



Certificate no.:
TAA00003EA

TYPE APPROVAL CERTIFICATE

This is to certify:

that the **Direct Acting Control Valve**

with type designation(s)
D6xx series

issued to

MOOG GmbH
Böblingen, Germany

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

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

Location classes:

Temperature D, -25°C up to +80°C

Humidity B

Vibration B

EMC A

Enclosure B

Issued at **Hamburg** on **2025-08-27**

This Certificate is valid until **2030-08-26**.

for **DNV**

DNV local unit: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

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.



Form code: TA 251

Revision: 2023-09

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Page 1 of 3

Product description

The DDV (Direct Drive Valve) of type D636 is a digital controlled mainstage valve, direct operated. The D636 can be used as pilot valve as well. It consists of a linear force motor, valve body and onboard electronics.

The D672 is a pilot operated valve - with D636 as pilot valve.

Material valve body ¹	EN GJS 400-15
Size D636	NG6 (ISO4401-03-03-0-05)
Size D672	NG16 (ISO4401-07-07-0-05)
Max. operating pressure	315 bar
Max. nominal flow D636	16l/min, 40l/min (depends on difference pressure at control edge)
Max. nominal flow D672	250l/min
Operation medium	Hydraulic oil acc. to DIN 51524 / ISO 11158
Hydraulic oil purity grade	ISO 4406 18/15/12 or NAS 1638 Class 6
Oil temperature range	+0°C to +80°C
Protection class	IP 65
Power supply	18-32V DC
Input signal	4-20mA, 0-24V
Output signal	4-20mA
Service interface	CAN-BUS (for configuration)
Electronics version	DCV4-4 (CD34282-110)
Software version	CD36664DV0XX-X-211

Notes

¹ For valve body material certificate 3.1 according to EN 10 204 is to be provided for each batch.

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

The D6xx is type approved for application in fuel injection systems and exhaust gas valve actuation of two-stroke diesel engine and hydraulic pump control.

Marking of product

For traceability to this type approval certificate each valve is to be provided with a name plate containing at least the following content:

Manufacturers name or short sign	MOOG
Type designation	D636-yyyy-zzzz D672-yyyy-zzzz
Serial number	xxxxxxx
Power supply ratings	18-32V DC

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the 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.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>

END OF CERTIFICATE