FUNCTIONS

The DMA EPSR4 is a medium-high flow pressure and vacuum supply unit designed to generate the pneumatic supplies needed by Air Data Test sets, for example the MPS46 / 56 pressure controllers. Housed in a 19inch 3U high rack assembly it incorporates maintenance free diaphragm pumps.
The EPSR4 contains three brushless membrane pumps, two for va-cuum and one for pressure. These pumps are controlled by a dedica-ted internal microprocessor that schedules the operation of the pumps to achieve the desired pressures and vacuums. Vacuum pumps will operate either in Parallel or Series dependant on the ultimate flow rate and vacuum desired. The pumps feed internal storage volumes that are monitored by sensors to ensure vacuum and pressure values are as required and maximum and minimum values are not exceeded. When maximum values are reached the pumps are turned off. LED indicators on the front panel indicate when the pressure and vacuum values are reached. A front panel control button enables the absolute best possible vacuum to be demanded but equally ensures that the pumps are not excessively overloaded. A front panel mounted drain valve is also provided for any internal moisture release. A wide range capability power supply is provided. The EPSR4 enables pressures equivalent to 1,000 knots airspeed to be achieved, and vacuums equi-valent to altitudes of 110,000 feet. The flow rates ensure that high rates of change, ft/minute and knots/minute can be maintained into large and small volumes.
Two pneumatic fittings with AN modified couplings connect the EPSR4 generator with the DMA MPS46 /56 air data tester. A cable connects the MPS46 / 56 and EPSR4 to enable control of the pumps by the ADTS. By simply connecting the ADTS with the EPSR4 pressure generator, then connecting the power supply, when the unit is turned On the sy-stem is operational.

LOW MAINTENANCE

The brushless membrane pumps utilised do not require any mainte-nance. It is only necessary to periodically drain (every 1 to 3 months depending on the use) the over-pressure reservoir by pressing the drain button for 5 seconds.

SPECIFICATIONS

Ongoing development results in specifications being subject to change without notice.
Pressure maximum 3500 hPa (103 inHg) - 1,000 knots equivalent Va-cuum maximum 7 hPa (0.2 inHg) – 110,000 feet equivalent

Flow capability (vacuum):
@ 10,000 ft into 2.4 litres (145 cu in) will achieve 135,000 ft/min
@ 50,000 ft into 2.4 litres (145 cu in) will achieve 26,300 ft/min
@ 110,000 ft into 2.4 litres (145 cu in) will achieve 2,500 ft/min

Flow capability (pressure):
@ 1500 hPa into 2.4 litres (145 cu in) will achieve 2200 hPa/min
@ 2600 hPa into 2.4 litres (145 cu in) will achieve 2000 hPa/min
@ 3600 hPa into 2.4 litres (145 cu in) will achieve 1900 hPa/min

PHYSICAL SPECIFICATIONS

Weight: 11 kg (24 lb.)
Dimensions: L 440 x W 360 x H 133 mm (17 x 14 x 5.25 in.)

POWER SUPPLY

Universal power supply: 90-240 Vac; 50-400 Hz.

TEMPERATURE RANGE

Operating: 5°C to +50°C
Storage:-20°C to +70°C

CONNECTIONS

All rear panel mounted
AN fittings with O ring seals for finger tight operation.

WARRANTY

Unit: 24 months
Pumps: 5,000 hours

Above specifications subject to change without notice.

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