

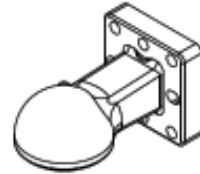
Installation- and operating instructions for ball coupling 80 type 80-652990

ECE-type approval, approval mark: E1 55R-01 2204

1. Field of application and characteristic values

Ball couplings 80 type 80-652990 are designed for the use of rigid drawbar trailers behind trucks and approved for following characteristic values:

permitted Dc-value	[kN]	89,3
permitted V-value	[kN]	48,0
permitted vertical load at the coupling point S	[kg]	2.000



Ball couplings 80 type 80-652990 may only be used in conjunction with the type approved, for mounting suitable draw bars, and to fulfill the required parameters and allow the required horizontal, vertical and axial pivoting angles.

2. Installation

The ball coupling can be mounted either directly on the frame of the vehicle or on to the draw bar of the trailer. For this, the relevant parts of the frame or the coupling device and its welded components, must have the approved dimensions, for transmitting the characteristic values for the ball coupling. When mounted, the surfaces of the connected components must be clean, free of paint and grease or other residual material. The assembly of the ball coupling has to be completed by using 8 screws M16 only, with a metric thread and the strength class of 10.9. The screws are tightened crosswise at a tightening torque of 300 Nm. The ball couplings are not allowed for welded connections.

The instructions of the vehicle manufacturer must be observed.

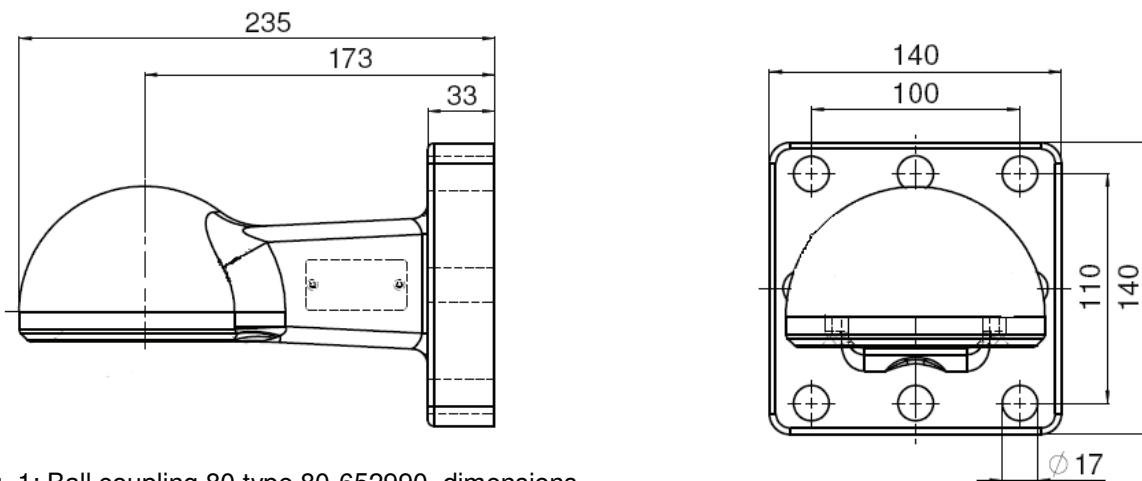
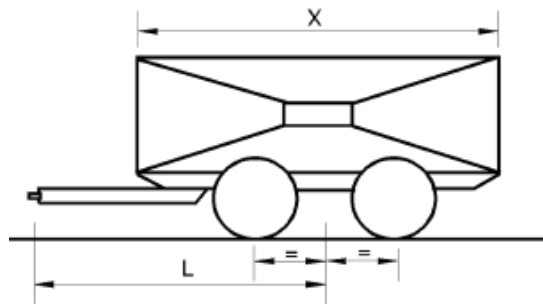


Fig. 1: Ball coupling 80 type 80-652990, dimensions

3. Operation

When using the trailer, the above mentioned characteristic values may not exceeded and can be checked with the following formula:



Dc-value: $D_c = g \times (T \times C) / (T + C)$ [kN]
V-value: $V = a \times (X^2 / L^2) \times C$ [kN]

T = technically permissible total mass of the truck [t]
 C = sum of the axle loads of the rigid drawbar trailer loaded with the permissible mass [t]
 g = acceleration of gravity 9,81 m/s²
 a = 1,8 m/s² for vehicles with pneumatic suspension or comparable suspension and 2,4 m/s² for vehicles with other suspension (e.g. leaf spring)
 X = length of the loading area of the trailer [m]
 L = effective drawbar length [m] (distance between centre of coupling and centre of axle unit)

Fig. 2: Rigid drawbar trailer

The indicated Dc-value of 89,3 kN allows, e.g. a trailer usage of a permitted axle load of 26 tonnes and linked by truck with a total mass not exceeding 14 tonnes.

The Dc-values can also be checked with the calculator at www.scharmueeller.at.

The ball coupling 80 may only be used with coupling ball 80 in conjunction with a keeper (secure clamping device according to ISO 24347).

In the horizontal position of truck and trailer, the procured connecting system must be level to the roadway (vis-à-vis angle deviation the horizontal towards the top and below not exceeding 3 degrees) to ensure the in use angles of normal rotation between the mechanical connecting devices are not impeded.


4. Maintenance and waer

In the context of (vehicle) maintenance, the contact areas in the coupling point are to be greased and the tightness of the castle nuts of the ball coupling checked with a torque wrench (300 Nm). Loose bolts must be replaced with new components. Repairs on the ball couplings are not allowed. Damaged, deformed or worn ball couplings must be replaced with new components.

The allowable abrasion at the nominal diameter of the ball coupling 80 may be 2 mm. The permissible longitudinal and lateral play between the ball and the coupling is 1 mm and the vertical play to the keeper (hold down device) is max 2 mm. In case of exceeding the abrasion limits, the defective parts must be replaced with new components.

If the vehicle holder does not have access to the requirements herein described for maintenance or replacement, the requirements as described can be carried out in a specialised service centre.

5. Advice

The ball coupling 80 of type 80-652990 are also approved for the used on rigid drawbar trailers coupled with tractors in agricultural and forestry work. (approval mark:  M 10057).

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 File: 80-652990