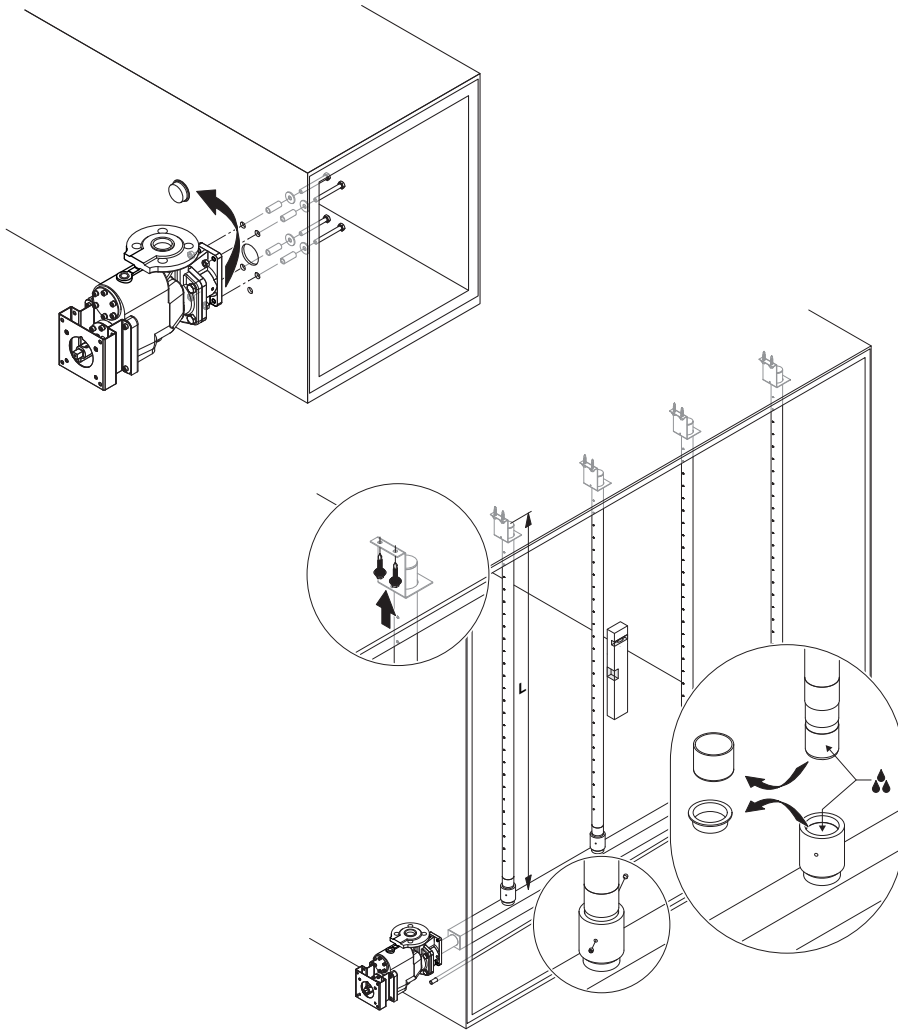


Condair Esco

Steam humidification system



INSTALLATION INSTRUCTIONS

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1 Introduction

1.1 General

The present installation instructions are a supplement of the installation and operating instructions of the Condair Esco and describe the installation of the different steam distribution systems of the Condair Esco in a duct. The electrical connection of the valve actuators is not part of these installation instructions.

1.2 Safety

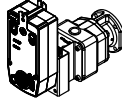
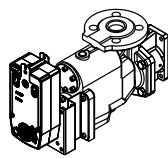
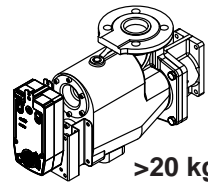
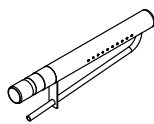
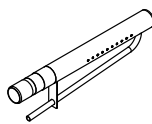
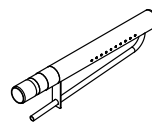
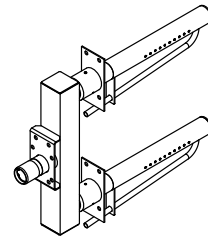
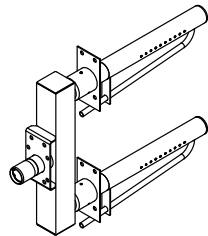
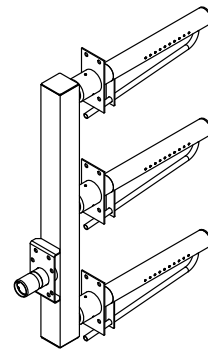
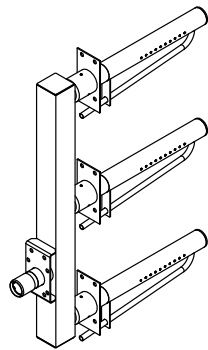














Inappropriate installation of the steam distribution system may result in steam leakage during operation. Withdrawing steam may cause injury of person or damage of material assets.

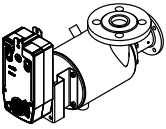
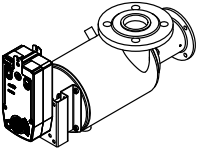
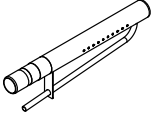
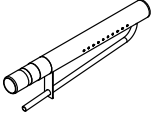
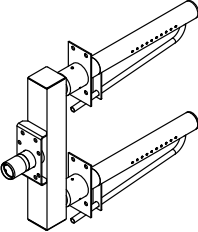
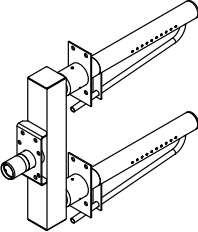
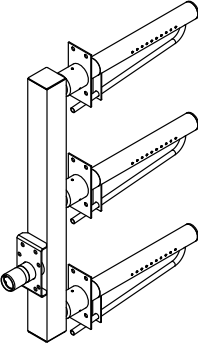
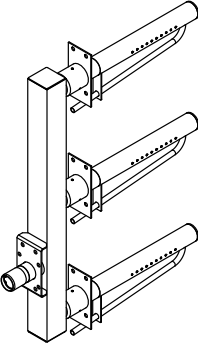










Therefore, please observe and comply with the following safety instructions and the information and safety instructions contained in the installation and operating instructions of the Condair Esco.

- The steam distribution system Condair Esco must only be installed by persons familiar with this product and sufficiently qualified for the task.
- All instructions in the present installation instructions must be followed and complied with.
- **Original Condair accessories and options** from your supplier must be used **exclusively** for installation of the steam distribution system Condair Esco.
- **Without the written consent** of the supplier, no attachments or modifications must be made to the steam distribution systems Condair Esco, accessories, and options.
- All local safety regulations concerning the use of pressurised steam systems must be followed and complied with.
- It is assumed that all persons in charge with the installation of the steam distribution system are familiar and comply with the appropriate regulations on work safety and the prevention of accidents.
- The weight of some components of the steam distribution system is more than 20 kg. Therefore, always transport these components with the help of another person or use an appropriate lifting device. Always secure the components during installation against falling down.
- After the installation or during the initial start-up of the system all installations must be checked for tightness. Systems with leaky installations may not be taken in operation.

2 Esco DL40

2.1 Overview Esco DL40




	Esco 5 cast iron	Esco 10 cast iron	Esco 20 cast iron
			 >20 kg
DL40 - 1 pipe			
DL40 - 2 pipes			
DL40 - 3 pipes			
Primary condensate drain			
Thermostatic steam trap			
Spheric float drain			
Bell-shaped float drain			
Secondary condensate drain			
Thermostatic steam trap			
Manometer			

	Esco 10 stainless steel	Esco 20 stainless steel
		
DL40 - 1 pipe		
DL40 - 2 pipes		
DL40 - 3 pipes		
Primary condensate drain		
Thermostatic steam trap		
Spheric float drain		
Bell-shaped float drain		
Secondary condensate drain		
Thermostatic steam trap		
Manometer		

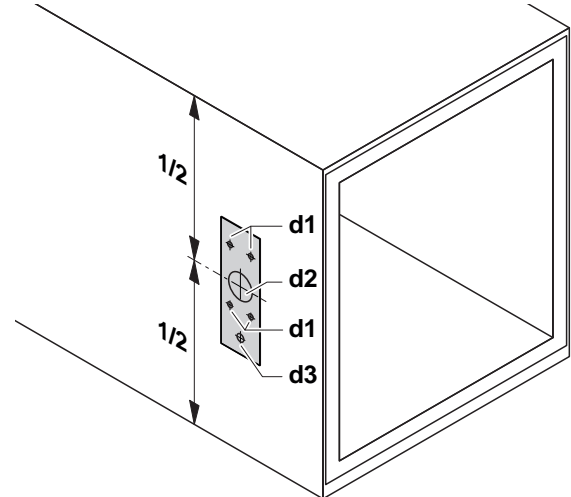
2.2 Mounting the Esco DL40

2.2.1 Mounting the Esco DL40 with one steam pipe

1. Fix drilling template supplied (self-adhesive), then drill holes.

		Esco 5	Esco 10	Esco 20
d1		ø9 mm ø13 mm **		
d2		ø45 mm	ø45 mm	ø65 mm
d3		ø13 mm		

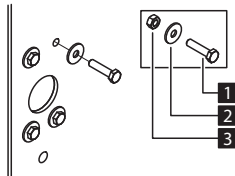
** if mounting set for insulated ducts is used



2. Mount valve unit.

- Remove protective plug from the connector flange of the valve unit.
- This step must be carried out only if mounting set for insulated ducts is used: Cut length of the supporting tubes to duct wall thickness "L", then insert the tubes into the fixing holes.
- Fix valve unit to the duct as shown below using the screws, washers and nuts. Before tightening, centrally align the bores of the duct and the valve unit.

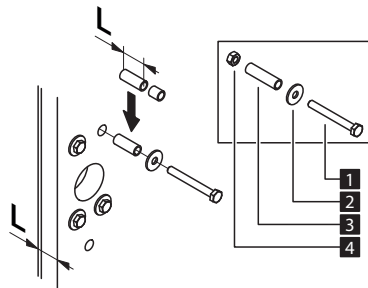
Screws washers and nuts for non insulated ducts
(by client)



	Esco 5	Esco 10	Esco 20
1	M8 x * (Wrench size 13 mm)		
2	ø24/8.4 x 2 mm		
3	M8 x 0.8d		

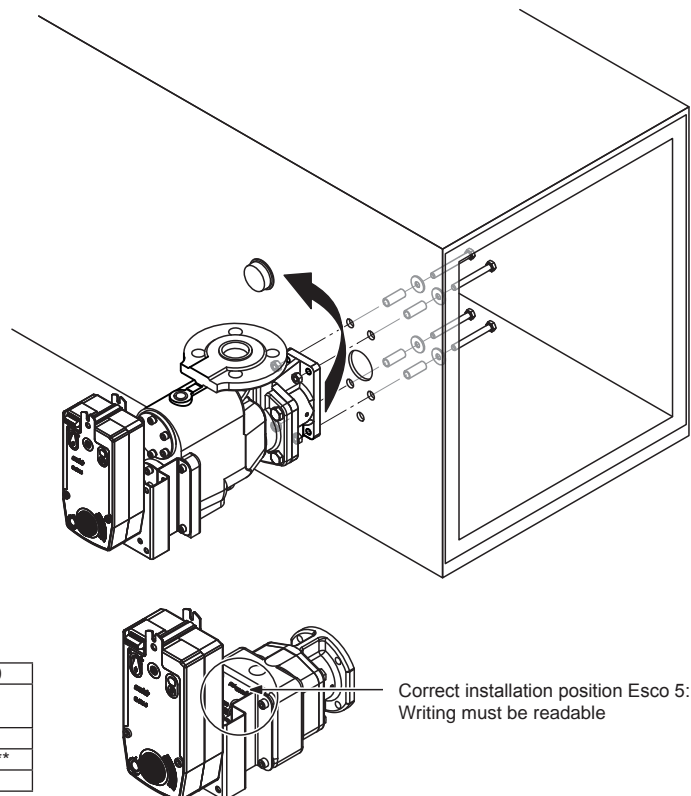
* length as required

Mounting set for insulated ducts



	Esco 5	Esco 10	Esco 20
1	M8 x 70 mm **/ M8 x 100 mm ** Wrench size 13 mm		
2	ø24/8.4 x 2 mm		
3	ø12/8.5 x 45 mm **/ ø12/8.5 x 100 mm **		
4	M8 x 0.8d		

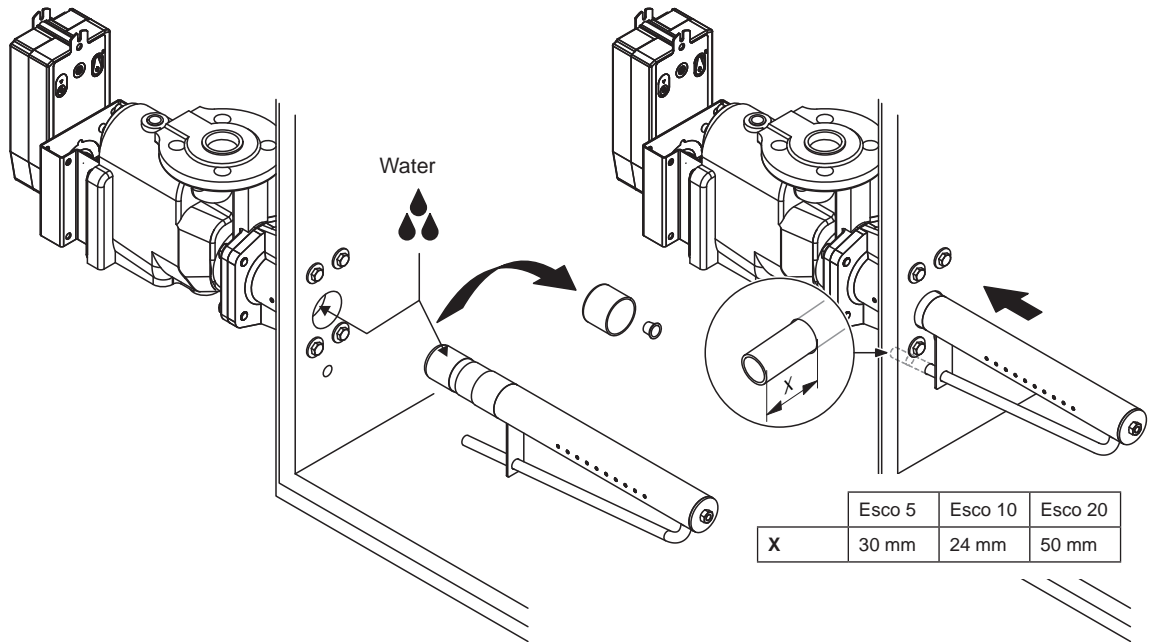
** as ordered



3. Mounting the steam pipe.

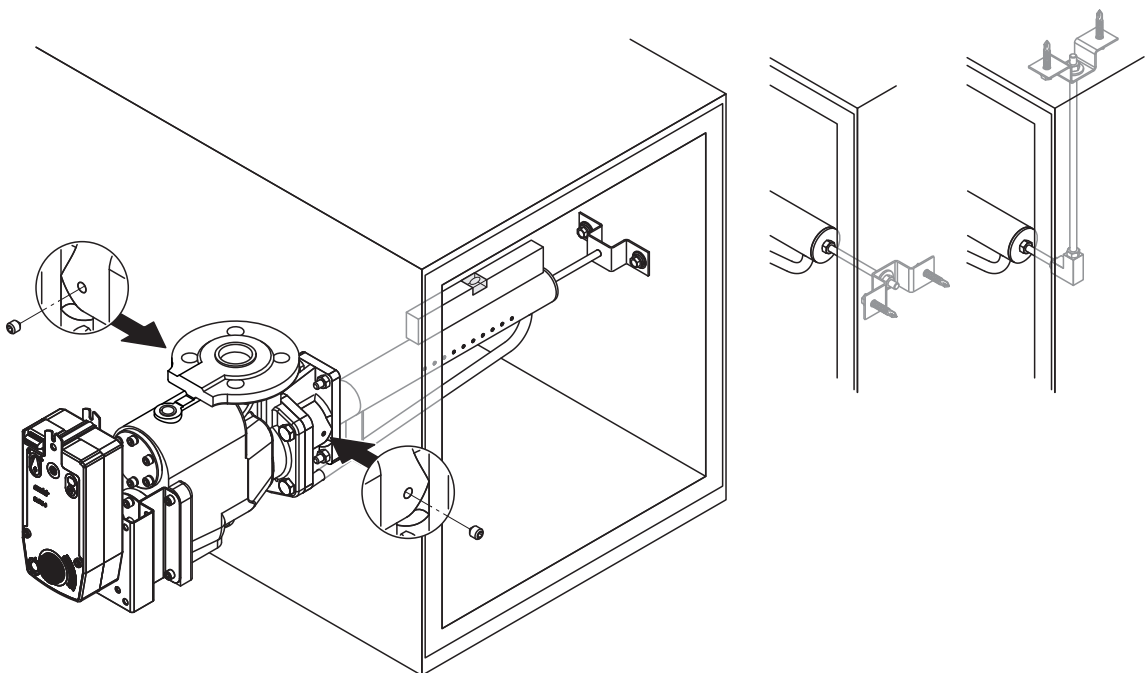
- Remove protective caps from the steam pipe.
- From the inside of the duct push the steam pipe into the valve unit until it comes to a stop (the resistance of the O-ring inside the valve unit must be overcome). The steam pipe is installed correctly, if the secondary condensate drain pipe pokes X mm out of the duct (see illustration and table below).

Note: To improve gliding ability moisten the end of the steam pipe and the O-ring inside the valve unit with water (do not use oil or grease!).

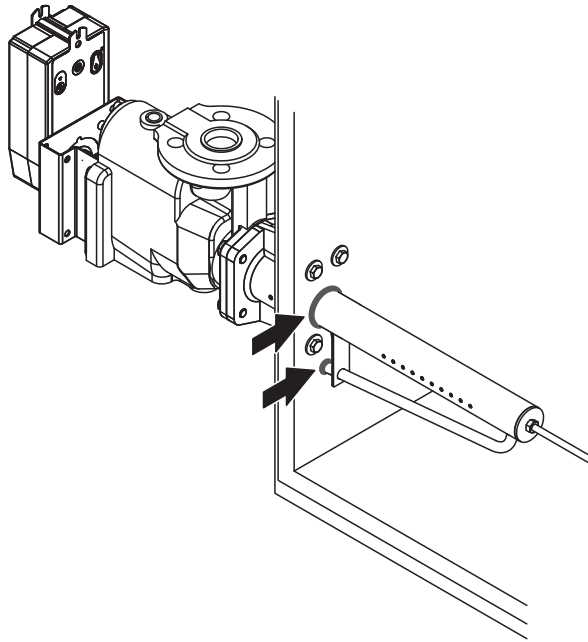


4. Fix steam pipe.

- Horizontally align steam pipe using a spirit level, then fix the end of the steam pipe to the duct wall or the duct ceiling (by client).
- Screw M5x6 grub screws (allen key 2.5 mm) provided on both sides into the valve unit, until they touch the steam pipe.



5. Seal the bores inside the duct with silicone-free sealant.

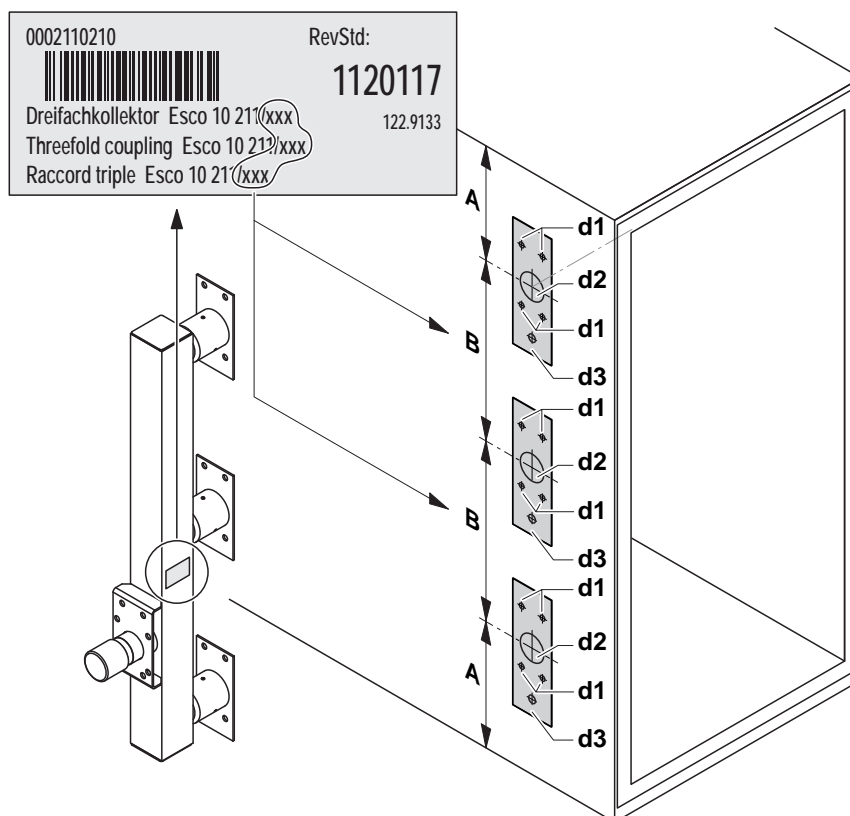
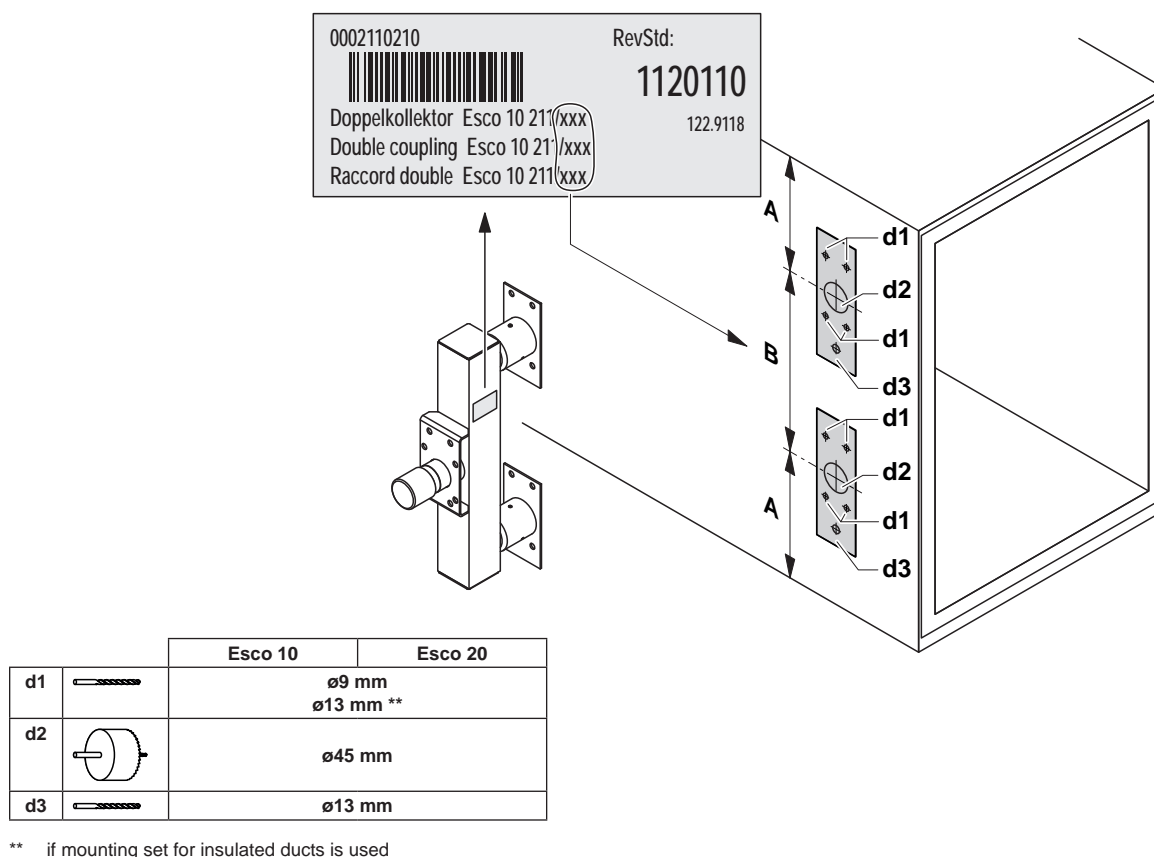


6. Connecting the steam supply line (see chapter 5.1).
7. Mounting the secondary condensate drain (see chapter 5.2).
8. Mounting the primary condensate drain (see chapter 5.3).
9. Mounting the manometer (see chapter 5.4).

2.2.2 Mounting the Esco DL40 with two/three steam pipes

1. Fix drilling template supplied (self-adhesive), then drill holes.

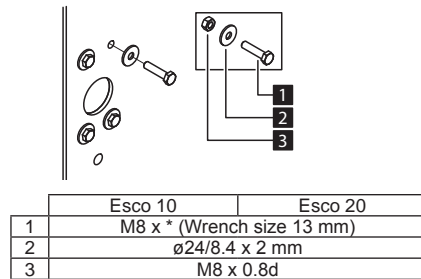
Note: exclusively use the drilling template in the plastic bag attached to the collector pipe.



2. Mount collector pipe.

- Remove protective plugs from the steam connectors of the collector pipe.
- This step must be carried out only if mounting set for insulated ducts is used: Cut length of the supporting tubes to duct wall thickness “L”, then insert the tubes into the fixing holes.
- Fix collector pipe to the duct as shown below using the screws, washers and nuts. Before tightening, centrally align the bores of the duct and the collector pipe.

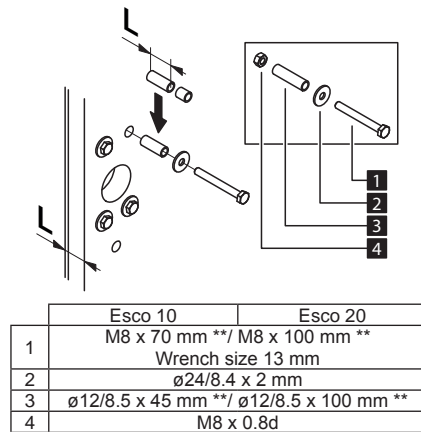
Screws washers and nuts for non insulated ducts (by client)



	Esco 10	Esco 20
1	M8 x * (Wrench size 13 mm)	
2	ø24/8.4 x 2 mm	
3	M8 x 0.8d	

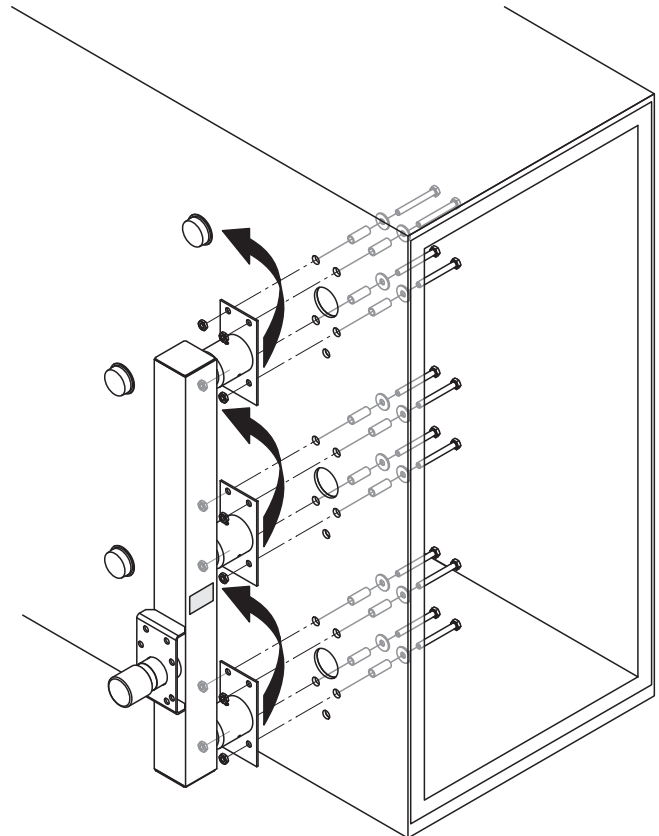
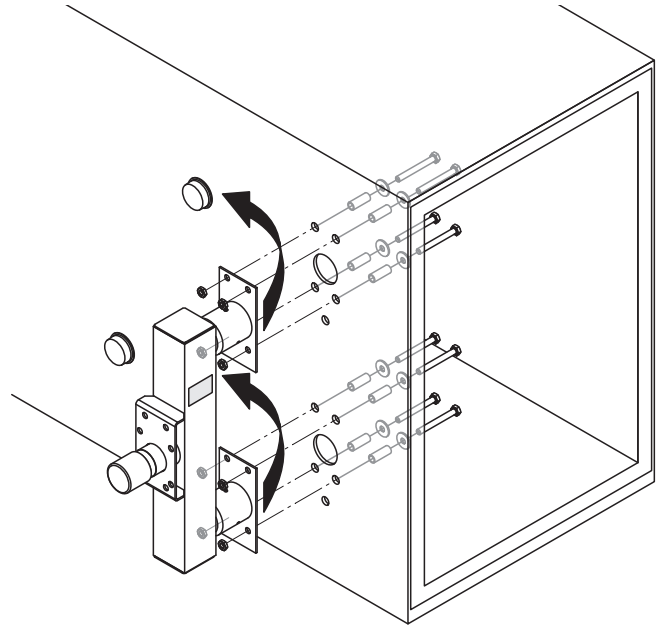
* length as required

Mounting set for insulated ducts



	Esco 10	Esco 20
1	M8 x 70 mm **/ M8 x 100 mm ** Wrench size 13 mm	
2	ø24/8.4 x 2 mm	
3	ø12/8.5 x 45 mm **/ ø12/8.5 x 100 mm **	
4	M8 x 0.8d	

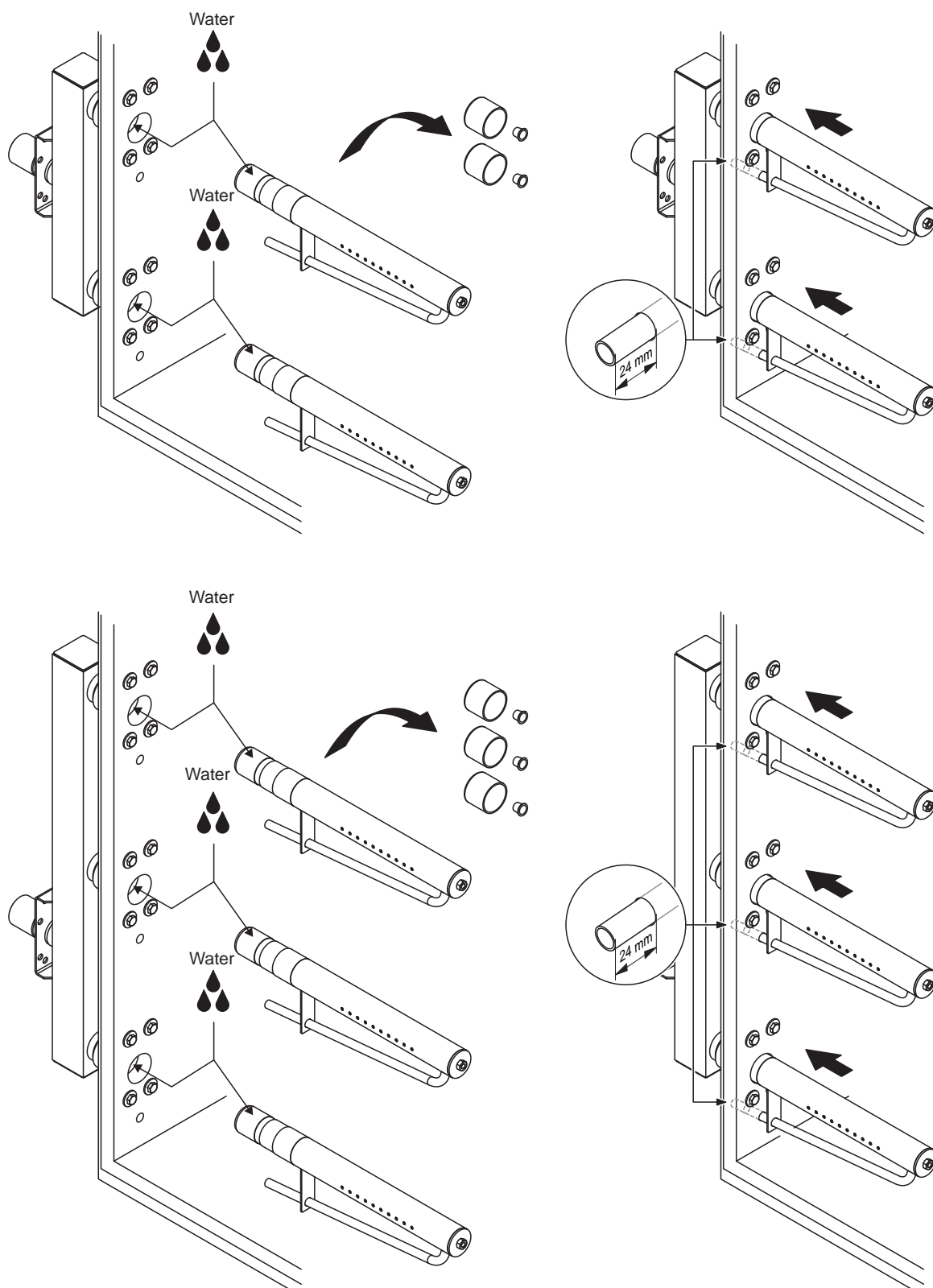
** as ordered



3. Mount steam pipes.

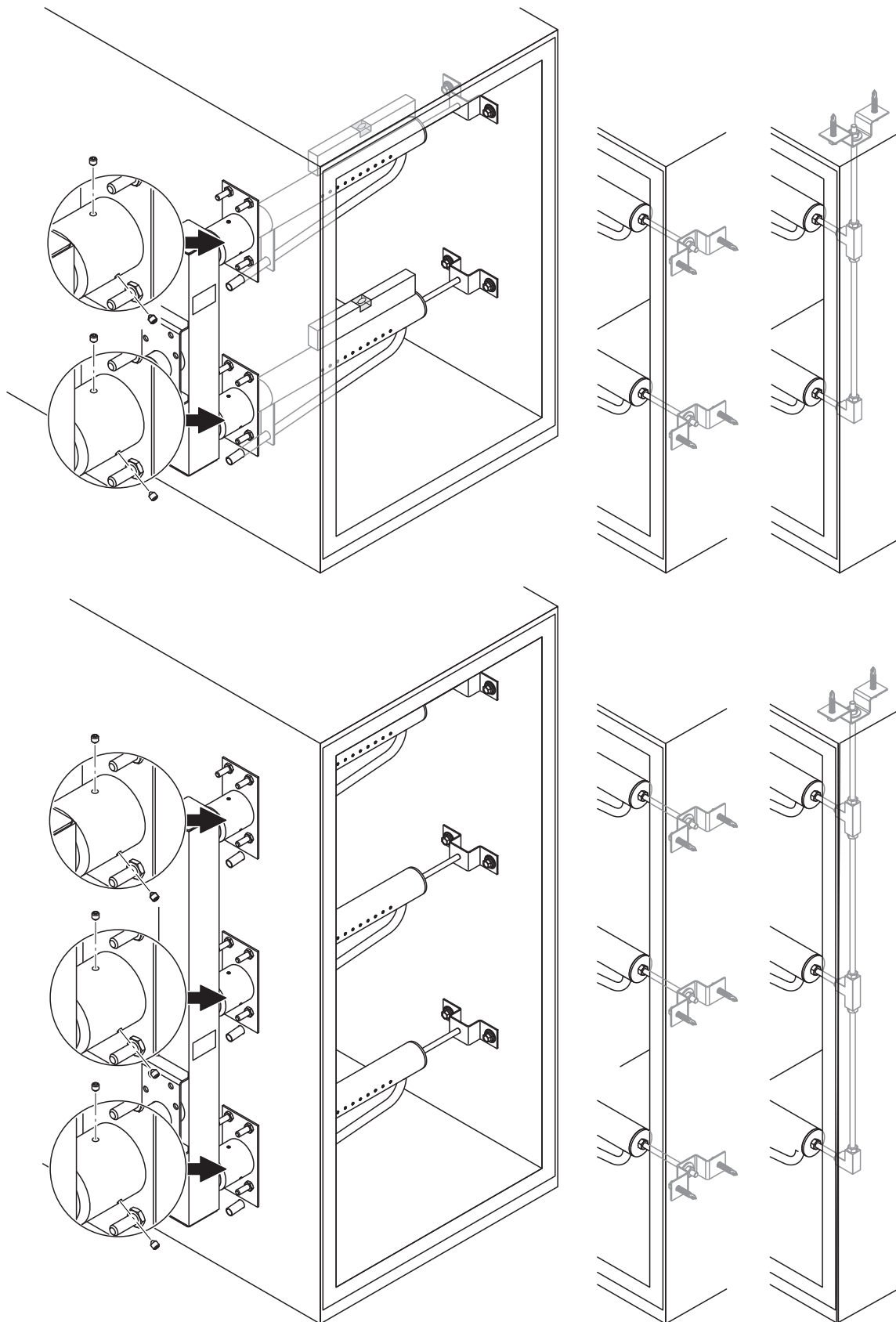
- Remove protective caps from the steam pipes.
- From the inside of the duct push the steam pipes into the connectors of the collector pipe until they come to a stop (the resistance of the O-ring inside the connectors of the collector pipe must be overcome). The steam pipes are installed correctly, if the secondary condensate drain pipe pokes 24 mm out of the duct.

Note: To improve gliding ability moisten the end of the steam pipes and O-rings inside the connectors of the collector pipe with water (do not use oil or grease!).

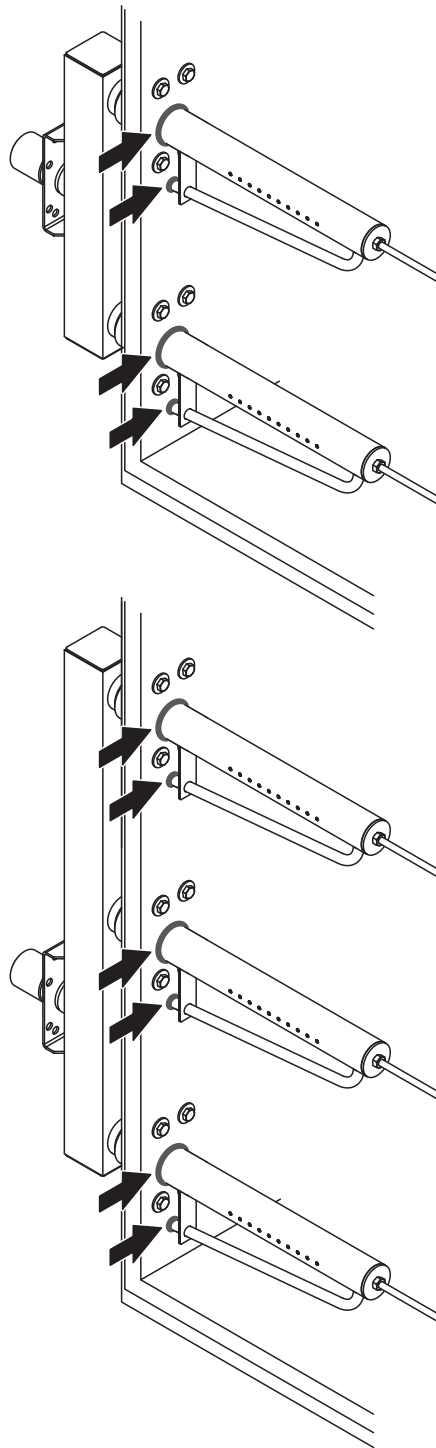


4. Fix steam pipes.

- Horizontally align steam pipes using a spirit level, then fix the ends of the steam pipes to the duct wall or the duct ceiling (by client).
- Screw the M5x6 grub screws (allen key 2.5 mm) provided into the steam pipe connectors of the collector pipe (as shown below), until they touch the steam pipe.



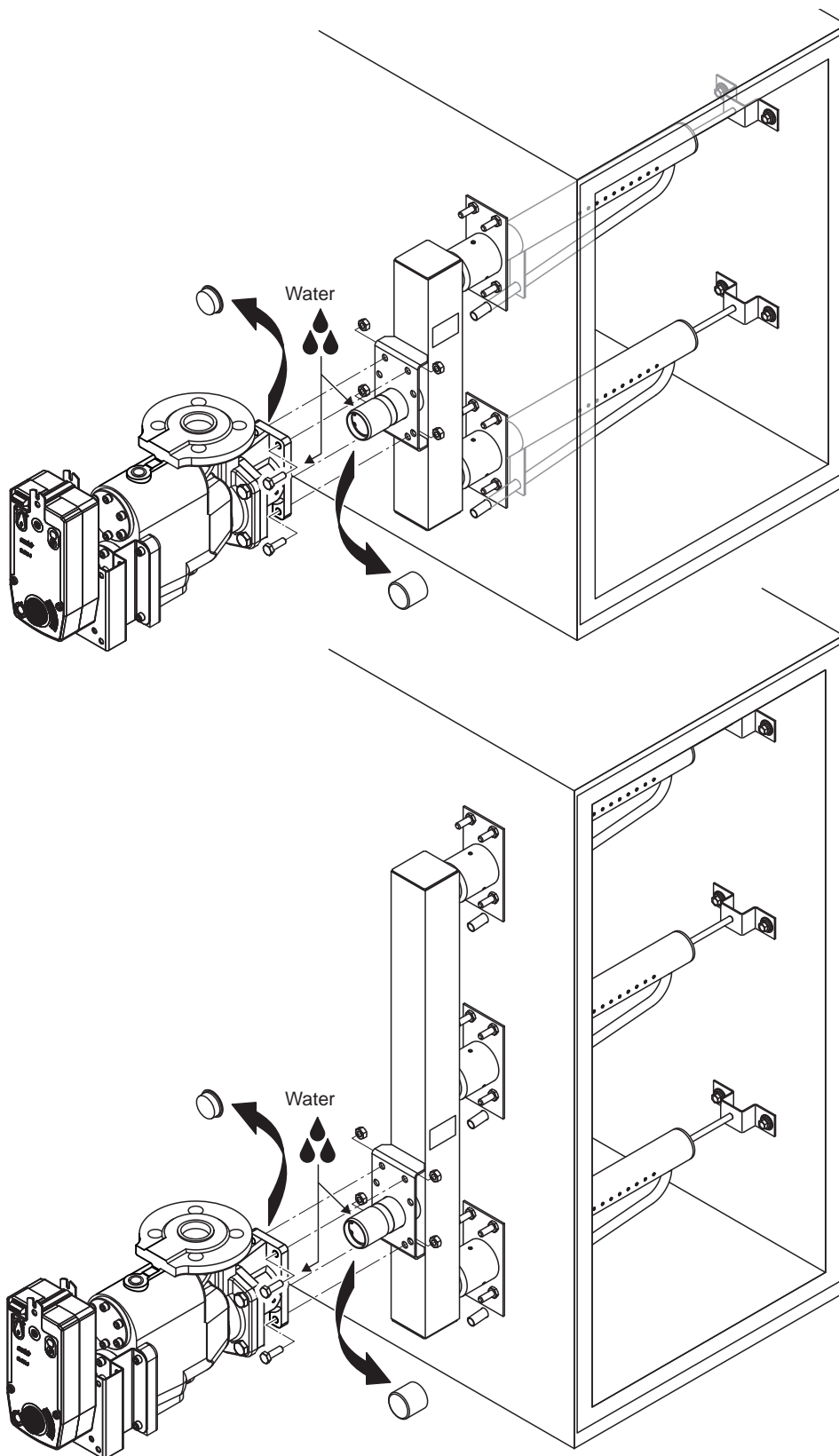
5. Seal the bores inside the duct with silicone-free sealant.



6. Mount valve unit.

- Remove protective cap/plug from the valve unit and the collector pipe.
- Push valve unit onto the connector of the collector pipe until it comes to a stop (the resistance of the O-ring inside the valve unit must be overcome). Then, fix valve unit to the collector pipe as shown below using the screws, washers and nuts (wrench size 13 mm).

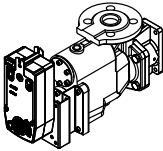
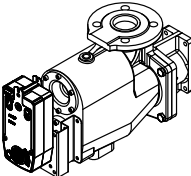
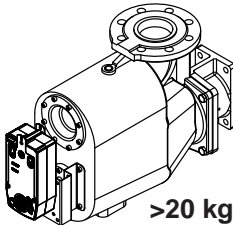
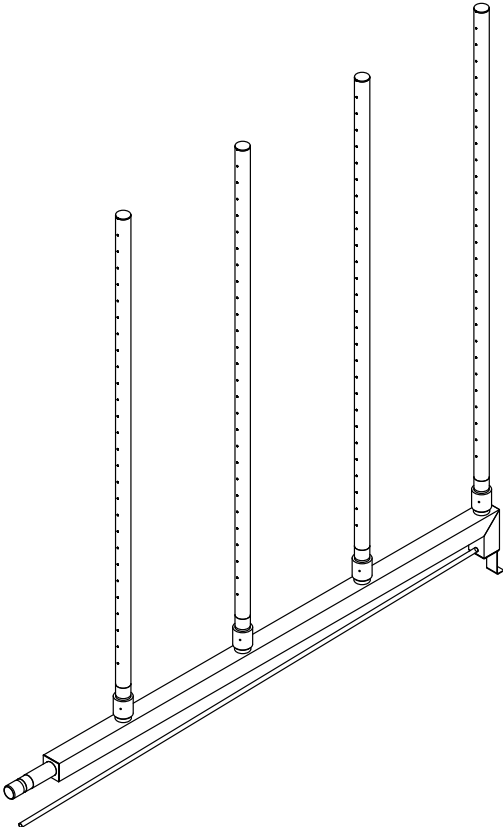















Note: To improve the gliding ability moisten the steam connector of the collector pipe and the O-ring inside the valve unit with water (do not use oil or grease!).

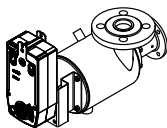
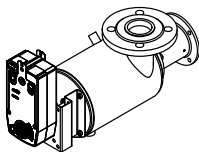
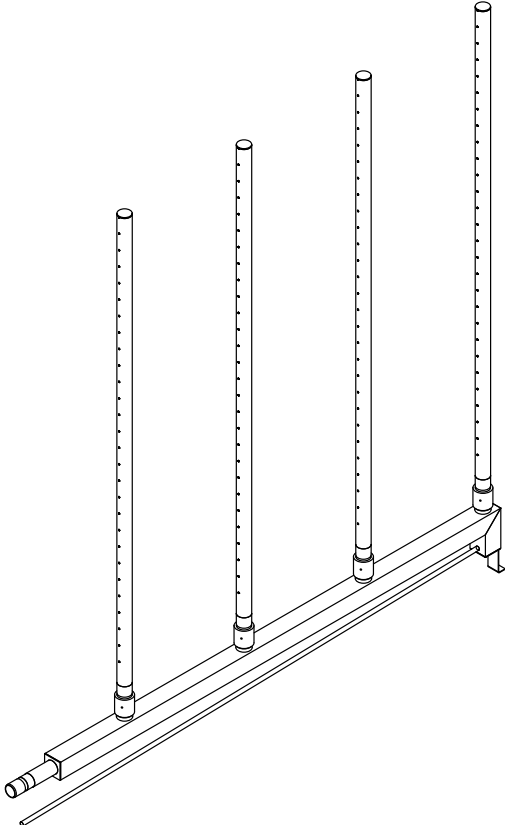












7. Connecting the steam supply line (see chapter 5.1).
8. Mounting the secondary condensate drain (see chapter 5.2).
9. Mounting the primary condensate drain (see chapter 5.3).
10. Mounting the manometer (see chapter 5.4).

3 Esco DR73




3.1 Overview Esco DR73

	Esco 10 cast iron	Esco 20 cast iron	Esco 30 cast iron
		 >20 kg	 >20 kg
DR73 A type DR73 B type			
Primary condensate drain			
Thermostatic steam trap			
Spheric float drain			
Bell-shaped float drain			
Secondary condensate drain			
Thermostatic steam trap			
Manometer			

	<div>Esco 10 stainless steel</div> <div></div>	<div>Esco 20 stainless steel</div> <div></div>
DR73 A type DR73 B type		
Primary condensate drain		
Thermostatic steam trap		
Spheric float drain		
Bell-shaped float drain		
Secondary condensate drain		
Thermostatic steam trap		
Manometer		

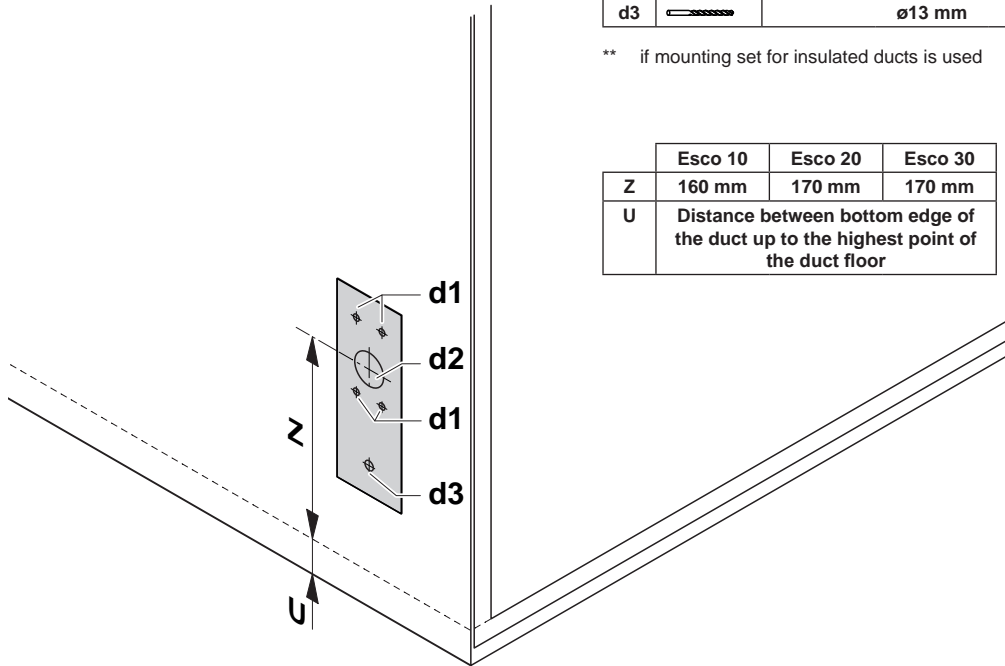
3.2 Mounting the Esco DR73 A type

1. Fix drilling template supplied (self-adhesive), then drill holes.

		Esco 10	Esco 20	Esco 30
d1		ø9 mm ø13 mm **		ø13.5 mm ø17 mm **
d2		ø45 mm	ø65 mm	ø95 mm
d3		ø13 mm		

** if mounting set for insulated ducts is used

	Esco 10	Esco 20	Esco 30
Z	160 mm	170 mm	170 mm
U	Distance between bottom edge of the duct up to the highest point of the duct floor		

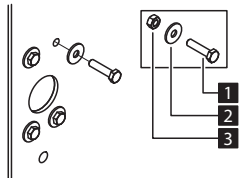


2. Mount valve unit.

Important: if the collector pipe is mounted before the valve unit, steps 3 to 6 must be done first.

- Remove protective plug from the steam pipe connector of the valve unit.
- This step must be carried out only if mounting set for insulated ducts is used: Cut length of the supporting tubes to duct wall thickness “L”, then insert the tubes into the fixing holes.
- Fix valve unit to the duct as shown below using the screws, washers and nuts. Before tightening, centrally align the bores of the duct and the valve unit.

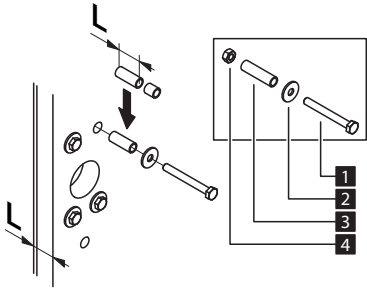
Screws washers and nuts for non insulated ducts
(by client)



	Esco 10	Esco 20	Esco 30
1	M8 x *	M12 x *	M12 x *
	Wrench size 13 mm	Wrench size 19 mm	Wrench size 19 mm
2	ø24/8.4 x 2 mm	ø37/13 x 3 mm	ø37/13 x 3 mm
3	M8 x 0.8d	M12 x 0.8d	M12 x 0.8d

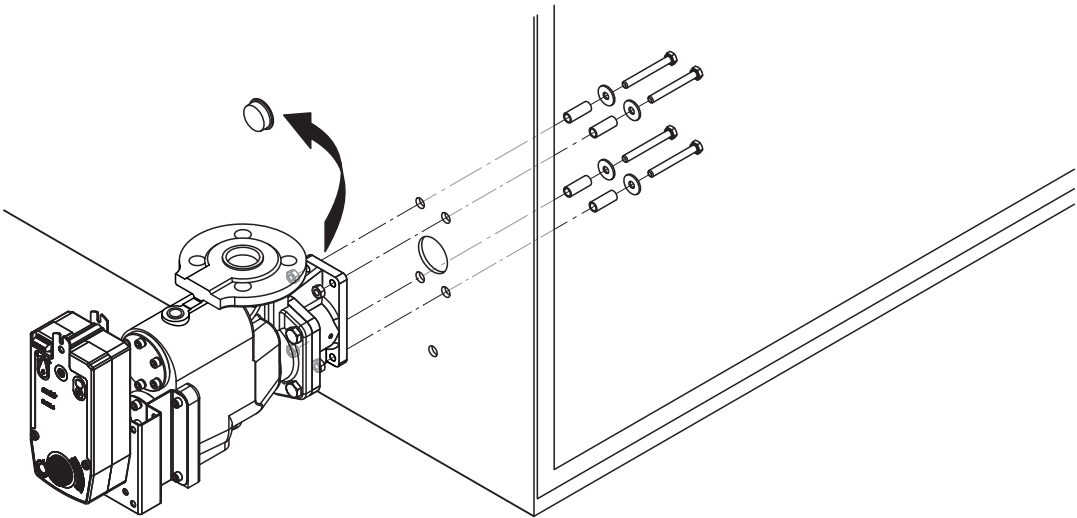
* length as required

Mounting set for insulated ducts



	Esco 10	Esco 20	Esco 30
1	M8 x 70 mm **	M12 x 70 mm **	M12 x 70 mm **
	M8 x 100 mm **	M12 x 100 mm **	M12 x 100 mm **
	Wrench size 13 mm	Wrench size 19 mm	Wrench size 19 mm
2	ø24/8.4 x 2 mm	ø37/13 x 3 mm	ø37/13 x 3 mm
3	ø12/8.5 x 45 mm **	ø16/13 x 45 mm **	ø16/13 x 45 mm **
	ø12/8.5 x 100 mm **	ø16/13 x 70 mm **	ø16/13 x 70 mm **
4	M8 x 0.8d	M12 x 0.8d	M12 x 0.8d

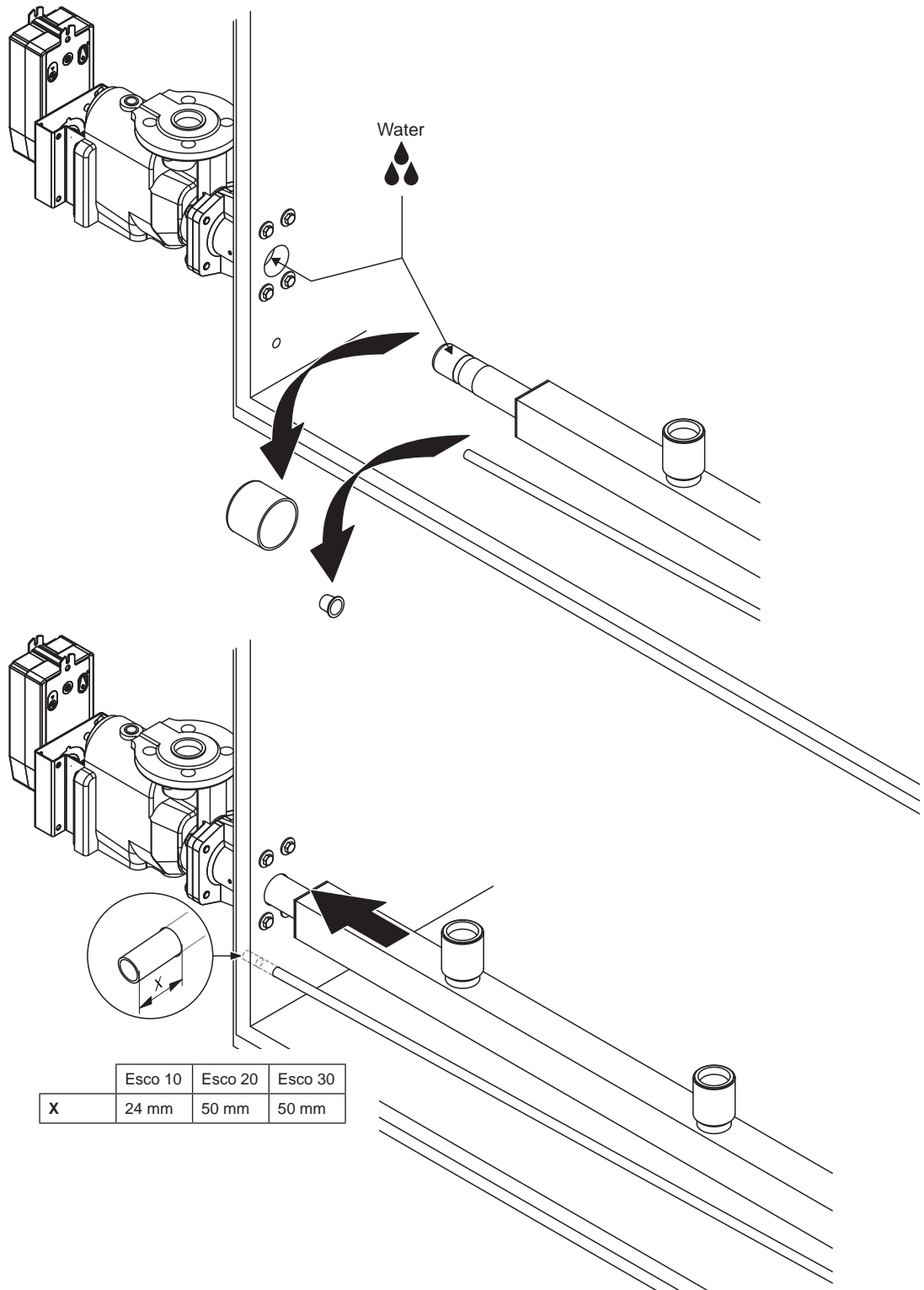
** as ordered



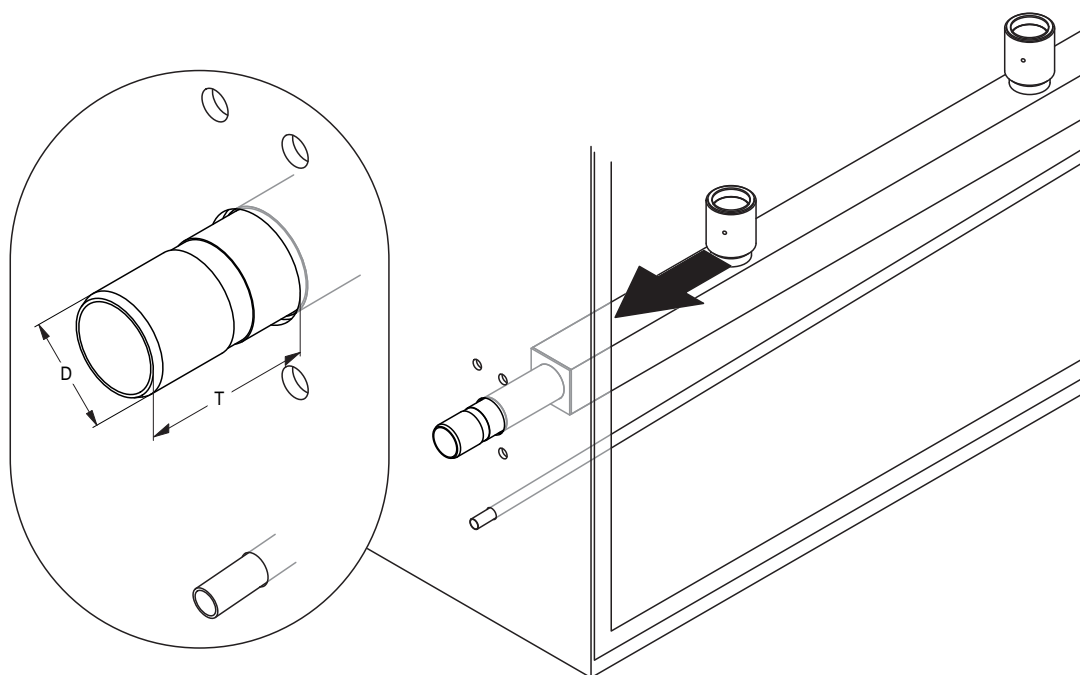
3. Mount collector pipe.

- Remove protective caps from the collector pipe.
- If the valve unit is already mounted: from the inside of the duct push the collector pipe into the valve unit until it comes to a stop (the resistance of the O-ring inside the valve unit must be overcome). The collector pipe is installed correctly, if the secondary condensate drain pipe pokes X mm out of the duct (see illustration and table below).

Note: To improve gliding ability moisten the end of the collector pipe and the O-ring inside the valve unit with water (do not use oil or grease!).



- If the valve unit is not mounted yet: from the inside of the duct push the collector pipe and the secondary condensate drain pipe through the corresponding bores in the duct wall until the end of the collector pipe pokes **exactly T mm** out of the duct (see table below).

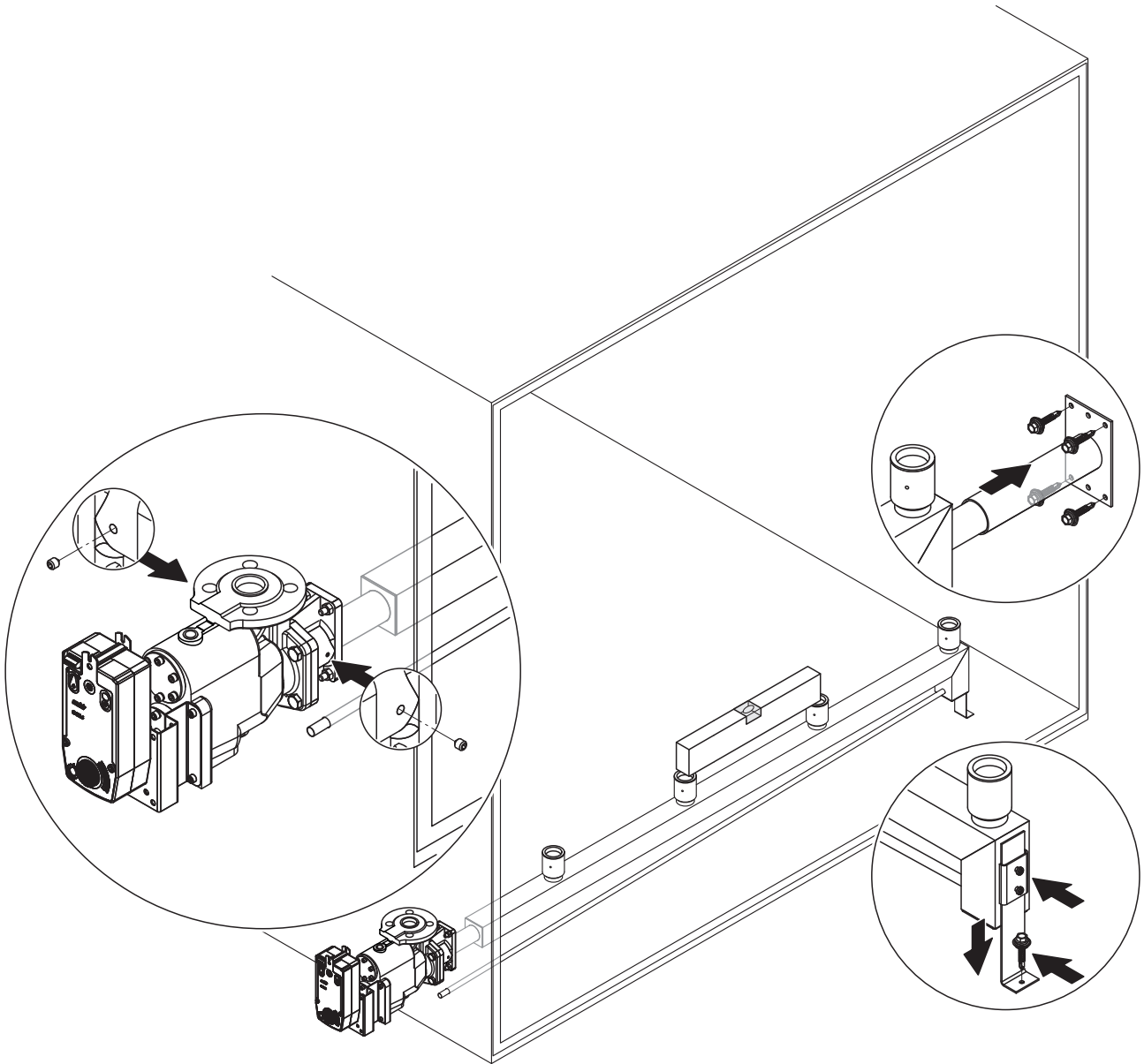


	Esco 10	Esco 20	Esco 30
D	41.0 mm	59.5 mm	88.0 mm
T	69 mm	95 mm	95 mm

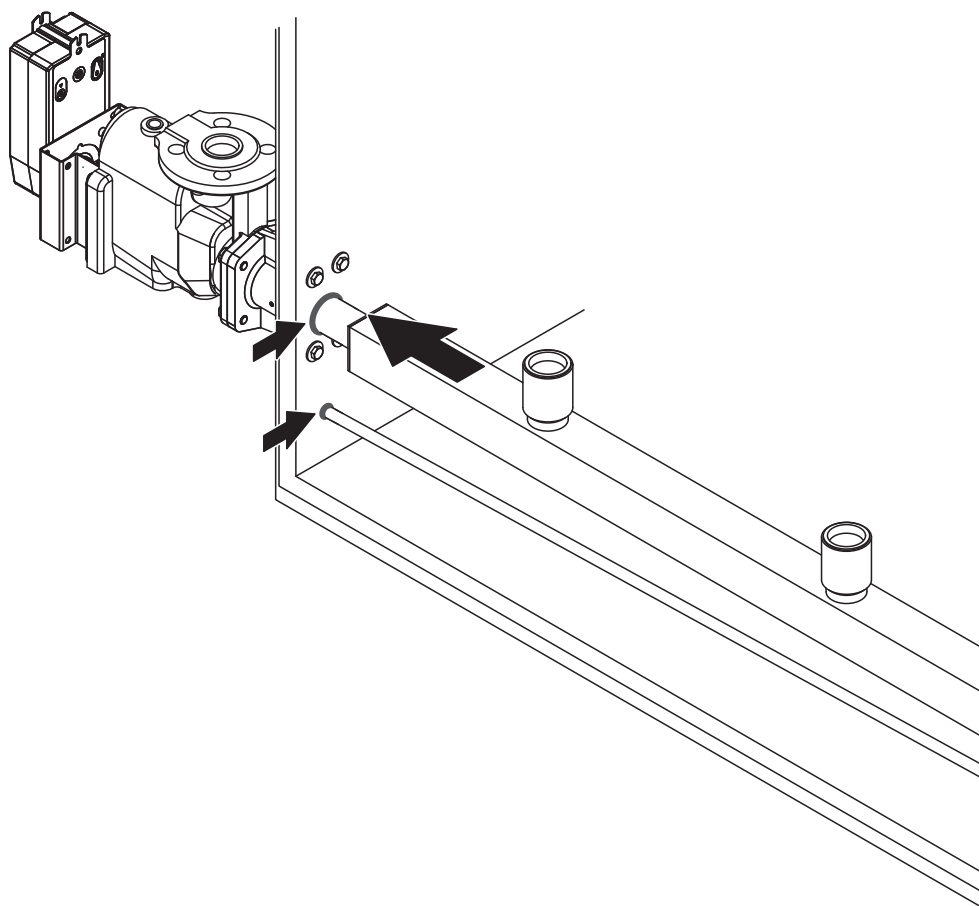
4. Fix collector pipe.

Important: if the valve unit is not mounted yet, make sure the end of the collector pipe pokes **exactly T mm** out of the duct (see table in step 3) before fixing the collector pipe.

- Horizontally align collector pipe using a spirit level, then fix the end of the collector pipe with the bracket supplied to the duct floor or with the optional wall support to the duct wall.
- Screw M5x6 grub screws (allen key 2.5 mm) provided on both sides into the valve unit, until they touch the steam pipe.

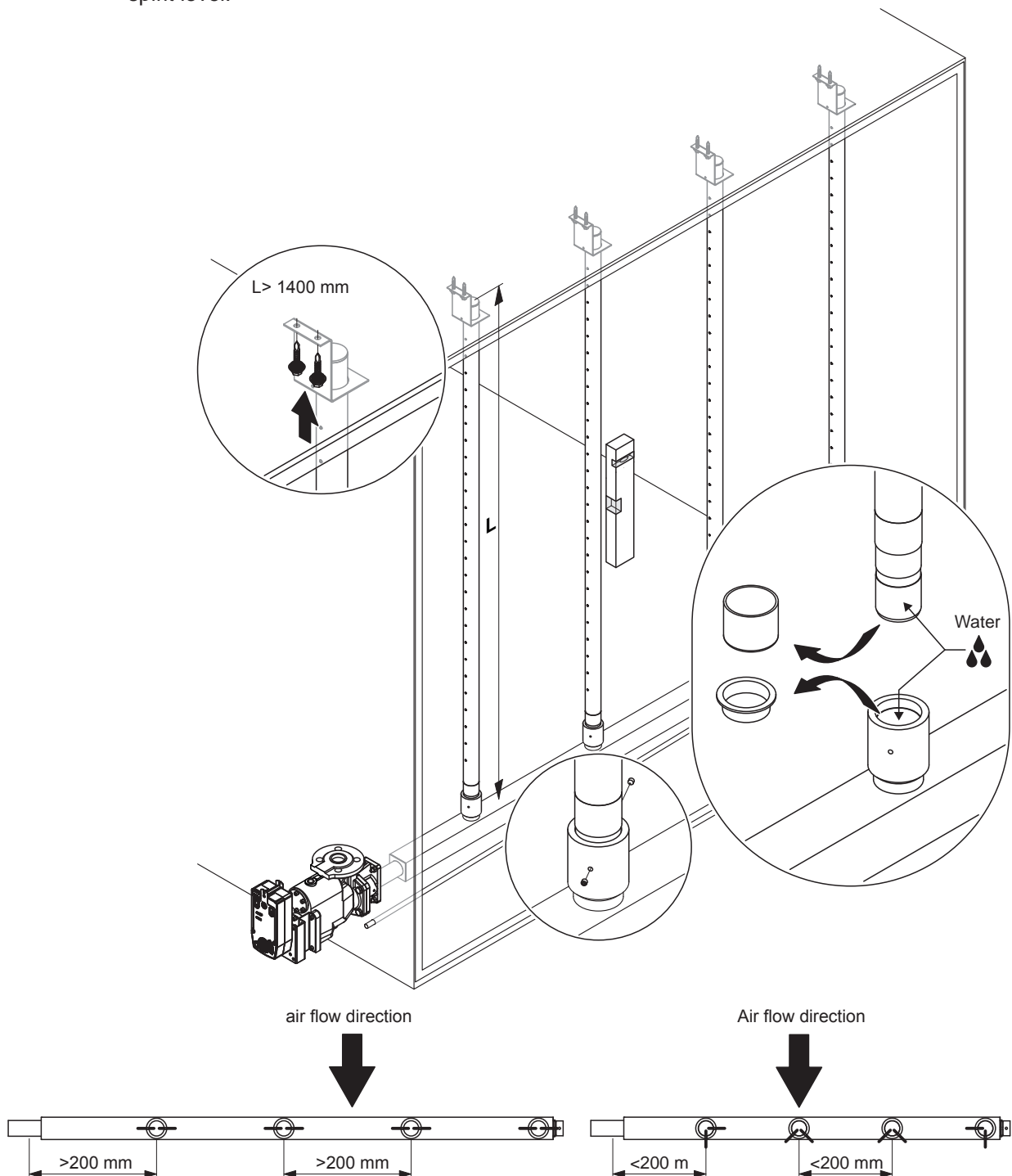


5. Seal the bores inside the duct with silicone-free sealant.



6. Mount vertical steam distribution pipes.

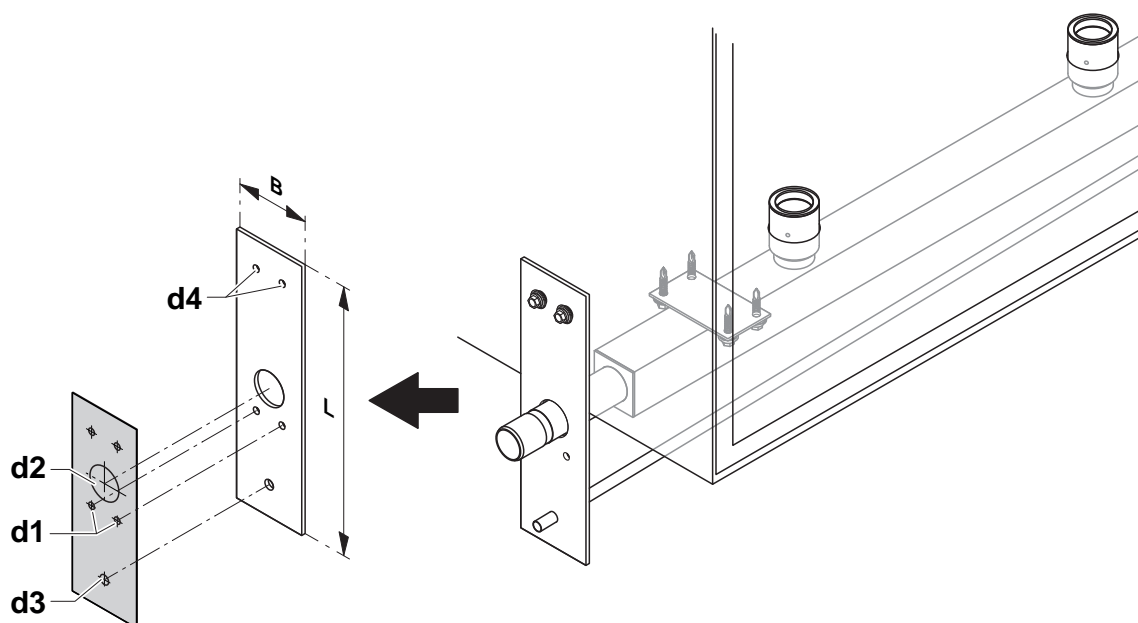
- Remove protective plugs from the sockets of the collector pipe.
- Push vertical steam distribution pipes into the sockets of the collector pipe until they come to a stop (the resistance of the O-rings inside the sockets must be overcome). Then, align nozzle apertures to the air flow according to drawing below.
Note: To improve the gliding ability moisten the end of the vertical steam pipes and the O-rings inside the collector sockets with water (do not use oil or grease!).
- Screw the M5x6 grub screws (allen key 2.5 mm) provided into the sockets (as shown below), until they touch the vertical steam distribution pipes.
- Vertical steam distribution pipes with a length >1400 mm must be fixed to the duct ceiling using the brackets supplied. Before tightening the brackets vertically align steam pipes using a spirit level.




7. Connecting the steam supply line (see chapter 5.1).
8. Mounting the secondary condensate drain (see chapter 5.2).
9. Mounting the primary condensate drain (see chapter 5.3).
10. Mounting the manometer (see chapter 5.4).

3.3 Mounting the Esco DR73 B type

1. Fabricate collector supporting sheet (by client).
 - Cut collector supporting sheet (L= as required, B= 20 mm more than flange width or flange outer diameter of the valve unit used)
 - Mark holes on the collector supporting sheet using the template supplied, then drill holes.
 - Holes “d4” must not be drilled until the collector supporting sheet is fixed to the duct.



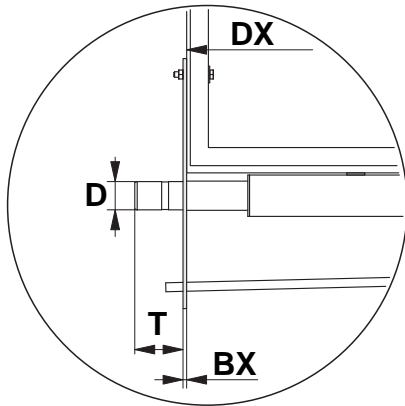
		Esco 10	Esco 20	Esco 30
d1		ø9 mm		ø13.5 mm
d2		ø45 mm	ø65 mm	ø95 mm
d3		ø13 mm		

2. Mark holes on the duct floor, then drill holes.

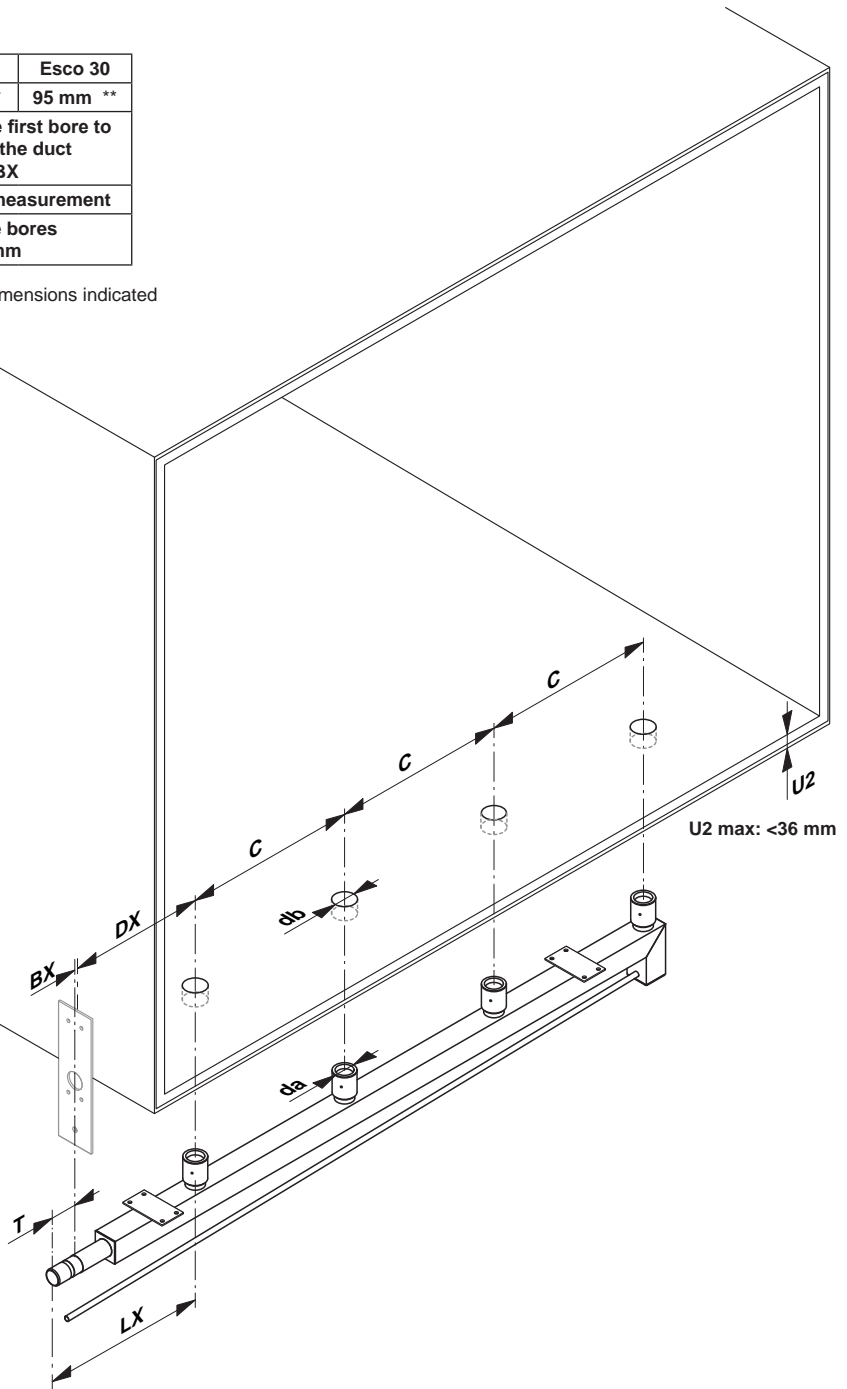
- Measure dimensions “LX” , “C” , “da” and “BX” (thickness of the collector supporting sheet).
- Mark holes according to the illustration below, then drill holes.

	Esco 10	Esco 20	Esco 30
T	69 mm **	95 mm **	95 mm **
DX	Distance between the first bore to the outer wall of the duct $DX = LX - T - BX$		
C	Distance according measurement		
db	Diameter of the bores $db = da + 2 \text{ mm}$		

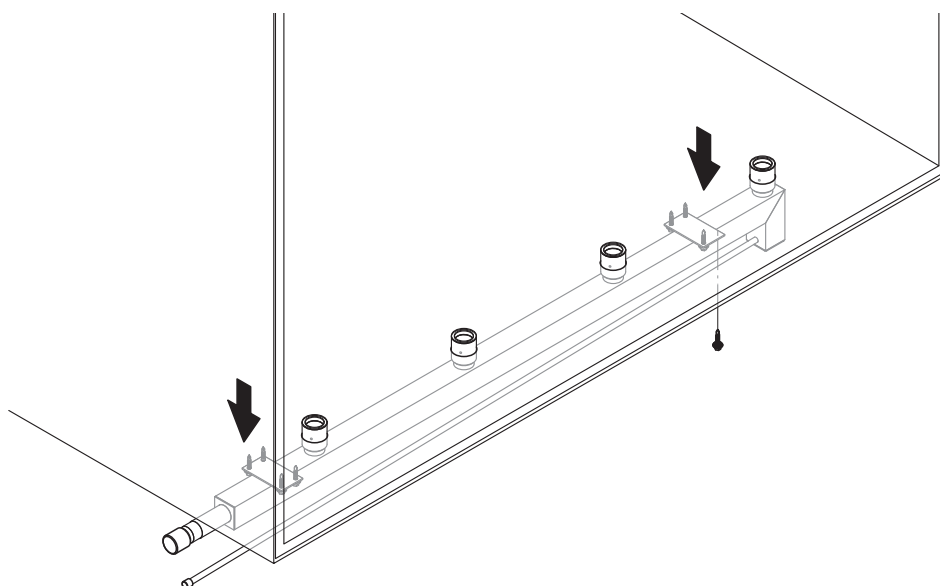
** imperatively observe the dimensions indicated



	Esco 10	Esco 20	Esco 30
D	41.0 mm	59.5 mm	88.0 mm
T	69 mm	95 mm	95 mm



3. Fix collector pipe to the duct floor using self-tapping screws.



Caution! Until the definite supports are installed (step 4) the collector pipe must be secured with auxiliary supports against falling down.

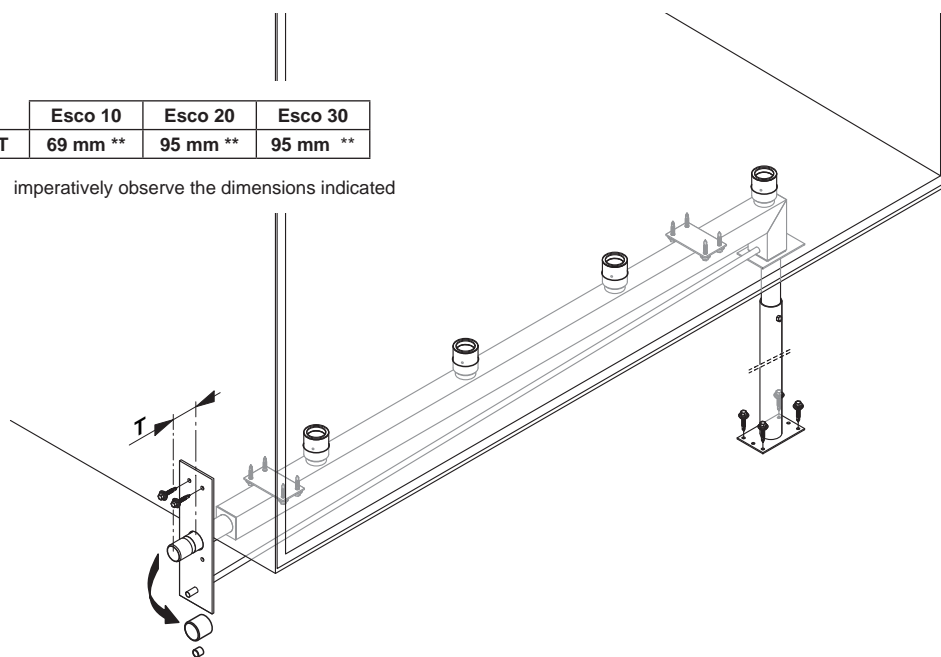
4. Mount supports.

- Remove protective plugs from the steam pipe connector and the condensate pipe connector.
- Slide supporting sheet onto the collector pipe and fix it to the duct wall using two self-tapping screws (check dimension "T").
- Fabricate a support in order to support the angled end of the collector pipe (by client), then mount the support.

Note: for collector pipes with more than 10 vertical steam distribution pipes an additional support must be mounted in the middle of the collector pipe.

	Esco 10	Esco 20	Esco 30
T	69 mm **	95 mm **	95 mm **

** imperatively observe the dimensions indicated

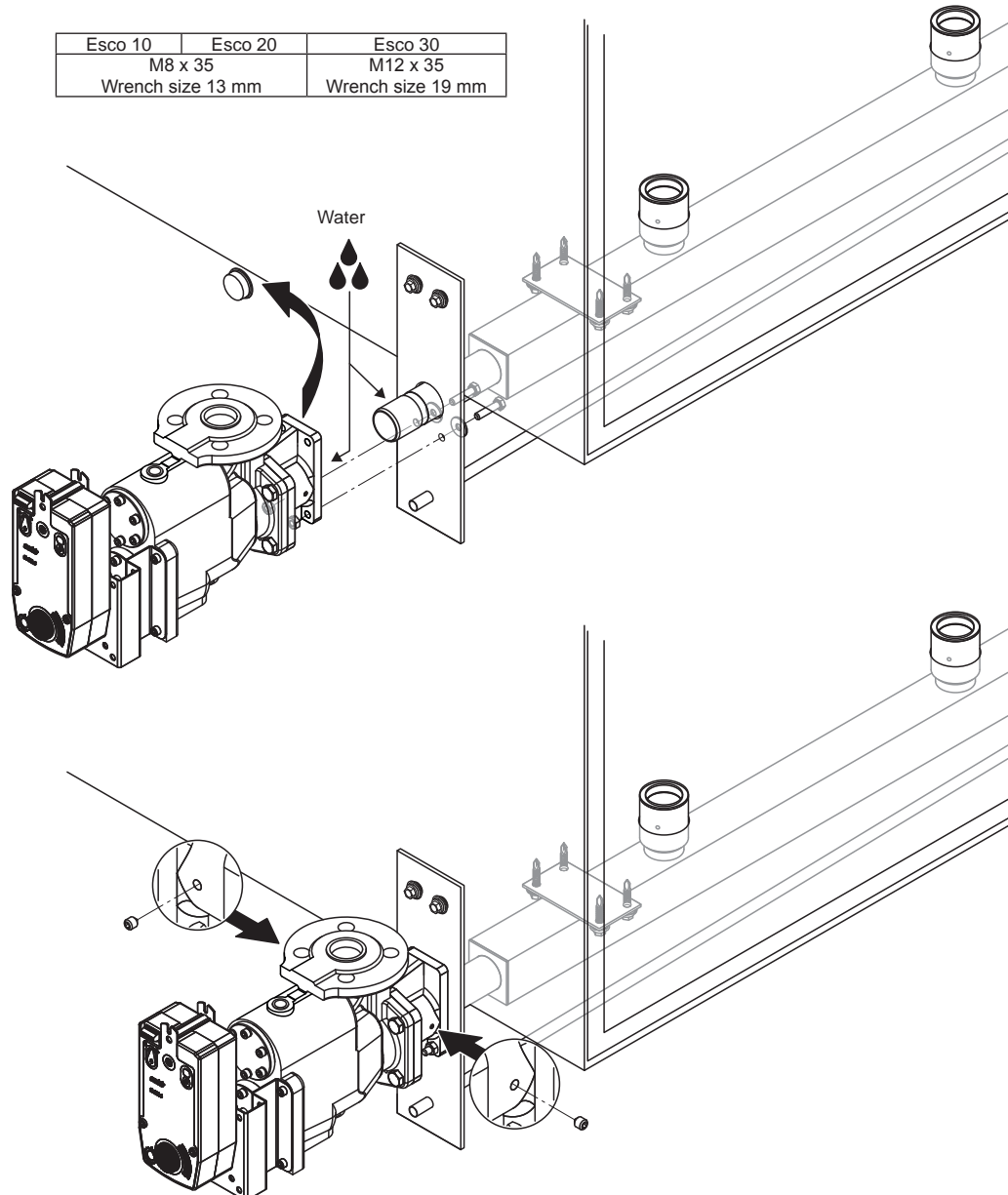


5. Mount valve unit.

- Remove protective plug from the valve unit.
- Push valve unit onto the steam pipe until it comes to a stop (the resistance of the O-ring inside the valve unit must be overcome). Then, fix valve unit to the supporting sheet as shown below using two screws, washers and nuts each.

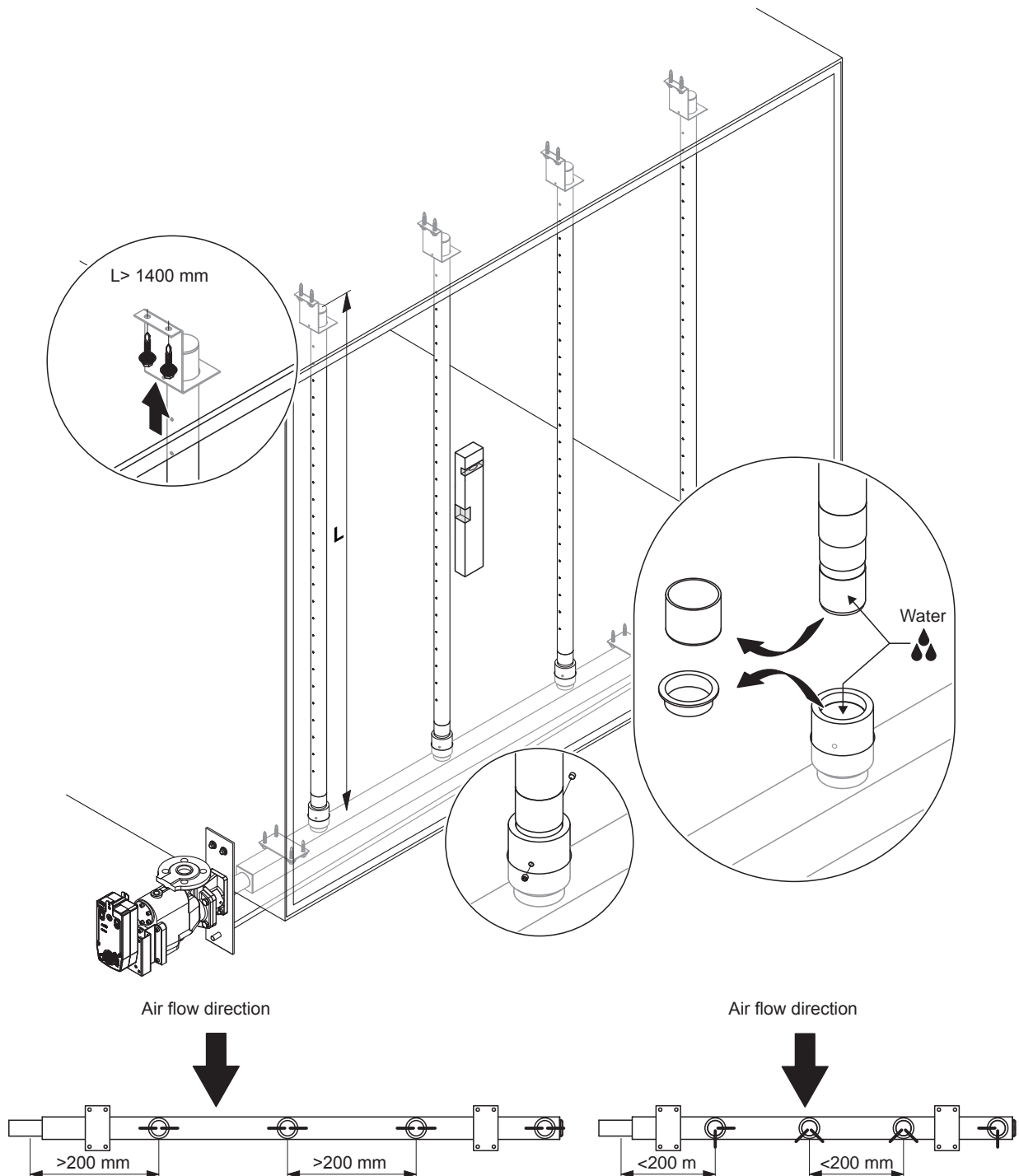
Note: To improve the gliding ability moisten the steam connector of the collector pipe and the O-ring inside the valve unit with water (do not use oil or grease!).

- Screw the M5x6 grub screws (allen key 2.5 mm) provided on both sides into the valve unit (as shown below), until they touch the steam pipe.



6. Mount vertical steam distribution pipes.

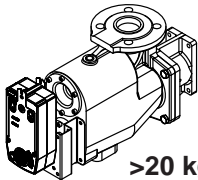
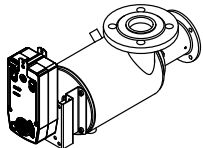
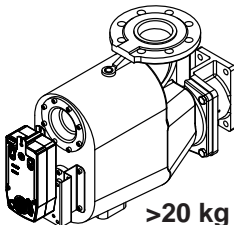
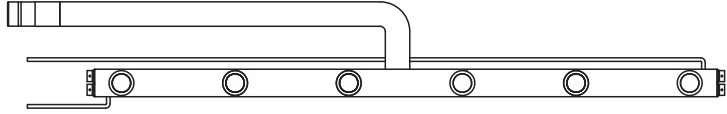
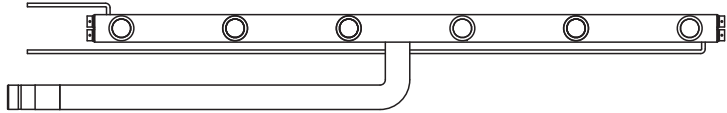
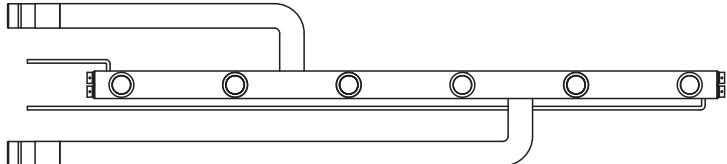
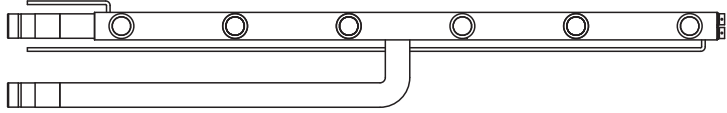
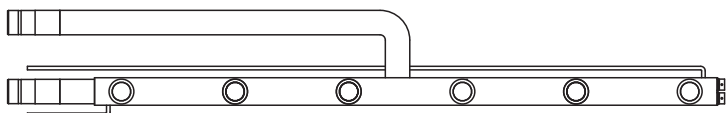












- Remove protective plugs from the sockets of the collector pipe.
- Push vertical steam distribution pipes into the sockets of the collector pipe until they come to a stop (the resistance of the O-rings inside the sockets must be overcome). Then, align nozzle apertures to the air flow according to drawing below.
Note: To improve the gliding ability moisten the end of the vertical steam pipes and the O-rings inside the collector sockets with water (do not use oil or grease!).
- Screw the M5x6 grub screws (allen key 2.5 mm) provided into the sockets (as shown below), until they touch the vertical steam distribution pipes.
- Vertical steam distribution pipes with a length >1400 mm must be fixed to the duct ceiling using the brackets supplied. Before tightening the brackets vertically align steam pipes using a spirit level.



7. Connecting the steam supply line (see chapter 5.1).
8. Mounting the secondary condensate drain (see chapter 5.2).
9. Mounting the primary condensate drain (see chapter 5.3).
10. Mounting the manometer (see chapter 5.4).

4 Esco DR73 J

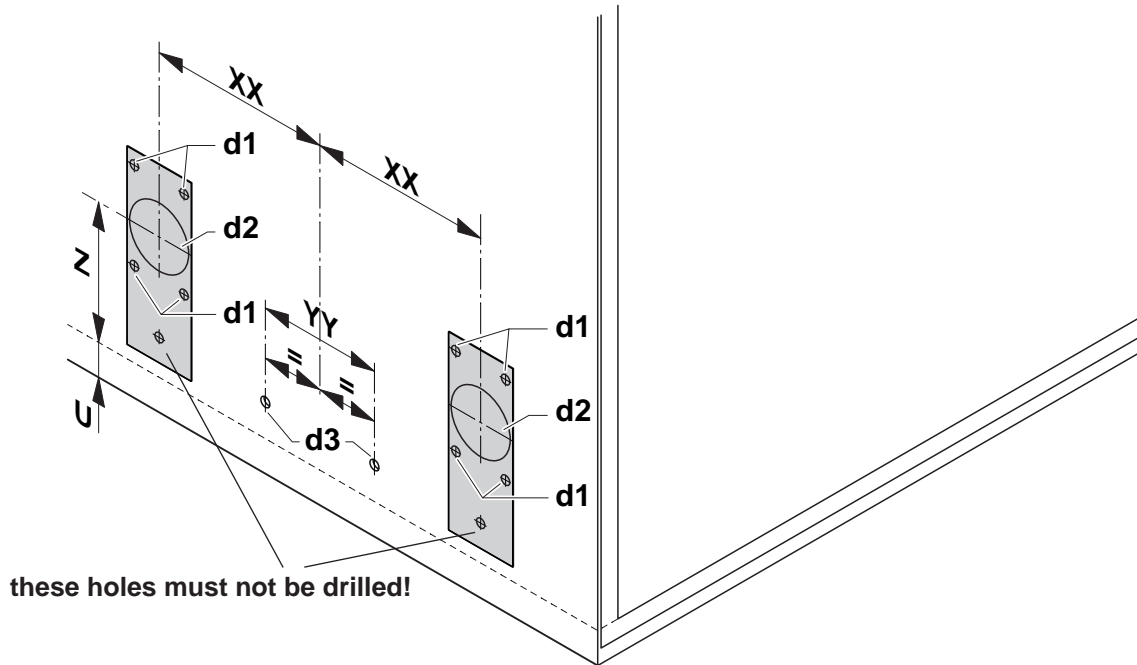
4.1 Overview Esco DR73 J




	Esco 20 cast iron	Esco 20 stainless steel	Esco 30 cast iron
	 >20 kg		 >20 kg
DR73 JA Left			
DR73 JA Right			
DR73 J2A Left Right			
DR73 J2A Right Middle			
DR73 J2A Left Middle			
Primary condensate drain			
Spheric float drain			
Bell-shaped float drain			
Secondary condensate drain			
Thermostatic steam trap			
Manometer			

4.2 Mounting the Esco DR73 J (Jumbo)

1. Fix drilling template supplied (self-adhesive), then drill holes (illustration below shows DR73 J2A Left Right).

Note: Dimensions for the placement of the drilling templates see following hole pattern.



		Esco 20	Esco 30
d1		ø9 mm ø13 mm **	ø13.5 mm ø17 mm **
d2		ø65 mm	ø95 mm
d3		ø13 mm	

** if mounting set for insulated ducts is used

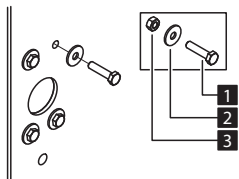
Hole pattern DR73 J2A Left Middle (dimensions in mm)

2. Mount valve unit.

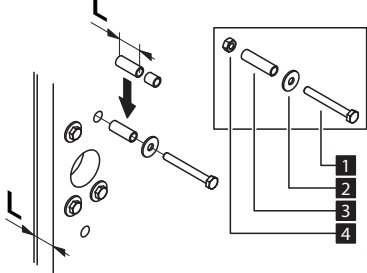
Important: if the collector pipe is mounted before the valve unit(s) is(are) fixed, steps 3 to 6 must be done first.

- Remove protective plug from the connector flange(s) of the valve unit(s).
- This step must be carried out only if mounting set for insulated ducts is used: Cut length of the supporting tubes to duct wall thickness “L”, then insert the tubes into the fixing holes.
- Fix valve unit(s) to the duct as shown below using the screws, washers and nuts. Before tightening, centrally align the bores of the duct and the valve unit.

Screws washers and nuts for non insulated ducts



Mounting set for insulated ducts



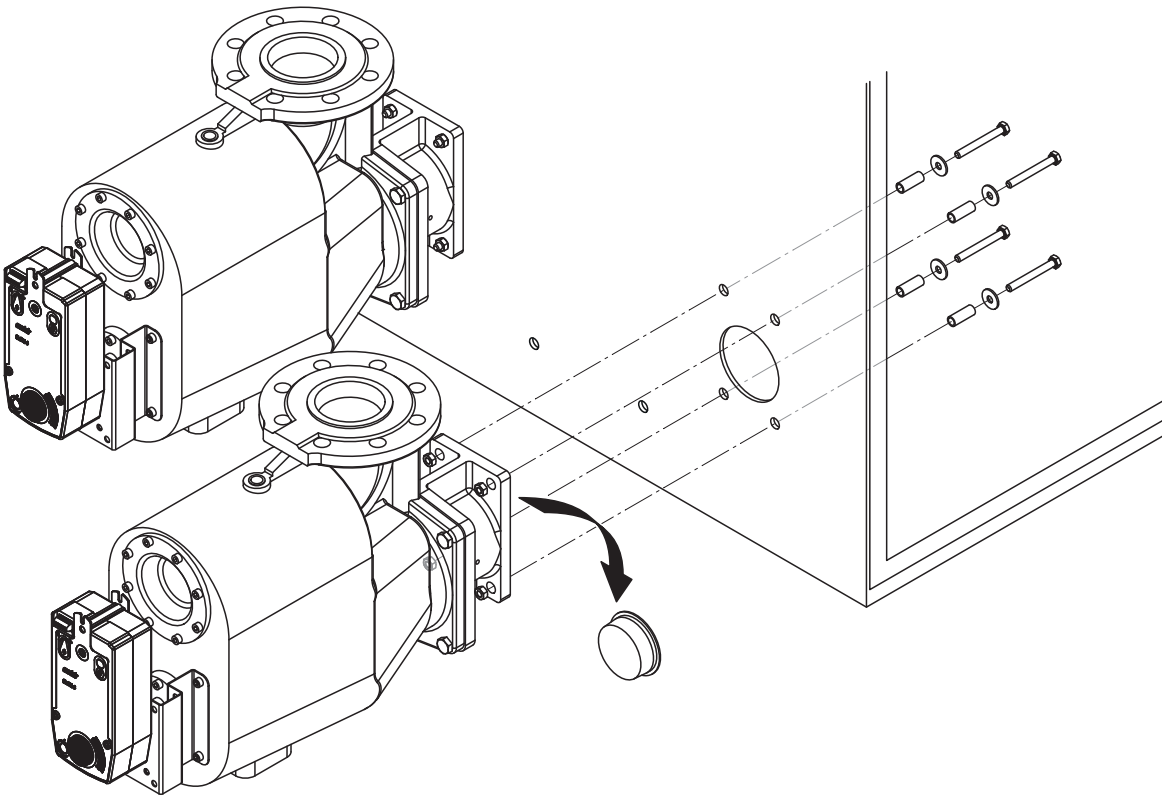
(by client)

	Esco 20	Esco 30
1	M8 x * Wrench size 13 mm	M12 x * Wrench size 19 mm
2	ø24/8.4 x 2 mm	ø37/13 x 3 mm
3	M8 x 0.8d	M12 x 0.8d

* length as required

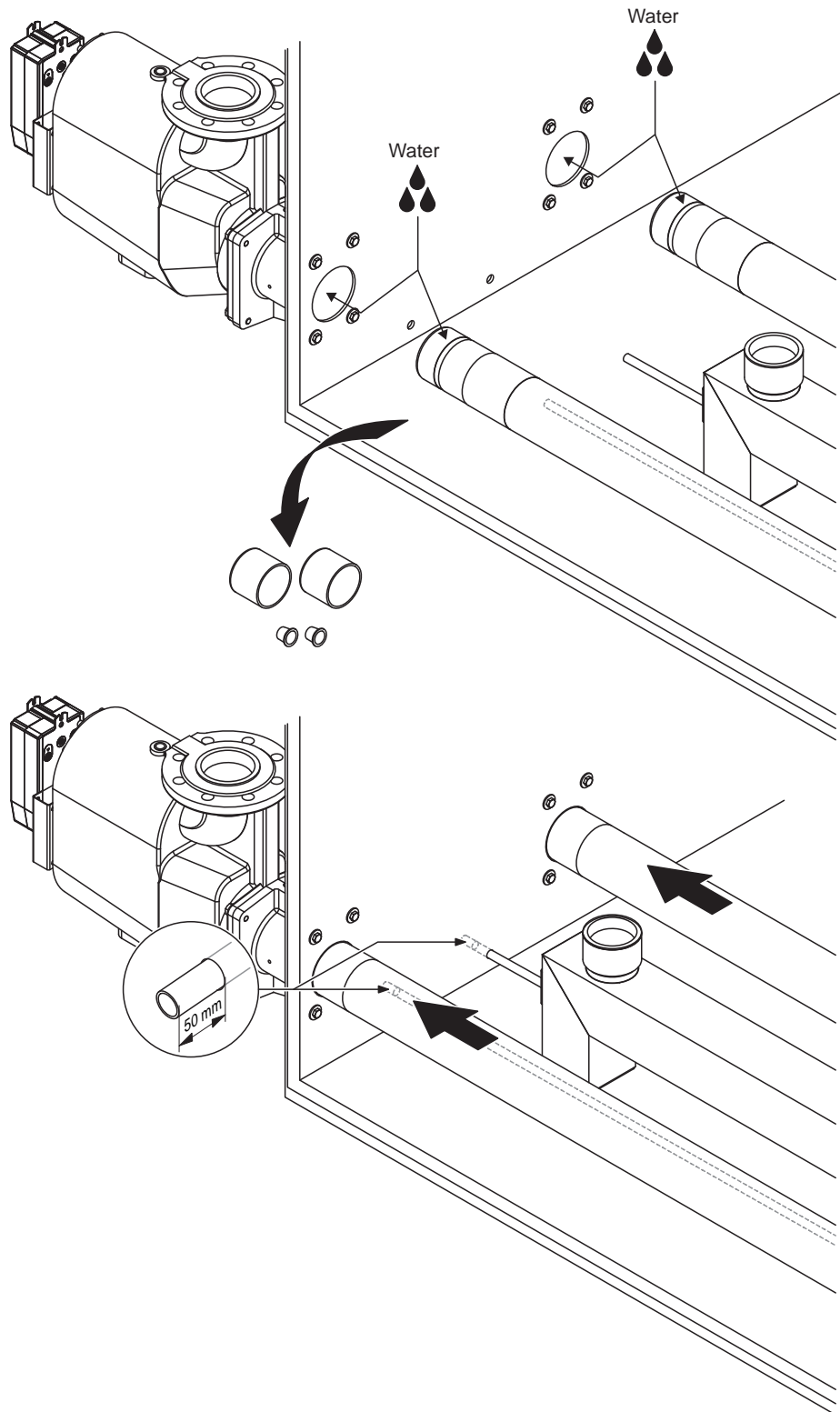
	Esco 20	Esco 30
1	M8 x 70 mm ** M8 x 100 mm ** Wrench size 13 mm	M12 x 70 mm ** M12 x 100 mm ** Wrench size 19 mm
2	ø24/8.4 x 2 mm	ø37/13 x 3 mm
3	ø12/8.5 x 45 mm ** ø12/8.5 x 100 mm **	ø16/13 x 45 mm ** ø16/13 x 70 mm **
4	M8 x 0.8d	M12 x 0.8d

** as ordered

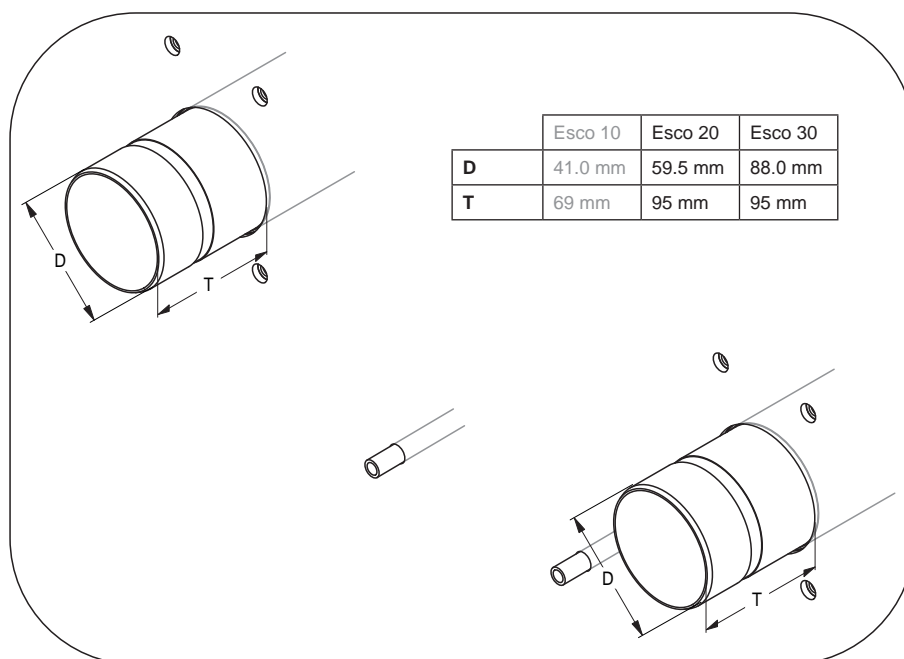
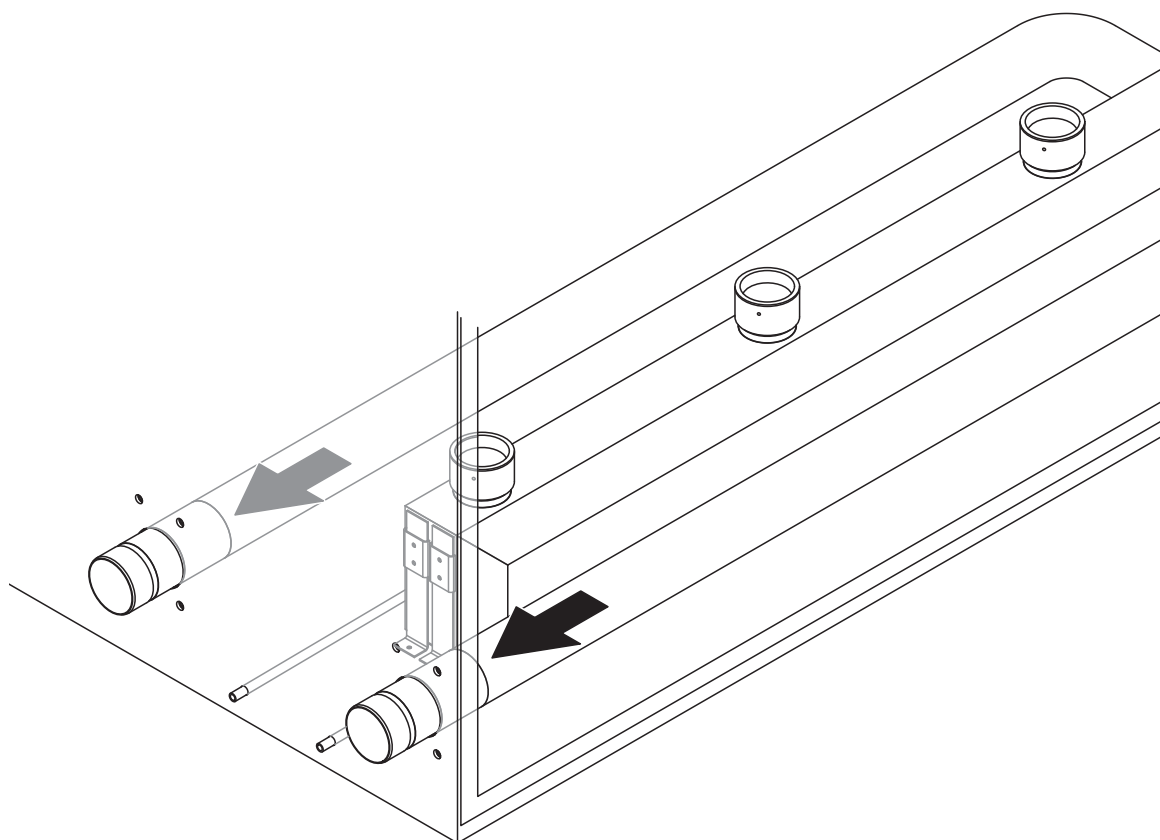


3. Mount collector pipe (illustration below shows DR73 J2A Left Right).

- Remove protective caps from the collector pipe.
- If the valve unit(s) is(are) already mounted: from the inside of the duct push the connector(s) of the collector pipe into the valve unit(s) until it/they come(s) to a stop (the resistance of the O-ring inside the valve unit(s) must be overcome). The collector pipe is installed correctly, if the secondary condensate drain pipe pokes 50 mm out of the duct (see illustration below).
Note: To improve gliding ability moisten the end/ends of the collector pipe connector(s) and the O-ring(s) inside the valve unit(s) with water (do not use oil or grease!).



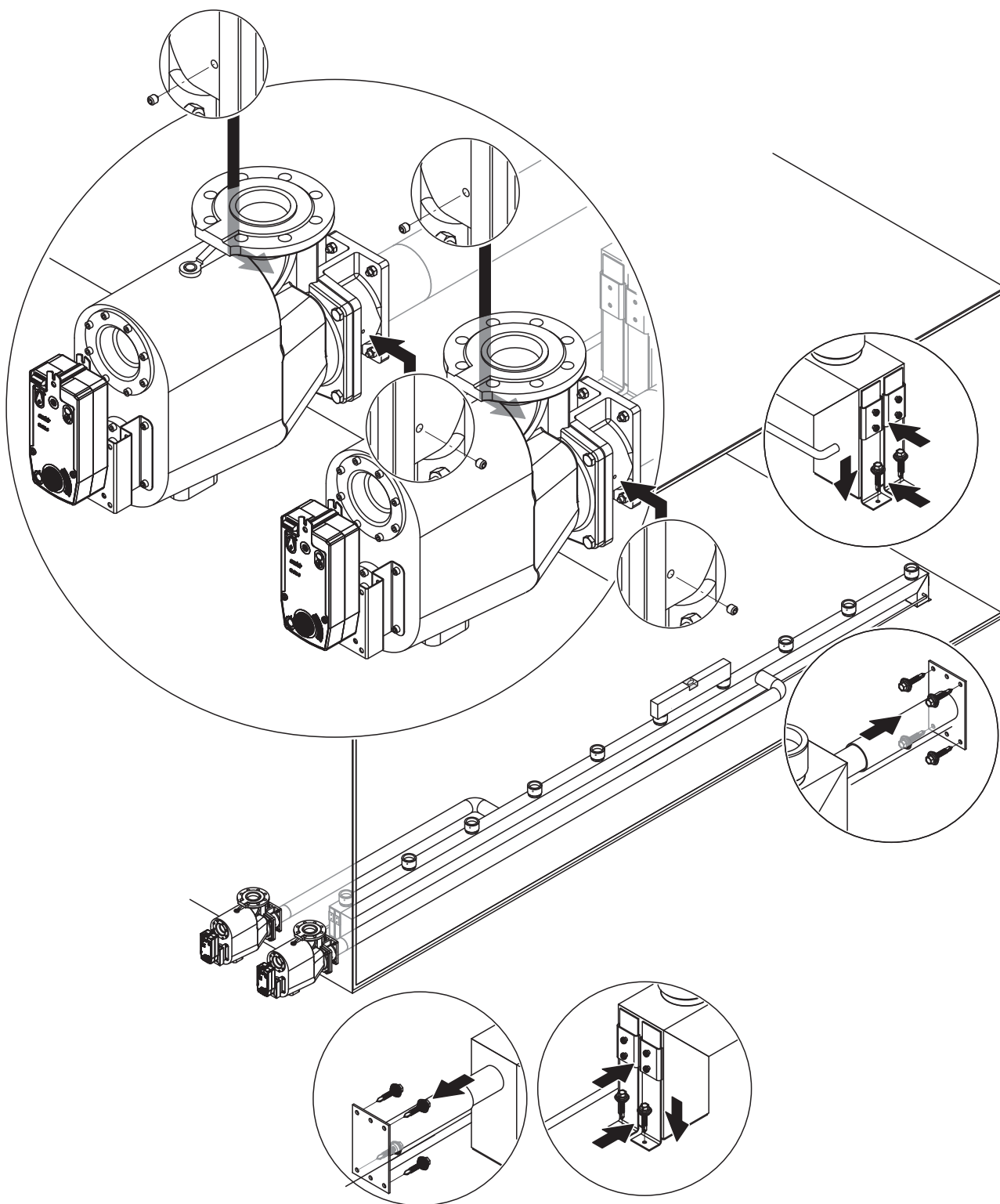
- If the valve unit(s) is(are) not mounted yet: from the inside of the duct push the connector(s) of the collector pipe and the secondary condensate drain pipes through the corresponding bores in the duct wall until the connector(s) of the collector pipe poke(s) **exactly T mm** out of the duct (see table below).



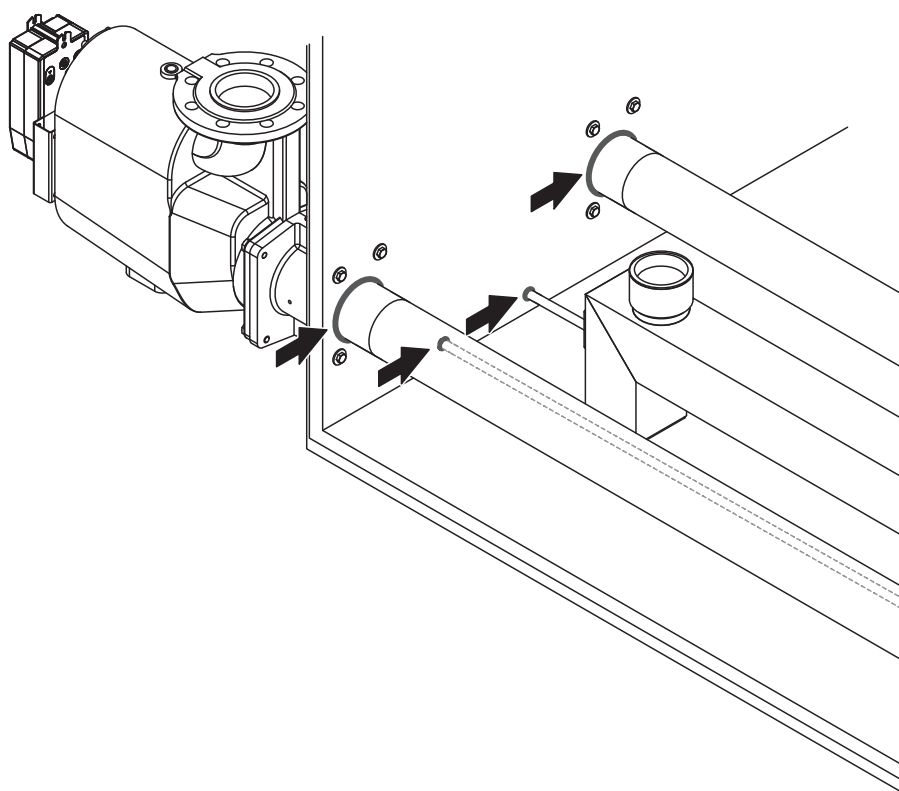
4. Fix collector pipe (illustration below shows DR73 J2A Left Right).

Important: if the valve unit(s) is(are) not mounted yet, make sure the connector(s) of the collector pipe poke(s) **exactly T mm** out of the duct (see table in step 3) before fixing the collector pipe.

- Horizontally align collector pipe using a spirit level, then fix the end of the collector pipe with the brackets supplied to the duct floor or with the optional wall support to the duct wall.
- Screw the M5x6 grub screws (allen key 2.5 mm) provided on into the flange pipe of the valve unit, until they touch the steam pipe.

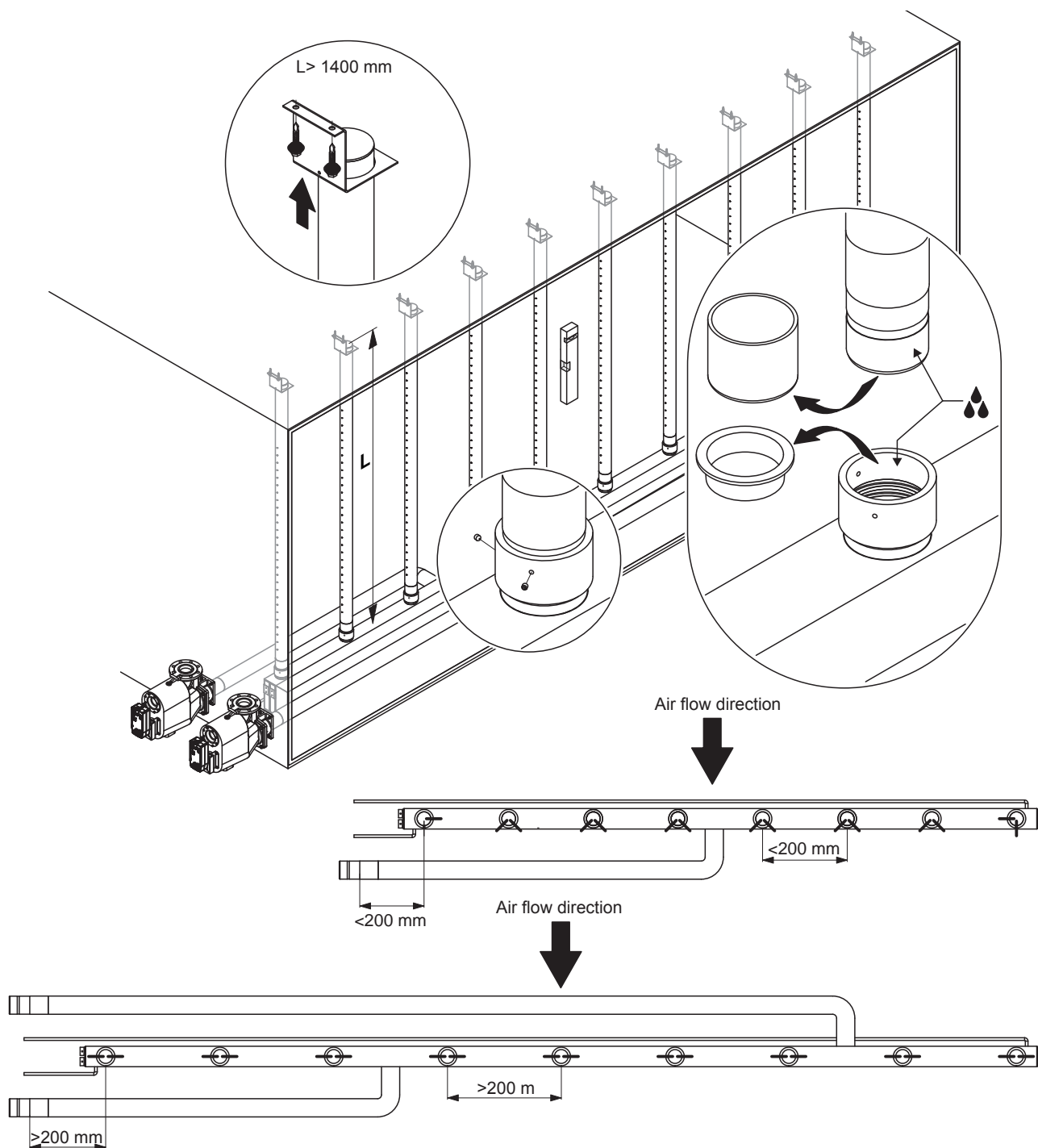


5. Seal the bores inside the duct with silicone-free sealant.



6. Mount vertical steam distribution pipes.

- Remove protective plugs from the sockets of the collector pipe.
- Push vertical steam distribution pipes into the sockets of the collector pipe until they come to a stop (the resistance of the O-rings inside the sockets must be overcome). Then, align nozzle apertures to the air flow according to drawing below.
Note: To improve the gliding ability moisten the end of the vertical steam pipes and the O-rings inside the collector sockets with water (do not use oil or grease!).
- Screw the M5x6 grub screws (allen key 2.5 mm) provided into the sockets (as shown below), until they touch the vertical steam distribution pipes.
- Vertical steam distribution pipes with a length >1400 mm must be fixed to the duct ceiling using the brackets supplied. Before tightening the brackets vertically align steam pipes using a spirit level.

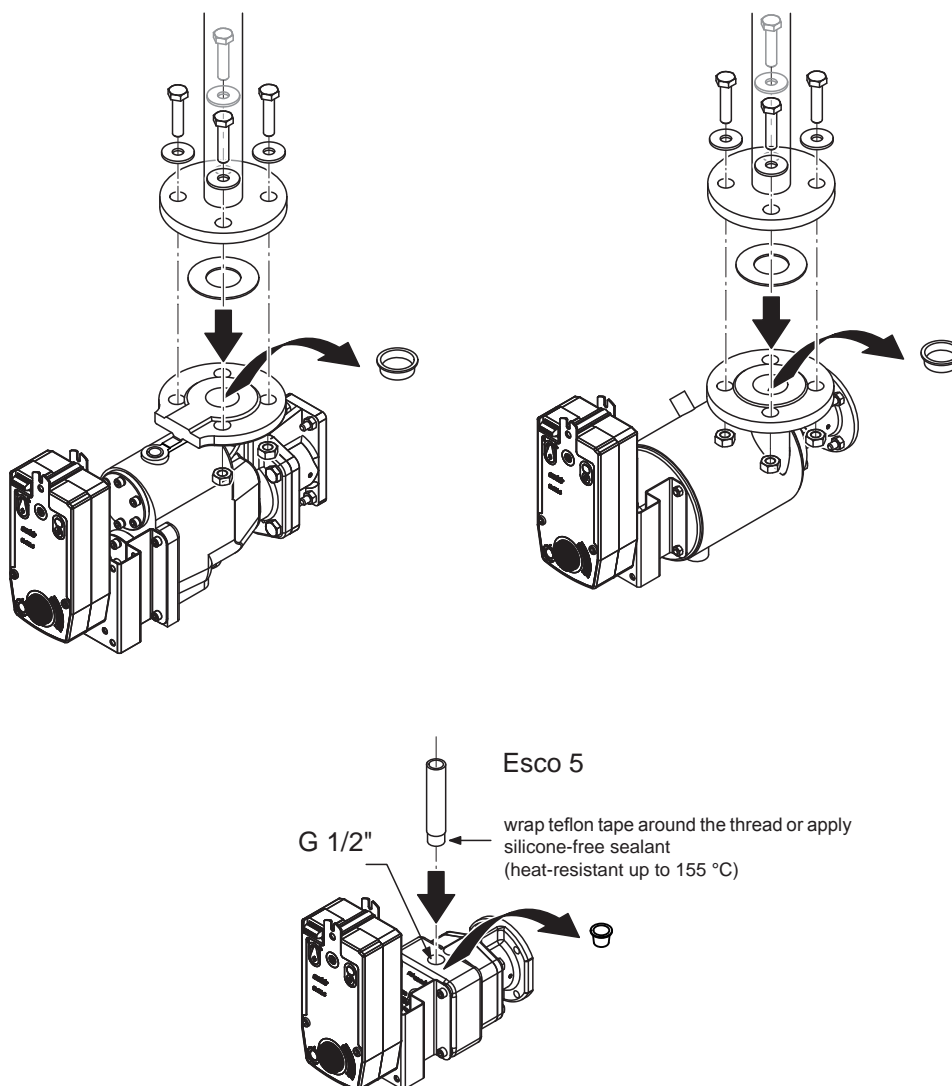


7. Connecting the steam supply line (see chapter 5.1).
8. Mounting the secondary condensate drain (see chapter 5.2).
9. Mounting the primary condensate drain (see chapter 5.3).
10. Mounting the manometer (see chapter 5.4).

5 Mounting the steam supply line, the primary and secondary condensate and the manometer

5.1 Connect the steam supply line (by client)

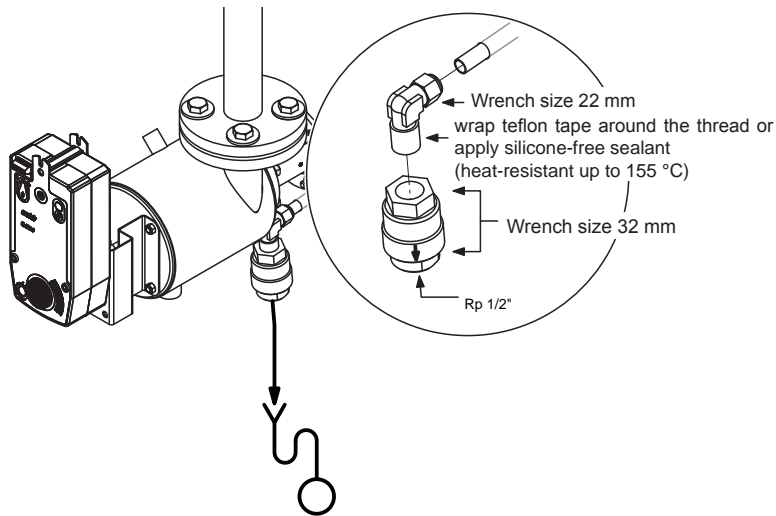
Note: the steam supply line must be made according to the instructions in chapter 5 of the installation and operating instructions of the Condair Esco. Steam supply lines with a length of more than 4 m between the branch connection of the main steam line and the connecting flange of the valve unit must mandatory be drained.



5.2 Mounting the secondary condensate drain

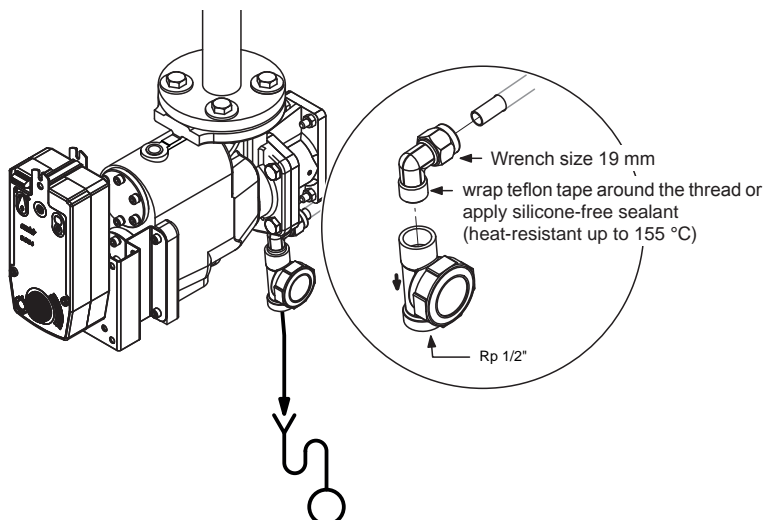
- Wrap teflon tape around the thread of the angled screw coupling or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw angled screw coupling into the secondary condensate drain (**arrow on the thermostatic steam trap must point in drain direction**).
- Slide angled screw coupling onto the condensate pipe until it comes to a stop. Tighten union nut so far, that the angled screw coupling can not be turned by hand anymore.
- The outlet of the secondary condensate drain must be connected to the drain line of the building via an open funnel (**pressure-free draining**) with siphon (by client).

Thermostatic steam trap stainless steel



admissible mounting position
not admissible mounting position

Thermostatic steam trap brass



admissible mounting position
not admissible mounting position

5.2.1

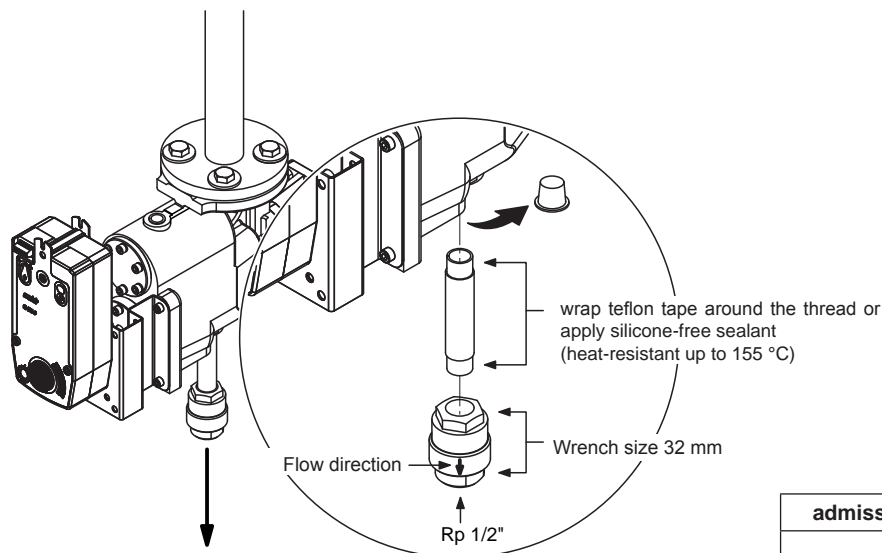
5.3 Mounting the primary condensate drain

Important notes

- The primary condensate must be discharged separately from the secondary condensate.
- The primary condensate can either be discharged pressure-free or with a **maximum back-pressure of 1/2 of the primary steam pressure**. The discharge/feedback of the primary condensate is customers responsibility.

5.3.1 Thermostatic steam trap for Esco cast-iron and stainless steel versions

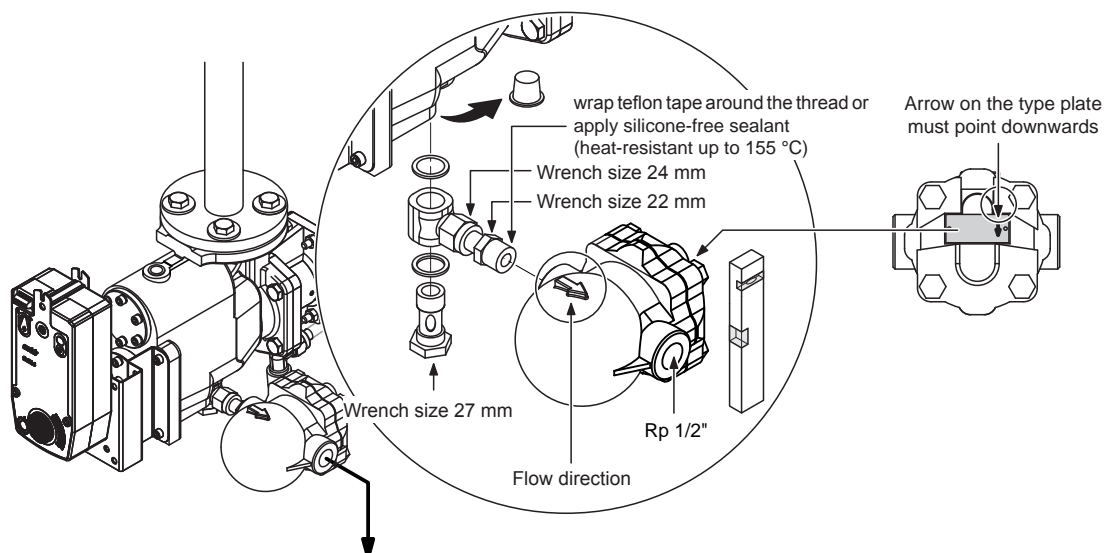
- Wrap teflon tape around the threads of the threaded pipe or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw threaded pipe into the primary condensate drain (**arrow on the condensate drain must point in drain direction**).
- Remove protective plug from the condensate connector of the valve unit, then screw threaded pipe from the bottom into the valve unit.



admissible mounting position
not admissible mounting position

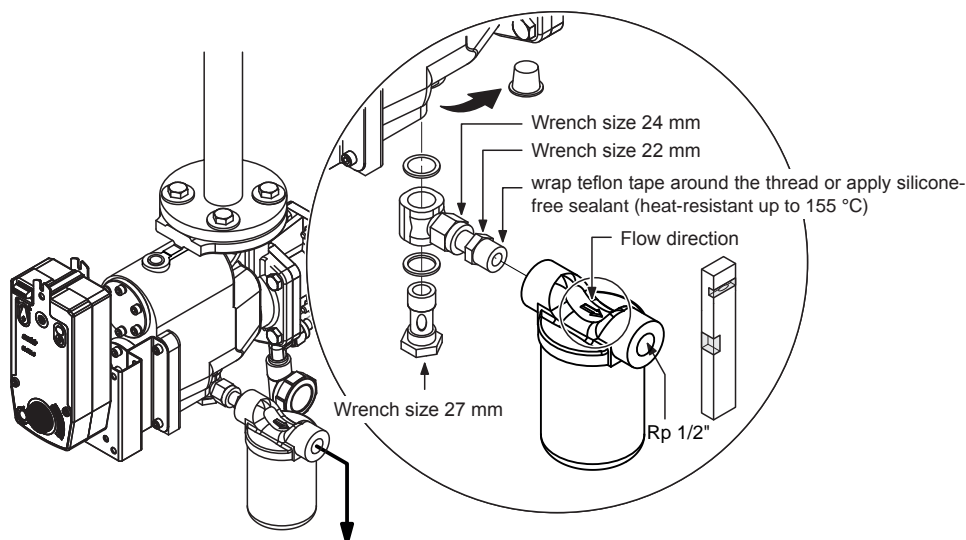
5.3.2 Spheric float drain for Esco cast-iron version

- Wrap teflon tape around the thread of the fitting or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw fitting into the spheric float drain (**arrow on the spheric float drain must be on top and point in drain direction**).
- Remove protective plug from the condensate connector of the valve unit, then fix spheric float drain to the valve unit using the banjo bolt and the copper rings.



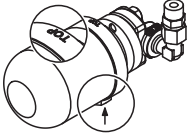
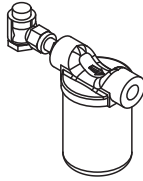

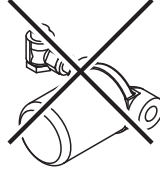
5.3.3 Bell-shaped float drain for Esco cast-iron version

- Wrap teflon tape around the thread of the fitting or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw fitting into the bell-shaped float (**arrow on the bell-shaped float must be on top and point in drain direction**).
- Remove protective plug from the condensate connector of the valve unit, then fix bell-shaped float to the valve unit using the banjo bolt and the copper rings.



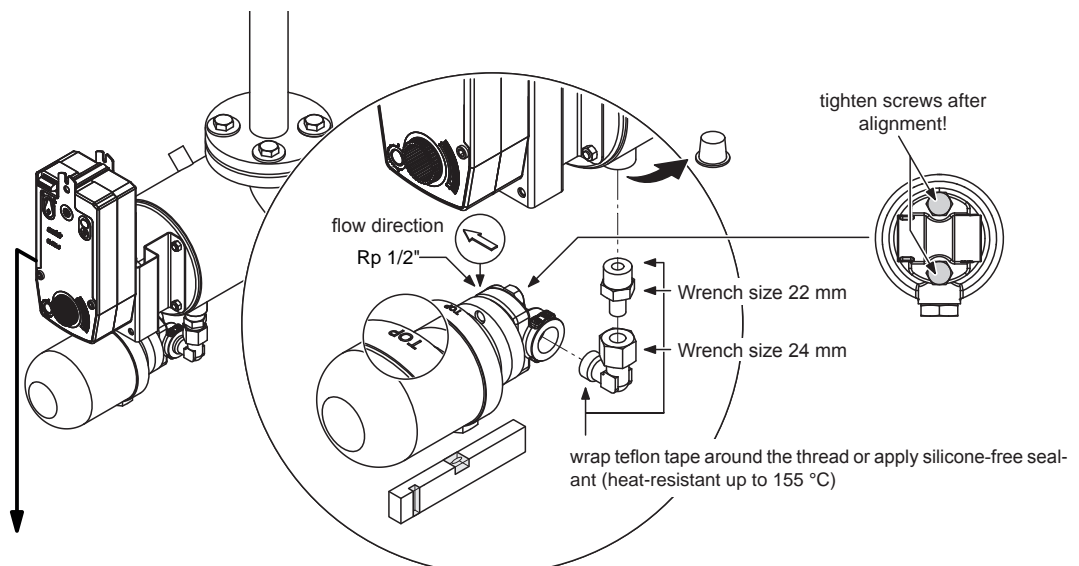
5.3.4 Spheric float drain and bell-shaped float drain for Esco stainless steel versions

Attention danger of mistake: the stainless steel spheric float drain can easily be mistaken with the stainless steel bell-shaped float drain. A mistake of the two floats leads to a malfunctioning during operation, since the two floats have different installation positions.

Spheric float drain made of stainless steel	Bell-shaped float drain made of stainless steel
correct installation position	
Characteristics of the spheric float drain: – Designation “TOP” (on top) – plug screw (on the bottom)	
	
wrong installation position	
	

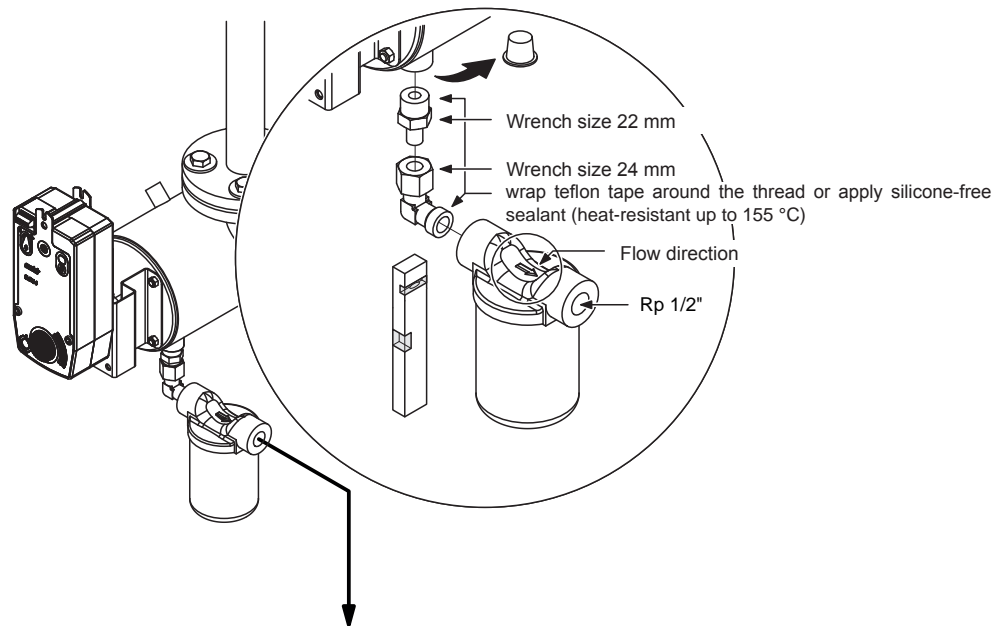
5.3.4.1 Spheric float drain for Esco stainless steel versions

- Wrap teflon tape around the thread of the straight fitting or apply silicone-free sealant (heat-resistant up to 155 °C). Then, remove protective plug from the condensate connector of the valve unit screw fitting into the valve unit.
- Wrap teflon tape around the thread of the angled screw coupling or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw angled screw coupling into the spheric float drain as shown below (**the union nut must point to the marking “TOP” and the arrow on the spheric float drain must point in drain direction**).
- Slide angled screw coupling with the spheric float drain onto the straight fitting until it comes to a stop. Tighten union nut so far, that the spheric float drain can not be turned by hand anymore.



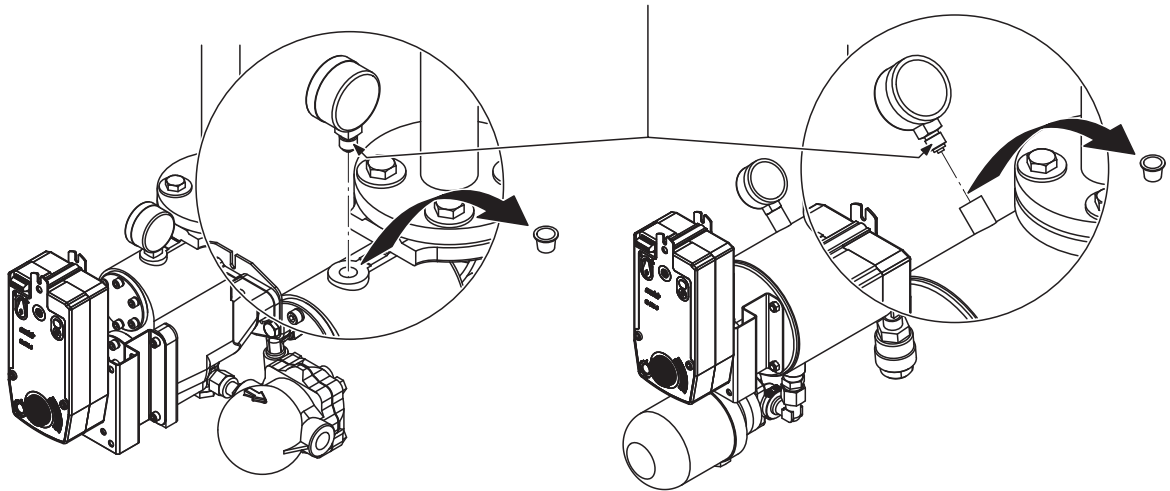
5.3.4.2 Bell-shaped float drain for Esco stainless steel versions

- Wrap teflon tape around the thread of the straight fitting or apply silicone-free sealant (heat-resistant up to 155 °C). Then, remove protective plug from the condensate connector of the valve unit screw fitting into the valve unit.
- Wrap teflon tape around the thread of the angled screw coupling or apply silicone-free sealant (heat-resistant up to 155 °C). Then, screw angled screw coupling into the bell-shaped float drain as shown below (**the union nut must point to the top and the arrow on the bell-shaped float drain must point in drain direction**).
- Slide angled screw coupling with the bell-shaped float drain onto the straight fitting until it comes to a stop. Tighten union nut so far, that the bell-shaped float drain can not be turned by hand anymore.



5.4 Mounting the manometer

Wrap teflon tape around the thread
or apply silicone-free sealant
(heat-resistant up to 155 °C)



Notes

