



The most important needs may not always be seen, may not always be heard. That is precisely what makes them so important. We train the eyes and ears of our heart so as to provide optimum response to all our customers needs.

“Heart to Heart” is our way of saying that we view things from our customers perspective. Through this market-oriented approach to doing business, we want to contribute to society.

⚠ Safety Precautions

1. Before operating, be sure to read the entire instruction manual and follow all safety directions.
2. Never attempt to perform unauthorized equipment modifications. Doing so could cause accidents resulting in injury.
3. The compressors are designed to compress air. Never use them with other gases. Doing so could result in accidents or breakdowns.
4. Never directly inhale the compressed air or use it for respiration systems of any kind. Doing so could cause pulmonary injury.



OIL-FREE SCREW COMPRESSORS GENERAL CATALOG



Machinery Business / Compressor Division
 9-12 Kita-Shinagawa 5 Chome, Shinagawa-ku, Tokyo, 141-8688, JAPAN
 Tel:+81-3-5739-5342 Fax:+81-3-5739-5345

Address inquiries to:





Emeraude is the French word for "emerald"; we have chosen this word for our new product line as it conveys the image of luxury, adamant durability, and brilliant clarity. The word thus associates the appeal of the emerald with that of finely crafted products produced with pioneering technology.

You can't think of "Eco-Compressor", without KOBELCO Emeraude series.

KOBELCO Oil-free Compressors offer extremely high efficiency with superior Specific Power Consumption ("SPC"), the energy saving index for Compressors. This is just as "Eco-car" becomes popular for its low CO₂ emission and low fuel consumption.

Superior "SPC" can save more energy, and all the user can take large benefit from that as minimizing compressor life-cycle cost.

KOBELCO, a pioneer of Compressor technologies in Japan, always explore the front-line of Oil-Free Screw Compressor with its proven history and advanced technologies.

KOBELCO Emeraude series promise world top purity of clean air, efficiency and Eco-friendliness.

Emeraude Series



»» Installation of IE3 motors starts in 2015

What is TOP-RUNNER Program?

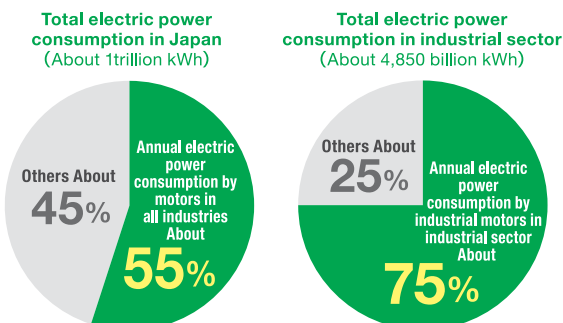
TOP-RUNNER Program is a regulatory scheme to improve energy efficiency by setting the standards for products in Japan. It was incorporated as an element of the Energy Conservation Law in Japan. From FY2015, the program starts covering industrial motors and requires them to meet the IE3 standard.

Background of TOP-RUNNER Program

It is estimated that 75% of total electric power consumption in industrial sector is due to the use of industrial motors. Moreover, 97% of all industrial motors used in Japan are equivalent to IE1 level. Therefore, replacing conventional motors to IE3 motors gives a substantial effect on energy-saving.

< Level of industrial motors' energy efficiency >

- IE1 ... Standard Efficiency
- IE2 ... High Efficiency
- IE3 ... Premium Efficiency



[Reference: researched by Agency for Natural Resources and Energy]

Scope

Single-speed three-phase squirrel cage induction motor

Motor output	Pole number	Voltage	Frequency (Hz)	Type of use
0.75~375kW	2-poles, 4-poles, 6-poles	Below 1000V	50Hz, 60Hz, 50/60Hz	S1 (Constant rating) or S3 (Intermittent-service rating) with over 80% of load time.

[Excluded models] Motors with Special insulation, motors with Delta star guidance system, Marine motors, Submerged motors, High-slip motors, Gate motors, Canned motors. Motors that are used under cryogenic environment, and intercession ventilation motors that is designed specially for inverter start.

*Caution: Even though the value of motor output is same, there is a possibility that the breaker size is different depending on each motors' feature such as rotation speed, guidance current, and starting torque.

Motors installed in Standard Compressors

	Main motors	Cooling fan motors	Oil pump motors
Inverter-driven motors, consolidated driving machine	×	●	●
Other constant speed motors	●	●	●

Benefits gained by installing IE3 motors

- ① IE3 motors have higher efficiency comparing with standard efficiency motors (IE1 level motors).
- ② By the reduction of energy consumption, it will reduce CO₂ emissions and contribute to the global environmental protection.

All models of KOBELCO compressor meet IE3 standard.

Best-in-class performance with full-range line-up.

Output **55~400kW**
 Discharge air volume (0.69MPa specification) **8.9~69.1 m³/min**



Energy Saving

Superior unit design for energy saving

Silencer
High performance silencer reducing high-frequency noise, and lower the total noise level.

1st / 2nd stage Air End
World-top rotor profile offers not only high performance but also enables high pressure operation (1.03MPa) with enough safety margin.

Drain discharge Solenoid valve
Reliable force discharge drainer with timer and solenoid valve make sure drain discharge and minimize air loss.

Lubricant filters
Longer bearing life-time and improved reliability, thanks to high performance lubricant filter.

Capacity control valve
Longer life of capacity control valve can extend its maintenance interval upto 6 years.

Exhaust cleaner
Super fine exhaust cleaner reduce internal pressure of gear box, and free from oil mist. It guarantee high purity oil-free air without optional oil breather.

Main motor
Durable TEFC motor increase reliability of total package.

Built-in Control Panel
Proven protection for electric failure equipping
 • circuit breaker (power supply for auxiliaries)
 • circuit protector (control system)

Inter cooler / after cooler
Efficient Water-cooled gas coolers feature the industry's first plate-fin water-in-tube structure. This enables 1/5 pressure loss and longer maintenance cycle (1 year → 3 years) compared with conventional model.

Efficient energy saving with "Energy-Saving Logic" which minimize discharge pressure fluctuation (ALE/FE)

Patented

Energy-Saving Logic with optimum capacity controls and superb control efficiency is a standard feature.

Minimization of capacity controls

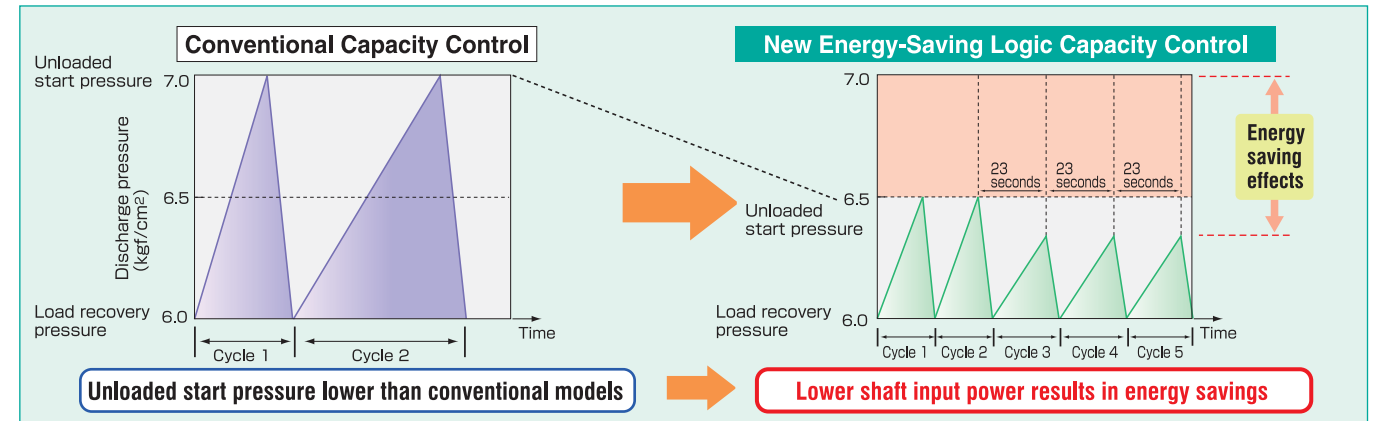
- Pressure control range

Conventional models: 0.1 MPa → Emerald: 0.05MPa

Optimum control method selected

- Loaded-unloaded switching operation

Unloaded operation is forcibly performed at every capacity control cycle (23 seconds) by the "Energy Saving Logic". An excessive operation is eliminated as the unloaded start pressure is lowered.



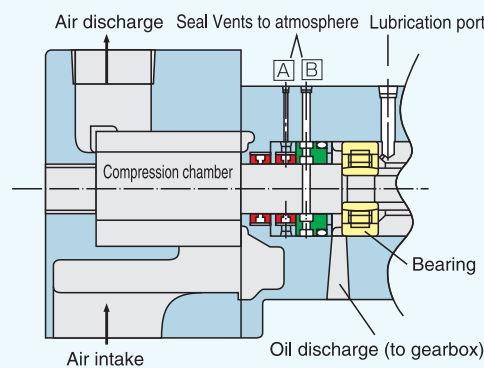
Ultimate clean air (ALE·FE)

Patented

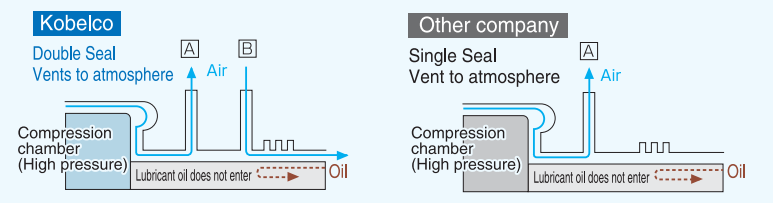
The oil-free design introduces absolutely no oil to the rotor chamber in the process. Stainless steel shaft-seal rings are used to prevent the generation of carbon dust, and Kobelco's patented twin atmospheric shaft vents prevent lubricating oil from contaminating the compression chamber even during extended periods of unloaded operations.

Rotor Shaft Seal

Double Seal Vents Structure (Patented)

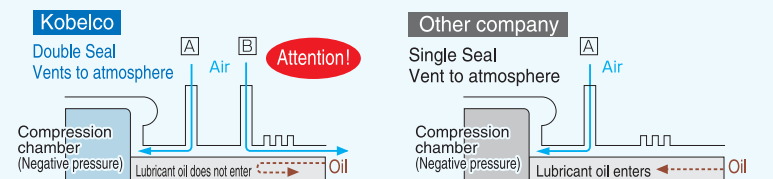


- Load Operation (Example: Suction side of 2nd Stage Compressor)



Lubricant oil does not enter since the pressure inside the compression chamber is higher

- Unload Operation (Example: Suction side of 1st Stage Compressor)



Thanks to the double seal vents, lubricant oil does not enter the compression chamber. If by any chance, lubricant oil passes the Labyrinth seal and reaches to point B, it will not reach to point A because there is no pressure difference between point A and B. Also, a seal between point A and B prevent lubricant oil to enter the chamber.

After long unload operation, if that lubricant oil reaches to point A, the lubricant oil will enter the Compression chamber since there is pressure difference between point A and B.

ISO8573-1 Class Zero Certified

100% Oil-free

The Zero Class certification (ISO8573-1 [-:-:0]), which represents the highest level of purity for quality classifications of compressed air, was received for the (Emeraude ALE) series of products, in acknowledgement for the oil-free technology of Kobelco.



TUV

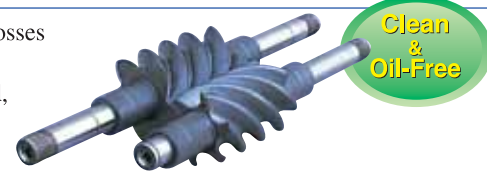
TUV is an abbreviation for Technische Überwachungs Verein. This international third party test and certification organization, based in Germany, specializes in technical safety and quality evaluations. The organization is recognized globally for their independence, neutrality, specialized knowledge and strict standards.

● Certificate issued by TÜV

High Performance ... High performance & sophisticated functions

High performance screw unit (ALE-FE)

Design of the two-stage compressor unit and a reduction in package internal pressure losses resulted in an energy saving by 8% over existing models. Furthermore, a plate-fin, the first in the industry, was incorporated for the water-cooled, inter cooler and after cooler, reducing the air pressure loss to 1/5.



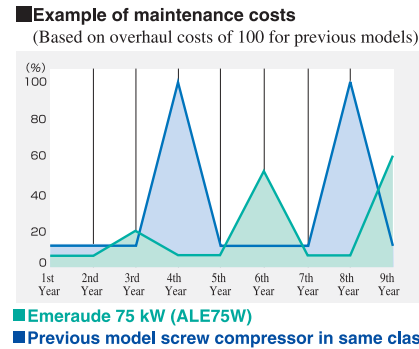
Improved maintainability

Extended overhaul schedules

- Recommended overhaul schedule for the 2nd stage was extended to every 6 years, whereas the 1st stage was extended to every 9 years (55-290kW) (for an annual operation of 8,000 hours).
- Annual maintenance involves changing the oil, oil filter element and exhaust cleaner only.

Frequency of capacity control operations

- The life is extended to six times that of conventional models, with reliability and maintainability also improved.



Capability with 1.03 MPa specifications

All models are equipped with a compressor main unit that can operate with a pressure of up to 1.00-1.03 MPa.

Improvement on durability for ambient

Reviewing the total cooling system including design of coolers and cooling fan with safety margin, the compressor can operate even under ambient temperature of 45°C.

※ Long-time continuous operation at ambient temperatures of 40°C or higher may shorten lifetime of components such as electric equipment and O-rings comparing with normal operation.

Safety ... Safety & Peace of Mind

Totally enclosed fan-cooled motors are adopted to increase motor durability. (ALE-FE)

Totally enclosed fan-cooled (TEFC) motor with enough capacity is selected to reduce the motor coil temperature and motor bearing temperature, leading significant improvement of reliability. Motor coil thermal detector is equipped for safety aspect.



Protection features (ALE-FE)

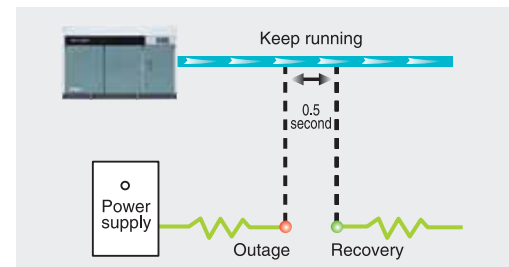
Various improved protection for Electric parts.

Continuous operation during power outage.

Compressor does not stop running if the power recovers within the time you set.

※ You can set the time to 0.5 seconds at longest.

Continuous operation during power outage



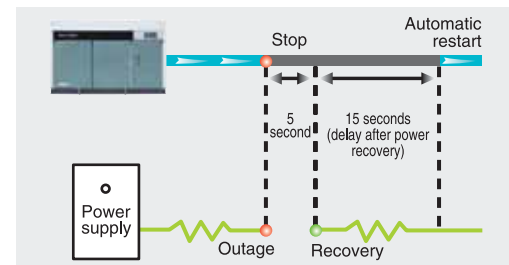
Automatic restart from temporary power outage.

Compressor restarts automatically at the time you set. You can set the time from 15 to 99 seconds after the power recovery.

※ You can use this function as long as the power recovers within 20 seconds.

Automatic restart from temporary power outage

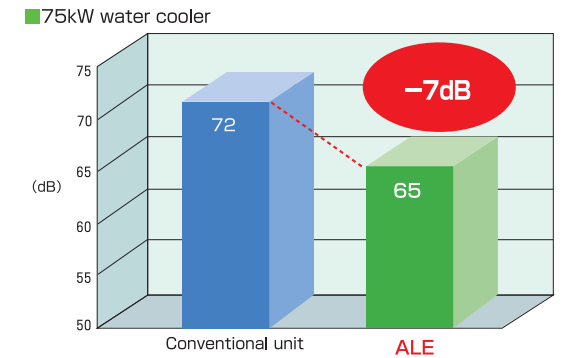
※ Example: Restart time set at 15 seconds after the power recovery



Ecology ... Environmental considerations

Noise Reduction

Pulse noise is reduced by the perforated plate silencer, whereas the blade noise from the exhaust fan is reduced by optimum louver, thereby realizing top of its class low noise levels.



Exhaust cleaner that requires no oil mist breather piping (standard equipment with FE, ALE and AVE)

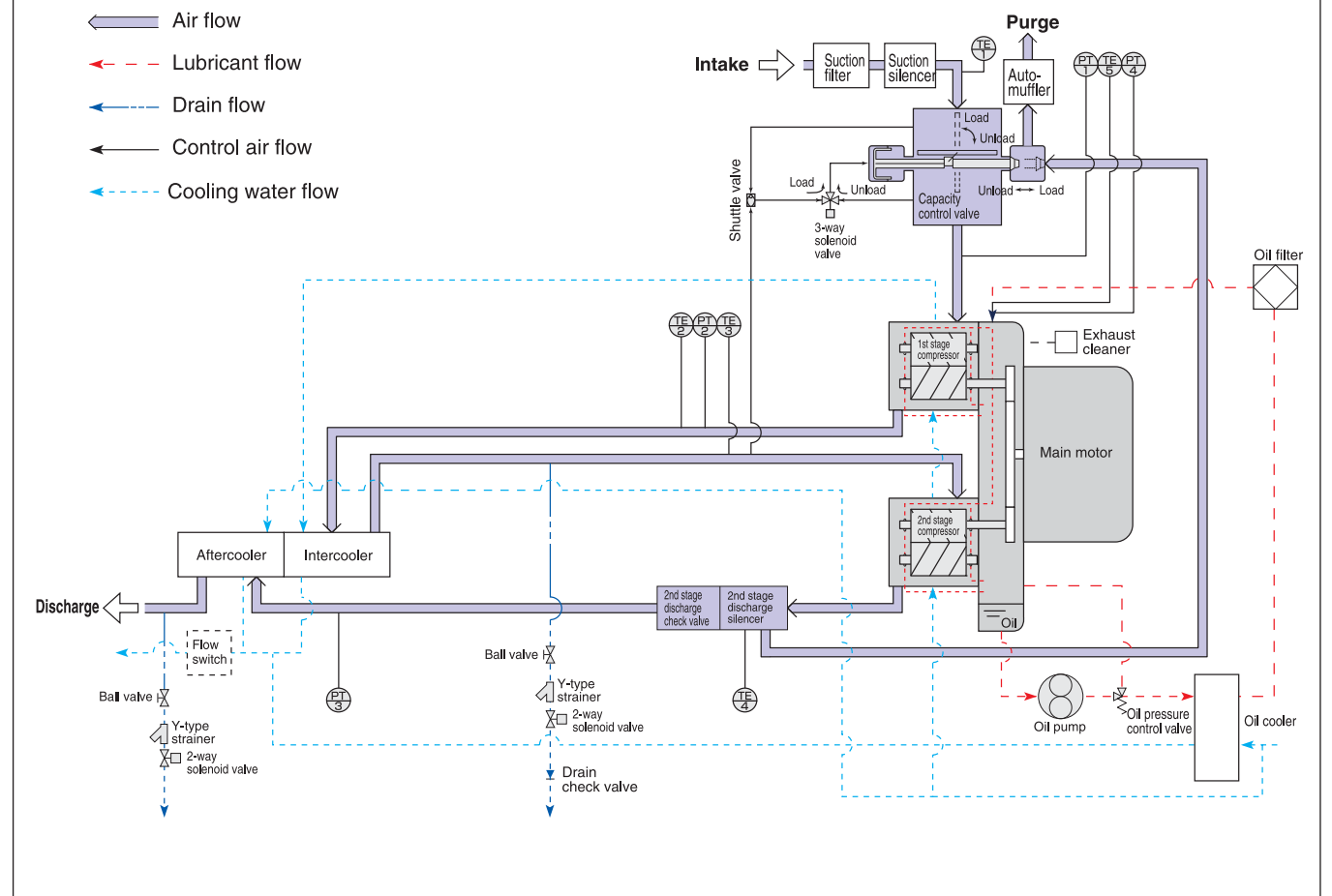
Conventional countermeasure for oil mist is discharging the oil mist outside of package by using oil mist breather piping, which may cause the environmental problem. To avoid pollution, it was necessary to install filter on the end of piping or corona separation-type mist collector. Newly developed Exhaust Cleaner utilizes super fine filter which can be installed inside the compressor package, and no more breather piping is required.

This Exhaust Cleaner has its self oil separation and recovery function. This can prevent differential pressure increase and can realize long term maintenance interval.



- Oil separation performance: 99% or more (to a level where oil smoke cannot be verified visually).
- Equipped with separated oil self recovery function

Schematic for Water-Cooled Models



The standard for the two-stage dry air compressor that generates highly pressurized air efficiently.



Output **22~55 kW**
 Discharge air volume (0.69MPa specification) **2.05~7.7 m³/min**

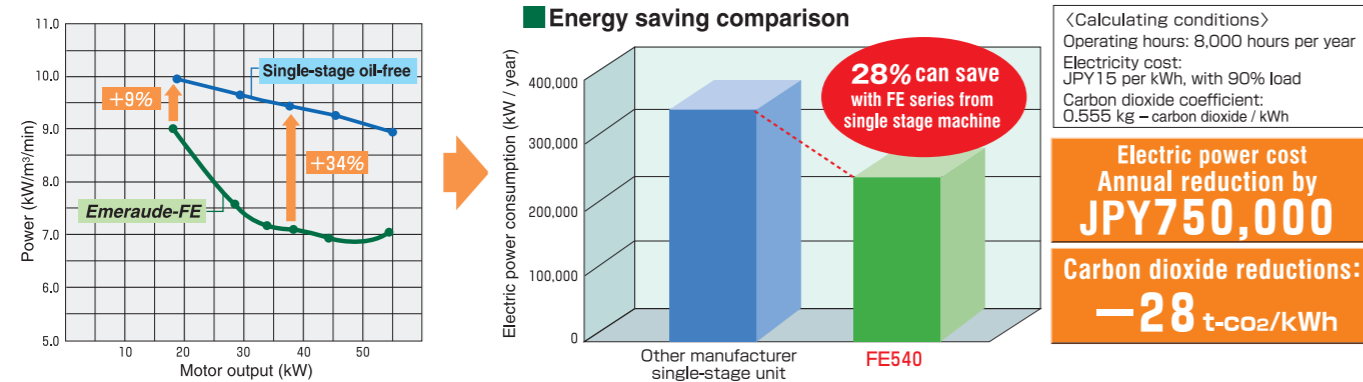
FE SERIES

FE SERIES

Energy Saving

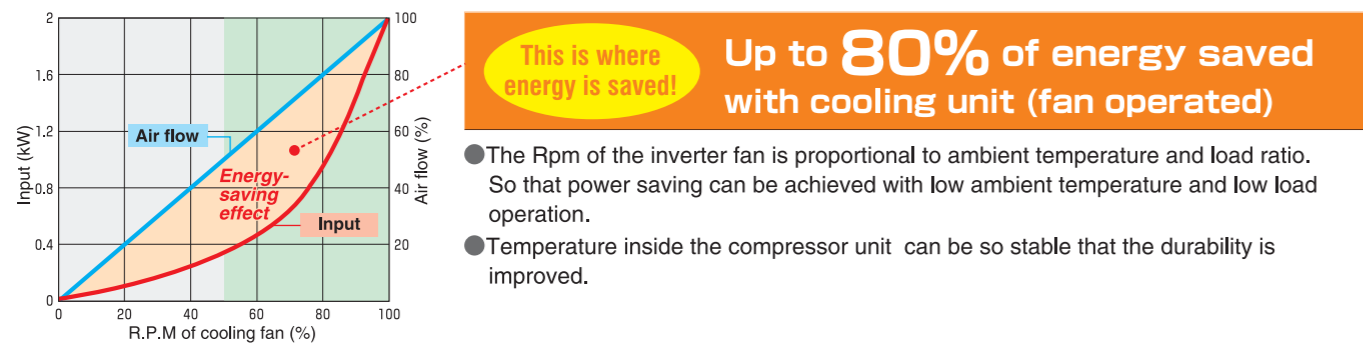
Extremely high energy saving feature realized by the two-stage compression design.

Two-stage compressor is equipped for energy saving, reducing life-cycle cost and improving reliability. It can achieve 9~34% higher efficiency compared with single-stage oil-free screw compressor.



Inverter Cooling Fan (FE200~790)

In the Emerald-FE series, the cooling fan is also controlled by the inverter for further save energy.



Low noise

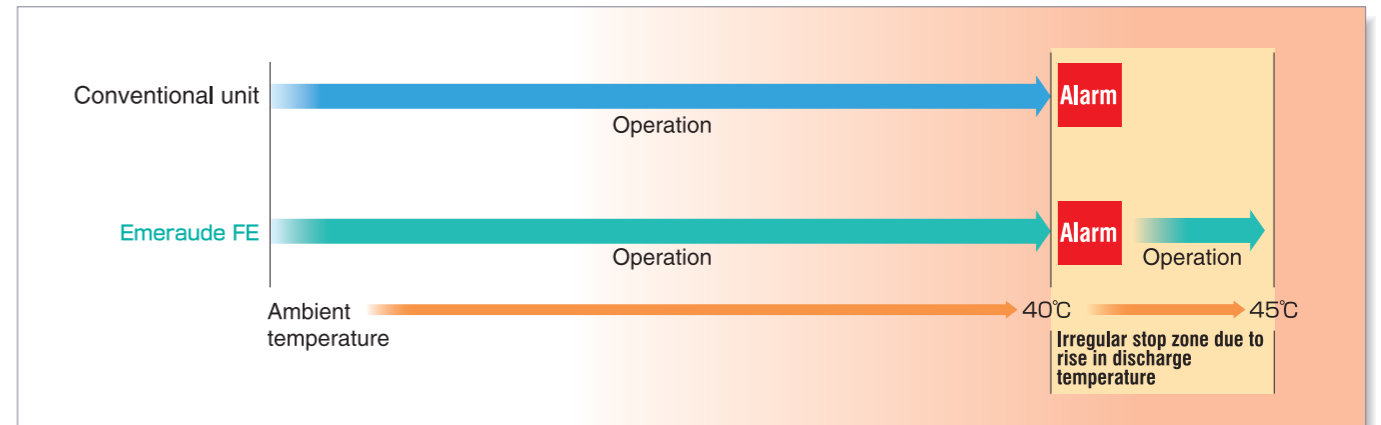
The noise of exhaust hot air have been reduced by using inverter sirocco fan. At unload or low ambient temperature operation, the inverter sirocco fan operate at lower Rpm and reduced the noise level. The improved design suction duct also help to achieve lower suction noise.



High Performance ... High performance & sophisticated functions

Improvement on durability for ambient

Reviewing the total cooling system including design of coolers and cooling fan with safety margin, the compressor can operate even under ambient temperature of 45°C.



※Long-time continuous operation at ambient temperatures of 40°C or higher may shorten lifetime of components such as electric equipment and O-rings comparing with normal operation.

Improved maintainability

Extended overhaul schedules

Recommended overhaul schedule of Air End (for both 1st and 2nd stage) was extended to 6 years. As for water cooled machine, maintainability of coolers also improved with easy cleaning construction.

High-performance intake filter

A two-stage separation system (centrifugal separation and filtering separation with high dust collection efficiency) is adopted as a counter measure against dusty environments.



Ecology ... Environmental considerations

Using new type of refrigerant

R407C of no ozone destruction coefficient is used for all dryers.

Using new intake valves

To prevent oil contamination, air pressure is used for capacity control, instead of oil pressure.

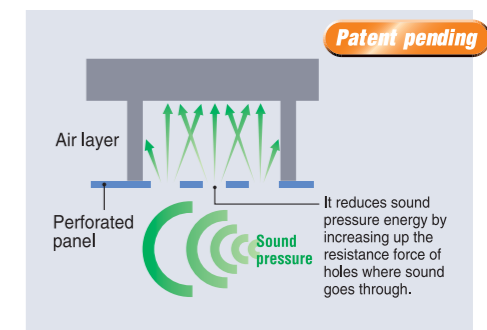
Noise insulation material that is easily sorted for disposal

Materials are easily sorted for disposal, when disposing of the compressor unit (treated as industrial waste).

Reduction of pulse noise

A perforated panel silencer is adopted to reduce high-frequency noise (more than 1KHz,) and uncomfortable noise.

Principle of perforated panel silencer



Ultimate high efficiency and energy saving thanks to Inverter equipped Two-stage Oil-free screw

VF·VE·ALE-V

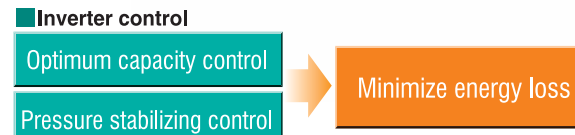
Output	37~270kW
Discharge air volume (0.69MPa specification)	5.4~49.3 m ³ /min



Energy Saving

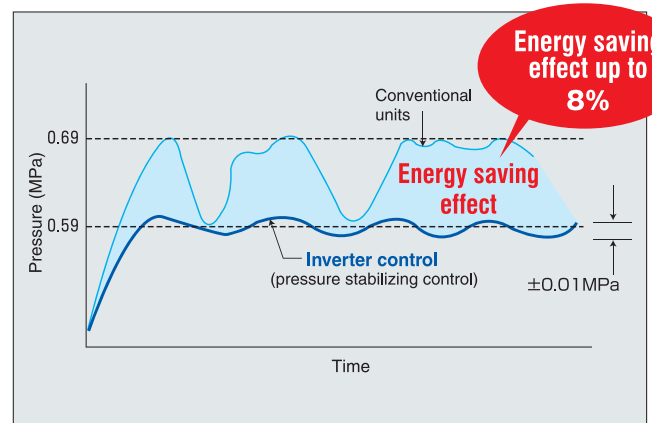
Eliminate energy loss with optimum capacity control and pressure stabilizing control

No matter what the load condition, Kobelco inverter control achieves ideal energy savings without unnecessary motor rotation. Instantly responding to any changes in demand pressure, pressure fluctuation could be minimized within ± 0.01 MPa, thus supplying the required air volume with precisely controlled operating energy.



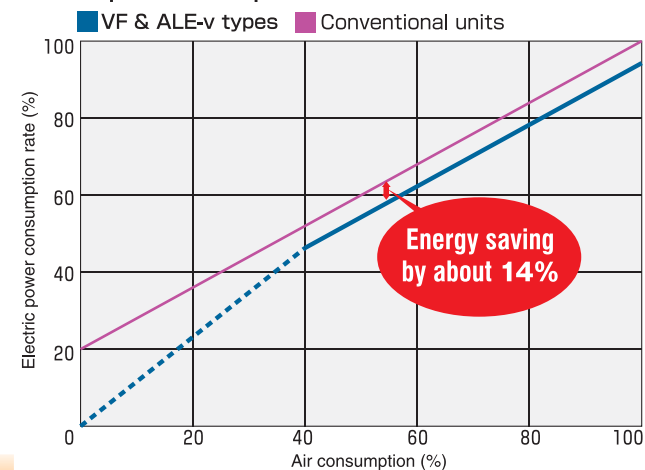
Energy savings with pressure stabilizing control

Pressure fluctuation can be maintained to within ± 0.01 MPa.

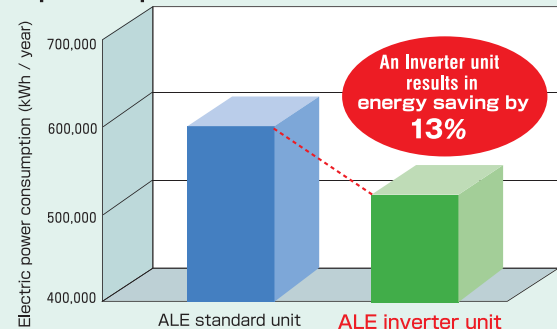


Optimum capacity control by Variable Speed Control

Electric power consumption characteristics of Kobelco inverters



Example: Comparison of 160 kW standard unit with inverter unit



<Calculating conditions>
 Operating hours: 8,000 hours per year
 Electricity cost: JPY 15 per kWh, with 90% load
 Carbon dioxide coefficient: 0.555 kg - carbon dioxide / kWh

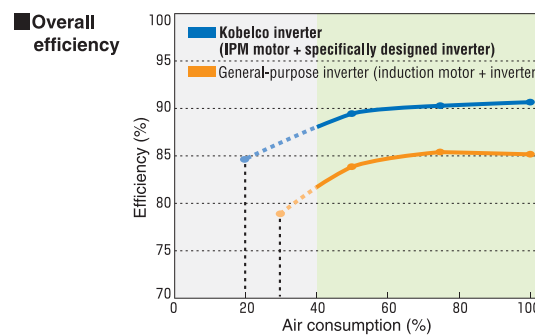
Electric power cost
 Annual reduction by **JPY 1,160,000**

Carbon dioxide reductions: **-43 t-co₂/kWh**

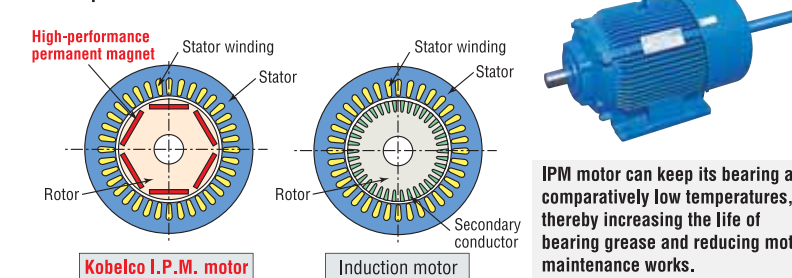
High Performance High performance & sophisticated functions

Equipped with the world's first IPM motor

IPM motor achieves higher efficiency than either general-purpose induction motors or high-efficiency induction motors. Specifically designed inverter couple with IPM motor can make a power-saving effect that no-conventional inverter can make.

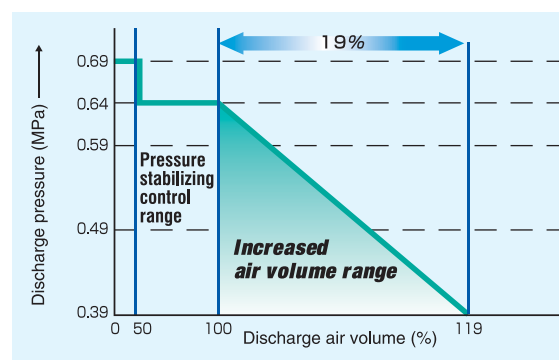


Comparison of IPM motor and induction motor



IPM motor can keep its bearing at comparatively low temperatures, thereby increasing the life of bearing grease and reducing motor maintenance works.

Wide range Control (VF model only)



Focus of energy savings from "suppression" to "effective use"

Kobelco's wide range control provides maximum air volume at your required pressure. Remarkable expansion has been achieved in range control and low-pressure operation range. Realizing the biggest air volume under low-pressure operation has met energy-saving needs and provided abundant merit for users.

Change in air volume by Wide Range Control of VF

(Max. increase ratio in air volume expressed based on 100% discharge air volume at 0.64 MPa)

Discharge pressure	0.64MPa	0.59MPa	0.49MPa	0.39MPa
Air volume	5.4	5.6	6.0	6.4
Increase ratio in air volume	100%	103%	111%	119%

Line pressure control (optional)

The compressor can be controlled by detecting the pressure from the air line.

- Maintain a necessary pressure in the line
- The best energy saving operation is realized with an optimized discharging pressure
- Keep track of the pressure losses (losses in electric power consumption)

Safety Safety & Peace of Mind

Built-in Higher harmonic reactor as standard

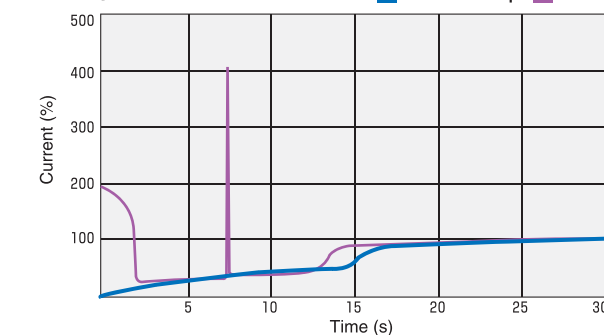
It reduces harmonics generated by the inverter.

* Complies with harmonic suppression guidelines by the Japan Electrical Manufacturer's Association (JEMA)

Soft start by KOBELCO inverter

It reduces peak current when starting-up, thus ensuring smooth start-up and reducing power supply equipment cost.

Starting current



Stable operations under various environments

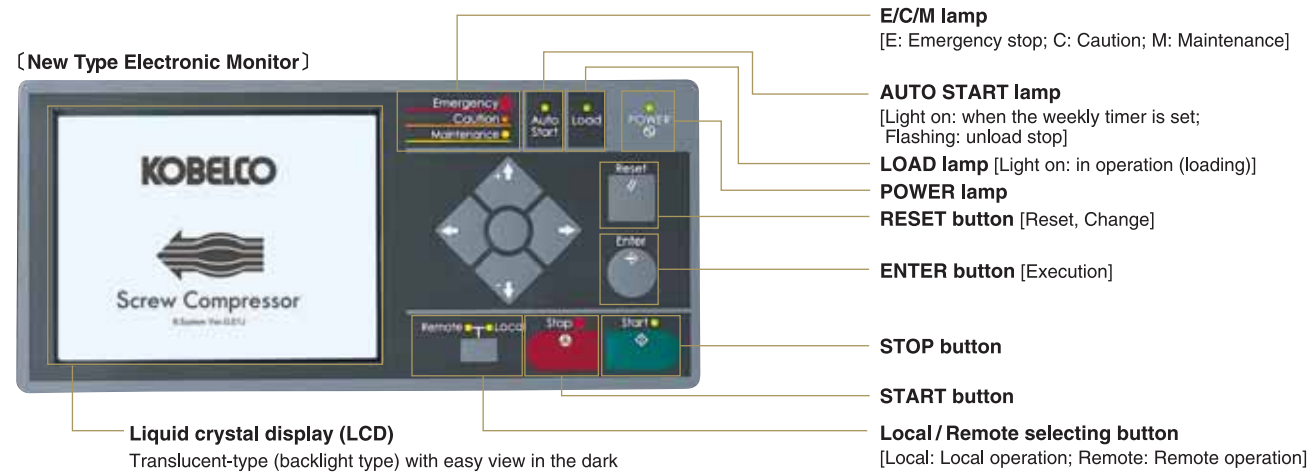
- Inverter forced cooling → Prevention of temperature rising trip
- Dust filter equipped as standard
Special coating on print board → Better durability against dirt, dust, and humidity.

VF·VE SERIES with Kobelco Inverters installed

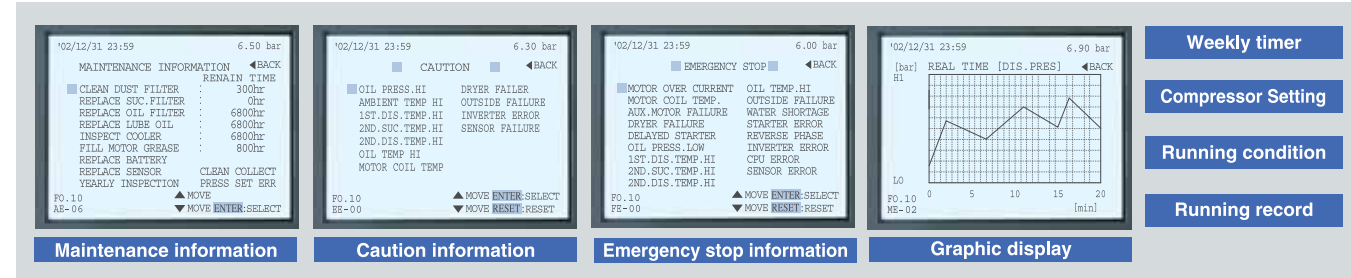
Controller, Finest standard of user-friendly interface (for FE, ALE, AVE)

This monitor can be used not only to keep track of the operating conditions but also to set the discharging pressure, etc. The operating records, graphic displays, weekly timers, daily reports and weekly report management, can be conducted.

- Operation data can be output through "Modubs" (optional).
- The front control panel of the controller is complete with a waterproof specification equivalent to IP65.



Principal features and displays



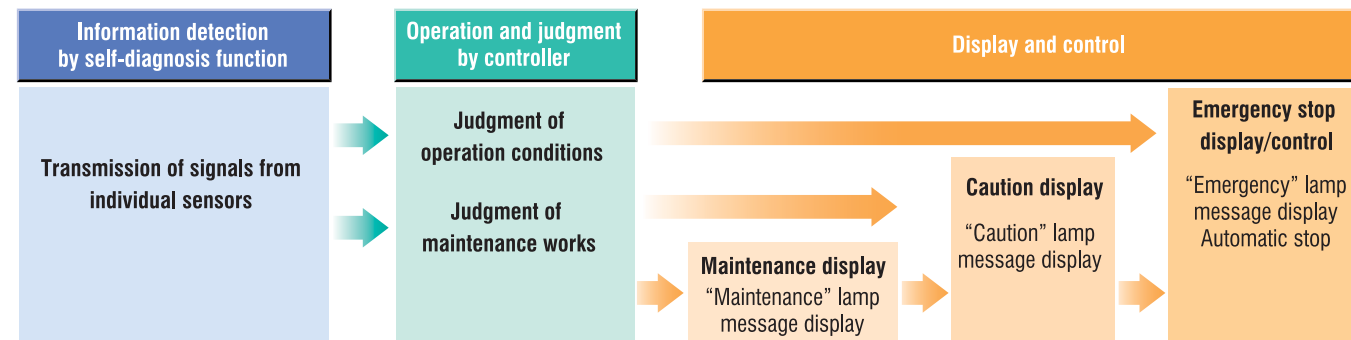
Pre-alarm system to avoid sudden failure

Mechanism of pre-alarm system

The Controller is equipped with a sophisticated early pre-alarm system with self-diagnostic functions, display functions, warning functions and an automatic stopping function, to prevent sudden failures.

The computer determines the condition of the compressor, based on information derived from the sensor detections and data settings. Since the necessary maintenance information is notified by messages and lamps, the Controller not only makes it easy to perform daily inspections and management, but the early detection of problems and rapid responses also can be possible.

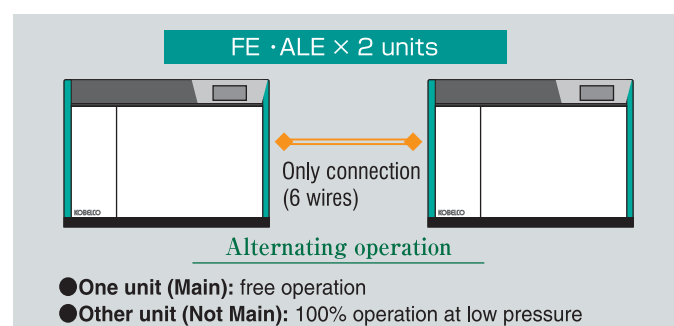
Since external output terminals for a combined display of individual functions, such as maintenance, alarm and abnormal stop, are standard equipment, it is possible to manage operating conditions outside the machine room, where the equipment is installed.



Alternating the operation of two units without a control panel (standard feature)

Two-unit alternate operation of Emerald models can be done by simple wiring. Unlike conventional units, no specifically designed panel for two-unit alternate operation is needed. First-Started unit or Next-Started unit can be selected from the monitor.

*Depends on the compressor's combination, there is a possibility you cannot use this function.



Air-Cooled Models (with integrated dryer/compressor only)

Item	Model	VF640AD/AⅢ	VE790AD/AⅢ
Frequency	Hz	50/60 dual rating	
Discharge air volume	m ³ /min	5.4~6.4	7.9
Suction conditions	Pressure	Atmospheric pressure	
	Temperature °C	2~40	
Discharge condition	Pressure (gauge pressure) MPa	0.69~0.39 (pressure stabilizing control 0.64 or less)	0.69 (pressure stabilizing control 0.64 or less)
Compressor shaft input power	kW	37.0	52.7
Compressor motor	Nominal output kW	37	55
	Voltage V	200/200·220 [380·400·415/380·400·440]	200/200·220 [380·400·415/400·440]
	Starting system	Inverter	
	Specification	6-pole permanent magnet, 3-phase, synchronism, totally enclosed fan-cooled (air-cooled), F class	
Drive system		Step-up gear	
Discharge pipe diameter	A	40A (R1·1/2)	50A (R2)
Cooling fan motor output	kW	2.2	
Dryer	Pressure dew point °C (F)	Pressure dew point 10 (50)/12 (54) or under (6.9bar/3.9bar)	
	Input kW	2.15/2.60	2.35/2.85
	Coolant type/method	R-407C, capillary tube	
Initial lubricant charge	L	13	
Nominal dimensions (W×D×H)mm		2,080×1,200×1,500 (1,780×1,200×1,500)	2,580×1,200×1,500 (2,080×1,200×1,500)
Nominal weight	kg	1,360 (1,275)	1,620 (1,430)
Noise [at front]	dB(A)	68	67
Oil pump output	kW	0.4	

Water-Cooled Models (with integrated dryer/compressor only)

Item	Model	VF640WD/W	VE790WD/W
Frequency	Hz	50/60 dual rating	
Discharge air volume	m ³ /min	5.4~6.4	7.9
Suction conditions	Pressure	Atmospheric pressure	
	Temperature °C	2~40	
Discharge condition	Pressure (gauge pressure) MPa	0.69~0.39 (pressure stabilizing control 0.64 or less)	0.69 (pressure stabilizing control 0.64 or less)
Compressor shaft input power	kW	37.0	52.7
Compressor motor	Nominal output kW	37	55
	Voltage V	200/200·220 [380·400·415/380·400·440]	200/200·220 [380·400·415/400·440]
	Starting system	Inverter	
	Specification	6-pole permanent magnet, 3-phase, synchronism, totally enclosed fan-cooled (air-cooled), F class	
Drive system		Step-up gear	
Discharge pipe diameter	A	40 (R1·1/2)	50 (R2)
Cooling water	Quality	Industrial water	
	Quantity L/min	55	80
	Head m	Minimum 15; maximum 50	
Cooling water pipe diameter	A	25 (R1)	32 (R1·1/4)
Cooling fan motor output	kW	0.05	
Dryer	Pressure dew point °C	Pressure dew point 10 (50)/12 (54) or under (6.9bar/3.9bar)	
	Input kW	2.15/2.60	2.35/2.85
	Coolant type/method	R-407C, capillary tube	
Initial lubricant charge	L	13	
Nominal dimensions (W×D×H)mm		2,080×1,200×1,500 (1,780×1,200×1,500)	2,580×1,200×1,500 (2,080×1,200×1,500)
Nominal weight	kg	1,335 (1,250)	1,595 (1,405)
Noise [at front]	dB(A)	64	65
Oil pump output	kW	0.4	

*Discharge air volumes is converted to compressor suction condition(30°C).

*Discharge pressures are measured after the check valve.

*Service factor(SF) of Main Motor is 1.1.

*Noise values are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front/back and both sides of the package and at full load.

*Values within brackets () are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front of the unit and at full load.

*Since the cooling for the compressed air & the inside of the compressor unit depends on the surrounding air condition, the surrounding air must be properly ventilated to prevent the ambient temperature from rising above 40°C.

*Cooling water temperature should not exceed 32°C.

*Please be sure to use the lubricating oil recommended by KOBELCO.

* () The weight and dimensions shown above are the values including the dryer.

*Air produced by these compressors should not be used in respiratory equipment furnishing air for direct inhalation.

*Appearance and specifications are subject to change without notice.

*Consult us individually, regarding guaranteed performance values.

ALE SERIES

Discharge pressure 0.7MPa

Water-Cooled Models

Compressor only

Item	Model	ALE55WIII-5/6	ALE65WIII-5/6	ALE75WIII-5/6	ALE90WIII-5/6	ALE100WIII-5/6
Frequency	Hz	50/60				
Discharge air volume	m ³ /min	9.1/9.2	10.6	13.2	16.2	17.4
Suction conditions	Pressure	Atmospheric pressure				
	Temperature °C	0~45				
Discharge condition	Pressure (gauge pressure) MPa	0.7 ※Available pressure 0.75				
Compressor shaft input power	kW	56.2/55.9	65.9/66.2	76.2/76.0	91.8/91.9	100.2/100.6
Compressor motor	Nominal output kW	55	65	75	90	100
	Voltage V	200/200·220 [380·400·415/400·440]				
	Starting system	Star Delta				
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use				
Drive system		Gear				
Discharge pipe diameter	A	JIS10k—50A RF				
Cooling water	Quality	Industrial water				
	Quantity L/min	80	95	107	132	144
	Head m	Minimum 15, maximum 60				
Cooling water pipe diameter	A	JIS10k—32A RF			JIS10k—40A RF	
Initial lubricant charge	L	20		35		
Nominal dimensions (W×D×H)mm		1,780×1,170×1,680			2,200×1,335×1,887	
Nominal weight	kg	1,980	2,110	2,330	2,770	2,790
Noise (at front)	dB(A)	63	64	65		66
Oil pump output	kW	0.75				

Discharge pressure 0.69MPa

Water-Cooled Models

Compressor only

Item	Model	ALE120WIII-5/6	ALE132WIII-5/6	ALE145WIII-5/6	ALE160WIII-5/6
Frequency	Hz	50/60			
Discharge air volume	m ³ /min	22.3/22.1	24.7/24.5	27.3/27.4	29.8
Suction conditions	Pressure	Atmospheric pressure			
	Temperature °C	0~45			
Discharge condition	Pressure (gauge pressure) MPa	0.7 ※Available pressure 0.75			
Compressor shaft input power	kW	123.6	136.0/135.8	148.9/149.1	164.8
Compressor motor	Nominal output kW	120	132	145	160
	Voltage V	380·400·415/440 [3,000/3,300·6,600]			
	Starting system	Reactor with separate starter panel			
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use			
Drive system		Gear			
Discharge pipe diameter	A	JIS10k—65A RF			
Cooling water	Quality	Industrial water			
	Quantity L/min	195	215	250	265
	Head m	Minimum 15, maximum 60			
Cooling water pipe diameter	A	JIS10k—50A RF			
Initial lubricant charge	L	35			
Nominal dimensions (W×D×H)mm		2,400×1,565×1,850 [2,650×1,565×1,850]		2,700×1,565×1,850	
Nominal weight	kg	3,880 [4,180·4,580]	3,920 [4,120·4,520]	4,290 [4,890]	4,440 [5,040·4,940]
Noise (at front)	dB(A)	67	68		69
Oil pump output	kW	1.5			

- *Discharge air volumes is converted to compressor suction condition(30°C).
- *Discharge pressures are measured after the check valve.
- *Service factor(SF) of Main Motor is 1.1.
- *Noise values are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front of the unit and at full load.
- *Since the cooling for the compressed air & the inside of the compressor unit depends on the surrounding air condition, the surrounding air must be properly ventilated to prevent the ambient temperature from rising above 45°C.
- *Cooling water temperature should not exceed 35°C.
- *Please be sure to use the lubricating oil recommended by KOBELCO.
- *Nominal dimensions and Nominal weight in brackets [] are for 3000/3300·6000/6600V specification.
- *Air produced by these compressors should not be used in respiratory equipment furnishing air for direct inhalation.
- *Appearance and specifications are subject to change without notice.
- *Consult us individually, regarding guaranteed performance values.

ALE SERIES

Discharge pressure 0.7MPa

Water-Cooled Models

Compressor only

Item	Model	ALE180WIII-5/6	ALE200WIII-5/6	ALE220WIII-5/6	ALE250WIII-5/6	ALE270WIII-5/6
Frequency	Hz	50/60				
Discharge air volume	m ³ /min	33.6/33.9	37.4/37.4	39.7/39.7	45.0/45.0	49.2/49.3
Suction conditions	Pressure	Atmospheric pressure				
	Temperature °C	0~45				
Discharge condition	Pressure (gauge pressure) MPa	0.7 ※Available pressure 0.75				
Compressor shaft input power	kW	184.8/184.0	206.0/205.9	226.4/225.7	257.5/257.4	276.5/278.1
Compressor motor	Nominal output kW	180	200	220	250	270
	Voltage V	3,000 [380·400·415] <6,000> /3,300 [440] <6,600>				
	Starting system	Reactor with separate starter panel				
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use				
Drive system		Gear				
Discharge pipe diameter	A	JIS10k—65A RF	JIS10k—80A RF			
Cooling water	Quality	Industrial water				
	Quantity L/min	295	325	360	410	440
	Head m	Minimum 15, maximum 60				
Cooling water pipe diameter	A	JIS10k—50A RF	JIS10k—65A RF			
Initial lubricant charge	L	35	70			
Nominal dimensions (W×D×H)mm		2,700×1,565×1,850	2,700×1,565×2,133			
Nominal weight	kg	5,010 [4,510] <5,010>	6,530 [5,930] <6,630>	6,110 [5,910] <6,210>	6,160 [5,960] <6,260>	6,310 [6,110] <6,410>
Noise (at front)	dB(A)	69		70		71
Oil pump output	kW	1.5				

Item	Model	ALE305WIII-5/6	ALE340WIII-5/6	ALE370WIII-5/6
Frequency	Hz	50/60		
Discharge air volume	m ³ /min	56.9	63.5/63.6	69.0/69.1
Suction conditions	Pressure	Atmospheric pressure		
	Temperature °C	0~45		
Discharge condition	Pressure (gauge pressure) MPa	0.69		
Compressor shaft input power	kW	304.1/304.4	338.8/339.0	367.8/368.4
Compressor motor	Nominal output kW	305	340	370
	Voltage V	380·415·3,000 <6,000> /3,000 <6,600>		
	Starting system	Reactor with separate starter panel		
	Specification	4-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use		
Drive system		Gear		
Discharge pipe diameter	A	JIS10k—100A RF		
Cooling water	Quality	Industrial water		
	Quantity L/min	570	620	670
	Head m	Minimum 15, maximum 60		
Cooling water pipe diameter	A	JIS10k—80A RF		
Initial lubricant charge	L	100		
Nominal dimensions (W×D×H)mm		3,500×2,000×2,400		
Nominal weight	kg	7,710 <8,660>	7,910 <8,760>	8,210 <8,910>
Noise (at front)	dB(A)	75		
Oil pump output	kW	2.2		

- *Discharge air volumes is converted to compressor suction condition(30°C).
- *Discharge pressures are measured after the check valve.
- *Service factor(SF) of Main Motor is 1.1.
- *Noise values are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front of the unit and at full load.
- *Since the cooling for the compressed air & the inside of the compressor unit depends on the surrounding air condition, the surrounding air must be properly ventilated to prevent the ambient temperature from rising above 45°C.
- *Cooling water temperature should not exceed 35°C.
- *Please be sure to use the lubricating oil recommended by KOBELCO.
- *Nominal weight in brackets [] are for 380·400·415·440V and brackets < > are for 6000·6600V specification.
- *Air produced by these compressors should not be used in respiratory equipment furnishing air for direct inhalation.
- *Appearance and specifications are subject to change without notice.
- *Consult us individually, regarding guaranteed performance values.

ALE SERIES

Discharge pressure 0.88MPa

Water-Cooled Models

Compressor only

Item	Model	ALE55WIII-5/6	ALE65WIII-5/6	ALE75WIII-5/6
Frequency	Hz	50/60		
Discharge air volume	m ³ /min	7.7/7.8	9.3/9.3	10.5/10.6
Suction conditions	Pressure	Atmospheric pressure		
	Temperature °C	0~45		
Discharge condition	Pressure (gauge pressure) MPa	0.88 ※ Available pressure 0.93		
Compressor shaft input power	kW	53.8/53.8	65.6/64.7	73.4/74.0
Compressor motor	Nominal output kW	55	65	75
	Voltage V	200/200·220 [380·400·415/400·440]		
	Starting system	Star Delta		
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use		
Drive system		Gear		
Discharge pipe diameter	A	JIS10k—50A RF		
Cooling water	Quality	Industrial water		
	Quantity L/min	80	95	107
	Head m	Minimum 15, maximum 60		
Cooling water pipe diameter	A	JIS10k—32A RF		
Initial lubricant charge	L	20		
Nominal dimensions (W×D×H)mm		1,780×1,170×1,680		
Nominal weight	kg	1,980	2,110	2,100
Noise [at front]	dB(A)	65	66	67
Oil pump output	kW	0.75		

Item	Model	ALE90WIII-5/6H	ALE110WIII-5/6H	ALE120WIII-5/6H	ALE145WIII-5/6H
Frequency	Hz	50/60			
Discharge air volume	m ³ /min	13.8/14.0	17.0/17.1	18.0/18.2	23.6/23.6
Suction conditions	Pressure	Atmospheric pressure			
	Temperature °C	0~45			
Discharge condition	Pressure (gauge pressure) MPa	0.88 ※ Available pressure 0.93			
Compressor shaft input power	kW	87.6/88.4	111.2/111.3	118.9/119.7	149.2/149.2
Compressor motor	Nominal output kW	90	110	120	145
	Voltage V	200/200·220 [380·400·415/400·440]	380·400·415/400·440		3,000 [400] (6,000) /3,000 [440] (6,600)
	Starting system	Star Delta			Reactor with separate starter panel
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use			
Drive system		Gear			
Discharge pipe diameter	A	JIS10k—50A RF			JIS10k—65A RF
Cooling water	Quality	Industrial water			
	Quantity L/min	132	160	172	250
	Head m	Minimum 15, maximum 60			
Cooling water pipe diameter	A	JIS10k—40A RF			JIS10k—50A RF
Initial lubricant charge	L	35			
Nominal dimensions (W×D×H)mm		2,200×1,335×1,887			2,700×1,565×1,850
Nominal weight	kg	2,770	2,910	2,950	4,890 [4,290] (4,890)
Noise [at front]	dB(A)	67	68	69	70
Oil pump output	kW	0.75			1.5

- *Discharge air volumes is converted to compressor suction condition(30°C).
- *Discharge pressures are measured after the check valve.
- *Service factor(SF) of Main Motor is 1.1.
- *Noise values are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front of the unit and at full load.
- *Since the cooling for the compressed air & the inside of the compressor unit depends on the surrounding air condition, the surrounding air must be properly ventilated to prevent the ambient temperature from rising above 45°C.
- *Cooling water temperature should not exceed 35°C.
- *Please be sure to use the lubricating oil recommended by KOBELCO.
- *Nominal weight in brackets [] are for 400·440V and brackets () are for 6000·6600V specification.
- *Air produced by these compressors should not be used in respiratory equipment furnishing air for direct inhalation.
- *Appearance and specifications are subject to change without notice.
- *Consult us individually, regarding guaranteed performance values.

ALE SERIES

Discharge pressure 0.88MPa

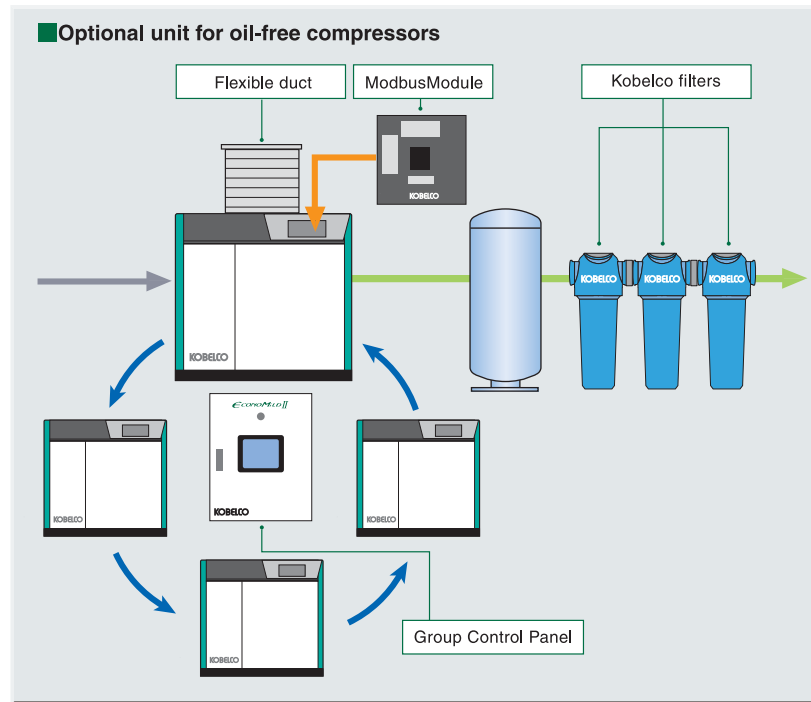
Water-Cooled Models

Compressor only

Item	Model	ALE160WIII-5/6H	ALE180WIII-5/6H	ALE220WIII-5/6H	ALE250WIII-5/6H
Frequency	Hz	50/60			
Discharge air volume	m ³ /min	25.8/26.2	29.6/29.5	35.6/35.8	39.7/39.9
Suction conditions	Pressure	Atmospheric pressure			
	Temperature °C	0~45			
Discharge condition	Pressure (gauge pressure) MPa	0.88 ※ Available pressure 0.93			
Compressor shaft input power	kW	164.5/164.8	184.4/185.2	226.6/226.6	254.8/255.0
Compressor motor	Nominal output kW	160	180	220	250
	Voltage V	3,000 [380·400·415] (6,000) /3,300 [440] (6,600)			
	Starting system	Reactor with separate starter panel			
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use			
Drive system		Gear			
Discharge pipe diameter	A	JIS10k—65A RF		JIS10k—80A RF	
Cooling water	Quality	Industrial water			
	Quantity L/min	265	295	360	410
	Head m	Minimum 15, maximum 60			
Cooling water pipe diameter	A	JIS10k—50A RF		JIS10k—65A RF	
Initial lubricant charge	L	35		70	
Nominal dimensions (W×D×H)mm		2,700×1,565×1,850			2,700×1,565×2,133
Nominal weight	kg	5,040 [4,440] (4,940)	5,010 [4,510] (5,010)	6,110 [5,910] (6,210)	
Noise [at front]	dB(A)	71			72
Oil pump output	kW	1.5			

Item	Model	ALE270WIII-5/6H	ALE290WIII-5/6H	ALE370WIII-5/6E	ALE400WIII-5/6E
Frequency	Hz	50/60			
Discharge air volume	m ³ /min	41.9/42.5	45.3/46.0	56.8	63.4/63.5
Suction conditions	Pressure	Atmospheric pressure			
	Temperature °C	0~45			
Discharge condition	Pressure (gauge pressure) MPa	0.88 ※ Available pressure 0.93		0.93	
Compressor shaft input power	kW	275.4/275.5	297.6/297.2	357.7/357.4	396.3/397.1
Compressor motor	Nominal output kW	270	290	370	400
	Voltage V	3,000 [380·400·415] (6,000) /3,300 [440] (6,600)			
	Starting system	Reactor with separate starter panel			
	Specification	2-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use		4-pole totally enclosed fan-cooled (air cooled), insulation class F, rated for continuous use	
Drive system		Gear			
Discharge pipe diameter	A	JIS10k—80A RF		JIS10k—100A RF	
Cooling water	Quality	Industrial water			
	Quantity L/min	440	475	670	720
	Head m	Minimum 15, maximum 60			
Cooling water pipe diameter	A	JIS10k—65A RF		JIS10k—80A RF	
Initial lubricant charge	L	70		100	
Nominal dimensions (W×D×H)mm		2,700×1,565×2,133			3,500×2,000×2,400
Nominal weight	kg	6,210 [6,310] (6,310)	6,460 [6,160] (6,460)	8,210 [8,210] (8,900)	8,510 [8,510] (8,910)
Noise [at front]	dB(A)	73			75
Oil pump output	kW	1.5		2.2	

- *Discharge air volumes is converted to compressor suction condition(30°C).
- *Discharge pressures are measured after the check valve.
- *Service factor(SF) of Main Motor is 1.1.
- *Noise values are measured in an anechoic chamber at a height of 1 meter and a distance of 1.5m from the front of the unit and at full load.
- *Since the cooling for the compressed air & the inside of the compressor unit depends on the surrounding air condition, the surrounding air must be properly ventilated to prevent the ambient temperature from rising above 45°C.
- *Cooling water temperature should not exceed 35°C.
- *Please be sure to use the lubricating oil recommended by KOBELCO.
- *Nominal weight in brackets [] are for 380·400·415·440V and brackets () are for 6000·6600V specification.
- *Air produced by these compressors should not be used in respiratory equipment furnishing air for direct inhalation.
- *Appearance and specifications are subject to change without notice.
- *Consult us individually, regarding guaranteed performance values.



Kobelco filters

Optimum quality clean air, suitable for specific applications, is supplied

If you need to remove water, dust and particle from Emeraude discharged air, KOBELCO filter can be utilized. You can choose the combination as per required clean grade.



Filter used	Application	Effects
Oil-free dry air KO	General applications Protection of main pipes from contamination, removal of larger solid contaminants, removal of particulates in dryer system, large air pressure tool, automation of equipment, etc.	Removal of moisture and oil
Oil-free dry air KO KA	Paint applications and precision facilities Robotics, precision air pressure tools, instruments, spray painting, air transport, air bearing, air motor, etc.	Removal of moisture and oil
Oil-free dry air KO KA KCS	Food, pharmaceutical and electronics industries High quality clean air, plastic molding, film processing, as well as the manufacture of sophisticated instruments, precision air compressors, cosmetic products, food products, dairy products, etc.	Filtration of odors (oil mist and hydro carbons) *Carbon monoxide, carbon dioxide and methane cannot be removed.

* Above example is for an air temperature of 21°C.

Filter specification table

Item	370	660	960	1320	1980	2580	
Common specifications							
Processed air quantity	m ³ /min	3.7	6.6	9.6	13.2	19.8	25.8
Connector diameter	Inch	1	1-1/2	2	2	2	2-1/2
Filter specifications	KO grade (universal filter)	Particulate size Maximum oil residue					1 μm 0.5PPM
	KA grade (oil removal filter)	Particulate size Maximum oil residue					0.01 μm 0.01PPM
	KCS grade (activated charcoal odor filter)	Maximum oil residue					0.003PPM
Applicable compressor	FE200 FE370	FE480 FE540 FE640	VF640 VF790 FE770 ALE55	ALE65 ALE75	ALE90 ALE100	ALE120 ALE132	

* The intake air quantity has a value for intake pressure of 0.69 MPa. Please contact Kobelco for other pressures.

Modbus Module

Collective management of compressors with remote surveillance.

Kobelco air compressor monitoring system

Modbus Module realize remote operation and control (start/stop load/un-load) receiving pressure, temperature, current data via Modbus protocol.

Real-time monitoring from office can save your manpower and ease to make swift action for incident.



Econo Mild II (Group Control Panel)

When using multiple compressors, the system ensures efficient energy-saving control.

- The system automatically selects and controls the optimum number of units in accordance with airflow needs.
- Two to six compressors can be connected to the system.
- The system supports multiple-unit operation including a Kobelco inverter-equipped compressor.



Operability is enhanced by a touch panel color LCD monitor

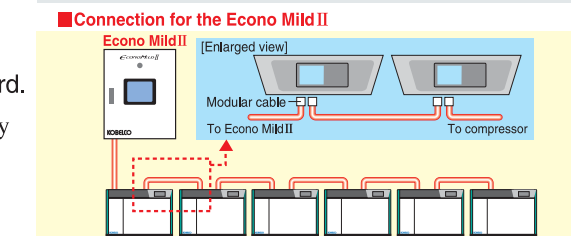
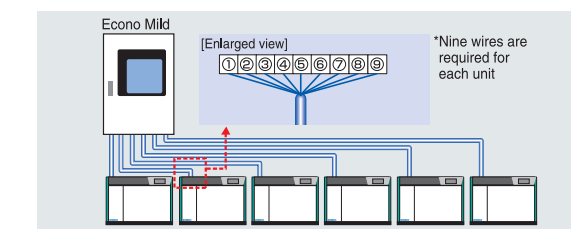
- An easy-to-view and easy-to-use, touch panel full color LCD monitor is included.
- Just touch the screen to select the number of units and make settings.
- Fault history monitoring system installed



Easy connection with a modular cable

The Econo Mild II and compressors can be connected with a modular cable. The compressors can be connected with each other in a multi-drop configuration.

*Units without a new monitor or conventional units must be connected with a plug.



Previously optional features are included as standard

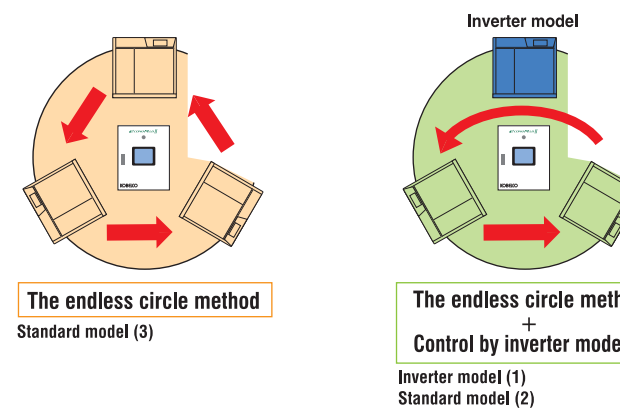
The following previously optional four features are included as standard.

- Momentary interruption protection (within 0.5 second), automatic recovery from power failure
- Timer to switch from the first to the second compressor
- Weekly timer
- Support for multiple-unit operation including an inverter compressor

Precise control for different model types

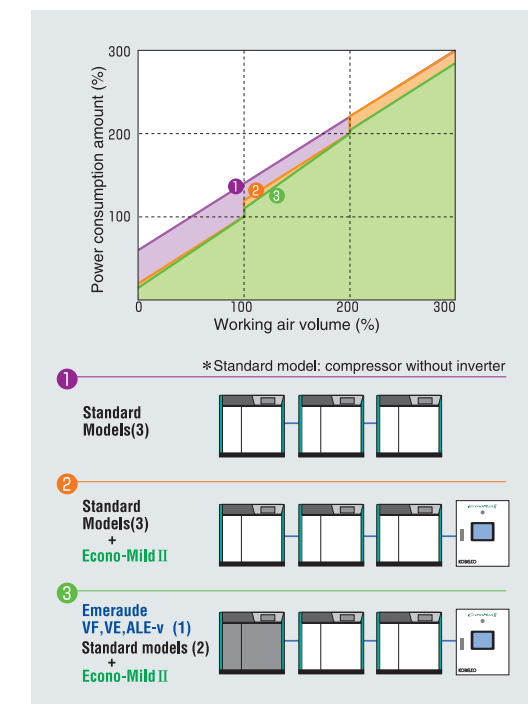
When using standard models, the endless circle method is used to balance operating hours and numbers of compressor starts for all models.

When using inverter models, units are operated for load control, to achieve ideal working conditions in air consumption maintaining a stable level of air pressure.



Optimum control for all combinations

Support for standard model (Kobelco compressors without inverter) only, a combination of standard model and a Kobelco inverter model, and Kobelco inverter model only.



The strong partnership with our customers is producing fruitful results throughout the world.

Kobelco compressor sales and production locations are based in the regions of Asia and North America, in response to expanding demand overseas.

Domestically Kobelco responds to customer requirements in a meticulous manner through sales offices and service centers nationwide, which provide support for customers in a coordinated manner, covering all their needs ranging from daily support work to proposals for the implementation of new technologies.



Singapore **KOBELCO MACHINERY ASIA PTE. LTD. [KMA]**
60 Pandan Road, Jurong, Singapore 609294 REPUBLIC OF SINGAPORE
Tel:+65-6262-0586 Fax:+65-6261-3719

Vietnam **KOBELCO COMPRESSORS VIETNAM CO., LTD [KCV]**
Hanoi Head Office
562 Nguyen Van Cu, Long Bien District, Hanoi, Vietnam
Tel:+84-4-3-944-7781/7782 Fax:+84-4-3-944-7780
Ho Chi Minh Office
3 Dang Huu Pho, Quarter 2, Thao Dien, Dist.2, HCMC
Tel:+84-8-6281-8508 Fax: +84-8-6281-8478

Philippines **KOBELCO COMPRESSORS AND MACHINERY PHILIPPINES CORPORATION [KCMP]**
Ground Floor, PDAF Building Buendia Ave., cor. EDSA, Makati City, Philippines
Tel:+63-2-897-8736 Fax:+63-2-897-8737

Malaysia **KOBELCO COMPRESSORS MALAYSIA SDN. BHD. [KCM]**
No.19, JALAN PJS 11/20, Bandar Sunway, 46150 Petaling Jaya, Selangor Darul Ehsan, Malaysia
Tel:+60-3-5636-0586 Fax:+60-3-5621-0586

Indonesia **PT KOBELINDO COMPRESSORS**
Jalan Raya Tanjung Barat No: 85. Poltangan, Pasar Minggu. Jakarta-12530
Tel:+62-21-782-7002 Fax:+62-21-782-7025

Cambodia **KOBELCO COMPRESSORS (CAMBODIA) CO., LTD. [KCCP]**
G22, ST, GOODY, SANGKAT TEOK THLA, KHAN SEN SOK, PHNOM PENH
Tel:+855-23-882-521 Fax:+855-23-882-531

China **BEIJING KOBELION KOBELCO COMPRESSORS CORPORATION**
Room A1505, 11-1, Guangqu Rd., Chaoyang District, Beijing, 100022 China
Tel:+86 (0)10-6771-0301 Fax:+86 (0)10-6771-0367, 010-6771-0357

KOBELCO COMPRESSORS (SHANGHAI) CORPORATION [KCS]
1/D, B/Unit, Tower 3, No.1068 TianShan West Rd.Shanghai, China
Post Code : 200335
Tel:(021)3996-6392 Fax:(021)3996-6390/89

KOBELCO COMPRESSORS (SHANGHAI) CORPORATION Guangdong Office [KCSG]
Rm1003, Block4, Diwang Plaza, Changqing South Road 303, Changan Town, Dongguan City, Guangdong, 523850, China
Tel:+86-769-8166-8112 Fax:+86-769-8166-8113

America **KOBELCO COMPRESSORS MANUFACTURING INDIANA ,INC.**
3000 Hammond Avenue, Elkhart, in 46516, U.S.A.
Tel:+1-574-295-3145 Fax:+1-574-293-1641