8.1.1 Test apparatus

The test apparatus shall be constructed so that the upper end of the shock absorber is coupled with the load detector and the upper or lower end is excited to measure and record the damping force, (see **Figure 6**).

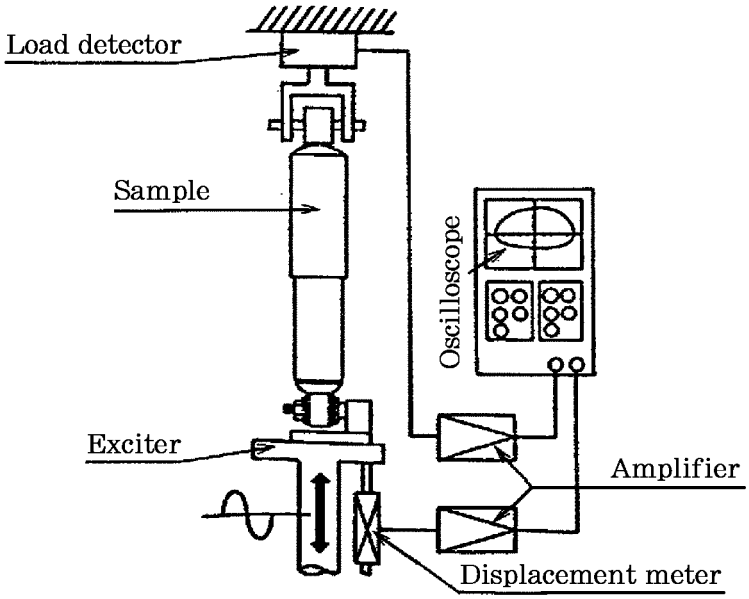

Figure 6 Damping force characteristics test apparatus

8.1.2 Test conditions

Requirements are as follows:

a) Laboratory temperature — Room temperature

b) Test sample temperature at test start — 20°±3°C

c) Excitation total amplitude (Stroke) (a) — 20~120mm

d) Excitation rate (Piston speed) (v) — 0.05m/s, 0.1m/s, 0.3m/s, 0.6m/s, 1.0m/s

$$v = \frac{\pi a n}{6} \times 10^{-4} \text{ (m/s)}$$

where, v: Piston speed (m/s)

a: Stroke (~~m~~) →

n: Excitation repetitions (times/min)

e) Excitation position — Near stroke center

f) Excitation direction — Vertically erect(**[2]**)

NOTE: (**[2]**) Vertically erect is where the mountings are fixed to the upper end of the piston rod and to the lower end of the outer cylinder.

8.1.3 Test procedures

Requirements are as follows:

a) The test sample shall be mounted to the apparatus at the specified temperature.

b) The reference line shall be drawn.

c) The test sample shall be excited under test conditions, and the damping force shall be continuously measured and recorded at the speed specified in **Item 8.1.2 d** after several actuations.