



TEKNOTHERM

MARINE AND INDUSTRIAL REFRIGERATION



REFRIGERATED CARGO HOLDS

Gill-finned tube air coolers for natural air circulation

The air coolers are designed for mounting below the deckhead and operates by means of gravity (natural) air circulation.

- ◆ Even temperature throughout the hold
- ◆ No ducting is required
- ◆ No electric installation required
- ◆ No moving parts (fans, etc.)
- ◆ Less de-hydration of un-wrapped or un-boxed product
- ◆ Sturdy construction
- ◆ Reduced energy consumption
- ◆ Better working environment
- ◆ Suitable for halocarbon, ammonia or brine systems
- ◆ Simple-, quick and low installation cost

Construction

Manufactured from steel tubes fitted with spiral wound corrugated steel finned gills. The tubes are supported by tube plates, the number depending on cooler length. Refrigerant connections by means of welded-, threaded- or flanged ends.

The entire cooler is hot-dip galvanized after assembly and pressure testing, ensuring a high degree of corrosion protection, optimum heat transfer and hygiene.

Defrosting is done by means of hot-gas, hot brine or manual brushing, depending on the installation and operating conditions.

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Dimensions

Standard coils for natural air circulation with the following dimensions:

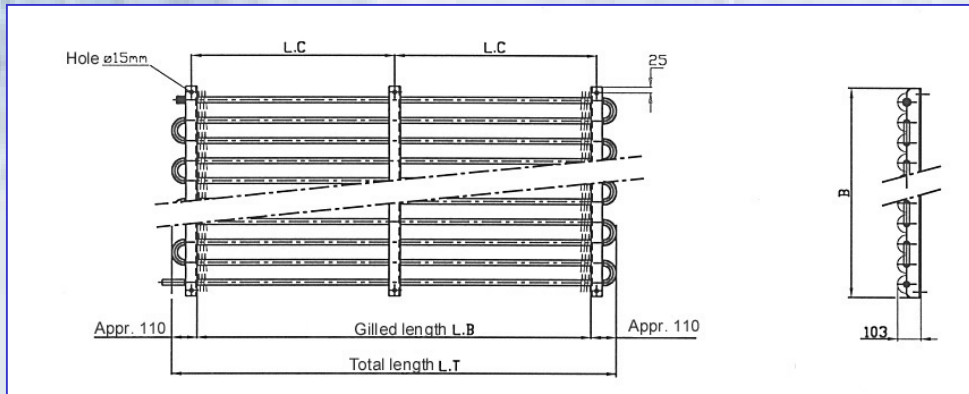
Total length of the coil L_T : 1370, 1970, 2570, 3770 and 4970 mm
 Gilled length of the coil L_B : 1150, 1750, 2350, 3550 and 4750 mm

Center distance between the supporting plate L_C is 1200 mm on all coils, except coil with $L_B = 1750$ mm, where $L_C = 900$ mm. This gives the following number of supporting plates for the different coil-lengths:

Coil with $L_B = 1150$ mm has 2 supporting plates
 Coil with $L_B = 1750$ mm has 3 supporting plates
 Coil with $L_B = 2350$ mm has 3 supporting plates
 Coil with $L_B = 3550$ mm has 4 supporting plates

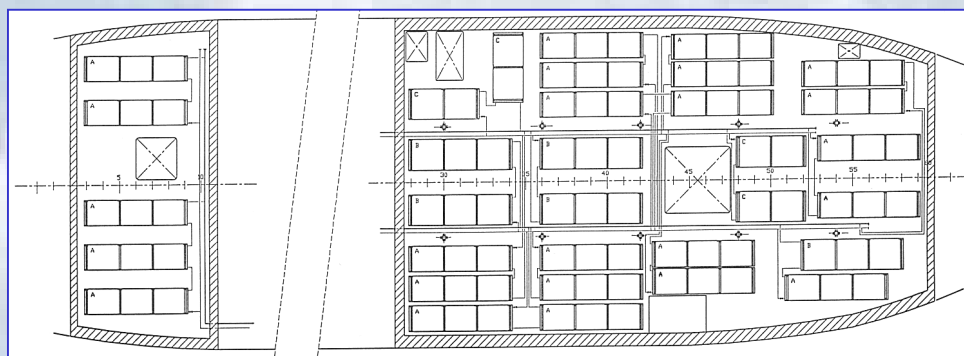
The width of the coil B:
 6 tubes in width = 570 mm
 8 tubes in width = 750 mm
 10 tubes in width = 930 mm
 12 tubes in width = 1110 mm

The height of the coil is appr. 103 mm.



In the following table there are given some data for the coils.

	Number of tubes in width	External cooling surface in m ²				Internal volume in dm ³	Weight of coil in kg			
		8 mm pitch	10 mm pitch	12 mm pitch	15 mm pitch		8 mm pitch	10 mm pitch	12 mm pitch	15 mm pitch
Gilled tube-length $L_B = 1150$ mm	6	11	9	7	6	3	44	40	36	33
	8	15	12	10	8	4	59	53	48	44
	10	18	15	12	10	5	73	65	60	54
	12	22	18	15	12	6	88	78	72	66
Gilled tube-length $L_B = 1750$ mm	6	17	13	11	9	5	66	59	54	49
	8	22	18	15	12	6	88	78	71	65
	10	28	22	19	15	8	110	97	89	81
	12	33	27	23	18	9	131	117	106	98
Gilled tube-length $L_B = 2350$ mm	6	22	18	15	12	6	84	74	68	61
	8	30	24	20	17	8	112	99	90	81
	10	37	30	25	21	10	140	123	113	102
	12	45	36	30	25	12	167	147	135	121
Gilled tube-length $L_B = 3550$ mm	6	34	27	23	19	9	124	109	99	89
	8	45	36	31	25	12	165	144	131	119
	10	56	45	38	31	15	205	180	164	148
	12	67	55	46	37	18	245	216	197	178
Gilled tube-length $L_B = 4750$ mm	6	45	36	31	25	12	163	143	130	117
	8	60	49	41	33	16	218	189	173	155
	10	75	61	51	42	19	270	238	216	194
	12	90	73	62	50	23	324	284	258	233



Typical air cooler arrangement in cargo hold



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Rev. 01/2003