Hydraulic Component Test Bench

>PHKL2-405<

Universal test bench for hydraulic components of various aircraft types such as TORNADO and EUROFIGHTER.

It can also be adapted to other aircraft types

- Three independent testing stations, each one with an individual computer control and one central hydraulic power unit.
- Testing station 1 with horizontal loading mechanism for actuator testing and an external, vertical loading mechanism for chassis testing.
- Testing station 2 with load unit for steering motor and UUT’s with wide flow.
- Testing station 3 with hydraulic quick fixing plate including seven internal, free connectable joints.
- Quick disconnect couplings without oil leakage.
UUT CATEGORY

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<th>Flight Control Units</th>
<th>gear components</th>
<th>actuators</th>
<th>filter assembly</th>
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<td>manifolds</td>
<td>valves</td>
<td>brake components</td>
<td>lockings</td>
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GENERAL INFORMATION

- Manual, semi- and fully automatic testing is possible
- Data acquisition and storage of flow, pressure, leakage, force, temperature usw.
- Prepared for integration of ECGMU into the test bench computer system for Eurofighter flight control testing
- A proximity switch testing device is installed into the test bench
- Each testing station consists of a movable control panel, equipped with a monitor

TECHNICAL DATA

- **Hydraulic parameter testing station 1 to 3:**
  - 2x HP circuit: max. 310bar (4.496psi)
    - max. 160lpm (42.3USgpm)
  - 1x HP circuit: max. 550bar (7.977psi)
    - max. 141lpm at 410bar (3.7USgpm at 5.947psi)

- **Hydraulic parameter testing station 1:**
  - LP circuit: max. 10bar (145psi)
    - max. 40lpm (10.6USgpm)
  - Measuring circuit (2x)
    - max. 310bar (4.496psi)
      - 0.2 - 40lpm (0.05 - 10.6USgpm)
      - 10 - 160lpm (2.6 - 42.3USgpm)
  - 2 connecting blocks
  - Leakage measuring circuit: 0.01 - 2lpm (0.003 - 0.53USgpm)
  - 0 - 400ccm/min
  - Horizontal load unit: max. 250kN (tension/pressure)
  - Stroke measurement: 2.300mm (7.55ft)
  - Stroke measurement free of load: 600mm (1.97ft)

- **Nitrogen circuit:**
  - max. 250bar (3.626psi)

- **Hydraulic parameter testing station 2:**
  - LP circuit: max. 10bar (145psi)
    - max. 220lpm (58.1USgpm)
  - Measuring circuit (3x)
    - max. 310bar (4.496psi)
      - 0.2 - 40lpm (0.05 - 10.6USgpm)
      - 10 - 160lpm (2.6 - 42.3USgpm)
      - Measuring circuit (1x)
        - max. 550bar (7.977psi)
        - 0.2 - 40lpm (0.05 - 10.6USgpm)
        - 10 - 160lpm (2.6 - 42.3USgpm)
  - Measuring circuit (1x)
    - max. 5lpm (1.3USgpm)
  - Connecting block
  - Hand pump test circuit:
    - max. 1.000bar (14.504psi)
  - Leakage measuring circuit:
    - 0.01 - 2lpm (0.003 - 0.53USgpm)
    - 0 - 400ccm/min
  - Load unit for steering motor:
    - Angle meas.: 0 - 360°
    - Torque: 0 - 2000Nm
    - Rotary actuator: ± 1.500Nm
      - ± 70°
## TECHNICAL DATA

**Hydraulic parameter testing station 3:**
- **LP circuit:**
  - max. 10bar (145psi)
  - max. 220lpm (58.1USgpm)
- **Measuring circuit (2x):**
  - max. 310bar (4.496psi)
  - 0.2 - 40lpm (0.05 - 10.6USgpm)
  - 10 - 160lpm (2.6 - 42.3USgpm)
- **Measuring circuit (1x):**
  - 0 - 310bar (4.496psi)
  - 5 - 80lpm (1.3 - 21.1USgpm)
  - 0.05 - 15lpm (0.01 - 3.9USgpm)
- **Connecting block with 7 joints on the quick fixing plate**
- **Vacuum test circuit:**
  - max. 0.15bar abs. (2.18psi abs.)
- **Leakage measuring circuit:**
  - 0.01 - 2lpm (0.003 - 0.53USgpm)
  - 0 - 400ccm/min
- **Nitrogen circuit:**
  - max. 250bar (3.626psi)

**Electrical parameter testing station 1 to 3:**
- **DC-supply:**
  - 0 - 65V / 0- 10A
- **Servo valve triggering:**
  - 0 - 25mA
- **Isolation testing:**
  - 0 - 500VDC
- **High voltage testing:**
  - 0 - 1.500VAC
- **Digital multimeter**

**Electrical parameter testing station 2:**
- ** servo valve triggering:**
  - 0 - 25mA
- **Isolation testing:**
  - 0 - 500VDC
- **High voltage testing:**
  - 0 - 1.500VAC
- **Digital multimeter**

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**Electrical parameters (requirements):**
- 3/N/PE AC 50Hz 400V
- Nominal current: 570A
- Power: 395kVA
- Back-up fuse: 630A

**Dimensions and weight:**
- **Test bench:**
  - Length: 7.700mm (25.3ft)
  - Width: 6.500mm (21.3ft)
  - Height: 2.200mm (7.2ft)
  - Weight: approx. 9.500kg (20.944lb)
- **Hydraulic power unit:**
  - Length: 3.300mm (10.8ft)
  - Width: 2.200mm (7.2ft)
  - Height: 2.260mm (7.4ft)
  - Weight: approx. 7.500kg (16.534lb)
- **Vertical load unit:**
  - Length: 1.470mm (4.8ft)
  - Width: 2.100mm (6.9ft)
  - Height: 2.340mm (7.7ft)
  - Weight: approx. 1.720kg (3.792lb)
Vertical load unit

Hose trolley

Hydraulic power unit