

STULZ

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xShark Stulz

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X-SHARK v.180706

User guide

Index i20
Issue 07.2018

X-Shark

Software made in Italy

Dear Customer,

Thank you for choosing a STULZ products,
the result of many years of research and design studies, as well as a fine matching of materials
and technologies.

The CE mark guarantees that the STULZ products fulfill the requirements of the European
Machinery Directive for safety.

The level of quality is permanently checked at every phase, from design to production, and
makes STULZ products synonymous of SAFETY, QUALITY and RELIABILITY.

For any questions or requests concerning products by STULZ SpA, please contact our
Aftersales at

telephone 0039 045 6331615




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email aftersales@stulz.it

Or visit our website for more information about our products and services:

www.stulz.it

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1. Revision history

V.180706 (06/07/2018)

- Fixed some bugs

V.180207 (07/02/2018)

- New price list 2018
- New long tender text
- Fixed some bugs

V.170721 (21/07/2017)

- New price list 2017
- New Offer system
- Add simulation of adiabatic system
- New temperature profiles
- Fixed some bugs

V.170403 (20/12/2016)

- New range WPA_{mini}
- Fixed some bugs

V.161214 (20/12/2016)

- Simulation for WPA, WSA, WSW
- Modulation for WPA, WSA, WSW
- Fixed tender text description
- Fixed some bugs

.....

V.150910 (11/09/2015)

- New range WSA and WSW

.....

V.140513 (13/05/2014)

- New range RAW

.....

V.1 (25/10/2012)

- First release
- Range WPA

2. X-Shark

Software...

X-Shark is a software developed by STULZ S.p.A. to help his partners and customers to easily select the unit which best comply with the customer requests.

...to select and simulate...

Thanks to a friendly interface, the software guides you in the selection of the unit that match your requirements. The unit can be simulated in different conditions, to evaluate and estimate the operation costs.

The output of the software is a tender text with a description of the unit/options/accessories, data sheet, layout, cooling and hydraulic scheme, price list ⁽¹⁾.

...STULZ units

The ranges available on X-Shark are:

Range	Type	Cooling capacity	Tender text	Annual working simulation	Punctual simulation	Unit modulation
WPA _{mini}	Air cooled chiller	80÷150 kW	●	●	●	●
WPA	Air cooled chiller	155÷559 kW	●	●	●	●
WSA	Air cooled chiller	376÷1260 kW	●	●	●	●
WSW	Water cooled chiller	230÷1529 kW	●		●	●
RAW	High density water cooled inrow		●			

System requirements

Windows:

- Intel Pentium 4 or AMD Athlon 64 processor
- Microsoft Windows 7 with Service Pack 1, Windows 8, Windows 8.1, or Windows 10
- 2 GB of RAM
- 200 MB of available hard-disk space for installation; additional free space required during installation (cannot install on removable flash storage devices)
- 1024 × 768 display with 32-bit video card
- Internet connection and registration are necessary for required software activation, validation of subscriptions, and access to online services ⁽²⁾

Mac OS:

- not available

Linux-Unix:

- not available

⁽¹⁾ depending on the activation code

⁽²⁾ necessary to activate the software and send statistic about the utilization

3. Installation

3.1 Download

STULZ X-Shark is available on www.stulz.it on “Company/Media” section. On the website is always available the last stable version. A news letter will be send to all the users to inform about the new release.

To download the software please follow this link:

<http://www.stulz.it/en/company/media/x-shark/>

3.2 Installation

Open the folder where you have downloaded the X-Shark file and unzipped the file. An executable file is created. Double click on the file and follow the procedure.

i INFORMATION

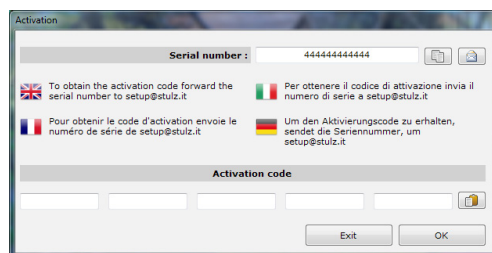
To perform the installation is necessary to accept the privacy information

i INFORMATION

Windows 10 users: while installing the software on Windows 10 you may receive an error. To continue just press the “Cancel” button.

3.3 Activation


At the first use X-Shark requires the Activation Code, which should be provided by STULZ S.p.A.. In order to obtain the Activation Code, please send an email to setup@stulz.it



In the email please specify:

- Serial number
- Name and Surname
- Company and position
- Email for the answer (if different)


You can copy the Serial Number using the specific button  on its right.

Otherwise is possible to create a new email, by clicking the second button  on the right of the serial number. This will open the default software set for the email in the computer.

The activation code will be sent as soon as possible.

i INFORMATION



There could be some delays during the Italian holidays or on STULZ S.p.A. closures days.

The received activation code must be insert into the lower boxes by digiting or, after have copied the activation code, by clicking the paste button  at the right of the form.

If the code is correct, all the boxes become green and the button “OK” will be enabled.

Press “OK” button to open X-Shark.

3.4 Remove activation

In the main page of X-Shark, select the menu “ About”, then “ Remove licence”. Confirm the cancellation in the following form and close XShark.

The licence is successful removed: to use X-Shark you need a new Activation code (see “Activation” a pagina 6)



4. First open





4.1 Language for the interface

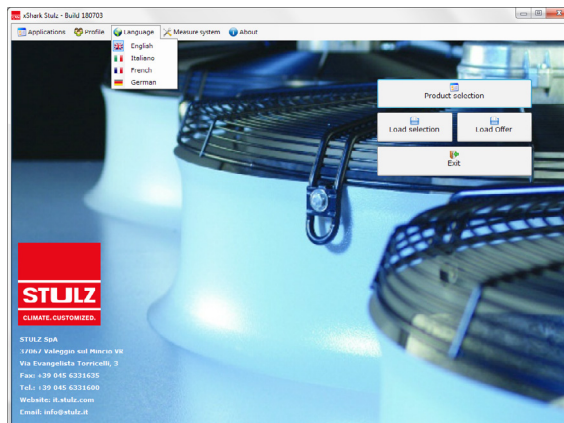
Is possible to change the language of the software from the main page.

In print phase is possible to choose a different language for the output, without changing the software language.

To change the language, in the main page, select “[Language](#)”, then select the preferred language.

The languages available in v.180706 are:

-  [English](#)
-  [Italian](#)
-  [French](#)
-  [German](#)



4.2 Measure system

It is possible to choose between the two main measurement system. To change it, in the main page, select “[Measure system](#)”, then select:

- [SI](#) (international system), metric system

Description	U.M.	Description	U.M.	Description	U.M.
Cooling capacity	kW	Pressure	kPa	Noise	dB
Absorbed electrical power	kW	Length	m	Price	€
Current	A	Temperature	°C		
Flow	m³/h	Weight	kg		

- [Imperial](#), US customary units

Description	U.M.	Description	U.M.	Description	U.M.
Cooling capacity	Ton	Pressure	psi	Noise	dB
Absorbed electrical power	Ton	Length	ft	Price	€
Current	A	Temperature	°F		
Flow	CFM	Weight	lb		

4.3 Profile

According to the Activation code received, different profile are available:

- [Technical](#), without prices
- [Sales](#), with price. [Sales](#) activation allows to select also [Technical](#) operating, without prices.

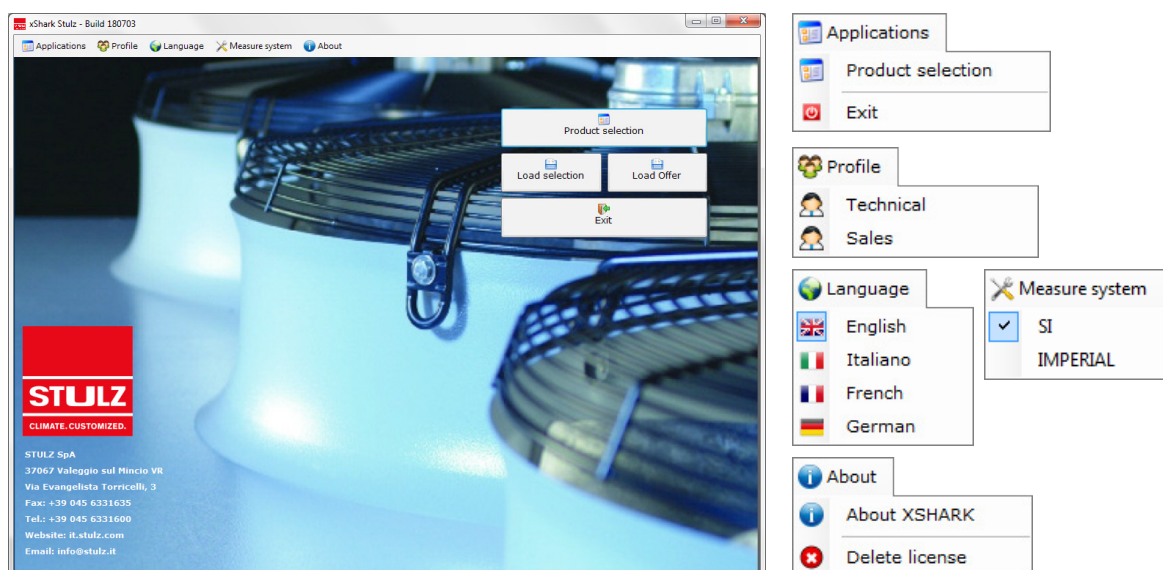
To change the profile, in the main page, select “[Profile](#)”, then select the preferred profile.

5. Forms

Here below the description of the main form of X-Shark.

5.1 Main page

The main page of X-Shark is shown in the picture below.



On this page you can find:

- STULZ Logo with address and contacts of STULZ S.p.A.
- Top menu bar:
 - **Application**: to start a new selection or close X-Shark
 - **Profile**
 - **Language**
 - **Measure system**
 - **About**: information about X-Shark.
- Buttons:
 - **Product selection**: starts a new selection
 - **Load selection**: loads the values of a previously saved selection
 - **Load offer**: loads a previously saved offer
 - **Exit**: close X-Shark

5.2 Product selection

The selection form is organized in 3 parts:

- **Options**, to select the main features of the unit. This section changes according to the selected range of unit and the previous features. Is mandatory to change this section starting from the top and move one by one to down.
- **Input Data**, to input the user data. This section changes according to the **Options** selection
- **Results**, where the software shows the available units that comply with the requests. The data are calculated at the input conditions. The selected unit will be highlighted in green.

Series	Unit	RC [kW]	AP [kW]	EER	Flow Rate [m³/h]	RC FC [kW]	PD [kPa]	Noise [db(A)]	Price [€ (Eur)]
WPX mini	030	91	22,8	4	15,6	82,6	45,8	52,15	51995,00
WPX mini	045	124,8	33,7	3,7	21,5	87,6	72,8	52,15	55457,00
WPX mini	050	143,1	43,6	3,3	24,6	108,5	72,8	52,92	61781,00
WPX mini	055	171,7	49	3,5	28,5	119,2	59,7	55,81	66538,00

On this page you can find:

- Top menu bar:
 - **Exit**: return to **Main Page**
 - **Selection**: start the search of the unit that complies with the **Options** and **Input Data**
 - **Stop**: stop the search
 - **Accessories**: selects options and accessories for the highlighted unit
 - **Save**: to save the selection in a file
 - **Load selection**: loads the values of a previously saved selection
 - **Add to offer**: add the selected unit to the offer
 - **Offer**: manage the offer
 - **Print**: creates the tender text with drawing and scheme for the highlighted unit
 - **Show Prices**: enable/disable the column **Price** in the **Results** table.
- Buttons:
 - **Selection**: click the button to search the unit that comply with all the parameters included in the sections **Options** and **Input Data**. If there are no results available an error form will be shown.
 - **Unit Simulation**: simulate the operation of the selected unit (see “5.4 Simulation” at page 11)
 - **Option/Accessories**: selects accessories for the highlighted unit
 - **Print**: creates the tender text with drawing and scheme for the highlighted unit

5.3 Options/Accessories

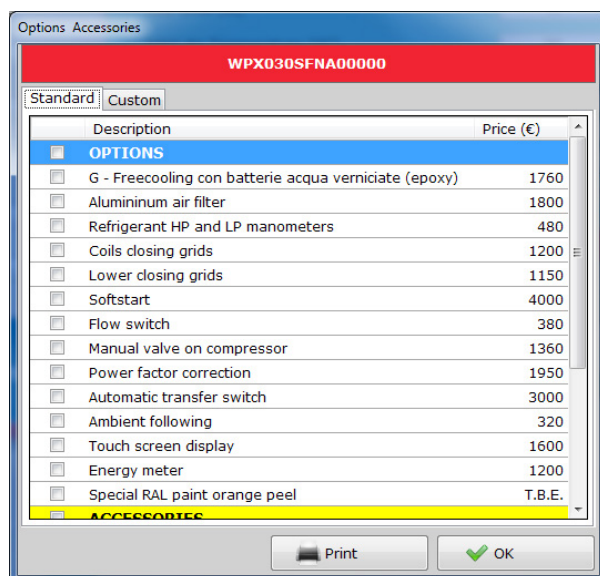


Fig. 1 - Accessories-Options section

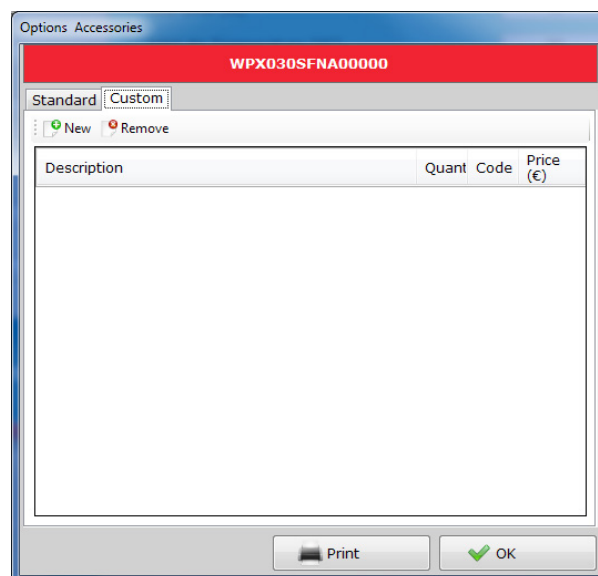


Fig. 2 - Free rows section

In this form is possible to view and select components and solution that can better customize the selected unit according to the requirements.

Options: additional components or solutions, which are supplied already installed on the units.

Accessories: components or solutions which are supplied separately from the unit.

In this form two sections are available:

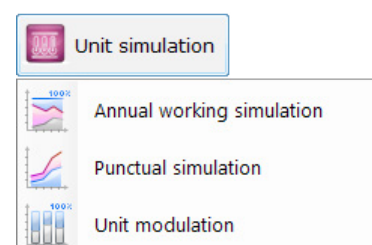
- **Standard:** selection of accessories and options (Fig.1) from a list. The selection changes the unit code: the new code is shown in the red box at the top of the mask. The selection is applied to all available units.
- **Custom:** section to entering empty lines in the final specifications (Fig.2)
 - **New:** add new row
 - **Remove:** remove the selected row

5.4 Simulation

X-Shark allows the simulation of the selected unit, in order to check the operation during the years.

Three different simulation are available for the units: (check "X-Shark" a pagina 2)

- **Annual working simulation:** check the Total Cost Operation of the unit during the year.
- **Punctual simulation:** simulation of the unit at each air external degree during the year
- **Unit modulation,** to check the unit at different thermic load.



5.4.1 Annual working simulation

To complete this simulation is necessary to select the installation site of the unit, using:

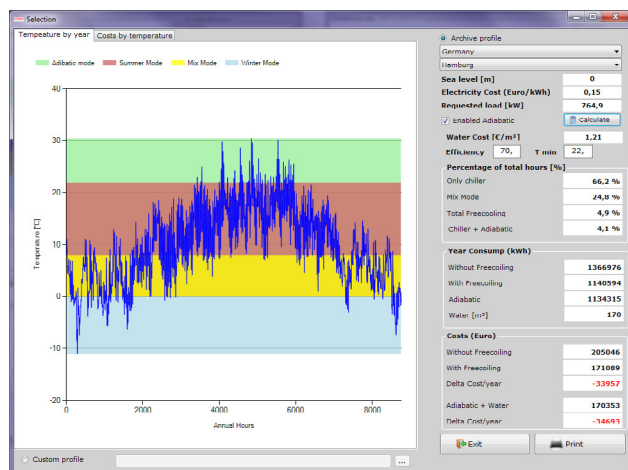


Fig. 3 - Annual simulation - Temperature profile

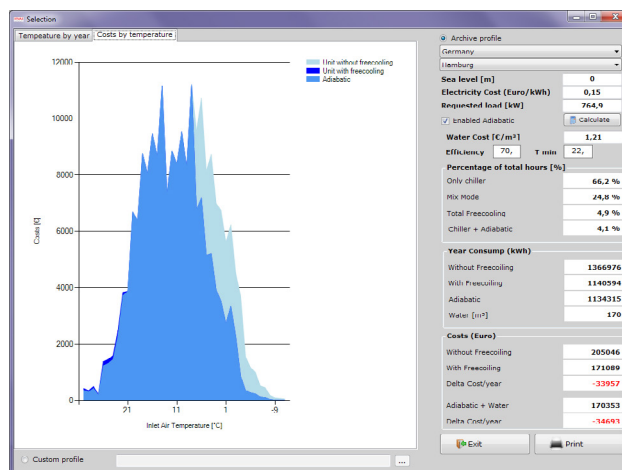


Fig. 4 - Annual simulation - Cost/Temperature

- **archive profile**: temperature profile for the main Cities, divided by Country, available as standard in X-Shark.
- **custom profile**, to load a customized profile from an Excel® file (see www.stulz.it)

The inputs of this page are:

- **Country**, to reduce the list of the Cities
- **City** where the unit will be installed. The profile is necessary to simulate the T.C.O.
- **Sea level**: height above sea level of the installation site.
- **Electricity cost**, in euro (€): cost of electricity in the installation site
- **Requested load**: thermal load applied to the chiller. As standard the value is the cooling capacity of the selected unit at the input conditions.
- **Enable adiabatic**: enable the simulation of the operation of the chiller with adiabatic system. Enabling does not involve insertion of the adiabatic system in offer.
 - **water cost**, in euro (€): cost of the water in the installation site.
 - **efficiency** of the adiabatic system
 - **T min**: minimum ambient operating temperature of the adiabatic system
- Buttons:
 - **Calculate**: to re-do the calculation after changes.
 - **Exit**: return to **Selection Page**
 - **Print**: creates the tender text

The outputs of this simulation are

- Temperature profile graphic:
 - **Blue line**: temperature profile during the year
 - **Green area**: operating with adiabatic system ON
 - **Red area**: operating in cooling (compressors only)
 - **Yellow area**: Mix mode (Compressors + Free Cooling)
 - **Light blue area**: operating in total Free Cooling
- Cost/Temperature graphic:
 - **Blue area**: operating with adiabatic system ON
 - **Light blue area**: operating in cooling (compressors only)
 - **Dark blue area**: operating in total Free Cooling
- Table:
 - **Percentage of the hours** during the year of the unit operating in the four modes: adiabatic, cooling, mix mode, Free Cooling
 - **Year consumption**: energy consumption of the unit with and without Free Cooling

- **Cost (euro)**: calculated cost of the unit with Free Cooling and without Free Cooling. In red the annual saving

This simulation will be reported in the tender text.

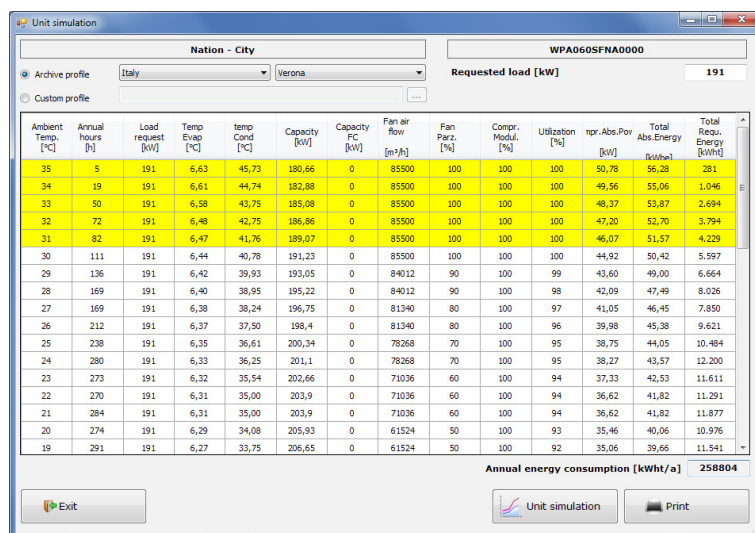
5.4.2 Punctual simulation

This simulation allows to view the modulation of the individual components throughout the operation.

To complete this simulation is necessary to select the installation site of the unit.

To do this is possible to use:




- **archive profile**: temperature profile for the main Cities, subdivides by Country, available as standard in X-Shark.
- **custom profile**, to load a customized profile from a Excel® file (see www.stulz.it)



Ambient Temp. [°C]	Annual hours [h]	Load request [kW]	Temp Evap [°C]	temp Cond [°C]	Capacity [kW]	Capacity FC [kW]	Fan air flow [m³/h]	Fan Parz. [%]	Compr. Modul. [%]	Utilization [%]	npr. Abs. Pov [kW]	Total Abs. Energy [kWh/a]	Total Reau. Energy [kWh/a]
35	5	191	6,63	45,73	180,66	0	85500	100	100	100	50,78	56,28	281
34	19	191	6,61	44,74	182,88	0	85500	100	100	100	49,56	55,06	1.046
33	50	191	6,58	43,75	185,08	0	85500	100	100	100	48,37	53,87	2.694
32	72	191	6,48	42,75	186,86	0	85500	100	100	100	47,20	52,70	3.794
31	82	191	6,47	41,76	189,07	0	85500	100	100	100	46,07	51,57	4.229
30	111	191	6,44	40,78	191,23	0	85500	100	100	100	44,92	50,42	5.597
29	136	191	6,42	39,93	193,05	0	84012	90	100	99	43,60	49,00	6.664
28	169	191	6,40	38,95	195,22	0	84012	90	100	98	42,09	47,49	8.026
27	169	191	6,38	38,24	196,75	0	81340	80	100	97	41,05	46,45	7.850
26	212	191	6,37	37,50	198,4	0	81340	80	100	96	39,98	45,38	9.621
25	238	191	6,35	36,61	200,34	0	78268	70	100	95	38,75	44,05	10.484
24	280	191	6,33	36,25	201,1	0	78268	70	100	95	38,27	43,57	12.200
23	273	191	6,32	35,54	202,66	0	71036	60	100	94	37,33	42,53	11.611
22	270	191	6,31	35,00	203,9	0	71036	60	100	94	36,62	41,82	11.291
21	284	191	6,31	35,00	203,9	0	71036	60	100	94	36,62	41,82	11.877
20	274	191	6,29	34,08	205,93	0	61524	50	100	93	35,46	40,06	10.976
19	291	191	6,27	33,75	206,65	0	61524	50	100	92	35,06	39,66	11.541

Annual energy consumption [kWh/a] 258804

The input of this page are:

- **Country**, to reduce the list of the Cities
- **City** where the unit will be installed.
- **Requested load**: thermal load applied to the chiller. As standard the value is the cooling capacity of the selected unit at the inputted conditions.
- **Diff. between air temperature and cond.** (only for water cooled chillers): insert the delta of temperature at which is designed the condensing system
- Buttons:
 -  **Unit simulation**: to perform the calculation. In WSA and WSW ranges the calculation can take a few minutes.
 -  **Exit**: return to **Selection Page**
 -  **Print**: creates an independent file with the simulation. This simulation will not be reported in the tender text.




Any lines highlighted in yellow indicate that the chiller is not able to fully meet the required load.

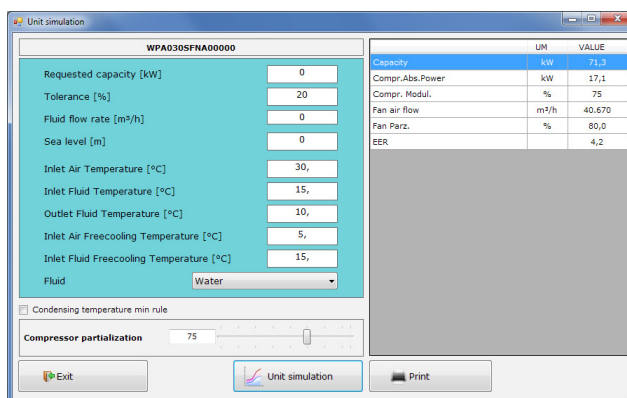
5.4.3 Unit modulation

This simulation allows to check the selected unit in different conditions.

The input of this page are the same available in the section [Input Data](#) to select the unit, and changes according the section [Options](#).

Is also available:

- [Compressor partialization](#): a slider to change the modulation of the unit from 0 up to 100%.
- Buttons:
 -  [Unit simulation](#): to perform the calculation (the simulation is not automatic)
 -  [Exit](#): return to [Selection Page](#)
 -  [Print](#): creates a tender text in the simulated point.



	UM	VALUE
Capacity		71,3
Compr.Abs.Power	kW	17,1
Compr. Modul.	%	75
Fan air flow	m³/h	40,670
Fan Parz.	%	80,0
EER		4,2

5.5 Offer

A new function available in X-Shark starting from version 170721 is Offer Manager: this system allow to select many different units to create a single offer. Any offer can contain more different selections.

Furthermore the **Offer** system allows to:

- insert independent multiplier for each unit
- insert different multiplier for unit and options/accessories
- apply a name to each unit
- insert note

To manage the offer, use the specific buttons in Selection form:

- **Add to offer**, to insert the unit selected to the open offer. If the offer is not open, a new offer will be opened
- **Offer**:
 - **Print**, to print the recap of the offer
 - **Details**, to view the offer
 - **Replace rif. >**, to substitute a unit already in the offer
 - **Open offer**, to open a previous offer saved in the computer
 - **New offer**, to start a new offer.
 - **Close offer**, to close the current offer.

Offer

no.3 Unit 1

no.1 Unit 2

no.5 Unit 3

....

no.X Unit y

Add to offer

Offer

Print

Details

Replace Rif.

Open offer

New offer

Close offer

The offer form is divided in 4 main sections:

The screenshot shows the 'Offer' window with the following sections:

- Offer Data:** Includes fields for Date (domenica 28 maggio 2017), Name (Customer), Number (00AA01), Ref. (Valeggio S/M), Customer (Stulz S.p.A. - None), Payment (30/60 dd), Delivery time (12 working weeks), Delivery terms (EXW), and Transport (not included).
- Economical Data:** Includes Tot List Price (444760), Discount (1), and Tot List Price (444760).
- View Price:** Includes checkboxes for Unitary, Tot List Price, Net unitary, and Tot Net Price.
- Offer Management:** A table with columns: Ref., Template, Description, Load offer, Quantity, Unit, Acc., and Total Net Price. It lists three items:

Ref.	Template	Description	Load offer	Quantity	Unit	Acc.	Total Net Price
001	WPA030SFNA30000	WPA mini - 030	0	3	1	1	174000,00
002	WSA3001CNA00000	WSA - 300	0	1	1	1	165360,00
003	RAWB2C2A205B	RAW - B2	0	10	1	1	105400,00

5.5.1 Offer data

In this section is possible to input all the data of the customer and the project. All the fields accept letters and numbers. In particular the fields are:

- **Name** to easily individuate the project
- **Number** of the offer
- **Ref.:** reference of the project (if there are more parts or offer)
- **Customer.** Is possible to import the data of the customer from a list, by pressing the button
- **Payment**, to report the payment agreements
- **Delivery time**

- **Delivery terms**, according to standard Incoterms.
- **Transport**: note for the transport of the units.

5.5.2 Offer economical data

In this section are shown:

- **Tot list price**: this value is the sum of the total net price of the section **Offer Management**.
- **Discount**: the multiplier that have to be applied to all the units
- **Tot list price** = **Tot list price** multiplied for the **discount**

5.5.3 View price

In this section are available 4 check buttons. Through these check buttons is possible to select which price have to be shown in the printout of the offer:

- **Unitary**: unitary gross price of each unit
- **Net unitary**: unitary net price of each unit
- **Tot list price**: unitary gross price of each unit multiplied for number of unit
- **Tot net price**: unitary net price of each unit multiplied for number of unit

Is possible to select all the buttons.

5.5.4 Offer management

In this section are shown the units inserted in the offer. Is possible to select a row to load, remove, duplicate or edit the unit.

- **Ref.:** sequential number of rows
- **Template**: the complete code of the unit.
- **Description**: editable field
- **Load offer**: not used
- **Quantity**: editable field. Number of units
- **Discount**
 - **Unit**: discount applied on the unit
 - **Accessory**: discount applied on the options/accessories
- Buttons:
 - **Load ref.:** open the selection of the unit in the row selected
 - **Remove Rif.:** remove the selected row
 - **Ok**: return to page **Selection**

5.5.5 Customer

In X-Shark is possible to archive the Customers to recall the last conditions applied.

In the section Customers are listed all the customers inserted.

Select the customer e press **OK** to insert the customer in the offer

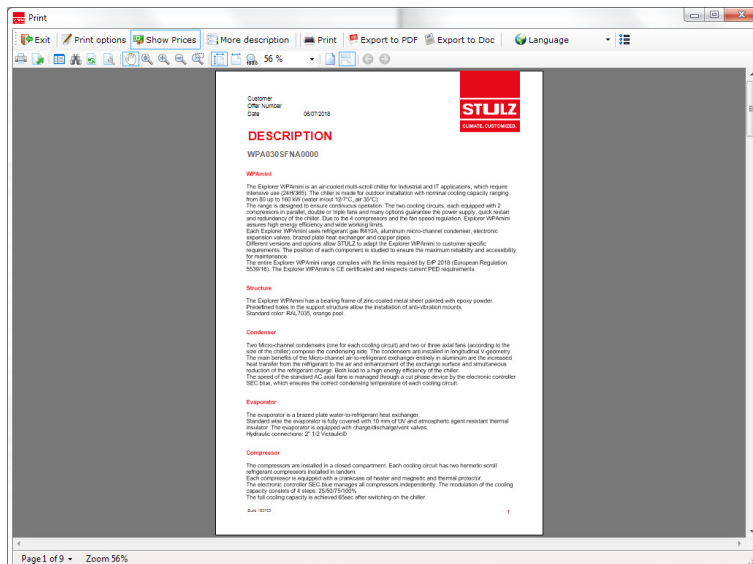
5.6 Output

X-Shark have many outputs, depending on the documentation needed by the user.

5.6.1 Tender text

The main output of X-Shark is a tender text of the single unit, which contains:

- [description](#) of the selected unit, options and accessories
- [data sheet](#) of the unit
- [annual simulation](#), if done
- [layout](#) for the selected unit
- [cooling scheme](#)
- [free cooling scheme](#)
- [hydraulic scheme](#)
- [offer](#) (only for sales profile)



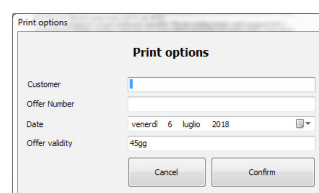
On this page you can find:

- [Exit](#): return to [Selection Page](#)
- [Print options](#): open the form to change the references of the selection (see picture at side)
- [Show Prices](#): enable/disable the page [Price](#)
- [Print](#): print the tender text
- [Export to PDF](#): creates a PDF file with the tender text
- [Export to Doc](#): export the tender text in RTF file (openable with Word®).

INFORMATION

To reduce the dimensions of the file, open it in Word and re-save the file as *.doc or *.docx

- [Language](#): change the language of the tender text. The interface language is not involved.



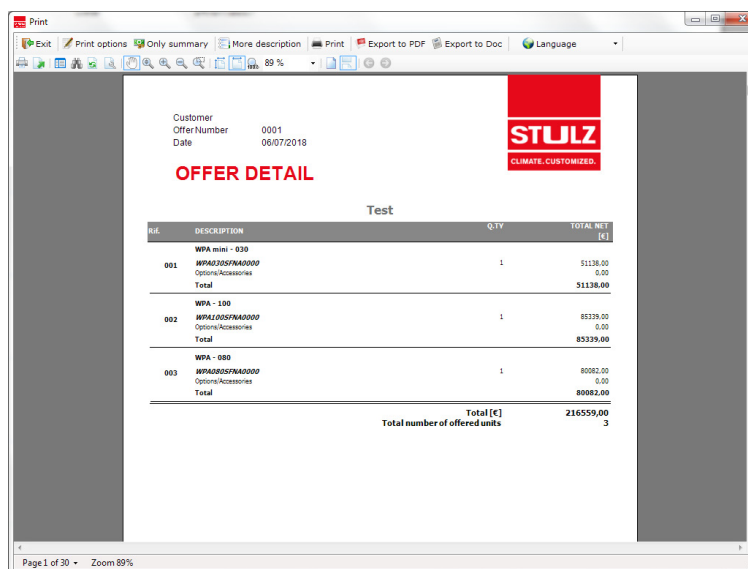
5.6.2 Offer

Recap of the offer where is possible to find:

- [List of units](#) with prices, total and note
- Recap of each [Unit](#) with list of [options and accessories](#) selected

On this page you can find:

- [Exit](#): return to [Selection Page](#)
- [Print options](#): open offer form
- [Only summary](#): enable/disable the recap of each units
- [Print](#): print the offer
- [Export to PDF](#): creates a PDF file with the offer
- [Export to Doc](#): export the offer in RTF file (openable with Word®)
- [Language](#): change the language of the offer. The interface language is not involved.

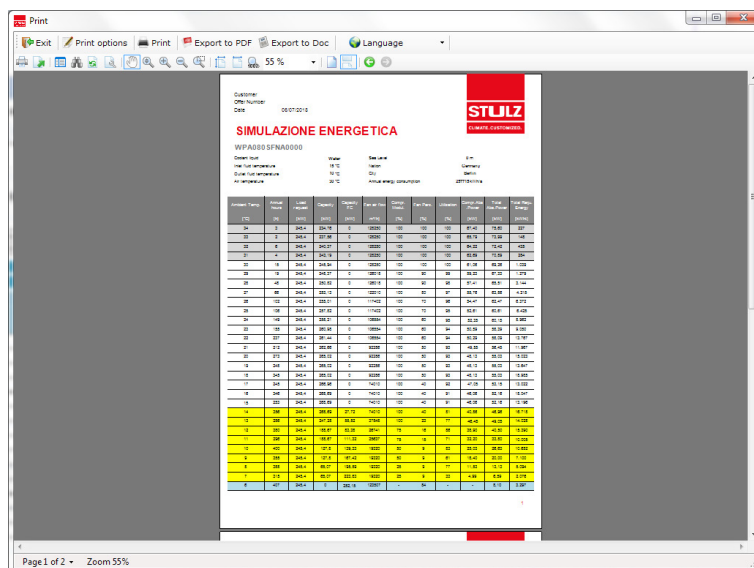


5.6.3 Punctual simulation

Is possible to export the Punctual simulation.

On this page you can find:

- [Exit](#): return to [Simulation Page](#)
- [Print options](#): open the form to change the references of the simulation
- [Print](#): print the offer
- [Export to PDF](#): creates a PDF file with the offer
- [Export to Doc](#): export the simulation in RTF file (openable with Word®)
- [Language](#): change the language of the simulation
The interface language is not involved.



6. Prepare a quick selection

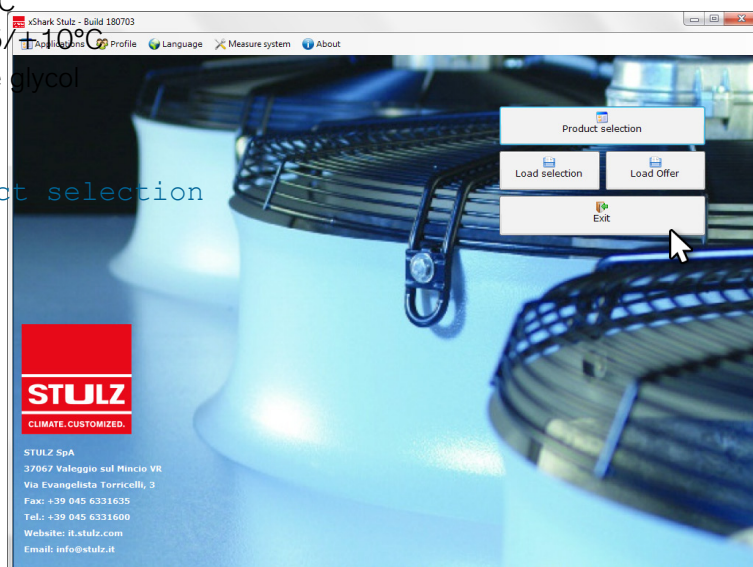
Here after, an example of a quick selection of a unit.

We would select:

- an air cooled chiller with screw compressors
- version with Free Cooling
- n°1 pump
- Cooling capacity: 750 kW
- Air ambient temperature: +32°C
- Fluid temperature (In/Out): +15/+10°C
- Fluid: water + 30% of ethylene glycol

1.Start new simulation

by clicking on the button **Product selection**



2.Input the request

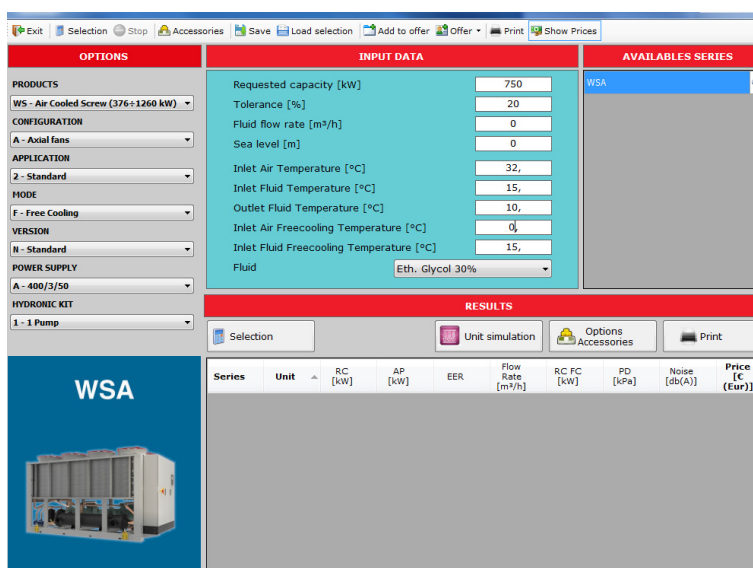
Start to select the main features of the unit in **Options** section:

- **Products**: select WS-Air cooled screw (376÷1260kW)
- **Configuration**: axial fans
- **Application**: standard
- **Mode**: select Free Cooling
- **Version**: select Standard
- **Power supply**: 400/3/50
- **Hydronic kit**: select 1 Pump


Now move to the section **Input Data** and insert:

- **Requested capacity**[kW]: 500
- **Tolerance**[%]: 20
- **Fluid flow rate**[m³/h]: 0
- **Sea level**[m]: 0
- **Inlet air temperature**[°C]: 32

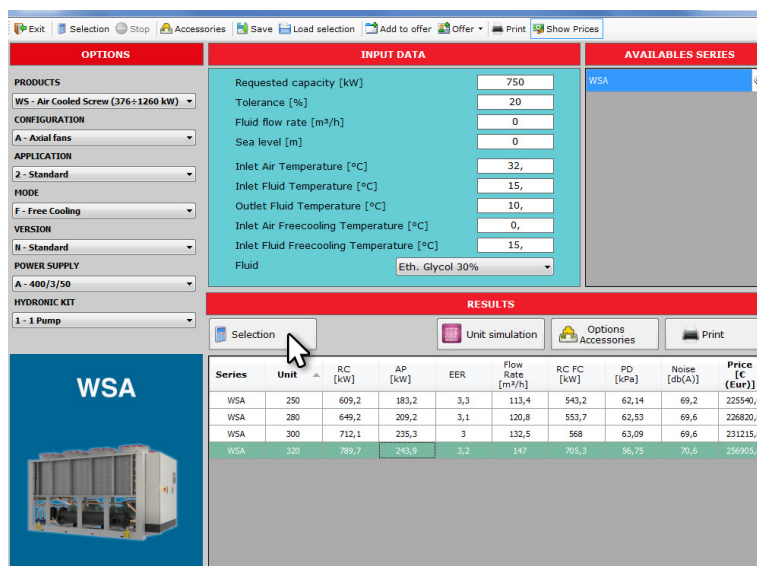
- **Inlet fluid temperature**[°C]: 15
- **Outlet fluid temperature**[°C]: 10
- **Inlet Air Free Cooling**[°C]: 0
- **Inlet fluid Free Cooling**[°C]: 15
- **Fluid**: Eth. Glycol 30%



3. Select the unit

Press the button  **Selection** and select the unit that meet the request.


In this case select the WSA320



The Selection window displays various configuration options on the left, including Products, Configuration, Application, Mode, Version, Power Supply, and Hydronic Kit. The main area is divided into Input Data and Results sections. The Input Data section shows parameters like Requested capacity (750 kW), Tolerance (20%), Fluid flow rate (0 m³/h), Sea level (0 m), Inlet Air Temperature (32°C), Inlet Fluid Temperature (15°C), Outlet Fluid Temperature (10°C), Inlet Air Freecooling Temperature (0°C), and Inlet Fluid Freecooling Temperature (15°C). The Results section shows a table of available series.


Series	Unit	RC [kW]	AP [kW]	EER	Flow Rate [m³/h]	RC FC [kW]	PD [kPa]	Noise [dB(A)]	Price [€]
WSA	250	609,2	183,2	3,3	113,4	943,2	62,14	69,2	223940,00
WSA	280	649,2	209,2	3,1	120,8	953,7	62,53	69,6	228820,00
WSA	300	712,1	235,3	3	132,5	968	63,09	69,6	231215,00
WSA	320	789,7	243,9	3,2	147	970,3	56,75	70,6	256905,00

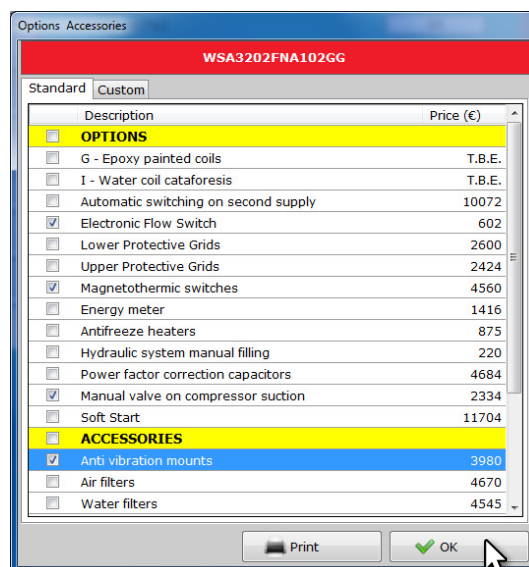
4. Add Options/accessories

Press the button  **Options/Accessories** to open the form.

Select the items needed by flagging the square on the left.

The options will change the code visible on the top of the window.



Press  **OK** to return to **Selection** page.




The Options/Accessories window shows a list of options and accessories for the selected unit. The 'Standard' tab is active, and the 'Custom' tab is also visible. The list includes items like G - Epoxy painted coils, I - Water coil cataforesis, Automatic switching on second supply, Electronic Flow Switch, Lower Protective Grids, Upper Protective Grids, Magnetohermic switches, Energy meter, Antifreeze heaters, Hydraulic system manual filling, Power factor correction capacitors, Manual valve on compressor suction, Soft Start, Anti vibration mounts, Air filters, and Water filters. Each item has a checkbox and a price.

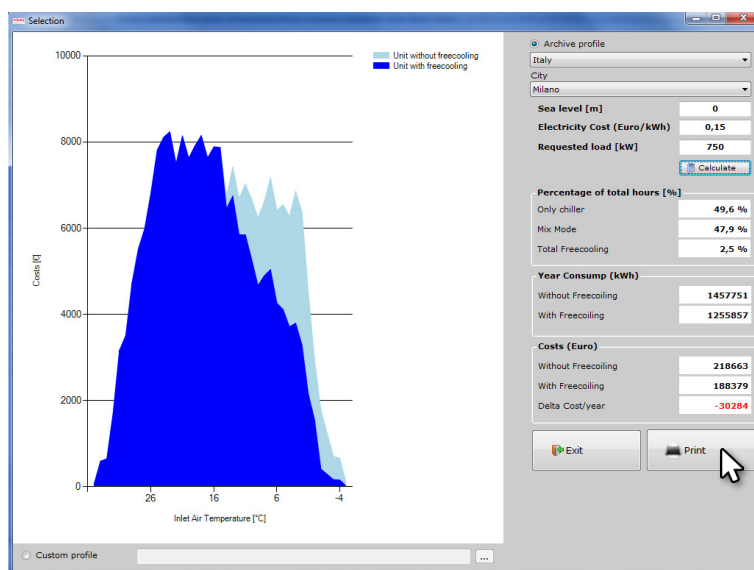
Description	Price (€)
OPTIONS	
<input type="checkbox"/> G - Epoxy painted coils	T.B.E.
<input type="checkbox"/> I - Water coil cataforesis	T.B.E.
<input type="checkbox"/> Automatic switching on second supply	10072
<input checked="" type="checkbox"/> Electronic Flow Switch	602
<input type="checkbox"/> Lower Protective Grids	2600
<input type="checkbox"/> Upper Protective Grids	2424
<input checked="" type="checkbox"/> Magnetohermic switches	4560
<input type="checkbox"/> Energy meter	1416
<input type="checkbox"/> Antifreeze heaters	875
<input type="checkbox"/> Hydraulic system manual filling	220
<input type="checkbox"/> Power factor correction capacitors	4684
<input checked="" type="checkbox"/> Manual valve on compressor suction	2334
<input type="checkbox"/> Soft Start	11704
ACCESSORIES	
<input checked="" type="checkbox"/> Anti vibration mounts	3980
<input type="checkbox"/> Air filters	4670
<input type="checkbox"/> Water filters	4545

4. Simulate the unit

Press the button  **Unit simulation** and select  **Annual working simulation**. Select as Country **Italy**, and as City **Milan**.

Insert cost of electrical energy as **0,15€/kWh** and put Requested load as **750kW**.

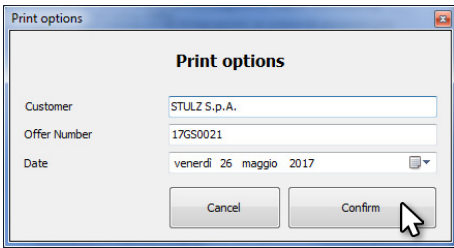
Press  **Calculate** to check the result.



5. Print/Export the tender text

Press the button  **Print**.

In the form Print Options insert the reference of the selection and the number of the offer. Starting from the X-Shark version 170526 those two items are mandatory. Press **Confirm** to create the tender text.



Print options

Customer: STULZ S.p.A.

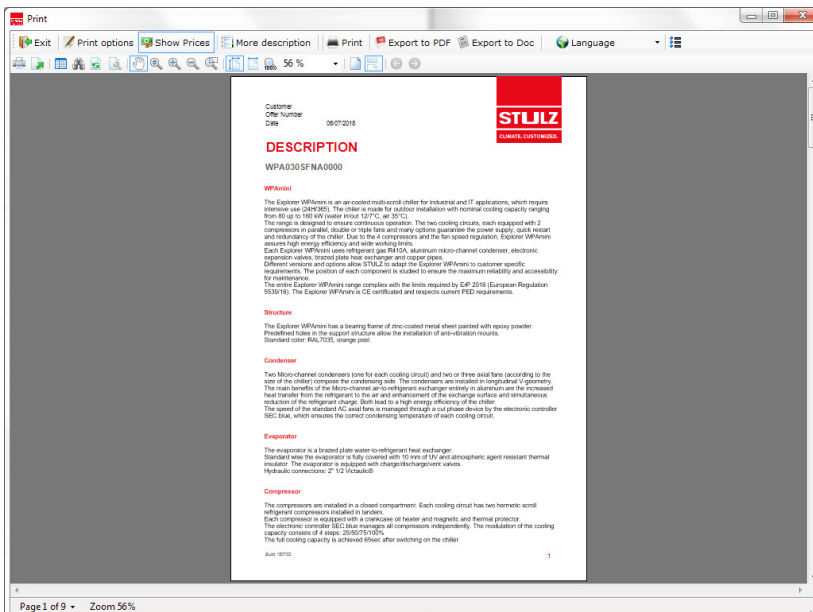
Offer Number: 17GS0021

Date: venerdì 26 maggio 2017

Cancel Confirm

In the new form select the preferred modality to export the selection.

Press  **Exit** to return to **Selection** page, to start a new selection.



Print

Customer: STULZ S.p.A.

Offer Number: 17GS0021

Date: 06/07/2018

DESCRIPTION

WPA030SFNA0000

WPAnet

The Explorer WPAnet is an air-cooled multi-scroll-chiller for industrial and IT applications, which requires intensive use (24/7/24). The chiller is made for outdoor installation with nominal cooling capacity ranging from 40 up to 180 kW (water inlet 12/7°C, air 35°C). The range is designed to ensure continuous operation. The two cooling circuits, each equipped with 2 compressors in parallel, double or triple fans and many options guarantee the power supply, quick restart and independence of the chiller. Due to the 4 compressors and the fan speed regulation, Explorer WPAnet ensures high energy efficiency and safe working times. Each Explorer WPAnet uses refrigerant gas R410A, aluminum micro-channel condenser, electronic expansion valve, braked plate heat exchanger and copper pipes. Different versions and options allow STULZ to adapt the Explorer WPAnet to customer specific requirements. The position of each component is studied to ensure the maximum reliability and accessibility by maintenance. The entire Explorer WPAnet range complies with the limits required by EEP 2013 (European Regulation 953/16). The Explorer WPAnet is CE certified and respects current PED requirements.

Structure

The Explorer WPAnet has a bracing frame of zinc-coated metal sheet painted with epoxy powder. Powdered tubes in the support structure allow the installation of anti-vibration mounts. Standard color: RAL7035, orange paint.

Condenser

Two Micro-channel condensers (one for each cooling circuit) and two or three axial fans (according to the size of the chiller) compose the condensing side. The condensers are installed in longitudinal V geometry. The main benefits of the Micro-channel air-to-refrigerant exchanger entity in aluminum are the increased heat transfer from the refrigerant to the air and enhancement of the exchanger surface and simultaneous reduction of the refrigerant charge. Both lead to a high energy efficiency of the chiller. The speed of the standard AC axial fans is managed through a soft phase device by the electronic controller SSC-Box, which ensures the correct condensing temperature of each cooling circuit.

Evaporator

The evaporator is a braked plate water-to-refrigerant heat exchanger. Standard size: the evaporator is fully covered with 10 mm of UV and atmospheric agent resistant thermal insulation. The evaporator is equipped with charge/discharge valves. Hydraulic connections: 2" 1/2 (Voluta®).

Compressor

The compressors are installed in a closed compartment. Each cooling circuit has two hermetic scroll refrigerant compressors installed in tandem. Each compressor is equipped with a crankcase oil heater and magnetic and thermal protector. The electronic controller SSC-Box manages all compressors independently. The resolution of the cooling capacity consists of 4 steps: 25/50/75/100%. The full cooling capacity is achieved 60sec after switching on the chiller.

Rev. 10/13

Page 1 of 9 • Zoom 56%

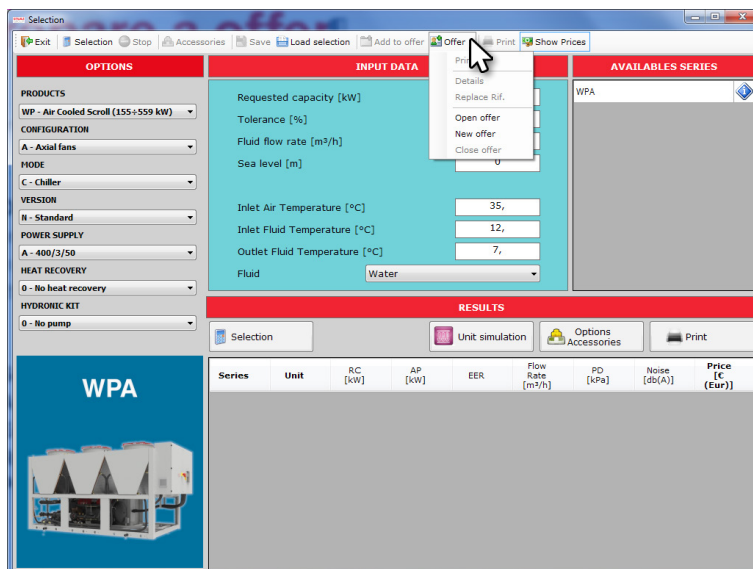
7. Prepare a offer

Here after, an example for a offer with more different units. To select the unit, please refers to the chapter “Prepare a quick selection” a pagina 19.

1.Create a new offer

From the main page, start a new simulation by clicking on the button **Product selection**

In **Selection** page press the button **Offer** and than **New Offer**

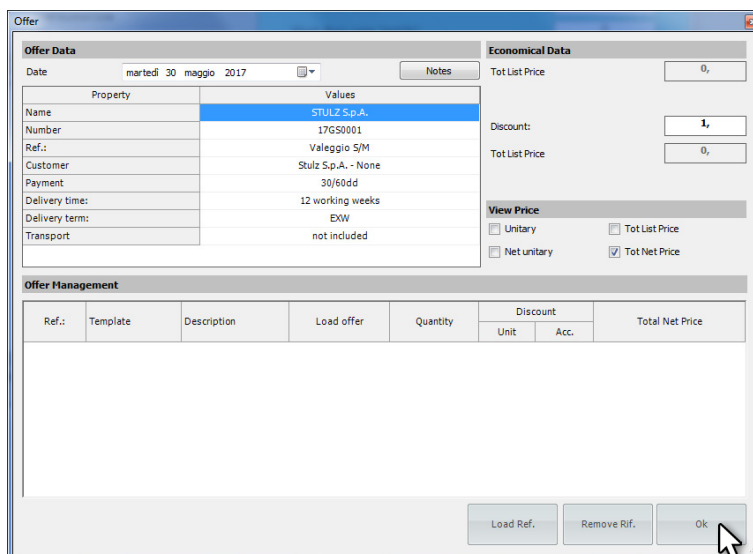


2.Fill the data

Fill the section **Offer data**.

Press button **OK** to return to the **Selection** page

If not already done, the software will ask to save the offer.

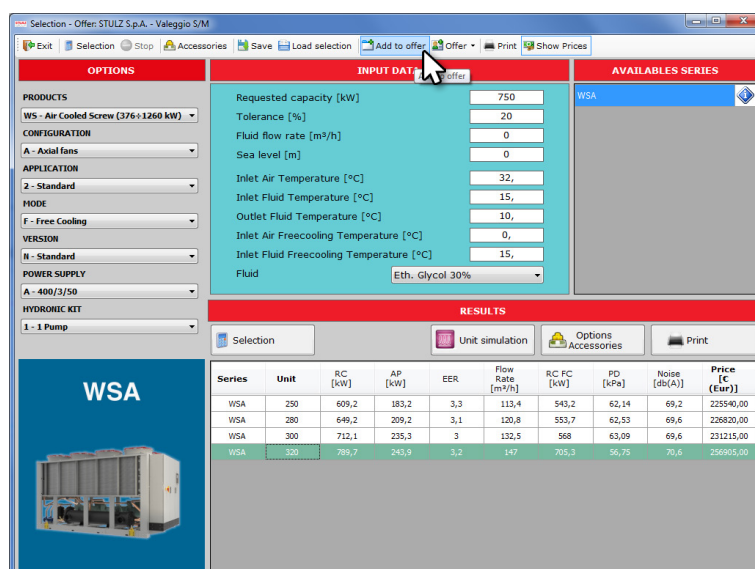


3. Select and add unit

Select the first unit needed. For the procedure see chapter “Prepare a quick selection” a pagina 19, points 2, 3, 4.

When the selection is completed press the button

 **Add to offer.**



Series	Unit	R/C [kW]	AP [kW]	EER	Flow Rate [m³/h]	R/C FC [kW]	PD [kPa]	Noise [dB(A)]	Price [€ (Eur)]
WSA	250	609,2	183,2	3,3	113,4	943,2	62,14	69,2	225540,00
WSA	280	649,2	209,2	3,1	120,8	953,7	62,53	69,6	226820,00
WSA	300	712,1	235,3	3	132,5	968	63,09	69,6	231215,00
WSA	320	789,7	243,9	3,2	147	975,3	56,75	70,6	256905,00

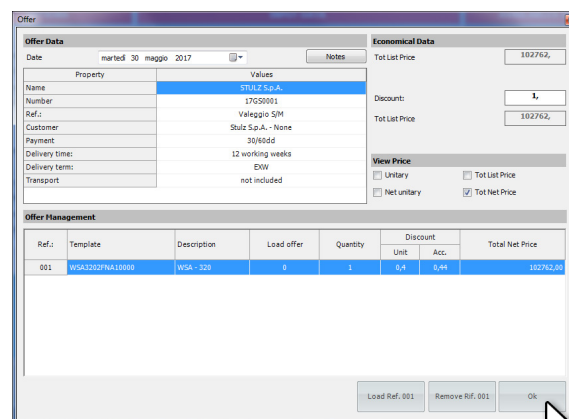
Press  **Offer**, than **Details** to open the **Offer** form.

A new row is available in the section **Offer Manager**.

Select the row by clicking on it.

With a double click is possible to change:

- **Description**: name of the unit
- **Quantity**: number of unit
- **Discount**: multiplier



Ref.	Template	Description	Load offer	Quantity	Discount	Unit	Acc.	Total Net Price
001	WSA3202FNA10000	WSA - 320	0	1	5,4	5,44		102762,00



Use the button at the lowest part of the window to:

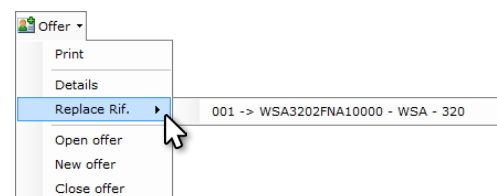
- **Load ref.001**: open the unit selected in **Selection** page.
- **Remove Rif.001**: remove the selected row
- **Ok**: return to **Selection** page and proceed to other selections

4. Add/Replace unit


Press **OK** button to return to the **Selection** page.

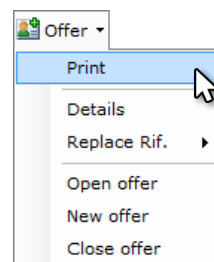
Select a different unit and press:

-  **Add to offer**, to add the unit to the offer list
- replace a unit already insert, by pressing  **Offer**, **Replace Rif.** and than selecting the unit to be replaced.

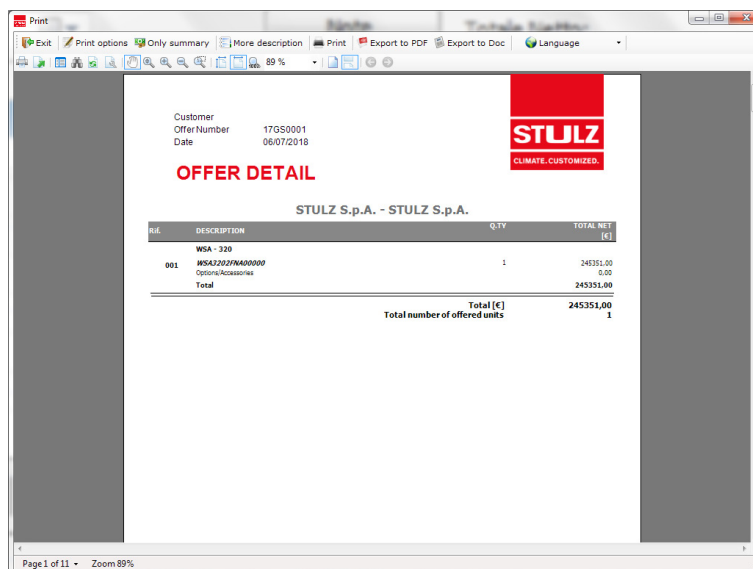


7.Print


In [Selection](#) page press  [Offer](#), than [Details](#) to open create the output of the offer.



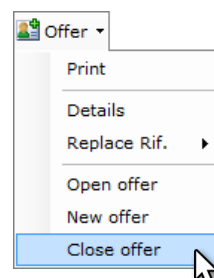
In the new form select the preferred modality to export the selection.

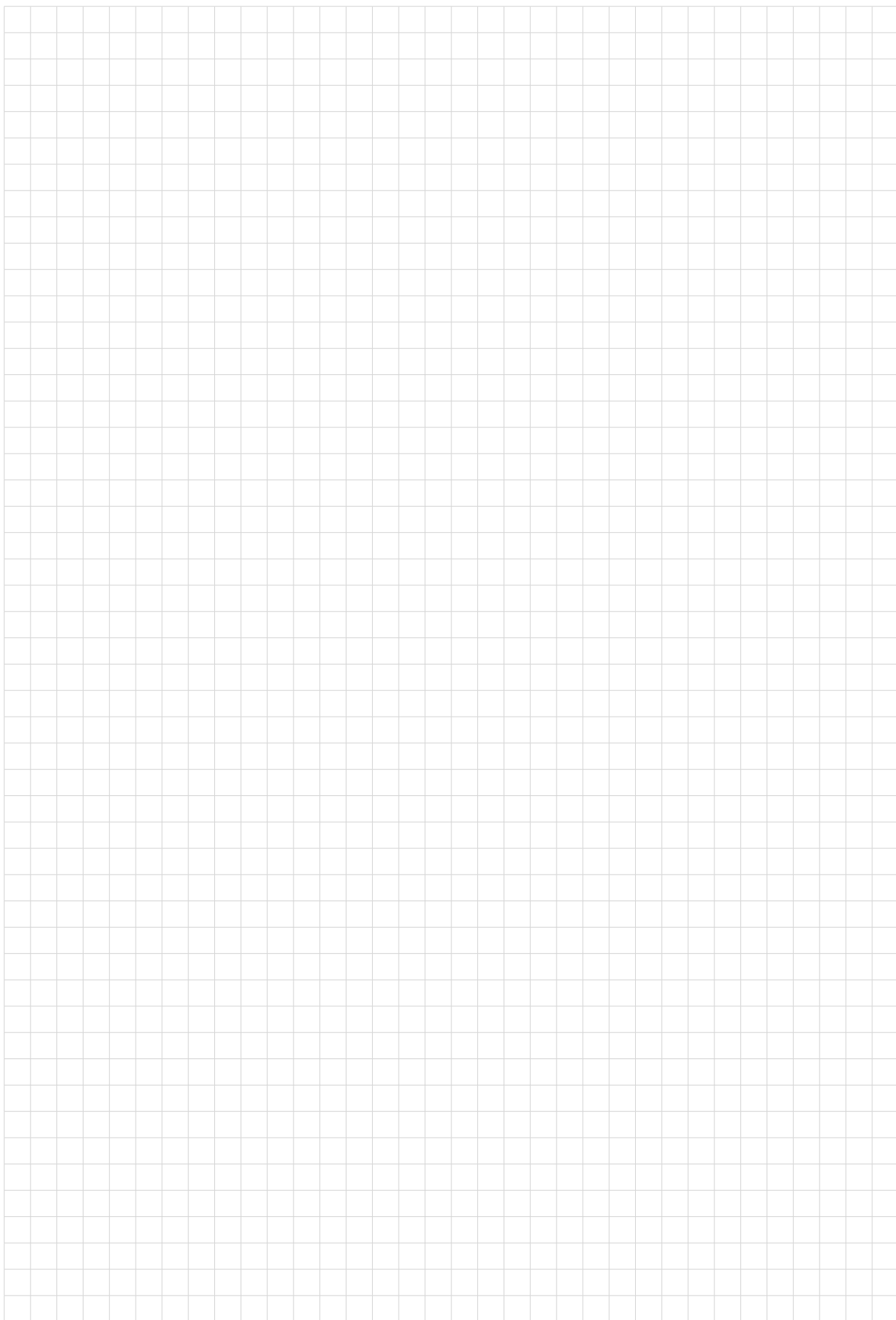

 A screenshot of a web application window titled 'Print'. The main content area displays an 'OFFER DETAIL' form for 'STULZ S.p.A. - STULZ S.p.A.'. The form includes a header with the STULZ logo and the tagline 'CLIMATE. CUSTOMIZED.'. Below the header, there is a table with columns 'Rif.', 'DESCRIPTION', 'Q-TY', and 'TOTAL NET [€]'. The table contains one row for 'WSA - 320' with a quantity of 1 and a total net of 245351.00. A 'Total' row shows the same values. The form also includes fields for 'Customer', 'Offer Number', and 'Date'. The footer of the window indicates 'Page 1 of 11' and 'Zoom 89%'.

7.Close offer

Press  [Exit](#) to return to [Selection](#) page.

To close the offer press  [Offer](#), than [Close offer](#).





8. Privacy

Starting from the X-Shark version 170721 the user agree to the following privacy notice.

STULZ S.p.A.

Via E. Torricelli, 3
37067 Valeggio sul Mincio (VR)

Tel. +39 045 - 6331600
Fax +39 045 - 6331611

info@stulz.it
www.stulz.it



INFORMATION PROVIDED PURSUANT TO ART. 13 OF LEGISLATIVE DECREE 196 OF 30 JUNE 2003 ("PRIVACY CODE")

1. Controller of processing

The processing controller is **STULZ S.p.A.**, with registered office in Valeggio Sul Mincio (Italy).

The controller can be contacted at the following e-mail address: setup@stulz.it, and the following phone number +39 045 6331 600.

2. Source of personal data

Personal data (e.g. personal details, phone number, e-mail, etc.) is collected directly by the interested party, by filling in a specific paper form, sending e-mails or on-line forms.

3. Processing purpose

STULZ S.p.A. will process your personal data for the following purposes:

- 1) to supply the service requested or to fulfil contractual obligations undertaken with the interested party;
- 2) to comply with legal obligations;
- 3) for aggregated and anonymous statistics, to monitor and improve products or services supplied and satisfy the needs of the interested party;
- 4) to send information and promotional communications via e-mail, and newsletters from **STULZ S.p.A.** related to its initiatives and/or of subsidiaries and/or associated companies;

4. Providing data and consequences if consent to processing is not given

Providing your data for the purposes in points 1), 2), 3) and 4) of art. 3 is obligatory. That processing is needed to enable use of the service supplied with the software used; a refusal by you to provide the data in question would mean it could not be used.

5. Data processing method

Your data will mainly be processed using electronic or automated tools; based on methods and with means that guarantee the security and confidentiality of the data itself, in compliance with legislative decree 196, of 30 June 2003 and relative Annex B). In particular, all the technical, digital, organisational, logistic and security procedure measures will be adopted to guarantee the right level of protection of data established by law; only allowing persons appointed by the Controller, or Managers possibly appointed, to access the data.

6. Communication of data

The data provided by you, for purposes described in art. 3, can be made known to employees and/or collaborators of **STULZ S.p.A.**, appointed to process data, and be communicated to the following parties:

- a) associated companies and subsidiaries;
 - b) third party companies appointed by **STULZ S.p.A.** to perform specific stages of the services provided;
 - c) third party companies or consultants appointed to install, maintain, update, manage the hardware and software of **STULZ S.p.A.**;
 - d) all public and/or private subjects, individuals and/or companies (administrative, fiscal and legal consultancy firms), if communication is needed or functional to correct compliance with contractual obligations undertaken related to the services provided, as well as legal obligations;
 - e) all subjects (including Public Authorities) who have access to data through regulatory or administrative measures.
- Personal data provided by you and then processed to manage the service is not circulated.

7. Right to access personal data

Pursuant to art. 7 of legislative decree 196, of 30 June 2003, the interested party has the right to:

- a) be given confirmation as to whether his/her personal data is being held or not and be informed about this in an intelligible way;

X-Shark can make statistical recordings of the selections made. This data is used by STULZ S.p.A. to evaluate the major market demands and to evaluate new implementations/modifications of their products.

The data is the sole property of STULZ S.p.A. and not sold to third parties.

STULZ S.p.A.

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b) obtain, from the processing Controller:

- indications of where that personal data comes from, on processing purposes and methods used, on the logic applied if processed using electronic means;
- the identification details of the process Controller;
- indication of the subjects or subject categories the data can be communicated to or who can gain knowledge of it as representatives appointed for the State territory, parties responsible or appointed;

c) obtain:

- updating, rectification or integration of his/her data;
- cancellation, transformation into an anonymous format or blocking of data processed in breach of the law; including data that has to be stored for the purposes for which it was collected or then processed;
- certification of the fact that the contents of the above operations have been notified to the parties data was communicated or circulated to; unless that compliance would be impossible or involve use of means manifestly disproportionate to the right being protected;

d) object, fully or partially:

- for legitimate reasons, to his/her data being processed, even if pertinent to the collection purpose;
- to the processing of his/her data for commercial purposes or to be sent advertising or direct sales material or to perform market surveys or for commercial communications.

The above rights may be exercised by contacting the Controller at the address and number given in art. 1.

The right of the interested party to object to his/her data being processed for marketing purposes, through the automated contact mode, is extended to traditional modes; however, with no prejudice to the interested party being able to partially exercise that right, pursuant to art. 7, clause 4, letter b), of the Code; that is, in that case, objecting only, for example, to being sent promotional communications by automated means.



STULZ Top Service – more than fast emergency assistance



Advice



Maintenance



Implementation



Test Center



Technical



Climate Customized



Service-Portal

For general questions about our products and services, you can reach us on weekdays from 8 – 18 at phone 0039 045 6331615.

Or contact directly our representative in your area:

HEADQUARTERS HAMBURG GERMANY

Tel. +49 040 / 5585-238
service-hamburg@stulz.de

OTHER AREAS on

www.stulz.com

STULZ S.P.A. ITALY

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