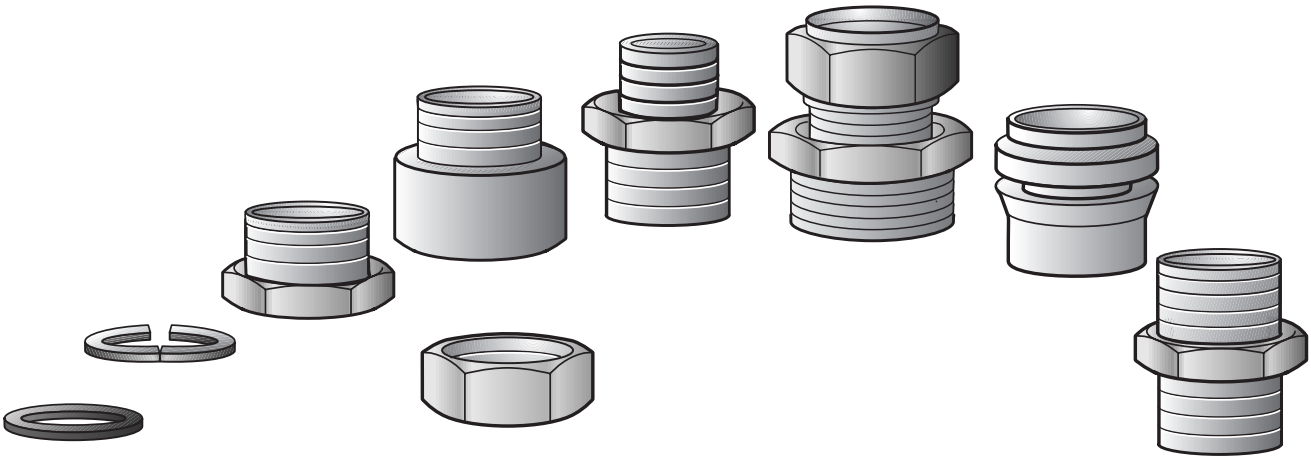
Installation instructions

Connection set
Twin Tube DN 20



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1 Standard delivery

- Check before commencing the installation whether all listed components have been delivered.

The standard delivery comprises (Fig. 1)

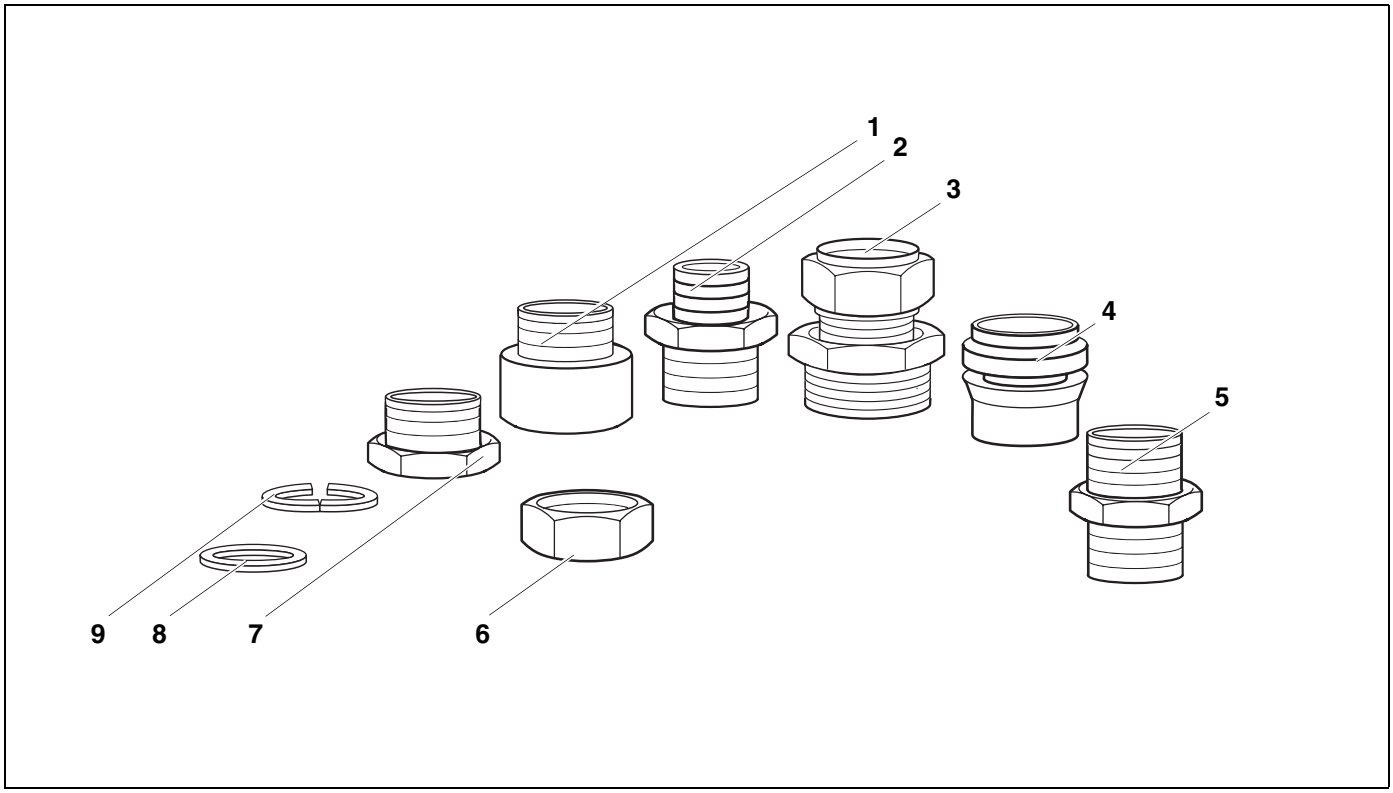

Fig. 1 Connection set Twin Tube 20

Item 1:	Union Rp1 × R1 (brass)	2 ×
Item 2:	Reducer R¾ × R1 (brass)	2 ×
Item 3:	Straight compression fitting R1 × 22 mm	4 ×
Item 4:	Reducer 22 mm × 18 mm	4 ×
Item 5:	Double nipple R1 (brass)	1 ×
Item 6:	Union nut Rp1	8 ×
Item 7:	Reducer Rp¾ × R1 (brass)	3 ×
Item 8:	Gasket	8 ×
Item 9:	Clamping collar	8 ×

2 Installation

Use the connection set to connect the individual solar heating components.

NOTE FOR USERS

Observe any standards and guidelines applicable to the installation and operation of this system, as may apply in your country.

NOTE FOR USERS

The connection set, Twin Tube, supplements the installation set for solar collectors. Important safety information regarding the installation of the Twin Tube set are contained in the solar collector installation instructions.

NOTE FOR USERS

Cut the corrugated stainless steel hose to size according to requirements.
You can check how to create a sealing face with corrugated stainless steel pipes in the instructions for "Twin Tube DN 20".

2.1 Installation of the Twin Tube DN 20 for collectors with threaded connections

The ends of the flow and return pipes corrugated (stainless steel hose) of the collector array terminate respectively in a compression fitting R¾ × 18 mm. Remove the locking rings to enable the Twin Tube DN 20 to be installed.

- Remove the two locking rings on the flow and return pipes.

NOTES FOR USERS

Install the flow and return connections in similar manner. The installation is demonstrated by example of the flow connection.

SYSTEM DAMAGE

through leaking compression fittings.

CAUTION

- Ensure during the installation that the gaskets and clamping collars are properly fitted.

Install the corrugated stainless steel hose at the flow and return connections.

- Insert the gaskets (Fig. 2, **item 2 and 4**) as shown in the graphic illustration.
- Thread the reducer R¾ × R1 (Fig. 2, **item 3**) into the union nut of the connection line (Fig. 2, **item 1**).
- On the corrugated stainless steel hose thread the (Fig. 2, **item 7**) Pre-assembled union nut Rp1 (Fig. 2, **item 6**) onto the reducer R¾ × R1 (Fig. 2, **item 3**).

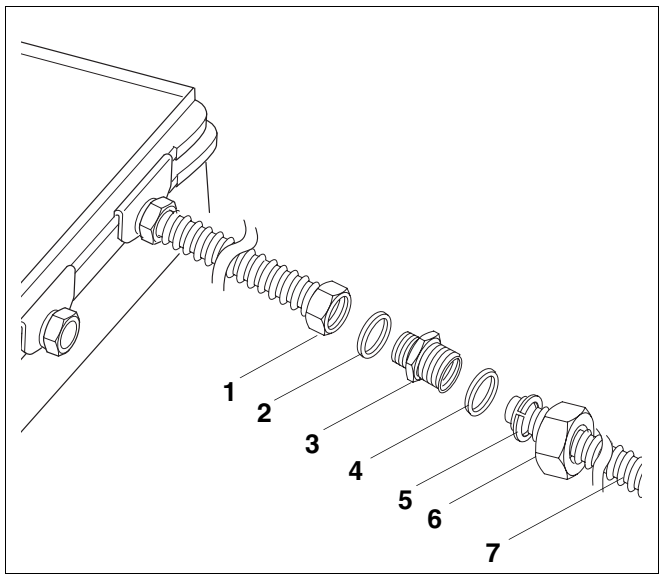

Fig. 2 Install the corrugated stainless steel hose on the flow connection.

Item 1: *Connection line union nut*

Item 2: *Gasket*

Item 3: *Reducer R¾ × R1*

Item 4: *Gasket*

Item 5: *Clamping collar*

Item 6: *Pre-assembled union nut Rp1*

Item 7: *Corrugated stainless steel hose*

2.2 Installation of the Twin Tube DN 20 for collectors with hose nipple connections

Install the corrugated stainless steel hose on the flow.

A basic pipework set is part of every collector array. It comprises an air vent, which provides two threaded holes Rp¾.

- Thread the reducer R¾ × R1 (Fig. 3, **item 2**) into the air vent valve (Fig. 3, **item 1**).
- Insert the gasket (Fig. 3, **item 3**) as shown in the graphic illustration.
- On the corrugated stainless steel hose thread the (Fig. 3, **item 6**) pre-assembled union nut Rp1 (Fig. 3, **item 5**) onto the reducer R¾ × R1 (Fig. 3, **item 2**).

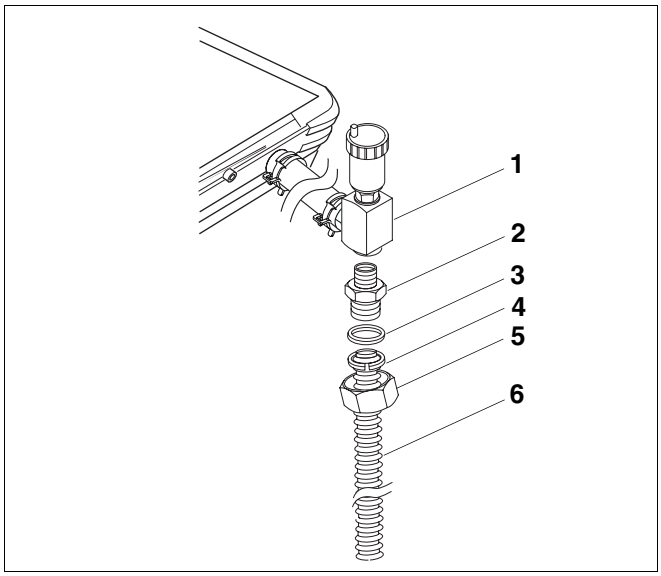

Fig. 3 Install the corrugated stainless steel hose on the flow.

Item 1: *Air vent valve*

Item 2: *Reducer R¾ × R1*

Item 3: *Gasket*

Item 4: *Clamping collar*

Item 5: *Pre-assembled union nut Rp1*

Item 6: *Corrugated stainless steel hose*

Install the corrugated stainless steel hose on the return.

- Thread the reducer Rp¾ × R1 (Fig. 4, **item 2**) onto hose nipple R¾ (Fig. 4, **item 1**).
- Insert the gasket (Fig. 4, **item 3**) into the pre-assembled union nut Rp1 (Fig. 4, **item 5**).
- On the corrugated stainless steel hose thread the (Fig. 4, **item 6**) pre-assembled union nut Rp1 (Fig. 4, **item 5**) onto the reducer Rp¾ × R1 (Fig. 4, **item 2**).

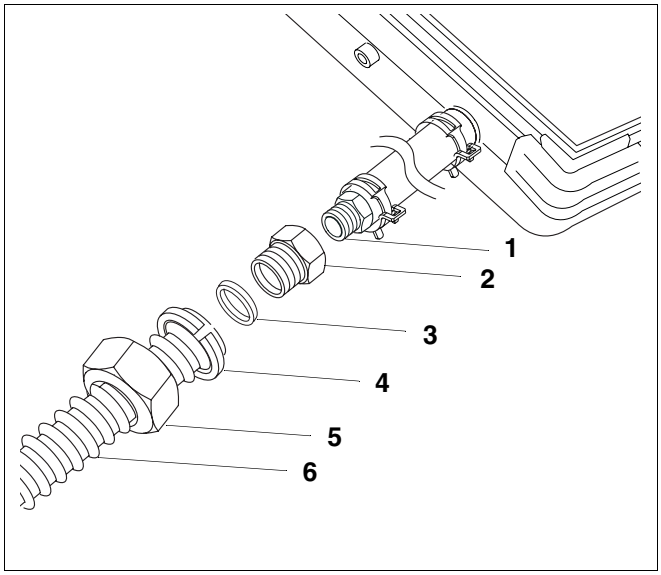

Fig. 4 Install the corrugated stainless steel hose on the return.

Item 1: *Hose nipple R¾*

Item 2: *Reducer Rp¾ × R1*

Item 3: *Gasket*

Item 4: *Clamping collar*

Item 5: *Pre-assembled union nut Rp1*

Item 6: *Corrugated stainless steel hose*

2.3 Collector connection to the complete station

Determine, before you connect the Twin Tube DN 20 to the complete station, what connections to the complete station are already present on site.

Two possible connections sizes may be found on site:

a) 18 mm compression fitting

b) 22 mm compression fitting

NOTE FOR USERS

To create a connection between the corrugated stainless steel hoses and the complete station, you should use a copper tube in accordance with the given diameters of the compression fittings (complete station) (Ø 18 mm or Ø 22 mm, approx 8–10 cm long).

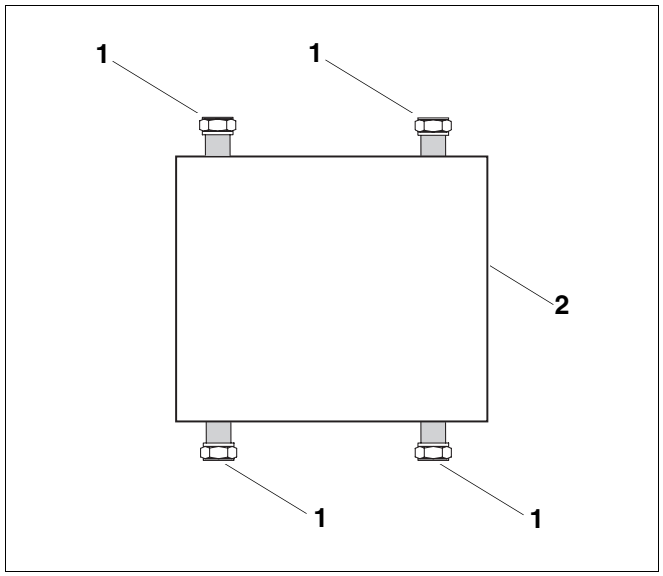

Fig. 5 Determine the connection size

Item 1: *Complete station connections*

Item 2: *Station complete*

a) for 18 mm compression fittings

- Insert the gasket (Fig. 6, **item 3**) into the pre-assembled union nut Rp1 (Fig. 6, **item 2**).
- Connect the straight compression fitting R1 × 22 mm (Fig. 6, **item 4 and 6**) with the union nut Rp1 (Fig. 6, **item 2**) of the corrugated stainless steel hose (Fig. 6, **item 1**).
- Secure the pre-assembled union nut Rp1 (Fig. 6, **item 2**) with the straight compression fitting R1 × 22 mm (Fig. 6, **item 4**) using a suitable spanner.
- Replace the 22 mm locking ring of the compression fitting (Fig. 6, **item 9**) with a reducer 22 × 18 mm (Fig. 6, **item 5**).
- Trim the copper pipe Ø 18 mm (Fig. 6, **item 7**) to size to enable the tube to be pushed 2–3 cm into the compression fitting (Fig. 6, **item 4, 8 and 6)** .
- Push the trimmed copper pipes Ø 18 mm (Fig. 6, **item 7**) right up to the stop end into the compression fittings. The 22 × 18 mm reducers (Fig. 6, **item 5**) should completely surround the copper tubes Ø 18 mm.
- Tighten the compression fittings.

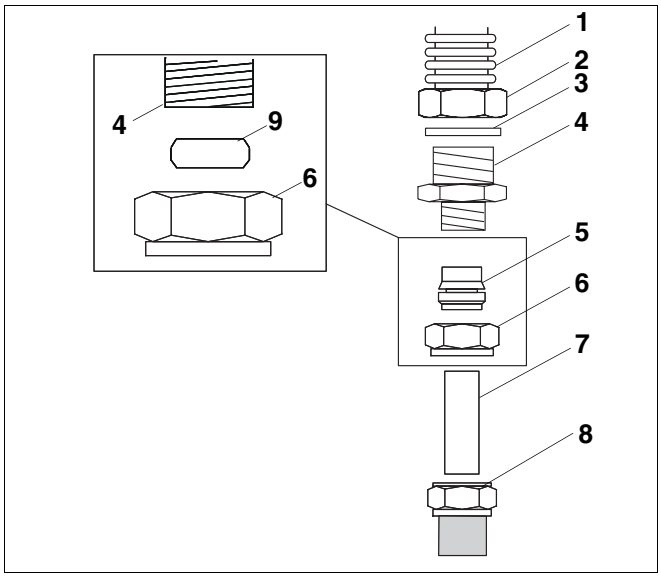

Fig. 6 Twin Tube DN 20 connection to 18 mm compression fitting

Item 1: *Corrugated stainless steel hose*

Item 2: *Pre-assembled union nut Rp1*

Item 3: *Gasket*

Item 4: *Straight compression fitting R1 × 22 mm*

Item 5: *Reducer 22 × 18 mm*

Item 6: *Union nut Rp1 of the straight compression fitting R1 × 22 mm*

Item 7: *Copper tube Ø 18 mm*

Item 8: *Connection (complete station)*

Item 9: *22 mm locking ring*

b) for 22 mm compression fitting

- Insert the gasket (Fig. 7, **item 3**) into the pre-assembled union nut Rp1 (Fig. 7, **item 2**).
- Connect the straight compression fitting R1 × 22 mm (Fig. 7, **item 4**) with the pre-assembled union nut Rp1 (Fig. 7, **item 2**) of the corrugated stainless steel hose (Fig. 7, **item 1**).
- Secure the pre-assembled union nut Rp1 (Fig. 7, **item 2**) with the straight compression fitting R1 × 22 mm (Fig. 7, **item 4**) using a suitable spanner.
- Trim the copper pipe Ø 22 mm (Fig. 7, **item 5**) to size to enable the tube to be pushed 2–3 cm into the compression fittings (Fig. 7, **item 4**).
- Push the trimmed copper pipes Ø 22 mm (Fig. 7, **item 5**) right up to the stop end into the compression fittings.
- Tighten the compression fittings.

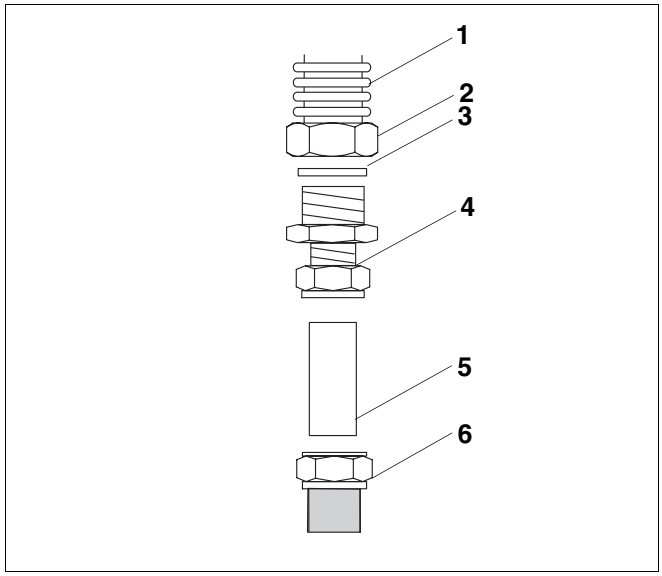

Fig. 7 Twin Tube DN 20 connection to 22 mm compression fitting

Item 1: *Corrugated stainless steel hose*

Item 2: *Pre-assembled union nut Rp1*

Item 3: *Gasket*

Item 4: *Straight compression fitting R1 × 22 mm*

Item 5: *Copper tube Ø 22 mm*

Item 6: *Connection (complete station)*

2.4 Connection of the complete station to the cylinder (R¾ or R1 connections)

Install the Twin Tube DN 20 to the cylinder with R¾ connections.

- Thread the reducer Rp¾ × R1 (Fig. 8, **item 4**) onto the cylinder connection R¾ (Fig. 8, **item 5**) to connect the cylinder with the complete station.
- Insert the gasket (Fig. 8, **item 3**) into the pre-assembled union nut Rp1 (Fig. 8, **item 2**).
- Thread the pre-assembled union nut Rp1 (Fig. 8, **item 2**) of the corrugated stainless steel hose onto the R1 thread of the reducer Rp¾ × R1 (Fig. 8, **item 4**).

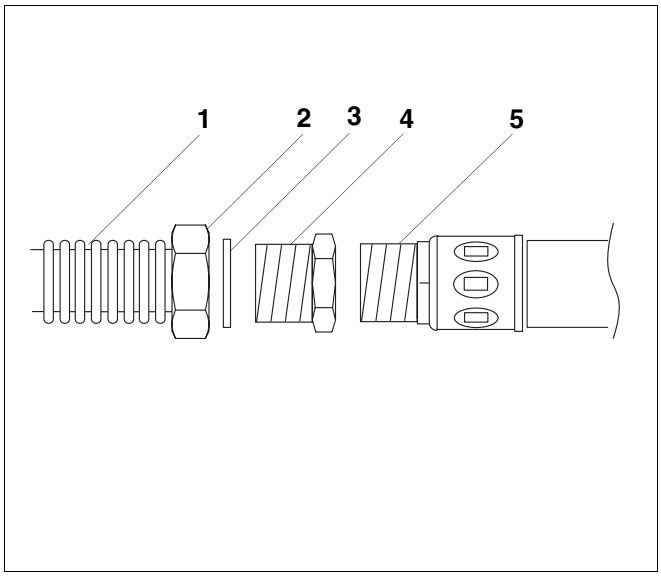

Fig. 8 Connect the corrugated stainless steel hose with R¾ connections to the cylinder.

Item 1: *Corrugated stainless steel hose*

Item 2: *Pre-assembled union nut Rp1*

Item 3: *Gasket*

Item 4: *Reducer Rp¾ × R1*

Item 5: *Cylinder connection R¾*

Install the Twin Tube DN 20 to the cylinder with R1 connections.

NOTE FOR USERS

The union Rp1 × R1 (Fig. 9, **item 4**) is used on the cylinder connection R1 (Fig. 9, **item 5**), to provide an improved sealing face and therefore a better seal at the cylinder connection.

- Thread the union Rp1 × R1 (Fig. 9, **item 4**) onto the cylinder connection R1 (Fig. 9, **item 5**) to connect the cylinder with the complete station.
- Insert the gasket (Fig. 9, **item 3**) into the pre-assembled union nut Rp1 (Fig. 9, **item 2**).
- Thread the pre-assembled union nut Rp1 (Fig. 9, **item 2**) of the corrugated stainless steel hose onto the R1 thread of the union Rp1 × R1 (Fig. 9, **item 4**).

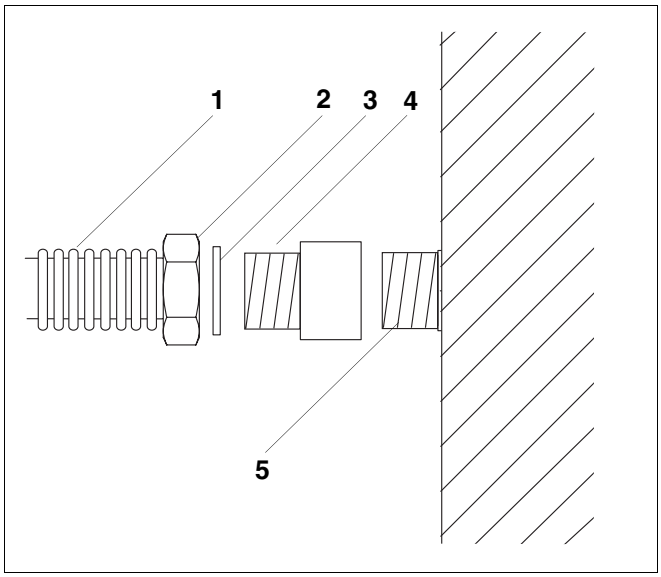

Fig. 9 Connect the corrugated stainless steel hose with R1 connections.

Item 1: *Corrugated stainless steel hose*

Item 2: *Pre-assembled union nut Rp1*

Item 3: *Gasket*

Item 4: *Union Rp1 × R1*

Item 5: *Cylinder connection R1*

2.5 Twin Tube DN 20 – extension of the corrugated stainless steel hose

Where required, the corrugated stainless steel hose can be extended with a double nipple R1 (Fig. 10, **item 4**).

- Insert the gaskets (Fig. 10, **item 3 and 5**) into the pre-assembled union nut Rp1 (Fig. 10, **item 2 and 6**).
- Thread the ends of the corrugated stainless steel hose s (Fig. 10, **item 1 and 7**) with the pre-assembled union nut Rp1 (Fig. 10, **item 2 and 6**) onto the R1 threads of the double nipple R1 (Fig. 10, **item 4**).

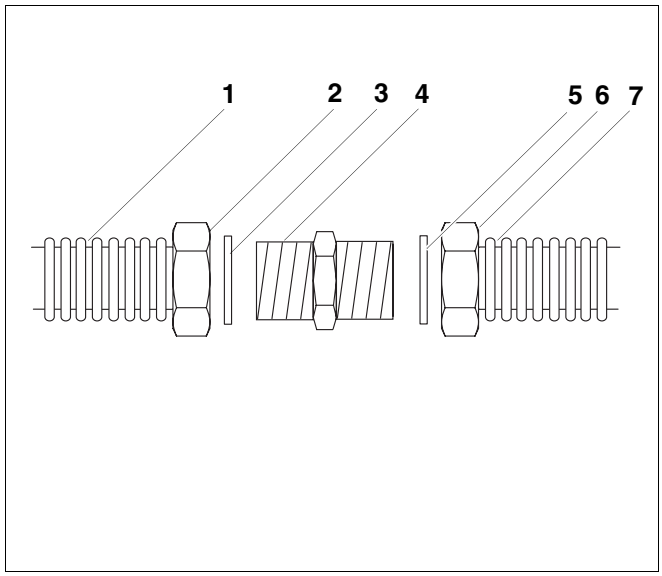

Fig. 10 Extend the corrugated stainless steel hose

Item 1: *Corrugated stainless steel hose*

Item 2: *Pre-assembled union nut Rp1*

Item 3: *Gasket*

Item 4: *Dual nipple R1*

Item 5: *Gasket*

Item 6: *Pre-assembled union nut Rp1*

Item 7: *Corrugated stainless steel hose*

Your local heating engineer: