

# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAM00000HH**

## This is to certify:

**That the Diesel Engine**

with type designation(s)  
**TBD620**

Issued to

**Henan Diesel Engine Industry Co., Ltd.**  
**- Luoyang, China**

is found to comply with

**DNV GL Rules for classification, Ships - DNVGL-RU-SHIP-Pt4 Ch3 Sec1, Reciprocating Internal Combustion Engines**

## Application :

propulsion / auxiliary

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **24th April, 2022**.

Issued at **Hamburg** on **25th April, 2017**

DNV GL local station: **Wuhan**

for **DNV GL**

Approval Engineer: **Jan Sell**

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**Burkhard Lilienthal**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

## Product description

four stroke, v-engine, non-reversible, trunk-piston, with supercharging, with charge air cooling, direct injection, injection operation by cams, valve operation by cams, liquid fuel

Cylinder bore : 170  
Piston stroke : 195  
No. of cylinders : 8, 12, 16

## Additional place of production

not applicable

## Application/Limitation

|                               |                                 |                                 |                                 |                               |                               |
|-------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|
| Rated power [kW/cyl.]         | 127                             | 115                             | 114.38                          | 113.69                        | 104.25                        |
| Rated speed [rpm]             | 1800                            | 1800                            | 1500                            | 1800                          | 1500                          |
| Mean effective pressure [bar] | 19.13                           | 17.32                           | 20.67                           | 20.55                         | 18.84                         |
| Max. firing pressure [bar]    | 179.26                          |                                 |                                 |                               |                               |
| Definition                    | Variable speed, Power Level "B" | Variable speed, Power Level "A" | Variable speed, Power Level "B" | Const. speed, Power Level "G" | Const. speed, Power Level "G" |

## Type Approval documentation

### Tests carried out

Documentation:

Test report title: Type Test Report of TBD620 Diesel Engine  
Place of test: Luoyang, Henan Diesel Industry Plant  
Date of test: 2011-09-27 until 2011-09-28

Test engine:

Model: TBD620V16  
Serial no.: 172016C00193  
No. of cylinders: 16  
Power [kW/cyl.]: 127  
Speed [rpm]: 1800

### Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

### Periodical assessment

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval certificate was issued.

In case where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore Periodical Assessment shall be carried out randomly at these companies.

### Other Conditions

1. For installation, operation, and service of the engine, the relevant instructions of the engine manufacturer are to be observed (e.g. regarding power level rating definition).
2. Flexible hose assemblies shall be type approved by DNV GL; DNV GL Rules Pt.4 Ch.6 Sec.9 [4].
3. Connections of pipes carrying lube oil or fuel oil shall be properly screened to prevent oil spray in case of leakage; DNV GL Rules Pt.4 Ch.3 Sec.1 [2.6.2].

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4. Signboards shall be fitted according to the DNV GL Rules Pt.4 Ch.3 Sec.1 [2.3.6].
5. Engine safety, control and monitoring systems, including sensors and actuators, are not covered by this certificate. Documentation for engine safety, control (including speed governing), and monitoring systems shall be submitted for approval according to DNV GL Rules Pt.4 Ch.9 Sec.1 Table 5 and/or as listed in relevant Type Approval certificates.
6. Electric cables and cabling are not covered by this certificate and shall be verified to comply with DNV GL Rules Pt.4 Ch.8.
7. Fuel filters and lubricating oil filters shall allow cleaning without interrupting supply of filtered oil; DNV GL Rules Pt.4 Ch.6 Sec.5 [1.3.1]. The filters shall be so arranged that fluid residues can be collected by adequate means, e.g. an oil pan; DNV GL Rules Pt.4 Ch.3 Sec.1 [2.6.6].
8. The used turbocharger should either be type approved by DNV GL, or at least evidence for containment safety shall be approved; DNV GL Rules Pt.4 Ch.3 Sec.1 [11.1.2.2].
9. This renewal of Type Approval for TBD620 is based on previous certificate 30662-11 HH.

END OF CERTIFICATE