

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1728

PNEUMATIC COUPLINGS
BETWEEN TRACTORS AND TRAILERS

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 1728, *Pneumatic couplings between tractors and trailers*, was drawn up by Technical Committee ISO/TC 22, *Automobiles*, the Secretariat of which is held by the Association Française de Normalisation (AFNOR).

Work on this question led to the adoption of Draft ISO Recommendation No. 1728, which was circulated to all the ISO Member Bodies for enquiry in January 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Belgium	Italy	Spain
Czechoslovakia	Netherlands	Sweden
Finland	New Zealand	Switzerland
France	Peru	Turkey
Greece	Portugal	U.A.R.
Hungary	Romania	United Kingdom
Israel	South Africa, Rep. of	Yugoslavia

The following Member Bodies opposed the approval of the Draft :

Germany
Japan

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

PNEUMATIC COUPLINGS BETWEEN TRACTORS AND TRAILERS

1. SCOPE

This ISO Recommendation specifies requirements for pneumatic coupling devices between tractors and trailers.

2. FIELD OF APPLICATION

The coupling devices which are dealt with in this ISO Recommendation are used on vehicles for international trading transport with trailers of a total loaded weight greater than 3.5 t.

They concern only pneumatic braking systems with two lines : one direct braking line and one automatic braking line.

3. COUPLING HEAD TYPE

The "Palm type" coupling head should be used. It should be fitted with an inhibiting device to prevent incorrect coupling (see Figures 1 and 2).

The tractor should be equipped with an automatic device ensuring, without manual operation, the continuity of the pipe-lines when they are coupled, and their closure on uncoupling; this device should not affect interchangeability.

The coupling head should make provision for any type of valve to be fitted to the tractor, provided that the valve may be opened by the standard coupling head on the trailer.

4. COUPLING HEAD DIMENSIONS

The dimensions of the coupling heads should be as shown in Figures 1 and 2.

This ISO Recommendation specifies only the dimensional details necessary for the coupling. All other dimensions are left to the discretion of the manufacturer.

5. COUPLING HEAD LOCATION (See Figure 3)

5.1 Location of fixed coupling heads on the tractor vehicle (prime mover)

The fixed coupling head for the direct braking line should be located on the left of the longitudinal plane of symmetry when viewed from the rear, and the head for the automatic braking line should be on the right of this plane under the same conditions.

The location of the coupling heads is specified as follows :

- (a) Perpendicular distance between a horizontal plane passing through the centre of the towing attachment and a horizontal plane passing through the axis of the coupling heads : 0 to 200 mm.
- (b) Distance between the longitudinal plane of symmetry of the vehicle and the vertical plane of the coupling faces : 200 to 350 mm.
- (c) Distance between the coupling axis and a vertical plane passing through the centre of the towing attachment normal to the longitudinal plane of symmetry of the vehicle : 0 to 150 mm.

5.2 Location of fixed coupling heads on the semi-trailer

The coupling head for the direct braking line should be located on the left of the longitudinal plane of symmetry of the articulated vehicle when viewed from the rear, and the head for the automatic braking line should be on the right of this plane under the same conditions.

The distance between the above-mentioned plane of symmetry and each coupling head should be 75 to 225 mm.

The coupling heads should be located in a horizontal plane between 100 and 500 mm above the fifth wheel coupling plate supporting the semi-trailer.

6. ORIENTATION OF COUPLING HEADS

The axis of the fixed coupling head should be horizontal, with the sealing face vertical and directed as follows according to whether it concerns a towing vehicle with a trailer, or a semi-trailer :

6.1 Towing vehicle

Towards the right when the vehicle is viewed from the rear.

6.2 Semi-trailer

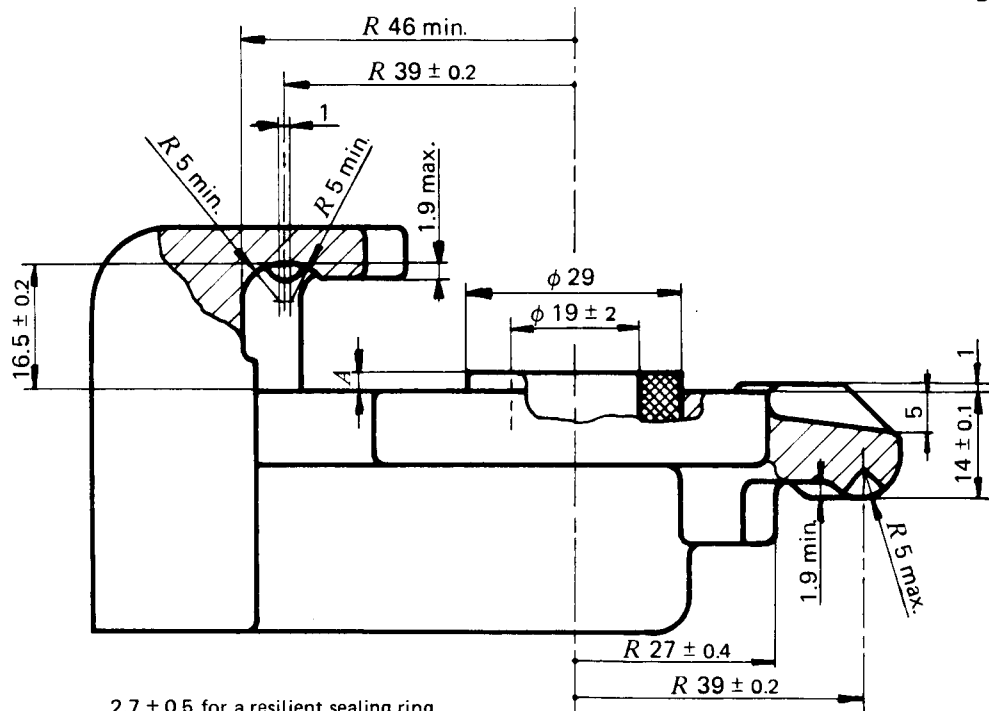
Towards the left when the vehicle is viewed from the rear.

7. LOCATION AND LENGTH OF HOSES (TOWING VEHICLE WITH TRAILER) (See Figure 3)

The location and length of hoses result from the location of the coupling heads and from the fact that the maximum angle of the drawbar centre-line with the longitudinal axis of the towing vehicle is 75° .

For angles less than 60° there should be complete freedom of lateral movement, without any tension on the hoses or friction of hoses on one another; for angles from 60 to 75° lateral movement should be possible without causing deterioration of the hoses.

Dimensions in millimetres



$A = 2.7 \pm 0.5$ for a resilient sealing ring
 4.5 max. for a spring-loaded seal

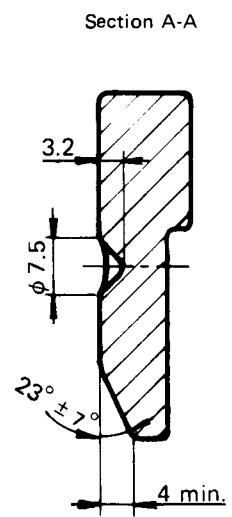
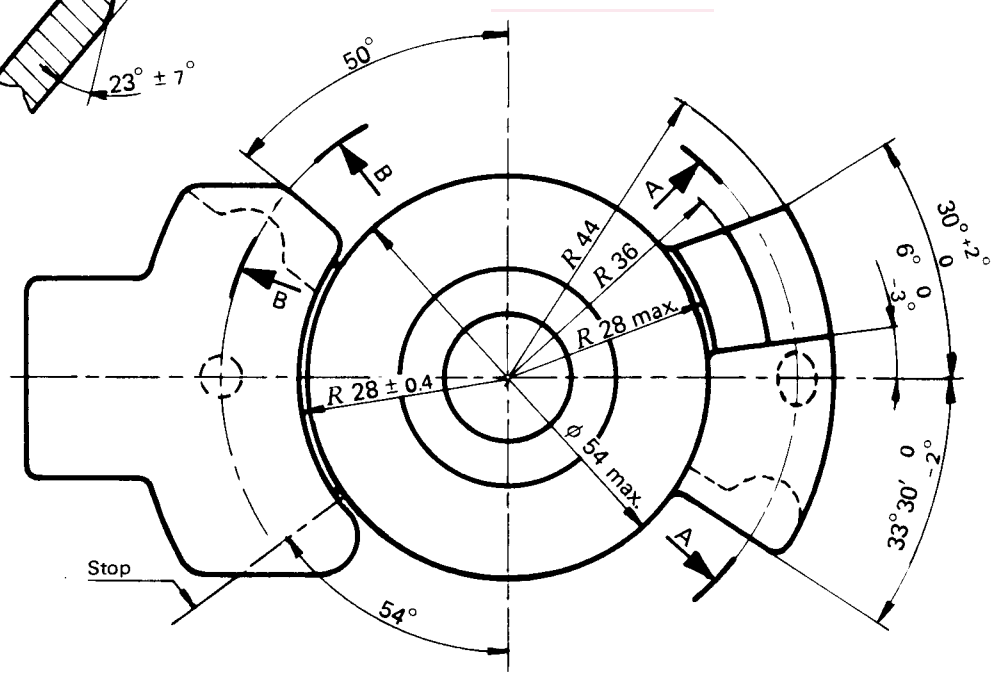
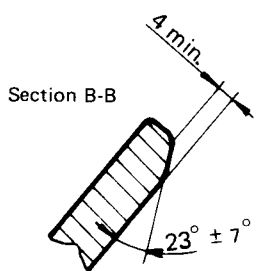


FIG. 1 - Coupling head for automatic braking line

Dimensions in millimetres

$A = 2.7 \pm 0.5$ for a resilient sealing ring
 4.5 max. for a spring-loaded seal

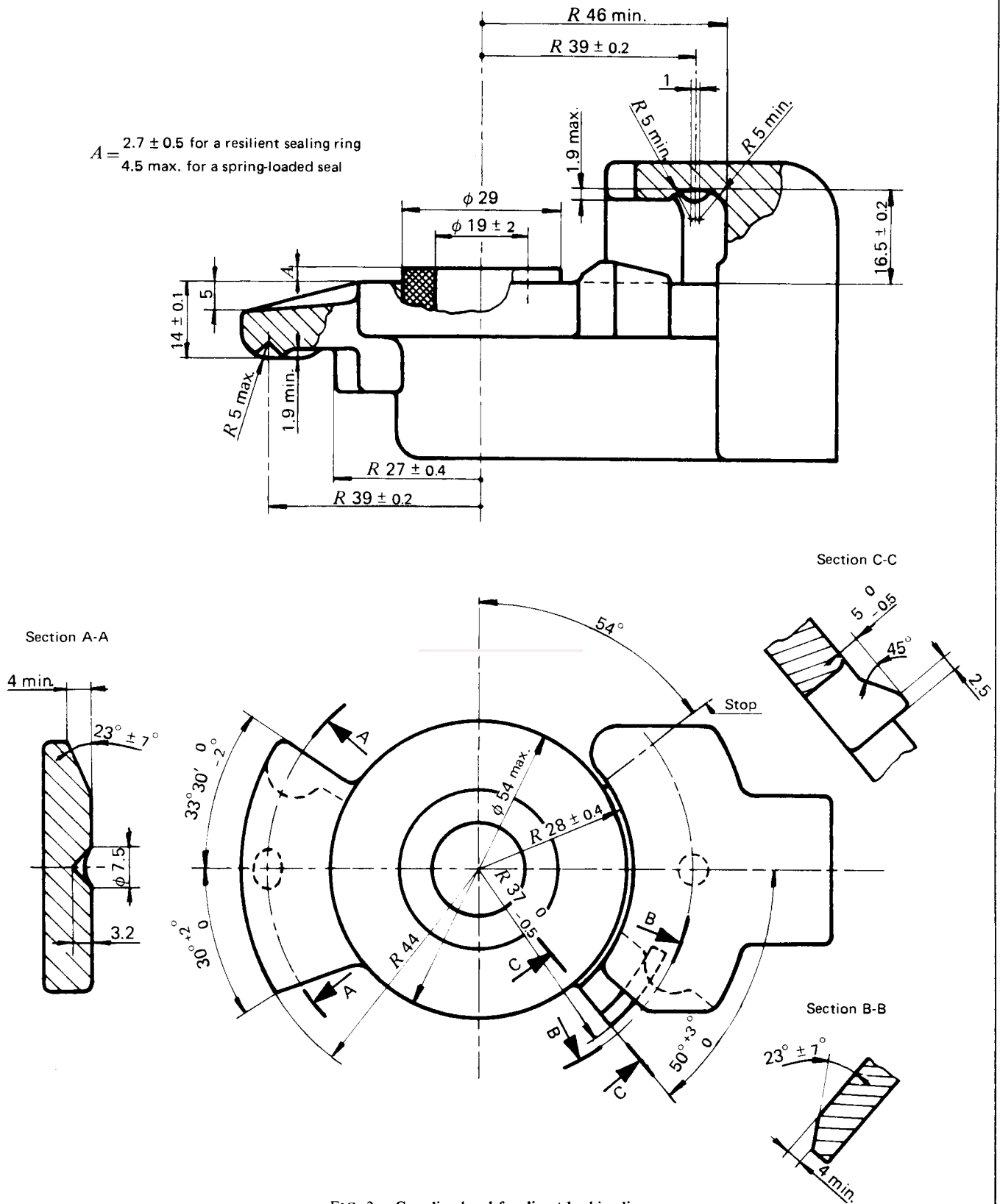


FIG. 2 - Coupling head for direct braking line

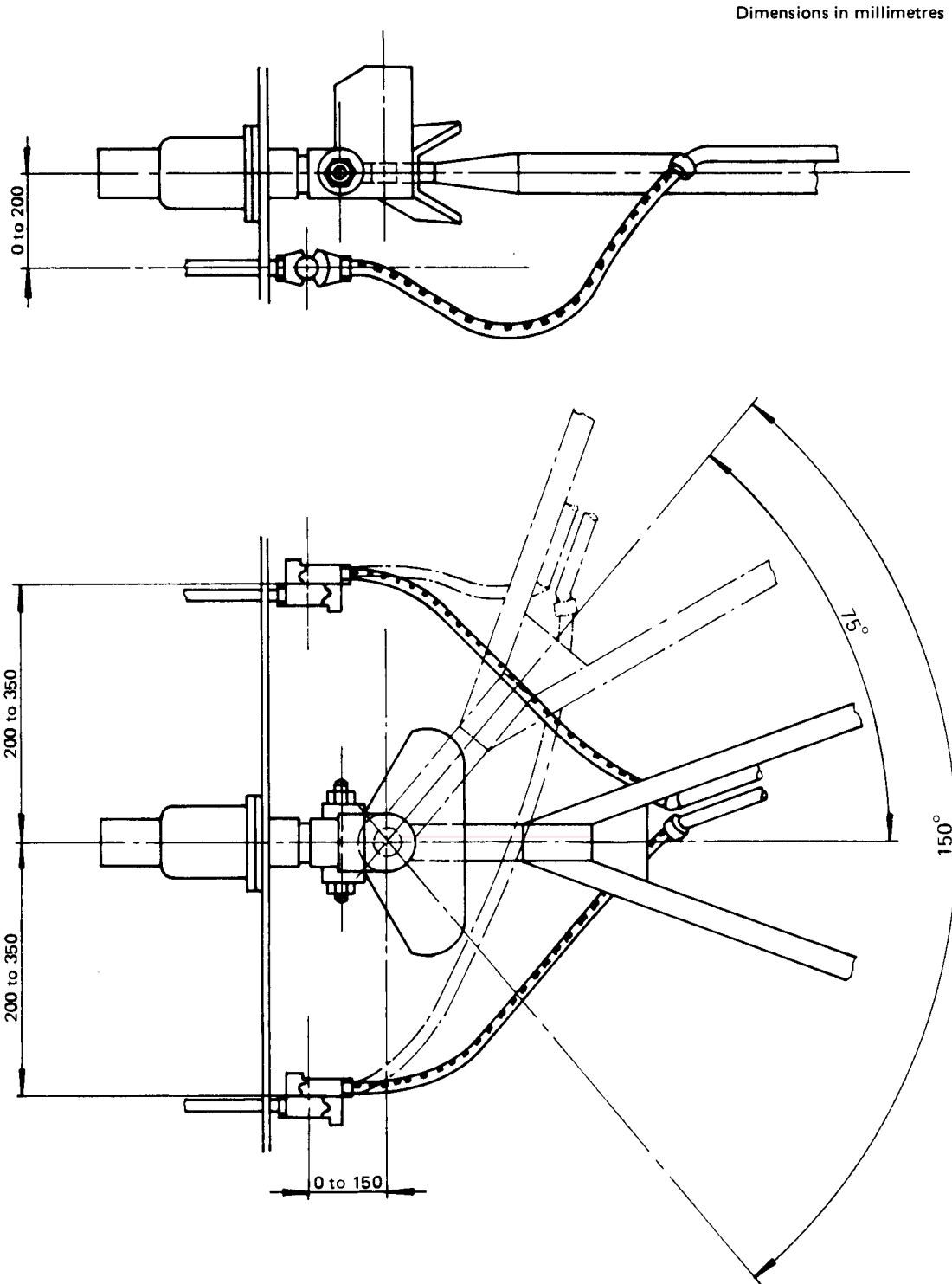


FIG. 3 - Location of coupling heads and of hoses