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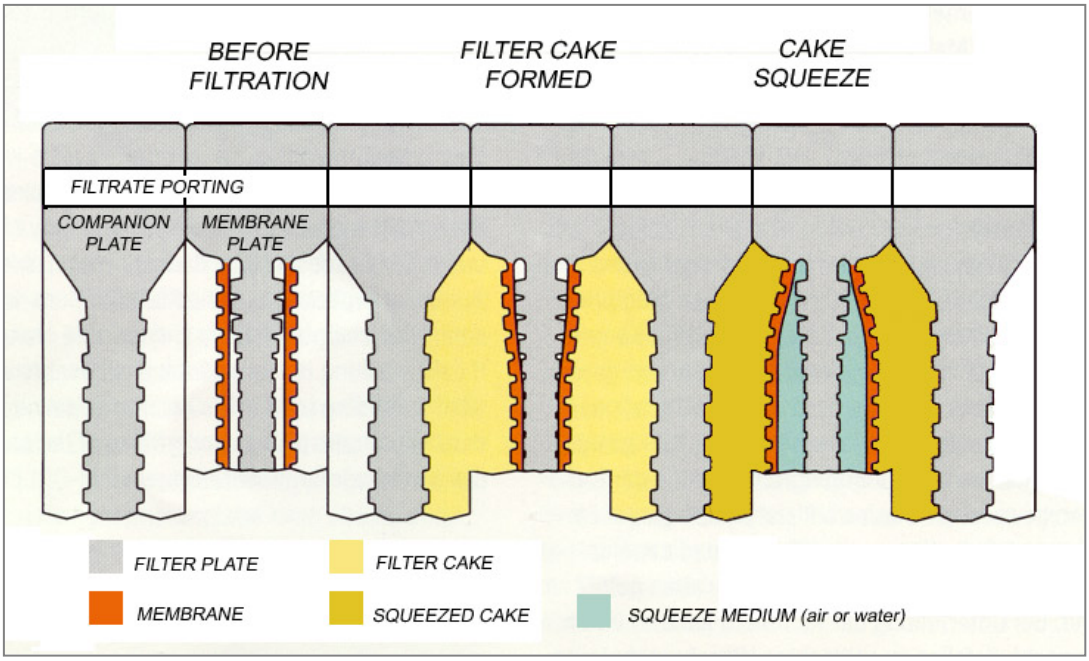
SPECIALISTS IN PRESSURE FILTRATION

RECESSED MEMBRANE PLATES

The membrane filter plate has a chamber below the drainage face that is inflated after the cake formation cycle is terminated. The common method used is water pressure, which is generated by pumping into the squeeze cavity to inflate and push the face of the plate against the filter cake. Air is sometimes used as a squeeze medium up to 7 bar (100psi). Membrane plates are used to reduce the cake moisture content or shorten the filtration cycle time. They may be retrofit to existing filter presses.

Mixed pack membranes are the most common configurations i.e. one recessed “companion plate” then one membrane plate alternating in the press plate pack. In some rare cases an all membrane press pack may be required to achieve a specific result.

Two types of membrane plate designs are use; fixed and replaceable.
Fixed membranes are most commonly 100% polypropylene. Thermoplastic materials are also available. This design is manufactured by molding the face membranes and a flat core plate separately. The face membranes are then joined to the core by means of heat welding to form a homogeneous plate. This type of membrane is suitable for most situations but has advantages in food applications where the lack of joints will avoid contamination. The disadvantage, if short membrane life is expected, is that the whole plate must be replaced when a leak (face failure) occurs.



Replaceable membranes use a polypropylene core, which is machined to accept the connection and seal of a rubber membrane. These replaceable faces are easily removed and reinstalled. Thermoplastic membranes are also used as are other rubber compounds for specific conditions. Savings in operation can be achieved in difficult environments and the membranes superior flexibility will make it the best design for many installations.

Membrane plates usually operate at a feed pressure of up to 7 bar and squeeze pressures to 15 bar. Special plates can be manufactured to accept higher feed and squeeze pressures.