

Your Best Partner



SERVOCONTROLS

An ISO 9001-2008 certified company

Website : www.servocontrolsindia.com

E-mail : sales@servocontrolsindia.com

POSITION CONTROL

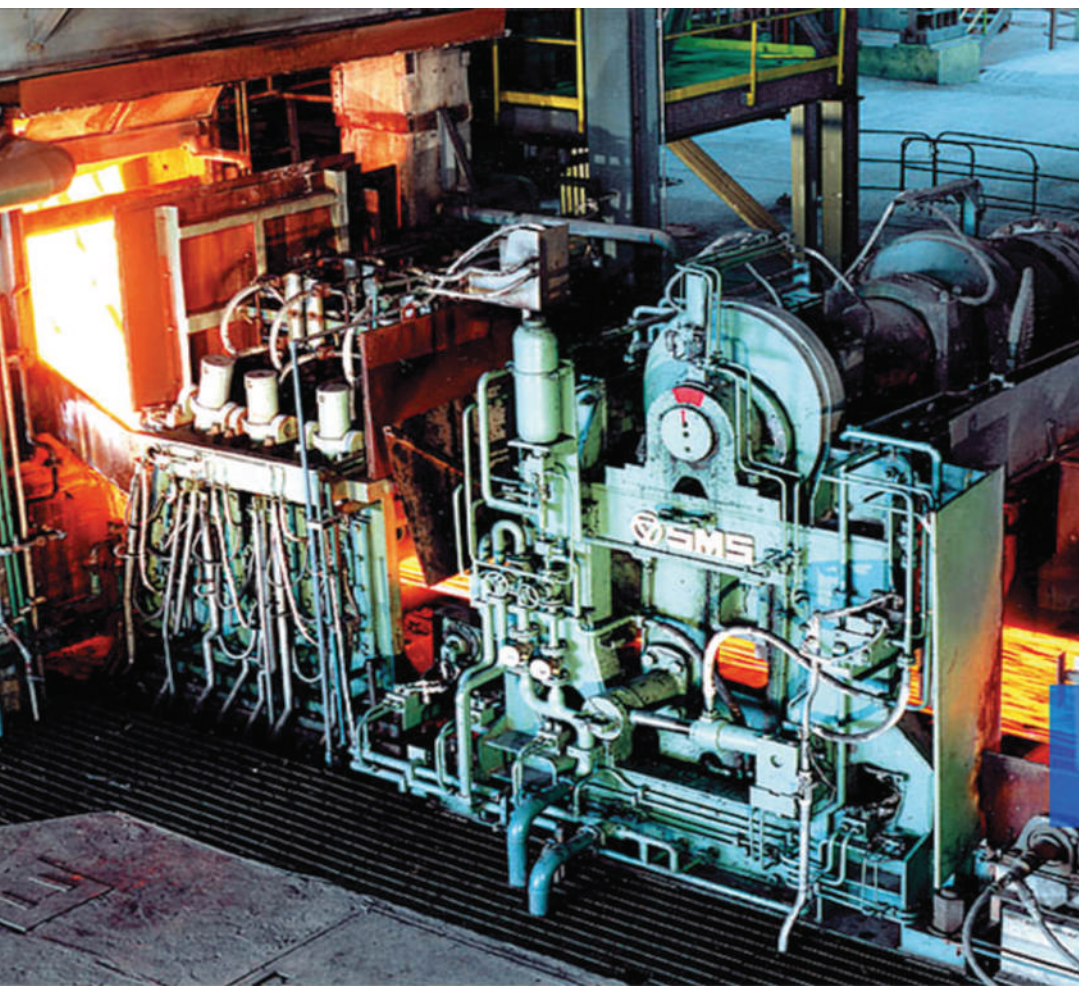
VELOCITY CONTROL

PRESSURE CONTROL

FORCE CONTROL

ULTIMATE MOTION CONTROL

STEEL MILLS



OUR VALUABLE STEEL MILL CUSTOMERS

ABB
ANIL SPECIAL STEELS INDUSTRIES LIMITED
ASIAN TUBES LIMITED
AVON ISPAT & POWER LTD.
AL JAZEERA STEEL PRODUCTS COMPANY (OMAN)
BHARAT ALUMINIUM COMPANY LIMITED (BALCO)
BAY FORGE LIMITED
BHEL-SEAMLESS TUBE PLANT
BHAILAI ENGINEERINGS CORPRATION LIMITED
BMW INDUSTRIES LTD
BHUSHAN POWER & STEELS
BHUSHAN STEEL LIMITED
BHUSHAN STEEL & STRIPS
BOSCH REXROTH (INDIA) LIMITED
BRG IRON & STEEL COMPANY PVT. LTD.
BHANDARI FOILS & TUBES LTD.
CMI FPE LIMITED
CONVENTRY COIL LIMITED
DIGI DRIVES (P) LTD
DANIELI INDIA LIMITED
ELECTROSTEEL STEELS LIMITED
ESSAR STEELS LIMITED
ESSAR STEELS INDIA LIMITED
(FORMERLY SHREE PRECOATED STEELS LTD)
FFE MINERALS INDIA PRIVATE LIMITED
GPT STEEL INDUSTRIES LIMITED
HERO CYCLES LIMITED
HINDALCO INDUSTRIES LIMITED
HOSPET STEELS LIMITED
HYDAC (INDIA) LIMITED
HISAR METAL INDUSTRIES LTD.
INDIAN STEEL CORPRATION LIMITED
IUP JINDAL METALS & ALLOYS LIMITED
JINDAL ALUMINIUM COMPANY LIMITED
JSW STEEL LIMITED – DOLVI
JAI CORP LIMITED
JINDAL STAINLESS LIMITED – HISAR
JINDAL IRON & STEEL LIMITED – THANE
JINDAL STEEL & POWER LIMITED – RAIGHAR
JINDAL STAINLESS LIMITED – ORISSA
JSW STEEL LIMITED – TORANGALLU
JINDAL SAW LIMITED
KAYLANI STEELS LIMITED
LASER SHAVING PVT. LTD.
META COPPER & ALLOYS LIMITED
MUKUND STEELS
NATONAL ALUMINIUM COMPANY LIMITED (NALCO)
NATIONAL STEELS & ARGO INDUSTRIES MITED
NEELACHAL ISPAT NIGAM LIMITED (NINL)
OSCAR EQUIPMENTSPVT. LTD.
OMAN ALUMINIUM ROLLING COMPANY LLC, (OMAN)
PARKER HANNIFIN INDIA PVT. LTD.
PENNAR INDUSTRIES LIMITED
PG FOILS LTD.
RATNAMANI METALS & TUBES LTD.
RATHI SUPER STEELS LTD
RUCHI STRIPS & ALLOYS LTD
SAIL-BHILAI STEEL PLANT
SAIL-BOKARO STEEL PLANT
SAIL-ROURKELA STEEL PLANT
SAIL-SALEM STEEL PLANT
SAIL-DURGAPUR STEEL PLANT
SAIL-IISCO STEEL PLANT
SEFORGE LIMITED
SESA INDUSTRIES LIMITED
SHAH ALLOYS
SMS INDIA PVT. LTD.
SIEMENS LTD.
STEELCO GUJARAT LTD
STELCO LIMITED
STEEL TUBES OF INDIA LTD
SHADEED IRON & STEEL COMPANY LLC (OMAN)
TATA STEEL LIMITED
UTTAM VALUE STEELS LIMITED
(LLOYDS STEELS LTD)
UTTAM GALAVA STEELS LIMITED
UNITED GULF STEEL (SAUDI ARABIA)
VARDHMAN SPECIAL STEELS LIMITED

IN HOUSE FACILITIES

- L INHOUSE MECHANICAL/ELECTRONICS/ELECTRICAL DESIGN DEPARMENTS.
- L STATE OF THE ART 2/3/5/ AXES MACHINE SHOP, GRINDING /HONING & LASER WELDING.
- L CLEAN ROOM FACILITY FOR HYDRAULICS AND ELECTROMECHANICAL SYSTEMS
- L ASSEMBLY AND TEST SHOP
- L FABRICATION AND PAINT SHOP
- L METROLOGY LAB
- L SERVO LAB
- L SERVOVALVE / PROPORTIONAL VALVE & SENSOR REPAIR CENTRE



STAR HYDRAULICS LTD. -
SERVOCONTROLS
Servo Valves From 1 LPM up to 900 LPM



MTS- SERVOCONTROLS
Tempsonic Position Sensors
Stroke Range: 25mm up to 15,000mm
Outputs: Analog, Start/Stop, SSI,
Profibus-DP, CANbus, DeviceNet.
Resolution: Till 1µm



DELTA- SERVOCONTROLS
Motion Controllers
1 to 32-Axes Servo Motion Controllers for
Electro hydraulic and Electromechanical Systems.
Various Feedback interface capability
includes Start/Stop, SSI, Analog,
Quadrature, Resolver



EXLAR- SERVOCONTROLS
Electromechanical Actuators
Load Ranges From 0.4 Ton to 9.2 Ton
Stroke Ranges From 50mm to 1200mm



ORMEC- SERVOCONTROLS
Motion Controller, Drives
and Servo Motors
1 to 16 Axes Motion Controller for
Electromechanical Actuation Systems.
Drive System for AC and DC brushless motors

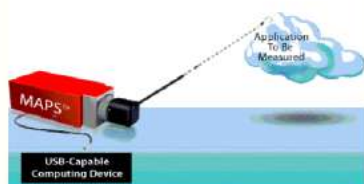


HYDRAFORCE- SERVOCONTROLS
Cartridge valves
Cartridge Manifold blocks and
Valve control Electronics



**Multi-Axis Position Sensors
for Vertical Markets**

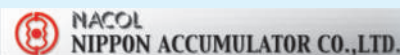
MAPS™ Position Sensor Operation



**SPACE AGE CONTROL-
SERVOCONTROLS**
3D-Position Transducers
TPR- Devices



VELJAN DENISON LTD. company manufactures
Hydraulic Pumps, Motors, The Vane Pumps in four
basic frame sizes are available in Single, Double,
Triple and Drive Train configurations with rated
pressures upto 4650 psi (320 bar) and flows ranging
from 2 to 105 gpm (7.5 to 397 lpm) in Single Pump.



NACOL JAPAN - SERVOCONTROLS
Bladder type Accumulators



CELESCO USA - SERVOCONTROLS
Wire/String Type Position Sensors



FIRSTMARK AEROSPACE USA - SERVOCONTROLS
Wire Type Sensors for Aerospace Application



PRODUCT FLYING ON TENS OF THOUSAND
OF AIRCRAFT WORLDWIDE
AERO CONTROLEX USA - SERVO CONTROLS
Offers you high quality and reliable Air Data Sensors
Essential to the safety of all aircraft, our electrically
heated Pitot probes, Pitot-Static probes, Static Pressure
Probes Angle of Attack, Temperature Sensors &
Flight Test Equipment

Servocontrol Allied Products



Servo Actuators with Servo valve, Inbuilt Temposonic Positions sensor and Load cell



Hydraulic Power packs with Optional Electrical control panel



MTS—Temposonic Position sensors



Electromechanical Linear and Rotary Actuators and Drive systems



Closed loop Motion Controllers and controls accessories



Pressure sensors with Digital/Analog outputs



Servo /Proportional & Direct Drive Valves



Mobile Electronics & E-Hydraulics



Custom built Steam Turbine Governor control actuation system



Celesco— Wire/String type position sensors



First Mark— Wire type sensors for Aerospace applications



NACOL—Japan Bladder type accumulators



Veljan Denison Limited—Hydraulic Pumps & Motors

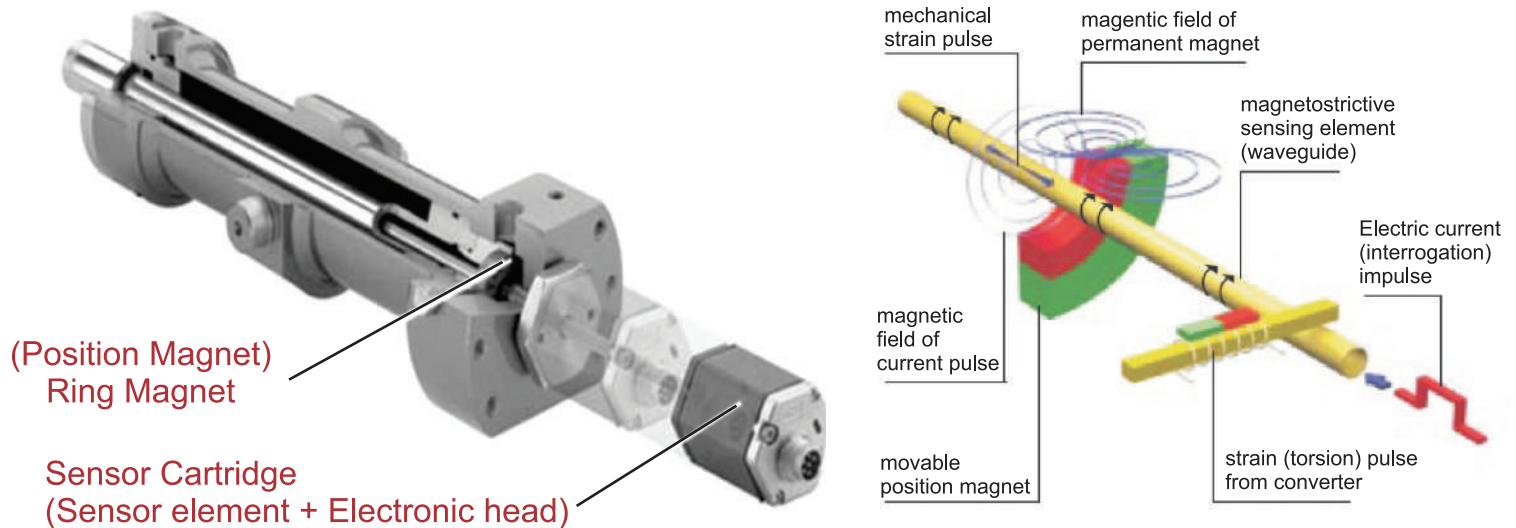


Custom Manifolds Cartridge Valves Electro Hydraulic Machine Controls



Structural / Component / Material Test rigs

1) MTS Temposonic Position Sensors for Steel mills GH & RH Series



In this application, the quality of sheet metal gauging depends on the performance of the position feedback and the continuous throughput of the rolling process, on the dependability of the position sensor, even in the harshest steel mill conditions. Because poor end product quality and machine downtime are costly in the industry, customers choose MTS temposonics position sensors to keep their process running at peak efficiencies.



This illustration depicts an existing application. It does not represent all roller gap applications.

SERVOCONTROLS SERVOLAB - Repair & Servicing MTS Sensors

Temposonics Servicing (AMC for Steel Mills)

LEVEL 1 servicing:

Functional Test and Preparation of a cost Estimate respective analog/digital output temposonic. Inspection of interrogation pulse and return sonic pulse amplitude and frequency. Soldering the loose connections if any with respect to their color codes. Final functional test/linearity test, set point calibration or null zone and dead band calibration w.r.t the respective type of temposonics.

LEVEL II servicing:

Level I + Change of respective Connector flange assemblies. Change of Personality modules (pucks).

LEVEL III servicing:

Level I + Change of Driver board assembly or change of Sensing Element. Testing of respective magnets w.r.t temposonics wave guides/sensing elements for their proper functioning.

Special servicing charges will be charged for AOM, AK288, EB288, MK292 or any other MTS Germany, MTS Japan and MTS USA made electronic boxes or interfaces and Intrinsically safe temposonics and respective electronics.

We will be providing the Initial Inspection Report, Final Test Report. We will set the customized null condition, zero and span set points as per customer requirements.



RP / RH ORDERING CODE FOR SSI SENSOR

(Most popular in SteelMills for AGC, Edge guidance ,CVC cylinders, loopers etc..)

R-Series SSI

Temposonics®

Sensor model

RP- Profile

RH- Rod

Design

Profile Temposonics® RP:

S- Magnet slider, joint at top

V- Magnet slider, joint at front

G- Magnet slider, joint at top, backlash free

M- U-magnet, OD33

Rod Temposonics® RH:

M- Flange M18 x 1.5 (Standard)

V- Flange M18 x 1.5 (Fluorelastomer housing-seal)

D- Flange M18 x 1.5 with bushing on rod end

R- Flange M18 x 1.5 with thread M4 at rod end

J- Flange M22 x 1.5, rod Ø 12.7 mm, 800 bar

S- Flange ¾" - 16 UNF - 3A

Stroke length

Profile- 0025...5000 mm

Rod- 0025...7600 mm

Standard: See chart

Other length upon request.

Stroke Length Standard RP	
Stroke length	Ordering steps
≤ 500 mm	25 mm
500...2500 mm	50 mm
2500...5000 mm	100 mm

Stroke Length Standard RH	
Stroke Length	Ordering Steps
< 500 mm	5 mm
500...750 mm	10 mm
750...1000 mm	25 mm
1000...2500 mm	50 mm
2500...5000 mm	100 mm
> 5000 mm	250 mm

Connection type

D70- 7 pin male receptacle M16

P02- 2 m PUR-cable w/o connector, option: P01 - P10 (1 - 10 m)

Supply voltage / Conditions of use

1- +24 VDC

A- +24 VDC / vibration resistant (stroke length 25...2000 mm)

Output

S [1][2][3][4][5][6][7][8][9]= Synchronous Serial Interface

[1]Data length:

1- 25 bit • 2- 24 bit • 3- 26 bit

[2]Output format

B- Binary • G- Gray

[3]Resolution (mm):

1- 0.005 • 2- 0.01 • 3- 0.05 • 4- 0.1 • 5- 0.02 • 6- 0.002 • 8- 0.001 • 9- 0.0005

[4]Performance:

1- Standard • 8- Noise reduction filter (8 values) • D- No filter + error delay 10 cycles

G- Noise reduction filter (8 values) + error delay 10 cycles • K- Peak reduction filter (8 values)

N- Peak reduction filter (8 values) + error delay 10 cycles

[5][6]Signal options:

00- Measuring direction forward

01- Measuring direction reverse

02- Measuring direction forward, synchronised measurement

05- Measuring direction forward, Bit 25 = Alarm, Bit 26 = Parity even

16- Measuring direction forward, internal linearization

99- for optional further combinations (use next fields [7],[8],[9])

[7]Measurement contents

1- Position • 2- Differential • 3- Velocity • 4- Position + temperature (only with data length = 24 bit)

5- Differential + temperature (only with data length = 24 bit) • 6- Velocity + temperature (only with data length = 24 bit)

[8]Direction and sync. mode

1- Forward async • 2- Forward sync1 • 3- Forward sync2 • 4- Forward sync3 • 5 - Reverse async • 6- Reverse sync1

7- Reverse sync2 • 8- Reverse sync3

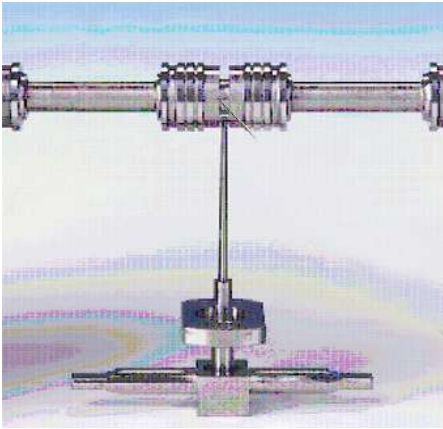
[9]Internal linearization & communication diagnostics

0- No further option • 1- Linearity Correction Option • 2- Additional alarm bit + parity even bit (not available for temperature output, only data length 26 bit) • 4- Additional alarm bit + parity even bit and Linearity Correction Option (not available for temperature output, only data length 26 bit)

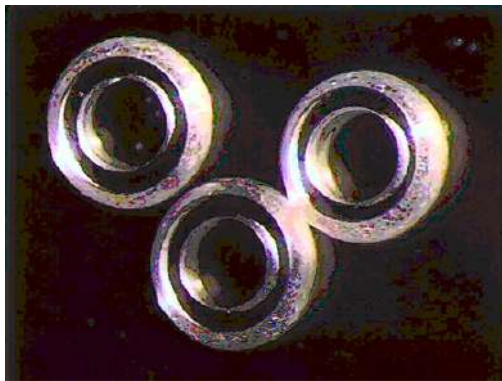
Included in delivery profile model: Sensor, position magnet, 2 mounting clamps up to 1250 mm + 1 clamp for every additional 500 mm.

Included in delivery rod model: Sensor and O-ring. Magnets must be ordered separately. Use signed magnets for sensors w/LCO

2) Servo Valve - Technology



End Orifices



The Servocontrols - Star valve utilizes a Jewell feedback ball on their feedback wire assembly so that valve will have longer span of operation before "Glitch" effect. Our feedback wire ball is made of SAPPHIRE this is much tougher than diamond so there is no wear and tear on the ball and thus prevents null shift and null drifting, Even the end orifices are made of SAPPHIRE so there is no wear and tear inside the orifice and even contamination ie; Micronic level is cut into still smaller level and thus can increase the life of the valve.

To our customer where servo - valve life, performance and reliability go, our objective is to offer highest quality products and services beyond that our competitors have tried to match.

Servo Valve Technology for the 21st Century.

Servocontrols - Star innovation
"Jewel in the Crown"

SAPPHIRE to Avoid Null shift Problems

Sapphire at the end
of feedback wire



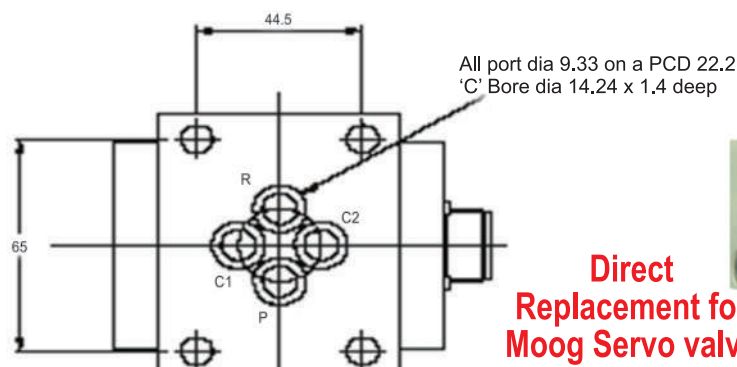
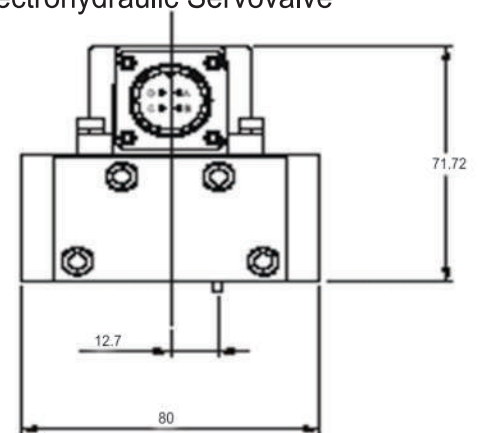
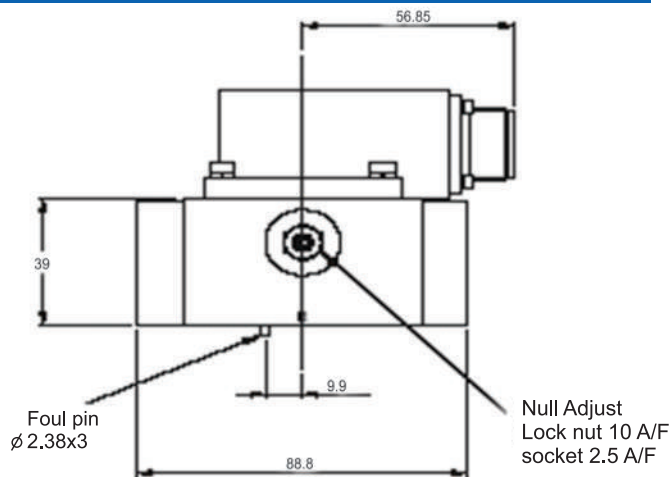
Servovalves specially designed for STEEL MILL application with 350 bar pressure rating

Model 550

4 port configuration - 22.22mm PCD
2 Stage Mechanical Feedback
Medium / High Response
Electrohydraulic Servovalve

Ordering Code :

Model Code	Nominal Flow at 70 Bar (lpm)
SC 550-101	4
SC 550-102	10
SC 550-103	20
SC 550-104	40
SC 550-105	60
SC 550-106	75



**Direct
Replacement for
Moog Servo valve**



Flow Vs Pressure drop characteristics :

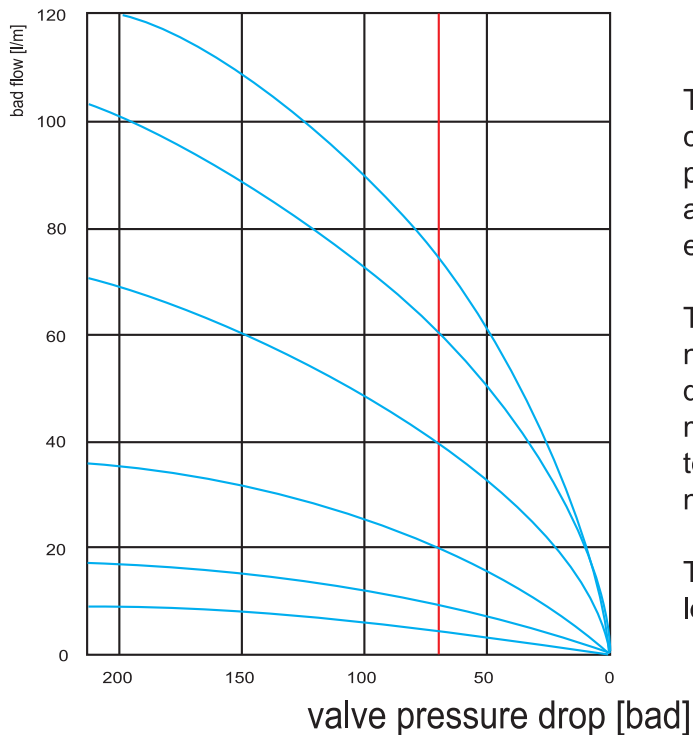


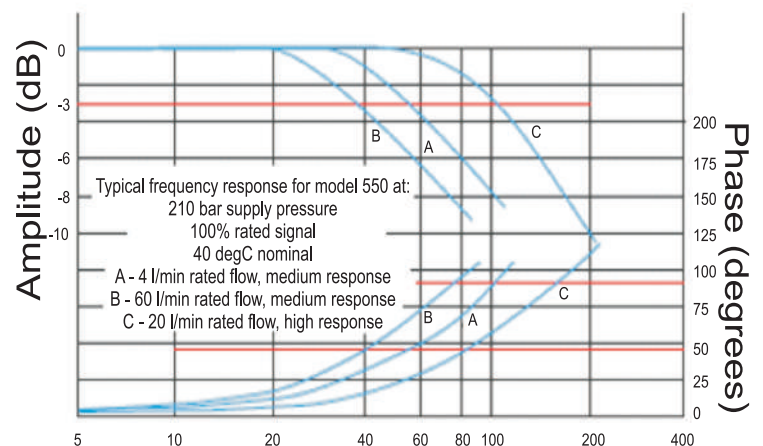
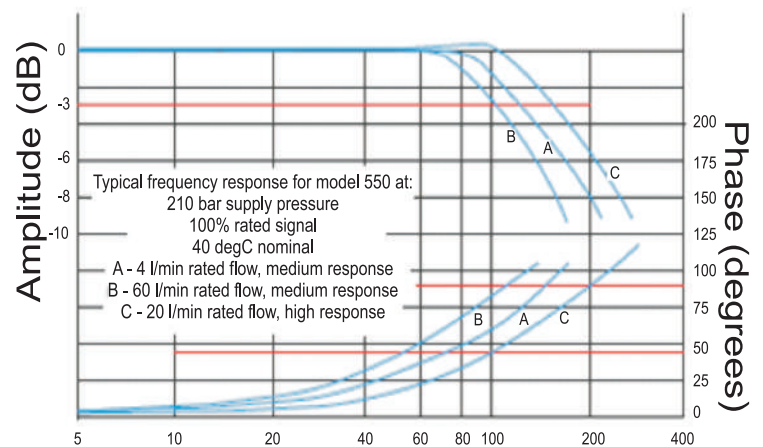
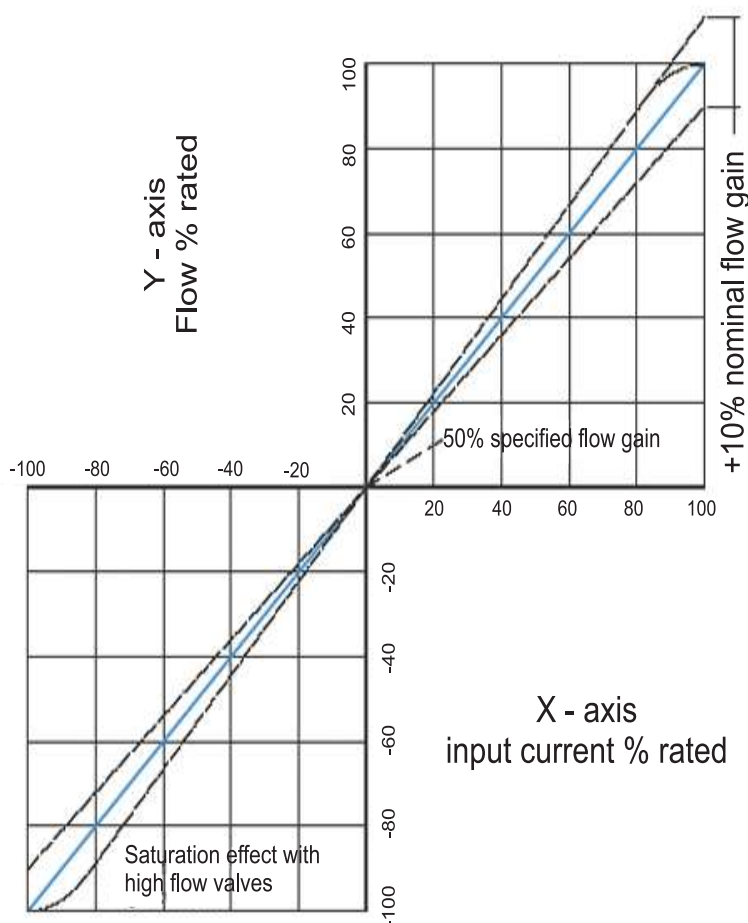
Figure - I

The nominal rated flow of a servovalves is the load flow under conditions of 100% electrical input and 70 bar total valve pressure drop. The load flow pressure characteristic closely approximates the theoretical squareroot relationship of a sharp edged orifice (figure 1).

The flow tolerance for standard servovalves is $\pm 10\%$ of the nominal rated flow at $\pm 100\%$ input signal. Flow gain null is determined by the relationship of the spool and bushing metering edges and may vary with standard production tolerances, flow gain in the region of $\pm 5\%$ rated current from null may range 50% to 200% of the nominal flow gain.

The null leakage comprises of both pilot stage flow (tare leakage) and the second stage null leakage.

Flow Vs Input Current characteristics : Frequency - Dynamic Response



DIRECT DRIVE VALVE (DDV) - SC 633 / SC 634

A Direct Drive flow control proportional valve with a high force level permanent magnet linear force motor directly driving the spool. A LVDT is attached to the spool to provide spool position feedback. An internal loop is closed around the spool position. This is one of the best DDV available in the world performance wise. You can directly replace the existing servovalve with this high performance DDV and get the same performance with added high resistance to contamination of oil. The unique feature of this valve is that "There is no null leakage" unlike other DDV's thus reducing power loss at null operation.



SC633 - XXX (Standard Valves)

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

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

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

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.

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

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

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

MOOG AND SERVOCONTROLS SERVOVALVES COMPARISON

SI No	Servocontrols	Filter	Moog	Filter
	Servovalves	(Replaceable)	Servovalves	(Replaceable)
1	SC 454	SCF 41504	776	A02460 (Pencil Type)
			77 - 1	
2	SC 455	SCF 41504	77 - 2	A02460
			772	
3	SC 456	SCF 41504	77 - 5	A02460
			773	
4	SC 500	SCF 41505	760HP	A02460
5	SC 550	SCF 41501	E061	
		SCF 41501	62	25446 - 001(Orifice Type)
		SCF 41501	73	A02460
		SCF 41501	76	A01713 - 001
		SCF 41501	760	A02460
		SCF 41501	769	
		SCF 41501	G761	A67999 - 100 (Disc Type)
6	SC550 - 101	SCF 41501	G761 - 3001	A67999 - 100
7	SC550 - 102	SCF 41501	G761 - 3002	A67999 - 100
8	SC550 - 103	SCF 41501	G761 - 3003	A67999 - 100
9	SC550 - 104	SCF 41501	G761 - 3004	A67999 - 100
10	SC550 - 105	SCF 41501	G761 - 3005	A67999 - 100
11	SC 590	SCF 41501	760 - 9	
12	SC 650	SCF 41501	62	25446 - 001
				25446 - 002
13	SC 1650	SCF 41501	631(NG10 Pattern)	A67999 - 100
14	SC 1650 - 101	SCF 41501	G631-3001A	A67999 - 100
15	SC 1650 - 102	SCF 41501	G631-3002A	A67999 - 100
16	SC 1650 - 103	SCF 41501	G631 - 3003A	A67999 - 100
17	SC 1650 - 104	SCF 41501	G631 - 3004A	A67999 - 100
18	SC 1650 - 105	SCF 41501	G631 - 3005A	A67999 - 100
19	SC 890 - 1XX	SCF41502 (Cartridge)	72(Internal Pilot /	B 36263 (Cartridge)
		SCF41503 (Tube)	Internal Drain)	A 40589 - 100(Tube)
20	SC 890 - 2XX	SCF41502 (Cartridge)	72(External Pilot /	B 36263 (Cartridge)
		SCF41503 (Tube)	Internal Drain)	A 40589 - 100(Tube)
21	SC 890 - 3XX	SCF41502 (Cartridge)	72(External Pilot /	B 36263 (Cartridge)
		SCF41503 (Tube)	External Drain)	A 40589 - 100(Tube)
			79 - 100	
22	SC 200H		79 - 2XX	Pilot A40589

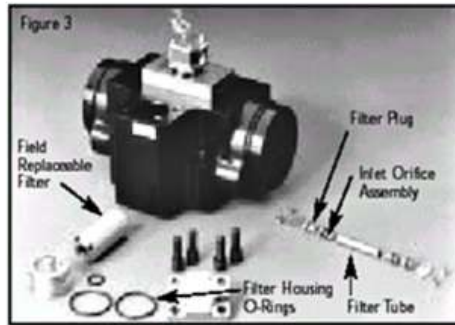
SERVOCONTROLS SERVOLAB - Repair & Servicing

We have set up the state of art Servo system Lab and Toolroom at our works in Belgaum, Karnataka which is one of its kind in entire India. In this facility we have set up the assembly, service & repair center (level I, II and III) for all closed loop components like servovalves, Servoactuators position / velocity / pressure / force loop, electric controllers.

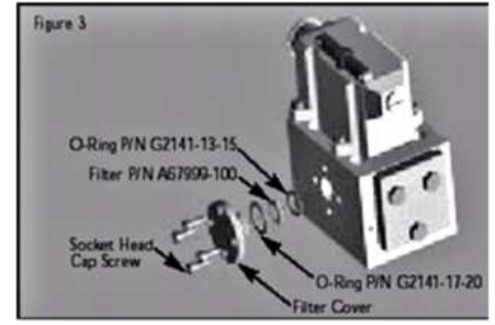
We have serviced till around 8,450 Servo Valves from date 2002 of following makes.



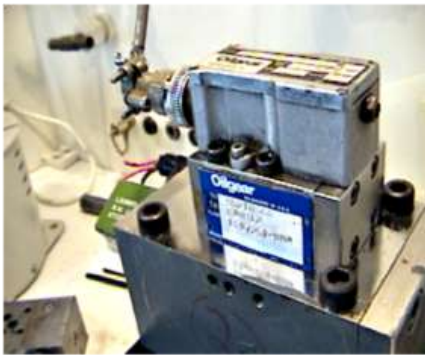
Moog 761 series



Moog 72 series



Moog 631 series



Oil Gear Servo Valve



Moog 79 series



Vickers



Moog 79 series



Parker / Abex



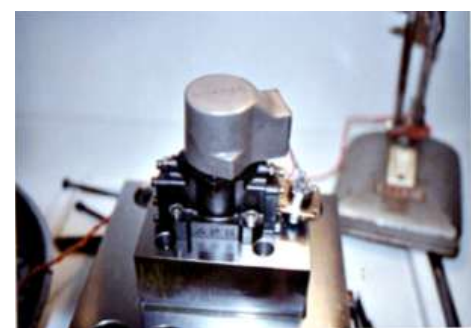
North American - Servo Valve



EMG



Torque motors and filters

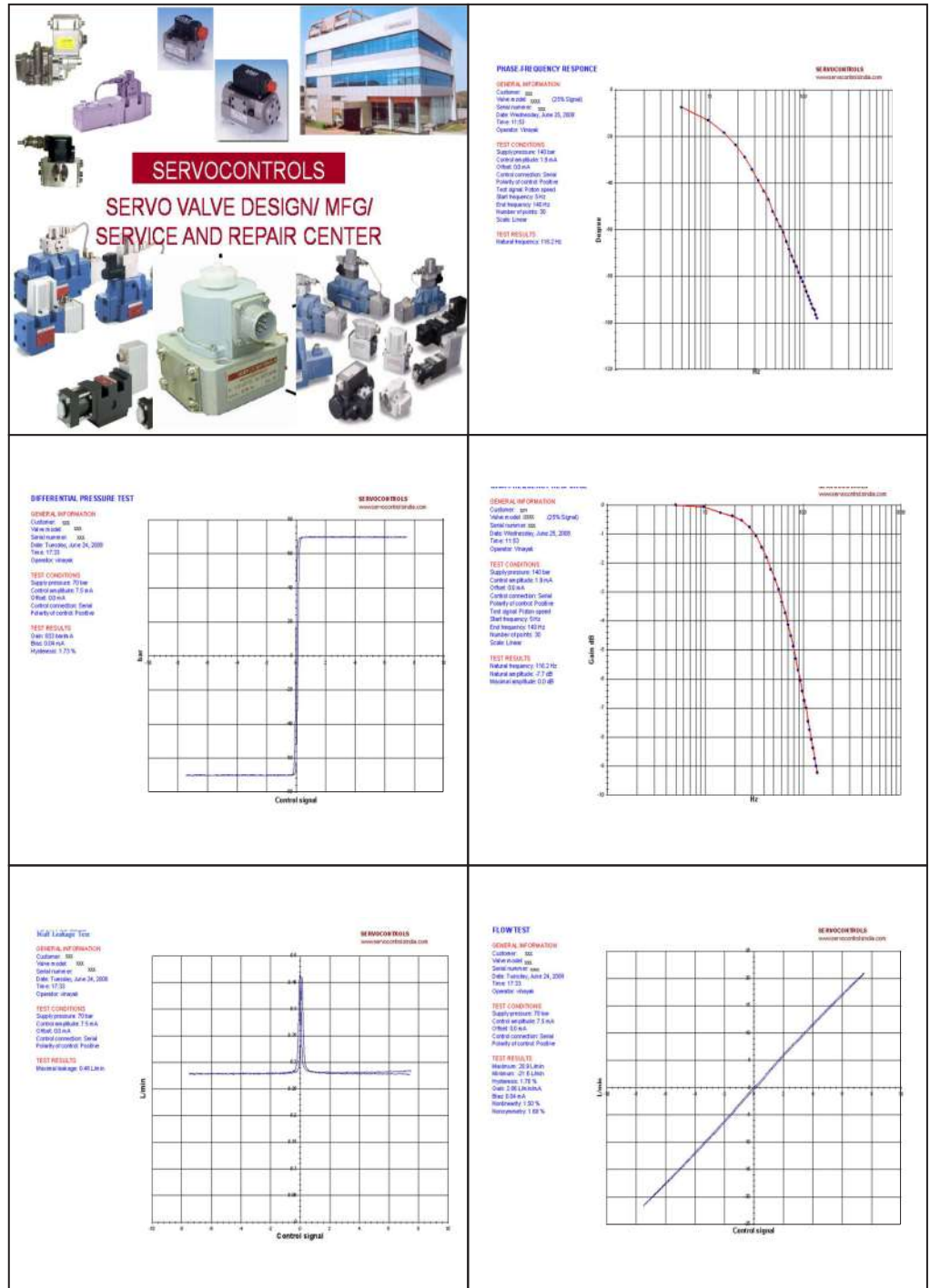


Rexroth - Servo Valve

SERVOCONTROLS SERVOLAB - Repair & Servicing Servo Valve

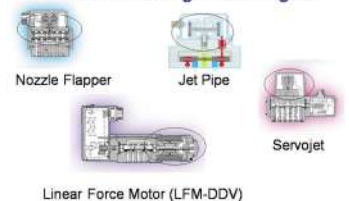
ServoValve Servicing (AMC for Steel Mills)

- LEVEL 1 servicing:**
 Functional Test and Preparation of a cost Estimate fitter inspection, change of filter if necessary. Cleaning and final functional test with Null Leakage & Expanded flow plot tests. Null Setting,
- LEVEL II servicing:**
 Level I + Functional Test with installation of new feedback assembly (Armature Flapper Sub Assembly, (AFSA)), repair of first stage. Electronic card testing + assembly. Final test with null leakage and expanded flow plot tests.
- LEVEL III servicing:**
 Level I + Functional test with installation of Bushing & Spool Assembly (BSA)/Torque Motor, Third stage electronic repair/lvdt repairs and final test with Null Leakage & Expanded flow plot tests.
- We will be providing the Initial Inspection Report, Final Test Report along with Null leakage and expanded flow plots. We will set the customized null condition and fail safe condition depending on the customer application /input.



We service following type of servovalve 1 Not 2/3/4/5

4 Different Pilot Stage Technologies:



3) SERVOCONTROLS Portable Test Rig

Model SC-087-117A-00



Servocontrols offers a most economical portable test rig for testing Flow, Null leakage & the performance of servo / propotional valves.

Features :

1. Can test Null Leakage & Flow test of Servo valve.
2. Can set Null Offset of Servo valve with / without an electrical signal.
3. Servo valve functionality with command signal.
4. Movable test rig

Main function :

1. This test rig helps to make sure either new/ serviced or old servo valve is Okay or malfunctioning.

Portable test rig includes the following

1. 40 Lpm Flow meter with digital display
2. Pressure gauges a0 - 350 bar,
3. 760 series manifold plate,
4. Control Valves (Loading valves)
5. Command signal 0 to +/- 100mA with digital display.
6. Polarity switch
7. Inbuilt Pressure line filter & Return line filter.
8. Cable with standard 4-pin connector.
9. 3/8 Inch BSP Quick Disc connect coupling (Female).
10. 240 V AC Power Input (110 V A/c optional)

4) SERVOCONTROLS - DELTA Closed Loop Controllers

MDT (Magnetostrictive Displacement Transducer) Interface. Connects directly to all major magnetostrictive linear displacement transducer brands like MTS - Temposonics and different types, including multi magnet.

12 and 16 bit analog :

Bring in position, Velocity, pressure or analog reference use the 16 bit version for motion control with analog feedback, or for high resolution force control.

Quadrature Interface :

hook up with encoders and glass scales Control servo motors or stepper or bring in for gearing.

SSI Interface :

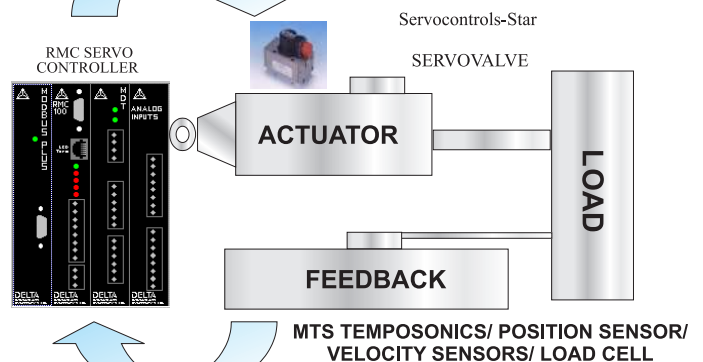
Use with MDTs, resolvers, and absolute encoders equipped with a synchronous serial interface.



SERVOCONTROLS ELECTRO MECHANICAL ACTUATION SYSTEMS



SERVOCONTROLS ELECTRO HYDRAULIC ACTUATION SYSTEMS



RMC Companion Products

Voltage to Current Converter : High Performance & High Bandwidth V to I converters are designed for converting a voltage drive o/p to a current drive output in order to control a servo valve application.

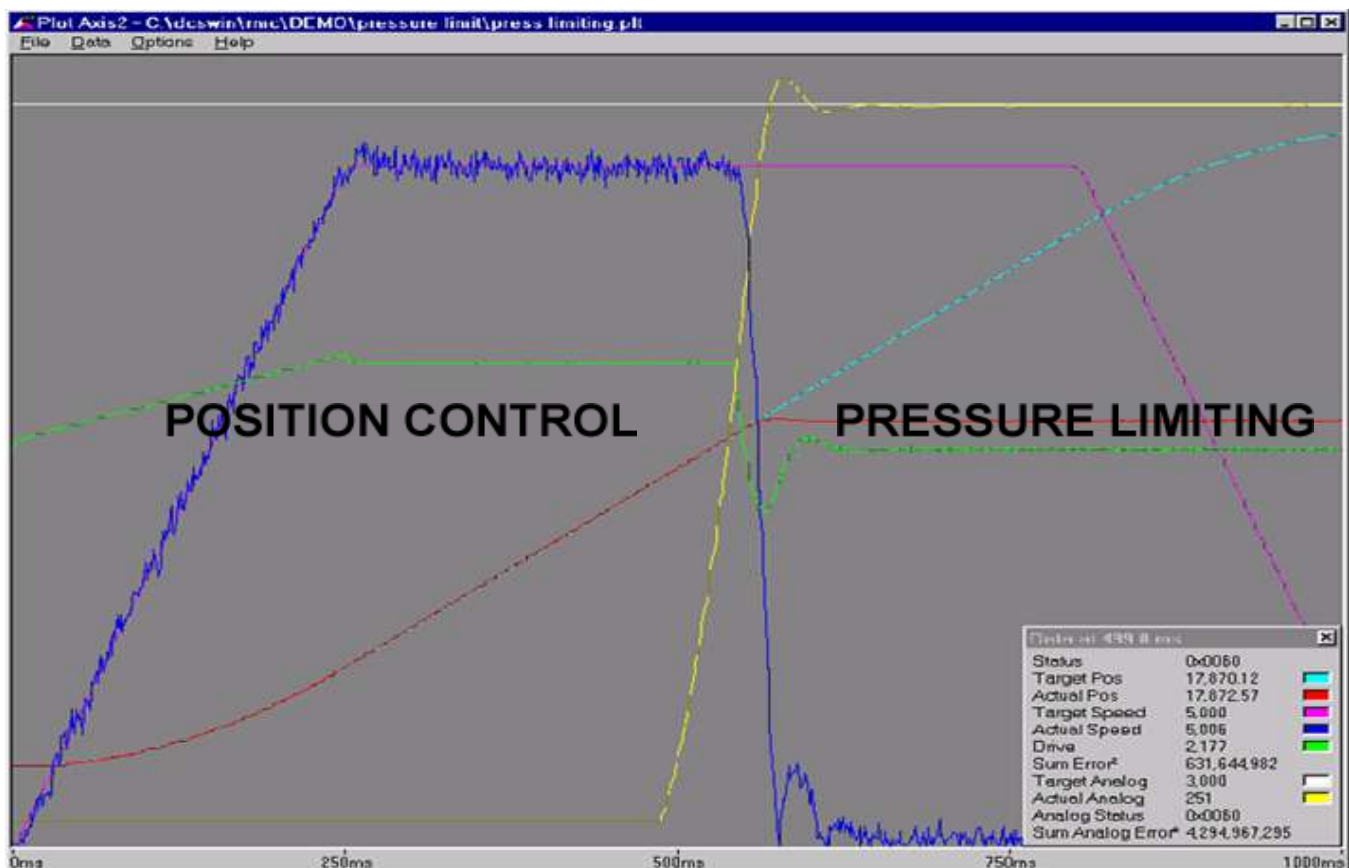
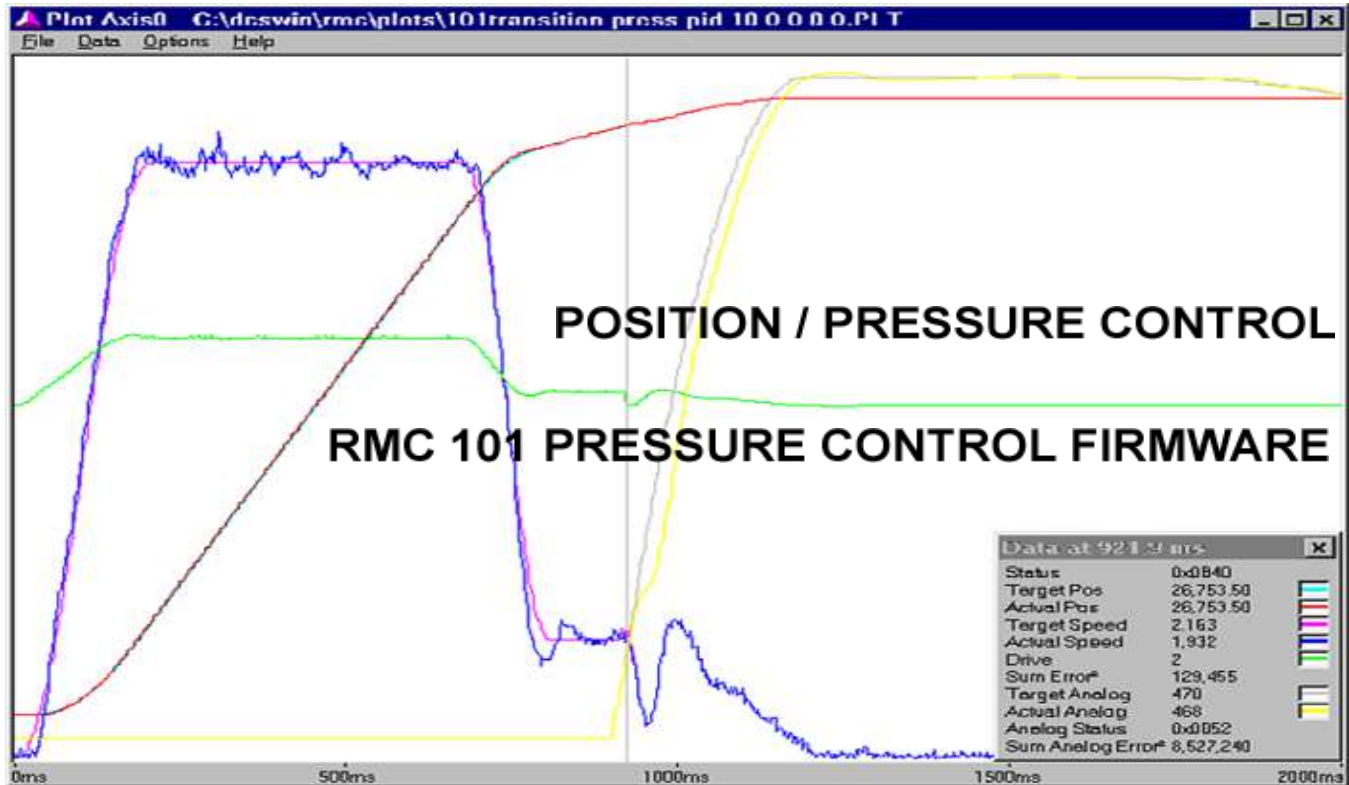
Features :

- ◆ Two channels of Voltage to Current conversion.
- ◆ Full scale output current switch selectable from (0 to ± 10 Volts) ± 10 mA to ± 100 mA.
- ◆ Input and outputs can be paralleled for output current.
- ◆ LED to indicate input polarity and amplitude.
- ◆ LED to indicate output saturation.
- ◆ Compact DIN - rail mount package.

CLOSED LOOP POSITION AND PRESSURE TESTING/DIAGNOSTICS

Online diagnostics and data acquisition using our closed loop controllers will help you to tune your gains. Our controllers are inbuilt with special algorithm to take care of null shift of servo valves. Irrespective of change in null position of servo valves the controller adjust itself to overcome the null changes in servo valves thus reducing valuable downtime in Turbine Industry.

This is the unique algorithm developed by Servocontrols for Turbine Industry, and any closed loop applications.



5) SERVOCONTROLS - EXLAR ELECTROMECHANICAL ACTUATORS

At Servocontrols - Exlar, we are very proud of our innovation and development of quality products. With our unique product offering, we have pushed the limits of conventional motion control to provide more speed and more force with less space and less maintenance. Our core competency is our patented roller screw technology which differentiates us from every other actuators supplier. Now we have expanded our competency to rotary motors and gear motors. This product breadth, combined with solid engineering and product quality allowed us to succeed in our business. We have assembled an extensive support network of highly trained professionals and earned the confidence of our customers. Servocontrols - Exlars unique products could be incorporated into your design for more efficient motion control. We would welcome the opportunity to discuss your motion requirements, specially where you don't want oil and want to replace hydraulic cylinders.



Roller Screw Advantages

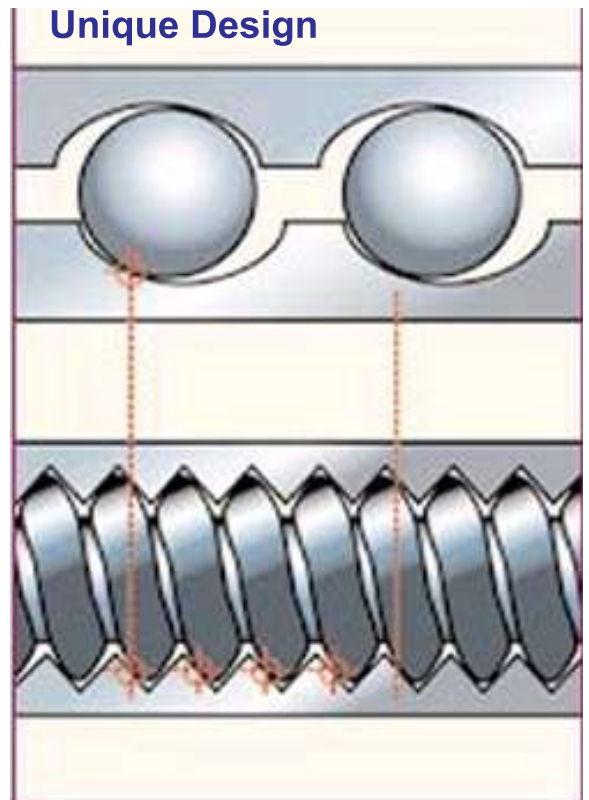
Roller screw design provides high speeds, stiffness and shock load resistance and **"Is having 15 times more life than Ball Screw technology actuators."**

- ◆ Large static loads up to 35.0 M Tonnes.
- ◆ High screw speeds - 5000 rpm and above.
- ◆ Up to 15 times longer life. Ideally suited for heavy duty turbine applications.
- ◆ Preloaded nut options for zero backlash.

This robust roller screw design is composed of rollers that are manufactured with precisely the same thread angle as the nut. This construction is particularly well suited to applications that require very high loads and high speeds. This is possible because Sevocontrols - Exlars planetary roller screw designs provide many more contact points than possible on comparably sized ball screws. This result in higher stiffness, higher load capacity and 15 times the travel life of similarly sized ball screws. The diagram on left shows number of contact points in ball screw as compared to the number of contact points in a roller screw.

For detailed specifications visit our website www.servocontrolsindia.com and go to products and then to electrotechnical actuators, or contact our experts at electromechanical@servocontrolsindia.com

Unique Design



6) Servocontrols - Ormec SMLC Controller

Servocontrols - Ormec's Servowire Motion and Logic Controller is at the center of complete machine control solution that can meet all of your motion, I/O and networking needs. With Pentium processor, Firewire Drive networking and Ethernet connectivity, SMLC allows to focus on solving application instead of integrating control components. The SMLC Servowire drive network and Modbus/TCP provide state of art I/O and motion control up to 16 axes, programmed using IEC 61131 - 3 standard language including relay ladder logic.

The Servowire Motion & Logic Controller features high performance computing capability combined with true real time operating systems (RTOS). This system is cost effective and having robust computing power for multi-axes motion and I/O control applications.

SMLC System Overview



Servocontrols - Ormec Drives

Servowire SM drives provide high performance servo operation utilizing digital networking technology based on IEEE - 1394 (Fire Wire). Each servo drive supports a variety of high performance, encoder based servomotors. All servowire drives utilize IGBT based intelligent power modules and provide cost effective solution for motor control applications. Servowire SM drives combine all digital operation with DSP technology to produce fast updates and correspondingly high performance. The high bandwidth control loops in Servowires along with high resolution motor feedback combine quick and accurate torque, velocity and position control. Position, velocity and torque loops are all closed in Servowire SM drives.



3 PH, 230 Volts Inputs. 3 PH, 460 Volts Input +/- 10 Volts Input & 230 Volts Input

7) Servocontrols-Hydraforce Proportional valves Which are most reliable products at economical prices & quick delivery



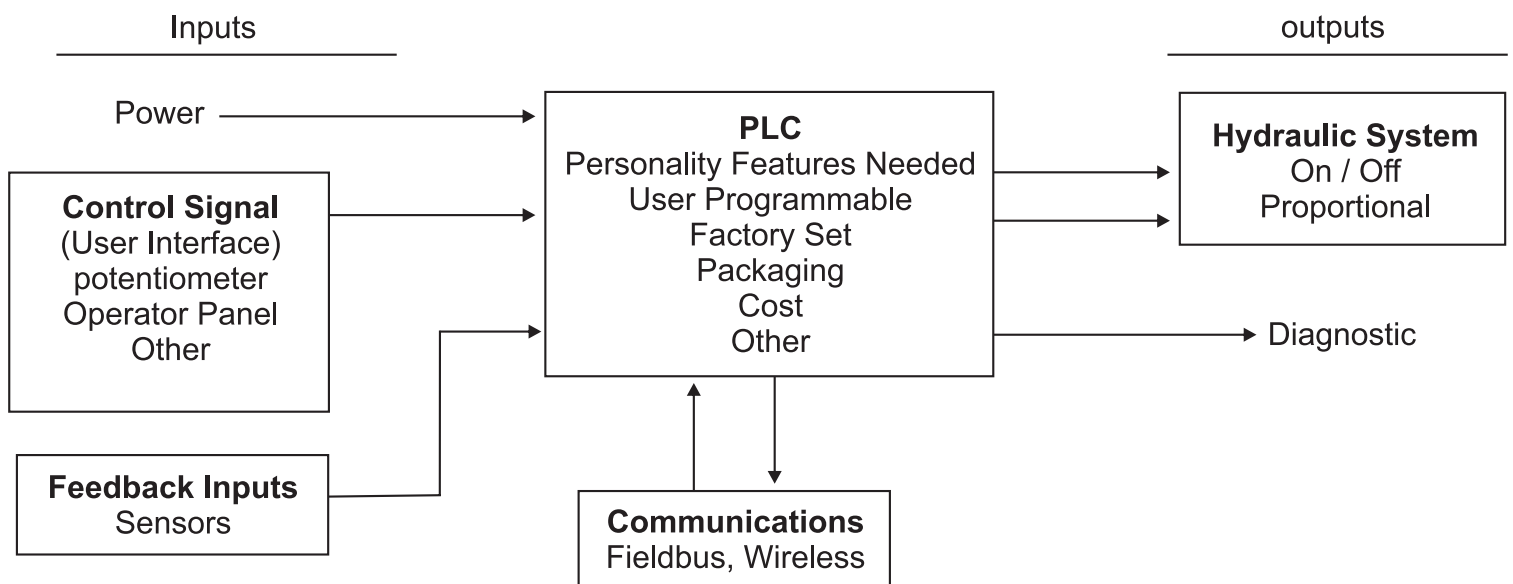
Proportional Valves



Electronic Controllers for Proportional Valves

We offer most wide range of Proportional valves for pressure, flow and directional controls. Our proportional valves works on Pulse Width Modulation (PWM) technology, which is the most advanced and highly sophisticated technique. We are catering to the needs of most Steel Mill Industries.

ELECTRO-HYDRAULICS CONTROL

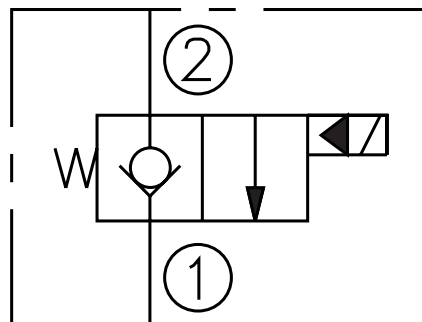


Solenoid Valves

Poppet, 2-Way, Normally Closed

Flow	Model
23 lpm / 6 gpm	SV08-20
23 lpm / 6 gpm	SV08-20J
19 lpm / 5 gpm	*SF08-20
23 lpm / 6 gpm	SV38-20J
23 lpm / 6 gpm	*SV58-20
45 lpm / 12 gpm	SV10-20
114 lpm / 30 gpm	SV12-20
132 lpm / 35 gpm	SV16-20

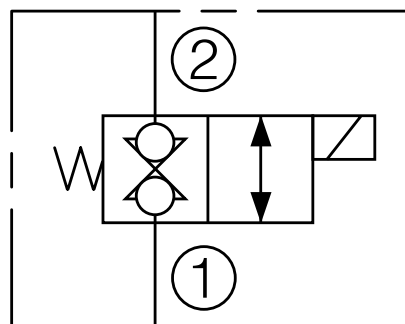
*Rated for 345 bar/5000 psi



Blocking / Poppet, 2-Way, Normally Closed

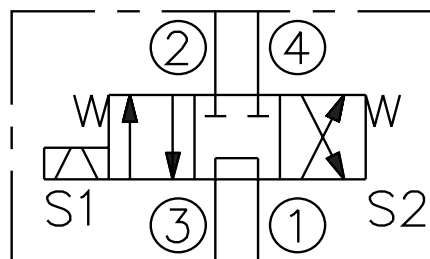
Flow	Model	
19 lpm / 5 gpm	SV38-28	<u>1.090.1</u>
76 lpm / 20 gpm	SV10-28	

New Model is Highlighted



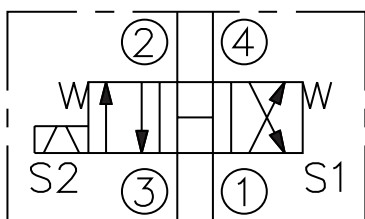
Spool, 4-Way, 3-Position, Tandem Center

Flow	Model	
11 lpm / 3 gpm	SV08-47A	<u>1.500.1</u>
14 lpm / 4 gpm	SV10-47A	<u>1.502.1</u>



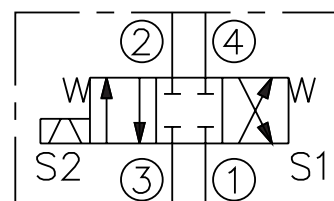
Spool, 4-Way, 3-Position, Open Center

Flow	Model
11 lpm / 3 gpm	SV08-47B
22 lpm / 6 gpm	SV10-47B



Spool, 4-Way, 3-Position, Closed Center

Flow	Model
11 lpm / 3 gpm	SV08-47C
22 lpm / 6 gpm	SV10-47C

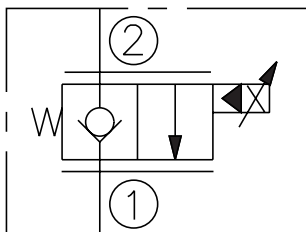


Electro-Proportional Valves

Proportional Directional, 2-Way, Normally Closed

Flow	Model
22 lpm / 6 gpm	SP08-20
68 lpm / 18 gpm	SP10-20
100 lpm / 27 gpm	SP12-20

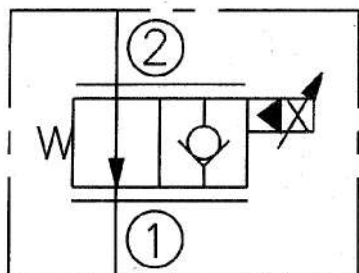
New Models Highlighted



Proportional Flow Control, 2-Way, Normally Open

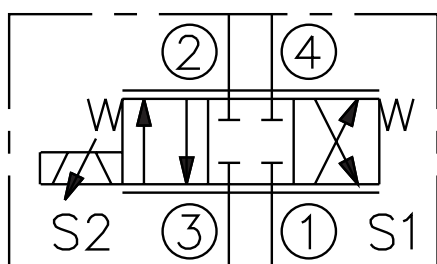
Flow	Model
22 lpm/5.8 gpm	SP08-21
61 lpm/16 gpm	SP10-21
53 lpm/14 gpm	*HSP10-21
200 lpm/53 lpm	SP12-21
265 lpm/70 gpm	SP16-21

*Rated for 345 bar/5000 psi



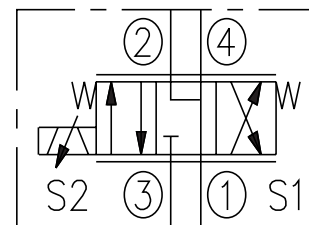
Proportional Directional, 4-Way, 3-Position, Closed Center

Flow	Model
11 lpm / 3 gpm	SP08-47C
22 lpm / 3 gpm	SP10-47C



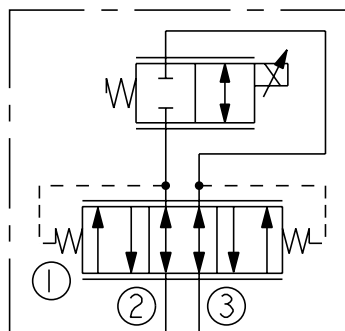
Proportional Directional, 4-Way, 3-Position, "Motor Spool"

Flow	Model
11 lpm / 3 gpm	SP08-47D
22 lpm / 3 gpm	SP10-47D

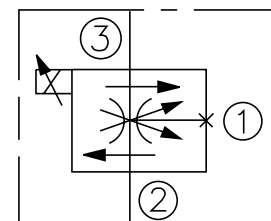


Proportional Flow Control, Bi-Directional, Normally Closed

Flow	Model
19 lpm / 5 gpm	ZL70-30
50 lpm / 13 gpm	ZL72-30

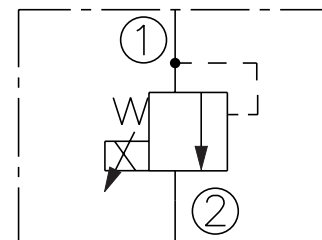


ABBREVIATED



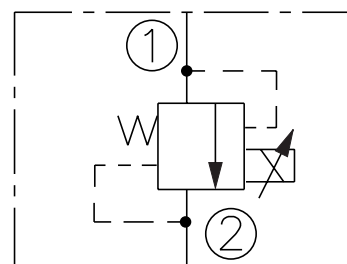
Proportional Pressure Control, Pilot-Operated Relief Increasing Pressure with Increasing Current

Flow	Model
95 lpm / 25 gpm	TS10-26
189 lpm / 50 gpm	TS12-26



Proportional Pressure Control, Pilot-Operated Relief Decreasing Pressure with Increasing Current

Flow	Model
19 lpm / 5 gpm	TS08-27
76 lpm / 20 gpm	TS10-27
189 lpm / 50 gpm	TS12-27

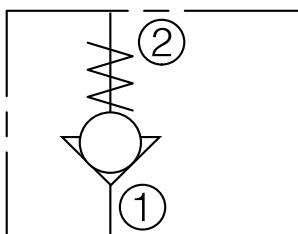


Directional Valves

Check, Guided

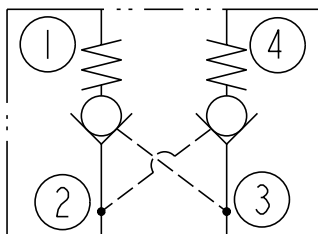
Flow	Model
5 lpm / 1.5 gpm	CV04-20
5 lpm / 1.5 gpm	CV04-B20
30 lpm / 8 gpm	CV08-20
57 lpm / 15 gpm	CV10-20
57 lpm / 15 gpm	*CV50-20
95 lpm / 25 gpm	CV12-20
151 lpm / 40 gpm	CV16-20
378 lpm / 100 gpm	CV42-M20

*Rated for 345 bar/5000 psi



Check, Dual Pilot-to-Open

Flow	Model
18 lpm / 5 gpm	DC08-40

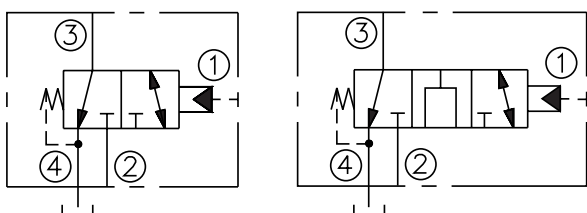


Piloted, 3-Way Spool, Internal Vent

Flow	Model
30 lpm / 8 gpm	PD10-41
114 lpm / 30 gpm	PD12-41
170 lpm / 45 gpm	PD16-41
265 lpm / 70 gpm	*PD42-M41

*Rated for 345 bar/5000 psi

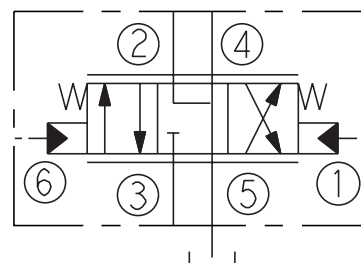
OPEN TRANSITION:



Pilot Operated, Proportional, Meter-In and Meter-Out

Flow	Model
90 lpm / 24 gpm	PE16-S67D
170 lpm / 45 gpm	PE42-S67D

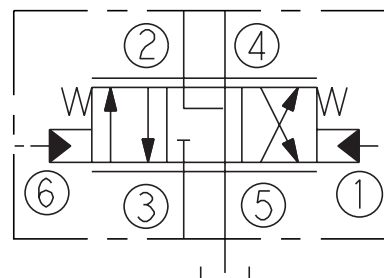
New Model Highlighted



Pilot Operated, Proportional, Meter-In and Meter-Out

Flow	Model
90 lpm / 24 gpm	PE16-S67D
170 lpm / 45 gpm	PE42-S67D

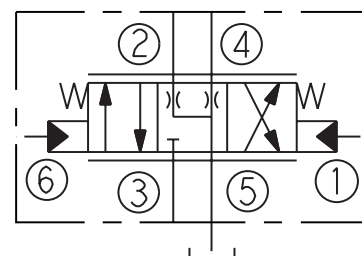
New Model Highlighted



Pilot Operated, Proportional

Flow	Model
45 lpm / 12 gpm	PE12-S67H
90 lpm / 24 gpm	PE16-S67H
150 lpm / 40 gpm	PE42-S67H

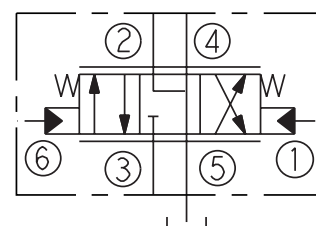
New Model Highlighted



Pilot Operated, Proportional, Meter-In Only

Flow	Model
90 lpm / 24 gpm	PE16-S67K
170 lpm / 45 gpm	PE42-S67K

New Model Highlighted

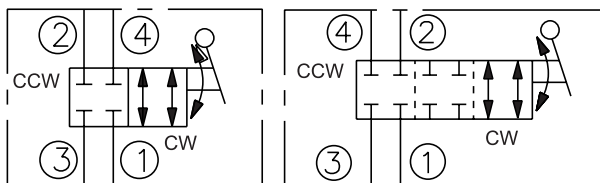


Directional Valves

Manual Rotary, 4-Way, 2-Position

Flow	Model
11.4 lpm / 3 gpm	MR10-41

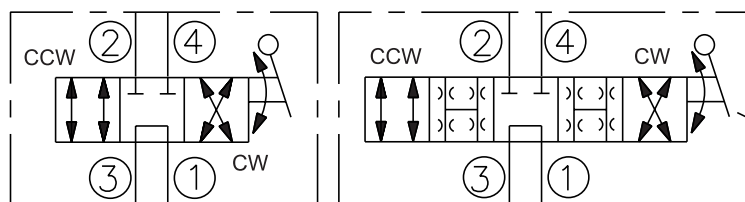
TRANSITION:



Manual Rotary, 4-Way, 3-Position, Tandem Center

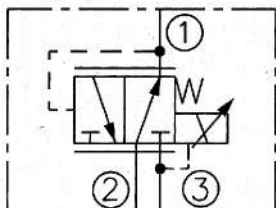
Flow	Model
11.4 lpm / 3 gpm	MR10-47A

TRANSITION:



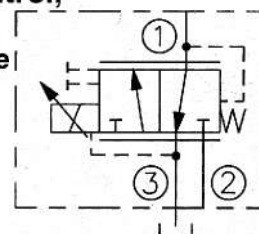
Proportional Pressure Control, Reducing/Relieving, Pilot Operated

Flow	Model
60 lpm/16 gpm	TS10-36
189 lpm/50 gpm	TS12-36



Proportional Pressure Control, Reducing/Relieving, Direct-Operated, Drop-In Style

Flow	Model
5.7 lpm/1.5 gpm	EHPR98-T35
18 lpm/5 gpm	EHPR98-T38



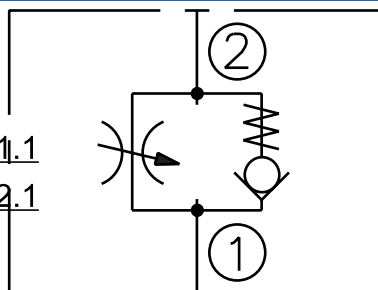
Flow Control Valves

Flow Control, Free Flow 1 to 2

Flow	Model
45 lpm / 12 gpm	FC10-20
129 lpm / 34 gpm	FC12-20

5.201.1

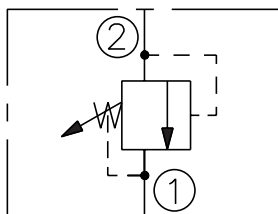
5.202.1



Pressure Control Valves

Relief, Differential Area Poppet

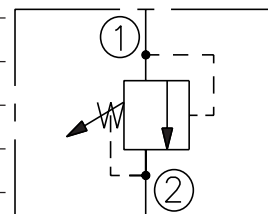
Flow	Model
30 lpm / 8 gpm	RV08-22
114 lpm / 30 gpm	RV10-22
75 lpm / 20 gpm	*RV50-22



*Rated for 345 bar / 5000 psi

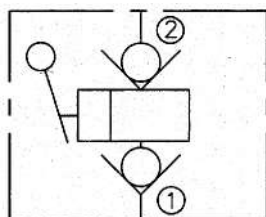
Relief, Pilot-Operated, Spool

Flow	Model
113 lpm / 30 gpm	RV10-26
113 lpm / 30 gpm	*RV50-26
150 lpm / 40 gpm	RV12-26
150 lpm / 40 gpm	*RV52-26
303 lpm / 80 gpm	RV16-26



*Rated for 345 bar / 5000 psi

Hand Pumps



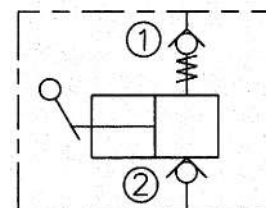
Hand Pump, Push or Pull*

Displacement per Stroke	Model
*Up to 10.6 cc/0.65 cu. in.	HP10-21
21.3 cc/1.3 cu. in.	HP16-21

*Depending on model selected

Hand Pump, Push and Pull

Displacement per Stroke	Model
1.36 cc/0.083 cu. in.	HP10-22



Steel Mill Seminars at Servo Controls



Training on Servo valves



Training on Tempsonics



Training on AGC Systems



Training on Preventive Systems & maintenance

Servo Valve Assembly Setup



SERVOCONTROLS Certification

Servocontrols & Hydraulics (I) Pvt. Ltd. ISO 9001:2008


Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
Trading as TÜV SÜD South Asia Private Limited
certifies that

Servocontrols & Hydraulics (I) Pvt. Ltd.
S.No.683, Industrial Estate, Udyambag,
Belgaum- 590 008, INDIA

has established and applies
a Quality Management System for

Design, Manufacturing, Assembly, Servicing and Testing of
Manifoldblocks, Electro-hydraulic and Electromechanical Systems &
Assembly, Testing and Validation of Temposonics, Pressure
Transducers, and Electromechanical actuators

An audit was performed, Report No. 70715428
Proof has been furnished that the requirements
according to

ISO 9001:2008

are fulfilled. The certificate is valid in conjunction
with the main-certificate until 2015-08-20
Certificate Registration No. 12 100 29404/02 TMS


Munich, 2012-08-28


005-TGA-ZM-07-02

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Rüdigerstraße 65 • 80329 München • Germany

Servocontrols ISO 9001:2008


Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
Trading as TÜV SÜD South Asia Private Limited
certifies that

Servocontrols
S.No. 683, Industrial Estate, Udyambag,
Belgaum- 590 008, INDIA

has established and applies
a Quality Management System for

Design, Manufacturing, Assembly, Servicing
and Testing of Servoactuators & Assembly,
Testing and Validation of Servovalves

An audit was performed, Report No. 70715428
Proof has been furnished that the requirements
according to

ISO 9001:2008


are fulfilled. The certificate is valid in conjunction
with the main-certificate until 2015-08-20
Certificate Registration No. 12 100 29404/01 TMS


Munich, 2012-08-28


005-TGA-ZM-07-02

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Rüdigerstraße 65 • 80329 München • Germany

Servocontrols Aerospace (India) Pvt. Ltd. AS 9100C : 2009-01


UL
REGISTERED

CERTIFICATE

This is to certify that

Servocontrols Aerospace (India) Pvt. Ltd.
Survey No. 683
Industrial Estate, Udyambag
Belgaum - 590 008
Karnataka
INDIA


has implemented and maintains a **Quality Management System**.

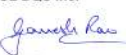
Scope:
The Design & Development, Manufacture, Testing & Servicing of Servo Valves & Servo
Actuators & Manifold Blocks for Aerospace applications. The Manufacture of Precision
Machined Components for Aerospace Applications.

Through an audit, performed in accordance with AS9104, Rev A and SR 001 it was
verified that the management system fulfills the requirements of the following standard:

AS 9100C : 2009-01
EN9100 : 2009
JIS Q9100 : 2009
Quality Management Systems - Requirements for Aviation, Space and Defense Organizations

Certificate registration no. 20003791 ASH09
Date of Original Certification 2009-02-04
Date of certification 2012-05-14
Valid until 2015-02-03




Ganesh Rao
Managing Director

Accredited Body: UL DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
UL DQS Inc. is accredited by ANAB and recognized by the Americas Aerospace Quality Group (AAQG)

Servocontrols Aerospace (India) Pvt. Ltd. ISO 9001:2008


UL
REGISTERED

CERTIFICATE

This is to certify that

Servocontrols Aerospace (India) Pvt. Ltd.
Survey No. 683
Industrial Estate, Udyambag
Belgaum - 590 008
Karnataka
INDIA

has implemented and maintains a **Quality Management System**.

Scope:
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fulfills the requirements of the following standard:

ISO 9001 : 2008

Certificate registration no. 20003791 QM08
Date of Original Certification 2009-02-04
Date of certification 2012-05-14
Valid until 2015-02-03




Ganesh Rao
Managing Director

Accredited Body: UL DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA

SERVOCONTROLS



Save Energy with Feedback

Address for Correspondence:

SERVOCONTROLS & Hydraulics (I) Pvt. Ltd

(An ISO 9001-2008 & AS 9100 Rev C Certified Company)

Survey No. 683, Industrial Estate, Udaymbag,
Belgaum - 590 008, Karnataka, India

Tel: 91-83102407501/2/3, 2481734, 4201132

Fax-91-831-2484496

E-mail: sales@servocontrolsindia.com

Website: www.servocontrolsindia.com

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Email: dinesh@servocontrolsindia.com

Mr. Deepak Reddy

Mobile: +919448395742

Email: sales@servocontrolsindia.com

SERVOCONTROLS 100% EOU unit in 12 acres of land
near Hattargi Belgaum Special economy Zone



**Industrial
Jewel Award
(2011)**



TECHNICAL ALLIANCE PARTNERS



Website: www.servocontrolsindia.com

E-mail: sales@servocontrolsindia.com