Mobile test bench for wide temperature range with the medium “Skydrol”

This test bench is developed to test hydraulic components e.g. Embraer Landing Gear Actuators in accordance with ATA-chapter 29.

It is possible to adapt this equipment for use with other landing gear actuators, or similar components.

> Tests from -54°C to +135°C can be carried out. The temperature is controlled automatically by the temperature control system. The required temperature is achieved using a fluid nitrogen cooling system, a water-oil heat exchanger and an electrical heating system.

> The test bench is equipped with an independent temperature control system that shuts down the test bench when an over temperature happens.

> Actuator testing can be carried out manually or by using the programmable automatic cycle control.

> Contamination testing can be carried out via bypass (e.g. filter or flow meter).
**GENERAL INFORMATION**

> The complete reservoir can be cooled to -54°C by a special cooling system.
> The desired temperature setting is carried out by a digital indicator.
> Error messages are displayed by warning lights on the control panel.
> The test bench is designed for manual operation and has analogue as well as digital display gauges.
> Bypass lines allow test bench to be operated when the filter is clogged thus reducing stoppage time.

**TECHNICAL DATA**

**Measurement range:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>-60 to +160°C (-76 to 320°F)</td>
<td>± 1 % of full scale</td>
</tr>
<tr>
<td>Pressure</td>
<td>0 to 10bar relative (0 to 145psi)</td>
<td>± 0.6% of full scale</td>
</tr>
<tr>
<td>Pressure</td>
<td>0 to 40bar relative (0 to 580psi)</td>
<td>± 0.6% of full scale</td>
</tr>
<tr>
<td>Pressure</td>
<td>0 to 400bar relative (0 to 5.800 psi)</td>
<td>± 0.6% of full scale</td>
</tr>
<tr>
<td>Flowmeter</td>
<td>0 to 75lpm (0 to 20USgpm)</td>
<td>± 1% of full scale</td>
</tr>
</tbody>
</table>

**Medium:**

Skydrol

**Electric supply:**

- Mains connection: 3/PE AC 60Hz 440V
- Nominal power: 92kVA
- Nominal current: 120A
- Back-up fuse: 160A

**Fluid nitrogen supply:**

- Pressure: 6bar (87psi)
- Flowmeter: 5lpm (1.3USgpm)
- Connector: 18 L (Inlet) and 42 L (Outlet)

**Cooling water supply:**

- Pressure: min. 3bar (min. 44psi)
- Flowmeter: max. 150lpm (max. 40USgpm)
- Connector: 22L Ermeto

**Performance data:**

- High pressure: 0 to 345bar at max. 57lpm (0 to 5.000psi at max. 15USgpm)
- Temperature: -54 to +135°C (-129.2 to 275°F)

**Dimensions and weight:**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>2.720mm (8.9ft)</td>
</tr>
<tr>
<td>Width</td>
<td>1.620mm (5.3ft)</td>
</tr>
<tr>
<td>Height</td>
<td>2.200mm (7.2ft)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.000kg (6614lb)</td>
</tr>
</tbody>
</table>

Technical data are subject to change!