

# SCREW AIR COMPRESSOR



**COAIRE**  
COMPRESSOR

# The history of compressors in Korea was established and advanced by Kyungwon Co., Ltd.

Since  
1968

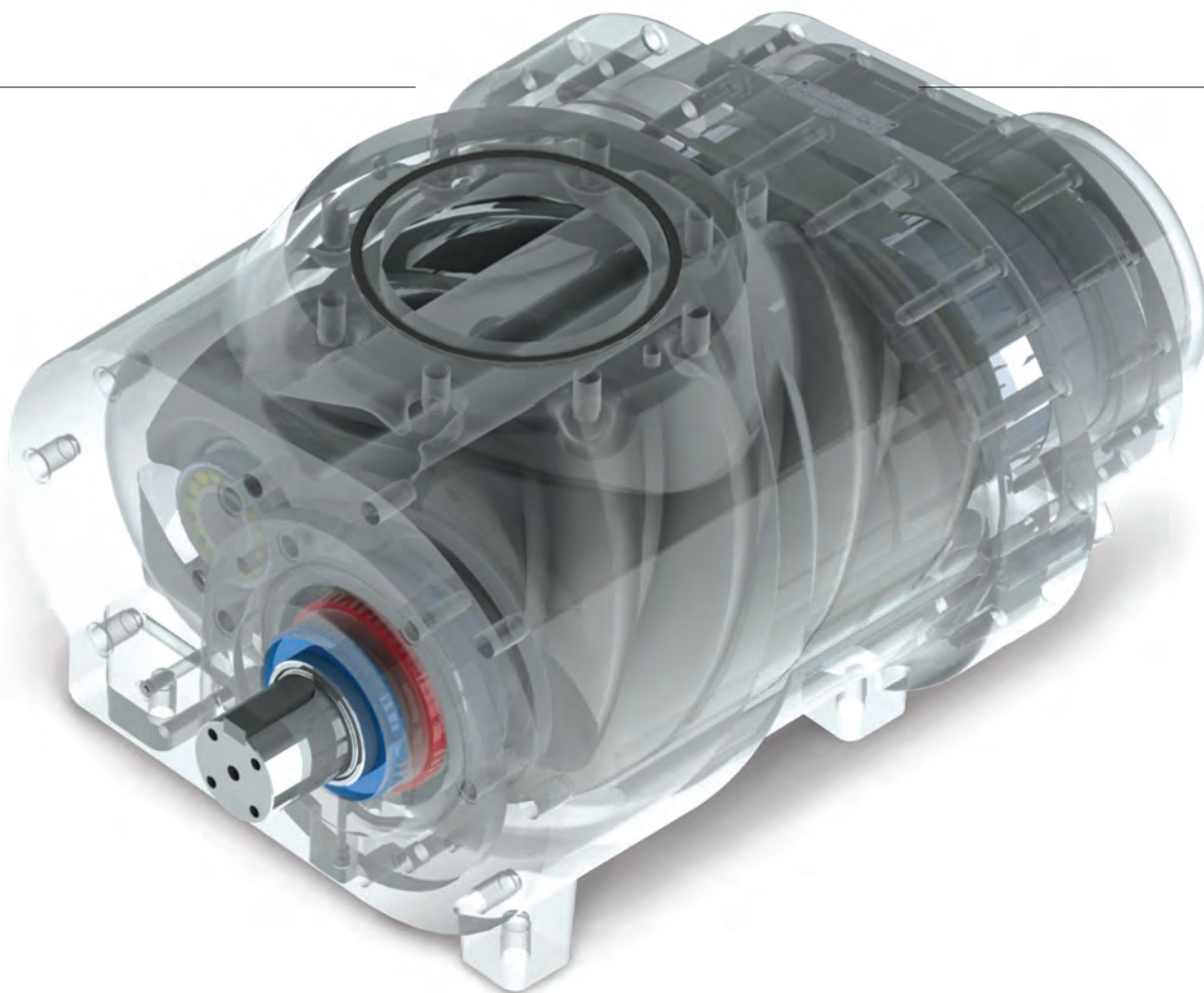
Since the company was established in 1968, it has developed piston type compressors for **the first time in Korea**. In 1986 the company was also the first in Korea to develop and supply screw compressors after establishing technological ties with Sweden-based SRM, and it developed oil free scroll compressors in 2004 for the third time in the world and for the first time in Korea. To put it simply, the company has created a new history of compressors in Korea.

In 2008, Kyungwon launched the upgraded AS series, which makes the company justifiably equal to world-renowned makers.

The company has about 40 official agencies across the country and numerous production bases and customer centers located in 15 countries around the world in countries such as the US, Russia, Australia, China, Thailand, Vietnam, Malaysia, Indonesia, Singapore in order to provide its customers with the best possible service.

The **total air solution** producer manufactures such compressors as oil-free compressors, oil injection piston type compressors, screw compressors, scroll compressors, as well as driers and filters, which will best meet any customer demands.

In the future, the progress of compressors in Korea will continue to be written by Kyungwon, which is determined to do its best to be a leader in **compressors throughout the world**.



## Products

### Oil Injection Air Compressor

#### Reciprocating Air Compressor

5HP~20HP

#### Screw Air Compressor

Belt Type 7.5~20HP

Direct 25~500HP

All In One 10~30HP

Inverter 50~250HP

### Oil Free Air Compressor

#### Reciprocating Air Compressor

Package 1~7.5HP

Bare Type 1~15HP

#### Scroll Air Compressor

Dental 2~5HP

All In One 3~20HP

Standard 3~50HP

#### Screw Air Compressor

75~400HP

### Air Compressor Accessories

#### Air Dryer

Refrigerating / Desiccant

#### After Cooler

#### Air Receiver Tank

#### Cooling Tower(water cooled)

#### Filter

#### Condensate Water Drain

#### Oil-water Separator

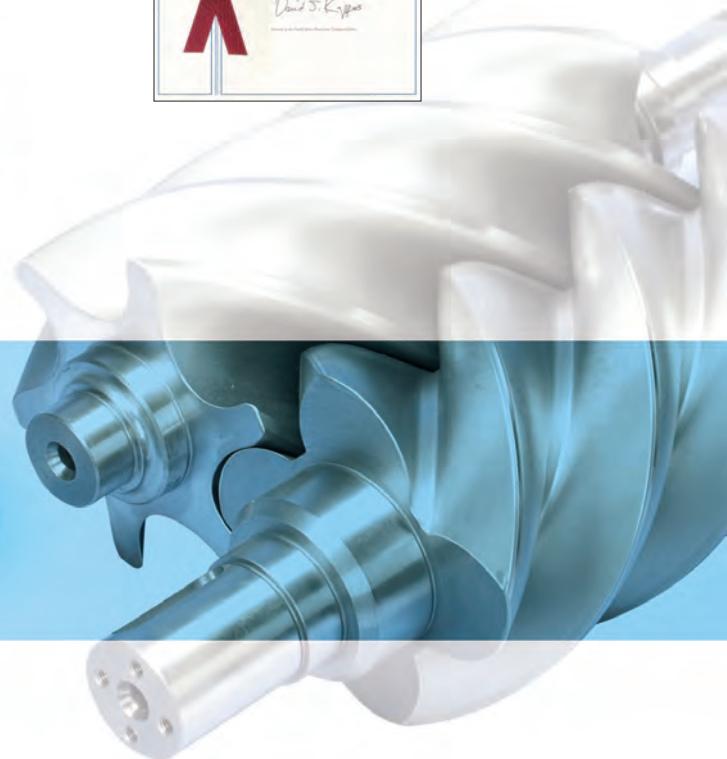
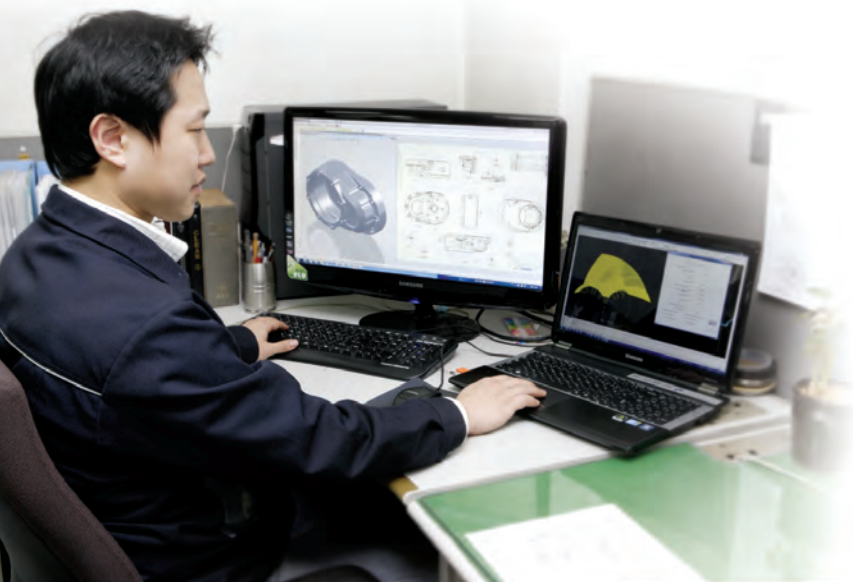
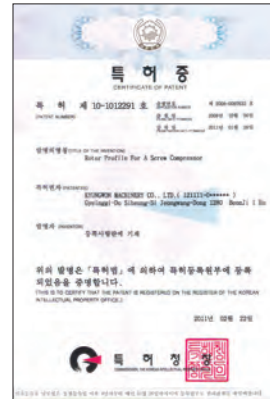


# Strong Power

## New Generation AIREND developed by Kyungwon Machinery

### ● An accumulated experience for 30 years

- ◆ After breaking up with SRM in Sweden, Kyungwon improved its technology by focusing on Know-How business model and developed advanced technology called "α" Profile.
- ◆ Kyungwon develops its AIREND by applying the 3D Design Program and revising through their Simulation program



## ● Fifth Generation Profile: “ $\alpha$ ” Profile

- ⊗ Reduced the rate of Blow Hole and slip during startup with minimizing scratches from a vibration. Also, noise level is reduced and improved on its power losses.
- ⊗ Augmented on its accuracy by increasing its pressure in the space of a Rotor.
- ⊗ Sealing Line has a minimal leakage to maximize and reduce volumetric efficiency.
- ⊗ Over 9% of an “ $\alpha$ ” profile conventional thermal efficiency has been improved.



### Profile Progress



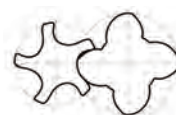
SRM A Profile, 1977



SRM C Profile, 1979



SRM D Profile, 1982



SRM G Profile, 1998



KMC “ $\alpha$ ” Profile, 2008

## ● Stronger Resistance

- ⊗ AIREND manufactured by Kyungwon casts in all of the nation's best technology skills and equipment.
- ⊗ Stress and structural analysis is based on casting the thickness and improving the structure, vibration and noise reduction.
- ⊗ G2.5 grade balancing regulation and minimizing vibrations in the high-speed rotation to improve its bearing life.
- ⊗ Adopted a dual bearing structure to have sufficient rigidity against an axial load

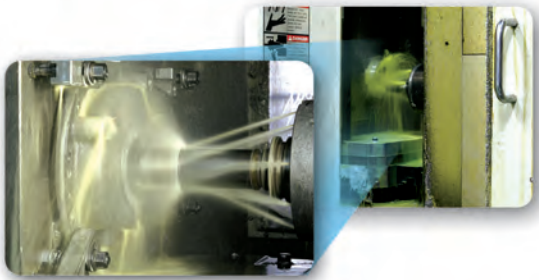


## ● Seal leaks and improved life complete block

- ⊗ Sealing System has its own 3 steps to drive the shaft and resolve a leakage in its route source.
- ⊗ By having Oil Return Line between first and second seal prevents oil leakage into its interior.
- ⊗ Applying a special O-Ring seal to prevent minor leaks of oil.

# Strong Power

## ○ State-of processing equipment



### ▲ MCT Process

Casing of an AIREND is manufactured by Kyungwon in accordance with ISO quality management procedures and their quality control

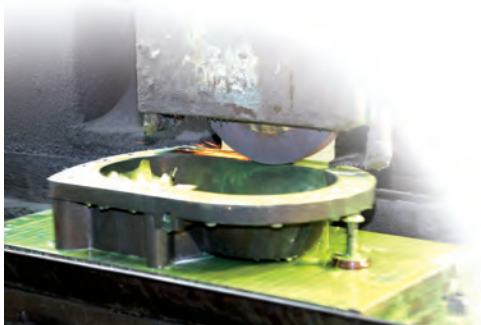


### ▲ Rotor Milling Process

Rotor is cut by three different types of precision machining process. Roughing, Semi-Finishing, Finishing, etc.

### ▶ Paring Process

High Efficiency is achieved by an optimal combination of Pairing Machine.



### ◀ Grinding Process

In order to keep the gap between a Rotor and Casing, precision of the main Face is responsible for 100% of its grinding

### ▶ Balancing Process

Kyungwon's Rotor is G2.5 Rotor Balancing grades.





## ● Strict Quality Control



### ▲ Measuring Rotor Casting

In order to maintain a perfect performance, 3-D Measuring Machine is at hand to manage.

## ● Complete Performance Verification



### ▲ Dynamo Tester

Perfect for verifying temperature, pressure, air flow, power, etc. over twenty items of Dynamo Test is conducted.

# Strong Power

## Direct Driven System

### ● A Large Airend and Direct Driven high Efficient

- ⌘ Kyungwon's main type is to remove the multiplying gear by adopting a direct drive system which is connected directly to an AIREND. (30-100HP)
- ⌘ Direct Driven System increases the transfer efficiency by removing its transmission loss from a belt slip.
- ⌘ Direct Driven System approach does not need to replace belt and it eliminates noise caused by multiplying gears.
- ⌘ Kyungwon will only use high efficient certified motor recognized by government.
- ⌘ Omni-Function Test with the latest production equipment and completed by using energy sufficient motor.





# Quiet Operation

## Quality conversation you can have while it operates

- ❖ The next generation AIREND developed by Kyungwon's technology ensures a silent operation at a high speed.
- ❖ Kyungwon's culmination of 30 years know-how: "a" profile applies
- ❖ Casing designed through structural analysis
- ❖ Rotor with high precision machining to improve sliding in between.
- ❖ Simulation of a flow of cooling air through a design and Sirocco Fan Silencer designed to minimize operation noise to due to an air friction.
- ❖ Noise caused by transmission of vibration is eliminated by using Stainless Flexible Tube for reel and pipe joints.
- ❖ High-density acoustic noise has been minimized.
- ❖ Venting System will minimize the power consumption and noise at no load.



## Superiority in Noise Level

Left Side	
AS31	65dB(A)
AS51	68dB(A)
AS101	74dB(A)

Front Side	
AS31	63dB(A)
AS51	65dB(A)
AS101	72dB(A)



Rear Side	
AS31	66dB(A)
AS51	67dB(A)
AS101	75dB(A)

Right Side	
AS31	64dB(A)
AS51	66dB(A)
AS101	75dB(A)

※ The values measured in accordance with ISO 2151 (2009-1).

# User Friendly Design

## Easy Operation

- ❖ Easy operation from a key-pad
- ❖ Multilingual (Korean, Chinese, English, Russian, Portuguese) supported to operate from abroad its convenient to use
- ❖ Management contracts with a pyramid approach is easy to operate for beginners.
- ❖ Large LCD Panel for a visual check.
- ❖ History up to 160 entries can be monitored to achieve a stable operation, as well as to protect your machine thoroughly.



Standard Controller

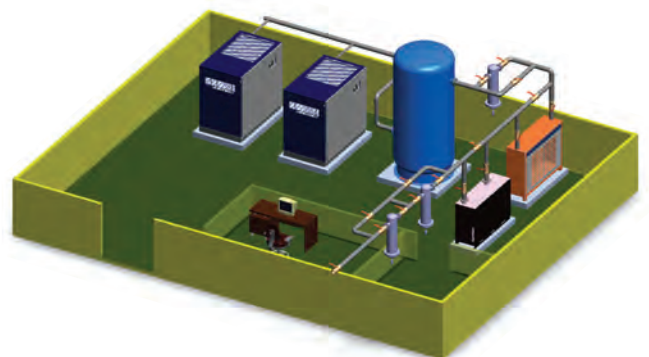
## Easy Maintenance

- ❖ Opening a Front Door cover to exchange all part conveniently and minimizes maintenance time
- ❖ Structure of high-quality O-Ring Flange connections with pipe replacement parts, maintenance costs is minimized.
- ❖ 25A-diameter oil drain port and an oil change at 40 saves maintenance time for oil.
- ❖ Separator Tank attached to an analog pressure gauge is useful when performing maintenance.
- ❖ Controller Panel and the Front Door remove separately in a confined space so that maintenance checks are easily accessible.



## Easy Installation

- ❖ Kyungwon's screw compressors with low operation noise and vibration ensure easy and convenient installation as well as enabling the installation of minimizing pipe length.
- ❖ A short length of pipe to minimize the pressure loss and reduced operating costs.
- ❖ Reduce the installation cost.
- ❖ Kyungwon's quiet screw compressor does not require a separate room to reduce installation costs. Exhaust duct has been minimized to operate at a high stable ambient temperature. Exhaust duct installation cost savings. The inside is a short plant. Physical size is compact to minimize the footprint can be installed easily in tight spaces.



# High Reliability

## ● Exceptional durability

- ❖ Air-flow cooling structure was designed accordance to a result of analysis from the machines to a uniformed internal temperature procedure. Constant inlet temperature maintains a stable discharge of air temperature at an owner's discretion.
- ❖ Cooling Fan and Motor relaxing ambient temperature at 50 degrees allows a stable operation.
- ❖ The next generation of Kyungwon's AIREND bearing design life of 100,000 HR



## ● The best use of performance parts

- ❖ Kyungwon's suction Filter, Oil Filter, Oil Separator are developed by the world's leading manufacturers
- ❖ Suction Valve, By-Pass Valve, MPV, etc. more than 500,000 operational test have been done and its secured through its durable reliability accelerated life testing.
- ❖ Collaboration of Kyungwon's technicians and technicians of the world's leading oil companies has developed excellent life performance lubrication products.
- ❖ All Kyungwon's EMI and EMC controller passed the CE test for its motor class.



## ● Step 5 quality assurance systems

- ❖ **3-D Simulation Design** : All of the products from Kyungwon were developed from its earlier design stage to conditional analysis of due diligent final product design stage.
- ❖ **Parts ALT Test (Accelerated Life Test)** : All of the compressor parts from Kyungwon were tested for accelerated life and its reliability.
- ❖ **Performance Test** : performance tests in accordance with the ISO and KS thoroughly by means of an approved performance test was conducted.
- ❖ **Simulated Test** : Reliability was conducted in the laboratory thus creating an artificial severe environment were carried out to test durability.
- ❖ **Field Test** : After completing variety of test rooms, final examine is performed in accordance with mirroring customer's site and their conditional use.





# Variable Speed Drive (AS V Series)



## Features & Benefits

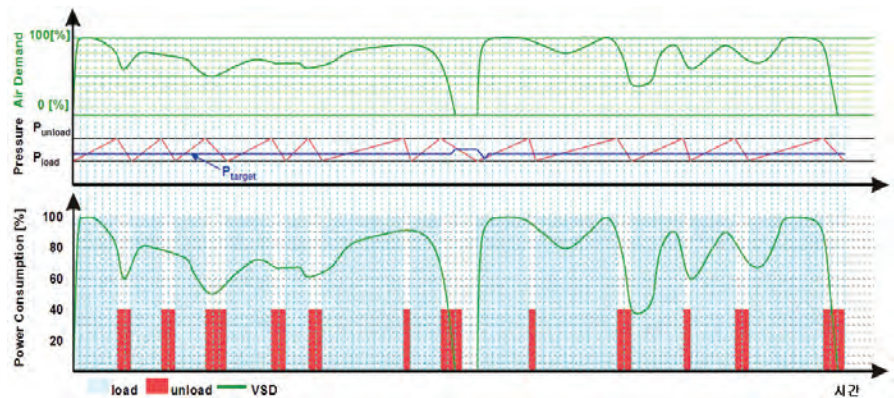
- CE and UL certification from a proven technology and variety of high-efficiency inverters with EMC solutions has been applied
- Target Pressure setting up of more than 30% energy savings
- Compressor speed control according to hatching
- Discharge pressure set free

- 1 Inverter & Control Box 2 Main Motor
- 3 Separator Tank 4 Aired
- 5 Suction Filter Ass'y 6 Oil & After Cooler
- 7 Inverter Controller

## VSD Reference

### Application Power Consumption Advantage

- Load factor : 76.7%
- The total power consumption
  - Load power : 89.2%
  - Quiescent power : 10.8%
- Enter the criteria for applying the same standard VSD 10.8% power savings compared to Setting
- Target Pressure compressor capacity can be reduced to 5% of additional power



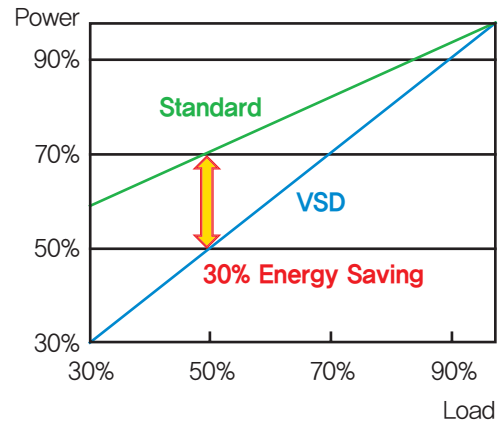
## Inverter Controller

- Motor speed controlled according to the compressed air requirements
- Inverter status display using characters
- Noise Level approved and tested by EMC



## ● Energy savings of VSD Screw Compressor

- ⊗ Reduced power consumed during no-load operation: change in velocity of a free air aligning itself with System requirements for fluctuation respond quickly and accurately
- ⊗ Required compressed air = unnecessary production of compressed air to prevent energy loss due to Power reduction.
- ⊗ Target Pressure: Static pressure control available through Kyungwon's VSD screw compressors to meet the needs of a System that can be configured so that a minimum pressure of compressor capacity can be reduced up to an additional 5% of power
- ⊗ (Soft Start) Inverter prevent power loss from an Over Shoot and reduces reduction of a Motor life.



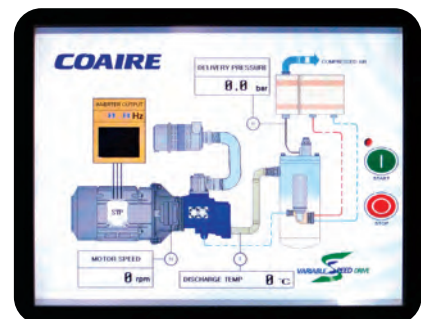
## ● VSD Screw Compressor Applications

- ⊗ Large changes in a compressed air system requirements
- ⊗ When a production line operation system air consumption pattern changes drastically
- ⊗ Day / night variation of a production line requirements for air
- ⊗ Monthly / seasonal variation in production according to changes in air, Equipment production line with expansion plans
- ⊗ Multiple compressor, which operates a large facility diachronic: Standard Screw (=Base Load) VSD screw(= Top Load)
- ⊗ Pressure fluctuation system is less precise Form of compressed air consumption is constant and static pressure system is required



## ● Option

- ⊗ 10" Touch Screen
  - ▶ Easy to identify the operating status
  - ▶ Journal operation is not needed (Data Backup can be kept after formatting to an Excel File)
  - ▶ special configuration, operation, management can be easily performed
  - ▶ Trend analysis using Graph using compressed air available (daily, weekly, monthly)
  - ▶ Schedule operation is possible



# Various Model

## AS Series



- ✧ Capacity : 30~40HP
- ✧ Direct Coupled Type
- ✧ Standard Full Micom Applied
- ✧ Highly Efficient Motor
- ✧ Sirocco Fan
- ✧ High-pressure, High-efficient Cooler  
(Working Press. 16Kgf/cm2G)
- ✧ Float Type Level Gauge

- ✧ Capacity : 50~250HP
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- ✧ High-pressure, High-efficient Cooler  
(Working Press. 16Kgf/cm2G)
- ✧ Float Type Level Gauge
- ✧ Option
  - Water Cooling Type
  - Reactor Starter



- ✧ Capacity : 300~500HP
- ✧ Direct Coupled Type
- ✧ Standard Full Micom Applied
- ✧ Highly Efficient Motor
- ✧ Dual Tower Separator Tank
- ✧ World-renowned Airend
- ✧ Option
  - 10" Touch Screen
  - Water Cooling Type
  - Reactor Starter
  - High Voltage



# Various models of Kyungwon products will satisfy all your requirements.

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## AS V Series (Inverter Type)

- ❖ Capacity : 50~200 HP
- ❖ CE Certified Inverter
- ❖ Direct Coupled Type
- ❖ Highly Efficient Motor
- ❖ Exclusive Controller for Inverter
- ❖ High-pressure, High-efficient Cooler  
(Working Press. 16Kgf/cm<sup>2</sup>G)
- ❖ Option : 10" Touch Screen  
Water Cooling Type



## AS B Series (Belt Drive Type)

- ❖ Capacity : 7.5~20HP
- ❖ Narrow 3V Belt
- ❖ Compact and Simplified Piping Structure
- ❖ Spin-on Type Separator
- ❖ Convenient Compact Micom Controller
- ❖ Option : Standard Micom

# Tandem Compressor

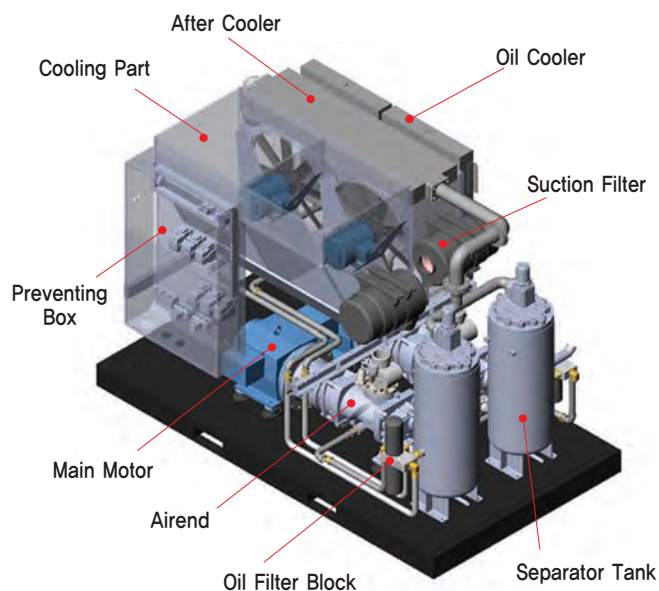
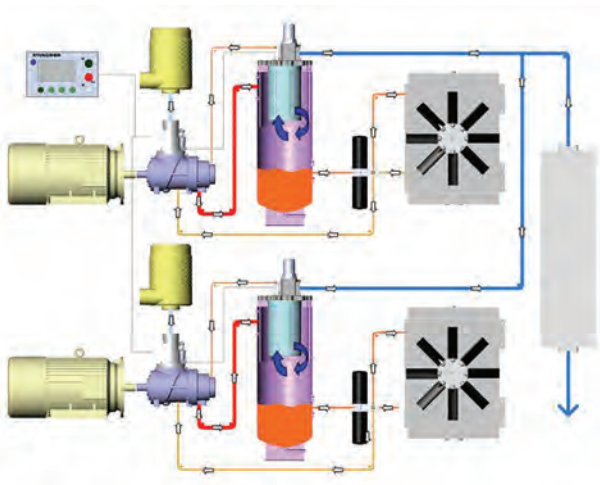
■ 300HP~500HP



## ● Features & Benefits

- ❖ Various Operating modes according to the terms of use
  - A/B Combination of compressor operation
  - A/B Simultaneous driving the compressor
  - A Single operation or compressor
- ❖ Dual Compressor System
  - Compression systems, each consisting two individuals
  - 0%, 20%, 40%, 70%, 100% 5 phase Load-balancing feature that can save energy
- ❖ Oil cooler, After cooler sequentially activates energy saving features to reduce start-load function
- ❖ Compressor is equipped with a convenient maintenance and exchange separations using a variety of on-site operation mode.

■ Incoming air    ■ Air / Oil mixture  
■ Outgoing air    ■ Oil



## ● User Friendly Design

- ⊗ Pull down Menu approach applies to a 6" Touch Screen Controller
- ⊗ Various operating modes can be selected (combination operation, simultaneous operation, stand-alone operation)
- ⊗ Provides a variety of information (operating status and parts replacement cycle)
- ⊗ Daily, weekly schedule
- ⊗ Multi-language support (Korean, Chinese, English, Russian, Portuguese)



Touch Screen Controller

## ● High Reliability

- ⊗ Improve effectiveness of Sealing and maximize volumetric efficiency.
- ⊗ Moderate to heavy load bearing Double System securing bearing life of 100,000HR
- ⊗ Double Lip Seal or Triple Shaft Sealing System to block leakage
- ⊗ Minimize Oil Carry over by applying Dual Separation System

## ● Optimum Cooling part

- ⊗ Oil Cooler, designed to aspirate the aspects of placement and it's easy to check and clean for wear.
- ⊗ High efficient Multi-wing and Cooling Fan
- ⊗ Applies insulation class H Fan Motor



# Specification

## AS K Series (Tandem Type) 50HZ

Compressor Type	Max. Working pressure		Capacity		Motor Power		Noise	Dimension (LxWxH)	Weight	Air outlet
	kgf/cm <sup>2</sup> G	psig	m <sup>3</sup> /min	cfm	kW	HP	dB(A)	mm	kg	A(B)
AS301K	7.0	100	41.4	1462	264	350	82	3500x1940x2300	4922	100(4)
	8.5	120	40.6	1434						
	9.5	135	40.2	1420						
AS351K	7.0	100	49.4	1745	132×2	364	84	3500x1940x2300	5872	100(4)
	8.5	120	43.3	1529						
	9.5	135	41.4	1462						
AS401K	7.0	100	53.0	1872	320	430	87	3500x1940x2300	5872	100(4)
	8.5	120	48.0	1695						
	9.5	135	45.4	1603						
AS501K	7.0	100	67	2366	200×2	536	90	3800x2140x2450	6132	100(4)
	8.5	120	59	2083						
	9.5	135	55	1942						

1. Type – Standard Model : No markings, B : Belt Drive Type, W : Water Cooling Type
2. Inquiries on specifications other than listed for power and pressure should be directed to us.



# Specification

## AS Series (50HZ)

Compressor Type	Max. Working pressure		Capacity		Motor Power		Noise	Dimension (LxWxH)	Weight	Airoutlet
	kgf/cm <sup>2</sup> G	psig	m <sup>3</sup> /min	cfm	kW	HP	dB(A)	mm	kg	A(B)
AS31	7.0	100	3.1	109	22	30	63	1400x830x1350	700	25(1)
	8.5	120	3.1	109	22	30				
	9.5	135	3.1	109	22	30				
AS41	7.0	100	4.8	170	30	40	65	1400x830x1350	785	25(1)
	8.5	120	4.5	159	30	40				
	9.5	135	4.2	148	30	40				
AS51	7.0	100	5.9	208	37	50	65	1660x1030x1607	1030	40(1½)
	8.5	120	5.8	205	37	50				
	9.5	135	4.4	155	37	50				
AS76	7.0	100	10.4	367	55	75	72	2000x1210x1857	1630	50(2)
	8.5	120	8.4	297	55	75				
	9.5	135	8.0	283	55	75				
AS102	7.0	100	12.5	441	75	100	75	2000x1210x1857	1685	50(2)
	8.5	120	12.5	441	75	100				
	9.5	135	10.2	360	75	100				
AS151	7.0	100	20.7	731	132	175	78	2550x1470x2156	2785	65(2½)
	8.5	120	20.3	717	132	175				
	9.5	135	20.1	710	132	175				
AS201	7.0	100	26.5	936	160	215	79	2700x1640x2156	2950	80(3)
	8.5	120	24.0	848	160	215				
	9.5	135	22.7	802	160	215				
AS251	7.0	100	31.0	1095	190	250	81	2700x1640x2156	3250	80(3)
	8.5	120	31.0	1095	190	250				
	9.5	135	30.9	1091	190	250				
AS301	7.0	100	38.9	1374	225	300	84	3500x1940x2300	6200	100(4)
	8.5	120	35.9	1268	225	300				
	9.5	135	32.6	1151	225	300				
AS351	7.0	100	42.8	1511	265	350	87	3500x1940x2300	6350	100(4)
	8.5	120	41.9	1480	265	350				
	9.5	135	41.9	1480	265	350				

1. Type – Standard Model : No markings, B : Belt Drive Type, W : Water Cooling Type, V : Inverter Type, P : Primium Type
2. Inquiries on specifications other than listed for power and pressure should be directed to us.

## AS B Series (Belt Drive Type) 50HZ

Compressor Type	Max. Working pressure		Capacity		Motor Power		Noise	Dimension (LxWxH)	Weight	Airoutlet
	kgf/cm <sup>2</sup> G	psig	m <sup>3</sup> /min	cfm	kW	HP	dB(A)	mm	kg	A(B)
AS7B	7.0	100	0.83	29	5.5	7.5	62	1100x730x1275	325	20(3/4)
	9.0	128	0.64	23	5.5	7.5				
AS10B	7.0	100	1.20	42	7.5	10	63	1100x730x1275	350	20(3/4)
	9.0	128	1.00	35	7.5	10				
AS15B	7.0	100	1.90	67	11.0	15	65	1100x730x1275	394	20(3/4)
	9.0	128	1.50	53	11.0	15				
AS21B	7.0	100	2.6	92	15	20	68	1400x830x1350	580	25(1)
	8.5	120	2.2	79	15	20				
	9.0	135	1.9	69	15	20				

## AS V Series (Inverter Type) 50HZ

Compressor Type	Max. Working pressure		Capacity		Motor Power		Noise	Dimension (LxWxH)	Weight	Airoutlet
	kgf/cm <sup>2</sup> G	psig	m <sup>3</sup> /min	cfm	kW	HP	dB(A)	mm	kg	A(B)
AS51V	7.0	100	2.3~5.8	82~205	37	50	65	1660x1130x1607	1100	40(1½)
	8.5	120	2.3~5.7	81~201						
	9.5	135	2.2~5.6	79~198						
AS76V	7.0	100	4.2~10.4	147~367	55	75	72	2000x1210x1857	1730	50(2)
	8.5	120	3.6~8.9	126~314						
	9.5	135	3.4~8.5	120~300						
AS101V	7.0	100	5.0~12.5	177~441	75	100	75	2000x1210x1857	1770	50(2)
	8.5	120	5.0~12.4	175~438						
	9.5	135	4.9~12.3	174~434						
AS151V	7.0	100	8.3~20.7	292~731	132	175	78	3050x1470x2156	2970	65(2½)
	8.5	120	8.1~20.3	287~717						
	9.5	135	8.0~20.1	284~710						
AS201V	7.0	100	9.8~24.5	346~865	160	215	79	3200x1640x2156	3250	80(3)
	8.5	120	9.6~24.0	339~848						
	9.5	135	9.4~23.5	332~830						



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