

Eurotechnic UK Ltd Membrane Plate & Frame Filter Press



Stock No	TR020
Manufacturer	Eurotechnic UK Ltd
Model	Plate & Frame
Work Envelope (WxDxH mm)	36 x 800mm membrane filter plates
Process Stages	Single stage filtration
Other Info	Hydraulic closure
Location	Swindon, UK

Description

The Eurotechnic filter comprises of a set of 36 vertical, recessed membrane plates, pressed against each other by a hydraulic jack at one end of the set.

"Membrane Plate Filter"

Many processes in the food, chemical, mass finishing or pharmaceutical industries make products from liquid-solid suspensions or slurries. These mixtures are like a runny mud or milk shake. The solids in them do not dissolve in the liquid, but are carried along in it. Filter presses separate the solids from the liquids so that the useful part can be processed, packaged or delivered to the next step

General operation



Filter presses generally work in a "batch" manner. The plates are clamped together, then a pump starts feeding the slurry into the filter press to complete a filtering cycle and produce a batch of solid filtered material, called the filter cake. The stack of plates is opened, solid is removed, and the stack of plates is re-clamped and the filtering cycle is repeated.

Membrane Presses:

The membrane plate is a significant technological development of the standard recessed plate. In the press every other plate has a flexible face which covers both sides of the plate.

The fundamental principle of membrane operation realises that approximately 75 to 80 per cent of the product to be filtered passes through the filter press in the first third of the cycle time. At this point, in each chamber two 'half' cakes have been built up.

Press feeding is stopped and the flexible membrane outer surfaces are inflated by applying compressed air pressure (or water) behind the membrane surfaces. The two halves of cake in each chamber are then squeezed together, under pressure, forming a single cake of very homogenous consistency.

With the hydraulic closure ram then released the membrane can be re activated to eject the cake from the system into an awaiting collection vessel.

Utilisation of this type of membrane filter press offers in many applications the following advantages over plate and frame and recessed plate filter presses:

- Increased product throughput
- Reduction of the residual moisture of the filter cake
- Shorter filtration, wash and cake cycles
- Cake air blasting can be omitted
- Drier cakes means energy saving on cake drying and transportation
- The optimised cake structure facilitates quicker and better washing results
- Varying product quantities and compositions present no problems to the membrane filter press, irrespective of chamber depth, a cake will always be formed..

Photographs taken prior refurbishment. Our refurbishment service is not available on all machines.