

3. Explanation of Terms Used in the Catalog

● Air consumption

In pneumatic equipment or systems, the amount of consumed air under a certain condition. The amount of consumed air per unit of time is converted and displayed as the standard state's value.

● Air volume

The volume of flowing air per unit of time, converted to standard condition.

● Apparent power

Expresses the power consumption in the case of alternating current. Expressed as Voltage (V) × Current (A). The unit of measurement is VA.

● Back pressure

Pressure applied on the return side of a circuit, on the exhaust side, or the behind side of a pressure applied surface.

● Breakaway pressure

The minimum pressure required to start an operation on a specific device.

● Burst pressure

The pressure that actually bursts the outer wall of a device.

● Collected liquid

Water or oil/water of a whitish liquid found inside pneumatic equipment or piping, in either a flowing or being deposited state.

● Connection port

A port installed on a device for connection to piping. Normally, taper pipe thread is used.

● Contamination control

Control of undesirable substances included in an operating media.

● Continuous energizing

Describes continuous application of a rated frequency and/or a rated voltage to a solenoid.

● Cracking pressure

The pressure at a certain flow rate when pressure in a check valve or relief valve has risen and the valve has begun to open.

● Cv

Cv is a coefficient showing the flow rate characteristics of valves. The coefficient is obtained by using G.P.M. (3.785 l /min \approx 1G.P.M.) to calculate water flow rate through a valve at 15.5°C (60°F), at a specified opening of the valve under a pressure drop of 6.9kPa [1psi.].

● Cylinder output force

The mechanical force transmitted from a piston rod.

● Dew point

The temperature at which the water vapor becomes saturated, when gases containing water vapor are chilled under a constant pressure.

● Effective area of valve

The amount of area obtained by calculating pressure resistance based on the actual flow rate of a valve in terms of an equivalent orifice. Used as a value for expressing the flow performance of a pneumatic valve.

● Filtration rating

Expresses the size of particles eliminated by filtration material when an operating media is passed through a filter. The unit of measurement is μ m (1/1000mm) [0.0000394in.].

● Holding current

The current when an electrical equipment has completed its starting operation, appearing after an inrush current.

● Inrush current

A momentary rush of current in electrical equipment that occurs when power of a rated frequency and voltage is switched from stationary condition to beginning of movement.

● Insulation resistance

The amount of resistance in an insulating material. As the insulation resistance is much larger than conductive resistance, it is normally stated in terms of mega-ohms (symbol: M Ω).

● Manifold

A block that is used internally to shape a passageway that performs the piping function, and externally to mount 2 or more devices.

● **Maximum operating frequency**

The maximum frequency of operations without occurrence of erratic operation when equipment is operated continuously.

● **Maximum operating pressure**

The maximum pressure to ensure device or system use.

● **Minimum flow rate for dripping oil**

The minimum amount of air flow rate required for causing oil droplets to flow from a lubricator under specified conditions.

● **Minimum operating pressure**

The minimum pressure needed to ensure device or system operation.

● **Minimum using pressure**

The minimum pressure needed to allow device use.

● **Momentarily energized to hold valve position type**

Expresses the construction that actually maintains the state when a valve has been activated by applying 1 pulse at a rated frequency and rated voltage to a solenoid.

● **Non-lubricant pneumatic device**

A pneumatic equipment capable of operating without lubrication, either because of its specific construction, or through use of a self-lubricating material.

● **Normal state**

State of dry gas at a temperature of 0°C [32°F] and an absolute pressure of 101.3kPa [14.7psi.].

● **Oil mist**

Fine particles of oil entrained in operating air.

● **Operating life**

Number of cycles, amount of time, etc., that a device can ensure operation, while maintaining a specified performance, when used under recommended conditions.

● **Operating pressure range**

The pressure required during actual operation of a device or system.

● **Operating temperature range**

Temperature of the environment surrounding an operating device; or the temperature of the media being used.

● **Pilot pressure**

Pressure used in a pilot pipe line.

● **Pre-lubed pneumatic device**

Pneumatic equipment pre-lubricated with such as grease, that is then capable of operating for extended periods without supply of lubricant.

● **Pressure pulsation**

Nearly periodic fluctuations in pressure that occur under normal operating conditions. Excludes transient fluctuations in pressure.

● **Primary pressure**

Pressure on device's inlet side.

● **Proof pressure**

The pressure at which devices must withstand without performance degradation after the maximum operating pressure has been restored. The pressure value should be determined under specified conditions.

● **Residual magnetism**

Magnetic force remaining in a material, after the material has been placed in a magnetic field, become magnetized, and then removed the magnetic field.

● **Residual pressure**

Unwanted pressure remaining inside a circuit system or device after pressure supply has been shut off.

● **Response time**

Time required from an input signal being sent to a valve or circuit, to securing a certain output value.

● **Secondary pressure**

Pressure on device's outlet side.

● **Set pressure**

Pressure regulated in a pressure control valve, etc.

● **Standard condition (ANR)**

The state of air at a temperature of 20°C [68°F], absolute pressure of 101.3kPa [14.7psi.], and relative humidity of 65%. In ISO/DIS5598, this is called the "standard reference atmospheric condition," and expressed in abbreviated form as "A.N.R.," from the French term.