

**MONTAGE- UND BETRIEBSANLEITUNG  
INSTALLATION AND OPERATING INSTRUCTIONS  
INSTRUCTIONS DE MONTAGE ET D'UTILISATION**

06.04.2022

ZUGKUGELKUPPLUNG ZKK80

COUPLING HEAD ZKK80

ACCOUPLLEMENT À BOULE ZKK80

**WICHTIGE HINWEISE:**

siehe separates Dokument BA\_TASC\_400002, [www.walterscheid.com/downloads/](http://www.walterscheid.com/downloads/)

**IMPORTATANT NOTES:**

see separate document BA\_TASC\_400002, [www.walterscheid.com/downloads/](http://www.walterscheid.com/downloads/)

**NOTES IMPORTANTES:**

voir document séparé BA\_TASC\_400002, [www.walterscheid.com/downloads/](http://www.walterscheid.com/downloads/)

# COUPLING HEAD ZKK80

## 1. DESIGNATIONS AND TECHNICAL DATA:

### APPLICATION:





For use on agricultural or forestry trailers.

Connecting device according to regulation (EU) 2015/208: Coupling head

Classification according to UN Regulation R147: class b80

The coupling head dimensions complying with ISO 24347.

### TYPE APPROVALS AND CHARACTERISTIC VALUES: SEE FOLLOWING TABLE

Type/Versions	Adm. D-value / Dc-value	Adm. vertical load	Max. speed	Type approval sign according to reg. EC 2015/208	Approval sign according to UN Regulation R147	see
	[kN]	[daN]	[km/h]			
ZKK 80-100/110 ZKK 80-100	89,3	3000	-	 00314 ND		Figure 1 Figure 2
ZKK 80-100/110 ZKK 80-100	89,3	3000	60		 147R-00 0037D	Figure 1 Figure 2
ZKK 80-145/160 ZKK 80-168	135,5	4000	-	 00315 ND		Figure 3 Figure 4
ZKK 80-145/160 ZKK 80-168	123,0	6000	60		 147R-00 0038D	Figure 3 Figure 4

### COUPLING BALLS:

The coupling ball (also called spherical cap) is suitable for connection with coupling balls 80 according to ISO 24347 resp. class a80 according to UN regulation R147. When assembling the towing vehicle, it must be ensured that the coupling ball attached to the towing vehicle for connection to the coupling head is type-approved or, in the area of application of the Road Traffic Licensing Regulation (StVZO), has an individual certificate. In particular, the coupling balls must ensure the required characteristic values and the required horizontal, vertical and axial swivel angles of the drawbar coupling.



#### NOTE:

If the valid national approval regulations of the respective country of use require additional official approvals for using these parameters, such approvals must be applied for.



#### IMPORTANT:

To avoid injury, protective gloves, safety glasses and safety shoes must be worn during all dismantling/ assembly actions described in this chapter.



**Environment:**

Lubricants can enter the environment. Environmental pollution: Collect, store and correctly dispose of lubricants in suitable containers.

**2. INSTALLATION:**

**INSTALLATION OF THE COUPLING HEAD:**



**NOTE:**

The pertinent regulations (e.g. Accident Prevention Regulations for Vehicles) and the attachment guidelines of the vehicle manufacturers must be observed when installing the coupling head!

The attachment of the coupling to the vehicle must be carried out in accordance with the requirements of regulation (EU) 2015/208, Appendix 34.



**NOTE:**

Official national regulations must be observed. For example: in Germany the obligations §13 FZV regarding the data in the car license concerning the permissible trailer weight as well as the permissible vertical load must be considered.

The coupling head can be mounted directly on the frame parts or on the towing device of the trailer via a mounting plate.



**IMPORTANT:**

The mounting plate and its welded seam connection must be sufficiently dimensioned to transmit the characteristic values approved for the coupling head. During assembly, the contact surfaces of the mounting plate and the flange of the coupling head must be clean and free of paint and grease. Priming is permissible.

The coupling heads are attached using bolts M16 or M20 - 10.9 - DIN EN 24017 or ISO 4762 (corresponds to DIN 912), which must be tightened crosswise. As a rule, the fastening bolts are not included in the scope of delivery of the coupling head, therefore the trailer/drawbar manufacturer's specifications for fastening must be observed.

If there are no specifications see separate document BA\_TASC\_400038, [www.walterscheid.com/downloads/](http://www.walterscheid.com/downloads/)

Type/Versions	Hole pattern A x B	Hole diameter C	Fixing screws
	[mm]	[mm]	
ZKK 80-100/110	110x100/110	17	8 x M16
ZKK 80-100	110x100		6 x M16
ZKK 80-145/160	145x145/160	21	8 x M20
ZKK 80-168	160/80x160/80		

**3. OPERATION:**

The coupling head is suitable for connection with coupling balls 80 according to ISO 24347. The coupling balls in combination with the retainer must in particular ensure the required swivel angles of the coupling head of +/- 60 degrees in the horizontal direction and +/- 20 degrees in the vertical and axial direction. When the towing vehicle and trailer are in a horizontal position, the coupled coupling head must be approximately horizontal to the roadway (angular deviation from the horizontal upwards and downwards not more than 3°) in order not to obstruct the customary pivoting angles between the coupling ball and the coupling head.



**WARNING:**

The pertinent safety regulations must be observed when coupling and uncoupling. No one may stand between the vehicles. The coupling may only be operated in locked condition.

**4. MAINTENANCE:**

As part of the vehicle maintenance, the contact surfaces at the coupling point must be lubricated and the fastening screws of the coupling head must be checked for tightness using a torque spanner. Loose bolts (tightening torques lower than under point 2) must be replaced with new bolts. Repairs and welding work on the coupling head are not permitted. Damaged, deformed or worn coupling heads must be replaced. The permissible longitudinal and lateral play between the coupling ball and the coupling head may be 1.5 mm, the permissible vertical play between the coupling head and the coupling ball retainer may be 5 mm. If the wear limits are exceeded, the worn parts must be replaced.

**CARE**

- > If there is a grease nipple on the coupling head, the ball can be supplied with grease via the central lubrication system.
- > If possible, avoid cleaning with high-pressure cleaners. If this is done, the coupling ball must be greased immediately.
- > For relubrication, remove the old grease and lubricate the coupling head with fresh grease. For lubrication use a water-resistant, multi-purpose grease (Grease type: lithium saponified, consistency class: NL-GI2).

**WEAR LIMITS:**

Designations	Nominal dimension	Wear limit dimension	Gauge
Coupling head inside	80,5 mm	82,2 mm	X
Coupling head outside	124 mm	123 mm	

(see also VdTÜV-Merkblatt 712).

For convenient checking of some wear limits, a separately available Walterscheid test gauge can be used.

If the wear limits are reached, the ball coupling and/or the ball must be replaced.

If the height play of the coupled coupling head is more than 5 mm, the corresponding parts such as the retainer, coupling ball or coupling head must be replaced.



**IMPORTANT:**

Use only original Walterscheid spares when replacing parts. If the vehicle owner does not have the appropriate skilled workers and the necessary technical equipment, the replacement may only be performed by a specialist workshop.



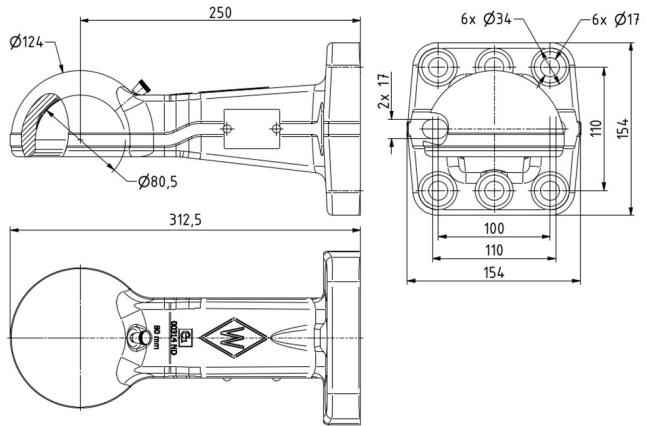
**WARNING:  
SAFETY NOTES:**

- > The user is obliged to always operate the coupling head in perfect condition and to forbid its use by unauthorised persons.
- > The loads indicated on the type plate may not be exceeded.
- > Unauthorised conversion or modification of the coupling head is not permitted.

**5. CALCULATION OF CHARACTERISTIC VALUES FOR CORRECT OPERATION OF THE COUPLING HEAD ON AGRICULTURAL AND FORESTRY TRAILERS**

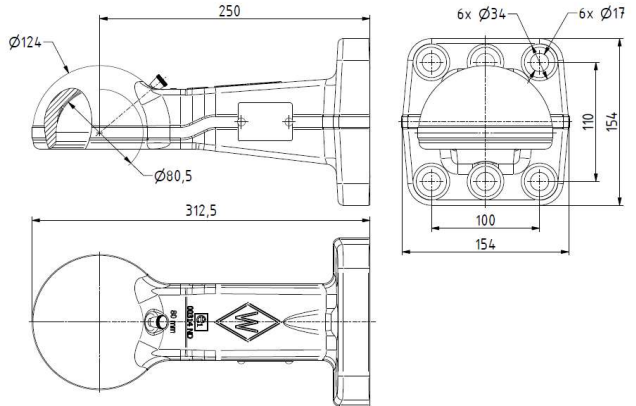
See attachment or separate document BA\_TASC\_400029, [www.walterscheid.com/downloads](http://www.walterscheid.com/downloads)

BILD 1  
FIGURE 1



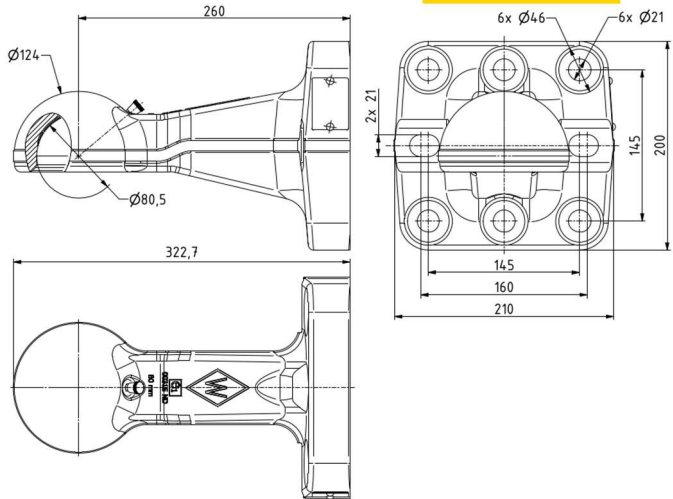
Zugkugelkupplung ZKK80-100/110  
Coupling head ZKK80-100/110  
Accouplement à boule ZKK80-100/110

BILD 2  
FIGURE 2



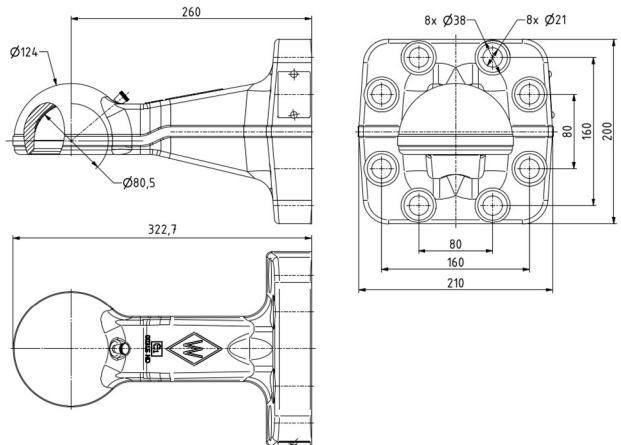
Zugkugelkupplung ZKK80-100  
Coupling head ZKK80-100  
Accouplement à boule ZKK80-100

BILD 3  
FIGURE 3



Zugkugelkupplung ZKK80-145/160  
Coupling head ZKK80-145/160  
Accouplement à boule ZKK80-145/160

BILD 4  
FIGURE 4



Zugkugelkupplung ZKK80-168  
Coupling head ZKK80-168  
Accouplement à boule ZKK80-168