

VARIABLE VOLUME RECESSED MEMBRANE PLATES

MEMBRANE FILTER PLATES HAVE A CHAMBER BELOW THE DRAINAGE FACE THAT IS INFLATED AFTER CAKE FORMATION. TYPICALLY THE FACE IN CONTACT WITH FILTER CAKE IS EITHER POLYPROPYLENE OR A RUBBER/TPE COMPOSITION DEPENDENT UPON THE SERVICE CONDITIONS.

THE CAKE FORMATION CYCLE IS IN MOST CASES TERMINATED EARLY ONCE THE FEED PRESSURE CREATED BY FEED PUMPING BEGINS TO BE INEFFICIENT. AT THIS POINT HIGH PRESSURE SQUEEZE IS DEVELOPED TO COMPLETE THE DEWATERING CYCLE.

A SECONDARY USE OF THIS SQUEEZE TECHNIQUE IS TO MANIPULATE THE FILTER CAKE TO INCREASE THE EFFICIENCY AND FINAL RESULT OF AIR BLOW DOWN OR CAKE WASHING.

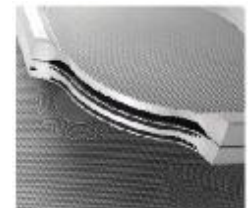
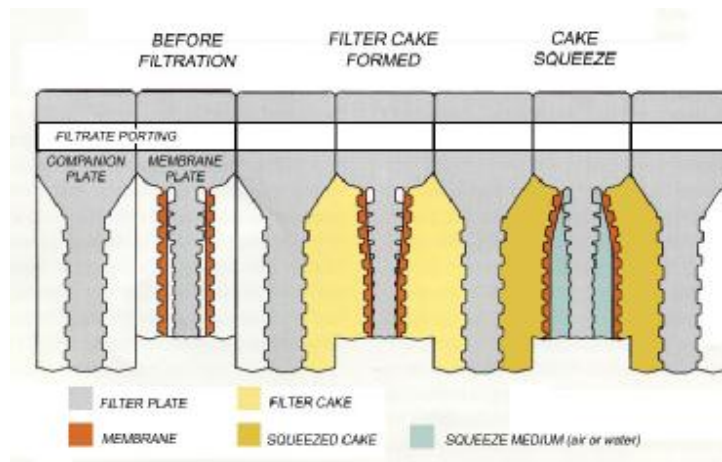
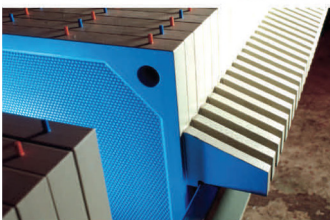
FILTRATION FEED PRESSURES TYPICALLY TERMINATE AROUND 7 BAR (100 PSI) AND FROM THIS POINT WATER PRESSURE IS USED TO SQUEEZE UP TO 20 BAR (225 PSI) – IN SOME SPECIAL APPLICATIONS SQUEEZE PRESSURES CAN BE AS HIGH AS 50 BAR. THE COMMON INFLATION METHOD USED IS WATER PRESSURE WHICH IS GENERATED FROM A SEPARATE SQUEEZE SKID PROVIDED BY MICRONICS FILTRATION.

MEMBRANE PLATES MAY BE RETROFIT TO EXISTING FILTER PRESSES PROVIDED THE FRAMEWORK WILL ACCEPT THE PRESSURE REQUIRED AND WILL WORK EQUALLY AS WELL AS NEW EQUIPMENT.

MIXED PACK MEMBRANE PLATE PACKS ARE THE MOST COMMON CONFIGURATION I.E. ONE RECESSED COMPANION PLATE THEN ONE RECESSED MEMBRANE PLATE ALTERNATING THROUGH THE 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, TPE MATERIALS ARE ALSO AVAILABLE. THE PLATE IS MANUFACTURED BY MOLDING THE FACE MEMBRANES AND A FLAT CORE PLATE SEPARATELY, THEN HEAT WELDING THE ASSEMBLY INTO ONE HOMOGENOUS PLATE. THIS TYPE OF MEMBRANE IS SUITABLE FOR MOST SITUATIONS BUT HAS ADVANTAGES IN FOOD APPLICATIONS WHERE THE LACK OF JOINTS WILL AVOID CONTAMINATION. IF SHORT MEMBRANE LIFE IS EXPECTED, THE DISADVANTAGE IS THAT THE WHOLE PLATE MUST BE REPLACED WHEN A LEAK (FACE FAILURE) OCCURS.



REPLACEABLE MEMBRANES MOST COMMONLY USE A POLYPROPYLENE CORE WHICH IS MACHINED TO ACCEPT THE CONNECTION AND SEAL OF A RUBBER OR TPE MEMBRANE. THE REPLACEABLE FACES ARE EASILY REMOVED AND REINSTALLED.

SAVINGS IN OPERATION CAN BE ACHIEVED IN DIFFICULT ENVIRONMENTS AND THE MEMBRANES SUPERIOR FLEXIBILITY IN SOME CASES WILL MAKE IT THE BEST DESIGN FOR AN INSTALLATION.

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