

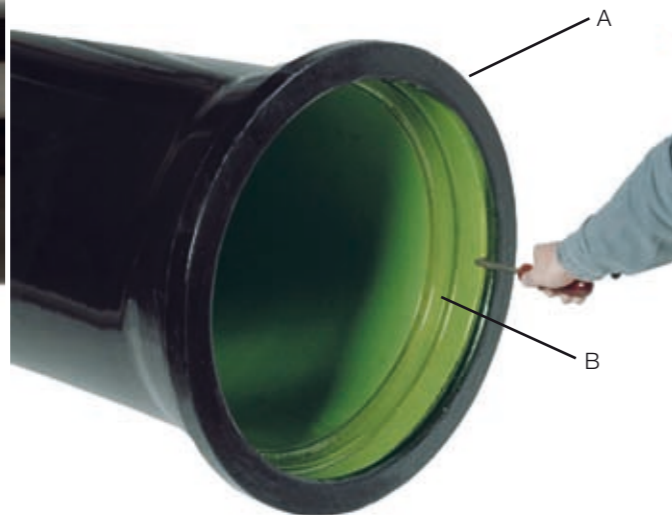
Fitting instructions for plug-in piping DN 80 - 500 mm with internal thrust-protection Fig. 2807

1. General remarks

Following the instructions below will guarantee correct and professional fitting.

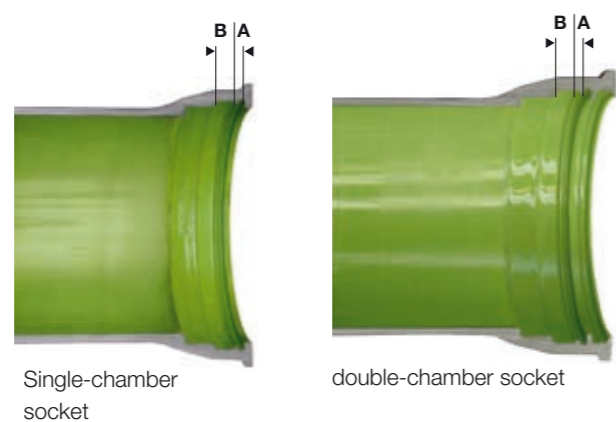
2. Cleaning the plug-in sockets

Check cleanliness of inside parts of the plug-in sockets: mounting groove (A), sealing chamber (B) and pipe spigot.



3. Inserting sealing rings Fig. 2810 / 2811

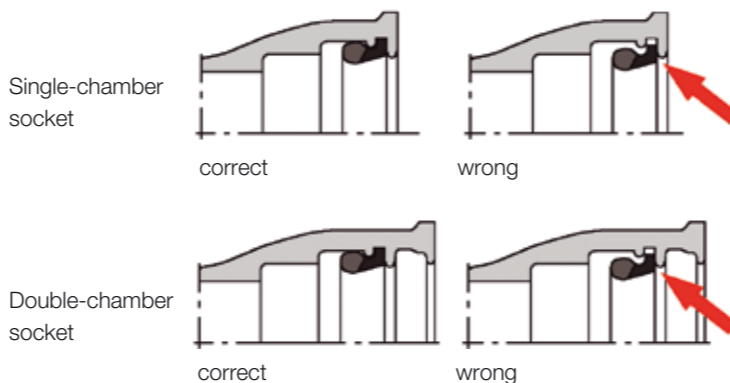
The mounting groove (A) and the sealing chamber (B) should never be lubricated.



- The insertion of a sealing ring is always compulsory.
- The sealing ring is inserted manually by forming a loop.
- Press in and smooth out the remaining loop.
- If you have difficulties smoothing out the loop, form a second loop. The two smaller loops can be easily smoothed out.



The inner hard-rubber rim of the sealing ring should not protrude over the centring collar.



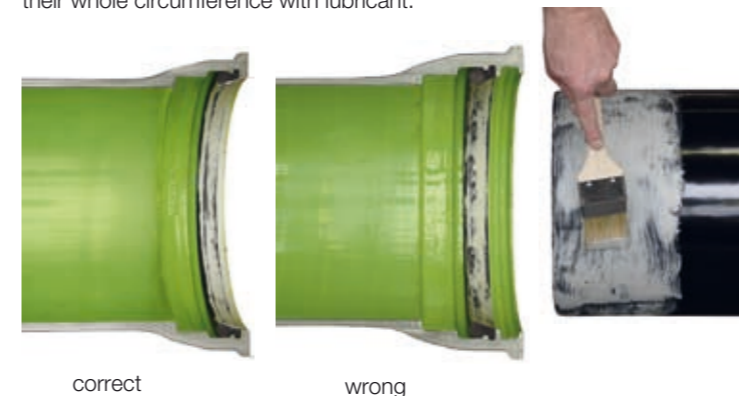
Remarks:

- Sealing rings are to be stored in a sheltered place away from sunlight and dampness
- They are to be inserted into the plug-in socket only immediately before fitting takes place.
- In winter, it is recommended that the sealing rings be stored in a warm place as this simplifies mounting.

4. Lubricating the spigots of pipes and fittings as well as pipe collars

Lubrication

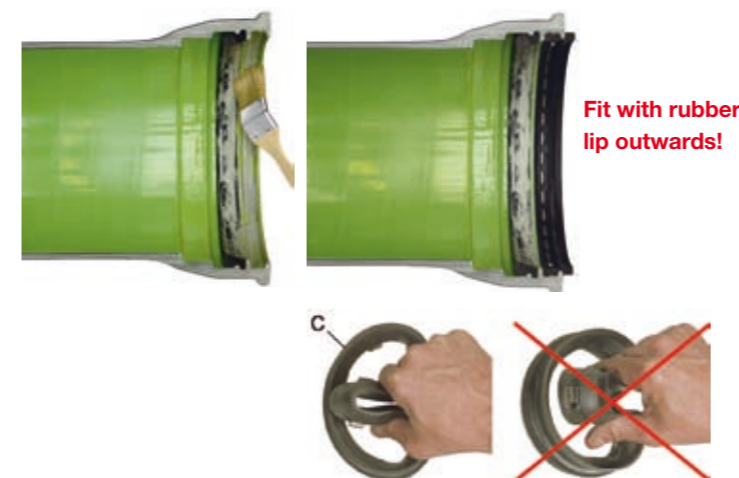
The spigots as well as the fitted sealing ring are uniformly covered over their whole circumference with lubricant.



5. Fitting internal thrust-protection in double-chamber pipe sockets (pipes, valves and UNI-TH)

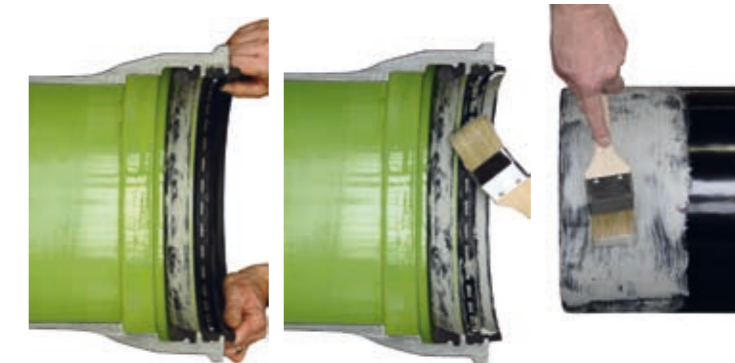
Internal thrust-protection Fig. 2807

- Lubricate the thrust-protection chamber with **sufficient** lubricant.
- Make a simple loop in the middle of the thrust-resisting ring (C) by hand.
- Insert the thrust-resisting ring (C) into the thrust-protection chamber.



Check correct fitting:

- You must be able to manually turn the thrust-protection ring in the chamber
- The pipe's spigot, the inserted sealing ring and the thrust-protection ring should be uniformly covered with lubricant over their whole circumference.



External thrust-protection Fig. 2806 is to be used for pipes and fittings with single-chamber sockets.

6. Centring and alignment of the push-in joint connection

- Insert spigot end of pipe into the pipe socket until it centrally mates with the thrust-protection ring.
- The axes of the pipeline elements being fitted (pipes, adapters, fittings) should form a straight line both horizontally and vertically.



7. Fitting

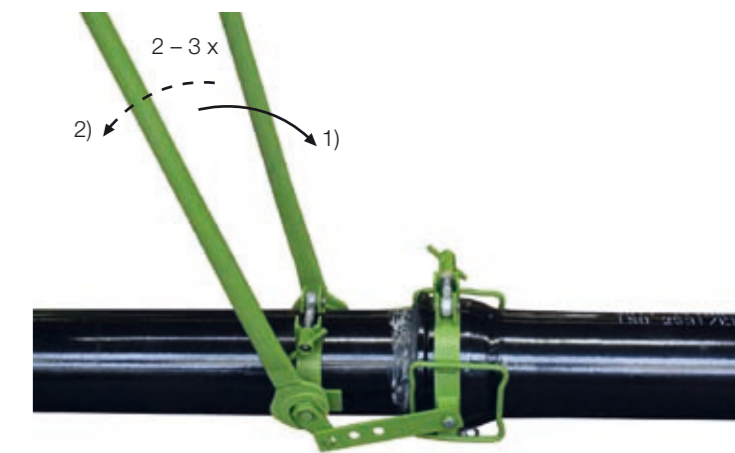
Insertion depth must be checked during and after fitting. See point 8.

Fitting using the assembly tool Fig. 293 for DN 80-350 pipes and fittings

- 1) After centring, the pipeline sections can be rapidly and easily connected together using the assembly tool Fig. 293. This is done using the open-ended spanners provided.

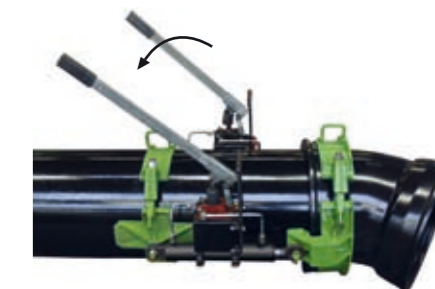
Caution!

- 2) When fitting a push-in joint with internal thrust-protection Fig. 2807, interlocking is attained by making two to three abrupt movements with the open-ended spanners in the opposite direction.



Fitting DN 400-500 pipes and fittings using the assembly tool Fig. 254

The assembly tool is hydraulically operated and is designed for the joining up of plug-in joints.



8. Inspection during and after fitting

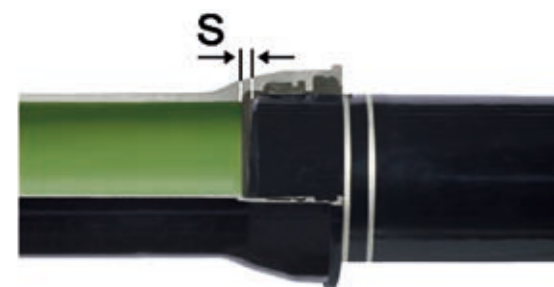
The play between the pipe spigot end and the base of the push-in joint must be kept within a tolerance (S) of 5-10 mm.

Push-in joint connections with double-chamber socket DN 80-500 (pipes)

Position of the silver-grey marking for push-in joint connections:

Without thrust-protection

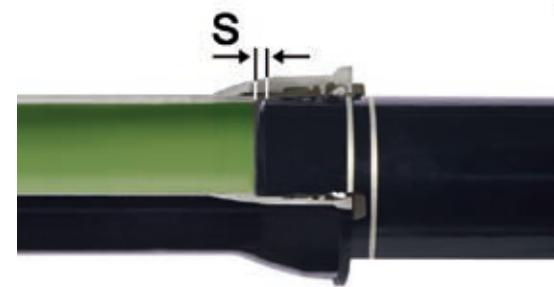
If the end of the pipe socket coincides with the first line, then the pipe spigot is correctly located in the pipe socket.



Without thrust-protection

With internal thrust-protection, Fig. 2807

If the end of the pipe socket coincides with the second line, then the pipe spigot is correctly located in the pipe socket.



With thrust-protection

9. Deflection of the connection during fitting with and without internal thrust-protection

At the completion of fitting and inspection work, the pipes may be deflected.

The permissible deflection-angles α are:

- Without thrust-protection
- $\leq 5^\circ$ for DN 80-300
- $\leq 4^\circ$ for DN 350-400
- $\leq 3^\circ$ for DN 500-700

With thrust-protection

- $\leq 3^\circ$ for DN 80-500



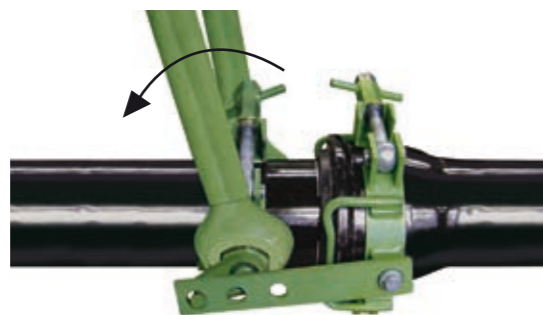
10. Dismantling the plug-in joint

When dismantling, it is to be distinguished between plug-in connections with or without thrust-protection.

Dismantling a plug-in joint without thrust-protection

With the aid of the assembly tool Fig. 293

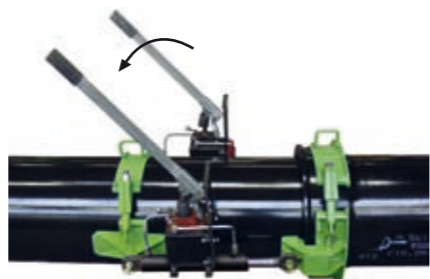
Pull the spigot out of the socket using open-ended spanners.



With the aid of the assembly tool Fig. 254

Reverse the oil-flow direction in the hydraulic unit by changing over the valve levers.

By pumping with the levers, the cylinder travels outwards and the pipe connection is dismantled.

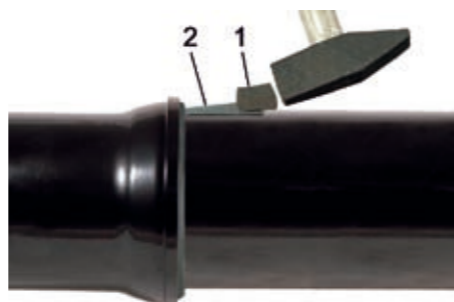


Dismantling plug-in joints that were made a long time ago: Knock in dismantling leaves Fig. 255-2 between pipe spigot end and sealing ring using hammering accessories Fig. 255-1.

Sealing rings must not be re-used after removal.

Dismantling a plug-in joint with internal thrust-protection Fig. 2807

- With the aid of the assembly tool Fig. 293, pull in the pipe spigot until it contacts the base of the pipe collar
- Knock in the dismantling leaves Fig. 255-2 (2) over the whole circumference between the pipe spigot and retaining ring using hammering accessories Fig. 255-1 (1)



Dismantling leaf requirements for each dismantling:

DN	Number
80	4
100	5
125	6
150	7
200	9
250	12
300	15
400	17
500	20

The connection is then opened using the assembly tools Fig. 293 or Fig. 254 (as in "Dismantling without thrust-protection").

Caution! Dismantled thrust-protection rings may be re-used if they do not exhibit any damage (no broken locking segments) when inspected visually.

11. Shortening pipes

Accident prevention

The rules that guarantee accident prevention are to be adhered to according to manufacturer's instructions. Appropriate protective clothing and equipment are to be used when such work is carried out.

Marking the location where the pipe is to be cut

- The cut should be made at right-angles to the pipe axis.
- Before cutting, the cut should be marked around the whole circumference of the pipe.

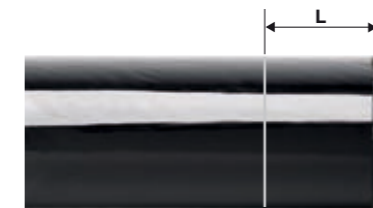
Tip: Fit a parallel band of steel around the pipe that is as wide as possible and mark the cut along its edge.

Reference markings on pipes that have been cut

The reference markings for fitting should be applied to the spigot-end of the shortened pipe in accordance with the fitting method to be used.



DN	L mm	For pipes and UNI-T with double chamber			
		With internal thrust-protection 2807		Without internal thrust-protection 2807	
DN	L mm	DN	L mm	DN	L mm
80	80	80	126	80	109
100	82	100	127	100	110
125	85	125	130	125	113
150	88	150	133	150	116
200	94	200	138	200	121
250	94	250	138	250	121
300	95	300	137	300	120
350	98	350	-	350	-
400	100	400	149	400	135
500	105	500	149	500	135



Cutting

Suitable tool for cutting: Cutting disc.

Chamfer the pipe-end after cutting:

Chamfer the spigot end of the shortened pipe. Suitable tool for chamfering: Manual grinder.

Specification:

The appropriate radius (R) is the same as that of the pipe supplied.

DN 80-150 R 5 mm DN 350-400 R 7 mm

DN 200-300 R 6 mm DN 500 R 8 mm

Sharp edges are to be sufficiently rounded off. Otherwise they complicate the plugging-in process and can cause damage to the sealing rings. Sharp edges can lead to bad connections.



The PUR-protective layer should never be cut or peeled off further the rounded-off end of the pipe!

Protect the cut against corrosion

Clean the surface in the interior of the shortened pipe thoroughly.

Coat the uncoated surfaces of the rounded-off cut:

- For vonRoll *ducpur* pipes with bitumen that is suitable for drinking-water use.
- For vonRoll *ecopur* pipes with Resicoat® RS 2-component repair set.



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