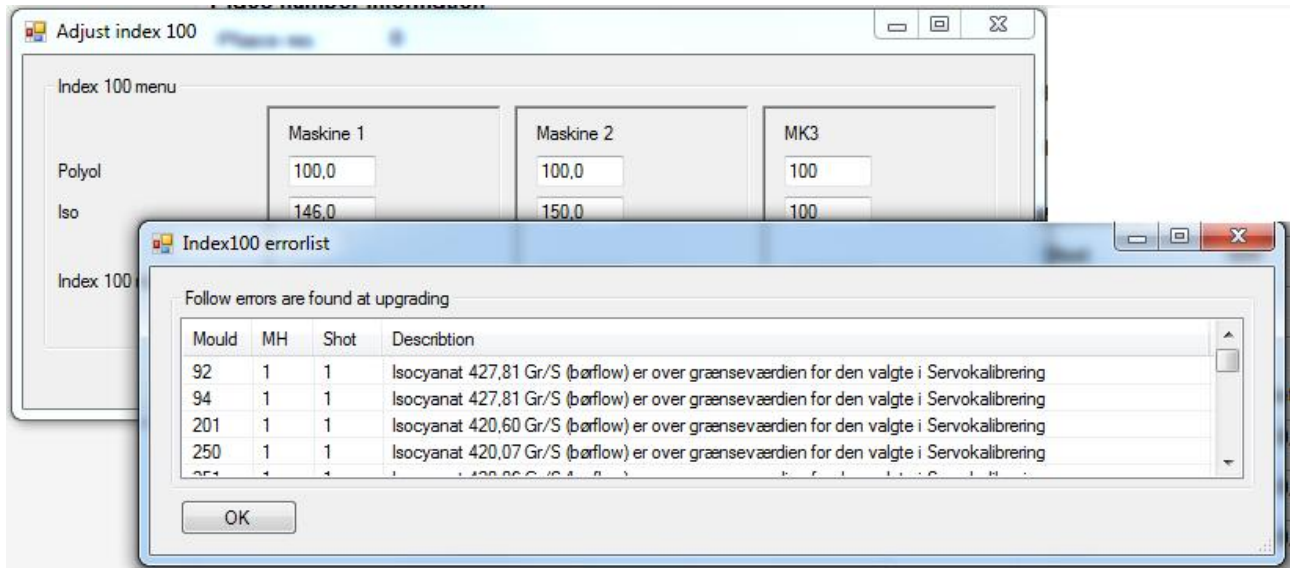


Figure 15 Index 100 Error List

Index Offset Form

The required offset to be carried out on all the moulds that are set to “Index Offset” is entered in this form.

Machine 1		Machine 2	
Index offset	0.000	Index offset	0.000
Accumulate offset	0.571 <input type="button" value="Reset"/>	Accumulate offset	0.000 <input type="button" value="Reset"/>
Latest updated by:	Bjame Madsen 3. oktober 2006 kl. 14:11:01	Latest updated by:	None
Latest Reset by:	None	Latest Reset by:	None

Figure 16 Adjust Index Offset

Reset:

The accumulated offset can be reset by clicking the “Reset” button. This action will be recorded in the “Machine Log”, see page 12.

Index offset:

Enter the required offset.

OK:

When clicking the “OK” button alle the moulds for which the “Index Offset” is ticked will be updated with the new offset value. The data will be validated during the update. Possible errors found during the validation can include that the flow set value of the mould exceeds or falls short of the limit of the work range selected in the “Servo Calibration”, see page 17.

If any errors are detected after the update of the mould data, a messagebox will pop-up, containing a list of all the errors.

Servo Calibration Form

The work range of the pumps is set in this form.

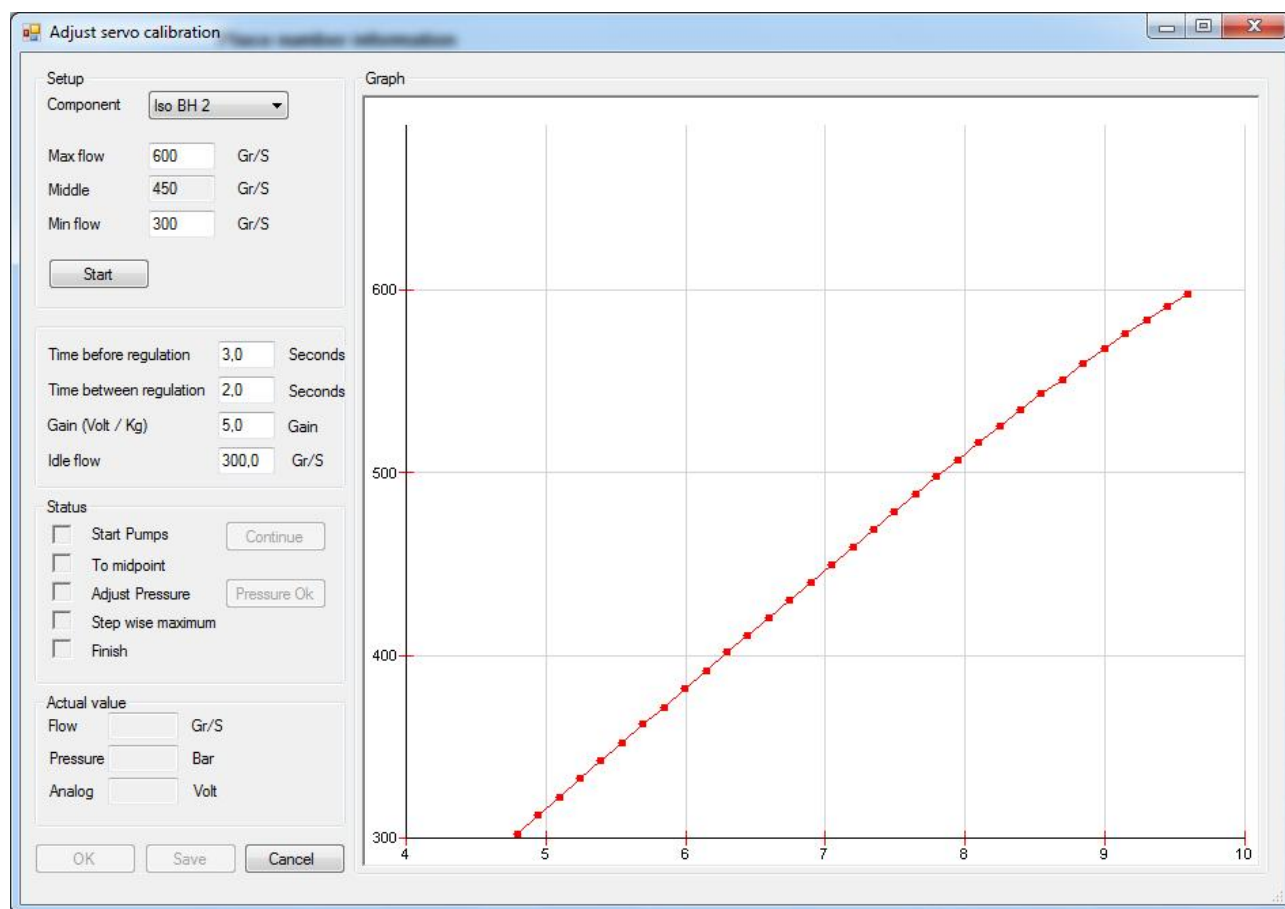


Figure 17 Servo Calibration

Component:

Select the required component.

Procedure:

- Enter the appropriate Min and Max flow determining the work range of the component.
- Click the "Start" button.
- The Status box will show "Start Pumps" in red until the pumps have been started and the button "Continue" has been clicked.
- WinFlow will now increase the performance of the pump until WinFlow records a flow equivalent to the midpoint between min and max.
- It is now possible to set the nozzles to the required pressure. Click the "Pressure OK", when the pressure is OK.
- The rest of the calibration is automatic.
- Click the "OK" button when WinFlow has completed.

Configuration Mould Data

The 'Enter Mould Data' window contains the following fields and sections:

- Header:** Number (2 (48/110 L930 stålform 553 g)), Name (48/110 L930 stålform 553 g), Article (133000481100930).
- Shot counter:** 5351, Clear shot counter button.
- Tabs:** MK1, MK2, Misc. (MK1 is selected).
- Shot Configuration (4 columns):**
 - Shot 1:** Next: Pause, 1,00 Sek. Shot Timer: 10,000 Sek. Shot Weight: 3,118 Kg. Index: 109,5. Polyol: 120,0 Gr/S. Iso: 191,8 Gr/S. Iso/Poly: 1,599. Polyol: 140 Bar. Iso: 140 Bar. Cleaning Piston: ☐.
 - Shot 2:** Next: Pause, 4,00 Sek. Shot Timer: 7,124 Sek. Shot Weight: 2,308 Kg. Index: 90,0. Polyol: 140,0 Gr/S. Iso: 184,0 Gr/S. Iso/Poly: 1,314. Polyol: 150 Bar. Iso: 150 Bar. Cleaning Piston: ☐.
 - Shot 3:** Next: Pause, 5,00 Sek. Shot Timer: 7,066 Sek. Shot Weight: 2,020 Kg. Index: 109,5. Polyol: 110,0 Gr/S. Iso: 175,9 Gr/S. Iso/Poly: 1,599. Polyol: 150 Bar. Iso: 150 Bar. Cleaning Piston: ☐.
 - Shot 4:** Next: Pause, 5,00 Sek. Shot Timer: 5,578 Sek. Shot Weight: 1,731 Kg. Index: 95,0. Polyol: 130,0 Gr/S. Iso: 180,3 Gr/S. Iso/Poly: 1,387. Polyol: 150 Bar. Iso: 150 Bar. Cleaning Piston: ☐.
- Total Summary:**

	Weight	Time
Machine 1	9,177 Kg.	29,768 Sek.
Machine 2	0,000 Kg.	0,000 Sek.
Total 1+2	9,177 Kg.	
- Footer:** Edit Latest 19. maj 2015 Clock 09:27:17, Print ... button, OK, Use, Cancel buttons.

Figure 18 Configuration Mould Data

All the data for each mould is configured in this form.

The 'Enter Mould Data' window shows an error for Shot 1:

- Shot 1:** Next: Pause, 1,00 Sek. Shot Timer: 3. (with a red error icon and tooltip: "Wrong format - use , instead"). Shot Weight: 0,935. Index: 109,5.

Figure 19 Incorrect Number Format

The regional settings of Windows determine the decimal separator i.e. “,” (comma) for European Windows and “.” (full stop) for English Windows. If the incorrect decimal separator is entered a red exclamation mark will appear and the reason will show upon mouse over the exclamation mark.

See page 53 for changing the regional settings in Windows XP.

Enter Mould Data

Number: 2 (48/110 L930 stålform 553 g) | Name: 48/110 L930 stålform 553 g | Article: 133000481100930

Shot counter: 5351 | Clear shot counter

Misc.

Stop carousel	0,0	Open at station	0,01	Speed1	0
With melamine	8,3	Position2	0,21	Speed2	0
Fast	0,0	Position3	0,03	Speed3	0
Slow	0,1	Position4	0,03	Speed4	0
Tilt	0,0	Position5	0,03	Speed5	0
Extra pressure	0,0	Position6	0,03	Speed6	0

Shot robot: 3 | ABB robot: 0 | Pre Counter: 15000

SpecialExtra 1: 0 | SpecialExtra 2: 0 | SpecialExtra 3: 0 | SpecialExtra 4: 0 | SpecialExtra 5: 0 | SpecialExtra 6: 0

☒ Index offset

Total	Weight	Time
Machine 1	0,935 Kg.	3,000 Sek.
Machine 2	0,000 Kg.	0,000 Sek.
Total 1+2	0,935 Kg.	

Edit Latest: 19. maj 2015 Clock 09:27:17

Print ... | OK | Use | Cancel

Figure 20 Configuration Mould Data – Miscellaneous Tab

Amongst other things the robot number and values for the optional special fields can be set in the “Misc.” tab.

Copying Mould Data

To copy the data for a mould, press <F5> in the “Enter Mould Data” form. Whereby a message box as shown here will pop-up:

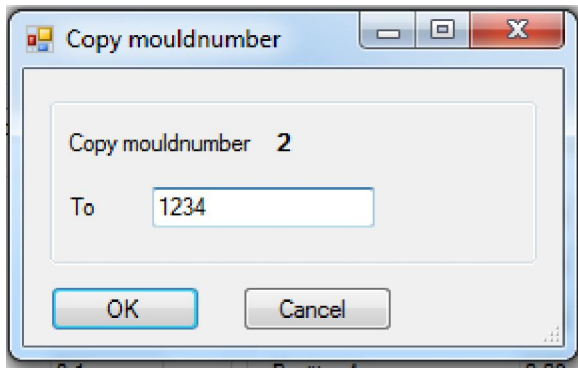


Figure 21 Copy Mould Data

The line at the top shows the mould number, which is copied.

In the textbox below the mould number or mould numbers to be copied to is entered, separating each mould number using a space.

If one or more mould numbers already exist a messagebox as shown here will pop-up:

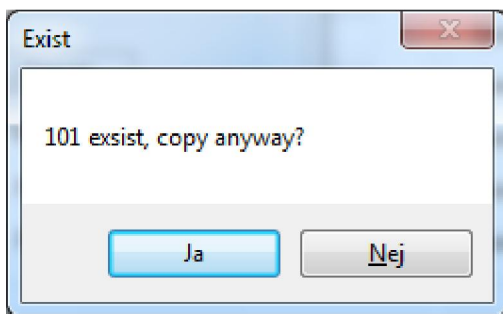


Figure 22 Mould Number Exists

By clicking “Yes” the existing mould data will be overwritten.

Adding Comments to a Mould

By pressing <F2> Windows Notepad will open making it possible to add a comment to the mould. When Notepad is closed the file will be saved using the mould number. I.e. a comment to mould number 4 will be saved as "4.txt".







The first time a user will press <F2> in a mould NotePad will ask if you wish to create a file. Click “Yes” and proceed.

Setting Mould Places

Figure 23 Setting Mould Places

In this form the moulds are assigned places.

Functions:

- Use the button  to edit the selected mould number in "Configuration Mould Data", see page 18.
- If the mould number entered does not exist an error message will appear "Error...mould number does not exist", see page 23.
- The buttons  /  are used to select whether a mould number is to be shot or not.
- The button  /  /  indicates whether the place is considered an entire item, a two-part item with 2 mould numbers or a three-part item with 3 mould numbers.
- Use the button "Overview" to see the "Mould Place Overview", see page 24.

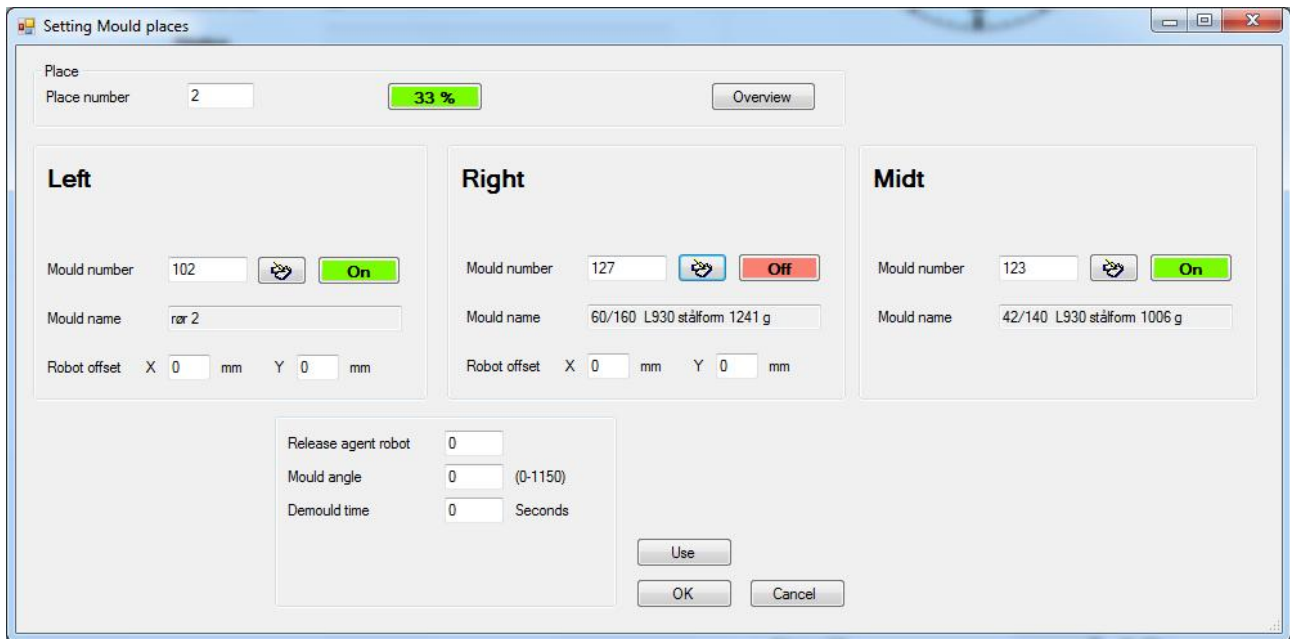


Figure 24 Setting Mould Places 33%

The “Left” and “Right” moulds are shot simultaneously using mixing head 1 and 2 respectively.

If the “Mid” mould is also set to “On”, this will be shot after the “Right” mould using mixing head 2.

Mould Number Does Not Exist

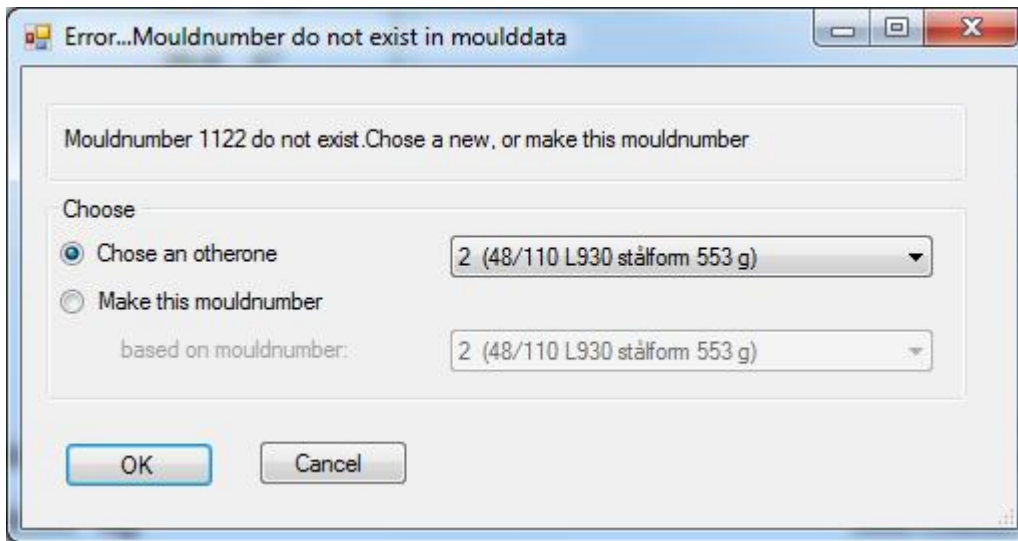


Figure 25 Mould Number Does Not Exist

If the entered mould number does not exist, the above messagebox will pop-up.

Functions:

- When selecting "Chose another mould", select a mould number from the list of existing mould numbers in the combobox to the right.
- When selecting "Create this mould number", select a mould number as a template from the list of existing mould numbers in the combobox to the right.

Mould Place Overview

Place	Forvalg	Type	Mould 1	Shoot 1	On 1	Name 1	Shot	IndexOffset	System selection 1	Mould	Shoot2	On	Name 2	IndexOffset 2
1	0	100	110	19	<input checked="" type="checkbox"/>	26/90 L930 stålforn 419 g	3	On	1	110	19	<input checked="" type="checkbox"/>	26/90 L930 stålforn 419 g	On
2	0	50	102	3	<input checked="" type="checkbox"/>	ror 2	3	On	1	101	31	<input checked="" type="checkbox"/>	lle nar	On
3	0	100	110	19	<input checked="" type="checkbox"/>	26/90 L930 stålforn 419 g	3	On	1	0	0	<input checked="" type="checkbox"/>		
4	0	100	103	2	<input type="checkbox"/>	lle nar	3	On	1	0	0	<input type="checkbox"/>		
5	0	100	105	12	<input type="checkbox"/>	lle nar	3	On	1	0	0	<input type="checkbox"/>		
6	0	100	106	1	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
7	0	100	106	1	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
8	0	100	104	2	<input type="checkbox"/>	lle nar 841g	3	On	1	0	0	<input type="checkbox"/>		
9	0	100	106	1	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
10	0	100	105	12	<input type="checkbox"/>	lle nar	3	On	1	0	0	<input type="checkbox"/>		
11	0	100	105	12	<input type="checkbox"/>	lle nar	3	On	1	0	0	<input type="checkbox"/>		
12	0	100	149	0	<input type="checkbox"/>	168/250 L930 stålforn 2831 g	3	On	1	0	0	<input type="checkbox"/>		
13	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
14	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
15	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
16	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
17	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
18	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
19	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		
20	0	100	114	35	<input checked="" type="checkbox"/>	42/110 L930 stålforn 583 g	3	On	1	0	0	<input type="checkbox"/>		
21	0	100	21	0	<input checked="" type="checkbox"/>		0			21	0	<input type="checkbox"/>		
22	0	100	0	0	<input type="checkbox"/>		0			0	0	<input type="checkbox"/>		

Figure 26 Mould Place Overview

A list of all the places with corresponding mould numbers.

Functions:

- The green fields indicate the moulds which are set to "On".
- By double clicking a mould number the form "Configuration Mould Data", see page 17, is activated for the selected mould number.
- When double clicking a mould place number, the window will close and WinFlow will return to the form "Configuration Mould Place", see page 21, using the selected mould place number.
- By clicking one of the column headers, the data will be sorted by this column. First in ascending order, second time in descending order.
- When one or more rows are selected (click to the far left of a row) a subsequent right click of the mouse will make it possible to select "Delete Place(s)".

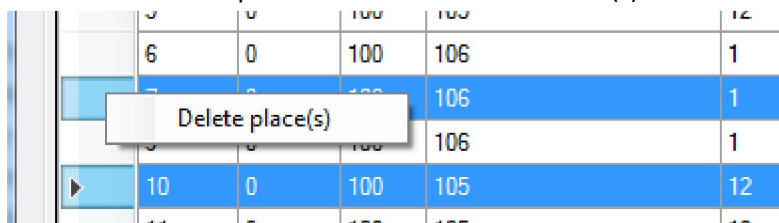


Figure 27 Delete Mould Place

Mould Number Overview

Number	Name	Article	Precount	Shoot OK	Offset
2	48/110 L930 stålf...	13300048110...	15000	5343	On
91	Manuel blandehov...		15000	0	On
92	Manuelt blandeho...		9861	0	
93	Interval BH 1		15000		On
94	Interval blandehov...		9861		
101	lille rør		15000	31	On
102	rør 2	a223	15000	3	On
103	lille rør		15000	2	On
104	lille rør 841g		15000	2	On
105	lille rør		15000	12	On
110	26/90 L930 stålf...	13300026090...	15000	19	On
111	33/90 L930 stålf...	13300033090	15000	0	On

Figure 28 Mould Number Overview

The list shows all the moulds with their corresponding name and article.
If the "Pre-selection function" is enabled this will also be shown in the list.

Functions:

- The green fields indicate the moulds that are in use in the place table and are active (set to "on").
- The blue fields indicate the moulds that are in use in the place table and are inactive (set to "off").
- The places that the selected mould is at will be shown in the bottom right-hand corner.
- When double clicking a mould number, the form "Configuration Mould Data" will be activated, see page 17, showing the selected mould number.
- When one or more rows are selected (click to the far left of a row) a subsequent right click of the mouse will make it possible to select "Delete Mould(s)".

93	Interval BH 1		15000		On
94	Interval blandehov...		9861		
101	lille rør		15000	31	On
102	rør 2	a223	15000	3	On
103	lille rør		15000	2	On

Figure 29 Delete Mould(s)

- By clicking one of the column headers, the data will be sorted by this column. First in ascending order, second time in descending order.

Configuration Tolerance Levels

Settings of tolerance

Diversions

	Error	Skudtid under	
Part weight	10	0,00	Sek.
Flow	10	1	%
Pressure	30	1	%
Temperature	10	1	%
Tool	10		%
Ratio	10	1	%

Shot time

Tolerance: 0,022 Seconds

Compensation

Machine 1

Show-compensation: 0 Seconds

Timer-compensation: 0 Seconds

Machine 2

Show-compensation: 0 Seconds

Timer-compensation: 0 Seconds

Temperature

Degrees

Polyol: 25

Iso: 25

Iso BH 2: 25

p5: 25

OK Cancel

Figure 30 Configuration Tolerance Levels

Configuration of various tolerance levels.

Deviations are used to calculate the limit values in relation to the set value. Both a min and a max limit is calculated before each shot.

Temperature (set value) for each component is set in degrees.

Timer-compensation is the time added (using +/-) to the desired set shot time. (The opening time of the mixing head is changed)

Show-compensation is added (using +/-) to the measured shot time (the is-open signal).

If there is no sensor in the mixing head (can be selected in the configuration form) the actual shot weight

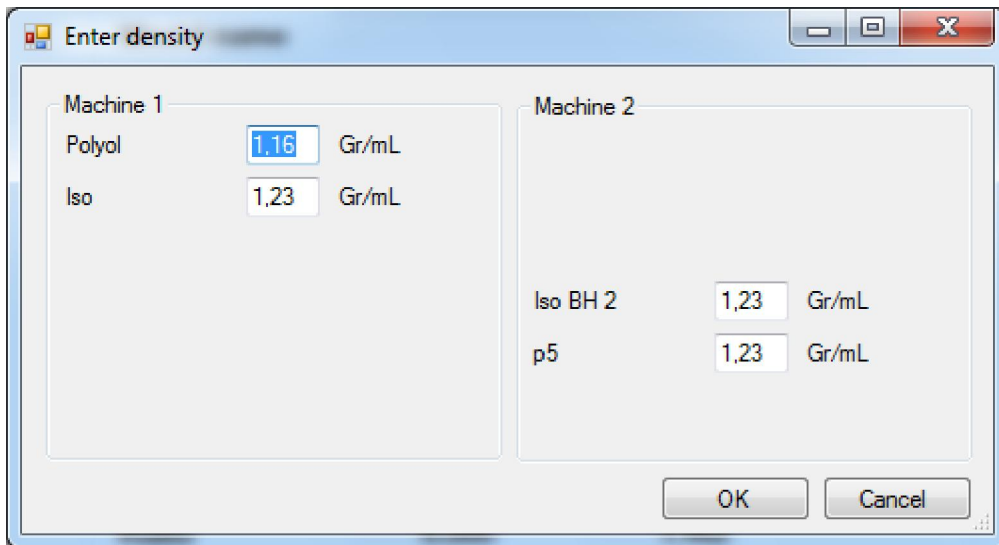
will be exposed to the following compensation:

Actual weight = actual weight * (1+(show-compensation/actual shot time))

Shot time under provides the opportunity to select a second set of tolerance levels for short shot times.

Select a shot time, and all shots under this shot time will use the second set of tolerance levels.

Configuration Density



The 'Enter density' dialog box is shown with the following configuration:

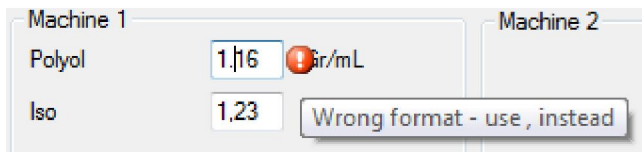
Machine	Parameter	Value	Unit
Machine 1	Polyol	1.16	Gr/mL
	Iso	1.23	Gr/mL
Machine 2	Iso BH 2	1.23	Gr/mL
	p5	1.23	Gr/mL

Buttons: OK, Cancel

Figure 31 Configuration Density

If invalid values are entered a red exclamation mark will appear to the right of the field.

In the illustrated example a full stop (invalid) has been entered in stead of a comma.



The 'Enter density' dialog box is shown with the following configuration:

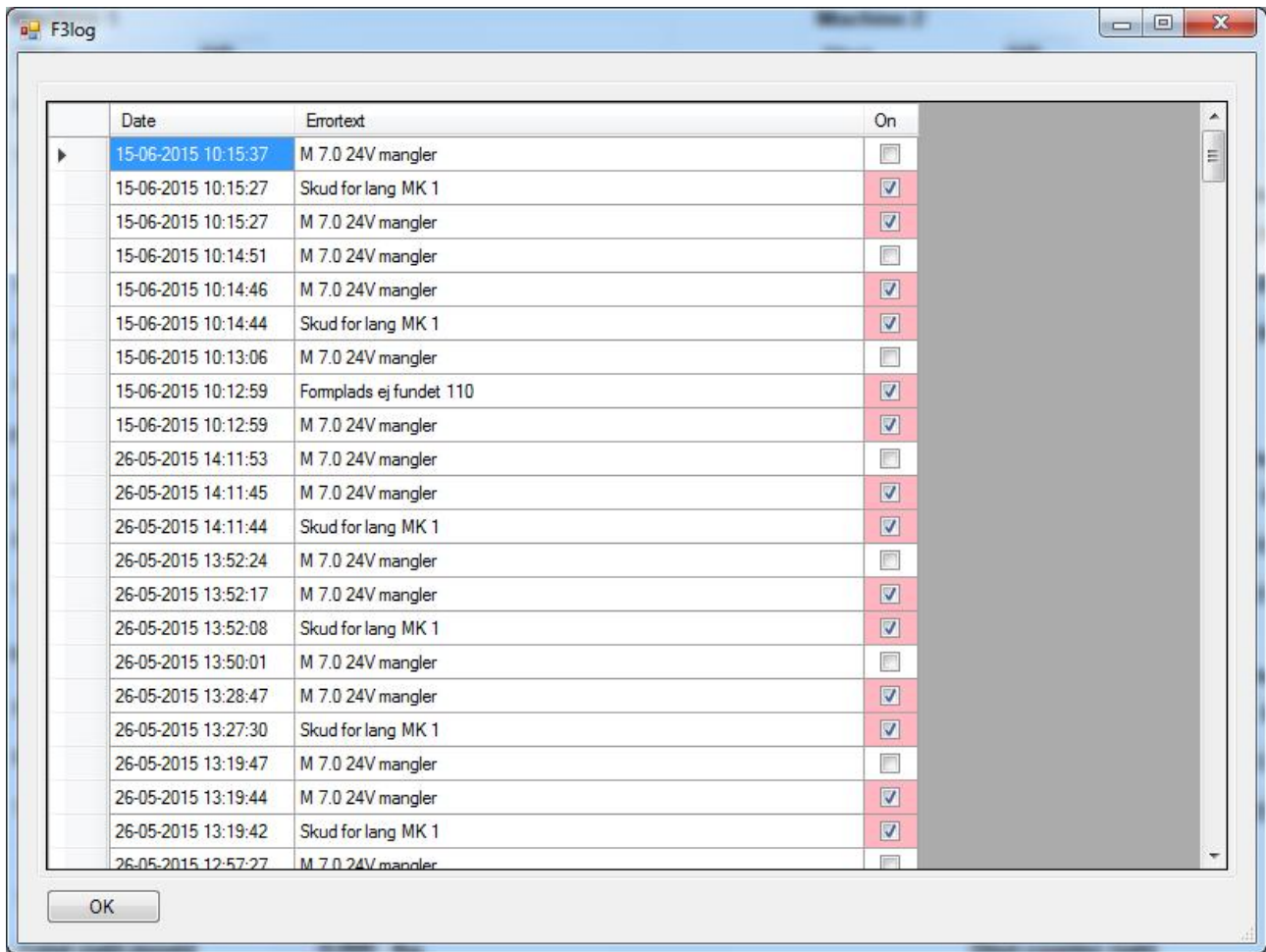
Machine	Parameter	Value	Unit
Machine 1	Polyol	1.16	Gr/mL
	Iso	1.23	Gr/mL

Buttons: OK, Cancel

Message: Wrong format - use , instead

Figure 32 Invalid Number Format

F3 Log



Date	Errortext	On
15-06-2015 10:15:37	M 7.0 24V mangler	<input type="checkbox"/>
15-06-2015 10:15:27	Skud for lang MK 1	<input checked="" type="checkbox"/>
15-06-2015 10:15:27	M 7.0 24V mangler	<input checked="" type="checkbox"/>
15-06-2015 10:14:51	M 7.0 24V mangler	<input type="checkbox"/>
15-06-2015 10:14:46	M 7.0 24V mangler	<input checked="" type="checkbox"/>
15-06-2015 10:14:44	Skud for lang MK 1	<input checked="" type="checkbox"/>
15-06-2015 10:13:06	M 7.0 24V mangler	<input type="checkbox"/>
15-06-2015 10:12:59	Fomplads ej fundet 110	<input checked="" type="checkbox"/>
15-06-2015 10:12:59	M 7.0 24V mangler	<input checked="" type="checkbox"/>
26-05-2015 14:11:53	M 7.0 24V mangler	<input type="checkbox"/>
26-05-2015 14:11:45	M 7.0 24V mangler	<input checked="" type="checkbox"/>
26-05-2015 14:11:44	Skud for lang MK 1	<input checked="" type="checkbox"/>
26-05-2015 13:52:24	M 7.0 24V mangler	<input type="checkbox"/>
26-05-2015 13:52:17	M 7.0 24V mangler	<input checked="" type="checkbox"/>
26-05-2015 13:52:08	Skud for lang MK 1	<input checked="" type="checkbox"/>
26-05-2015 13:50:01	M 7.0 24V mangler	<input type="checkbox"/>
26-05-2015 13:28:47	M 7.0 24V mangler	<input checked="" type="checkbox"/>
26-05-2015 13:27:30	Skud for lang MK 1	<input checked="" type="checkbox"/>
26-05-2015 13:19:47	M 7.0 24V mangler	<input type="checkbox"/>
26-05-2015 13:19:44	M 7.0 24V mangler	<input checked="" type="checkbox"/>
26-05-2015 13:19:42	Skud for lang MK 1	<input checked="" type="checkbox"/>
26-05-2015 12:57:27	M 7.0 24V mangler	<input type="checkbox"/>

Figure 33 F3 Log

A list of the recent error messages is shown in this form.

Functions:

- By clicking the column header the list will be sorted by this column. The first click will sort the data in ascending order, the second click in descending order.

Ctrl Log



Figure 34 Ctrl Log

This form shows one or more graphs of the flow, pressure and voltage of the inverter as a function of time. The vertical black line is the marker, which can be moved using the mouse to show the exact value of the flow, pressure and DAC (voltage). The values are shown just below the graph. The horizontal lines at the top illustrate the MK Open and Pause for each mixing head.

Option

By clicking the Option-button it is possible to change the thickness of the lines making it easier to distinguish between flow, pressure and DAC.

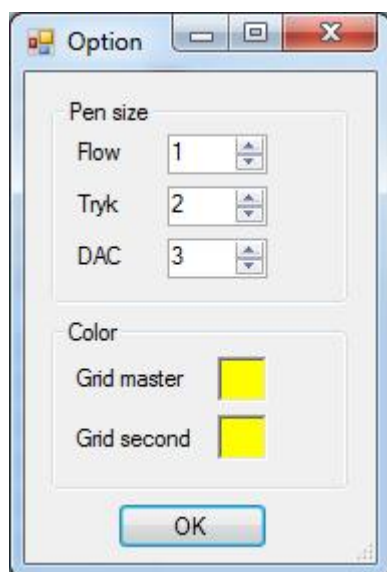


Figure 35 Ctrl Log Option

Backup Form

In this form it is possible to create a backup of the database.

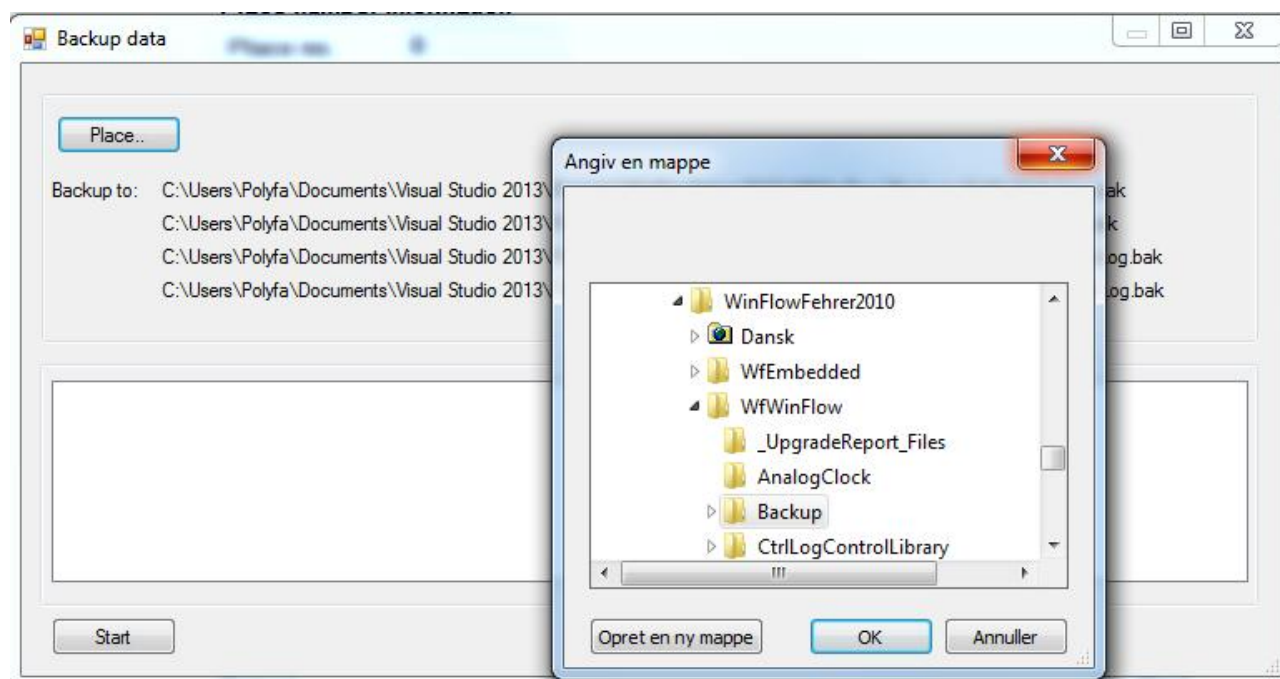


Figure 36 Backup Form

By clicking the button "Place..." it is possible to select the folder where the backup should be saved, as shown in the illustration above.

The file name will automatically be set to the day, date and the text "-Data" and "-Log" for the menu data and data collector respectively. If several backups are created daily all backups will be saved in the same file. (Can be selected later by Restore).

The folder can be on a network drive, a memory stick or another file based media.

After selecting the folder click the button "Start".

After a backup the data log will be cleared, so that all shots older than 2 months will be erased.

After a while the form should look as illustrated below:

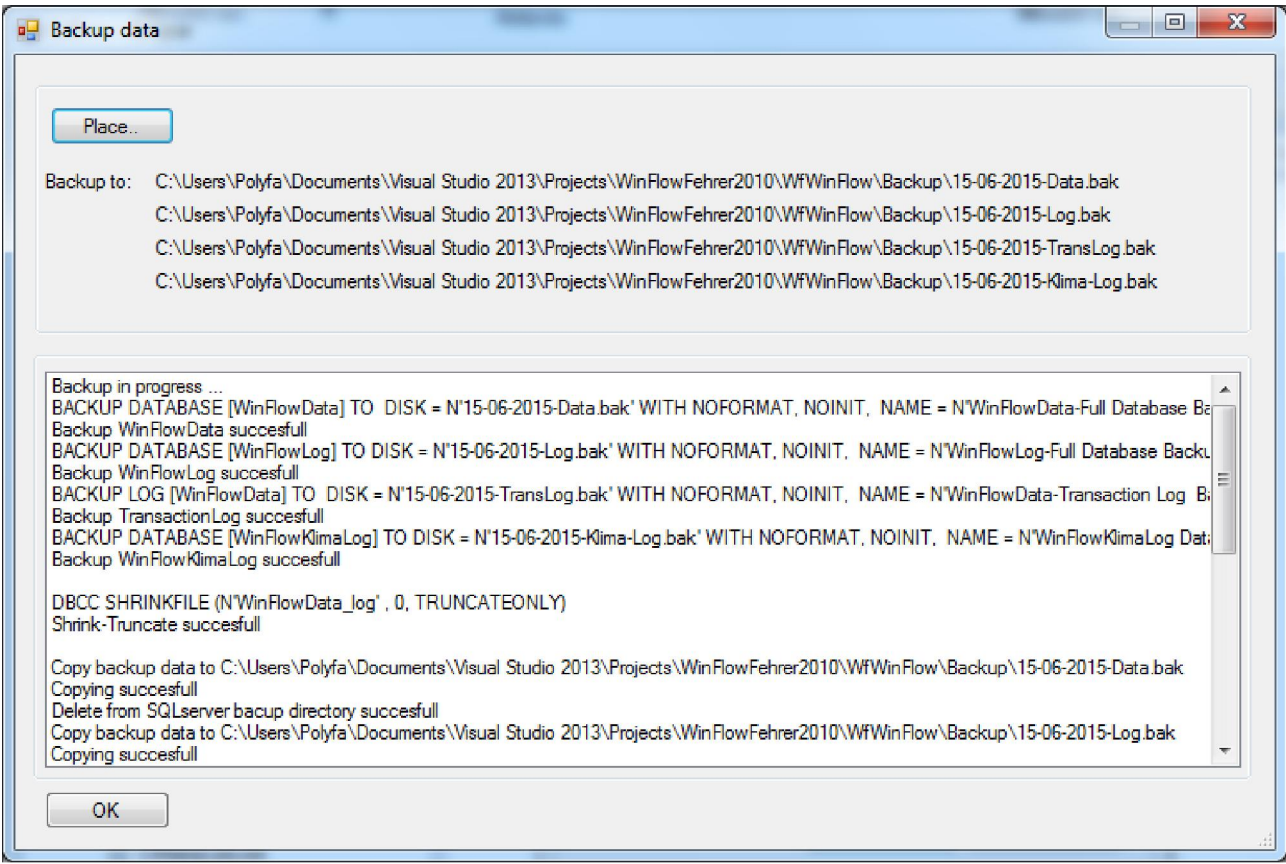


Figure 37 Backup Process

Shot List

The illustrated window shows the most important information for the most recent shots.

Date	Mo...	Name	Shot time ...	Shot time ...	Weight ...	Weight ...	Flow Polyd A...	Flow Iso A...	Pressure Pol...	Pressure I...	Temperature Poly...	Temperature Iso...	Shot counter	OK	Error
15 juni 2015 10:15:27	102	ror 2	0,000	0,000	0,000	0,000	0,0	0	0	0,0	0,0	0,0	37	34	✓
15 juni 2015 10:14:44	102		0,000	0,000	0,000	0,000	0,0	0	0	0,0	0,0	0,0	4	3	✓
15 juni 2015 10:14:42	102	26/90 L930 stålform 419 g	0,000	0,000	0,000	0,000	0,0	0	0	0,0	0,0	0,0	3	3	
26 maj 2015 14:11:44	110	26/90 L930 stålform 419 g	10,622	10,589	2,829	2,816	108,2	158,1	195	150	25,0	25,0	33	19	✓
26 maj 2015 13:52:17	110	26/90 L930 stålform 419 g	10,622	10,589	2,829	2,816	108,2	158,1	195	150	25,0	25,0	32	19	✓
26 maj 2015 13:51:39	110	26/90 L930 stålform 419 g	10,622	10,589	2,835	2,816	108,4	158,5	195	150	25,0	25,0	31	19	

Figure 38 Shot List

When WinFlow is closed the size and position of the window will be saved as well as the column width.

When WinFlow is minimized, so is this window. The short cut key <F9> will show/hide the window.

Restore

To restore data from a backup, the program Microsoft SQL Server Management Studio is required.

Note! **Remember** to close all programs, which may be connected to the database. (WinFlow, Embedded ...)

The program is started from the Windows Start menu.

Select "All Programs" , "Microsoft SQL Server 2005", "SQL Server Management Studio".

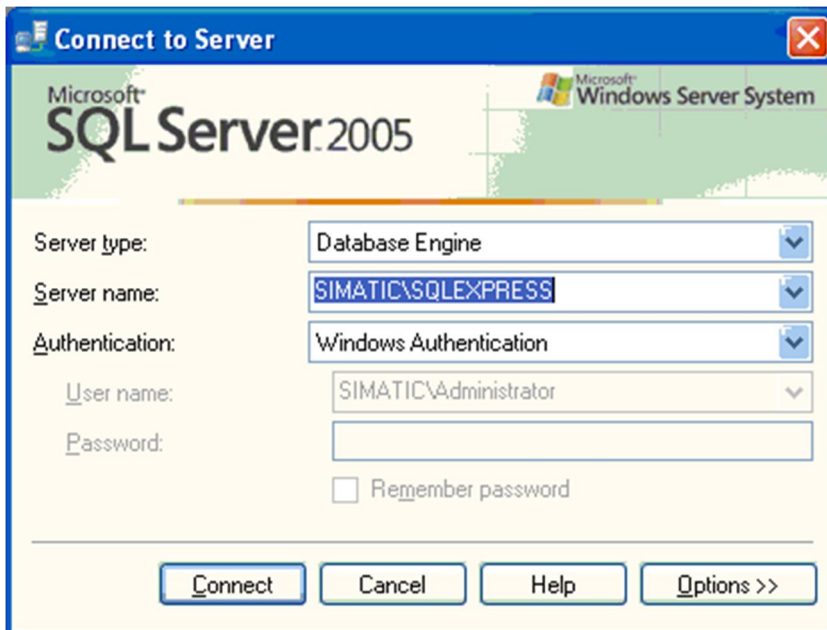


Figure 39 Restore Connect to Server

Click "Connect"

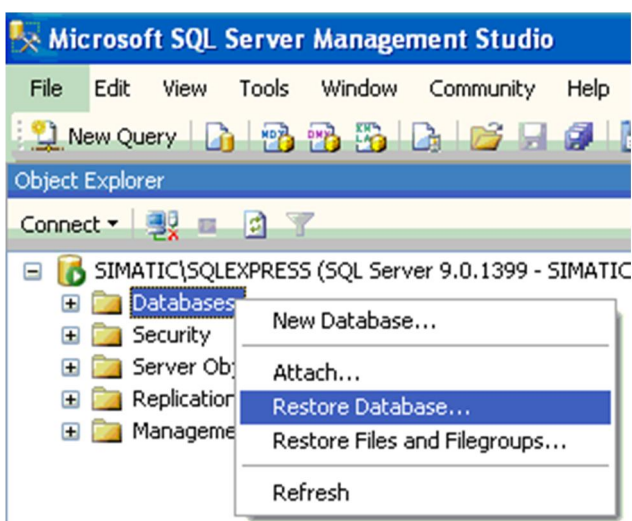


Figure 40 Restore

In Object Explorer right click "Database" and select "Restore Database ...".

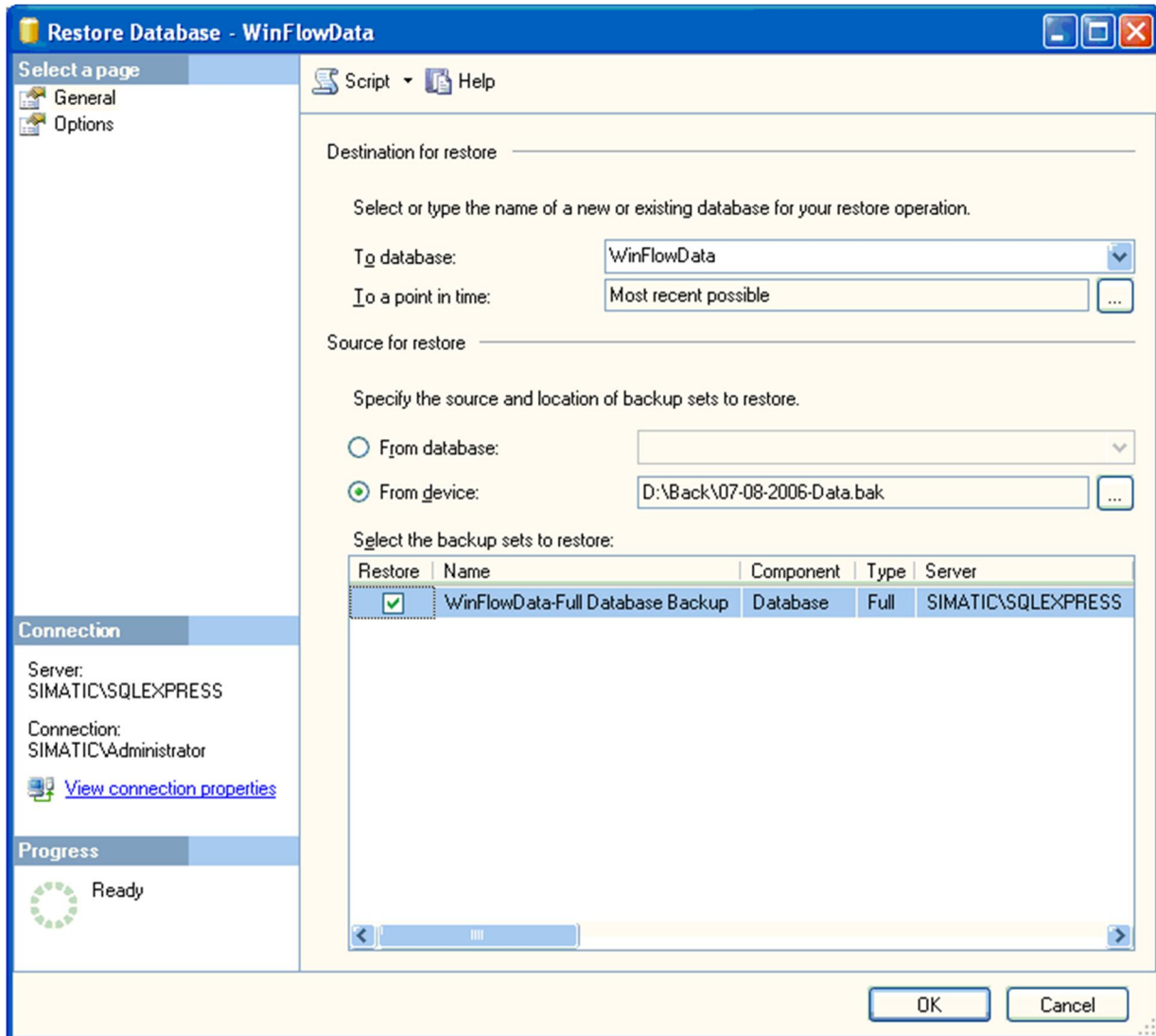


Figure 41 Restore Selection

Select the database "WinFlowData" or "WinFlowLog" in the field "To database".

Select "From device" and click "..." to select the backup data.

Remember to tick the box in the "Restore" column.

Click "OK" and the restore process will start.

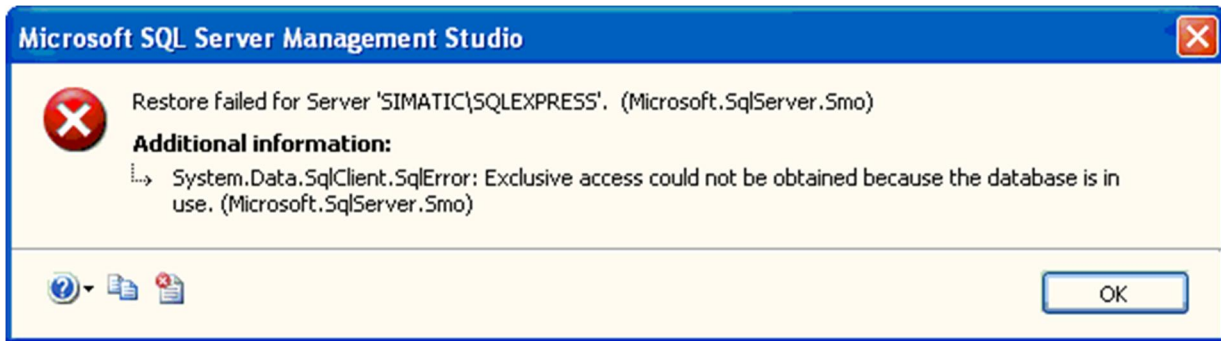


Figure 42 Restore Failed

If one of the WinFlow programs (WinFlow, Embedded ...) is connected to the database the above error message will appear.

Close alle the programs and try again.

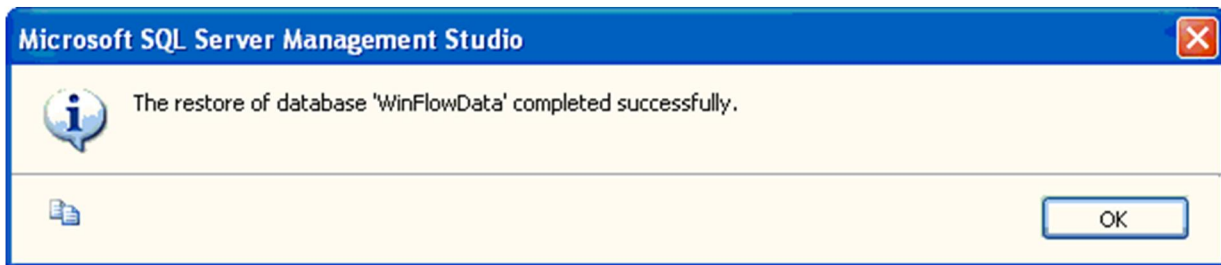


Figure 43 Restore Success

When the restore is succesful the above mesagebox will appear.

Close Microsoft SQL Server Management Studio and start WinFlow again.

Print Function

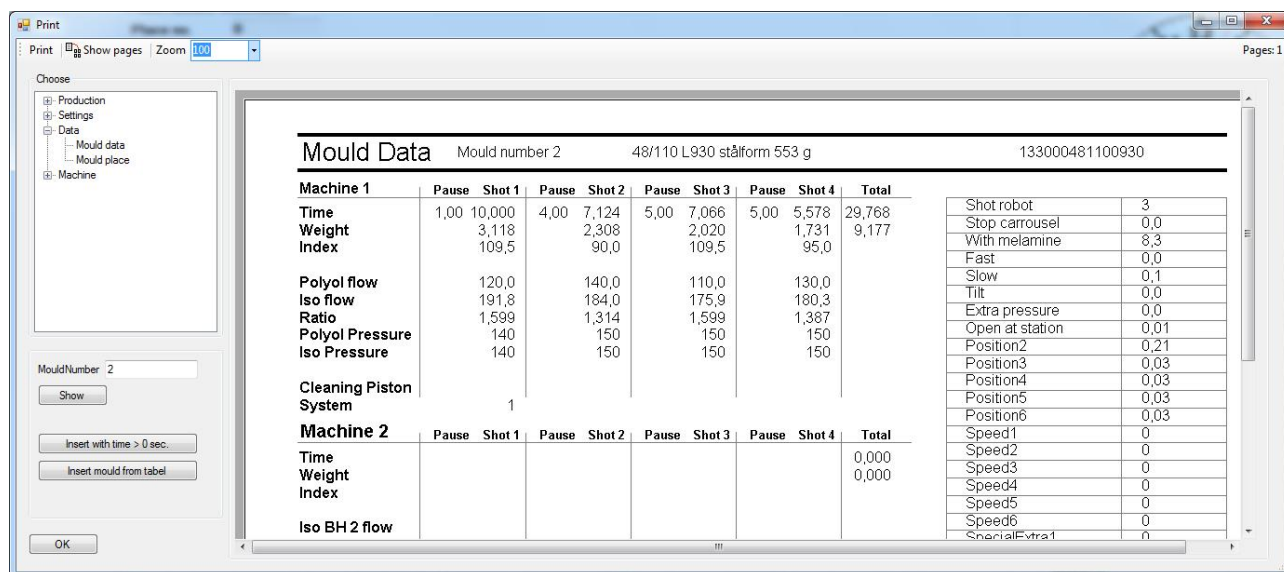


Figure 44 Print Function

All print for Winflow is activated in this form.

Select the required item from the "Choose" section on the left.

Functions:

- In the bottom left section the area which has to be printed is selected. If For example the item "Mould data" has been selected the text "Mould Number" is shown.
Enter "5" to print mould number 5 only.
Enter "3,5,19" to print mould numbers 3, 5 and 19.
Enter "20-25" to print all mould numbers from 20 to 25.
Enter "1-10,14" to print all mould numbers from 1 to 10, plus 14.
- Click "Show" to view the selected pages on the right
- The field "Zoom" can be used to view several pages.
- Equally the number of rows and columns can be set by clicking "View Pages" and holding down the left mouse button to select the number of pages.

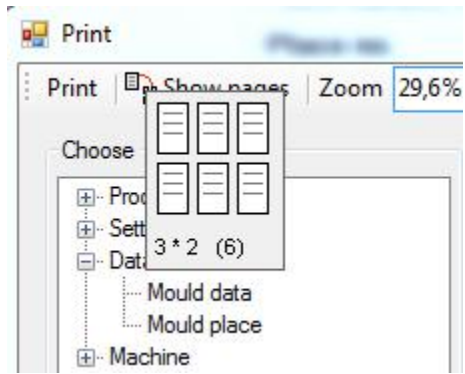


Figure 45 Print Pages

- The button "Print" will send the selected page(s) to the printer.

The profil print function is setup in Setup Profile Print. See page 39

Setup (Ctrl S)

The settings which are machine dependent are configured in this form.

Figure 46 Setup Ctrl S Components

The pulse per liter for the flow sensors are setup in the first tab.

In the field **"Machine type"** choose between a number of default configurations (number of foaming machines, components and servo systems)

"Hardware" indicates whether there is a connection from Embedded.exe to the hardware.

Type			Komp1	Komp2	Komp3	Komp4	Komp5	Komp6
0	Fehrer	2 maskiner, 2+2 komponenter	Poly MK1	Iso MK1		Poly MK2	Iso MK2	
1	Elektrolux	1 maskine, 2 komponenter	Poly MK1	Iso MK1				
2	Danfoam	1 maskine, 2 komponenter, 2 servoer	Poly MK1	Iso MK1	Poly2 MK1			
3	?	1 maskine, 3 komponenter	Poly MK1	Iso MK1	Poly2 MK1			
4	Tyrkiet	1 maskine, 2 komponenter, 2 polyservo, 2 isoservo	Poly MK1	Iso MK1	Poly2 MK1	Iso2 MK1		
5	Sandella	1 maskine, 2 komponenter, 3 servoer	Poly MK1	Iso MK1	Poly2 MK1	Poly3 MK1		
6	Danfoam 2 maskine	2 maskiner, 2+3 komponenter, 2 servoer på maskine 2	Poly MK1	Iso MK1		Poly MK2	Iso MK2	Poly2 MK2
7	Ungarn	1 maskine, 2 komponenter, 1 skud	Poly MK1	Iso MK1				

Figure 47 Machine Types

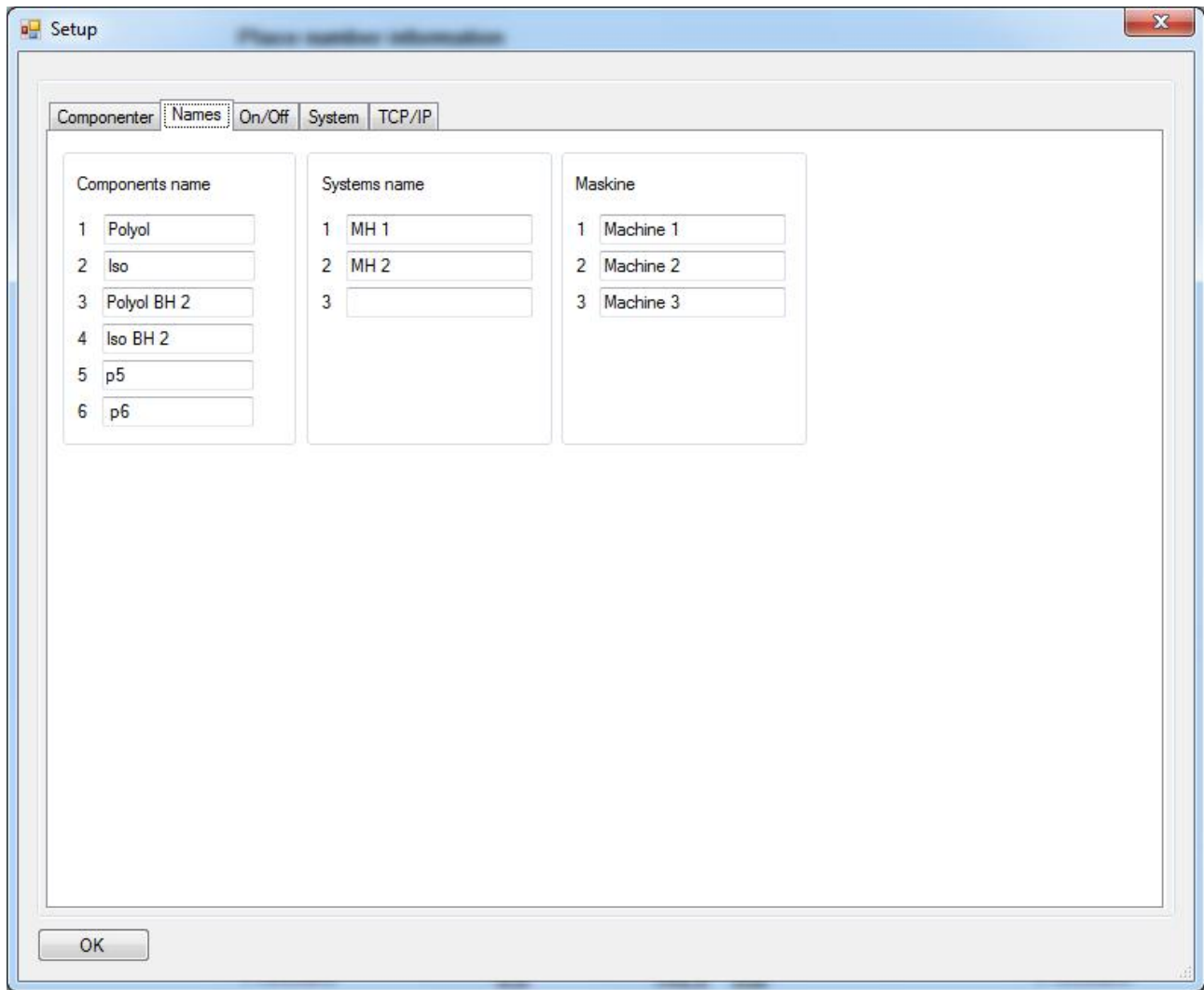


Figure 48 Setup Ctrl Names

The component names and system names can be changed in this tab.

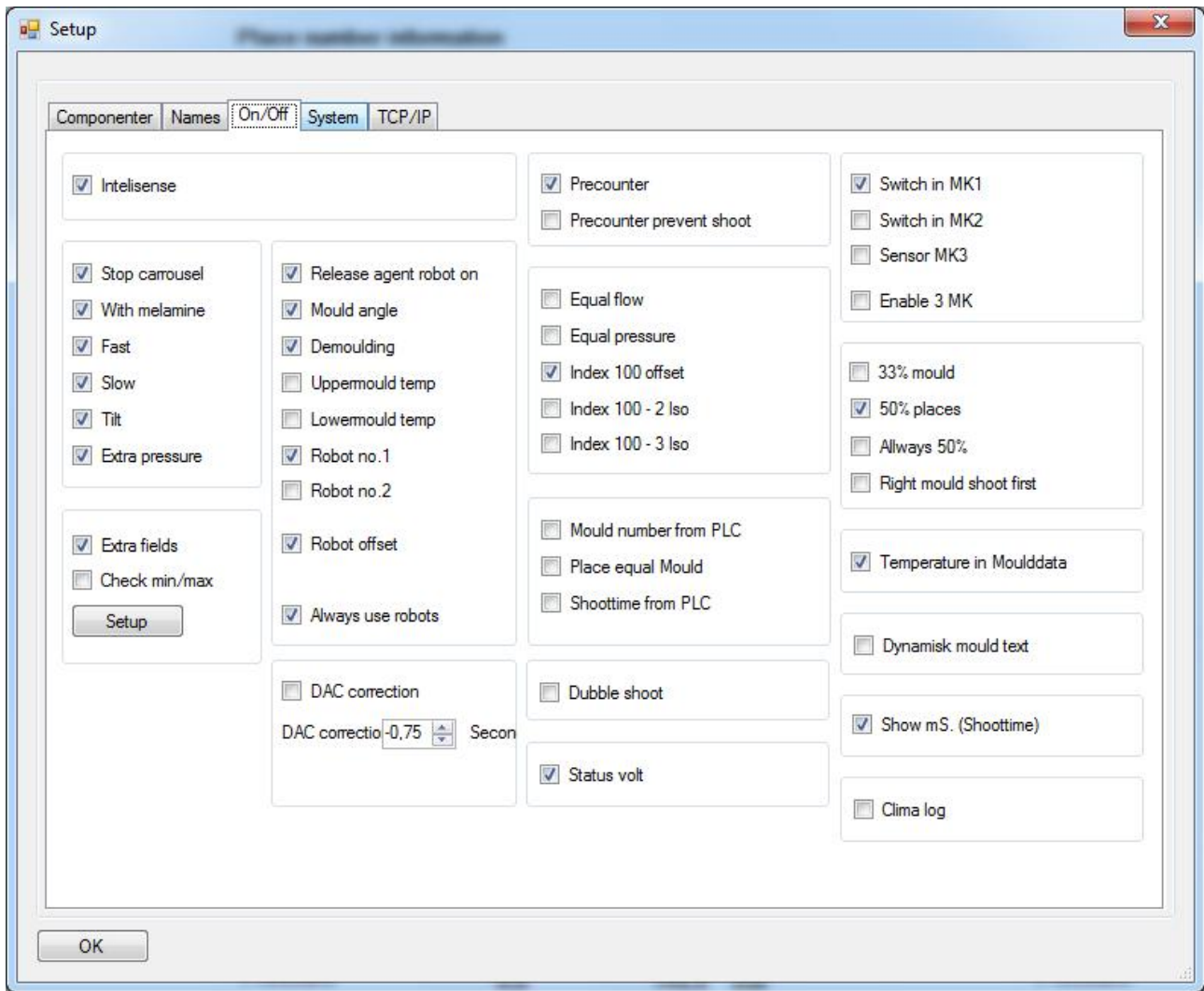


Figure 49 Setup Ctrl S on/off

“**Intellisense**” means that as soon as a place number is started to be entered a list of suggestions will appear as shown below:

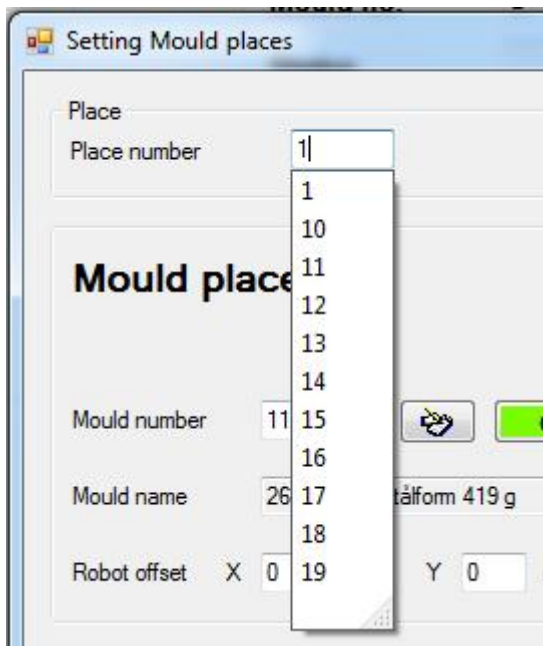


Figure 50 Intellisense

"**Dynamic place text**" means that the text, as shown in **Figure 4** (the whole mould), is replaced by an optional text, which can be selected in "**Edit texts**" in the tab "**System**". Note! It is only the first 50 places, 1-50, that has this property.

"Mould number from PLC"

"**Always use robots**" is only enabled when 2 machines are selected. This setting ensures that the robot fields are hidden when the first shot is not active.

If "**Sensor MK3**" is not ticked, the calculated actual weight is compensated by the selected show-compensation time (converted into weight) from the tolerance levels form, see page 28.

"DAC correction"

When this function is active WinFlow will note the percentage deviation between the lookup value in the servo calibration and the servo regulated value, just before the mixinghead opens. This deviation is used in the subsequent 3 parts of the shot. If a value has been selected in the "**DAC correction**" field this will be the time that the next DAC value is set (require time minus this value). The time "**Delay alarm enable**" (System tab) is used to deactivate the alarm enable signal at every transition in the course of a shot.

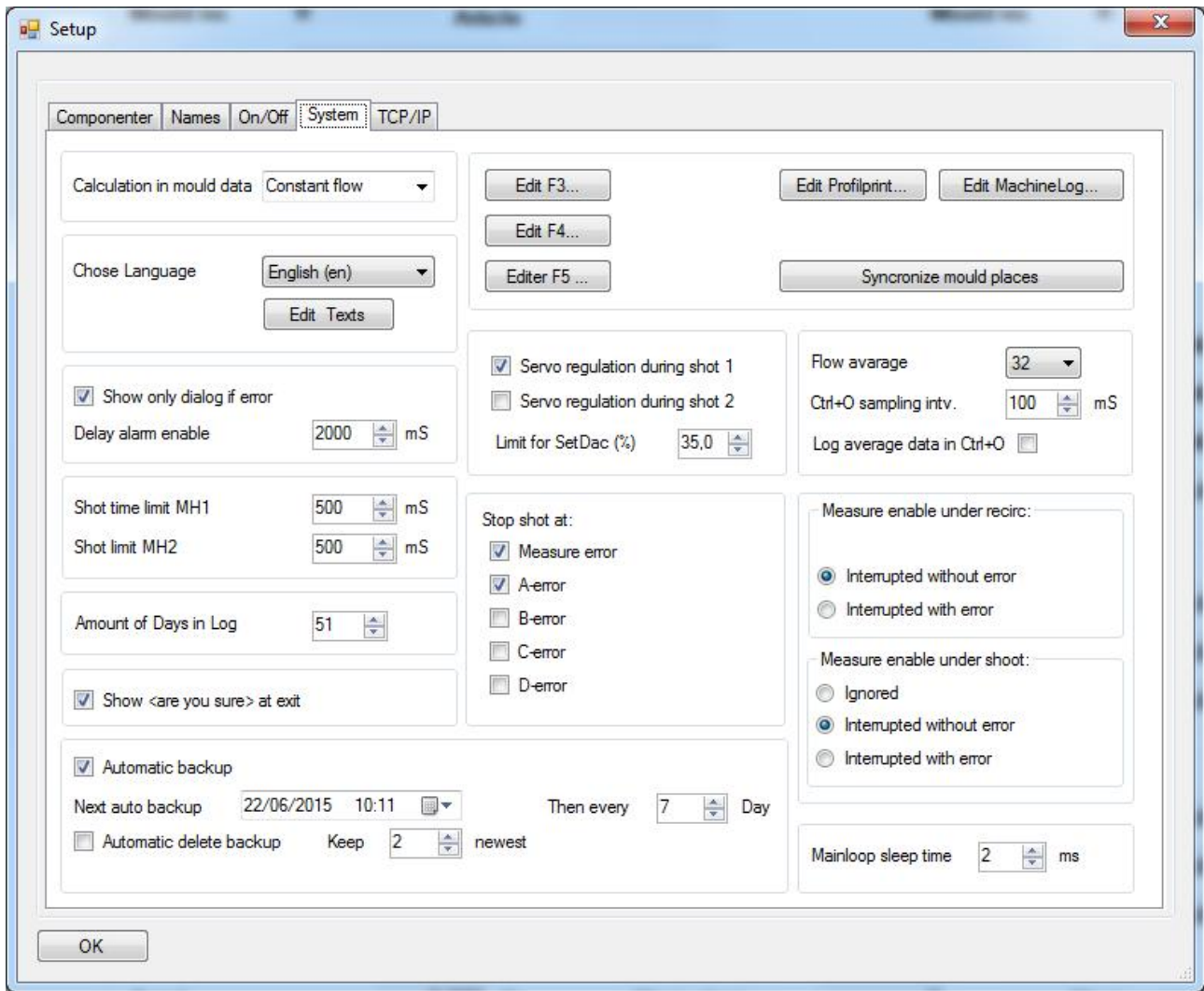


Figure 51 Setup Ctrl S System

"**Amount of Days in Log**" is used for backup. After a successful backup all data older than the selected number of days will be deleted.

"**Limit for SetDac (%)**" indicates the variance between to subsequent shots, forcing a new calculated DAC value. If the variance is less than the entered value a continued adjustment towards the new flow value is made.

"**Ctrl+O sampling intv.**" indicates the number of milliseconds between each sampling of values.

"**Log average data in Ctrl+O**" by ticking this box, the collected data will be averaged (levelled) resulting in a more even curve pattern.

"**Automatic backup**" by ticking this box a backup will be made periodically. The fields "**Next auto backup**" and "**Then every**" indicates how often.

"**Measure enable during shot:**" determines what happens when the measure enable signal lapses. E.g. "**Measure enable during shot: Ignored**" if this is selected the measure enable will be ignore once the

shot is started. By selecting one of the other options the lapse of the measure enable will interrupt the shot with or without an error message.

“Synchronize Mould Places” by clicking this button all the active place numbers are sent to the PLC with the information that they are all updated.

By clicking the button **“Edit texts”** below the field to select language, the following message box will appear:

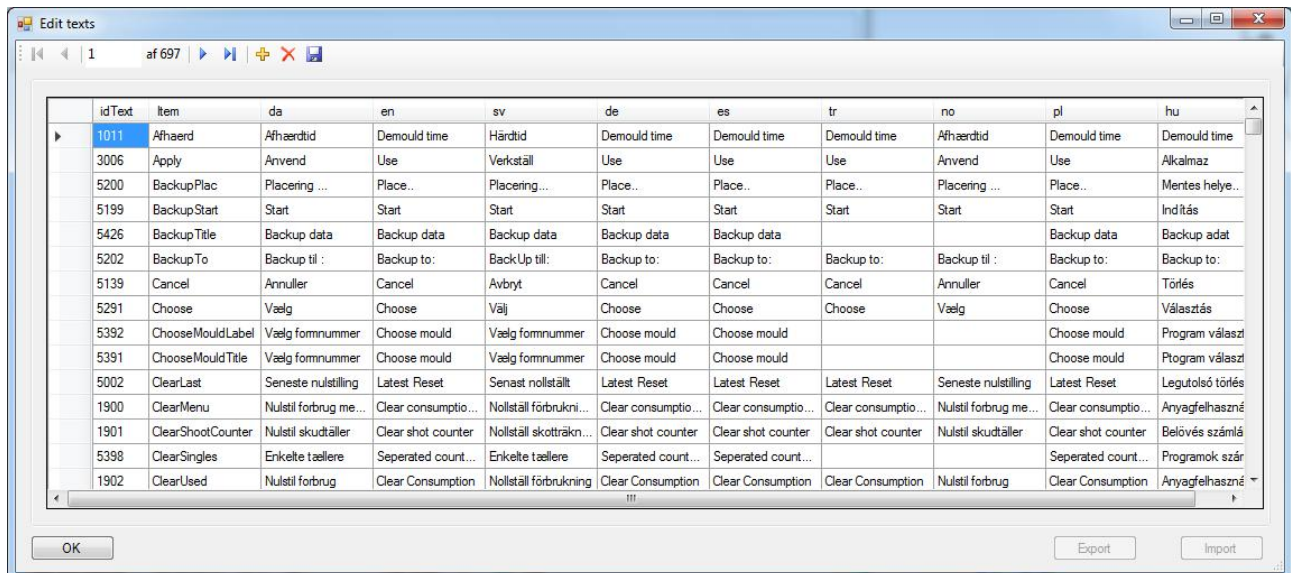


Figure 52 Edit Texts

In this box it is possible to change the texts in the WinFlow program, thus making it possible to translate/adjust texts while the system is in production.

Remember to click the little disk icon to save changes made.

By clicking the column header the list will be sorted by this column. The first click will sort the data in ascending order, the second click in descending order.

To export one of the languages, click one of the fields for the required language, then click **“Export xx”**, where xx indicates the language.

Similarly it is possible to import a language using the button **“Import xx”**.

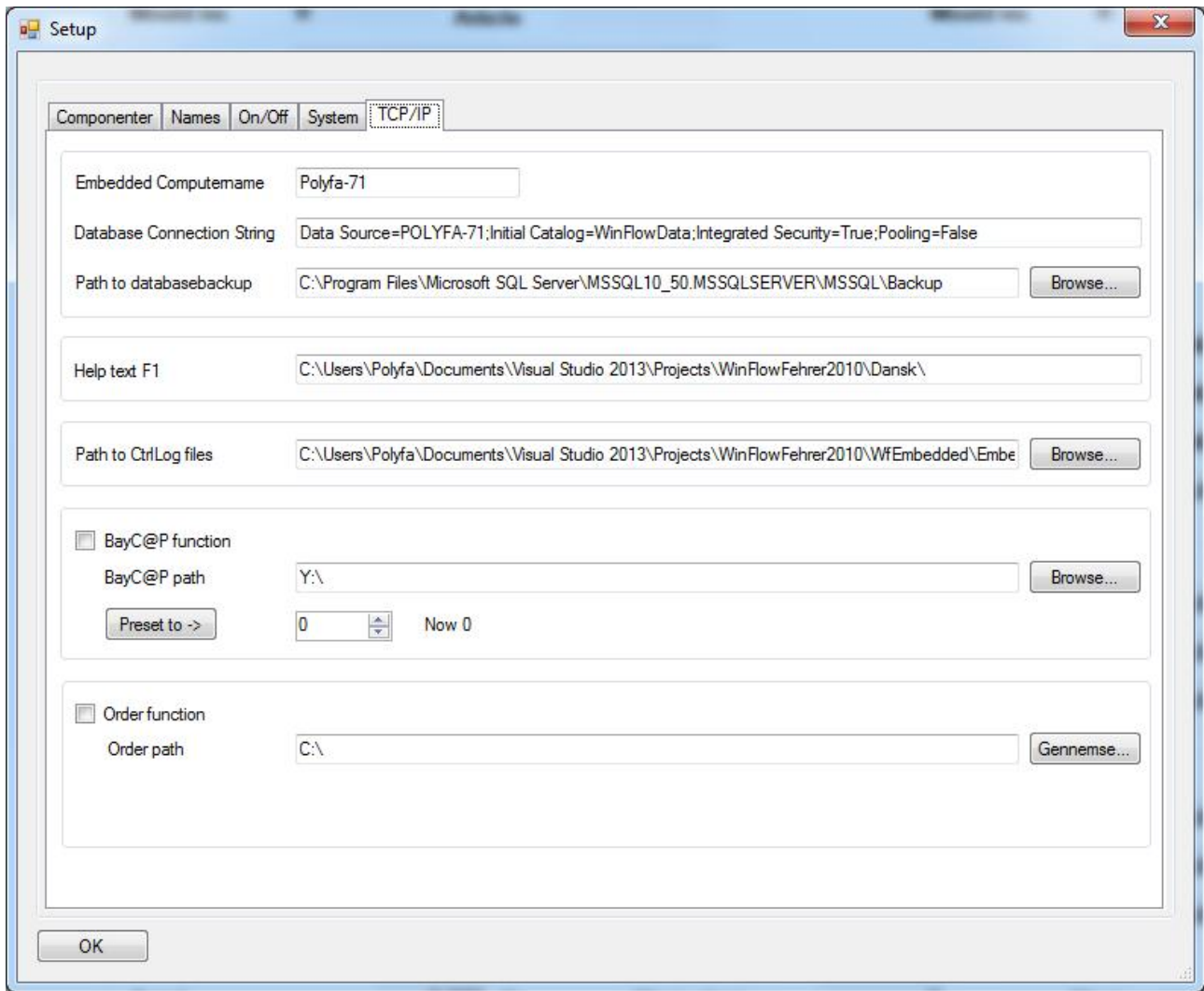


Figure 53 Setup Ctrl S Tcp/IP

"**Embedded Computename**" enter the name of the PC on which the program "Embedded" is running.

"**Database Connection String**" indicates the string allowing access to the SQL Server.

"**Path to Database Backup**" indicates the default location on the harddisk where the SQL Server saves backups to.

"**Help Text F1**" indicates the path the help texts.

"**Path to Ctrl Log files**" indicates the path to the files saved after each shot. The default path is a sub folder to location of the Embedded.exe.

"**BayC@P function**" sends data to an external server after each shot.

"**Order function**" updates a file after each shot with the mould number and shot count information.

Setup Profile Print (in Ctrl S)

Select **"Edit Profile Print..."** in the **"System"** tab in the Ctrl S form to configure the Profile Print function.

Setup profile print

Choose

- Field
- Skud No
- Mk
- System
- Børfow1
- Børfow2
- Børfow3
- Børfow4
- Børfow5
- Børfow6
- ErFlow1

Selected

- Field
- Plads No
- Form No
- Dato
- Kl.
- Børtid
- Er tid
- Børvægt
- Er vægt

Count: 90 ☒ Every shoot ☐ Total

Kolonnebredde: 20 mm

Text ...

Preview Sql

```
use WinFlowLog
-----
-- Drop Table template
-----
IF EXISTS (
  SELECT *
    FROM sys.tables
   JOIN sys.schemas
```

Preview Data

Refresh Print ...

	Plads No	Form No	Dato	Kl.	Børtid	
▶	1	110	26 May 15	14:11:44	10,599	1
	1	110	26 May 15	13:52:17	10,599	1
	1	110	26 May 15	13:51:39	10,599	1
	1	110	26 May 15	13:51:22	10,599	1
	1	110	26 May 15	13:51:03	10,599	1
	1	110	26 May 15	13:28:47	10,599	1

OK Cancel

Figure 54 Configuration Profile Print

Data is collected containing information related to each shot that is shot.

In this form it is possible to select various values from all the data that is saved.

All the data fields that are saved in the log are shown in the **"Choose"** list. By selecting one of the data fields and clicking ">>" it is moved to the **"Selected"** list.

The order of the selected fields, can be changed by selecting a field and clicking the **"Up"** or **"Down"** button.

The field **"Count"** indicates the number of rows in the print out. Note! It is always the recent shots that are shown.

The fields **"Every Shot"** and **"Total"** indicate whether it is only the total value of a series of shots or the individual shots in a series.

"Preview SQL" displays the automatically generated T-SQL query used in the print form to extract data from the database. It is not possible to manually edit the T-SQL.

"Preview Data" displays the desired data in a table form. Click **"Refresh"** after each change in the configuration of the Profile Print.

Changing Texts / Headers

By clicking the **"Text..."** button a box appears making it possible to change the names of the fields (data). The column **"Name"** is amongst other things used for the header in the Profile Print printout.

Beware of making changes to the **"Sql"** column as this requires thorough knowledge of Microsoft SQL server T-SQL programming. (If necessary read the page about SQL, see page 54)

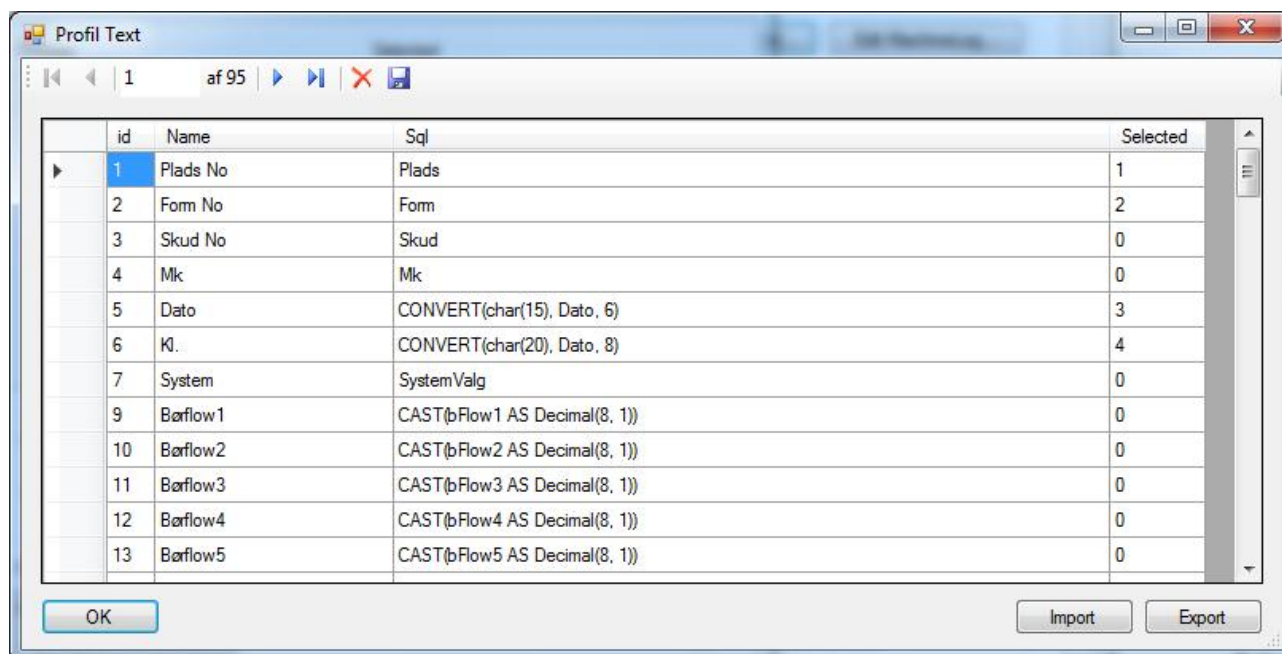


Figure 55 Profile Text

Most lines in the column **"Sql"** are commands formatting the printout.

E.g. "CAST(bFlow1 AS Decimal(8,1))" means convert bFlow1 (field in the database) to a decimal number with a total of 8 numbers and 1 number after the decimal separator.

Profile Export Function

Select "**Profile Export**" in the "**Functions/Misc**" Menu.

The screenshot shows the "Setup profil for export" dialog box. It contains the following elements:

- Date:** "from date" is set to "17. februar 2015" and "To date" is set to "15. juni 2015". There is a "Now" checkbox.
- Mouldplace:** "All" is selected. "Span" is also an option with "From 1" and "To 2" spinners.
- Mouldnumber:** "All" is selected. "Span" is also an option with "From 1" and "To 2" spinners.
- Sum:** "Individual shot" and "Sum" are both checked.
- Fields:** A list of fields with checkboxes: "Plads No", "Form No", "Skud No", "Mk", "Dato", "Kl.", "System", "Børflow1", "Børflow2", "Børflow3", "Børflow4", "Børflow5", "Børflow6", "ErFlow1", "ErFlow2", "ErFlow3", "ErFlow4", "ErFlow5", "ErFlow6", "BørTryk1", and "BørTryk2".
- Buttons:** "Marker alle", "Fjern alle", "Generate", "Show in Excel", and "Browse ...".
- Filename:** The text "C:\Users\Polyfa\Documents\Visual Studio 2013\Projects\WinFlowFehrer2010\WfWinFlow\WinFlow\bin\Debug\test\tewt.csv" is displayed.

Figure 56 Profile Export

Select date, place and mould number area, as well as which of the logged data fields to include in the result. Click the "**Browse...**" button to select the location to save the result to. When all selections have been made click the "**Generate**" button and WinFlow will create a file containing the result.

This file, which is a semicolon separated datafile, can be open using a variety of programs.

By clicking the button "**Show in Excel**" Excel will be started (if it is on the PC) and open the generated file.

	A	B	C	D	E	F	G	H	I
1	Plads No	Form No	Skud No	Mk	Dato	Kl.	Børflow1	Børflow2	ErFl
2	2	2	1		1 02 Oct 13	14:52:44	110,1	99,1	
3	2	2	1		2 02 Oct 13	14:48:12	110,1	99,1	
4	2	2	1		1 02 Oct 13	14:48:12	110,1	99,1	
5	2	2	1		2 02 Oct 13	14:05:08	110,1	99,1	
6	2	2	1		1 02 Oct 13	14:04:58	110,1	99,1	
7	2	2	1		2 02 Oct 13	13:59:52	110,1	99,1	

Figure 57 Result of Profile Export

See page 47, Setup Profile Print (in Ctrl S), for a description of the two tick boxes **"Every Shot"** and **"Total"**.

Climate Export

IndstilKlimaExport

Date

from date: 17. februar 2015

To date: 15. juni 2015

☒ Now

Generate

Filename: C:\Users\Polyfa\Desktop\vh.csv

Browse ...

Generate

Show in Excel

Figure 58 Climate Export

From this form it is possible to export data from the climate log.

Embedded

The screenshot shows the 'Embedded WinFlow' application window. It has a blue title bar and standard Windows window controls. Below the title bar is a yellow header area with four tabs: 'General' (selected), 'PLC I/O', 'Skud', and 'WinLC RTX'. The main content area is white and contains several groups of fields and status indicators.

Field	Value
Ip address	192.168.1.13
Connected	1
Firmware	2.4
Boot count	27
Error input	
Database version	1.56
Transactions (TCP/IP)	91.076 (Avg. 9.1/Sec.)
Transactions (Hardware)	1.546.981 (Avg. 154.2/Sec.)
User time	2.79 hours
Server time	2.79 hours
State	VenterPaaStrobe
Status	66.0.64. (0)
PLC alivetime	34 mS (18865)
SOH	0
Checksum	0
Get position	0
Overrun	0
Framing	0
Break	0

At the bottom left of the main content area is a pink 'Download' button.

Figure 59 Embedded Main Form

Embedded.exe is the program handling the entire shot proces.

Information in the "**General**" tab:

"**Ip address**" indicates the IP address of the PC where the Embedded.exe is run. The address can be used when connections to other PCs are required.

"**Connected**" indicates the number of WinFlow programs, which are connected to the Embedded.exe.

"**Firmware**" indicates the current version of the WinFlow hardware.

"**Boot count**" indicates the number of times the WinFlow hardware has been booted.

"**Database version**" Indicates the current version of the WinFlow database.

By clicking the "**Download**" button the software version in the Embedded folder will be sent to the WinFlow hardware. During the transfer the button will turn red.

If the button is pink it means that there was no communication with the hardware when the Embedded.exe program was started. At start up of Embedded the program will check if the latest version is running on the WinFlow hardware, if not, the button will turn pink and continue using the "older" version.

"Transactions (Hardware)" Indicates the number of transactions to/from the WinFlow program, as well as an average in seconds in parenthesis.

If the text is pink it means that a communication failure has occurred at start-up of Embedded.exe.

"User time" indicates the number of hours the users has been connected to Embedded.exe.

"Server time" indicates the number of hours Embedded.exe has been running.

"State" is a description of the current state the Embedded.exe is in.

"Status" indicates the errors registered by WinFlow in the wires from the WinFlow hardware.

1. Number of errors (typical the incorrect number of bytes received) at "GetShotInfo".
2. Number of errors (typical the incorrect number of bytes received) at "SetShot".
3. Number of errors (typical the incorrect number of bytes received) at "GetMiscData".
- (4.) Number of Checksum errors in the wires from the WinFlow hardware.

"PLC alivetime" indicates the number of milliseconds used to exchange a byte to/from the PLC. The highest number of milliseconds is indicated in parenthesis.

"SOH ..." indicates the number of errors registered by the WinFlow hardware in the wires from WinFlow. The same applies to **"Checksum"**, **"Get position"**, **"Overrun"**, **"Framing"** and **"Break"**.

Language Settings in Windows XP

Click Start / Control Panel

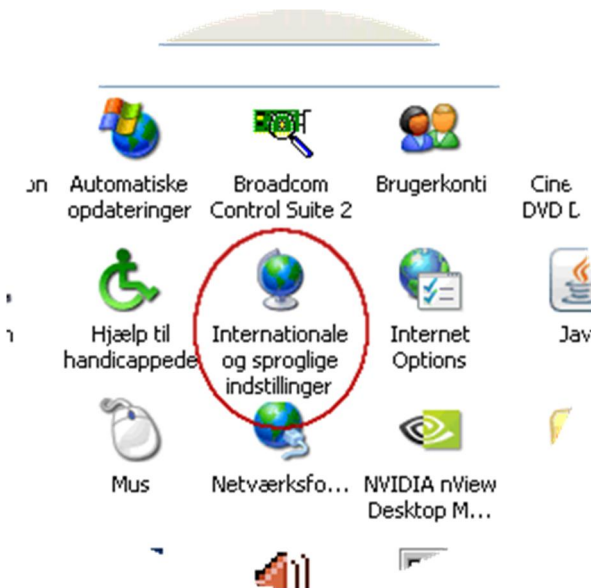


Figure 60 XP Control Panel

Double click the icon Regional and Language Setting.

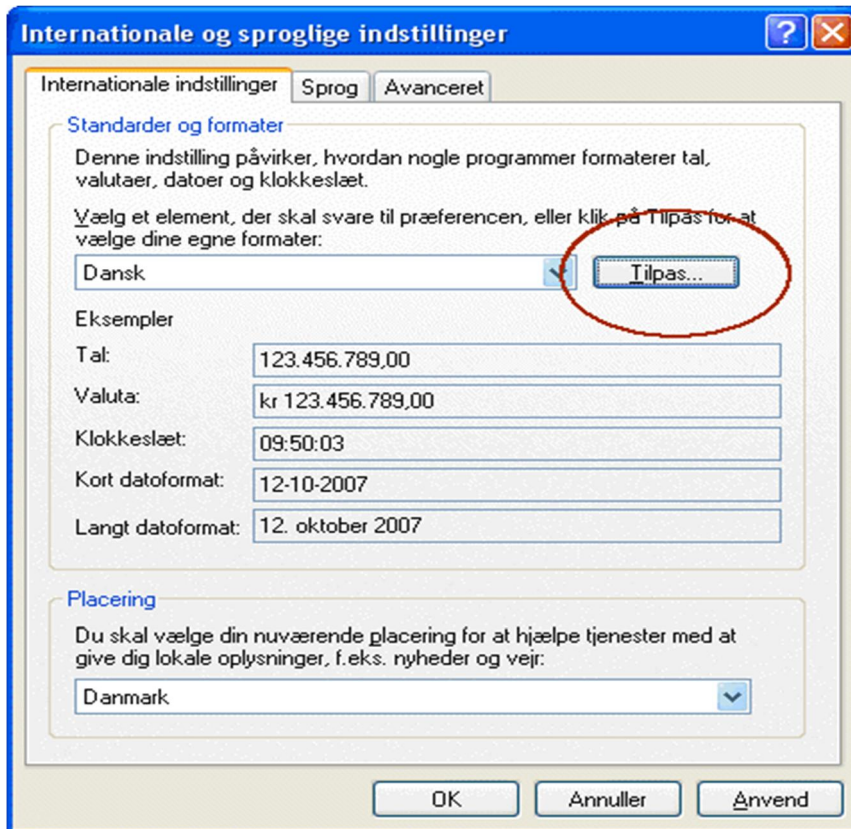


Figure 61 XP Language

Click the button "Customize..."

Tilpasning af internationale indstillinger

Tal Valuta Klokketæt Dato

Eksempel

Positivt: 123.456.789,00 Negativt: -123.456.789,00

Decimaltegn: .

Antal cifre efter decimal: 2

Ciffergruppeseparator: .

Antal cifre i gruppe: 123.456.789

Symbol for negative tal: -

Format for negative tal: -1,1

Visning af foranstillet nul: 0,7

Listeseparator: ;

Målesystem: Metrisk

OK Annuller Anvend

Figure 62 XP Customize

Enter the desired decimal symbol.

Remember to also update the Digit grouping symbol, so that the two are not alike.

SQL Queries

Start Microsoft SQL Server Management Studio Express via the Start menu in Windows.

Click Connect when the Connect to Server message box appears.

Right click the database WinFlowLog and select New Query.

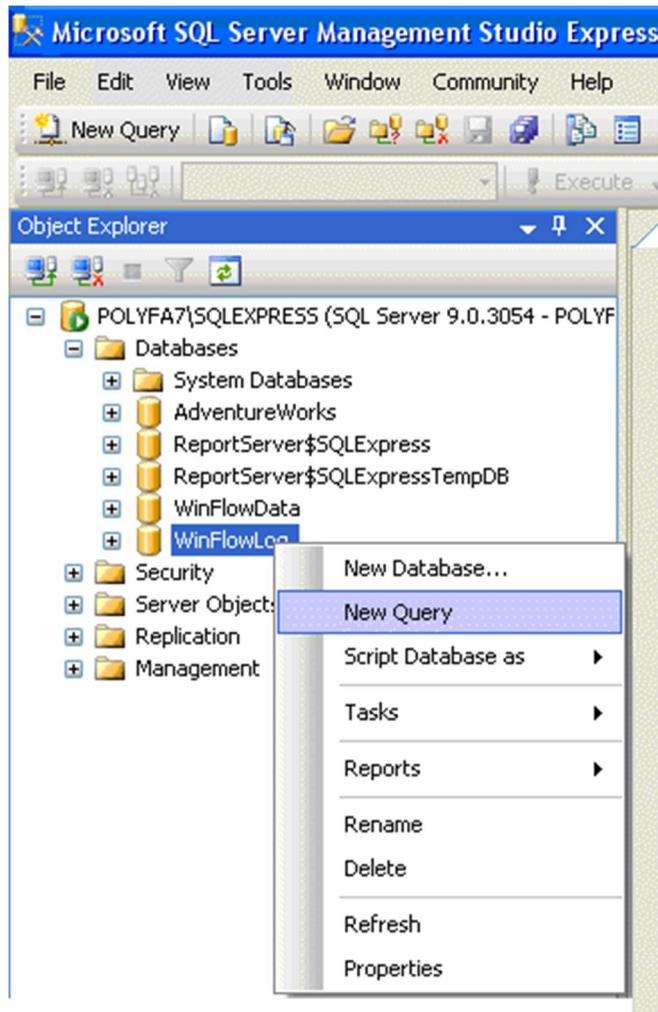


Figure 63 SQL New Query

Mark, copy and paste the below SQL query to the blank section on the right hand side.

```
SELECT Plads AS FormPlads,
       CONVERT(char(15), Dato, 6) AS Dato,
       CONVERT(char(20), Dato, 8) AS 'kl.',
       CAST(bVaegt AS Decimal(5, 2)) AS 'Bør vaegt',
       CAST(eVaegt AS Decimal(5, 3)) AS 'Er Vægt',
       CAST(eFlow1 AS Decimal(5, 1)) AS 'Er Polyol',
```

```

CAST(bFlow1 AS Decimal(5, 1)) AS 'Bør Polyol',
CAST(eFlow2 AS Decimal(5, 1)) AS 'Er Iso',
CAST(bFlow2 AS Decimal(5, 1)) AS 'Bør Iso',
CAST(eTid AS Decimal(5, 3)) AS 'Er Tid',
CAST(bTid AS Decimal(5, 3)) AS 'Bør Tid'
FROM   DataLog
WHERE  (Dato > '20070728') AND (Plads > 2)
ORDER BY id DESC

```

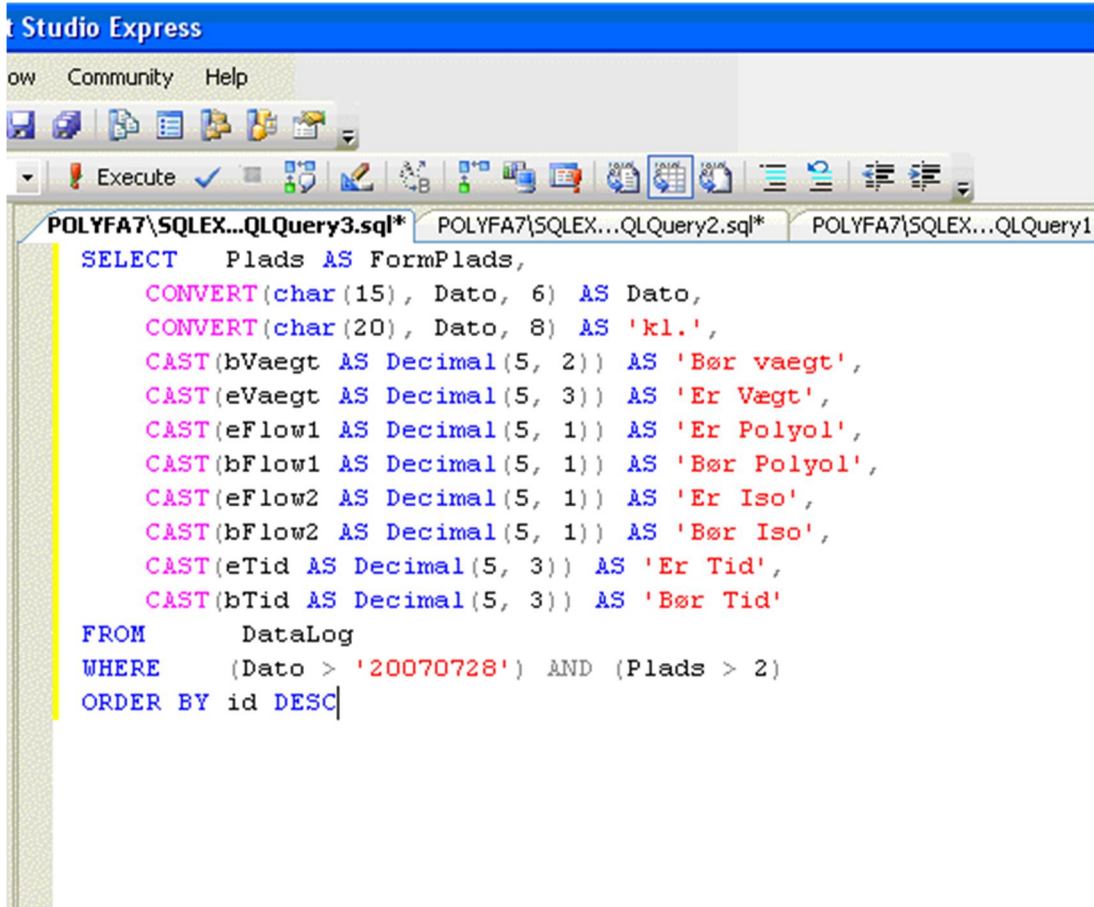


Figure 64 SQL Query

Click the button Execute

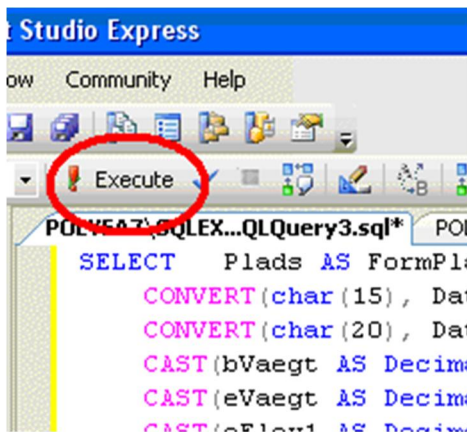


Figure 65 SQL Execute

The result of the query is displayed the bottom part of the window.

The WHERE clause in the illustrated example below shows a query selecting shots after July 28, 2007 and place number higher than 2.

 A screenshot of the Studio Express application window showing a SQL query and its results. The query is:


```

CAST(erFlow1 AS Decimal(5, 1)) AS 'Er Polyol',
CAST(bFlow1 AS Decimal(5, 1)) AS 'Bør Polyol',
CAST(eFlow2 AS Decimal(5, 1)) AS 'Er Iso',
CAST(bFlow2 AS Decimal(5, 1)) AS 'Bør Iso',
CAST(eTid AS Decimal(5, 3)) AS 'Er Tid',
CAST(bTid AS Decimal(5, 3)) AS 'Bør Tid'
FROM      DataLog
WHERE      (Dato > '20070728') AND (Plads > 2)
ORDER BY id DESC
  
```

 Below the query, the "Results" tab is active, displaying a table with 12 columns and 11 rows of data.

	FormPlads	Dato	kl.	Bør vægt	Er Vægt	Er Polyol	Bør Polyol	Er Iso	Bør Iso	Er Tid	Bør Tid
1	15	16 Aug 07	08:08:09	0.00	0.000	155.2	155.5	196.5	194.4	0.000	0.000
2	15	16 Aug 07	08:08:09	1.31	0.888	155.2	155.5	196.5	194.4	0.000	3.758
3	50	16 Aug 07	08:06:57	0.00	0.000	156.1	155.5	196.7	194.4	0.000	0.000
4	50	16 Aug 07	08:06:57	0.88	0.888	156.1	155.5	196.7	194.4	2.525	2.515
5	50	16 Aug 07	08:06:57	0.88	0.885	156.1	155.5	196.7	194.4	2.515	2.515
6	29	16 Aug 07	08:06:03	2.50	2.524	155.8	155.5	196.1	194.4	7.160	7.150
7	29	16 Aug 07	08:06:03	2.50	2.521	155.8	155.5	196.1	194.4	7.155	7.150
8	65	16 Aug 07	08:05:04	2.43	2.454	155.6	155.5	196.2	194.4	6.955	6.945
9	65	16 Aug 07	08:05:04	2.43	2.454	155.6	155.5	196.2	194.4	6.953	6.945
10	15	16 Aug 07	08:04:05	0.00	0.000	156.0	155.5	196.4	194.4	0.000	0.000
11	15	16 Aug 07	08:04:05	1.31	1.333	156.0	155.5	196.4	194.4	3.758	3.758

Figure 66 SQL Result

It is possible to mark alle the rows and copy the data to Microsoft Excel for further processing or to select menu item "Save Results As ..."

Structure

The system consists of a circuit handling shot times and flow measurements. This circuit is connected to a PC controlling the shot process. This PC also handles the communication to the Profibus System.

A Microsoft SQL Server 2005 database is used to store all the system data.

The WinFlow system is divided into 5 main components (3 software components + 1 hardware component + 1 PLC system).

- The database (SQL Server 2005) contains all the settings, texts, mould data, data collections, logs and other production data. The SQL Server can be placed in a central location and connected to the other software units via a network, or placed on the same PC.
- The Hardware measures the flow from the flow sensors, controls and measures shot times. The hardware is connected to the PC on which the program Embedded.exe is installed.
- The program Embedded.exe is the program, which handles the shot process in realtime, right from when the strobe arrives to when the shot is completed. Communication with the PLC is also handled by this program. The Profibus connection has to be on the PC where the Embedded.exe program is installed.
- WinFlow is the program that the user uses to operate and monitor the system. WinFlow must be able to communicate with the SQL Server, but can do without the Embedded.exe program (and thereby the hardware) and thus functions as a disconnected (office)-version, where changes to e.g. mould data and other settings can be made.
- The PLC system handles monitoring of safety, controlling of the levels of the tanks, transmitting of data to the robots, vision system, mould place handling....

Below is an illustration of an SQL query, providing a few pieces of information about the production on a given day.

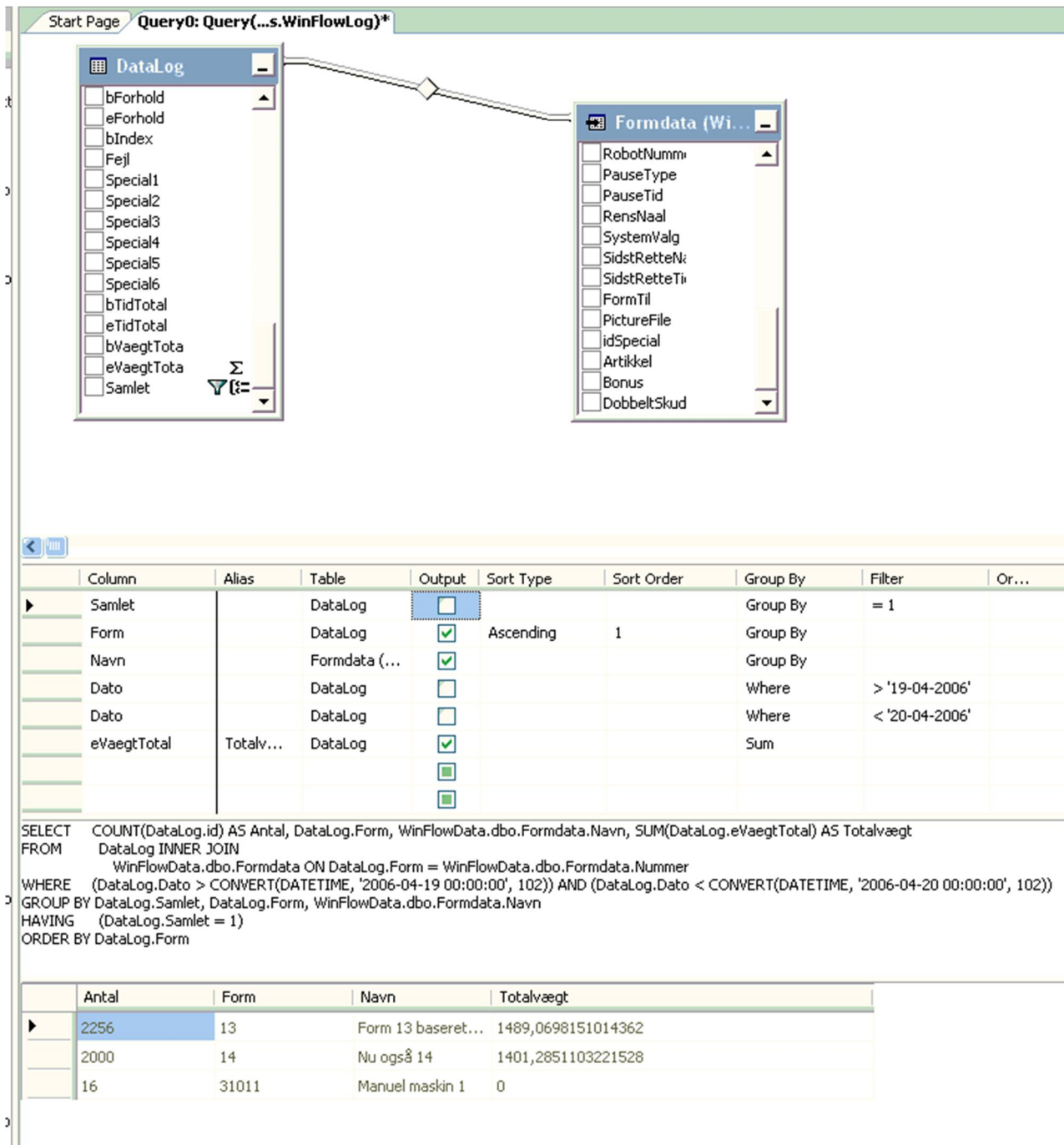


Figure 67 Database Relation

This example is from **Microsoft Visual Studio .NET 2005**, but could equally be generated in **SQL Server 2005 Express Edition with Advanced Services SP1**, which can be downloaded for free:

<http://msdn.microsoft.com/vstudio/express/sql/download/default.aspx>

WinFlow in the Office

Create a new folder on your office PC.

Copy the following 4 files to the folder (The files can be found in "shared folders"/Winflow/Winflow on the production PC)

- CtrlLogLibrary.dll
- MainLibrary.dll
- WinFlow.exe
- WinFlow.exe.config

In the folder you have to open WinFlow.exe.config e.g. using NotePad.exe

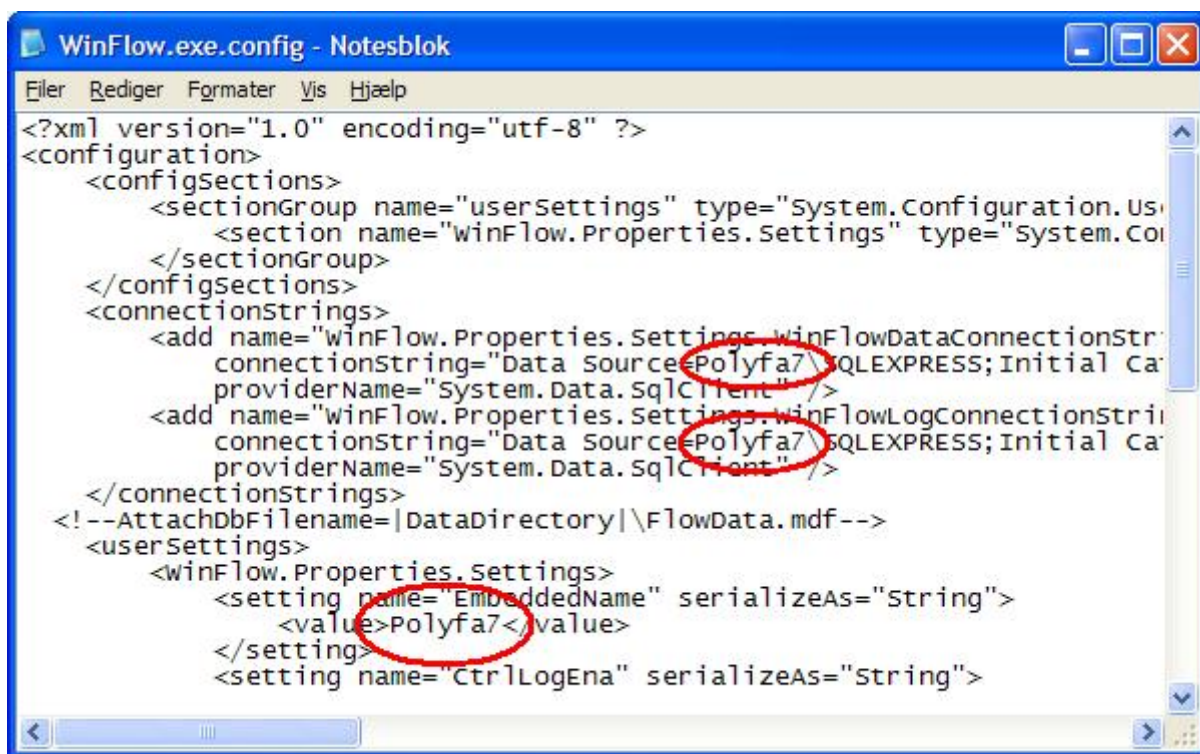


Figure 68 WinFlow Configuration

The 3 red circles in figure 69 indicate where in the file you have to make some changes.

Write the Computer name of the Winflow you wish to monitor.

Now you can start WinFlow in this folder and look at the production/change place/mould data/print...

If you experience that WinFlow shuts down once you start another WinFlow, go to the menu "Setip" and tick the box "Show <are you sure> at exit".

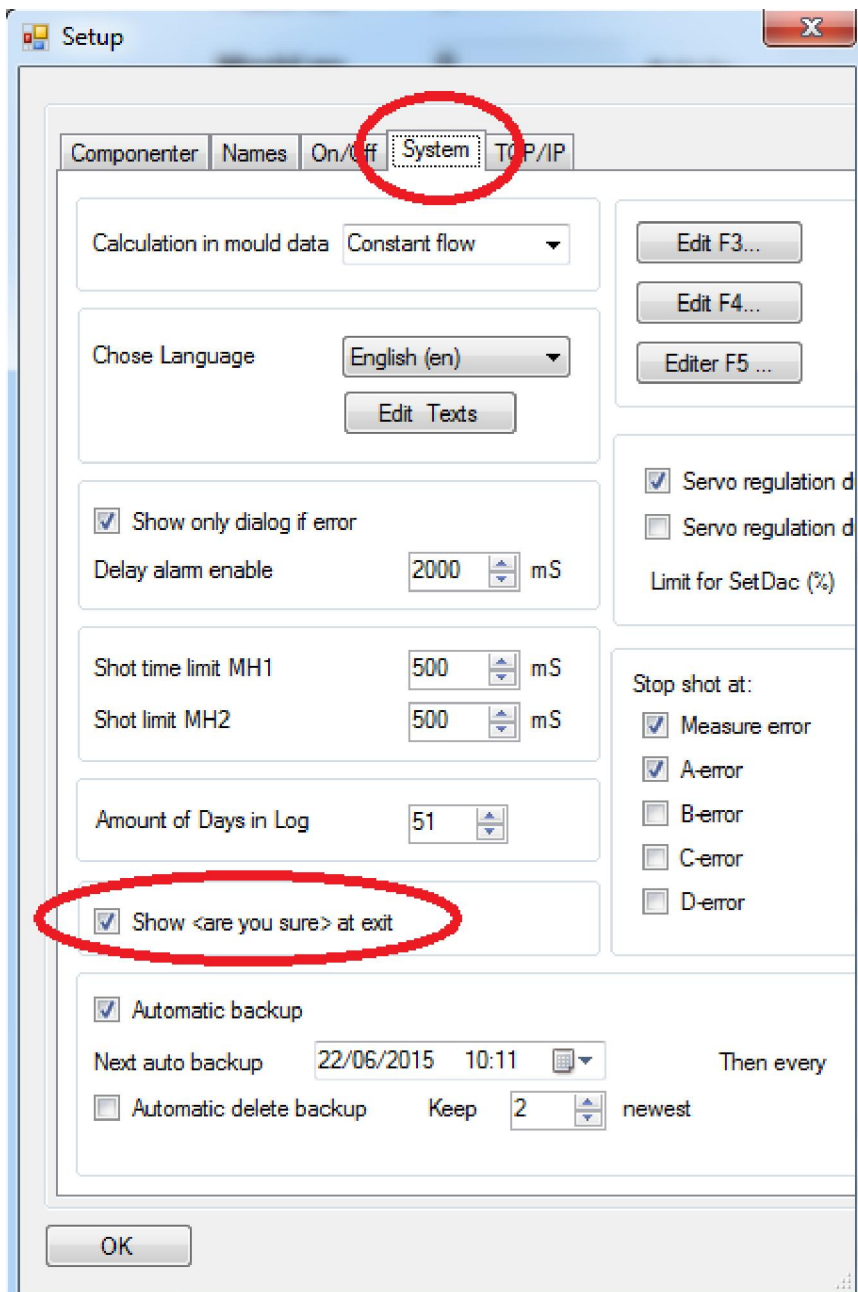


Figure 69 WinFlow <are you sure>

Start WinFlow (at the office) again and the below messagebox will appear:



Figure 70 WinFlow Is Started

Click "OK"

After which the below messagebox will appear:

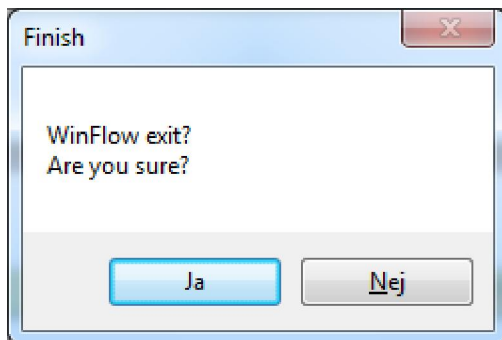


Figure 71 WinFlow Exit

Click "No"

In WinFlow you will be able to see which PC you communicated with at the top of the frontpage:

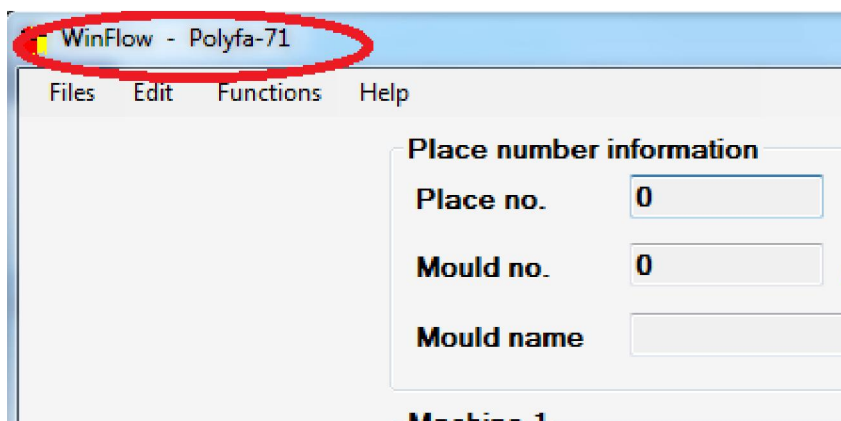


Figure 72 WinFlow Name

Export Guide for WinFlow and WinRobot

A program which can export data from the Microsoft SQL Server is installed on the WinFlow and WinRobot PCs.

The program is called dtswizard and is started as shown in the below illustration.

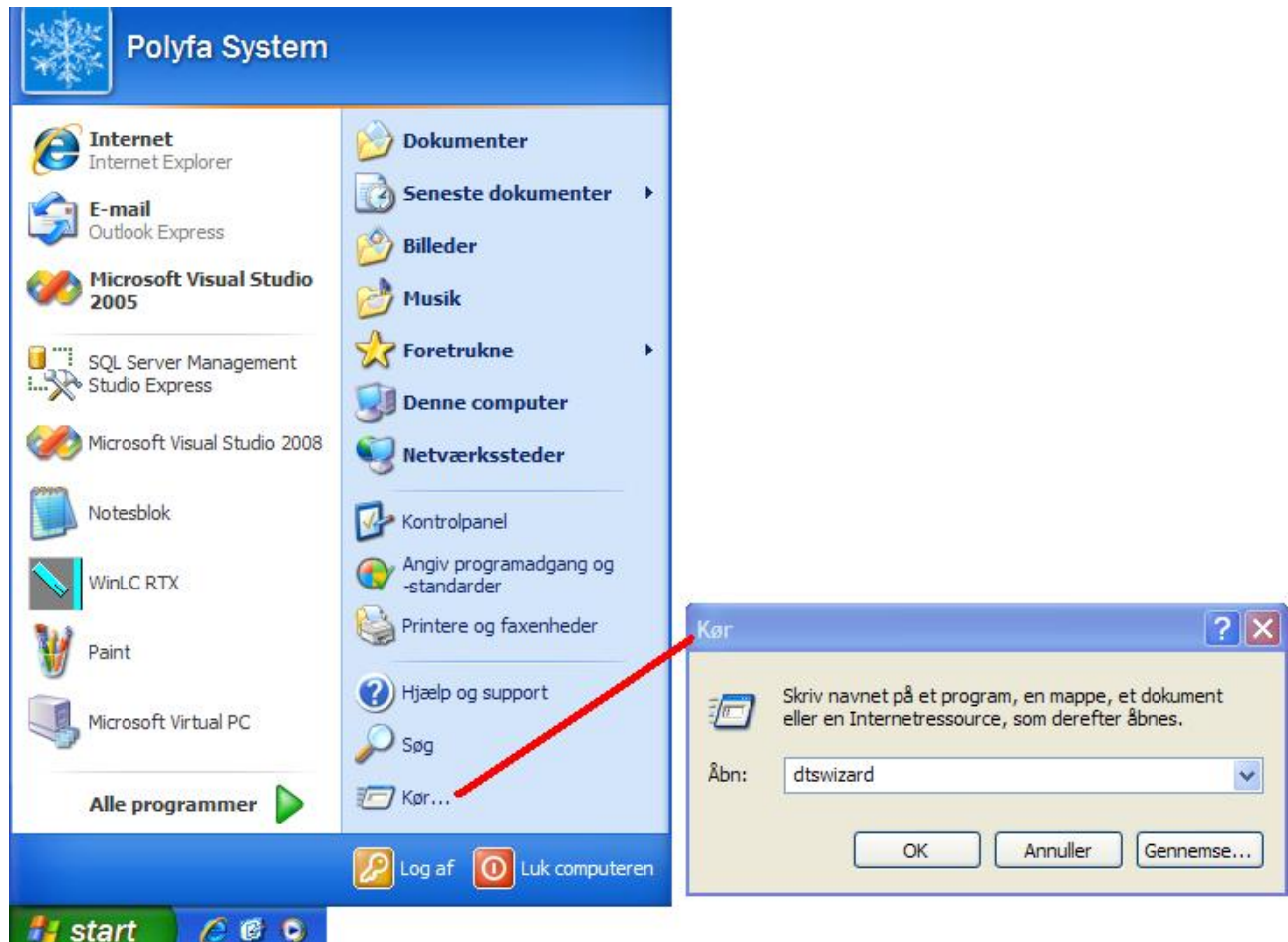


Figure 73 Export Guide

The program can export to different formats, in the illustrated example below the program exports to Microsoft Excel.

The program starts of by showing a welcome message.

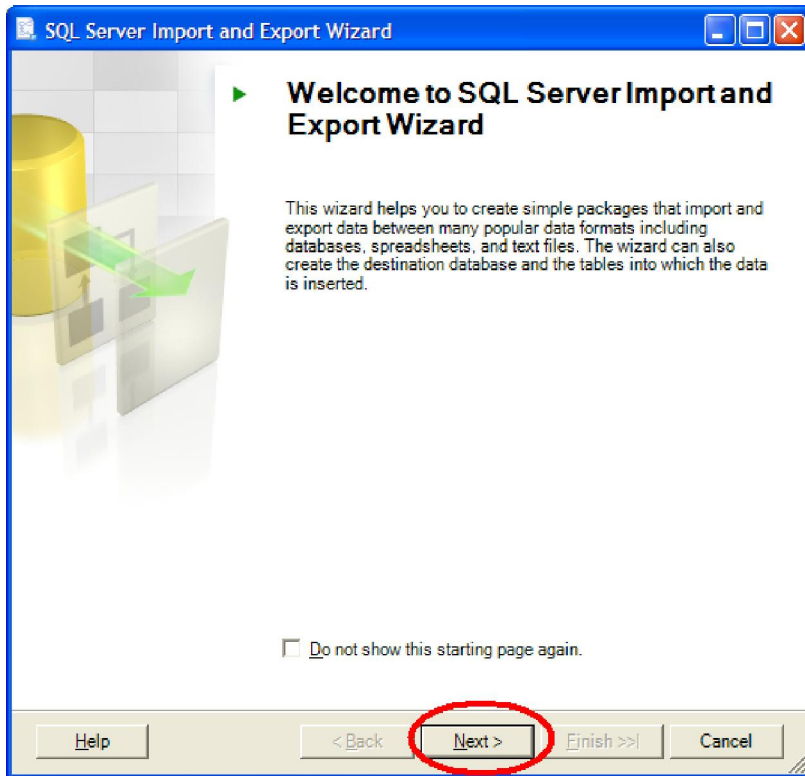


Figure 74 Export Guide 2

Click "Next >"

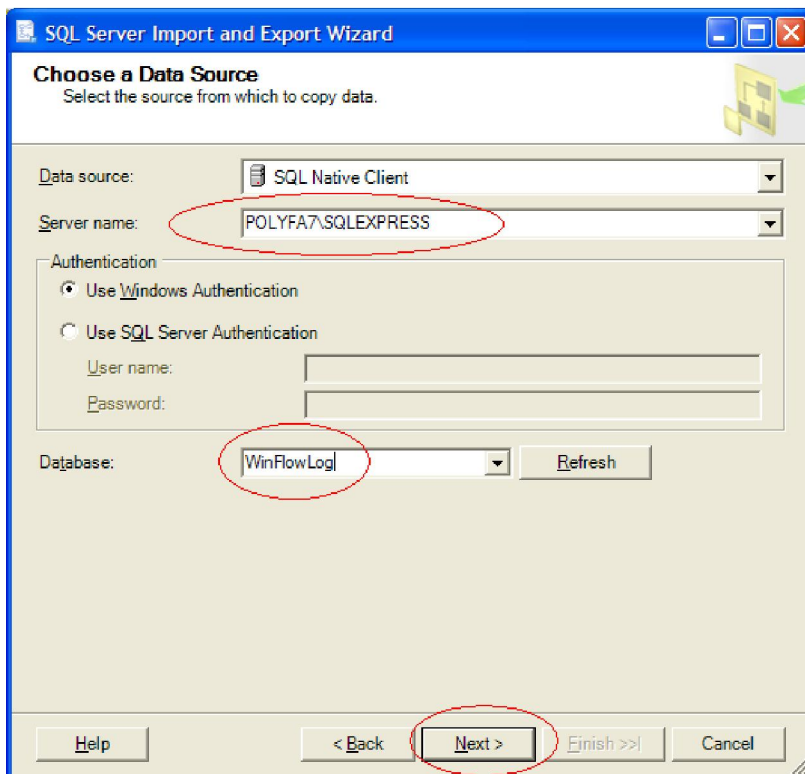


Figure 75 Export Guide 3

Select "WinFlowLog" from the Database list.

Click "Next >"

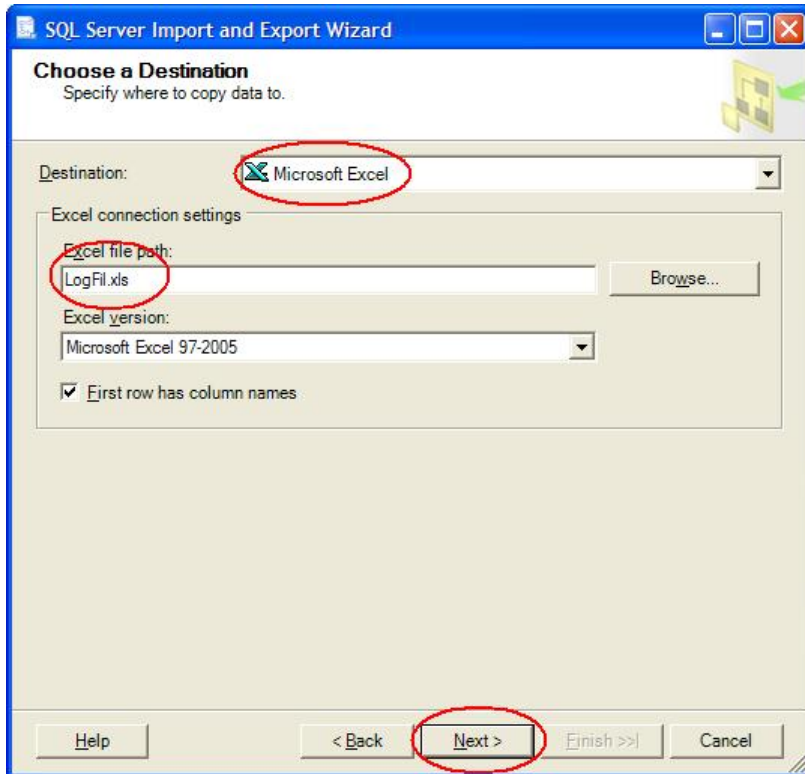


Figure 76 Export Guide 4

In the Destination field select "Microsoft Excel"

Type a name for the Excel file. Remember to include the file extension ".xls".

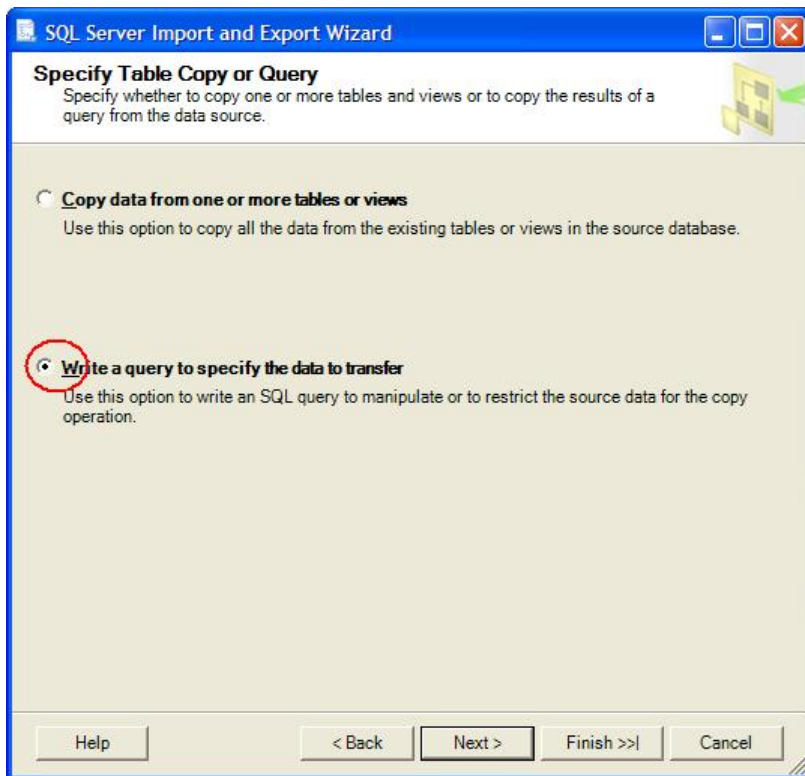


Figure 77 Export Guide 5

Select "Write a query ..."

Click "Next >"

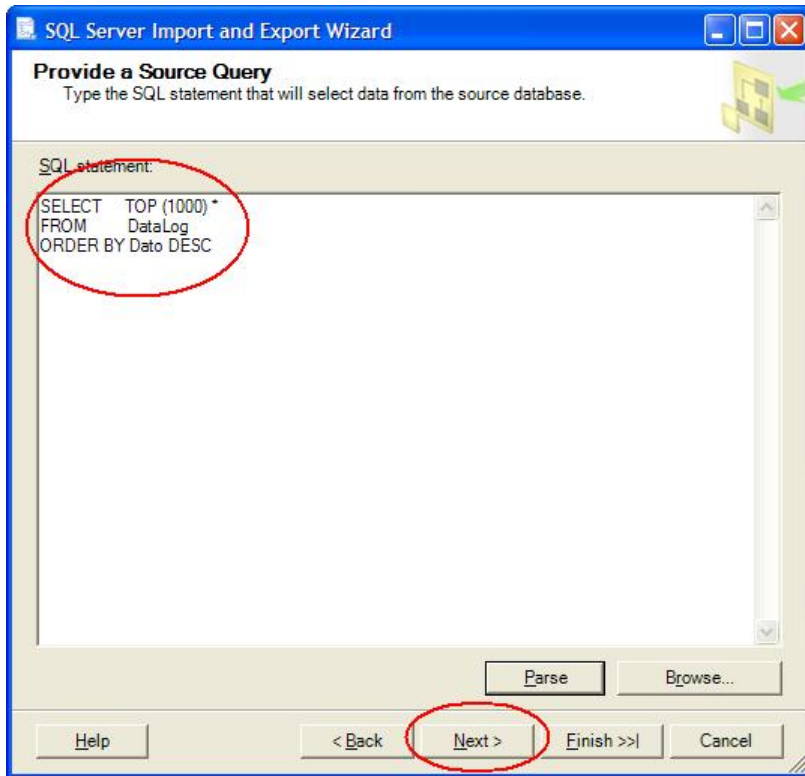


Figure 78 Export Guide 6

Enter an SQL query in this form, defining what has to be exported to Excel.

The illustrated example "TOP (1000) *" means the first 1000 records from the DataLog table i.e. the first 1000 shots.

Each row in Excel represents a shot. Remember that Excel can only handle 65.535 rows.

In the illustrated example the data is sorted by the date column "Dato" in descending order i.e. newest first.

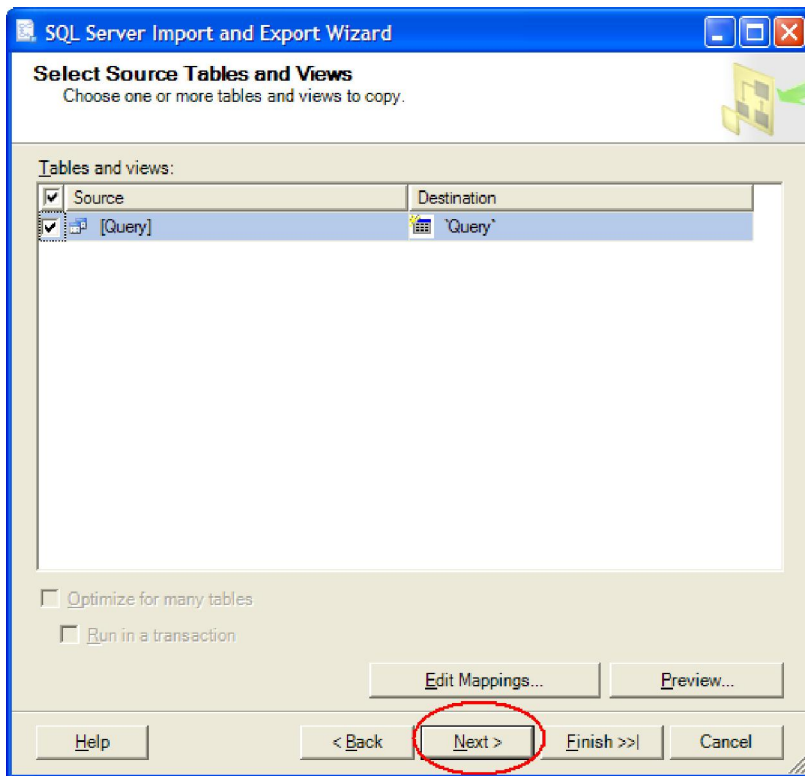


Figure 79 Export Guide 7

Click "Next >"

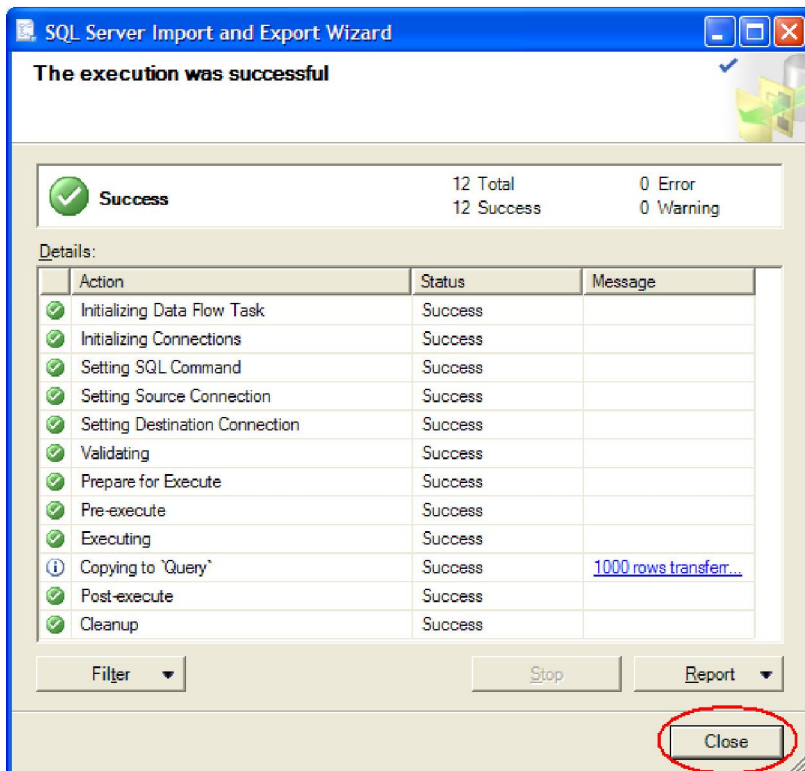
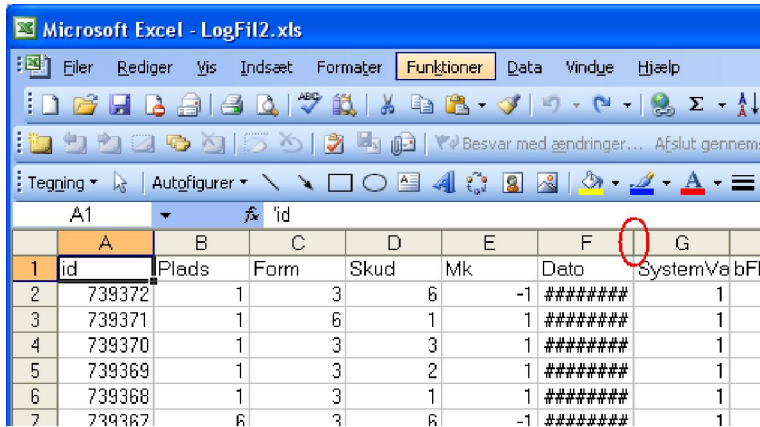


Figure 80 Export Guide 8

Click "Close".

The Excel file is now ready to be opened.

Find and double click on the Excel file.



	A	B	C	D	E	F	G
1	id	Plads	Form	Skud	Mk	Dato	System/Væ bFl
2	739372	1	3	6	-1	#####	1
3	739371	1	6	1	1	#####	1
4	739370	1	3	3	1	#####	1
5	739369	1	3	2	1	#####	1
6	739368	1	3	1	1	#####	1
7	739367	6	3	6	-1	#####	1

Figure 81 Export Guide Excel 1

Make the "Dato" column a little wider by pulling the column shown by the red ring.

The date is shown without a timestamp.

Use the following guide to include the time in the date column.

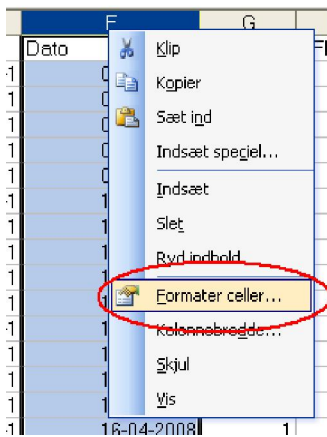


Figure 82 Export Guide Excel 2

Mark the column "Dato" and right click the column.

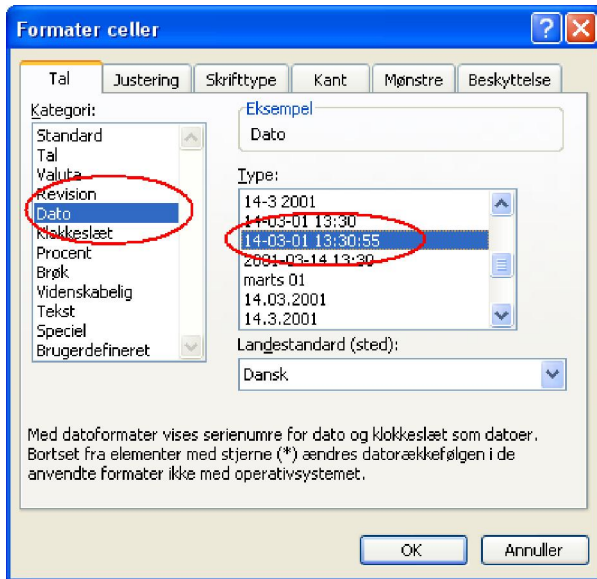


Figure 83 Export Guide Excel 3

Find and select "Date" under "Category:" and select desired date/time format.

Microsoft Excel - LogFil2.xls

	A	B	C	D	E	F
	Id	Plads	Form	Skud	Mk	Dato
1						
2	739372	1	3	6	-1	05-05-08 11:22:44
3	739371	1	6	1	1	05-05-08 11:22:43
4	739370	1	3	3	1	05-05-08 11:22:38
5	739369	1	3	2	1	05-05-08 11:22:35
6	739368	1	3	1	1	05-05-08 11:22:31

Figure 84 Export Guide Excel 4

This format includes the time in the "Dato" column.

F4 PLC Communication

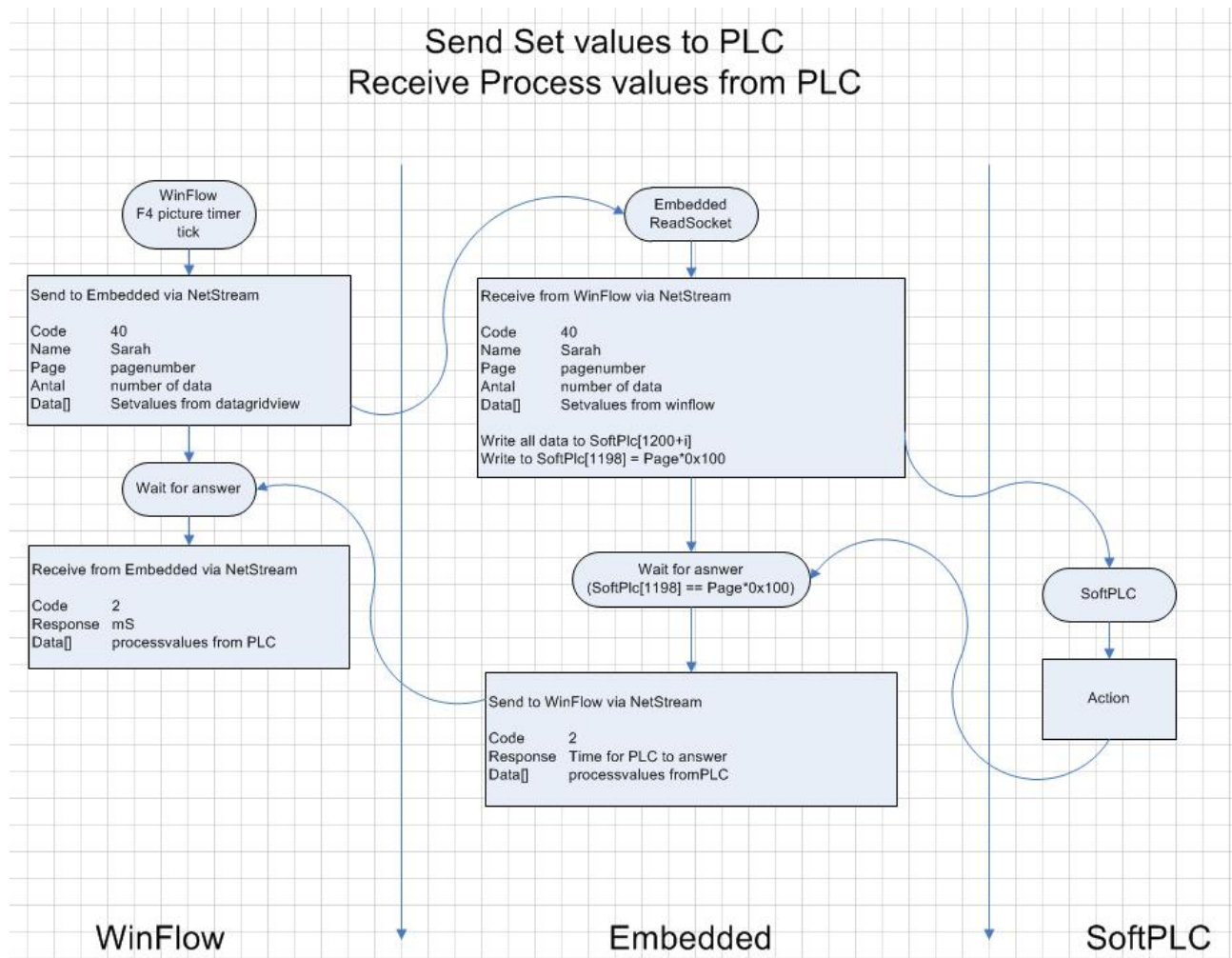


Figure 85 Communication F4

Installation of Winflow on Windows 7

Install the "Web Platform Installer 3.0" from Microsoft.

Select the following:

- Vælg SQL Server Express 2008 R2.
- Vælg SQL Server 2008 R2 Management Studio Express
- Vælg SQL Server 2008 R2 Management Object

Install these.

Install WinFlow.

Restore the database.