T-Sperm™

User Guide

Version 2.03

Catalog #7450

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Section 1: Overview

T-Sperm is a user friendly data management software package that works together with the SQA-VT to provide the following features and benefits.

- Test results and information from the SQA-VT "Dosing", "Sorting" and "QC" modes can be downloaded from the SQA-VT and analyzed, sorted, graphed and archived on a PC.
- The user can customize the way SQA-VT information is reported and analyzed making it simpler to manage flocks and track dosing information and outcomes
- Semen samples can be viewed in "real time" on the PC monitor
- Video clips and images can be captured, attached to test records, and stored in the T-Sperm PC based archive.
- Information is secure – access to T-Sperm requires a password

The T-Sperm package includes:
- T-Sperm User Guide
- Installation CD
- USB Instant VideoCD external device (or internal PC card)
- Video Cables

System Requirements:
- SQA-VT with communication cable and power cable
- PC requierements:

Hardware requirements:
- 1Ghz or higher CPU
- 256 MB RAM
- AGP Video Display Card with at least 16 MB of RAM memory
- CD-ROM compatible drive
- RS232 communication port (serial)
- Two available USB ports

Software requirements:
- Compatible operation system: Windows XP, 7, 8.1 and 10
- EXCEL (for exporting data)
- At least 40 GB of free hard disk space recommended
- Video resolution $\geq$ 640x480 (recommanded 1024x768)
- Video color quality > 16-bit
- 15 inch color monitor

Section 2: Software / Hardware Installation
Video grabber USB device installation

T-Sperm requires that the user install the frame grabber provided by the manufacturer. For frame grabber installation instructions, please refer to the package insert in the T-Sperm package.

T-Sperm Software Installation:

1. Close all programs that are open or running.

2. Insert the **T-Sperm CD** into the PC CD-ROM. Installation will begin automatically. If installation fails to start automatically, run x:\Setup.exe (X is the letter of the PC CD-ROM drive).

3. The screen will display: **Initializing Wise Installation Wizard**.

4. Run the installation program

5. Click "YES" and "Next" when required.

SQA-Vt Connection

- Connect one end of the RS232 communications cable to the PC.

- Connect the other end of the RS232 communications cable to the SQA-Vt.

- Follow the instructions in the SQA-Vt User Guide for setting up system defaults

Section 3: System Navigation Overview

- The T-Sperm is set-up so the user can easily navigate through the various menus and options by clicking buttons.

- Five main navigation buttons are always available in the left margin of the screen to lead the user through a variety of options.

- When a main navigation button is selected, sub-menu buttons appear across the top of the T-Sperm screen allowing the user further options to run reports, export data, etc.

A variety of icons guide the user through the T-Sperm features and options and directional indicator buttons allow the user move back to the previous menus with ease.

Section 4: Start-up

Click on the T-Sperm icon located on the PC desktop to enter the system. A log-on screen will appear. T-Sperm's security feature requires a password in order to enter the system and the temporary (factory default) password is:

- **Password: fertility**
- Click **OK**

A screen will automatically appear. Enter and confirm a new password.

NOTE: A new password is required when entering the system for the first time.

WARNING: Please remember the new password or the system cannot be re-entered.

Section 5: Test Data

Test Data

The first button in the navigation menu is **TEST DATA**. From this screen the user can locate, select and analyze test results that have been imported from the SQA-VT.

Click the navigation button **TEST DATA** and three sub-buttons will appear: **Dosing, Sorting** and **QC.**

Dosing mode:

Dosing

Select this option by clicking on the **DOSING** button to view a complete list of all the dosing samples in the database. To customize the displayed report, click on one of the four buttons and then click on a column header to:

| Sort | Hide | Freeze Columns | View All |

- **SORT:** This option will sort the report information based on the column selected (DATE, SAMPLE #, TSC, MSC, etc.)
- **HIDE:** This option will hide the column selected.
- **FREEZE COLUMNS:** This option will "FIX" the DATE/TIME/TEMP/SAMPLE ID columns while still enabling the other report data to be scrolled.
- **VIEW ALL:** This option will re-activate ALL of the hidden columns.

Three icons will be displayed in the **Dosing** table under the following conditions:

< >

Test results out of clinical range

Test results out of clinical range: This icon is displayed to indicate that one or more of the test results are **out of the clinical range** that has been set-up by the user (please refer to section 8 – Set Up).

Dosing mismatch

Video/Picture

Dosing mismatch: This icon will be displayed when the semen cannot be diluted to meet the requirements the user has "set-up". This happens when:
- Set-up values have been entered incorrectly
- Low semen quality

Video/Picture: A camera icon will be displayed if a video clip or picture has been attached to the test results. Click the camera icon to open an image browser that will display all the images attached to the selected record.

Dosing

Number of Records 22 | Sort | Hide | Freeze Columns | View All

< >	!	[icon]	Date	Time	Temp	Sample ID	Sample Type	Semen Volume [ml]	TSC [bil/ml]	MSC [bil/ml]	Motility [%]	Spe
			04/05/2004	13:39	21	33349	Neat	1.8	10.74	7.82	72.8	19
			02/01/2005	09:45	27	1	Neat	2	10.52	7.44	70.7	21
			02/01/2005	14:01	27	33348	Neat	2.2	10.29	6.95	67.5	22
			03/01/2005	10:50	25.8	1	Neat	2	9.69	6.9	71.2	19
			04/01/2005	09:00	23.2	456	Neat	2	9.91	9.6	96.9	19
			09/01/2005	09:39	27.8	3	Neat	2	9.88	6.47	65.5	19
			09/01/2005	09:41	27.7	32	Neat	2	8.66	5.73	66.2	17
			09/01/2005	09:45	27.6	32	Neat	2.2	9.6	8.43	87.8	21
			09/01/2005	11:16	27.7	31	Neat	2.2	9.6	8.15	84.9	21
			09/01/2005	12:03	27.7	6	Neat	2	8.88	7.87	88.6	17
			09/01/2005	14:45	27.7	62	Neat	2.4	9.09	6.53	71.8	21
			09/01/2005	14:55	27.8	5	Neat	2	9.59	7.6	79.2	19
			09/01/2005	15:33	27.7	55553	Neat	2	9.57	7.2	75.2	19

| Clear All | Select All | Delete |

When the **Dosing** table is displayed three sub-buttons will appear at the top of the screen: **Video, Export**, and **Report**.

Video

Video: Click this button to activate the "real time" video display. A semen sample in the SQA-VT visualization system can be viewed on the PC screen.

To save a video clip or picture and attach it to a record:
- Import test results from the SQA-VT to the T-Sperm data base.
- Insert a standard slide with a semen sample into the visualization system.
- Select the desired record in T-Sperm to attach a video/picture.
- Click the VIDEO navigation button to activate the video screen in T-Sperm
- Click: CAPTURE PICTURE/CAPTURE VIDEO.
- Click: **Stop Capturing** to end the video capture process.
- A camera icon will now appear adjacent to the selected record in the table.

Export

Export: Click on this button to export T-Sperm data to another database or external file in Excel format (This option is available from the IMPORT/EXPORT main navigation menu as well).

Report

Report: Click on this button to view and/or print the semen analysis report:

- Move between pages using the page bar at the bottom of the report.
- Click the printer icon to print the report.
- Use the ZOOM option to minimize/maximize the report view.
- Exit by clicking the **X** in the upper right hand corner of the screen.
- An indicator will be displayed if test results are out of range.
- Click the EXPORT FILE to send the report to an external file.

Click on this icon to export the semen analysis report

SQA-VT
Dosing Test Report
Report Date: 17/02/2005 15:41:27

			Sample/Collection Information						Test Results					Dosing Information						Collector	Unit #
															Set-up			Preparation			
< >	!	Date	Time	Temp	Sample ID	Sample Type	Semen Volume [ml]	TSC [bil/ml]	MSC [bil/ml]	Motility [%]	Total Sperm # [bil]	Total Motile Sperm # [bil]	Dose Volume [µl]	Total Cells/Dose [Millions]	Motile Cells/Dose [Millions]	Number of Doses [#]	Extender Volume [ml]	Total Volume [ml]		
		04/04/2004	09:00	23.8	33342	Neat	2	9.52	6.61	69.4	19.04	13.22	55	N/A	140	87	2.9	4.8	5	77
		04/04/2004	09:05	23.1	3343	Neat	2	9.91	6.23	62.9	19.82	12.46	55	N/A	140	83	2.7	4.6	5	77
		04/04/2004	09:10	24.6	3344	Neat	2	9.91	6.86	69.2	19.82	13.72	55	N/A	140	92	3.2	5.1	5	77
		04/04/2004	09:15	22.1	3345	Neat	2.2	10.97	6.64	60.5	24.13	14.61	55	N/A	140	98	3.3	5.4	5	77
		04/04/2004	09:21	22	33346	Neat	2	10.51	7.09	67.5	21.02	14.18	55	N/A	140	94	3.3	5.2	5	77
		04/05/2004	13:39	21	33349	Neat	1.8	10.74	7.82	72.8	19.33	14.08	55	N/A	140	92	3.4	5.1	5	77
		02/01/2005	09:45	27	1	Neat	2	10.52	7.44	70.7	21.04	14.88	55	N/A	140	100	3.6	5.5	5	77
		02/01/2005	14:01	27	33348	Neat	2.2	10.29	6.95	67.5	22.64	15.29	55	N/A	140	103	3.6	5.7	5	77
		03/01/2005	10:50	25.8	1	Neat	2	9.69	6.9	71.2	19.38	13.8	55	N/A	140	92	3.2	5.1	5	77
		04/01/2005	09:00	23.2	456	Neat	2	9.91	9.6	96.9	19.82	19.2	55	N/A	140	92	3.2	5.1	5	77
		09/01/2005	09:39	27.8	3	Neat	2	9.88	6.47	65.5	19.76	12.94	55	N/A	140	85	2.8	4.7	5	77
		09/01/2005	09:41	27.7	32	Neat	2	8.66	5.73	66.2	17.32	11.46	55	N/A	140	76	2.3	4.2	5	77
		09/01/2005	09:45	27.6	32	Neat	2.2	9.6	8.43	87.8	21.12	18.55	55	N/A	130	134	5.3	7.4	11	77
		09/01/2005	11:16	27.7	31	Neat	2.2	9.6	8.15	84.9	21.12	17.93	55	N/A	130	130	5.1	7.2	11	77
		09/01/2005	12:03	27.7	6	Neat	2	8.88	7.87	88.6	17.76	15.74	55	N/A	130	114	4.4	6.3	11	77

This document was printed on 17/02/2005 15:41 from the T-Sperm system ver. 2.02 by MES Ltd.
Dosing Test Report: 1 of 2

Sorting

Sorting mode:
Select this option to display a complete list of semen analysis test results from individual toms. To customize the viewed report, click on one of the three buttons and then select/click on the column header to:

- **SORT:** This option will sort the report information based on the column selected (DATE, TOM#, TSC, MSC, etc.)
- **HIDE**: This option will hide the columns selected.
- **VIEW ALL**: This option will re-activate ALL of the hidden columns.

Sorting

Number of Records 131

[Sort] [Hide] [View All]

< >		Date	Time	Temp	Tom #	Flock #	Sample Type	TSC [bil/ml]	MSC [bil/ml]	Motility [%]	Ur
		09/08/2004	06:52	22	4444444546	15	Neat	10	7.7	77	2
< >		09/08/2004	07:12	20	4444444463	15	Neat	5.8	4.6	79.31	2
		09/08/2004	07:16	20.3	4444444562	15	Neat	10.8	8.6	79.63	2
		09/08/2004	07:18	21.5	4444444538	15	Neat	10.2	7.4	72.55	2
		09/08/2004	07:32	21.3	4444444484	15	Neat	8.4	5.7	67.86	2
		09/08/2004	07:35	21.6	4444444556	15	Neat	10.7	8.3	77.57	2
		09/08/2004	07:39	20	4444444509	15	Neat	8.7	6.5	74.71	2
		09/08/2004	07:40	21.6	4444444533	15	Neat	9.5	7.3	76.84	2
		09/08/2004	07:45	22	4444444477	15	Neat	7.8	5.4	69.23	2
		09/08/2004	07:48	21.2	4444444503	15	Neat	8.9	6.1	68.54	2
		09/08/2004	07:54	20	4444444534	15	Neat	8.5	7.3	85.88	2
< >		09/08/2004	07:56	20.1	4444444467	15	Neat	7.6	4.9	64.47	2
		09/08/2004	08:02	20	4444444465	15	Neat	6.8	4.8	70.59	

[Clear All] [Select All] [Delete]

Test results out of clinical range

Video/Picture

Data Analysis

Histogram

Two icons will be displayed in the **Sorting** table under the following conditions:

Test out of clinical range: This icon is displayed to indicate that one or more of the test results are out of the test range that has been set-up by the user (please refer to section 8 – Set Up).

Video/Picture: A camera icon will be displayed if a video clip or picture has been attached to the test results. Click the camera icon to open an image browser that will display all the images attached to the selected record.

When the **Sorting** table is displayed the following buttons will appear at the top of the screen: **Data Analysis, Histogram, Video, Export**, and **Report**.

DATA ANALYSIS: Click this button to display a table of data sorted by flock. Four parameters will be displayed for each flock:
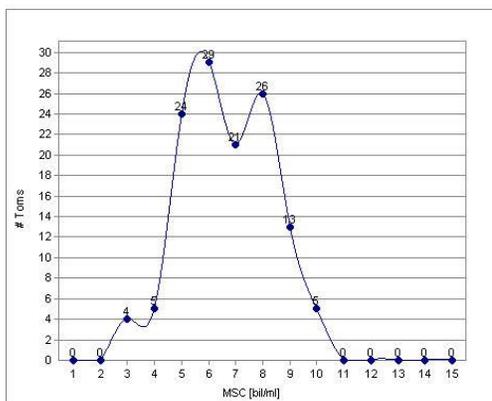
- Number of toms
- TSC average (billion/ml)
- MSC average (billion/ml)
- Motility average (%)

HISTOGRAM: A flock histogram can be run for each parameter (TSC, MSC, and Motility):

- Select a cell in the table that contains the parameter
- Click the **HISTOGRAM** button.

Histogram
Flock # 15

MSC [bil/ml]	# Toms
0-1	0
1-2	0
2-3	4
3-4	5
4-5	24
5-6	29
6-7	21
7-8	26
8-9	13
9-10	5
10-11	0
11-12	0
12-13	0
13-14	0
14-15	0
>15	0
Total	127

- To **EXIT**, click the **X** in the upper right hand corner of the screen.

Video

Export

Report

VIDEO, EXPORT and **REPORT:** These buttons perform the same functions for all modes: Dosing, Sorting and QC. Please refer to the **Dosing** mode for an explanation.

QC

QC mode:

Select this option to view a complete list of all **QC** test results imported from the SQA-VT. To customize the viewed report, click on one of the three buttons and then select/click on the column header to:

- **SORT**: This option will sort the report information based on the column selected (DATE, TOM#, TSC, MSC, etc.)
- **HIDE**: This option will hide the columns selected.
- **VIEW ALL**: This option will re-activate ALL of the hidden columns.

QC
Number of Records 10

	< >	🎥	Date	Time	Temp	Sample ID	TSC [bil/ml]	MSC [bil/ml]	Motility [%]	Unit #
	< >		04/04/2001	15:00	23.2	2222222234	3.89	0.82	21.3	27
		🎥	04/04/2004	15:08	23.2	2222222224	3.77	2.05	54.5	27
		🎥	04/04/2004	15:20	23.3	2222222228	3.81	2.25	59.1	27
			04/04/2004	16:00	22.5	2222222233	3.91	2.95	75.4	27
			04/04/2004	16:00	22.5	2222222233	3.91	2.95	75.4	27
			04/04/2004	16:00	22.8	2222222232	5.15	3.38	65.7	27
			04/04/2004	16:00	23.2	2222222231	5.22	3.3	63.3	27
			04/04/2004	16:00	22.5	2222222233	3.91	2.95	75.4	27
			04/04/2004	16:00	23.1	2222222230	3.78	2.34	61.9	27
	< >		04/01/2005	07:47	23.3	546	1.25	1.09	87.2	

[Clear All]   [Select All]   [Delete]

Two icons will be displayed at the beginning of the **Sorting** table under the following conditions:

< >
Test results out of clinical range

Test out of clinical range: This icon is displayed to indicate that one or more of the test results are out of the test range that has been set-up by the user (please refer to section 8 – Set Up).

🎥
Video/picture

Video/Picture: A camera icon will be displayed if a video clip or picture has been attached to the test results. Click the camera icon to open an image browser that will display all the images attached to the selected record.

Video
Export
Report

VIDEO, EXPORT and REPORT: These buttons perform the same functions for all modes: Dosing, Sorting and QC modes. Please refer to the Dosing mode for an explanation.

Section 6: Import / Export

Import/Export

In order to view test results in T-Sperm, data has to be imported from the SQA-VT. Click the **IMPORT/EXPORT** button in the navigation menu and two buttons will appear: **Import** and **Export**.

Import

Import: Select this option to bring data into T-Sperm from the SQA-VT. To successfully **Import** data:

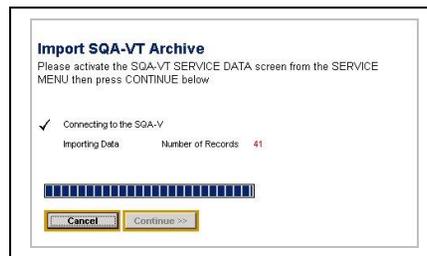- The RS232 communication cable must be connected to both the PC and the SQA-VT

NOTE: In all modes, the user has the option to delete records from the SQA-VT archive when the import has been completed.

Only the archive/test data that has just been imported to T-Sperm will be deleted from the SQA-Vt device.

The SQA-Vt archive has limited storage capacity so records MUST be deleted when a warning message is displayed in the SQA-Vt!

- The **SQA-VT** must be on and the **SERVICE DATA** screen displayed. To display the SERVICE DATA screen in the SQA-VT go to: **MAIN MENU > SERVICE > SERVICE DATA** (in the SQA-Vt)**.**

- Click: The **IMPORT/EXPORT** navigation button of the T-Sperm.

- Select: **IMPORT > CONTINUE** on the T-Sperm import screen.

Import SQA-VT Archive
Please activate the SQA-VT SERVICE DATA screen from the SERVICE MENU then press CONTINUE below

Cancel   Continue >>

Import SQA-VT Archive
Please activate the SQA-VT SERVICE DATA screen from the SERVICE MENU then press CONTINUE below

✓   Connecting to the SQA-V
Importing Data   Number of Records   41

Cancel   Continue >>

- Once the data has been imported successfully (and is now saved in the T-Sperm), the user will be asked whether they want to delete the data in the SQA-Vt device.

- Select **YES** to "clear" all the data from the **SQA-Vt** device.

- Select **NO** and all the test data will remain both the SQA-Vt and in the T-Sperm archive.

- Dosing, Sorting and QC data is imported separately into T-Sperm.

Export

Export: Select this option to send data from T-Sperm to an external file:

NOTE: When printing an exported table in Excel file format the page needs to be set in "landscape" format for the entire table to fit on a single page.

- Click **IMPORT/EXPORT** in the navigation menu.

- Select **EXPORT**

- Select the desired data (Dosing, Sorting or QC)

- Enter a path and file name; then click **SAVE**.

- The data will be saved to the designated location.

- A message box will confirm that the T-Sperm archive is being saved to the PC. Click **Yes**.

T-Sperm

You are saving the T-Sperm archive to your PC.
Would you like to continue?
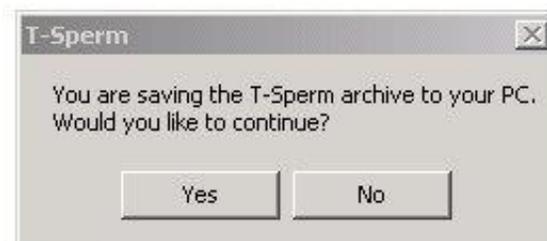
Yes   No

Section 7: Real Time Video

Real Time Video

The **REAL TIME VIDEO** feature allows the user to view semen samples "live" from the SQA-VT visualization system on the PC. The following features are available after clicking the **REAL TIME VIDEO** button:

- **FREEZE** – The screen will freeze. Click the REAL TIME button to un-freeze.
- **GRID** – A grid can be added to the screen to make counting easier. The grid color and width can be customized (see the "SET-UP > Video" section of this manual).
- **COPY** – Pictures can be copied by clicking the COPY button and then pasting the picture in an external file (WORD, Excel, etc.).
- **SETTINGS** – Video settings can be selected by the user.
- **SAVE VIDEO** – Video clips can be saved in an .avi format.
- **SAVE PICTURE** – Pictures can be saved in a .bmp format.
- **FULL SCREEN –** The screen can be maximized. To close the full screen, click the **CLOSE** button.

Section 8: Set-Up

Set-Up

Before beginning the testing process, T-Sperm setting defaults must be set by the user. Click the **Set-Up** navigation button to display five options:

- Report
- Port
- Video Settings
- Password
- Temperature

Report

Report: To set-up the defaults for test results (normal ranges) and to customize the language used in the T-Sperm reports, click the **Report** button.

Normal Ranges

NOTE:
The manufacturer has set default test ranges. (See the SQA-VT User Guide for details).

NOTE: When in regular use (not set-up) report window must be closed before further action is performed in T-Sperm.

Normal Ranges: Click to set-up the defaults for test results (normal ranges) for the MSC and TSC for the Dosing, Sorting and QC modes of the T-Sperm.

Neat Semen Ranges

Parameters	Normal Range	⇐
TSC [bil/ml]	5 - 15	⇐
MSC [bil/ml]	5 - 15	⇐

Diluted Semen Ranges

| Parameters	Normal Range	⇐
TSC [bil/ml]	1.5 - 15	⇐
MSC [bil/ml]	1.5 - 15	⇐

- Click on the ARROW ⇐ which points to the parameter to be set-up.
- The **Normal Range Settings** screen will appear.

- Enter the desired symbol ($\leq$, $\geq$, =, BETWEEN, etc.)
- Enter the desired values
- Click **APPLY** to enter

Language: Click this button to customize the language used in the T-Sperm Reports.
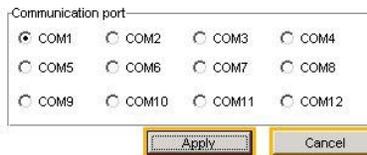- Click the Language button to display the screen
- Choose "Other" from the Language drop-down screen
- Edit the table as desired and click **Apply** to save.

NOTE: Fields modified with a numeic value, or blank field will be returned to default settings to ensure report accuracy.
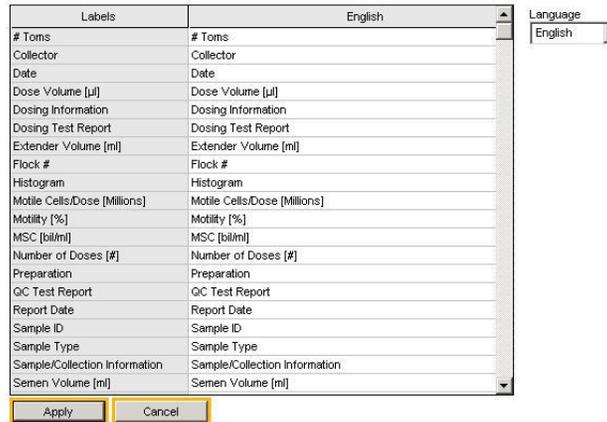

Port: Click this button to set the communication port for the PC.

Video Settings: Click this button to select various video options: Grid line width, Grid color, video compression tool and video device:

WARNING:
Video clips take up a large amount of the computer memory. It is recommended to "capture" only short clips. A video compression tool has been set-up as a system default by the manufacturer.
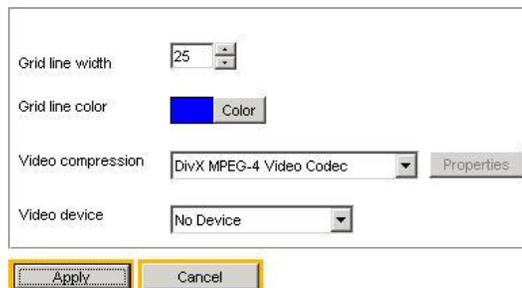
Password

WARNING:
Please remember the
password. It can take
up to four days to
recover the password
from the MES support
team!

Password: The password can be changed by clicking the password button
and entering a new password and confirmation in the entry screen. Click
APPLY to save the new password. The password is immediately re-set and the
user can access T-Sperm with this new password only.

New Password [   ]

Confirm new Password [   ]

[Apply]   [Cancel]

Temperature

Temperature: The temperature default can be set to Celsius of Fahrenheit
by clicking the **TEMPERATURE** button and making a selection. Click **APPLY** to
save.

○ Celsius   ⦿ Fahrenheit

[Apply]   [Cancel]

Section 9: Exit

Exit

Exit the T-Sperm system by clicking the **EXIT** button. Confirm with a click.

T-Sperm   [X]

Are you sure you want to exit T-Sperm?

[Yes]   [No]