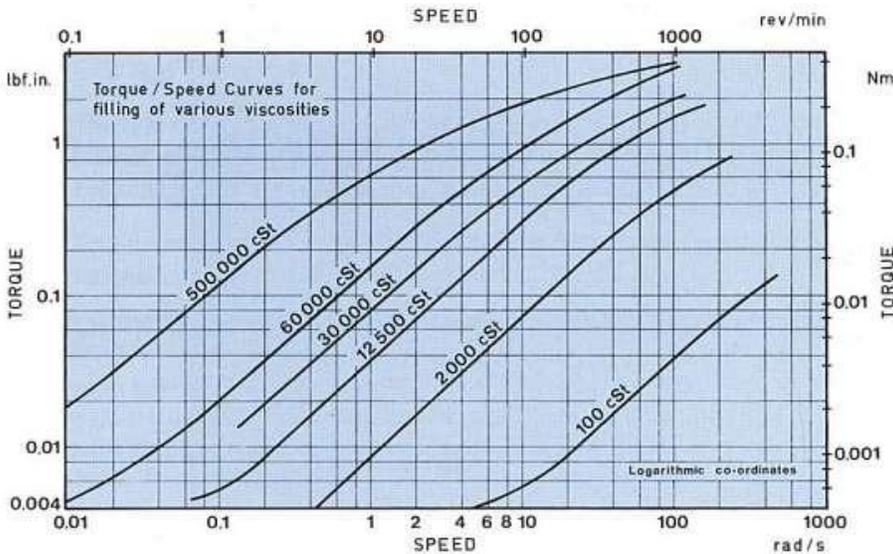
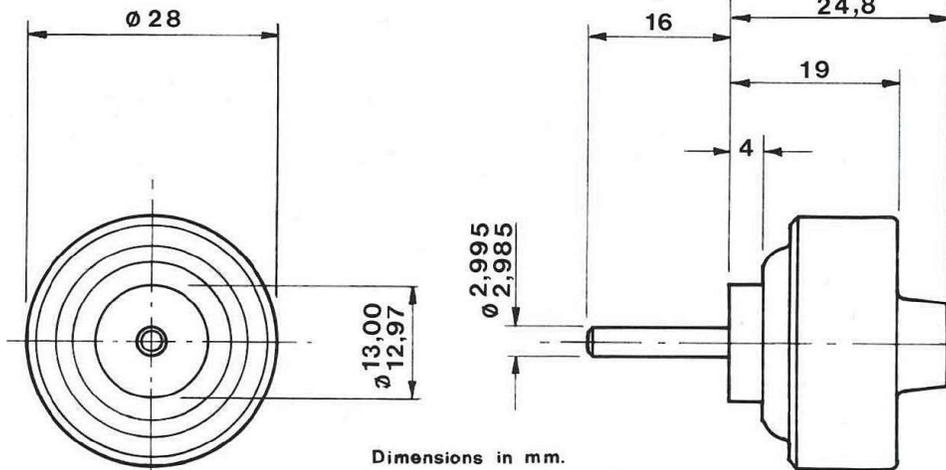
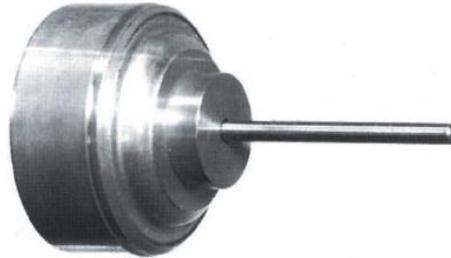


KINETROL LTD. Model N-CRD Dashpot

SPECIFICATION

Rate	Fixed See curves below ($\pm 10\%$)
Max. shaft end load	3 lbf / 13 N
Max. shaft side load	2.2 lbf / 10 N
Ambient temperature range	0° to 60°C
Frictional torque	0.015 lbf.ins / 0.002 Nm typical
Shaft material	Stainless steel 431S29
Body material	Zinc alloy Mazak 3
Weight	0.075 lbs/ 34 g



The N-CRD continuous rotation dashpot is particularly suited to instrument and small precision machine applications. Typical applications include tension controllers, damping moving parts in small precision machines and detection of shaft rotation.

The N-CRD dashpot can be supplied with various fixed rates depending on the viscosity of the fluid. Viscosity should be specified when ordering to give the required characteristics. Performance curves for different viscosities are shown. Provision is made for temperature expansion of the fluid.

VISCOSITIES AVAILABLE

100; 2,000; 5,000; 12,500; 30,000; 60,000; 500,000 cSt

ORDERING CODES

N-CRD-(Filling Viscosity)
Example: N-CRD-30,000 has 30,000 cSt fluid

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KINETROL LTD. Model N-CRD Dashpot

TEMPERATURE EFFECTS

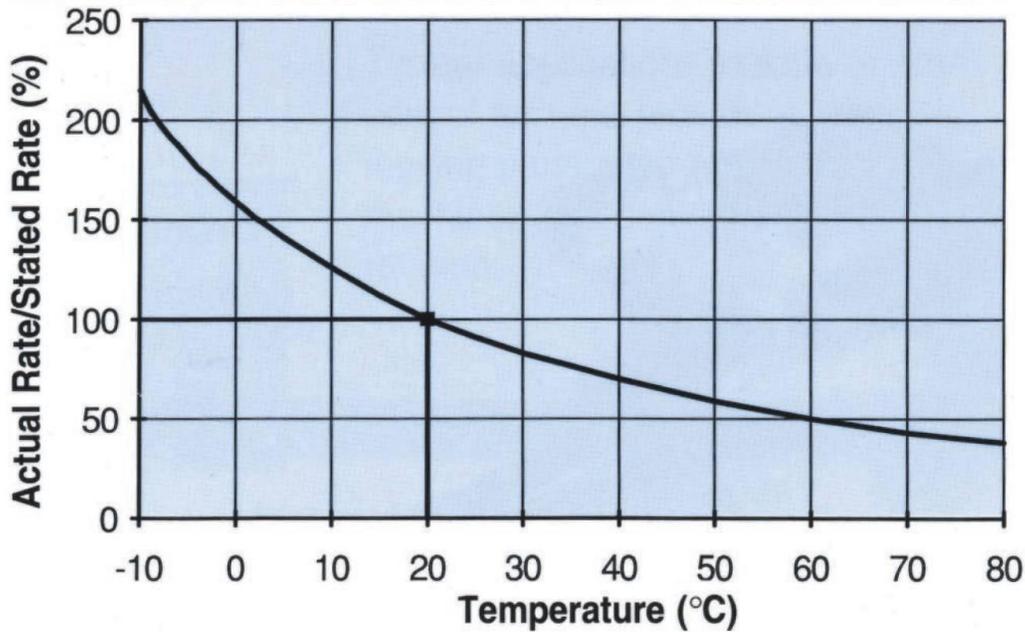
Damping rate is reduced by increases in fluid temperature (and increased by reduction in temperature). The graph below indicates the percentage change in damping rate with temperature, relative to the rate quoted at 20°C.

Dashpots compensated for temperature change, to keep damping rate constant, can be special ordered.

In addition to the effect of ambient temperature, heating of the dashpot above ambient is caused by the power absorbed by the damping action. Power dissipation limits are given for 20°C ambient. At temperatures above 20°C these power limits are de-rated by a factor:

$$\frac{(T_L - T_A)}{(T_L - 20)}$$

where T_L = Limit Temperature and T_A = Ambient Temperature



CONVERSION FACTORS

1 rad = 57.3°
1 Nm = 8.85 lbf.ins

1 RPM = 0.1047 rad/s
1 lbf = 4.45 N

1 lbf.ins = 0.113 Nm
9.81N = 1 kgf = 1 kp

GENERAL NOTES

1. For calculation purposes the rotation speed of the dashpot is given in RADIANS per second (1 radian = 57.3°). The significance of a radian is that if, for example, a 1 meter radius lever rotates through 1 radian, the end of the lever moves 1 meter, a distance equal to the radius.
2. Damping RATE is defined here as TORQUE divided by ROTATION SPEED. Note that a dashpot with a high rate may not necessarily be working at a high torque. For example, a dashpot may have a rate of 100 Nm/rad/s; however, it may be rotated at 1/10 rad/s so that the damping torque produced is 10 Nm which is not numerically equal to the rate.

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