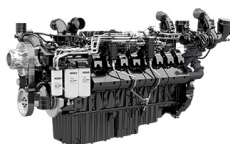


# ENGINE DATASHEET



# KOHLER®

Engine ref. : KD36V16-5CFP

## General technical data

Cylinders configuration	V
Number of cylinders	16
Engine optimisation	Fuel optimisation
Dual Frequency	Yes
Speed (RPM)	1500
Speed (RPM)	1800
Displacement (L)	35,96
Bore (mm)	135
Stroke (mm)	157
Compression ratio	15 : 1
Engine Firing Order	1-15-6-13-8-4-16-7-11-5-9-2-14-10-3-12
Air inlet system	Turbo
Fuel	Diesel Fuel

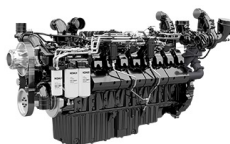
## Performance

	RPM	1500	1800
Maximum stand-by power at rated RPM (kW)		1333	1391
PRP Power (kW)		1211,80	1264,50
Pistons speed (m/s)		7,85	9,42
BMEP @ PRP 50 Hz (bar) / BMEP @ PRP 60 Hz (bar)		27	23,40
Friction Power Loss (kW)			
Max Combustion Pressure (Mpa)			

## Electrical system

Governor type	Electronic
ECU type	KODEC
Frequency regulation, no-load to full-load	Isochrone
Frequency regulation, steady state (%)	+/- 0.25%
No. of teeth on ring gear	174
Idle speed (RPM)	1000
Battery voltages (V)	24
Charging alternator (V/A)	24 / 28 / 140
Starter characteristics (V/kW)	24 / 8.4

# ENGINE DATASHEET



# KOHLER®

Engine ref. : KD36V16-5CFP

## Dimensions and weight

Length (mm)	2715
Width (mm)	1336
Height (mm)	1426
Dry weight (kg)	3200
Wet weight (kg)	3455
Center of Gravity from Rear Face of Block (mm)	760

## Construction / Material

Main Bearing Type	Half shell bearing
Cylinder Head Material	Cast Iron
Crankshaft Material	Steel
Intake and Exhaust Valve Material	Steel
Piston type & material	Steel
Exhaust manifold type	Dry

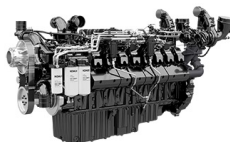
## Installation

Maximum Bending Moment at Rear Face of Block (RFOB) (Nm)	8000
Maximum Rear Bearing Load (N)	850
Maximal engine inclination, longitudinal front up/down (degree)	10
Maximal engine inclination, lateral (degree)	15
SAE Flywheel housing	0
SAE Flywheel	18
Inertia (kg.m <sup>2</sup> )	8,26

## Fuel system

	RPM	1500	1800
Maximum fuel pump flow (L/h)		316	334
Maximum fuel return flow (L/h)			
Maximum heat rejected to return fuel (kW)			
Max. restriction at fuel pump (m)		3,50	
Max head on fuel return line (m)		3,50	
Maximum allowed inlet fuel temperature (°C)		60	
Primary fuel filter rating (micron)		5	
Fuel Prefilter / Water Separator Micron Size		10	
Fuel Inlet Minimum recommended size (mm)			
Fuel Outlet Minimum recommended size (mm)			

# ENGINE DATASHEET



# KOHLER®

Engine ref. : KD36V16-5CFP

## Fuel consumption (Specific fuel consumption +5% ; ISO3046-1 ; 42.7 MJ/kg)

	RPM	1500	1800
Specific consumption 25% PRP load (g/kW.h)		211	
Specific consumption 50% PRP load (g/kW.h)		196	
Specific consumption 75% PRP load (g/kW.h)		192	
Specific consumption 100% PRP load (g/kW.h)		196	197
Specific consumption 25% ESP load (g/kW.h)		208	
Specific consumption 50% ESP load (g/kW.h)		195	
Specific consumption 75% ESP load (g/kW.h)		192	
Specific consumption 100% ESP load (g/kW.h)		196	

## Lubrication system

	RPM	1500	1800
Oil consumption 100% ESP (L/h)		0,16	0,16
Oil system capacity including filters (L)			152
Oil sump capacity (L)			135
Oil capacity between dipstick marks Max-Min (L)			20
Min. oil pressure (bar)			3,30
Oil Pressure at rated speed (bar)			
Max. oil pressure (bar)			
Oil temperature maximum (°C at 25°C ambient)			118
Oil filter micron size			14
Oil Filter Quantity and type			Spin On / 4
Oil cooler			Plate Exchanger

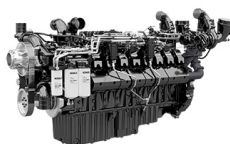
## Air intake system

	RPM	1500	1800
Intake air flow (L/s)		1117	1394
Max. intake restriction (mm H2O)		500	500

## Exhaust system

	RPM	1500	1800
Heat rejection to exhaust (kW)		857	871
Max. exhaust back pressure (mm H2O)		850	850
Exhaust gas temperature @ PRP 50Hz (°C)			543
Exhaust gas temperature @ PRP 60Hz (°C)			463
Exhaust gas flow @ PRP 50Hz (L/s)			3250
Exhaust gas flow @ PRP 60Hz (L/s)			3631

# ENGINE DATASHEET



# KOHLER®

Engine ref. : KD36V16-5CFP

## Cooling system

	RPM	1500	1800
Radiated heat to ambient (kW)		85	
Heat rejection to coolant HT (kW)		468	463
Flow on the HT circuit at 0.7Bars pressure drop off engine (L/min)		1723	2232
Outlet coolant temperature (°C)		100	
Maximum Coolant temp without derating (°C)		105	
Max coolant temperature, Shutdown (°C)		105	
Coolant capacity HT, engine only (L)		124	
Restriction pressure drop off engine – HT circuit (mbar)		700	
Minimal pressure before HT pump (mbar)		600	
Max. pressure at inlet of HT water pump (mbar)		1000	
Thermostat begin of opening HT (°C)		82	
Thermostat end of opening HT (°C)		92	
HT Standard pressure cap setting (kPa)		100	
Water Pump Type		Vane Wheel pump	
Fan drive ratio		0.82	

## Charge air cooling system

	RPM	1500	1800
CAC Heat Rejection (kW)		229	297
CAC Temperature into Engine at 25°C Limit, (°C min / max)		45	46
CAC Temperature into Engine Limit (max at any ambient temperature) (°C)		60	60
Compressor Discharge Temp at 25°C (°C)		206	214
Compressor Discharge Temp Max (°C)		225	
Maximum Pressure Drop through CAC (kPa)		10	13,50
Turbocharger Boost Pressure (kPa)		205	224