

Fitting and Operating Instructions

The coupling must be installed by authorised personnel!
Read these instructions carefully before fitting!

Series RO*57

Automatic Trailer Coupling

e1*94/20*1361*00

Suitable for:

- rigid-drawbar trailers
- turntable drawbar trailers
- dollies
- drawbar eyes with a diameter of 57.5 mm
- ISO 3584 cat. 3 cross-members

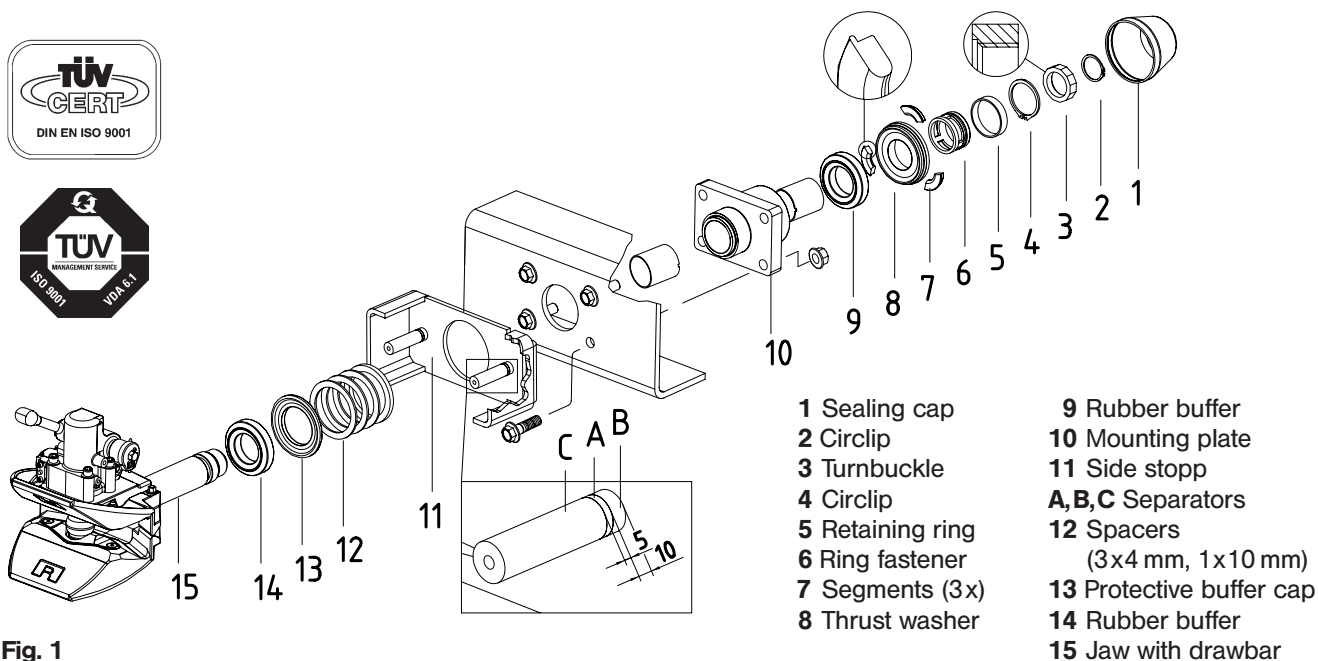


Fig. 1

- | | |
|------------------|---------------------------------|
| 1 Sealing cap | 9 Rubber buffer |
| 2 Circlip | 10 Mounting plate |
| 3 Turnbuckle | 11 Side stop |
| 4 Circlip | A,B,C Separators |
| 5 Retaining ring | 12 Spacers
(3x4 mm, 1x10 mm) |
| 6 Ring fastener | 13 Protective buffer cap |
| 7 Segments (3x) | 14 Rubber buffer |
| 8 Thrust washer | 15 Jaw with drawbar |

Official note

When fitting the trailer coupling the regulations for fitting mechanical fastening systems in accordance with Appendix VII of Directive 94/20/EC must be observed.

1. Fitting

1.1 Before fitting

Note: When fitting the coupling observe:

- applicable national regulations
- vehicle manufacturer's mounting specifications
- clearance for axial turning of coupling head min. $\pm 25^\circ$

Fig. 1

- Remove circlips (2) and (4) using circlip pliers A 31 to DIN 5254.
- Remove retaining ring (5)
- Tighten turnbuckle (3) using 70 mm twelve-sided socket until 3 segments (7) can be removed.
- Unscrew turnbuckle (3)
- Remove ring fastener (6), thrust washer (8) and rubber buffer (9)
- Withdraw mounting plate (10), side stop (11), and protective buffer cap (13) from drawbar (15)
- Rubber buffer (14) remains on drawbar.

Note: Sealing cap (1) in accompanying pack

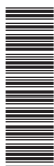
1.2 Fitting

- **Determine crossbar thickness.**
 - Insert mounting plate (10) from inside into end cross-member or coupling bracket.
 - Fasten with
 - 4 off M 20 x 1.5 grade 10.9 flanged hexagon bolts
 - 4 off grade 10 flanged hexagon nuts
- Screw set 71122; **Tightening torque 590 Nm**
- Note:** Vehicle manufacturers may specify nut and bolt grades which differ from the above recommendations!

Caution: Bolt heads must face coupling head side (outside of end cross-member) to avoid impairing movability of coupling.
Bolt head and nut faces must be flat, clean and free of dirt.

88190 GB C

As at 0503
Subject to technical changes without prior notice



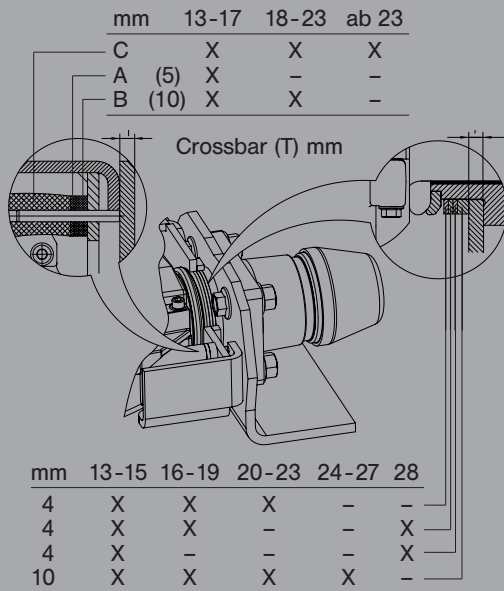


Fig. 2

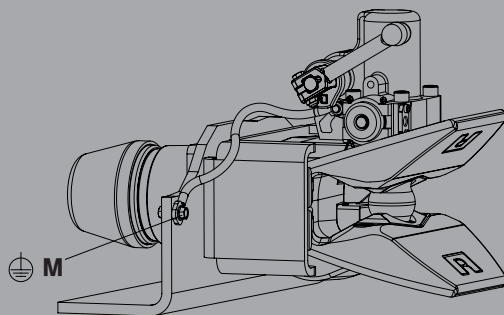
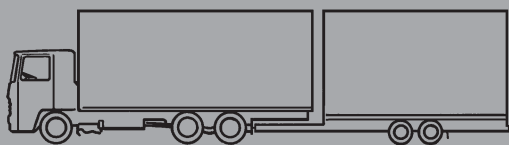


Fig. 3

Operation



Truck with turntable trailer



Truck with central-axle trailer

Fig. 4

- Slide 1 x 10 mm and 3 x 4 mm spacers (depending on crossbar thickness up to max. 28 mm) onto bracket (10) with protective buffer cap (13) (see figure and table).
There must be a clearance of a max. 1 mm between the spacers and the protective buffer cap!

- Proceed with separators **A/B** as follows (see figure and table).
T = 13 mm - 17 mm: retain **A/B**
T = 18 mm - 23 mm: remove **A** (5 mm)
T = above 23 mm: remove **A** and **B** (10 mm)

- Grease drawbar (15) well (NLGI 3).
- Slide side stop (11) onto drawbar (15).
- Locate jaw with drawbar (15) and rubber buffer (14) carefully on bracket (10).
- Locate rear rubber buffer (9), thrust washer (8), inner crown facing (9) and ring fastener (6) on drawbar (15).
- Screw turnbuckle (3) until slots in ring fastener (6) are aligned with notches in drawbar.
- Grease 3 segments (7) with NLGI 3 and fit (note position, see Fig. 1).
- Slide retaining ring (5) carefully over segments (7) and secure with circlip (4, circlip pliers A31).
- Fit circlip (2) onto drawbar (15) using circlip pliers A31.
- Unscrew turnbuckle (3) as far as stop on circlip (2).
- Fit sealing cap (1) to protect against weather.

Making earth connection (M, see Fig. 3)

- Clean appropriate connection point on crossbar: remove paint, rust, dirt.
- Screw cable to crossbar (eye diameter 10, see Fig. 3).

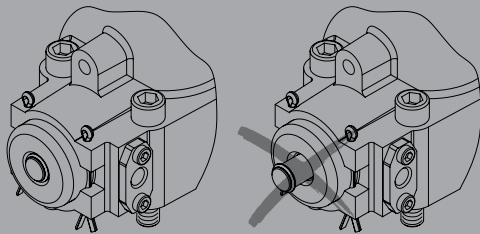
Note: Before painting, close coupling and cover or grease coupling pin.

2. Operation

2.1 Hitching

Note: The relevant regulations must be observed when hitching and unhitching. **No one must stand between the vehicles!**

- To engage, press lever upwards until it engages.
- Position drawbar eye in centre of funnel.
- Disengage brake on **front axle of turntable drawbar trailer** (Fig. 4)
- When connecting to a **central-axle trailer** (Fig. 4) the drawbar eye must hit **the centre of the funnel** if at all possible.
- **Non-compliance** can result in **damage**.
- **Slowly** reverse prime mover.



o.k.

Fig. 5

Servicing

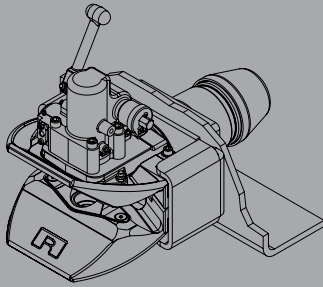


Fig. 6

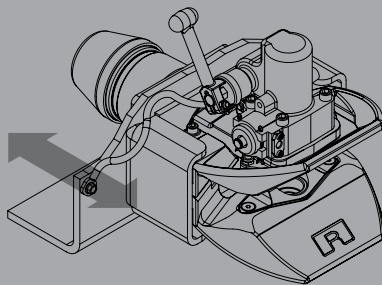


Fig. 7

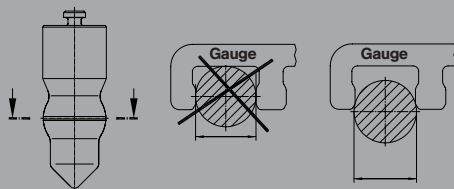


Fig. 8

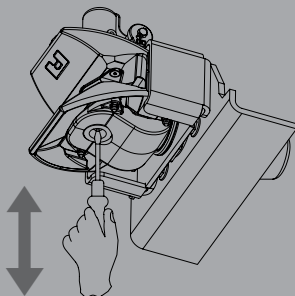


Fig. 9

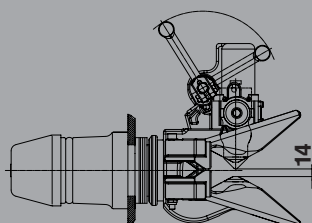


Fig. 10

Check

After each hitching operation it is essential to check that the coupling is correct as required by regulations.

The check pin must be **flush** with its guide bush after hitching (see Fig. 5).

If the check pin protrudes (this can also be felt in the dark), this indicates that hitching has not been carried out correctly and that you are **at risk of an accident! The truck and trailer may not be driven in this condition!**

Remedial action:

- Extend prime mover/trailer connection (drive approx. 1m forwards and then reverse again).
- Then **check again**.

2.2 Closing coupling manually

(e.g. for tow-rope):

- Lift coupling pin using suitable tool

Note: Should the drawbar eye not activate the coupling pin during hitching this can be because: The necessary standby gap (gap between the drawbar eye and the coupling pin) is insufficient (see Fig. 10).

Remedial action: Check drawbar eye and support ring.

3. Servicing

3.1 Maintenance

- Before first use and after extended period of use lubricate coupling pin, support and drawbar eye with viscous grease (EP3) with maximum water repellence.
- Low-maintenance automatic unit has a grease reservoir (regular greasing unnecessary, please see below for repair information).
- Bearing requires no further lubrication.
- Close coupling before cleaning with high-pressure washers (see item 2.2).
- After cleaning, regrease coupling pin and support.

Please note following when carrying out repairs on coupling (e.g. changing coupling pin):

- Remove as much of old grease as possible.
- Please use the enclosed grease.

3.2 Testing

Bearing:

- **Longitudinal play**
- Move coupling head (not funnel) vigorously in direction of travel when unhitched (see Fig. 7):
No longitudinal play may be present.

Coupling pin:

- Diameter of crowned part may not be less than **55 mm**
Otherwise new coupling pin must be used (see Fig. 8).
- Maximum vertical play on coupling pin (see Fig. 9) is **1.8 mm**.

Lower bush:

- Internal diameter of lower bush may not exceed **45.7 mm**
- There must be free passage downwards.

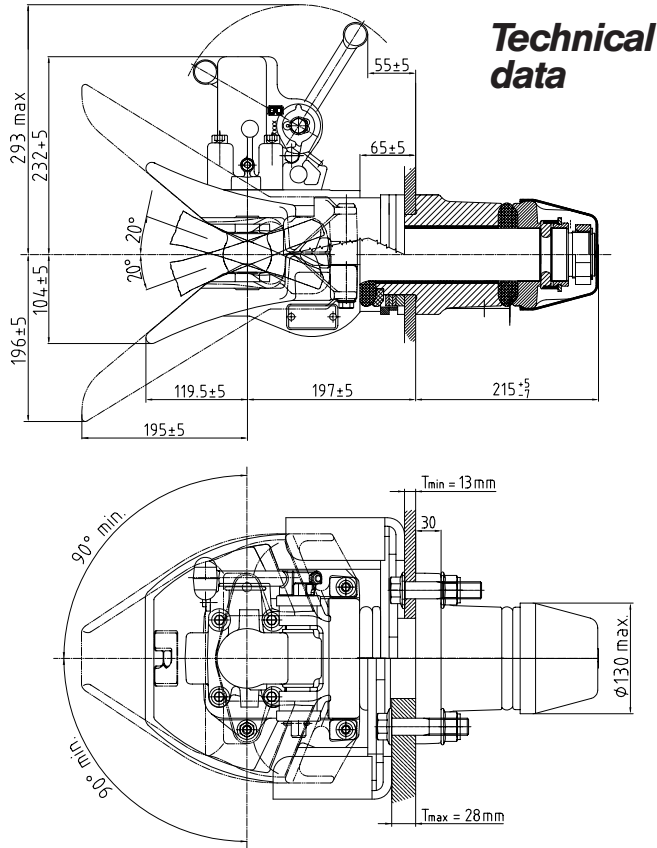
Standby gap:

- Gap between lower edge of coupling pin and support must be **14 mm** (see Fig. 10).
- Always grease support well to reduce wear!

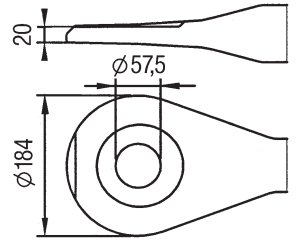
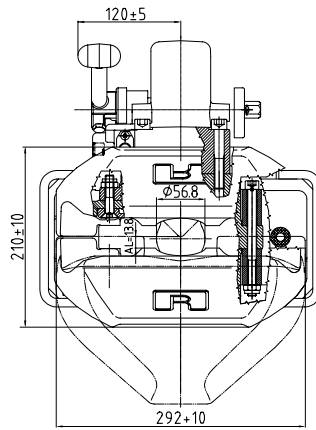
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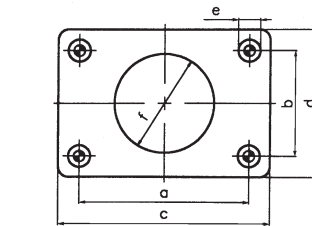
**drawbar eye
to fit**



**Technical
data**



e.g. drawbar eye
with flange
RO*57-ZF
e1*94/20*1356*00
drawbar eye weldable
RO*57-ZE
e1*94/20*1355*00
or similar type
approved drawbar eyes



	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160	100	200	140	21	94

Order no.									
	D ¹ (kN)	Dc ¹ (kN)	S (kg)	V ¹ (kN)	Av (t)				(kg)
570C6100	C	6	160x100	300	145	1000	95	18	69
570D6100	D	6	160x100	300	145	1000	95	18	69
570C6120 ²	C	6	160x100	300	145	1000	95	18	69
570C6140 ³	C	6	160x100	300	145	1000	95	18	75

¹ See catalogue ² With in-cab status indicator ³ With remote operation comfort
Recommendation: with central-axle trailers the static vertical load should be at least 4% of the towed load to avoid a negative vertical load which can cause damage.

Upgrade kit pneumatic remote operation	Order no.	Upgrade kit funnel extension	Order no.
Basic RO*PC57 B power actuating to open: Contents: part-turn actuator, control unit, pneumatic connection kit	71166	Funnel extension	71162
Comfort RO*PC57 C power actuating to open and close: Contents: part-turn actuator, control unit, pneumatic connection kit	71167		
Upgrade kit in-cab status indicator	70936	For spare parts see catalogue	

Available from your specialist dealer



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