

COAIRE



OIL-INJECTION SCREW AIR COMPRESSORS PRODUCT CATALOG





The history of compressors in Korea was established and advanced by Coaire.

Since the company was established in 1968, it has developed reciprocating 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, Coaire launched the upgraded CAS series and developed the 5th-generation “ α ” PROFILE AIREND, which makes the company justifiably equal to world-renowned makers.

The company has about 40 official agencies across the country and numerous production sites and customer centers located in 25 countries around the world in countries such as the US, China, and Thailand, in order to provide its customers with the best possible service.

As a total air solution producer, Coaire manufactures such products as oil-free compressors, oil injection reciprocating 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 will continue to be written by Coaire, which is determined to do its best to be a leader in compressor industry throughout the world.

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ISO13485/2003

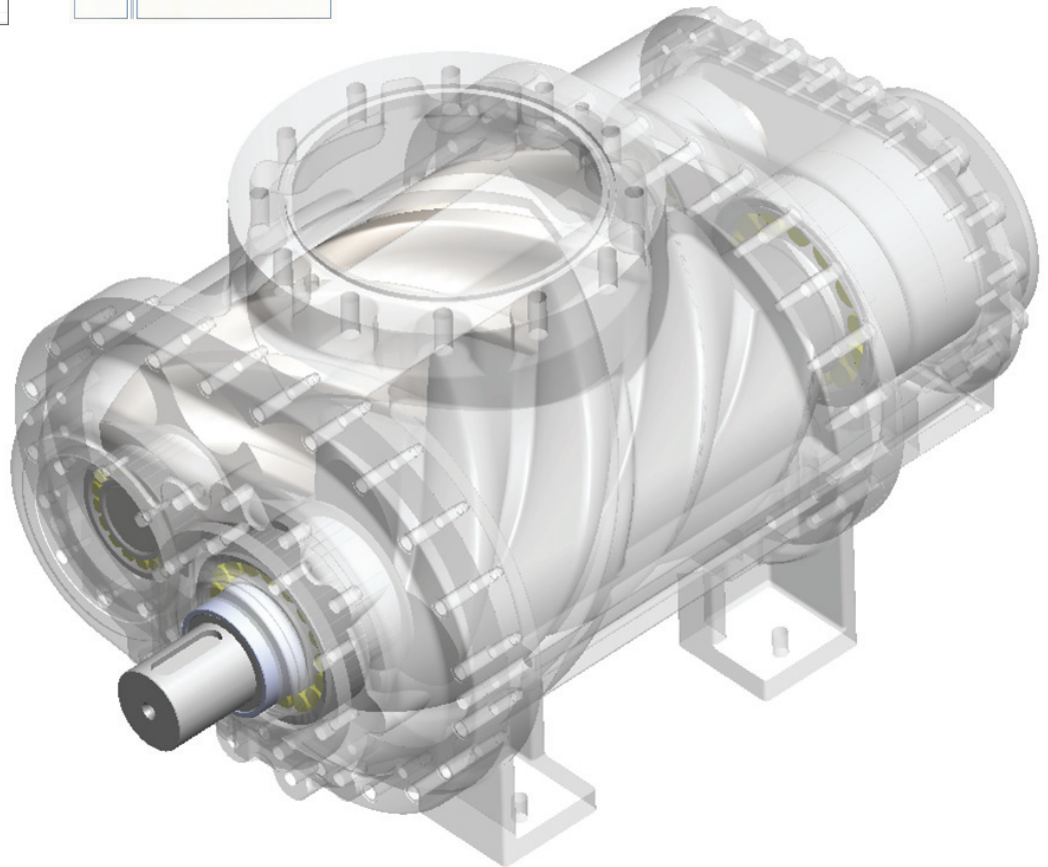
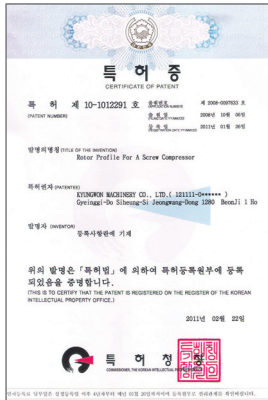


- 2014 ● Acquired ISO 13485 (Quality Management Certificate for the design and manufacture of medical devices)
- 2013 ● Awarded a Certificate of Merit as an Exporting company
- 2012 ● Acquired ISO 8573-1 CLASS 0 for the Scroll Compressor
- 2011 ● Acquired CE-MARK for the Scroll Compressor
- 2006 ● Selected as a Technology Innovation SME (INNO-BIZ Certificate)
- 2005 ● Acquired NT-Mark (Korea Innovation Certificate)
- 2004 ● Local Manufacturing of Oil Free Scroll Compressor
- 2001 ● Acquired Q-Mark
Establishment of an affiliated R&D Center
- 2000 ● Changed Manufacturing Site and Headquarters to a new location
- 1996 ● Acquired ASME N STAMP (Heat Exchangers)
- 1995 ● Acquired ISO 9001
- 1994 ● Acquired American SCREW COMPRESSOR UL, Canadian CSA
- 1986 ● Technical partnership with SRM, Sweden, Launch of Screw Air Compressor
- 1970 ● Launch of Reciprocating Air Compressor
- 1968 ● Establishment of Kyungwon Machinery

OIL-INJECTION SCREW AIR COMPRESSOR

New generation AIREND developed by Coaire

- After Coaire’s relationship with a Swedish SRM company was over, it began focusing on the “know-how”, by constantly improving its technology and developing a new “ α ” profile of a screw airend.
- All AIRENDS of Coaire are developed by applying a 3D Design Program and tested on the Simulation Program.

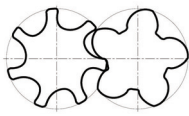


● Fifth Generation “ α ” Profile

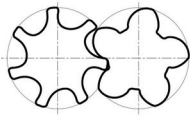
- ⦿ Reduced the size of Blow Hole and eliminated friction between rotors, thus reducing vibration and noise levels and minimizing power losses.
- ⦿ Improved precision of the Rotor Manufacturing by adjusting pressure angle of the tooling.
- ⦿ Narrowed Sealing Line, securing leakage resistance and space efficiency at the same time.
- ⦿ Thermal efficiency of “ α ” profile is 9% higher than of a conventional profile airend.



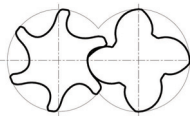
Profile Progress



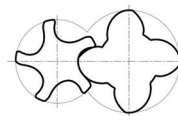
SRM A Profile, 1977



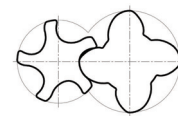
SRM C Profile, 1979



SRM D Profile, 1982



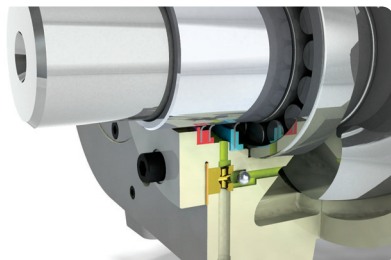
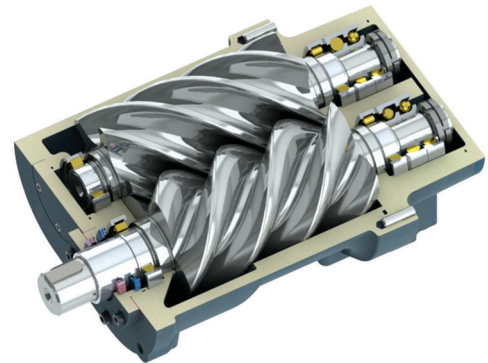
SRM G Profile, 1998



KMC “ α ” Profile, 2008

● Stronger and More Durable

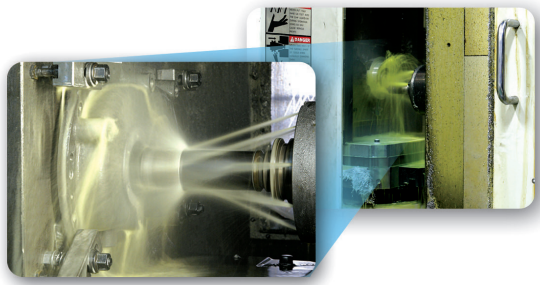
- ⦿ All AIRENDs of Coaire are cast from the material that is produced by the nation’s best technology, equipment and tooling.
- ⦿ Based on the stress and structural analysis, material thickness and structure have been improved and vibration and noise level have been reduced.
- ⦿ G2.5 grade balance control guarantees low vibration even at high speed rotation and extended life time of bearings.
- ⦿ Dual bearing structure gives sufficient rigidity over an axial load.



● Complete Oil Leak Prevention

- ⦿ Three-stage Sealing System at the driving shaft prevents oil leakage causes.
- ⦿ Oil Return Line between the first and the second seals returns oil to the inside of the AIREND.
- ⦿ Special O-ring on the seal completely prevents oil leakage.

New Innovative Processes



▲MCT Process

AIREND casing is manufactured and verified by Coaire in accordance with SO quality standards

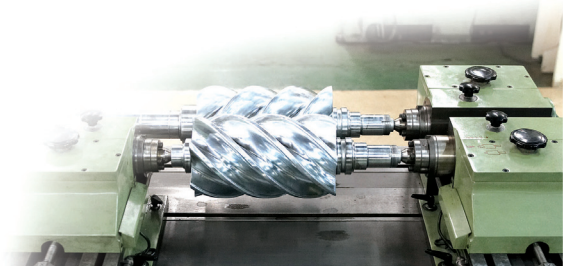


▲Robot Milling Process

Rotor is cut by three different types of precision machining process: drafting, semifinishing and finishing.

Pairing Process ►

High efficiency is achieved by optimal combination of Pairing Machine.

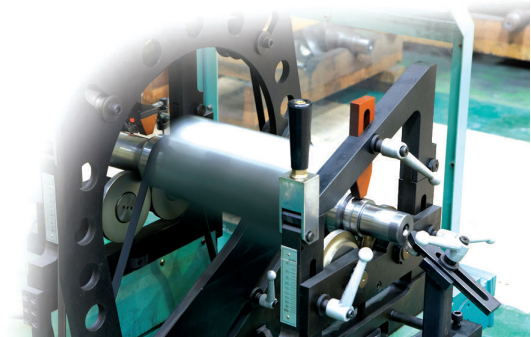


◀Grinding Process

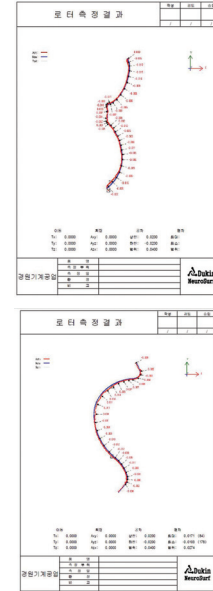
In order to keep a precise gap between rotor and casing whole surface is 100% grinded.

Balancing Process ►

All rotors made by Coaire are controlled according to G2.5 Balancing Grade.



● Strict Quality Control



▲ Measuring Rotor Casing

In order to achieve perfect performance all parts are measured by 3-D Measuring Machine.

● Complete Performance Verification



•Dynamo Tester Data

▲ Dynamo Test

More than 20 Dynamo tests are conducted for verifying temperature, pressure, capacity, power, etc. in order to guarantee optimal performance.

Quiet enough to have a comfortable conversation

- ⊗ The next generation AIREND developed by Kyungwon's technology ensures a silent operation at a high speed.
 - ▶ Coaire's development product : "α" profile applied
 - ▶ Casing designed in accordance with the structural analysis
 - ▶ Improved sliding friction between rotors by high-precision machining process
- ⊗ Noise caused by transmission of vibration is eliminated by using Stainless Flexible Tube for reel and pipe joints.
- ⊗ Acoustic noise has been minimized by applying high density sound absorbing material.
- ⊗ Venting System minimizes power consumption and noise at no load



Lowest Noise Level

Left Side	
CAS030S	65dB(A)
CAS075S	68dB(A)
CAS125S	74dB(A)

Front Side	
CAS030S	63dB(A)
CAS075S	65dB(A)
CAS125S	72dB(A)



Rear Side	
CAS030S	66dB(A)
CAS075S	67dB(A)
CAS125S	75dB(A)

Right Side	
CAS030S	64dB(A)
CAS075S	66dB(A)
CAS125S	75dB(A)

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

User Friendly Design

Convenience

- Easy operation using key-pad
- Multilingual (English, Korean, Chinese, Russian, Spanish, Portuguese)
- Pyramid structure of a menu designed for convenient use
- Large LCD panel for a visual monitoring
- Up to 60 journal entries are saved in order to secure stable operation and thorough protection for your machine



Standard Controller

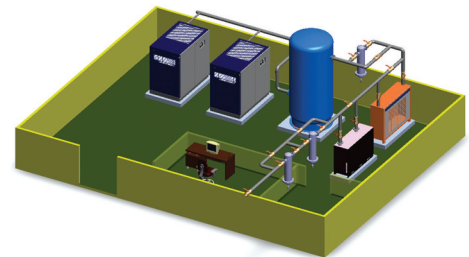
Easy Maintenance

- Easily detached front door allows replacement of all parts conveniently and minimizes maintenance time.
- Flange connection pipes using high quality O-ring structure reduces maintenance costs.
- 25A oil drain port and 40A oilinput port save time for oil change.
- In order to check maintenance an analogue pressure gauge is attached to the separator tank.



Easy Installation

- Low operation noise and low vibration of Coaire's Screw Compressors ensures convenient installation inside the factory as well as the use of less complex piping structure.
 - ▶ Short length of pipes reduces pressure loss and operation costs
 - ▶ Short length of pipes reduces installation costs
 - ▶ Coaire's quiet screw compressors do not require a separate room for installation
- Exhaust ducts size has been reduced while ensuring safe operation at a high ambient temperature
- Reduces costs for exhaust duct installation Inside structure of a factory is simple
- Compact size minimizes installation area and enables installation even in narrow spaces.



Direct Driven System

Large AIREND and direct driven structure with high-efficient motor

- All types of Coaire's AIRENDS are connected to the motor by direct driven system. (30HP~200HP)
- Direct Driven System increases transfer efficiency by removing transmission loss caused by a belt slip.
- Direct Driven System does not require belt replacement and eliminates noise caused by multiple gears.
- Coaire uses only high-efficient certified motors.
- Energy efficiency is achieved by applying high-efficient motor which has passed Omni-Function Test



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High Quality

Exceptional Durability

- ❖ Based on air flow analysis cooling structure was designed in order to ensure uniform inside temperature, stable scheduled incoming air temperature and safe discharged air flow temperature.
- ❖ Cooling Fan and Motor ensure stable operation even at an ambient temperature of 50 degrees
- ❖ Coaire’s new generation AIREND’s bearings are able to run for at least 100,000 hours.



High Quality Components

- ❖ Components such as Suction Filter, Oil Filter and Oil Separator are made by the world’s leading manufacturers.
- ❖ Suction Valve, Bypass Valve, MPV, etc. have been tested for performance and durability more than 500,000 times and have guaranteed performance.
- ❖ Coaire’s engineers in collaboration with the world’s leading oil companies R&DE teams have developed excellent and durable oil lubrication products.
- ❖ Controllers have passed the EMI and EMC testing and have CE Certificate.



Five-step Quality Assurance System

- ❖ **3-D Simulation Design** : All Coaire products have been designed based on the technical analysis from the development stage till final testing.
- ❖ **Parts ALT Test (Accelerated Life Test)**: All components used in Coaire’s compressors have been tested for accelerated life test and have guaranteed durability.
- ❖ **Performance Test** : Performance tests were conducted based on the ISO and KS Quality Standards.
- ❖ **Simulated Test** : Durability tests were conducted in the laboratory where testing conditions were setup for a more severe environment.
- ❖ **Field Test** : After completing variety of tests, final approval test was run at the factory sites with the real conditions.



Variable Speed Drive



Features & Benefits

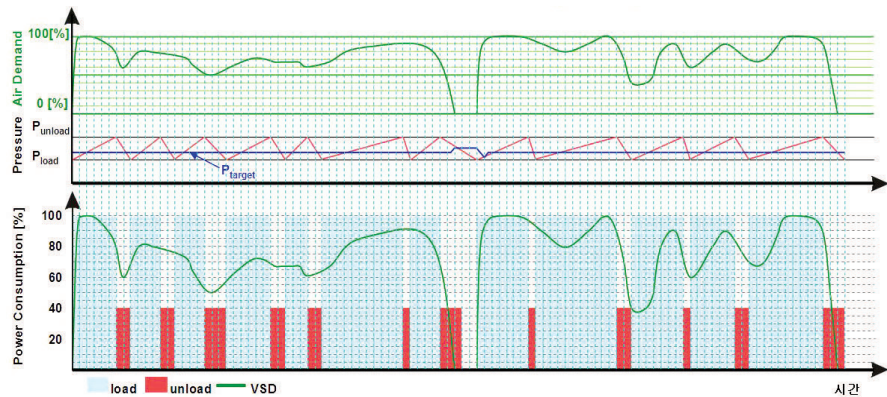
- ⦿ Application of efficient inverters that have passed CE and UL Certification and have various EMC solutions.
- ⦿ Energy savings of more than 30% can be achieved by Target Pressure settings.
- ⦿ Compressor speed control according to the loading factor.
- ⦿ Discharge pressure set free.
 - It is possible to operate even when the inverter is out of order. There is an option to set for Back up System

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

VSD Reference

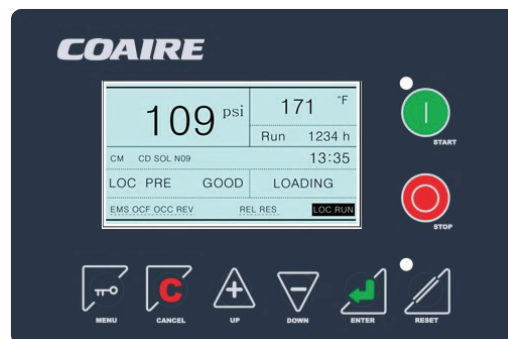
Power Consumption Advantage

- ⦿ Power Consumption Advantage
Load factor: 76.7%
Total power consumption:
- Load power: 89.2%
- No load power: 10.8%
- ⦿ When applying VSD there will be 10.8% power savings compared to the regular run at the same load factor.
- ⦿ By setting Target Pressure it is possible to save 5% of compressor's capacity



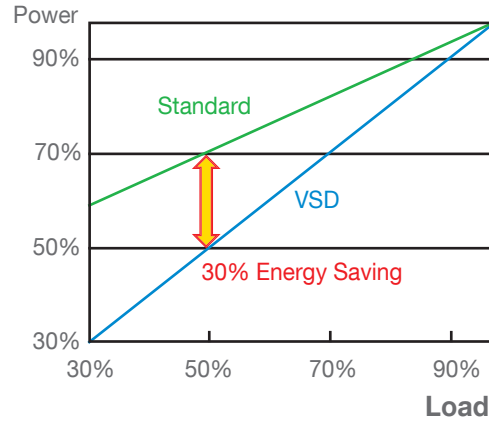
Inverter Controller

- ⦿ Motor speed is adjusted according to the compressed air requirements
- ⦿ Converter and Inverter status will be displayed on the screen
- ⦿ Noise level approved and tested according to EMC



Energy Savings of VSD Screw Compressor

- ⊗ Reduced power consumption during no-load operation: quick change in rotation speed allows quick and accurate alignment with the system air requirements fluctuations.
- ⊗ Required compressed air = Produced compressed air
- ⊗ No unnecessary production of compressed air and no energy loss.
- ⊗ Energy savings due to Target Pressure settings: static pressure control available in Coaire’s VSD Screw compressors, allows
- ⊗ pressure configuration based on the system requirements and can save 5% of compressor capacity additionally.
- ⊗ Inverter’s Soft Start function prevent power loss from an overshooting and extends motor life time.



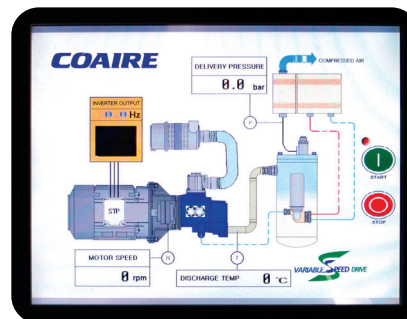
VSD Screw Compressor Application

- ⊗ Systems with large fluctuations in a compressed air requirements
 1. When a production line’s system air consumption pattern changes drastically
 2. When day/night shifts require variable air consumption
 3. When monthly/seasonal variation in production requires different air consumption
- ⊗ Production line with expansion plans
- ⊗ Equipment which operates multiple compressors simultaneously: Standard screw (Base Load) + VSD Screw (Top load)
- ⊗ Systems with stable static pressure requirements



Option

- ⊗ 10" Touch Screen
 - ▶ Easy to monitor operating status
 - ▶ No need to write down the journal entries (After Data Back Up save files in Excel format)
 - ▶ Easy to setup configuration, operation mode, control
 - ▶ Trend analysis of compressed air usage is available using graphs (daily, weekly, monthly)
 - ▶ Schedule operation is possible



Coaire manufactures products to fit many applications

CAS "S" Series (Direct Type)



- ✦ Capacity : 30~100HP
- ✦ Direct Coupled Type
- ✦ Standard Full Micom Applied
- ✦ Highly Efficient Motor
- ✦ Turbo Fan
- ✦ High-pressure, High-efficient Cooler (Working Press. 227 psi)
- ✦ Float Type Level Gauge

- ✦ Capacity: 50~270HP
- ✦ Direct Coupled Type
- ✦ Standard Full Micom Applied
- ✦ Highly Efficient Motor
- ✦ Sirocco Fan
- ✦ High-pressure, High-efficient Cooler (Working Press. 227 psi)
- ✦ Float Type Level Gauge
- ✦ Option
 - Water Cooling Type
 - Reactor Starter



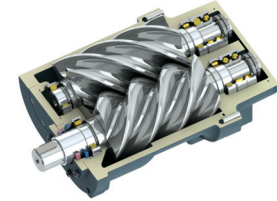
- ✦ Capacity : 300~430HP
- ✦ Direct Coupled Type
- ✦ Standard Full Micom Applied
- ✦ Highly Efficient Motor
- ✦ Dual Tower Separator Tank
- ✦ World-renowned Airend
- ✦ Option
 - 10" Touch Screen
 - Water Cooling Type
 - Reactor Starter
 - High Voltage

CAS "V" Series (Inverter Type)

- ✦ Capacity : 30~430 HP
- ✦ CE Certified Inverter
- ✦ Direct Coupled Type
- ✦ Highly Efficient Motor
- ✦ Exclusive Controller for Inverter
- ✦ High-pressure, High-efficient Cooler (Working Press. 227 psi)
- ✦ Option : 10" Touch Screen
 - Water Cooling Type



OIL-INJECTION SCREW AIR COMPRESSOR



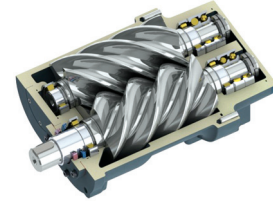
Specifications CAS "S" Series

Model	Max. Working Pressure	Capacity	Motor Power	Sound Level	Dimension	Weight	Discharge Air Outlet
	PSIG	CFM	HP	dB	L x W x H inch	LBS	inch
CAS030S	100	127	30	61	55.1 x 32.7 x 53.1	1735	1
	125	124					
	150	111					
CAS050S	100	205	50	63	65.4 x 40.6 x 63.3	2579	1 1/2
	125	201					
	150	184					
CAS075S	100	364	75	70	78.7 x 54.3 x 73.1	3920	2
	125	318					
	150	293					
CAS100S	100	438	100	73	78.7 x 54.3 x 73.1	4035	2
	125	434					
	150	381					
CAS125S	100	579	125	75	100.4 x 57.9 x 84.9	5512	2 1/2
	125	564					
	150	504					
CAS175S	100	710	175	78	100.4 x 57.9 x 84.9	6140	2 1/2
	125	706					
	150	670					
CAS220S	100	894	216	79	106.3 x 64.6 x 84.9	8534	3
	125	878					
	150	815					
CAS270S	100	1110	270	81	106.3 x 64.6 x 84.9	7165	3
	125	1082					
	150	947					
CAS300S	100	1374	300	84	160.6 x 74.8 x 92.8	13669	4
	125	1239					
	150	1105					
CAS430S	100	1794	430	89	160.6 x 74.8 x 92.8	14176	4
	125	1783					
	150	1575					

Please contact us for additional technical data or specifications.

Due to ongoing product development, specifications are subject to change without prior notice.

OIL-INJECTION SCREW AIR COMPRESSOR



Specifications

CAS "V" Series (Variable Speed)

Model	Max. Working Pressure	Capacity	Motor Power	Sound Level	Dimension	Weight	Discharge Air Outlet
	PSIG	CFM	HP	dB	L x W x H inch	LBS	inch
CAS030V	100	51-127	30	61	59.1 x 40.6 x 53.1	1795	1
	125	50-124					
	150	44-111					
CAS050V	100	82-205	50	63	65.4 x 44.5 x 68.4	2678	1 1/2
	125	80-201					
	150	74-184					
CAS075V	100	146-364	75	70	78.7 x 54.3 x 82.7	4019	2
	125	127-318					
	150	117-293					
CAS100V	100	175-438	100	73	78.7 x 54.3 x 82.7	4178	2
	125	174-434					
	150	152-381					
CAS125V	100	232-579	125	75	121.7 x 57.9 x 84.9	5655	2 1/2
	125	226-564					
	150	202-504					
CAS175V	100	284-710	175	78	121.7 x 57.9 x 84.9	6275	2 1/2
	125	282-706					
	150	268-670					
CAS220V	100	358-894	216	79	126.0 x 64.6 x 84.9	8669	3
	125	351-878					
	150	326-815					
CAS270V	100	444-1110	270	81	127.0 x 64.6 x 84.9	7300	3
	125	433-1082					
	150	379-947					
CAS300V	100	550-1374	300	84	160.6 x 74.8 x 92.8	13944	4
	125	496-1239					
	150	442-1105					
CAS430V	100	718-1794	430	89	160.6 x 74.8 x 92.8	14756	4
	125	713-1783					
	150	630-1575					

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