PRODUCTS

surfing evolution

INDUSTRIAL & PROFESSIONAL WATER CHILLERS

pro BAKE

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TRADITIONAL WATER CHILLERS

DIRECT CHILLERS WITH COIL INSIDE THE TANK

They cannot reach 36°F
The cooling process is very slow
The tank is difficult to clean
There is a sanitation risk being the tank normally over-dimensioned
The output flow for a water delivery is slow being the pump installed normally under-dimensioned
Normally they are controlled by a simple thermostat

INDIRECT CHILLERS WITH DOUBLE COIL INSIDE THE TANK

They can deliver water at 36°F only at the beginning, but soon after the temperature increases considerably
The output flow for a water delivery is very slow

STM WATER CHILLERS
THE HIGH TECHNOLOGY ADVANTAGES

The temperature is constantly kept at 36°F inside the tank

The temperature remains constant during the whole water delivery

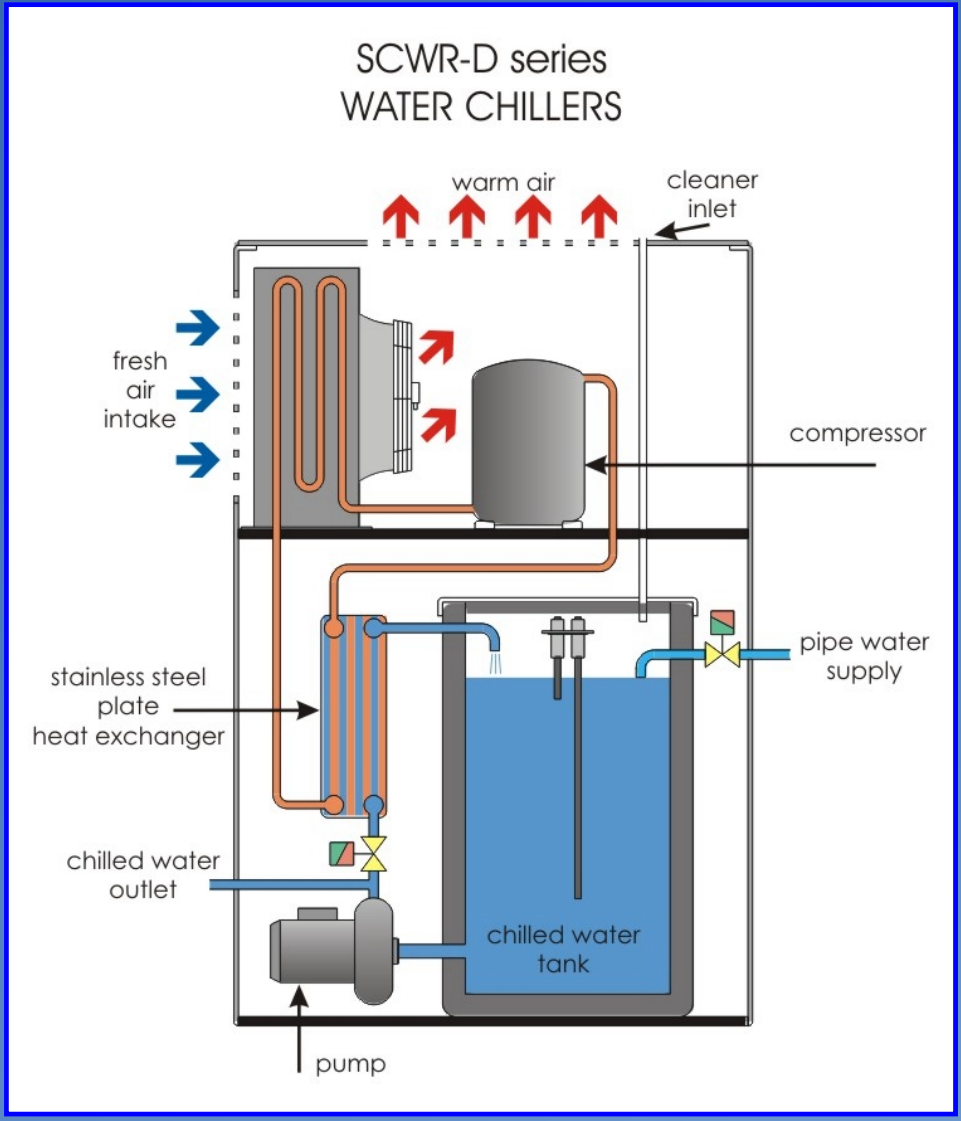
After the end of each water delivery, the new incoming water is cooled again in few minutes therefore cool water will be available for the next batch

The evaporation process takes place inside a stainless steel plate heat exchanger. The high efficiency of this device speeds up the water cooling with the advantage of using not over-dimensioned tanks

The pump used for the water circulation through the heat exchanger is the same that is used to feed the doser-mixer with the result of a high rate flow

The **STM** chillers are controlled with an **STM** microprocessor control board with an LCD user interface

MACHINE CONCEPT



THERMODYNAMIC CIRCUIT

In the evaporator the refrigerant absorbes heat from the water to be cooled
The vapour coming out from the evaporator is compressed by the compressor increasing its temperature
The overheated vapour enters into the condenser where it transfers to the external ambient the heat absorbed from the evaporator and compressor
The liquid coming out from the condenser is laminated to low temperature by the thermostatic valve and returns to the evaporator

WATER CIRCUIT

Cooling phase: the pump circulates the tank water through the evaporator while the compressor is working
Delivery phase: the pump sends the water to the doser
Charging phase: at the end of a delivery, the charging valve opens till the tank is full. At the same time the cooling phase starts too. Thermostating phase: an hysteresis parameter controls the start of the compressor to keep constant the tank temperature

TECHNICAL CHARACTERISTICS OF THE MACHINE

Whole structure in AISI 304 stainless steel

AISI 316 stainless steel plate heat exchanger

Hermetic compressor for non polluting R404A gas in case of standard ambient conditions or R134a gas in case of high ambient temperatures

AISI 316 stainless steel pump for water recycling and delivering

Safety devices: double pressure switch and relief valve

High precision temperature probe

Overflow drain

CHARACTERISTICS OF THE MICROPROCESSOR ELECTRONICS

Alphanumeric LCD back-lighted display

Control of the machine's normal function

Weekly program for automatic daily self switch-on, helping to save energy

Self-diagnosis

Automatic self-cleaning system, awarded with the Innovation Trophy at the Europain fair of Paris. During this process a detergent solution is circulated by the pump through the tank and the evaporator

Remote pump control from a water doser: the **STM** doser-mixer is the ideal coupling for the SCWR-D PRO water chiller

THE ELECTRONICS FUNCTIONS

To change the language

To choose between Metric or Imperial units

To set the water temperature

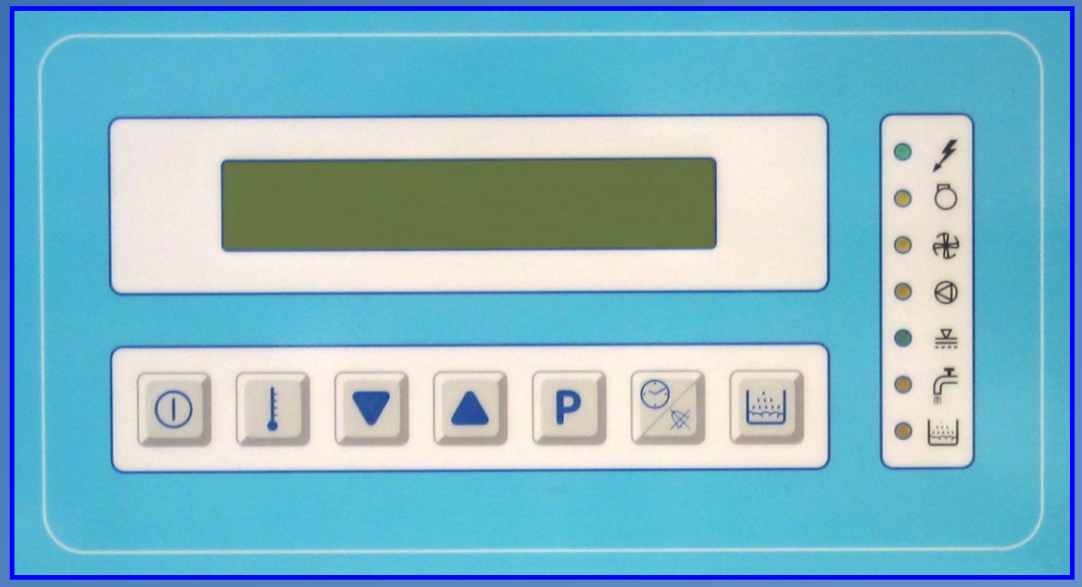
To program the weekly automatic self switch-on

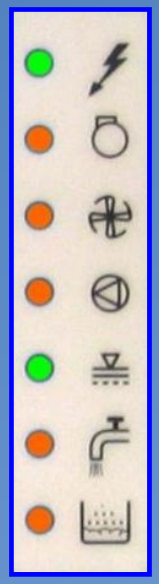
To set the day, time and length of the self-cleaning processes

To manage the alarms and the cleaning process

To check the inputs and outputs

USER INTERFACE





LEDS

Power supply

Compressor

Condenser fan

Process water pump

Process water tank full

Delivery in progress

Washing in progress

KEYBOARD

To switch-on and switch-off manually the chiller

To set the tank water temperature

To increase and to decrease the values

To program the weekly automatic switch-on of the machine

To set the clock and to cancel the alarms

To start a washing

SCWR-D PRO SERIES

the professional water chillers - R404A gas standard version

MODEL	PRODUCTION [L/h]	TANK [L]	FLOW [L/min]	COOLING POWER [W]	ABSORBED CURRENT RLA/MAX/LRA [A]	ELECTRIC SUPPLY	WEIGHT [kg]	DIMENSIONS [mm]		
								W	D	H
100/50	70	50	20 ÷ 50	2200	7,2 / 10,6 / 26,0	208V - 1 - 60 Hz	150	720	640	1250
180/50	130	50	20 ÷ 50	3800	10,5 / 16,1 / 51,0	208V - 1 - 60 Hz	165			
265/70	190	70	30 ÷ 80	5500	9,7 / 14,8 / 45,0	208V - 3 - 60 Hz	205	760	790	1550
365/70	260	70	30 ÷ 80	7700	13,1 / 18,3 / 55,0	208V - 3 - 60 Hz	240			
530/70	380	70	30 ÷ 120	11100	19,2 / 31,8 / 106,0	208V - 3 - 60 Hz	250			

The hourly production is referred to the following project and testing conditions:

- ambient temperature = 77°F
- inlet water temperature = 77°F
- full tank emptying batch
- cooling down to 36°F

Working limits:

- max ambient temperature = 100°F
- max inlet water temperature = 95°F
- max ambient+inlet temperature sum = 140°F

SCWR-TR-D PRO SERIES

tropical version with R134a gas for high ambient temperatures

MODEL	PRODUCTION [L/h]	TANK [L]	FLOW [L/min]	COOLING POWER [W]	ABSORBED CURRENT RLA/MAX/LRA [A]	ELECTRIC SUPPLY	WEIGHT [kg]	DIMENSIONS [mm]		
								W	D	H
100/50	70	50	20 ÷ 50	2200	8,7 / 12,4 / 47,0	208V - 1 - 60 Hz	150	720	640	1250
170/50	120	50	20 ÷ 50	3500	11,5 / 18,7 / 50,0	208V - 1 - 60 Hz	175			
225/70	160	70	30 ÷ 80	4700	10,4 / 26,8 / 99,0	208V - 3 - 60 Hz	220	760	790	1550
350/70	250	70	30 ÷ 80	7400	15,0 / 28,0 / 99,0	208V - 3 - 60 Hz	250			
460/70	330	70	30 ÷ 120	9700	20,2 / 33,9 / 128,0	208V - 3 - 60 Hz	260			

The hourly production is referred to the following project and testing conditions:

- ambient temperature = 95°F
- inlet water temperature = 77°F
- full tank emptying batch
- cooling down to 36°F

Working limits:

- max ambient temperature = 122°F
- max inlet water temperature = 113°F
- max ambient+inlet temperature sum = 185°F

SCWR-D & SCWR-TR-D SERIES

Industrial water chillers – standard R404A gas and tropical R134a gas versions

MODEL	PRODUCTION [L/h]	TANK [L]	FLOW [L/min]	COOLING POWER [W]	ABSORBED CURRENT RLA/MAX/LRA [A]	ELECTRIC SUPPLY	WEIGHT [kg]	DIMENSIONS [mm]		
								W	D	H
600/140	430	140	30 ÷ 120	12400	13,2 / 31,8 / 106,0	208V - 3 - 60 Hz	380	1430	890	1710
800/140	570	140	60 ÷ 220	16700	28,2 / 44,4 / 137,0	208V - 3 - 60 Hz	390			
980/140	700	140	60 ÷ 220	20600	35,3 / 48,4 / 155,0	208V - 3 - 60 Hz	395			
1050/280	760	280	80 ÷ 310	22200	35,3 / 45,0 / 155,0	208V - 3 - 60 Hz	430	1430	890	1710
1600/280	1140	280	80 ÷ 310	32300	42,8 / 61,0 / 210,0	208V - 3 - 60 Hz	475			
2550/280	1820	280	80 ÷ 310	50500	60,7 / 93,0 / 314,0	208V - 3 - 60 Hz	615	+ remote condenser		
360/140	260	140	60 ÷ 210	8800	11,5 / 20,3 / 80,0	400V - 3 - 50 Hz	380	1430	890	1710
490/140	350	140	60 ÷ 210	11200	14,7 / 26,8 / 90,0	400V - 3 - 50 Hz	390			
760/140	540	140	60 ÷ 210	16300	17,9 / 34,8 / 115,0	400V - 3 - 50 Hz	395			
810/280	580	280	100 ÷ 360	17400	18,1 / 35,0 / 115,0	400V - 3 - 50 Hz	430	1430	890	1710
1250/280	910	280	100 ÷ 360	26200	25,2 / 55,0 / 210,0	400V - 3 - 50 Hz	475			
1850/280	1320	280	100 ÷ 360	37200	32,6 / 77,0 / 260,0	400V - 3 - 50 Hz	495	+ remote condenser		

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CONCLUSIONS

What makes the **STM** water chiller better than others?

It supplies water at the desired temperature during all the working day, thanks to the high efficiency of its plate heat exchanger

It allows to have the water at 36°F constantly

The tank has just the capacity for each delivery

It saves energy, thanks to the automatic switch-on weekly program

STM electronics controls every phase of the process

The automatic self-cleaning system

It is produced in order to satisfy the customer requirements

There is a model for each installation

It is not more expensive, especially if the compressor power is compared to other machines

It is perfectly bound together with the **STM** water doser-mixer, the most reliable on the market