SAVELLI COOLERS Type SK

Savelli Technologies S.r.l.
Headquarters address:
via Marrocco 1, 25050
Rodengo Saiano (BS) - ITALY
VAT code: 03776090981

Subsidiaries or participated:
- Savelli Machinery USA Corp. (Port Washington, WI)
- Savelli Machinery Mexico S.A. de C.V. (Mexico City)
- Savelli Machinery India Pvt. Ltd. (Bangalore, India)
- Savelli (Kunshan) Machinery Co., Ltd. (Kunshan, China)

Contact details:
☎ +39 030 22795
✉ info@savelli.it
savellitechnologies@pec.it
Website: www.savelli.it

SAVELLI SAND COOLER TYPE SK

SAVELLI SK180 cooler

SAVELLI SK350 cooler

Inside view of SAVELLI SK cooler

Inside view of SAVELLI SK cooler

The **SAVELLI SK** cooler is designed as a continuous heat exchanger that operates according to evaporation cooling principle. This system is simple and efficient.

Cooling air and water are inserted into a mechanically fluidized sand mass in order to have an optimized contact with the sand grains surface, for the best heat transfer. The cooling efficiency is given by two main factors: close and continuous contact between the warm sand and the air and cooling water, along with a suitable retention time.

In SAVELLI SK cooler, water is inserted into the warm sand, while the cooling air, supplied by a specific fan, continuously removes the steam. The air is inserted into the sand through multiple openings in the inner walls of the cooler; the hot and humid air is extracted by the connected suction system.

The cooler is normally connected to a high-efficiency cyclone that collects usable heavy fines from the suction flow, in order to insert them back in the sand plant in a controlled way.

The great volume of sand stored in the cooler is then intensively mixed by two counter-rotating mixers. Each mixer has four ploughs that move the sand, both horizontally and vertically, in the cooler basin with an eight shaped movement from the point of introduction up to the discharge gate. The ploughs counter-rotate for homogenizing the sand and obtaining the same temperature and humidity characteristics in the whole sand parcel.

The movement produced by the counter-rotating ploughs maintains the sand fluid and optimizes the heat exchange between the sand and the cooling water and air.

The retention time is automatically controlled by a control loop which acts on the hydraulic control cylinder of the discharge gate. The gate opening and closing are modulated according to the machine absorption during the operation. Another loop controls the water addition through temperature and humidity data.

The probes that detect the electrical conductivity (to determine the moisture content) are directly mounted on the mixers, for a continuous and precise measurement that ensures a residual moisture of the sand between 2 and 2.2% +/- 0.2 %. The moisture content will allow the bentonite pre-activation, usually a couple of hours before the sand is sent to the mixer.

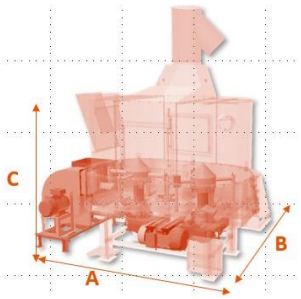
Each device that acts on the process is provided with proportionally electro-modulated elements, for a continuous regulation of air, water and sand flow, in order to minimize energy losses.

The machine is designed in order to minimize the time loss during the maintenance procedures.

The sturdy construction and the bottom ceramic coating ensure low maintenance costs.

Manufacturing principles

- SAVELLI proprietary technology and construction
- Use of high-quality standard components for easier and faster maintenance
- Cylindrically shaped basin, to avoid sand lumps in the corners;
- Lining of small tiles (20x20x10mm) glued on the milled floor;15-20 times more wear resistant than steel.
- Flender-Siemens gearboxes;
- Two rotating groups with 4 plowshares each;
- 4/6 nozzles for high pressure water spray;
- Sensors for moisture, temperature ,air pressure and motors absorption for the functioning management with SAVELLI proprietary algorithm;
- Large air camera with loopholes for improved air flow;
- High power ventilator for air injection;
- Two dapò valves for optimized air flow control;
- Inclined discharging door hydraulically operated;
- Moisture and temperature sensors (Aquatest) before and after the sand cooler;
- Optional stainless steel aspiration hood;
- Cyclone for fines recovery;
- Various options for vibration, temperature, oil conditions sensors;
- **Optional additives dosing system.**



Models and sizes

Type	Capacity	Machine Power	Ventilation Power	Aspiration volumes	A	B	C	Weight
	t/hr	KW	KW	Nm³/h	mm	mm	mm	Kg
SK 45	45	22	22	13000	4600	2050	3400	6200
SK 60	60	22	22	16000	4600	2050	3600	6500
SK 90	90	45	30	19000	5200	2250	3800	7400
SK 120	120	45	37	22000	5200	2250	4000	7700
SK 150	150	75	45	29000	7100	3050	4350	10500
SK 180	180	75	45	32000	7100	3050	4600	10800
SK 200	200	132	55	35500	7800	3300	4950	17200
SK 250	250	132	55	39000	7800	3300	5150	17500
SK 350	350	200	110	65000	8900	5400	5950	25000

Detailed views of SAVELLI SK Sand Coolers

View of basin

Hydraulic unit and exit door

Water controls

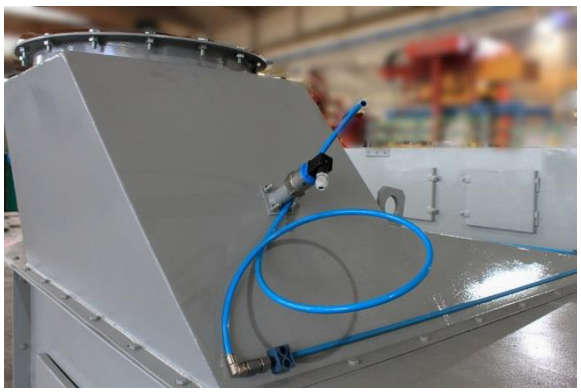
Details of inside

Motor and gearboxes

Fan unit

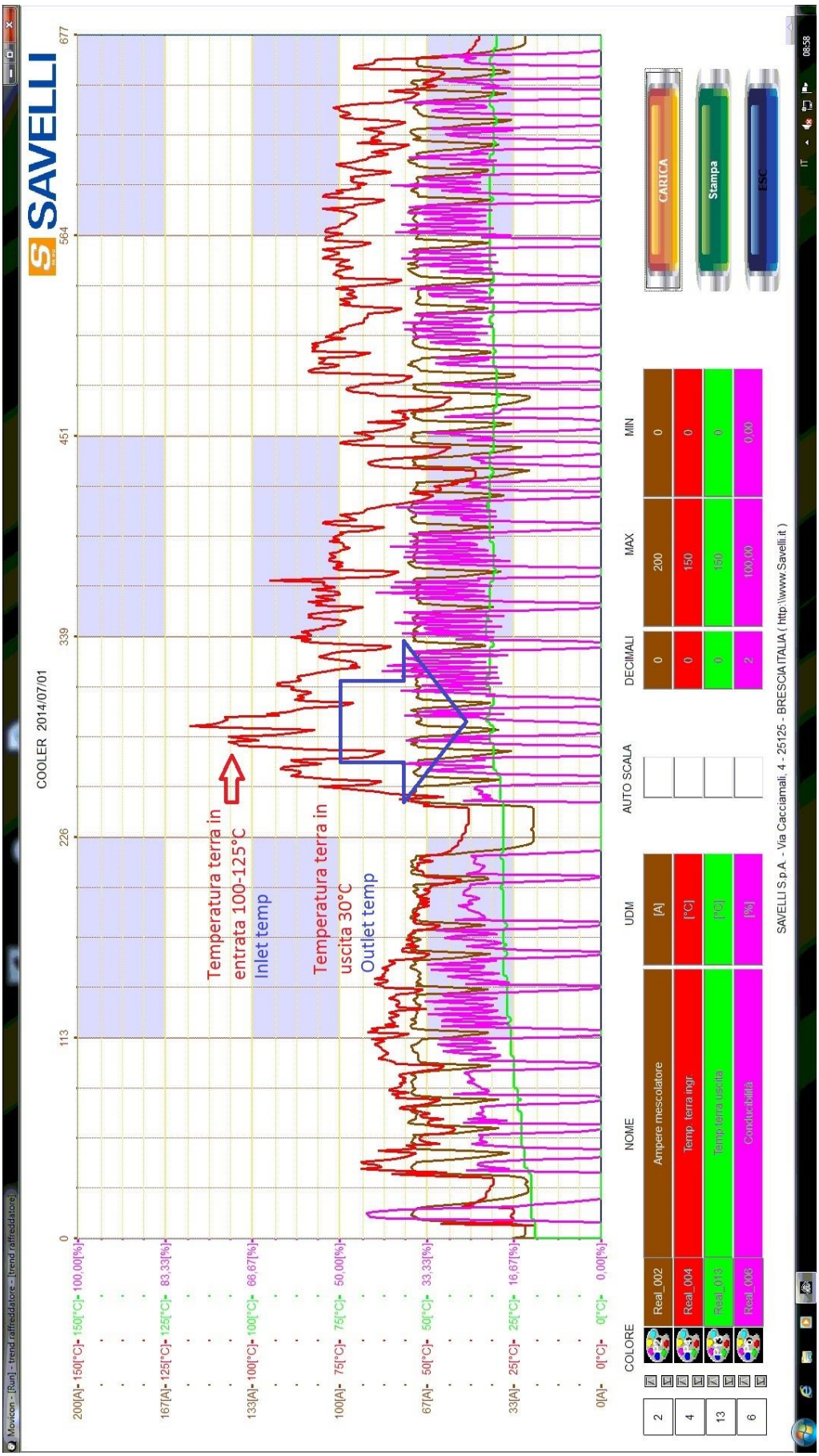
Hood with dapot valve N.1

Dapot valve N.2



Air temperature probe

Electric cabinets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SAVELLI
COOLER 2014/07/01
Temperatura terra in entrata 100-125°C
Inlet temp
Temperatura terra in uscita 30°C
Outlet temp
CARICA
Stampa
ESC
SAVELLI S.p.A. - Via Cacciamali, 4 - 25125 - BRESCIA ITALIA (http: \\www.Savelli.it)