

TYPE APPROVAL CERTIFICATE

This is to certify:**That the valve electric actuator**with type designation(s)
AQ1L to AQ7L, AQ5 to AQ50

Issued to

Bernard Controls (China) Co., Ltd.
Beijing, China

is found to comply with

DNV GL rules for classification – Ships**DNV GL rules for classification – Offshore units****DNV GL rules for classification – High speed and light craft****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2019-02-12**This Certificate is valid until **2024-02-11**.for **DNV GL**DNV GL local station: **Dalian**Approval Engineer: **Harald Amberger**

Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

AQL actuators include a multi-voltage board to supply a 24VDC motor, compact gear case, emergency manual output and standard output with a square.

AQ actuators include motor with thermal protection, gear case, emergency handwheel, and output drive with removable socket.

1x85-260VAC 50-60Hz												
Type	Max Torque Nm	Switch On-Off	Switch Loc. Command On-Off	Switch Command Positioner	Switch Positioner	Logic On-Off & Positioner	Pos.-torque Nm	Opera.-time s/90°	Flange ISO	Power W	Current rated A	start A
AQ1L	15	Yes	--	--	Yes	--	--	13	F03/04/05	20	0,3	0,8
AQ3L	30	Yes	--	--	Yes	--	--	15	F03/04/05	20	0,3	0,8
AQ7L	70	Yes	--	--	Yes	--	--	15	F05/07	20	0,4	1,0

24VDC												
Type	Max Torque Nm	Switch On-Off	Switch Loc. Command On-Off	Switch Command Positioner	Switch Positioner	Logic On-Off & Positioner	Pos.-torque Nm	Opera.-time s/90°	Flange ISO	Power W	Current rated A	start A
AQ1L	15	Yes	--	--	Yes	--	--	13	F03/04/05	20	0,4	2,5
AQ3L	30	Yes	--	--	Yes	--	--	15	F03/04/05	20	0,4	2,5
AQ7L	70	Yes	--	--	Yes	--	--	15	F05/07	20	0,5	6
AQ5	50	Yes	--	--	--	Yes	--	13	F05/07	30	2,5	6
AQ10	100	Yes	--	--	--	Yes	50	21	F05/07	30	2,5	6
AQ15	150	Yes	--	--	--	Yes	75	25	F05/07	30	2,5	6
AQ25	250	Yes	--	--	--	Yes	125	25	F07/10	50	3,5	10
AQ30	300	Yes	--	--	--	Yes	150	35	F07/10	50	4,0	10
AQ50	500	Yes	--	--	--	Yes	250	60	F07/10	50	4,0	10

1x220/230VAC 50Hz / 60Hz ¹												
Type	Max Torque Nm	Switch On-Off	Switch Loc. Command On-Off	Switch Command Positioner	Switch Positioner	Logic On-Off & Positioner	Pos.-torque Nm	Opera.-time s/90°	Flange ISO	Power W	Current rated A	start A
AQ5	50	Yes	--	--	Yes	Yes	--	16/13 ¹	F05/07	15	0,6	0,7
AQ10	100	Yes	--	--	Yes	Yes	50	25/21 ¹	F05/07	15	0,6	0,7
AQ15	150	Yes	--	--	Yes	Yes	75	30/25 ¹	F05/07	30	0,8	1,1
AQ25	250	Yes	--	--	Yes	Yes	125	30/25 ¹	F07/10	40	1,1	1,4
AQ30	300	Yes	--	--	Yes	Yes	150	35/30 ¹	F07/10	40	1,1	1,4
AQ50	500	Yes	--	--	Yes	Yes	250	35/30 ¹	F07/10	60	1,2	1,7

Job Id: **262.1-027144-1**
Certificate No: **TAM00000XC**

3x400VAC 50Hz												
Type	Max Torque Nm	Switch On-Off	Switch Loc. Command On-Off	Switch Command Positioner	Switch Positioner	Logic On-Off & Positioner	Pos.- torque Nm	Opera.- time s/90°	Flange ISO	Power W	Current rated A	start A
AQ5	50	Yes	--	--	Yes	Yes	--	16	F05/07	15	0,6	0,7
AQ10	100	Yes	--	--	Yes	Yes	50	25	F05/07	15	0,6	0,7
AQ15	150	Yes	--	--	Yes	Yes	75	30	F05/07	30	0,8	1,1
AQ25	250	Yes	--	--	Yes	Yes	125	30	F07/10	40	1,1	1,4
AQ30	300	Yes	--	--	Yes	Yes	150	35	F07/10	40	1,1	1,4
AQ50	500	Yes	--	--	Yes	Yes	250	35	F07/10	60	1,2	1,7

Further ratings acc. manufacturer documentation.

Application/Limitation

Location Classes:

AQ Types

Temperature: C, Humidity: A, Vibration: A, EMC: A, Enclosure: IP68

AQL Types

Temperature: B, Humidity: A, Vibration: A, EMC: A, Enclosure: IP68

Operating instruction of the manufacturer to be observed

Type Approval documentation

Tests carried out

Cold, dry heat, damp heat, vibration, and EMC acc. DNVGL-CG-0339.

Marking of product

Bernard Controls - Type designation - Main data.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.