

Type Approval Certificate Extension

This is to certify that Certificate No. 07/60002 (E1) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Emerson Process Management –Valve Automation
PLACE OF PRODUCTION	19200 NW Freeway Houston, Texas – 77065 USA
DESCRIPTION	Quarter turn canted/standard yoke, hydraulic/pneumatic, double acting or spring return.
TYPE	FHC5, FHC6, FHC7, FHC9 FH5, FH6, FH7, FH9
APPLICATION	Fixed or mobile offshore use. To drive quarter turn valves to open or closed position using hydraulic or air in both directions (double acting) or in one direction (spring return).
SPECIFIED STANDARDS	SI 1996 No. 825 SI 1996 No. 913 IP-65

Certificate No.	07/60002(E2)
Issue Date	6 Feb 2013
Expiry Date	5 Feb 2018
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RATINGS

FHC Pneumatic - Spring Return or Double Acting

Maximum Operating pressure, 40 to 180 psig
Torque output pneumatic double acting, 25454 to 1323117 lb-in
Torque output spring-return type, 10301 to 1358484 lb-in

FHC Hydraulic - Spring Return or Double Acting

Operating pressure, 400 to 3900 psig
Torque output hydraulic double acting, 8891 to 1358019 lb-in
Torque output spring-return, 10002 to 1357880 lb-in

FH Pneumatic - Spring Return or Double Acting

Maximum Operating pressure, 40 to 200 psig
Torque output spring-return, 11640 to 1356395 lb-in
Torque output hydraulic double acting 8891 to 1355047 lb-in

FH Hydraulic - Spring Return or Double Acting

Operating pressure, 400 to 3900 psig
Torque output pneumatic double acting, 25847 to 1347708 lb-in
Torque output spring-return type, 11640 to 1352986 lb-in

Refer to Manufacturer's table for the rating for the specific actuator.

Temperature rating

Standard	Minus 20 to 200 Deg. F
High	0 to 350 Deg. F
Low	Minus 40 to 150 Deg. F
Extreme Low	Minus 65 to 150 Deg

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OTHER CONDITIONS

1. For applications on ESD valves the following are the limitations:-
 - (i) The actuators are to be fire proofed to the same rating of the valves and are to be protected against explosion or impact.
 - (ii) The actuators are to be spring return self closing type.
 - (iii) Suitable local controls are to be provided at the installation to release the hydraulic/pneumatic supply inlet for local closing of the spring return actuators.
 - (iv) The manual/hydraulic over rides are not to be provided.
 - (v) The evaluation of the leakage rate of the valve is not part of the actuator approval and is to be verified by the owner/operator.
2. This type approval may contribute to the requirement of Verification Scheme established by the duty holder.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 07/60002(E2) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remains as per the previous Certificate No 07/60002 (E1) to which this extension should be attached.

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