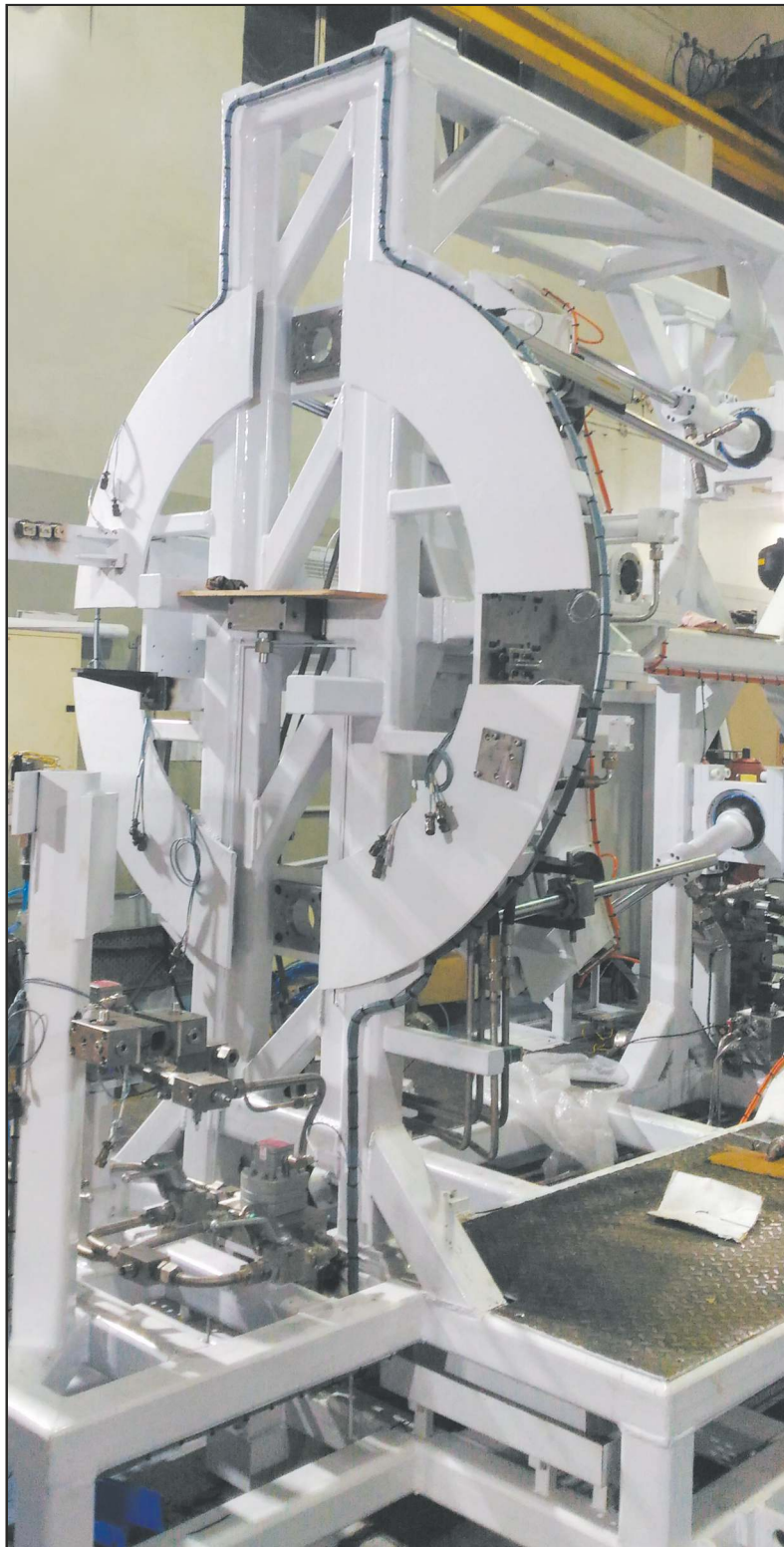


Test Systems for last 20 Years

SERVOCONTROLS INVOLVED IN DESIGN AND DEVELOPMENT OF VARIOUS TESTS as per SAE Standards/MIL Standards/J55555/CEMILAC/BOEING etc.



APPLICATIONS :

- Material Testing (UTM/CTM /Tensile)
- Structural Testing
- Fatigue, Endurance & Lifecycle testing
- Qualification Testing
- Performance Testing
- Evaluation Testing
- Actuation Systems etc.

MARKETS

- Automotive
- Aerospace
- Material Testing
- Civil & Construction

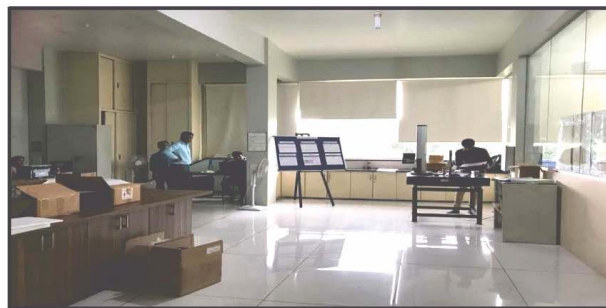
IN HOUSE FACILITIES

- Mechanical / Electronics / Electrical design departments.
- State of the Art 2/3/5/ axes machine Shop,/EDM/Grinding / Honing & Laser Welding.
- Clean Room Facility for Hydraulics & Electromechanical Systems
- Assembly and Test Shop
- Fabrication and Paint Shop
- Metrology Lab
- Servo lab
- Servo valve / Proportional Valve and Sensor Repair Centre

Machine Shop German and Swiss Make Machines



Quality Control/Inspection Room with CMM & Contour



Performance Test Rig

Designed for Primary and Secondary Flight control actuator performance evaluation after assembly. The test rig is designed for testing Airbus A320 and Boeing 787 Power Door Opening System Actuator.



Qualification Test Rig

Designed / MFG / Assembly at Testing of Electro Hydraulic Systems with Servocontrollers & DAQ for leading Aerospace company at servocontrols Facility Belagavi in 2019



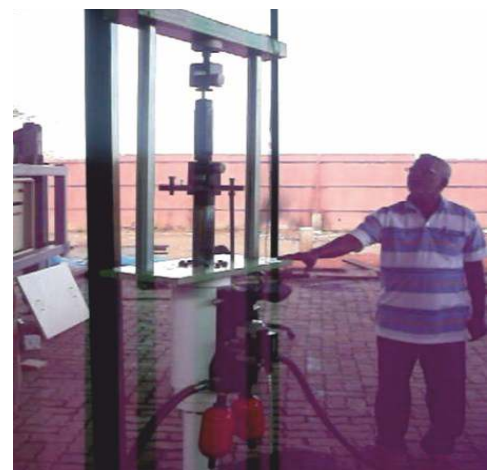
Proof & Burst pressure Test rigs

Designed to test and evaluate Proof & Burst pressure ratings of various hydraulic components like accumulators, reservoirs, hoses used in in Aerospace, Automotive and Railway applications. The system can also be built with water glycol based fluid.



Component Fatigue, Endurance & Life cycle Test rigs

Designed to test and evaluate component fatigue Endurance and Life cycle of the components typically used in Automotive and Aerospace applications.



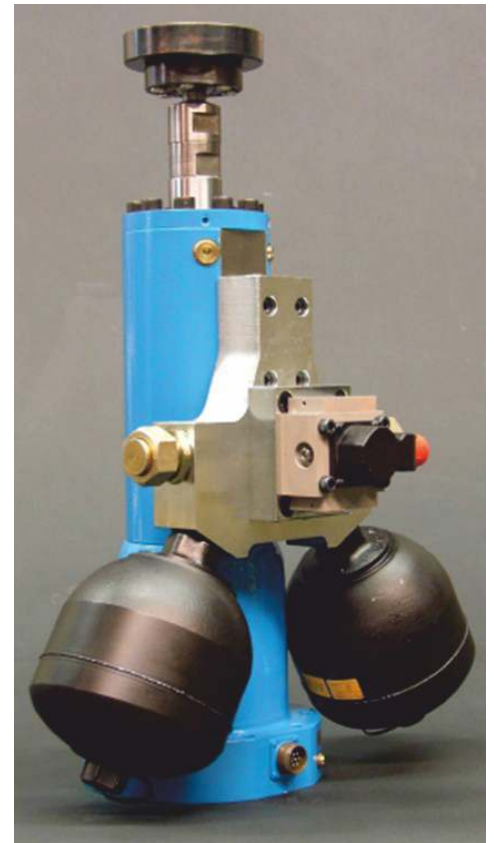
Dynamic Servo Actuator

Fatigue rated high frequency, low friction Servo actuators of capacity ranging from 1 T up to 100T with Servo valve, load cell (optional), inbuilt position sensor, Hydraulic power pack

Parameters	Specifications
Capacity	$\pm 1\text{kN}$ to $+/-100\text{kN}$
Stroke	Up to $+/-150\text{mm}$
Type	Hydraulic Double rod, Equal Area
Frequency	Up to 10Hz
Feedbacks	Built in Position Sensor and Load cell

Fatigue Rated Actuator for automotive and aerospace structural testing

Servocontrols group of companies manufacture various types of actuators. These are fatigue rated force generators designed for long stroke and/or low dynamic applications. Compatible with LVDT feedback and control components, these actuators provide precise performance ideal for frequency test and simulation applications. These are flexible enough to meet all your force and motion control needs, these actuators are available in different force ratings, both in standard lengths and made to order custom lengths. Servocontrols actuators are designed for superior responsiveness and reliability. Our actuator design incorporates high and low pressure seals & a drain arrangement rarely found on other make products. These features provide lower friction & control oil leaks. Nonmetallic bearing provide side load tolerance & greater resistance to galling therefore extend operational life.



Fatigue testing

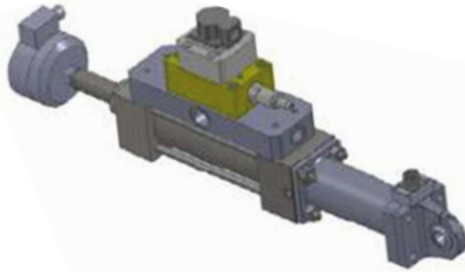
SERVO ACTUATORS

Servo Actuators

Fatigue rated high frequency, low friction Servo actuators of capacity ranging from 1 T up to 100T with Servo valve, load cell (optional), inbuilt position sensor, Hydraulic power pack, Digital Motion controller and Data acquisition systems.



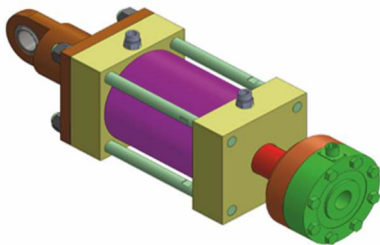
10 kN Servo actuator



Model No. : SC-05-138-000

SPECIFICATION OF HAL 10 kn ACTUATORS		
1	Cyl capacity	+/- 10 kN @ 210 bar
2	Cylinder Bore	Ø 40 mm
3	Dbl ended Rod Dia	Ø 30 mm
4	Stroke	+/- 65 mm
5	End Cushion	15 mm
6	Load cell ten/comp	15 kN
7	Servo valve	38 LPM @ 70 bar High response
8	LVDT	130 mm stroke Builtin
9	Working Pressure	210 bar
10	Proof Pressure	310 bar
11	Mounting	Swivel Base swivel angle > ± 15°

100 kN Servo actuator



Model No. : SC-09-259-00

SPECIFICATION		
1	Cyl Capacity	100 KN @ 100 BAR
2	Cylinder Bore	Ø 125 mm
3	Piston Rod Dia	Ø 50 mm (Double Ended)
4	Stroke	(+/-) 50 mm (100 Total)
5	Cushion length	10 mm both sides
6	Pressure working	100 Bar
7	pressure max	220 Bar
8	Mounting	Eye end Sph Bearing
9	Hydraulic Oil	MIL 5606 G

Servo actuator for fatigue test:



Model No. : SCA-280-160-100-280-RF

SPECIFICATIONS		
SI No.	Description	Value
1	Capacity	3500 kgf (35kN)
2	Stroke	200 mm (+/-100mm)
3	Velocity Max	2mtr/sec & 3mtr/sec
4	Hyd Pressure	280 bar
5	Servo Valve	200 LPM @ 280 bar
6	LVDT	250 mm Internal

Hi frequency servo actuator :



Model No. : SCA-140-80-15-210-FF

SPECIFICATIONS		
1	Cylinder bore	140 mm
2	Rod dia Dbl ended	80 mm
3	Stroke	±15 mm
4	Operating Pressure	210 bar
5	Force developed	110 kN
6	Amplitude	0.5 mm
7	Frequency of oprn	100 Hz

Fatigue Rated Servo Actuators



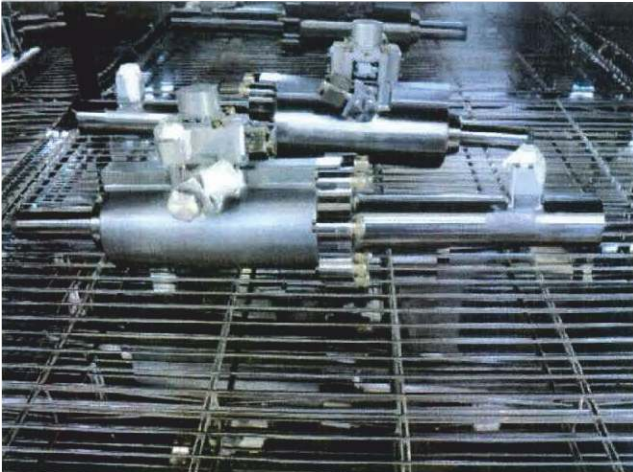
- SCA : Servo Control Actuator
- BD : Bore dia in mm/ Inches
- RD : Rod dia in mm/ Inches
- STK : Stroke in mm/ Inches PK
- PR : Pressure in Bar / KIP
- T : Tonnage in KV
- M : Mounting
- MF : Mounting Flange
- FF : Front Flange
- RF : Rear Flange
- MT : MID Trunium
- RT : Rear Trunium
- FT : Front Trunium
- RE : Rod Eye
- BRE : Both end Rod eye

Selection Code: SCA-BD-RD-STK-PR-T-M

SL NO.	Piston Rod OD in Inches	Cylinder ID in Inches	Compression in (kip)	Stroke Length in Inches
1	1.75	2.5	14.2	10
2	1.75	2.5	14.2	20
3	1.75	2.5	14.2	30
4	1.75	2.5	14.2	40
5	2	3.25	24	10
6	2	3.25	24	20
7	2	3.25	24	30
8	2	3.25	24	40
9	2.5	4	37	10
10	2.5	4	37	20
11	2.5	4	37	30
12	2.5	4	37	40
13	3	5	57	10
14	3	5	57	20
15	3	5	57	30
16	3	5	57	40
17	4.5	8	146	10
18	4.5	8	146	20
19	4.5	8	146	30
20	4.5	8	146	40

SL NO.	Piston Rod OD in mm	Cylinder ID in mm	Compression in (kN) at 200 bar	Stroke Length in mm
1	45	63	62	250
2	45	63	62	500
3	45	63	62	750
4	45	63	62	1000
5	50	80	100	250
6	50	80	100	500
7	50	80	100	750
8	50	80	100	1000
9	63	100	157	250
10	63	100	157	500
11	63	100	157	750
12	63	100	157	1000
13	75	125	245	250
14	75	125	245	500
15	75	125	245	750
16	75	125	245	1000
17	115	200	628	250
18	115	200	628	500
19	115	200	628	750
20	115	200	628	1000

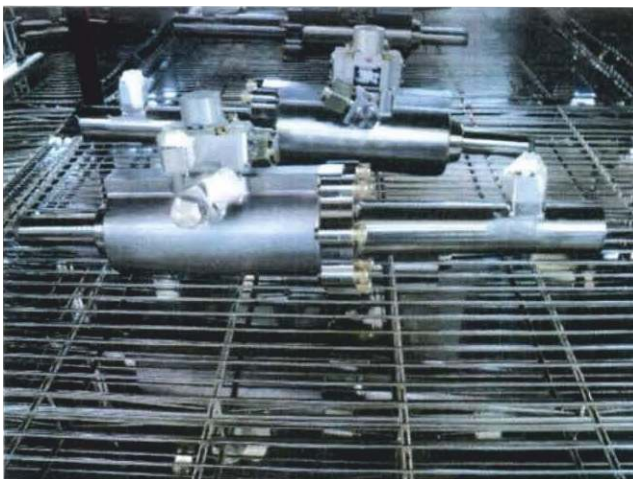
10T Actuator Qualification Test



High Temperature Test



Low Temperature Test



Damp Heat Test



Vibration Test

Application: Dynamic Test Application

Year of Supply: 2007

System Specifications:

Parameters	Specifications
Capacity	±30kN
Stroke	±40mm
Type	Hydraulic
Frequency	30Hz
Feedbacks	Built in Position Sensor and Load Cell



Skydrol based Hydraulic Power Units



Hydraulic Power Pack for Mobile Applications



Energy Saving Hydraulic Power Units



MIL-5606 Based Hydraulic Power Units

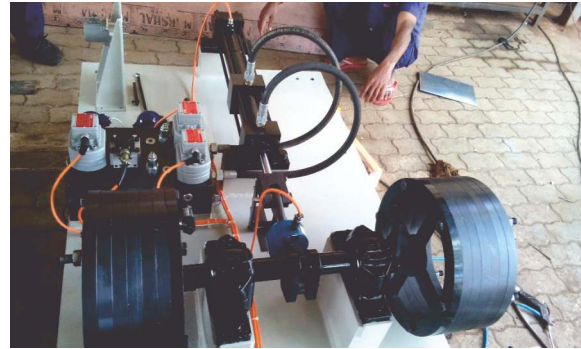


Servocontrols Design and manufacture various types of Hydraulic power units for various industrial, Aerospace & Automotive applications. These power units are designed for flow rating ranging from 10lpm up to 450lpm and maximum working pressure up to 315 bar. Servocontrols has expertise in designing and manufacturing power packs for various hydraulic fluids those include mineral oil, MIL-5606H, Skydrol, Water Glycol / Kerosene and various pressure 315 bar/420 bar/ 600 bar

Application : Servo valve & structural static & dynamic simulation on Aircraft wings & fuselage



Hydraulic Power unit



Test bed

Power Packs Under Assembly



Servocontrols design and manufacture various types of Hydraulic power packs, specially manufactured as per customer specified Standards in Stainless steel / Mild steel / Castings / Aluminium etc.

Welding process is done as per respective standards DP Test/Radiography test are conducted to qualify welding. Shot blasting/sand blastings are done to avoid scaling/peeling of paints/contamination etc.

Mil Grade Test System Control Cabinets

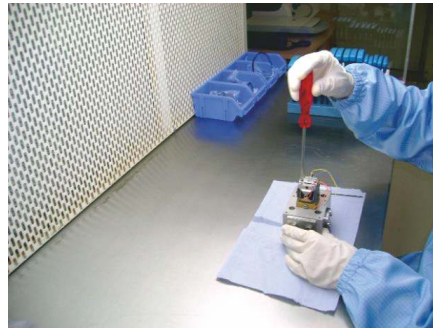
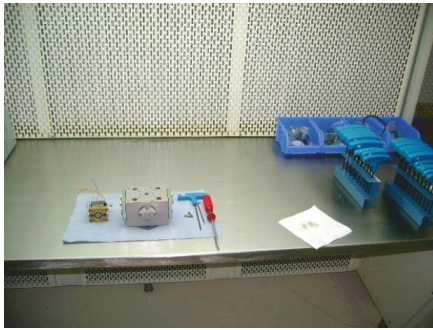


HPU Control Cabinets



Complex control systems and control cabinets are our speciality. Servocontrols has been designing and manufacturing high-quality control system and control cabinets which are safe, easy to maintain and highly functional. Our control centers include, Hydraulic power pack electrical control panels, motion control and DAS control cabinets, 19" rack based units, Free standing control panels, PLC & HMI based panels, Mil Grade-LRU units etc. Servocontrols has a IPC-610 and IPC-620 qualified and skilled man power resource for wire harness and soldering.

SERVOCONTROLS SERVOLAB – Repair New Builts Servicing of Servo Valve We are also the technical alliance partners & distributor of STAR UK in India



Laminar Test Stand for Assembly of 1st Stage and 2nd Stage



Torque Motor and whole servo valve Frequency Response Devices with inbuilt DCDT & 1 micron SSI Sensors & Pressure Gauges

We SERVOCONTROLS have a setup the state of art Class 1000 Clean room Servo system Lab facility and tool room at our works in Belgaum, Karnataka which is one of its kind entire in India. We offer the most high quality and reliable servo valves & we have our own in-house Design, manufacturing, quality checking, assembly and testing of servo valves for flow 2 to 230 Lpm and pressure up to 350 bar. Also we are in service business since last 20 years and serviced more than 10 thousand servo and servo proportional valves like Moog, Ultra, Dowty, Parker, Vickers, Rexroth, ATOS, Herion, TSS, LHC and EMG valves,

In house facility for Designing, Engineering, Assembly, Manufacturing & Servicing of Custom built under **MAKE IN INDIA** Programme

SERVOCONTROLS SERVOVALVES FOR TEST APPLICATIONS/STEEL MILLS/POWER GENERATION /TURBINES/RAILWAYS & OTHERS

Model Code	Nominal flow at 70 bar (lpm)
Sc550 -101	4
SC550-102	10
SC550-103	20
SC550 -104	40
SC550-105	60
Sc550 -106	75



SERVOCONTROLS SERVOVALVES MODEL 890

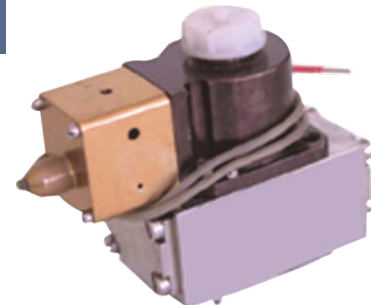
4-Port Configuration — 50.9mm PCD
2 stage mechanical feedback
High flow Electrohydraulic Servo valve

Model Cod	Nominal flow at 70 bar (lpm)
SC890-101	95
SC890-102	150
SC890-103	230



EXPLOSION PROOF, INTRINSICALLY SAFE GAS TURBINE
SERVOCONTROLS SERVOVALVES AND REPAIRS OF EXISTING SERVO VALVES

Model Code	Nominal flow at 70 bar lpm
SC771K-103	20
SC771K-104	40



SERVOCONTROLS DIRECT DRIVE VALVE (DDV) – SC 633/SC634

Sc633 - XXX (Standard Valves)

± 10 Volts Input, lpm at 35 bar each land.

± 10 mA Input, lpm at 35 bar each land.

Model	Flow in LPM
SC633 - 101	5
SC633 - 102	10
SC633 - 103	20
SC633 - 104	40

Model	Flow in LPM
SC633 - 201	5
SC633 - 202	10
SC633 - 203	20
SC633 - 204	40

Sc634 - XXX (Standard Valves)

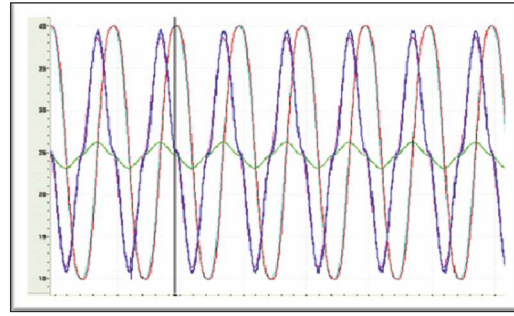
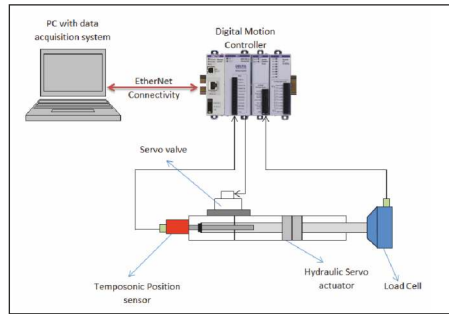
± 10 Volts Input, lpm at 35 bar each land.

± 10 mA Input, lpm at 35 bar each land.

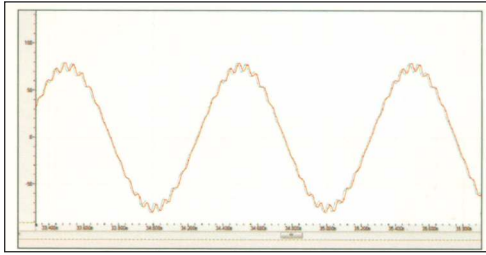
Model	Flow in LPM
SC634 - 101	60
SC634 - 102	100

Model	Flow in LPM
SC634 - 201	60
SC634 - 202	100

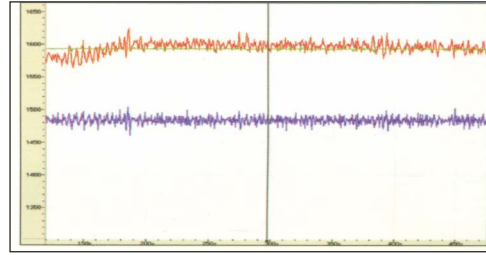




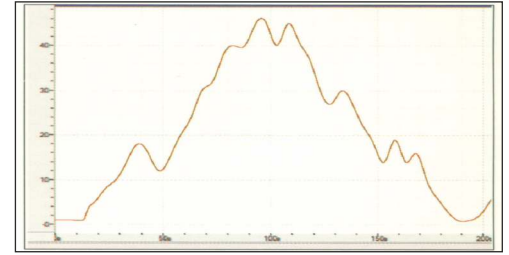
online plot captured during testing



Superimposed Sinusoidal Profile



Road Data Profile



Random Profile

Dynamic Testing : Closed Loop motion control offers precise, smooth motion control in the field of Dynamic testing application. The control system consists of a PC based Data acquisition system, Man Machine Interface software, Motion controller & Servo actuator with inbuilt load cell, Temposonic position sensor & Servo valve. The Man Machine interface software loaded into the PC allows the user to set the desired motion patterns & acquires the system data from various sensors for user display, plotting & report generation. The motion pattern or command set by the Man Machine interface software will be fed into the Digital RMC70 motion controller for the execution.

The Servo Actuator consists of inbuilt high resolution (up to $0.5\mu\text{m}$) position sensor & Load Cell. The High response Servo valve is used to drive the Servo Actuator. The RMC70 motion controller continuously reads position/force information (2000 reads/sec) from inbuilt position sensor and load cell for precise monitoring & control of servo actuator position/force. The designed servo actuator is capable of moving at a rate up to 10Hz.

The RMC70 Motion Controller can be programmed to operate in Load control mode (by closing the loop with Load Cell), position/Velocity control mode (by closing the loop with inbuilt position sensor) or both position & force control mode (by closing loop with both Position sensor & Load Cell).

The NDT programs often involves the application of repetitive stress cycles on the device being tested. A motion controller that supports direct execution of cyclic motion operations makes it quick & easy to set up testing profiles. The RMC70 motion controller is capable of generating various motion profiles that includes Sinusoidal, Triangular, Square and Random waveforms. The pattern Frequency, Amplitude and phase parameter can be set online without stopping the test. The RMC70 Motion controller offers online tuning facility where the system gains can be changed while the system is running.

Linear Electromechanical Actuators (Rotary & Linear) (Rollers Screw / Ball Screw / Acme Screw)

T-LAM™ Brushless Servo Motor
-Segmented lamination stator
-Epoxy encapsulation
-Neodymium Iron Boron magnets

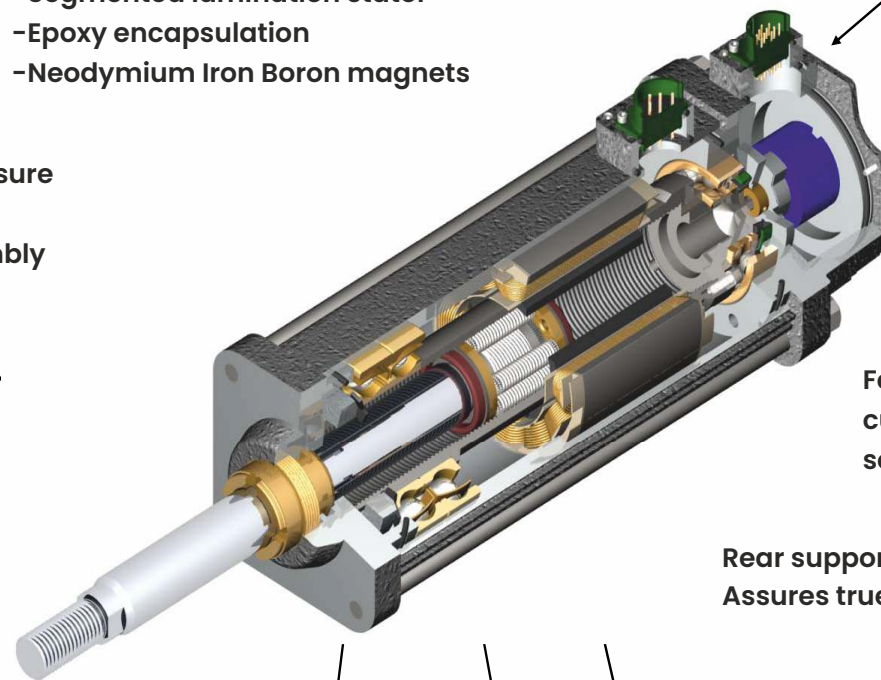
Sealed output with
scraper and high pressure
Seal contained within
bronze bushing assembly

Induction hardened
chrome plated output
rod for maximum wear
resistance

Connectorization to
match amplifier
manufacturer's standard
cables or to customer
specifications

Feedback device for
customer preferred
servo amplifier

Rear support bearing
Assures true alignment



High capacity angular
contact thrust bearings

Inverted Roller Screw

Internally Threaded Cylinder

We are Technical Alliance partners of Temposonics (An Amphenol Company)
in India from last 22 years



SERVOCONTROLS Electromechanical Actuation systems

offerings cover a wide range of performance and capabilities. Integrated servo motor and actuators. High quality screw for longer life. Ideal for hydraulic replacement, More powerful and robust & compact size. IP65S, IP67, Extended ambient temperature: -30 to 65 deg C. Force rating : 500N -178kN, Stroke: 50mm -1200mm, velocity: 0.01mm -1000mm/s Mounting type: Front flange, Rear Flange, Rear Clevis, Side Trunion, Base mount, Extended Tie Rod Various Feedback: Analog Hall Device, Incremental Encoder, Absolute Encoder, Resolver Multiple servo drive support : ABB, CT,B&R, Elmo, Ormec, Beckoff, Bosch- rexroth, Kollmrgan/Lenz, Mitsubishi etc. Servo Motor Torque: 0.5Nm-70Nm, Speed up to 5000RPM Input Supply: 12/24/48 VDC, 110, 220 VAC 1Ph & 440 VAC 3Ph



GSX Series Linear Actuator

Long life and continuous duty, even in harsh environments the GSX Series actuator offers a robust solution. The life of the GSX Series can exceed that of a ball screw actuator by 15X while delivering high speeds and high forces. Also the compact package has the advantage.



GSM Series Linear Actuator

The GSM Series offers 5 times the travel life of similarly sized ball screw actuators. It also provides a smaller package with higher speed and higher load capacity than ball screws and other traditional rotary to linear conversion mechanisms.



FT Series Linear Actuator

FT Series force tube actuators use a planetary roller screw mounted inside a telescoping tube mechanism. FT Series actuators deliver heavy load capacity, high speed capabilities, and exceptionally long life when compared to other linear actuator technologies.



K Series Linear Actuator

The K Series actuator provides an ideal replacement for pneumatic & hydraulic cylinders in linear motion control applications. Two grades of planetary roller screws for dynamic applications are offered as well as an Acme screw for lower cost, static applications where position change is infrequent &/or slow. These choices allow you to realize the travel life required of the application while meeting budget constraints.



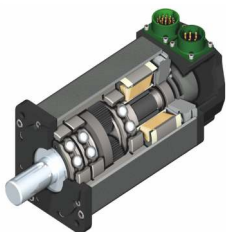
I Series Linear Actuator

The I Series actuators offer this same technology in the use of lower cost motor technology. These actuators can be ordered to accept the motor type of your choice. Whether a brushed type DC motor or stepper motor for lower performance applications, or a high performance brushless motor, the I Series actuators offer complete flexibility in ordering to accept any type.



Planetary Roller screw

In house capability to manufacture roller screw. A roller screw is a mechanism for converting rotary torque into linear motion, in a similar manner as acme screws or ball screws. Roller screws are capable of carrying heavy loads for thousands of hours in the most arduous conditions. This makes roller screws the ideal choice for demanding, continuous-duty environments.



SLM series Servo Motors & SLG

series Integrated gear Motors Brushless servo motor and gear motor technology provides the highest torque-to-size ratio available in motion control today. Small size, outstanding performance specifications, quality and customization capabilities offer you the solution you need for your motion control application.



Tritex-II Series DC Linear & Rotary Actuators

Rotary Actuators DC Tritex II with DC power electronics operates with maximum reliability over a broad range of ambient temperatures : -40°C to +65°C. The DC powered Tritex II actuators contain a 750 W servo amplifier and a very capable motion controller. With standard features such as analog following for position, compound moves move chaining and individual force/ torque control for each move, the Tritex II Series is the ideal solution for most motion applications.



Tritex-II Series AC Linear & Rotary Actuators

Tritex II houses the servo drive, digital positioner, & actuator all in one convenient package. Cable costs are also significantly reduced by eliminating the need for expensive, high-maintenance specialty servo cables. All that is required is an economical standard AC or DC power cord, & standard communication cable for digital & analog I/O. Also eliminated are the issues associated with power signals & feedback signals travelling long distances from servo drive to servo motor. With the Tritex II, the servo drive & motor are always integrated in the same housing.



EL Series Explosion proof Linear & Rotary Actuators

The EL30 explosion-proof linear & ER Rotary actuator offers CSA Class I⁺, Division 1, Groups B, C, D, T4 and T3A rating. The EL100 explosion-proof linear actuator offers a Class I, Division 1, Groups B, C, D & T 3 rating. The ELI 00 linear actuators also meet ATEX essential requirements and are in conformance with the EU ATEX Directive 94/9/EC. The EL Series linear actuators are compatible with nearly any Manufacturers' resolver-based amplifier.

OUR ESTEEMED CUSTOMERS



SERVOCONTROLS 100% EOU Unit in 12 acres of land near Hattargi Belagavi SEZ



SERVOCONTROLS facility
Industrial Estate, Udyambag, Belagavi



Servocontrol's
First servo Valve Test Setup
at Home Garage in July 2002
at Belagavi, Karantaka



Collin Aerospace Supplier of the Year
Award in 2022



Strong Team of 300+ Servocons

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TECHINICAL ALLIANCE PARTNERS



Sc1050110423