

# ISO 7500-1 V3.0 MANUAL

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# 1. INTRODUCTION

This program has been developed according to ISO 7500-1. It allows generating automatically the verification reports of static uni - axial testing machines.

## 2. MINIMAL CONFIGURATION

- CPU configuration: Pentium III (400 MHz advised) or higher
- Memory: 256 MB RAM or higher
- Free hard disk space: 100MB
- Operating system: Windows 2000, Windows XP
- 1 communication port RS232
- Resolution: 1024x768 pixels

# 3. INSTALLATION

- 1. Insert the CD-ROM
- 2. Via Explorer, access into CD-ROM, and start the file «install.exe».
- 3. Click on "Next" in the window that appears to validate the directory on your hard disk.

	IS07500 V3	
	Choisissez la langue Choose a language	
	Français Anglais Ver	
pevetoppe	OK Annule	er



4. Click "Next" in the appearing window to choose the installation directory.



5. The summary of the installation appears to confirm clicking below.

	ISO7500 V3 - Setup	Wizard	
	Setup Summary		
a constant of the			
	Setup will start now.		
	Selected Options:		
60	Setup will be performed in directory: C:\Program Files\ISO7500 V3\		
	Selected Setup Type: full installation		
	4		-
Devee	Click 'Previous' to modify some options. Click 'Next' to continue'.		
	,	< <u>Previous</u> <u>N</u> ext >	Cancel



6. Installation assistant copies the necessary files for the correct operating of the program and creates a short cut on your desk.

	ISO7500 V3 - Setup Wizard
	Setup completed
	Setup completed. Click 'Done' to exit the setup program. ✓ Run the program ✓ Display an icon on the desktop ✓ Display an icon in the 'Start' menu
Powered by WINDEV	< <u>Previous</u> Cancel



To run the program, simply click on the icon "Sensy ISO7500" on the desktop or in the "start" menu.

## 4. FIRST START

When you start for the first time the software, you must put a serial number according to your computer. Indeed, this window below appears:

🌷 Enregistrement ISO7500 📃 🗖 🔀
Si vous cliquez sur "Envoyer", le code série sera transmis automatiquement à Sensy et vous recevrez en retour la clé d'activation.
Code série hz9005JKmksKog
Clé d'activation
Activer Envoyer Quitter

Copy the serial Code and send it to SENSY (info@sensy.com). We will send you an activation Key to activate the software on your computer.



## 5. TESTING PROCEDURE

Each machine with the standard reference transducers has to undergo 3 preloads.

Then, the test consists in 3 series of measurements divided by identical steps of loads.

The procedure consists in charging the test machine with the announced value by the program for then taking measurements via the standard reference transducer; these two values will be compared for the calculation of the errors and the determination of the class of the machine.

You have the possibility to do a reversibility test.

In the case of machines working with and without accessories, the normative ISO7500-1 foresees a complementary serine.

When the 3 pre-loads and series of measures are finished, the software will transfer the data in Excel to allow the personalisation of the report according to customer wishes.

### 6. PRESENTATION AND PROGRAM CONFIGURATION

The image below represents the main menu of the program:



Description of the different buttons of this menu:

CONFIGURATION	Gives access to the page where all parameters are defined in relation with the communication with the display, the tolerances, etc
TEST BENCH	It's a data base which allows recording the characteristics of test bench
DATA OPERATOR	To allow recording names of different operators
DATA CUSTOMER	To allow recording information related to the customers
PARAMETERS	Page in which parameters of the standard reference transducer and the display are defined

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CALIBRATION	Page that allows proceeding to the tests
SEARCH	List of previous editable test results
ABOUT SENSY	SENSY General information and address.
EXIT	Software Exit

## 6.1. Definition of « CONFIGURATION » page

🔍 Parameters								
Type of display	Simulation	•	ОК					
PORT COM	1		Cancel					
Communication test	0,00	Test						
Threshold to detect load cell unloaded	20	×						
Upper conditionning bench threshold	90	%						
Lower conditionning bench threshold	5	%						
Forcing signal beyond upper thresho	ld during at least 1 min at cond.	machine						
Excel model	C:\Program Files\ISO7500 V3\ExcelModel.xls							
Language	English							

You can define the type of display used by the drop-down list.

Simulation	•
Simulation	
INDI 00	
INDI ISO376	
Cellule digital (RS232)	

RS232 communication protocol used between the indicator and INDI00 the program.

You can set the following parameters :

« PORT COM » This parameter sets the communication port in use.

- « Test de communication » Check the communication between the PC and the display.
- « Tare detection level » This value can define the range within the sensor is measuring zero load.



« Upper conditioning bench threshold »	Iso7500-1 Norm foresees a test of conditioning machine which consists in charging and discharging the machine 3 times. This parameter allows defining the upper threshold on which the machine is considered as charged.
« Lower conditioning bench threshold »	Iso7500-1Norm foresees a test of conditioning machine which consists to charge and discharge the machine 3 times. This parameter allowed defining the lower threshold which the machine is

regarded as discharged.

#### 6.2. Information storing

This new version allows managing data about operators, customers and tests bench. Indeed, you can search, modify, and delete all information.

There is also a link between tests bench and each customer to minimize a risk of mistake and decreasing configuration time for a test.

All windows have the same configuration, a table from which you can manage data and an individual window to modify information.

#### For example:

Starting from this page, you can search a machine and modify it by click on "Modify".

Customer 🔍	Type of machine Q	🔭 Manufacturer 🔍	Type	Class Q	Serial number	Year of manuf.	Add
DEMAI DETON	Betondrukpers 3MN	Schlosser	2/00/200/215	2	410.403	1900	Modify
	2 MN	Joni Toobnik	JoniPootl	1	410.465	2000	
	Batandruknara	Coldner Form J Toot	2000 LNI	2	2001/01571	2000	Delete
	Potondrukpore 2MN	Form Test Saidner	1001 01 /2000	2	01/2000	1001	Print
DEADY BETON AA	Detendeduran E00M	Form Test Seidner	1001.01/2000	2	01/2000	1001	
DEADY BETON AA	Betonulukpers 300kN	Form Test Seidner	101 / 20005	2	3172330	1007	Close
	Deterministry 1 MM		1017 3000E	2	410,400	1000	
	Betondrukpers TMN	Schlosser	3/88 300/215	2	415.453	1988	
READY BETON HA	Betondrukpers 3MN	Form+Test SEIDNER	101/3000E	2	9009 - 89/94/M	1989	
SEADT BETUN HA	Betonarukpers DUUKIN	FORM+Test SEIDINER	101/3000E	2	9009- 89/04/M	1989	
	Buizenpers	Avanti	LMA BUI	3	001	1970	
	I MN		TonPacti	-	0198	2000	
LABURATURIA DE	500 KN	Toni Technik	ToniPacti		0198	2000	
LABURATURIA DE	Trek-Druk 100kN	Instron	4206	1	4206-2518-801	1995	
LABURATURIA DE	Trek-Druk 50kN	Instron	4206	1	4206-2518-801	1995	
READY BETUN AN	Betondrukpers 3MN	Toni Technik	onleesbaar	2	onleesbaar	onleesbaa	
ECO BETON	Betondrukpers 1MN	Schlosser	3/88 300/215	2	416.463	1988	
Jacobs Beton	Betondrukpers 2MN	MATEST	onleesbaar	1	C089/02	2003	
Jacobs Beton	Betondrukpers 500kN	MATEST	C082/05	1	C082/05-1-04	2004	
						-	
	4	11				•	

											/					/							
									-				÷.		_								
									-	-	_			J									
							/					П											
						/		1	1/	/\\/	WSE	n	SVC	h									

👢 Test bench			
Search a customer	Search	ОК	
Customer	ECO BETON 💌 Add	Cancel	
Machine	Betondrukpers 3MN	Print	
Manufacturer	Schlosser	]	
Туре	3/88 300/215		
Class	2		
Serial number	416.463	]	
Year of manufacture	1988	]	
Range of measure	3,00		
Unit	MN		
Resolution	0,02	]	
Location	constructiewerkplaats	]	
Display			
Manufacturer	Schlosser	]	
Туре	analoog	]	
Serial number	627825		
Parameters code	nvt	]	
Remarks	nvt		

Starting from this page, you can do a research on the customer corresponding to the machine you will register. Automatically, the customer list is sorted with all the customers who start with what you wrote. If the customer doesn't exist, you can create it by click on the button "Add".

All the zones present on these pages are not mandatory EXCEPT the "Class", "range of measure" and "Unit". Indeed, the zone "Class" allows checking the compatibility with the class of the standard reference transducer. The zones "range of measure" and "Unit" are used for the conditioning test. The higher and lower thresholds are calculated with these values.

When all the zones for a new recording are filled, click on "OK" to save them.

These explications are also valid for the page "Dated operator" and "Dated customer".



Notice that all the data files must imperatively be in the repertory «C:\Program Files\ISO7500 V3 ».

#### 6.3. « Parameters » page definition

The page "Parameters" allows defining all the coefficients of the line calibration of the standard reference transducers.

Each standard reference transducers have a equation like above: Where F = force and x = electric signal of display.

$$F(x) = a \cdot x + b \cdot x^{2} + c \cdot x^{3}$$

Calibration	data of the	load cell (se	e certif	icate)								
1	Labat	· ·	11.5	, C- "A	C	C	14 ( )	T	Cl	D.(	D. C. J	F
Load cell t	Label	Lapacity	Unit	Loeff A	Loeff B	LoeffL	Manufacturer	l ype		Her.	Ref. Lertif.	Expiration d
2	3 MIN 1 MIN	1.000	EN L	0.0049657424	0,0000000000	0	SENST	2115	0.0	202120000	EC/SMD-W	04/06/200
2	500 LN	500	EN L	0,0043637434	0,0000000002	0	CENCY	2115	0.5	202120000	EC/CM/J/M	21/07/200
3	100 LN	100	LM	0.000000555	0,000000000	0	CENCY	2115	00	200207700		20/07/200
4	FO KN	50	LM	0,0006600	0	0		2715	00	200045000	EC/SMD-W	29/07/200
E E	JUINN	0	NIX	0,0002310140	0	0	JENGT	2/15	00	200043000	. L0/3MD-W	20/07/200
7		0		0	0	0			00			
8		0		0	0	0			00			
9		0		0	0	0			00			
10		0		0	0	0			00			
Display Info	ormations											
Display nu		Label		Manuf	acturer	Туре	Serial number		Ref. C	ertif.	Expiration dat	e Incremen
1		INDI		13C	4SY	LD5250	2001029001	E6/1	4D-WM	5/2007/x	29/07/2009	1
2												0
-												0
3		Delete									(	Print
3 Modify												· · · · · · · · · · · · · · · · · · ·

When you start a calibration test, the « label » zone will be proposed for the choice of the standard reference transducers. It is thus advised to indicate the capacity of the sensor.

The zones "Capacity" and "unit" are **very significant**, because it's with these values that all calculations will be carried out. It is mandatory that the capacity of the standard reference transducer is expressed in the same unit as the defined capacity from the calibration certificate that the coefficients that follow are coherent.

For example, you can have a load cell 1MN with the certificate coefficients for a capacity of 1000kN. In this case, the zone "Capacity" must be equal to 1000 and units to kN.

The other zones just represent the informations relating to standard reference transducers, EXCEPT the zone "Class" which is used for the compatibility test.



Indeed, if you chose to test a machine with a class 0.5 with a standard reference transducer with a class 1, the software informs you that it is impossible.

## 6.4. Calibration

Test description :

- 1. **Chose the information relating to the report**: Firstly, chooses the customer by clicking on the list and then the operator, the machine, standard reference transducer and the display.
- 2. Define the type of test, i.e.: chose the number of "steps", the test of reversibility, and the maximum value of the standard reference transducer to be tested.

Thus, if you have a standard reference transducer with a capacity of 1MN, and you want to test a machine until 800kN by step of 80kN, automatically, the force range will be 80% that the upper limit of the sensor.

Search by customer's n Customer BEMAL BETON EBEMA ECO BETON Jacobs Beton LABORATORIA DE NA READY BETON ARSI READY BETON ANDE READY BETON HASSI READY BETON WIJNE READY BETON WIJNE	ame Contact Co	Choice of the machine       Type of machine       Betondrukpers 1MN         Betondrukpers 1MN       Manufacturer       Sci         Model       376         Class of the machine       2         Range of measurement       Resolution       5 k         Manufacturer's display       Sci         Type of display       and	ondrukpers 1MN Nosser 18 300/215 1.00 Unit MN N Nosser
Choice of the refere Type of display Capacity Reference transducer	INDI Incr.Step C 3.000,00 Unit KN Class 0.5 3 MN V	Maximum use of the reference transducer 33,33 %	Next Valida

Next st	ep		
ext			
Calibration - Mode si	mulation		
1) Parameters 2) Bench	conditioning 3] 1st serie 4] 2nd serie 5] 3rd serie 6] Compl. serie	4 1-11	pi
Reie	rence transducer : 124	.4 KIN	
		.4 KN	
Load sin	nulator	KN Upper threshold ∞ 900 kN	
Load sin 1st preload Start Cancel	rence transducer : 124	Upper threshold 90 z 900 kN Lower threshold 5 z	
Load sin Load sin Start Cancel Realized	nulator	Upper threshold 90 z 900 kN Lower threshold 5 z 50 kN	
Load sin Load sin 1st preload Start Cancel Realized 2nd preload Start	nulator       124         0%       10	$\begin{array}{c} 4 \text{ KIN} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	
Load si Load si Start Cancel Realized	nulator       124         02       10         03       10	4 KN Upper threshold 90 % 900 kN Lower threshold 5 % 50 kN	
Load sin Load sin Start Cancel Realized Cancel Start Cancel Realized	mulator       124         0%       11         0%       11         0%       11         0%       11	.4 KN Upper threshold 90 ≵ 900 kN Lower threshold 5 ≵ 50 kN	
Load sin 1st preload Start Cancel Realized 2nd preload Start Cancel Realized 3rd preload	rence transaucer :       124         mulator	.4 KN Upper threshold 30 z 900 kN Lower threshold 5 z 50 kN 00% □ Skip bench cond.	G
Load sin Load sin Start Cancel Realized Cancel Start Cancel Realized - 3rd preload Start Cancel Realized	rence transducer :       124         mulator	.4 KN Upper threshold 90 % 900 kN Lower threshold 5 % 50 kN	

- 3. In the first one, you must discharge the machine and click on "1st preload (F2)". The program then requires you to charge the machine until threshold indicated at bottom right of the above picture. In this case, it's 900kN, that means that in the zone "Upper threshold of bench" of the configuration page, 90% show up.
- 4. Start again this test 3 times, and you will be able to begin the test of the machine.

Note: conditioning machine is imposed by the ISO7500-1 Norm, point 6.4.3

- 5. To start the test, click « continue »
- The software waits minimum 30 seconds for the stabilisation of the "zero" like indicated in the Norm, point 6.4.5
- 7. Click on "Measure"

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8. The software doesn't take directly thee measurement to allow users to wait additional time, you must then "click" again on "Measure" to take the "zero".

arameries 2) conditionneme	Force à a	opliquer :	300 kN				
Mesure Mesure indicateur	1.2009,705378 Le 199,04 Valider	Sture	pliquer Signalmesure 0.00 0 00.00 6021.306201634 000.00 12009.70537757	ForceConvertie 0.00 99,79 199,04	Unité kN kN kN	Effacer la dernière ligne Recommencer cette série	
Paramètres du test Température Hauteur piston	0,0 °C 0,00 mm						
						Continuer	Valio
ormation :	Cliquez sur (V	alider) pour	enregistrer	la mes	ure		Annu

This page allows encoding the temperature for the first series like indicated in **point 6.4.2** of the Norm.

- 9. Apply the announced charge and click on "Measure"
- 10. All other measurements are carried out same way, until the last "zero" where there is also a temporization of 30 seconds before taking measurement.

When you are finished the first series, you can carry out the following series same way.

After the 3 series, the program gives you 2 possibilities,

	Calibratio	n - Mode simulation	
	?	Do you want to do the compleme Yes No	entary test
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- to launch the generation of a report by clicking on Generate "Excel report",
- to do a complementary series for the case of machine working with and without accessory like indicated in the **point 6.4.6** of the Norm. Indeed, if the machine often works without accessory, then the first 3 series of tests must be done without accessories, but for the complementary series, the machine will have to be used with its accessories and reversely.

The software also allows doing a reversibility test, this option must be chosen before the 3rd series like indicated in the **point 6.4.6**.

In this case, after having tested the machine with all the steps of increasing loads, instead of measuring the zero, the program requires you to discharge the machine step by step.

#### 6.5. Report making process

Using the button "search" on the home page to access this window.

Search for	a machine t	est					_ = 🛛
Customer :		Se	arch				
Test number o	Date 0	Customer REMAL BETON	Contractor Eddu De Meye	Type of machine Retondruk pers 1 MN	C Model	🔍 Compl. serie 🖥	
							<b></b>
							Export Excel
							Cananata
							Generale
							X
							Back

You can search for different customers.

Once the tests finished, if you click on the button "Excel report", the software starts the Excel sheet as a model and introduces the values into the preset cells.

This model can be configured by Save as in Excel model, but if you want to modify the position of the measured values, it is advised to create a page 2 of the Excel sheet being used as model. Recall: It is mandatory that the model files Excel are in repertory C:\Program Files\ISO7500 V3.



www.sensy.com
3/ Change the update speed of the display Press key to display « Par » Press the key several times until appears « 6.P » enter « 14 » using key Press the key to confirm Press the key to confirm Press the key to exit.
<u>4/ Modification storing</u> Press the key (2x) to use « STORE » confirm with <u>5/ Cable specification</u>
RS232 cable.