Certificate No:
TAP00002SC

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Control Valves

with type designation(s)
IQ Serial , Type YSIQ

Issued to
Zhejiang Yongsheng Technology Co., Ltd
Hangzhou, **China**

is found to comply with
DNV rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV class programme DNV-CP-0186 – Type approval – Valves

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature range:	**-29°C ~ 230°C**
Max. working press.:	**1.6 ~ 6.4 MPa**
Sizes:	**25 DN ~ 250 DN**

Issued at **Hamburg** on **2023-07-31**

This Certificate is valid until **2028-07-30**.

for **DNV**

DNV local unit: **Shanghai**

Approval Engineer: **Ana Cristina Do Carmo Insfran**

Sven Klinger
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description

The Control Valve, IQ Serial, Type YSIQ designed for installation in piping systems for different services conditions.

Design and manufacture: GB/T4213-2008

Valve connecting flange: HG/T20592-2009

Pressure – Temperature Rating: GB/T12224

Flange distance: GB/T17213-2005

Test standard: JB/T7387-2014

Sizes: DN 25 to DN 250 => Pressure ratings: PN 1.6 ~ 6.4 MPa

Design temperature range: -29°C ~ 230°C

Sealing Type: IQ serial control valve:

Non-metallic materials name Material	Materials
Gasket	304+Flexible graphite
Spiral wound gasket	304+Flexible graphite
Packing	PTFE
O-ring	FKM
Yx type seal ring for shaft	FKM
Rubber dust seal ring	FKM

Materials:

Valve parte	Material type	Standard
Body	Stainless steel	ASTM A216 WCB
Bonnet	Stainless steel	ASTM A216 WCB
Stem	Stainless steel	ASTM A276 304
Valve core	Stainless steel	ASTM A351 CF8 +STL6
Sleeve valve cage	Stainless steel	ASTM A351 CF8
Gasket	304+Flexible graphite	-

Note: The materials to be used in piping system shall be suitable for the medium and service for which the intended service.

Control valves may be equipped with manual, pneumatic or electric actuator hydraulic[1].

Note 1:
Actuators, remote operating control devices and additional mountings are not included in this type approval.

Application

Thecontrol valve IQ serial type YSIQare type approved for the following operating media:

Non-flammable gases, sea water, fresh water, air, oil.[2]

Note 2:
Fuel oil, lubrication oil, hydraulic oil and thermal oil are in this context regarded as “Flammable liquids”.
See DNV Rules, Pt. 4 Ch. 1, Section 3 – Design principles

Limitation

Control valves may not be used for flammable gases and applications with flowing media specified as dangerous and toxic fluids.

Type Approval documentation

Certification

Application in machinery and piping systems

Valves intended to be installed in piping system listed in DNV Rules Pt.4, Ch.6 – Section 1 shall be certified according to DNV Rules Pt.4, Ch.6 – Piping systems, Section 9

Valve nominal size / Pressure rating	Type of Certificate / Issued by
DN > 100 mm / PN > 16 bar	Product Certificate (PC) / DNV
DN ≤ 100 mm / PN ≤ 16 bar	Product Declaration (PD) / Manufacturer
Ship side valves DN > 100 mm regardless of pressure rating	Product Certificate (PC) / DNV

Material certificates (valve bodies)
In accordance with DNV Rules Pt.4, Ch.6 – Piping systems, Section 2 – Table 3- Materials certificates

Tests carried out

The control valves IQ Serial, Type YSIQ have been tested in accordance with the following standards:

Test standard: GB/T600-2008 DNV Pt.4 Ch.6 DNV CP-0186		Purpose
Title	Test reference	
Hydrostatic Pressure Test	Valve Body	To confirm the pressure containing capability of the shell against internal pressure Test pressure = 1,5 times the design pressure No leakage is permitted.
Hydrostatic/Pneumatic Seat tightness	Valve seat	To confirm the capability of the seats to comply with the specified leakage rate At the manufacture In the direction(s) for which the valve is designed No visible leakage.
Functional test	Valve assembly	Function test of completed assembled valve.

Marking of product

For traceability to this type approval the products are to be marked with:

Manufacturers name			
	ZHEJIANG YONGSHENG TECHNOLOGY CO., LTD		
	Electric Control Valve		
Tag no.		Model	
Nominal Diameter DN (mm)		Nominal Pressure PN (MPa)	
Rate Kv		Flow Characteristic	
Leakage Class		Rate travel (mm)	
Input Signal (mA)		Body Material	
Output Signal (mA)		Plug Material	
Power		Seat Material	
Working Temperature (°C)		MFR No.	
-		MRF Date	

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNV-CP-0338, Sec.4.

The certificate is only valid if required periodical assessments are carried out with satisfactory results. To check the validity of this certificate, please look it up in https://approvalfinder.dnv.com

END OF CERTIFICATE