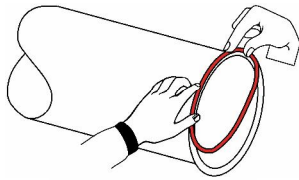


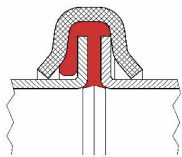
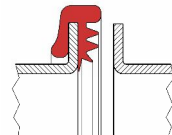
Assembly instruction for pull-ring connection with U-shaped seals

Type Quick Connect pull-ring (code-no. 12 . . . 903) and
pull-ring two-parted without seal (code-no. 12 . . . 383)



Pull the U-shaped seal around one of the pipe flanges.
The seal can be stretched – but avoid overstretching.

The chequered side of the U-shaped seal has to
be directed to the component to be connected.



Place the counter-pipe into position and push one half of the clamping-ring
onto the pipe flange. When using the Quick Connect pull-ring the half
without rapid fastener has to be assembled first.

Make sure that the pipes are in true alignment and that the U-shaped seals
are not displaced.

In horizontal assembled lines accumulating condensated liquids the contact spots of the U-shaped
seal and the parts of the pull-ring need to be placed at the lowest point.

Assembly of the second part of the pull-ring:



Quick Connect pull-ring

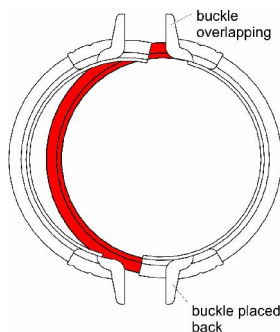
The second part of the pull-ring has to be pulled over
the pipe flanges and the clasp has to be guided over
the closing hook.

Caution: When closing the pull-ring the U-shaped
seal does not have to loop.

To simplify the closing, the bolt on the swivel joint
could be turned back.

The bolt on the swivel joint can be tightened later avoiding accidental loosening of the connection
(e.g. vibrations) and providing the greatest possible freedom from leaks.

For explosion shock proof connections up to 3 bar overpressure tighten the bolt with 10 Nm torque,
please.



Pull-ring two-parted

It is recommendable to dismantle the pull-ring completely in advance.
Alternatively an assembly analogous to the Quick Connect pull-ring is
possible. In this case only one bolt has to be loosened completely.

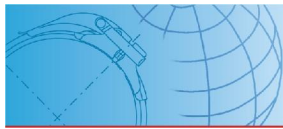
Pull the second part of the pull-ring over the pipe flanges, insert the bolts
and tighten them alternately. **Caution:** When closing the pull-ring the U-
shaped seal does not have to loop.

For explosion shock proof connections up to 3 bar overpressure tighten
the bolt with 25 Nm torque, please.

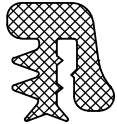


A hexagon screwdriver for 6 mm is required for all listed pull-rings.

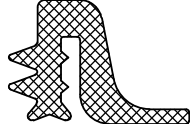




For connections with U-shaped seals the same pull-rings will be used for 1 mm and 2 mm thick pipes and components. The compensation of the wall-thickness will be done by different thicknesses of U-shaped seals.



Profile for 1 mm made of:
NBR, Silicone, Viton



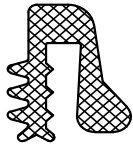
Profile for 1 mm made of:
EPDM conductive

Rubber quality:	Colour:
NBR (Perbunan)	grey white
SI (Silicone)	beige
EPDM (Keltan)	black (conductive)
FKM (Viton)	brown red

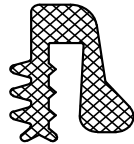
**U-shaped seals for 1 mm.
Suitable for the following connections:**

- 1 mm and 1 mm thick pipework
- 1 mm and 1,5 mm thick pipework
- 1 mm and 2 mm thick pipework *
- 1,5 mm and 1,5 mm thick pipework *

* For connections with minor requirements of tightness the thinner U-shaped seals for **2 mm** pipework can be used due to an easier assembly.



Profile for 2 mm made of:
NBR, Silicone, Viton



Profile for 2 mm made of:
EPDM conductive

Rubber quality:	Colour:
NBR (Perbunan)	grey (RAL 7000)
SI (Silicone)	light ivory
EPDM (Keltan)	black (conductive)
FKM (Viton)	brown red

**U-shaped seals for 2 mm.
Suitable for the following connections:**

- 2 mm and 2 mm thick pipework
- 2 mm and 1,5 mm thick pipework
- 2 mm and 1 mm thick pipework **
- 1,5 mm and 1,5 mm thick pipework **

** For higher requirements of tightness the thicker U-shaped seal for **1 mm** pipework has to be used.

U-shaped seals made of NBR (Perbunan) and Silicone = food grade.
In hazardous areas with gas and dust the earthing of each pipe or component has to be double-checked. Conductive U-shaped seals made of EPDM are not conductive when using primed pipes and components due to the isolating primer coating.

Leakage values of the connection (pressure up to 0,5 bar) on request.

General assembly advice for a tight connection

- Rework possibly corrupted pipe flanges (e.g. re-aligning).
- Clean the pipe flange (e.g. primer bubbling, zinc tears).
- The weld may not be demolished.
- Do not use damaged U-shaped seals.
- Pipework needs to be installed tension-free.
- The U-shaped seal may not loop when assembling.
- Horizontal installed lines have to be supported approx. every 4 meters. When using additional short pipes or components for the line, the distance of the support has to be reduced as well as for additional loads. Branches and droppers have to be assembled in such a way to avoid creating pressure onto the main line.

