



Samsung
Turbo Compressor
SM Series

www.samsungcompressor.com

SAMSUNG

SAMSUNG TECHWIN

Performance Leader

Reliability Leader

Cost Leader

Control Leader

Design Leader

Great

Great Innovation

+ + + + + + +

Samsung, the ultimate symbol of "TECHNOLOGY and INNOVATION"

HIGH PERFORMANCE

The SM compressor offers optimum efficiency based upon Samsung's unique aerodynamic technology and dynamic design analysis.

EXCELLENT RELIABILITY

Thorough testing and sophisticated quality assurance program ensures the highest level of reliability.

LOW LIFE CYCLE COST

High efficiency results in dramatic reductions in energy and operating expenses. Electrical power consumption and maintenance costs are minimized.

SIMPLE CONTROLS

Advanced touch screen control system allows simple and easy control and monitoring of the compressor so as to obtain substantial energy saving and enhanced reliability.

INNOVATIVE DESIGN

Latest design greatly improves operational efficiency and work environment

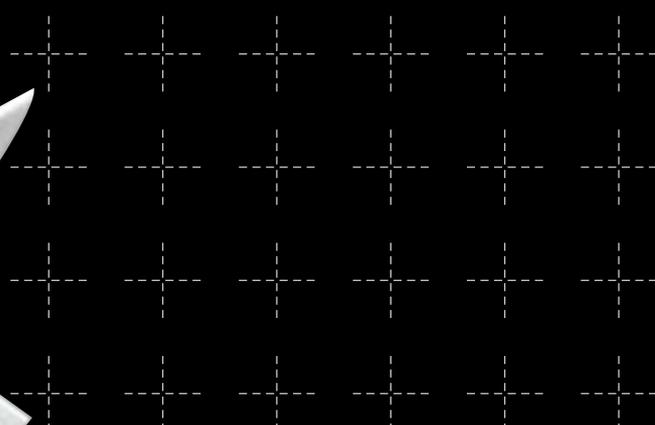
t Technology



**Aircraft Engine technology that moves the World-
Samsung Techwin's advanced technology is leading
a new era in the history of centrifugal air compressors.**

Samsung's SM series is the world best centrifugal compressor developed by the technologies and reputation Samsung has accumulated through the outstanding performance of its aircraft engines in the global market. Experience the real value of the SM series in any applications requiring an efficient and reliable compressor. The SM series with the outstanding performance will meet and exceed your expectations.

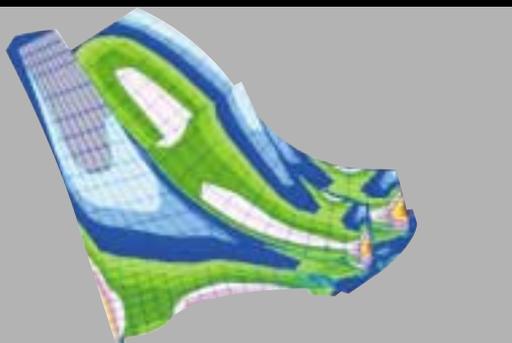






High Performance

A high performance system has been realized by advanced aerodynamic design and analysis.



OPTIMUM DESIGN USING THE LATEST TECHNOLOGY

- + Impeller aerodynamic efficiency is maximized by using 3-dimensional CFD analysis.
- + Rotor design optimized by dynamic analysis from the aerospace industry realizes low vibration.
- + Static and dynamic properties of the components are improved by the finite element analysis method.

HIGH PERFORMANCE BACKWARD LEAN IMPELLERS

- + Blade angles are designed to yield high efficiency throughout the entire operating range.
- + Impellers are made of corrosion resistant stainless steel for unlimited life cycle with low vibration and low noise.
- + Impellers passed 115% overspeed spin test to guarantee greater reliability.

HIGH PRECISION SINGLE HELICAL GEAR SYSTEM

- + Thrust loads are distributed using AGMA based designs.
- + Hardening of the gears and thrust collars results in an indefinite product life cycle.
- + Bull gear and pinions are designed and manufactured to AGMA 12 and AGMA 13 specifications respectively.

INLET GUIDE VANE CAPACITY CONTROL

- + Inlet guide vane control matches compressor output to system demand.
- + The inlet guide vanes feature a unique airfoil profile for improved efficiency.
- + Guide vanes provide reduced power consumption as compressed air output decreases.

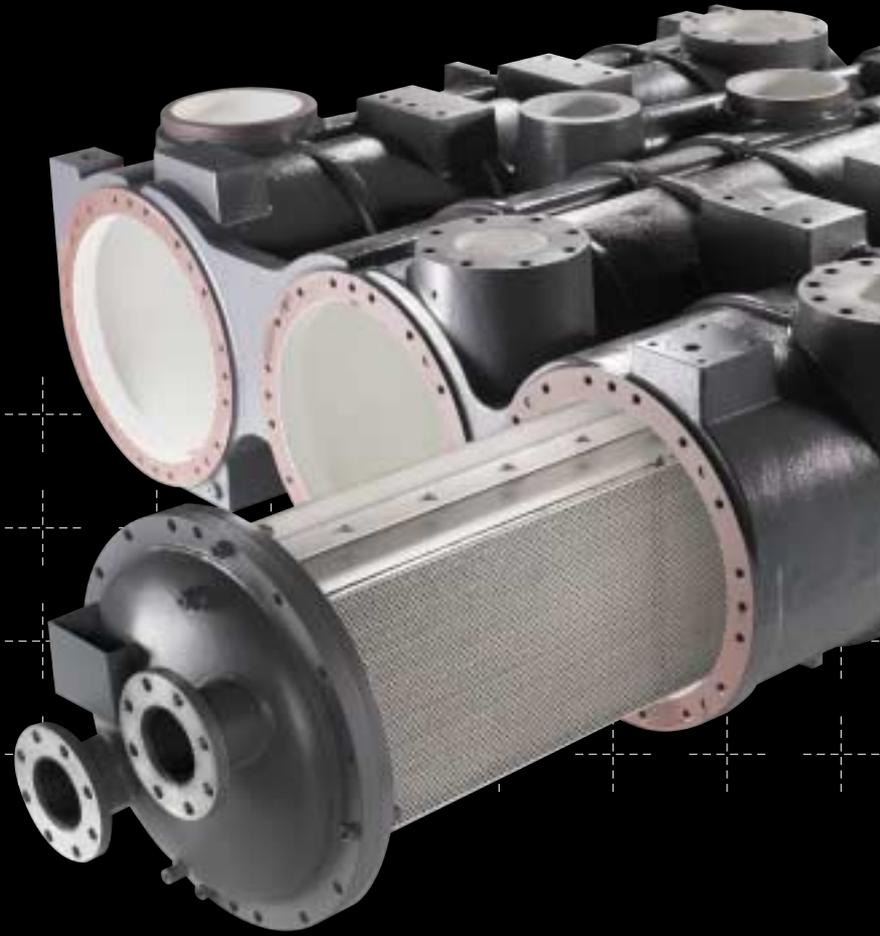
HIGH PERFORMANCE LONG LIFE BEARINGS

- + Oversized four lobe bearings and thrust bearings absorb loads while minimizing friction losses.
- + High speed oil whip is eliminated adding to bearing life.

PLC-BASED FULLY AUTOMATIC CONTROL SYSTEM

- + The control monitors all critical parameters including temperatures, pressures and vibration levels along with motor data.
- + Advance warning on changing values to help eliminate unscheduled stoppages.
- + Critical functions are monitored for shutdown to prevent any damages on the components.





Excellent Reliability

Samsung Techwin's state-of-the-art mechanical design and rigorous attention to quality control along with anticipating customer requirements, result in the most reliable compressor available.

REVERSE ROTATION PREVENTION CLUTCH (optional)

+ Additional system protection is offered by the optional reverse rotation clutch that protects the compressor from potential damage caused by the back pressure in the event of check valve failure.

AIR AND OIL SEALS MANUFACTURED TO API STANDARDS

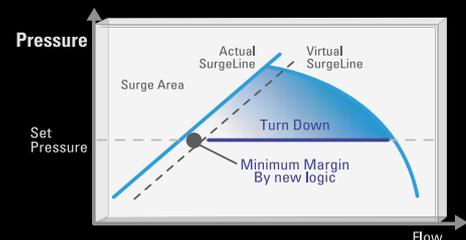
- + 100% oil free air is assured by 4 stages of sealing.
- + Combination of labyrinth and carbon seals results in exceptional seal life.
- + Air leakage and the resulting loss of efficiency are minimized.
- + Low lubricating pressure reduces the chance of an oil leak.

STRICT & RIGOROUS TESTING TO STANDARDS

+ Strict 3-step performance and durability testing of components, manufactured assemblies, and finished product assures reliable operation in adverse environments.

CONTROL SYSTEM FEATURES SAMSUNG'S UNIQUE ELECTRONICS TECHNOLOGY

- + New surge control logic improves surge margin by 3 to 5% resulting in more stable operation.
- + Optional power interruption control minimizes unscheduled stops due to power "glitches".



TOTAL PACKAGE QUALITY ASSURANCE PROGRAM

- + ISO 9001 Certified and beyond.
- + Samsung has added its own quality assurance program based upon the aviation industry's quality control practices resulting in the highest quality compressor available.
- + Samsung Customer Support Network provides the most reliable after-sale service 24 hours a day, 365 days a year.



No Revision Necessary

Fully packaged Samsung compressor series result in lower cost in operation from installation to maintenance, and the SM's high efficiency helps minimize electrical costs

ADVANCED AERODYNAMIC DESIGN HELPS LOWER ENERGY COSTS

- + High efficiency impeller with wide operational turndown range results in lower overall operating expense and less loading and unloading.
- + Inlet guide vanes help match compressor output to demand while providing proportional turndown in power consumption.
- + Loading and unloading cycles are minimized by the wide turndown, saving wear and increasing reliability and energy saving.



EASY MAINTENANCE

Ergonomic design applied to the structural enhancement improves maintainability

MODULARIZED DESIGN TO MINIMIZE MAINTENANCE AND REPAIR TIMES

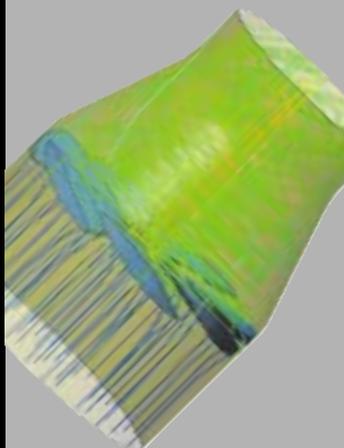
- + Horizontally split bearings, gearbox and seals allow quick service with minimal downtime.

NEXT GENERATION INTERCOOLER DESIGNED FOR SERVICEABILITY

- + Water-in-tube design makes tubes mechanically cleanable.
- + Plate-finned tube design enhances cooler performance with minimal pressure drop.
- + Entire bundle treated with corrosion resistant material ensures longer life.

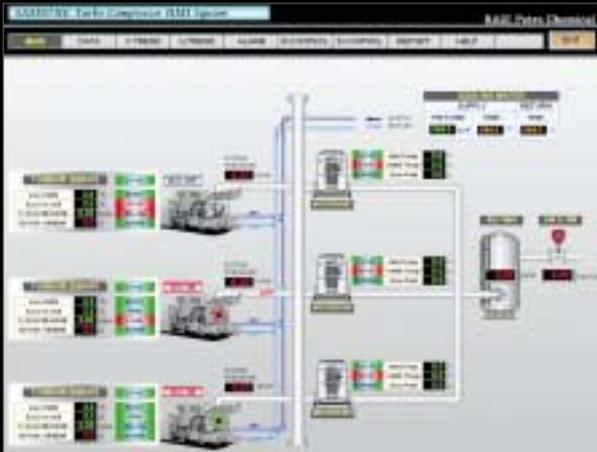
HORIZONTALLY SPLIT GEARBOX

- + Complete access to bearings and seals without disturbing air piping.
- + Taper pin design allows quick and accurate reassembly.
- + Heavy cast iron design prevents vibration and noise.



Simple Controls

State-of-the-art design provides user-friendly interface capable of easy monitoring and sophisticated control in a simply way.



LARGE COLOR LCD TOUCH SCREEN

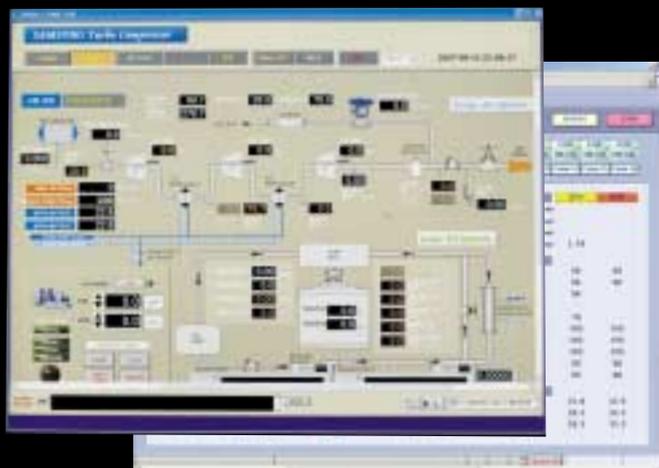
- + Logical presentation of all compressor parameters greatly simplifies the operation of the machine.
- + User friendly interface provides the real-time operation status of the functions and the values to be read at a glance.
- + The compressor is designed to be operated with a simple On/Off button.

AUTOMATIC DUAL OR MODULATING CONTROL

- + When compressed air usage is less than full capacity, the control system fine-tunes inlet guide vanes to reduce output and power demand to the maximum turndown level, at which point the blow off valve automatically opens unloading the machine to minimum power.
- + An industry leading 35% turndown allows smooth and efficient operation over a wide range.

SUPERIOR SCALABILITY AND ACCESSIBILITY

- + The blending of SM Series Controls with Samsung's world class electronics and technology offers easy interfacing with existing control systems.
- + WEB-based Controls (optional) allows operators to access to the control system any time and everywhere.



Innovative Design

The compressor's design is the result of the latest technologies in aerodynamic and electronic engineering and offers the world's most advanced centrifugal compressor

INTEGRATED PACKAGE INCLUDES:

- Air Inlet Filter (may be remote mounted)
- Inlet Guide Vanes
- After Cooler
- Silencer
- Check Valve
- Cooling Water Manifold
- Main Drive Motor
- Blow-off Valve
- Controller
- Water Drain Traps

INNOVATIVE PACKAGE DESIGN UNEQUALED IN EASE OF INSTALLATION AND MAINTENANCE

- + Unitized frame construction based on the modularized design of the assemblies eliminates the need for an expensive foundation and saves on installation costs.
- + Power wiring from starter to main motor and simple control interconnections from SM control to starter simplify electrical installation.
- + Simple connections for water-in/out and compressed air discharge are the only work required for initial installation and operation.

FULL ENCLOSURE (OPTIONAL) FOR CLEAN APPEARANCE AND QUIET OPERATION

- + Patented sound absorbing material greatly reduces noise levels.
- + Enclosure is equipped with full open panels for ease of maintenance and complete access to all parts of the machine.

SM DESIGN HELPS IN CREATING A COMFORTABLE WORK ENVIRONMENT

- + Design focused on functionality enables the system to offer high efficiency with low noise, simple operation, and high reliability.



※ Optional enclosure colors are available.

Figure & Specification

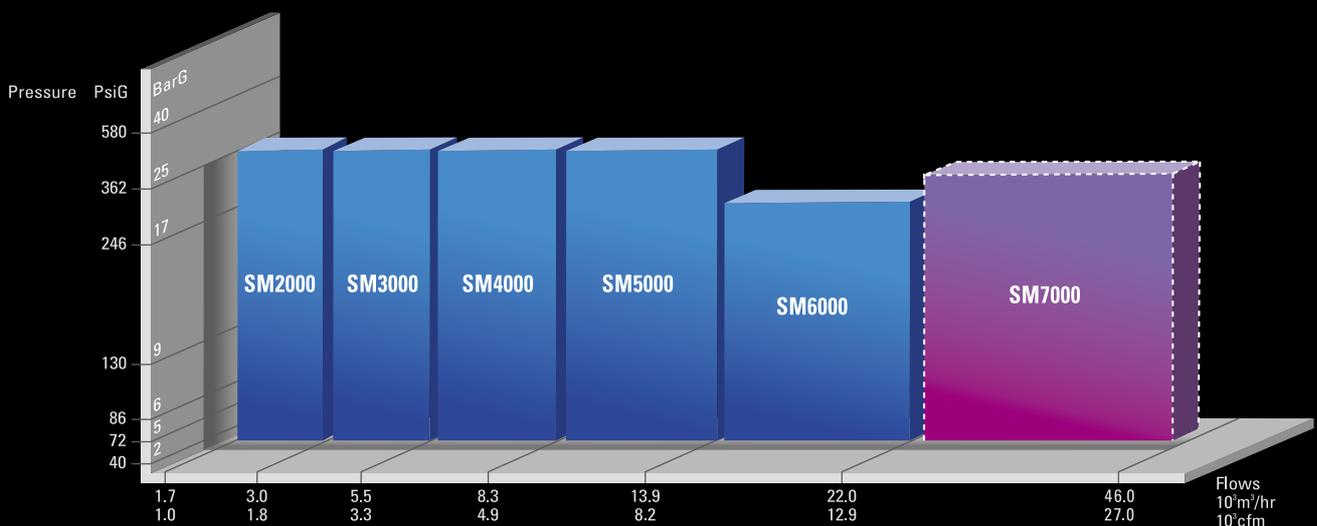
Feel the best quality created by the pride of Samsung's technology. The more you try SM series, the more you can experience the remarkable efficiency and performance.

Specifications

		SM2000	SM3000	SM4000	SM5000	SM6000	SM7000
Capacity	m ³ /hr	1,700 ~ 3,000	3,000 ~ 5,500	5,000 ~ 8,500	8,000 ~ 15,000	13,000 ~ 24,000	20,000 ~ 46,000
	CFM	1,020 ~ 1,800	1,800 ~ 3,300	2,900 ~ 5,000	4,700 ~ 8,800	7,600 ~ 14,100	11,700 ~ 27,100
Motor	kW	150 ~ 4,400					
	HP	200 ~ 5,900					
Discharge Pressure	BarG	3.5 ~ 25					
	PsiG	50 ~ 363					
Dimension(WxLxH)	mm	1,500x2,550x1,900	2,100x4,350x2,100	2,100x4,650x2,220	2,150x5,200x2,100	2,300x5,800x2,550	5,500x8,000x4,500
Weight	kg	3,200	7,000	9,000	12,000	18,000	40,000

※ Weight : excluding sound-proof enclosure, including electrical motor

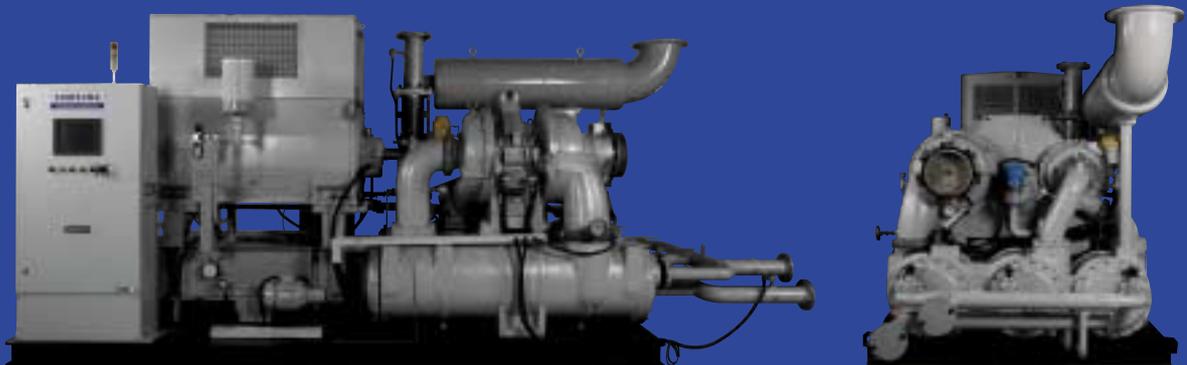
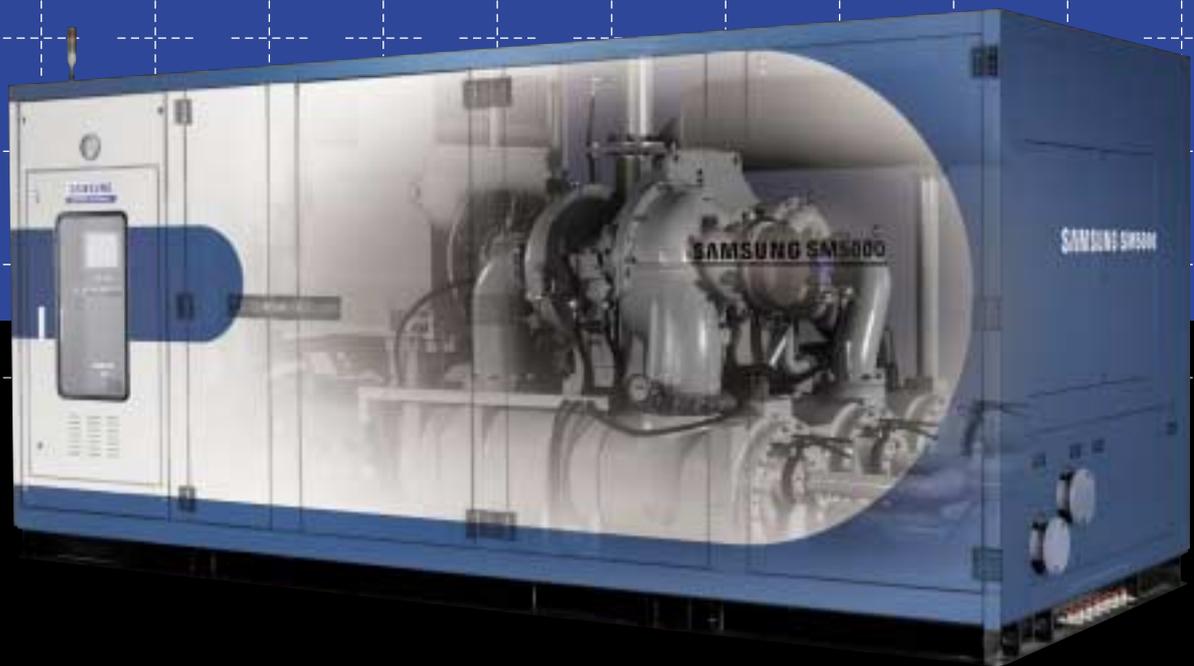
Product Range



System Appearance

SM3000, SM4000, SM5000_

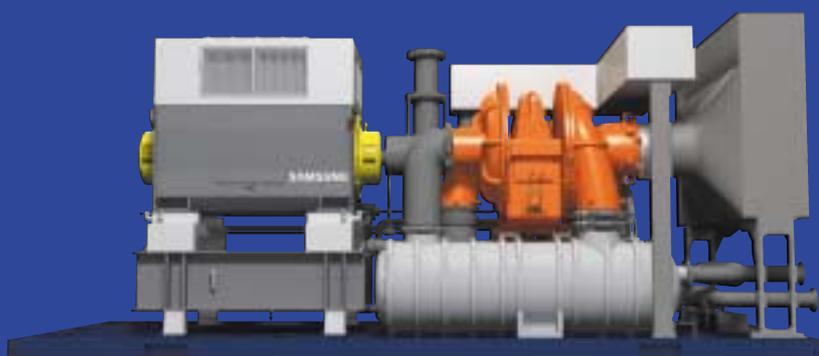
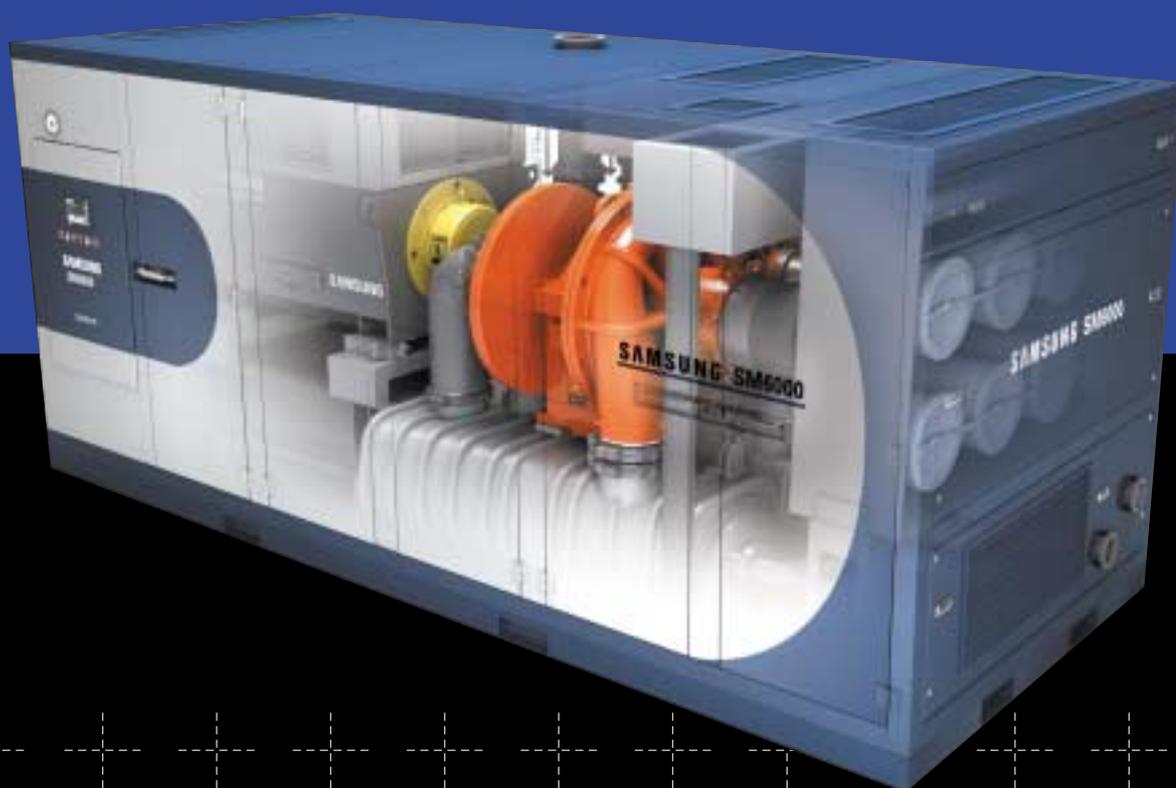
Samsung Turbo Compressor SM Series



Dimension & Weight

SM3000 | 2,100 x 4,350 x 2,100mm (W x L x H), 7,000kg
SM4000 | 2,100 x 4,650 x 2,220mm (W x L x H), 9,000kg
SM5000 | 2,150 x 5,200 x 2,100mm (W x L x H), 12,000kg

SM6000_ Samsung Turbo Compressor SM Series

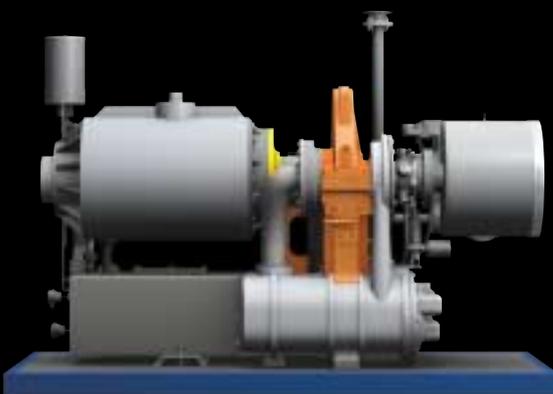


Dimension & Weight

SM6000 | 2,300 x 5,800 x 2,550mm (W x L x H), 18,000kg

System Appearance

SM2000_ Samsung Turbo Compressor SM Series



Dimension & Weight

SM2000 | 1,500 x 2,550 x 1,900mm (W x L x H), 3,200kg



ISO9001Cert.No : FM 24369
ISO14001Cert.No : EMS 54112

www.samsungcompressor.com

SAMSUNG TECHWIN CO., LTD.

14th Fl., KIPS Center Bldg. 647-9, Yeoksam-Dong,
Gangnam-Gu, Seoul 135-980, Korea
TEL: 82-2-3467-7545, 7554
FAX: 82-2-3467-7540, 7520

Agent