



FM Approvals  
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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

**Series 2000 Valve Actuators (MPA, MCP and M2CP designs). Model abcd-ef.**

a = Model Type

(1, 2, 3, 4, 5, 6, 7, 8 and 9) Multi-Turn with torque and thrust.

(E or H) Multi-Turn side mount on bevel gear.

(F or G) Multi-turn torque only.

(P, Q and R) Quarter turn-top mount.

(D, S, U or A) Multi-turn (no thrust).

(J, K, L or V) 2 Turn top mount.

(M or W) Quarter turn-side mount on 1/4T gear box.

(B) Multi-turn with ball screw output.

(C) Multi-turn with ball screw temperature compensated.

(T) Multi-turn with temperature compensation.

(N) Navy actuators DOD-V-24657 (SH).

b = Motor horsepower A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, 1-9 and X, Y, Z.

c = Motor gear ratio A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, X, Y and Z.

d = Valve adaption code to describe max Acme and Stem Size, max Shaft Size, Bolt Circle, Screw Size, Qty Screw, Worm Ratio and Hand of Gearing.

e = Motor voltage or pneumatic pressure 1,2,3,4,5,6,7,8,9,B,C,D,E,F,G,H,J,K,L,M,N,P,Q,R or T (65-150 psi).

f = Additional features F,C,H,P,M,E,D,SCM,PBM,CBM (CBM for Groups C,D,E,F,G) or none.

*Special Condition of Use:*

*\*T4 temperature code rating when valve actuator motors are protected with 130°C rated thermal cutouts, and T4A temperature code rating when valve actuator motors are protected with 115°C rated thermal cutouts.*

**CBM and PBM Modules.**

**Series 2000 Valve Actuators (MPA, MCP and M2CP designs). Model abcd-efgh.**

- a = Model Type  
(D, U, S, X, Y, Z) Multi-Turn
- b = Motor Horsepower  
(A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, 1-9 and X, Y & Z Pneumatic)
- c = Motor Gear Ratio  
(A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U, V, W, X, Y & Z)
- d = Worm Gear Ratio  
(A, B, C, K, L, M, R, S)
- e = Motor Voltage or Pneumatic Pressure  
[1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R or T]
- f = Additional Mechanical Feature
  - (0) None
  - (C) Ceramic (Surface Coating)
  - (F) Fire Enhanced Model K-Mass (Surface Coating)
  - CBM Circuit Breaker Module (CBM does not include Group B)
  - PBM Pushbutton Module
  - SCM Separate Control Module
- g = Gearbox Type Mechanical Features
  - (0) KWG – Special
  - (1) KBG – Special
  - (2) KWG – Bronze Worm Gear
  - (3) KWB – Ductile Iron Worm Gear
  - (4) KBG – Bronze Gear
  - (5) KWG – Bronze Gear 360 degrees
  - (8) MWG
  - (A) KWG – Traveling Nut – Bronze Worm Gear
  - (B) KWG – Traveling Nut – Ductile Iron Worm Gear
- h = Valve Adaption Code to describe Worm Ratio, and Worm Gear Size

Special Condition of Use:

\*T4 temperature code rating when valve actuator motors are protected with 130°C rated thermal cutouts, and T4A temperature code rating when valve actuator motors are protected with 115°C rated thermal cutouts

Equipment Ratings:

Suitable for Class I, Division 1, Groups B, C and D; Class II, Division 1, Groups E, F and G; and Class III, Division 1 hazardous (classified) locations, indoors and outdoors (Type 4X). (MCP Valve Actuators and CBM Module do not include Group B rating).

FM Approved for:

Emerson Process Management Valve Actuation, LLC  
13840 Pike Road  
Missouri City, TX 77489

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

FM 3600	2011
FM 3615	2006
FM 3810	2005
ANSI/NEMA	1991

Original Project ID: 1G2A3.AE

Approval Granted: December 20, 1982

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
0T9H0.AE	August 10, 1992		
2Y4A4.AE	March 5, 1997		
3011622	July 13, 2001		
100107	February 18, 2010		
100309	March 18, 2010		
RR201445	July 9, 2015		

FM Approvals LLC



J.E. Marquedant  
 Manager, Electrical Systems

July 9, 2015  
 Date