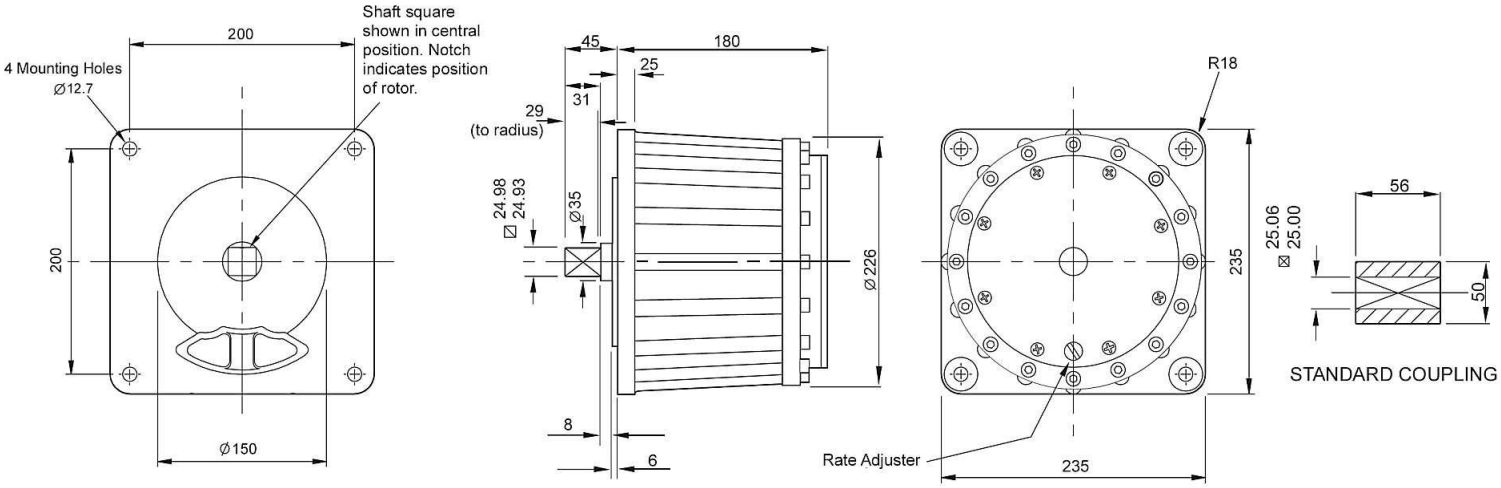
KINETROL LTD.

Model LD Dashpot

SPECIFICATION

Rate	Adjustable Max (LD4): 35,000 in-lb/rad/sec 4,000 Nm/rad/sec
Angle of travel	240° ± 5° External end stops must be provided
Max. safe torque	6,200 lbf.ins/ 700 Nm Continuous power dissipation not To exceed 260W at 68°F ambient
Max. shaft end load	224 lbf / 1,000 N pulling on shaft 18 lbf / 80 N pushing on shaft
Max. shaft side load	450 lbf / 2,000 N
Ambient temperature range	32° to 140°F
Frictional torque	27 lbf.ins / 3 Nm typical
Shaft material	Stainless steel 441S49
Body material	Aluminum alloy LM25
Weight	36 lbs/ 16.4 kg



RATES

An adjuster permits any damping rate to be obtained within one of the following ranges. This range must be specified when ordering the dashpot.

- **LD1**: 443 to 4,430 in-lb/rad/sec / 50 to 500 Nm/rad/sec
- **LD2**: 885 to 8,850 in-lb/rad/sec / 100 to 1,000 Nm/rad/sec
- **LD3**: 1770 to 17,700 in-lb/rad/sec / 200 to 2,000 Nm/rad/sec
- **LD4**: 3,540 to 35,400 in-lb/rad/sec / 400 to 4,000 Nm/rad/sec

With adjuster set to maximum the rate may exceed stated maximum and with adjuster set to minimum the rate may be less than stated minimum.

OPTIONS

The following features may be specified for any model:

Differential Rate (FC or FAC)
Gives resistance in one direction only and less than 1/10 resistance in the other. Specify free clockwise or free counterclockwise when viewed from shaft end.

Double Damping (DD)
Gives equal resistance in either direction.

Couplings
Steel couplings available.

ORDERING CODES

LD1, 2, 3 or 4 – DD
LD1, 2, 3 or 4 – FC or FAC

Kinetrol LTD. Rotary dashpots distributed through:

Efdyn, Incorporated
7734 East 11th Street
Tulsa, Oklahoma 74112

www.efdyn.com

Toll Free: 800-950-1172
Phone: 918-838-1170
sales@efdyn.com

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TEMPERATURE EFFECTS

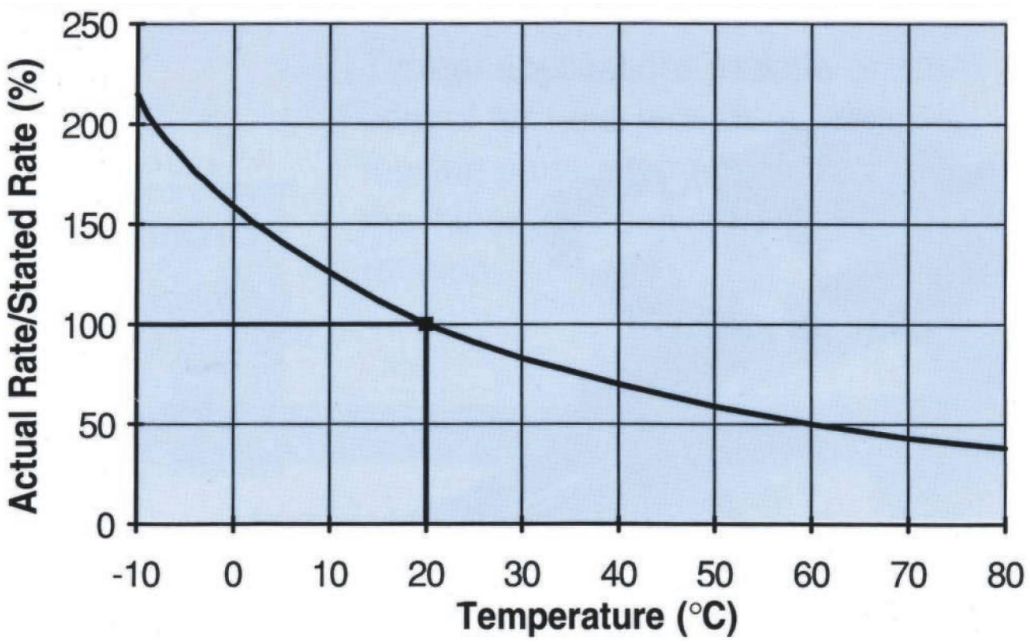
Damping rate is reduced by increases in fluid temperature (and increased by reduction in temperature). The graph below indicates the percentage change in damping rate with temperature, relative to the rate quoted at 20ºC.

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 20ºC ambient. At temperatures above 20ºC these power limits are de-rated by a factor:

$$(T_L-T_A)/(T_L-20)$$

where T_L= Limit Temperature and T_A= Ambient Temperature



CONVERSION FACTORS

1 rad = 57.3º	1 RPM = 0.1047 rad/s	1 lbf.ins = 0.113 Nm
1 Nm = 8.85 lbf.ins	1 lbf = 4.45 N	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 = 57.3º). 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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