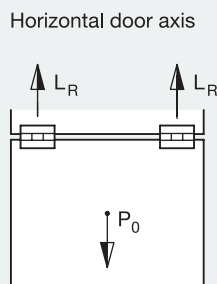
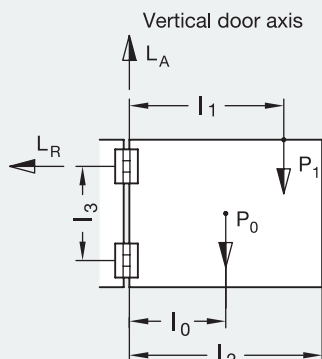


Load ratings of hinges



P_0 = Weight of door

P_1 = Additional load elements
e.g. handles, lock, etc.

l_0 = Distance from door centre of gravity – hinge axis

l_1 = Distance additional load – hinge axis

l_2 = Width of door; normally $l_2 = 2 \times l_0$

l_3 = Distance between two hinges

n = Number of hinges

Design equations:

$$L_R = \frac{(P_0 \times l_0) + (P_1 \times l_1)}{l_3}$$

$$L_R = \frac{P_0 + P_1}{n}$$

L_{R0} [N] = Radial load rating with door closed
opening angle = 0°

L_{R90} [N] = Radial load rating with door open
opening angle = 90°

L_A [N] = Axial load rating

Design example:

$P_0 = 10 \text{ kg} = 98 \text{ N}$

$P_1 = 5 \text{ kg} = 49 \text{ N}$

$l_0 = 800 \text{ mm}$

$l_1 = 1200 \text{ mm}$

$l_3 = 1800 \text{ mm}$

$n = 2$

$$L_R = \frac{(98 \times 800) + (49 \times 1200)}{1800} = 76 \text{ N}$$

$$L_A = \frac{98 + 49}{2} = 73,5 \text{ N}$$

Caution:

The values in the table shown in brackets are the failure load values. They serve to estimate the safety coefficient.

For various hinge sizes and / or hinge designs, the maximum tightening torque of the fixing thread must not be exceeded.

Code No.	Radial load rating		Axial load rating L_A [N]	Max. tightening torque of the fixing thread [Nm]
	L_{R0} [N]	L_{R90} [N]		
GN 237-ZD-40-40	2940 (3870)	2950 (3620)	1960 (2940)	–
50-50	5880 (6170)	3920 (4750)	3920 (4800)	–
60-60	7840 (8280)	4900 (5800)	7840 (8620)	–
CFM-40-40-A	1900 –	1280 –	1900 –	3
40-40-B	1600 –	1000 –	1900 –	5
40-40-C	1900 –	1000 –	2000 –	5
40-40-D	1900 –	1000 –	1900 –	3
40-40-E	1600 –	1000 –	1900 –	5
50-50-A	2400 –	1720 –	2630 –	> 5
50-50-B	2410 –	1360 –	2860 –	> 5
50-50-C	2560 –	2100 –	2340 –	> 5
50-50-D	2400 –	1720 –	2340 –	> 5
50-50-E	2410 –	1360 –	2340 –	> 5
60-60-A	2960 –	3070 –	3320 –	> 5
60-60-B	2810 –	2170 –	3440 –	> 5
60-60-C	3940 –	–	–	> 5
60-60-D	2960 –	2130 –	3000 –	> 5
60-60-E	2810 –	–	–	> 5