

Samsung  
Turbo Compressor  
**SM2000**

100% Oil-Free



**SAMSUNG TECHWIN**

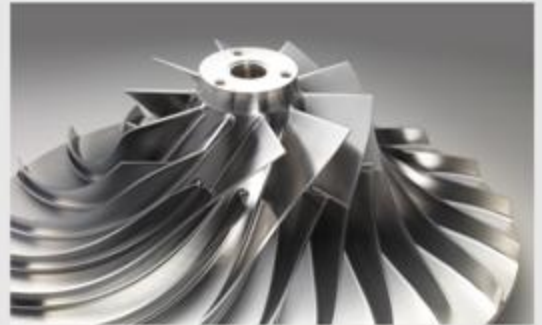
## Brand-new SM2000 is the most advanced centrifugal compressor.

SM2000, 100% oil-free compressor has been developed by the latest technologies and know-how Samsung accumulated.

This brand-new compressor, SM2000 will be the ultimate solution exceeding your expectation for low installation, operation and maintenance cost with high reliability.

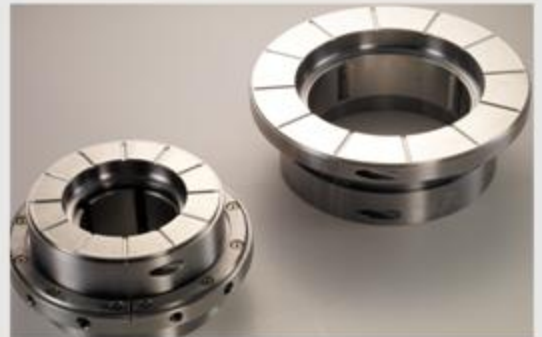
### Optimized aerodynamic design using the latest technology

- Aerodynamic design with 3-dimensional CFD analysis maximizes the system efficiency.
- Variable Inlet Guide Vane saves energy more than 20% compared with displacement type compressors.
- Backward lean Impeller offers wide operational turndown range and high efficiency throughout the entire operating range.
- Optional carbon seal with labyrinth oil seals in low oil pressure ensures 100% oil-free air compression and minimizes energy loss.



### High precision components and unique package design

- High precision and durable components with long service life and maintenance intervals guarantee reliability and low maintenance cost.
- Innovative unique package integrating coolers, motor, filters and control system on the base frame results in low cost in installation, eliminating the need for an expensive foundation.



### Modularized design to minimize maintenance and repair cost

- Horizontally split gearbox ensures complete access to bearings and seals without disturbing air piping.
- Horizontally split bearings, seals and gearbox allow quick service with minimal downtime for maintenance and repair.
- Ergonomic design applied to the compact package design improves the maintainability and minimizes maintenance and repair cost.



### Total package quality assurance program

- Strict 3-step performance & durability testing of components, manufactured assemblies, and finished product assures reliable operation in any adverse environments
- Samsung is applying its own quality assurance program based on the aerospace industry's quality control practices.



## Advanced Control System

Samsung's automatic control system with simple handling becomes a standard in the industry.

SM2000 ensures the most enhanced efficiency and productivity by the optimized control system in diverse industrial applications.



## Samsung's advanced control system unequaled in reliability

- The latest anti-surge control logic based on Samsung's world class electronic control technology improves surge margin by 3~5% resulting in more stable operation.
- Optional Power Interruption Control System minimizes unscheduled stops due to power glitches.

## Color LCD Touch Screen

- 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

- The control system fine-tunes IGV and Blow-off Valve to get optimized efficiency upon any change of compressed air usage.
- Industry leading 35% turndown allows smooth and efficient operation over a wide range.

## PLC-based fully automatic control system

- The control system monitors all critical parameters including temperature, pressure and vibration levels along with motor data for shutdown to prevent any damages on the components.
- The control generates advance warning on the screen on changing values to help eliminate unscheduled stoppages.
- SM2000 Control offers easy interfacing with existing control system.
- Web-based Controls (optional) allows operators to access the control system any time and everywhere.



## You Can Use Ultimate Oil-Free Air !



### 100% Oil-Free Air Compression System

Optional carbon seal with labyrinth oil seal in low oil pressure minimizes the energy loss caused by air leakage and prevents oil penetration.

### 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 service life. Bull gear and pinions are designed and manufactured to AGMA 12 and AGMA 13 respectively.

### Horizontally split gearbox

Taper pin design allows quick and accurate reassembly. Horizontally split gearbox and bearings assure easy inspection and maintenance. Heavy cast iron design prevents vibration and noise.

### High precision bearing with increased durability

Tilting Pad Journal Bearing prevents high speed oil whip and ensures long life. Oversized four lobe bearings and thrust bearing absorb full axial loads, while minimizing friction losses.

### High Performance Impeller

Blade angles of the backward lean impellers 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 noise.

### Reverse rotation prevention clutch (Optional)

The optional reverse rotation clutch is additional protection system that preventing the compressor from potential damage caused by the back pressure in the event of check valve failure.

### Closed loop air system

Air recirculation system using the discharged air from blow-off valve reduces the noise and minimizes the need for silencer.

### Energy saving Inlet Guide Vane (IGV)

Inlet Guide Vanes help match compressor output to system demand by changing the angles of the guide vanes, while providing proportional turndown in power consumption.



## Applications



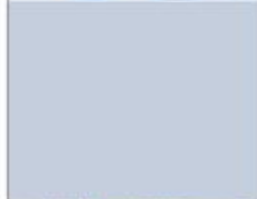
◀ Chemical



◀ Glass



◀ Pharmaceutical



▶ Beverage



▶ Electronics



◀ Pulp and Paper



Textile

Food





#### Standard

- Compress Core Unit
- Motor
- Motor Starter
- Control System
- Discharge Check Valve
- Inlet Guide Vane
- Inlet Filter D/P Gauge
- Inlet Filter-Silencer
- Blow-off Valve Assy
- Lubrication System
- Sound-proof Enclosure

#### Options

- Monitoring System
- Sequence Control
- Modulating Control
- Control Power Quality Protection
- Dual Oil Coolers
- Automatic Condensate Drain Traps
- API Code

#### Specification

Model	SM2000 Series
Motor (HP)	200~350
Capacity (M3/Hr)	1,700~3,000
Discharge Pressure (Bar A)	3.5 ~ 9.0
Dimension, LxWxH(mm <sup>3</sup> )	2,550x1,500x1,900mm
Weight (Kg)	3,200 (Excluding Sound-proof Enclosure, including Motor)

Inlet Condition (0.993 bar A, 35°C, 80%RH, Fresh Water 27°C, Stage 2~4, Air Cooled, Water Cooled)



Experience the advanced technology



ISO9001 Cert. No : FM 24369  
ISO14001 Cert. No : EMS 54112



**SAMSUNG TECHWIN**  
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Agent



Warning : SM2000 compressors are not designed or manufactured for air breathing system.  
Samsung Techwin Co., Ltd. assumes no responsibility or liability for compressors used for breathing air system or service.