

SPARTAN EMD ELECTRIC MOTOR DRIVEN COMPRESSOR SOLUTIONS

Solutions Tailored to Your Specific Needs

Solar Turbines has designed a standardized electric motor driven compression solution called the Spartan™ Electric Motor Drive (EMD). This product provides the same customer experience offered with our other products – exceptional support throughout the equipment’s entire life cycle.

Spartan EMD compressor sets are available from 5000 to 30,000 hp (3729 to 22 371 kW) for a broad range of applications. Solar’s standard EMD compressor packages include:

- Compact Design with Structural Steel Baseplates
- Pre-Engineered Drive Train Design Integrity
- Gear Mounted Primary Lube System Pump
- AC Motor Driven Pre/Post Pump (No DC Backup Required)
- 316L Stainless Steel Piping, <4”
- Dry, Flexible Disk, Low and High Speed Couplings
- Non-Sparking Coupling Guards
- Onskid Dry Gas Seal System with Gauge Panel
- Onskid Control Panel with Offskid Option
- Instrumentation
 - Vibration Proximometers with Advanced Monitoring
 - Winding/Bearing Drain Temperatures
- Equipment Health Management Via InSight™
- Motor Features
 - Total Enclosed Pipe Ventilated (TEPV)
 - Induction or Synchronous Motors
 - Expanded Power Range (EPR) – Patented Design Offers Full Power Over Wide Speed Range
- Variable Frequency Drive (VFD) Features:
 - Arc Fault Resistant Design for Improved Safety
 - Network Communication with Solar PLC
 - Robust Voltage Source Inverter (VSI) Design

Key Benefits

Solar leverages our 6-Sigma based design experience to offer customers comprehensive one-stop solutions for EMD compressor requirements, including:

System Design and Integration

- Dedicated EMD Applications, Performance, Controls, Packaging and Project Management Engineers
- EMD Size and System Selected Based on Customer Process Conditions

Equipment Selection

- Optimized with Industry Leading Motor/VFD Supplier
- Pre-Engineered EMD Gearboxes
- Standardized Packages Lower Costs, Increase Reliability, Improve Maintainability and Accelerate Installation

Commissioning and Service

- Pre-Commissioning Meetings
- Solar Technical Reps Trained on OEM Equipment
- Solar as Sole Point of Contact for Entire Package

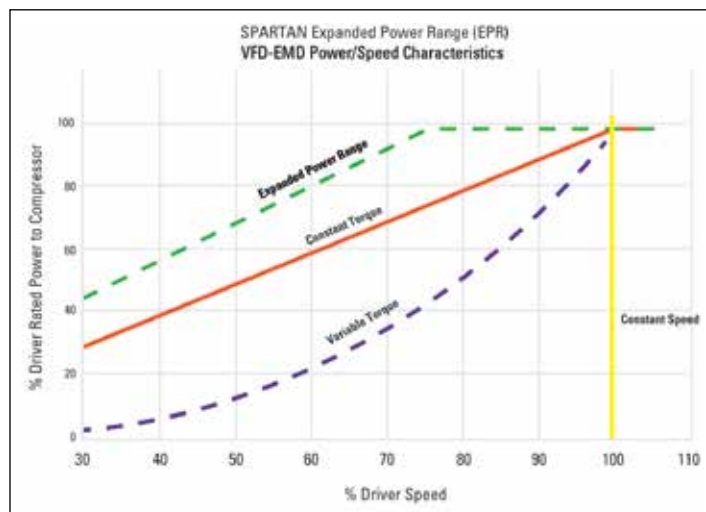
SPARTAN MODEL	HP	SOLAR COMPRESSOR				
e50	5,000	C33	C40P	C40M		
e60	7,000 9,000					
e90	11,000 13,000			C45	C51	
e130	16,000 19,000 22,000					
e250	26,000 30,000	C75				

Drive Options

Solar offers variable frequency drive (VFD) and Voith variable speed hydrodynamic drive (VSHD) systems. We also provide constant speed drives when required.

The VFD controls the speed of the motor and is matched to the power required, housed in a cabinet suitable for installation in a non-hazardous environment. It is best suited for applications where more operating flexibility is desired without losing efficiency.

VSHD is a mechanical means of compressor speed control based on integrating a torque converter with a gearbox. Depending on the line power available, it sometimes requires a soft start system or pony motor. VSHD is a good match for applications where higher torque is needed at low speeds.



Comparison of Output Power vs. Speed Characteristics for Gas Turbine and Various EMDs

Spartan Package Weights and Dimensions*

Spartan Model	EMD-VFD (e50/e60)	EMD-VFD (e90)	EMD-VFD (e130)	EMD-VFD (e250)
Typical Compressor	C33	C45	C65	C75
kW (hp)	3730 - 6710 kW (5000 - 9000 hp)	6710 - 9690 kW (9000 - 13,000 hp)	9690 - 16 410 kW (13,000 - 22,000 hp)	16 410 - 22 370 kW (22,000 - 30,000 hp)
Overall Length, m (ft. in.)	10 x 3.5 x 2.8 m (32'10" x 11'5" x 9'2")	11.5 x 3.6 x 3 m (37'9" x 11'10" x 9'9")	12.2 x 5.8 x 3.3 m (40' x 18'11" x 10'8")	14.1 x 4.1 x 3.6 m (46'4" x 13'5" x 11'9")
Motor Weight, kg (lbs)	12 930 kg (28,440 lbs)	22 860 kg (50,300 lbs)	34 200 kg (75,200 lbs)	61 200 kg (134,700 lbs)
Total Installed Weight With Lube Oil, kg (lbs)	84 800 kg (186,550 lbs)	159 400 kg (350,660 lbs)	217 300 kg (478,000 lbs)	289 500 kg (636 800 lbs)

* Maximum weights and dimensions; excludes VFD and other off-skid electrical devices; VFD dimensions and weights available upon request

Solar Turbines Incorporated
P.O. Box 85376
San Diego, CA 92186-5376 U.S.A.

For More Information

Telephone: (+1) 619-544-5352
Email: infocorp@solarturbines.com
Web: www.solarturbines.com