

# Pomegranate Plants



**DELLA TOFFOLA**



# RECEIVING, WASHING, SORTING



Pomegranates are fed to the plants by means of cases or bins. They are sent, by means of an elevator, to a conveyor for the sorting operations and to a washer for the washing operations.



# RECEIVING, SORTING, WASHING

Our sorting conveyors mod. Selinox (see picture on the right) are employed for the sorting of fruits and they can satisfy all the requirements of all preserving industries producing juices, concentrates, cremogenates, jams and marmalades, etc.

The rotten fruits are caught and treated on the table while the wastes fall in the chutes along the tables which discharge in the under placed cases.

These units are autonomous and removable. They can be placed along the conveyor at pleasure.

There are 6 working places along both sides.



Our washing units mod. Inoxall (see picture on the left) allow a perfect washing and an accurate sorting of pomegranates or any kind of fruits and vegetables.

The washing is by immersion of the fruit in order to soften the mud and collect it in the bottom of the tank.

In this basin water is continuously fed so that the fruits advance and are rubbed one against the other causing the cleaning process. Water is discharged through an overflow pipe.

Fruits are then taken from the basin by an elevator in stainless steel that allows the dripping of the water.



# EXTRACTION / SQUEEZING

Squeezing system mod. ME-GRA for pomegranate.



Pomegranate is one of the most difficult fruit to process and an incorrect technology may unavoidably contaminate the juice with tannic elements, thus damaging its quality. Even any contact with ferrous materials is to be avoided as it causes immediate browning of the juice and a consequent bad quality.

As a consequence, we have designed our squeezing system ME-GRA® to process the pomegranate in safe conditions and with very good quality results.

Our system is based on a delicate separation and squeezing of the grains which are gently separated from membranes and peels (containing tannin) thus reducing at the very minimum the contamination.

Our technology has been constantly improved thanks to our experience in the supply of many industrial plants, and it is still the most valid system.



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# SQUEEZING SYSTEM ME-GRA



Picture 1: View of a complete squeezing group mod. ME-GRA included in a complete plant for pomegranate processing (capacity 5 tons / hour input) and supplied in Uzbekistan.

Picture 2: Details of skins coming out from the squeezing system ME-GRA.

Picture 3: Details of the grains coming out from the squeezing system ME-GRA.



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# FILTRATION



The remarkable technology allow us to present a large range of special filters, rotary vacuum (see below picture - on the right) and plates (see below picture - on the left) models, for different applications in food field. Particularly, these equipment can be used for filtering of liquids containing solid substances or of colloidal or mucilaginous type. The filters we propose can treat fruit juices for clarification, cleaning and also when filtering dregs from racking, dregs and syrups with high viscosity (even for decolouring operations).

The removal of suspended pieces is carried out in vacuum rotating filters with kieselguhr pre-coat. We manufacture models from 0.5 to 30 sq.m.

Clarification is done by filter-presses and filtering cartons on which is prepared a coat with kieselguhr. We manufacture models with plates 320 x 320, 400 x 400 or 600 x 600 mm. The number of plates depends upon processing capacities.



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# ULTRAFILTRATION

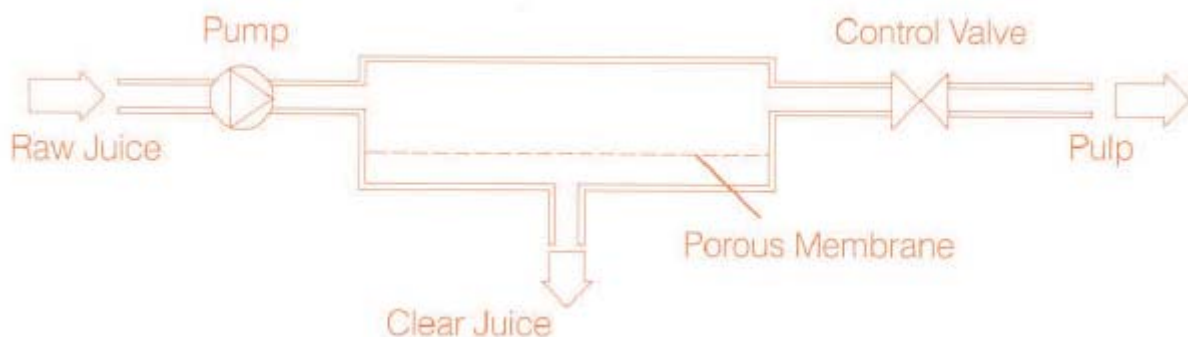


It is a continuous process with tubular membranes which demands an higher investment but it reduces industrial costs like labour, energy, filtering agents, allowing to obtain clear juice in one only operation.

Ultrafiltration uses pressure to force the juice through a porous membrane which removes large molecules and suspended solids.

Juice quality can be controlled by using membranes of different pore sizes to select molecules to be removed.

The design allows rapid and inexpensive membrane replacement.



# CONCENTRATION



Flashterm - Plate evaporators designed for the treatment of clear or low viscosity juices (less than 6%).

This concentration group can be supplied in different models (1 - 2 - 3 - 4 effects) and equipped with thermo-compressor or aroma recovery.

The manufacturer provide a wide range of plate evaporators to meet all needs of the food industry.

Picture on the top: View of a plate evaporator mod. Flashterm 5000 T.C., double effect model, designed for the concentration of pomegranate juice and installed in Iran. Capacity: 5000 l/h of evaporated water.

Picture on the right: View of a plate evaporation group, double effect model, installed in Uzbekistan. It is part of a complete plant for pomegranate processing with the production of concentrated juice packed in aseptic bags of 200 kg. Capacity of the line: 5000 kg/h of fresh fruit.



# STERILISATION



Sterilflash - Plate sterilizers designed for the sterilisation of concentrated juice of pomegranate and other fruits for the filling in sterile bags (bag-in-box) or aseptic tanks. Our standard models include: constant level bin, product feeding pump, CIP pump, plates manufactured in stainless steel Aisi 304 with supporting mounting and foot-board, over-heated water preparation group and regulation of all thermal liquids, electronic board with sterilization recording temperature.

Our Sterilflash heat exchangers foresee a 50% heat recovery for viscous products (fruit concentrates and cremogenates) and 80% for liquid products (fruit juices and nectars).

Picture on the top: Plate sterilizer mod. Sterilflash 800 installed in Uzbekistan. Capacity: 800 kg/h.

Picture on the right: Coolflash plate heat exchanger with refrigerating group for the cooling of fruit concentrates to store in refrigerated room with drums or tanks.



# ASEPTIC FILLING



Picture 1 - Aseptic filler mod. C.A.F. 2H/1" -2" equipped for 220 l drums.

Picture 2 - Aseptic filler mod. C.A.F. 2H/1" equipped for 3-20 l bags. It is complete with ABF device (Automatic Bag Feeder).

Picture 3 - Aseptic filler mod. C.A.F. 1H/1" -2"

C.A.F. - Compact Aseptic Filler - Single-head or double-head Compact Aseptic filler designed with opportune accessories for the filling of 3-20 litre bags, 200 litre bags in drums or 1000 litre in carton box over pallet.

The machine equipped with 1" filling head is suitable for filling liquid, dense and viscous products, and even low acid products. The machine equipped with 2" filling head is suitable for filling products containing pieces.

This aseptic filler is composed by a strong supporting mono-block structure manufactured in stainless steel Aisi 304, for 20" container with operator platform for: filling heads manufactured in stainless steel Aisi 304 and all parts in contact with the product in stainless steel Aisi 316; CIP circuit, sterilization circuit and product circuit in stainless steel Aisi 304 / 316; steam treatment and distribution group; magnetic flow-meter or mass flow-meter or balance (on request); electric board in stainless steel IP55 with PLC control and running system, operator panel, electric, electronic, electro-pneumatic components for the automation of the machine, as well as a modem option for long-distance maintenance. diagnostic printer and label printer (on request).



# FILLING IN DOYPACK BAGS



Pomegranate juices can be packed also in Doypack bags (see below picture on the left).

The manufacturing programme includes also a wide range of pasteurising and cooling tunnels for Doypack bags, bottles, jars and cans for food products (see picture on the top).

Our pasteurising and cooling tunnel called “TEK” are supplied with belt conveyors for the feeding and discharging of the packages (see below picture on the right), and drying device placed at the outlet of the pasteurising / cooling tunnel.



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# DELLA TOFFOLA

DELLA TOFFOLA S.p.A.  
Via Feltrina, 72 - 31040 SIGNORESSA DI TREVIGNANO (TREVISO) ITALY  
Tel. +39 0423 6772 - Fax +39 0423 670 841  
e-Mail dtgroup@dellatoffola.it - Internet www.dellatoffola.it



Azienda Certificata  
UNI EN ISO 9001:2000

Numero Verde  
**800-803276**

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ONLY FOR ITALY



## **DTF**

17 Voie Ampère, B.P. 79  
34800 - CLERMONT L'HÉRAULT (FRANCE)  
Tél. +33 (0) 467 44 47 34 Fax +33 (0) 467 44 45 86  
e-Mail contact@dtf-net.com



## **DELLA TOFFOLA IBERICA S.A.**

P.I. Lentiscares, c/La Losa, S/N  
26370 NAVARRETE LA RIOJA (ESPAÑA)  
Tel. +34 941 440 420 Fax +34 941 440 571  
e-Mail dti@dellatoffola.es



## **DELLA TOFFOLA SUDAMERICA Lim.**

Avenida Las Esteras Norte, 2481  
QUILICURA - SANTIAGO (CHILE)  
Tel. +56-2 623 1915 Fax +56-2 623 1466  
e-Mail jsolis@dellatoffola.cl  
Internet www.dellatoffola.cl



## **DELLA TOFFOLA ARGENTINA S.A. DT INOX S.A.**

Carril Rodriguez Peña, Zona Industrial  
MAIPÚ - MENDOZA (ARGENTINA)  
Tel. +54 (0) 261 493 1902 Fax. +54 (0) 261 493 1929  
e-Mail dellatoffolaargentina@dellatoffolaarg.com.ar

