Test Stand For Linear Actuators

>PRP5LH-LIN<

<PRP5LH-LIN> has been developed for testing the characteristics of electrically operated linear actuators.

It can also be adapted for linear actuators with other parameters.

- The linear actuators are loaded with max. 1.25kN or max. 12.5kN via two hydraulic cylinders.
- The relevant parameters for distance, speed and force are calculated by means of a position measuring system and a force and a load cell.
- Safety doors with polycarbonate sheets (Makrolon®) protect the operator and enable optimal access to the test cell.

GENERAL

- Automated test procedures with evaluation of recordings
- Remote control for UUTs or cylinders
- Operation via monitors on a telescope pivot arm
- Stroke measurement via Linear Variable Differential Transformer (LVDT)
- Maintenance of the TF test stand software, test procedures and trouble shooting on the equipment is possible via network connection
- Integrated main computer

TECHNICAL DATA

Hydraulic medium:

- AeroShell, MIL-H-5606A

Cooling water supply: (costumer)

- Temperature:	max. 12°C (53.6°F)
- Pressure:	max. 10bar (145psi)
- Flow:	max. 20l/min (5.28USgpm)
- Water quality:	Industrial cooling water

Hydraulic Parameters:

- Tank 60l (15.9gal)
- Adjustable axial piston pump 20l/min, 150bar (5.28USgpm, 2,180psi)
- Accumulator 1.4l (0.37gal)
- Plate heat exchanger
- High pressure filter 6µ and return flow filter 10µ, both with electrical and optical contamination indication
- Manometer 200bar (2,900psi), cl. 1.6
- Safety valve 160bar (2,320psi)
- Excess temperature cut-out 70°C (158°F)
- Minimum level switch
- Sight glass

Mechanic Parameters:

- Thrust bridge 1:

Force:	max. ±1.8 or ±15kN
Velocity:	max. ±100mm/s (0.33ft/s)
Stroke:	max. 750mm (29.5in)

Thrust bridge 2:

Force:	max. ±1.8kN
Velocity:	max. ±100mm/s (0.33ft/s)
Stroke:	max. 1,200mm (47.2in)

Main supply:

- Main supply:	3/N/PE AC 50Hz 400V
- Nominal current:	max. 37.5A
- Power:	approx. 26kVA
- Back-up Fuse:	63A gl
- Connection:	via clamps

Maintenance supply: (tapped from main supply)

- Main supply:	1/N/PE AC 50Hz 230V
- Nominal current:	max. 13A
- Power:	approx. 3kVA
- Back-up Fuse:	16A gl
- Connection:	gripped before main switch

Electric parameters:

- AC supply:	3/N/PE 400Hz AC 200V, max. 10A
- DC supply	
Constant 1:	0 to 40VDC, 0 to 16A
Constant 2:	0 to 40VDC, 0 to 32A

Operating conditions:

- Altitude:	max. 1,000m (3,280ft) MSL (main sea level)
- Operating temperature:	+5°C to +35°C (41 bis 95°F)
- Storage temperature:	0°C to +60°C (32 bis 140°F)
- Humidity:	5 to 95% (not condensing)

Dimensions and weight:

- Length:	approx. 5,000mm (197in)
- Width:	approx. 2,200mm (86.6in)
- Height:	approx. 2,700mm (106in)
- Weight:	approx. 2,200kg (4,850lb)

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TECHNICAL DATA

> Mechanical measurements

Measurement description	Range	Tolerance	Channel no.
Thrust bridge 1			
Force	-1.25 to +1.25kN	±0.5% of range	000
Force	-0.1 to 0.1kN	±0.5% of range	000
Force	-12.5 to +12.5kN	±0.5% of range	001
Stroke	0 to 750mm (0 to 29.5in)	±0.0025% of range	007
Thrust bridge 2			
Force	-1.25 to +1.25kN	±0.5% of range	002
Force	-0.1 to 0.1kN	±0.5% of range	002
Stroke	0 to 1200mm (0 to 47.2in)	±0.0025% of final value	008
Clearance			
Stroke	0 to 30mm (0 to 1.18in)	±0.01% of final value	009
Stroke	0 to 100mm (0 to 3.94in)	±0.05% of final value	009
Stroke	0 to 0.8mm (0 to 0.0315in)	±10µm (0.0004in) absolute	-
Temperature			
Temperature	-20 to +100°C (-4 to 212°F)	±3K absolute	012

> Electrical measurements

Measurement description	Range	Tolerance	Channel no.
AC Supply			
Current Phase	0 to 10AAC	±0.25% of range	019 to 021
Current Phase - neutral wire	0 to 150VAC	±0.75% of range	013 to 015
Voltage Phase - Phase	0 to 250VAC	±0.75% of range	016 to 018
Frequency	45 to 400Hz	±0.1% of range	022
DC Supply - constant 1			
Current	0 to 16ADC	±0.25% of range	024
Current	0 to 1.8ADC	±0.5% of range	025
Voltage	0 to 40VDC	±0.5% of range	023
DC Supply - constant 2			
Current	0 to 32ADC	±0.25% of range	027
Voltage	0 to 40VDC	±0.5% of range	026

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TECHNICAL DATA

> Electrical measurements (continuation)

Measurement description	Range	Tolerance	Channel no.
LVDT Measurement Voltage / Frequency			
Excitation			
- Voltage	0 to 29Vrms	±0.1% of final value	034
Measurement 1			
- Voltage	-28 to +28V	±0.1% of range	037
	0 to 28Vrms	±0.1% of final value	038
- Phase displacement	-360 to +360°	±0.5° absolute	035
Measurement 2			
- Voltage	-28 to +28V	±0.1% of range	039
	0 to 28Vrms	±0.1% of final value	040
- Phase displacement	-360 to +360°	±0.5° absolute	036
Additional measurments on UUT			
Voltage	0 to 150Vrms	±0.75% of range	044 and 045
Level recognition			
- Counter	0 to 1,000Hz	±0.1% of range	042 and 043
- Voltage	-20 to +20VDC	±0.5% of range	100 and 104
Resistance			
- Voltage	0 to 15VDC	±0.02% of range	046 and 047
- Resistance	0 to 8,000Ohm	±1% of range	050 and 051
	0 to 1,200Ohm	±1% of range	054
	0 to 13,000Ohm	±1% of range	055

Hydraulic power unit

Test cell

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Technical data are subject to change!