TABLE 2-C CHOOSING A CENTERPIECE

	KEL-F CENTERPIECES	FILLED-EPON CENTERPIECES	ALUMINUM CENTERPIECES
1. Check chemical properties	See page 2-7	See page 2-7	See page 2-8
2. Note maximum operating speed	Fixed-Partition: 29,500 rpm Multichannel Eq: 29,500 rpm Others: Max. speed of rotor	42,040 rpm or, with care, the maximum speed of rotor	Maximum speed of rotor
3. Note maximum operating temperature	40°C	40°C	Single Sector: 125°C, when used with high-temp gaskets, liners, etc. 150°C, when used as directed with Titanium rotor Others: 40°C
4. Types of centerpieces available	Single Sector ——— ——— ——— ——— ——— Mechanical Separation Fixed-Partition ——— Multichannel Equilibrium	Single Sector Double Sector Synthetic Boundary ——— Capillary-Type (single sector) Capillary-Type (double sector) ——— ——— ——— ———	Single Sector ——— Synthetic Boundary Valve-Type ——— ——— Mechanical Separation Fixed-Partition Moving-Partition ———

Centerpiece Materials

Kel-F

Kel-F is a trifluorochloroethylene polymer. It has a durometer hardness of 80 (D scale), does not absorb water, and is not affected by sunlight. The chlorine contributes to the exceptional rigidity of the material, while the fluorine is responsible for its chemical inertness and zero moisture absorption. Because Kel-F is chemically inert, it will withstand exposures to strong acids and alkalies and to most organic solvents.

If Kel-F absorbs certain highly halogenated and aromatic compounds, it will swell slightly. Consequently, when using a Kel-F centerpiece with these materials, rinse it immediately after the run with distilled water. The following is a partial list of materials that will cause a weight change in Kel-F of 1% or more in seven days at 25°C.

Chlorine	12.3%
Diethylamine	1.9
Ethyl acetate	1.2
Ethyl ether	3.8
Ethyl propionate	1.0
Freon 113	1.3
Furan	2.4
Methyl acetate	1.0
Methylal	1.3
Methyl ether	6.4
Methyl propionate	1.4
Trichloroethylene	2.3

High speeds may cause a slight distortion in Kel-F centerpieces; the distortion may lead to convection in the cell. Generally, this distortion is negligible but becomes permanent and significant after the centerpiece has been used in about 100 runs at maximum speed.

Filled-Epon

Filled-Epon centerpieces are made from an epoxy resin with a filler consisting of powdered aluminum. The filler increases the strength and thermal conductivity of the Epon. After machining, the centerpieces are subjected to a passivation process in which they are soaked in a 20% solution of sodium hydroxide. This process re-