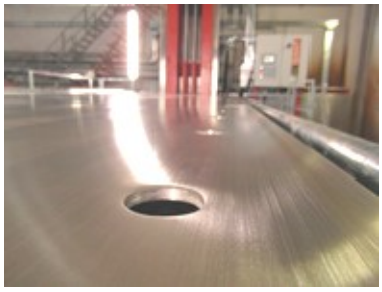
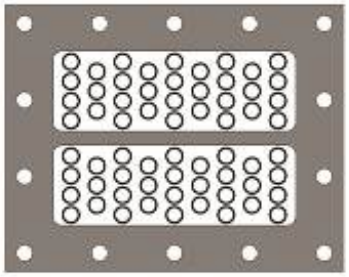
SPECIFICATIONS AND CONSTRUCTION

Particular care has been taken in the design and sizing of the drying tables which are undoubtedly the major components, and therefore more subject to wear, in a vacuum drying system.

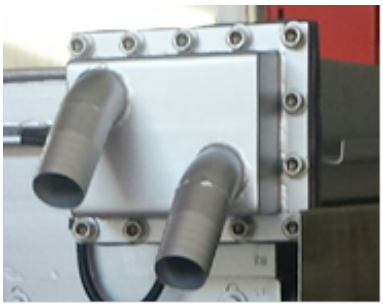
-The tables are made of **stainless steel AISI-304** plate **6 mm thick,** worked up to "semi-mat" finish.
Different degrees of finish are available on request.



-Each table is equipped with two increased condensators with high efficiency cooling circuit.
They are composed by 64 tubes in **stainless steel AISI-304,** removable for routine maintenance.



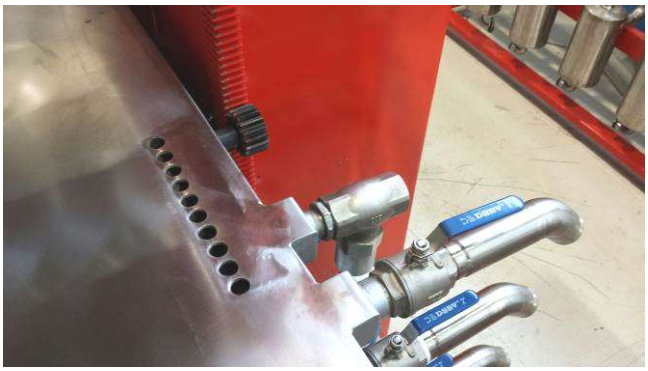
-Also condensators' cups are made entirely in **stainless steel AISI-304,** ensuring their resistance to perforation caused by corrosion, and also the separation between cold water supply and return.



-Each Table is equipped with two separate valves, one for interception / activation of vacuum and another one for the discharge of the same.
Both are made completely in stainless steel AISI-304.

-The suction system also includes a high efficiency cyclonic water separator for each table.
-Even in this case, all components are made of **stainless steel AISI-304.**
-Separators are independent for each table.

- In the **MECGIANT** system vacuum breaking **does not happen inside the condensing chambers, as usual.** Instead the vacuum breaking valve is attached to a dedicated chamber. This solution **solves the problem** of the return of condensation water on the tables.



-The movement of the tables is performed by means of hydraulic cylinders at low pressure.

- The height of the work surface is constant with respect to the ground allowing the use of fixed platforms

-The Tables are equipped with a fall arrest system comprising hydraulic valves of no return and by a system of gear racks, pinions and torsion bars. Tables are delimited by barriers of perimetral security, in order to avoid any risk of crushing the operator.

-The table tops are equipped with 1 mm thick PVC carpet, 4mm thick perimetral seal double layer in special acid resistant rubber, framed fine mesh and double-cross mesh **in stainless steel AISI-321 (with higher titanium content), wire ∅ 0.24 (to ensure greater flatness of the mesh)** supported by a stainless steel frame with tie-rods of the new generation.

The use of **the new generation tie-rods** allows tending of fine meshes in an easier and uniform way, without using special tools. **Their constructive form** allows an easy and quick replacement in case of breakage even if, thanks to their form, this is a very unusual event.

- The hidraulic unit is equipped with double gear pump, pressure relief valve, low oil level sensor and increased oil-water heat exchanger.

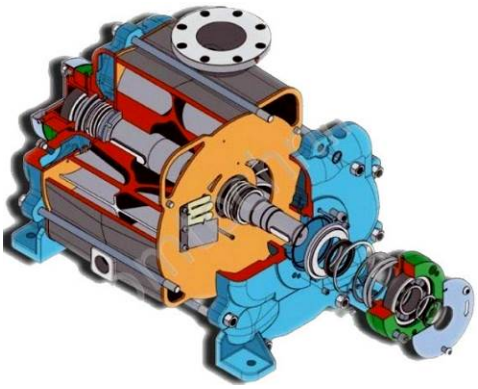
- The automation system supply is based on a PLC and equipped with a convenient operator panel which allows control and adjustment of the operating parameters of the machine, the command of the work cycle and the diagnosis of any abnormalities.

VACUUM PUMP GENERATION SYSTEM WITH LIQUID RING

- The MECGIANT system involves the use of **a water-fed liquid ring pump,** combined with a blower pump (usually called TURBO). The main pump performs the task of sucking **the higher amount (volume) of air and steam produced by the drying** cycle while the blower has the task of **pushing the vacuum to values such as to allow the evaporation of water** at very low temperatures.

A) MAIN PUMP

In the MECGIANT system, instead of mineral oil the liquid ring pump (main pump) **uses water coming directly from the cooling tower or other cooling system.** We're talking about a Travaini pump, so entirely made in Italy, which reaches **1000m3 / h flow** limiting the consumption of electricity to just **16 KW**. This arrangement results in many advantages compared to the traditional oil without affecting in any way the performance level.



Among the advantages just think of the fact that the plate heat-exchanger for cooling the pump oil is no longer necessary, together with its maintenance. The oil used in this type of applications, also, is constantly in contact with the vapors of drying and therefore must necessarily be replaced on a frequent basis.
If you prefer, however, the traditional system with the use of liquid ring fed to mineral oil, we are always able to provide it, but with a separate quotation.

B) TURBO SYSTEM

- A high vacuum blower is coupled to the main pump. Its activation is controlled by an electronic pressure transducer.
- The turbo system is combined with an auxiliary capacitor to prevent vapors or liquids reach the blower unit.

The synergy between the two pumps lowers the boiling point of water so that the leathers are cool when they are dry to the touch.

C) ICE VACUUM **TWIN TURBO SYSTEM**

- In our Twin Turbo system, liquid ring pump is coupled to two blowers in order to reach a flow rate up to 2500 m3/h. This value is twice respect a standard turbo vacuum or any dry pump system.

As feed liquid, cold water coming directly from the cooling tower or other cooling system is used. This reduces maintenance costs and avoids oil replacement.
Moreover, the TwinTurbo system gives the possibility of excluding one or both blowers, allowing to work only with the main pump or with a single turbo system.

TABLES HEATING SYSTEM

The vacuum dryer tables are heated by means of an integrated coil crossed by hot water. The heating water circulation in the tables can be done in different ways, depending on the type of boiler operating in the tannery plant.
In the specific case has been considered heating by means of:

STEAM (OR HEATED OIL)

In this case, steam is used to heat water that will then circulate in the tables.
The supply then includes:
- water - steam heat exchanger
- Pump for hot water circulation
- Pneumatic modulating valve
- Condensate discharger
-Thermostat Security, temperature sensor and temperature controller, analog gauge, air valve to control steam.
- Shut-off ball valves for the hot water supply pipes on all the floors.

In the standard configuration of the MECGIANT vacuum system all the components of the heating circuit are in stainless steel AISI-304.