



TYPE APPROVAL CERTIFICATE
No. ELE098420XG

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, MBS 33M, DST P30M/ P35M
<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 **August 13, 2020**. This Certificate is valid until **August 12, 2025**



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, MBS 33M, DST P30M/ P35M**Product description:**

The **MBS** and **DST** series includes high temperature pressure transmitters and integrated pulse-snubber and flexible pressure transmitter program covering different output signals, absolute and gauge (relative) versions, and wide range of pressure and electrical connections for use in severe media influences like cavitation, liquid hammer or pressure peaks.

Technical data:

Type:	MBS 2100, MBS 2150	MBS 3100, MBS 3150,	MBS 3300, MBS 3350
Measuring range:	0..1 to 0..600bar	0..1 to 0..600bar	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

Type:	MBS 33M	DST P30M/ P35M	MBS 9300
Measuring range:	0..1 to 0..600bar	0..1 to 0..600bar	-150 to 250mbar
Supply voltage:	9 ... 32 V DC	9 ... 32 V DC	9 ... 32C DC, 5V DC
Output signal:	4 ... 20 mA	4 ... 20 mA	4 ... 20mA, ratiometric
Accuracy:	±0,5% FS typ., ±1% FS max. incl. non linearity, repeatability	±1% FS max. incl. non linearity, repeatability	
Enclosure/ Wetted parts:	AISI 316L	AISI 316L	AISI 316L
Medium temperature:	-40..+85°C	-40..+125°C	-40 ... +125°C
Compensated temperature:	0..+80°C		0 ... +80°C

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MBS 2100 / 2150, MBS 3100 / 3150, MBS 3300 / 3350, MBS 9300, MBS 33M, DST P30M/ P35M

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;
AI308926732183en-000101, IC.PD.P21.1G02, DST P30M, 02.2020;
AI308939294195en-000101, IC.PD.P21.1I.02, 3100, 3150, 02.2020;
AI308943247202en-000101, IC.PD.P21.1K.02, 3300, 3350, 02.2020;
AI309032027214en-000101, IC.PD.P21.1N.02, MBS33M, 12.2019, HR, 02; IC.PD.P21.X6.02, MBS 9300, 02, 11.2019;
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
- 119-21656-1 - Danfoss AS - Marine type testing of MBS 9300 low pressure sensors;
- 119-30777-1 - Danfoss A,S - Test for maritime type approval of ID172 pressure transmitters;

Delta Test Reports: - T204328; T204328 - 2

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

Remarks:

- Each particular application and installation is to be specifically approved in conjunction with the relevant system in which the components are used.

Additional place of manufacture:

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

- This certificate replaces the previous one n° ELE311018XG.

HAMBURG August 13, 2020

