

Product name: Linear Actuator Test Bench

Product model: RN-XXZD-16122

A basic description

This test bench is used to measure all kinds of parameters of linear actuator in the process of production and maintenance, including tension pressure measurement, stroke measurement, speed measurement, stroke time recording, stroke switch position adjustment, rated load test, maximum load test, brake test and leakage test, etc. In order to ensure the safety of testers and specimens, the test area of the test bench is isolated and protected by high strength plexiglass. As a general test platform, this test platform has a high degree of automatic testing ability, and adopts an open universal development and programming platform.

The test bench is composed of five parts: electrical control unit, hydraulic source, test unit, control unit and leakage test fixture.



The system has the following characteristics:

-- The system has a wide coverage, which can meet the product testing requirements of nearly 20 piece numbers, and has strong expansion ability. Users can carry out secondary programming;

- The system has a complete security control and alarm system, in the test part or test platform abnormal alarm to the user, and guide the user to troubleshoot the cause of the fault;

- The system has personnel authorization and hierarchical management functions to prevent misoperation;

- The system has sensor online measurement and software online calibration function;

- The system has automatic storage device use record, easy to query;

- The system provides automatic data analysis. Users can generate test reports based on the automatically recorded test data and perform customized curve analysis on the test data.

Use environment:

- Power supply: three-phase AC, 15KVA;
- Operating temperature: 0~35℃;
- Working humidity: 5%~95%;
- Working pressure: normal atmospheric pressure;
- Equipment size (L * W * H) : 2.92m*1.2m*2.1m;
- Weight: 2000KG.

Mechanical parameters:

- Tensile and compression load: -16kN ~+16KN;
- The test bench provides the installation requirements of the tested parts, with a maximum stroke of 500mm and a distance between the two lugs of 1000mm~1200mm;
- The maximum extension and recovery speed of the loading cylinder is 100mm/s; The minimum speed can be as low as 1mm/s.

Hydraulic parameters:

- Hydraulic medium: No. 15 Aviation red oil /MIL-H-5606A;
- Rated flow: 8L/MIN;
- Maximum pressure: 18Mp;
- Hydraulic cylinder stroke: 400mm;
- Hydraulic cylinder diameter: 50/36 mm.

Electrical parameters:

- DC power supply, 1.2KW, 0~80V, 0~60A, used for the work power supply of the parts under test;
- DC power supply, 192W,0~32V,0~6A, used for the excitation signal source of the part under test;
- Medium frequency power supply, 3KVA, three-phase 0~150V can be set, frequency 400Hz±0.4Hz, used for the work power supply of the parts under test.

Measurement parameters:

- DC current measurement: DC current sensor, range 0~50A, accuracy 0.02%FS, 1

channel;

- AC current measurement: AC current sensor, range 0~2A, accuracy 0.2%FS, 1 channel;
- AC current measurement: AC current sensor, range 0~5A, accuracy 0.2%FS, 2 channels;
- Resistance test: use 6-digit half-digital multi-meter 34465A;
- Displacement measurement: magnetic position sensor, range of 0~800mm, precision 0.01%, resolution 1 μ , 2 channels;
- Force measurement: tension pressure sensor, range 0~2000kg, accuracy 0.03%, 1 way;
- Force measurement: tension pressure sensor, range 0~500kg, precision 0.03%, 1 way;
- Force measurement: tension pressure sensor, range 0~100kg, accuracy 0.03%, 1 channel;
- Temperature measurement: infrared temperature sensor, range of 0~500 $^{\circ}$ C, accuracy $\pm 1.5^{\circ}$ C, 1 channel, used for monitoring the temperature of the measured parts.
- Pressure measurement: pressure transmitter, range 0~40MPa, accuracy 0.5%FS, 1 channel, used to monitor the hydraulic pressure of the system.
- DC voltage measurement: DC voltage sensor, range of 0~15V, accuracy 0.2%FS, 1 channel, used for potentiometer test of the measured part.

Expansion performance:

- It can carry out LVDT test;

- Servo actuator can be tested.

Reference Ability:

NO.	CMM manual	PN package number	Product name
1	21-20-64	2741686-1	Ram Air Door Actuator
2	49-15-01	R5365-1, R5365-2 R5365-3	APU Inlet Door Actuator Assembly
3	21-62-03	742868-1, 742868-2, 742868-3, 742868-4, 742868-5	RAM AIR VALVE ACTUATOR
4	30-20-02	LA11A2104	LINEAR ACTUATOR
5	49-15-03	732-16870-01 732-16870-02 732-16870-03	ACTUATOR ASSEMBLY, AIR INTAKE AUXILIARY POWER SYSTEM
6	27-62-01	684D100-1 684D100-3 684D100-5 684D100-7 684D100-MD7-1 684D100-9 684D100-MD9-1 684D100-11 684D100-13 684D100-15 684D100-17	AUTOMATIC GROUND SPEED BRAKE LINEAR ACTUATOR
7	21-20-36	541674-1-1 541674-3, 541674-4 541674-5, 541674-6	Ram Air Modulation Linear Electromechanical Actuator
8	21-53-12	761A0000-03 761A0000-04 761B0000-01 762A0000-03 762A0000-04	RAM AIR INLET ACTUATOR (RAIA) RAM AIR OUTLET ACTUATOR (RAOA)
9	49-16-51	106-1-1100-02	ACTUATOR-APU

10	21-53-52	976A0000-02	RAM AIR OUTLET ACTUATOR (RAOA)
11	21-53-51	975A0000-02 975A0000-03	RAM AIR INLET ACTUATOR (RAIA)