General Engine Data			
Type			In-Line 4 cycle, water cooled, 6 Cylinder upgraded
Aspiration			Turbocharged & Intercooled
Cylinder Type			Replaceable dry liner
Bore x Stroke		***mm (inch)***	123 x 155 (4.84 x 6.1)
Displacement		***litre (inch³)***	11.051 (674.5)
Compression Ratio			17 : 1
Valves per Cylinder	**- Intake**		1
	- Exhaust		1
Valves lashes at cold	**- Intake**	***mm (inch)***	0.30 (0.0118)
	- Exhaust	***mm (inch)***	0.30 (0.0118)
Valve Timing	**- Intake**		Opening: 18° BTDC Close: 34° ABDC
	- Exhaust		Opening: 46° BBDC Close: 14° ATDC
Combustion Type			Direct Injection
Firing Order			1-5-3-6-2-4
Injection Timing			14° BTDC
Rotation			Counter Clockwise, viewed from flywheel
Dimension (L x W x H)		***mm***	1,390 x 890 x 1,685 (L=Construction Length Height including Pedestal)
Dry Weight		***Approx. kg (lb.)***	1,023 (2,256)

Approved FM Ratings		1,760 rpm	2,100 rpm
DF12CTIH-F Output	***kW(hp)***	**260** (354)	**274** (373)

Although our FM ratings are shown at specific speeds, De Maas FFE engines can be applied at any intermediate speed.
To determine the intermediate speed power; make a linear interpolation from the applicable De Maas power curves.

Fuel System		
Injection Pump		Zexel in-line “P” type
Governor		RSV type (all speed control)
Feed Pump		Mechanical type
Injection Nozzle		Multi hole type
Opening Pressure	***kPa (psi)***	21,575 (3,129.2)
Fuel Filter		Full flow, cartridge type
Used Fuel		Diesel fuel type 2-D Only
Fuel consumption		See table no. 03.100.06FCEN.XX
Minimum Supply line Size	***inch***	½ “
Minimum Return line Size	***inch***	½ “

Electrical System		24 Volts (Nominal)
Starter motor	***kW***	1 x 6
Recommended Battery Capacity	***Ah***	150
Quantity per battery bank		2
Cold Cranking Amperes	***@ -18°C (0°F)***	950
Charging Alternator Output	***Amps***	45

Air Induction System		
Air Cleaner Type		Drip proof, Replaceable
Engine Air Flow	***m³/min.***	24.2 @ 2,100 rpm
Air Inlet Restriction	***kPa***	6.2

Cooling system		
Heat Exchanger Minimum Flow		1 litre / Minute per kW installed
Water Pump		Centrifugal type driven by gear
Water Pump Capacity	***litre/min. (gal./min.)***	320 (84) @ 2,100 rpm
Heat Exchanger Raw water Inlet		
Maximum Pressure	**kPa (psi)**	1,500 (217.6)
Flow (at 2,100 rpm)	**litre/min. (gal./min.)**	274 (72)
Inlet Temperature	**°C (°F)**	37.8 (100)
Thermostat, Start to Open	***°C (°F)***	71 (160)
Fully Opened	***°C (°F)***	85 (185)
Coolant Capacity	***litre (gal.)***	26 (6.87)
Coolant Pressure Cap	***kPa (psi)***	95 (13.8)
Maximum Raw Water Supply pipe		
Connection to Charge Air Cooler	***inch***	1" BSP
Maximum Raw Water Discharge pipe		
Connection from Heat Exchanger	***inch***	1¼" BSP vertical up!
Maximum Engine H_2O Temperature	***°C (°F)***	96 (204.8)
Pressure loss Engine Cooling system	***kPa (psi)***	70 (10.2)

Lubrication System		
Lubricating Method		Fully Forced pressure feed type
Oil Pump		Gear type driven by crankshaft
Oil Filter		Full Flow, Cartridge type
Oil pressure Range, normal	***kPa (psi)***	100 (14.5) at idle 300-400 (43.5-58.0) at maximum speed
In Pan Oil Temperature	***°C (°F)***	113 (235) @ 2,100 rpm
Oil Pan Capacity High	***litre (gal.)***	23 (6.1)
Low	***litre (gal.)***	20 (5.3)
Total Capacity	***litre (gal.)***	23 (6.1)
Minimum Oil Pressure	***kPa (psi)***	75 (10.9)

Exhaust System		
Exhaust Gas Flow	***m^3/min.***	60.6 @ 2,100 rpm
Exhaust Gas Temperature	***°C (°F)***	490 (914) @ 2,100 rpm
Max. Allowable Back Pressure	***kPa***	7.4
Minimum Exhaust Pipe Diameter	***mm (inch)****	168.3 (6")

* Based on Nominal System. Flow analysis must be done to assure adherence to system limitations!
(Minimum exhaust pipe diameter is based on 15 feet of pipe, one elbow, and a silencer. Pressure drop no greater than one half the max. allowable back pressure)

Heater System		
Wattage (Nominal)	***W***	3,000
Voltage – AC	***V***	230

Engine Performance Data		
All data is based on the engine operating with fuel system, lubricating oil pump, air cleaner, and alternator; not included are compressor, fan, optional equipment, and driven components. Data is based on operation at SAE standard J1394 conditions of 300ft (91,4m) altitude, 29.61 in.(752mm) Hg dry barometer, and 77°F (25°C) intake air temperature, using No.2 diesel or a fuel corresponding to ASTM-D2.		
Altitude above which output should be Limited	***m (ft.)***	91.4 (300)
Correction Factor per 305m.(1000ft.) above Altitude Limit		3%
Temperature above which output should be Limited	***°C (°F)***	25(77)
Correction Factor per 11°C (10°F) above Temperature Limit		2% (1%)