

ENGINE INTERNATIONAL AIR POLLUTION PREVENTION CERTIFICATE

Issued under the provisions of the

Protocol of 1997 to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (hereinafter referred to as "the Convention")

under the authority of the Government of the

KINGDOM OF DENMARK

by

Germanischer Lloyd

| Engine Manufacturer | Model Number | Serial Number | Test Cycle | Rated Power (kW) and Speed (rpm) | Engine Approval Number |
|--|--------------|---------------|------------|----------------------------------|------------------------|
| <i>Caterpillar Motoren GmbH & Co. KG</i> | <i>7M43C</i> | <i>66056</i> | <i>E2</i> | <i>6300 500</i> | <i>79536-09 HH</i> |

THIS IS TO CERTIFY:

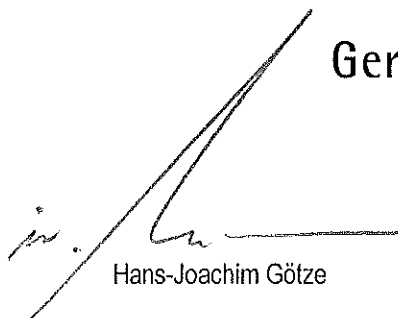
1. That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines made mandatory by Annex VI of the Convention; and
2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This certificate is valid for the life of the engine, subject to surveys in accordance with regulation 5 of Annex VI of the Convention, installed in ships under the authority of this Government.

Issued at Hamburg, 2009-05-18



Germanischer Lloyd


Hans-Joachim Götze


Markus Osterkamp

**SUPPLEMENT TO
ENGINE INTERNATIONAL AIR POLLUTION PREVENTION
CERTIFICATE**

RECORD OF CONSTRUCTION, TECHNICAL FILE, AND MEANS OF VERIFICATION

in respect of the provisions of Annex VI of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (hereinafter referred to as "the Convention") and of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (hereinafter referred to as the "NOx Technical Code").

1 PARTICULARS OF THE ENGINE

| | | |
|------|---|--|
| 1.1 | Name and address of manufacturer | Caterpillar Motoren GmbH & Co. KG |
| | | Falckensteiner Str. 2 Kiel, Germany |
| 1.2 | Place of engine build | Rostock, Germany |
| 1.3 | Date of engine build | 2006 |
| 1.4 | Place of pre-certification survey | Rostock, Germany |
| 1.5 | Date of pre-certification survey | 2006 |
| 1.6 | Engine type and model number | 7M43C |
| 1.7 | Engine serial number | 66056 |
| 1.8 | If applicable, the engine is a parent engine of the following engine family | <input type="checkbox"/> or a member engine <input type="checkbox"/> engine group |
| | | 6/7/8/9M43C |
| | As approved with GL approval no. | 49126-04 HH |
| 1.9 | Test cycle(s) (see chapter 3 of the NOx Technical Code) | E2 |
| 1.10 | Rated MCR power (kW) and speed (rpm) | 6300 kW at 500 rpm |
| 1.11 | Engine approval number | 79536-09 HH |
| 1.12 | Specification(s) of test fuel | MDO |
| 1.13 | NOx reducing device designated approval number (if installed) | none |
| 1.14 | Applicable NOx emission limit (g/kWh) (regulation 13 of Annex VI) | 13.0 |
| 1.15 | Engine's actual NOx emission value (g/kWh) | 12.0 |

Note: This record shall be permanently attached to the EIAPP certificate no. 79536-09 HH

2 PARTICULARS OF THE TECHNICAL FILE

- 2.1 Technical file identification/approval number **45933-07 HH**
- 2.2 Technical file approval date **2007-02-02**
- 2.3 The technical file, as required by chapter 2 of the NOx Technical Code, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

3 SPECIFICATIONS FOR THE ON-BOARD NOX VERIFICATION PROCEDURES FOR THE ENGINE PARAMETER SURVEY


- 3.1 On-board NOx verification procedures identification/approval number **45933-07 HH**
- 3.2 On-board NOx verification procedures approval date **2007-02-02**
- 3.3 The specifications for the on board NOx verification procedures, as required by chapter 6 of the NOx Technical Code, are an essential part of the EIAPP Certificate and must always accompany an engine through its life and always be available on board a ship.

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at Germanischer Lloyd Head Office, Hamburg, 2009-05-18



Germanischer Lloyd


Hans-Joachim Götze


Markus Osterkamp

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| Engine Manufacturer | Model Number | Serial Number | Test Cycle | Rated Power (kW) and Speed (rpm) | Engine Approval Number |
|---|------------------|----------------|------------|----------------------------------|------------------------|
| <i>Yanmar Co., Ltd. Amagasaki Plant</i> | <i>6N21AL-SV</i> | <i>4949FTR</i> | <i>D2</i> | <i>880 900</i> | <i>79537-09 HH</i> |

THIS IS TO CERTIFY:

1. That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines made mandatory by Annex VI of the Convention; and
2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

This certificate is valid for the life of the engine, subject to surveys in accordance with regulation 5 of Annex VI of the Convention, installed in ships under the authority of this Government.

Issued at Hamburg, 2009-05-18



Germanischer Lloyd

Hans-Joachim Götze
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in respect of the provisions of Annex VI of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocols of 1978 and 1997 relating thereto (hereinafter referred to as "the Convention") and of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines (hereinafter referred to as the "NOx Technical Code").

1 PARTICULARS OF THE ENGINE

| | | |
|------|--|---|
| 1.1 | Name and address of manufacturer | Yanmar Co., Ltd. Amagasaki Plant |
| | | 1-1-1, Higashi-dori, Nagasu Amagasaki, Japan |
| 1.2 | Place of engine build | Amagasaki, Japan |
| 1.3 | Date of engine build | 2006 |
| 1.4 | Place of pre-certification survey | Amagasaki, Japan |
| 1.5 | Date of pre-certification survey | 2006 |
| 1.6 | Engine type and model number | 6N21AL-SV |
| 1.7 | Engine serial number | 4949FTR |
| 1.8 | If applicable, the engine is a parent engine of the following engine family | <input type="checkbox"/> or a member engine <input type="checkbox"/> engine group 6N21ALV |
| 1.9 | Test cycle(s) (see chapter 3 of the NOx Technical Code) | D2 |
| 1.10 | Rated MCR power (kW) and speed (rpm) | 880 kW at 900 rpm |
| 1.11 | Engine approval number | 79537-09 HH |
| 1.12 | Specification(s) of test fuel | ISO-F-DMX |
| 1.13 | NOx reducing device designated approval number (if installed) | none |
| 1.14 | Applicable NOx emission limit (g/kWh) (regulation 13 of Annex VI) | 11.3 |
| 1.15 | Engine's actual NOx emission value (g/kWh) | 11.0 |

Note: This record shall be permanently attached to the EIAPP certificate no. 79537-09 HH

2 PARTICULARS OF THE TECHNICAL FILE

- 2.1 Technical file identification/approval number **R5-Q220A-(1)&G2-47673-2061-(5)/09198A**
- 2.2 Technical file approval date **2006-09-01**
- 2.3 The technical file, as required by chapter 2 of the NOx Technical Code, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

3 SPECIFICATIONS FOR THE ON-BOARD NOX VERIFICATION PROCEDURES FOR THE ENGINE PARAMETER SURVEY

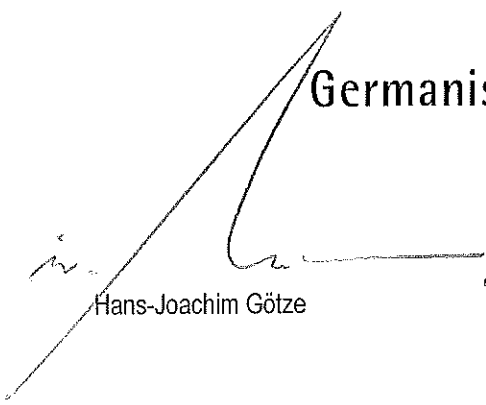
- 3.1 On-board NOX verification procedures identification/approval number **G2-47673-2071/09198A**
- 3.2 On-board NOX verification procedures approval date **2006-09-01**
- 3.3 The specifications for the on board NOx verification procedures, as required by chapter 6 of the NOx Technical Code, are an essential part of the EIAPP Certificate and must always accompany an engine through its life and always be available on board a ship.


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Issued at Germanischer Lloyd Head Office, Hamburg, 2009-05-18



Germanischer Lloyd


Hans-Joachim Götze


Markus Osterkamp

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| Engine Manufacturer | Model Number | Serial Number | Test Cycle | Rated Power (kW) and Speed (rpm) | Engine Approval Number |
|---|------------------|----------------|------------|----------------------------------|------------------------|
| <i>Yanmar Co., Ltd. Amagasaki Plant</i> | <i>6N21AL-SV</i> | <i>4950FTR</i> | <i>D2</i> | <i>880 900</i> | <i>79538-09 HH</i> |

THIS IS TO CERTIFY:

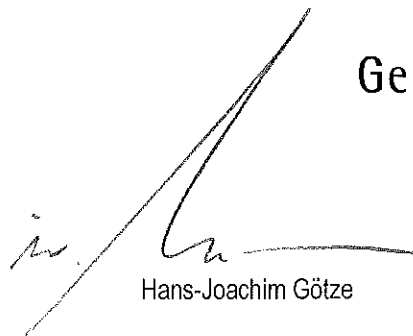
1. That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines made mandatory by Annex VI of the Convention; and
2. That the pre-certification survey shows that the engine, its components, adjustable features, and technical file, prior to the engine's installation and/or service on board a ship, fully comply with the applicable regulation 13 of Annex VI of the Convention.

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1 PARTICULARS OF THE ENGINE

- | | | |
|------|--|---|
| 1.1 | Name and address of manufacturer | Yanmar Co., Ltd. Amagasaki Plant |
| | | 1-1-1, Higashi-dori, Nagasu Amagasaki, Japan |
| 1.2 | Place of engine build | Amagasaki, Japan |
| 1.3 | Date of engine build | 2006 |
| 1.4 | Place of pre-certification survey | Amagasaki, Japan |
| 1.5 | Date of pre-certification survey | 2006 |
| 1.6 | Engine type and model number | 6N21AL-SV |
| 1.7 | Engine serial number | 4950FTR |
| 1.8 | If applicable, the engine is a parent engine of the following engine family | <input type="checkbox"/> or a member engine <input type="checkbox"/> engine group 6N21ALV |
| 1.9 | Test cycle(s) (see chapter 3 of the NOx Technical Code) | D2 |
| 1.10 | Rated MCR power (kW) and speed (rpm) | 880 kW at 900 rpm |
| 1.11 | Engine approval number | 79538-09 HH |
| 1.12 | Specification(s) of test fuel | ISO-F-DMX |
| 1.13 | NOx reducing device designated approval number (if installed) | none |
| 1.14 | Applicable NOx emission limit (g/kWh) (regulation 13 of Annex VI) | 11.3 |
| 1.15 | Engine's actual NOx emission value (g/kWh) | 11.0 |

Note: This record shall be permanently attached to the EIAPP certificate no. 79538-09 HH

2 PARTICULARS OF THE TECHNICAL FILE

- 2.1 Technical file identification/approval number **R5-Q220A-(2)&G2-47673-2061-(5)/09198A**
- 2.2 Technical file approval date **2006-09-01**
- 2.3 The technical file, as required by chapter 2 of the NOx Technical Code, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

3 SPECIFICATIONS FOR THE ON-BOARD NOX VERIFICATION PROCEDURES FOR THE ENGINE PARAMETER SURVEY

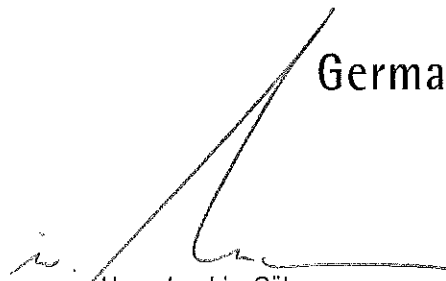
- 3.1 On-board NOx verification procedures identification/approval number **G2-47673-2071/09198A**
- 3.2 On-board NOx verification procedures approval date **2006-09-01**
- 3.3 The specifications for the on board NOx verification procedures, as required by chapter 6 of the NOx Technical Code, are an essential part of the EIAPP Certificate and must always accompany an engine through its life and always be available on board a ship.

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| Engine Manufacturer | Model Number | Serial Number | Test Cycle | Rated Power (kW) and Speed (rpm) | Engine Approval Number |
|---|------------------|------------------|---------------|--|------------------------------|
| <i>Yanmar Co., Ltd. Amagasaki Plant</i> | <i>6N21AL-SV</i> | <i>4951FTR</i> | <i>D2</i> | <i>880 900</i> | <i>79539-09 HH</i> |

THIS IS TO CERTIFY:

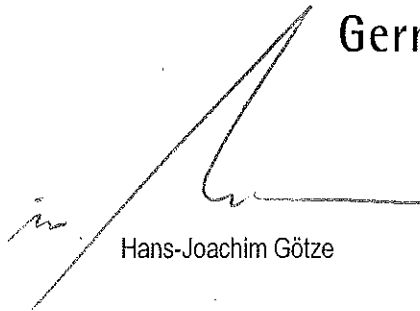
1. That the above-mentioned marine diesel engine has been surveyed for pre-certification in accordance with the requirements of the Technical Code on Control of Emission of Nitrogen Oxides from Marine Diesel Engines made mandatory by Annex VI of the Convention; and
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1 PARTICULARS OF THE ENGINE

- | | | |
|------|--|---|
| 1.1 | Name and address of manufacturer | Yanmar Co., Ltd. Amagasaki Plant 1-1-1, Higashi-dori, Nagasu Amagasaki, Japan |
| 1.2 | Place of engine build | Amagasaki, Japan |
| 1.3 | Date of engine build | 2006 |
| 1.4 | Place of pre-certification survey | Amagasaki, Japan |
| 1.5 | Date of pre-certification survey | 2006 |
| 1.6 | Engine type and model number | 6N21AL-SV |
| 1.7 | Engine serial number | 4951FTR |
| 1.8 | If applicable, the engine is a parent engine of the following engine family | <input type="checkbox"/> or a member engine <input type="checkbox"/> engine group 6N21ALV |
| 1.9 | Test cycle(s) (see chapter 3 of the NOx Technical Code) | D2 |
| 1.10 | Rated MCR power (kW) and speed (rpm) | 880 kW at 900 rpm |
| 1.11 | Engine approval number | 79539-09 HH |
| 1.12 | Specification(s) of test fuel | ISO-F-DMX |
| 1.13 | NOx reducing device designated approval number (if installed) | none |
| 1.14 | Applicable NOx emission limit (g/kWh) (regulation 13 of Annex VI) | 11.3 |
| 1.15 | Engine's actual NOx emission value (g/kWh) | 11.0 |

Note: This record shall be permanently attached to the EIAPP certificate no. 79539-09 HH

2 PARTICULARS OF THE TECHNICAL FILE

- 2.1 Technical file identification/approval number **R5-Q220A-(3)&G2-47673-2061-(5)/09198A**
- 2.2 Technical file approval date **2006-09-01**
- 2.3 The technical file, as required by chapter 2 of the NOx Technical Code, is an essential part of the EIAPP Certificate and must always accompany an engine throughout its life and always be available on board a ship.

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- 3.1 On-board NOx verification procedures identification/approval number **G2-47673-2071/09198A**
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