

# **MODULAR COMPRESSION SOLUTIONS**

## **Solar Turbines**

A Caterpillar Company



Solar understands and appreciates that turbomachinery is a component of our customers' larger operation. For decades, Solar has offered complete site solutions as a complement to our gas turbine and gas compressor business.

Breaking traditional construction paradigms with low total installed cost for turbine compression station installations, Solar's modular solutions offer reduced project cycle times while mitigating safety, schedule, and cost risks.

Solar utilizes a methodology of prefabricated modules to offer an extensive range of standard and engineered-to-order balance of plant systems that simplify site installation and commissioning.

- Small team required for site assembly
- Increased safety in site execution
- Transportable with conventional trucks
- Adaptable to specific market needs
- Fully tested and ready for field assembly
- Hot work eliminated from the building and enclosure spaces
- Comprehensive scope delivered on a lump sum basis

### Why Modular?

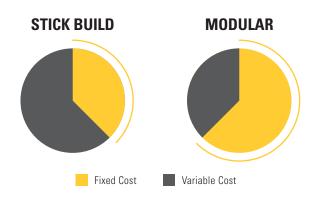
#### Mitigate Your Project Risks

Welding, fabrication, and testing are all completed in the factory. This minimizes safety risks and improves product quality. Additionally, much smaller site crews are required since skill sets change from traditional construction scope to simpler assembly tasks.



#### **Greater Cost Certainty**

Create greater cost certainty while reducing exposure to typical stick-built risks. These advantages are being delivered with code and industry compliant products through innovative design approaches.



#### More Efficient Than Traditional Construction

Modular solutions leverage pre-engineered designs and control system methodologies for full site automation. Combine that with streamlined project management, fabrication, testing and assembly and the result is significant time savings when compared to traditional stick-built approaches.

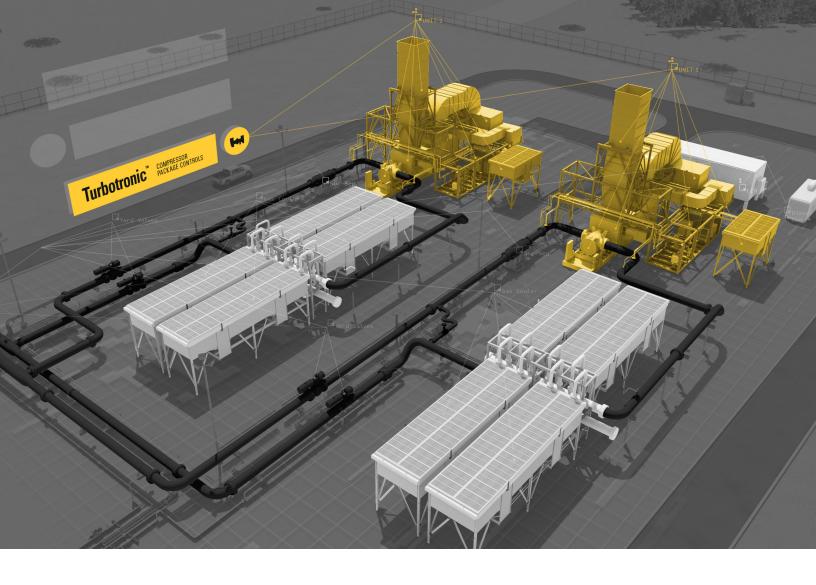


STICK BUILD SCHEDULE						
Engineer	Permit		Prepare & Construct			
Procure						
MODULAR SOLUTION SCHEDULE						
Engineer Procure	Permit	Prepare & Assemble				
Procure	Pre-Fabrication					

#### Value Throughout the Product Life Cycle

Our commitment to customer success does not end at project commissioning. Solar's modular solutions combine holistic compression station design, machinery controls, fabrication, project management, and site assembly support with a fully integrated life cycle management services portfolio. Each project includes a machine-to-cloud ecosystem of products and services from turbomachinery healthcare to full facility control, monitoring and optimization that easily scale and integrate with customers' existing enterprise infrastructure.





# **Compressor Package Controls**

#### Turbotronic™

The Turbotronic 5 control system provides precise integrated control, protection and monitoring for Solar turbomachinery packages. It combines Solar's operating experience with current controls technology, providing rugged and reliable systems with broad functionality. The backbone of each unit control system is an Ethernet/IP Device Level Ring (DLR) network that allows the key components and subsystems to communicate with each other.





# **Compression Management System**

### Solar® StationEdge

At the site level, Solar StationEdge provides integrated command and control of both the gas compression packages and associated equipment through a comprehensive compression management solution. Built on Solar's proven Turbotronic control system technology, Solar StationEdge can be tailored to each customer's specific needs to provide advanced automation and visualization of the entire gas compression station.





# Remote Equipment Healthcare Solutions

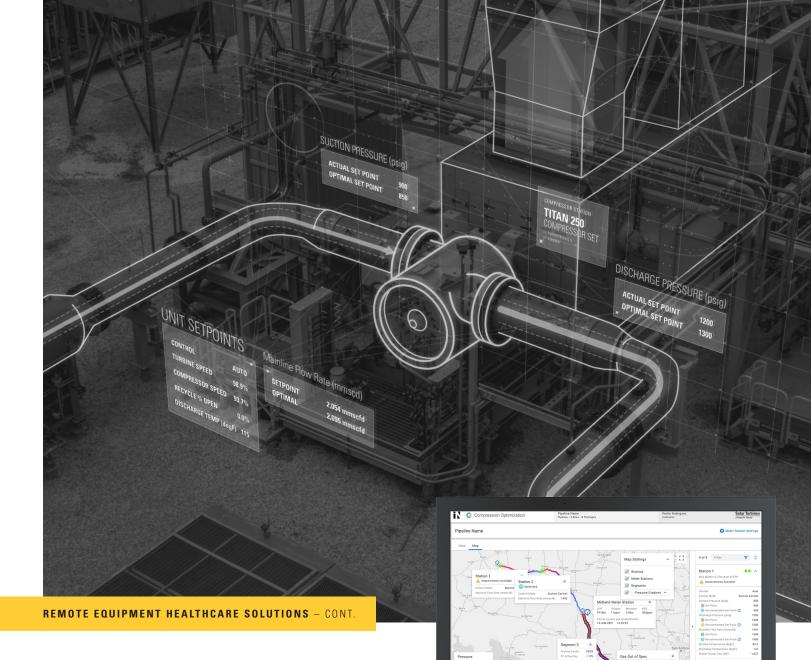
#### InSight Platform™

InSight Platform is the technology foundation for service delivery. It is an entire ecosystem of tools and capabilities for intelligent, data-based decision making. InSight delivers advanced remote technology for real-time troubleshooting, predictive analytics and downtime avoidance.

- Maximize Equipment Availability and Reliability
- Lower Life Cycle Costs
- Collaborative Day-to-Day Machinery Support
- Real-Time Remote Monitoring and Troubleshooting
- Predictive Analytics and Fleet Statistics
- Optimized Maintenance and Reduced Downtime
- Proactive Obsolescence Identification and Support



InSight Connect, Solar's secure, purpose-built, machine-to-business connectivity solution, comes standard with all new equipment projects. (PIL268)



### Pipeline Optimization

Solar Turbines is the leading centrifugal gas compressor manufacturer. To compliment Solar's gas compressor business, Solar offers gas compression optimization and pipeline modeling technology hosted through InSight Platform.

Gas Compression Optimization apps utilize machine data and real-time compressor performance algorithms to optimize the operation of compression equipment along gas transmission pipelines.



## **Turbomachinery Applications**

For over 90 years, Solar Turbines has made products essential to powering the oil and gas industry. Our dedicated mindset frees us at every level of the organization to work toward one goal – producing turbines and motor-driven compression solutions that provide maximum availability, reliability and value throughout your equipment's life cycle.

#### **TURBINES**

MODEL	HORSEPOWER (hp)	KILOWATTS (kW)	KILOWATTS ELECTRIC (kWe)
Saturn® 20	1590	1185	1210
Centaur® 40	4700	3500	3515
Centaur® 50	6130	4570	4600
Taurus <sup>™</sup> 60	7700	5740	5670
Taurus <sup>™</sup> 70	11,110	8290	8180
Mars® 90	13,220	9860	9450
Mars® 100	15,900	11 860	11 350
Titan™ 130	23,470	17 500	16 530
Titan™ 250	31,900	23 790	23 100

### CENTRIFUGAL GAS COMPRESSORS

PRODUCTION	PIPELINE	
C16	C40	
C31	C45	
C33	C65	
C40	C75	
C41	C85	
C50		
C51		
C61		

#### ELECTRIC MOTOR DRIVES

PRODUCTION	HP
e50	5,000
e60	7,000 9,000
e90	11,000 13,000
e130	16,000 19,000 22,000
e250	26,000 30,000

# Decades of Unmatched Expertise

Solar holds the industry's largest installed base with equipment featured in more than 16,000 offshore and onshore applications in more than 100 countries. Customers benefit from repeatable quality with reduced risk, minimized emissions, competitive efficiency ratings and low life cycle cost.

FOR MORE INFORMATION, VISIT SOLARTURBINES.COM OR CONTACT YOUR SALES REPRESENTATIVE

InSight Platform<sup>™</sup>
Solar<sup>®</sup> StationEdge
Turbotronic<sup>™</sup>

ISO 9001 Certified
ISO 14001 Certified
ISO 45001 Certified

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