

SPECIFICATIONS

Fluid Supply: 744 Series Servovalves are intended to operate with constant supply pressure.

Supply Pressure:

Minimum: 500 psi (35 bar)
Maximum: 2000 psi (140 bar)

Proof Pressure:

150% of supply pressure at P port
100% of supply pressure at R port

Fluid:

Compatible with common hydraulic fluids. Recommended viscosity range: 60-450 SUS @ 100°F (10-97 cSt @ 38°C)

Cleanliness Level:

ISO DIS 4406 code 16/13 max.
14/11 recommended

Operating Temperature:

-40°F (-40°C)
(maximum fluid viscosity: 6000 SUS)
Maximum: +185°F (+85°C)

Rated Flow Tolerance: +10%

Hysteresis: < 3%

Threshold: < 0.3%

Null Shift: with supply pressure

1000 psi change: < 2%

Frequency Response:

Typical response characteristics are shown in Figures 1 and 2.

Step Response:

Typical transient responses are shown in Figure 3. The straight line portion of a response represents saturation flow from the pilot stage which will increase with higher supply pressures.

The 744 Series Servovalve is a two-stage design which flows up to a maximum of 70 gpm at 1000 psi valve drop. The output stage is a closed center, four-way, sliding spool. The pilot stage is a double-nozzle and flapper, driven by a double air gap, dry torque motor. The valve design is simple and rugged for dependable, long life operation.

Specific design features include a first stage field replaceable filter, an internal null adjust which acts as an electrical failsafe, and a second stage failsafe in the event of a loss of hydraulic supply pressure.

The valves are FM approved for non hazardous locations and are primarily used on steam turbine applications.



FREQUENCY RESPONSE

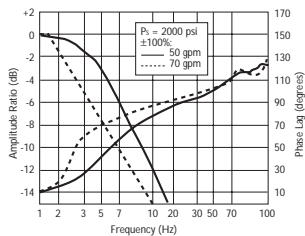


Figure 1 - Full Amplitude Frequency Response

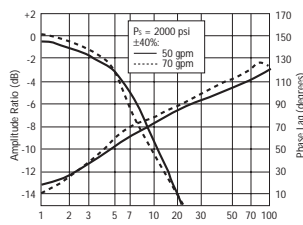


Figure 2 - Reduced Amplitude Frequency Response

STEP RESPONSE

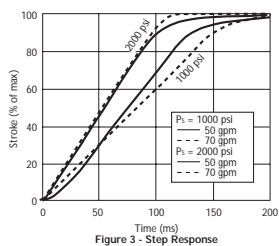


Figure 3 - Step Response

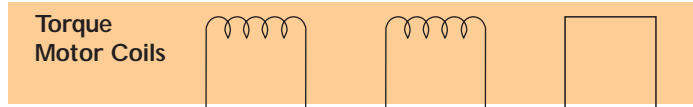
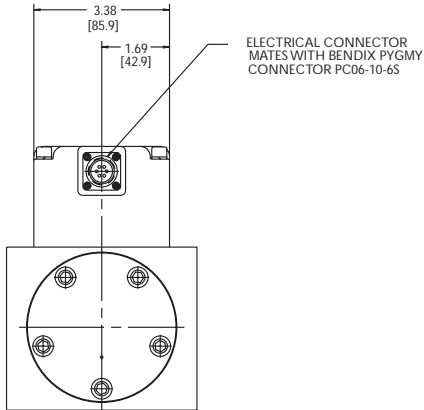
Model	Response	Rated Flow		Internal Leakage		Rated Current	Coil Nom
		(1000 psi)	(1000 psi)	(1000 psi)	(1000 psi)	(single coil)	Resistance
		gpm	lpm	gpm	lpm	mA	ohms
744F001	Std.	70	265	1.3	4.92	17	500
744F002	Std.	50	189	1.3	4.92	96*	22
744F003	Std.	50	189	1.3	4.92	34.5	125
744F004	Std.	70	265	1.3	4.92	96*	22

Available seal materials: VITON (Std.), BUNA or EPR.

* 3 coil torque motor.

744 SERIES INSTALLATION DRAWINGS

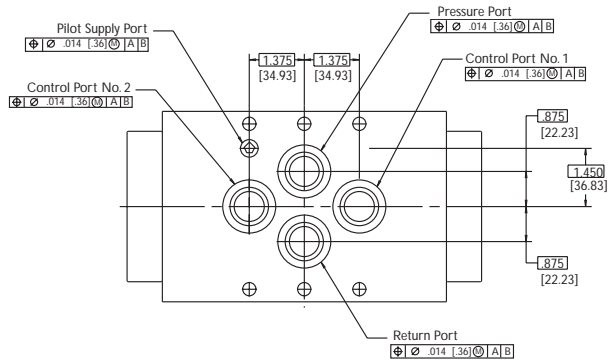
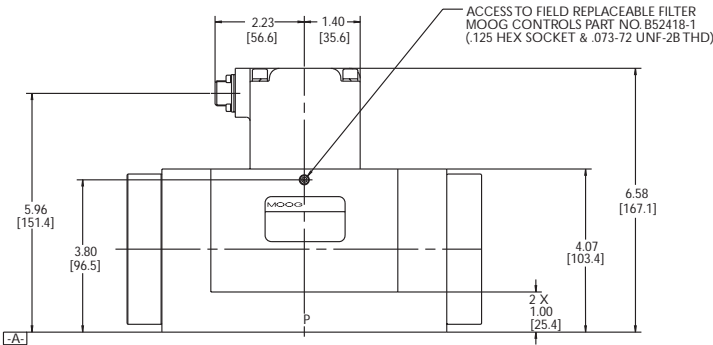
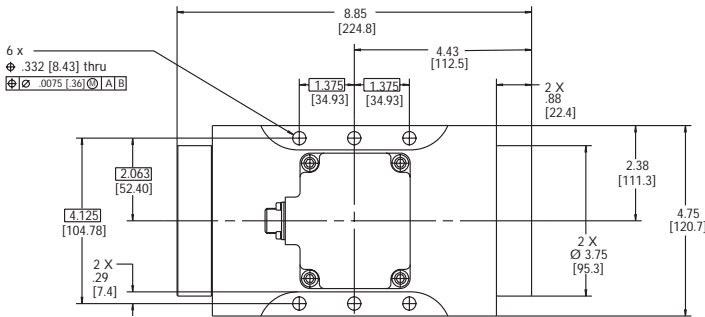
STANDARD ELECTRICAL CONFIGURATION



Torque Motor Coils

Connector Pins A B C D E F

External connections and electrical polarity for flow out control port No. 1 are:
 Single Coil: A+, B-; or C+, D-
 Series Coils: tie B to C; A+, D-
 Parallel Coils: tie A to C and B to D; A & C+, B & D-



ACCESSORIES

Mating Electrical Connector:

P/N 78068-8
 (PC06E-10-6S(SR))

Suggested Mounting Bolts:

P/N A31324-224B
 5/16 – 18 NC x 1.50 long

Socket Head Cap Screw

Replacement Filter Kit:

P/N 52418-2

NOTES

Valve Weight: 18.50 lb (8.38 kg)

Base O-Ring Size:

0.139 [3.53] sect. x 1.046 [26.57]
 (universal size -215)

Aux. Pilot Pressure Port O-Ring

Size: 0.070 [1.78] sect. x .301 [7.65]
 (universal size -011)

Aux. Pilot Pressure Port:

Standard on all models.

Null Adjust:

Internal (factory adjusted). Standard configuration is Pressure to control port No. 2.

Surface Finish:

Surface to which valve is mounted requires $\sqrt{7}$ [7] finish, flat within 0.0015 [0.04] TIR.

The products described herein are subject to change at any time without notice, including, but not limited to, product features, specifications, and designs.

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