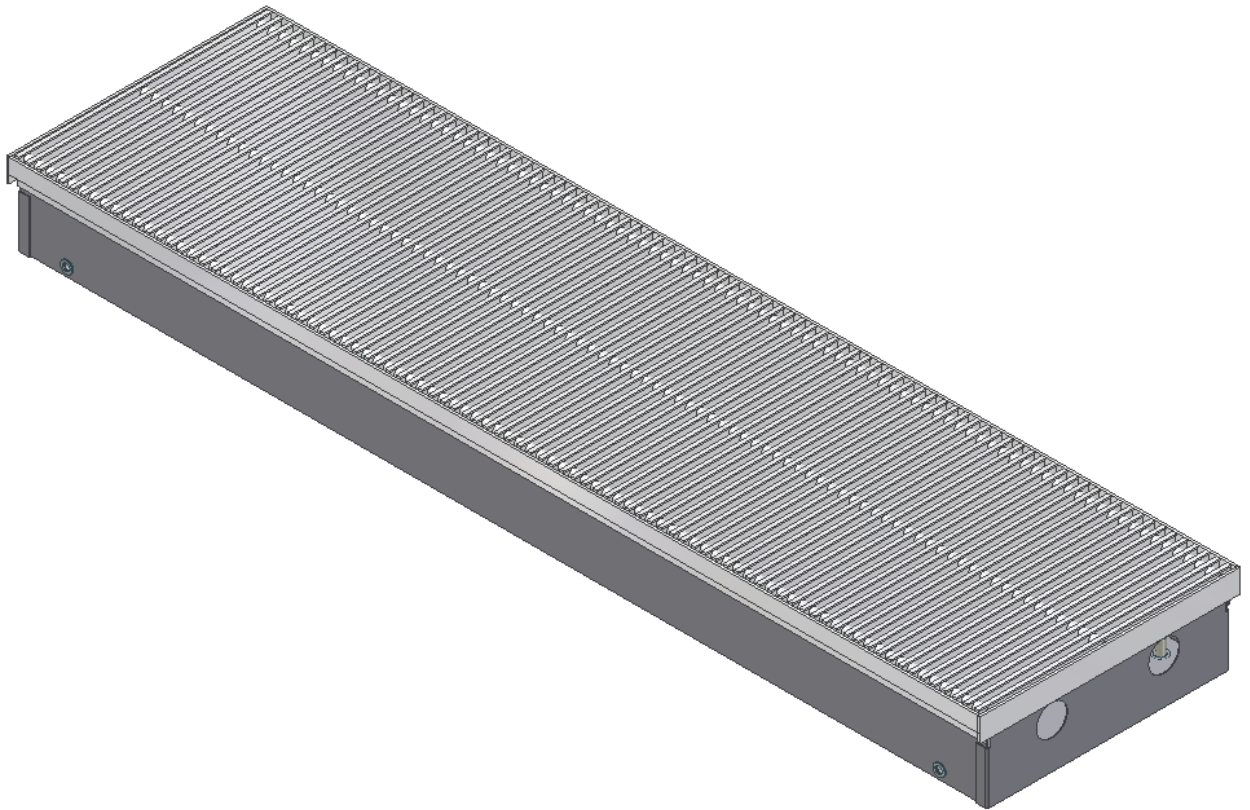


VERCO

TECHNICAL INFORMATION



LOW TRENCH UNITS

23.019

The conditions below will always remain good, even when their implementation is not explicitly mentioned for a particular case :

I. Estimates and orders

1. All estimates remain free of obligation and without any agreement on our behalf. An obligation only exists after our written confirmation of the order has been drawn up, even in case of a preceding agreement by telefax or telephone. All other oral agreements are not binding by contract.
2. We reserve ourselves right to all right of ownership and copyright with regard to estimates, drawings and other documents. These shall not be given to third parties.
3. The customer's buying conditions are not binding upon us, even when they are not explicitly rejected by us.

II. Delivery contract

1. The delivery contract will only be considered to be negotiated after having confirmed the order in writing. This written confirmation of the order also applies to the contents of the contract.
2. Alterations in orders can not be taken into account once the procedure has got started or arrangements have been made with regard to provision of materials.
3. Partial deliveries are allowed.

III. Order on demand

1. In case of an order on demand, we should be informed a fortnight before the desired delivery date. Only under these circumstances, we can meet the agreed delivery date.
2. Should the orders on demand not be taken partially within the fixed term, we reserve ourselves right to, at the end of this term, send you the goods and charge you for them.

IV. Prices

1. Unless otherwise agreed, the prices are ex works and not delivered, packing included.
2. Prices hold with the reserve that all costs of material and wages remain unchanged. The legally adopted readjustment of prices at the time of delivery is considered part of the contract.
3. We reserve ourselves right to charge extra for administration expenses, should the invoice not reach a minimum amount.

V. Payment

1. Payment will be in cash, without reduction within 30 days of the invoice date, free our place of payment.
2. In case of non-payment of the invoice on due date, an interest of delay will be due by right and without preceding proof of default, amounting to 15% of the invoice amount.
3. In case of non-payment on due date, the invoice amount will be by right and without preceding proof of default raised by standard demand for indemnification amounting to 10% of the invoice amount, and this without prejudice to interests and other costs.
4. Withholding payment just like compensations in case of counterclaim not acknowledged by us, are not possible.
5. In case of non-observance of the term of payment just like circumstances only known after the negotiation of a contract and which lead to suspect that the customer will not be able to pay in time, we have the right to be assured that all

engagements resulting of the contract whenever they will be executed, will be observed and to stop the execution of the order until the moment we have this assurance.

VI. Terms of delivery and delivery conditions

1. We are only bound by contract by terms of delivery which have been stipulated by us.
2. Terms of delivery run from the day on which the contract was transacted, however, never before having answered all the questions concerning production.
3. The term of delivery will be observed when the subject of order is entirely ready for delivery.
4. Should unforeseeable circumstances intervene during manufacture and other obstacles against our wish occur, like for instance force majeure, we have the right to prolong the agreed term of delivery by the duration of the obstacle plus an appropriate period to resume activities. Should circumstances oblige us, we have the right to be, entirely or partially, released from the obligations of the contract
5. In case of non-payment, we have the right to cease or suspend further deliveries.

VII. Sending and transfer of risk

1. Damages caused during transportation will be only insured on demand and at the customer's expense.
2. The safe custody of the goods awaiting delivery or the collection of goods, will be at the buyer's risk.

VIII. Transfer of property

1. Goods will remain property of the vendor until complete payment of the goods.

IX. Claims and guarantee

1. Any claim with regard to the delivery must be made within 8 days of receipt of the goods and certainly before application or resale of the goods.
2. We guarantee the delivered goods against any solidly proven faulty material and /or faulty design, which may endanger their application. At choice, we take back the goods at the invoiced price or we replace them free of charge or we have them repaired free of charge in accordance with the original order. We do not take responsibility for consequential damage.
Any protest against the invoice should be made in writing within 8 days of the invoice date.
3. We do not take responsibility for bearings or parts, which, during the above mentioned guarantee period, wear out in accordance with the duration of their use or which wear owing to pollution or rusting
4. The jurisdiction for payment and delivery is Ghent, Belgium. All actions under the present contract shall only be brought before the courts at Ghent.
5. Belgian laws goes for all contracts.
6. The contested goods must be kept at our disposal.
7. The right to repairs expires at the latest 3 months after our objection to the goods.
8. The guarantee under section 2 only covers these defaults for a period within one (1) year of delivery.

X. Clause of shortfall

Should for any possible reason, the above stipu-

lations concerning the conditions of sale and delivery become void, the contract remain unaltered with regard to the validity and all other stipulations and engagements.

MANUFACTURER

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TYPE DETERMINATION

B.C.259.H11.125

125 = trench length (cm), incl. frame
H11 = trench height 109 mm, incl. frame
259 = trench width (cm), incl. frame
C = type of trench
B = low trench unit

READY TO BUILD-IN DUCT with CONVECTOR

Large and small building projects frequently entail high demands in respect of interior finish. Every project has its own concept and all the elements must be developed and integrated within this concept. Customization is often required and this also applies for cooling and heating systems. For us customization is not only related to dimensions but also to design, choice of material and finish made to measure.

The trench heaters offer a perfect solution. They comprise a built-in channel with a convector. Variants can be obtained in a forced version (with fan) or be intended for the supply of conditioned air.

As they are built into the finished floor they are perfectly integrated in the interior with a minimum of space loss. A grille finishes off the unit aesthetically and entirely in line with the interior.

Flexibility and customization stand high on Verco's agenda. Finish using window modules, cut-outs around pillars, corners, etc. are perfectly elaborated according to plan.

This design freedom is much appreciated by architects, engineering groups and end-customers. Moreover, the installers also take advantage of the straightforward assembly thanks to the numerous accessories and adjustments

OPERATING PRINCIPLE

By installing low trench units in front of window sections, you avoid cold radiation, cold air flow and window condensation.

PROBLEM

SOLUTION

Cold radiation

Windows are usually the largest cold sources. This causes cold radiation from the window into the room.

Cold air flow

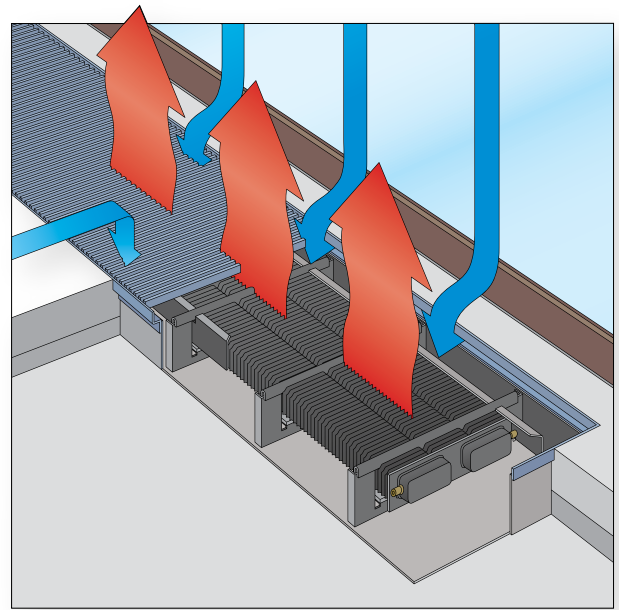
The room air is cooled down near the window section. This cooled air descends and flows into the room via the floor.

Window condensation

The cold window surface reduces the room temperature. This can cause an increased humidity level. Part of it will cause condensation on the windows depending on the relative air humidity level and temperature of the window surface.

You will prevent these problems by placing convectors on the glass sections (and outside walls). In doing so it is important to make sure the heat (= the convector) extends over the full window length and the heating output of the convector exceeds the heat loss via the window.





LOW TRENCH UNITS WITH NATURAL CONVECTION

DESCRIPTION

The low trench unit with natural convection is ideal as an additional heating to supplement floor heating. The broader models can serve as main heating. This system provides an ideal and quick solution in the intermediate seasons when you simply wish to raise the room temperature by a few degrees for a short period of time. They can be combined with low trench unit with fan.

This type comprises a ready to build-in duct and a convector. Their low incorporation height allows them to be built into the floor screed.

AIR CIRCULATION

See drawing above

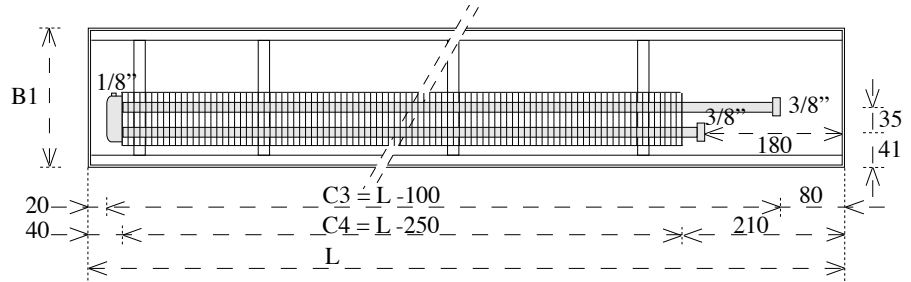
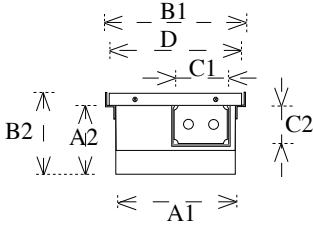
By mounting the compact floor convectors in front of glass sections (and cold outer walls) you can prevent the cold air from penetrating into the room.

MATERIAL

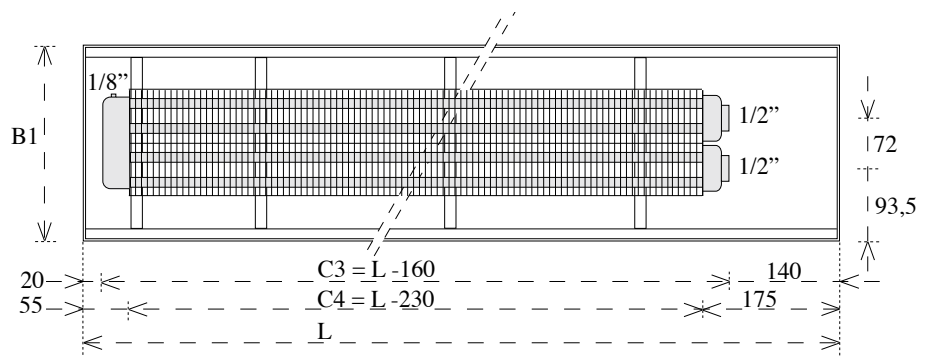
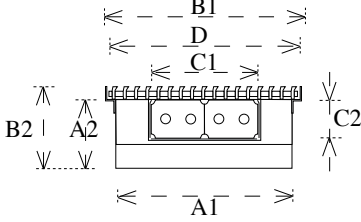
The trench consists of galvanised steel sheet of 1,25 mm lacquered in anthracite grey on the inside and outside. Steel convector supports to strengthen the trench are built into it the trench. The side plates ensure the good conduction of the heated air. Openings are provided in the trench for the passage of the pipes (standard in the right head piece). An anodised aluminium frame is mounted on the trench, the colour of the frame matches that of the grille. If no grille is ordered then a standard 18 mm aluminium natural anodised frame is fitted on the trench (suited for a grille height of 18 mm).

The **convector** is entirely manufactured in steel and is subsequently lacquered in anthracite grey. To prevent contact noises it rests on plastic strips. The trench is longer than the heating element to allow the connections and cocks to be mounted in the trench.

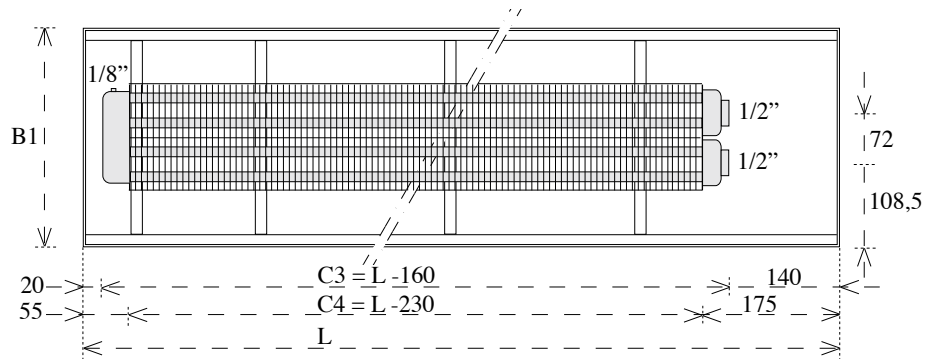
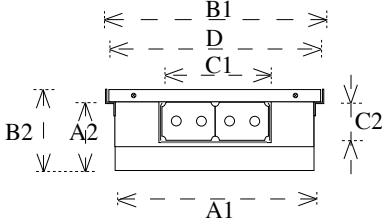
B.C.184.H11



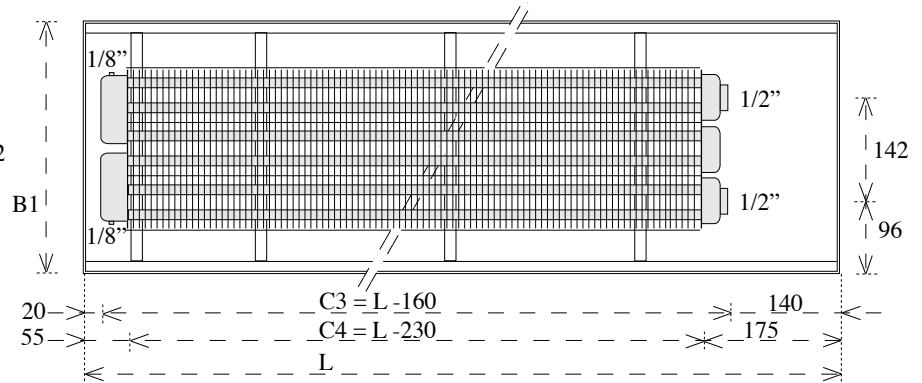
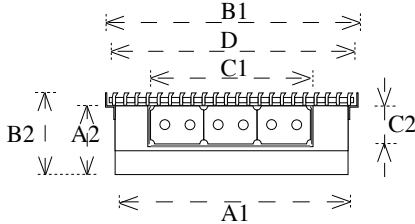
B.C.259.H11



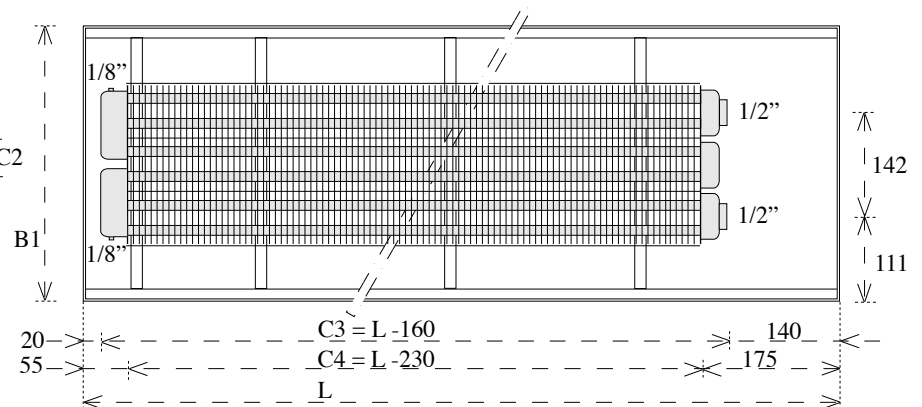
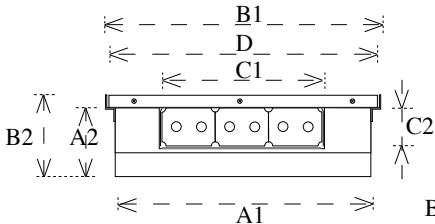
B.C.289.H11



B.C.334.H11



B.C.364.H11



DIMENSIONS

	(mm)	B.C.184.H11	B.C.259.H11	B.C.289.H11	B.C.334.H11	B.C.364.H11
total width (with frame)	B1	184	259	289	334	364
width trench	A1	158	233	263	308	338
width grille	D	175	250	280	325	355
total height (with frame)	B2	109 / 111 ⁽¹⁾				
height trench	A2	91				
total length (with frame)	L	maximum length in 1 piece : 5.000 mm				
length trench	L1	L - 6				
width convector	C1	70	140	140	210	210
height convector	C2	50				
length convector	C3	L - 100	L - 160			
finned convector length	C4	L - 250	L - 230			
connection convector	inches	3/8	1/2			
type of connection convector		on head side, right (seen from the room)				
air vent	inches	1/8				

⁽¹⁾ Depth low unit trench is 109 mm , with a grille height of 18 mm (standard execution). Depth low unit trench is 111 mm , with a grille height of 20 mm

STANDARD VERSIONS

Frame and grille

Unless otherwise specified during ordering a natural anodised frame of 18 mm (for a grille height of 18 mm) will be mounted on the trench. If an additional grille is ordered, then the type and colour of the frame will be matched to that of the grille. Grilles in:

- aluminium: can be supplied in natural anodised, brass, bronze and black. The frame colour is identical to that of the grille colour.
- wood: are available in merbau, oak or beech with spacer sleeves in light grey, bronze or black. The frame colour is matched to the colour of the spacer sleeves (resp. natural anodised, bronze or black).
- stainless steel. The standard frame is supplied in black aluminium. If a stainless steel frame is required, this must be specified when ordering.

Connections

The standard water connection is on the right of the head side (seen from the room). Upon request the water connection may be supplied positioned on the left of the head side, to the left or right of the room, to the left or right downwards or F+R different ends.

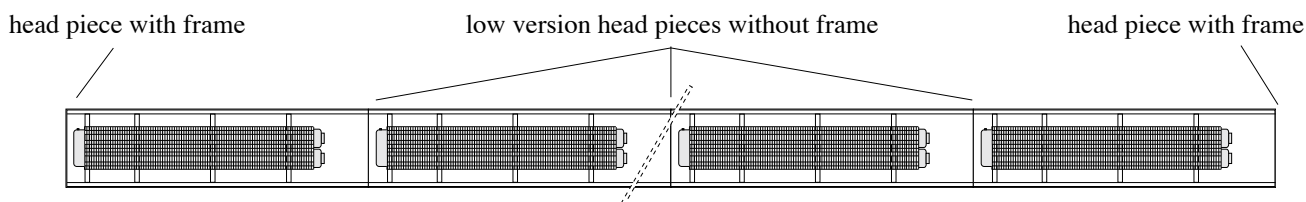
Accessories

The standard low trench unit comprises: the trench, the convector, the convector supports, the side plates, the division plates and a frame.

CONTINUOUS TRENCHES

The low trench units are supplied per section of maximum 5.000 mm with a frame section mounted on the head pieces. The different trenches can also be connected to create a continuous optical effect. The head pieces are supplied in the low version without frame. The trenches can easily be fitted to one another by means of bolts.

Obviously, the connection type must be specified.



HEAT OUTPUT

heating medium (°C)	90/70			80/60			75/65			55/45			Weight
air inlet temp. (°C)	18	20	22	18	20	22	18	20	22	18	20	22	kg
length (mm)	Heat output in Watt												
1.000	182	174	167	145	138	131	146	139	132	78	72	66	8,8
1.250	244	234	222	193	184	175	195	185	176	104	96	88	11,0
1.500	305	292	280	243	230	218	244	231	219	131	120	109	13,2
1.750	366	351	336	292	278	263	293	279	264	157	144	132	15,4
2.000	426	409	392	340	324	307	342	325	308	183	168	154	17,6
2.250	489	469	447	389	370	351	390	371	352	209	192	176	19,8
2.500	550	528	505	438	416	395	439	418	396	236	216	198	22,0
2.750	611	586	561	488	463	439	488	464	441	262	241	220	24,2
3.000	673	645	617	537	511	485	537	511	485	288	265	243	26,4
3.250	734	704	674	586	557	529	591	557	529	314	290	265	28,6
3.500	795	762	730	634	603	573	640	609	573	341	314	287	30,8
3.750	856	821	786	683	650	617	690	656	622	367	338	309	33,0
4.000	917	879	842	732	696	661	739	703	667	393	362	331	35,2
4.250	978	938	898	781	743	705	788	749	711	419	386	353	37,4
4.500	1.039	997	954	830	789	749	837	796	756	445	410	375	39,6
4.750	1.100	1.055	1.010	878	835	793	892	843	800	472	434	398	41,8

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 184 mm
 length trench : 4250 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 749 W

water flow = (749 x 0,86) /10 = 64 kg/h

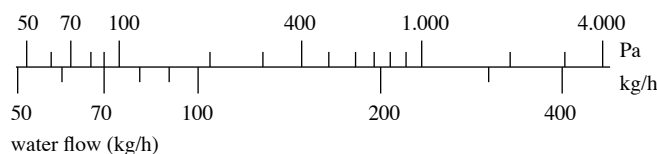
connection resistance (graph) = 81 Pa

convector resistance per meter (graph) = 41 Pa

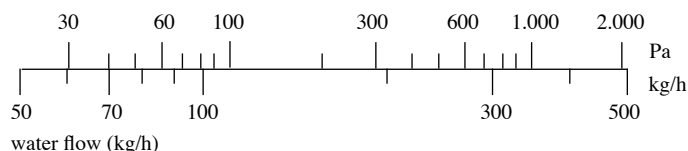
total convector resistance = 4,250 x 41 = 174 Pa

total water resistance = 81 + 174 = 255 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)



HEAT OUTPUT

heating medium (°C)	90/70			80/60			75/65			55/45			Weight
air inlet temp. (°C)	18	20	22	18	20	22	18	20	22	18	20	22	kg
length (mm)	Heat output in Watt												
1.000	317	303	289	247	234	221	249	236	223	126	115	105	13,1
1.250	420	402	383	330	312	295	331	314	297	168	154	140	16,4
1.500	523	500	477	410	389	367	412	391	369	210	192	174	19,7
1.750	630	602	571	491	465	440	494	468	442	251	229	209	22,9
2.000	733	701	669	572	542	512	575	544	515	294	267	243	26,2
2.250	837	800	763	656	621	587	659	624	590	335	306	277	29,5
2.500	940	899	857	737	698	660	740	701	663	377	344	313	32,8
2.750	1.044	998	952	818	775	733	822	778	736	418	382	348	36,0
3.000	1.147	1.097	1.046	900	852	805	907	855	808	460	420	382	39,3
3.250	1.256	1.200	1.141	981	929	878	989	936	885	501	458	416	42,6
3.500	1.360	1.300	1.240	1.062	1.006	951	1.070	1.014	958	542	496	451	45,9
3.750	1.464	1.399	1.335	1.143	1.083	1.023	1.152	1.091	1.031	586	534	485	49,1
4.000	1.568	1.498	1.430	1.229	1.164	1.096	1.238	1.173	1.105	628	572	520	52,4
4.250	1.672	1.598	1.525	1.311	1.242	1.173	1.321	1.251	1.182	670	612	554	55,7
4.500	1.783	1.697	1.619	1.392	1.319	1.246	1.403	1.329	1.256	711	650	591	59,0
4.750	1.887	1.803	1.714	1.474	1.396	1.319	1.490	1.406	1.329	753	688	626	62,2

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 259 mm
 length trench : 4000 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 1173 W

water flow = (1173 x 0,86) /10 = 101 kg/h

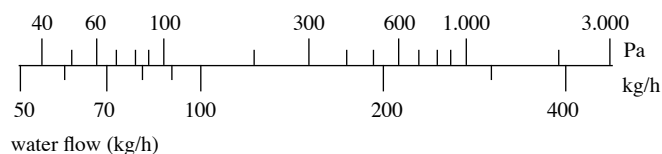
connection resistance (graph) = 130 Pa

convector resistance per meter (graph) = 22 Pa

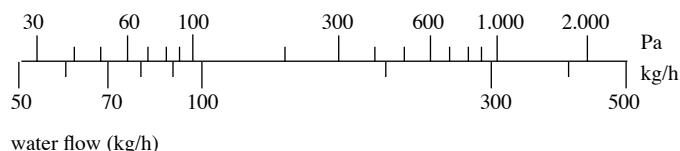
total convector resistance = 4,000 x 22 = 88 Pa

total water resistance = 130 + 88 = 218 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)



HEAT OUTPUT

heating medium (°C)	90/70			80/60			75/65			55/45			Weight
air inlet temp. (°C)	18	20	22	18	20	22	18	20	22	18	20	22	kg
length (mm)	Heat output in Watt												
1.000	361	345	329	283	266	251	283	268	253	145	131	119	13,5
1.250	478	457	436	375	355	336	377	357	337	191	175	159	16,9
1.500	598	569	543	467	442	418	469	444	420	238	218	198	20,3
1.750	716	684	653	559	529	500	561	532	503	285	261	237	23,6
2.000	834	797	760	654	619	585	656	622	588	334	305	276	27,0
2.250	952	910	868	746	707	668	749	710	671	381	349	317	30,4
2.500	1.069	1.022	975	838	794	751	842	797	754	428	392	356	33,8
2.750	1.192	1.135	1.083	931	882	833	938	889	837	475	435	395	37,1
3.000	1.310	1.252	1.195	1.023	969	916	1.031	977	923	523	478	434	40,5
3.250	1.429	1.365	1.303	1.115	1.057	999	1.124	1.065	1.006	570	521	474	43,9
3.500	1.547	1.478	1.410	1.213	1.144	1.081	1.222	1.153	1.090	619	564	513	47,3
3.750	1.665	1.591	1.518	1.305	1.236	1.169	1.315	1.246	1.177	667	610	552	50,6
4.000	1.790	1.704	1.626	1.398	1.324	1.252	1.409	1.334	1.261	714	653	594	54,0
4.250	1.909	1.824	1.734	1.491	1.412	1.334	1.507	1.423	1.344	762	696	633	57,4
4.500	2.028	1.938	1.849	1.583	1.500	1.417	1.601	1.516	1.428	809	740	672	60,8
4.750	2.146	2.051	1.957	1.676	1.588	1.500	1.694	1.605	1.517	856	783	712	64,1

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 289 mm
 length trench : 4000 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 1423 W

water flow = (1423 x 0,86) /10 = 122 kg/h

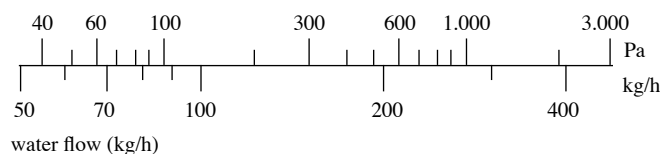
connection resistance (graph) = 280 Pa

convector resistance per meter (graph) = 44 Pa

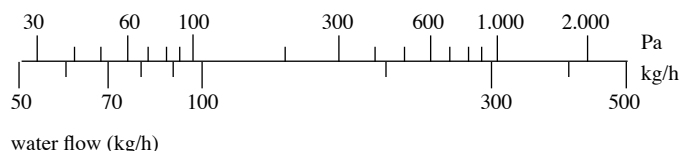
total convector resistance = 4,000 x 44 = 176 Pa

total water resistance = 280+ 176 = 456 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)



HEAT OUTPUT

heating medium (°C)	90/70			80/60			75/65			55/45			Weight
air inlet temp. (°C)	18	20	22	18	20	22	18	20	22	18	20	22	kg
length (mm)	Heat output in Watt												
1.000	454	434	414	356	337	318	360	341	322	182	166	151	17,0
1.250	608	574	548	471	446	422	476	451	426	241	220	200	21,3
1.500	756	723	690	593	556	525	595	562	531	303	274	249	25,5
1.750	905	865	825	710	672	635	712	674	637	363	332	301	29,8
2.000	1.054	1.007	961	826	783	740	829	785	742	422	386	351	34,0
2.250	1.207	1.150	1.097	943	893	844	948	898	847	482	441	401	38,3
2.500	1.356	1.296	1.236	1.060	1.004	949	1.066	1.010	954	541	495	450	42,5
2.750	1.505	1.439	1.373	1.180	1.114	1.053	1.186	1.121	1.059	603	550	500	46,8
3.000	1.655	1.581	1.509	1.297	1.229	1.158	1.304	1.235	1.167	663	606	549	51,0
3.250	1.809	1.724	1.645	1.414	1.340	1.266	1.422	1.347	1.273	722	661	601	55,3
3.500	1.958	1.872	1.786	1.531	1.450	1.371	1.543	1.462	1.378	782	715	650	59,5
3.750	2.108	2.015	1.922	1.648	1.561	1.476	1.661	1.573	1.487	842	770	700	63,8
4.000	2.258	2.158	2.059	1.770	1.672	1.580	1.784	1.685	1.593	904	825	750	68,0
4.250	2.414	2.301	2.195	1.888	1.788	1.685	1.902	1.802	1.698	964	882	799	72,3
4.500	2.564	2.450	2.338	2.005	1.899	1.795	2.020	1.914	1.808	1.024	937	849	76,5
4.750	2.714	2.594	2.475	2.122	2.010	1.900	2.144	2.026	1.914	1.084	991	901	80,8

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 334 mm
 length trench : 4500 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 1914 W

water flow = (1914 x 0,86) /10 = 165 kg/h

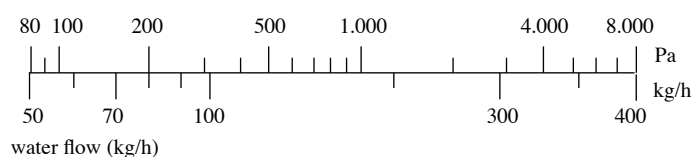
connection resistance (graph) = 790 Pa

convector resistance per meter (graph) = 275 Pa

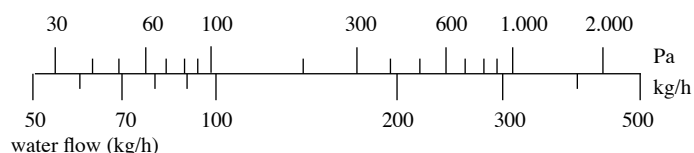
total convector resistance = 4,500 x 275 = 1238 Pa

total water resistance = 790 + 1238 = 2028 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)



HEAT OUTPUT

heating medium (°C)	90/70			80/60			75/65			55/45			Weight
air inlet temp. (°C)	18	20	22	18	20	22	18	20	22	18	20	22	kg
length (mm)	Heat output in Watt												
1.000	506	484	461	397	376	355	401	380	359	203	185	168	17,4
1.250	677	647	618	525	498	470	531	503	475	268	246	223	21,8
1.500	843	806	769	661	626	592	663	628	594	338	309	278	26,1
1.750	1.009	965	920	791	750	708	794	752	711	404	370	336	30,5
2.000	1.179	1.123	1.072	922	873	825	927	878	827	471	431	391	34,8
2.250	1.345	1.286	1.227	1.052	996	941	1.058	1.002	947	537	491	447	39,2
2.500	1.512	1.445	1.379	1.185	1.119	1.058	1.192	1.126	1.064	605	552	502	43,5
2.750	1.678	1.604	1.531	1.316	1.246	1.178	1.323	1.253	1.184	672	615	557	47,9
3.000	1.850	1.768	1.682	1.446	1.370	1.295	1.458	1.377	1.302	739	676	614	52,2
3.250	2.017	1.927	1.839	1.577	1.494	1.412	1.589	1.505	1.419	806	737	670	56,6
3.500	2.184	2.087	1.991	1.708	1.617	1.529	1.721	1.630	1.540	875	798	725	60,9
3.750	2.357	2.246	2.144	1.843	1.746	1.645	1.857	1.759	1.658	941	859	781	65,3
4.000	2.524	2.412	2.296	1.974	1.870	1.767	1.989	1.884	1.780	1.008	922	836	69,6
4.250	2.692	2.572	2.454	2.105	1.994	1.884	2.126	2.009	1.899	1.075	983	894	74,0
4.500	2.859	2.732	2.607	2.236	2.117	2.001	2.258	2.139	2.017	1.142	1.044	949	78,3
4.750	3.034	2.892	2.759	2.373	2.241	2.118	2.396	2.264	2.140	1.212	1.106	1.005	82,7

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C														
air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 364 mm
 length trench : 3750 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 1759 W

water flow = (1759 x 0,86) /10 = 151 kg/h

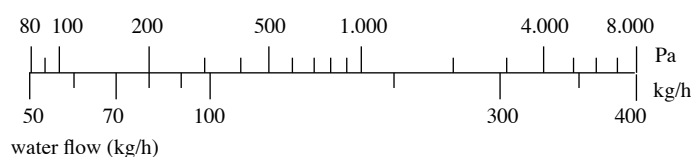
connection resistance (graph) = 690 Pa

convector resistance per meter (graph) = 230 Pa

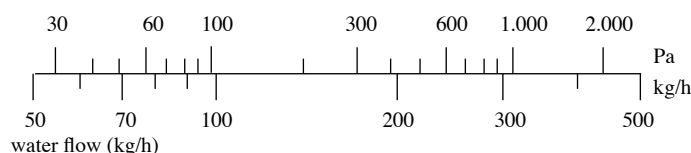
total convector resistance = 3,750 x 230 = 863 Pa

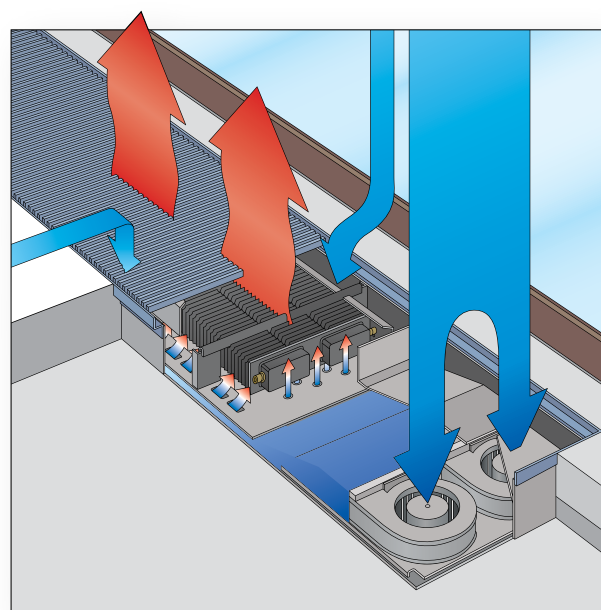
total water resistance = 690 + 863 = 1553 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)





LOW TRENCH UNITS WITH RADIAL FAN

DESCRIPTION

An increased output and quicker heating can be obtained with the trench heater with radial fan. This system has an air conduction channel with inductive outlets at the bottom to ensure a better mix with the ambient air.

The radial fan is a suction radial ventilator, directly driven by a single-phase capacitor motor with external rotor. Connection 230 V, 50 Hz, isolation class B, protection class IP 44. Built-in thermal contact.

This type comprises a ready to build-in duct and a convector. Their low incorporation height allows them to be built into the floor screed.

AIR CIRCULATION

See drawing above

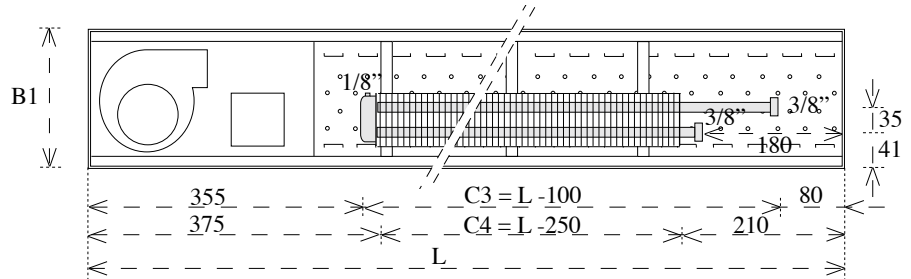
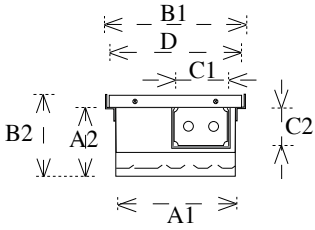
By mounting the compact floor convectors in front of glass sections (and cold outer walls) you can prevent the cold air from penetrating into the room.

MATERIAL

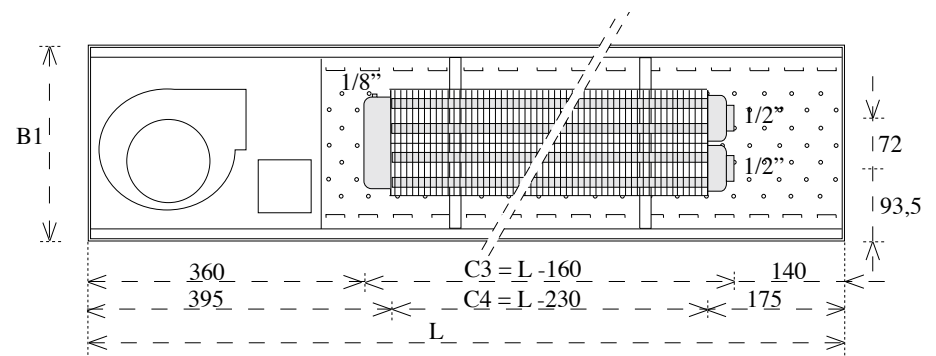
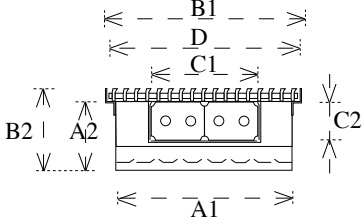
The trench consists of galvanised steel sheet of 1,25 mm lacquered in anthracite grey on the inside and outside. Steel convector supports to strengthen the trench are built into it the trench. The side plates ensure the good conduction of the heated air. Openings are provided in the trench for the passage of the pipes (standard in the right head piece). An anodised aluminium frame is mounted on the trench, the colour of the frame matches that of the grille. If no grille is ordered then a standard 18 mm aluminium natural anodised frame is fitted on the trench (suited for a grille height of 18 mm).

The **convector** is entirely manufactured in steel and is subsequently lacquered in anthracite grey. To prevent contact noises it rests on plastic strips. The trench is longer than the heating element to allow the connections and cocks to be mounted in the trench.

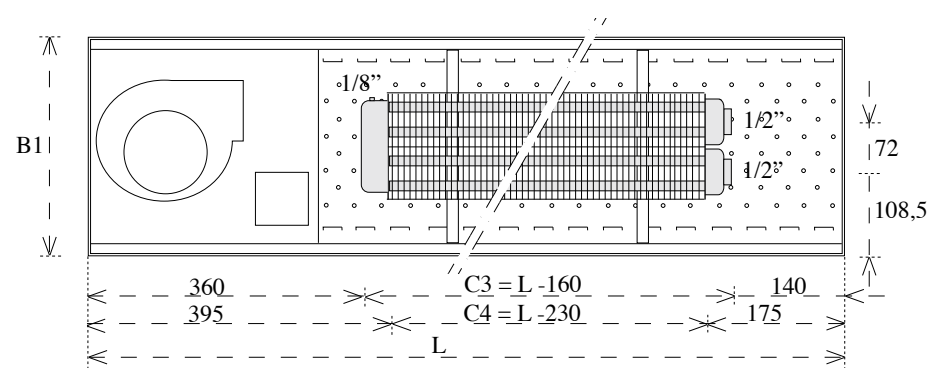
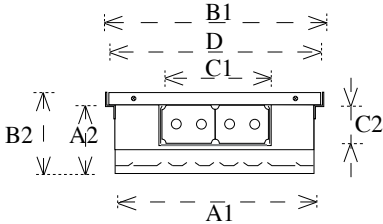
B.CV.184.H11



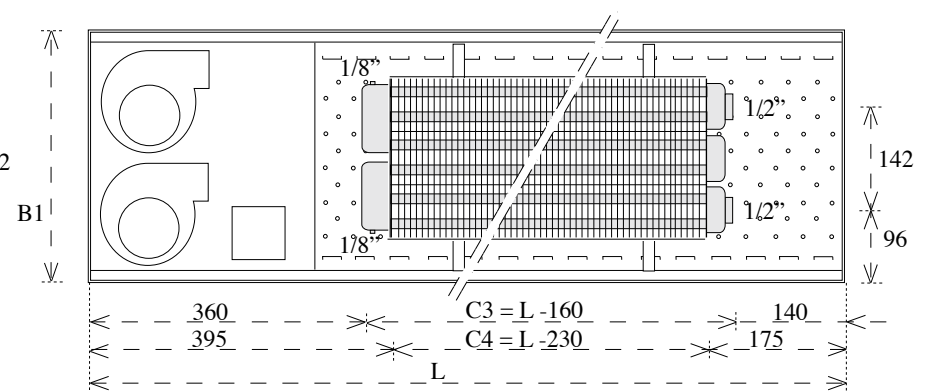
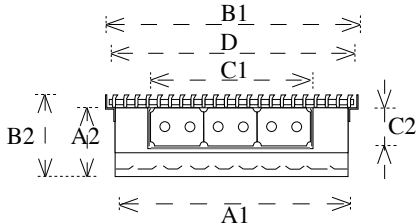
B.CV.259.H11



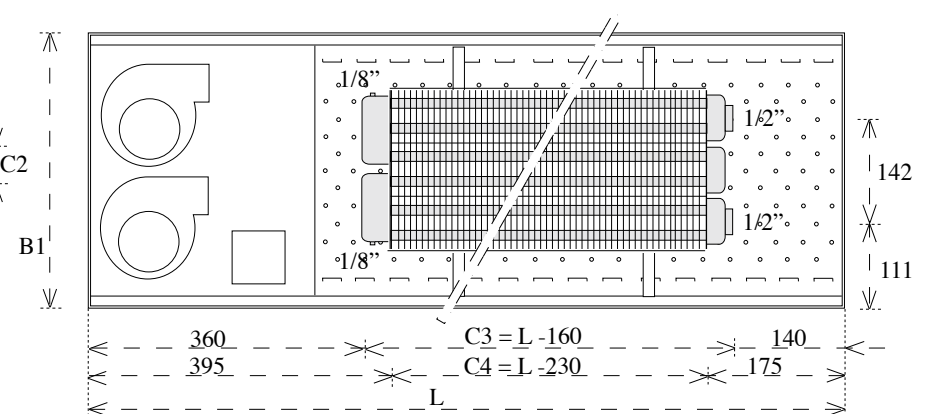
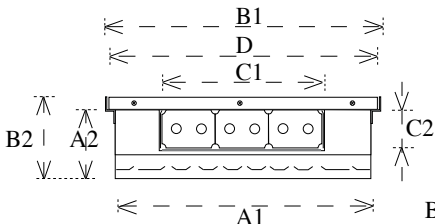
B.CV.289.H11



B.CV.334.H11



B.CV.364.H11



DIMENSIONS

	(mm)	B.CV.184.H11	B.CV.259.H11	B.CV.289.H11	B.CV.334.H11	B.CV.364.H11
total width (with frame)	B1	184	259	289	334	364
width trench	A1	158	233	263	308	338
width grille	D	175	250	280	325	355
total height (with frame)	B2	109 / 111 ⁽¹⁾				
height trench	A2	91				
total length (with frame)	L	maximum length in 1 piece : 5.000 mm				
length trench	L1	L - 6				
width convector	C1	70	140	140	210	210
height convector	C2	50				
length convector	C3	L - 435	L - 500			
finned convector length	C4	L - 585	L - 570			
connection convector	inches	3/8	1/2			
type of connection convector		on head side, right (seen from the room)				
air vent	inches	1/8				

⁽¹⁾ Depth low unit trench is 109 mm , with a grille height of 18 mm (standard execution). Depth low unit trench is 111 mm , with a grille height of 20 mm

STANDARD VERSIONS

Frame and grille

Unless otherwise specified during ordering a natural anodised frame of 18 mm (for a grille height of 18 mm) will be mounted on the trench. If an additional grille is ordered, then the type and colour of the frame will be matched to that of the grille. Grilles in:

- aluminium: can be supplied in natural anodised, brass, bronze and black. The frame colour is identical to that of the grille colour.
- wood: are available in merbau, oak or beech with spacer sleeves in light grey, bronze or black. The frame colour is matched to the colour of the spacer sleeves (resp. natural anodised, bronze or black).
- stainless steel. The standard frame is supplied in black aluminium. If a stainless steel frame is required, this must be specified when ordering.

Connections

The standard water connection is on the right of the head side (seen from the room). Upon request the water connection may be supplied positioned on the left of the head side, to the left or right of the room, to the left or right downwards or F+R different ends.

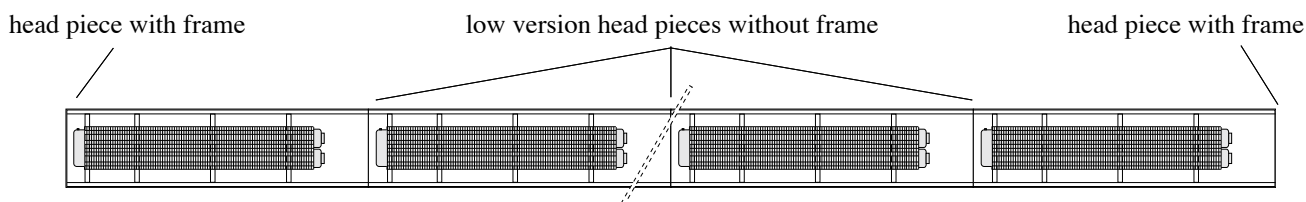
Accessories

The standard low trench unit comprises: the trench, the convector, the convector supports, the side plates, the division plates and a frame.

CONTINUOUS TRENCHES

The low trench units are supplied per section of maximum 5.000 mm with a frame section mounted on the head pieces. The different trenches can also be connected to create a continuous optical effect. The head pieces are supplied in the low version without frame. The trenches can easily be fitted to one another by means of bolts.

Obviously, the connection type must be specified.





HEAT OUTPUT

	position 5			position 4			position 3			position 2			position 1			position 0			
speed	970 r.p.m.			780 r.p.m.			620 r.p.m.			470 r.p.m.			330 r.p.m.			-			
sound press.	43 dB(A)			35 dB(A)			29 dB(A)			24 dB(A)			21 dB(A)			0 dB(A)			
heating medium 90/70°C																			Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg
length	Heat output in Watt																		
1.000	319	308	297	272	262	253	225	217	210	190	184	177	168	162	156	101	94	87	10,1
1.250	526	508	490	425	411	396	352	340	328	298	287	277	262	253	244	151	145	139	12,6
1.500	706	682	658	602	582	561	499	482	441	400	386	372	352	340	328	208	200	191	15,2
1.750	877	847	817	748	722	697	620	599	577	523	506	488	437	422	407	267	256	245	17,7
2.000	1.039	1.003	968	886	856	825	734	709	684	620	599	577	546	527	509	324	311	298	20,2
2.250	1.223	1.181	1.110	1.016	981	946	842	813	784	711	687	662	626	605	583	381	366	350	22,7
2.500	1.370	1.323	1.276	1.169	1.099	1.060	943	910	878	796	769	742	701	677	653	439	421	403	25,3
2.750	1.507	1.456	1.404	1.286	1.242	1.197	1.037	1.002	966	876	846	816	772	745	719	498	477	455	27,8
3.000	1.635	1.579	1.523	1.395	1.347	1.299	1.125	1.086	1.048	950	918	885	837	808	780	555	532	510	30,3
3.250	1.788	1.693	1.633	1.495	1.444	1.393	1.239	1.196	1.123	1.019	984	949	897	867	836	613	587	562	32,8
3.500	1.898	1.833	1.768	1.588	1.533	1.479	1.315	1.270	1.225	1.082	1.045	1.007	953	920	888	670	643	615	35,4
3.750	1.999	1.930	1.862	1.672	1.614	1.557	1.385	1.337	1.290	1.170	1.100	1.061	1.003	969	935	728	698	668	37,9
4.000	2.090	2.018	1.946	1.782	1.688	1.628	1.448	1.398	1.349	1.223	1.181	1.109	1.049	1.013	977	785	753	721	40,4
4.250	2.171	2.096	2.022	1.851	1.788	1.691	1.504	1.453	1.401	1.270	1.227	1.183	1.090	1.052	1.015	842	808	773	42,9
4.500	2.242	2.165	2.088	1.912	1.847	1.781	1.554	1.500	1.447	1.312	1.267	1.222	1.126	1.087	1.048	900	863	826	45,5
4.750	2.348	2.224	2.145	1.965	1.897	1.830	1.596	1.541	1.487	1.348	1.302	1.256	1.188	1.117	1.077	957	918	879	48,0
heating medium 75/65°C																			Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg
length	Heat output in Watt																		
1.000	278	267	256	237	216	207	187	179	171	158	151	145	139	133	128	75	72	68	10,1
1.250	436	418	400	372	356	341	308	295	283	260	249	239	217	208	200	122	115	109	12,6
1.500	601	561	538	499	479	458	414	397	380	349	335	321	308	295	283	167	159	151	15,2
1.750	747	716	686	637	611	585	514	493	472	434	416	399	382	367	351	213	203	192	17,7
2.000	902	848	812	754	724	693	625	599	559	514	493	472	453	434	416	260	247	234	20,2
2.250	1.034	992	950	882	830	794	717	687	658	605	565	541	519	498	477	306	291	276	22,7
2.500	1.181	1.111	1.064	988	947	907	803	770	737	678	650	622	597	558	534	351	334	317	25,3
2.750	1.299	1.246	1.193	1.087	1.042	998	900	847	811	746	715	685	657	630	603	397	378	359	27,8
3.000	1.409	1.351	1.294	1.202	1.131	1.082	977	937	897	809	776	743	713	683	654	443	421	400	30,3
3.250	1.530	1.467	1.387	1.288	1.236	1.183	1.047	1.004	961	884	832	796	764	733	702	489	465	441	32,8
3.500	1.624	1.558	1.491	1.368	1.312	1.256	1.112	1.066	1.021	939	901	846	811	778	745	535	509	483	35,4
3.750	1.710	1.640	1.570	1.459	1.382	1.323	1.193	1.123	1.075	989	948	908	854	819	784	586	552	524	37,9
4.000	1.810	1.715	1.642	1.525	1.463	1.383	1.248	1.197	1.124	1.034	991	949	911	873	820	632	601	566	40,4
4.250	1.881	1.804	1.706	1.584	1.519	1.455	1.296	1.243	1.190	1.074	1.030	986	946	907	852	679	645	613	42,9
4.500	1.942	1.863	1.783	1.636	1.569	1.502	1.339	1.284	1.229	1.109	1.064	1.018	977	937	897	725	689	654	45,5
4.750	1.996	1.914	1.832	1.681	1.612	1.544	1.375	1.319	1.263	1.140	1.093	1.046	1.004	963	922	771	733	696	48,0
heating medium 55/45°C																			Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg
length	Heat output in Watt																		
1.000	157	147	137	134	125	116	111	104	97	94	88	82	83	77	72	41	38	33	10,1
1.250	260	242	214	210	196	182	174	163	151	147	137	128	130	121	112	65	60	54	12,6
1.500	349	326	303	298	278	258	247	218	203	198	184	171	174	162	151	89	82	75	15,2
1.750	433	405	376	370	345	321	306	286	266	259	241	213	216	202	188	114	105	96	17,7
2.000	513	479	445	438	409	380	363	339	315	306	286	266	270	252	234	139	128	117	20,2
2.250	604	549	511	502	469	435	416	388	361	351	328	305	309	289	268	163	151	138	22,7
2.500	677	632	587	562	525	488	466	435	404	393	367	341	347	324	301	188	173	158	25,3
2.750	745	695	646	635	593	537	513	478	445	433	404	375	381	356	331	213	196	179	27,8
3.000	808	754	701	689	643	598	556	519	482	469	438	407	414	386	359	238	218	200	30,3
3.250	883	809	751	739	690	641	612	556	517	503	470	437	443	414	385	263	242	221	32,8
3.500	938	875	798	784	732	680	650	607	549	534	499	464	471	440	408	287	264	242	35,4
3.750	988	922	840	826	771	716	684	639	594	563	525	488	496	463	430	312	287	263	37,9
4.000	1.032	964	895	881	806	749	715	668	621	604	549	510	518	484	450	336	310	284	40,4
4.250	1.073	1.001	930	915	837	778	743	694	645	628	586	530	538	503	467	361	332	304	42,9
4.500	1.108	1.034	961	945	882	804	768	717	666	648	605	548	556	519	482	386	355	325	45,5
4.750	1.138	1.062	987	971	906	826	789	736	684	666	622	563	587	533	496	410	378	346	48,0

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 184 mm
 length trench : 3750 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 1640 W

water flow = (1640 x 0,86) /10 = 141 kg/h

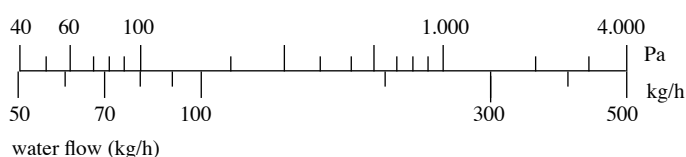
connection resistance (graph) = 281 Pa

convector resistance per meter (graph) = 126 Pa

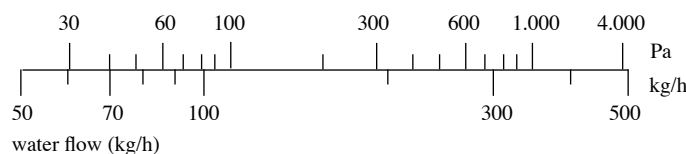
total convector resistance = 3,750 x 126 = 473 Pa

total water resistance = 281 + 473 = 754 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)





HEAT OUTPUT

	position 5			position 4			position 3			position 2			position 1			position 0				
speed	970 r.p.m.			780 r.p.m.			620 r.p.m.			470 r.p.m.			330 r.p.m.			-				
sound press.	43 dB(A)			39 dB(A)			34 dB(A)			29 dB(A)			25 dB(A)			0 dB(A)				
heating medium 90/70°C																				Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	631	609	587	559	540	521	494	477	460	420	406	391	342	330	318	165	158	151	14,6	
1.250	965	932	899	856	826	797	756	730	704	659	636	613	536	518	499	261	250	238	18,3	
1.500	1.307	1.262	1.218	1.159	1.093	1.054	1.000	966	932	871	841	811	709	685	660	360	344	328	21,9	
1.750	1.602	1.547	1.492	1.421	1.372	1.323	1.255	1.212	1.169	1.068	1.031	995	869	839	809	457	437	417	25,6	
2.000	1.913	1.847	1.781	1.695	1.604	1.547	1.468	1.417	1.367	1.278	1.234	1.191	1.016	981	946	554	529	505	29,2	
2.250	2.165	2.091	2.016	1.919	1.853	1.788	1.696	1.604	1.547	1.447	1.397	1.348	1.178	1.137	1.071	654	625	596	32,9	
2.500	2.442	2.358	2.229	2.122	2.049	1.976	1.874	1.810	1.746	1.599	1.545	1.490	1.302	1.257	1.212	751	718	685	36,5	
2.750	2.649	2.558	2.468	2.349	2.268	2.144	2.034	1.964	1.894	1.772	1.711	1.616	1.412	1.364	1.315	849	811	774	40,2	
3.000	2.832	2.735	2.638	2.511	2.425	2.339	2.174	2.100	2.025	1.894	1.829	1.764	1.510	1.458	1.406	946	904	863	43,8	
3.250	3.047	2.942	2.785	2.651	2.560	2.469	2.342	2.262	2.138	2.000	1.931	1.863	1.594	1.539	1.485	1.043	997	952	47,5	
3.500	3.183	3.073	2.964	2.821	2.674	2.579	2.447	2.363	2.279	2.089	2.017	1.946	1.700	1.608	1.551	1.141	1.090	1.040	51,1	
3.750	3.293	3.180	3.067	2.919	2.819	2.669	2.532	2.445	2.358	2.161	2.087	2.013	1.759	1.698	1.605	1.243	1.188	1.129	54,8	
4.000	3.378	3.262	3.146	2.995	2.892	2.789	2.597	2.508	2.419	2.262	2.141	2.065	1.804	1.742	1.680	1.341	1.281	1.223	58,4	
4.250	3.501	3.320	3.202	3.048	2.943	2.839	2.643	2.552	2.462	2.302	2.179	2.102	1.836	1.773	1.710	1.439	1.375	1.312	62,1	
4.500	3.536	3.353	3.234	3.078	2.972	2.867	2.669	2.578	2.486	2.325	2.245	2.123	1.855	1.791	1.727	1.536	1.468	1.401	65,7	
4.750	3.545	3.362	3.242	3.086	2.980	2.874	2.676	2.584	2.493	2.331	2.251	2.128	1.859	1.795	1.732	1.634	1.562	1.490	69,4	
heating medium 75/65°C																				Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	523	501	480	463	444	426	409	393	376	357	342	327	290	278	266	130	123	116	14,6	
1.250	819	786	752	726	697	667	642	616	576	546	524	501	444	426	408	207	196	185	18,3	
1.500	1.106	1.061	1.016	981	941	901	849	814	779	739	709	679	602	564	540	282	268	253	21,9	
1.750	1.384	1.327	1.270	1.227	1.153	1.104	1.062	1.019	975	925	869	832	738	707	677	360	341	322	25,6	
2.000	1.648	1.581	1.513	1.434	1.375	1.317	1.267	1.215	1.140	1.082	1.037	993	862	827	792	437	413	391	29,2	
2.250	1.900	1.822	1.745	1.654	1.586	1.519	1.434	1.376	1.317	1.249	1.198	1.124	996	956	915	513	486	459	32,9	
2.500	2.133	2.046	1.929	1.862	1.753	1.679	1.615	1.549	1.456	1.381	1.324	1.268	1.101	1.056	1.011	592	558	527	36,5	
2.750	2.351	2.220	2.126	2.020	1.938	1.855	1.753	1.681	1.609	1.527	1.437	1.376	1.219	1.146	1.097	668	633	598	40,2	
3.000	2.513	2.410	2.272	2.194	2.104	1.983	1.908	1.830	1.721	1.632	1.565	1.499	1.304	1.250	1.197	745	705	667	43,8	
3.250	2.679	2.545	2.437	2.316	2.222	2.127	2.015	1.932	1.850	1.723	1.653	1.582	1.376	1.320	1.264	821	778	735	47,5	
3.500	2.798	2.683	2.545	2.457	2.321	2.222	2.138	2.019	1.933	1.833	1.726	1.653	1.438	1.379	1.320	901	851	804	51,1	
3.750	2.922	2.777	2.658	2.542	2.438	2.299	2.212	2.121	2.000	1.897	1.819	1.710	1.516	1.427	1.366	978	927	876	54,8	
4.000	2.998	2.848	2.727	2.608	2.501	2.395	2.269	2.176	2.084	1.946	1.866	1.787	1.555	1.464	1.401	1.055	1.000	945	58,4	
4.250	3.051	2.926	2.775	2.654	2.546	2.437	2.309	2.215	2.120	1.980	1.899	1.818	1.582	1.518	1.426	1.132	1.072	1.014	62,1	
4.500	3.081	2.955	2.803	2.706	2.571	2.462	2.332	2.237	2.142	2.000	1.918	1.837	1.598	1.533	1.440	1.213	1.145	1.082	65,7	
4.750	3.089	2.963	2.810	2.713	2.578	2.468	2.339	2.243	2.147	2.005	1.923	1.841	1.602	1.537	1.444	1.291	1.222	1.151	69,4	
heating medium 55/45°C																				Weight
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	312	291	270	276	258	240	244	223	207	208	194	180	169	158	147	66	61	55	14,6	
1.250	477	445	414	423	395	367	374	349	324	325	304	282	265	247	230	105	96	87	18,3	
1.500	646	603	547	559	522	485	494	461	429	430	402	373	350	327	304	144	131	119	21,9	
1.750	792	739	687	702	655	609	620	579	525	528	493	458	429	401	372	183	167	152	25,6	
2.000	945	882	803	821	766	712	725	677	629	632	590	535	502	469	435	222	203	184	29,2	
2.250	1.070	999	928	948	885	806	821	766	712	715	667	620	582	530	493	261	238	217	32,9	
2.500	1.206	1.104	1.026	1.048	979	909	926	865	787	790	738	685	643	600	545	301	274	249	36,5	
2.750	1.309	1.222	1.113	1.160	1.062	987	1.005	938	872	875	801	744	698	651	605	340	311	281	40,2	
3.000	1.399	1.306	1.214	1.241	1.158	1.055	1.074	1.003	932	936	874	795	746	696	647	379	347	315	43,8	
3.250	1.505	1.379	1.282	1.310	1.223	1.136	1.134	1.059	984	988	922	857	788	735	683	418	382	347	47,5	
3.500	1.573	1.468	1.339	1.368	1.277	1.187	1.209	1.106	1.028	1.032	963	895	823	768	714	457	418	380	51,1	
3.750	1.627	1.519	1.385	1.416	1.322	1.228	1.251	1.168	1.063	1.068	997	926	869	795	738	496	453	412	54,8	
4.000	1.669	1.558	1.421	1.480	1.356	1.260	1.283	1.198	1.091	1.095	1.023	950	891	815	757	535	489	445	58,4	
4.250	1.699	1.586	1.473	1.506	1.380	1.282	1.306	1.219	1.110	1.115	1.041	967	907	830	771	574	525	477	62,1	
4.500	1.747	1.602	1.488	1.521	1.394	1.295	1.319	1.231	1.144	1.126	1.051	977	916	838	779	615	560	509	65,7	
4.750	1.752	1.606	1.492	1.525	1.397	1.298	1.322	1.234	1.147	1.129	1.054	979	919	840	781	654	598	542	69,4	

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 259 mm
 length trench : 2750 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 2220 W

water flow = (2220 x 0,86) /10 = 191 kg/h

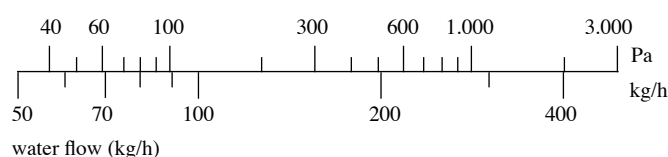
connection resistance (graph) = 460 Pa

convector resistance per meter (graph) = 74 Pa

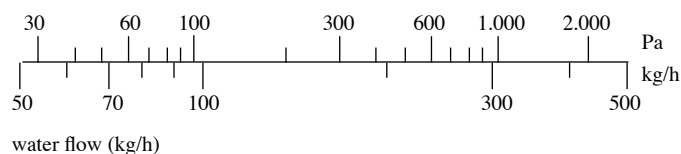
total convector resistance = 2,750 x 74 = 204 Pa

total water resistance = 460 + 204 = 664 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)





HEAT OUTPUT

	position 5			position 4			position 3			position 2			position 1			position 0					
speed	970 r.p.m.			780 r.p.m.			620 r.p.m.			470 r.p.m.			330 r.p.m.			-					
sound press.	45 dB(A)			39 dB(A)			34 dB(A)			29 dB(A)			25 dB(A)			0 dB(A)					
heating medium 90/70°C																				Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg		
length	Heat output in Watt																				
1.000	694	670	646	615	594	573	544	525	506	473	447	431	376	363	351	188	180	171	15,4		
1.250	1.062	1.026	990	942	910	877	832	804	775	725	700	675	590	570	549	300	286	271	19,3		
1.500	1.439	1.389	1.340	1.276	1.232	1.188	1.101	1.063	1.025	959	926	893	780	753	727	410	392	374	23,1		
1.750	1.800	1.703	1.643	1.563	1.510	1.456	1.381	1.334	1.287	1.203	1.135	1.095	956	923	891	520	497	474	27,0		
2.000	2.105	2.033	1.961	1.866	1.802	1.703	1.615	1.560	1.504	1.407	1.359	1.310	1.118	1.080	1.041	633	605	574	30,8		
2.250	2.431	2.348	2.219	2.112	2.040	1.967	1.866	1.802	1.703	1.593	1.538	1.483	1.296	1.251	1.207	744	711	678	34,7		
2.500	2.687	2.595	2.503	2.382	2.255	2.175	2.063	1.992	1.921	1.797	1.700	1.640	1.432	1.383	1.334	855	817	779	38,5		
2.750	2.971	2.816	2.716	2.585	2.496	2.408	2.239	2.162	2.085	1.950	1.883	1.816	1.554	1.501	1.448	965	923	880	42,4		
3.000	3.176	3.067	2.958	2.764	2.669	2.574	2.442	2.358	2.229	2.085	2.013	1.942	1.662	1.605	1.548	1.076	1.028	981	46,2		
3.250	3.353	3.238	3.123	2.973	2.818	2.718	2.578	2.489	2.401	2.201	2.125	2.050	1.791	1.694	1.634	1.192	1.134	1.082	50,1		
3.500	3.567	3.383	3.262	3.105	2.999	2.839	2.693	2.600	2.508	2.346	2.220	2.141	1.871	1.807	1.707	1.303	1.245	1.188	53,9		
3.750	3.691	3.564	3.376	3.213	3.103	2.993	2.786	2.691	2.595	2.427	2.344	2.216	1.936	1.869	1.803	1.414	1.351	1.289	57,8		
4.000	3.786	3.656	3.527	3.296	3.183	3.070	2.912	2.760	2.662	2.490	2.404	2.273	1.986	1.918	1.849	1.525	1.457	1.391	61,6		
4.250	3.853	3.721	3.589	3.354	3.239	3.124	2.964	2.809	2.709	2.534	2.447	2.360	2.021	1.951	1.882	1.636	1.564	1.492	65,5		
4.500	3.892	3.758	3.625	3.388	3.272	3.155	2.993	2.837	2.736	2.559	2.471	2.383	2.041	1.971	1.901	1.754	1.670	1.593	69,3		
4.750	3.902	3.768	3.634	3.397	3.280	3.164	3.001	2.844	2.743	2.566	2.478	2.390	2.046	1.976	1.906	1.866	1.783	1.695	73,2		
heating medium 75/65°C																				Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg		
length	Heat output in Watt																				
1.000	589	552	528	510	489	468	451	432	414	393	376	360	319	306	293	149	141	132	15,4		
1.250	921	883	828	799	767	734	706	677	649	615	590	552	489	469	449	235	222	210	19,3		
1.500	1.242	1.191	1.118	1.079	1.035	991	954	915	876	814	781	747	662	635	608	323	306	288	23,1		
1.750	1.551	1.488	1.398	1.350	1.295	1.240	1.193	1.121	1.073	1.018	977	935	812	779	745	410	388	367	27,0		
2.000	1.847	1.772	1.666	1.608	1.542	1.477	1.395	1.337	1.280	1.215	1.165	1.093	969	929	890	496	470	444	30,8		
2.250	2.124	2.037	1.920	1.854	1.778	1.672	1.608	1.543	1.477	1.375	1.319	1.263	1.097	1.052	1.007	586	552	522	34,7		
2.500	2.384	2.252	2.156	2.082	1.965	1.882	1.811	1.705	1.632	1.549	1.485	1.396	1.237	1.186	1.113	673	637	602	38,5		
2.750	2.587	2.481	2.376	2.259	2.166	2.074	1.965	1.884	1.804	1.680	1.612	1.543	1.342	1.287	1.232	760	720	680	42,4		
3.000	2.792	2.678	2.540	2.452	2.352	2.217	2.133	2.046	1.929	1.830	1.755	1.650	1.462	1.376	1.317	847	802	758	46,2		
3.250	2.976	2.827	2.707	2.589	2.483	2.377	2.253	2.160	2.068	1.932	1.853	1.774	1.543	1.480	1.391	938	888	836	50,1		
3.500	3.108	2.981	2.828	2.730	2.618	2.483	2.389	2.257	2.161	2.049	1.935	1.853	1.612	1.546	1.480	1.025	971	918	53,9		
3.750	3.234	3.084	2.953	2.825	2.709	2.569	2.472	2.371	2.235	2.121	2.002	1.917	1.668	1.600	1.532	1.113	1.054	996	57,8		
4.000	3.317	3.164	3.029	2.925	2.779	2.661	2.536	2.432	2.329	2.175	2.086	1.966	1.711	1.641	1.571	1.205	1.137	1.074	61,6		
4.250	3.376	3.238	3.083	2.976	2.828	2.708	2.581	2.475	2.370	2.214	2.123	2.001	1.774	1.670	1.599	1.292	1.224	1.153	65,5		
4.500	3.410	3.270	3.114	3.006	2.857	2.735	2.632	2.500	2.394	2.236	2.144	2.053	1.791	1.687	1.615	1.380	1.307	1.235	69,3		
4.750	3.419	3.279	3.122	3.014	2.864	2.742	2.639	2.507	2.400	2.242	2.150	2.059	1.796	1.691	1.619	1.473	1.390	1.314	73,2		
heating medium 55/45°C																				Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg		
length	Heat output in Watt																				
1.000	343	320	297	304	284	264	269	251	233	234	213	198	186	174	161	75	69	63	15,4		
1.250	525	490	455	465	434	404	411	384	357	358	334	311	291	272	253	119	109	99	19,3		
1.500	711	664	617	630	588	534	544	508	472	474	442	411	386	360	334	164	150	135	23,1		
1.750	890	813	756	773	721	670	683	637	592	595	542	504	473	441	410	208	190	173	27,0		
2.000	1.040	971	902	922	843	783	798	745	692	695	649	603	553	516	479	252	231	210	30,8		
2.250	1.201	1.099	1.021	1.044	974	905	922	843	784	787	735	682	640	598	542	298	271	246	34,7		
2.500	1.328	1.239	1.129	1.177	1.077	1.001	1.019	952	884	888	812	754	708	661	614	342	313	283	38,5		
2.750	1.468	1.345	1.250	1.277	1.192	1.086	1.106	1.033	959	963	899	819	768	717	666	387	354	321	42,4		
3.000	1.569	1.465	1.336	1.365	1.275	1.184	1.206	1.104	1.026	1.030	962	893	821	766	712	431	394	358	46,2		
3.250	1.657	1.547	1.410	1.469	1.346	1.250	1.274	1.189	1.083	1.087	1.015	943	885	809	752	475	435	395	50,1		
3.500	1.763	1.616	1.501	1.534	1.406	1.306	1.331	1.242	1.131	1.136	1.060	985	924	845	785	520	475	432	53,9		
3.750	1.824	1.672	1.553	1.588	1.482	1.351	1.377	1.285	1.194	1.199	1.097	1.019	956	893	813	564	516	469	57,8		
4.000	1.871	1.746	1.593	1.629	1.520	1.386	1.412	1.318	1.225	1.230	1.126	1.046	981	916	834	611	556	506	61,6		
4.250	1.904	1.777	1.621	1.657	1.547	1.411	1.464	1.342	1.247	1.252	1.169	1.064	998	932	848	655	599	543	65,5		
4.500	1.923	1.795	1.638	1.674	1.563	1.425	1.479	1.355	1.259	1.264	1.180	1.075	1.008	941	875	700	640	582	69,3		
4.750	1.928	1.800	1.642	1.678	1.567	1.456	1.483	1.359	1.262	1.268	1.183	1.078	1.011	944	877	744	681	619	73,2		

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 289 mm
 length trench : 3000 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 2678 W

water flow = (2678 x 0,86) /10 = 230 kg/h

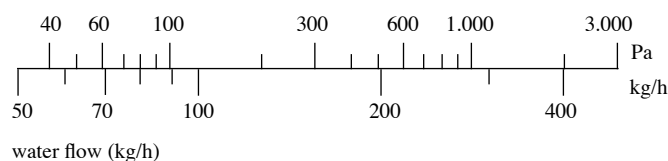
connection resistance (graph) = 720 Pa

convector resistance per meter (graph) = 131 Pa

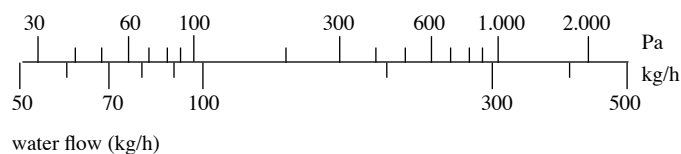
total convector resistance = 3,000 x 131 = 393 Pa

total water resistance = 720 + 393 = 1113 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)



HEAT OUTPUT

	position 5			position 4			position 3			position 2			position 1			position 0				
speed	1.440 r.p.m.			1.060 r.p.m.			720 r.p.m.			430 r.p.m.			160 r.p.m.			-				
sound press.	45 dB(A)			38 dB(A)			31 dB(A)			27 dB(A)			24 dB(A)			0 dB(A)				
heating medium 90/70°C																			Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	673	650	626	572	552	532	473	451	435	399	385	371	353	341	329	228	218	208	19,1	
1.250	1.039	1.003	968	883	853	822	731	706	681	624	603	582	553	534	516	365	348	333	23,9	
1.500	1.442	1.393	1.343	1.225	1.183	1.098	976	942	909	834	805	776	739	714	688	499	477	455	28,7	
1.750	1.835	1.772	1.663	1.517	1.465	1.413	1.256	1.213	1.170	1.032	997	961	915	883	852	639	611	583	33,4	
2.000	2.168	2.094	2.019	1.842	1.779	1.670	1.484	1.433	1.382	1.268	1.224	1.181	1.081	1.044	1.007	775	741	707	38,2	
2.250	2.549	2.462	2.374	2.109	2.037	1.964	1.746	1.641	1.583	1.451	1.401	1.352	1.287	1.242	1.198	910	870	830	43,0	
2.500	2.924	2.754	2.656	2.423	2.340	2.198	1.954	1.887	1.820	1.624	1.568	1.512	1.439	1.390	1.341	1.046	1.000	954	47,8	
2.750	3.214	3.103	2.993	2.663	2.572	2.481	2.074	2.000	1.834	1.771	1.662	1.582	1.528	1.473	1.418	1.185	1.129	1.077	52,5	
3.000	3.569	3.363	3.244	2.959	2.787	2.689	2.390	2.247	2.168	1.988	1.920	1.851	1.762	1.656	1.597	1.321	1.262	1.204	57,3	
3.250	3.824	3.693	3.562	3.171	3.062	2.953	2.561	2.473	2.385	2.130	2.057	1.984	1.888	1.823	1.759	1.457	1.392	1.328	62,1	
3.500	4.138	3.919	3.780	3.365	3.250	3.134	2.718	2.625	2.531	2.260	2.183	2.105	2.004	1.935	1.866	1.593	1.522	1.452	66,9	
3.750	4.356	4.206	3.978	3.629	3.505	3.299	2.933	2.763	2.665	2.443	2.360	2.216	2.109	2.037	1.964	1.728	1.652	1.576	71,6	
4.000	4.552	4.396	4.240	3.793	3.663	3.533	3.065	2.960	2.785	2.554	2.466	2.378	2.204	2.128	2.053	1.869	1.786	1.700	76,4	
4.250	4.818	4.653	4.403	3.939	3.803	3.668	3.183	3.074	2.965	2.652	2.561	2.470	2.351	2.210	2.132	2.005	1.916	1.829	81,2	
4.500	4.975	4.804	4.546	4.147	3.927	3.788	3.286	3.174	3.061	2.738	2.644	2.550	2.427	2.344	2.201	2.142	2.047	1.953	86,0	
4.750	5.110	4.934	4.759	4.259	4.113	3.890	3.376	3.260	3.144	2.812	2.716	2.619	2.493	2.407	2.261	2.278	2.177	2.077	90,7	
heating medium 75/65°C																			Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	558	535	512	474	454	435	392	376	360	335	321	308	297	285	273	181	171	162	19,1	
1.250	920	883	822	761	730	699	630	604	556	518	496	475	459	440	421	286	271	256	23,9	
1.500	1.262	1.210	1.128	1.044	1.001	959	841	807	772	718	689	660	637	611	585	395	374	354	28,7	
1.750	1.602	1.536	1.471	1.327	1.273	1.219	1.070	1.026	983	914	877	817	788	756	724	501	475	449	33,4	
2.000	1.939	1.860	1.781	1.608	1.542	1.477	1.299	1.246	1.193	1.080	1.036	992	958	918	879	609	575	544	38,2	
2.250	2.264	2.171	2.079	1.886	1.809	1.691	1.524	1.462	1.365	1.270	1.218	1.166	1.096	1.051	1.007	716	678	641	43,0	
2.500	2.582	2.476	2.370	2.152	2.064	1.938	1.747	1.636	1.566	1.457	1.363	1.305	1.259	1.208	1.126	822	779	736	47,8	
2.750	2.870	2.752	2.635	2.411	2.268	2.172	1.921	1.842	1.763	1.601	1.535	1.470	1.384	1.328	1.271	931	882	832	52,5	
3.000	3.145	3.017	2.856	2.643	2.506	2.399	2.123	2.036	1.911	1.778	1.664	1.593	1.538	1.475	1.378	1.038	983	929	57,3	
3.250	3.392	3.253	3.095	2.832	2.716	2.571	2.274	2.181	2.088	1.905	1.827	1.749	1.648	1.581	1.513	1.145	1.085	1.025	62,1	
3.500	3.623	3.453	3.306	3.039	2.915	2.759	2.460	2.360	2.216	2.062	1.939	1.856	1.792	1.678	1.606	1.255	1.189	1.121	66,9	
3.750	3.831	3.658	3.479	3.220	3.068	2.937	2.619	2.484	2.378	2.170	2.081	1.954	1.886	1.809	1.691	1.362	1.290	1.219	71,6	
4.000	4.003	3.839	3.660	3.365	3.227	3.070	2.737	2.625	2.485	2.268	2.175	2.082	1.971	1.891	1.810	1.473	1.392	1.315	76,4	
4.250	4.176	3.987	3.817	3.517	3.351	3.188	2.842	2.726	2.581	2.400	2.258	2.162	2.088	1.963	1.880	1.580	1.497	1.411	81,2	
4.500	4.311	4.135	3.941	3.631	3.460	3.313	2.968	2.815	2.695	2.478	2.377	2.233	2.155	2.067	1.941	1.688	1.598	1.511	86,0	
4.750	4.448	4.247	4.048	3.729	3.577	3.402	3.048	2.924	2.768	2.546	2.441	2.337	2.214	2.123	1.993	1.800	1.700	1.607	90,7	
heating medium 55/45°C																			Weight	
air inlet t.	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	18°	20°	22°	kg	
length	Heat output in Watt																			
1.000	332	310	288	282	264	245	234	215	200	197	184	171	175	163	152	91	84	76	19,1	
1.250	513	479	445	436	407	378	361	337	313	309	288	268	273	255	237	146	132	120	23,9	
1.500	713	665	618	605	544	505	482	450	418	412	385	357	365	341	317	200	183	166	28,7	
1.750	907	823	765	750	700	650	621	557	518	510	476	442	452	422	392	253	232	211	33,4	
2.000	1.071	1.000	929	910	827	768	733	685	636	626	585	523	534	499	463	310	281	255	38,2	
2.250	1.260	1.176	1.064	1.042	973	904	840	784	728	717	669	622	636	593	530	365	333	303	43,0	
2.500	1.409	1.315	1.222	1.197	1.088	1.011	965	901	815	802	749	696	711	664	617	419	383	348	47,8	
2.750	1.588	1.482	1.343	1.316	1.228	1.111	1.061	990	920	906	823	765	782	730	678	473	433	393	52,5	
3.000	1.763	1.607	1.493	1.462	1.331	1.237	1.181	1.073	997	982	917	829	847	791	735	527	482	438	57,3	
3.250	1.889	1.764	1.599	1.567	1.463	1.325	1.265	1.181	1.069	1.052	982	913	933	847	787	583	532	484	62,1	
3.500	2.045	1.872	1.697	1.663	1.552	1.407	1.343	1.254	1.165	1.117	1.043	969	990	924	836	638	583	529	66,9	
3.750	2.152	1.970	1.831	1.793	1.634	1.518	1.414	1.320	1.226	1.207	1.097	1.020	1.042	973	904	692	633	574	71,6	
4.000	2.249	2.100	1.913	1.874	1.749	1.586	1.514	1.379	1.281	1.262	1.178	1.066	1.089	1.017	945	747	683	621	76,4	
4.250	2.381	2.180	1.987	1.946	1.817	1.647	1.573	1.468	1.330	1.310	1.223	1.106	1.131	1.056	981	801	733	666	81,2	
4.500	2.458	2.251	2.092	2.049	1.876	1.701	1.624	1.516	1.374	1.353	1.263	1.173	1.199	1.090	1.013	855	782	711	86,0	
4.750	2.525	2.357	2.148	2.105	1.927	1.790	1.668	1.557	1.411	1.389	1.297	1.205	1.232	1.120	1.040	912	832	756	90,7	

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 334 mm
 length trench : 2500 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 2476 W

water flow = (1476 x 0,86) /10 = 213 kg/h

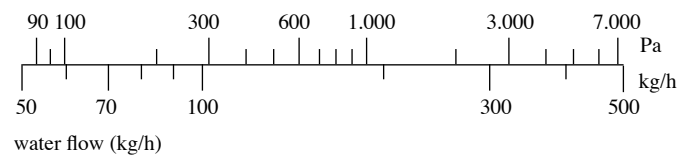
connection resistance (graph) = 1152 Pa

convector resistance per meter (graph) = 511 Pa

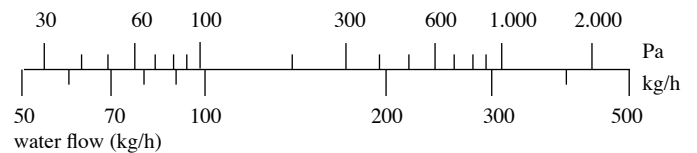
total convector resistance = 3,000 x 511 = 1278 Pa

total water resistance = 1152 + 1278 = 2430 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)





HEAT OUTPUT

Table with multiple sections for different heating medium temperatures (90/70°C, 75/65°C, 55/45°C). Each section includes columns for air inlet temperature (18°, 20°, 22°) and length (1.000 to 4.750), and rows for heat output in Watt and weight in kg. The table is organized by position (5, 4, 3, 2, 1, 0) and speed (1.440, 1.060, 720, 430, 160 r.p.m.).

CONVERSION FACTORS Base : hot water 75/65°C and air inlet temperature 20°C

air inlet temperature	heating medium (°C)													
	110/90	110/80	95/85	90/80	90/70	85/75	80/70	80/60	75/65	70/60	60/50	55/45	50/40	45/40
16	1,92	1,60	1,70	1,55	1,33	1,40	1,27	1,02	1,11	0,98	0,66	0,55	0,45	0,39
18	1,86	1,55	1,65	1,49	1,25	1,35	1,20	0,96	1,05	0,92	0,63	0,51	0,40	0,35
20	1,78	1,49	1,58	1,43	1,20	1,30	1,14	0,90	1	0,86	0,58	0,47	0,36	0,31
22	1,73	1,43	1,52	1,37	1,14	1,23	1,08	0,86	0,94	0,80	0,53	0,42	0,33	0,28
24	1,67	1,37	1,47	1,33	1,08	1,17	1,02	0,75	0,88	0,73	0,48	0,39	0,29	0,24

WATER RESISTANCE

The mentioned values are for an average water temperature of 70°C. With an average water temperature of 50°C, you should multiply with 1,10.

To calculate the total water resistance of the convector, you should add up the resistance per meter trench length with the connection resistance.

example

width trench : 364 mm
 length trench : 2000 mm
 heating medium : 75 /65°C
 air inlet temperature : 20°C
 Heat output : 2167 W

water flow = (2167 x 0,86) /10 = 186 kg/h

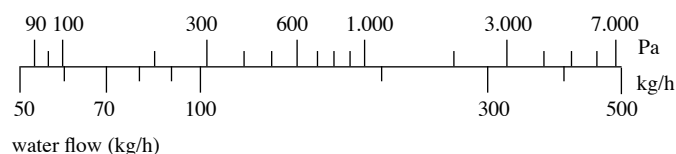
connection resistance (graph) = 916 Pa

convector resistance per meter (graph) = 326 Pa

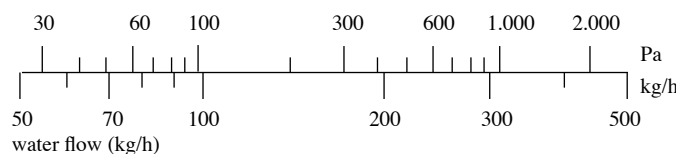
total convector resistance = 2,000 x 326 = 652 Pa

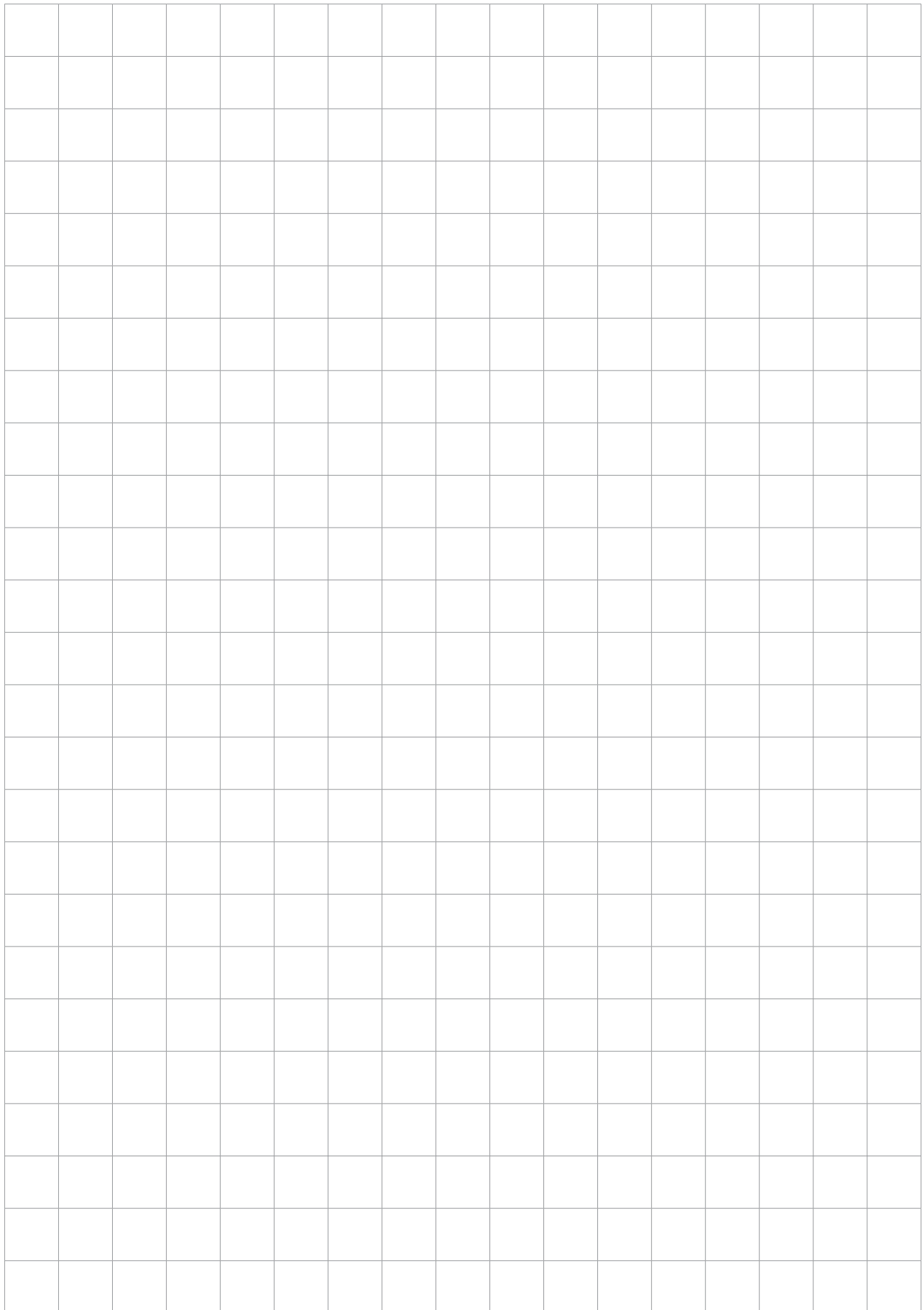
total water resistance = 916 + 652 = 1568 Pa

connection resistance (Pa)



convector resistance per m trench length (Pa)





TO MENTION WHEN PLACING AN ORDER

DIMENSIONS

- width
- height
- length

These dimensions are outside dimensions of the trench, incl. frame.

Take enough tolerance.

TYP OF LOW TRENCH UNIT

Check the required heat output..

CONNECTION CONVECTORS (seen from the room)

- head side, right (standard execution)
- head side, left
- room side, right
- room side, left
- to connect different convectors

If necessary, add a drawing

When the valves are not ordered with the trench or are from Verco, take into account that you need sometimes more space into the trench than standard supplied.

CONTINUOUS TRENCHES

The different trenches can also be connected to create a continuous optical effect.

GRILLE

- type of grille
- color of grille

Unless otherwise specified during ordering a natural anodised frame of 18 mm (for a grille height of 18 mm) will be mounted on the trench. If an additional grille is ordered, then the type and colour of the frame will be matched to that of the grille.

ACCESSORIES

- height adjustments : must be ordered at the same time with the trench. Subsequent alterations are not possible.
- valves : When the valves are not ordered with the trench or are from Verco, take into account that you need sometimes more space into the trench than standard supplied.
- thermostats, ...

SPECIAL EXECUTIONS

DIMENSIONS

- width
- height
- length

CUT-OUTS

edges, cut-outs, ...

Make a drawing.

OTHER

- aluminium covering
- laquered frame and grille
- stainless steel trench with galvanised convector

VALVES

THERMOSTATIC VALVE

Build-in dimensions according to DIN 3841 with protection head
Wired connection for steel or copper.

DN 10 (3/8") for widths 184	SC.311
DN 15 (1/2") 180°, for widths 259, 289, 334 and 364	SC.312.00
DN 15 (1/2") 90°, for widths 259, 289, 334 and 364	SC.312.01
DN 15 (1/2") 90°, returned, for widths 259, 289, 334 and 364	SC.312.02



SC.312.00



SC.312.01



SC.312.02

LOCKSHIELD

DN 10 (3/8") for widths 184	SC.316
DN 15 (1/2") 180°, for widths 259, 289, 334 and 364	SC.317.00
DN 15 (1/2") 90°, for widths 259, 289, 334 and 364	SC.317.01



SC.317.00



SC.317.01

THERMOSTATIC HEAD

adjustment range between +5 and +30°C

SC.314

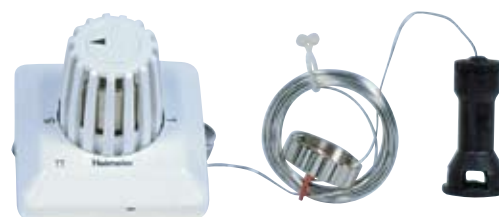


SC.314

THERMOSTATIC HEAD

For remote regulation with 5 m capillary tube
Liquid filled thermostat with frost protection fuse +5°C.
Adjustment range between +5 and +30°C
Adapted to the thermostatic valves

SC.315



SC.315

SERVO MECHANISM

With 1 m connection cable, with set back relay.
Adapted to the thermostatic valves

servo mechanism	SC.318
servo mechanism with end switch	SC.319



SC.318

ELECTRONIC CONTINUOUS SPEED MANIPULATOR

Phase regulator. Build-in or -up. IP 44.
Light noise possible in the low speed.

0,1 - 1,0 A

SC.322

0,1 - 2,0 A

SC.323



SC.322

FIVE STEP TRANSFORMER REGULATOR

With fuse against overload.
Up to 1,0 A

Build-in model

SC.326

Build-up model

SC.328



SC.326

ROOM THERMOSTAT

With thermal compensation. IP 20. Surface mounted model.
Adjustment range between +5 and +30°C

SC.4913



SC.4913

ACCESSORIES

HEIGHT ADJUSTMENTS

set consols to regulate the height of the trench convector

adjustment between 30 and 75 mm

height adjustments inside

B.338.00

height adjustments : 1 internal, 1 external

B.339.00

adjustment between 70 and 135 mm

height adjustments inside

B.338.01

height adjustments : 1 internal, 1 external

B.339.01

adjustment between 0 and 30 mm

height adjustments inside

B.338.02

height adjustments : 1 internal, 1 external

B.339.02



B.338.00

FASTENING HOOK

supplement to the height adjustment, side of the room

adjustment between 30 and 75 mm

B.337.00

adjustment between 70 and 135 mm

B.337.01

adjustment between 0 and 30 mm

B.337.02



B.339.00

BUILD PROTECTION

wooden plate laid in the trench convector

for widths 184 mm

B.341

for widths 259 and 289 mm

B.342

for widths 334 and 364 mm

B.343



B.337.00

INSULATION

4 mm thickness, external side

for widths 184 mm

B.361

for widths 259 and 289 mm

B.362

for widths 334 and 364 mm

B.363

<p>B.C.259.H11.***</p> <p>*** H11 184 259 289 334 364</p>	<p>Low trench units with natural convection heat output tested according EN 442, for heating, with natural convection, a ready to build-in trench with convector, existing of following parts: Trench: in galvanised steel sheet of 1,25 mm the inside and outside lacquered in anthracite grey, with convector supports in steel, which also strenghtens the trench, with side plates, with openings for the pipings, mounted frame in anodised aluminium, anodised in the same color as the grille. Convector: are completely made out of steel, the fins with double roller collar are secured to the pipes by expansion, lacquered in anthracite grey, working pressure of 10 bar, work temperature of 110°C, lays onto plastic strips to prevent contact noises, length of the convector is adapted to the length of the trench, incl. air vent.</p> <p>trench length (cm) trench height : 109 mm trench width : 184 mm 259 mm 289 mm 334 mm 364 mm</p>
<p>B.CV.259.H11.***</p> <p>*** H11 184 259 289 334 364</p>	<p>Low trench units with radial fan heat output tested according EN 442, for heating, with radial fan (free and dynamical convection), a ready to build-in trench with convector, existing of following parts: Trench: in galvanised steel sheet of 1,25 mm the inside and outside lacquered in anthracite grey, bigger convection thanks to the fan, the fan is in such a way mounted so that over the total length of the trench secondary air is taken in, centrifugal fan with external rotor 230 V / 50 Hz, ready to be connected electrically, mounted on a plate, ventilation through the induction plate, with convector supports in steel, which also strenghtens the trench, with side plates, with openings for the pipings, mounted frame in anodised aluminium, anodised in the same color as the grille. Convector: are completely made out of steel, the fins with double roller collar are secured to the pipes by expansion, lacquered in anthracite grey, working pressure of 10 bar, work temperature of 110°C, lays onto plastic strips to prevent contact noises, length of the convector is adapted to the length of the trench, incl. air vent.</p> <p>trench length (cm) trench height : 109 mm trench width : 184 mm 259 mm 289 mm 334 mm 364 mm</p>