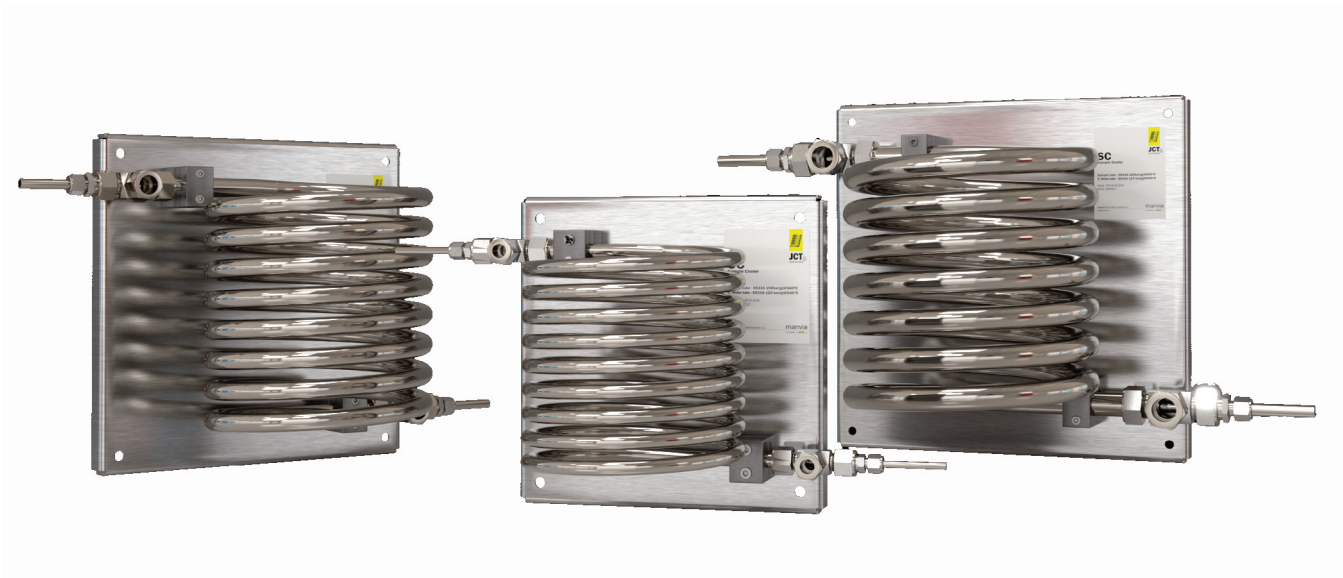




TIT

Tube in Tube Sample Cooler



APPLICATION

- Liquids, gases and multiphas fluids
- Gases with condensates
- High pressure and temperature
- Sampling systems

BENEFITS

- Fully drainable inner and outer coil
- Constant velocity in the fluid
- No joints gaskets or welded parts

FEATURES

- Mounting in plate
- Can be manufactured in special alloys
- Without cavities or dead spots
- Variable connection technology

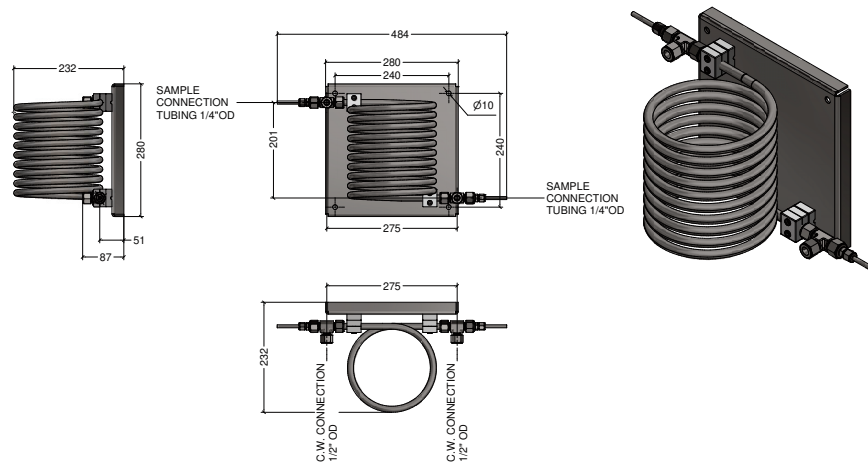
TECHNICAL DATA

MODEL	TIT-4-SS316-SS316	TIT-6-SS316-SS316	TIT-8-SS316-SS316
Inner tube	1/4" OD SS316/316L	3/8" OD SS316/316L	1/2" OD SS316/316L
Sample design conditions	300 barg @ 540 °C (1004 °F)	300 barg @ 540 °C (1004 °F)	150 barg @ 540 °C (1004 °F)
Outer tube	1/2" OD SS316/316L	3/4" OD SS316/316L	1" OD SS316/316L
Cooling water design conditions	150 barg @ 540 °C (1004 °F)	150 barg @ 540 °C (1004 °F)	125 barg @ 540 °C (1004 °F)
Sample connections	1/4" OD (tube)	3/8" OD (tube)	1/2" OD (tube)
Cooling water connections	1/2" OD (comp. fitting)	3/4" OD (comp. fitting)	1" OD (comp. fitting)
Heat transfer area	0.12 m ² (1.29 sq ft)	0.18 m ² (1.94 sq ft)	0.23 m ² (2.48 sq ft)
Weight	5.5 kg (12.13 lbs)	7.5 kg (16.53 lbs)	13.5 kg (29.76 lbs)

MODEL**TIT-4**

Exchange area	0.12 m ² (1.29 sq ft)
Cooling water	5 lpm @ 30 °C (ΔP = 1 bar) (5 lpm @ 86 °F)

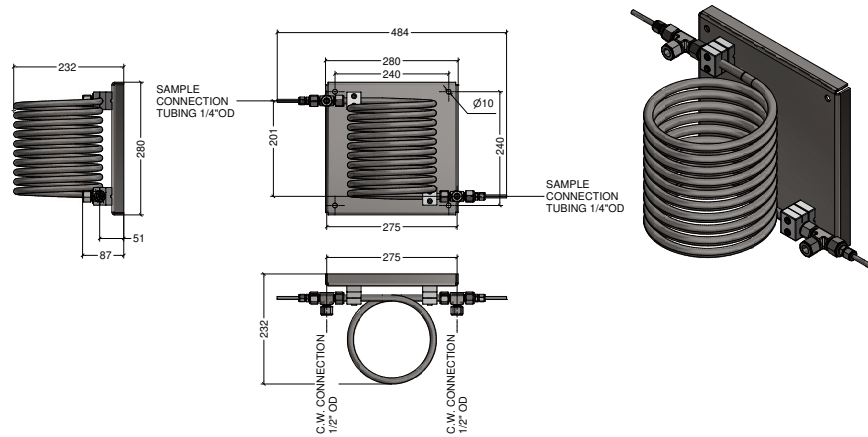
Flow Rate Water ccm (cubic in)	°C (°F) approach sample temperature			Drop pressure (barg)
	150 °C (302 °F)	200 °C (392 °F)	270 °C (518 °F)	
400 (24.41)	0.5 (32.9)	2.5 (36.5)	3.0 (37.4)	0.08
600 (36.41)	1.5 (34.7)	3.2 (37.8)	33.0 (91.4)	0.28
800 (48.82)	3.0 (37.4)	8.1 (46.6)	-	0.5
1000 (61.02)	3.0 (37.4)	30.1 (86.2)	-	0.76
1200 (73.23)	11.0 (51.8)	-	-	1.1
1400 (85.43)	17.0 (62.6)	-	-	1.52



TECHNICAL DATA

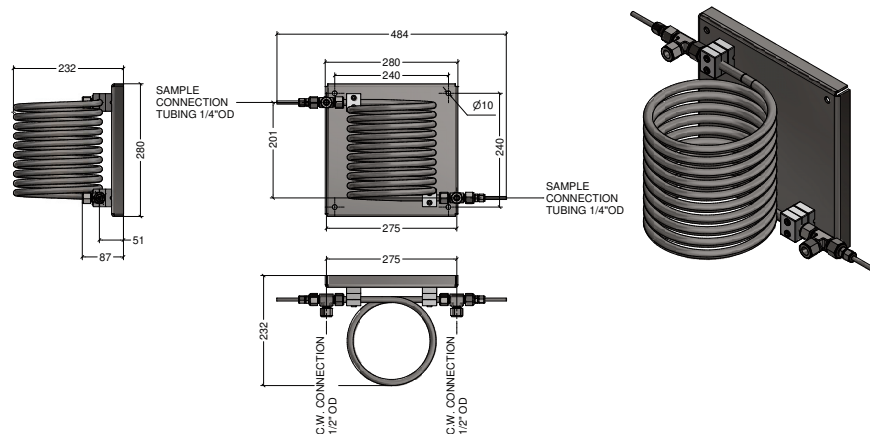
MODEL	TIT-6
Exchange area	0.18 m ² (1.94 sq ft)
Cooling water	17 lpm @ 30 °C (ΔP = 1 bar) (17 lpm @ 86 °F)

Flow Rate Water ccm (cubic in)	°C (°F) approach sample temperature			Drop pressure (barg)
	150 °C (302 °F)	200 °C (392 °F)	270 °C (518 °F)	
1600 (97.64)	2.8 (37.0)	3.0 (37.4)	7.7 (45.9)	0.08
1800 (109.84)	3.0 (37.4)	4.8 (40.6)	13.8 (56.8)	0.12
2000 (122.05)	4.0 (39.2)	6.9 (44.4)	28.0 (82.4)	0.15
2200 (134.25)	6.1 (42.9)	8.5 (47.3)	45.0 (113)	0.19
2400 (146.46)	7.2 (45.0)	12.2 (54.0)	-	0.22
2600 (158.66)	8.0 (46.4)	15.0 (59.0)	-	0.26



MODEL	TIT-8
Exchange area	0.23 m ² (2.48 sq ft)
Cooling water	36 lpm @ 30 °C (ΔP = 1 bar) (36 lpm @ 86 °F)

Flow Rate Water ccm (cubic in)	°C (°F) approach sample temperature			Drop pressure (barg)
	150 °C (302 °F)	200 °C (392 °F)	270 °C (518 °F)	
2600 (158.66)	0.8 (33.4)	1.9 (35.4)	6.1 (43.0)	0.07
3000 (183.07)	5.0 (41.0)	8.2 (46.8)	18.0 (64.4)	0.08
4000 (244.10)	10.0 (50.0)	18.0 (64.4)	39.2 (102.6)	0.15
5000 (305.12)	15.3 (59.5)	21.1 (70.0)	-	0.23
6000 (366.14)	21.5 (70.0)	35.0 (95.0)	-	0.30
6400 (390.55)	25.1 (77.2)	40.5 (104.9)	-	0.38



ORDER CODE

Available Features

Type of cooler	inner tube 1/4" OD / outer tube 1/2" OD	4		
	inner tube 3/8" OD / outer tube 3/4" OD	6		
	inner tube 1/2" OD / outer tube 1" OD	8		
Material inner tube	SS316/316L			SS316
	6Mo			6Mo
	Superduplex			SD
	Alloy 625			A625
	Alloy 825			A825
	Monel 400			M400
	Hastelloy C-276			HC276
Material outer tube	SS316/316L			SS316
	6Mo			6Mo
	Superduplex			SD
	Alloy 625			A625

Order code

TIT-

