



TYPE APPROVAL CERTIFICATE
No. ELE311018XG

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Pressure transmitters
<i>Type</i>	MBS 2100 / 2150 MBS 3100 / 3150 MBS 3300 / 3350 MBS 9300
<i>Applicant</i>	DANFOSS A/S DK_6430 Nordborg DENMARK
<i>Manufacturer</i>	DANFOSS A/S
<i>Place of manufacture</i>	DK_6430 Nordborg DENMARK
<i>Reference standards</i>	Rules for the Classification of Ships- Part C - Machinery, Systems and fire protection - Ch.3 ; Sect. 6 ; Tab. 1 .

Issued in **HAMBURG** on **December 3, 2018**. *This Certificate is valid until* **December 2, 2023**


RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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MBS 2100 / 2150

MBS 3100 / 3150

MBS 3300 / 3350

MBS 9300

Product description:

The MBS 2100/2150, MBS 3100/3150, MBS 3300/3350 and MBS 9300 series are pressure transmitter for absolute or relative pressure measurement. The MBS xx00 are standard variants and the MBS xx50 are variants with pulse snubber.

Technical data:

Type:	MBS 2100, MBS 2150	MBS 3100, MBS 3150, MBS 9300	MBS 3300, MBS 3350
Measuring range:	0..1 to 0..600bar	0..1 to 0..600bar Standard: 0..4 to 0..40bar	0..1 to 0..600bar
Supply voltage:	4.75..8V DC (5V DC nom)	9..32V DC	9..32V DC; 10..30V DC or 15..30V DC
Output signal:	ratiometric; 10-90% of supply	4..20mA	4..20mA, 0..5V, 1..5V, 1..6V, 0..10V
Accuracy:	±0,5% FS typ., ±1% FS max. incl. non linearity, repeatability	±0,5% FS typ., ±1% FS max. incl. non linearity, repeatability	±0,5% FS typ., ±1% FS max. incl. non linearity, repeatability
Enclosure/ Wetted parts:	AISI 316L	AISI 316L	AISI 316L
Medium temperature:	-40..+125°C	-40..+85°C	-40..+125°C
Compensated temperature:	0..+125°C	0..+85°C	0..+100°C

Ordering codes:

MBS 21 aa - bb c 6 - ee ffff - g

MBS 33 aa - bb c d - ee ffff - g

aa - Type: 00; 50

bb - Measuring range: 10; 12; 14; 16; 18; 20; 22; 24; 26; 28; 30; 32; 34; 36; 38; 86; 88

c - Pressure reference: 1; 2

d - Output Signal: 1; 2; 3; 4; 5

ee - Electrical connection: A1; A6; A9; C8; DG

ffff - Pressure connection: AB04; AB08; CD28; GB04

g - Gasket / O-ring material: 0; 1; 3

Option: MBS 3350 with plug: DT04-4P-CE04

MBS 31 aa - bb c 1 - dd eeee - f

aa - Type: 00; 50

bb - Measuring range: 10; 12; 14; 16; 18; 20; 22; 24; 26; 28; 30; 32; 34; 36; 38; 84; 85; 87

c - Pressure reference: 1; 2

dd - Electrical connection: A1; A6; A9; C8; E3; F4

eeee - Pressure connection: AB04; AB08; AC04; GB04

f - Gasket / O-ring material: 0; 1; 3

MBS 9300 aa 1 1 - b cccc d

aa - Pressure range: A1; A2; A3; B1; B2; B3; B4; B5

b - Electrical connection: 0; 1; 2; 3

cccc - Pressure connection: FA09; GB04; GB08

f - Gasket: 1; 2



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Documents:

Data Sheets: - IC.PD.P21.X4.02 dated 2016.11; IC.PD.P21.O8.02 dated 2018.05; IC.PD.P20.2O.02 dated 2017.09;
Document: - MAN X4D7 Project - MBS 3350;

Test reports:

Danfoss Test Reports:

- TR060GPM970929 / 01 /02; PM941208 (01); TR060G-97/02/24; TR DIV 060G-145 (2004/11/04); TR064G0547-01
- Performance test dated 18/06/2008; Overpressure test dated 03/07/2008; 2008-9027; 064G0571-01; 064G5203

Delta Test Reports: - T204328; T204328 - 2

Force Technology: - 117-33523-7 dated 2018-02-19

Additional place of manufacture:

Danfoss (Tianjin) Ltd.,
9 Quanhui Road,
301700 Tianjin,
PR CHINA

Remarks:

- This certificate replaces the previous one n° ELE011013XG/001.

HAMBURG December 03, 2018



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