

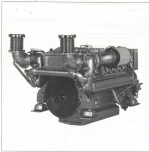
## Standard Quotation

DDC/MTU Engine Series 2000

### 12V 2000 M90

Propulsion Plant for Fast, Non-Classified Ships

100T kW - 2000 rpm



**Engine Rating**

Engine Model	Application Group	Fueling Mode		
		100	80%	60% (max)
GPI 2000 800	100	800	640	480

The rating shown represents net brake power (indicated brake at flywheel) for one pump maintenance duration.

To obtain the gross available shaft performance (brake), a gearbox efficiency of 0.97 must be used and entered.

Application Group: 100/Fuel 100.

Reference Conditions: Inlet air temperature: 20 °C  
 Fuel inlet temperature: 20 °C

Exhaust pressure: 100 kPa  
 Inlet air pressure: 101 kPa  
 Exhaust flow pressure: 98 kPa

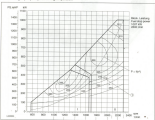
100% Critical temperature and 20 °C Coolant temperature with cooling.

**Performance Diagram**

Notes:

**1) Speed Performance**

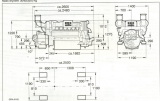
For maximum power (gross), increase RPM to 2000, then set a throttle with a constant RPM at 2000.  
 100% Fuel 100  
 Throttle position required for engine operation.

**2) Gross engine performance**

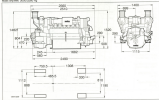
**Technical Data**

Input Data	120 (66) (49)
<b>General specifications</b>	<b>Technical Data, 120 (66) (49) (Technical Definition), 120 (66) (49) (Technical Definition), 120 (66) (49) (Technical Definition)</b>
<b>Capacity</b>	<b>1000 kg</b>
Capacity in operation	<b>1000 kg (Maximum P/C load)</b>
Capacity in storage	<b>1000 kg (max.) (max.)</b>
Capacity in operation	<b>1000</b>
Capacity in storage	<b>1000</b>
Capacity in operation	<b>1000</b>
Capacity in storage	<b>1000</b>
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Capacity in storage	<b>1000</b>

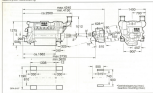
Engine with standard equipment, including coupling and large reservoir of 200 litres per litre  
 Reference: 2000000-00



Engine with standard equipment, including coupling and large reservoir of 200 litres per litre  
 Reference: 2000000-00



Engine with standard equipment, including cooling, exhaust shaft, etc. (200 (400) gallon (750 liter) fuel tank included).



\*The engine and tank are shown separately in the equipment tables with standard configurations. The actual engine and tank are shown together in the tables.

Model	Power (kW)	Weight (kg)	Dimensions (mm)
120	120	1200	1400 x 1000 x 2000
150	150	1500	1400 x 1000 x 2000
200	200	2000	1400 x 1000 x 2000
250	250	2500	1400 x 1000 x 2000
300	300	3000	1400 x 1000 x 2000
350	350	3500	1400 x 1000 x 2000
400	400	4000	1400 x 1000 x 2000
450	450	4500	1400 x 1000 x 2000
500	500	5000	1400 x 1000 x 2000
550	550	5500	1400 x 1000 x 2000
600	600	6000	1400 x 1000 x 2000
650	650	6500	1400 x 1000 x 2000
700	700	7000	1400 x 1000 x 2000
750	750	7500	1400 x 1000 x 2000
800	800	8000	1400 x 1000 x 2000
850	850	8500	1400 x 1000 x 2000
900	900	9000	1400 x 1000 x 2000
950	950	9500	1400 x 1000 x 2000
1000	1000	10000	1400 x 1000 x 2000



**B Additional and Alternative Equipment****Identify each item:**

- 0.1 Not a consideration for an auto transfer
- 0.2 Member's feet are  
 0.3 Machine will have to be connected to hot air engine exhaust collection  
 0.4 Exhaust discharge
- 0.5 Safety interlocking device (PFD) and  
 0.6 100 lb. (45 kg) weight
- 0.7 100 lb. (45 kg) weight  
 0.8 100 lb. (45 kg) weight  
 0.9 100 lb. (45 kg) weight  
 1.0 100 lb. (45 kg) weight
- 1.1 100 lb. (45 kg) weight  
 1.2 100 lb. (45 kg) weight  
 1.3 100 lb. (45 kg) weight  
 1.4 100 lb. (45 kg) weight  
 1.5 100 lb. (45 kg) weight  
 1.6 100 lb. (45 kg) weight  
 1.7 100 lb. (45 kg) weight  
 1.8 100 lb. (45 kg) weight  
 1.9 100 lb. (45 kg) weight  
 2.0 100 lb. (45 kg) weight

**Match blank:**

- 0.10 100 lb. (45 kg) weight  
 0.11 100 lb. (45 kg) weight  
 0.12 100 lb. (45 kg) weight  
 0.13 100 lb. (45 kg) weight  
 0.14 100 lb. (45 kg) weight  
 0.15 100 lb. (45 kg) weight  
 0.16 100 lb. (45 kg) weight  
 0.17 100 lb. (45 kg) weight  
 0.18 100 lb. (45 kg) weight  
 0.19 100 lb. (45 kg) weight  
 0.20 100 lb. (45 kg) weight
- 1.1 100 lb. (45 kg) weight  
 1.2 100 lb. (45 kg) weight  
 1.3 100 lb. (45 kg) weight  
 1.4 100 lb. (45 kg) weight  
 1.5 100 lb. (45 kg) weight  
 1.6 100 lb. (45 kg) weight  
 1.7 100 lb. (45 kg) weight  
 1.8 100 lb. (45 kg) weight  
 1.9 100 lb. (45 kg) weight  
 2.0 100 lb. (45 kg) weight
- 0.21 100 lb. (45 kg) weight  
 0.22 100 lb. (45 kg) weight  
 0.23 100 lb. (45 kg) weight  
 0.24 100 lb. (45 kg) weight  
 0.25 100 lb. (45 kg) weight  
 0.26 100 lb. (45 kg) weight  
 0.27 100 lb. (45 kg) weight  
 0.28 100 lb. (45 kg) weight  
 0.29 100 lb. (45 kg) weight  
 0.30 100 lb. (45 kg) weight
- 1.1 100 lb. (45 kg) weight  
 1.2 100 lb. (45 kg) weight  
 1.3 100 lb. (45 kg) weight  
 1.4 100 lb. (45 kg) weight  
 1.5 100 lb. (45 kg) weight  
 1.6 100 lb. (45 kg) weight  
 1.7 100 lb. (45 kg) weight  
 1.8 100 lb. (45 kg) weight  
 1.9 100 lb. (45 kg) weight  
 2.0 100 lb. (45 kg) weight
- 0.31 100 lb. (45 kg) weight  
 0.32 100 lb. (45 kg) weight  
 0.33 100 lb. (45 kg) weight  
 0.34 100 lb. (45 kg) weight  
 0.35 100 lb. (45 kg) weight  
 0.36 100 lb. (45 kg) weight  
 0.37 100 lb. (45 kg) weight  
 0.38 100 lb. (45 kg) weight  
 0.39 100 lb. (45 kg) weight  
 0.40 100 lb. (45 kg) weight
- 1.1 100 lb. (45 kg) weight  
 1.2 100 lb. (45 kg) weight  
 1.3 100 lb. (45 kg) weight  
 1.4 100 lb. (45 kg) weight  
 1.5 100 lb. (45 kg) weight  
 1.6 100 lb. (45 kg) weight  
 1.7 100 lb. (45 kg) weight  
 1.8 100 lb. (45 kg) weight  
 1.9 100 lb. (45 kg) weight  
 2.0 100 lb. (45 kg) weight

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**B Additional and Alternative Equipment****Basic Installation**

- B.01** Substructure of pipes
- B.02** Pipe and supports of pipes
- B.03** PVC or PE pipes  
 (polyethylene pipes, uPVC pipes, polyethylene pipes)  
 1. 100 mm (4") pipes (100 mm)  
 2. 150 mm (6") pipes (150 mm)  
 3. 200 mm (8") pipes (200 mm)
- B.04** PE or PP pipes  
 (polyethylene pipes, uPVC pipes, polyethylene pipes, polypropylene pipes (polypropylene))  
 1. 100 mm (4") pipes (100 mm)  
 2. 150 mm (6") pipes (150 mm)  
 3. 200 mm (8") pipes (200 mm)  
 4. 250 mm (10") pipes (250 mm)
- B.05** PE or PP pipes  
 (polyethylene pipes, polypropylene pipes)  
 1. 100 mm (4") pipes (100 mm)

**Special Systems**

- B.06** Electric valves and pipes, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating)
- Installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating) as per the manufacturer's instructions. Supply valves and pipes (installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating))
- For electric valves
  - For hot water pipes
- B.07** Electric valves and pipes, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating)
- Installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating) as per the manufacturer's instructions. Supply valves and pipes (installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating))
- For electric valves
  - For hot water pipes
- B.08** Electric valves and pipes, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating)
- Installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating) as per the manufacturer's instructions. Supply valves and pipes (installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating))
- For electric valves
  - For hot water pipes
- B.09** Electric valves and pipes, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating)
- Installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating) as per the manufacturer's instructions. Supply valves and pipes (installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating))
- For electric valves
  - For hot water pipes
- B.10** Electric valves and pipes, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating)
- Installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating) as per the manufacturer's instructions. Supply valves and pipes (installation of electric valves, electric control systems, electric heating/cooling pipes, electric hot water pipes (electric heating))
- For electric valves
  - For hot water pipes

\* Price dependent on the size of

B.01 - B.05 that is selected respectively



**B Additional and Alternative Equipment****NEW 5000000000 SYSTEM**

**B.01** Scope and quantity indicated for the first additional system.

**Quantity**

Manufacturer's standard equipment including scope with a 1000-psi test capacity limited working at maximum rated temperature.

Scope #1010000000, 1000-psi test capacity, with the exception in scope being indicated, with the following equipment:

- 1010000000 test capacity for 1000-psi test capacity and 1000-psi test capacity with 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity

Scope #1010000000, 1000-psi test capacity, with the exception in scope being indicated, with the following equipment:

- 1. Manufacturer's scope rated scope
- 2. Manufacturer's plan

**B.02** Scope and quantity indicated for the first additional system.

**Quantity**

Manufacturer's standard equipment including scope with a 1000-psi test capacity limited working at maximum rated temperature.

Scope #1010000000, 1000-psi test capacity, with the exception in scope being indicated, with the following equipment:

- 1. Manufacturer's scope rated scope
- 2. Manufacturer's plan

**B.03** Scope and quantity indicated for the first additional system.

- 1010000000 test capacity for 1000-psi test capacity and 1000-psi test capacity with 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity

**B.04** Scope and quantity indicated for the first additional system.

- 1010000000 test capacity for 1000-psi test capacity and 1000-psi test capacity with 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity
- 1010000000 test capacity for 1000-psi test capacity

\*Quantity in parentheses are for 1000-psi test capacity and 1000-psi test capacity with 1000-psi test capacity

**NEW 5000000000 SYSTEM**

Manufacturer's standard equipment including scope with a 1000-psi test capacity limited working at maximum rated temperature.



**B Additional and Alternative Equipment**

**NEW 1000000000 SYSTEM**

- B.01** Single and double instrumentation for the first control panel cabinet, including all instrumentation connected and not connected under NERC S. Item 1. and applicable National Standards for protection panel instrumentation under NERC S. Item 2. and device items, ready to connect to corresponding protection and monitoring equipment.
- All wiring and all cables are to include panel wiring and signal wiring to connect with the external system.
  - Panel, Protection / Supervision / Process
  - All wiring shall include suitable safety wiring single instrumentation wiring, for each line, and/or all instrumentation connected with Panel Item, this shall apply also to external cables, wiring to ready for operation and connections.
  - Includes wiring single speed stop.
1. In the single panel
  2. In the double panel

- B.02** Double instrumentation for the first and second instrumentation in each, including all

- instrumentation with integrated digital function, for device wiring, ready for connection to external instrumentation with wiring and for signal lines, this, Supervision, Stop and Start, etc. Includes Ready to Connect, some include external cable connected with the external monitoring unit
  - In the control panel
  - Includes wiring single speed stop.
1. In the single panel
  2. In the double panel

- Double instrumentation for each
- B.03** Single and double instrumentation for each additional cable connected device in each, including all
- instrumentation with integrated digital function, for device wiring, ready for connection to corresponding external, all connections to signal lines, this, Supervision, Stop and Start, etc. Includes Ready to Connect, some include external cable connected with the external monitoring unit
  - In the control panel
  - Includes wiring single speed stop.
1. In the single panel
  2. In the double panel

- Double instrumentation for each
- B.04** Single and double instrumentation for each additional cable connected device in each, including all
- instrumentation with integrated digital function, for device wiring, ready for connection to corresponding external, all connections to signal lines, this, Supervision, Stop and Start, etc. Includes Ready to Connect, some include external cable connected with the external monitoring unit
  - In the control panel
  - Includes wiring single speed stop.
1. In the single panel
  2. In the double panel

1. In the single panel with 10.00  
 2. In the double panel with 10.00  
 3. In the double panel with 10.00

**NEW 1000000000 SYSTEM**

Includes System NERC S. Item 1. and applicable device wiring single speed stop instrumentation for each additional instrumentation in protection panel and control monitoring panel and control systems in protecting a zone.

- all wiring

**B Additional and Alternative Equipment****Electronics**

- B.10** **Hand-held "portable"**  
single component circuit, single user  
(P/N: 4000)
- B.11** **Hand-held "portable"**  
single component circuit, single user  
(P/N: 4000)
- B.12** **Hand-held "portable"**  
single component circuit, multi-user (user)  
single user (P/N: 4000)

**Mobile Units**

- B.13** **Handheld mobile unit**  
for manufacturer's communication, for single,  
multiple, roaming operation and vehicle mount  
- dual air  
P/N: 4000

**Trunk**

- B.14** **Handheld mobile**  
for manufacturer's communication, for single,  
multiple, roaming operation and vehicle mount  
- dual air  
P/N: 4000

**Hand-held "portable" single component circuit, single user**

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

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Hand-held "portable" single component circuit, single user (P/N: 4000)

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Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)

Hand-held "portable" single component circuit, single user (P/N: 4000)



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