

OIML Member State
The Netherlands

Number R 117/2019-A-NL1-23.02 revision 0
Project number 3595548
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Issuing authority NMI Certin B.V.
Person responsible: M.Ph.D. Schmidt

Applicant and Manufacturer Oil & Gas Measurement Limited
Denmark House, St. Thomas Place
ELY, Cambridgeshire, CB7 4EX
United Kingdom

Identification of the certified type An ultrasonic **measurement device** intended to be used as a part of a measuring system
Type: DFX-LV

Characteristics See following page(s)

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 117-1: 2019 "Dynamic measuring systems for liquids other than water"

Accuracy class 0,3

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

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Issuing Authority **NMI Certin B.V., OIML Issuing Authority NL1**
11 April 2023

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated reports:

- No. NMI-16200659-01 dated 23 February 2016 that includes 6 pages;
- No. NMI-16200659-02 dated 23 February 2016 that includes 13 pages.
- No. NMI-3595548-01 dated 11 April 2023 that includes 44 pages.

Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.
In Table 2 the characteristics of the family of instruments are presented.

The construction of the measuring instrument is recorded in the Documentation folder no. 16200659-1.

Table 1 General characteristics

Manufacturer's trademark	Oil & Gas Measurement Limited
Type designation	DFX-LV
Accuracy class	0,3
Measurement principle	Ultrasonic
Number of sound paths	15 (total 10 transducers)
Path angle	Various
Sound frequency	1 MHz -2 MHz
Environment Classes	M1 / E2 / H3
Ambient temperature range	- 40 °C ... + 70 °C
Liquid temperature range	- 5 °C ... + 35 °C
Density range	630 ... 950 kg/m ³
Maximum viscosity	5,2 mPa·s
Minimum Reynolds number	10.000
Straight pipe length requirements	Upstream 10D + flow straightener Downstream 5D
Maximum pressure	10 bar(g)
Electrical power	230 VAC/50 Hz; 24 VDC; Earth connection of the internal power supply not to be connected.
Identification of software	Version: 15.1110 Checksum: 0x6C428B12

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Table 2 Characteristics of the family of instruments

Type	Size	Minimum flow rate [m ³ /h]	Maximum flow rate [m ³ /h]	MMQ [m ³]	Remarks
DFX-LV04	4" (100 mm)	15	300	0,5	
DFX-LV06	6" (150 mm)	65	600	2	
DFX-LV08	8" (200 mm)	120	600	2	
DFX-LV10	10" (250 mm)	200	600	5	Requires an automatic checking device to detect and generate an alarm when the flow rate is outside the restricted flow range
DFX-LV12	12" (300 mm)	250	3000	5	
DFX-LV14	14" (350 mm)	320	3200	10	
DFX-LV16	16" (400 mm)	400	4000	10	
DFX-LV18	18" (450 mm)	520	5200	10	

Certificate history:

Revision	Date	Description of the modification
Initial	11 April 2023	First release