

DMA-Aero Technical Note

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Rack mounted Pressure / Vacuum supply unit

DMA-Aero provides external pressure and vacuum supply units for use with their instrumentation. These supply units are available in flight line case or rack mount assemblies, see the EPS1 and EPSR1 for details. Where greater altitudes and airspeeds are required, the rack mounted EPSR2 provides those.

This EPSR2 supply unit is mounted in a 6U 84TE sized standard 19" rack, (10.5" high) and includes the following major components;

- * An oil lubricated rotary vane vacuum pump
- * A membrane dry pressure pump
- * A dual circuit on/off pump regulator, to maintain the twin channels (vacuum and pressure) in the two channels of pressure input required by the MPS36.
- * Two pressure tanks
- * An external oil filter
- * Twin, different sized, pneumatic fittings for the pressure and vacuum generation.
- * A power supply for 220v ac, or 110vac, single phase supply.

The EPSR2 pressure and vacuum supply unit enables the MPS36 to achieve the following operating conditions;

- Vacuum to enable better than 100,000 ft altitude.
- Pressure to enable 1,000 knots airspeed.
- Rate of Climb of not less than 6,000 ft/minute at 60,000 ft altitude, into a volume of 0.5 litre.
- Rate of Airspeed of not less then 800 knots/ minute at 500 knots, into a volume of 0.5 litre.

With the ability of the MPS36 to control the supply unit, switching the pumps on when the control is ON, and switching the pumps off when the MEASURE mode is selected, the supply unit is easily integrated into A.T.E. systems.

