

EPSR1

PRESSURE/VACUUM GENERATOR

TECHNICAL MANUAL



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PRESSURE AND VACUUM GENERATOR P/N EPSR1

DESCRIPTION

The DMA instrument P/N EPSR1 is a pressure and vacuum supply rack designed to generate the pressures needed by Air Data Test Sets.

The rack mounted box contains two membrane pumps for vacuum and pressure and the electronic control circuitry to drive the pumps as commanded by the monitoring pressure sensors used to read the vacuum and generated overpressure.

EASE OF USE

- Connect pneumatically the the vacuum and pressure ports of EPSR1 (Fig. 2-2 and 2-1), (Fig. 3) to the vacuum and pressure ports of the MPS 36.
- If a high altitude value (for example > 70000 feet) must be reached, connect electrically: the Remote Connection of EPSR1 (Fig. 2-3), (Fig. 3) to Remote Connection of MPS 36.

Both apparatus must be connected to the power source; when the units are turned ON the system is operational.

If different Air Data Testers than the MPS36 are to be used, the connection with EPSR1 is only pneumatic. In this situation, to achieve a vacuum value > 70000 feet the Manual Push Button (Fig. 1-3) must be pressed. To avoid excessive use of the internal pumps, after some time this above mentioned special push button automatically disarms; if the desired vacuum / altitude has not been achieved it must be pressed again.

LOW MAINTENANCE

The membrane pumps utilised do not require any maintenance. It is only necessary to periodically drain (every 1 to 3 months depending on the use) the overpressure reservoir by pressing the drain button for 5 seconds (Fig. 1-7).

FEATURES

- Vacuum pressure (Ps); down to 27 hPa abs.
- Positive pressure (Pt); up to 2800 hPa abs.
- On demand running pumps only operate when needed
- 100 to 240 Vac power supply
- Low maintenance design
- Standard 19" equipment rack housing

EXTENDED RANGE AIRCRAFT TYPE

The P/N EPSR1 can be used to generate the vacuum and pressure in conjunction with pressure controllers to achieve >80.000 feet altitude and up to 850 Knots airspeed.

Max altitude (80.000 feet) can be automatically reached, as the internal pumps are directly commanded by MPS 36; or manually through the special push button (Fig. 1-3).

PHYSICAL SPECIFICATIONS

Weight: 22 lb. (10 kg)

Dimension: L 44 cm x P 36 cm x H 14 cm

POWER SUPPLY

Universal power supply: 100-240 Vac, 50-400Hz

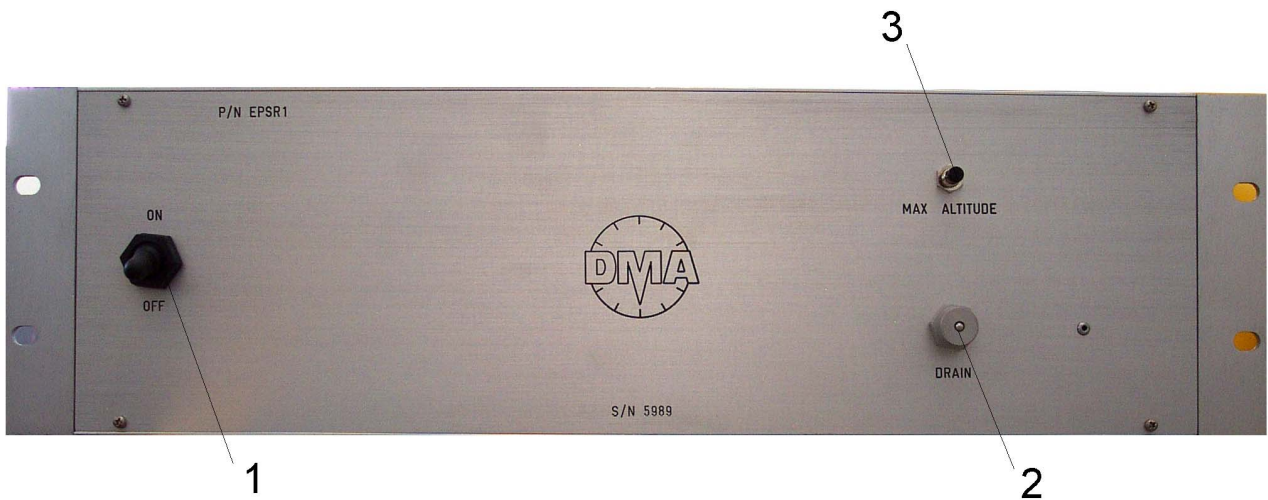
External battery supply available – P/N EPU8E

CASE

3 U Rack (5.75inches x 19inches)

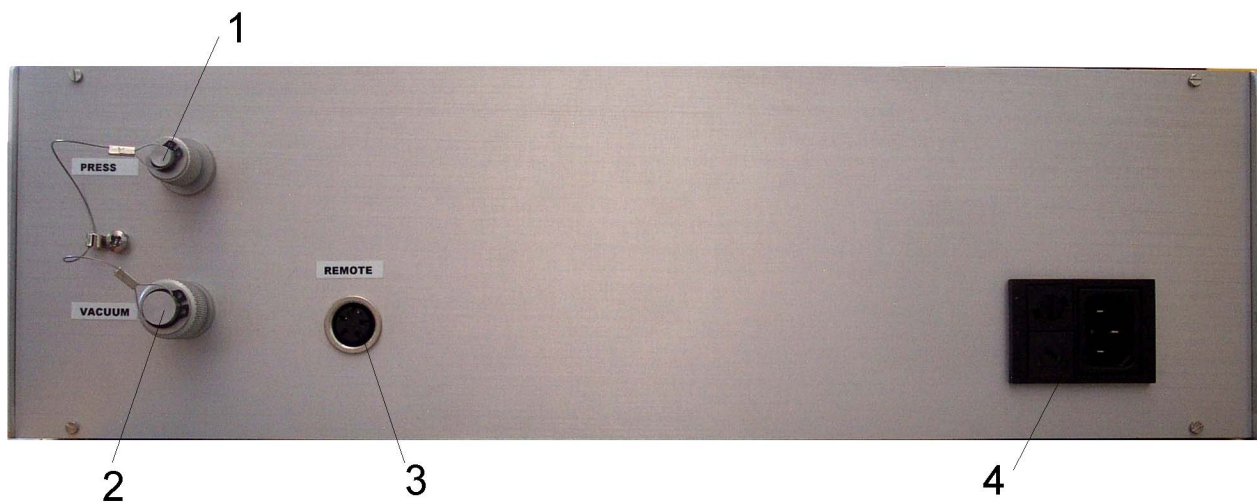
OPTIONS

Custom Pitot/Static connections available



- 1) ON/OFF Switch
- 2) Manual Drain
- 3) Manual Max. Altitude Push Button

FIG. 1 EPSR1 FRONT PANEL



- 1) Pressure Port
- 2) Vacuum Port
- 3) Remote Connection to MPS 36
- 4) ON/OFF Switch and Power Connection

FIG. 2 EPSR1 REAR PANEL



FIG. 3 **MPS 36 - EPSR1 CONNECTIONS**