



The Gold Standard



The new powermaster . . .

The "Disciplined" engine with all the (rubbish) ingredients of the Midrange spectrum is dead. The quality combined with advanced technology turbocharging, intercooling, optimized combustion, new pistons and an innovative cooling system. With advantages for maximum power above engine speed— and almost no exhaust gases during starting, optimal in all operating modes, extremely fast torque increase from startable and constant high torque over a wide speed range. In short, an engine built for fast acceleration and high cruising speeds. The low vibrations and quiet running provide driver comfort. And in terms of fuel consumption this is also guaranteed, one of the most economical of its kind. Drive and be happy with quality, reliability, stability, durability. Respond with innovation after Volvo's concept for the new V 12 motor series.



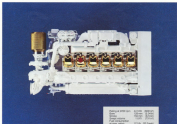
M&M in-line engines: the planar piston engine

In-line piston engines having long horizontal beds, their main advantages and disadvantages are their great power/weight ratio, their decrease of maintenance, their charging with increasing power even at extreme temperatures, but at the same time longer maintenance times. Thanks to the compact design of both turbochargers and heat exchangers they fulfil, for in-line engines, a low height requirement. And it goes without saying that M&M in-line engines feature some rather neat and smooth, quiet running

features. The water pumps and hydraulic engines are particularly smooth pumps with easily visible, polished metal surfaces bearing high-pressure, horizontal strokes and safety in the high seas.

Common rail engines
- Guaranteed in every order at right time with delivery lead times, high efficiency, their joining the size of the engine





D386 LE 401

**6-cylinder
in-line engine
600 hp**

11 DCAH 108



MAN V engines from 680 to 1000 HP

**MAN V engines:
the range for
dynamic power and
low-vibration running**

The cylinder arrangement is a highlight for installation in the hull. Together with the patented turbochargers, the special cooling design of water, heat exchanger and intermediate-cooler. MAN V engines achieve extremely compact dimensions in total. And that is obvious for the only engine manufacturer capable of engines.





V 6 - 600 hp

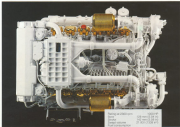
1748 cm³

Max. Power	600 kW	820 hp
Max. Torque	1100 Nm	805 lb-ft
Max. RPM	5500	3300
Max. Fuel Flow	100 l/h	26.4 gal/h
Max. Oil Flow	10 l/h	2.6 gal/h
Max. Water Flow	100 l/h	26.4 gal/h
Max. Air Flow	100 m³/h	3535 cu ft/h
Max. Exhaust Flow	100 m³/h	3535 cu ft/h
Max. Cooling Water Flow	100 m³/h	3535 cu ft/h
Max. Oil Flow	10 l/h	2.6 gal/h
Max. Fuel Flow	100 l/h	26.4 gal/h
Max. Air Flow	100 m³/h	3535 cu ft/h
Max. Exhaust Flow	100 m³/h	3535 cu ft/h
Max. Cooling Water Flow	100 m³/h	3535 cu ft/h



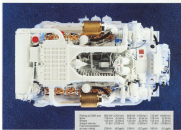
Max. Power
820 hp

Max. Torque
805 lb-ft



V12 – 1000 HP

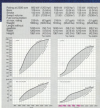




**V 12 - 1200 hp
1100 hp
1000 hp**

01702 26 495
01712 28 495
01701 26 491

July 1958



Made in Germany



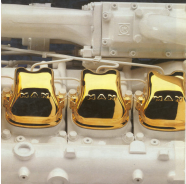
MAN Energy Solutions
Antriebs- und
Fördertechnik
Friedrichshafen, Germany
www.man-es.com

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Setting the international standard
in marine diesel engine design



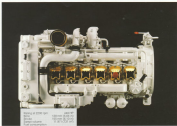
GOOD AS GOLD



Special design engineering guarantees complete, optimum power transfer from their output shafts. The ratings-covered by these 10- and 12-cylinder engines range from 600 to 1,800 hp. Superchargers are fitted to

these product lines and ensure that turbochargers are operating at maximum efficiency at all times. Fuel injection that has been engineering is a must. After all, it's the heart of the engine, the final element in the

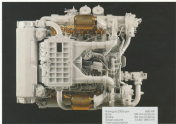




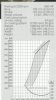
Model	Power (kW)	Power (HP)
6000	320	430
6000	330	445
6000	340	459
6000	350	473
6000	360	487
6000	370	500
6000	380	514
6000	390	527
6000	400	540
6000	410	553
6000	420	566
6000	430	579
6000	440	592
6000	450	605
6000	460	618
6000	470	631
6000	480	645
6000	490	658
6000	500	671
6000	510	684
6000	520	697
6000	530	710
6000	540	723
6000	550	736
6000	560	749
6000	570	762
6000	580	775
6000	590	788
6000	600	801
6000	610	814
6000	620	827
6000	630	840
6000	640	853
6000	650	866
6000	660	879
6000	670	892
6000	680	905
6000	690	918
6000	700	931
6000	710	944
6000	720	957
6000	730	970
6000	740	983
6000	750	996
6000	760	1009
6000	770	1022
6000	780	1035
6000	790	1048
6000	800	1061
6000	810	1074
6000	820	1087
6000	830	1100
6000	840	1113
6000	850	1126
6000	860	1139
6000	870	1152
6000	880	1165
6000	890	1178
6000	900	1191
6000	910	1204
6000	920	1217
6000	930	1230
6000	940	1243
6000	950	1256
6000	960	1269
6000	970	1282
6000	980	1295
6000	990	1308
6000	1000	1321

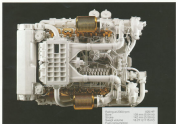


**6-cylinder in-line
440 HP**



V8 - 680 HP





V10 – 820 HP

Parameter/Dimension	Value	Value
Displacement	5.0 l	304 cu in
Power	120 kW	165 HP
Power (max)	120 kW	165 HP
Power (max) (rev/min)	6000	6000
Power (max) (kW)	120	165
Power (max) (HP)	165	165
Power (max) (kW)	120	165
Power (max) (HP)	165	165
Power (max) (kW)	120	165
Power (max) (HP)	165	165





MAN Truck & Bus AG
Postfach 11 59
D-90481 Regensburg
Tel. 0941 243-1

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**The Golden Eight –
Brilliant Technology**



Presenting the new MAN V8 with 800 hp

Excavator working, spooling, the enjoyment of a city it can MAN's new V8 gives you all. Dependable, reliable, fuel efficiency and range provided to maximize your experience. Speeds, and yours is one of a kind, an expression of your taste and style. MAN's V8

delivers maximum power that allows you to get it done. Outfitted with MAN's V8 800 hp at 2000-rpm, your working experience will be unparalleled and your fleet the most of its kind. The MAN V8 comes from only one manufacturer: MAN.





More power. More space. Less weight.

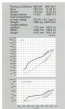
The design innovation of the 1000 series is its modular, yet sturdy, steel construction. It's a modular design that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip. The 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip. The 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip.

For those who need more space, the 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip. The 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip.

Adding no design detail, the 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip. The 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip.

The 1000 is the latest addition to the 1000 series, designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip. The 1000 series is designed to be a modular unit that is easy to transport, yet sturdy enough to handle the rigors of a long-haul trip.





MAN Turbochargers
 International
 1000, 1000
 1000, 1000
 1000, 1000
 1000, 1000

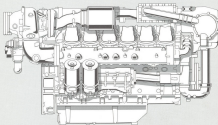
1000, 1000
 1000, 1000
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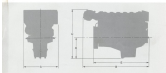
1000, 1000
 1000, 1000
 1000, 1000
 1000, 1000

MAN Marine Diesel Engines 100 – 882 kW (136 – 1200 hp)



Light-duty operation, yacht operation





D 2848, D 2849, D 2842 V-type engines

Technical data - normal descriptions - light plus operation

Engine model	D 2848	D 2849	D 2842	D 2848	D 2849	D 2842	D 2848	D 2849	D 2842
Power	100	100	100	100	100	100	100	100	100
Displacement	100	100	100	100	100	100	100	100	100
Stroke	100	100	100	100	100	100	100	100	100
Weight	100	100	100	100	100	100	100	100	100
Dimensions	100	100	100	100	100	100	100	100	100
Accessories	100	100	100	100	100	100	100	100	100
Options	100	100	100	100	100	100	100	100	100
Technical data - normal descriptions - light plus operation	100	100	100	100	100	100	100	100	100
Accessories	100	100	100	100	100	100	100	100	100
Options	100	100	100	100	100	100	100	100	100
Technical data - normal descriptions - light plus operation	100	100	100	100	100	100	100	100	100
Accessories	100	100	100	100	100	100	100	100	100
Options	100	100	100	100	100	100	100	100	100

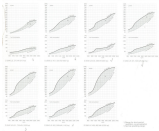
Technical data type

Engine model	Technical data type
Displacement	100
Stroke	100
Weight	100
Dimensions	100
Accessories	100
Options	100
Technical data type	100

Technical data - normal descriptions - light plus operation

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MAN MARINE DIESEL ENGINES

Light-duty operation

124 - 1920 kW (1640 - 2578 hp)

D 2000, D 2000, D 2070 IN-LINE ENGINES

TECHNICAL DATA - CRANK SHAFT JOINTS - LIGHT-DUTY OPERATION

Engine code	D 2000	D 2000	D 2000	D 2000	D 2070
Cyl.	4	4	4	4	4
Cyl. bore	86 mm	86 mm	86 mm	86 mm	86 mm
Stroke	92 mm	92 mm	92 mm	92 mm	92 mm
Displacement	2.0 l	2.0 l	2.0 l	2.0 l	2.0 l
Rated power (kW)	45	45	45	45	45
Rated speed (rpm)	2200	2200	2200	2200	2200
Rated torque (Nm)	160	160	160	160	160
Rated fuel consumption (g/kWh)	200	200	200	200	200
Rated oil consumption (g/kWh)	10	10	10	10	10
Rated oil pressure (bar)	4	4	4	4	4
Rated oil temperature (°C)	100	100	100	100	100
Rated oil viscosity (SAE)	100	100	100	100	100
Rated oil level (mm)	100	100	100	100	100
Rated oil pressure (bar)	4	4	4	4	4
Rated oil temperature (°C)	100	100	100	100	100
Rated oil viscosity (SAE)	100	100	100	100	100
Rated oil level (mm)	100	100	100	100	100



CRANK SHAFT JOINTS



CRANK SHAFT JOINTS



CRANK SHAFT JOINTS



CRANK SHAFT JOINTS



CRANK SHAFT JOINTS



Technical Drawing Assignment

Task	1/20	1/21	1/22	1/23	1/24
1. Draw the front view of the object shown in the side view.	100%	100%	100%	100%	100%
2. Draw the top view of the object shown in the side view.	100%	100%	100%	100%	100%
3. Draw the left side view of the object shown in the side view.	100%	100%	100%	100%	100%
4. Draw the right side view of the object shown in the side view.	100%	100%	100%	100%	100%

The object is a rectangular block with a central vertical slot and horizontal slots near the top and bottom.

Notes

The object is a rectangular block with a central vertical slot and horizontal slots near the top and bottom.

Technical Drawing Assignment	Task	1/20	1/21	1/22	1/23	1/24
1. Draw the front view of the object shown in the side view.	100%	100%	100%	100%	100%	
2. Draw the top view of the object shown in the side view.	100%	100%	100%	100%	100%	
3. Draw the left side view of the object shown in the side view.	100%	100%	100%	100%	100%	
4. Draw the right side view of the object shown in the side view.	100%	100%	100%	100%	100%	

The object is a rectangular block with a central vertical slot and horizontal slots near the top and bottom.



1000 Series, 1000 Series (Standard)

Model Name	1000	1000-1	1000-2	1000-3	1000-4	1000-5	1000-6	1000-7
1000 Series, 1000 Series (Standard)	1000	1000	1000	1000	1000	1000	1000	1000
1000 Series, 1000 Series (Standard)	1000	1000	1000	1000	1000	1000	1000	1000
1000 Series, 1000 Series (Standard)	1000	1000	1000	1000	1000	1000	1000	1000
1000 Series, 1000 Series (Standard)	1000	1000	1000	1000	1000	1000	1000	1000

1000 Series, 1000 Series (Standard) 1000 Series, 1000 Series (Standard)

Notes

1000 Series, 1000 Series (Standard) 1000 Series, 1000 Series (Standard)

Technical Data

Technical Data	Technical Data	Technical Data
1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)
1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)
1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)
1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)	1000 Series, 1000 Series (Standard)

1000 Series, 1000 Series (Standard) 1000 Series, 1000 Series (Standard)



MAN MARINE DIESEL ENGINES

Light-duty operation
100 - 800 kW (130 - 1000 hp)



10000000 - 10000000



10000000 - 10000000



10000000 - 10000000



10000000 - 10000000



10000000 - 10000000

