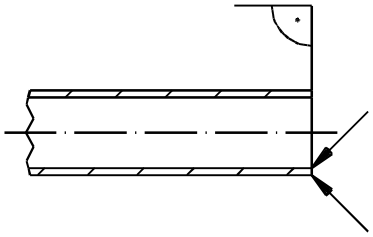
Assembly of cutting ring connectors

General

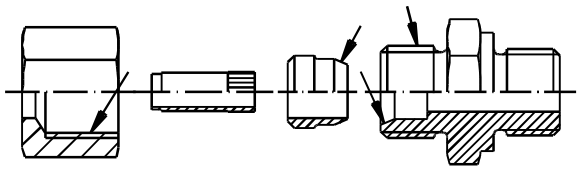
Due to the high danger of chlorine gas under pressure most of the chlorination plants are designed as vacuum systems according to DIN 19606. Especially at large metering rates many chlorine cylinders or drums are often connected to only one vacuum regulator. For piping under pressure copper pipes are used. They are connected by cutting ring connectors.
The correct installation of the cutting ring connector and the copper pipe is important for the tightness of the connection. It must be done very carefully.In the following installation directly in the coupling body is shown.

Pre-Assembly

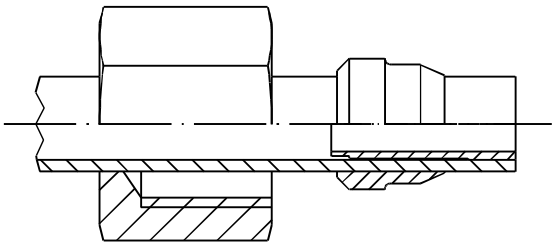
Square off the pipe square by using a saw and not a pipe cutter. Remove burrs from pipe inside and outside.



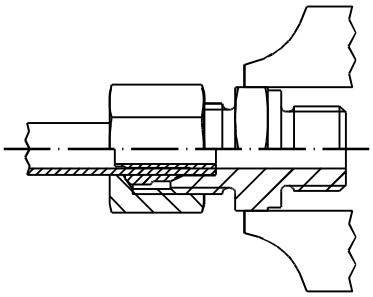
Oil the parts at the marked points slightly:
- Body at the thread and inside the cone
- Cutting ring outside
- Union nut inside the thread



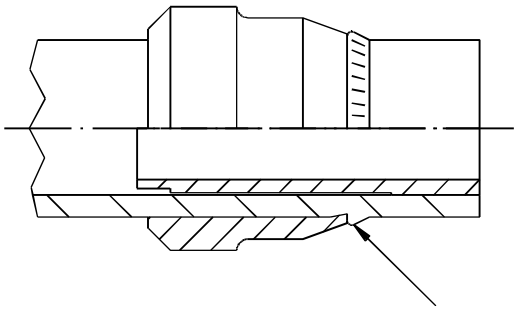
Slide the union nut and cutting ring onto the pipe and pay attention to the right positioning of the cutting ring. Put the support tube into the pipe until it is plan with the pipe, with the blank side first.



To do the following steps, fix the coupling body in a vise, if possible. The steps can be done in the mounted coupling body as well, but then it must be retained by means of a second tool.



Push the pipe to the stop of the coupling body and tighten the union nut manually by shaking the pipe constantly.
Fasten the union nut by about 11/2 turns using a tool.The pipe mustn´t turn with the union nut. It could be helpful for control to mark the position of union nut and pipe before this step.



Loosen the nut and inspect the cut. The visibly removed tube material should be just covering the face of the cutting ring. If not, tighten lightly. Due to the spring effect of the cutting ring it is okay, if it can still be turned.

Final Assembly

Final assembly of the pre-assembled pipe is made by tightening the nut a further 1/6 turn beyond the point, where a noticeable increace of force is required. Each time the coupling is unscrewed, the nut has to be re-tightened without using excessive force - approx. 1/6 turn.