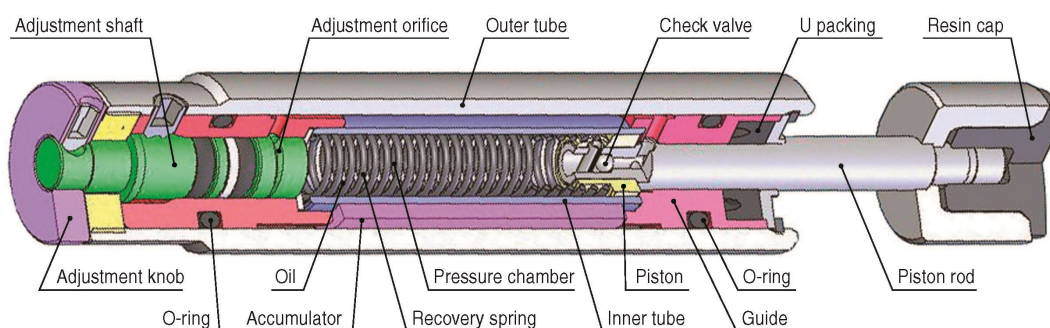




Structures of Soft Absorbers (1)

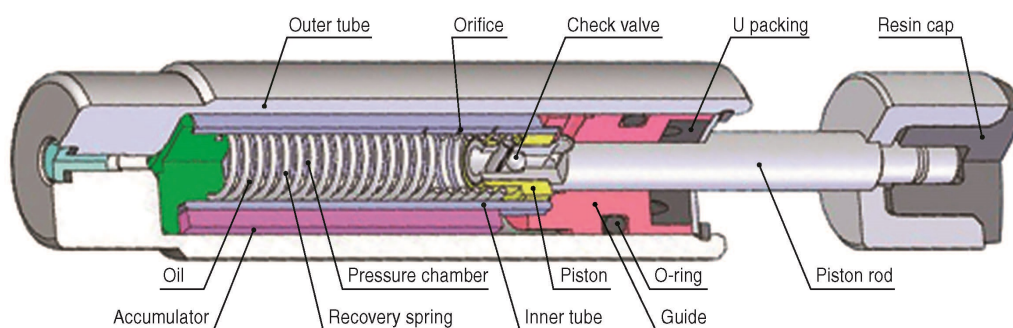
Soft absorbers have two types of structure: an adjustable type in which the absorption characteristics can be adjusted, and a fixed type, which is non-adjustable. Each structure is shown below.

Adjustable Type



By rotating the adjustment knob (adjustment shaft) located towards the rear of the main body, the amount of oil flowing out of the pressure chamber can be adjusted, which in turn adjusts the absorption characteristics. For the multiple types, the adjustment can only be made with the final orifice; therefore, the range of adjustment is limited. The adjustment range is wider in the single types. Because the orifice area changes in an analog manner, fine-tuning of the absorption characteristics is possible.

Fixed Type



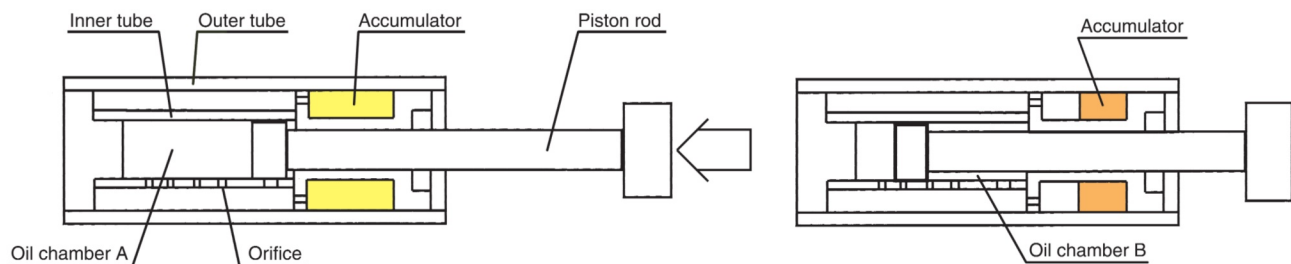
Because it has no adjustment mechanism, the overall length is shorter than the adjustable type. By customizing your orifice design, optimal absorption characteristics can be obtained. In addition, because the characteristics are fairly uniform, more than two of them can be used in parallel. For the fixed type FK series, high-speed, mid-speed, and low-speed types are generally available to accommodate various speeds.



Structures of Soft Absorbers (2)

Purpose of the Accumulator

Here, the purpose of the accumulator, which is shown on the previous page, shall be described. As shown below, when work collides with a soft absorber, the piston rod initiates a stroke, causing the oil to flow into the other side of the piston through the orifices. In short, the capacity of oil chamber B is reduced by the piston rod, and not all of the oil in oil chamber A is able to flow into the oil chamber B. In order to secure the capacity reduced by the piston rod, a self-foaming nitrile rubber is provided. The pressure of the oil compresses the rubber so that it absorbs the capacity that is equivalent to the piston rod. This is the role of an accumulator. Although silicone oil is used in a soft absorber, there are certain types of hydraulic oils that do not work well with certain types of accumulator. Using improper hydraulic oil causes the nitrile rubber to harden, reducing the durability of the soft absorber.



Soft Absorber's Cap: Securing Method and Materials

Diagrams illustrating how the caps are secured					
Cap material	Resin	Resin	Resin	Polyurethane rubber	Metal
Securing method	Directly press-fit onto the rod	Press-fit on the metal holder	Press-fit on the metal holder	Press-fit on the metal holder	Screwed into the piston rod
Applicable models	FA-1212 series FA-1010 series FA-1215 series	FA-0805 series FA-1005 series FA-1008 series FWM-1008 series FK-1008 series FK-1417 series	FA/FWM-1210 FA/FWM-1410 FA/FWM-1612 FA/FWM-2016 FA/FWM-2530 FA/FWM-2725 FK-1210 FK-1412 FK-1612 FK-2016 FK-2530 FK-2725	FA/FWM-2540 FK-2540 FA/FWM-3035 FA/FWM-3650	FA/FWM-4250 FA/FWM-4280