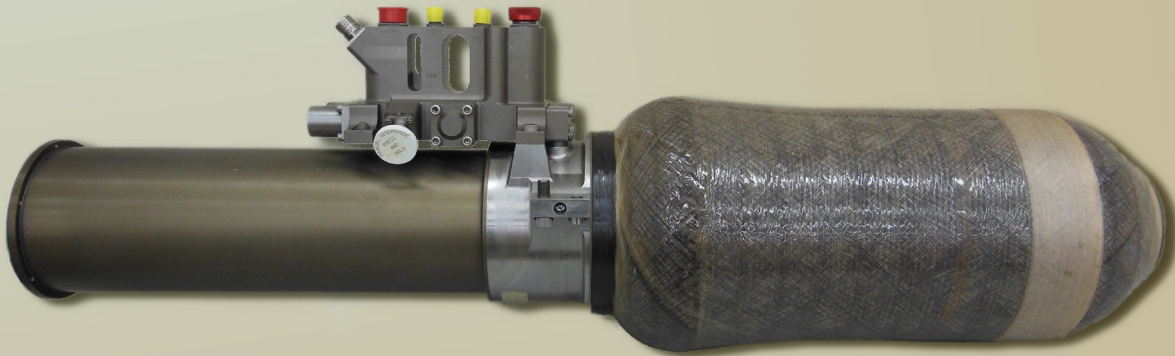


Hydraulic Accumulators

Positive Displacement

Valcor Aerospace



DESCRIPTION

Valcor's positive displacement hydraulic accumulators are self contained sources of hydraulic power. They store nitrogen gas and hydraulic oil under pressure (nominally 3000 PSI).

The expansion of the pressurized gas serves to expel the oil from the unit upon demand. The accumulator contains its own reservoir to receive expelled oil from the high pressure side (referred to as: self displacing) after it has performed its work in the system.

Valcor's innovative accumulator design features optimized fiber wrapping and a "sleeve within the liner" configuration. Valcor's wrapping technology can reduce weight up to 40% from that of traditional hoop wraps. Valcor's combined analysis and in-house wrapping technology are utilized on designs that demand optimization of weight, envelope, and performance. The sleeve feature allows the piston to ride on desirable materials that are different than the preferred liner material.

APPLICATION

These units are used in engine start systems to provide the high pressure oil supply required to drive the hydraulic motor of the auxiliary power unit (APU). They are also used as a backup to the main hydraulic system in the event of failure, to provide emergency power for functions such as braking and landing gear extension. Primary applications are on aircraft, including helicopters, where minimum weight is of paramount importance.

FEATURES

- Composite material for high strength and low weight
- Dual seals for positive gas/liquid separation
- Self-lubricating for extended life cycle
- Diagnostic instrumentation can be provided
- Envelope flexibility to suit installation
- Integrated control valve module



Brief Listing of Valcor's Qualified Aerospace Accumulators

| Valcor Part No. | Program | Approx. Vessel Envelope, L x D in. | Operating Pressure psig | High press oil volume, cu. in. | Fluid Temperature °F | Over-wrap Material | Self-Displace |
|-----------------|------------------------------|------------------------------------|-------------------------|--------------------------------|----------------------|--------------------|---------------|
| 898253-1 | Military Rotorcraft | 30.0 x 6.92 | 3000 to 3500 | 140 | -50 to 275 | Kevlar® | Yes |
| 896711 | Military Fixed Wing Aircraft | 60.7 x 5.67 | 3000 | 350 | -65 to 160 | Fiberglass | Yes |
| 898745 | Proprietary | 35.0 x 6.81 | 3000 to 3600 | 200 | -40 to 220 | Kevlar® | Yes |
| 884097 | EmergPwr Cart | 35.4 x 7.81 | 3000 | 660 | -65 to 275 | Kevlar® | No |
| 899211 | Military Fixed Wing Aircraft | 26.3 x 6.81 | 3000 to 3600 | 140 | -40 to 275 | Kevlar® | Yes |
| 899346 | Military Fixed Wing Aircraft | 28.0 x 4.28 | 3000 | 79 | -65 to 275 | Kevlar® | Yes |
| 895907 | Military Fixed Wing Aircraft | 28.3 x 4.80 | 3000 | 206 | -40 to 275 | Kevlar® | No |
| 895800 | Military Fixed Wing Aircraft | 16.2 x 5.00 | 3000 | 77 | -65 to 275 | Fiberglass | No |
| 894114 | Military Fixed Wing Aircraft | 61.0 x 5.44 | 3000 | 350 | -65 to 160 | Fiberglass | Yes |
| 893904 | Military Fixed Wing Aircraft | 20.4 x 2.81 | 3000 | 38 | -65 to 275 | Fiberglass | No |
| 898227 | Military Fixed Wing Aircraft | 26.3 x 6.4 | 3000 to 3600 | 140 | -40 to 275 | Kevlar® | Yes |
| 898254-1 | Military Rotorcraft | 30 x 6.92 | 3000 to 3600 | 140 | -50 to 275 | Kevlar® | Yes |
| 898225 | Military Rotorcraft | 26.3 x 6.4 | 3000 to 3600 | 140 | -40 to 275 | Kevlar® | Yes |
| V9100-14 | Proprietary | 39 x 8.19 | 3300 | 575 | -20 to 170 | Kevlar® | No |
| V9100-62-1 | Military Rotorcraft | 07.20 x 19.78 | 3000 | 131.8 | -65 to 275 | Carbon | No |
| V9100-63 | Military Rotorcraft | 05.00 x 12.80 | 3000 | 6.1 | -58 to 158 | Carbon | No |
| 884119-05 | Military Fixed Wing Aircraft | 07.00 x 23.68 | 3000 | 142 | -40 to 275 | Carbon | No |
| 884119-05-1 | Military Fixed Wing Aircraft | 07.00 x 23.68 | 3000 | 142 | -40 to 275 | Carbon | No |
| 884120-06 | Military Fixed Wing Aircraft | 03.8 x 14.5 | 3000 | 30 | -40 to 275 | Kevlar® | No |
| 884120-06-1 | Military Fixed Wing Aircraft | 03.8 x 14.5 | 3000 | 30 | -40 to 275 | Kevlar® | No |
| V9100-77 | Military Rotorcraft | 42 x 9.90 | 4000 to 4200 | 346 | -65 to 275 | Carbon | Yes |