

# Instruction Manual

## KOMBIFLEX - FLEXIBLE STAINLESS-STEEL TUBES

Kombiflex is designed to be used in pressure piping for potable and sanitary water (it is certified for contact with drinking water). It is suitable for connecting storage water heaters, boilers, radiators, sanitary valves, dishwashers and anywhere else where quick installation and flexibility is an advantage.

Kombiflex pipes are made of stainless steel, easily shapeable, intended for permanent connections. Once installed, the pipe and its connections shall not be exposed to any stress. Pipe elbows can be replaced by a bent pipe (the min. bend radius shall be respected). The pipes are sold by the meter (coils of 2, 4 or more meters) and cut to the desired length and finished on the spot using special tools supplied in a tool case. In order to secure sufficient tightness, only nipples with enlarged sealing surface area (wall thickness) can be used with Kombiflex. During installation the instructions in the manual shall be followed meticulously.

### Basic Data:

Tube material	Stainless steel (0.22 mm) AISI 304, 316L
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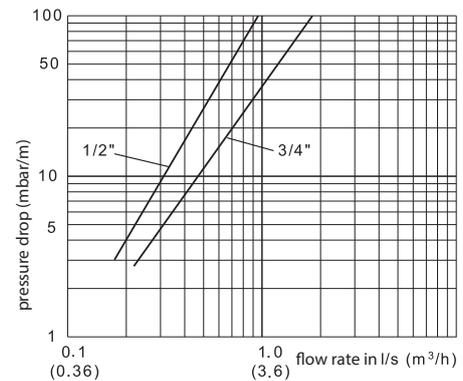
Working temperature -20 °C to +120 °C

Bend radius  $R \geq 2 \times \varnothing$  tube

ANSI 316L is available on request.

Working overpressure	Water
DN 8-20	16 bar
DN 25	6 bar

### Pressure Drop:



### Overview of dimensions and codes:

DN	Diameter [mm]		Code			Union nut size	Nut & gasket Code	Gasket only Code	Gasket code for solar systems	Suitable insulation, DN <sub>a</sub> shows the hole diameter in the insulation
	inner	outer	2m	4m	by meter					
DN 8	8.1	11.7	3713			3/8"	769	5667	9976	DN <sub>a</sub> 13
DN 12	13	16.8		3093	4654	1/2"	770	5553	9977	DN <sub>a</sub> 18
DN 16	15.7	20		3094	4655	3/4"	771	5554	9978	DN <sub>a</sub> 22
DN 20	19.7	25		3267	4656	1"	3343	5668	9980	DN <sub>a</sub> 28
DN 25	26.5	33			3379	5/4"	3344	6799	9981	DN <sub>a</sub> 35

Pre-insulated stainless-steel piping				
Code	Pipe DN	Nut	Insulation thickness	Length
8075	12	1/2"	13 mm	30 m
8078	12	1/2"	19 mm	30 m
8076	16	3/4"	13 mm	30 m
8079	16	3/4"	19 mm	30 m
8077	20	1"	13 mm	30 m
8080	20	1"	19 mm	30 m



The tubes are already insulated with EPDM rubber with a protective surface layer that is resistant to high temperatures and UV radiation. Suitable for solar thermal systems.

Code	Brass fittings with enlarged sealing surface area	
6972	Nipple 3/8" M/M	(male/male)
6971	Nipple 1/2" M/M	(male/male)
6970	Nipple 3/4" M/M	(male/male)
6969	Nipple 1" M/M	(male/male)
6973	Nipple 5/4" M/M	(male/male)
7627	Nipple 6/4" M/M	(male/male)
6968	Reducing nipple 1/2"x3/8" M/M	(male/male)
6965	Reducing nipple 3/4"x1/2" M/M	(male/male)
6967	Reducing nipple 1"x3/4" M/M	(male/male)
8270	Reducing nipple 5/4"x3/4" M/M	(male/male)
6966	Reducing nipple 5/4"x1" M/M	(male/male)
8766	Reducing nipple 6/4"x1" M/M	(male/male)
8767	Reducing nipple 6/4"x5/4" M/M	(male/male)
6964	Reducing adapter 3/4"x1/2" M/F	(male/female)
14306	Reducing adapter 1"x3/4" M/F	(male/female)
14307	Reducing adapter 1"x1/2" M/F	(male/female)
13395	Reducing adapter 5/4"x1" M/F	(male/female)
8564	Reducing adapter 5/4"x1/2" M/F	(male/female)
7882	Reducing adapter 6/4"x1" M/F	(male/female)
14304	Adapter 3/4"x3/4" F/M	(female/male)
14305	Adapter 1"x1" F/M	(female/male)
9151	Reducing adapter 3/4"x1/2" F/M	(female/male)
13366	Reducing adapter 1"x 3/4" F/M	(female/male)

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## KOMBIFLEX RESILIENCE

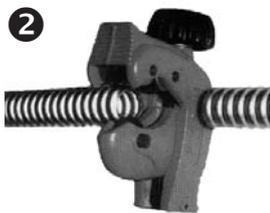
The tube can be freely bent, respecting its min. bend radius. The minimum inner bend radius must not be smaller than twice the pipe's outer diameter. Torsional strain must be avoided. That shall be respected esp. during nuts tightening and in selecting the connecting position with regard to possible moves that might cause torsion to the tube. When installing Kombiflex, please follow the instructions and pictures shown in the instruction manual.

The tube must not get in touch with mortar/concrete. When installing the pipe into a wall, use insulation to protect it also from contact with mortar/concrete. Its service life is unlimited under normal use. Warranty period is 2 years. No extra precautions are required for transport and storing

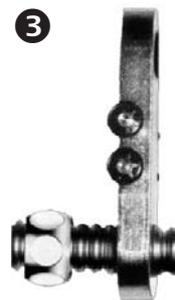
## INSTRUCTIONS HOW TO MAKE KOMBIFLEX TUBES USING A HAND STROKE PRESS



**1** Measure the length needed **(1)** and add 4 „waves“. Do not forget bends!



**2** Cut the measured tube portion **(2)** using the tube cutter contained in the toolbox. Try to make the cut as smooth as possible since it will influence the quality of the sealing surface.



**3** Repeat the procedure for the other tube end, starting from point **(3)**. Do not forget to fit the other cap nut!

Slide the cap nut onto the tube and insert the tube end into the respective opening in the clamp **(3)**. The tube must be inserted in such a way that 2 „waves“ protrude from the clamp on the side without the recess. Then insert the clamp into the jig with movable piston so that the protruding „waves“ point against the stroke side of the piston **(4)**. Now repeatedly strike the pipe head with the piston until a flat sealing surface **(5)** is formed. This can be heard very well, the originally dampened sound will change to sharp, metal-like sound when the sealing surface is ready.



**6** Now the tube is ready to be mounted in its place. Shape it into the desired form and use the appropriate gaskets **(6)**.



## SPECIAL TOOLS FOR PREPARING KOMBIFLEX WATER TUBES

ITEM	CODE
toolbox	3834
tube cutter DN 8-20	713
tube clamp DN 12 and 16	720
tube clamp DN 8 and 20	3659
tube clamp DN 25	7597
manual termination press - stroke type, DN 8-20	3430
manual termination press - only for DN 25	7596

A toolbox (code 3834) contains a tube cutter, two tube clamps and a DN 8 to DN 20 manual termination press, 4x 10 chrome-plated union nuts with gaskets.



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