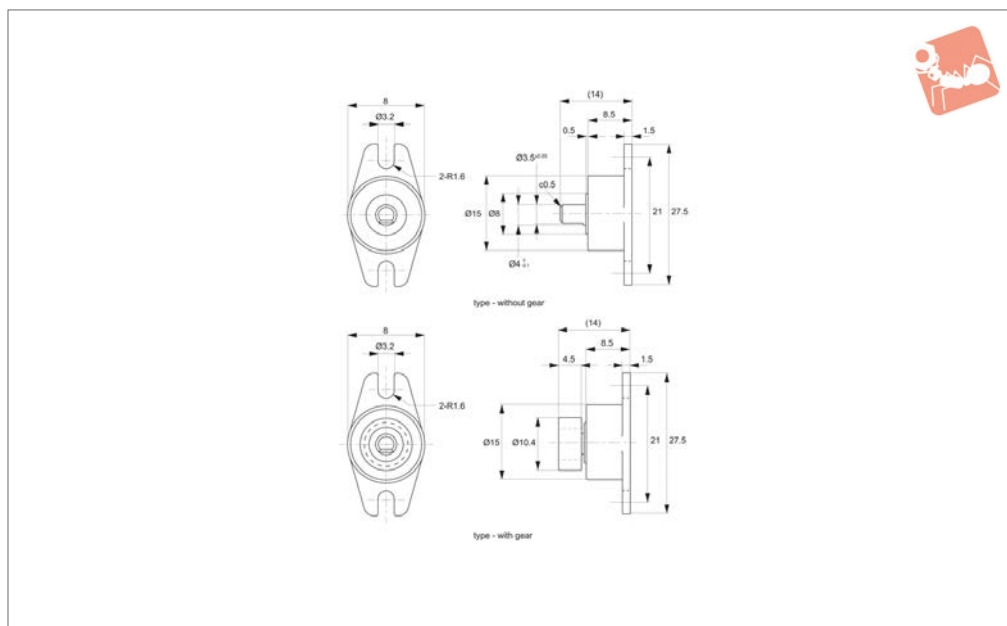




Rotary Dampers

uni- and bi-directional - continuous rotation

Rotary Dampers



Q3040

ROTARY DAMPERS

Material

Body: polycarbonate.
Gear: polyacetal.
Oil: silicone oil.

Technical Notes

Gear specification:
Type - standard spur gear
Tooth - involute (full)
Module - 0.8

Pressure angle - 20°

Number of teeth - 11

Pitch circle diameter - 8.8

Tips

For graphs of torque at varying temperature and speed see torque closing speed graphs.

Important Notes

Rotation speed of 20rpm, at 23°C.

Up to 300gf.cm.

Values ±20%.

Max. rotation speed 50rpm.

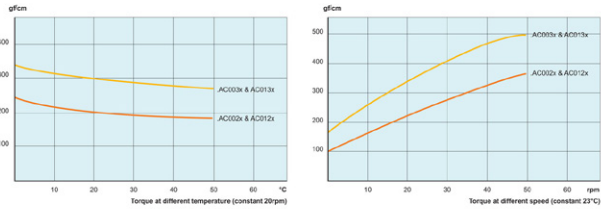
Max. cycle rate 10 cycle/min.

Operating temperature, 0° to 50°C.

Design tested to 50,000 cycles.

Meets RoHS standards.

Order No.	Type	Damping direction	Damping torque gf.cm	Shaft material	Weight g
Q3040.AWC0020	Without Gear	Bi-directional	200	Polyacetal	2.1
Q3040.AW0030	Without Gear	Bi-directional	300	Polyacetal	2.1
Q3040.AW0120	With Gear	Bi-directional	200	Polyacetal	2.4
Q3040.AW0130	With Gear	Bi-directional	300	Polyacetal	2.4
Q3040.AW0031	Without Gear	Clockwise	300	Metal	3.2
Q3040.AW0131	With Gear	Clockwise	300	Metal	3.5
Q3040.AW0032	Without Gear	Anti-clockwise	300	Metal	3.2
Q3040.AW0132	With Gear	Anti-clockwise	300	Metal	3.5






Rotary Dampers

product selection chart

Rotary & Torque Dampers

Product selection chart

Part no.	Damping direction	Torque gf.cm	Rotary dampers													
			Torque gf.cm													
			20	40	60	80	100	200	300	400	500	1000	1500			
	Q3000	Two way	10 - 40													
	Q3020	Two way	20 - 100													
	Q3022	Two way	50 - 150													
	Q3024	Two way	50 - 150													
	Q3026	Two way	15 - 50													
	Q3027	Two way	15 - 50													
	Q3028	Two way	15 - 50													
	Q3029	Two way	70 - 150													
	Q3031	Two way	50 - 150													
	Q3032	Two way	50 - 100													
	Q3033	Two way	50 - 150													
	Q3036	Two way	15 - 50													
	Q3040	One/two way	200 - 300													
	Q3042	Two way	100 - 400													
	Q3044	Two way	100 - 400													
	Q3060	One/two way	500 - 1500													

ROTARY DAMPERS

ov-WQ3000-A-T-WQ3060-A-T-rotary-dampers-products-selection-charts-rnh- Updated -21-10-2022

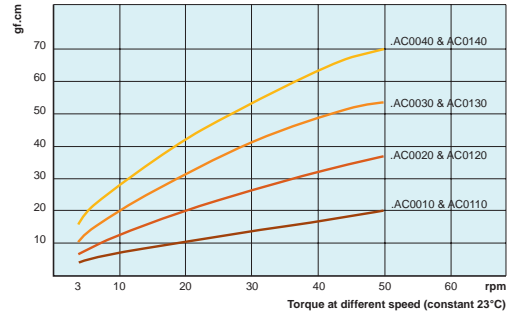
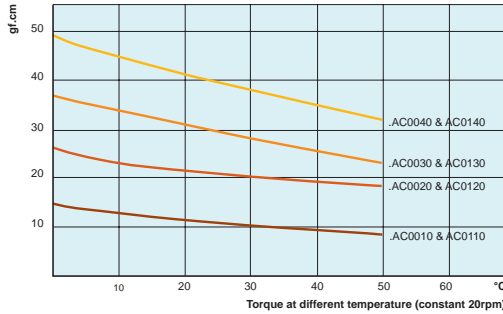


Torque closing speed graphs

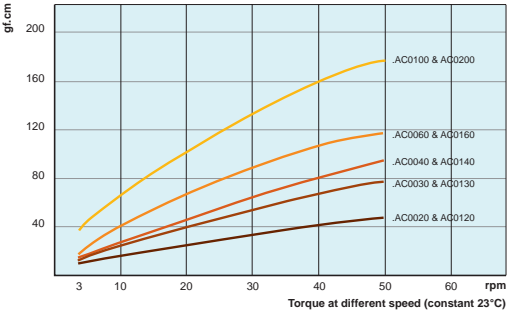
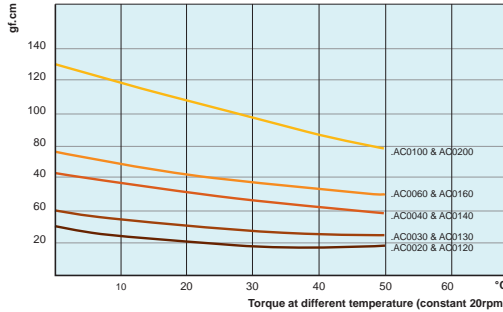
Follow the torque calculation formula opposite and utilise the following torque closing speed graphs to ensure the selected rotary damper best suits you application.

Torque graphs for temperature and speed

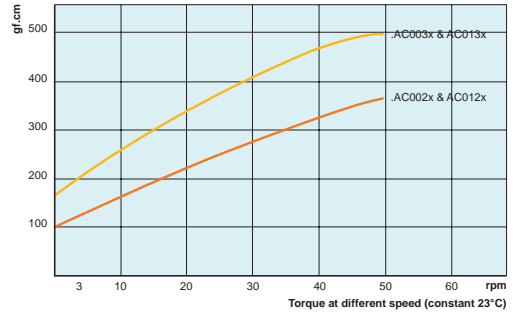
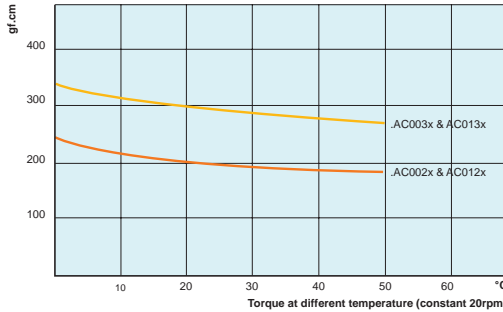
Q3000



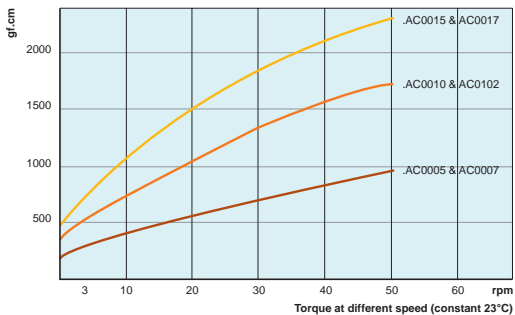
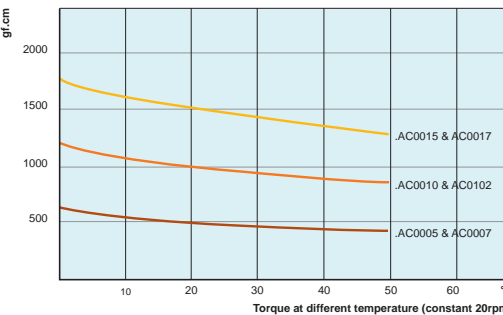
Q3020



Q3040



Q3060





Rotary Dampers

bi or uni-directional continuous rotation

Q3000 - Q3060

Rotary & Torque Dampers

ROTARY DAMPERS

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

Though unnoticed in many applications, rotary dampers are a vital part of many products bringing quality, safety and durability. Rotary dampers provide quality movement enhancing both touch and feel. Available in unidirectional (single) dampening, or bi-directional (double) version. Also available with or without gears.

Solution for controlled opening and closing motion



Rotary dampers utilise the principle of fluid resistance to reduce the speed of moving parts. The oil viscosity is utilised to provide the “braking force” of the damper. The torque or “braking force” can be adjusted by changing the viscosity of the oil. The advantages of the rotary type dampers are their compact size.

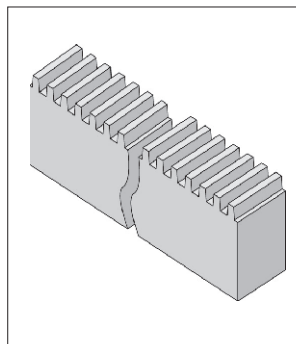
Rotary dampers

- Loading trays for CD, DVD, VCR, MD players.
- Arm rests, ashtrays, center consoles, glove boxes, handles and storage compartments in passenger vehicles.
- Camcorders, celular phones and small personal devices.

Applications

Rotary 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.

Through the use of toothed plastic rack no. Q3150, rotary dampers with gears can be used to dampen on a linear plane rather than the normal dampening directly at the shaft.



Part no.	Q3200 to Q3260
Max. speed	50rpm
Max. cycle rate	10 cycles/min
Nominal torque rating	At 20rpm, 23°C (73°F)
Operating temperature	0 to 50°C (32 - 122°F)
Storage temperature	-20 to 60°C (-4 to 140°F)

Operating principle

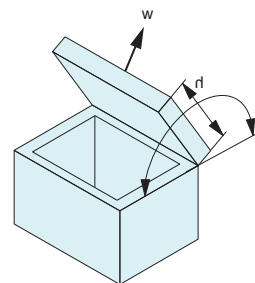
To calculate the torque for your application, the following measurements are necessary.

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

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.



Torque calculation

Note

Dampening direction is determined whilst looking directly onto the output shaft.

Important

Avoid side loading of the disk damper output shaft in order to maximise effectiveness.

Important note: Once calculation has been made choose a disk damper from our range which can accommodate the newly calculated torque of the application. Use the damper closing speed graphs opposite to confirm that the rpm given at the corresponding torque value matches the desired lid closing speed. If the desired rpm is beyond the capacity of the selected damper, then select another damper with a higher torque rating and re-test. If the rpm is too slow select another damper with a lower torque rating and re-test.