

# How to use this Catalogue

*This catalogue is designed to aid you in selecting the most appropriate pump model for your specific application. The CONTENTS on page 1 and 2 show the corresponding pages of particular models. The page on which each model is shown consists of a specifications table, a performance chart, a power consumption chart, and an external/mounting dimensions diagram. It is necessary to read the explanation below in order to understand what these numbers/values mean for Linear Motor Driven Free Piston compressors and other mechanism pumps.*

## Explanation of Technical Terms

### For compressors

**Rated pressure:** This is the optimum pressure point, where you will get the best capabilities such as performance and service life, and where the pump is designed to have the same airflow regardless of whether the input cycle is 50Hz or 60Hz.

**Rated airflow:** The discharge airflow at the rated pressure point.

**Maximum pressure:** The highest obtainable pressure point for which the pump was designed given zero discharge airflow. (Not assured; referential value only)

**Power consumption:** The input wattage value during operation at the rated pressure point.

**Duty cycle:** The period of operation time in which the coil temperature will not exceed the coil insulation class limit for which it was designed.

### For vacuum pumps

**Maximum vacuum:** The highest vacuum the pump can attain with the pump inlet closed.

**Free air displacement:** Airflow at zero vacuum. (for reference only)

**Power consumption:** The maximum input wattage on the power consumption curve (up to the maximum vacuum).

**Duty cycle:** See "For compressors".

**Exhaustion characteristic curve:** Time required to attain the respective vacuum within a 10 litre container.

### For all compressors & pumps

Operating ambient temperature: 0 ~ 40°C

Operating ambient humidity: 30 ~ 85% non-condensing

### Improvement suggestion

While our compressors and vacuum pumps employ a unique internal coil cooling feature to reduce or control the rise in internal temperature, please be advised that operating at higher than rated pressures may result in elevated temperatures. Should these temperatures become excessive, operating duty cycles may need to be reduced, or the use of an auxiliary cooling fan should be considered.

### For both compressors & vacuum pumps

**Life expectancy:** Expected accumulated operating hours until the discharge airflow reduces by 20% under rated conditions. The actual life might vary in accordance with the actual operating conditions or environment. For example, the output pressure setting, the maintenance schedule, the ventilation, the ambient temperature, the duty cycle, etc.

**Please note that fluctuations of supply voltage will not only affect the pressure, the vacuum rate and the airflow but may also influence the life expectancy of the pump.**

**Rated power supply:** The two major types are 115VAC/60Hz and 230VAC/50Hz. However, most of the models, not all of them, can be used at both 50Hz and 60Hz with different performance characteristics.

**Coil insulations:** The suggested classes, most bare units attaining "E" class, are based on Japanese electric regulations. They are merely suggestions since bare units are considered components and are not classified as complete products or systems.

For reference; Class	(Temperature limit, degrees C)
A	100
E	115
B	125
F	150
H	170

\*Outside & Mounting Dimensions: Useful for evaluating the required space for installation. Allow an extra 5-10 mm in order to prevent the pump from hitting its surroundings as it vibrates.

## Performance Specifications and Operating Parameter Suggestions

■ All numeric and graphic data provided in this catalogue is expressed as nominal values to serve as technical suggestions for selection and operation. Typical tolerances have been suppressed in this Catalogue for the purpose of clarity.

■ This catalogue will give you the guidelines for you to determine the appropriate model for your application(s). However, in certain cases you may need further detailed information, which will be provided in the form of a specifications sheet for each version by our technical staff who will assist you in selecting the optimum model/version to suit your needs.

*It is recommended for OEM customers to confirm the specifications in writing before placing orders.*