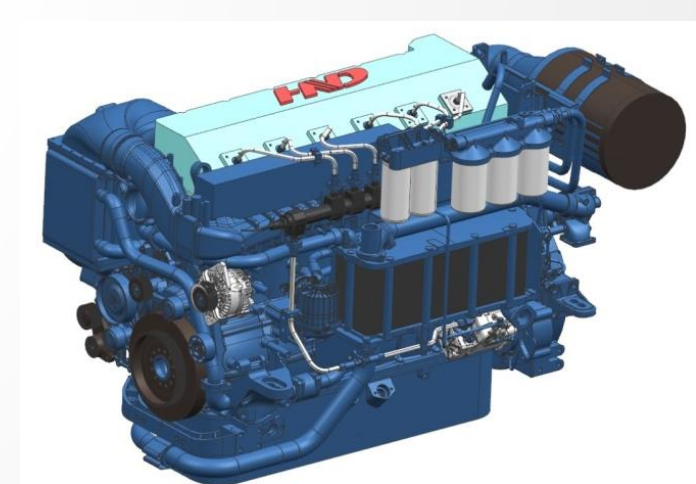
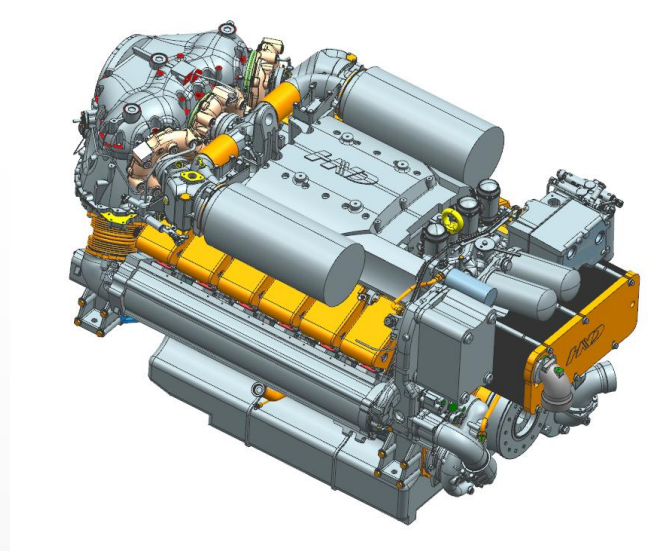
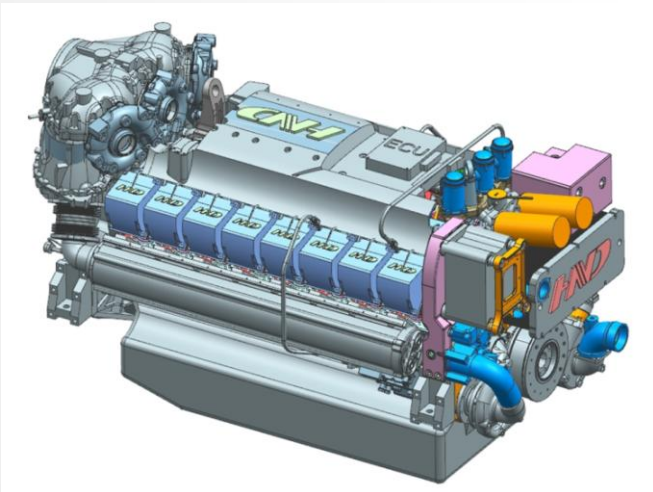


# CHD 416 Series Engine Specifications

CHD416 series engine is a high-speed and high-power density engine developed by HND.

At present, the research and development of L6 and V16 engine has been completed, and the development of V12 engine is ongoing.

CHD416 series engine has the advantages of high speed, robust, high power density, low heat radiation, etc.



## ◆ Reference for CHD416 series engine



**CHD416系列柴油机研发进度**

**R&D progress for CHD416 series engine**



**CHD416V16CR柴油机**

**CHD416V16CR marine main engine  
(on test bench)**

**CHD416L6CR柴油机于2021年开式研发**

**CHD416L6CR inline diesel engine  
started R&D from 2021.**

**CHD416V12CR柴油机于2024年开式研发**

**CHD416V12CR V12 series diesel  
engine started R&D from 2024**

**CHD416V16CR柴油机于2022年开式研发**

**CHD416V16CR V16 series diesel engine  
started R&D from 2022**

## ◆ Technical parameter for 416 Series engine



- ❖ 缸径/冲程  
**Bore/stroke: 135/158 mm**
- ❖ 气缸数:  
**Cylinder No.: 6, 12, 16**
- ❖ 型式: 4冲程、L型、V型  
**Mode: 4 stroke, in-line and V-type**
- ❖ 单缸排量  
**Unit displacement: 2.2616 L**
- ❖ 功率范围  
**Power range: 588 ~ 1760kW**
- ❖ 额定转速  
**Rated Speed: 2300r/min**
- ❖ 压缩比:  
**Compress ratio: 15:1**
- ❖ 燃油系统: 高压共轨  
**Fuel system: common rail system**
- ❖ 进气系统: 相继增压, 中冷  
**Air intake mode: sequential-turbocharged, charge air cooling**
- ❖ 冷却方式: 水冷  
**Cooling mode: water cooling**
- ❖ 最低机油耗比率:  
**Lowest oil consumption: 0.8g/kW.h**
- ❖ 最低燃油耗比率:  
**Lowest fuel consumption: 225g/kW.h**
- ❖ 用途: 船用主机  
**Application: marine main engine**

## ◆ Power nominated for 416 Series main engine



机型 Engine type	额定功率 Rated power	转速 Rated speed
CHD416L6CR	588kW Rating A with 110% overload	2300rpm
CHD416V12CR	1320kW Rating A with 110% overload	2300rpm
CHD416V16CR	1760kW Rating A with 110% overload	2300rpm



**CHD416V12CR**柴油机

**CHD416V12CR diesel engine**



## ◆ Weight and dimension for 416 Series engine



机型 Engine type	外形尺寸 Dimension	重量 Weight
CHD416L6CR	1780x1108x1115mm	1750kG+3%
CHD416V12CR	2150x1340x1485mm	3000kG+3%
CHD416V16CR	2410x1340x1485mm	3970kG+3%



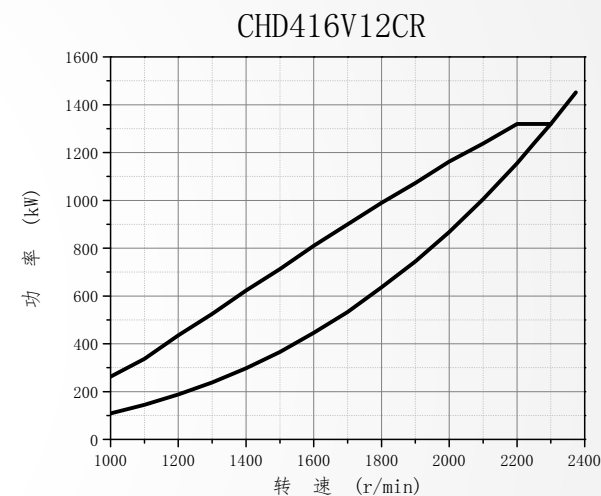
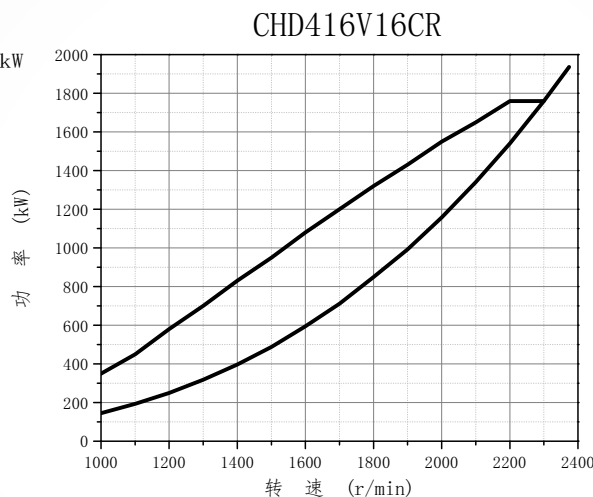
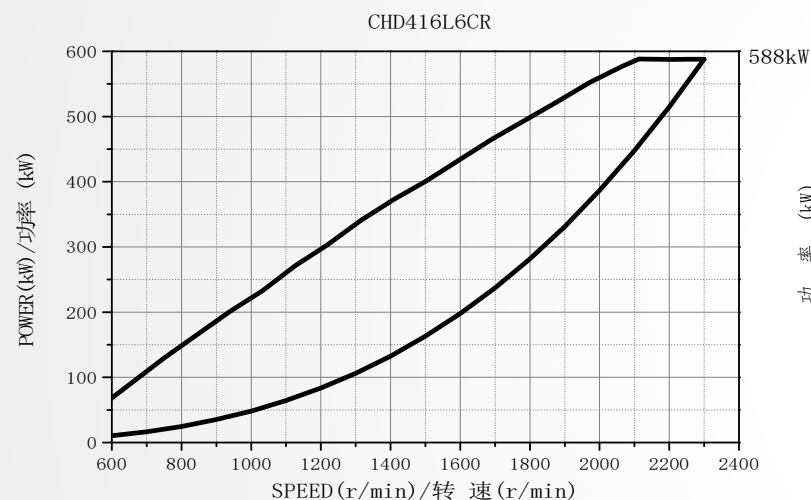
**CHD416V16CR**柴油机

**CHD416V16CR V16 marine main engine**

Engine model		CHD416L6CR	CHD416V16CR	CHD416V12CR	
Basic configuration		4-stroke, water-cooled, turbocharged, intercooled			
Cylinder No.		6	16	12	
Cylinder arrangement		L type	V type, 90°		
Bore/stroke		mm	135 × 158		
Total displacement		dm <sup>3</sup>	13.57	36.19	27.14
Single cylinder displacement		dm <sup>3</sup>	2.26		
Rotate direction (view from flywheel end)		Anti-clockwise (view from flywheel end)			
Rated power		kW	588	1760	1320
Rated speed		r/min	2300		
Overload		10%			
Fuel consumption rate		g/kW·h	≤225	≤225	
Lube oil consumption rate		g/kW·h	≤1.0	≤1.0	
Exhaust back pressure		kPa	5	5	
Engine dry weight		kg	1750+3%	3970+3%	2950+3%
Engine dimension		mm	1780 × 1108 × 1115	2410 × 1340 × 1485	2150 × 1340 × 1485
Idle speed		r/min	920		

\*standard environment: According to the regulations of GB/T6072.1 and GB/T15097, air intake temperature is 25°C, sea water temperature is 25°C, air pressure is 100kPa, relative humidity is 30%. Ambient modification shall be carried out in line with CB/T 3254.1.

# Engine Performance



The CHD416L6CR engine is in-line type engine of CHD416 series, and the 1000-hour endurance test has been completed in September 2023. CHD416V16CR engine is V-type engine of CHD416 series, and the 1000-hour endurance test has been completed in August 2024. CHD416V12CR engine is under R&D, it is expected that the assembly and test of the first prototype will be completed in December 2024.