



# NIPPON KAIJI KYOKAI

## TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA13150M

**This is to certify** that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use” and the relevant Society's Rules.

This certificate is issued to

Applicant:	<b>Danfoss A/S</b>
Manufacturer:	<b>Danfoss Sp. z o.o.</b>
Place of Manufacturing:	<b>Ul. Chrzanowska 5, 05-825 Grodzisk Mazowiecki, Poland</b>
Product description:	<b>Pressure Controller</b>
Model:	<b>MBC 5100</b>
Approval No.:	<b>95A108</b>
Valid until:	<b>14 September 2017</b>

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 18 April 2013.

  
Y. Shibata  
General Manager  
Machinery Department



Note: The Applicant, if desired, is requested to apply to the Society for renewal prior to the expiration date.

**Specification & documents:**

## 1. Particulars:

Low pressure bellows	Over load:	15 bar (1.5 MPa)
	Min. burst pressure:	30 bar (3.0 MPa)
High pressure bellows	Over load:	45 bar (4.5 MPa)
	Min. burst pressure:	90 bar (9.0 MPa)
Diaphragm	Over load:	150 bar (15.0 MPa)
	Min. burst pressure:	300 bar (30.0 MPa)
Piston	Over load:	600 bar (60.0 MPa)
	Min. burst pressure:	1200 bar (120.0 MPa)

## 2. Documentation and Test Reports:

061B9000, 061R9000, 061B0613, 061B0647

Test Report No 196/NZL/NBW/2010/O

**Test items & approval conditions:**

## 1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		--
Power supply fluctuation test	Electric	--
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		X
Dry heat test		X
Damp heat test		X
Vibration test		X
Inclination test		X
Cold test		X
Salt mist test		X
Electrostatic discharge immunity test		--
Radiated radio frequency immunity test		--
Conducted low frequency immunity test		--
Conducted high frequency immunity test		--
Burst / Fast transient immunity test		--
Surge immunity test		--
Radiated emission test		--
Conducted emission test		--
Flame retardant test		X

## 2. Approval condition:

Nil