



Symbols (Marks)

Each heading is shown with symbols in order to make it easier to see.

Symbol	Definition	Symbol	Definition	Symbol	Definition	Symbol	Definition
	Precautions to be read absolutely before handling.		Information on CAD Data Service		European Standard CE Mark		North American Standard CSA Mark
	Introduction of reference pages		Introduction of "Made to Order Specifications"		North American Standard CSA/UL Mark	* For details about the international standards, refer to back page 16-14-6 or visit us at http://www.smcworld.com .	

International System of Units (SI)

This catalog is written with SI units.

For detailed specifications, convert them by referring to the table below.

Principal SI Units

No.	Description	Symbol	Conventional unit → SI unit	SI unit → Conventional unit
1	Pressure	MPa	1 kgf/cm ² ≅ 0.098 MPa	1 MPa ≅ 10.2 kgf/cm ²
2	Force/Load	N	1 kgf ≅ 9.8 N	1 N ≅ 0.102 kgf
3	Moment of force	N·m	1 kgf·m ≅ 9.8 N·m	1 N·m ≅ 0.102 kgf·m
4	Vacuum pressure	-kPa	-1 mmHg ≅ -0.133 kPa	-1 kPa ≅ -7.5 mmHg
5	Moment of inertia	kgf·m ²	1 kgf·cm·S ² ≅ 0.098 kgf·m ²	1 kgf·m ² ≅ 10.2 kgf·cm·S ²
6	Kinetic energy	J	1 kgf·cm ≅ 0.098 J	1 J ≅ 10.2 kgf·cm

1. Pressure MPa → kgf/cm² (1 MPa ≅ 10.2 kg)

MPa	0.001	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.01	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019
kgf/cm ²	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19
MPa	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19	0.2
kgf/cm ²	0.2	0.31	0.41	0.51	0.61	0.71	0.82	0.92	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
MPa	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.5
kgf/cm ²	3.1	4.1	5.1	6.1	7.1	8.2	9.2	10.2	11.2	12.2	13.3	14.3	15.3	16.3	17.3	18.4	19.4	20.4	25.5
MPa	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.9	10	20	30	40	50
kgf/cm ²	30.6	35.7	40.8	45.9	51.0	56.1	61.2	66.3	71.4	76.5	81.6	86.7	91.8	101.0	102	204	306	408	510

2. Force/Load N → kgf (1 N ≅ 0.102 kgf)

N	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9
kgf	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.1	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19
N	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
kgf	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
N	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	250
kgf	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	25
N	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	2000	3000	4000	5000
kgf	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	200	300	400	500