

Test Stand For Radial Actuators

>PRP5LH-ROT<



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

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

- > The rotating actuators are loaded for the higher Nm-range via two torquemotors and for the lower Nm-range via two servomotors.
- > The relevant parameters for torque, rotary speed and angle of rotation are calculated by means of torque sensor bars, rpm sensors and angle sensors.
- > 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 controls for UUTs or for the load motors
- > Operaton via monitors on a telescope pivot arm
- > Maintenance of the TF test stand software, test procedures and trouble shooting on the equipment are possible via network connection
- > Integrated main computer

TECHNICAL DATA

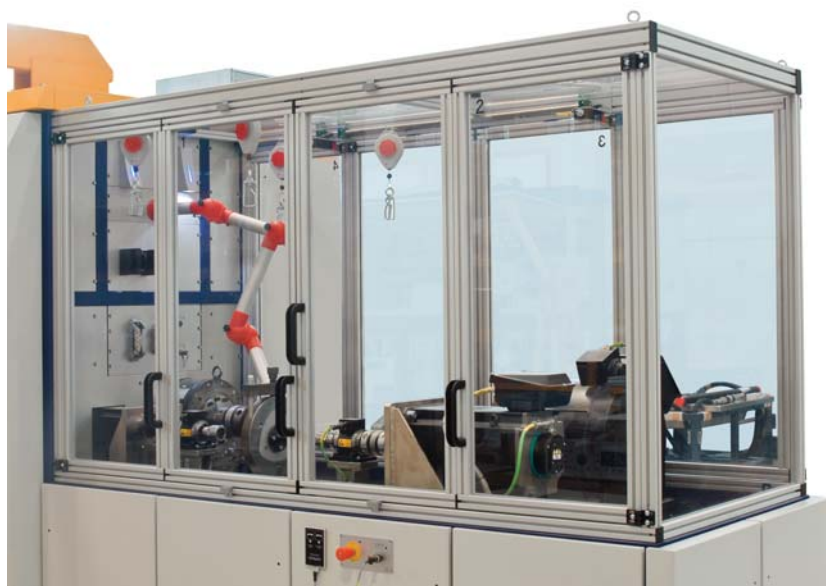
<p>> Electrical power supply:</p> <ul style="list-style-type: none"> - Main supply: 3/N/PE AC 50Hz 400V - Nominal current: max. 170A - Power: approx. 117.78kVA - Back-up Fuse: 200A GL - Connection: via clamps 	<p>> Mechanical parameters:</p> <ul style="list-style-type: none"> - High load section: <table style="margin-left: 20px;"> <tr> <td>Motor 1:</td> <td>max. $\pm 626\text{Nm}$, $\pm 400\text{rpm}$</td> </tr> <tr> <td>Motor 2:</td> <td>max. $\pm 1,280\text{Nm}$, $\pm 350\text{rpm}$</td> </tr> </table> - Low load section: <table style="margin-left: 20px;"> <tr> <td>Motor 3:</td> <td>max. $\pm 21.3\text{Nm}$, $\pm 2,000\text{rpm}$</td> </tr> <tr> <td>Motor 4:</td> <td>max. $\pm 92\text{Nm}$, $\pm 1,000\text{rpm}$</td> </tr> </table> 	Motor 1:	max. $\pm 626\text{Nm}$, $\pm 400\text{rpm}$	Motor 2:	max. $\pm 1,280\text{Nm}$, $\pm 350\text{rpm}$	Motor 3:	max. $\pm 21.3\text{Nm}$, $\pm 2,000\text{rpm}$	Motor 4:	max. $\pm 92\text{Nm}$, $\pm 1,000\text{rpm}$								
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<p>> Maintenance supply: (tapped from main supply)</p> <ul style="list-style-type: none"> - 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 	<p>> Operating conditions:</p> <ul style="list-style-type: none"> - Altitude: max. 1,000m (3,280ft) MSL (main sea level) - Operating temperature: $+5^{\circ}\text{C}$ to $+35^{\circ}\text{C}$ (41 bis 95°F) - Storage temperature: 0°C to $+60^{\circ}\text{C}$ (32 bis 140°F) - Humidity: 5 to 95% (not condensing) 																
<p>> Cooling water supply: (costumer)</p> <ul style="list-style-type: none"> - Temperature: max. 12°C (53.6°F) - Pressure: max. 10bar (145psi) - Flow: max. 20l/min (5.28USgpm) - Water quality: Industrial cooling water 	<p>> Dimensions and weight:</p> <ul style="list-style-type: none"> - Test stand <table style="margin-left: 20px;"> <tr> <td>Length:</td> <td>approx. 3,800mm (149in)</td> </tr> <tr> <td>Width:</td> <td>approx. 1,840mm (72in)</td> </tr> <tr> <td>Height:</td> <td>approx. 2,620mm (104in)</td> </tr> <tr> <td>Weight:</td> <td>approx. 3,500kg (7,720lb)</td> </tr> </table> - AC supply <table style="margin-left: 20px;"> <tr> <td>Length:</td> <td>approx. 920mm (36.2in)</td> </tr> <tr> <td>Width:</td> <td>approx. 760mm (30in)</td> </tr> <tr> <td>Height:</td> <td>approx. 1,830mm (72in)</td> </tr> <tr> <td>Weight:</td> <td>approx. 700kg (1,540lb)</td> </tr> </table> 	Length:	approx. 3,800mm (149in)	Width:	approx. 1,840mm (72in)	Height:	approx. 2,620mm (104in)	Weight:	approx. 3,500kg (7,720lb)	Length:	approx. 920mm (36.2in)	Width:	approx. 760mm (30in)	Height:	approx. 1,830mm (72in)	Weight:	approx. 700kg (1,540lb)
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<p>> Electrical parameters:</p> <ul style="list-style-type: none"> - AC Supply: 3/N/PE AC 400Hz 200V - DC Supply <table style="margin-left: 20px;"> <tr> <td>Constant 1:</td> <td>0 to 40VDC, 0 to 16A</td> </tr> <tr> <td>Constant 2:</td> <td>0 to 40VDC, 0 to 32A</td> </tr> </table> 	Constant 1:	0 to 40VDC, 0 to 16A	Constant 2:	0 to 40VDC, 0 to 32A													
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TECHNICAL DATA

> Mechanical measurements			
Measurement description	Range	Tolerance	Channel no.
High load section			
Motor 1			
- Torque	-1,200 to +1,200Nm	±0.5% of full scale	000
- Speed	0 to 350rpm	±1rpm absolute	001
- Angle	-720 to 720°	±0.2° absolute	002
Motor 2			
- Torque	-600 to +600Nm	±0.5% of full scale	004
- Speed	0 to 400rpm	±1rpm absolute	003
- Angle	-720 to 720°	±0.2° absolute	005
Low load section			
Motor 3			
- Torque	-92 to +92Nm	±0.5% of full scale	007
- Speed	0 to 1,000rpm	±1rpm absolute	006
- Angle	-720 to 720°	±0.2° absolute	008
Motor 4			
- Torque	-21.3 to +21.3Nm	±0.5% of full scale	010
- Speed	0 to 2,200rpm	±1rpm absolute	009
- Angle	-720 to 720°	±0.2° absolute	011
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	022 bis 024
Current Phase	0 to 100AAC	±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	025
Active Power	0 to 6kW	±0.75% of range	051, 053, 055
Apparent Power	0 to 6kVA	±0.75% of range	050, 052, 054

> Electrical measurements (continuation)

Measurement description	Range	Tolerance	Channel no.
DC Supply - constanter 1			
Current	0 to 16ADC	±0.25% of range	027
Voltage	0 to 40VDC	±0.5% of range	026
DC Supply - constanter 2			
Current	0 to 4.5ADC	±0.5% of range	030
Current	0 to 38ADC	±0.25% of range	029
Voltage	0 to 40VDC	±0.5% of range	028
Additional measurments on UUT			
Resistance			
- Voltage	0 to 5,2V	±0.02% of range	033
- Voltage	0 to 15V	±0.02% of range	032
Tacho			
- Voltage	0 to 40VDC	±0.1% of full scale	034
- Voltage	0 to 3Vrms	±0.3% of full scale	035
- Voltage	0 to 300Vrms	±0.5% of full scale	036
Angle via motor	0 to 360°	±0.2° absolute	044, 046, 047
Angle via motor	0 to 360°	±0.7° absolute	045



Test cell



AC Supply