

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flowmeter**

with type designation(s)

J5025, J5040, J5050, J5025PT, J5040PT, J5050PT, B5015, B5023, B5025, B5040, B5050, J5015E, J5023E, J5025E, J5040E, J5050E, J5015PT2, J5023PT2, J5025PT2, J5040PT2, J5050PT2

Issued to

VAF Instruments B.V.
Dordrecht, Zuid-Holland, Netherlands

is found to comply with

DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Temperature range:** -10 °C up to 180 °C. Refer to certificate.**Max. working press.:** Up to PN 40. Refer to certificate.**Sizes:** DN 15, DN 25, DN 40 and DN 50. Refer to certificate.Issued at **Hamburg** on **2018-12-13**This Certificate is valid until **2023-12-12**.for **DNV GL**DNV GL local station: **Rotterdam, Product Certification /Verification**Approval Engineer: **Andrii Pishchanskyi****Olaf Drews**
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

The flowmeters are positive displacement type and operate on the sliding vane principle. The consist of the following main components:

Component	Material
Body	EN-GJS-400-15
Rotor	EN-GJS-400-15
Front cover	EN-GJS-400-15
Back cover	EN-GJS-400-15
O-ring sealing	FPM

An overview of approved flowmeters is as follows:

Type	Temperature range [°C]	Nominal pressure	Nominal size
J5025	-10 °C up to 120 °C	PN 10 - PN 25	DN 25
J5040	-10 °C up to 120 °C	PN 10 - PN 25	DN 40
J5050	-10 °C up to 120 °C	PN 10 - PN 25	DN 50
J5025PT	-10 °C up to 150 °C	PN 10 - PN 25	DN 25
J5040PT	-10 °C up to 150 °C	PN 10 - PN 25	DN 40
J5050PT	-10 °C up to 150 °C	PN 10 - PN 40	DN 50
B5015	-10 °C up to 180 °C	PN 10 - PN 40	DN 15
B5023	-10 °C up to 180 °C	PN 10 - PN 40	DN 25
B5025	-10 °C up to 180 °C	PN 10 - PN 25	DN 25
B5040	-10 °C up to 180 °C	PN 10 - PN 25	DN 40
B5050	-10 °C up to 160 °C	PN 10 - PN 25	DN 50
J5015E	-10 °C up to 180 °C	PN 6 - PN 40	DN 15
J5023E	-10 °C up to 180 °C	PN 6 - PN 40	DN 25
J5025E	-10 °C up to 180 °C	PN 6 - PN 25	DN 25
J5040E	-10 °C up to 180 °C	PN 6 - PN 25	DN 40
J5050E	-10 °C up to 160 °C	PN 6 - PN 25	DN 50
J5015PT2	-10 °C up to 150 °C	PN 10 - PN 25	DN 15
J5023PT2	-10 °C up to 150 °C	PN 10 - PN 25	DN 25
J5025PT2	-10 °C up to 150 °C	PN 10 - PN 25	DN 25
J5040PT2	-10 °C up to 150 °C	PN 10 - PN 25	DN 40
J5050PT2	-10 °C up to 150 °C	PN 10 - PN 25	DN 50

Job Id: **262.1-029471-1**
Certificate No: **TAP00001GY**

Application/Limitation

The flowmeters are type approved for application in fuel oil, lubricating oil and hydraulic oil systems with respect to compliance with Pt.4, Ch.6.

Flowmeters, which are installed in fuel oil system, shall be fitted with means preventing immediate loss of fuel supply in case of blockage, if this will lead to loss of propulsion plant or auxiliary power.

The selection and installation of a flowmeter shall be as per the manufacturer's manuals (e.g. technical manual "144 MIDFLOW®", publication No. TIB-144-GB-1117).

Type Approval documentation

Tests carried out

Fire endurance test.

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Marking of product

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

Characteristic	Example
Manufacturer's name	VAF Instruments
Variant No.	113369
Type	J5025PT2 DIN
Maximum capacity	157.8 l/min
Service pressure	16 bar
Test pressure	24 bar
Allowable temperature range	-10/150 °C
Serial No.	714573

Periodical assessment

A condition for retention of the TA certificate in its validity period is that periodical assessments are successfully carried out. The objective of the periodical assessment is to verify that the conditions for the TA have not been altered. Periodical assessments for type approvals with a validity period of five years will be required after two years (+/- 90 days) and after 3.5 years (+/- 90 days).

Main scope of the assessment:

- Verification of the production and quality control system;
- Review of quality control documentation of recent deliveries;
- Review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application;
- Verification of the product marking.

For further information regarding the retention of a type approval certificate refer to DNVGL-CP-0338, Section 4.