

# MOOG

## A085 Series Servoactuators

### SPECIFICATIONS

**Operating Pressure:**  
Standard: 500 to 3000 psi \*  
Optional (special order): 4000 psi

**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:**  
Minimum: -20°F (-28°C)  
(maximum fluid viscosity 6000 SUS)  
Maximum: +200°F (+93°C)

**Seals:**  
VITON A (fluorocarbon) O-Rings  
with anti-extrusion device

**External Leakage:**  
Rod Seals: slight rod wetting

**Radial Load:**  
Maximum: 50 lbs.

**Transducer Null Adjustment:**  
± 0.25 inch

**Orientation:** Any

**Cycle Life:**  
> 10<sup>7</sup> cycles between seal changes

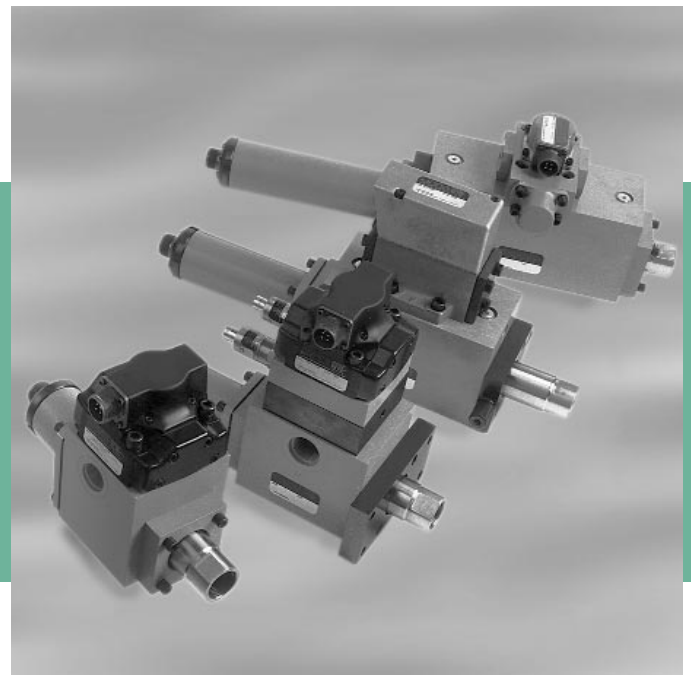
**Exterior Materials:**

- Aluminum Alloy (chromic acid anodized)
- Alloy Steel (zinc or chrome plated; black oxide treated)
- Stainless Steel

The Moog A085 Series Servoactuators combine high performance cylinders, linear feedback devices and servovalves in one assembly. These servoactuators have been specifically developed to offer the advantages of custom engineered units designed for industrial applications without the costs or delays that can accompany a custom designed unit.

The choice of servovalves, feedback transducers, working areas and strokes available will accommodate most control requirements. Maximum compatibility with other Moog components such as electronics and special function manifolds.

The benefits of the A085 Series include totally assembled and self contained units that are 100% tested before shipment. Minimized plumbing and fixturing as well as case drain for zero rod leakage.



### STANDARD OPTIONS

**Piston Areas:** 1.1 in<sup>2</sup>, 3.4 in<sup>2</sup>, 6.8 in<sup>2</sup>

**Strokes:** 1 in, 2 in, 4 in, 6 in

**Servovalve Selection:** 62 Series, 760 Series

**Selection of Cylinder Mounting:**  
Base Mount, Front or Rear Flange Mount, Front or Rear Trunnion Mount

**Optional Crossports Relief Valves (CRV)**

**Optional Cylinder Bypass Orifice (AMO)**

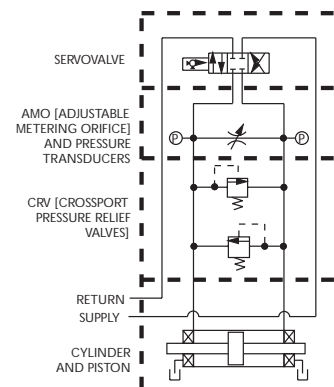
**Optional Pressure Transducers**

**Optional Filter for supply fluid**

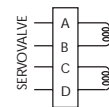
**Wide Range of Flow Capacity and Dynamic Response Selection**

**Selection of LVDT or DCDT for position feedback**

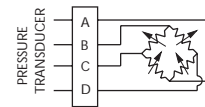
### TYPICAL HYDRAULIC CIRCUIT



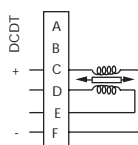
### ELECTRICAL SCHEMATIC



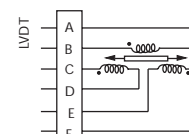
**POLARITY:**  
Parallel coils: A & C (+),  
B & D (-) actuator extends  
Series coils: B & C interconnected,  
A (+), D (-) actuator extends



**POLARITY:**  
Input: A (+), B (-)  
Output: C positive with respect  
to D with pressure applied



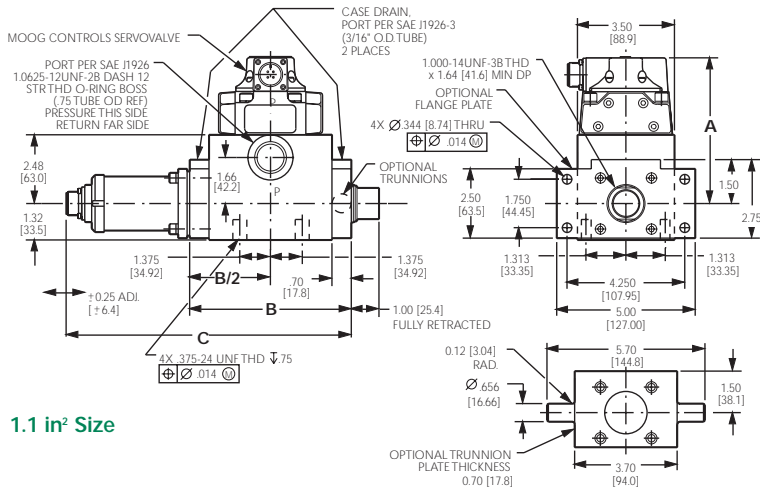
**PHASING:**  
Input: C (+), F (-)  
Output: with actuator  
extended E is positive  
with respect to D



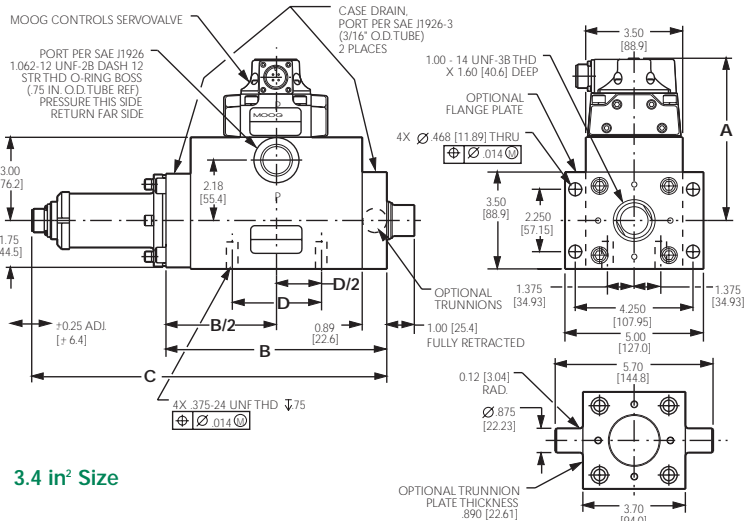
**PHASING:**  
Input: A & B  
Output: interconnect D & E;  
with actuator extended,  
B & C common, A & F are in phase

\* Input polarity must be observed

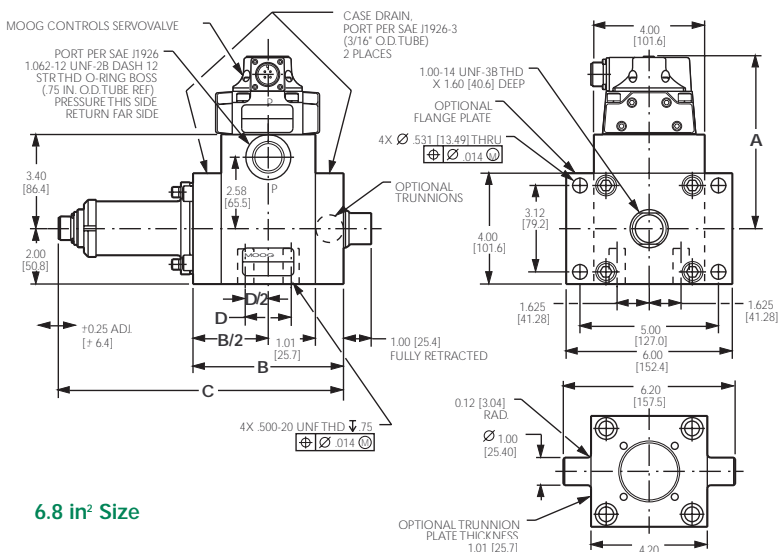
## A085 SERIES INSTALLATIONS AND MANIFOLDS



1.1 in<sup>2</sup> Size



3.4 in<sup>2</sup> Size



6.8 in<sup>2</sup> Size

## ACCESSORIES

### Rod End Adapter:

P/N A31558  
converts rod end to female 1/2-20 UNF-3 x 1.00 DP thd; adapter adds 0.50 inch to rod end length

### Servovalve Mating Electrical Connector:

P/N 49054F14S2S  
(MS3106F14S-2S)

### Position Transducer Mating Electrical Connector:

P/N 49054F14S6S  
(MS3106F14S-6S)

### Pressure Transducer Mating Electrical Connector:

P/N 49532-18  
(MS3116E8-4S)

### 1.1 in<sup>2</sup> Size

Actuator plus 760 Servovalve	A	Piston Stroke	B	C
Servovalve only	5.48 [139.2]	1.00 [25.4]	4.84 [122.9]	9.17 [232.9]
Servovalve plus Relief Valves (CRV)	6.73 [170.9]	2.00 [50.8]	5.84 [148.3]	11.17 [283.7]
Servovalve plus Metering Orifice (AMO)	6.46 [164.1]	4.00 [101.6]	7.84 [199.1]	15.17 [385.3]
Servovalve plus Relief Valves (CRV) & Metering Orifice (AMO)	7.71 [195.8]	6.00 [152.4]	9.84 [249.9]	19.17 [486.9]

### 3.4 in<sup>2</sup> Size

Actuator plus 760 Servovalve	A	Piston Stroke	B	C	D
Servovalve only	6.00 [152.4]	1.00 [25.4]	4.98 [126.5]	9.31 [236.5]	1.00 [25.4]
Servovalve plus Relief Valves (CRV)	7.25 [184.2]	2.00 [50.8]	5.98 [151.9]	11.31 [287.3]	1.50 [38.1]
Servovalve plus Metering Orifice (AMO)	6.98 [177.3]	4.00 [101.6]	7.98 [202.7]	15.31 [388.9]	3.00 [76.2]
Servovalve plus Relief Valves (CRV) & Metering Orifice (AMO)	8.23 [209.0]	6.00 [152.4]	9.98 [253.5]	19.31 [490.5]	5.00 [127.0]

### 6.8 in<sup>2</sup> Size

Actuator plus 760 Servovalve	A	Piston Stroke	B	C	D
Servovalve only	6.40 [162.5]	1.00 [25.4]	5.43 [137.9]	8.88 [225.6]	None
Servovalve plus Relief Valves (CRV)	7.65 [194.3]	2.00 [50.8]	6.43 [163.3]	10.88 [276.4]	1.38 [35.1]
Servovalve plus Metering Orifice (AMO)	7.38 [187.4]	4.00 [101.6]	8.43 [214.1]	14.88 [377.9]	3.00 [76.2]
Servovalve plus Relief Valves (CRV) & Metering Orifice (AMO)	8.63 [219.2]	6.00 [152.4]	10.43 [264.9]	18.88 [479.6]	5.00 [127.0]

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