

SI System of Units

The international system of unit (SI unit) is used to indicate the units of pressure, force (load), torque, and stress used in this catalogue.

| | SI unit | Conventional Unit | Conversion Rate | * Corresponding Value |
|------------|-------------------|---------------------|--|-----------------------|
| Weight | kg | kgf (Weight) | 1kg=1kgf | 1 |
| Force/Load | N | kgf | 1N=0.102kgf | × 9.80 |
| Pressure | MPa | kgf/cm ² | 1MPa=10.2kgf/cm ² | × 0.098 |
| Torque | N · m | kgf · m | 1N · m=0.102kgf · m | × 9.80 |
| Stress | N/mm ² | kgf/mm ² | 1N/mm ² =0.102kgf/mm ² | × 9.80 |

* The corresponding values (*) in the table show the coefficients to convert the conventional units into the SI units.

When calculating the necessary pressure in the SI unit:

$$\text{Pressure (MPa)} = \frac{\text{Output (kN)}}{\text{Cylinder effective area (cm}^2\text{)}} \times 10$$

(Reference) Calculate the pressure of a 100 kN cylinder

$$\begin{aligned} \text{Pressure (MPa)} &= \frac{100 \text{ (kN)}}{14.52 \text{ (cm}^2\text{)}} \times 10 \\ &= 68.87 \text{ (MPa)} \end{aligned}$$

When calculating the cylinder output in the SI unit:

$$\text{Output (kN)} = \frac{\text{Pressure (MPa)} \times \text{Cylinder effective area (cm}^2\text{)}}{10}$$

(Reference) Calculate the output of a 100 kN cylinder

$$\begin{aligned} \text{Output (kN)} &= \frac{70 \text{ (MPa)} \times 14.52 \text{ (cm}^2\text{)}}{10} \\ &= 101.64 \text{ (kN)} \end{aligned}$$

Riken Products:

1. Riken products are designed for indoor use. They must not be used at a place exposed to rain water (except for some products).
2. Riken products must not be used where serious damage could result if the hydraulic oil leaks. In particular, they must not be used near fire as this could cause injury or fire.
3. Riken products should be used at an ambient temperature of 0°C to 40°C.
4. Riken products do not comply with the Fire Defense Law.
5. The contents of this catalogue are subject to change without notice. New products are continually being developed and the latest information should be checked at our website at <http://www.rikenkiki.co.jp>.

Warranty

All our products purchased and properly used in Japan are covered by a one-year warranty from the date of purchase. If the products are to be used hundreds of times a day, this should be informed prior to purchase; in some cases the warranty will not apply even within the first year. Failures caused by our company will be repaired or replaced at no additional cost. However, we will not be responsible for removal, attachment, and replacement of any damaged or defective products caused in association with a failure of our products.