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## Oil Free Claw Air Compressor

Absolute Air-an ultimate oil-free air compressor, meeting all the needs.



Always Ahead

More efficient, environment friendly and easy to use.

This air compressor provides clean air while meeting all the needs that an oil-free air compressor is required to satisfy. Its name "Absolute Air", an ultimate oil-free air compressor justifies the same. The air compressor has uniquely shaped claws in the compression chamber to achieve the highest level of efficiency in the range. What's more, the air-cooled two-stage compression mechanism and the latest control method offer extended durability and energy-saving performance.

These remarkable features make Absolute Air an ultimate oil-free air compressor that brings higher quality air to production sites around the world with **ANEST IWATA's** technology and Know How.



## Oilfree Claw Absolute 5 Air

With



#### Oil free compressors have got CLASS ZERO certification

TUV (Independent third party test house) has just certified that air quality from oilfree claw compressors and are in conformity with "Class 0 (ISO8573-2010 [-:-:0]". **ANEST IWATA** is able to supply high quality air to the application where oil contents are to be totally removed.

#### What is Class Zero?

ISO8573-1(JIS B8392-1) defines quality classes for compressed air. Class Zero indicates wall flow oil, oil mist and oil vapor are completely absent. As oil vapor in particular cannot be absorbed by conventional air filters, it is important factories that require clean air use Class Zero compressors.

CLASS	Oil Concentration mg/m³			
0	As specified by the equipment user or supplier and more stringent the Class 1			
1	≦ 0.01			
2	≦ 0.1			
3	≦1			
4	≦ 5			



With ANEST IWATA!

# Cutting-edge technology provides high efficiency durability and clean air. It's an ultimate oil-free air compressor



#### Suction filter

- Inter cooler
- Oil cooler
- 4 After cooler
- 6 Compressor air end
- 6 Solenoid drain valve (inter cooler)
- Oil mist catcher
- 8 Emergency stop switch
- Ontrol panel



The further evolved compressor has claws in its compression chamber. The air compressor has uniquely shaped claws in the compression chamber to achieve the highest level of efficiency in this range.

#### Very high durability

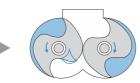
- The uniquely shaped claw compressor consists of two rotors, one male one female.
   Since they do not come into contact with each other as they rotate, the rotors do not wear easily and have a long life.
- The Inner surface of the casing and the surface of the female rotor have special coating for greater air tightness.
- On each rotor, the inlet and outlet are located on symmetric faces. The prevents load from being applied in the axial direction, thus prolonging the life of the bearing.
- The rotor with accurate design are made of stainless steel and high resistant to corrosion. Since they are located symmetrically relative to the axis, they are free from vibration.

#### Fully air-cooled, two state compressor

- The claws are of a fully air-cooled type and do not require cooling fluid (oil, water or coolant). With no extra axillary devices needed, they are easy to maintain.
- The two-stage compression mechanism is used in which an inter cooler cools highpressure compressed air to prevent unnecessary heat expansion in the first stage and the air is compressed efficiently in the second stage. Since the compression heat is low, the main unit runs with far less heat. resulting in stable performance.

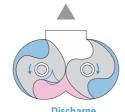
#### Claw Compression principle

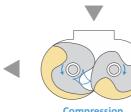




The rotation of the rotors sucks in compressed air

Compression starts as air is sealed by the male and female rotor claws.





The outlet, closed by the female rotor, opens to discharge compressed air.

The male and female rotors rotate in opposite direction to compress air.

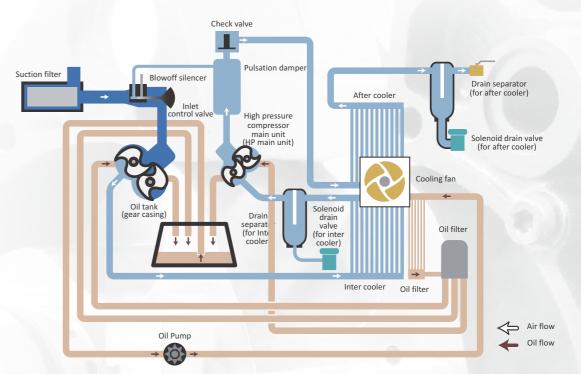
#### Touch panel as standard

An easy-to-operate LCD touch panel is provided. It features maintenance indication, fault indication, remote control and external output terminals. An automatic power fail recovery function is also available as a standard feature.



### Applications





#### Oil mist catcher as a standard component

The compressor has an oil mist catcher as a standard component inside the package. There is no need to set the breathing line, which improves the installation environment.

### The latest compressor diagnosis system is used

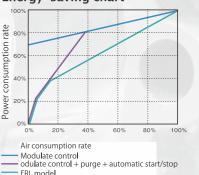
By connecting a measuring instrument to the measuring plug of the compressor main unit, the life of the bearing in the main unit can be checked in advance.



#### Fine dual control enables energysaving operation

In addition to energy-efficient loaded and unloaded operation, automatic motor start/stop is supported. The motor automatically starts and stops up to eight times per unit time, minimizing inefficient unloaded operation.

#### Energy-saving chart



### Inverter control also available, Greater energy savings



Compressor speed control in line with air consumption is provided under all load conditions to reduce power consumption, delivering an optimal air flow for the application.

- Constant pressure control keeps the target pressure within the range of =0.10 Bar, achieving an energy saving of about 8.5% compared with the standard model (loaded and unloaded control)
- An energy saving of about 19% is achieved at 50% load compared to the standard model (loaded and unloaded control).
- The motor stops when air consumption is low.
- A built-in DC reactor is featured that controls harmonics of the inverter in compliance with the
- harmonic guideline of the Japan Electrical Manufacturer's Association (JEMA).
- Low-pressure speed increasing function.

Constant pressure control

## 7.0 Previous model 7.0 Inverter control Constant pressure control (Bar) Time

## 

Air consumption rate

Modulate control

odulate control + purge + automatic start/stor

FRI. model/stop

FRI. model

FRV model

"Absolute air" is friendly on user and environment. The most suitable models can be selected as per the application requirements





#### **Specifications**

Model	Motor rated output kW(HP)	Working pressure Bar	Free Air delivery cfm	Outlet air temperature °C	Air outlet connection B	External dimentions (WxLxH) mm	Weight Kg	Noise level dB (A)	Control system
FRL-220	22kW(30HP)	7.0	131	Intake air + 12°C	G1	1,760x1,000x1,656	1,200	65	Fine dual
FRL-370	37kW(50HP)	7.0	198	Intake air + 12°C	G1 1/2	1,760x1,000x1,656	1,335	68	Fine dual
FRV-220	22kW(30HP)	7.0	131	Intake air + 12°C	G1	1,760x1,000x1,656	1,230	65	Inverter
FRV-370	37kW(50HP)	7.0	198	Intake air + 12°C	G1 1/2	1,760x1,000x1,656	1,340	68	Inverter

- Air delivery is discharged air volume at 7.0 Bar converted into atmospheric pressure. Contact to us for guaranteed value.
- Noise level is measured in an anechoic room at the distance of 1.5m from front, and height of 1.0, at 7.0 Bar, full load operation.
- Dimensions are outer size, excluding protrusions such as ball valve.
- Higher pressure units are also available on request.



### **Applications**





Medical





Pharmaceutical Industries

**Electronic Industries** 







Food Processing

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Anest Iwata 100% oil-free Claw Compressed Air Systems ensure critical applications will never see contamination from oil.

## Why Anest Iwata?

We are ANEST IWATA, the **GLOBAL ONE** company established 90 years ago with the belief of providing Active & Newest Technology worldwide with our. **NUMBER ONE** products. We started our journey with the manufacturing of reciprocating air compressors and now own the credit of pioneering the latest technologies in our field. We are recognised as the best and most preferred name for our oil free technology in various segments, regions & applications.

#### The ANEST IWATA oil free advantage:

- Extremely reliable
- No contamination of product
- More environment friendly
- Certified Class '0' oil free products
- 100% oil free air end
- No contamination of powered equipment
- Less filtration required
- Global after sales support

## Technology