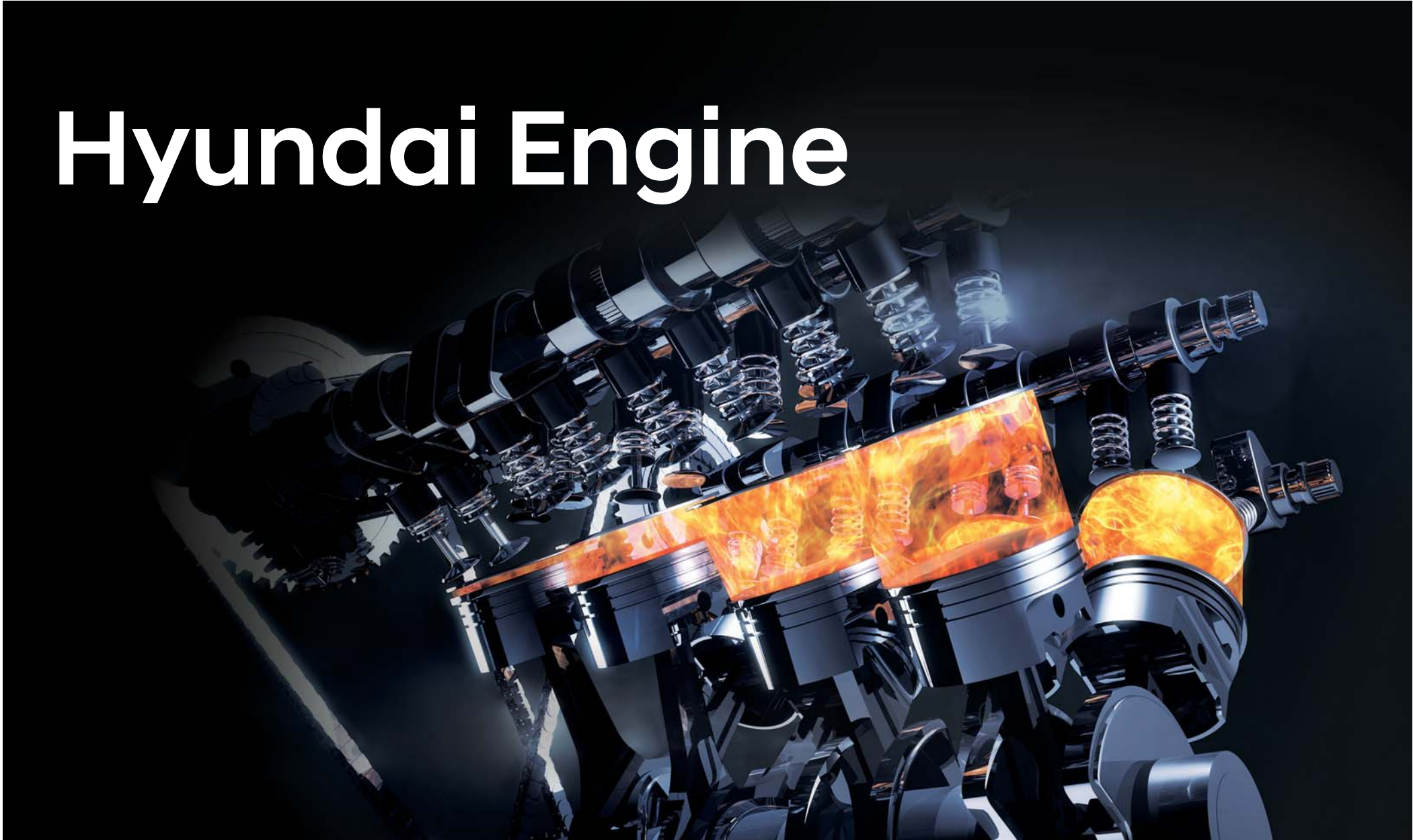
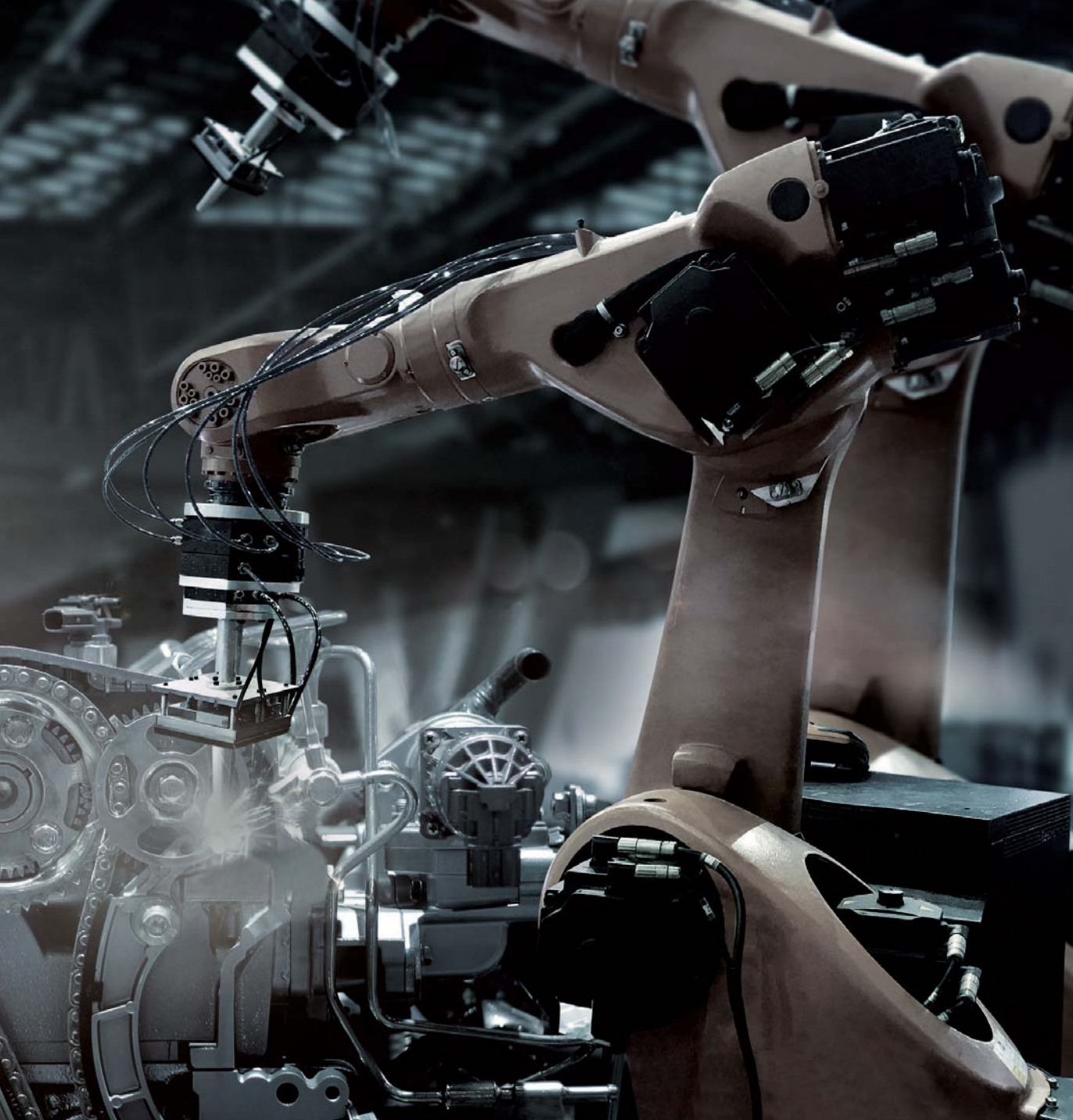


Hyundai Engine







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New Product - Stage 5 Diesel Engine

Hyundai's capacity for research and development has led to mass production of various engines since Hyundai produced its own automobile Alpha engine for the first time in Korea in 1991.

Upon this foundation we launch the industrial engines of R 2.2 and E 2.9 which are eco-friendly and famous for their durability, reliability and powerful performance.

Through the technology of performance-proven automobile engines, we have developed these two industrial engines of R 2.2 and E 2.9 satisfying Stage 5 regulation.

Hyundai has developed more efficient engine for emission reduction with improved productivity, excellent durability and has facilitated the installation of OEM-customer equipment.

Hyundai Industrial Engine will be the best choice to provide customers with the added value.



New R 2.2 (D4HB)

65ps/2,300 rpm
24kg·m/1,600 rpm



New E 2.9 Low (D4CC)

74ps/2,200 rpm
35.0kg·m/1,500 rpm

New E 2.9 High (D4CC)

110ps/2,200 rpm
42kg·m/1,600 rpm

Engine Line-up



Industrial Engine Line-up I

Fuel type

Engine

Gasoline



Kappa 1.0

77ps/6,200rpm
9.6kg·m/3,500rpm
998cc



Gamma 1.6

55.5ps/2,800rpm
14.2kg·m/2,800rpm
1,591cc

Diesel



U 1.6

136.6ps/4,000rpm
33.3kg·m/1,750~2,000rpm
1,598cc



R 2.2

65ps/2,300rpm
24kg·m/1,600rpm
2,199cc



T2 2.6

64ps/2,500rpm
19.9kg·m/2,000rpm
2,607cc



E 2.9

110ps/2,200rpm
42kg·m/1,600rpm
2,891cc



S 3.0

270ps/3,800rpm
57.6kg·m/2,000rpm
2,958cc



4D 3.9

100ps/2,000rpm
37kg·m/1,700rpm
3,907cc



F 3.9

110ps/2,250rpm
42kg·m/1,600rpm
3,933cc



G 6.8

350ps/2,800rpm
110kg·m/1,400rpm
6,798cc



H 10.0

410ps/2,000rpm
168kg·m/1,400rpm
9,960cc



Q 11.1

280ps/1,900rpm
120kg·m/1,400rpm
11,149cc



L 12.7 (12.3)

530ps/2,000rpm
225kg·m/1,200rpm
12,742cc

Gas



Kappa 1.0

31ps/2,500rpm
8.6kg·m/1,500rpm
998cc



Nu 2.0

43.3ps/2,200rpm
14.2kg·m/1,600rpm
1,999cc



Theta 2.4

65ps/2,500rpm
18.5kg·m/1,600rpm
2,359cc



Lambda 3.8

100ps/2,600rpm
30.3kg·m/2,600rpm
3,778cc



G 6.8

240ps/2,500rpm
90kg·m/1,500rpm
6,798cc



Q 11.7










340ps/2,000rpm
140kg·m/1,500rpm
11,760cc

Industrial Engine Line-up II

Usage	Engine					
Forklift						
	<p>R 2.2 65ps/2,300rpm 24.1kg·m/1,600rpm 2,199cc</p>	<p>Theta 2.4 65ps/2,500rpm 18.5kg·m/1,600rpm 2,359cc</p>	<p>T2 2.6 60ps/2,500rpm 17.3kg·m/2,000rpm 2,607cc</p>	<p>E 2.9 110ps/2,200rpm 42kg·m/1,600rpm 2,891cc</p>	<p>Lambda 3.8 96ps/2,450rpm 30kg·m/1,400rpm 3,778cc</p>	<p>4D 3.9 100ps/2,300rpm 38kg·m/1,600rpm 3,907cc</p>
Construction Machinery						
	<p>F 3.9 110ps/2,250rpm 42kg·m/1,600rpm 3,933cc</p>					
Construction Machinery						
	<p>R 2.2 65ps/2,300 rpm 24.1kg·m/1,600rpm 2,199cc</p>	<p>T2 2.6 53ps/2,500 rpm 16.8kg·m/1,600rpm 2,607cc</p>	<p>Q 11.1 280ps/1,900 rpm 120kg·m/1,400rpm 11,149cc</p>			
Generator						
	<p>T2 2.6 45ps/1,800rpm 41ps/1,800rpm 2,607cc</p>	<p>4D 3.9 107ps/1,800rpm 95ps/1,800rpm 3,907cc</p>	<p>Q 11.1 350ps/1,800rpm 315ps/1,800rpm 11,149cc</p>	<p>L 12.3 530ps/1,800rpm 477ps/1,800rpm 12,344cc</p>		

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Industrial Engine Line-up II

Usage	Engine			
Agricultural Machinery	 Gamma 1.6 55.5ps/2,800rpm 14.2kg·m/2,800rpm 1,591cc	 T2 2.6 53ps/2,500rpm 16.8kg·m/1,600rpm 2,607cc		
GHP	 Nu 2.0 43.3ps/2,200rpm 14.2kg·m/1,600rpm 1,999cc	 T2 2.6 57ps/2,600rpm 16kg·m/1,800rpm 2,607cc		
Bus Cooler	 T2 2.6 40ps/2,000rpm 15kg·m/1,500rpm 2,607cc			
General Power	 R 2.2 197ps/3,800rpm 44.5kg·m/1,750-2,750rpm 2,199cc	 T2 2.6 64ps/2,500rpm 19.9kg·m/2,000rpm 2,607cc	 Q 11.1 280ps/2,100rpm 115kg·m/1,400rpm 11,149cc	 L 12.3 440ps/2,000rpm 216kg·m/1,200rpm 12,344cc

Industrial Engine Line-up II

Usage	Engine					
Marine						
	<p>U 1.6 136.6ps/4,000rpm 33.3kg·m/1,750~2,000rpm 1,598cc</p>	<p>R 2.2 200ps/3,800rpm 44kg·m/2,000rpm 2,199cc</p>	<p>T2 2.6 80ps/4,000rpm 17kg·m/2,200rpm 2,607cc</p>	<p>S 3.0 270ps/3,800rpm 57.6kg·m/2,000rpm 2,958cc</p>	<p>4D 3.9 130ps/2,400rpm 43kg·m/1,800rpm 3,907cc</p>	
						
	<p>F 3.9 165ps/2,500rpm 61kg·m/1,400rpm 3,933cc</p>	<p>G 6.8 350ps/2,800rpm 110kg·m/1,400rpm 6,798cc</p>	<p>H 10.0 410ps/2,000rpm 168kg·m/1,400rpm 9,960cc</p>	<p>Q 11.1 310ps/2,100rpm 128kg·m/1,400rpm 11,149cc</p>	<p>L 12.3 480ps/2,000rpm 216kg·m/1,200rpm 12,344cc</p>	<p>L 12.7 530ps/2,000rpm 225kg·m/1,200rpm 12,742cc</p>
Long Block						
	<p>Theta 2.4</p>	<p>Lambda 3.8</p>	<p>G 6.8</p>	<p>Q 11.7</p>		

Automotive Engine Line-up

Fuel type

Engine

Gasoline



Kappa 1.0 (1.4/1.5)
74ps/6,200rpm
9.6kg·m/3,500rpm
998cc



Gamma 1.6
204ps/6,000rpm
27kg·m/1,500-4,500rpm
1,591cc



Nu 2.0
160ps/6,500rpm
20kg·m/4,800rpm
1,999cc



Theta 2.5 (2.0/2.4)
304ps/5,800 rpm
43.0kg·m/1,650-4,000rpm
2,497cc



Lambda 3.8 (3.0/3.3/3.5)
315ps/6,000rpm
40.5kg·m/5,000rpm
3,778cc



U 1.6
136ps/4,000rpm
32.6kg·m/2,000-2,250rpm
1,598cc



R 2.2 (2.0)
197ps/3,800rpm
44.5kg·m/1,750-2,750rpm
2,199cc



A 2.5
140ps/3,600rpm
36kg·m/1,500-2,500rpm
2,497cc



T2 2.6
80ps/4,000rpm
17kg·m/2,200rpm
2,607cc



J2 2.7
75ps/4,150rpm
15.5kg·m/2,400rpm
2,665cc



E 2.9
160ps/3,000rpm
45kg·m/1,500rpm
2,891cc

Diesel



JT 2.9
84ps/4,000rpm
18.2kg·m/2,200rpm
2,957cc



S 3.0
260ps/3,800rpm
57.1kg·m/1,500-3,000rpm
2,959cc



I6 3.0
270ps/3,800rpm
60kg·m/1,500-3,000rpm
2,996cc



4D 3.9
140ps/2,800rpm
38kg·m/1,600rpm
3,907cc



F 3.9
176ps/2,500rpm
62kg·m/1,400rpm
3,933cc



G 6.8 (6.3/5.9)
325ps/2,300rpm
120kg·m/1,400rpm
6,798cc



H 10.0
430ps/1,800rpm
210kg·m/1,200rpm
9,960cc



Q 11.1
300ps/2,000rpm
110kg·m/1,400rpm
11,149cc



L 12.7
540ps/1,800rpm
265kg·m/1,200rpm
12,742cc

Automotive Engine Line-up

Fuel type

Engine

Gas



Gamma 1.6
120ps/6,000rpm
15.5kg·m/4,500rpm
1,591cc



Nu 2.0
151ps/6,200rpm
19.8kg·m/4,200rpm
1,999cc



Theta 2.4
159ps/5,500rpm
23kg·m/4,250rpm
2,359cc



Lambda 3.0
235ps/6,000rpm
28.6kg·m/4,500rpm
2,999cc



G 6.8
240ps/2,500rpm
90kg·m/1,500rpm
6,798cc



Q 11.7
340ps/2,000rpm
140kg·m/1,200rpm
11,670cc

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Forklift Construction machinery

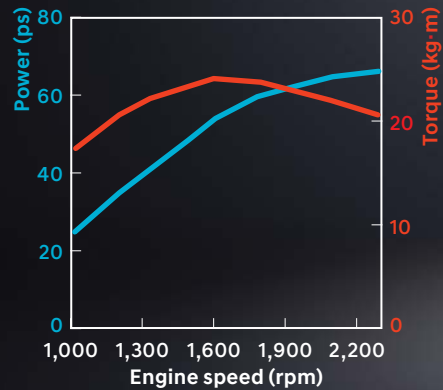


R 2.2 Forklift engine

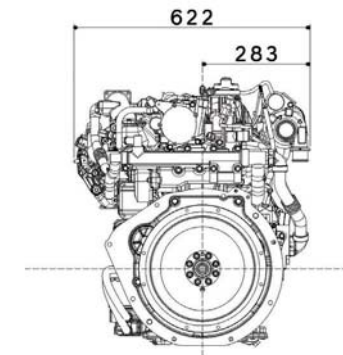
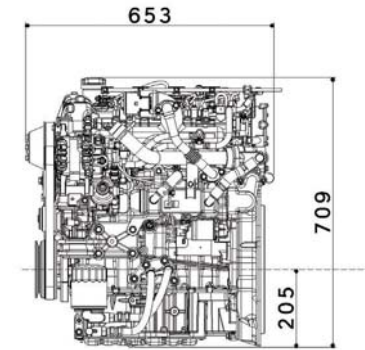
D4HB (KS95)

65ps / 24kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4HB [KS95]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	85.4 × 96
Displacement (cc)	2,199
Max. Torque (kg·m/rpm)	24 / 1,600
Rated Power (ps/rpm)	65 / 2,300
Compression ratio	16.0 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	210 (approx.)
Dimension(L×W×H) mm	653 x 622 x 709

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	6.3ℓ

• Cooling system

Cooling water capacity	5.0ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	820 rpm
No load high idle speed	2,500 rpm

• Fuel system

CRDI	Bosch
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• Starting & electrical system

Starter capacity	12V - 2kW
Alternator capacity	13.5V - 90A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR Tier 4
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• Application

Forklift

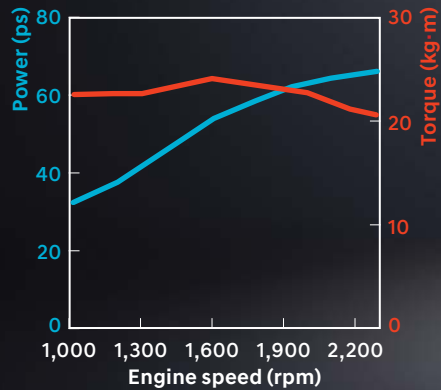
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R 2.2 Forklift engine

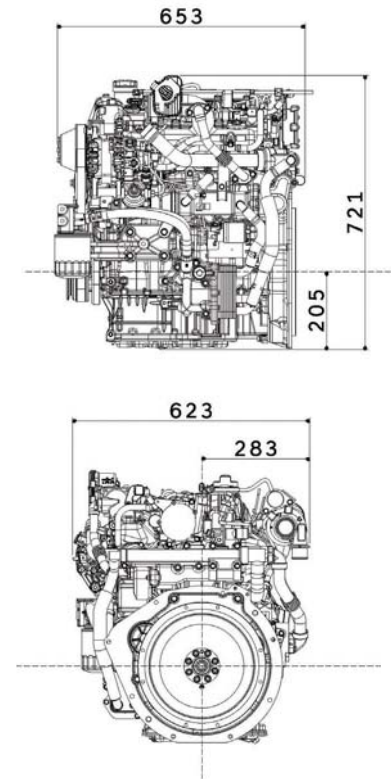
D4HB (KK91)

65ps / 24kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4HB [KK91]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	85,4 x 96
Displacement (cc)	2,199
Max. Torque (kg·m/rpm)	24 / 1,600
Rated Power (ps/rpm)	65 / 2,300
Compression ratio	16,0±3% : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	210 (approx.)
Dimension(L×W×H) mm	653 x 623 x 721

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	6.3ℓ

• Cooling system

Cooling water capacity	5.0ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	850 ± 50 rpm
No load high idle speed	2,480 ± 50 rpm

• Fuel system

CRDI	Bosch
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• Starting & electrical system

Starter capacity	12V - 2kW
Alternator capacity	13.5V - 90A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR/EC Stage 5
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• Application

Forklift

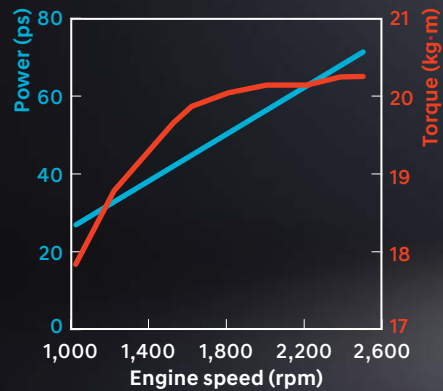
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Theta 2.4 Forklift engine

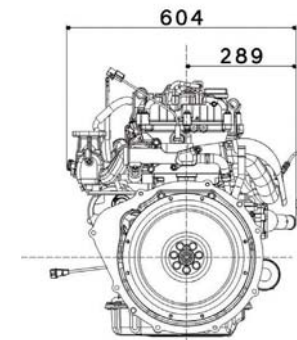
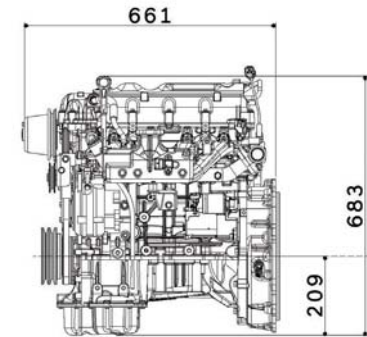
L4KB (LPG) (CF11)

70.6ps / 20.2kg-m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	L4KB [CF11]
Fuel type	LPG
Engine type	4 In-line
Aspiration	N.A
Bore × Stroke (mm)	88 x 97
Displacement (cc)	2,359
Max. Torque (kg-m/rpm)	20.2 / 2,400
Rated Power (ps/rpm)	70.6 / 2,500
Compression ratio	10.5 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	153 (approx.)
Dimension(L×W×H) mm	661 x 604 x 683

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.1ℓ

• Cooling system

Cooling water capacity	2.5ℓ (ENG)
Thermostat open temp.	95°C

• Engine speed

No load low idle speed	800 rpm
No load high idle speed	2,500 rpm

• Fuel system

MIXER	Motonic
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• Starting & electrical system

Starter capacity	12V - 1.4kW
Alternator capacity	13.5V - 90A
Preheat system	-

• Certification information

Emission regulation	EPA Tier4 / EC Stage 5
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• Application

Forklift	
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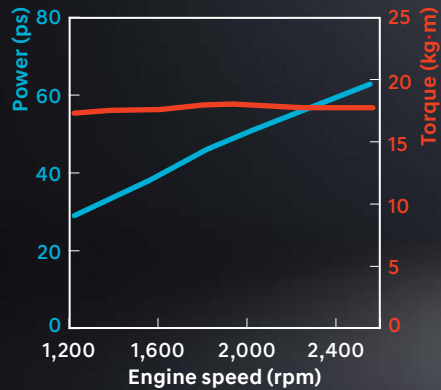
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Theta 2.4 Forklift engine

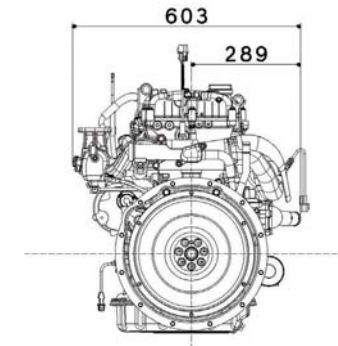
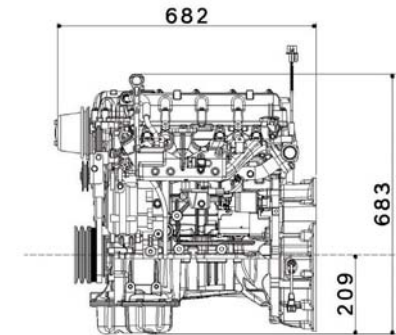
L4KB (Bi-Fuel) (CF30)

Customer tuning

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	L4KB [CF30]
Fuel type	Gasoline / LPG
Engine type	4 In-line
Aspiration	LPI
Bore × Stroke (mm)	88 x 97
Displacement (cc)	2,359
Max. Torque (kg·m/rpm)	Customer tuning
Rated Power (ps/rpm)	Customer tuning
Compression ratio	10.5 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	153 (approx.)
Dimension(L×W×H) mm	682 x 603 x 683

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.1ℓ

• Cooling system

Cooling water capacity	2.5ℓ (ENG)
Thermostat open temp.	95°C

• Engine speed

No load low idle speed	800 rpm
No load high idle speed	2,500 rpm

• Fuel system

MIXER/MPI	Motonic
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• Starting & electrical system

Starter capacity	12V - 1.4kW
Alternator capacity	13.5V - 90A
Preheat system	-

• Certification information

Emission regulation	EPA Tier4 / EC Stage 5
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• Application

Forklift

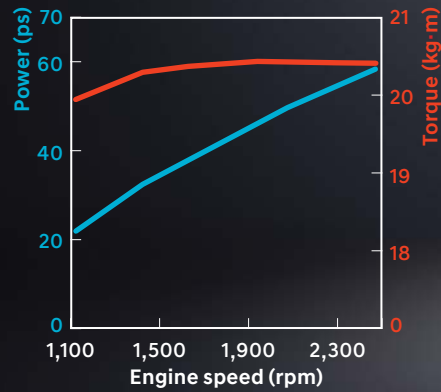
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 Forklift engine

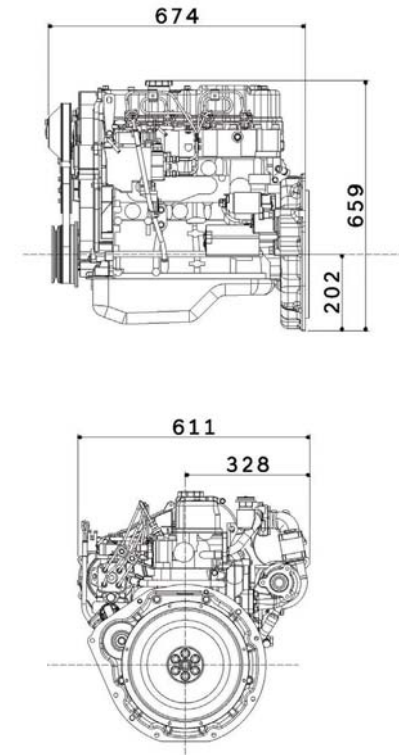
D4BB (AG42)

60ps / 17.3kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AG42]
Fuel type	Diesel
Engine type	4 In-line, SOHC
Aspiration	T.C
Bore × Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
Max. Torque (kg·m/rpm)	17.3 / 2,000
Rated Power (ps/rpm)	60 / 2,500
Compression ratio	22 : 1
Firing or der	1-3-4-2
Injection timing	3° ± 1° A.T.D.C
Weight dry (kg)	210 (approx.)
Dimension(L×W×H) mm	674 x 611 x 659

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	900 ± 50 rpm
No load high idle speed	2,750 ± 50 rpm

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	13.5V - 70A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR Tier 3
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• Application

Forklift

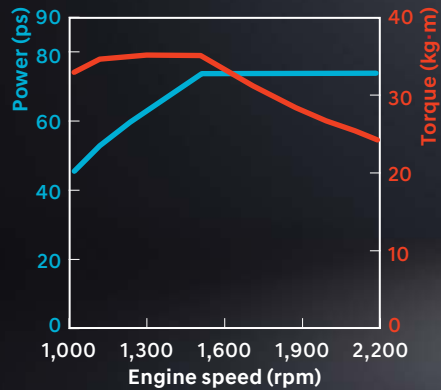
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

E 2.9 Forklift engine

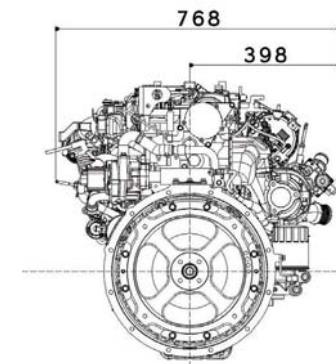
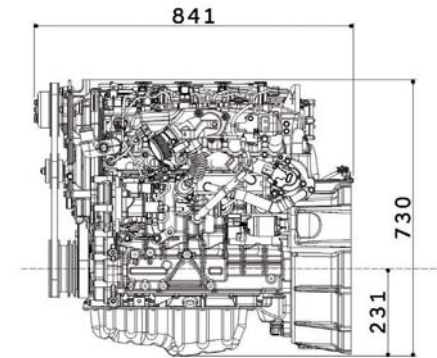
D4CC (JU91)

74ps / 35kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4CC [JU91]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	95 x 102
Displacement (cc)	2,891
Max. Torque (kg·m/rpm)	35 / 1,500
Rated Power (ps/rpm)	74 / 2,200
Compression ratio	16.1±0.5 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	303 (approx.)
Dimension(L×W×H) mm	841 x 768 x 730

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	8.7ℓ

• Cooling system

Cooling water capacity	5.2ℓ (ENG)
Thermostat open temp.	88°C

• Engine speed

No load low idle speed	850 ± 50 rpm
No load high idle speed	2,480 ± 100 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	13.5V - 130A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR/EC Stage 5
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• Application

Forklift

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

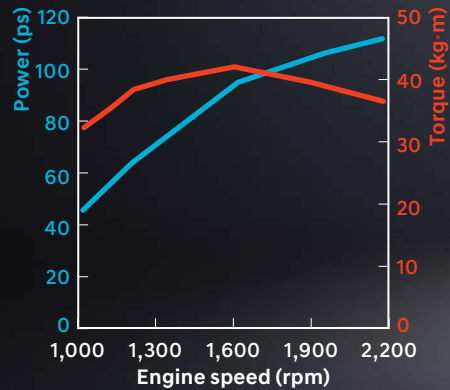
E 2.9 Forklift engine

D4CC

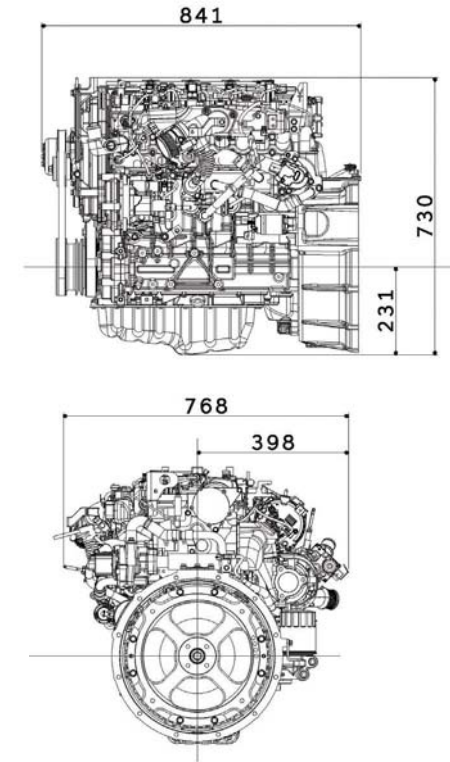
(JU93)

110ps / 42kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4CC [JU93]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	95 x 102
Displacement (cc)	2,891
Max. Torque (kg·m/rpm)	42 / 1,600
Rated Power (ps/rpm)	110 / 2,200
Compression ratio	16.1 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	303 (approx.)
Dimension(L×W×H) mm	841 x 768 x 730

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	8.0ℓ

• Cooling system

Cooling water capacity	5.2ℓ (ENG)
Thermostat open temp.	88°C

• Engine speed

No load low idle speed	850 rpm
No load high idle speed	2,480 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	13.5V - 130A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR/EC Stage 5
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• Application

Forklift

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

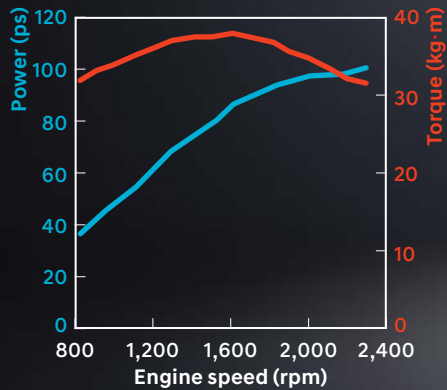
4D 3.9 Forklift engine

D4DD

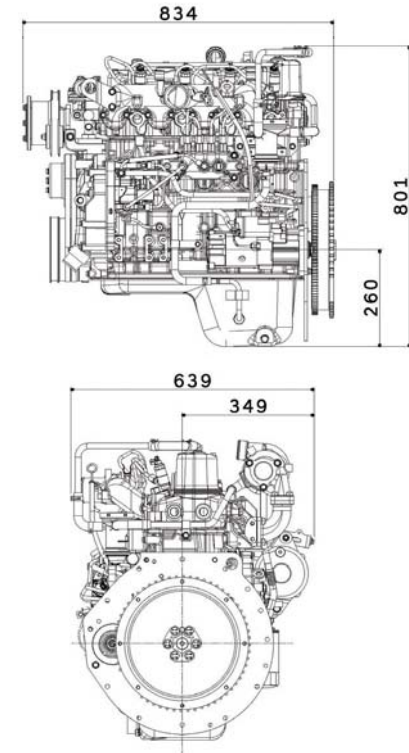
(EM2G)

100ps / 38kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4DD [EM2G]
Fuel type	Diesel
Engine type	4 In-line, SOHC
Aspiration	T.C.I
Bore × Stroke (mm)	104 x 115
Displacement (cc)	3,907
Max. Torque (kg·m/rpm)	38 / 1,600
Rated Power (ps/rpm)	100 / 2,300
Compression ratio	17.5 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	345 (approx.)
Dimension(L×W×H) mm	834 x 639 x 801

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	8.5ℓ

• Cooling system

Cooling water capacity	8.3ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	850 rpm
No load high idle speed	2,500 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	24V - 5kW
Alternator capacity	24V - 50A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR/EPA Tier-3, EC Stage 3A
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• Application

Forklift

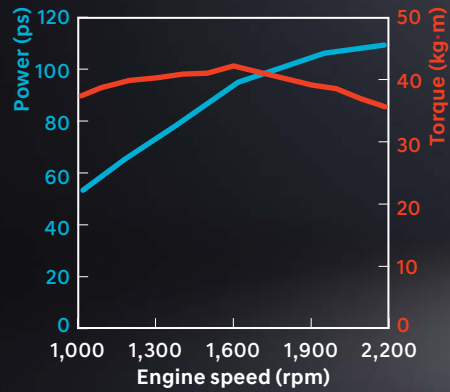
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

F 3.9 Forklift engine

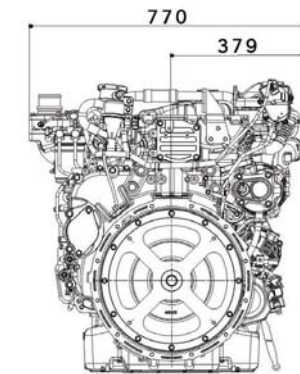
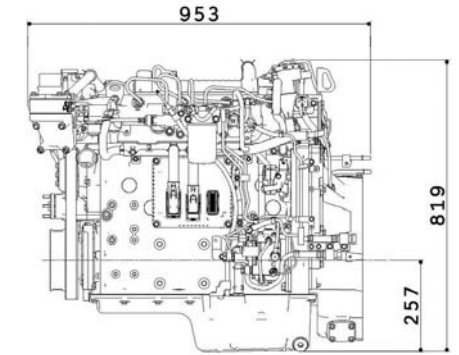
D4GB (QF99)

110ps / 42kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4GB [QF99]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	103 x 118
Displacement (cc)	3,933
Max. Torque (kg·m/rpm)	42 / 1,600
Rated Power (ps/rpm)	110 / 2,250
Compression ratio	17.1 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	430 (approx.)
Dimension(L×W×H) mm	953 x 770 x 819

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	14ℓ

• Cooling system

Cooling water capacity	8.1ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	800 ± 25 rpm
No load high idle speed	2,450 ± 20 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	24V - 5.0kW
Alternator capacity	24V - 70A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 4
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• Application

Forklift	
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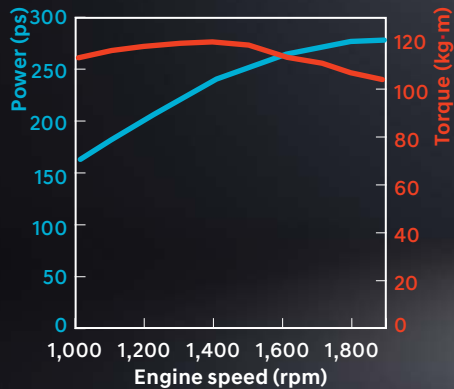
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Q 11.1 Excavator engine

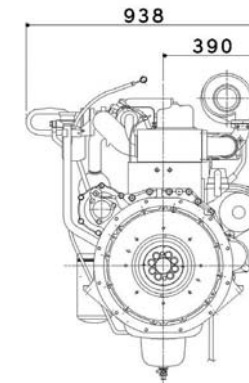
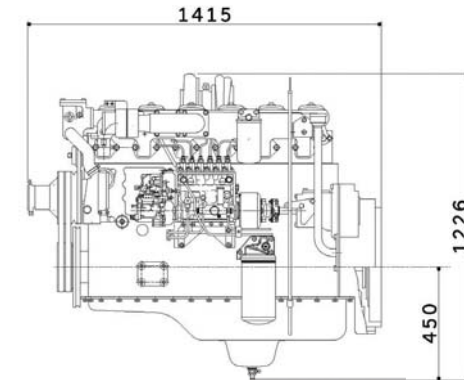
D6AC (EH3N)

280ps / 120kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6AC [EH3N]
Fuel type	Diesel
Engine type	6 In-line
Aspiration	T.C.I
Bore × Stroke (mm)	130 x 140
Displacement (cc)	11,149
Max. Torque (kg·m/rpm)	120 / 1,400
Rated Power (ps/rpm)	280 / 1,900
Compression ratio	17 : 1
Firing order	1-5-3-6-2-4
Injection timing	13° ± 1° BTDC
Weight dry (kg)	920 (approx.)
Dimension(L×W×H) mm	1,415 x 938 x 1,226

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	27.3ℓ

• Cooling system

Cooling water capacity	22ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	575 ± 50 rpm
No load high idle speed	2,100 ± 20 rpm

• Fuel system

FUEL INJECTION PUMP	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5.5kW
Alternator capacity	24V - 70A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 2
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• Application

Excavator

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Forklift / Construction machinery

Engine model	R 2.2	R 2.2	R 2.2	R 2.2	Theta 2.4	Theta 2.4	T2 2.6	T2 2.6	T2 2.6	T2 2.6
Engine code	D4HB(KS23)	D4HB (KS95)	D4HB (KK91)	D4HB (KK95)	L4KB (CF11)	L4KB (CF30)	D4BB (AG42)	D4BB (AG43)	D4BB (AG45)	D4BB (AG35)
Fuel type	Diesel	Diesel	Diesel	Diesel	LPG	Gasoline/LPG	Diesel	Diesel	Diesel	Diesel
Engine type	4 in-line, DOHC	4 in-line, DOHC	4 in-line, DOHC	4 in-line, DOHC	4 in-line	4 in-line	4 in-line, SOHC	4 in-line	4 in-line	4 in-line
Aspiration	T.C.I	T.C.I	T.C.I	T.C.I	N.A	LPI	T.C	NA	NA	NA
Bore× Stroke (mm)	85.4 x 96.0	85.4 x 96	85.4 x 96.0	85.4 x 96.0	88 x 97	88 x 97	91.1 x 100	91.1 x 100	91.1 x 100	91.1 x 100
Displacement (cc)	2,199	2,199	2,199	2,199	2,359	2,359	2,607	2,607	2,607	2,607
Max. Torque (kg·m/rpm)	24.1/1,600	24/1,600	24/1,600	24.3/1,600	20.2/2,400	Customer tuning	17.3/2,000	16.8/1,600	16.8/1,600	16.8/1,600
Rated Power (ps/rpm)	65/2,300	65/2,300	65/2,300	66.2/2,300	70.6/2,500	Customer tuning	60/2,500	53/2,500	53/2,500	53/2,500
Compression ratio	16.0 : 1	16 : 1	16 : 1	16 : 1	10.5 : 1	10.5 : 1	22 : 1	22 : 1	22 : 1	22 : 1
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2
Injection timing	ECU Control	ECU Control	ECU Control	ECU Control	ECU Control	ECU Control	3°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C
Weight dry (kg) (approx.)	210	210	210	229	153	153	210	210	200	200
Dimension(L×W×H) (mm)	653x622x709	653x622x709	653x623x721	653x622x709	661x604x683	682x603x683	674x611x659	674x611x659	655x602x660	883x631x806
Lubrication System										
Max allowable oil temp. (°C)	130	130	130	130	120	120	120	120	120	120
Engine oil capacity (ℓ)	6.3	6.3	6.3	6.3	5.1	5.1	5.4	5.4	5.4	5.4
Cooling system										
Cooling water capacity (ℓ) (ENG)	5.0	5.0	5.0	5.0	2.5	2.5	3.9	3.9	3.9	3.9
Thermostat open temp. (°C)	82	82	82	82	95	82	76.5	76.5	76.5	76.5
Engine speed										
No load low idle speed (rpm)	820	820	850 ± 50	820	800	800	900 ± 50	850	850	850
No load high idle speed (rpm)	2,500	2,500	2,480 ± 50	2,500	2,500	2,500	2,750 ± 50	2,750	2,750	2,750
Fuel system										
	CRDI	CRDI	CRDI	CRDI	MIXER	MIXER/MPI	VE PUMP	CRDI	CRDI	CRDI
Starting & electrical system										
Starter capacity	12V-2.0kW	12V-2.0kW	12V-2.0kW	12V-2.0kW	12V-1.4kW	12V-1.4kW	12V- 2.2kW	12V- 2.2kW	12V- 2.2kW	12V- 2.2kW
Alternator capacity	13.5V-90A	13.5V-90A	13.5V-90A	13.5V-90A	13.5V-90A	13.5V-90A	13.5V-70A	13.5V-70A	12V-65A	13.5V-65A
Preheat system	Glow plug	Glow plug	Glow plug	Glow plug	-	-	Glow plug	Glow plug	Glow plug	Glow plug
Certification information										
Emission regulation	KOR Tier4	KOR Tier 4	KOR/EC Stage 5	KOR/EC Stage 5	EC Stage 5 EPA Tier 4	EC Stage 5 EPA Tier 4	KOR Tier 3	KOR Tier 3 EC Stage 3A China Tier 2	KOR Tier2 EC Stage 3A China Tier 2	KOR Tier2 EC Stage 3A China Tier 2
Application	Skid loader	Forklift	Forklift	Forklift	Forklift	Forklift	Forklift	Forklift	Forklift	Skid loader

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Forklift / Construction machinery

Engine model	T2 2.6	E 2.9	E 2.9	4D 3.9	4D 3.9	4D 3.9	4D 3.9	F 3.9	Q 11.1
Engine code	D4BB (AG89)	D4CC (JU91/92)	D4CC (JU93)	D4DD (EM6C)	D4DD (EM8C)	D4DD (EM1G)	D4DD (EM2G)	D4GB (QF99)	D6AC (EH3N)
Fuel type	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Engine type	4 in-line, SOHC	4 in-line, DOHC	4 in-line, DOHC	4 in-line, SOHC	4 in-line, SOHC	4 in-line, SOHC	4 in-line, SOHC	4 in-line	6 in-line
Aspiration	N.A	CRDI	CRDI	T.C.I	T.C.I	T.C.I	T.C.I	T.C.I	T.C.I
Bore× Stroke (mm)	91.1 x 100	95 x 102	95 x 102	104x115	104x115	104 x 115	104 x 115	103 x 118	130 x 140
Displacement (cc)	2,607	2,891	2,891	3,907	3,907	3,907	3,907	3,933	11,149
Max. Torque (kg·m/rpm)	14.3/2,300	35/1,500	42/1,600	33/1,600	38/1,600	35/1,600	38/1,600	42/1,600	120/1,400
Rated Power (ps/rpm)	47/2,400	74/2,200	110/2,200	92/2,300	100/2,300	95/2,300	100/2,300	110/2,250	280/1,900
Compression ratio	22 : 1	16.1 ± 0.5 : 1	16.1 : 1	17.5 : 1	17.5 : 1	17.5 : 1	17.5 : 1	17.1 : 1	17 : 1
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-5-3-6-2-4
Injection timing	5° ± 1° A.T.D.C	ECU Control	ECU Control	ECU Control	ECU Control	ECU Control	ECU Control	ECU Control	13° ± 1° BTDC
Weight dry (kg) (approx.)	200	303	303	353	345	353	345	430	920
Dimension(L×W×H) (mm)	756x602x648	841x768x730	841x768x730	864.6x663.5x822	834.3x663.5x800.6	864.4x663.5x812.5	834x639x801	953x770x819	1,415x938x1,226
Lubrication System									
Max allowable oil temp. (°C)	120	130	130	115	115	115	115	130	115
Engine oil capacity (ℓ)	5.4	8.7	8.0	8.5	8.5	8.5	8.5	14	27.3
Cooling system									
Cooling water capacity (ℓ) (ENG)	3.9	5.2	5.2	8.3	8.3	8.3	8.3	8.1	22
Thermostat open temp. (°C)	76.5	88	88	82	82	82	82	82	82
Engine speed									
No load low idle speed (rpm)	800	850 ± 50	850	800 ± 25	850	800 ± 25	850	800 ± 25	575 ± 50
No load high idle speed (rpm)	2,650	2,480 ± 100	2,480	2,500 ± 100	2,500	2,500 ± 100	2,500	2,450 ± 20	2,100 ± 20
Fuel system									
	VE PUMP	CRDI	CRDI	CRDI	CRDI	CRDI	CRDI	CRDI	FUEL INJECTION PUMP
Starting & electrical system									
Starter capacity	12V-2.2kW	12V-2.2kW	12V-2.2kW	24V-5kW	24V-5kW	24V-5kW	24V-5kW	24V-5kW	24V-5.5kW
Alternator capacity	12V-65A	13.5V-130A	13.5V-130A	24V-50A	24V-50A	24V-50A	24V-50A	24V-70A	24V-70A
Preheat system	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	Air heater	Air heater
Certification information									
Emission regulation	-	KOR/EC Stage 5	KOR/EC Stage 5	KOR Tier 3 EC Stage 3A	KOR Tier 3 EC Stage 3A	KOR Tier 3 EC Stage 3A EPA Tier 3	KOR Tier 3 EC Stage 3A EPA Tier 3	KOR Tier 4	KOR Tier 2
Application	Skid Loader	Forklift	Forklift	Forklift	Forklift	Forklift	Forklift	Forklift	Excavator

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Generator Engine



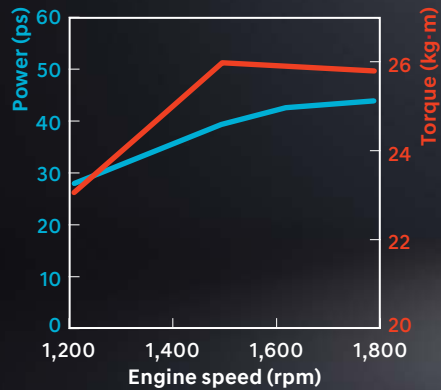
T2 2.6 Generator engine

D4BH (AG30)

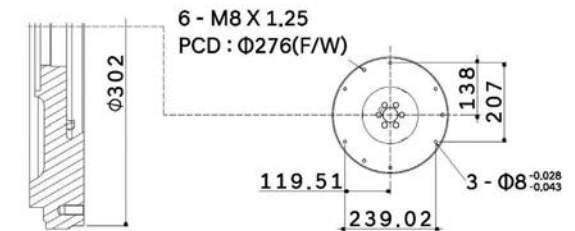
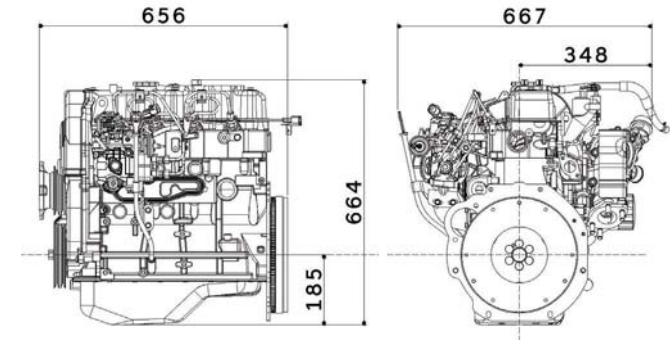
43kW/1,500rpm

43kW/1,800rpm

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BH [AG30]	
Fuel type	Diesel	
Engine type	4 In-line, SOHC	
Aspiration	T.C.I	
Bore × Stroke (mm)	91.1 × 95	
Displacement (cc)	2,476	
	rpm	1,500(50Hz) 1,800(60Hz)
Rated Power	Stand by	43kW 43kW
	Prime	39kW 39kW
Compression ratio	21 : 1	
Firing or der	1-3-4-2	
Injection timing	ATDC7	
Weight dry (kg)	210 (approx.)	
Dimension(L×W×H) mm	656 × 667 × 664	

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	1,000 rpm
No load high idle speed	1,800 rpm

• Flywheel & Flywheel housing

	-
	-

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	12V - 65A
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

Generator

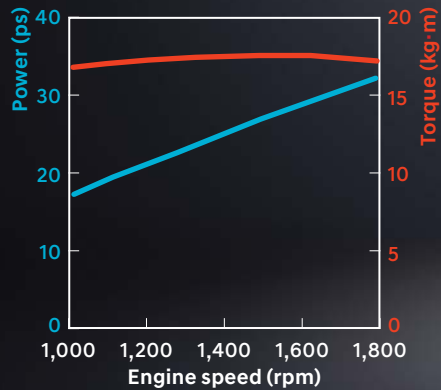
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T2 2.6 Generator engine

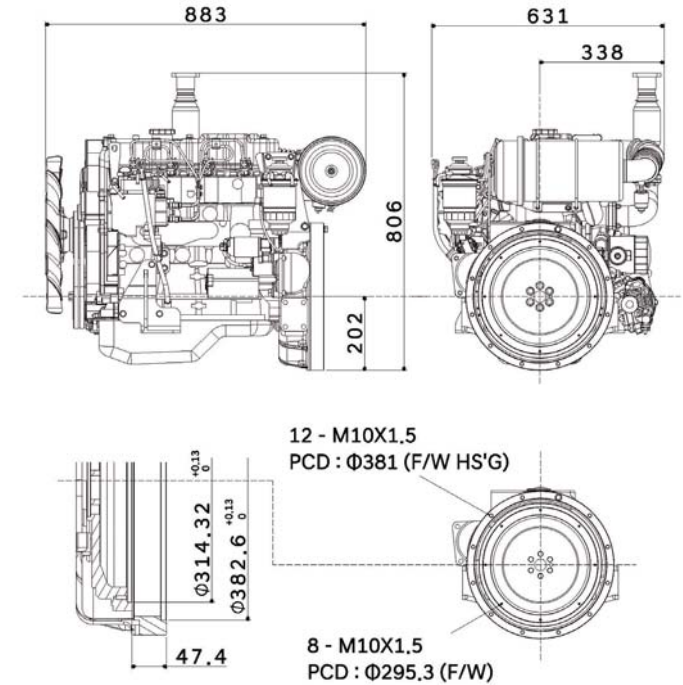
D4BB (AG39)

33kW/1,800rpm

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AG39]
Fuel type	Diesel
Engine type	4 In-line, SOHC
Aspiration	N.A
Bore x Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
rpm	- 1,800(60Hz)
Rated Power	Stand by - 33kW
	Prime - 30kW
Compression ratio	22 : 1
Firing or der	1-3-4-2
Injection timing	5° ± 1° A.T.D.C
Weight dry (kg)	210 (approx.)
Dimension(L×W×H) mm	883 x 631 x 806

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	950 ± 50 rpm
No load high idle speed	1,890rpm

• Flywheel & Flywheel housing

Flywheel SAE#10	Flywheel housing SAE#4
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• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	12V - 65A
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

Generator	
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• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

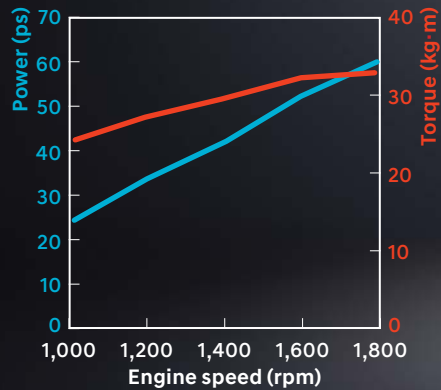
4D 3.3 Generator engine

D4AK (EM69)

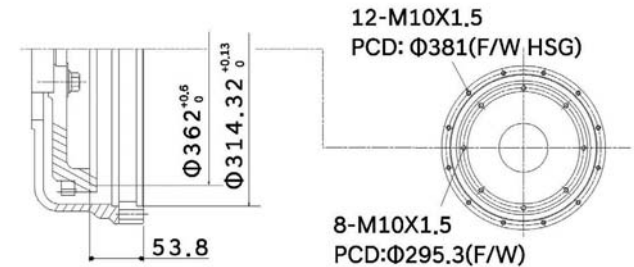
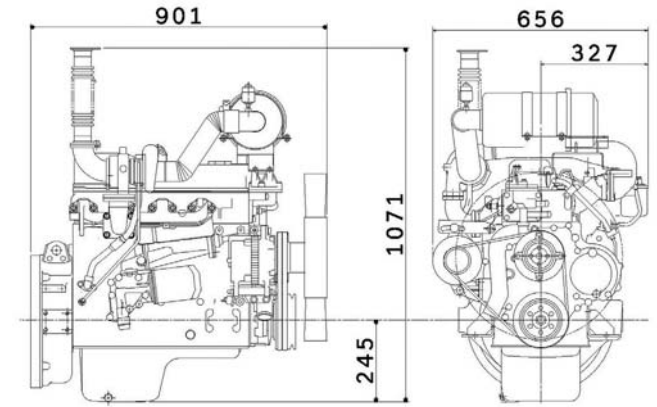
44kW/1,500rpm

60kW/1,800rpm

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4AK [EM69]	
Fuel type	Diesel	
Engine type	4 In-line	
Aspiration	T.C	
Bore x Stroke (mm)	100 x 105	
Displacement (cc)	3,298	
	rpm	1,500(50Hz) 1,800(60Hz)
Rated Power	Stand by	44kW 60kW
	Prime	40kW 54kW
Compression ratio	16 : 1	
Firing order	1-3-4-2	
Injection timing	16° B.T.D.C	
Weight dry (kg)	334 (approx.)	
Dimension(LxWxH) mm	901 x 656 x 1,071	

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	8.5ℓ

• Cooling system

Cooling water capacity	8.3ℓ (ENG)
Thermostat open temp.	71°C

• Engine speed

No load low idle speed	750-850 rpm
No load high idle speed	1,800 Prime : 1,880rpm
	1,500 Prime : 1,580rpm

• Flywheel & Flywheel housing

Flywheel SAE#10	Flywheel housing SAE#4
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• Fuel system

Fuel Injection Pump	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5kW
Alternator capacity	24V - 50A
Preheat system	Air heater

• Certification information

Emission regulation	-
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• Application

Generator

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

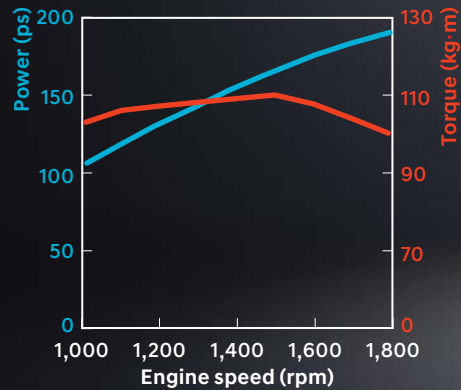
Q 11.1 Generator engine

D6AZ (EH2X)

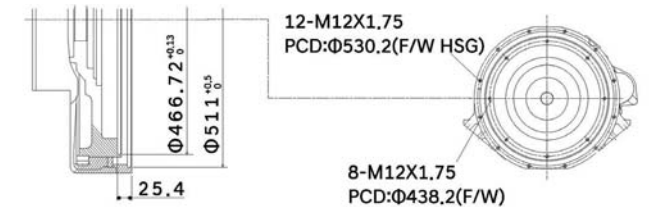
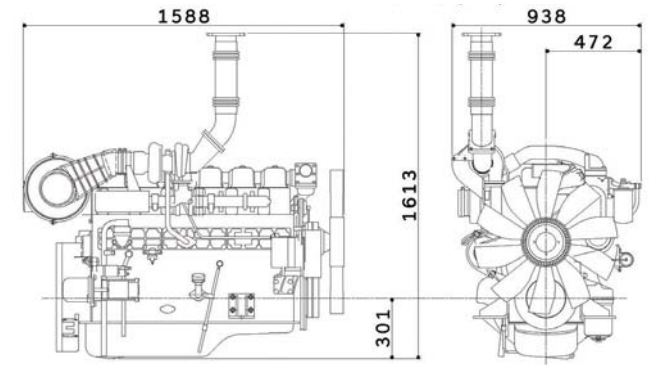
173kW/1,500rpm

191kW/1,800rpm

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6AZ [EH2X]	
Fuel type	Diesel	
Engine type	6 In-line	
Aspiration	T.C	
Bore × Stroke (mm)	130 x 140	
Displacement (cc)	11,149	
	rpm	1,500(50Hz) 1,800(60Hz)
Rated Power	Stand by	173kW 191kW
	Prime	156kW 172kW
Compression ratio	16.5 : 1	
Firing or der	1-5-3-6-2-4	
Injection timing	18° B.T.D.C	
Weight dry (kg)	1,010 (approx.)	
Dimension(L×W×H) mm	1,588 x 938 x 1,613	

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	24ℓ

• Cooling system

Cooling water capacity	22ℓ (ENG)
Thermostat open temp.	71 °C

• Engine speed

No load low idle speed	500~600 rpm
No load high idle speed	1,800 Prime : 1,880rpm 1,500 Prime : 1,580rpm

• Flywheel & Flywheel housing

Flywheel SAE#14	Flywheel housing SAE#1
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• Fuel system

Fuel Injection Pump	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5kW
Alternator capacity	24V - 70A
Preheat system	Air heater

• Certification information

Emission regulation	-
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• Application

Generator	
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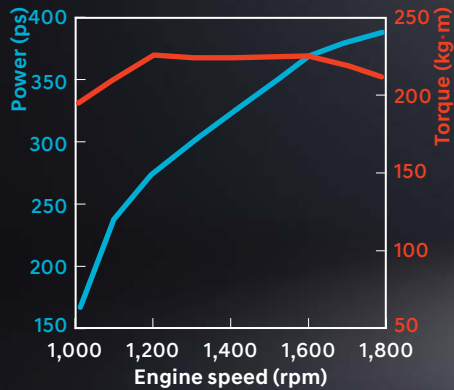
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

L 12.3 Generator engine

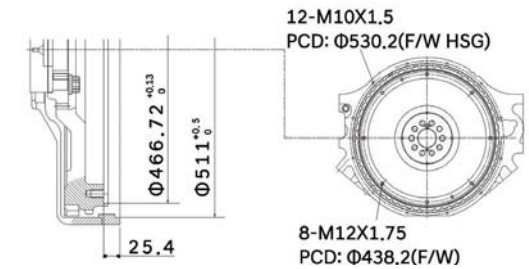
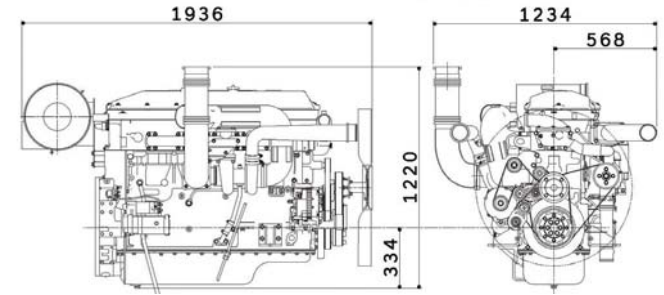
D6CC (EH9G)

331kW/1,500rpm
390kW/1,800rpm

Performance Curve



• Dimensions



• General Specification

Engine model [Code]		D6CC [EH9G]	
Fuel type		Diesel	
Engine type		6 In-line	
Aspiration		T.C.I	
Bore × Stroke (mm)		130 x 155	
Displacement (cc)		12,344	
rpm		1,500(50Hz)	1,800(60Hz)
Rated Power	Stand by	331kW	390kW
	Prime	298kW	351kW
Compression ratio		17.2 : 1	
Firing or der		1-5-3-6-2-4	
Injection timing		ECU Control	
Weight dry (kg)		1,010 (approx.)	
Dimension(L×W×H) mm		1,936 x 1,234 x 1,220	

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	28ℓ

• Cooling system

Cooling water capacity	42ℓ (ENG)
Thermostat open temp.	71°C

• Engine speed

No load low idle speed	580~620 rpm
No load high idle speed	1,850 rpm

• Flywheel & Flywheel housing

Flywheel SAE#14	Flywheel housing SAE#1
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• Fuel system

EUI	Delphi
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• Starting & electrical system

Starter capacity	24V - 6kW
Alternator capacity	24V - 80A
Preheat system	Air heater

• Certification information

Emission regulation	-
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• Application

Generator

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Generator

Engine model	T2 2.6	T2 2.6	T2 2.6	T2 2.6	T2 2.6	4D 3.6	4D 3.3	4D 3.9	
Engine code	D4BH (AG30)	D4BB (AG31)	D4BB (AG39)	D4BB (AG41)	D4BB (AG49)	D4AF (EM68)	D4AK (EM69)	D4DA (EM2D)	
Fuel type	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	
Engine type	4 in-line, SOHC	4 in-line, SOHC	4 in-line, SOHC	4 in-line, SOHC	4 in-line	4 in-line	4 in-line	4 in-line	
Aspiration	T.C.I	N.A	N.A	N.A	T.C	N.A	T.C	T.C	
Bore× Stroke (mm)	91.1 x 95	91.1 x 100	91.1 x 100	91.1 x 100	91.1 x 100	104 x 105	100 x 105	104 x 115	
Displacement (cc)	2,476	2,607	2,607	2,607	2,607	3,568	3,298	3,907	
rpm (Hz)	1,500(50)/1,800(60)	1,800 (60)	1,800 (60)	1,500 (50)	1,800 (60)	1,500 (50) 1,800 (60)	1,500 (50) 1,800 (60)	1,500 (50) 1,800 (60)	
Rated Power	Standby (kW)	43	21	33	19	39	37 44	44 60	62 79
	Prime (kW)	39	19	30	17	35	33 40	40 54	55 70
Compression ratio	21:1	22:1	22:1	22:1	22:1	17.5:1	16:1	16.5:1	
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	
Injection timing	ATDC7	5°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C	16° B.T.D.C	16° B.T.D.C	10° B.T.D.C	
Weight dry (kg) (approx.)	232	210	210	210	215	324	334	360	
Dimension(L×W×H) (mm)	656x667x664	883x631x806	883x631x806	883x631x806	800X604X844	901x678x1,021	901x656x1,071	897x673x1,082	
Lubrication System									
Max allowable oil temp. (°C)	120	120	120	120	120	115	115	115	
Engine oil capacity(ℓ)	5.4	5.4	5.4	5.4	5.4	8.5	8.5	8.5	
Cooling system									
Cooling water capacity (ℓ) (ENG)	3.9	3.9	3.9	3.9	3.9	8.3	8.3	8.3	
Thermostat open temp. (°C)	76.5	76.5	76.5	76.5	76.5	71	71	71	
Engine speed									
No load low idle speed (rpm)	1,000	970	950 ± 50	950 ± 50	950 ± 50	750~850	750~850	750~850	
No load high idle speed (rpm)	1,800	1,890	1,890	1,575	2,100	1,880 (at 1,800 Prime) 1,580 (at 1,500 Prime)	1,880 (at 1,800 Prime) 1,580 (at 1,500 Prime)	1,880 (at 1,800 Prime) 1,580 (at 1,500 Prime)	
Flywheel & Flywheel housing									
Flywheel	-	SAE#10	SAE#10	SAE#10	SAE#10	SAE#10	SAE#10	SAE#10	
Flywheel housing	-	SAE#4	SAE#4	SAE#4	SAE#4	SAE#4	SAE#4	SAE#4	
Fuel system									
	VE PUMP	VE PUMP	VE PUMP	VE PUMP	VE PUMP	FUEL INJECTION PUMP	FUEL INJECTION PUMP	FUEL INJECTION PUMP	
Starting & electrical system									
Starter capacity	12V-2.2kW	12V-2.2kW	12V-2.2kW	12V-2.2kW	12V-2.2kW	24V-5.0kW	24V-5.0kW	24V-5.0kW	
Alternator capacity	12V-65A	12V-65A	12V-65A	12V-65A	12V-65A	24V-50A	24V-50A	24V-40A	
Preheat system	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	Air heater	Air heater	Glow plug	
Certification information									
Emission regulation	-	-	-	-	-	-	-	-	
Application	Generator	Generator	Generator	Generator	Generator	Generator	Generator	Generator	

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Generator

Engine model	Q 11.1		Q 11.1		Q 11.1		L 12.3		L 12.3		
Engine code	D6AZ (EH1X)		D6AZ (EH2X)		D6AC (BB17)		D6CC (EH9G)		D6CC(EH7G)		
Fuel type	Diesel		Diesel		Diesel		Diesel		Diesel		
Engine type	6 in-line		6 in-line		6 in-line		6 in-line, SOHC		6 in-line, SOHC		
Aspiration	T.C		T.C		T.C.I		T.C.I		T.C.I		
Bore× Stroke (mm)	130 x 140		130 x 140		130 x 140		130 x 155		130 x 155		
Displacement (cc)	11,149		11,149		11,149		12,344		12,344		
Rated Power	rpm (Hz)	1,800 (60)	1,800 (60)	1,500	1,800 (60)	1,500	1,800 (60)	1,500	1,800 (60)	1,500 (50)	1,800 (60)
	Standby (kW)	199	227	173	191	235	257	331	390	294	338
	Prime (kW)	179	204	156	172	219	232	298	351	294	338
Compression ratio	16.5 : 1		16.5 : 1		16.5 : 1		17.2 : 1		17.2 : 1		
Firing order	1-5-3-6-2-4		1-5-3-6-2-4		1-5-3-6-2-4		1-5-3-6-2-4		1-5-3-6-2-4		
Injection timing	18° B.T.D.C		18° B.T.D.C		18° B.T.D.C		ECU Control		ECU Control		
Weight dry (kg) (approx.)	1,054		1,010		1,050		1,010		1,210		
Dimension(L×W×H) (mm)	1,588x938x1,613		1,588x938x1,613		1,607X1,033X1,613		1,936x1,234x1,220		1,936x1,234x1,220		
Lubrication System											
Max allowable oil temp. (°C)	115		115		115		115		115		
Engine oil capacity (ℓ)	24		24		24		28		28		
Cooling system											
Cooling water capacity (ℓ) (ENG)	22		22		22		42		42		
Thermostat open temp. (°C)	71		71		71		71		71		
Engine speed											
No load low idle speed (rpm)	500~600		500~600		600 ± 25		580~620		580~620		
No load high idle speed (rpm)	1,880 (at 1,800 Prime)		1,880 (at 1,800 Prime)		1,800 (at 1,800 Prime)		1,850		1,850		
	1,580 (at 1,500 Prime)		1,580 (at 1,500 Prime)		1,500 (at 1,500 Prime)						
Flywheel & Flywheel housing											
Flywheel	SAE #14		SAE #14		SAE #14		SAE #14		SAE #14		
Flywheel housing	SAE #1		SAE #1		SAE #1		SAE #1		SAE #1		
Fuel system											
	FUEL INJECTION PUMP		FUEL INJECTION PUMP		FUEL INJECTION PUMP		EUI		EUI		
Starting & electrical system											
Starter capacity	24V-5.5kW		24V-5.5kW		24V-5.5kW		24V-6.0kW		24V-6.0kW		
Alternator capacity	24V-70A		24V-70A		24V-40A		24V-80A		24V-80A		
Preheat system	Air heater		Air heater		Air heater		Air heater		Air heater		
Certification information											
Emission regulation	-		-		-		-		-		
Application	Generator		Generator		Generator		Generator		Generator		

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Agricultural Machinery

GHP (Gas Engine-Driven Heat pump)

Bus Cooler

General Power

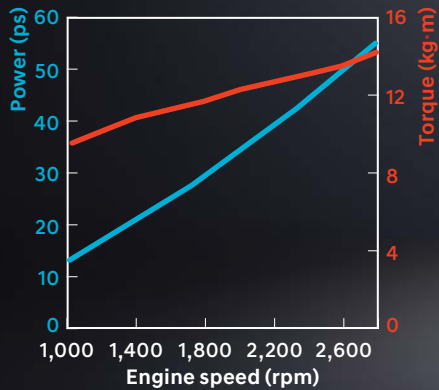


Gamma 1.6 Speed sprayer engine

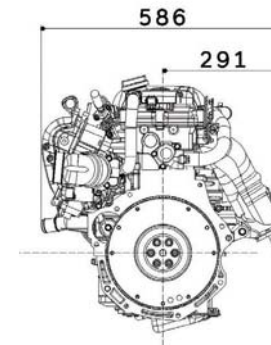
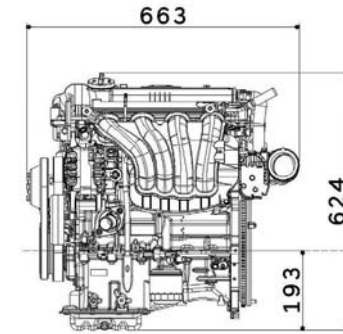
G4FC (BC97)

55.5ps / 14.2kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	G4FC [BC97]
Fuel type	Gasoline
Engine type	4 In-line, DOHC
Aspiration	N.A
Bore × Stroke (mm)	77 x 85.4
Displacement (cc)	1,591
Max. Torque (kg·m/rpm)	14.2 / 2,800
Rated Power (ps/rpm)	55.5 / 2,800
Compression ratio	10.5 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	95 (approx.)
Dimension(L×W×H) mm	663 x 586 x 624

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	3.3ℓ

• Cooling system

Cooling water capacity	3.0ℓ (ENG)
Thermostat open temp.	-

• Engine speed

No load low idle speed	1,000 rpm
No load high idle speed	3,000 rpm

• Fuel system

MPI	Sense Tech
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• Starting & electrical system

Starter capacity	12V - 0.9kW
Alternator capacity	13.5V - 90A
Preheat system	-

• Certification information

Emission regulation	-
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• Application

Speed sprayer	
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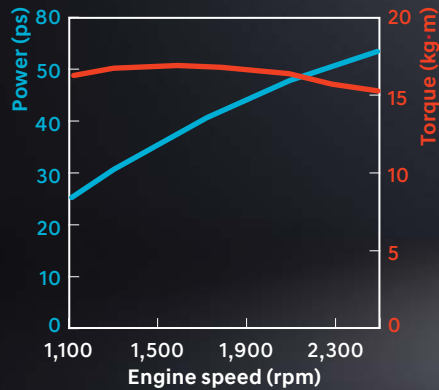
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 Speed sprayer engine

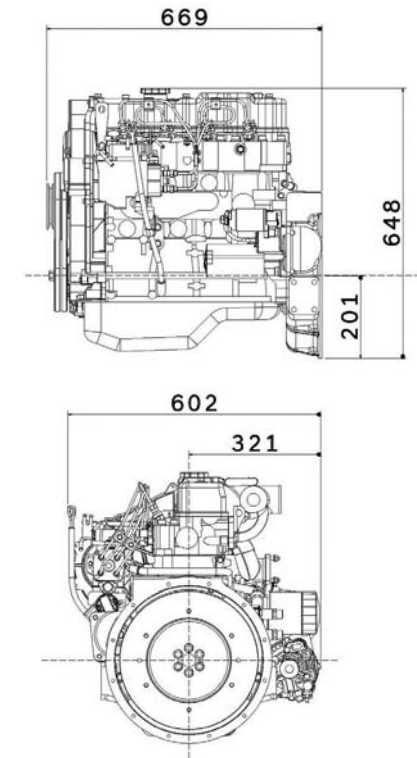
D4BB (AG90)

53ps / 16.8kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AG90]
Fuel type	Diesel
Engine type	4 In-line
Aspiration	N.A
Bore × Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
Max. Torque (kg·m/rpm)	16.8 / 1,600
Rated Power (ps/rpm)	53 / 2,500
Compression ratio	22 : 1
Firing or der	1-3-4-2
Injection timing	5° ± 1° A.T.D.C
Weight dry (kg)	200 (approx.)
Dimension(L×W×H) mm	669 x 602 x 648

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	850 rpm
No load high idle speed	2,750 rpm

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	12V - 65A
Preheat system	Glow plug

• Certification information

Emission regulation	KOR Tier 2 EC Stage 3A, China Tier 2
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• Application

Speed sprayer	
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• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

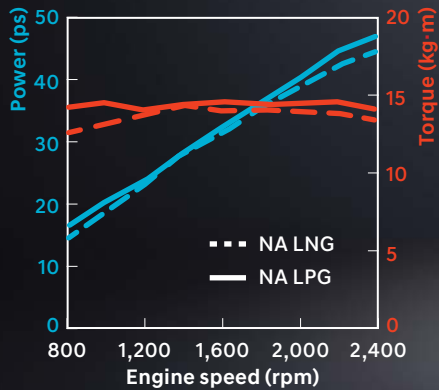
Nu 2.0 GHP engine

D4NA (NL98)

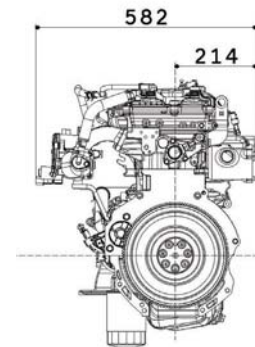
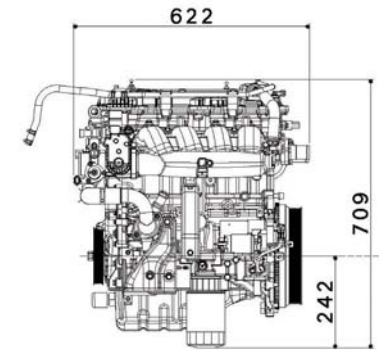
42.1ps / 14kg·m

44.6ps / 14.4kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4NA [NL98]
Fuel type	LNG
Engine type	4 In-line, DOHC
Aspiration	LPGI
Bore × Stroke (mm)	81 x 97
Displacement (cc)	1,999
Max. Torque (kg·m/rpm)	LNG: 14.0 / 1,600, LPG: 14.4 / 1,600
Rated Power (ps/rpm)	LNG: 42.1 / 2,200, LPG: 44.6 / 2,200
Compression ratio	10.3 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	116 (approx.)
Dimension(L×W×H) mm	622 x 595 x 709

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	4.0ℓ

• Cooling system

Cooling water capacity	6.6ℓ (ENG)
Thermostat open temp.	-

• Engine speed

No load low idle speed	800 rpm
No load high idle speed	2,400 rpm

• Fuel system

MIXER	Sense Tech
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• Starting & electrical system

Starter capacity	12V - 1.2kW
Alternator capacity	-
Preheat system	-

• Certification information

Emission regulation	-
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• Application

GHP	
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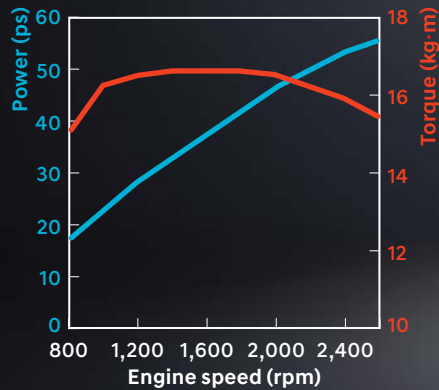
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 GHP engine

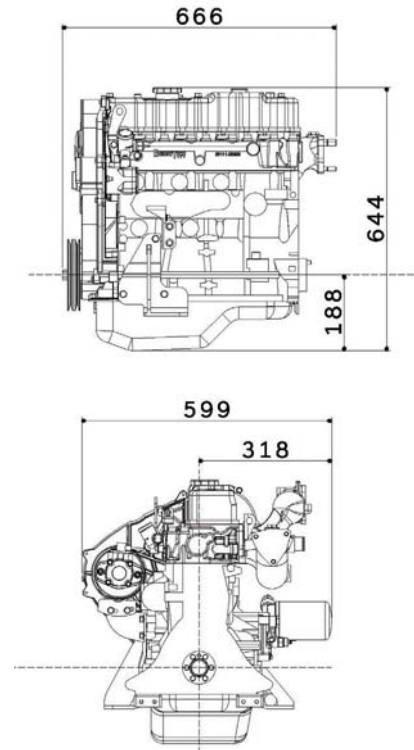
D4BB (AH70)

56ps / 16kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AH70]
Fuel type	LPG
Engine type	4 In-line, DOHC
Aspiration	LPGI
Bore × Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
Max. Torque (kg·m/rpm)	16 / 1,400~1,800
Rated Power (ps/rpm)	56 / 2,600
Compression ratio	14 : 1
Firing or der	1-3-4-2
Injection timing	-
Weight dry (kg)	-
Dimension(L×W×H) mm	666 x 599 x 644

• Lubrication system

Max allowable oil temp.	-
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9 ℓ (ENG)
Thermostat open temp.	-

• Engine speed

No load low idle speed	-
No load high idle speed	-

• Fuel system

MIXER	Bosch
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	-
Preheat system	-

• Certification information

Emission regulation	-
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• Application

GHP	
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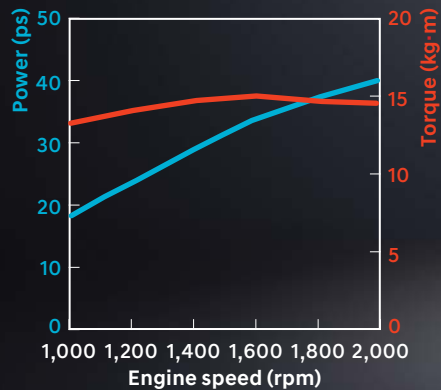
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 Bus cooler engine

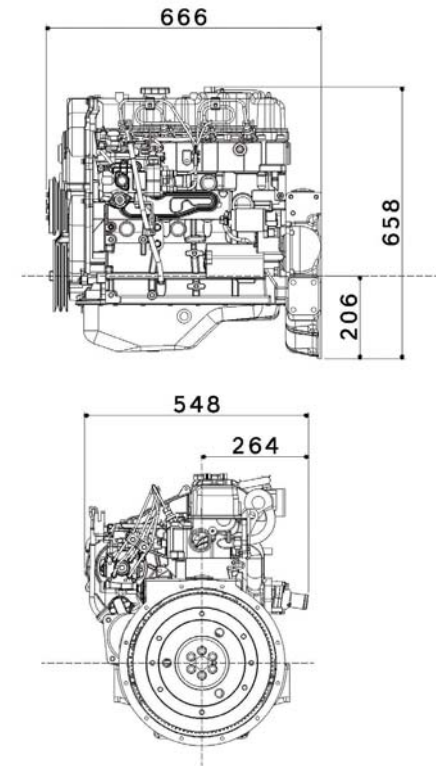
D4BB (AG47)

40ps / 15kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AG47]
Fuel type	Diesel
Engine type	4 In-line, SOHC
Aspiration	N.A
Bore × Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
Max. Torque (kg·m/rpm)	15 / 1,500
Rated Power (ps/rpm)	40 / 2,000
Compression ratio	22 : 1
Firing order	1-3-4-2
Injection timing	5° ± 1° A.T.D.C
Weight dry (kg)	200 (approx.)
Dimension(L×W×H) mm	666 x 548 x 658

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	750 ± 50 rpm
No load high idle speed	2,200 rpm

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	24V - 5.0kW
Alternator capacity	-
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

Bus cooler	
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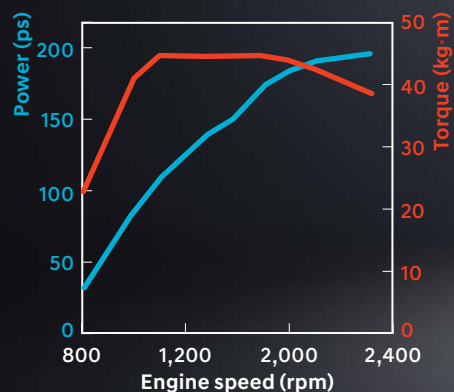
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

R 2.2 General power engine

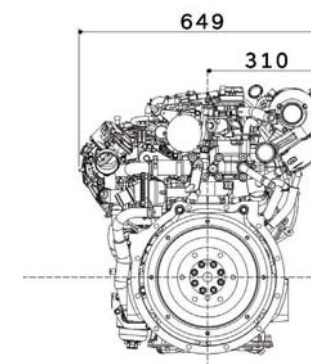
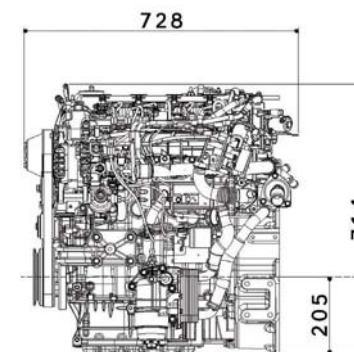
D4HB (KK93)

197ps / 44.5kg-m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4HB [KK93]
Fuel type	Diesel
Engine type	4 In-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	85.4 × 96
Displacement (cc)	2,199
Max. Torque (kg-m/rpm)	44.5 / 1,750~2,750
Rated Power (ps/rpm)	197 / 3,800
Compression ratio	16 : 1
Firing or der	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	-
Dimension(L×W×H) mm	728 × 649 × 714

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	6.3ℓ

• Cooling system

Cooling water capacity	5.0ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	-
No load high idle speed	-

• Fuel system

CRDI	Bosch
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• Starting & electrical system

Starter capacity	12V - 2.0kW
Alternator capacity	13.5V - 90A
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

General power	
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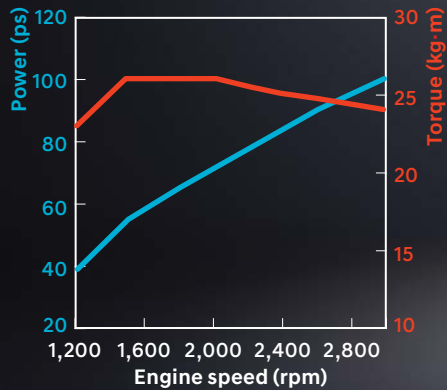
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 General power engine

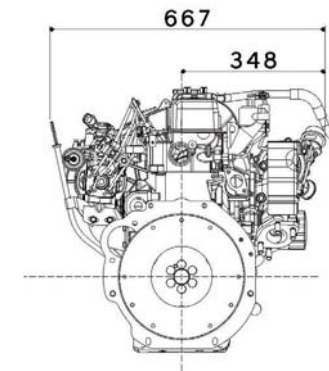
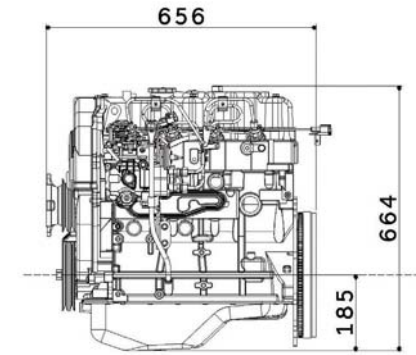
D4BH (AG30)

100ps / 26kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BH [AG30]
Fuel type	Diesel
Engine type	4 In-line
Aspiration	T.C.I
Bore × Stroke (mm)	91.1 × 95
Displacement (cc)	2,476
Max. Torque (kg·m/rpm)	26 / 2,000
Rated Power (ps/rpm)	100 / 3,000
Compression ratio	21 : 1
Firing order	1-3-4-2
Injection timing	ATDC7
Weight dry (kg)	210 (approx.)
Dimension(L×W×H) mm	656 × 667 × 664

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	1,000 rpm
No load high idle speed	3,000 rpm

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW / 24V - 3.2kW
Alternator capacity	Option
Preheat system	Glow plug

• Certification information

Emission regulation	
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• Application

General power	-
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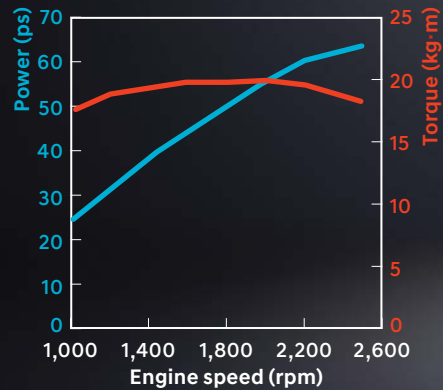
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

T2 2.6 General power engine

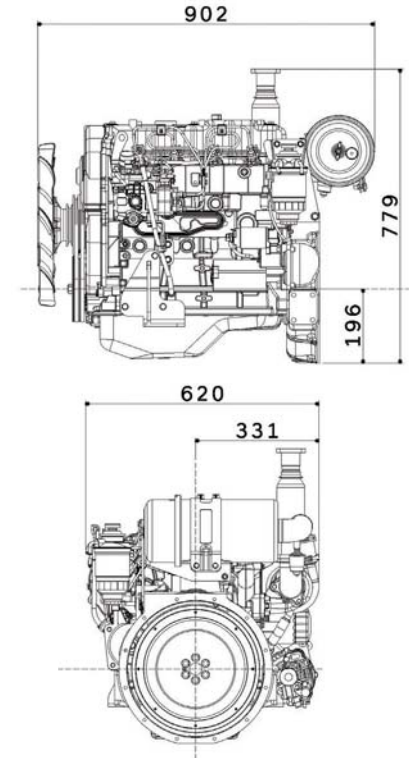
D4BB (AG50)

64ps / 19.9kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4BB [AG50]
Fuel type	Diesel
Engine type	4 In-line
Aspiration	T.C
Bore × Stroke (mm)	91.1 x 100
Displacement (cc)	2,607
Max. Torque (kg·m/rpm)	19.9 / 2,000
Rated Power (ps/rpm)	64 / 2,500
Compression ratio	22 : 1
Firing or der	1-3-4-2
Injection timing	5°±1° A.T.D.C
Weight dry (kg)	215 (approx.)
Dimension(L×W×H) mm	902 x 620 x 779

• Lubrication system

Max allowable oil temp.	120°C
Engine oil capacity	5.4ℓ

• Cooling system

Cooling water capacity	3.9ℓ (ENG)
Thermostat open temp.	76.5°C

• Engine speed

No load low idle speed	800 rpm
No load high idle speed	2,750 rpm

• Fuel system

VE PUMP	Doowon
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• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	12V - 65A
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

General power	
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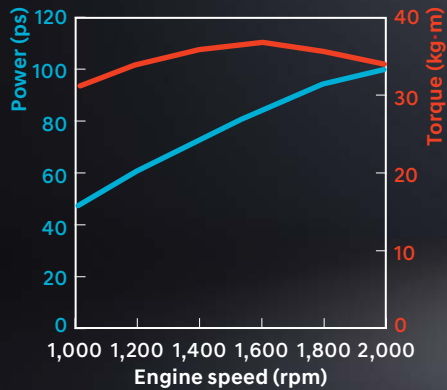
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

4D 3.9 General power engine

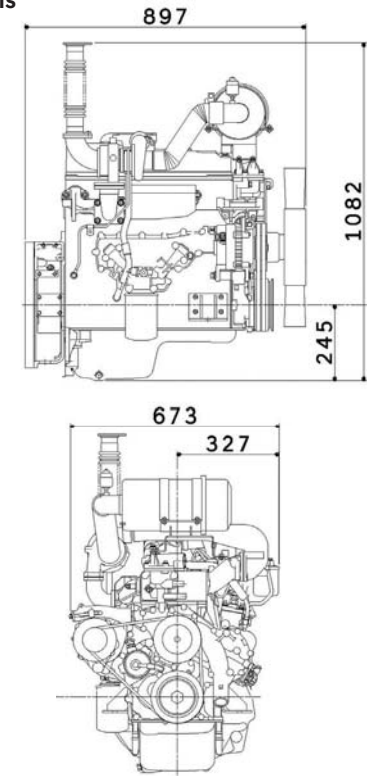
D4DA (EM1P)

100ps / 37kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4DA [EM1P]
Fuel type	Diesel
Engine type	4 In-line
Aspiration	T,C
Bore × Stroke (mm)	104 x 115
Displacement (cc)	3,907
Max. Torque (kg·m/rpm)	37 / 1,700
Rated Power (ps/rpm)	100 / 2,000
Compression ratio	16.5 : 1
Firing order	1-3-4-2
Injection timing	10° BTDC
Weight dry (kg)	350 (approx.)
Dimension(L×W×H) mm	897 x 673 x 1,082

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	8.5ℓ

• Cooling system

Cooling water capacity	8.3ℓ (ENG)
Thermostat open temp.	71°C

• Engine speed

No load low idle speed	800 ± 50 rpm
No load high idle speed	2,200 ± 20 rpm

• Fuel system

FUEL INJECTION PUMP	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5kW
Alternator capacity	24V - 40A
Preheat system	Glow plug

• Certification information

Emission regulation	-
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• Application

Boring machine	
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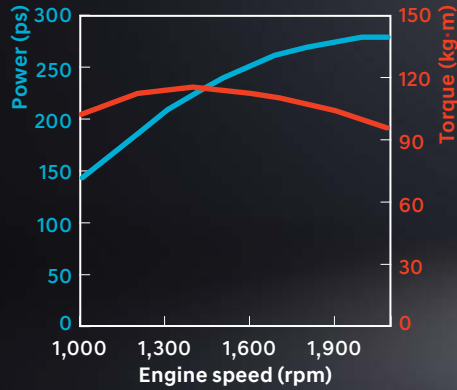
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Q 11.1 General power engine

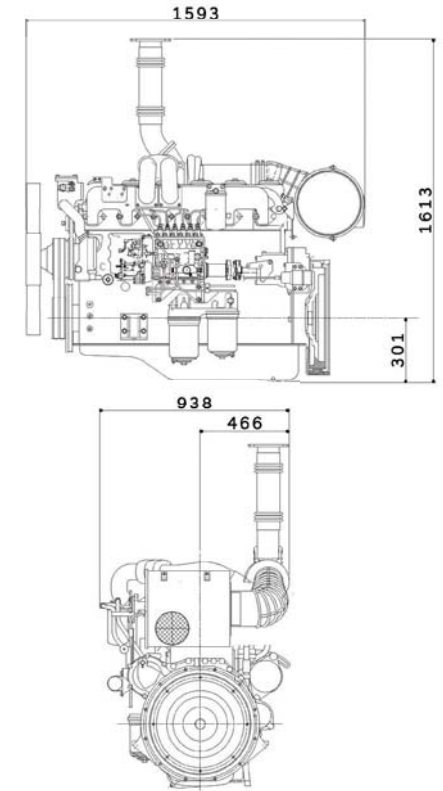
D6AZ (EH3P)

280ps / 115kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6AZ [EH3P]
Fuel type	Diesel
Engine type	6 In-line
Aspiration	T.C
Bore × Stroke (mm)	130 x 140
Displacement (cc)	11,149
Max. Torque (kg·m/rpm)	115 / 1,400
Rated Power (ps/rpm)	280 / 2,100
Compression ratio	16.5 : 1
Firing or der	1-5-3-6-2-4
Injection timing	18° BTDC
Weight dry (kg)	1,010 (approx.)
Dimension(L×W×H) mm	1,593 x 938 x 1,613

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	24ℓ

• Cooling system

Cooling water capacity	22ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	550~600 rpm
No load high idle speed	2,300 ± 20 rpm

• Fuel system

FUEL INJECTION PUMP	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5kW
Alternator capacity	24V - 70A
Preheat system	Air heater

• Certification information

Emission regulation	-
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• Application

Boring machine	
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• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Agricultural Machinery / GHP / Bus cooler / General power

General Specification	Gamma 1.6	Nu 2.0	R 2.2	T2 2.6	T2 2.6	T2 2.6	T2 2.6	T2 2.6	T2 2.6	T2 2.6	4D 3.3	4D 3.9	Q 11.1	L 12.3
Engine model (Code)	G4FC (BC97)	D4NA (NL98)	D4HB (KK93)	D4BH (AG30)	D4BB (AG50)	D4BB (AG90)	D4BB (AH23)	D4BB (AH24)	D4BB (AH70)	D4BB (AG47)	D4AK (EM2B)	D4DA (EM1P)	D6AZ (EH3P)	D6CC (EH5G)
Fuel type	Gasoline	LPG/LNG	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	LNG	Diesel	Diesel	Diesel	Diesel	Diesel
Engine type	4 in-line, DOHC	4 in-line, DOHC	4 in-line, DOHC	4 in-line	4 in-line	4 in-line	4 in-line	4 in-line	4 in-line, DOHC	4 in-line, SOHC	4 in-line	4 in-line	6 in-line	6 in-line, SOHC
Aspiration	N.A	N.A	T.C.I	T.C.I	T.C	N.A	T.C	T.C	LPG	N.A	T.C	T.C	T.C	T.C.I
Bore× Stroke (mm)	77 x 85.4	81 x 97	85.4 x 96	91.1 x 95	91.1 x 100	91.1 x 100	91.1 x 100	91.1 x 100	91.1 x 100	91.1 x 100	100 x 105	104 x 115	130 x 140	130 x 155
Displacement (cc)	1,591	1,999	2,199	2,476	2,607	2,607	2,607	2,607	2,607	2,607	3,298	3,907	11,149	12,344
Max. Torque (kg·m/rpm)	14.2/2,800	LNG:14/1,600 LPG:14.4/1,600	44.5 / 1,750~2,750	26/2,000	19.9/2,000	16.8/1,600	19.9/2,000	17.3/1,600	16.6 / 1,400~1,800	15/1,500	25.5/1,800	37/1,700	115/1,400	216 /1,400
Rated Power (ps/rpm)	55.5/2,800	LNG:42.1/2,200 LPG:44.6/2,200	197/3,800	100/3,000	64/2,500	53/2,500	64/2,500	38.6/1,600	56/2,600	40/2,000	85/2,400	100/2,000	280/2,100	440 / 2,000
Compression ratio	10.5 : 1	10.3 : 1	16 : 1	21:1	22 : 1	22 : 1	22 : 1	22 : 1	14.0 : 1	22 : 1	16 : 1	16.5 : 1	16.5 : 1	17.2 : 1
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-3-4-2	1-5-3-6-2-4	1-5-3-6-2-4
Injection timing	ECU Control	ECU Control	ECU Control	ATDC7	5°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C	5°±1° A.T.D.C	-	5°±1° A.T.D.C	16°±1° B.T.D.C	10° B.T.D.C	18° B.T.D.C	ECU Control
Weight dry (kg) (approx.)	95	116	-	210	215	200	200	210	-	200	340	350	1,010	1,195
Dimension(L×W×H) (mm)	663x586x624	622x595x709	728x649x714	656x667x664	902x620x779	669x602x648	780x604x844	738x604x844	666x599x644	666x548x658	901x656x1,071	897x673x1,082	1,599x938x1,613	1,551x981x1,166
Lubrication System														
Max allowable oil temp. (°C)	120	120	130	130	130	130	130	130	-	120	115	115	115	115
Engine oil capacity (ℓ)	3.3	4.0	6.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	8.5	8.5	24	28
Cooling system														
Cooling water capacity (ℓ) (ENG)	3.0	6.6	5.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	8.3	8.3	22	42
Thermostat open temp. (°C)	-	-	82	76.5	76.5	76.5	76.5	76.5	-	76.5	82	71	82	82
Engine speed														
No load low idle speed (rpm)	1,000	800	800	1,000	800	800	800	950 ± 50	-	750 ± 50	780-850	800 ± 50	550-600	600
No load high idle speed (rpm)	-	2,400	2,400	3,000	2,750	2,750	2,750	1,800	-	2,200	2,640-2,660	2,200 ± 20	2,300 ± 20	2,200
Fuel system														
	MPI	MIXER	CRDI	VE PUMP	VE PUMP	VE PUMP	VE PUMP	VE PUMP	MIXER	VE PUMP	FUEL INJECTION PUMP	FUEL INJECTION PUMP	FUEL INJECTION PUMP	EUI
Starting & electrical system														
Starter capacity	2V-0.9kW	12V-1.2kW	12V-2.0kW	12V-2.2kW 24V-3.2kW	12V-2.0kW	12V-2.0kW	12V-2.0kW	12V-2.0kW	12V-2.0kW	24V-5.0kW	24V-5.0kW	24V-5.0kW	24V-5.0kW	24V-6.0kW
Alternator capacity	13.5V-90A	-	13.5V-90A	Option	12V-65A	12V-65A	12V-65A	-	-	-	24V-50A	24V-40A	24V-70A	24V-80A
Preheat system	-	-	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	Glow plug	-	Glow plug	Air heater	Glow plug	Air heater	Air heater
Certification information														
Emission regulation	-	-	-	-	-	KOR Tier 2 EC Stage 3A China Tier 2	-	-	-	-	-	-	-	KOR Tier 3
Application	Speed sprayer	GHP	General power	General power	General power	Speed sprayer	General power	Fire pump	GHP	Bus cooler	General power	General power	General power	Transporter Rail motorcar

• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Marine Engine

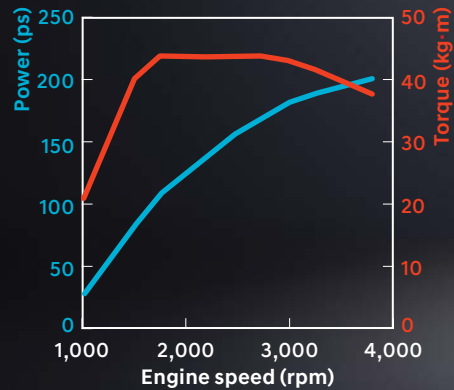


R 2.2 Marine engine

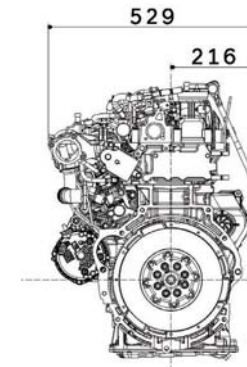
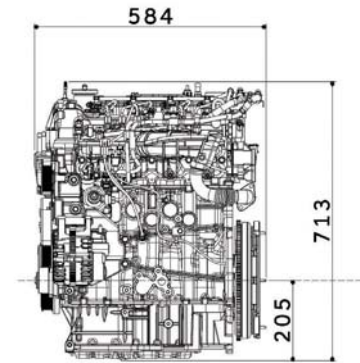
D4HB (KS96)

200ps / 44kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4HB [KS96]
Fuel type	Diesel
Engine type	4 in-line, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	85,4 x 96
Displacement (cc)	2,199
Max. Torque (kg·m/rpm)	44 / 2,000
Rated Power (ps/rpm)	200 / 3,800
Compression ratio	16 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	155.5(approx.)
Dimension(L×W×H) mm	584 X 529 X 713

• Lubrication system

Max allowable oil temp.	-
Engine oil capacity	4.9ℓ

• Cooling system

Cooling water capacity	2.25ℓ (ENG)
Thermostat open temp.	-

• Engine speed

No load low idle speed	-
No load high idle speed	-

• Fuel system

CRDI	Bosch
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• Starting & electrical system

Starter capacity	12V - 2.0kW
Alternator capacity	13.5V - 150A
Preheat system	Glow plug

• Certification information

Emission regulation	EPA Tier 3
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• Application

Marine

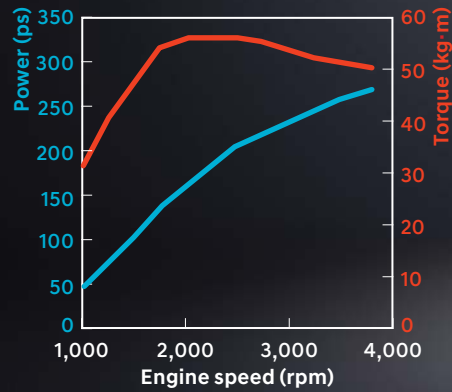
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S 3.0 Marine engine

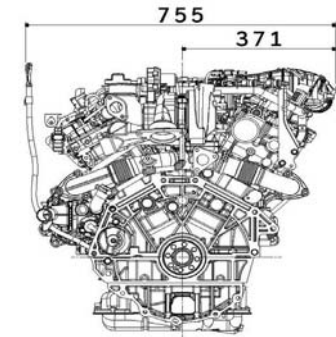
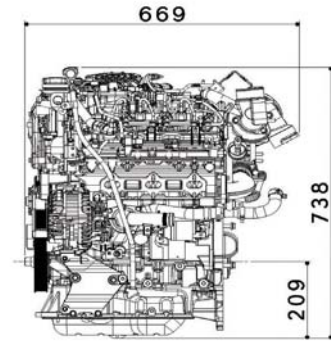
D6EA (SM90)

270ps / 56kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6EA [SM90]
Fuel type	Diesel
Engine type	6 V-Type, DOHC
Aspiration	T.C.I
Bore × Stroke (mm)	84 x 89
Displacement (cc)	2,959
Max. Torque (kg·m/rpm)	56 / 2,000
Rated Power (ps/rpm)	270 / 3,800
Compression ratio	17.3 : 1
Firing or der	1-2-3-4-5-6
Injection timing	ECU Control
Weight dry (kg)	267.0(approx.)
Dimension(L×W×H) mm	675 X 751 X 870

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	7.2ℓ

• Cooling system

Cooling water capacity	5.6ℓ (ENG)
Thermostat open temp.	-

• Engine speed

No load low idle speed	-
No load high idle speed	-

• Fuel system

CRDI	Bosch
------	-------

• Starting & electrical system

Starter capacity	12V - 2.2kW
Alternator capacity	13.5V - 150A
Preheat system	Glow plug

• Certification information

Emission regulation	RCD Stage 5, EPA Tier 3
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• Application

Marine

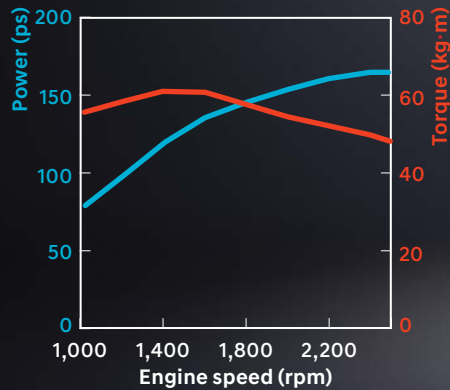
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

F 3.9 Marine engine

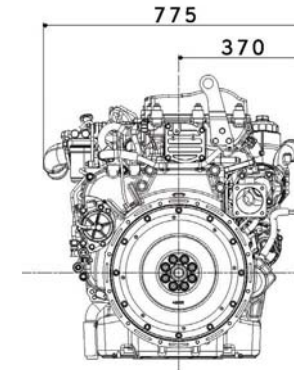
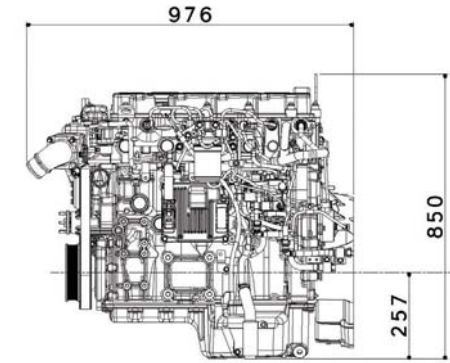
D4GA_(LF99)

165ps / 61kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D4GA [LF99]
Fuel type	Diesel
Engine type	4 in-line
Aspiration	T.C.I
Bore × Stroke (mm)	103 x 118
Displacement (cc)	3,933
Max. Torque (kg·m/rpm)	61 / 1,400
Rated Power (ps/rpm)	165 / 2,500
Compression ratio	17 : 1
Firing order	1-3-4-2
Injection timing	ECU Control
Weight dry (kg)	420 (approx.)
Dimension(L×W×H) mm	976 X 775 X 850

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	14ℓ

• Cooling system

Cooling water capacity	8.1ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	650 ± 25 rpm
No load high idle speed	2,700 ± 50 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	24V-5.0kW
Alternator capacity	24V - 70A
Preheat system	Air heater

• Certification information

Emission regulation	-
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• Application

Marine	
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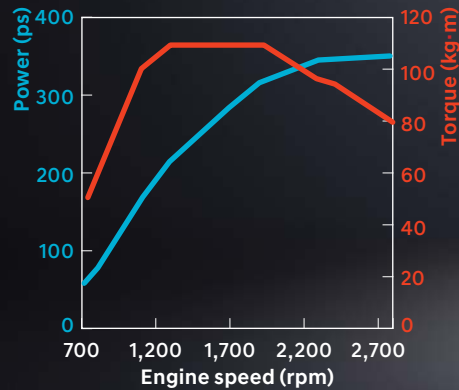
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

G 6.8 Marine engine

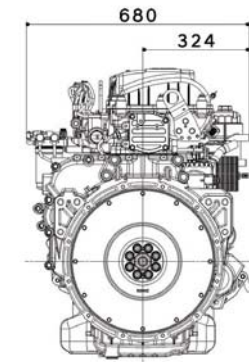
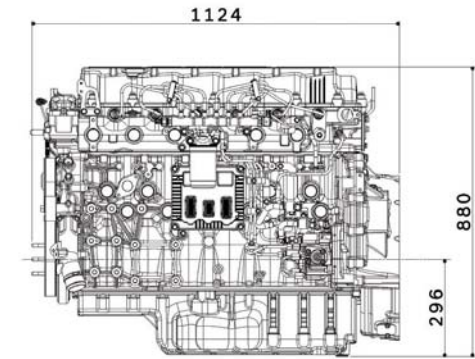
D6GB (QV98)

350ps / 110kg-m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6GB [QV98]
Fuel type	Diesel
Engine type	6 in-line, SOHC
Aspiration	T.C.I
Bore × Stroke (mm)	107 x 126
Displacement (cc)	6,798
Max. Torque (kg-m/rpm)	110 / 1,400
Rated Power (ps/rpm)	350 / 2,800
Compression ratio	17.2 : 1
Firing or der	1-5-3-6-2-4
Injection timing	ECU Control
Weight dry (kg)	624 (approx.)
Dimension(L×W×H) mm	1,124 x 680 x 880

• Lubrication system

Max allowable oil temp.	130°C
Engine oil capacity	23ℓ

• Cooling system

Cooling water capacity	11.1ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	650 rpm
No load high idle speed	2,950 rpm

• Fuel system

CRDI	Denso
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• Starting & electrical system

Starter capacity	24V - 5.0kW
Alternator capacity	24V - 90A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 2, RCD Stage 2
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• Application

Marine

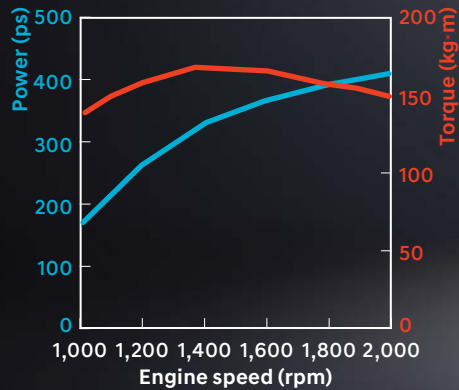
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

H 10.0 Marine engine

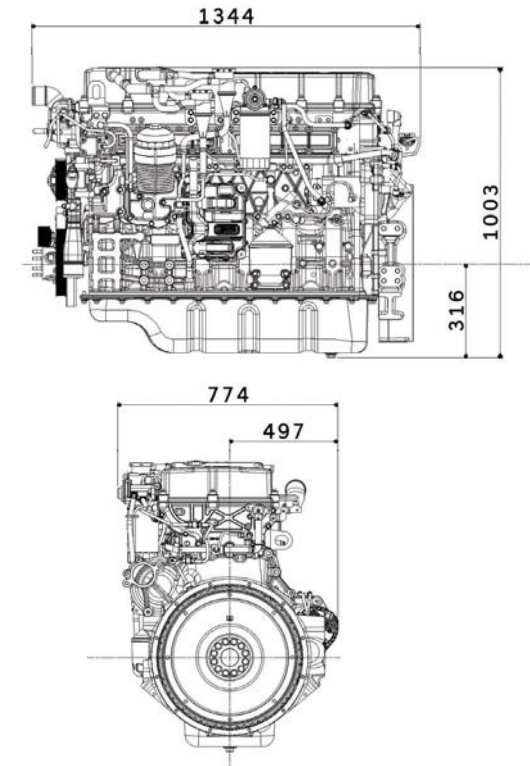
D6HA (PP98)

410ps / 168kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6HA [PP98]
Fuel type	Diesel
Engine type	6 in-line
Aspiration	T.C.I
Bore × Stroke (mm)	122 x 142
Displacement (cc)	9,960
Max. Torque (kg·m/rpm)	168 / 1,400
Rated Power (ps/rpm)	410 / 2,000
Compression ratio	17 : 1
Firing order	1-5-3-6-2-4
Injection timing	ECU Control
Weight dry (kg)	921 (approx.)
Dimension(L×W×H) mm	1,344 x 774 x 1,003

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	32.5ℓ

• Cooling system

Cooling water capacity	20ℓ (ENG)
Thermostat open temp.	82°C

• Engine speed

No load low idle speed	500 ± 25 rpm
No load high idle speed	2,200 rpm

• Fuel system

EUI	Delphi
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• Starting & electrical system

Starter capacity	24V - 6kW
Alternator capacity	24V - 80A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 2
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• Application

Marine

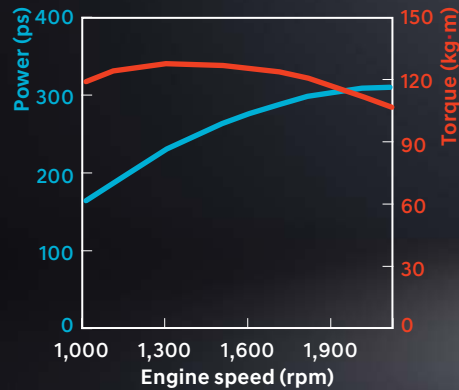
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Q 11.1 Marine engine

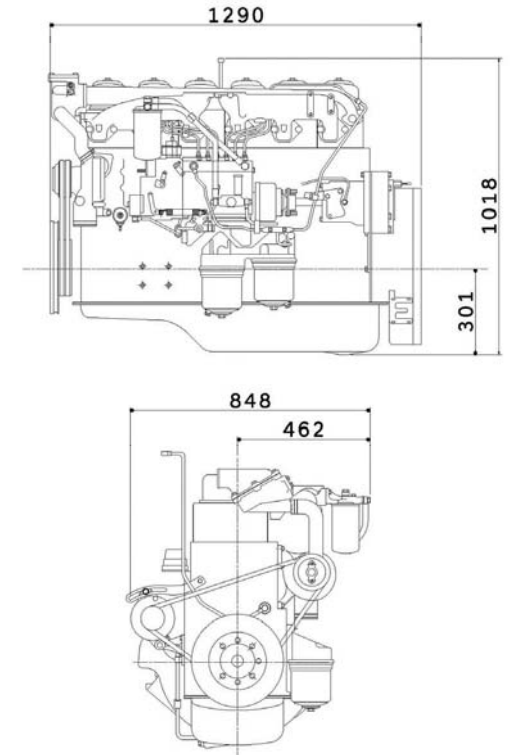
D6AC (BB16)

310ps / 128kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6AC [BB16]
Fuel type	Diesel
Engine type	6 in-line
Aspiration	T.C.I
Bore × Stroke (mm)	130 x 140
Displacement (cc)	11,149
Max. Torque (kg·m/rpm)	128 / 1,400
Rated Power (ps/rpm)	310 / 2,100
Compression ratio	16.5 : 1
Firing or der	1-5-3-6-2-4
Injection timing	12° B.T.D.C
Weight dry (kg)	895 (approx.)
Dimension(L×W×H) mm	1,290 x 848 x 1,018

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	24ℓ

• Cooling system

Cooling water capacity	22ℓ (ENG)
Thermostat open temp.	71°C

• Engine speed

No load low idle speed	600 ± 25 rpm
No load high idle speed	2,300 ± 20 rpm

• Fuel system

FUEL INJECTION PUMP	Bosch (Doowon)
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• Starting & electrical system

Starter capacity	24V - 5.5kW
Alternator capacity	24V - 60A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 2
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• Application

Marine

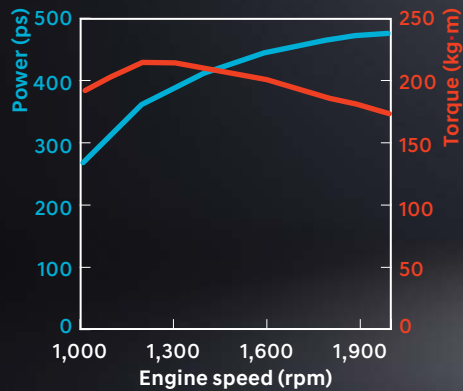
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

L12.3 Marine engine

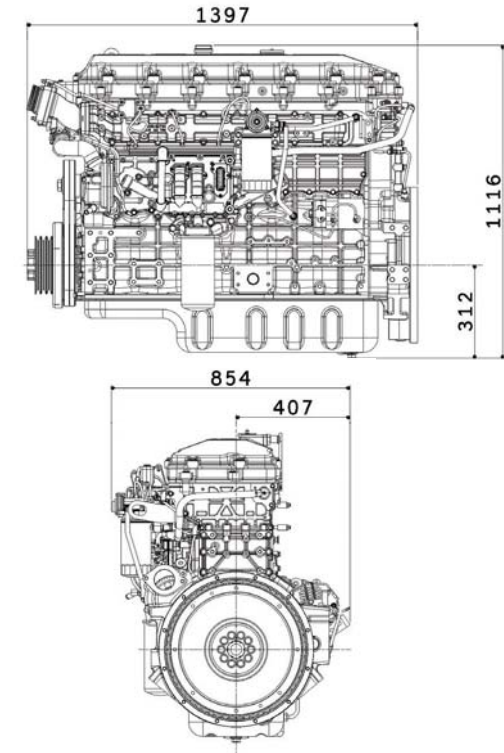
D6CC (EH8G)

480ps / 216kg·m

Performance Curve



• Dimensions



• General Specification

Engine model [Code]	D6CC [EH8G]
Fuel type	Diesel
Engine type	6 In-line, SOHC
Aspiration	T.C.I
Bore × Stroke (mm)	130 x 155
Displacement (cc)	12,344
Max. Torque (kg·m/rpm)	216 / 1,200
Rated Power (ps/rpm)	480 / 2,000
Compression ratio	17.2 : 1
Firing order	1-5-3-6-2-4
Injection timing	ECU Control
Weight dry (kg)	1,133 (approx.)
Dimension(L×W×H) mm	1,397 x 854 x 1,116

• Lubrication system

Max allowable oil temp.	115°C
Engine oil capacity	28ℓ

• Cooling system

Cooling water capacity	42ℓ (ENG)
Thermostat open temp.	71°C

• Engine speed

No load low idle speed	500 rpm
No load high idle speed	2,200 rpm

• Fuel system

EUI	Delphi
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• Starting & electrical system

Starter capacity	24V - 6kW
Alternator capacity	24V - 80A
Preheat system	Air heater

• Certification information

Emission regulation	KOR Tier 2
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• Application

Marine

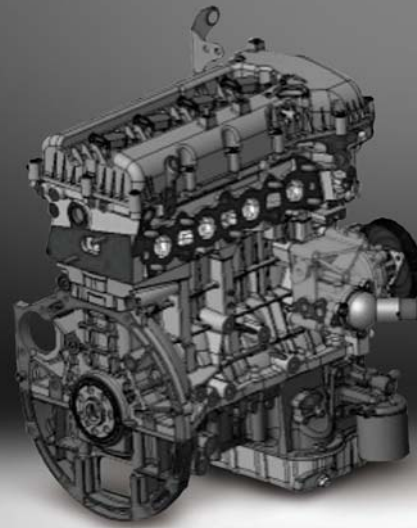
• **Notice** : In accordance with the standard/criteria in the region, the specifications of its engine may be subject to change.

Engine specification - Marine engine

General Specification	U 1.6	R 2.2	T2 2.6	S 3.0	4D 3.3	4D 3.9	F 3.9	G 6.8	H 10.0	Q 11.1	L 12.3	L 12.3
Engine model (Code)	D4FE(YU91)	D4HB (KS96)	D4BB (AG36)	D6EA(SM90)	D4AK (EM67)	D4DA (EM1D)	D4GA (LF99)	D6GB (QV98)	D6HA (PP98)	D6AC (BB16)	D6CC (EH8G)	D6CE (EH4G)
Fuel type	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Engine type	4 in-line, DOHC	4 in-line, DOHC	4 in-line	6V-Type, DOHC	4 in-line	4 in-line	4 in-line	6 in-line, SOHC	6 in-line	6 in-line	6 in-line, SOHC	6 in-line, SOHC
Aspiration	T.C.I	T.C.I	N.A	T.C.I	T.C	T.C.I	T.C.I	T.C.I	T.C.I	T.C.I	T.C.I	T.C.I
Bore× Stroke (mm)	77 x 85.8	85.4 x 96	91.1 x 100	84 x 89	100 x 105	104 x 115	103 x 118	107 x 126	122 x 142	130 x 140	130 x 155	130 x 160
Displacement (cc)	1,598	2,199	2,607	2,959	3,298	3,907	3,933	6,798	9,960	11,149	12,344	12,742
Max. Torque (kg·m/rpm)	33.3/1,750-2,000	44/2,000	17/2,200	56/2,000	25.5/1,800	43/1,800	61/1,400	110/1,400	168/1,400	128/1,400	216/1,200	225/1,200
Rated Power (ps/rpm)	136.6/4,000	200/3,800	80/4,000	270/3,800	80/2,400	130/2,400	165/2,500	350/2,800	410/2,000	310/2,100	480/2,000	530/2,000
Compression ratio	15.9 : 1	16 : 1	22 : 1	17.3 : 1	16 : 1	16.5 : 1	17 : 1	17.2 : 1	17 : 1	16.5 : 1	17.2 : 1	17.2 : 1
Firing order	1-3-4-2	1-3-4-2	1-3-4-2	1-2-3-4-5-6	1-2-3-4-5-6	1-2-3-4-5-6	1-2-3-4-5-6	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Injection timing	ECU Control	ECU Control	5°±1° A.T.D.C	ECU Control	16°±1° B.T.D.C	16° B.T.D.C	ECU Control	ECU Control	ECU Control	12° B.T.D.C	ECU Control	ECU Control
Weight dry (kg) (approx.)	143.3	155.5	190	267	335	350	420	624	921	895	1,133	1,133
Dimension(L×W×H) (mm)	621x630x681	584X529X713	615x597x633	675x751x870	796x642x784	787x673x797	976x775x850	1,124x680x880	1,344x774x1,003	1,290x848x1,018	1,397x854x1,116	1,391x887x1,096
Lubrication System												
Max allowable oil temp. (°C)	130	-	120	130	115	115	130	130	115	115	115	115
Engine oil capacity(ℓ)	4.4	4.9	5.4	7.2	8.5	8.5	14	23	32.5	24	28	28
Cooling system												
Cooling water capacity (ℓ) (ENG)	2.25	2.25	3.9	5.6	8.3	8.3	8.1	11.1	20	22	42	42
Thermostat open temp. (°C)	90 ± 1.5	71	76.5	-	82	82	82	82	82	71	71	71
Engine speed												
No load low idle speed (rpm)	-	-	850	-	750-850	800 ± 50	650 ± 25	650	500 ± 25	600 ± 25	500	500
No load high idle speed (rpm)	-	-	4,900	-	2,640-2,660	2,600 ± 20	2,700 ± 50	2,950	2,200	2,300 ± 20	2,200	2,200
Fuel system												
	CRDI	CRDI	VE PUMP	CRDI	FUEL INJECTION PUMP	FUEL INJECTION PUMP	CRDI	CRDI	EUI	FUEL INJECTION PUMP	EUI	EUI
Starting & electrical system												
Starter capacity	12V-1.7kW	12V-2.0kW	12V-2.0kW	12V-2.2kW	24V-5.0kW	24V-5.0kW	24V-5.0kW	24V-5.0kW	24V-6.0kW	24V-5.5kW	24V-6.0kW	24V-6.0kW
Alternator capacity	13.5V-150A	13.5V-150A	-	13.5V-150A	24V-40A	24V-40A	24V-70A	24V-90A	24V-80A	24V-60A	24V-80A	24V-80A
Preheat system	Glow plug	Glow plug	Glow plug	Glow plug	Air heater	Glow plug	Glow plug	Air heater	Air heater	Air heater	Air heater	Air heater
Certification information												
Emission regulation	-	EPA Tier 3	-	RCD Stage 5 EPA Tier 3	-	-	-	KOMSA Tier 2 RCD stage 2	KOR Tier 2	KOR Tier 2	KOR Tier 2	KOR Tier 2
Application	Marine	Marine	Marine	Marine	Marine	Marine	Marine	Marine	Marine	Marine	Marine	Marine

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Long Block



Long Block



•With HMC Long Block, various kinds of modification in accordance with customer's need could be possible.

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For more information

Hyundai Motor Company

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