



TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 5 pages.

This is to certify that the
ELECTRIC ACTUATOR FOR VALVE CONTROL

With type designations

XE/WE SERIES

Manufactured by

A-T Controls, Inc.

Is found to comply with

Türk Loydu Rules for Machinery 2016 Part-B, Chapter 4, Chapter 16, Chapter 5 Electric Installation; Part-E Rules For Naval Ships Chapter 105:2016 Electrical Installations; Chapter 107:2016 Ship Operation Installations and Auxiliary Systems and Basic Engineering Principles and International Standards According to Status of Each Document

Application	: XE/WE Series actuator is a part-turn electric actuator and intended for 90°turn operations to be used for butterfly and ball valves
Design	: HKC Co. Ltd.
Sizes	: As defined as approval drawings
Address of Manufacturer	: 9955 International Blvd. Cincinnati, Ohio 45246 U.S.A. Ansan-Sı, Gyeonggi-Do Republic of Korea
Place and date	: İSTANBUL / 22.03.2018

Subject to the conditions referred to in the following pages, this certificate is valid until 19-09-2021

This certificate supersedes TO.DEB.16-0045 numbered and 22.09.2016 date certificate

Emrah SÖĞÜTÇÜ
New Building Division Manager



M. Burak MEZREA Y.
Surveyor



Product description:**Type Designation**: WE-500/ WE-690/ WE-860/ WE-1350/ WE-1700/ WE-2640/
WE-6900/ WE-17500/ WE-259000

A-T Model Exd-Proof Type	A-T Model Weather Proof Type	Power Supply	Enclosure	Motor	Limit Switch	Torque	Travel Angle
-	WE-500	110 /220V AC 1PH, 50/60Hz	IP67	Squirrel Caged Induction motor	2xSPDT, 250V-16A	60Nm	90° ±10(0~100°)
XE-690	WE-690	110 /220V AC 1PH, 50/60Hz	IP68	Squirrel Caged Induction motor	2xSPDT, 250V-16A	80 Nm	90° ±10(0~100°)
XE-860	WE-860	110 /220V AC 1PH, 50/60Hz	-	Squirrel Caged Induction motor	2xSPDT, 250V-16A	100 Nm	90° ±10(0~100°)
XE -1350	WE-1350	110 /220V AC 1PH, 50/60Hz	IP68	Squirrel Caged Induction motor	2xSPDT, 250V-16A	150 Nm	90° ±10(0~100°)
XE -1700	WE-1700	110 /220V AC 1PH, 50/60Hz	-	Squirrel Caged Induction motor	2xSPDT, 250V-16A	200 Nm	90° ±10(0~100°)
XE -2640	WE-2640	110 /220V AC 1PH, 50/60Hz	IP68	Squirrel Caged Induction motor	2xSPDT, 250V-16A	300 Nm	90° ±10(0~100°)
XE -6900	WE-6900	110 /220V AC 1PH, 50/60Hz	IP68	Squirrel Caged Induction motor	2xSPDT, 250V-16A	1100 Nm	90° ±10(0~100°)
XE -17500	WE-17500	110 /220V AC 1PH, 50/60Hz	-	Squirrel Caged Induction motor	2xSPDT, 250V-16A	2000 Nm	90° ±10(0~100°)
XE -259000	WE-259000	110 /220V AC 1PH, 50/60Hz	-	Squirrel Caged Induction motor	2xSPDT, 250V-16A	3000 Nm	90° ±10(0~100°)

Materials used

: According to approval drawings and part lists.

Item	Material
Body	AC4B.1
Cover	AC4B.1
Clutch	SCM440
Disc	A2024-T4
Torsion Spring	PWR
O-Ring	NBR
Bolt	XM7

Application/ Limitation (Approval conditions):

- WE Series (*HQ Series is sub-name of manufacturer*) are contained EC Certification Scheme for Explosive Atmospheres Type of Protection Ex-d, Ex-tb. During the validity date of the certificate can be used with this type approval certificate
- Acceptance tests are to be carried out at the manufacturer's factory before the shipment of the equipment in compliance with relevant Turk Loydu rules.
- Any Modification or change shall not be valid until is granted by Turk Loydu as a result of due assessment
- Temperature range is limited subject to material in use
- Components which are installed electrical system are to be type approved.

Documentation

: Approval Letter Ref:P0125/16-0045/IK/MKT dated: 28.01.2016 and
 Ref: P/0111/16-0045/IK/IY dated:26.01.2016

Drawing No	Title	Rev.
Q006-501-A	HQ-006 Layout	00
Q006-101-A	HQ-006 Assembly	00
Q008-101-C	HQ-008/010 Assembly	00
Q008-501-A	HQ-008/010 Standard Layout	00
Q015-101-C	HQ-015/020 Assembly	00
Q015-501-A	HQ-015/020 Standard Layout	00
Q030-501-A	HQ-030 Standard Layout	00
Q030-101-C	HQ-030/050/060 Assembly	00
Q050-501-A	HQ-050/060 Standard Layout	00
Q080-501-A	HQ-080/120 Standard Layout	00
Q080-101-C	HQ-080/120/300 Standard Layout	00
Q006-901-A	HQ-006 Ex Assembly	00
Q006-902-A	HQ-006 Ex Assembly 2	00
Q006-903-A	HQ-006 Flame Path Detail	00
Q006-904-A	HQ-006 Ex Standard Layout	00
Q006-701-A	HQ-006 Ex Body	00
Q006-702-A	HQ-006 Ex Cover	00
Q006-705-A	HQ-006 Shaft Guide	00
Q006-847-A	HQ-006 O-Ring	00
Q006-710-A	HQ-006 Name Plate (Ex d for IECEx)	00
Q008-171-E	HQ-008/010 Ex Assembly	05
Q008-172-F	HQ-008/010 Ex-Flame Path Detail	04
Q008-291-D	HQ-008/010 Ex-Disc	03
Q008-501-C	HQ-008/010 Ex-Standard Layout	02
Q008-701-H	HQ-008/010 Ex-Body	05
Q008-702-K	HQ-008/010 Ex-Cover	10
Q008-750-C	HQ-008/010 Ex-Window Clamp	01
Q008-812-C	HQ-008/010 Ex-1st Worm Gear	02
Q008-820-B	HQ-008/010 Ex-Disc Cover	01
Q015-171-D	HQ-015/020 Assembly	04
Q015-172-F	HQ-015/020 Ex-Flame Path Detail	04
Q015-219-C	HQ-015/020 Ex-Disc	02
Q015-501-C	HQ-015/020 Ex-Standard Layout	01
Q015-701-G	HQ-015/020 Ex-Body	05
Q015-702-L	HQ-015/020 Ex-Cover	10
Q015-710-C	HQ-015/020 Ex-Center Column	02
Q015-721-B	HQ-015/020 Ex-Torque Shaft	01
Q015-750-C	HQ-015/020 Ex-Window Clamp	00
Q015-812-C	HQ-015/020 Ex-1st Worm Gear	02
Q015-820-A	HQ-015/020 Ex-Disc Cover	00
Q030-171-D	HQ-030/050/060 Ex-Assembly	04
Q030-172-F	HQ-030/050/060 Ex-Flame Path Detail	04
Q030-219-C	HQ-030/050/060 Ex-Disc	02
Q030-501-C	HQ-030/050/060 Ex-Standard Layout	01
Q030-701-J	HQ-030/050/060 Ex-Body	06
Q030-702-K	HQ-030/050/060 Ex-Cover	10
Q030-710-C	HQ-030/050/060 Ex-Center Column	02
Q030-721-B	HQ-030/050/060 Ex-Torque Shaft	01
Q030-812-C	HQ-030/050/060 Ex-1st Worm Gear	02
Q030-820-A	HQ-030/050/060 Ex-Disc Cover	00
Q080-171-D	HQ-080/120/200/300 Ex-Assembly	04
Q080-172-E	HQ-080/120/200/300 Ex-Flame Path Detail	04
Q080-501-C	HQ-080/120/200/300 Ex-Standard Layout	00

Q080-710-C	HQ-080/120/200/300 Ex-Center Column	02
Q080-243-A1	HQ-080/120/200/300 Ex- Name Plate (Ex d for IECEX)	00
Q080-243-A2	HQ-080/120/200/300 Ex- Name Plate (Ex d for IECEX)	00
Q080-243-C1	HQ-080/120/200/300 Ex- Name Plate (Ex d for CSA)	00
Q080-243-K1	HQ-080/120/200/300 Ex- Name Plate (Ex d for KCs)	00
Electrical Part		
HQ-110-A	IPH Wiring diagram Standard	00
HQ-11000-A	IPH Wiring diagram Standard	00
HQ-15000-A	IPH Wiring diagram PCU	00
HQ-1100-A	IPH Wiring diagram Standard	00
HQ-1500-A	IPH Wiring diagram Standard	00
HQ-150-A	IPH Wiring diagram PCU	00
HQ-2500-B	DC Wiring diagram PCU	00
HQ-25000-B	PCU DC Wiring diagram	00
HQ-850-C	IPH Wiring diagram DC/PCU	00
HQ-004	AC&DC Wiring diagram Standard (ON/OFF)	00
HQ-180-A	IPH Wiring diagram CPT	00
HQ-18000-A	IPH Wiring diagram CPT	00
HQ-1800-A	IPH Wiring diagram Standard CPT	00
HQ-94400-A	Schematic Wiring diagram LCU-C+PCU (optional)	00
HQ-95500-B	Schematic Wiring diagram LCU-C+PCU	00
HQ-93500-A	Schematic Wiring diagram LCU-B3+PCU	00
HQ-93200-A	Schematic Wiring diagram LCU-B3	00
HQ-91500-A	Schematic Wiring diagram LCU-B1+PCU	00
HQ-91200-A	Schematic Wiring diagram LCU-B1	00
HQ-96500-E	Schematic Wiring diagram RBP+PCU	00
HQ-96500-D	Schematic Wiring diagram RBP+PCU	00
HQ-96000-E	Schematic Wiring diagram RBP	00
HQ-9600-D	Schematic Wiring diagram RBP	00

Test carried out (and results) :

- Corrosion Tests (salt spray test after polymer coating) Report no: RDTR-16.02031 dated : 04.01.2016 to 03.02.2016
- Functional Test (for HQ-010 and complied with DN80 Butterfly valves)
Report no: TR 1512-4569-01 dated: 04.02.2016
 - Torque applications test at 220V- 1 Phase and 50/60 Hz
 - Insulation Res (500V Megger)
 - Insulation Potential Test (1800Vac-1sec)
- Endurance Test (for HQ-030) Report no: 151212-08 dated: 12.12.2015
- EMC Test (ERI-EMC Research Institute)
 - Report no: ERI-EN08-00070023 dated:01.14.2008
 - Report no: ERI-EN08-00150078 dated:29.01.2008
 - Report no: ERI-EN08-00140077 dated: 29.01.2008
- ENV Test (KTL-Korea Testing Laboratory)
 - Report no: 04-1372-438 dated:11.04.2004
- Enclosure IP68-IP67 test (KTL-Korea Testing Laboratory)
 - Report no: 09-1455-205 for IP67-HQ 006 dated:28.04.2009
 - Report no: 09-1455-113 for IP68-HQ 008 dated:18.03.2009
 - Report no: 09-1455-088 for IP68-HQ 015 dated:05.03.2009
 - Report no: 09-1455-112 for IP68-HQ 030 dated:18.03.2009
 - Report no: 09-1455-683 for IP68-HQ 080 dated:02.12.2009

- Vibration Test (KTL-Korea Testing Laboratory)
 - Report no: PNS 071081-12-1/2 dated:02.11.2007
 - Report no: 08-2374-08-01 dated: 29.01.2008
- EC Certification Scheme for Explosive Atmospheres-Type of Protection Ex-d, Ex-tb Certificate No : IECEX DEK 11.0098X (DEKRA Certification B.V)
- Quality internal management system audit dated: 04.02.2016
- Quality internal management system audit dated: 12-13.09.2016

Place of test carried out : Ansan-Si,Gyeonggi-Do Republic of Korea (Manufacturing Facility)
Cincinnati, Ohio 45246 U.S.A. (Assembly Facility)

Marking of product: The product to be marked same as below mentioned.

- Manufacturer's name and trade mark
- Type designation



M.Burak MEZREA ^{Y.}
Surveyor

This certificate is subject to terms and conditions described below:

- Any significant change in design or construction may render this Certificate invalid. Type Approval Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to the equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.