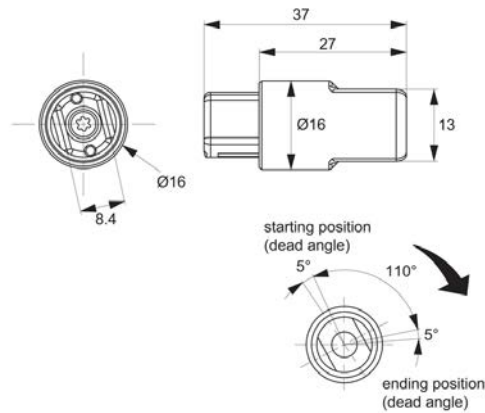


Torque Dampers - Compact uni-directional - 110° operating angle

Torque Dampers



Q0422

TORQUE DAMPERS

Material

Body: stainless steel, AISI 304.
Shaft: POM plastic. White for anti-clockwise version, black for clockwise version.
Oil: silicone oil.

Tips

Provides smooth and quiet motion of lids, covers etc. Ideal for special purpose machines, air conditioning units etc.

Important Notes

Rated torques measured at rotation speed

of 20rpm, at 23°C.
Values $\pm 20\%$.
Max. rotation speed 50rpm.
Max. cycle rate 10 cycle/min.
Operating temperature, -5° to 50°C.
Design tested to 50,000 cycles.

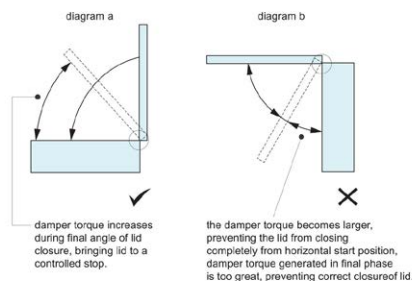
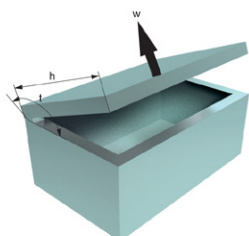
Torque calculation:

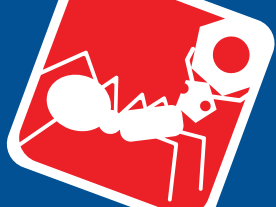
$T(\text{Kg.cm}) = W(\text{Kg}) \times H(\text{cm}) \times 9.8/2$.
W(Kg) is weight of cover/lid, H(cm) is distance between fulcrum and cover/lid's opening edge.

Q0422 is designed to generate a large torque just before a lid, closing from a vertical position; comes to full closure. See diagram a.

Q0422 should not be used for a lid closing from a horizontal start position, as the damper torque generated, just prior to closing, is too great causing the lid not to fully close. See diagram b.

Order No.	Damping direction	Shaft colour	Operating angle	Torque kgf	Weight g
Q0422.AW0110	Clockwise	Black	110°	10	14
Q0422.AW0010	Anti-clockwise	White	110°	10	14
Q0422.AW0120	Clockwise	Black	110°	20	14
Q0422.AW0020	Anti-clockwise	White	110°	20	14
Q0422.AW0130	Clockwise	Black	110°	30	14
Q0422.AW0030	Anti-clockwise	White	110°	30	14





Wixroyd Torque Dampers

with partial rotation angle

Q0400 - Q1060
Rotary & Torque Dampers

Wixroyd torque dampers offer controlled opening and closing of lids, drawers, covers and much more, they provide a wide range of solutions for a variety of applications creating smooth movement and function.

Though unnoticed in many applications, torque dampers are a vital part of many products bringing quality, safety and durability. Torque dampers provide quality movement enhancing both touch and feel.

Torque dampers utilise the movement of fluid forced from one chamber to another via a rotor. Dampening speed is dependent upon the viscosity of the fluid and the diameter of the fluid aperture.

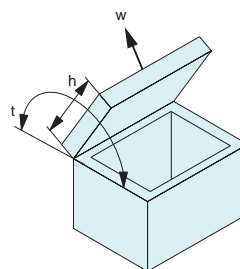
To calculate the torque for your application, the following measurements are necessary.

$$t \text{ (torque)} = w \times 0.5 \times h$$

h = length from pivot point to end of lid (cm)

w = weight of the lid (Kg)

Torque force stated per product (see individual product pages), is the maximum torque to which the specified part can be exposed before the dampening force yields and hence dampening is overcome.



Operating principle

Torque calculation

Table of torque dampers: Torque ranges

Part no.	Torque damper range	Torque Kgf.cm	Torque Kgf.cm																
			10	20	30	40	50	60	70	80	90	100	110	120	130	140	150		
	Q0400 Starting position (Dead angle) 5° Ending position (Dead angle) 115° 5°	15 - 35																	
	Q0420 Starting position (Dead angle) 5° Ending position (Dead angle) 120° 5°	10 - 25																	
	Q0422 Starting position (Dead angle) 5° Ending position (Dead angle) 110° 5°	10 - 35																	
	Q0430 Starting position (Dead angle) 5° Ending position (Dead angle) 125° 5°	20 - 30																	
	Q0440 Starting position (Dead angle) 5° Ending position (Dead angle) 120° 5°	8 - 25																	
	Q0460 Starting position (Dead angle) 5° Ending position (Dead angle) 110° 5°	10 - 18																	
	Q0462 Starting position (Dead angle) 5° Ending position (Dead angle) 110° 5°	10 - 30																	
	Q1000 Starting position (Dead angle) 5° Ending position (Dead angle) 115° 5°	30 - 70																	
	Q1002 Starting position (Dead angle) 5° Ending position (Dead angle) 115° 5°	60 - 140																	
	Q1010 Starting position (Dead angle) 5° Ending position (Dead angle) 120° 5°	30 - 50																	
	Q1050 Starting position (Dead angle) 5° Ending position (Dead angle) 120° 5°	20 - 50																	
	Q1060 Starting position (Dead angle) 5° Ending position (Dead angle) 120° 5°	61 - 81																	