

Abstract:

Assembly (1) with an energy absorber (2) for energy absorption in an overload event to reduce a resulting load on an object coupled with the assembly (1) to avoid excessive load on the object by way of the energy absorption of the energy absorber (2) in the overload event. The energy absorber (2) comprises a fastener (3) provided thereat and a holding device (4) provided on the energy absorber (2) which energy absorber (2) is provided to absorb energy in a relative motion between the fastener (3) and the holding device (4). The energy absorber (2) comprises an absorber cylinder (5) and a piston device (6) with an absorber piston (7) and a piston rod (8) connected therewith. The absorber piston (7) defines on the absorber cylinder (5) a first chamber (10) of an absorber chamber (9) which is filled with a field-sensitive absorber fluid (12). The piston device (6) is provided with an absorber valve (13) with an absorber duct (14) extending in an axial direction which absorber duct can be exposed to a field (15) of the field generating device (16). A ratio of the outer diameter (18) of the piston rod (8) to an outer diameter (17) of the absorber piston (7) is larger than 0.6 and the first chamber (10) filled with the field-sensitive absorber fluid (12) extends in a space (28) around the piston rod (8) so that during the relative motion of the fastener (3) and of the holding device (4) of the energy absorber (2) during the energy absorption in the overload event the field-sensitive absorber fluid (12) is urged through the damping duct of the absorber piston (7).

Fig. 4