



FAIRBANKS MORSE

Engine

ENGINE



FAIRBANKS MORSE
DEFENSE



FAIRBANKS MORSE

Engine



FAIRBANKS MORSE

Service



Ward Leonard
a Fairbanks Morse company



BRECO
International
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FAIRBANKS MORSE
Engine

POWERING **CRITICAL MISSIONS**

Reliable Engines For Mission Critical Marine Performance

Located in Beloit, Wisconsin, Fairbanks Morse Engine (FME) manufactures, procures, assembles, and distributes heavy-duty, medium-speed reciprocating engines under the Fairbanks Morse® and ALCO® brand names.

Fairbanks Morse manufacturing is conducted in its U.S.-based facility. FME sells its high-performance engines directly to naval marine customers and shipyards. As a principal supplier of reliable diesel engines to the U.S. Navy, U.S. Coast Guard, and the Canadian Coast Guard, FME enables the defense industry to complete worldwide mission-critical operations. FME is a division of Fairbanks Morse Defense, a portfolio company of Arcline Investment and a leading provider of reliable marine power solutions.

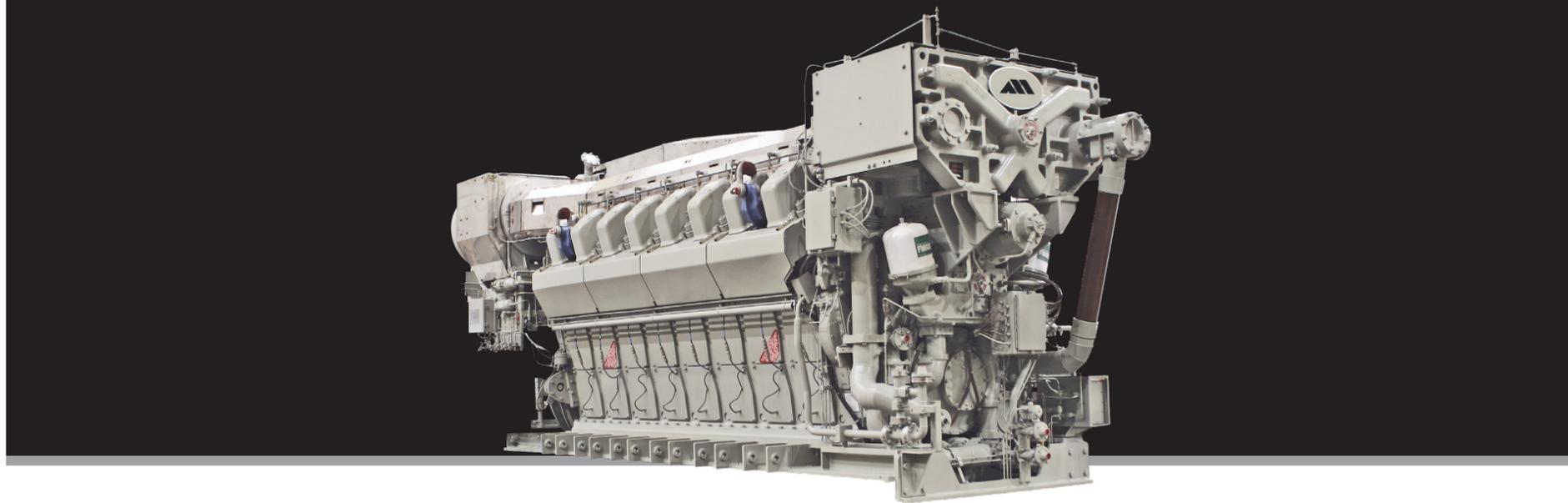
Leading engine options manufactured in the U.S.

Fairbanks Morse medium-speed engines are designed for reliable, efficient performance across a wide range of environments. Representing engine systems built for even the most stringent military requirements, Fairbanks Morse continues to bring to market some of the most durable solutions available.

Selection guide

ENGINE	POWER RANGE	PAGE
FM PA6B & PA6B STC	4,200 - 8,100 kWb	6
FM PC2.5 CR STC	5,816 - 8,725 kWb	8
FM 28/33 D STC	5,460 - 10,000 kWb	10
FM 32/44 CR	3,600 - 12,000 kWb	12
FM 48/60 CR	7,200 - 19,200 kWb	14
FM 175D	1,800 - 4,000 kWb	16
FM 251 F	764 - 3,060 kWb	18
FM 38 D 8 1/8	1,566 - 3,628 kWb	20

FM PA6B & PA6B STC



Power Range 4,200 - 8,100 kWb

With over 840 engines in operation, the FM PA6B diesel engine is respected worldwide for its reliability and its incredibly advanced technology.

Key Advantages

- Excellent fuel efficiency
- Increased reliability and safety
- Simplified installation
- Redesigned connecting rod, crankshaft, cylinder head and liner with anti-bore polishing ring

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	12V, 16V, 20V
Cylinder Bore-mm (in)	280 (11.02)
Piston Stroke-mm (in)	330 (12.99)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	20.3 (1,240)
Mean Piston Speed - m/s (ft/s)	11.55 (37.89) - 1,050 rpm
Fuel Type	Diesel

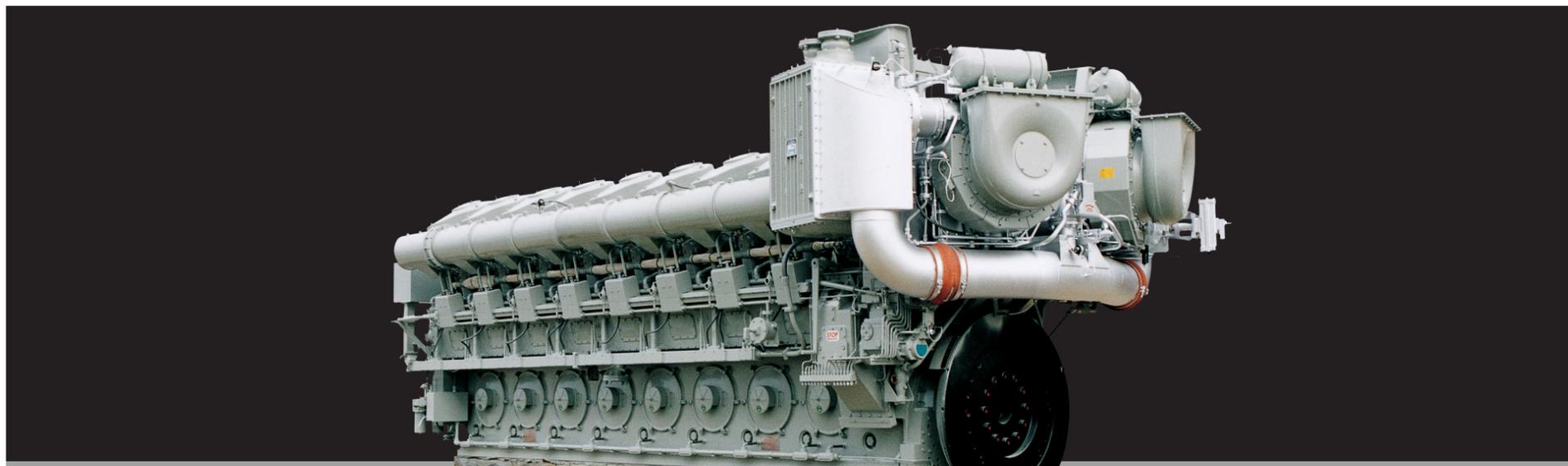
POWER RATINGS

CYLINDERS	PA6B Generator 900 RPM 60 Hz kWe	PA6B STC Propulsion 1,050 RPM kWb
12V	4,030	4,860
16V	5,375	6,480
18V	6,045	-
20V	6,720	8,100

DIMENSIONS

CYLINDERS	A (length)	B (width) mm	C (height)	DRY WEIGHT TONS (Metric)
12V	5,619	2,340	3,130	27.0
16V	6,539	2,340	3,130	35.1
18V	7,398	2,665	3,169	39.1
20V	7,858	2,665	3,169	41.7

FM PC2.5 CR STC



Power Range 5,816 - 8,725 kWb

The FM PC2.5 CR STC engine is well suited for marine applications with high torque at low speeds, and delivers excellent power production in relation to installed weight.

Key Advantages

- Low fuel consumption
- Ease of maintenance
- Improved low-load operation
- Lower emissions
- High reliability and availability

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	12V, 14V, 16V, 18V
Cylinder Bore-mm (in)	400 (15.75)
Piston Stroke-mm (in)	460 (18.11)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	57.8 (35.28)
Mean Piston Speed - m/s (fts/s)	8.0 (1,570) - 520 rpm
Output/Cylinder - kWm (HP)	485 (650)
Fuel Type	Diesel

POWER RATINGS

CYLINDERS	RPM	HP/Cyl.	kWb
12V	520	650	5,816
14V	520	650	6,786
16V	520	650	7,755
18V	520	650	8,725

DIMENSIONS

CYLINDERS	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)
12V	6,854	5,076	3,775	67
14V	7,594	5,816	3,775	76
16V	8,334	6,555	3,775	84
18V	9,074	7,295	3,775	91

FM 28/33 D STC



Power Range 5,460 - 10,000 kWb

The Fairbanks Morse 28/33D STC combines world-class engineering and state-of-the-art technology to produce the most powerful and fuel-efficient 1,000 rpm diesel engine in the world.

Key Advantages

- Reduced component count eases installation and maintenance
- 52 Degree Vee angle minimizes width and facilitates installation
- Electronically controlled injection system improves SFC, performance and transient response
- Sequential turbo charging improves SFC, reduces soot
- Best-in-class fuel efficiency
- Industry-leading power rating

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	12V, 16V, 20V
Cylinder Bore-mm (in)	280 (11.0)
Piston Stroke-mm (in)	330 (13.0)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	20.3 (1,240)
Mean Piston Speed - m/s (ft/min)	11.0 (36.1) - 1,000 rpm 11.4 (37.4) - 1,032 rpm
Fuel Type	Diesel

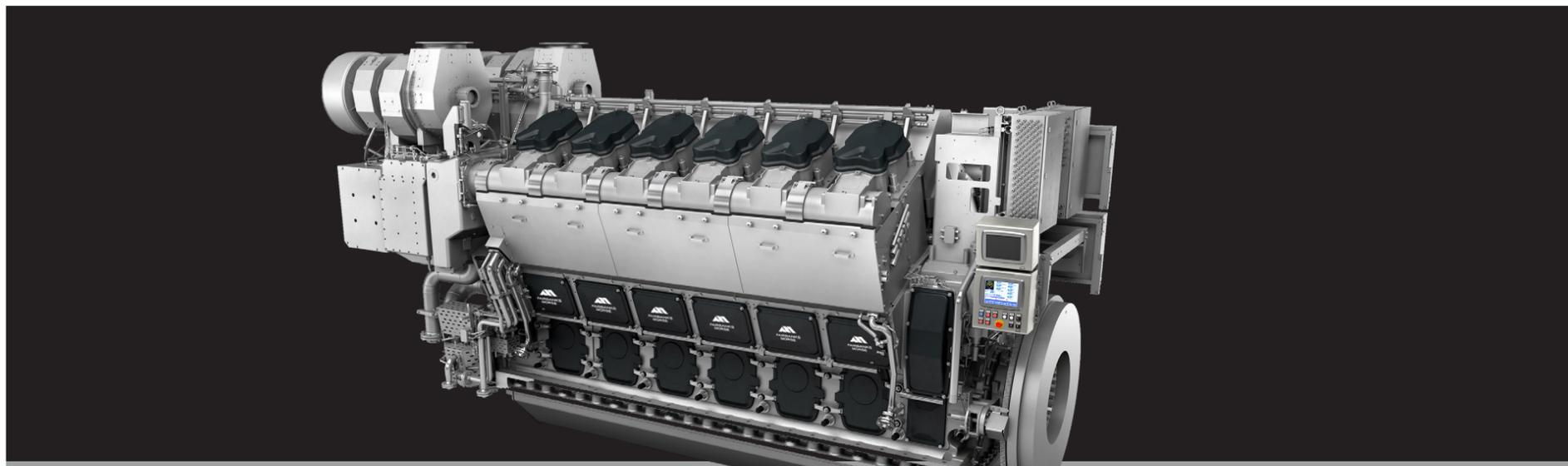
POWER RATINGS

CYLINDERS	FERRY 1,000 RPM kWb	NAVY 1,032 RPM kWb
12V	5,460	6,000
16V	7,280	8,000
20V	9,100	10,000

DIMENSIONS

CYLINDERS	A (length)	B (width)	C (height)	DRY WEIGHT TONS (Metric)
12V	6,217	2,473	3,682	37.8
16V	7,137	2,473	3,682	45.8
20V	8,057	2,473	3,682	52.9

FM 32/44 CR



Power Range 3,600 - 12,000 kWb

The FM 32/44 CR engine boasts the newest technologies in the area of medium speed diesel engines. Using electronic injection, high efficiency turbochargers, electronic hardware and variable valve timing, the FM 32/44 CR is a synthesis of the most advanced large engine technologies available. The common rail technology permits this engine to achieve the highest levels of flexibility for all load ranges and yields significantly better results than any engine with the conventional injection system.

Key Advantages

- Advanced electronic common rail injection system
- High specific power output
- High efficiency
- Low operating and life cycle costs
- Long maintenance intervals and service life

ENGINE SPECIFICATIONS

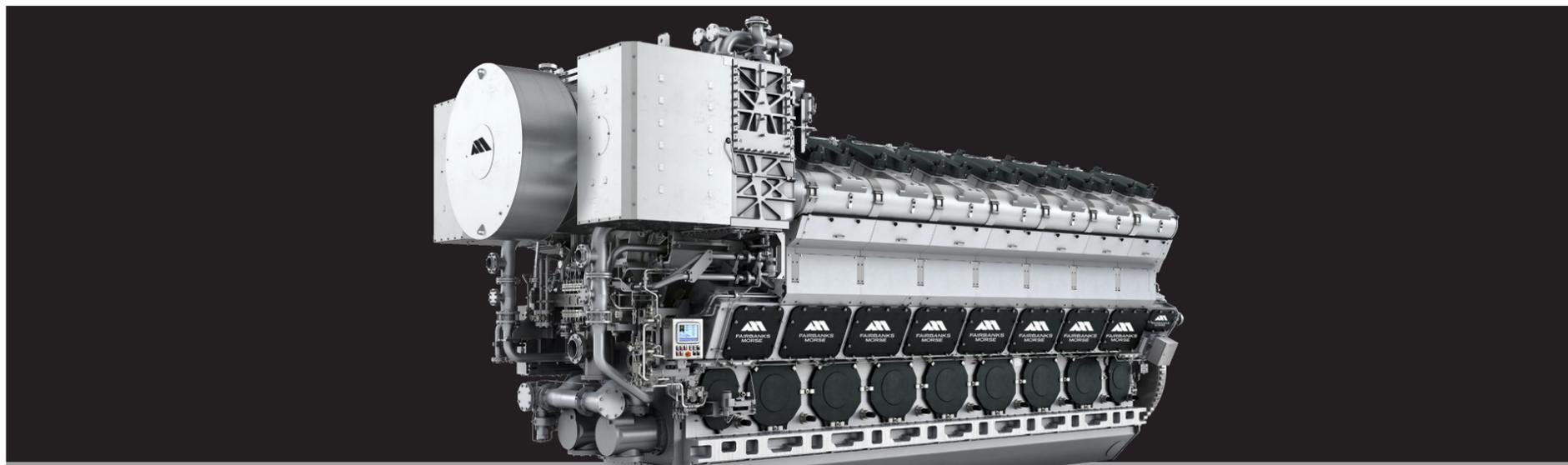
SPECIFICATIONS

Cylinder Configuration	6L, 7L, 8L, 9L, 10L, 12V, 14V, 16V, 20V
Cylinder Bore-mm (in)	320 (12.6)
Piston Stroke-mm (in)	440 (17.3)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	35.4 (2,159)
Mean Piston Speed - m/s (ft/s)	10.6 (34.6) 720 rpm 11.0 (36.1) 750 rpm
Fuel Type	Diesel

POWER RATINGS DIMENSIONS

CYLINDERS	720 RPM kW _e	750 RPM kW _b	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)	
6L	3,494	3,600	5,265	2,174	4,163	39.5	
7L	3,938	4,060	5,877	2,359	4,359	44.5	
8L	4,656	4,800	6,407			49.5	
9L	5,240	5,400	6,937			53.5	
10L	5,820	6,000	7,556	3,100	4,039	58	
12V	6,984	7,200	5,795			70	
14V	7,876	8,120	6,425			4,262	79
16V	9,312	9,600	7,055				87
20V	11,640	12,000	8,315				104

FM 48/60 CR



Power Range 7,200 - 19,200 kWb

This reliable, high-output engine is the four-stroke heart of medium and large diesel power, which makes it a versatile engine for both propulsion and auxiliary applications.

Key Advantages

- Excellent fuel efficiency and low emissions
- Integrated self-diagnosis functions
- Extremely quick and accurate reaction times of the injection system

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	6L, 7L, 8L, 9L, 12V, 14V, 16V
Cylinder Bore-mm (in)	480 (18.9)
Piston Stroke-mm (in)	600 (23.6)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	108.6 (6,627)
Mean Piston Speed - m/s (fts/s)	10.0 (32.8) - 500 rpm 10.3 (33.8) - 514 rpm
Fuel Type	Diesel

POWER RATINGS

CYLINDERS	GENERATOR 514 RPM 60 Hz kW _e	PROPULSION 500 RPM kW _b
6L	6,984	7,200
7L	8,148	8,400
8L	9,312	9,600
9L	10,476	10,800
12V	13,968	14,400
14V	16,296	16,800
16V	18,430	19,200

DIMENSIONS

CYLINDERS	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)
6V	8,760	3,165	5,300	108
7V	9,540			119
8V	10,540	3,280		135
9V	11,360		148	
12V	10,790	4,730 mm	5,500	189
14V	11,790			213
16V	13,140			240

FM 175D



Power Range 1,800 – 4,000 kWb

The new FM 175D engine boasts a clear and compact design intended to deliver continuous, reliable performance. Maximum power output at lowest weight makes the FM 175D the superior choice. Whether you're patrolling in low-load mode or cruising at full power, the easy handling and high availability of the FM 175D allows you to focus entirely on your mission.

Key Advantages

- Advanced electronic common rail injection system
- Engine-mounted control system
- High efficiency turbocharger
- Low operating and life cycle costs
- Four auxiliary power take-offs
- Long maintenance intervals and service life

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	12V, 16V, 20V
Cylinder Bore-mm (in)	175 (6.89)
Piston Stroke-mm (in)	215 (8.46)
Cycle	4 Stroke
Displacement/Cylinder - L (in ³)	5.17 (315.49)
Mean Piston Speed - m/s (ft/S)	12.9 (42.32)
Fuel Type	DMA, DMZ, ASTM D975 - 15 2D

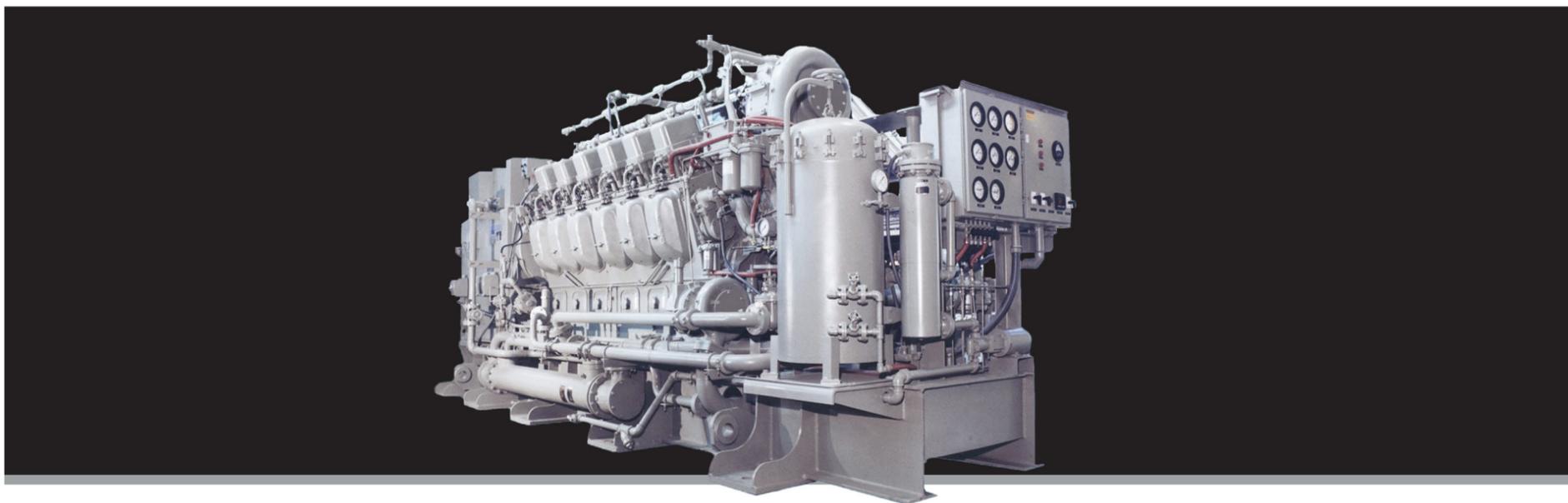
POWER RATINGS

CYLINDERS	CONSTANT SPEED GENERATOR	VARIABLE FREQUENCY GENERATORS	PROPULSION ENGINE
12V	1,800 kWb AT 1,800 rpm 1,920 kWb at 1,800 rpm	1,860 kWb at 1,800 rpm 2,040 kWb at 1,800 rpm	1,860 kWb at 1,800 rpm 2,040 kWb at 1,800 rpm 2,220 kWb at 1,800 rpm or at 1,900 rpm 2,400 kWb at 1,800
16V	2,400 kWb at 1,800 rpm 2,560 kWb at 1,800 rpm	2,480 kWb at 1,800 rpm 2,720 kWb at 1,800 rpm	2,400 kWb at 1,800 2,720 kWb at 1,800 rpm 2,960 kWb at 1,800 rpm or at 1,900 rpm 3,200 kWb at 1,800 rpm
20V	3,000 kWb at 1,800 rpm 3,200 kWb at 1,800 rpm	3,100 kWb at 1,800 rpm 3,400 kWb at 1,800 rpm	3,100 kWb at 1,800 rpm 3,400 kWb at 1,800 rpm 3,700 kWb at 1,800 rpm or at 1,900 rpm 4,000 kWb at 1,800 rpm

DIMENSIONS

CYLINDERS	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)
12V	2,900	1,661	2,295	9.0
16V	3,420	1,673	2,316	11.1
20V	3,945	1,691	2,510	13.3

FM 251F



Power Range 764 - 3,060 kWb

The FM 251F engine is renowned worldwide for efficient and reliable power in the most demanding stationary applications. Featuring a durable cylinder head casting, this rugged engine option offers exceptional commonality of components, and affords high specific output with low specific fuel consumption.

Key Advantages

- Strong, durable cylinder head casting for increased life of critical components
- Commonality of components
- Well established workhorse engine to accommodate multiple applications
- Known for reliability, high specific output and low specific fuel consumption
- Quality iron alloy makes cylinder heads resist high temperatures and pressures

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	6L, 8V, 12V, 16V, 18V
Cylinder Bore-mm (in)	229 (9.0)
Piston Stroke-mm (in)	267 (10.5)
Cycle	4 Stroke
Displacement/Cylinder - L (cu in)	10.9 (668)
Mean Piston Speed - m/s (ft/s)	8.0 (26.3) 900 rpm 8.9 (29.2) 1,000 rpm 10.7 (35.0) 1,200 rpm
Fuel Type	Diesel

POWER RATINGS - BASE LOAD GENERATOR SETS

CYLINDERS	RATING	900 RPM 60 kWe	1,000 RPM 50 Hz kWe	1,200 RPM 50 & 60 Hz kWe
6L	Continuous	730	870	1,000
	2000 hr/yr	762	906	1,043
	2 hr/yr	812	956	1,097
8V	Continuous	1,040	1,160	-
	2000 hr/yr	1,082	1,205	-
	2 hr/24 hr	1,142	1,275	-
12V	Continuous	1,566	1,740	2,000
	2000 hr/yr	1,630	1,811	2,082
	2 hr/24 hr	1,713	1,912	2,200
16V	Continuous	2,100	2,310	2,670
	2000 hr/yr	2,183	2,400	2,780
	2 hr/24 hr	2,310	2,540	2,937
18V	Continuous	2,350	2,600	-
	2000 hr/yr	2,450	2,714	-
	2 hr/24 hr	2,584	2,863	-

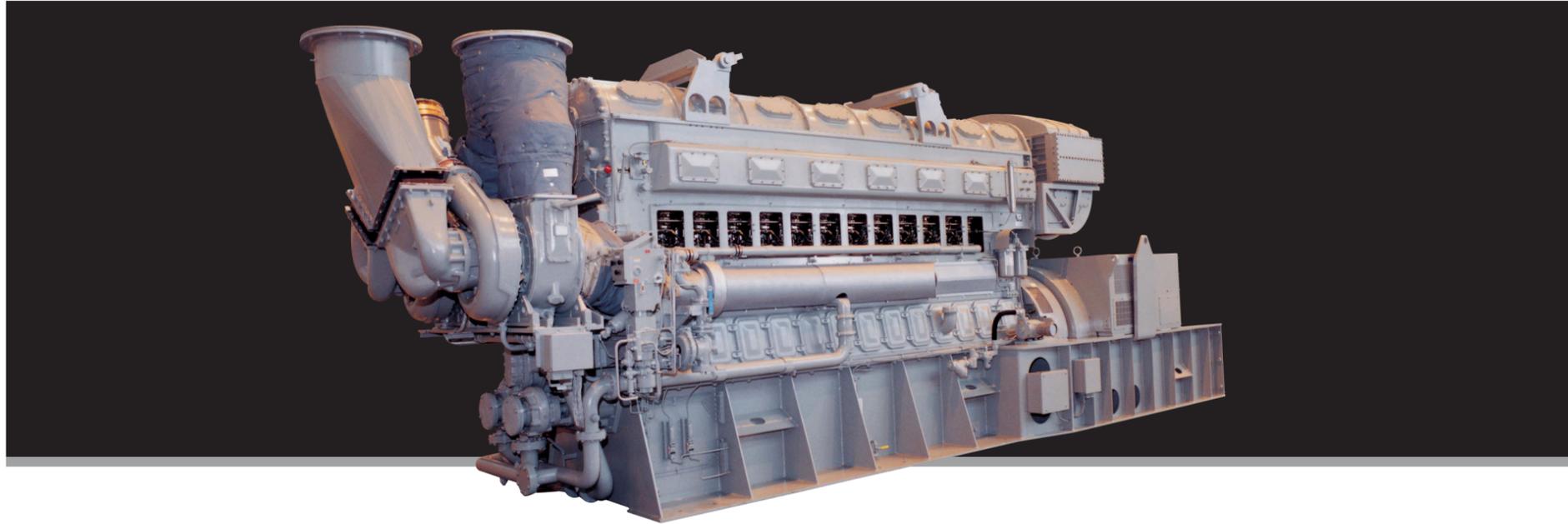
DIMENSIONS

CYLINDERS	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)
6V	7,036	2,616	2,870	19.4
8V	6,528	2,692	3,486	21.7
12V	8,573	2,692	3,486	25.4
16V	9,712	2,692	3,486	34.1
18V	10,465	2,692	3,486	38.7

All ratings subject to factory approved application. Ratings are based on: 90°F (32.2°C) ambient temp. 28.25 in Hg (71.8 cm Hg) barometric pressure (min). 1,500 ft (457 m) altitude (max). Standby ratings available.

Dimensions are for size estimation only. For installation obtain certified prints.

FM 38 D 8 1/8



Power Range 1,566 - 3,628 kWb

The FM 38D 8-1/8 engine combines time-tested design features with modern advances including Enviro-Design® dual-fuel technology. The result is an engine proven to be efficient and reliable, with a long history of satisfied customers.

Key Advantages

- Designed & developed for a wide array of electrical power generation and heavy industrial applications
- 40+ year service life
- Seismically-qualified for multiple configurations
- Base load (110% overload 2/24 hrs)

ENGINE SPECIFICATIONS

SPECIFICATIONS

Cylinder Configuration	6L, 9L, 12L
Cylinder Bore-mm (in)	206 (8.1)
Piston Stroke-mm (in)	254 (10.0)
Cycle	2 Stroke
Displacement/Cylinder - L (cu in)	17.0 (1037)
Mean Piston Speed - m/s (ft/s)	7.6 (25.0) 900 rpm 8.5 (27.8) 1,000 rpm
Fuel Type	Diesel and Dual Fuel (Natural Gas + Diesel Pilot)

POWER RATINGS - BASE LOAD GENERATOR SETS

CYLINDERS	ASPIRATION	900 rpm 60 Hz & 1,000 rpm 50 Hz kWe
6L	Turbo-Blower Turbocharged	1,506 1,580
9L	Turbo-Blower Turbocharged	2,260 2,370
12L	Turbo-Blower Turbocharged	3,013 3,165

DIMENSIONS

CYLINDERS	A (length) mm	B (width) mm	C (height) mm	DRY WEIGHT TONS (Metric)
6L	6,262	2,471	3,307	25
9L	8,186	2,407	3,239	33
12L	9,304	2,662	3,239	38

All ratings subject to factory approved application. Ratings are based on: 90°F (32.2°C) ambient temp. 28.25 in Hg (71.8 cm Hg) barometric pressure (min). 1,500 ft (457 m) altitude (max). Standby ratings available.

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