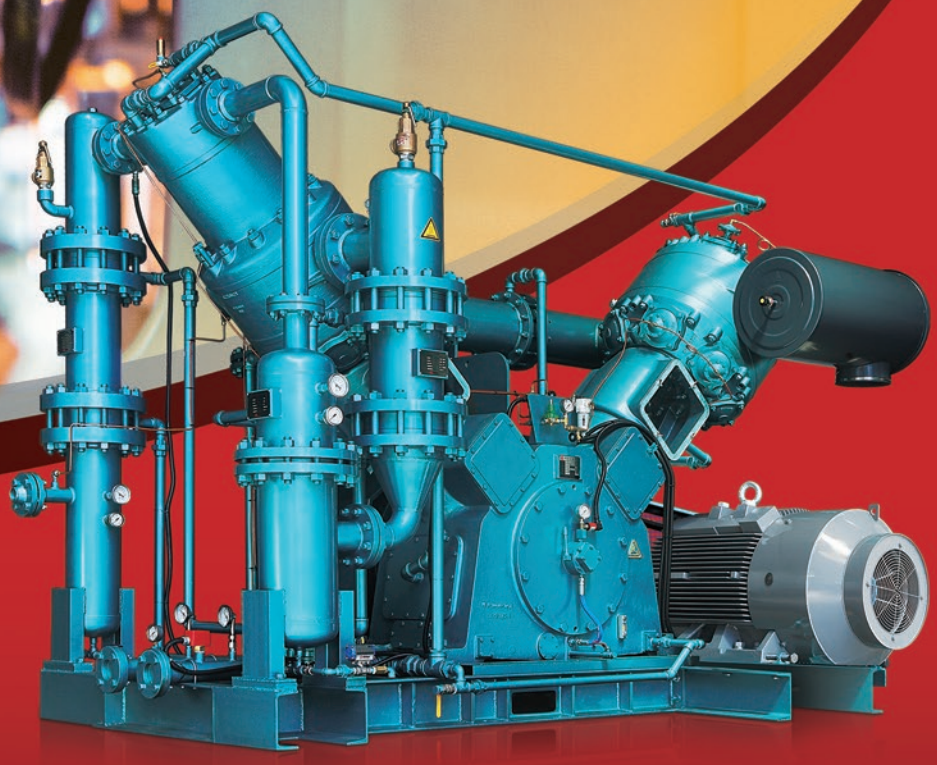
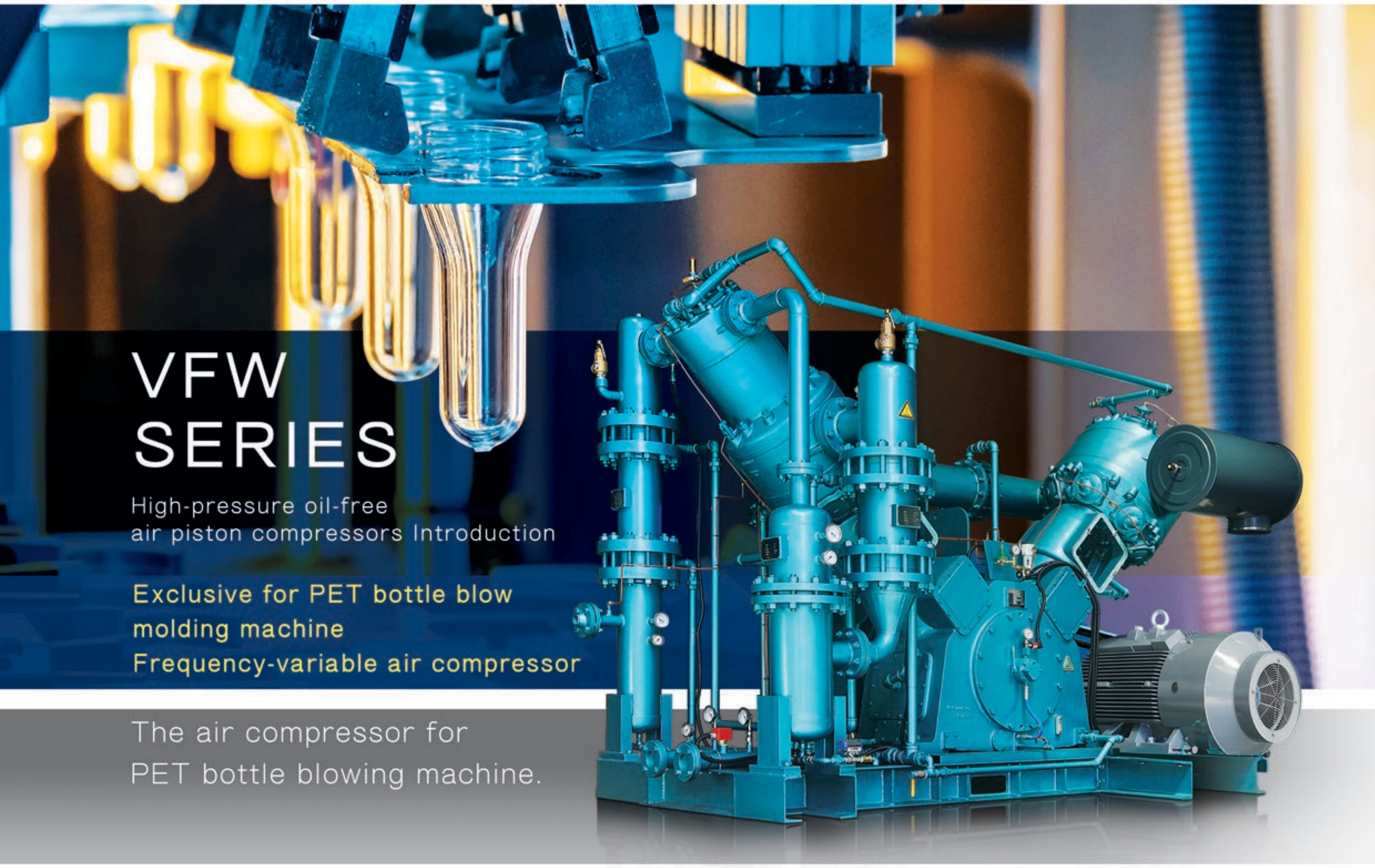
FUSHENG



VFW Series

Frequency-Variable Air Compressor
Exclusive for PET Bottle Blow Molding Machine



VFW SERIES

High-pressure oil-free
air piston compressors Introduction

**Exclusive for PET bottle blow
molding machine
Frequency-variable air compressor**

The air compressor for
PET bottle blowing machine.

VFW SERIES Get
ISO 8573-1:2010 "Class 0"
Compressed Air Quality Certification

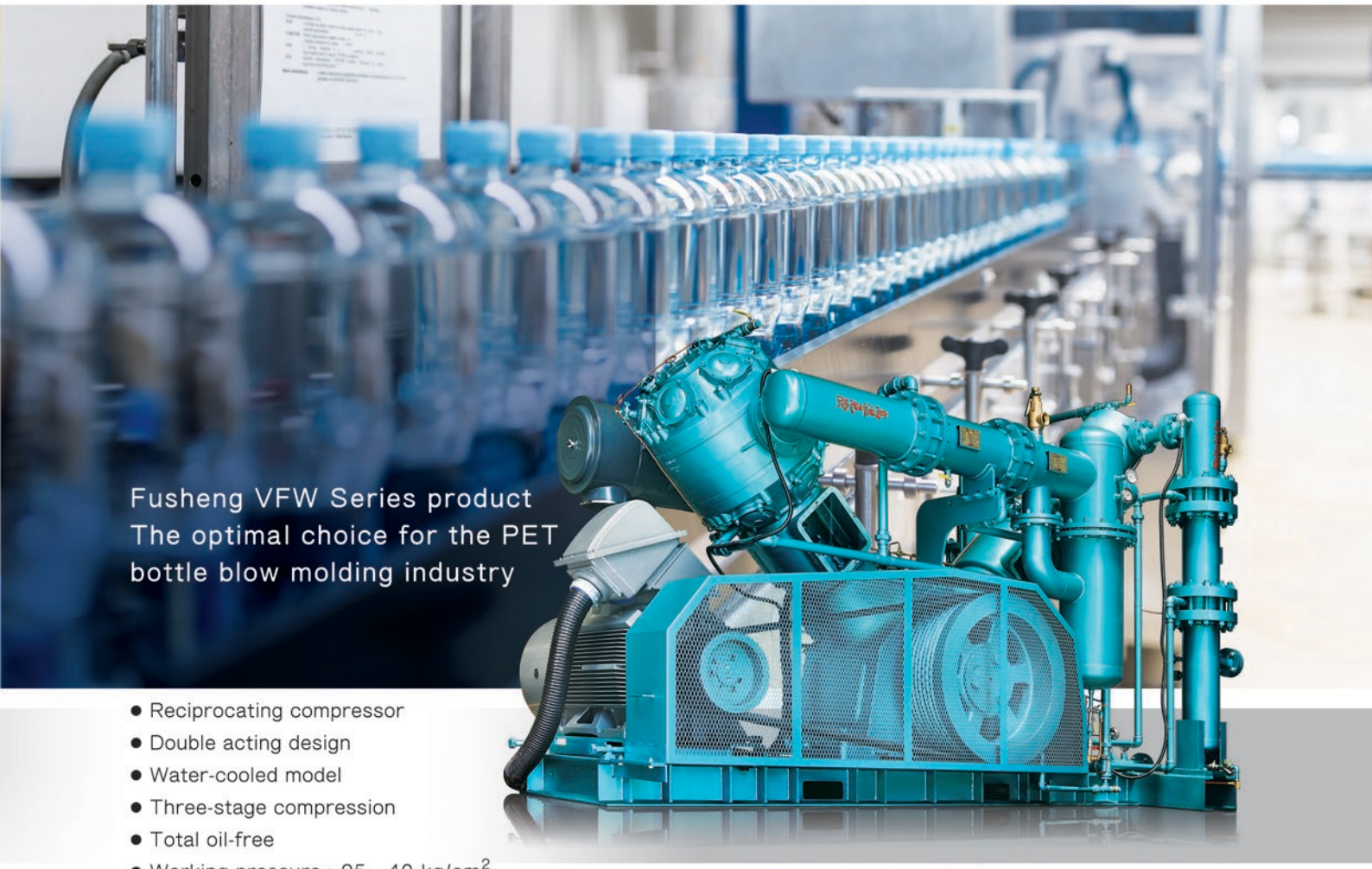
ISO 8573.1
Compressed air - Contaminants and purity Classes

Conforms to
ISO 8573-1 Class 0
Standard compressed air quality

Quality class	Particles of solid powder			Moisture content	Oil content
	Maximum number of particles per cubic meter			Water vapor	Total oil content
	0.1~0.5 micron	0.5~1 micron	1.0~5 micron	Pressure dewpoint	mg/m³
0	As specified by the equipment user or supplier				
1	100	1	0	-70℃	0.01
2	100,000	1,000	10	-40℃	0.1
3	–	10,000	500	-20℃	1
4	–	–	1,000	+3℃	5
5	–	–	20,000	+7℃	–
6	–	–	–	+10℃	–

VFW SERIES

Exclusive for PET bottle blow molding machine
Frequency-variable air compressor



Fusheng VFW Series product
The optimal choice for the PET bottle blow molding industry

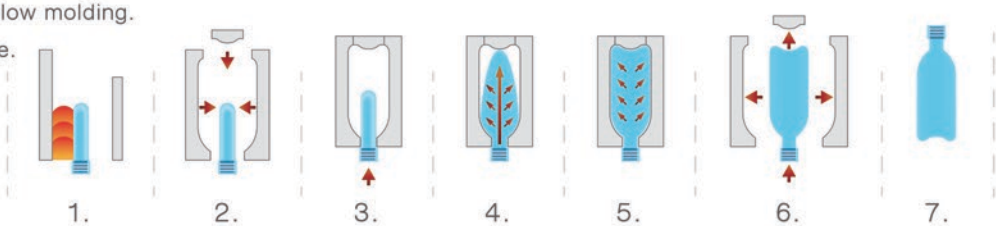
- Reciprocating compressor
- Double acting design
- Water-cooled model
- Three-stage compression
- Total oil-free
- Working pressure : 25 - 40 kg/cm^2
- Capacity : 3.6 - 24 m3/min
- Horsepower : 50 - 300 HP (37 kW - 220 kW)
- Frequency-variable capacity control : 55% - 100%
- PLC control and human-machine interface
- Optional Go-Service system

Balance chamber - Patented mechanism design

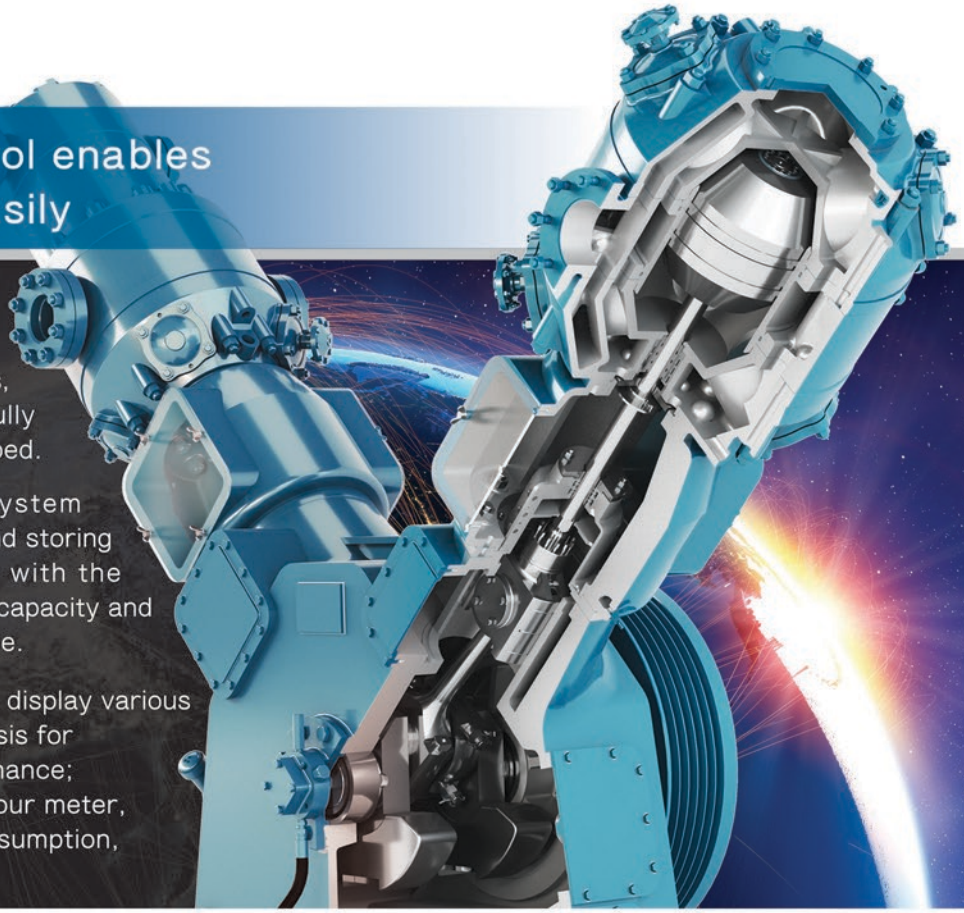
Differential pressure is lessened for reduction and recovery of gas leakage to improve the compression efficiency

PET/PP bottle blow molding process

1. Steadily heat the oven to provide an even distribution of forming temperature over the bottle preforms.
2. Lock the mold onto the transmission mechanism for bottle blow molding.
3. Insert the blow nozzle into the preform.
4. Inject the air into the preform to form the bottle.
5. Post process of bottle blow molding.
6. Unload the formed bottle.
7. Strip the mold.



Cloud intelligent control enables you to save energy easily

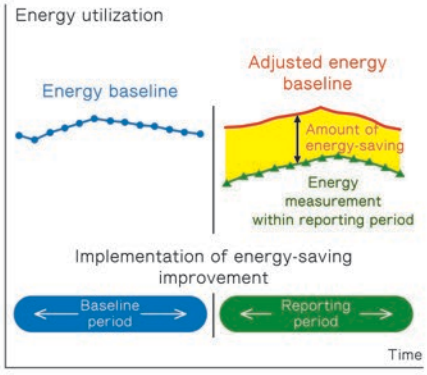


- PLC + touch-type control interface, accessible to a humanized and optimal operation with various alarms, safety protection functions, and fully automatic intelligent control equipped.
- With the optional Go Service system configured, the cloud monitoring and storing of any equipment data together with the provision of analysis of production capacity and energy-saving is available worldwide.
- The on-site monitoring function can display various parameters in operation and the basis for determining the preventive maintenance; including the information of watt-hour meter, running / loading hours, power consumption, and power factor, etc.

4 Significant features

1. Information integration between the system and single unit
2. Ease of customization
   - -Watt-hour meter determines the unloading/loading/stop status
   - -Multiple sets of flowmeter indication
3. Auto generation of the measurement report
4. Auto analysis of energy-saving effectiveness for an air compression system

EnMS Energy service management criteria



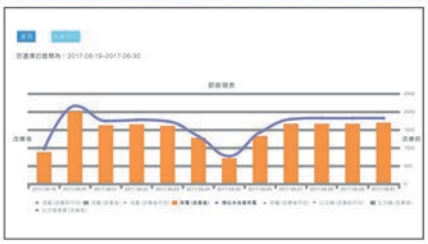
Five major functions

- To comply with the requirements of ISO 50001 Energy Management System.
- To retrieve the current energy-utilizing status of the system.
- To retrieve the effectiveness after improving the energy-saving of the system

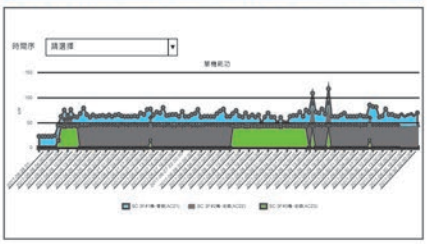
Trend chart

Real-time information

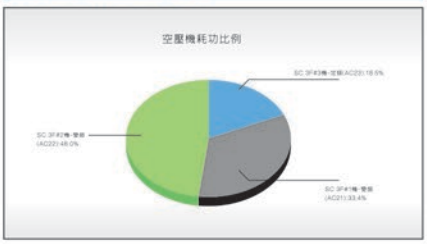
Energy-saving effectiveness



Accumulative numeral value



Interval report



Variable frequency not only increases efficiency but also effectively improves production availability

- VFW Series air compressor is featured a multi-functional vector frequency inverter with a specification range of 0.4kW - 500kW
- With the sensorless vector control and automatic modulation function configured, an accurate motor control without an encoder is available and an optimal performance matching between the frequency inverter and the motor is obtainable.

Countermeasures for transient power failure

- With the rpm detection function configured, the frequency inverter can restart automatically after the power restoration
- KEB function: When detected a transient power failure (such as a power outage), the frequency inverter can control to reduce the motor speed and stop it to avoid the danger caused by free operation and the damage to the machine.

Quick offset for rpm variation under variable load

The motor rpm will go down when the motor is under loading; such an rpm variation will result in defective product processing and affect product quality.
The ability of high response enables the motor to return to its set rpm in a short time when loading is in process. It is applicable to punching machines, air compressors, metal band saw machines, servo -hydraulic devices, etc.

Countermeasures for the surge

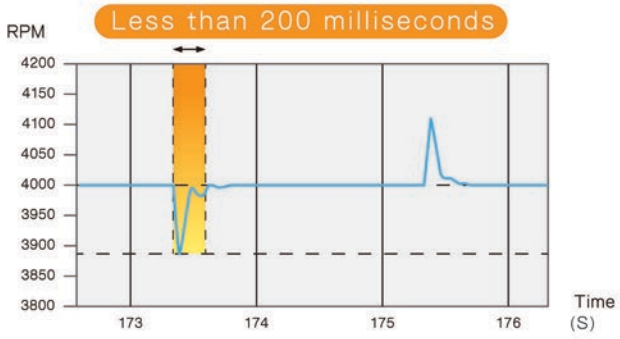
Built-in power supply and thunderstrike surge arrester can effectively suppress the damage of high-voltage surge to the frequency inverter.

Provide high torque output

Even though the motor does not have a speed encoder, it has sensorless vector control technology and can reach 200% rated torque when running at a very low speed. It is suitable for equipment with high starting torque and load-centralized operation, such as ground improvement machines, tunnel boring machines, air compressors, drilling machines, elevators, and overhead traveling cranes.

Countermeasures for the motor overheating

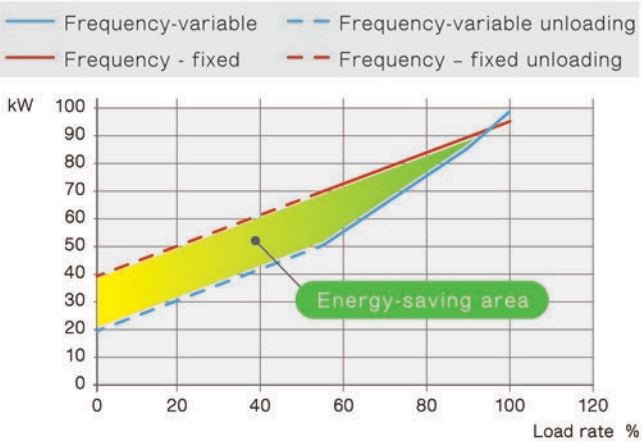
Configurable with a variety of temperature sensors (PTC/NTC/PT100/RTD392/KTY84) to monitor the temperature of the frequency inverter and motor all day long, it will actively actuate a warning when a fault occurs; and shut down the machine per the preset actions in case of a critical condition.



Energy-saving effectively improves efficiency and significantly reduces production costs

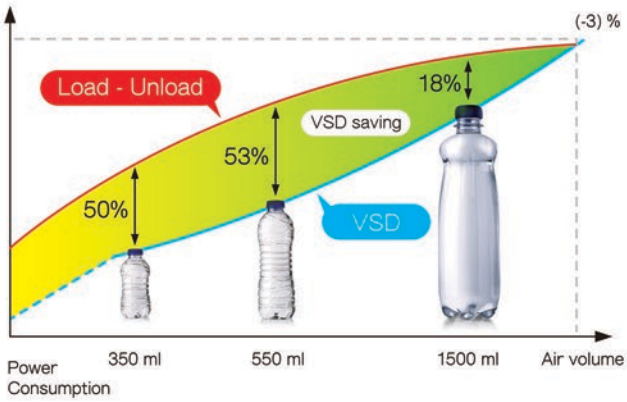
Power consumption difference between fixed frequency and variable frequency

- Installed the exclusive heavy-duty frequency inverter and motor; and configured the auxiliary oil pump and belt to provide the optimal quality and operating conditions.
- The frequency inverter brings high efficiency and energy-saving bonus from varying the frequency every year.
- The capacity tends to vary linearly, and it will vary with the practical demand automatically and achieve the purpose of energy saving.



Power consumption difference between fixed frequency and variable frequency

- To cope with the high-mix low-volume bottle blow molding market in the future, different production requirements can be modulated quarterly or annually.
- It is suitable for multi-mold bottle blow molding machines to deal with the production of PET bottle in different forms & volumes, and increase production efficiency.
- Comparing the frequency-variable compressor with the frequency-fixed compressor, the typical energy-saving rate is about 15~30%

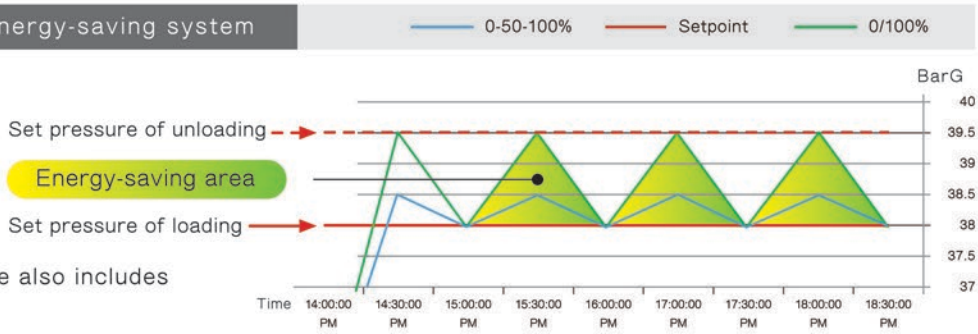


Pressure analysis of energy-saving system

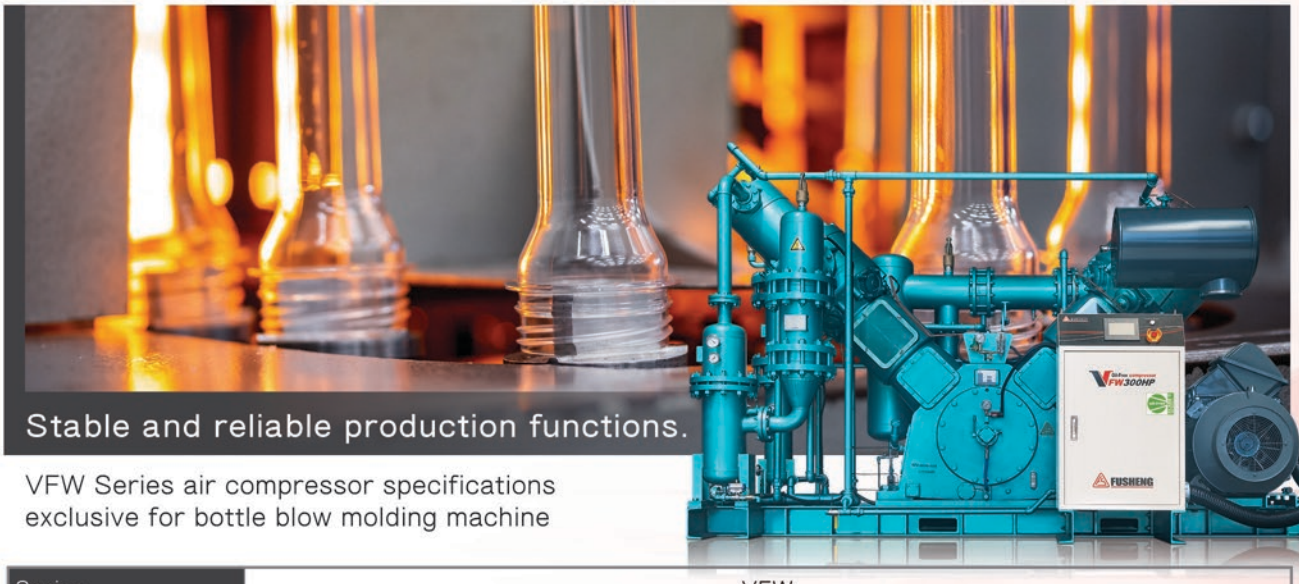
Air volume control mode

- 0% and 100%
- 0%-50%-100%
- Variable frequency

(The energy-saving range also includes 0% - 50% - 100%)



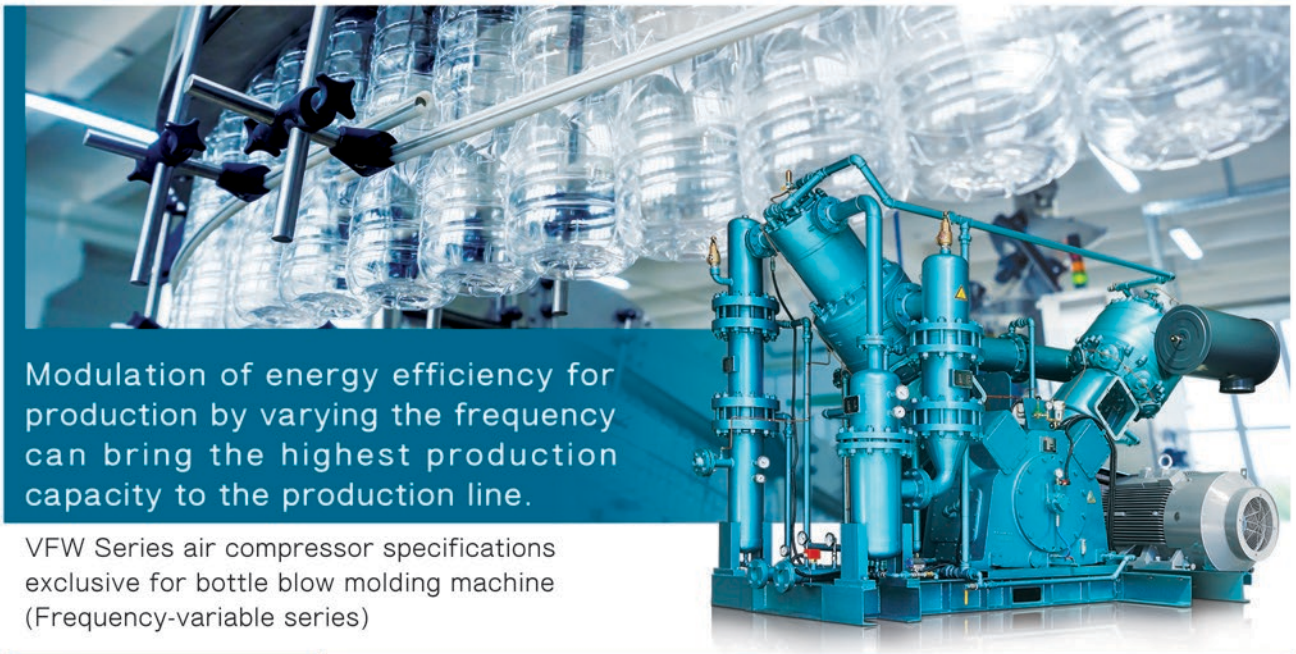
VFW SERIES / Exclusive for PET bottle blow molding machine
Frequency-variable air compressor



Stable and reliable production functions.

VFW Series air compressor specifications
exclusive for bottle blow molding machine

Series	VFW								
Model No.	50	75	100	125	150	175	215	250	300
Pressure(kg/cm²)	40								
Discharge volume(m³/min)	3.6	5.5	7.4	8.8	11.6	13.5	16	19.2	23
Horsepower(HP)	50	75	100	125	150	175	215	250	300



Modulation of energy efficiency for production by varying the frequency can bring the highest production capacity to the production line.

VFW Series air compressor specifications
exclusive for bottle blow molding machine
(Frequency-variable series)

Series	VFW								
Model No.	50V	75V	100V	125V	150V	175V	215V	250V	300V
Pressure(kg/cm²)	40								
Discharge volume(m³/min)	3.6	5.5	7.4	8.8	11.6	13.5	16	19.2	23
Cooling water flow (l/min)	110	160	200	250	310	360	450	540	650
Lubricating oil quantity(L)	34	34	34	34	43	43	43	50	50
Weight (kg)	5500	5500	6500	6500	8000	8000	8500	10000	10000
Frequency variable range	55% ~100%								

FUSHENG

VFW Series

Frequency-Variable Air Compressor
Exclusive for PET Bottle Blow Molding Machine

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