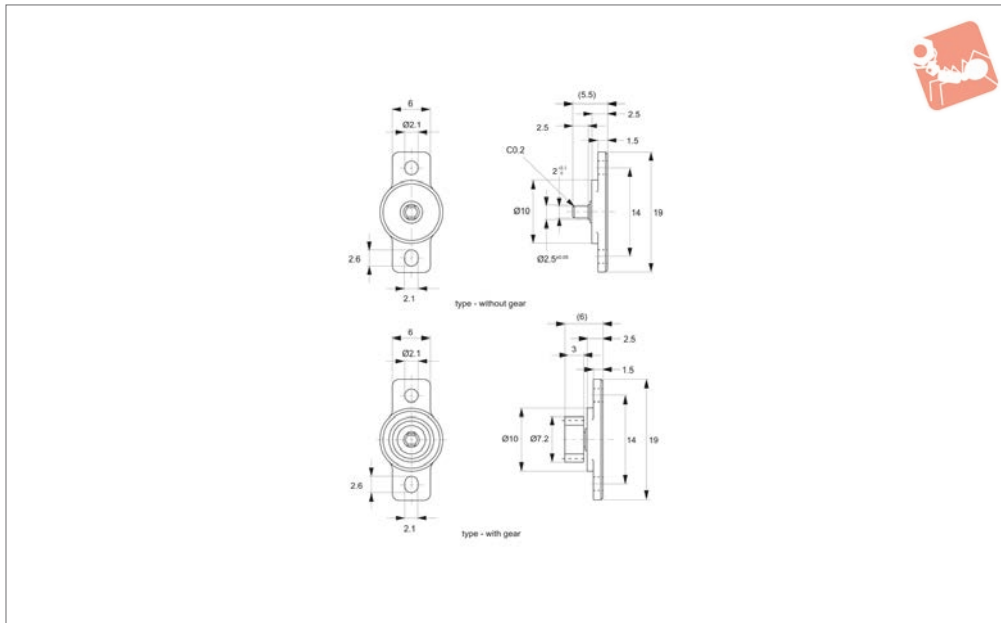


Rotary Dampers

bi-directional - continuous rotation - up to 40 gf.cm

Rotary Dampers



Q3000

ROTARY DAMPERS

Material

Body: polycarbonate
Shaft: polyacetal
Gear: polyacetal

Technical Notes

Gear Specification:
Type - Standard Spur Gear
Tooth - Involute (full)

Module - 0.6mm
Pressure Angle - 20°
Number of Teeth - 10
Pitch Circle Diameter - 6mm
Temperature range 0° to +50°.

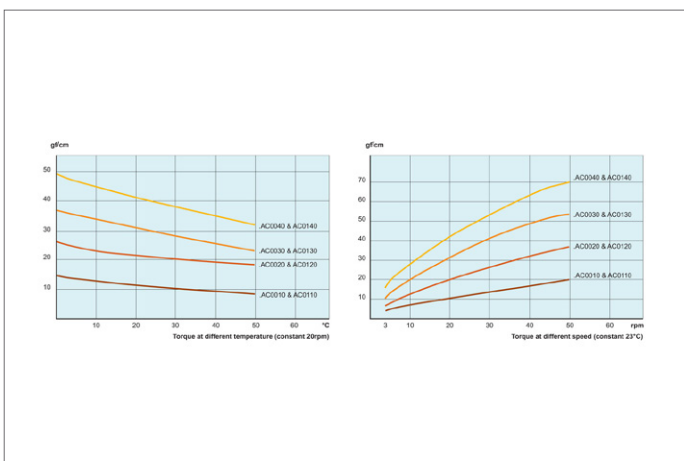
Tips

Create smooth movement and dampening in applications such as loading trays, arm

rests and storage compartments.
For graphs of torque at varying temperature and speed, see Torque Closing Speed Graphs earlier in this section.

Order No.

- Q3000.AC0010
- Q3000.AC0020
- Q3000.AC0030
- Q3000.AC0040
- Q3000.AC0110
- Q3000.AC0120
- Q3000.AC0130
- Q3000.AC0140

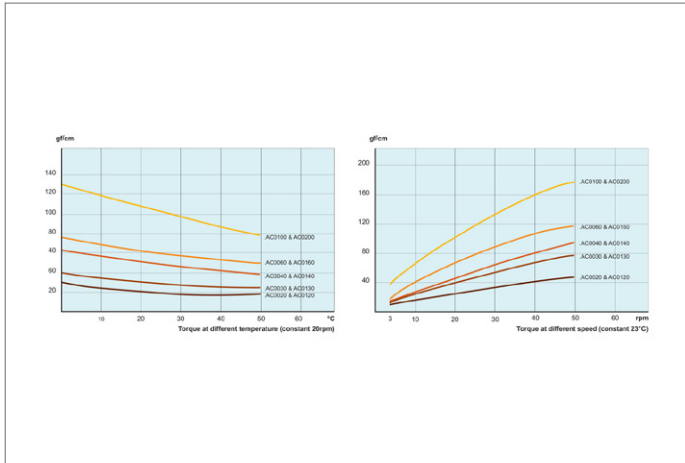




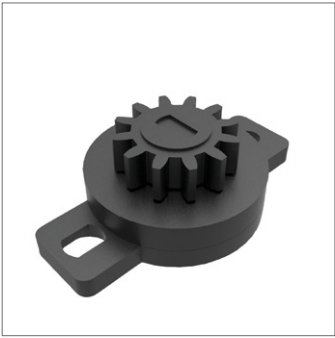
Rotary Dampers

bi-directional - continuous rotation - up to 100 gf.

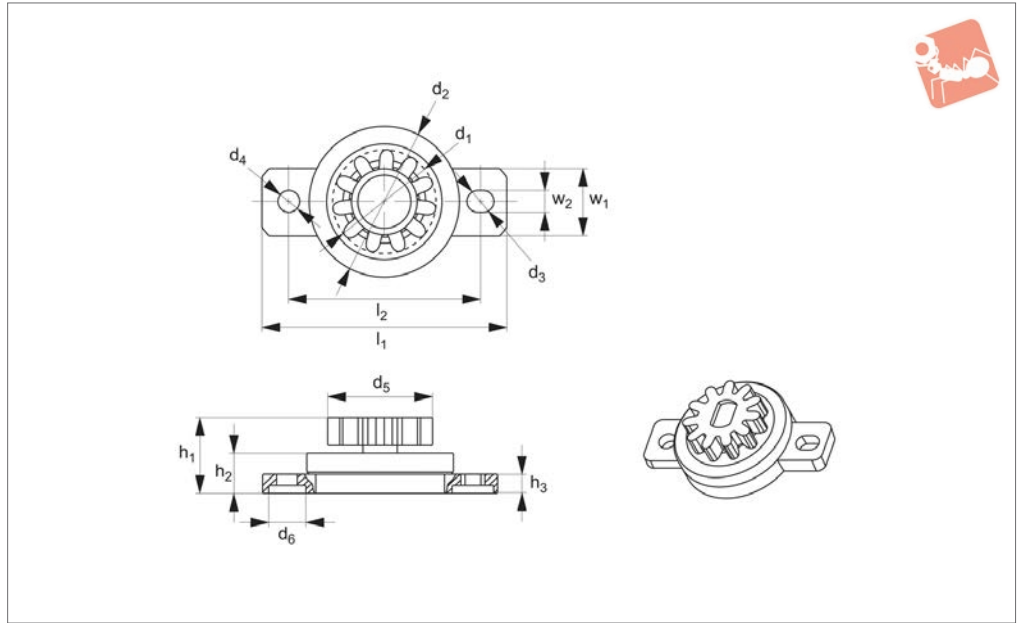
Rotary Dampers



ROTARY DAMPERS



Q3022



Material

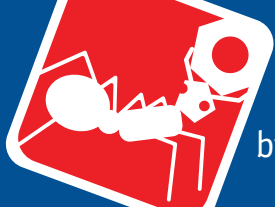
Polycetal (POM), Polycarbonate (PC)

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

Tips

Create smooth movement and dampening

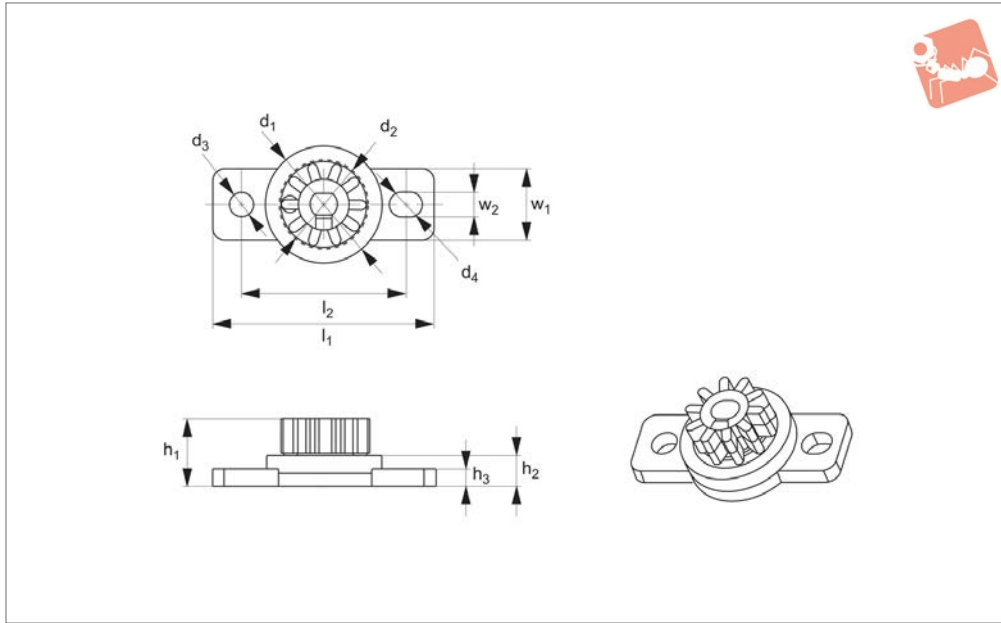
Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle							
Q3022.AC0150	With gear	50-150	11	0.8	8.8	20°							
Order No.	l_1	d_1	d_2	d_3	d_4	d_5	d_6	h_1	h_2	h_3	$l_2 \pm 0.1$	w_1	w_2
Q3022.AC0150	23.9	10.4	15	2.5	2.2	15	4.1	7.55	4.2	1.85	18.9	6.7	2.2



Rotary Dampers

bi-directional - continuous rotation - up to 50gf.cm

Rotary Dampers



Q3026

ROTARY DAMPERS

Material
thermoplastic (ABS), Polycetal (POM).

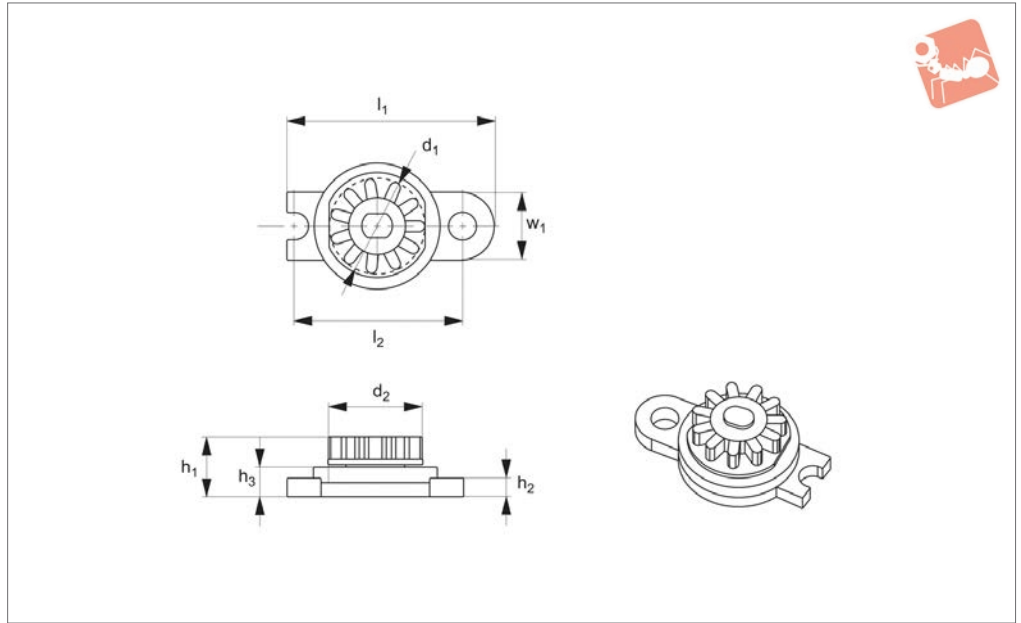
in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

Tips
Create smooth movement and dampening

Order No.	Type	Torque gf.cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle					
Q3026.AC0050	With gear	15-50	11	0.6	6	20°					
Order No.	l_1	d_1	d_2	d_3	d_4	h_1	h_2	h_3	l_2	w_1	w_2
Q3026.AC0050	19	10	7.2	2.1	2.5	5.9	2.7	1.5	14	6	2.1



Q3027



Material

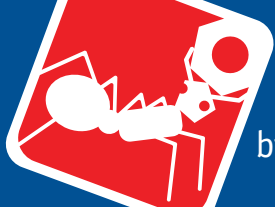
thermoplastic (ABS), Polycetal (POM).

Tips

Create smooth movement and dampening

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

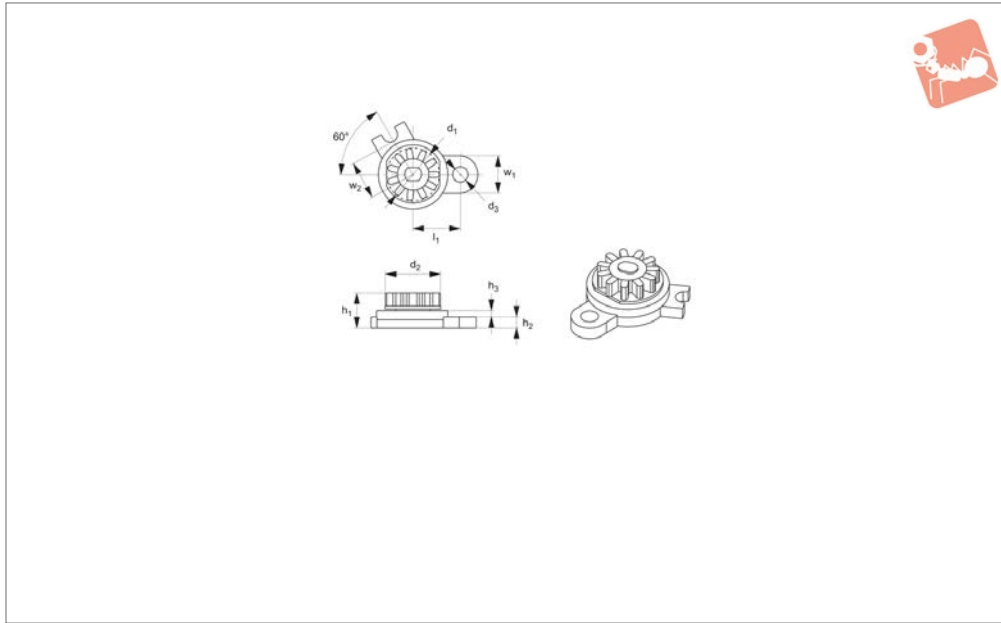
Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D			Pressure angle
Q3027.AC0050	With gear	15-50	11	0.6	6.6			20°
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	l_2	w_1
Q3027.AC0050	16.7	7.8	10.2	5	1.5	2.5	13.85	5



Rotary Dampers

bi-directional - continuous rotation - up to 50gf.cm

Rotary Dampers



Q3028

ROTARY DAMPERS

Material

Polycarbonate (PC), polycetal (POM).

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

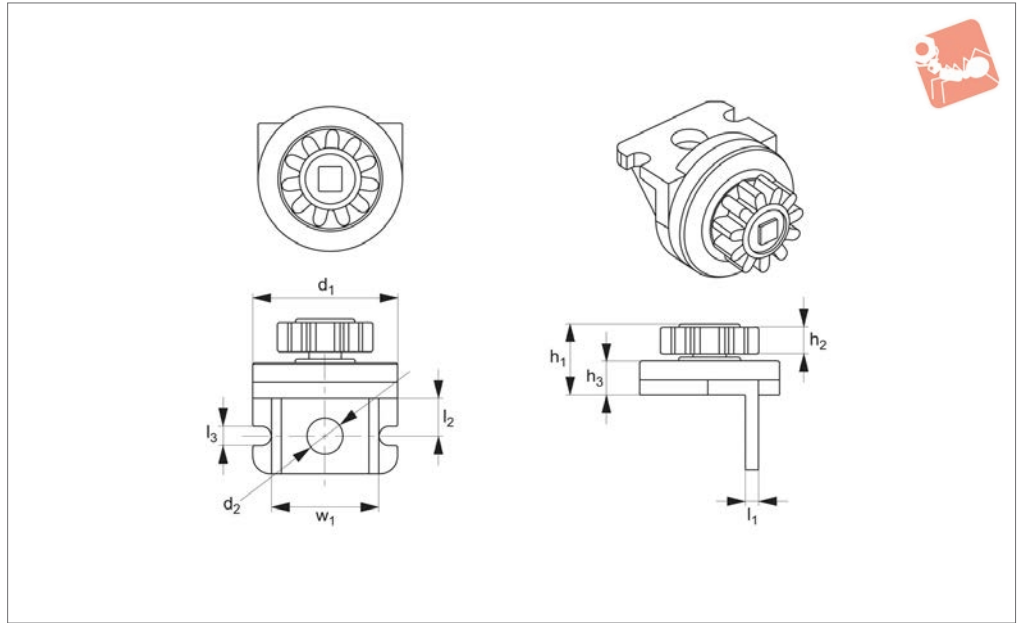
Tips

Create smooth movement and dampening

Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle				
Q3028.AC0050	With gear	15-50	11	0.6	6.6	20°				
Order No.	l_1	d_1	d_2	d_3	h_1	h_2	h_3	w_1	w_2	Angle
Q3028.AC0050	7	7.8	10.2	2.2	5	2.5	1.5	5.0	5.8	60°



Q3029



Material

thermoplastic (ABS), Polycetal (POM).

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

Tips

Create smooth movement and dampening

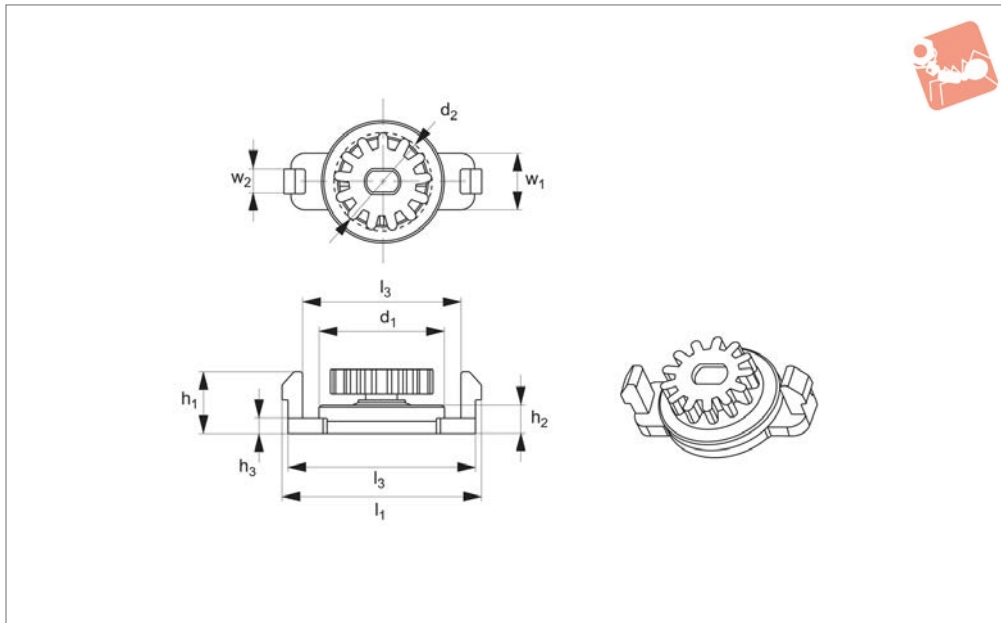
Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle			
Q3029.AC0150	With gear	70-150	11	0.8	8.8	20°			
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	l_2	l_3	w_1
Q3029.AC0150	1.6	15.1	3.9	7.6	3	4.2	3.9	2	11



Rotary Dampers

bi-directional - continuous rotation - up to 150gf.

Rotary Dampers



Q3031

ROTARY DAMPERS

Material

Polycetal (POM), polycarbonate (PC)

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

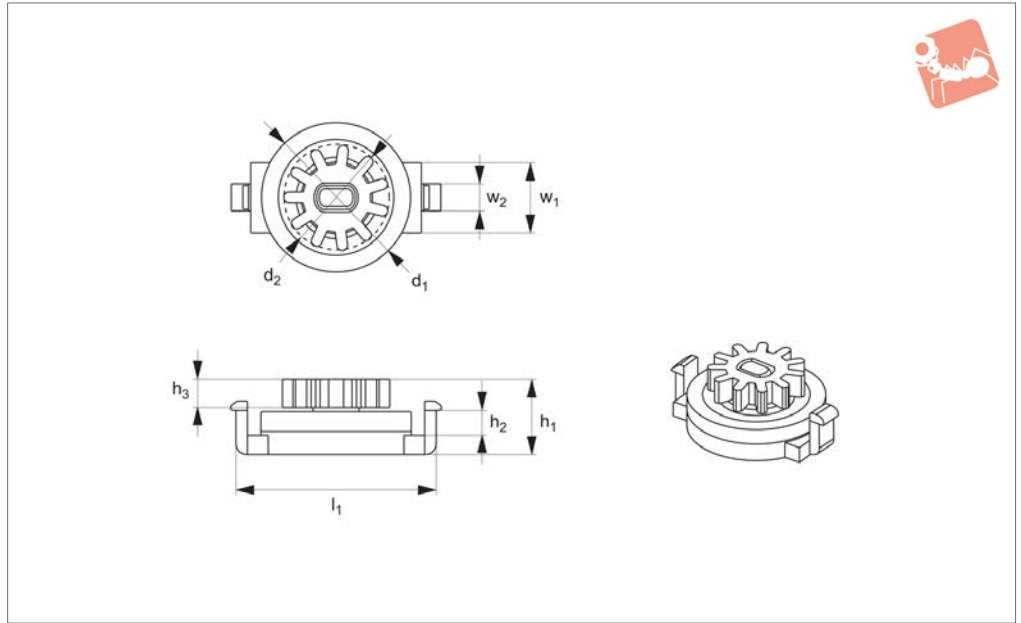
Tips

Create smooth movement and dampening

Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle				
Q3031.AC0150	With gear	50-150	13	0.8	10.4	20°				
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	l_2	l_3	w_1	w_2
Q3031.AC0150	24	15	12	7.5	4	2.21	22.5	18.7	7	3



Q3032



ROTARY DAMPERS

Material

Polycetal (POM), polycarbonate (PC)

Tips

Create smooth movement and dampening

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

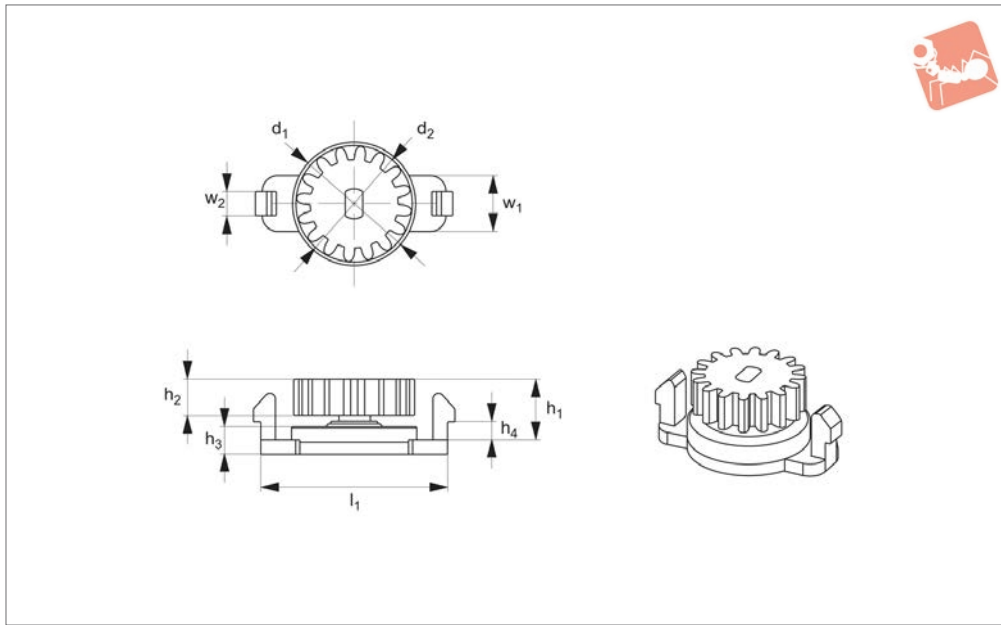
Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle		
Q3032.AC0100	With gear	50-100	11	0.8	8.8	20°		
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	w_1	w_2
Q3032.AC0100	19.65	15	10.4	7.55	2.52	2.9	7	2.9



Rotary Dampers

bi-directional - continuous rotation - up to 150gf.

Rotary Dampers



Q3033

ROTARY DAMPERS

Material

thermoplastic (ABS), Polycetal (POM).

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

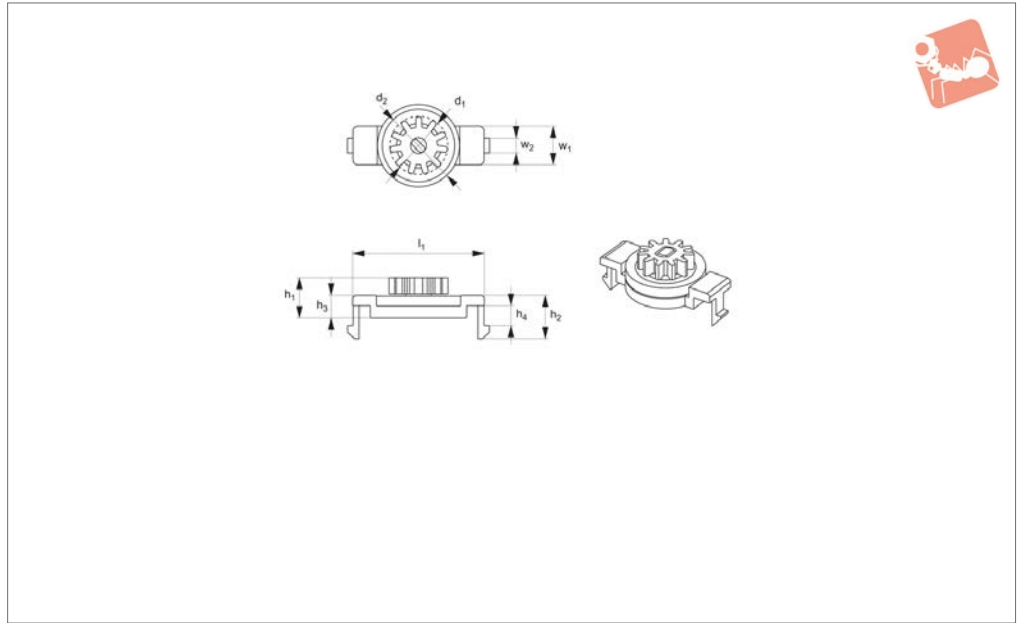
Tips

Create smooth movement and dampening

Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D		Pressure angle		
Q3033.AC0150	With gear	50-150	16	0.8	12.8		20°		
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	h_4	w_1	w_2
Q3033.AC0150	22.5	15	14	9.2	4.5	4	2.2	7.0	3.0



Q3036



Material

Polycetal (POM), polycarbonate (PC).

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

Tips

Create smooth movement and dampening

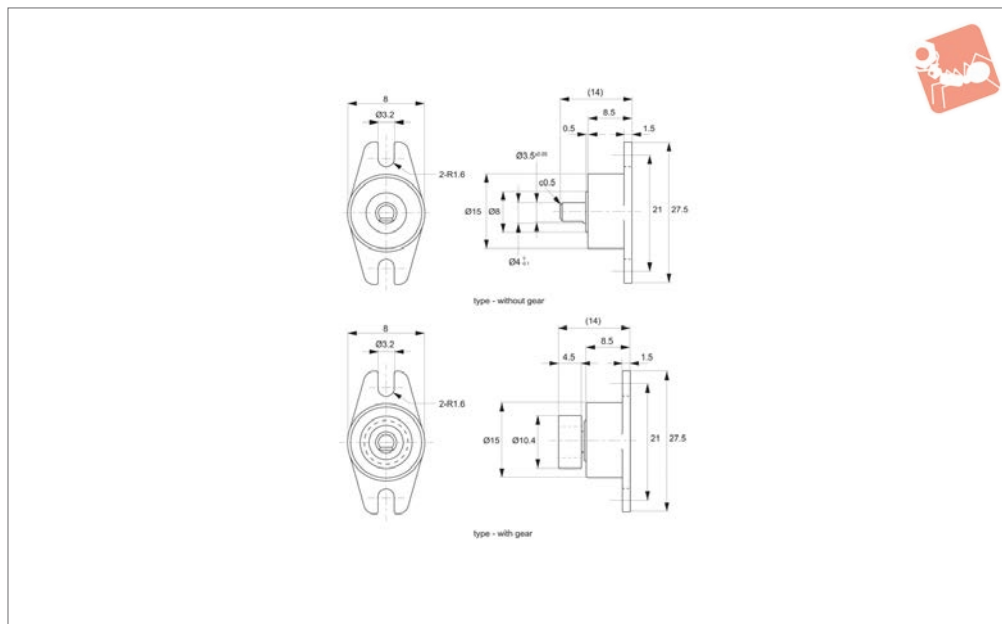
Order No.	Type	Torque gf.cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle			
Q3036.AC0050	With gear	15-50	11	0.8	8.8	20°			
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	h_4	w_1	w_2
Q3036.AC0050	24.5	15.2	10.4	7.8	8.2	4.3	3.7	7	2.5



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.

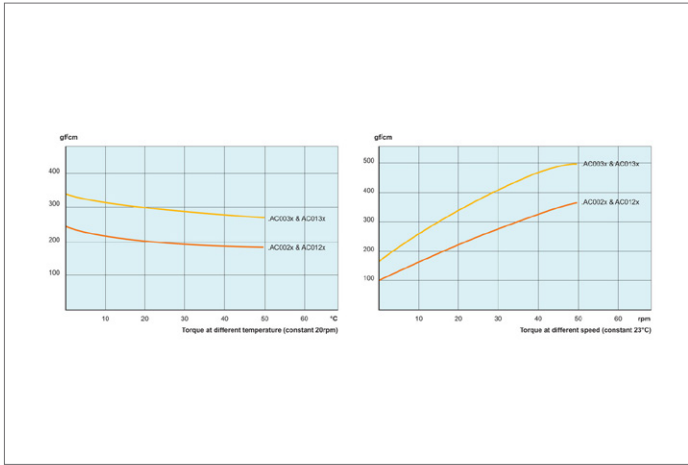
Max. cycle rate 10 cycle/min.

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

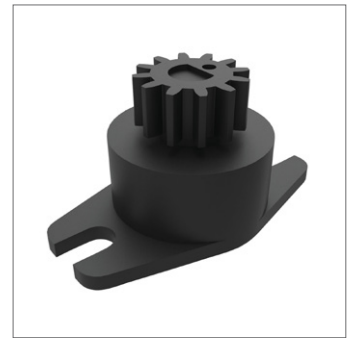
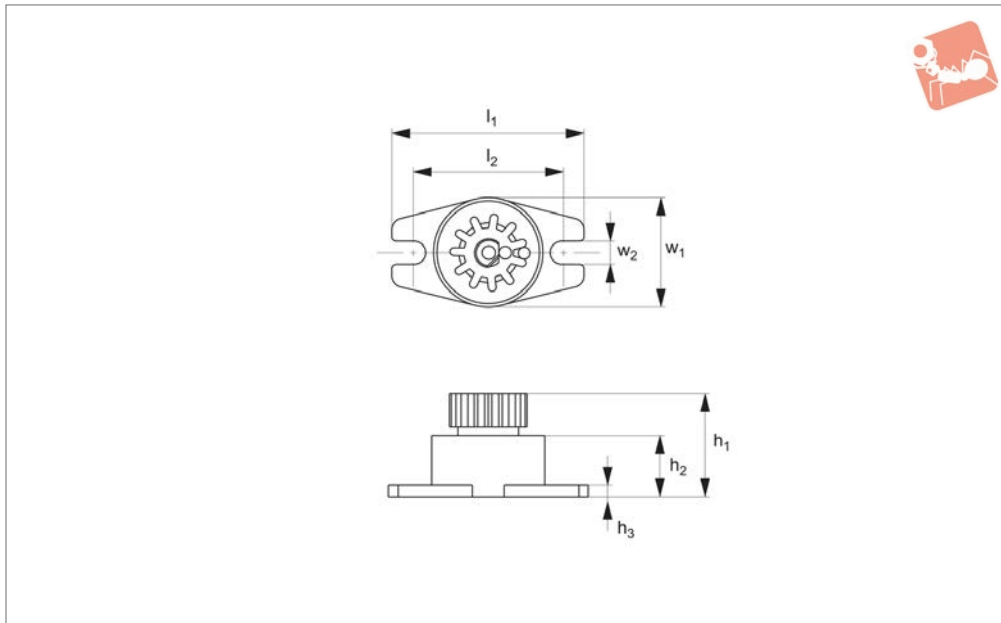




Rotary Dampers

bi-directional - continuous rotation - up to 400gf.

Rotary Dampers



Q3042

ROTARY DAMPERS

Material

Polycetal (POM), polycarbonate (PC)

in applications such as loading trays, arm rests and storage compartments. Subject to minimum order quantity.

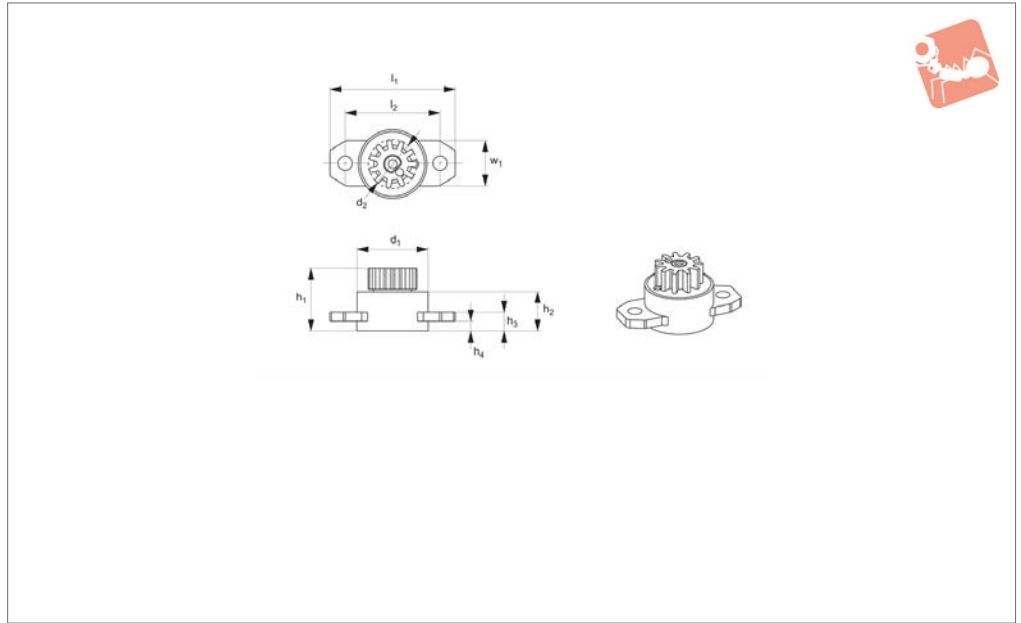
Tips

Create smooth movement and dampening

Order No.	Damping direction	Torque gf-cm	No. of teeth	Gear module	Pitch circle diameter P.C.D	Pressure angle	l_1	h_1	h_2	h_3	w_1	w_2
Q3042.AC0400	Anti-clockwise	80-120	11	0.6	8.8	20	27.5	14	8.5	1.5	15	3.2
Q3042.AC0410	Clockwise	80-120	11	0.6	8.8	20	27.5	14	8.5	1.5	15	3.2
Q3042.AC0420	Anti-clockwise	60-80	11	0.6	8.8	20	27.5	14	8.5	1.5	15	3.2
Q3042.AC0430	Clockwise	60-80	11	0.6	8.8	20	27.5	14	8.5	1.5	15	3.2



Q3044



Material

Thermoplastic (ABS), polycetal (POM).

Expected life span greater than 50k cycles.

rests and storage compartments. Subject to minimum order quantity.

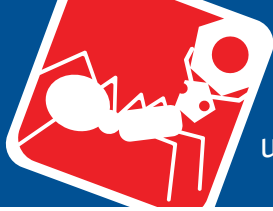
Technical Notes

Temperature range +30 -80°C.

Tips

Create smooth movement and dampening in applications such as loading trays, arm

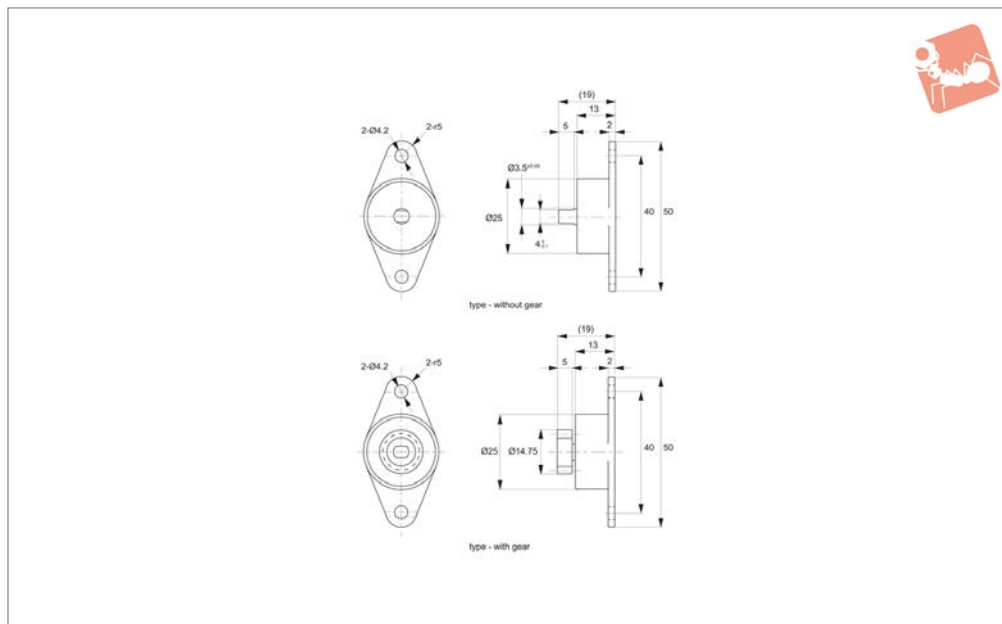
Order No.	Type	Torque gf·cm	No. of teeth	Gear module	Pitch circle diameter P.C.D				Pressure angle
Q3044.AC0400	With gear	100-400	11	0.8	8.8				20°
Order No.	l_1	d_1	d_2	h_1	h_2	h_3	h_4	l_2	w_1
Q3044.AC0400	27.5	15	10.4	13.6	8.6	4	2	21	10



Rotary Dampers

uni- and bi-directional - continuous rotation - up to

Rotary Dampers



Q3060

ROTARY DAMPERS

Material

Body: polycarbonate
Shaft: polyacetal
Gear: polyacetal

Technical Notes

Gear specification:

Type - Modified Spur Gear

Tooth - Involute (full)

Module - 1.0mm

Pressure Angle - 20°

Number of Teeth - 12

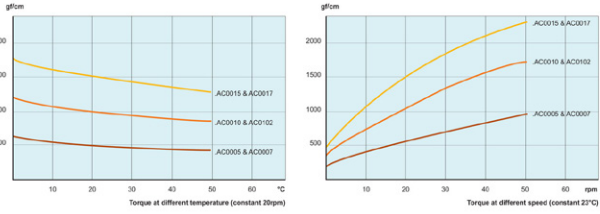
Pitch Circle Diameter - 12mm

Temperature Range 0° to +50°C.

Tips

For graphs of torque at varying temperature and speed, see Torque Closing Speed Graphs earlier in this section.

Order No.	Type	Damping direction	Torque gf·cm	Shaft type	Weight g
Q3060.AC0005	w/o Gear	Clockwise	500	Polyacetal	11.8
Q3060.AC0006	w/o Gear	Anti-Clockwise	500	Polyacetal	11.8
Q3060.AC0007	w/o Gear	Bi-Directional	500	Polyacetal	8.3
Q3060.AC0010	w/o Gear	Clockwise	1000	Polyacetal	11.8
Q3060.AC0011	w/o Gear	Anti-Clockwise	1000	Polyacetal	11.8
Q3060.AC0012	w/o Gear	Bi-Directional	1000	Polyacetal	8.3
Q3060.AC0015	w/o Gear	Clockwise	1500	Polyacetal	11.8
Q3060.AC0016	w/o Gear	Anti-Clockwise	1500	Polyacetal	11.8
Q3060.AC0017	w/o Gear	Bi-Directional	1500	Polyacetal	8.3
Q3060.AC0405	with Gear	Clockwise	500	Polyacetal	11.8
Q3060.AC0406	with Gear	Anti-Clockwise	500	Polyacetal	11.8
Q3060.AC0407	with Gear	Bi-Directional	500	Polyacetal	8.3
Q3060.AC0410	with Gear	Clockwise	1000	Polyacetal	11.8
Q3060.AC0411	with Gear	Anti-Clockwise	1000	Polyacetal	11.8
Q3060.AC0412	with Gear	Bi-Directional	1000	Polyacetal	8.3
Q3060.AC0415	with Gear	Clockwise	1500	Polyacetal	11.8
Q3060.AC0416	with Gear	Anti-Clockwise	1500	Polyacetal	11.8
Q3060.AC0417	with Gear	Bi-Directional	1500	Polyacetal	8.3





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

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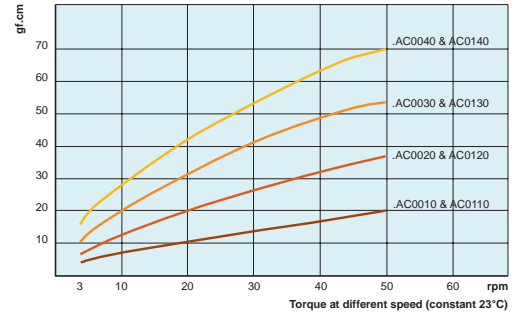
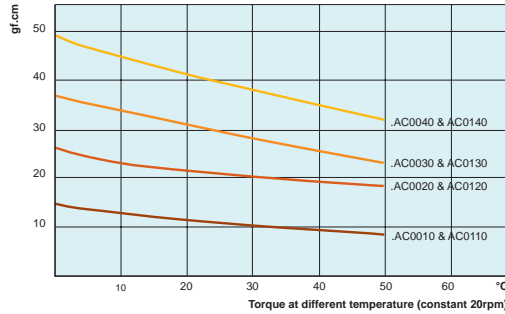


Torque closing speed graphs

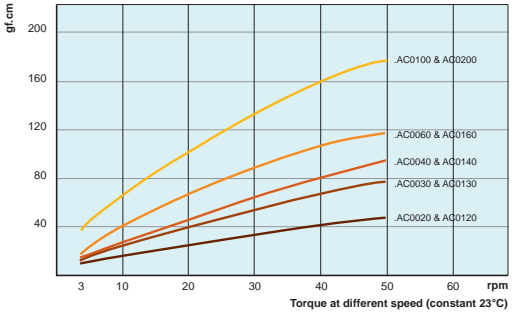
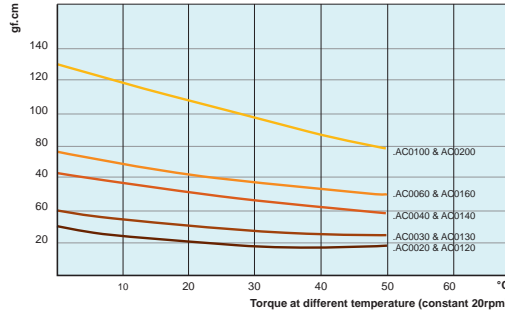
Follow the torque calculation formula opposite and utilise the following torque closing speed graphs to ensure the selected rotary damper best suits you application.

Torque graphs for temperature and speed

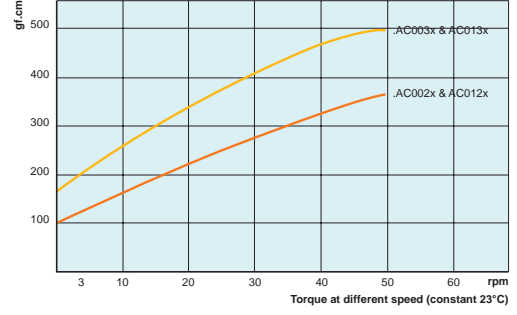
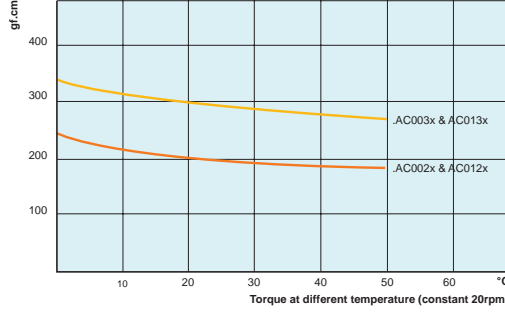
Q3000



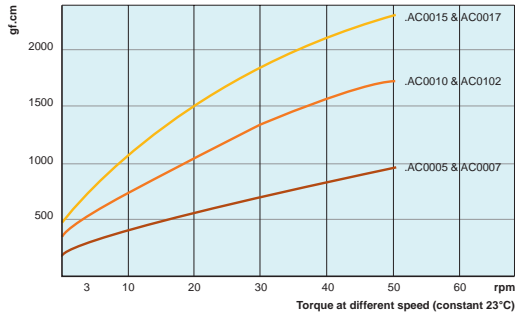
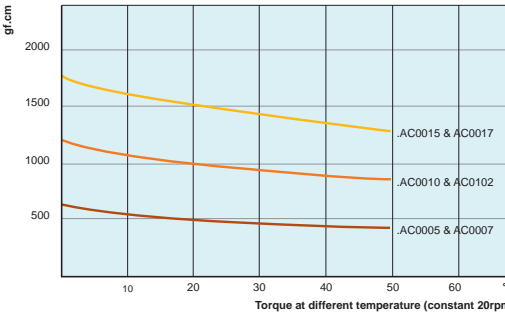
Q3020



Q3040



Q3060





Rotary Dampers

bi or uni-directional continuous rotation

Q3000 - Q3060

Rotary & Torque Dampers

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.

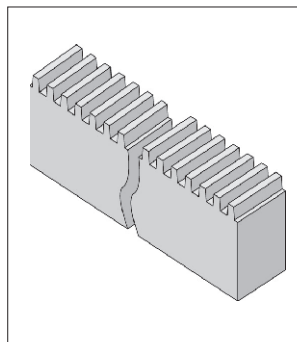


Rotary dampers utilise the principle of fluid resistance to reduce the speed of moving parts. The oil viscosity is utilised to provide the "braking force" of the damper. The torque or "braking force" can be adjusted by changing the viscosity of the oil. The advantages of the rotary type dampers are their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

- 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.

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)

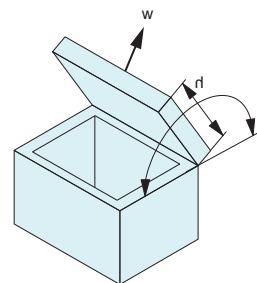
To calculate the torque for your application, the following measurements are necessary.

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

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.



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.

Solution for controlled opening and closing motion

Rotary dampers

Applications

Operating principle

Torque calculation

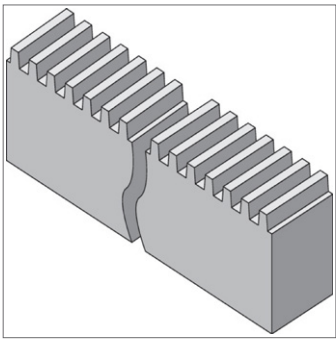
Note

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

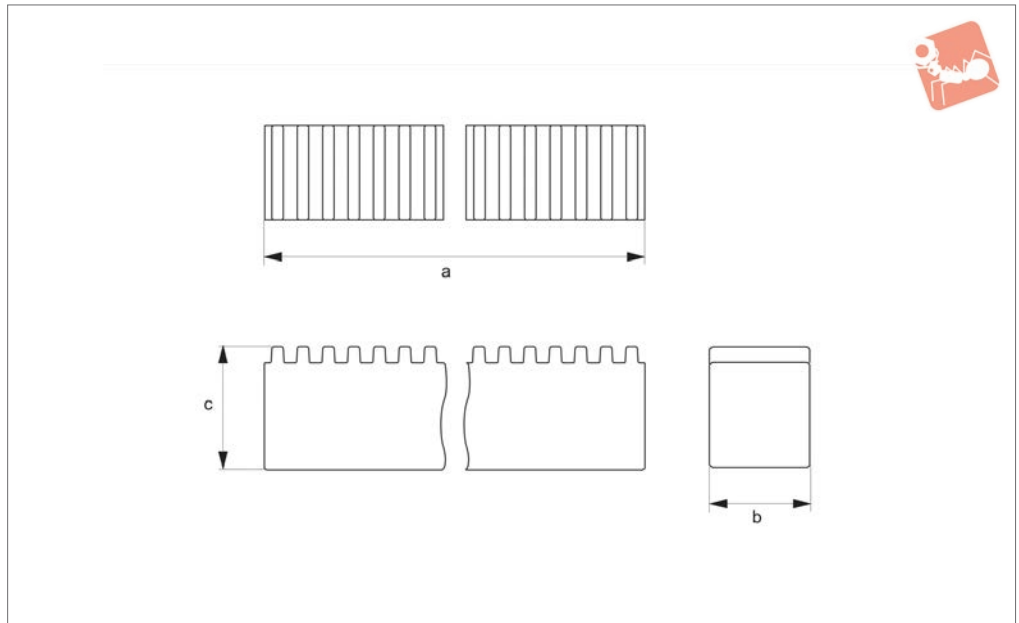
Important

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

ROTARY DAMPERS



Q3150



Material

Plastic

Technical Notes

For use with our geared rotary dampers Q3000 to Q3060.

Order No.	Type	Module	a	b	c
Q3150.AC0052	Rigid	0.5	250	4	6.0
Q3150.AC0062	Rigid	0.6	250	4	6.0
Q3150.AC0082	Rigid	0.8	250	6	8.0
Q3150.AC0102	Rigid	1.0	250	10	10.0