Floor convectors

LINE
LINE AIR
LINE FAN
LINE POOL

HEATMANN

SMART CONVECTION SOLUTIONS

HEATING EQUIPMENT

HEATMANN

HEATMANN GmbH was founded in a small German town of Bückeburg in 2013. HEATMANN is a new, but rapidly developing manufacturer of heating equipment. We take pride in our team of experienced and highly qualified engineers, architects, designers and other partners who develop innovative heating solutions.

OUR VISION

Our main objective is to integrate ergonomic management, maintenance, cutting-edge technologies, energy efficiency and attractive and unique design. HEATMANN aims to manufacture heating equipment which would be not only energy efficient, but also outstanding in design and comfort.

EVOLIUTION

HEATMANN introduced its first products to the German market in the Summer of 2013. In the Spring of 2014 the company has introduced its production in the United Kingdom, Switzerland, Austria, France, Italy, Spain, Russia and Poland.

PRODUCTS

Currently, HEATMANN manufactures freestanding / wall mounted convectors and trench convectors. These products were in development, including testing and upgrades, for more than 9 months. After the launch of mass production, these products have become high in demand due to their unique technological solutions and appealing appearance.
Later, in 2014, HEATMANN plans to introduce its newly created convectors intended for houses, public places and industrial buildings.

TECHNOLOGIES AND INNOVATIONS

HEATMANN founded its own laboratory, which develops innovative solutions and performs continuous testing of their products to reach optimal results, and become a leader in Western Europe. The laboratory has 5 professional and highly experienced German scientists and engineers.

LABORATORY

HEATMANN founded its own laboratory, which develops innovative solutions and performs continuous testing of their products to reach optimal results, and become a leader in Western Europe.

HEATMANN LABORATORY is in constant cooperation with top German scientists and engineers. In the process of development of exclusive technologies and products many specialists are involved. For example, specialists of materials science, who choose and further enhance the most effective and durable materials. Others include experts of cost-efficiency and statistics who choose solutions which prove to be of utmost effectiveness; skillful and experienced construction engineers who are continuously working to improve the ways products are designed; an environmental specialist who takes care that every newly developed technology would be eco-friendly and energy-saving, and a professor of thermal engineering who establishes aims and goals, and later supervises teamwork.

HEATMANN LABORATORY has already developed and adopted various technologies. Energy efficiency is one of the key areas of technological development. Our laboratory has pioneered and implemented MAX FLOW® technology, which guarantees the maximum possible volume of hot air flow through the heat exchanger.

A team specializing in environmental protection has developed ECO HEAT® heat exchangers, which use water resources economically, thereby contributing to saving the planet.

The innovations developed by HEATMANN scientists and engineers contribute to the global thermal engineering efficiency improvements.

Technologies

CLIMATE BALANCE responds to temperature, wind, or solar thermal changes and as if an assistant of yours handles heating, effectively uses energy resources and maintains temperature.

CLIMATE BALANCE technology was developed to bind the heating system with environmental climate. This technology helps in heating process automation and reacts instantly to thermal changes in the environment. Process automation aids in maintaining comfortable room temperature and decreasing heating costs.

CLIMATE BALANCE technology which was developed at HEATMANN LABORATORY takes continual care of heating control. This denotes that when the sun shines, the technology automatically reduces heating since the room already receives sufficient amount of it. CLIMATE BALANCE will not allow your premises to overheat when the sun is shining outside, or to cool when you are ventilating the room.

CLIMATE BALANCE technology consists of CLIMATE BALANCE SENSOR® and CLIMATE BALANCE CONTROLLER®.

CLIMATE BALANCE SENSOR® is a special sensor which reacts to changes in heat and cold, solar rays, air movement, and other factors that may influence the amount of heat indoors. The sensor is installed on the windows for here is where it can monitor thermal changes in the room with the greatest accuracy.

CLIMATE BALANCE CONTROLLER® is part of the system which is responsible for the very regulation of thermal changes in the room.

Products with CLIMATE BALANCE technology will allow you to forget manual heating regulation and sustain the wanted temperature.

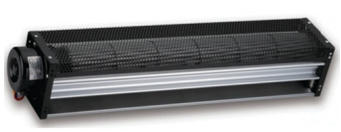
ENERGY SAVING technology uses a new generation EC fans, which due to their unique parts and structure significantly reduce the cost of electricity required for heating.

HEATMANN LABORATORY team has a set a goal to decrease the amount of heaters' electricity consumption in order to protect the environment and minimize heating costs.

The aim of ENERGY SAVING technology is to use the energy efficiently and make heating products safer.

HEATMANN LABORATORY has tailored new generation EC fans which use notably less energy because of its ergonomic structure that reduces friction between the machine elements and significantly more economical engine. The engine's ability to choose different speeds makes this technology more effective and much more attractive to use.

Up to
50%
less energy



Aforementioned technology enables to save up to 2 times more energy in comparison to standard fans which are mounted on convectors.

Unique product design ensures extremely high and rapid air circulation through the heat exchanger plates.

Developing MAX FLOW® technology our specialists have employed ECO HEAT heat exchangers which are characterized by their exceptional materials and architecture that increases the heat efficiency up to 1.5 times.

During construction testing scientists have discovered the most efficient design which ensures highest air permeability in a convection heating device. The construction of heat exchanger itself, its position and size, allowed to develop MAX FLOW® technology which enables faster air circulation between heat exchanger plates.

Therefore, due to MAX FLOW® technology the premises warm up faster and the thermal energy is used in a more effective manner. This solution decreases time lapse required to reach the needed temperature. This thus guarantees heating system to be dynamic, allowing the usage of heating the very moment it is needed.

The special construction enabled most convectors to be diminished in size. After adapting this solution, now we can manufacture smaller convectors with the same efficiency which means, that heating system will take considerably less space.

MAX FLOW® construction is another effective solution developed by HEATMANN LABORATORY and used in all of the company's products; therefore, they are of especially high efficiency.

Unique composition and design of the heat exchanger make it cost effective, efficient, it uses little water, and heats the premises faster.

Convection heating is based on the flow of water through the heat exchanger. The amount of water influences many factors associated with heating efficiency, energy consumption and costs.

HEATMANN LABORATORY has designed ECO HEAT heat exchangers that are an important step in heating equipment evolution.

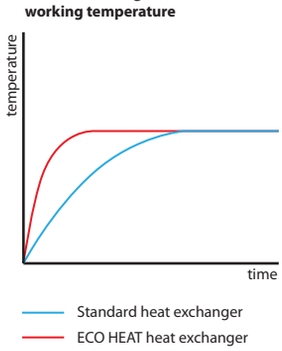
ECO HEAT heat exchangers are designed in a way that they would consume smaller amounts of water than the standard convectors. Laboratory experts designing the heat exchangers chose an improved metal alloy which carries heat faster and a reduced main pipe's cross-section, both of which are exactly what had an impact on the decrease of water capacity.

ECO HEAT heat exchanger design has not changed from the classical heat exchanger. However, after changing the structural materials, main tube's cross-section, as well as the layout and thickness of the heat exchanger's aluminum plates, we achieved astounding results. According to HEATMANN LABORATORY estimates, we increased the heat efficiency up to 1.5 times.

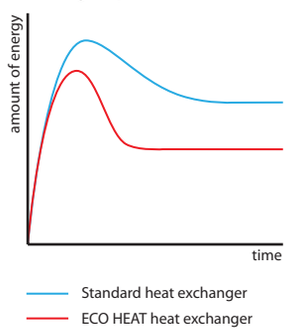
Water capacity has a huge impact on the heating processes. ECO HEAT heat exchanger capacity reduction lowers the amount of water in the heating system. That is what influences heating with faster hot water circulation, and energy costs, which then result that less energy is needed to heat a smaller amount of water.

ECO HEAT heat exchangers basically took a huge step forward towards optimizing the heating process. This decision is eco-friendly and minimizes the heating costs by using a small amount of water and energy resources. An increase in efficiency also guarantees a notably faster heating of the premises.

Time of reaching working temperature



Energy consumption of reaching working temperature



We care about the future of the Earth! Products with this label are made from 100% recyclable materials.

In a world where resources are limited they must be used responsibly and their reuse taken care of.

While developing convectors, HEATMANN LABORATORY specialists use only materials which can be recycled and used again.

All metals and alloys used in the production of convectors are designed in a way that allows them to be recycled and reused many times in the future.

Other convector elements, such as plastic or wood are also so chosen for they were in position to be reprocessed in the future.

HEATMANN is a socially responsible company that considers the preservation of nature and the way manufacturing impacts the environment, with great care. Therefore, when using the company's products, one can be rest assured that the products are made from 100 % recyclable materials.

LINE

"LINE" SERIES - FLOOR CONVECTORS WITH NATURAL CONVECTION

Floor convectors without a ventilator of a series "LINE" are devices functioning on the basis of a physical phenomenon called "natural convection". Convection is understood as a vertical movement of a significant air flow generated by temperature difference of its macro-particles that move in upward direction during the temperature increase. Series "LINE" convectors are designed for heating residential and office space, salesroom, hotels, showrooms, etc., mostly places with different kinds of glass or stain-glass windows, walls installed. Due to the unique functions our convectors provide not only economical room heating, but also a comfortable stay in it due to the fact that the glazed area is divided by a warm air flow curtain that additionally heats the air in the room.

ENERGY SAVING

Company "HEATMANN" using only the best materials in our heat-exchange units offers a very effective device in respect of the heating space capacity. Very high room heating velocity is acquired by the means of heating super small amount of heat-carrying agent and optimally used materials in the whole heating system, and in such a manner high efficiency of this device is acquired. In comparison of classical steel radiators with the same heating capacity require ten times more water and consequently use more energy for heating this water.

HIGH QUALITY MATERIALS

Our heat-exchange units are produced from the best heat conductive materials on the basis of copper, aluminium and brass, where all the components that have optimal form and size with unique dust proof and dirt guard lacquer graphitic-grey coating, form one compact device guaranteeing maximum efficiency, functionality and the long-term usage possibility in household or industrial cleaning conditions, etc.

TECHNOLOGIES

eco HEAT

ECOCARE

MAXFLOW

Parameters

CONVECTOR	Width	175, 200, 250, 300, 350, 425 мм
	Height	80, 90, 110, 125, 140, 165, 200 mm
	Length	800–4800 mm in step 100 mm
	Height adjustment	0–35 mm
	Stainless trough	galvanized steel covered with durable spray painting. Color: black matt or dark grey matt. Also stainless steel DIN 1,4301 (17 240)
	Grill type	cross / linear
	Grill material	anodized aluminium, wood, stainless steel
	Heat medium connection	2 × G1/2″ inner

OPERATING CONDITIONS	Max. working temperature	110 °C
	Working overpressure	1,6 MPa (16 Bar)
	Max. working overpressure	2,5 MPa (25 Bar)
	Ambient temperature	+2°C – +40 °C
	Relative humidity	20–70 %

Height

80

90

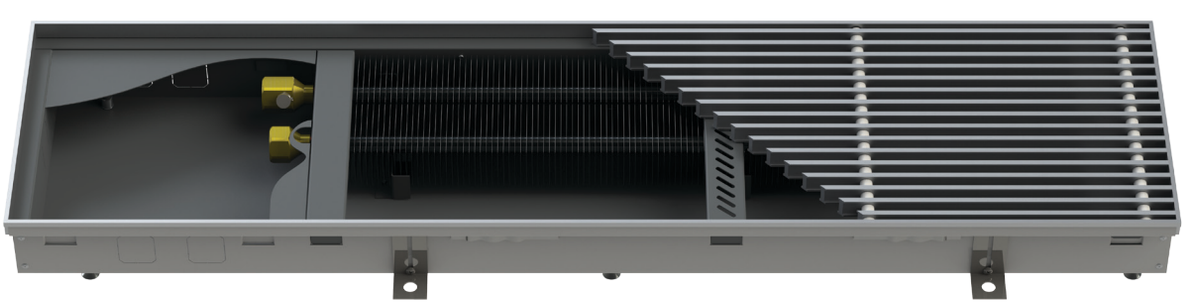
110

125

140

165

200



HEATING OUTPUT

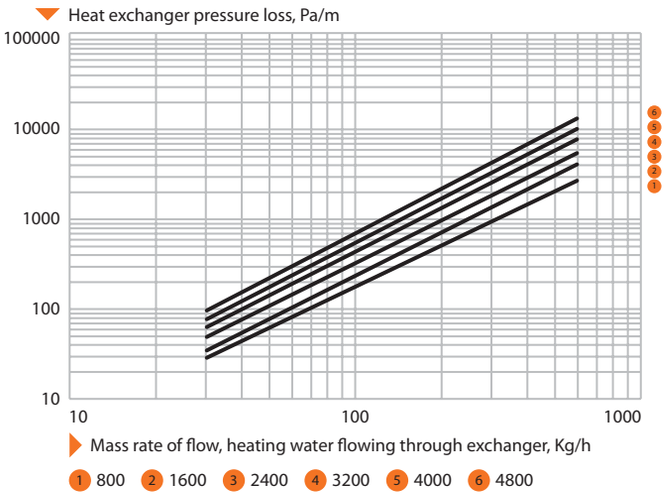
Height	Width	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
80	250	90/70/20°C	**185**	**221**	**257**	**294**	**330**	**367**	**403**	**440**	**476**	**512**	**549**	**585**	**622**	**658**	**696**
		75/65/20°C	144	172	200	229	257	286	314	343	371	399	428	456	485	513	542
	300	90/70/20°C	**190**	**227**	**265**	**303**	**341**	**378**	**416**	**454**	**491**	**528**	**567**	**604**	**641**	**678**	**717**
		75/65/20°C	148	177	206	236	265	294	324	353	382	411	441	470	499	528	558
90	175	90/70/20°C	**128**	**154**	**179**	**205**	**230**	**256**	**281**	**307**	**331**	**358**	**382**	**408**	**433**	**459**	**484**
		75/65/20°C	98	118	137	157	176	196	215	235	254	274	293	313	332	352	371
	200	90/70/20°C	**153**	**183**	**214**	**244**	**274**	**304**	**334**	**364**	**396**	**426**	**456**	**486**	**516**	**547**	**577**
		75/65/20°C	117	140	164	187	210	233	256	279	303	326	349	372	395	419	442
	250	90/70/20°C	**220**	**263**	**307**	**351**	**393**	**437**	**481**	**524**	**568**	**612**	**655**	**699**	**741**	**785**	**829**
		75/65/20°C	171	205	239	273	306	340	374	408	442	476	510	544	577	611	645
	300	90/70/20°C	**234**	**280**	**326**	**372**	**418**	**465**	**511**	**557**	**603**	**649**	**696**	**742**	**788**	**834**	**880**
		75/65/20°C	182	218	254	290	326	362	398	434	470	506	542	578	614	650	686
	350	90/70/20°C	**269**	**322**	**375**	**428**	**481**	**535**	**588**	**641**	**693**	**746**	**800**	**853**	**906**	**959**	**1012**
		75/65/20°C	209	251	292	334	375	416	458	499	541	582	623	665	706	748	789
	425	90/70/20°C	**336**	**403**	**470**	**536**	**603**	**670**	**737**	**803**	**870**	**937**	**1002**	**1069**	**1136**	**1203**	**1269**
		75/65/20°C	261	313	365	416	468	520	572	623	675	727	778	830	882	934	985
110	175	90/70/20°C	**169**	**203**	**236**	**270**	**304**	**337**	**371**	**403**	**437**	**470**	**504**	**538**	**571**	**605**	**638**
		75/65/20°C	129	155	180	206	232	257	283	308	334	359	385	411	436	462	487
	200	90/70/20°C	**179**	**215**	**250**	**285**	**322**	**358**	**393**	**428**	**464**	**499**	**534**	**570**	**606**	**642**	**677**
		75/65/20°C	137	164	191	218	246	273	300	327	354	381	408	435	463	490	517
	250	90/70/20°C	**270**	**324**	**377**	**431**	**484**	**539**	**592**	**646**	**699**	**753**	**807**	**860**	**914**	**967**	**1021**
		75/65/20°C	207	248	289	330	371	413	454	495	536	577	618	659	700	741	782
	300	90/70/20°C	**297**	**355**	**413**	**472**	**531**	**589**	**648**	**707**	**766**	**825**	**883**	**941**	**1000**	**1059**	**1117**
		75/65/20°C	227	272	316	361	406	451	496	541	586	631	676	720	765	810	855
	350	90/70/20°C	**342**	**408**	**475**	**543**	**611**	**677**	**745**	**813**	**881**	**949**	**1015**	**1082**	**1150**	**1218**	**1285**
		75/65/20°C	261	313	363	415	467	519	570	622	674	726	777	828	880	932	983
	425	90/70/20°C	**394**	**471**	**549**	**628**	**705**	**784**	**861**	**939**	**1018**	**1095**	**1173**	**1251**	**1329**	**1406**	**1485**
		75/65/20°C	305	365	425	486	546	607	667	727	788	848	908	969	1029	1089	1150
125	175	90/70/20°C	**176**	**211**	**245**	**280**	**315**	**350**	**384**	**419**	**453**	**489**	**523**	**558**	**592**	**628**	**662**
		75/65/20°C	134	161	187	214	240	267	293	320	346	373	399	426	452	479	505
	200	90/70/20°C	**184**	**220**	**257**	**294**	**329**	**366**	**402**	**439**	**476**	**511**	**548**	**585**	**621**	**657**	**693**
		75/65/20°C	140	168	196	224	251	279	307	335	363	390	418	446	474	501	529
	250	90/70/20°C	**306**	**366**	**428**	**488**	**549**	**609**	**670**	**730**	**792**	**852**	**913**	**973**	**1034**	**1094**	**1155**
		75/65/20°C	235	281	328	374	421	467	514	560	607	653	700	746	793	839	886
	300	90/70/20°C	**341**	**409**	**477**	**544**	**612**	**680**	**748**	**815**	**883**	**951**	**1018**	**1086**	**1154**	**1222**	**1289**
		75/65/20°C	266	319	372	424	477	530	583	635	688	741	793	846	899	952	1004
	350	90/70/20°C	**392**	**470**	**549**	**626**	**704**	**782**	**860**	**937**	**1016**	**1094**	**1171**	**1249**	**1327**	**1405**	**1482**
		75/65/20°C	306	367	428	488	549	610	671	730	791	852	912	973	1034	1095	1155
	425	90/70/20°C	**514**	**616**	**718**	**820**	**922**	**1024**	**1126**	**1228**	**1330**	**1432**	**1533**	**1635**	**1737**	**1839**	**1941**
		75/65/20°C	398	477	556	635	714	793	872	951	1030	1109	1187	1266	1345	1424	1503
140	175	90/70/20°C	**181**	**217**	**252**	**289**	**324**	**360**	**395**	**432**	**468**	**503**	**540**	**575**	**611**	**646**	**683**
		75/65/20°C	138	165	192	220	247	274	301	329	356	383	411	438	465	492	520
	200	90/70/20°C	**190**	**229**	**267**	**303**	**342**	**380**	**416**	**455**	**493**	**531**	**567**	**606**	**644**	**682**	**719**
		75/65/20°C	145	174	203	231	260	289	317	346	375	404	432	461	490	519	547
	250	90/70/20°C	**324**	**388**	**451**	**515**	**580**	**644**	**708**	**771**	**835**	**900**	**964**	**1028**	**1092**	**1157**	**1220**
		75/65/20°C	249	298	347	396	446	495	544	593	642	692	741	790	839	889	938
	300	90/70/20°C	**362**	**434**	**507**	**579**	**650**	**722**	**794**	**865**	**937**	**1009**	**1081**	**1153**	**1225**	**1297**	**1369**
		75/65/20°C	278	333	389	444	499	554	609	664	719	774	829	885	940	995	1050
	350	90/70/20°C	**416**	**499**	**583**	**666**	**748**	**830**	**913**	**995**	**1078**	**1160**	**1243**	**1326**	**1409**	**1492**	**1574**
		75/65/20°C	320	383	447	511	574	637	700	764	827	890	953	1018	1081	1144	1208
	425	90/70/20°C	**570**	**682**	**794**	**908**	**1020**	**1133**	**1245**	**1359**	**1471**	**1583**	**1697**	**1810**	**1922**	**2034**	**2148**
		75/65/20°C	441	528	615	703	790	877	964	1052	1139	1226	1314	1401	1488	1575	1663
165	300	90/70/20°C	**380**	**455**	**529**	**605**	**679**	**755**	**831**	**905**	**981**	**1055**	**1131**	**1206**	**1281**	**1356**	**1431**
		75/65/20°C	291	349	406	464	521	579	637	694	752	809	867	925	982	1040	1097
	350	90/70/20°C	**437**	**523**	**608**	**696**	**781**	**868**	**956**	**1041**	**1128**	**1213**	**1301**	**1387**	**1473**	**1559**	**1646**
		75/65/20°C	335	401	467	534	599	666	733	798	865	930	997	1064	1129	1196	1262
	425	90/70/20°C	**650**	**779**	**908**	**1037**	**1165**	**1294**	**1423**	**1552**	**1680**	**1809**	**1938**	**2067**	**2196**	**2324**	**2453**
		75/65/20°C	500	599	698	797	896	995	1094	1193	1292	1391	1490	1589	1688	1787	1886
200	300	90/70/20°C	**386**	**462**	**539**	**615**	**692**	**768**	**845**	**922**	**997**	**1074**	**1150**	**1227**	**1303**	**1380**	**1456**
		75/65/20°C	296	354	413	471	530	588	647	706	764	823	881	940	998	1057	1115
	350	90/70/20°C	**444**	**531**	**620**	**707**	**796**	**883**	**972**	**1060**	**1147**	**1235**	**1323**	**1411**	**1499**	**1587**	**1674**
		75/65/20°C	340	407	475	542	610	676	744	812	879	947	1013	1081	1148	1216	1282
	425	90/70/20°C	**707**	**847**	**987**	**1128**	**1267**	**1407**	**1547**	**1688**	**1827**	**1967**	**2108**	**2248**	**2387**	**2527**	**2668**
		75/65/20°C	542	649	756	864	971	1078	1185	1293	1400	1507	1615	1722	1829	1936	2044

HEATING OUTPUT

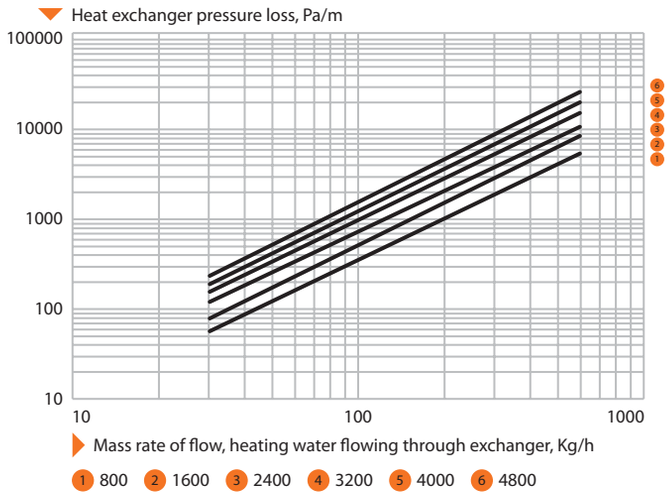
Height	Width	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
80	250	90/70/20°C	**732**	**768**	**805**	**841**	**878**	**914**	**951**	**987**	**1096**	**1169**	**1242**	**1352**	**1498**	**1534**	**1644**
		75/65/20°C	570	598	627	655	684	712	741	769	854	911	968	1053	1167	1195	1281
	300	90/70/20°C	**754**	**792**	**830**	**867**	**905**	**942**	**980**	**1018**	**1131**	**1205**	**1281**	**1394**	**1545**	**1582**	**1695**
		75/65/20°C	587	616	646	675	704	733	763	792	880	938	997	1085	1202	1231	1319
90	175	90/70/20°C	**510**	**536**	**561**	**587**	**612**	**638**	**663**	**689**	**765**	**816**	**867**	**944**	**1045**	**1070**	**1147**
		75/65/20°C	391	411	430	450	469	489	508	528	586	625	664	723	801	820	879
	200	90/70/20°C	**607**	**637**	**667**	**698**	**729**	**759**	**789**	**819**	**910**	**970**	**1031**	**1121**	**1243**	**1273**	**1364**
		75/65/20°C	465	488	511	535	558	581	604	627	697	743	790	859	952	975	1045
	250	90/70/20°C	**872**	**916**	**960**	**1003**	**1046**	**1090**	**1133**	**1177**	**1308**	**1394**	**1481**	**1613**	**1786**	**1830**	**1961**
		75/65/20°C	679	713	747	781	814	848	882	916	1018	1085	1153	1255	1390	1424	1526
	300	90/70/20°C	**927**	**973**	**1019**	**1065**	**1111**	**1158**	**1204**	**1250**	**1389**	**1481**	**1574**	**1712**	**1897**	**1943**	**2082**
		75/65/20°C	722	758	794	830	866	902	938	974	1082	1154	1226	1334	1478	1514	1622
	350	90/70/20°C	**1066**	**1119**	**1172**	**1225**	**1278**	**1332**	**1385**	**1438**	**1597**	**1703**	**1810**	**1969**	**2182**	**2235**	**2394**
		75/65/20°C	830	665	913	955	996	1037	1079	1120	1244	1327	1410	1534	1700	1741	1865
	425	90/70/20°C	**1336**	**1403**	**1469**	**1536**	**1603**	**1670**	**1735**	**1802**	**2002**	**2136**	**2269**	**2468**	**2735**	**2802**	**3002**
		75/65/20°C	1037	1089	1140	1192	1244	1296	1347	1399	1554	1658	1761	1916	2123	2175	2330
110	175	90/70/20°C	**672**	**706**	**739**	**773**	**805**	**839**	**873**	**906**	**940**	**1074**	**1141**	**1241**	**1375**	**1409**	**1510**
		75/65/20°C	513	539	564	590	615	641	667	692	769	820	871	948	1050	1076	1153
	200	90/70/20°C	**712**	**748**	**783**	**818**	**855**	**891**	**926**	**961**	**1067**	**1139**	**1210**	**1316**	**1459**	**1494**	**1600**
		75/65/20°C	544	571	598	625	653	680	707	734	815	870	924	1005	1114	1141	1222
	250	90/70/20°C	**1074**	**1128**	**1181**	**1235**	**1288**	**1342**	**1395**	**1449**	**1609**	**1717**	**1824**	**1985**	**2199**	**2252**	**2413**
		75/65/20°C	823	864	905	946	987	1028	1069	1110	1233	1316	1398	1521	1685	1726	1849
	300	90/70/20°C	**1176**	**1235**	**1294**	**1353**	**1411**	**1469**	**1528**	**1587**	**1763**	**1881**	**1997**	**2173**	**2409**	**2467**	**2642**
		75/65/20°C	900	945	990	1035	1080	1124	1169	1214	1349	1439	1528	1663	1843	1888	2022
	350	90/70/20°C	**1352**	**1420**	**1488**	**1556**	**1623**	**1689**	**1757**	**1825**	**2028**	**2163**	**2297**	**2499**	**2770**	**2837**	**3038**
		75/65/20°C	1035	1087	1139	1190	1242	1293	1344	1396	1551	1655	1757	1913	2120	2171	2325
	425	90/70/20°C	**1563**	**1640**	**1719**	**1796**	**1874**	**1953**	**2030**	**2108**	**2341**	**2498**	**2654**	**2888**	**3199**	**3278**	**3511**
		75/65/20°C	1210	1270	1331	1391	1451	1512	1572	1632	1813	1934	2055	2236	2477	2538	2719
125	175	90/70/20°C	**697**	**733**	**767**	**802**	**836**	**872**	**906**	**941**	**1044**	**1114**	**1183**	**1288**	**1427**	**1463**	**1566**
		75/65/20°C	532	559	585	612	638	665	691	718	797	850	903	983	1089	1116	1195
	200	90/70/20°C	**730**	**767**	**804**	**839**	**876**	**912**	**949**	**984**	**1095**	**1167**	**1240**	**1349**	**1494**	**1531**	**1641**
		75/65/20°C	557	585	613	640	668	696	724	751	835	890	946	1029	1140	1168	1252
	250	90/70/20°C	**1215**	**1275**	**1337**	**1397**	**1458**	**1518**	**1579**	**1639**	**1822**	**1943**	**2065**	**2246**	**2488**	**2550**	**2731**
		75/65/20°C	932	978	1025	1071	1118	1164	1211	1257	1397	1490	1583	1722	1908	1955	2094
	300	90/70/20°C	**1357**	**1425**	**1491**	**1559**	**1627**	**1695**	**1762**	**1830**	**2033**	**2169**	**2304**	**2507**	**2777**	**2845**	**3048**
		75/65/20°C	1057	1110	1162	1215	1268	1321	1373	1426	1584	1690	1795	1953	2164	2217	2375
	350	90/70/20°C	**1561**	**1639**	**1715**	**1793**	**1871**	**1949**	**2026**	**2105**	**2338**	**2494**	**2650**	**2883**	**3194**	**3272**	**3505**
		75/65/20°C	1216	1277	1336	1397	1458	1519	1579	1640	1822	1944	2064	2246	2489	2550	2731
	425	90/70/20°C	**2043**	**2145**	**2247**	**2349**	**2451**	**2553**	**2654**	**2756**	**3062**	**3266**	**3470**	**3775**	**4183**	**4285**	**4591**
		75/65/20°C	1582	1661	1740	1819	1898	1977	2055	2134	2371	2529	2687	2923	3239	3318	3555
140	175	90/70/20°C	**718**	**754**	**791**	**826**	**861**	**897**	**934**	**969**	**1077**	**1148**	**1220**	**1328**	**1471**	**1506**	**1614**
		75/65/20°C	547	574	602	629	656	683	711	738	820	874	929	1011	1120	1147	1229
	200	90/70/20°C	**757**	**795**	**832**	**870**	**908**	**946**	**983**	**1021**	**1134**	**1210**	**1285**	**1398**	**1549**	**1587**	**1700**
		75/65/20°C	576	605	633	662	691	720	748	777	863	921	978	1064	1179	1208	1294
	250	90/70/20°C	**1284**	**1348**	**1412**	**1477**	**1540**	**1604**	**1668**	**1733**	**1924**	**2053**	**2180**	**2373**	**2629**	**2693**	**2886**
		75/65/20°C	987	1036	1085	1135	1184	1233	1282	1332	1479	1578	1676	1824	2021	2070	2218
	300	90/70/20°C	**1440**	**1512**	**1584**	**1655**	**1727**	**1800**	**1872**	**1943**	**2158**	**2302**	**2446**	**2662**	**2948**	**3020**	**3236**
		75/65/20°C	1105	1160	1215	1270	1325	1381	1436	1491	1656	1766	1877	2042	2262	2317	2483
	350	90/70/20°C	**1656**	**1739**	**1822**	**1903**	**1986**	**2070**	**2153**	**2235**	**2482**	**2647**	**2813**	**3061**	**3390**	**3473**	**3721**
		75/65/20°C	1271	1334	1397	1461	1524	1588	1651	1715	1904	2031	2159	2348	2601	2665	2856
	425	90/70/20°C	**2260**	**2373**	**2486**	**2599**	**2711**	**2823**	**2937**	**3049**	**3388**	**3613**	**3839**	**4177**	**4628**	**4740**	**5079**
		75/65/20°C	1750	1837	1925	2012	2099	2186	2274	2361	2623	2797	2972	3234	3583	3670	3932
165	300	90/70/20°C	**1506**	**1582**	**1656**	**1732**	**1806**	**1882**	**1958**	**2032**	**2258**	**2408**	**2557**	**2783**	**3084**	**3159**	**3384**
		75/65/20°C	1155	1213	1270	1328	1385	1443	1501	1558	1731	1846	1961	2134	2365	2422	2595
	350	90/70/20°C	**1732**	**1819**	**1904**	**1992**	**2077**	**2164**	**2252**	**2337**	**2597**	**2769**	**2941**	**3201**	**3547**	**3633**	**3892**
		75/65/20°C	1328	1395	1461	1527	1593	1660	1726	1792	1991	2123	2255	2454	2720	2785	2984
	425	90/70/20°C	**2582**	**2711**	**2839**	**2968**	**3097**	**3226**	**3354**	**3483**	**3869**	**4127**	**4385**	**4771**	**5286**	**5415**	**5801**
		75/65/20°C	1985	2084	2183	2282	2381	2480	2579	2678	2975	3173	3371	3668	4064	4163	4460
200	300	90/70/20°C	**1533**	**1610**	**1685**	**1762**	**1838**	**1915**	**1991**	**2068**	**2298**	**2450**	**2603**	**2832**	**3138**	**3214**	**3444**
		75/65/20°C	1174	1233	1291	1350	1408	1467	1525	1584	1760	1877	1994	2169	2404	2462	2638
	350	90/70/20°C	**1763**	**1852**	**1938**	**2026**	**2114**	**2202**	**2290**	**2378**	**2643**	**2818**	**2994**	**3257**	**3609**	**3696**	**3960**
		75/65/20°C	1350	1418	1485	1553	1619	1687	1754	1822	2024	2159	2293	2494	2765	2831	3034
	425	90/70/20°C	**2807**	**2947**	**3088**	**3228**	**3367**	**3507**	**3648**	**3788**	**4208**	**4487**	**4768**	**5188**	**5748**	**5888**	**6308**
		75/65/20°C	2151	2258	2366	2473	2580	2687	2795	2902	3224	3438	3653	3975	4404	4511	4833

Exchanger pressure losses

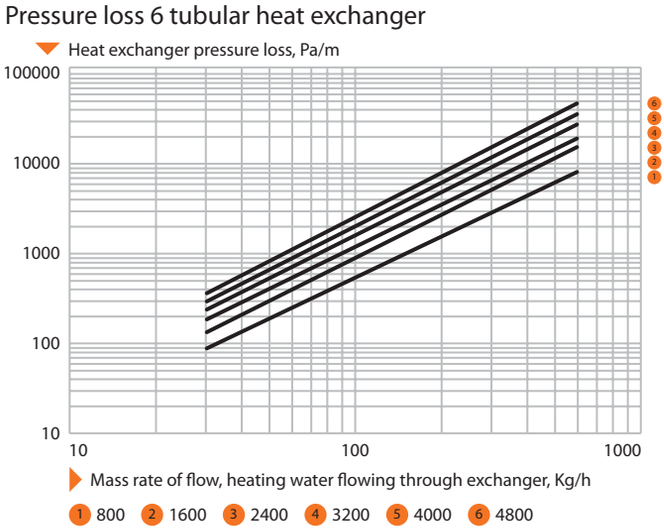
Pressure loss 2 tubular heat exchanger



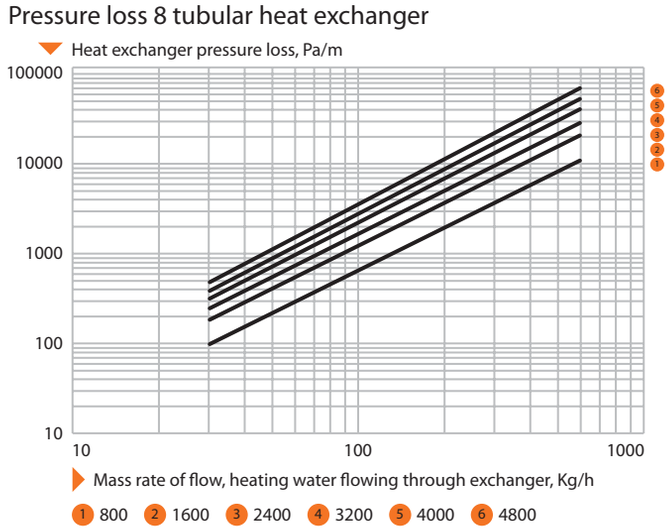
Pressure loss 4 tubular heat exchanger



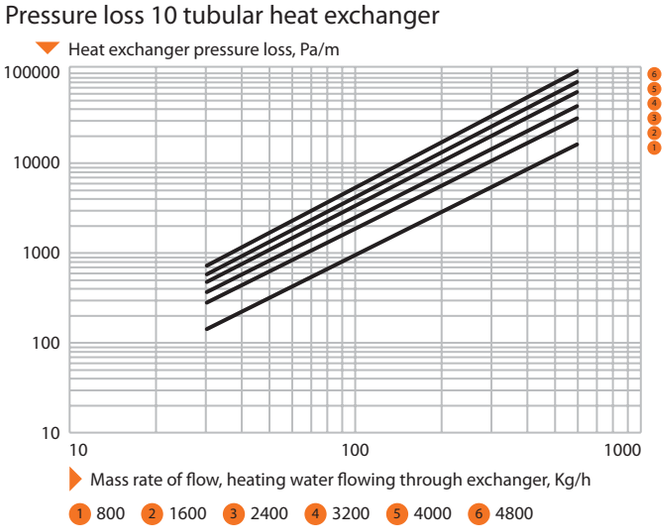
Pressure loss 6 tubular heat exchanger



Pressure loss 8 tubular heat exchanger



Pressure loss 10 tubular heat exchanger



HEATING OUTPUT RECALCULATION FOR ANOTHER TEMPERATURE GRADIENT

Convector heating output reckoning follows by recalculation of the standardized output Qn 75/65/20 °C

$Q = Qn \times \psi \times (\Delta T/50)^m$ [W], where $\Delta T = (T1+T2)/2-Ti$ [°C]

Qn [W]		heating output for temperature gradient T1/T2/Ti = 75/65/20 °C
ψ	[-]	mass rate of flow coefficient (for current flow rate ψ=1)
T1	[°C]	input water temperature
T2	[°C]	output water temperature
Ti	[°C]	temperature in the room
m	[-]	temperature exponent

Height	Width	Temperature exponent (m)
80	250	1,3689
	300	1,3755
90	175	1,4602
	200	1,4625
	250	1,3748
	300	1,3689
	425	1,3892
110	175	1,4786
	200	1,4793
	250	1,4602
	300	1,4679
	425	1,4025
125	175	1,4833
	200	1,4847
	250	1,4566
	300	1,3689
	425	1,4029
140	175	1,4945
	200	1,4961
	250	1,4431
	300	1,4533
	425	1,4034
165	300	1,4566
	425	1,4418
200	300	1,4622
	425	1,4609

QUICK CONVERSION TO Ti=22°C AND Ti=15°C

– If you want to learn convector output for the room temperature of 22 °C or for a corridor temperature of 15°C
- multiply heating output of the chosen convector by the "k" coefficient
for Ti=22 °C, k=0,95
Q[90/70/22 °C] = 0,95 × Q[90/70/20 °C]

for Ti=15 °C, k=1,14
Q[75/65/15 °C] = 1,14 × Qn[75/65/20 °C]

HEATING WATER FLOW RATE THROUGH EXCHANGER

M = 0,86Q/(T1-T2) [kg/h]

M	[kg/h]	mass rate of flow, heating water flowing through exchanger
Q	[W]	convector heating output
T1–T2	[°C]	difference between input and output temperature
0,86	[-]	invariable for recalculation of units

LINE AIR

"LINE AIR" SERIES - FLOOR CONVECTORS WITH FRESH AIR SUPPLY

The convectors of the current series provide comfortable premises heating and ventilation solutions by means of floor-integrated convectors and the supply of fresh air from the ventilation system.

MULTI-FUNCTIONAL

LINE AIR series of simultaneous heating and ventilation convectors provide effective heating, fresh air supply, even distribution of fresh air throughout the premises, and cooling (if necessary), which ensure comfort within the premises.

The unit effectively insulates the premises against cold air flows coming in through windows with a large area of glazing in winter gardens, exhibition halls, airports, and railway stations.

EFFECTIVE CONSTRUCTION

The temperature of the pleasant air that is put out when operating in cooling mode is 2°C–4°C lower than the air temperature in the premises and the speed of the air flow is under 0.3m/s.
The air intake and distributions systems inside the device allow to adjust the output and direction of the hot air flows from the convector and of the cold air that is supplied through the air distribution system.
This ensures the necessary level of comfort within the premises and eliminates draught.

CONSTRUCTION FEATURES

The material used for the channel is galvanised steel sheeting covered with wear-resistant paint. The colour is matte black or dark matte grey.
The hard steel crossbars installed throughout the entire case ensure structural stability.
Special mounting legs ensure smooth case height adjustment.
Copper and aluminium are used as heat-transferring materials for increased heat exchange efficiency.

Perforated sheeting filter systems ensure even distribution of air.
The additional flap between the air heater and the heat exchanger allows to increase the system's heat productivity.
The D 70mm fresh air supply connector socket is located on the side of the premises.
It is also possible to install the necessary custom outputs, bevels, roundings, etc.

HIGH QUALITY MATERIALS

Our heat exchangers are made from the best heat-transferring materials based on copper, aluminium, and brass. All of its accessories are of optimal form and size, covered with unique graphite-grey lacquer that protects against dust and dirt, and constitute a single compact device that will guarantee maximum effectiveness, functionality, and longevity under domestic and industrial cleaning conditions and other.

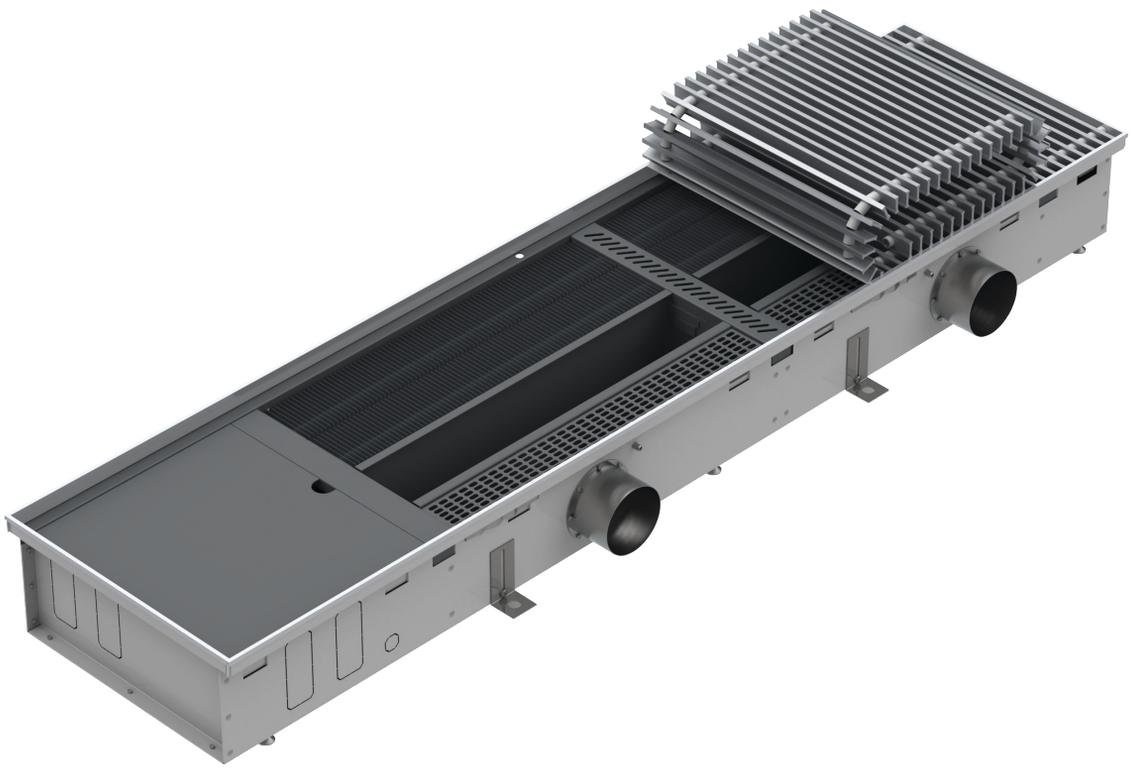
TECHNOLOGIES

eco HEAT

ECOCARE

MAXFLOW

Parameters



CONVECTOR	Width	250, 300, 350, 400 mm *
	Height	110, 125, 140, 165, 200 mm *
	Length	minimal length 800 mm *
	Height adjustment	0–35 mm
	Stainless trough	galvanized steel covered with durable spray painting. Color: black matt or dark grey matt. Also stainless steel DIN 1,4301 (17 240)
	Grill type	cross / linear – on buyers selection
	Grill material	anodized aluminium, wood, stainless steel – on buyers selection
	Heat medium connection	2 × G1/2" inner
		* Possible to order any other dimensions

OPERATING CONDITIONS	Max. working temperature	110 °C
	Working overpressure	1,6 MPa (16 Bar)
	Max. working overpressure	2,5 MPa (25 Bar)
	Ambient temperature	+2°C – +40 °C
	Relative humidity	20–70 %

Height

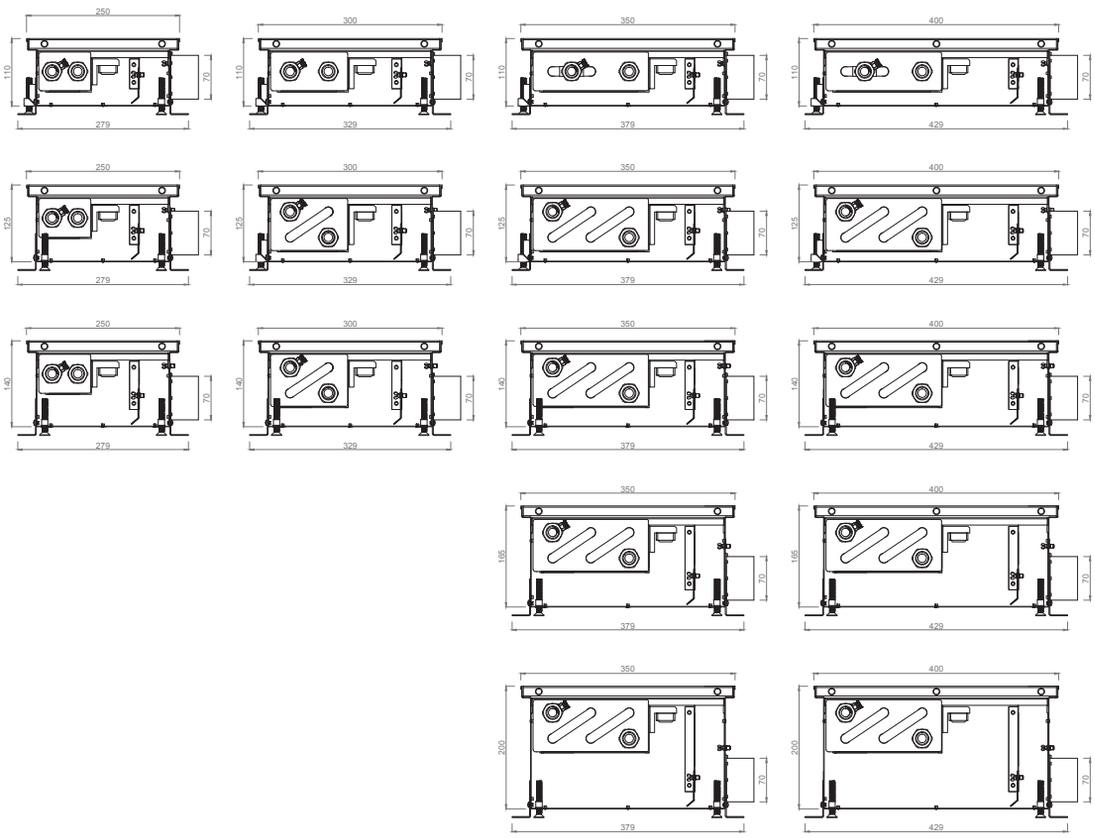
110

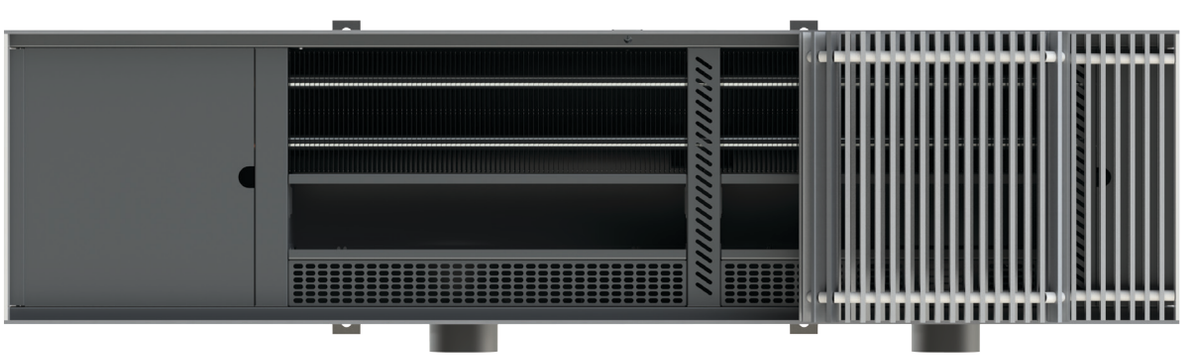
125

140

165

200





Technical data

HEATING OUTPUT

Height	Width	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
110	250	90/70/20°C	**179**	**215**	**250**	**285**	**322**	**358**	**393**	**428**	**464**	**499**	**534**	**570**	**606**	**642**	**677**
		75/65/20°C	137	164	191	218	246	273	300	327	354	381	408	435	463	490	517
	300	90/70/20°C	**270**	**324**	**377**	**431**	**484**	**539**	**592**	**646**	**699**	**753**	**807**	**860**	**914**	**967**	**1021**
		75/65/20°C	207	248	289	330	371	413	454	495	536	577	618	659	700	741	782
	350	90/70/20°C	**297**	**355**	**413**	**472**	**531**	**589**	**648**	**707**	**766**	**825**	**883**	**941**	**1000**	**1059**	**1117**
		75/65/20°C	227	272	316	361	406	451	496	541	586	631	676	720	765	810	855
	400	90/70/20°C	**342**	**408**	**475**	**543**	**611**	**677**	**745**	**813**	**881**	**949**	**1015**	**1082**	**1150**	**1218**	**1285**
		75/65/20°C	261	313	363	415	467	519	570	622	674	726	777	828	880	932	983
125	250	90/70/20°C	**184**	**220**	**257**	**294**	**329**	**366**	**402**	**439**	**476**	**511**	**548**	**585**	**621**	**657**	**693**
		75/65/20°C	140	168	196	224	251	279	307	335	363	390	418	446	474	501	529
	300	90/70/20°C	**306**	**366**	**428**	**488**	**549**	**609**	**670**	**730**	**792**	**852**	**913**	**973**	**1034**	**1094**	**1155**
		75/65/20°C	235	281	328	374	421	467	514	560	607	653	700	746	793	839	886
	350	90/70/20°C	**341**	**409**	**477**	**544**	**612**	**680**	**748**	**815**	**883**	**951**	**1018**	**1086**	**1154**	**1222**	**1289**
		75/65/20°C	266	319	372	424	477	530	583	635	688	741	793	846	899	952	1004
	400	90/70/20°C	**392**	**470**	**549**	**626**	**704**	**782**	**860**	**937**	**1016**	**1094**	**1171**	**1249**	**1327**	**1405**	**1482**
		75/65/20°C	306	367	428	488	549	610	671	730	791	852	912	973	1034	1095	1155
140	250	90/70/20°C	**190**	**229**	**267**	**303**	**342**	**380**	**416**	**455**	**493**	**531**	**567**	**606**	**644**	**682**	**719**
		75/65/20°C	145	174	203	231	260	289	317	346	375	404	432	461	490	519	547
	300	90/70/20°C	**324**	**388**	**451**	**515**	**580**	**644**	**708**	**771**	**835**	**900**	**964**	**1028**	**1092**	**1157**	**1220**
		75/65/20°C	249	298	347	396	446	495	544	593	642	692	741	790	839	889	938
	350	90/70/20°C	**362**	**434**	**507**	**579**	**650**	**722**	**794**	**865**	**937**	**1009**	**1081**	**1153**	**1225**	**1297**	**1369**
		75/65/20°C	278	333	389	444	499	554	609	664	719	774	829	885	940	995	1050
	400	90/70/20°C	**416**	**499**	**583**	**666**	**748**	**830**	**913**	**995**	**1078**	**1160**	**1243**	**1326**	**1409**	**1492**	**1574**
		75/65/20°C	320	383	447	511	574	637	700	764	827	890	953	1018	1081	1144	1208
165	350	90/70/20°C	**380**	**455**	**529**	**605**	**679**	**755**	**831**	**905**	**981**	**1055**	**1131**	**1206**	**1281**	**1356**	**1431**
		75/65/20°C	291	349	406	464	521	579	637	694	752	809	867	925	982	1040	1097
	400	90/70/20°C	**437**	**523**	**608**	**696**	**781**	**868**	**956**	**1041**	**1128**	**1213**	**1301**	**1387**	**1473**	**1559**	**1646**
		75/65/20°C	335	401	467	534	599	666	733	798	865	930	997	1064	1129	1196	1262
200	350	90/70/20°C	**386**	**462**	**539**	**615**	**692**	**768**	**845**	**922**	**997**	**1074**	**1150**	**1227**	**1303**	**1380**	**1456**
		75/65/20°C	296	354	413	471	530	588	647	706	764	823	881	940	998	1057	1115
	400	90/70/20°C	**444**	**531**	**620**	**707**	**796**	**883**	**972**	**1060**	**1147**	**1235**	**1323**	**1411**	**1499**	**1587**	**1674**
		75/65/20°C	340	407	475	542	610	676	744	812	879	947	1013	1081	1148	1216	1282

HEATING OUTPUT

Height	Width	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
110	250	90/70/20°C	**712**	**748**	**783**	**818**	**855**	**891**	**926**	**961**	**1067**	**1139**	**1210**	**1316**	**1459**	**1494**	**1600**
		75/65/20°C	544	571	598	625	653	680	707	734	815	870	924	1005	1114	1141	1222
	300	90/70/20°C	**1074**	**1128**	**1181**	**1235**	**1288**	**1342**	**1395**	**1449**	**1609**	**1717**	**1824**	**1985**	**2199**	**2252**	**2413**
		75/65/20°C	823	864	905	946	987	1028	1069	1110	1233	1316	1398	1521	1685	1726	1849
	350	90/70/20°C	**1176**	**1235**	**1294**	**1353**	**1411**	**1469**	**1528**	**1587**	**1763**	**1881**	**1997**	**2173**	**2409**	**2467**	**2642**
		75/65/20°C	900	945	990	1035	1080	1124	1169	1214	1349	1439	1528	1663	1843	1888	2022
	400	90/70/20°C	**1352**	**1420**	**1488**	**1556**	**1623**	**1689**	**1757**	**1825**	**2028**	**2163**	**2297**	**2499**	**2770**	**2837**	**3038**
		75/65/20°C	1035	1087	1139	1190	1242	1293	1344	1396	1551	1655	1757	1913	2120	2171	2325
125	250	90/70/20°C	**730**	**767**	**804**	**839**	**876**	**912**	**949**	**984**	**1095**	**1167**	**1240**	**1349**	**1494**	**1531**	**1641**
		75/65/20°C	557	585	613	640	668	696	724	751	835	890	946	1029	1140	1168	1252
	300	90/70/20°C	**1215**	**1275**	**1337**	**1397**	**1458**	**1518**	**1579**	**1639**	**1822**	**1943**	**2065**	**2246**	**2488**	**2550**	**2731**
		75/65/20°C	932	978	1025	1071	1118	1164	1211	1257	1397	1490	1583	1722	1908	1955	2094
	350	90/70/20°C	**1357**	**1425**	**1491**	**1559**	**1627**	**1695**	**1762**	**1830**	**2033**	**2169**	**2304**	**2507**	**2777**	**2845**	**3048**
		75/65/20°C	1057	1110	1162	1215	1268	1321	1373	1426	1584	1690	1795	1953	2164	2217	2375
	400	90/70/20°C	**1561**	**1639**	**1715**	**1793**	**1871**	**1949**	**2026**	**2105**	**2338**	**2494**	**2650**	**2883**	**3194**	**3272**	**3505**
		75/65/20°C	1216	1277	1336	1397	1458	1519	1579	1640	1822	1944	2064	2246	2489	2550	2731
140	250	90/70/20°C	**757**	**795**	**832**	**870**	**908**	**946**	**983**	**1021**	**1134**	**1210**	**1285**	**1398**	**1549**	**1587**	**1700**
		75/65/20°C	576	605	633	662	691	720	748	777	863	921	978	1064	1179	1208	1294
	300	90/70/20°C	**1284**	**1348**	**1412**	**1477**	**1540**	**1604**	**1668**	**1733**	**1924**	**2053**	**2180**	**2373**	**2629**	**2693**	**2886**
		75/65/20°C	987	1036	1085	1135	1184	1233	1282	1332	1479	1578	1676	1824	2021	2070	2218
	350	90/70/20°C	**1440**	**1512**	**1584**	**1655**	**1727**	**1800**	**1872**	**1943**	**2158**	**2302**	**2446**	**2662**	**2948**	**3020**	**3236**
		75/65/20°C	1105	1160	1215	1270	1325	1381	1436	1491	1656	1766	1877	2042	2262	2317	2483
	400	90/70/20°C	**1656**	**1739**	**1822**	**1903**	**1986**	**2070**	**2153**	**2235**	**2482**	**2647**	**2813**	**3061**	**3390**	**3473**	**3721**
		75/65/20°C	1271	1334	1397	1461	1524	1588	1651	1715	1904	2031	2159	2348	2601	2665	2856
165	350	90/70/20°C	**1506**	**1582**	**1656**	**1732**	**1806**	**1882**	**1958**	**2032**	**2258**	**2408**	**2557**	**2783**	**3084**	**3159**	**3384**
		75/65/20°C	1155	1213	1270	1328	1385	1443	1501	1558	1731	1846	1961	2134	2365	2422	2595
	400	90/70/20°C	**1732**	**1819**	**1904**	**1992**	**2077**	**2164**	**2252**	**2337**	**2597**	**2769**	**2941**	**3201**	**3547**	**3633**	**3892**
		75/65/20°C	1328	1395	1461	1527	1593	1660	1726	1792	1991	2123	2255	2454	2720	2785	2984
200	350	90/70/20°C	**1533**	**1610**	**1685**	**1762**	**1838**	**1915**	**1991**	**2068**	**2298**	**2450**	**2603**	**2832**	**3138**	**3214**	**3444**
		75/65/20°C	1174	1233	1291	1350	1408	1467	1525	1584	1760	1877	1994	2169	2404	2462	2638
	400	90/70/20°C	**1763**	**1852**	**1938**	**2026**	**2114**	**2202**	**2290**	**2378**	**2643**	**2818**	**2994**	**3257**	**3609**	**3696**	**3960**
		75/65/20°C	1350	1418	1485	1553	1619	1687	1754	1822	2024	2159	2293	2494	2765	2831	3034

LINE FAN

LINE FAN - FAN ASSISTED TRENCH CONVECTORS

The HEATMANN Company, dedicated to developing efficient convection heating equipment and implementing new technologies, introduces a new series LINE FAN Trench Convectors.
The defining feature of these convectors as compared to the predecessor LINE series is a fan, which increases air movement through heat exchanger, thereby increasing heat circulation. As a result, the interior temperature increases 8 times faster than the temperature in the premises with natural convection devices installed.
Moreover, LINE FAN series are produced using unique ECO HEAT and ENERGY SAVING technologies developed by the HEATMANN LABORATORY, which make convectors efficient and cost-effective.
These features combined with advanced control increase efficiency of convector and reduce heating costs.

MORE CONTROL OPTIONS

The new series provide for the possibility of controlling both the power of one convector and the power of up to 90 convectors simultaneously or of up to 10 thermoelectric heads. Moreover, you will be able to set the temperature you need in a specific room / premises. The power of the fan can be controlled to a precision of 1%, from 0 to 100%, by CB CONTROLLER® thermostat, which handles the operation of LINE FAN convector.

MORE COMFORT

Besides efficiency, LINE FAN convectors are characterized by especially quiet operation. This effect is achieved by using new-generation fans of EC type, made applying a unique HEATMANN technology – ENERGY SAVING. Hence, when you switch the fan on, you will hear close to nothing, while warm air will make your home more cozy and comfortable.

GERMAN QUALITY

The LINE FAN series were designed by HEATMANN Laboratory specialists in collaboration with German scientists. Following a series of tests a unique convector design was developed, which offers maximum energy efficiency. Highly qualified engineers selected the best materials and parts, aiming to create a durable, efficient and reliable series of convectors.

TECHNOLOGIES

eco HEAT

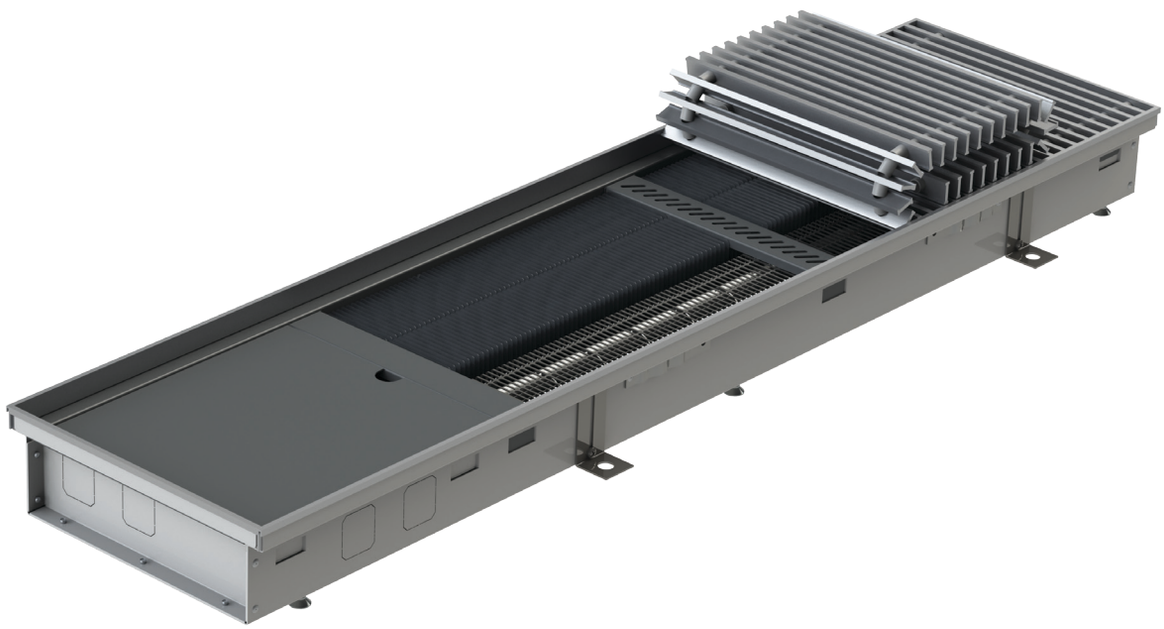
ECOCARE

MAXFLOW

CLIMATE BALANCE

energy saving

Parameters



CONVECTOR	Width	175, 200, 250, 300, 425 mm
	Height	65, 80, 90, 110, 125, 140 mm
	Length	800–4800 mm in step 100 mm
	Height adjustment	0–35 mm
	Stainless trough	galvanized steel covered with durable spray painting. Color: black matt or dark grey matt. Also stainless steel DIN 1,4301 (17 240)
	Grill type	cross / linear
	Grill material	anodized aluminium, wood, stainless steel
	Heat medium connection	2 × G1/2" inner
FAN	Operating voltage	safe voltage 24V DC
	Protection Class	IP20
	Control	control voltage 0-10V ("CB CONTROLLER®")
OPERATING CONDITIONS	Max. working temperature	110 °C
	Working overpressure	1,6 MPa (16 Bar)
	Max. working overpressure	2,5 MPa (25 Bar)
	Ambient temperature	+2°C – +40 °C
	Relative humidity	20–70 %

Height

65

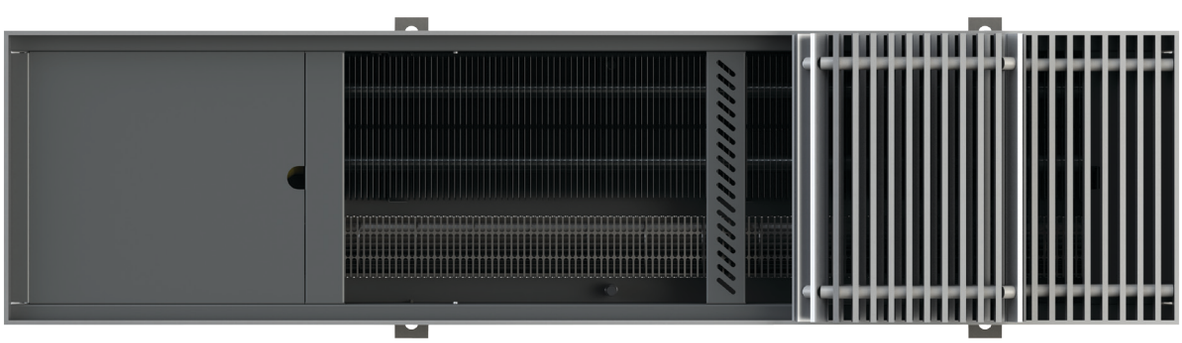
80

90

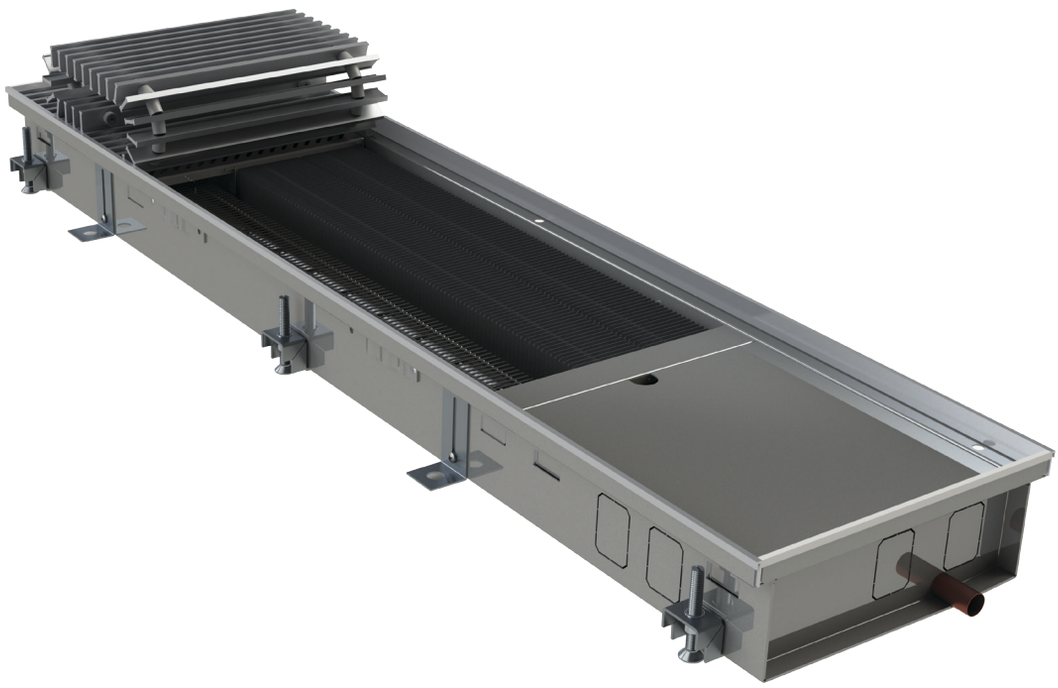
110

125

140



LINE FAN POOL



CONVECTOR	Width	250, 300, 425 mm
	Height	90, 110, 125 mm
	Length	800–4800 mm in step 100 mm
	Height adjustment	0–35 mm
	Stainless trough	A4 stainless steel for wet environments
	Heat exchanger	copper-aluminum
	Heat medium connection	2 x 1/2" BP
FAN	Operating voltage	safe voltage 24V DC
	Protection Class	IP54
	Control	control voltage 0-10V ("CB CONTROLLER®")
OPERATING CONDITIONS	Max. working temperature	110 °C
	Working overpressure	1,6 MPa (16 Bar)
	Max. working overpressure	2,5 MPa (16 Bar)
	Ambient temperature	+2°C – +40 °C
	Relative humidity	20–70 %

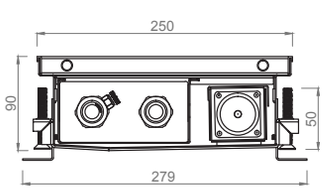
AMOUNT OF DELIVERY

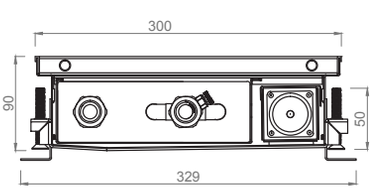
Stainless steel for wet environments trough, copper-aluminum heat exchanger, fan 24V, aluminum frame, air valve installed on the heat exchanger, adjustment screws, decorative lid, installation manual.

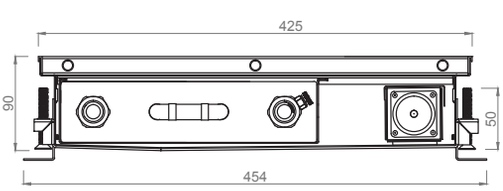
The following items are not included in the delivery package: thermostat "CB CONTROLLER®", 24V AC converter, remote sensor for wet environment, decorative grill, valves for intallation, wall mounting thermostatic head with remote control, thermoelectric head.

Высота

90







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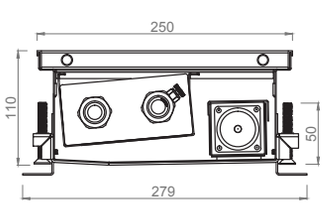

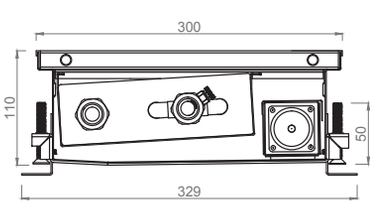

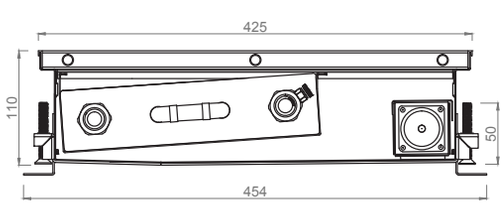

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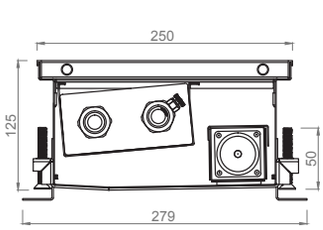


It is forbidden to install convectors in environments with salt water or water, containing aggressive components. These features in combination with an improved regulation increases efficiency of convector and reduces heating costs.

HEATING OUTPUT

H	W	Sp.	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
65	250	20%	90/70/20°C	242	291	412	412	484	533	594	654	716	716	824	897	958	1007	1007
			75/65/20°C	198	238	337	337	396	436	486	535	586	586	674	734	784	824	824
		40%	90/70/20°C	508	610	864	864	1017	1118	1245	1372	1502	1502	1728	1883	2010	2112	2112
			75/65/20°C	416	499	707	707	832	915	1019	1123	1229	1229	1414	1541	1645	1728	1728
		65%	**90/70/20°C**	**654**	**785**	**1111**	**1111**	**1306**	**1437**	**1601**	**1765**	**1931**	**1931**	**2222**	**2421**	**2585**	**2715**	**2715**
			75/65/20°C	**535**	**642**	**909**	**909**	**1069**	**1176**	**1310**	**1444**	**1580**	**1580**	**1818**	**1981**	**2115**	**2222**	**2222**
		100%	90/70/20°C	764	917	1298	1298	1526	1679	1871	2062	2256	2256	2596	2829	3020	3173	3173
			75/65/20°C	625	750	1062	1062	1249	1374	1531	1687	1846	1846	2124	2315	2471	2596	2596
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
65	300	20%	90/70/20°C	292	351	496	496	584	642	715	788	863	863	992	1082	1155	1212	1212
			75/65/20°C	239	287	406	406	478	525	585	645	706	706	812	885	945	992	992
		40%	90/70/20°C	632	759	1075	1075	1265	1391	1550	1707	1869	1869	2150	2343	2500	2627	2627
			75/65/20°C	517	621	880	880	1035	1138	1268	1397	1529	1529	1759	1917	2046	2150	2150
		65%	**90/70/20°C**	**807**	**968**	**1371**	**1371**	**1613**	**1774**	**1976**	**2178**	**2383**	**2383**	**2742**	**2988**	**3190**	**3351**	**3351**
			75/65/20°C	**660**	**792**	**1122**	**1122**	**1320**	**1452**	**1617**	**1782**	**1950**	**1950**	**2244**	**2445**	**2610**	**2742**	**2742**
		100%	90/70/20°C	910	1093	1548	1548	1822	2004	2232	2459	2691	2691	3097	3374	3603	3785	3785
			75/65/20°C	745	894	1267	1267	1491	1640	1826	2012	2202	2202	2534	2761	2948	3097	3097
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
80	175	20%	90/70/20°C	154	185	260	260	307	337	376	414	453	453	522	568	607	638	638
			75/65/20°C	126	151	213	213	251	276	308	339	371	371	427	465	497	522	522
		40%	90/70/20°C	383	458	650	650	764	841	936	1031	1129	1129	1299	1416	1512	1587	1587
			75/65/20°C	313	375	532	532	625	688	766	844	924	924	1063	1159	1237	1299	1299
		65%	**90/70/20°C**	**474**	**569**	**807**	**807**	**948**	**1044**	**1162**	**1281**	**1402**	**1402**	**1613**	**1757**	**1876**	**1971**	**1971**
			75/65/20°C	**388**	**466**	**660**	**660**	**776**	**854**	**951**	**1048**	**1147**	**1147**	**1320**	**1438**	**1535**	**1613**	**1613**
		100%	90/70/20°C	566	679	963	963	1133	1245	1387	1529	1673	1673	1925	2097	2239	2353	2353
			75/65/20°C	463	556	788	788	927	1019	1135	1251	1369	1369	1575	1716	1832	1925	1925
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
80	200	20%	90/70/20°C	251	301	427	427	501	551	613	677	741	741	852	929	991	1041	1041
			75/65/20°C	205	246	349	349	410	451	502	554	606	606	697	760	811	852	852
		40%	90/70/20°C	408	489	693	693	815	897	998	1101	1205	1205	1386	1510	1613	1694	1694
			75/65/20°C	334	400	567	567	667	734	817	901	986	986	1134	1236	1320	1386	1386
		65%	**90/70/20°C**	**506**	**606**	**859**	**859**	**1011**	**1112**	**1238**	**1365**	**1493**	**1493**	**1718**	**1872**	**1999**	**2100**	**2100**
			75/65/20°C	**414**	**496**	**703**	**703**	**827**	**910**	**1013**	**1117**	**1222**	**1222**	**1406**	**1532**	**1636**	**1718**	**1718**
		100%	90/70/20°C	604	725	1027	1027	1207	1328	1479	1630	1784	1784	2053	2238	2388	2509	2509
			75/65/20°C	494	593	840	840	988	1087	1210	1334	1460	1460	1680	1831	1954	2053	2053
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
80	250	20%	90/70/20°C	266	320	453	453	533	585	653	719	787	787	906	987	1053	1107	1107
			75/65/20°C	218	262	371	371	436	479	534	588	644	644	741	808	862	906	906
		40%	90/70/20°C	590	709	1005	1005	1182	1300	1447	1595	1746	1746	2009	2189	2337	2455	2455
			75/65/20°C	483	580	822	822	967	1064	1184	1305	1429	1429	1644	1791	1912	2009	2009
		65%	**90/70/20°C**	**781**	**936**	**1327**	**1327**	**1561**	**1717**	**1913**	**2107**	**2306**	**2306**	**2654**	**2891**	**3087**	**3243**	**3243**
			75/65/20°C	**639**	**766**	**1086**	**1086**	**1277**	**1405**	**1565**	**1724**	**1887**	**1887**	**2172**	**2366**	**2526**	**2654**	**2654**
		100%	90/70/20°C	873	1047	1482	1482	1745	1919	2137	2355	2577	2577	2966	3232	3450	3625	3625
			75/65/20°C	714	857	1213	1213	1428	1570	1749	1927	2109	2109	2427	2645	2823	2966	2966
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
80	300	20%	90/70/20°C	309	372	525	525	618	679	758	835	913	913	1051	1145	1222	1284	1284
			75/65/20°C	253	304	430	430	506	556	620	683	747	747	860	937	1000	1051	1051
		40%	90/70/20°C	678	814	1152	1152	1357	1492	1662	1831	2004	2004	2306	2513	2682	2818	2818
			75/65/20°C	555	666	943	943	1110	1221	1360	1498	1640	1640	1887	2056	2195	2306	2306
		65%	**90/70/20°C**	**866**	**1040**	**1474**	**1474**	**1734**	**1908**	**2124**	**2340**	**2561**	**2561**	**2948**	**3212**	**3429**	**3603**	**3603**
			75/65/20°C	**709**	**851**	**1206**	**1206**	**1419**	**1561**	**1738**	**1915**	**2096**	**2096**	**2412**	**2628**	**2806**	**2948**	**2948**
		100%	90/70/20°C	997	1196	1695	1695	1994	2194	2443	2692	2946	2946	3390	3694	3944	4143	4143
			75/65/20°C	816	979	1387	1387	1632	1795	1999	2203	2411	2411	2774	3023	3227	3390	3390
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
90	175	20%	90/70/20°C	175	210	297	297	350	385	429	472	517	517	595	648	692	727	727
			75/65/20°C	143	172	243	243	286	315	351	386	423	423	487	530	566	595	595
		40%	90/70/20°C	408	490	694	694	816	898	1000	1102	1206	1206	1388	1513	1614	1696	1696
			75/65/20°C	334	401	568	568	668	735	818	902	987	987	1136	1238	1321	1388	1388
		65%	**90/70/20°C**	**495**	**594**	**842**	**842**	**991**	**1090**	**1214**	**1338**	**1464**	**1464**	**1684**	**1836**	**1959**	**2058**	**2058**
			75/65/20°C	**405**	**486**	**689**	**689**	**811**	**892**	**993**	**1095**	**1198**	**1198**	**1378**	**1502**	**1603**	**1684**	**1684**
		100%	90/70/20°C	635	763	1080	1080	1271	1398	1557	1715	1877	1877	2159	2354	2513	2640	2640
			75/65/20°C	520	624	884	884	1040	1144	1274	1403	1536	1536	1767	1926	2056	2160	2160
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
				800	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**	**2000**	**2100**	**2200**

HEATING OUTPUT

H	W	Sp.	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
65	250	20%	90/70/20°C	1128	1128	1200	1249	1298	1370	1432	1432	1613	1722	1844	2013	2256	2329	2438
			75/65/20°C	923	923	982	1022	1062	1121	1172	1172	1320	1409	1509	1647	1846	1906	1995
		40%	90/70/20°C	2366	2366	2519	2620	2723	2874	3004	3004	3385	3615	3869	4225	4733	4888	5117
			75/65/20°C	1936	1936	2061	2144	2228	2352	2458	2458	2770	2958	3166	3457	3873	4000	4187
		65%	**90/70/20°C**	**3042**	**3042**	**3237**	**3368**	**3499**	**3696**	**3862**	**3862**	**4352**	**4646**	**4973**	**5430**	**6084**	**6283**	**6577**
			75/65/20°C	**2489**	**2489**	**2649**	**2756**	**2863**	**3024**	**3160**	**3160**	**3561**	**3802**	**4069**	**4443**	**4978**	**5141**	**5382**
		100%	90/70/20°C	3554	3554	3782	3935	4088	4318	4512	4512	5085	5428	5810	6344	7108	7341	7684
			75/65/20°C	2908	2908	3095	3220	3345	3533	3692	3692	4161	4442	4754	5191	5816	6007	6288
	Max energy consumption [W]			7	7	9	9	9	9	9	9	11	11	12	13	14	15	15
65	300	20%	90/70/20°C	1359	1359	1446	1504	1563	1651	1724	1724	1944	2075	2221	2426	2717	2806	2938
			75/65/20°C	1112	1112	1183	1231	1279	1351	1411	1411	1591	1968	1817	1985	2223	2296	2404
		40%	90/70/20°C	2944	2944	3133	3259	3386	3576	3737	3737	4211	4496	4813	5255	5887	6080	6365
			75/65/20°C	2409	2409	2564	2667	2771	2926	3058	3058	3446	3679	3938	4300	4817	4975	5208
		65%	**90/70/20°C**	**3754**	**3754**	**3996**	**4158**	**4319**	**4561**	**4767**	**4767**	**5372**	**5735**	**6139**	**6703**	**7510**	**7755**	**8118**
			75/65/20°C	**3072**	**3072**	**3270**	**3402**	**3534**	**3732**	**3901**	**3901**	**4396**	**4693**	**5023**	**5485**	**6145**	**6346**	**6643**
		100%	90/70/20°C	4239	4239	4513	4695	4877	5151	5383	5383	6066	6476	6932	7568	8480	8757	9167
			75/65/20°C	3469	3469	3693	3842	3991	4215	4405	4405	4964	5299	5672	6193	6939	7166	7501
	Max energy consumption [W]			7	7	9	9	9	9	9	9	11	11	12	13	14	15	15
80	175	20%	90/70/20°C	714	714	760	791	821	868	907	907	1022	1091	1167	1275	1429	1475	1545
			75/65/20°C	584	584	622	647	672	710	742	742	836	893	955	1043	1169	1207	1264
		40%	90/70/20°C	1779	1779	1893	1970	2046	2161	2258	2258	2546	2717	2909	3175	3557	3675	3846
			75/65/20°C	1456	1456	1549	1612	1674	1768	1848	1848	2083	2223	2380	2598	2911	3007	3147
		65%	**90/70/20°C**	**2208**	**2208**	**2350**	**2445**	**2541**	**2682**	**2803**	**2803**	**3159**	**3373**	**3610**	**3942**	**4417**	**4561**	**4775**
			75/65/20°C	**1807**	**1807**	**1923**	**2001**	**2079**	**2195**	**2294**	**2294**	**2585**	**2760**	**2954**	**3226**	**3614**	**3732**	**3907**
		100%	90/70/20°C	2636	2636	2806	2918	3032	3202	3346	3346	3770	4026	4309	4705	5271	5443	5699
			75/65/20°C	2157	2157	2296	2388	2481	2620	2738	2738	3085	3294	3526	3850	4313	4454	4663
	Max energy consumption [W]			16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
80	200	20%	90/70/20°C	1167	1167	1242	1292	1342	1418	1481	1481	1669	1782	1908	2082	2333	2410	2522
			75/65/20°C	955	955	1016	1057	1098	1160	1212	1212	1366	1458	1561	1704	1909	1972	2064
		40%	90/70/20°C	1898	1898	2020	2102	2184	2306	2410	2410	2715	2899	3103	3389	3796	3920	4104
			75/65/20°C	1553	1553	1653	1720	1787	1887	1972	1972	2222	2372	2539	2773	3106	3208	3358
		65%	**90/70/20°C**	**2353**	**2353**	**2504**	**2605**	**2706**	**2858**	**2987**	**2987**	**3366**	**3593**	**3846**	**4199**	**4705**	**4859**	**5086**
			75/65/20°C	**1925**	**1925**	**2049**	**2132**	**2214**	**2339**	**2444**	**2444**	**2754**	**2940**	**3147**	**3436**	**3850**	**3976**	**4162**
		100%	90/70/20°C	2811	2811	2992	3113	3234	3414	3568	3568	4022	4293	4595	5018	5622	5806	6077
			75/65/20°C	2300	2300	2448	2547	2646	2794	2920	2920	3291	3513	3760	4106	4600	4751	4973
	Max energy consumption [W]			16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
80	250	20%	90/70/20°C	1240	1240	1320	1374	1426	1507	1574	1574	1774	1894	2027	2213	2480	2561	2681
			75/65/20°C	1015	1015	1080	1124	1167	1233	1288	1288	1452	1550	1659	1811	2029	2096	2194
		40%	90/70/20°C	2751	2751	2928	3045	3164	3341	3491	3491	3935	4200	4496	4910	5501	5681	5947
			75/65/20°C	2251	2251	2396	2492	2589	2734	2857	2857	3220	3437	3679	4018	4501	4649	4866
		65%	**90/70/20°C**	**3633**	**3633**	**3868**	**4023**	**4180**	**4414**	**4613**	**4613**	**5199**	**5549**	**5939**	**6486**	**7266**	**7505**	**7856**
			75/65/20°C	**2973**	**2973**	**3165**	**3292**	**3420**	**3612**	**3775**	**3775**	**4254**	**4541**	**4860**	**5307**	**5946**	**6141**	**6428**
		100%	90/70/20°C	4061	4061	4322	4497	4671	4932	5155	5155	5810	6202	6638	7249	8121	8387	8779
			75/65/20°C	3323	3323	3537	3680	3822	4036	4218	4218	4754	5075	5432	5932	6645	6863	7184
	Max energy consumption [W]			16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
80	300	20%	90/70/20°C	1438	1438	1531	1594	1656	1748	1827	1827	2059	2197	2353	2569	2878	2972	3111
			75/65/20°C	1177	1177	1253	1304	1355	1430	1495	1495	1685	1798	1925	2102	2355	2432	2546
		40%	90/70/20°C	3157	3157	3361	3496	3632	3835	4008	4008	4517	4822	5161	5635	6313	6521	6825
			75/65/20°C	2583	2583	2750	2861	2972	3138	3280	3280	3696	3946	4223	4611	5166	5336	5585
		65%	**90/70/20°C**	**4035**	**4035**	**4296**	**4469**	**4643**	**4903**	**5124**	**5124**	**5774**	**6164**	**6598**	**7204**	**8072**	**8336**	**8726**
			75/65/20°C	**3302**	**3302**	**3515**	**3657**	**3799**	**4012**	**4193**	**4193**	**4725**	**5044**	**5399**	**5895**	**6605**	**6821**	**7140**
		100%	90/70/20°C	4641	4641	4941	5140	5339	5639	5893	5893	6641	7089	7588	8286	9283	9587	10036
			75/65/20°C	3798	3798	4043	4206	4369	4614	4822	4822	5434	5801	6209	6780	7596	7845	8212
	Max energy consumption [W]			16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
90	175	20%	90/70/20°C	814	814	866	902	937	989	1034	1034	1165	1244	1331	1454	1629	1682	1761
			75/65/20°C	666	666	709	738	767	809	846	846	953	1018	1089	1190	1333	1376	1441
		40%	90/70/20°C	1900	1900	2023	2104	2186	2309	2412	2412	2719	2902	3107	3392	3801	3925	4109
			75/65/20°C	1555	1555	1655	1722	1789	1889	1974	1974	2225	2375	2542	2776	3110	3212	3362
		65%	**90/70/20°C**	**2306**	**2306**	**2455**	**2554**	**2653**	**2802**	**2928**	**2928**	**3300**	**3522**	**3770**	**4117**	**4612**	**4764**	**4986**
			75/65/20°C	**1887**	**1887**	**2009**	**2090**	**2171**	**2293**	**2396**	**2396**	**2700**	**2882**	**3085**	**3369**	**3774**	**3898**	**4080**
		100%	90/70/20°C	2957	2957	3148	3275	3402	3592	3754	3754	4231	4517	4835	5279	5914	6108	6394
			75/65/20°C	2420	2420	2576	2680	2784	2939	3072	3072	3462	3696	3956	4320	4839	4998	5232
	Max energy consumption [W]			16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
				2300	**2400**	**2500**	**2600**	**2700**	**2800**	**2900**	**3000**	**3300**	**3500**	**3700**	**4000**	**4400**	**4500**	**4800**

HEATING OUTPUT

H	W	Sp.	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
90	200	20%	90/70/20°C	273	328	464	464	546	601	670	737	803	803	929	1008	1075	1130	1130
			75/65/20°C	223	268	380	380	447	492	548	603	657	657	760	825	880	925	925
		40%	90/70/20°C	530	635	901	901	1060	1166	1299	1431	1558	1558	1801	1955	2089	2194	2194
			75/65/20°C	434	520	737	737	867	954	1063	1171	1275	1275	1474	1600	1709	1795	1795
		65%	**90/70/20°C**	**704**	**844**	**1195**	**1195**	**1407**	**1547**	**1723**	**1899**	**2068**	**2068**	**2392**	**2596**	**2772**	**2912**	**2912**
			75/65/20°C	**576**	**691**	**978**	**978**	**1151**	**1266**	**1410**	**1554**	**1692**	**1692**	**1957**	**2124**	**2268**	**2383**	**2383**
		100%	90/70/20°C	749	899	1275	1275	1499	1649	1837	2024	2203	2203	2548	2766	2953	3103	3103
			75/65/20°C	613	736	1043	1043	1227	1349	1503	1656	1803	1803	2085	2263	2416	2539	2539
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
90	250	20%	90/70/20°C	412	494	700	700	824	907	1009	1112	1211	1211	1401	1520	1623	1705	1705
			75/65/20°C	337	404	573	573	674	742	826	910	2564	991	1146	1244	1328	1395	1395
		40%	90/70/20°C	873	1046	1482	1482	1744	1919	2136	2355	2564	2564	2965	3218	3435	3610	3610
			75/65/20°C	714	856	1213	1213	1427	1570	1748	1927	2098	2098	2426	2633	2811	2954	2954
		65%	**90/70/20°C**	**1148**	**1377**	**1952**	**1952**	**2296**	**2526**	**2813**	**3099**	**3375**	**3375**	**3903**	**4236**	**4523**	**4753**	**4753**
			75/65/20°C	**939**	**1127**	**1597**	**1597**	**1879**	**2067**	**2302**	**2536**	**2762**	**2762**	**3194**	**3466**	**3701**	**3889**	**3889**
		100%	90/70/20°C	1226	1471	2084	2084	2451	2696	3003	3309	3604	3604	4167	4523	4830	5074	5074
			75/65/20°C	1003	1204	1705	1705	2006	2206	2457	2708	2949	2949	3410	3701	3952	4152	4152
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
90	300	20%	90/70/20°C	441	529	749	749	881	969	1079	1190	1295	1295	1498	1627	1737	1825	1825
			75/65/20°C	361	433	613	613	721	793	883	974	1060	1060	1226	1331	1421	1493	1493
		40%	90/70/20°C	931	1118	1584	1584	1864	2049	2283	2515	2739	2739	3168	3438	3671	3857	3857
			75/65/20°C	762	915	1296	1296	1525	1677	1868	2058	2241	2241	2592	2813	3004	3156	3156
		65%	**90/70/20°C**	**1221**	**1465**	**2075**	**2075**	**2442**	**2685**	**2990**	**3296**	**3589**	**3589**	**4150**	**4505**	**4809**	**5053**	**5053**
			75/65/20°C	**999**	**1199**	**1698**	**1698**	**1998**	**2197**	**2447**	**2697**	**2937**	**2937**	**3396**	**3686**	**3935**	**4135**	**4135**
		100%	90/70/20°C	1309	1570	2224	2224	2616	2878	3206	3533	3847	3847	4448	4827	5155	5416	5416
			75/65/20°C	1071	1285	1820	1820	2141	2355	2623	2891	3148	3148	3640	3950	4218	4432	4432
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
90	425	20%	90/70/20°C	472	566	802	802	943	1038	1155	1273	1386	1386	1603	1740	1858	1952	1952
			75/65/20°C	386	463	656	656	772	849	945	1042	1134	1134	1312	1424	1520	1597	1597
		40%	90/70/20°C	1020	1225	1735	1735	2041	2245	2500	2756	3000	3000	3469	3765	4021	4225	4225
			75/65/20°C	835	1002	1420	1420	1670	1837	2046	2255	2455	2455	2839	3081	3290	3457	3457
		65%	**90/70/20°C**	**1368**	**1641**	**2326**	**2326**	**2735**	**3009**	**3351**	**3693**	**4021**	**4021**	**4650**	**5047**	**5389**	**5662**	**5662**
			75/65/20°C	**1119**	**1343**	**1903**	**1903**	**2238**	**2462**	**2742**	**3022**	**3290**	**3290**	**3805**	**4130**	**4410**	**4633**	**4633**
		100%	90/70/20°C	1420	1704	2414	2414	2839	3124	3478	3834	4173	4173	4827	5239	5593	5877	5877
			75/65/20°C	1162	1394	1975	1975	2323	2556	2846	3137	3415	3415	3950	4287	4577	4809	4809
	Max energy consumption [W]			10	15	17	17	20	24	24	27	29	32	34	36	39	44	44
110	175	20%	90/70/20°C	144	174	246	246	288	318	353	390	427	427	491	535	571	600	600
			75/65/20°C	118	142	201	201	236	260	289	319	349	349	402	438	467	491	491
		40%	90/70/20°C	320	385	545	545	642	705	786	865	947	947	1090	1188	1267	1332	1332
			75/65/20°C	262	315	446	446	525	577	643	708	775	775	892	972	1037	1090	1090
		65%	**90/70/20°C**	**416**	**500**	**708**	**708**	**832**	**915**	**1019**	**1123**	**1229**	**1229**	**1414**	**1541**	**1645**	**1729**	**1729**
			75/65/20°C	**340**	**409**	**579**	**579**	**681**	**749**	**834**	**919**	**1006**	**1006**	**1157**	**1261**	**1346**	**1415**	**1415**
		100%	90/70/20°C	499	599	848	848	998	1099	1223	1348	1475	1475	1697	1849	1974	2074	2074
			75/65/20°C	408	490	694	694	817	899	1001	1103	1207	1207	1389	1513	1615	1697	1697
	Max energy consumption [W]			2	2	3	3	4	4	5	5	5	5	5	6	7	7	7
110	200	20%	90/70/20°C	279	334	473	473	557	612	682	752	819	819	947	1028	1097	1152	1152
			75/65/20°C	228	273	387	387	456	501	558	615	670	670	775	841	898	943	943
		40%	90/70/20°C	613	736	1042	1042	1226	1349	1502	1656	1803	1803	2085	2262	2416	2538	2538
			75/65/20°C	502	602	853	853	1003	1104	1229	1355	1475	1475	1706	1851	1977	2077	2077
		65%	**90/70/20°C**	**814**	**978**	**1385**	**1385**	**1629**	**1792**	**1996**	**2199**	**2394**	**2394**	**2769**	**3005**	**3208**	**3372**	**3372**
			75/65/20°C	**666**	**800**	**1133**	**1133**	**1333**	**1466**	**1633**	**1799**	**1959**	**1959**	**2266**	**2459**	**2625**	**2759**	**2759**
		100%	90/70/20°C	875	1051	1488	1488	1751	1926	2145	2364	2574	2574	2977	3230	3449	3625	3625
			75/65/20°C	716	860	1218	1218	1433	1576	1755	1934	2106	2106	2436	2643	2822	2966	2966
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
110	250	20%	90/70/20°C	469	563	798	798	939	1033	1150	1267	1380	1380	1596	1732	1849	1943	1943
			75/65/20°C	384	461	653	653	768	845	941	1037	1129	1129	1306	1417	1513	1590	1590
		40%	90/70/20°C	968	1161	1645	1645	1936	2129	2371	2613	2845	2845	3290	3571	3813	4006	4006
			75/65/20°C	792	950	1346	1346	1584	1742	1940	2138	2328	2328	2692	2922	3120	3278	3278
		65%	**90/70/20°C**	**1287**	**1545**	**2188**	**2188**	**2574**	**2832**	**3153**	**3476**	**3784**	**3784**	**4376**	**4749**	**5072**	**5328**	**5328**
			75/65/20°C	**1053**	**1264**	**1790**	**1790**	**2106**	**2317**	**2580**	**2844**	**3096**	**3096**	**3581**	**3886**	**4150**	**4360**	**4360**
		100%	90/70/20°C	1387	1664	2359	2359	2775	3053	3399	3746	4079	4079	4717	5119	5072	5744	5744
			75/65/20°C	1135	1362	1930	1930	2271	2498	2781	3065	3338	3338	3860	4189	4473	4700	4700
	Max energy consumption [W]			4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
				800	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**	**2000**	**2100**	**2200**

HEATING OUTPUT

H	W	Sp.	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
90	200	20%	90/70/20°C	1267	1267	1349	1404	1458	1540	1606	1606	1811	1933	2070	2261	2535	2614	2736
			75/65/20°C	1037	1037	1104	1149	1193	1260	1314	1314	1482	1582	1694	1850	2074	2139	2239
		40%	90/70/20°C	2459	2459	2618	2724	2830	2989	3116	3116	3513	3752	4017	4388	4918	5072	5310
			75/65/20°C	2012	2012	2142	2229	2316	2446	2550	2550	2875	3070	3287	3591	4024	4150	4345
		65%	**90/70/20°C**	**3263**	**3263**	**3474**	**3615**	**3755**	**3967**	**4136**	**4136**	**4663**	**4980**	**5331**	**5823**	**6527**	**6731**	**7048**
			75/65/20°C	**2670**	**2670**	**2843**	**2958**	**3073**	**3246**	**3384**	**3384**	**3816**	**4075**	**4362**	**4765**	**5341**	**5508**	**5767**
		100%	90/70/20°C	3478	3478	3703	3852	4002	4227	4407	4407	4969	5306	5681	6206	6955	7172	7510
			75/65/20°C	2846	2846	3030	3152	3275	3459	3606	3606	4066	4342	4649	5078	5691	5869	6145
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
90	250	20%	90/70/20°C	1911	1911	2035	2117	2200	2323	2422	2422	2731	2916	3122	3411	3823	3942	4127
			75/65/20°C	1564	1564	1665	1732	1800	1901	1982	1982	2235	2386	2555	2791	3128	3226	3377
		40%	90/70/20°C	4046	4046	4308	4483	4656	4918	5128	5128	5782	6174	6610	7220	8093	8344	8738
			75/65/20°C	3311	3311	3525	3668	3810	4024	4196	4196	4731	5052	5409	5908	6622	6828	7150
		65%	**90/70/20°C**	**5327**	**5327**	**5672**	**5901**	**6130**	**6475**	**6751**	**6751**	**7611**	**8128**	**8702**	**9505**	**10654**	**10986**	**11503**
			75/65/20°C	**4359**	**4359**	**4641**	**4829**	**5016**	**5298**	**5524**	**5524**	**6228**	**6651**	**7121**	**7778**	**8718**	**8990**	**9413**
		100%	90/70/20°C	5688	5688	6055	6300	6545	6913	7207	7207	8127	8678	9290	10148	11374	11730	12281
			75/65/20°C	4654	4654	4955	5155	5356	5657	5897	5897	6650	7101	7602	8304	9307	9598	10049
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
90	300	20%	90/70/20°C	2045	2045	2177	2265	2354	2486	2591	2591	2922	3120	3340	3649	4089	4217	4415
			75/65/20°C	1673	1673	1781	1853	1926	2034	2120	2120	2391	2553	2733	2986	3346	3451	3613
		40%	90/70/20°C	4322	4322	4602	4788	4975	5255	5479	5479	6176	6596	7062	7714	8646	8916	9335
			75/65/20°C	3537	3537	3766	3918	4071	4300	4483	4483	5054	5397	5779	6312	7075	7296	7639
		65%	**90/70/20°C**	**5664**	**5664**	**6030**	**6274**	**6519**	**6884**	**7177**	**7177**	**8093**	**8643**	**9252**	**10107**	**11327**	**11682**	**12231**
			75/65/20°C	**4635**	**4635**	**4934**	**5134**	**5334**	**5633**	**5873**	**5873**	**6622**	**7072**	**7571**	**8270**	**9269**	**9559**	**10008**
		100%	90/70/20°C	6071	6071	6464	6725	6987	7379	7693	7693	8674	9263	9917	10833	12141	12521	13109
			75/65/20°C	4968	4968	5289	5503	5717	6038	6295	6295	7098	7580	8115	8864	9935	10246	10727
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
90	425	20%	90/70/20°C	2188	2188	2329	2432	2517	2659	2773	2773	3126	3339	3575	3905	4376	4512	4725
			75/65/20°C	1790	1790	1906	1983	2060	2176	2269	2269	2558	2732	2925	3195	3581	3692	3866
		40%	90/70/20°C	4734	4734	5041	5245	5449	5755	6000	6000	6765	7225	7735	8449	9470	9766	10225
			75/65/20°C	3874	3874	4125	4292	4459	4709	4910	4910	5536	5912	6329	6914	7749	7991	8367
		65%	**90/70/20°C**	**6346**	**6346**	**6757**	**7031**	**7303**	**7714**	**8043**	**8043**	**9068**	**9684**	**10367**	**11325**	**12693**	**13088**	**13704**
			75/65/20°C	**5193**	**5193**	**5529**	**5753**	**5976**	**6312**	**6581**	**6581**	**7420**	**7924**	**8483**	**9267**	**10386**	**10710**	**11214**
		100%	90/70/20°C	6587	6587	7014	7297	7581	8007	8348	8348	9412	10052	10760	11755	13174	13586	14225
			75/65/20°C	5390	5390	5739	5971	6203	6552	6831	6831	7702	8225	8805	9619	10780	11117	11640
Max energy consumption [W]				46	46	48	53	58	56	58	60	65	72	75	87	92	94	101
110	175	20%	90/70/20°C	672	672	715	744	772	816	853	853	962	1027	1099	1199	1344	1388	1453
			75/65/20°C	550	550	585	609	632	668	698	698	787	840	899	981	1100	1136	1189
		40%	90/70/20°C	1492	1492	1589	1652	1716	1812	1894	1894	2135	2279	2439	2663	2984	3082	3226
			75/65/20°C	1221	1221	1300	1352	1404	1483	1550	1550	1747	1865	1996	2179	2442	2522	2640
		65%	**90/70/20°C**	**1937**	**1937**	**2062**	**2145**	**2228**	**2353**	**2459**	**2459**	**2770**	**2959**	**3166**	**3457**	**3873**	**4000**	**4188**
			75/65/20°C	**1585**	**1585**	**1687**	**1755**	**1823**	**1925**	**2012**	**2012**	**2267**	**2421**	**2591**	**2829**	**3169**	**3273**	**3427**
		100%	90/70/20°C	2323	2323	2473	2574	2673	2823	2950	2950	3324	3549	3798	4148	4648	4799	5024
			75/65/20°C	1901	1901	2024	2106	2187	2310	2414	2414	2720	2904	3108	3394	3803	3927	4111
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
110	200	20%	90/70/20°C	1292	1292	1376	1431	1487	1570	1638	1638	1847	1971	2111	2306	2585	2665	2790
			75/65/20°C	1057	1057	1126	1171	1217	1285	1340	1340	1511	1613	1727	1887	2115	2181	2283
		40%	90/70/20°C	2845	2845	3028	3152	3274	3458	3605	3605	4065	4341	4648	5077	5690	5867	6143
			75/65/20°C	2328	2328	2478	2579	2679	2830	2950	2950	3326	3552	3803	4154	4656	4801	5027
		65%	**90/70/20°C**	**3779**	**3779**	**4023**	**4186**	**4348**	**4593**	**4788**	**4788**	**5399**	**5766**	**6173**	**6742**	**7557**	**7793**	**8160**
			75/65/20°C	**3092**	**3092**	**3292**	**3425**	**3558**	**3758**	**3918**	**3918**	**4418**	**4718**	**5051**	**5517**	**6184**	**6377**	**6677**
		100%	90/70/20°C	4062	4062	4325	4500	4674	4937	5147	5147	5804	6198	6636	7248	8124	8377	8772
			75/65/20°C	3324	3324	3539	3682	3825	4040	4212	4212	4749	5072	5430	5931	6648	6855	7178
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
110	250	20%	90/70/20°C	2178	2178	2320	2412	2506	2647	2761	2761	3113	3324	3559	3886	4357	4492	4704
			75/65/20°C	1782	1782	1898	1974	2051	2166	2259	2259	2547	2720	2912	3180	3565	3676	3849
		40%	90/70/20°C	4490	4490	4780	4974	5167	5458	5690	5690	6415	6851	7335	8012	8980	9260	9695
			75/65/20°C	3674	3674	3911	4070	4228	4466	4656	4656	5249	5606	6002	6556	7348	7577	7933
		65%	**90/70/20°C**	**5972**	**5972**	**6358**	**6615**	**6873**	**7259**	**7568**	**7568**	**8534**	**9113**	**9756**	**10658**	**11945**	**12317**	**12897**
			75/65/20°C	**4887**	**4887**	**5203**	**5413**	**5624**	**5940**	**6193**	**6193**	**6983**	**7457**	**7983**	**8721**	**9774**	**10079**	**10553**
		100%	90/70/20°C	6438	6438	6853	7131	7408	7825	8159	8159	9199	9823	10517	11488	12876	13278	13902
			75/65/20°C	5268	5268	5608	5835	6062	6403	6676	6676	7527	8038	8606	9400	10536	10865	11376
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
				2300	**2400**	**2500**	**2600**	**2700**	**2800**	**2900**	**3000**	**3300**	**3500**	**3700**	**4000**	**4400**	**4500**	**4800**

HEATING OUTPUT

H	W	Sp.	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
110	300	20%	90/70/20°C	500	600	849	849	1000	1099	1225	1349	1469	1469	1699	1844	1969	2069	2069
			75/65/20°C	409	491	695	695	818	899	1002	1104	1202	1202	1390	1509	1611	1693	1693
		40%	90/70/20°C	1038	1254	1763	1763	2075	2282	2542	2801	3005	3005	3527	3828	4087	4294	4294
			75/65/20°C	849	1019	1443	1443	1698	1867	2080	2292	2496	2496	2886	3132	3344	3514	3514
		65%	**90/70/20°C**	**1408**	**1689**	**2393**	**2393**	**2816**	**3097**	**3449**	**3801**	**4139**	**4139**	**4786**	**5195**	**5547**	**5828**	**5828**
			75/65/20°C	**1152**	**1382**	**1958**	**1958**	**2304**	**2534**	**2822**	**3110**	**3387**	**3387**	**3916**	**4251**	**4539**	**4769**	**4769**
		100%	90/70/20°C	1520	1825	2585	2585	3041	3345	3725	4105	4470	4470	5169	5611	5991	6295	6295
			75/65/20°C	1244	1493	2115	2115	2488	2737	3048	3359	3658	3658	4230	4591	4902	5151	5151
Max energy consumption [W]				4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
110	425	20%	90/70/20°C	667	800	1134	1134	1335	1468	1634	1801	1961	1961	2268	2461	2629	2762	2762
			75/65/20°C	546	655	928	928	1092	1201	1337	1474	1605	1605	1856	2014	2151	2260	2260
		40%	90/70/20°C	1264	1517	2148	2148	2527	2780	3097	3412	3715	3715	4297	4663	4980	5232	5232
			75/65/20°C	1034	1241	1758	1758	2068	2275	2534	2792	3040	3040	3516	3816	4075	4281	4281
		65%	**90/70/20°C**	**1673**	**2008**	**2845**	**2845**	**3346**	**3681**	**4099**	**4518**	**4919**	**4919**	**5689**	**6174**	**6592**	**6927**	**6927**
			75/65/20°C	**1369**	**1643**	**2328**	**2328**	**2738**	**3012**	**3354**	**3697**	**4025**	**4025**	**4655**	**5052**	**5394**	**5668**	**5668**
		100%	90/70/20°C	1801	2162	3063	3063	3603	3963	4414	4864	5296	5296	6125	6648	7098	7458	7458
			75/65/20°C	1474	1769	2506	2506	2948	3243	3612	3980	4334	4334	5012	5440	5808	6103	6103
Max energy consumption [W]				4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
125	250	20%	90/70/20°C	485	582	825	825	970	1068	1189	1310	1426	1426	1650	1790	1911	2009	2009
			75/65/20°C	397	476	675	675	794	874	973	1072	1167	1167	1350	1465	1564	1644	1644
		40%	90/70/20°C	1008	1210	1715	1715	2018	2219	2471	2723	2965	2965	3429	3721	3974	4176	4176
			75/65/20°C	825	990	1403	1403	1651	1816	2022	2228	2426	2426	2806	3045	3252	3417	3417
		65%	**90/70/20°C**	**1339**	**1607**	**2278**	**2278**	**2679**	**2948**	**3283**	**3617**	**3939**	**3939**	**4555**	**4943**	**5278**	**5546**	**5546**
			75/65/20°C	**1096**	**1315**	**1864**	**1864**	**2192**	**2412**	**2686**	**2960**	**3223**	**3223**	**3727**	**4045**	**4319**	**4538**	**4538**
		100%	90/70/20°C	1443	1732	2454	2454	2887	3176	3537	3897	4244	4244	4908	5327	5688	5976	5976
			75/65/20°C	1181	1417	2008	2008	2362	2599	2894	3189	3473	3473	4016	4359	4654	4890	4890
Max energy consumption [W]				4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
125	300	20%	90/70/20°C	561	701	918	918	1121	1262	1337	1479	1629	1629	1836	2048	2190	2332	2332
			75/65/20°C	459	574	751	751	917	1033	1094	1210	1333	1333	1502	1676	1792	1908	1908
		40%	90/70/20°C	1084	1358	1776	1776	2169	2442	2587	2860	3153	3153	3551	3964	4237	4511	4511
			75/65/20°C	887	1111	1453	1453	1775	1998	2117	2340	2580	2580	2906	3244	3467	3691	3691
		65%	**90/70/20°C**	**1444**	**1809**	**2365**	**2365**	**2889**	**3252**	**3445**	**3809**	**4198**	**4198**	**4729**	**5279**	**5642**	**6007**	**6007**
			75/65/20°C	**1182**	**1480**	**1935**	**1935**	**2364**	**2661**	**2819**	**3117**	**3435**	**3435**	**3870**	**4320**	**4617**	**4915**	**4915**
		100%	90/70/20°C	1820	2278	2979	2979	3639	4098	4341	4799	5289	5289	5959	6651	7109	7568	7568
			75/65/20°C	1489	1864	2438	2438	2978	3353	3552	3927	4328	4328	4876	5442	5817	6193	6193
Max energy consumption [W]				10	15	17	17	20	24	24	27	29	32	34	36	39	44	44
125	425	20%	90/70/20°C	1157	1449	1895	1895	2316	2607	2762	3053	3366	3366	3791	4232	4523	4815	4815
			75/65/20°C	947	1186	1551	1551	1895	2133	2260	2498	2754	2754	3102	3463	3701	3940	3940
		40%	90/70/20°C	1644	2058	2691	2691	3287	3702	3922	4336	4778	4778	5383	6008	6422	6836	6836
			75/65/20°C	1345	1684	2202	2202	2690	3029	3209	3548	3910	3910	4405	4916	5255	5594	5594
		65%	**90/70/20°C**	**2140**	**2679**	**3504**	**3504**	**4280**	**4819**	**5105**	**5644**	**6220**	**6220**	**7007**	**7821**	**8360**	**8899**	**8899**
			75/65/20°C	**1751**	**2192**	**2867**	**2867**	**3502**	**3943**	**4177**	**4618**	**5090**	**5090**	**5734**	**6400**	**6841**	**7282**	**7282**
		100%	90/70/20°C	2640	3305	4321	4321	5279	5944	6296	6961	7673	7673	8644	9647	10312	10978	10978
			75/65/20°C	2160	2704	3536	3536	4320	4864	5152	5696	6279	6279	7073	7894	8438	8983	8983
Max energy consumption [W]				10	15	17	17	20	24	24	27	29	32	34	36	39	44	44
140	250	20%	90/70/20°C	506	607	860	860	1012	1113	1240	1366	1488	1488	1721	1867	1994	2095	2095
			75/65/20°C	414	497	704	704	828	911	1015	1118	1218	1218	1408	1528	1632	1714	1714
		40%	90/70/20°C	1050	1260	1785	1785	2101	2311	2574	2835	3088	3088	3571	3875	4138	4348	4348
			75/65/20°C	859	1031	1461	1461	1719	1891	2106	2320	2527	2527	2922	3171	3386	3558	3558
		65%	**90/70/20°C**	**1457**	**1748**	**2476**	**2476**	**2913**	**3204**	**3568**	**3933**	**4282**	**4282**	**4953**	**5375**	**5739**	**6031**	**6031**
			75/65/20°C	**1192**	**1430**	**2026**	**2026**	**2384**	**2622**	**2920**	**3218**	**3504**	**3504**	**4053**	**4398**	**4696**	**4935**	**4935**
		100%	90/70/20°C	1512	1814	2570	2570	3023	3326	3704	4082	4445	4445	5140	5579	5956	6258	6258
			75/65/20°C	1237	1484	2103	2103	2474	2722	3031	3340	3637	3637	4206	4565	4874	5121	5121
Max energy consumption [W]				4	5	6	6	8	9	9	10	10	11	12	12	13	14	14
140	300	20%	90/70/20°C	730	913	1194	1194	1458	1642	1739	1924	2120	2120	2388	2665	2849	3033	3033
			75/65/20°C	597	747	977	977	1193	1344	1423	1574	1735	1735	1954	2181	2331	2482	2482
		40%	90/70/20°C	1154	1444	1889	1889	2307	2598	2752	3043	3355	3355	3779	4217	4508	4799	4799
			75/65/20°C	944	1182	1546	1546	1888	2126	2252	2490	2745	2745	3092	3451	3689	3927	3927
		65%	**90/70/20°C**	**1520**	**1903**	**2488**	**2488**	**3039**	**3422**	**3625**	**4008**	**4418**	**4418**	**4976**	**5554**	**5937**	**6319**	**6319**
			75/65/20°C	**1244**	**1557**	**2036**	**2036**	**2487**	**2800**	**2966**	**3280**	**3615**	**3615**	**4072**	**4545**	**4858**	**5171**	**5171**
		100%	90/70/20°C	1961	2455	3212	3212	3923	4418	4679	5173	5702	5702	6423	7170	7664	8157	8157
			75/65/20°C	1605	2009	2628	2628	3210	3615	3829	4233	4666	4666	5256	5867	6271	6675	6675
Max energy consumption [W]				10	15	17	17	20	24	24	27	29	32	34	36	39	44	44
				800	**900**	**1000**	**1100**	**1200**	**1300**	**1400**	**1500**	**1600**	**1700**	**1800**	**1900**	**2000**	**2100**	**2200**

HEATING OUTPUT

H	W	Sp.	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
110	300	20%	90/70/20°C	2318	2318	2469	2568	2668	2818	2938	2938	3313	3537	3787	4137	4637	4781	5006
			75/65/20°C	1897	1897	2020	2101	2183	2306	2404	2404	2711	2894	3099	3385	3794	3912	4096
		40%	90/70/20°C	4814	4814	5124	5332	5540	5850	6099	6099	6878	7345	7863	8589	9626	9927	10394
			75/65/20°C	3939	3939	4193	4363	4533	4787	4991	4991	5628	6010	6434	7028	7877	8123	8505
		65%	**90/70/20°C**	**6532**	**6532**	**6954**	**7236**	**7517**	**7940**	**8277**	**8277**	**9333**	**9967**	**10670**	**11656**	**13064**	**13472**	**14105**
			75/65/20°C	**5345**	**5345**	**5690**	**5921**	**6151**	**6497**	**6773**	**6773**	**7637**	**8156**	**8731**	**9538**	**10690**	**11024**	**11542**
		100%	90/70/20°C	7055	7055	7511	7815	8119	8575	8940	8940	10081	10764	10764	12589	14109	14550	15234
			75/65/20°C	5773	5773	6146	6395	6644	7017	7315	7315	8249	8808	9430	10301	11545	11906	12466
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
110	425	20%	90/70/20°C	3096	3096	3295	3429	3562	3763	3923	3923	4423	4723	5056	5524	6190	6384	6684
			75/65/20°C	2533	2533	2696	2806	2915	3079	3210	3210	3619	3865	4137	4520	5065	5224	5469
		40%	90/70/20°C	5865	5865	6244	6497	6748	7128	7431	7431	8380	8948	9580	10465	11728	12095	12663
			75/65/20°C	4799	4799	5109	5316	5522	5833	6081	6081	6857	7322	7839	8563	9597	9897	10362
		65%	**90/70/20°C**	**7764**	**7764**	**8266**	**8600**	**8935**	**9437**	**9839**	**9839**	**11093**	**11846**	**12683**	**13853**	**15528**	**16013**	**16766**
			75/65/20°C	**6353**	**6353**	**6764**	**7037**	**7311**	**7722**	**8051**	**8051**	**9077**	**9693**	**10378**	**11336**	**12706**	**13103**	**13719**
		100%	90/70/20°C	8359	8359	8899	9260	9620	10160	10593	10593	11945	12755	13656	14917	16718	17241	18051
			75/65/20°C	6840	6840	7282	7577	7872	8314	8668	8668	9774	10437	11174	12206	13680	14108	14771
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
125	250	20%	90/70/20°C	2251	2251	2396	2494	2591	2736	2854	2854	3218	3435	3435	4018	4503	4644	4863
			75/65/20°C	1842	1842	1961	2041	2120	2239	2335	2335	2633	2811	3010	3288	3685	3800	3979
		40%	90/70/20°C	4679	4679	4982	5184	5386	5689	5931	5931	6687	7141	7141	8350	9360	9652	10105
			75/65/20°C	3829	3829	4077	4242	4407	4655	4853	4853	5472	5843	6256	6833	7659	7898	8269
		65%	**90/70/20°C**	**6215**	**6215**	**6618**	**6885**	**7154**	**7555**	**7878**	**7878**	**8882**	**9485**	**9485**	**11092**	**12432**	**12820**	**13423**
			75/65/20°C	**5086**	**5086**	**5415**	**5634**	**5854**	**6182**	**6446**	**6446**	**7268**	**7761**	**8309**	**9076**	**10173**	**10490**	**10984**
		100%	90/70/20°C	6698	6698	7131	7419	7708	8141	8487	8487	9579	10220	10220	11952	13395	13814	14463
			75/65/20°C	5481	5481	5835	6071	6307	6662	6945	6945	7831	8363	8953	9780	10961	11304	11835
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
125	300	20%	90/70/20°C	2547	2547	2751	2891	3033	3108	3259	3259	3678	3961	4177	4662	5095	5307	5590
			75/65/20°C	2084	2084	2251	2366	2482	2543	2667	2667	3010	3241	3418	3815	4169	4343	4574
		40%	90/70/20°C	4929	4929	5322	5595	5868	6013	6305	6305	7116	7662	8080	9020	9856	10269	10815
			75/65/20°C	4033	4033	4355	4578	4802	4920	5159	5159	5823	6270	6612	7381	8065	8403	8850
		65%	**90/70/20°C**	**6563**	**6563**	**7087**	**7451**	**7814**	**8007**	**8397**	**8397**	**9477**	**10204**	**10762**	**12013**	**13126**	**13675**	**14403**
			75/65/20°C	**5370**	**5370**	**5799**	**6097**	**6394**	**6552**	**6871**	**6871**	**7755**	**8350**	**8806**	**9830**	**10741**	**11190**	**11786**
		100%	90/70/20°C	8269	8269	8929	9388	9846	10088	10580	10580	11941	12857	13559	15135	16538	17230	18147
			75/65/20°C	6766	6766	7306	7682	8057	8255	8657	8657	9771	10521	11095	12385	13533	14099	14849
Max energy consumption [W]				46	46	48	53	58	56	58	60	65	72	75	87	92	94	101
125	425	20%	90/70/20°C	5261	5261	5681	5972	6264	6418	6731	6731	7596	8181	8627	9630	10522	10962	11545
			75/65/20°C	4305	4305	4649	4887	5126	5252	5508	5508	6216	6694	7059	7880	8610	8970	9447
		40%	90/70/20°C	7471	7471	8066	8480	8894	9114	9557	9557	10787	11615	12249	13673	14940	15566	16393
			75/65/20°C	6113	6113	6600	6939	7278	7458	7820	7820	8827	9504	10023	11188	12225	12737	13414
		65%	**90/70/20°C**	**9723**	**9723**	**10500**	**11039**	**11578**	**11863**	**12440**	**12440**	**14040**	**15118**	**15943**	**17797**	**19447**	**20261**	**21339**
			75/65/20°C	**7956**	**7956**	**8592**	**9033**	**9474**	**9707**	**10179**	**10179**	**11489**	**12371**	**13046**	**14563**	**15913**	**16579**	**17461**
		100%	90/70/20°C	11995	11995	12952	13616	14282	14634	15346	15346	17321	18650	19667	21955	23989	24993	26324
			75/65/20°C	9815	9815	10598	11142	11687	11975	12557	12557	14173	15261	16093	17965	19630	20451	21540
Max energy consumption [W]				46	46	48	53	58	56	58	60	65	72	75	87	92	94	101
140	250	20%	90/70/20°C	2349	2349	2500	2602	2702	2855	2976	2976	3356	3583	3836	4191	4696	4843	5070
			75/65/20°C	1922	1922	2046	2129	2211	2336	2435	2435	2746	2932	3139	3429	3843	3963	4149
		40%	90/70/20°C	4874	4874	5188	5398	5608	5923	6175	6175	6963	7436	7961	8696	9746	10052	10523
			75/65/20°C	3988	3988	4245	4417	4589	4847	5053	5053	5698	6085	6514	7116	7975	8225	8611
		65%	**90/70/20°C**	**6759**	**6759**	**7196**	**7488**	**7779**	**8216**	**8566**	**8566**	**9658**	**10313**	**11041**	**12061**	**13517**	**13940**	**14595**
			75/65/20°C	**5531**	**5531**	**5888**	**6127**	**6365**	**6723**	**7009**	**7009**	**7903**	**8439**	**9035**	**9869**	**11061**	**11407**	**11943**
		100%	90/70/20°C	7015	7015	7468	7770	8073	8526	8889	8889	10023	10703	11459	12518	14029	14468	15148
			75/65/20°C	5740	5740	6111	6358	6606	6977	7274	7274	8202	8758	9377	10243	11480	11839	12395
Max energy consumption [W]				16	16	17	18	19	19	19	20	22	24	25	28	31	31	33
140	300	20%	90/70/20°C	3314	3314	3578	3762	3946	4043	4239	4239	4786	5152	5433	6065	6627	6905	7273
			75/65/20°C	2712	2712	2928	3078	3229	3308	3469	3469	3916	4216	4446	4963	5423	5650	5951
		40%	90/70/20°C	5244	5244	5662	5953	6244	6398	6708	6708	7572	8154	8597	9598	10487	10927	11507
			75/65/20°C	4291	4291	4633	4871	5109	5235	5489	5489	6196	6672	7035	7854	8581	8941	9416
		65%	**90/70/20°C**	**6906**	**6906**	**7457**	**7840**	**8222**	**8425**	**8834**	**8834**	**9972**	**10737**	**11323**	**12640**	**13811**	**14389**	**15155**
			75/65/20°C	**5651**	**5651**	**6102**	**6415**	**6728**	**6894**	**7229**	**7229**	**8160**	**8786**	**9265**	**10343**	**11301**	**11774**	**12401**
		100%	90/70/20°C	8914	8914	9625	10119	10614	10875	11403	11403	12871	13860	14615	16315	17826	18573	19562
			75/65/20°C	7294	7294	7876	8280	8685	8899	9331	9331	10532	11341	11959	13350	14587	15198	16007
Max energy consumption [W]				46	46	48	53	58	56	58	60	65	72	75	87	92	94	101
				2300	**2400**	**2500**	**2600**	**2700**	**2800**	**2900**	**3000**	**3300**	**3500**	**3700**	**4000**	**4400**	**4500**	**4800**

Technical data

HEATING OUTPUT

H	W	Sp.	Q [W]	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
140	425	20%	90/70/20°C	1237	1548	2025	2025	2473	2785	2950	3262	3595	3595	4050	4520	4832	5144	5144
			75/65/20°C	1012	1267	1657	1657	2024	2279	2414	2669	2942	2942	3314	3699	3954	4209	4209
		40%	90/70/20°C	1710	2140	2799	2799	3418	3850	4077	4508	4969	4969	5597	6247	6677	7109	7109
			75/65/20°C	1399	1751	2290	2290	2797	3150	3336	3689	4066	4066	4580	5112	5464	5817	5817
		65%	**90/70/20°C**	**2243**	**2807**	**3671**	**3671**	**4485**	**5050**	**5349**	**5914**	**6517**	**6517**	**7342**	**8195**	**8760**	**9324**	**9324**
			75/65/20°C	**1835**	**2297**	**3004**	**3004**	**3670**	**4132**	**4377**	**4839**	**5333**	**5333**	**6008**	**6706**	**7168**	**7630**	**7630**
		100%	90/70/20°C	2819	3529	4616	4616	5639	6349	6725	7435	8195	8195	9232	10305	11015	11725	11725
			75/65/20°C	2307	2888	3777	3777	4614	5195	5503	6084	6706	6706	7554	8432	9013	9594	9594
Max energy consumption [W]				10	15	17	17	20	24	24	27	29	32	34	36	39	44	44

HEATING OUTPUT

H	W	Sp.	Q [W]	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
140	425	20%	90/70/20°C	5620	5620	6069	6380	6692	6857	7191	7191	8116	8739	9216	10287	11241	11711	12334
			75/65/20°C	4599	4599	4966	5221	5476	5611	5884	5884	6641	7151	7541	8418	9198	9583	10093
		40%	90/70/20°C	7768	7768	8387	8817	9249	9476	9937	9937	11216	12077	12735	14216	15534	16184	17046
			75/65/20°C	6356	6356	6863	7215	7568	7754	8131	8131	9178	9882	10421	11633	12711	13243	13948
		65%	**90/70/20°C**	**10190**	**10190**	**11002**	**11567**	**12133**	**12431**	**13036**	**13036**	**14714**	**15843**	**16707**	**18650**	**20378**	**21231**	**22360**
			75/65/20°C	**8338**	**8338**	**9003**	**9465**	**9927**	**10172**	**10667**	**10667**	**12040**	**12964**	**13671**	**15261**	**16675**	**17373**	**18297**
		100%	90/70/20°C	12811	12811	13834	14544	15254	15630	16389	16389	18499	19919	21006	23448	25622	26694	28114
			75/65/20°C	10483	10483	11320	11901	12482	12790	13411	13411	15137	16299	17189	19187	20966	21843	23005
Max energy consumption [W]				46	46	48	53	58	56	58	60	65	72	75	87	92	94	101

CB CONTROLLER®

"CB CONTROLLER®" is ideal for use in a wide range of applications. Changeable temporary programs allow heating or cooling specific premises at the specified time and to a specified temperature. Thus, energy consumption in idle premises is decreased. A thermostat is easy to install and configure. Customers can enjoy a comfortable indoor climate, while at the same time saving energy, decreasing heating/cooling costs, while reducing CO2 emissions.

Distinctive Features:

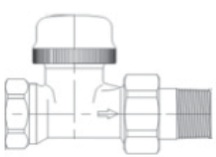
- Energy-efficient climate control
- High control precision for optimal comfort and ease of use
- Easy and fast installation and start-up
- Protection of your investment due to high quality of production and compliance with norms and specifications
- Energy saving and cost reduction due to integrated temporary programs, idle function and sensors
- User-friendly configuration of functions
- Low costs and fast installation and start-up
- Easy integration with current systems through KNX protocol
- User-friendly interface and intuitive menu
- Suitable for use in residential buildings, hotels, business centers or public buildings
- Stable temperature amplifies comfort

AC converters, additional options

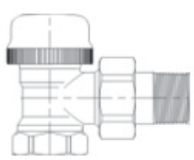
Model	PC 230V/ 24V-DC-15W	PC 230V/ 24V-DC-30W	PC 230V/ 24V-DC-60W	PC 230V/ 24V-DC-100W
Input voltage, V	230			
Output voltage, V	24			
Rated current, A	0.63	1.5	2.5	4.2
Rated power, W	15.2	36	60	100.8
Width, mm	25	78	78	100
Length, mm	93			
Height, mm	56			

Thermostat M 30 x 1,5 wall mounting, with remote control. Art. No. 501179 with 2 m. capillary tube, Art. No. 501180 with 5 m. capillary tube. For mounting on thermostatic valve Art. No. 500440 or No. 500501.

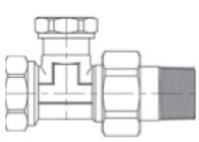
Thermoelectric drive 24 V, M 30 x 1,5. Art. No. 180040012. or mounting on thermostatic valve Art. No. 500440 or No. 500501. Remains on-state without receiving a signal.



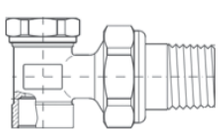
Thermostatic valve M 30 x 1,5, straight 1/2". Art. No. 500440. Control lid and plug-type connection included in set. Compatible with thermoelectric drive 24 V M 30 x 1,5 Art. No. 180040012 or thermostat M 30 x 1,5 wall mounting, with remote control Art. No. 501179 (501180). For mounting on Heatmann convectors.



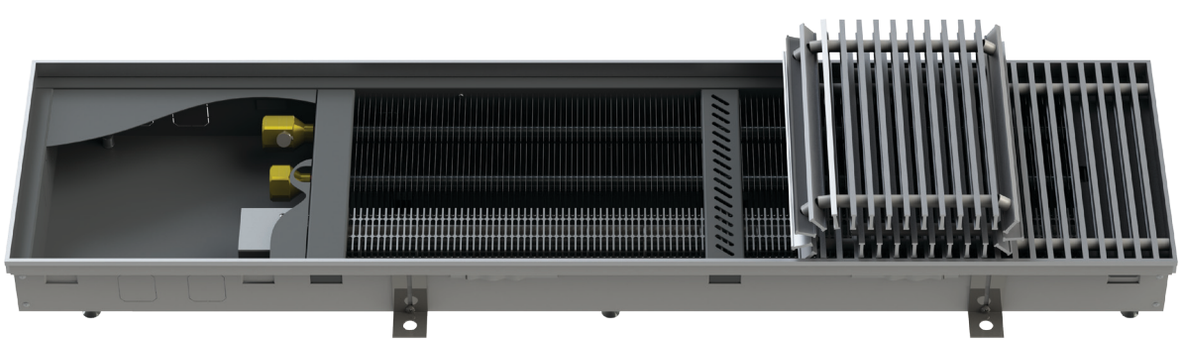
Thermostatic valve M 30 x 1,5, angular 1/2". Art. No. 500501. Control lid and plug-type connection included in set. Compatible with thermoelectric drive 24 V M 30 x 1,5 Art. No. 180040012 or thermostat M 30 x 1,5 wall mounting, with remote control Art. No. 501179 (501180). For mounting on Heatmann convectors.



Inverse feed valve, straight 1/2". Art. No. 500642. Plug-type connection included in set. For mounting on Heatmann convectors.



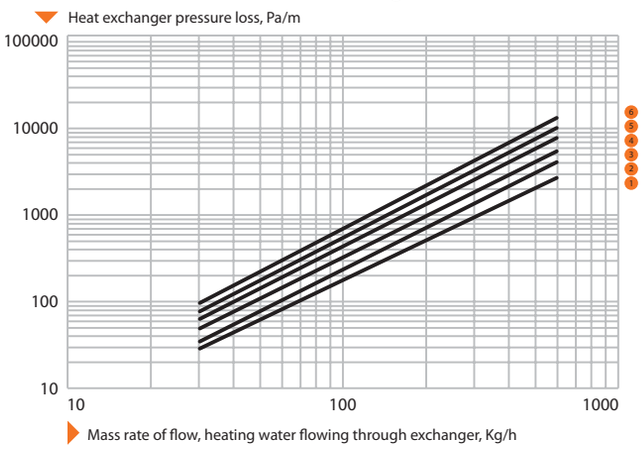
Inverse feed valve, angular 1/2". Art. No. 500652. Plug-type connection included in set. For mounting on Heatmann convectors.



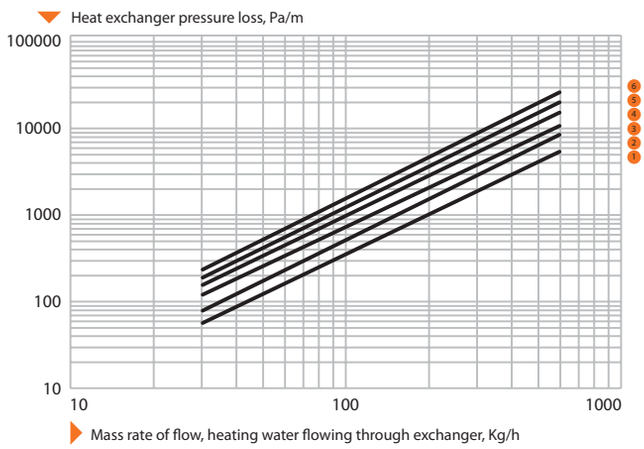
Exchanger pressure losses

2 tubular heat exchanger	**Length [mm]**	**800**		**1600**		**2400**		**3200**		**4000**		**4800**	
	Pressure loss, Pa/m	28	2700	34	4100	48	5500	62	7850	76	10200	95	13500
	Mass rate of flow	30	600	30	600	30	600	30	600	30	600	30	600
4 tubular heat exchanger	**Length [mm]**	**800**		**1600**		**2400**		**3200**		**4000**		**4800**	
	Pressure loss, Pa/m	56	5500	78	8800	120	11000	155	15700	190	20400	238	27000
	Mass rate of flow	30	600	30	600	30	600	30	600	30	600	30	600
6 tubular heat exchanger	**Length [mm]**	**800**		**1600**		**2400**		**3200**		**4000**		**4800**	
	Pressure loss, Pa/m	85	8100	130	15500	180	19500	233	27832	285	36164	356	47864
	Mass rate of flow	30	600	30	600	30	600	30	600	30	600	30	600
8 tubular heat exchanger	**Length [mm]**	**800**		**1600**		**2400**		**3200**		**4000**		**4800**	
	Pressure loss, Pa/m	95	11000	180	21000	240	29000	310	41391	380	53782	475	71182
	Mass rate of flow	30	600	30	600	30	600	30	600	30	600	30	600
12 tubular heat exchanger	**Length [mm]**	**800**		**1600**		**2400**		**3200**		**4000**		**4800**	
	Pressure loss, Pa/m	137	16200	270	32200	360	43900	465	62657	570	81415	713	107755
	Mass rate of flow	30	600	30	600	30	600	30	600	30	600	30	600

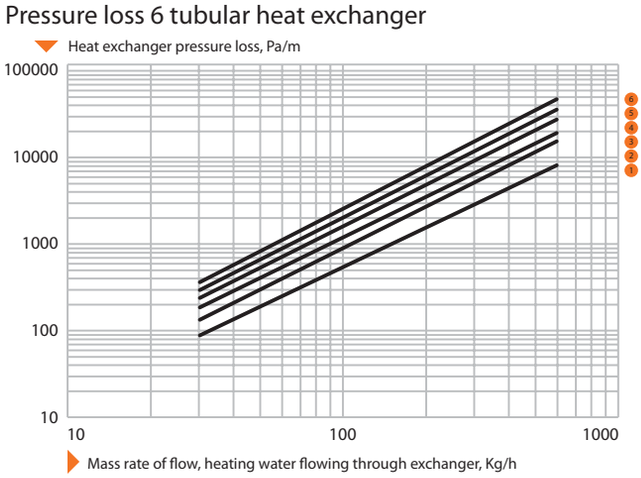
Pressure loss 2 tubular heat exchanger



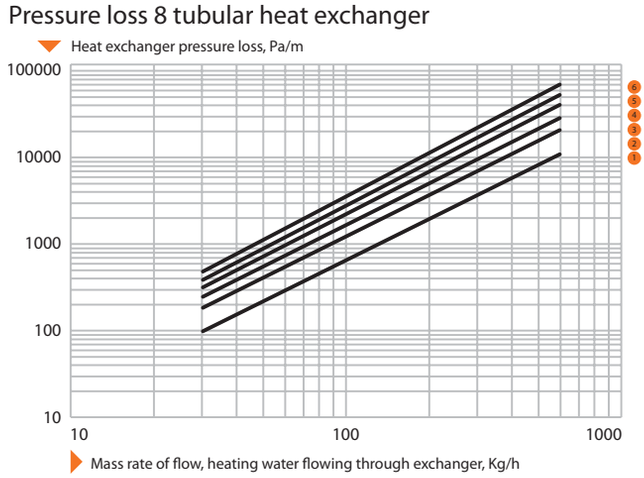
Pressure loss 4 tubular heat exchanger



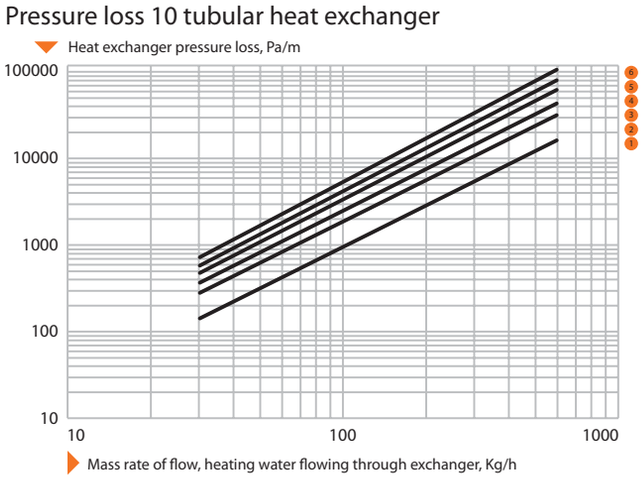
Pressure loss 6 tubular heat exchanger



Pressure loss 8 tubular heat exchanger



Pressure loss 10 tubular heat exchanger



Convector length [mm]

1 800 2 1600 3 2400 4 3200 5 4000 6 4800

Noise level, wiring scheme

NOISE LEVEL

H	W	Fan speed	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
065	250, 300	20%	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
080	175, 200, 250, 300	40%	21	21	21	21	22	22	22	22	23	23	23	23	24	24	24
090	175	65%	26	26	26	26	27	27	27	27	28	28	28	28	29	29	29
110	175	100%	30	30	31	31	31	32	32	33	33	33	34	34	34	35	35
090	200, 250, 300, 425	20%	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	20	20	20	20
110	200, 250, 300, 425	40%	27	27	27	27	28	28	28	28	29	29	29	29	30	30	30
125	250	65%	35	35	36	36	36	37	37	37	38	38	38	39	39	39	39
140	250	100%	38	38	39	39	39	40	40	40	41	41	41	42	42	42	42
125	300, 425	20%	20	21	22	22	22	23	23	23	24	24	24	25	25	25	25
140	300, 425	40%	27	27	28	27	28	28	28	28	29	29	29	29	30	30	30
		65%	36	36	37	37	37	38	38	38	38	38	39	39	40	40	40
		100%	47	48	49	48	49	49	49	50	50	50	50	51	51	51	51

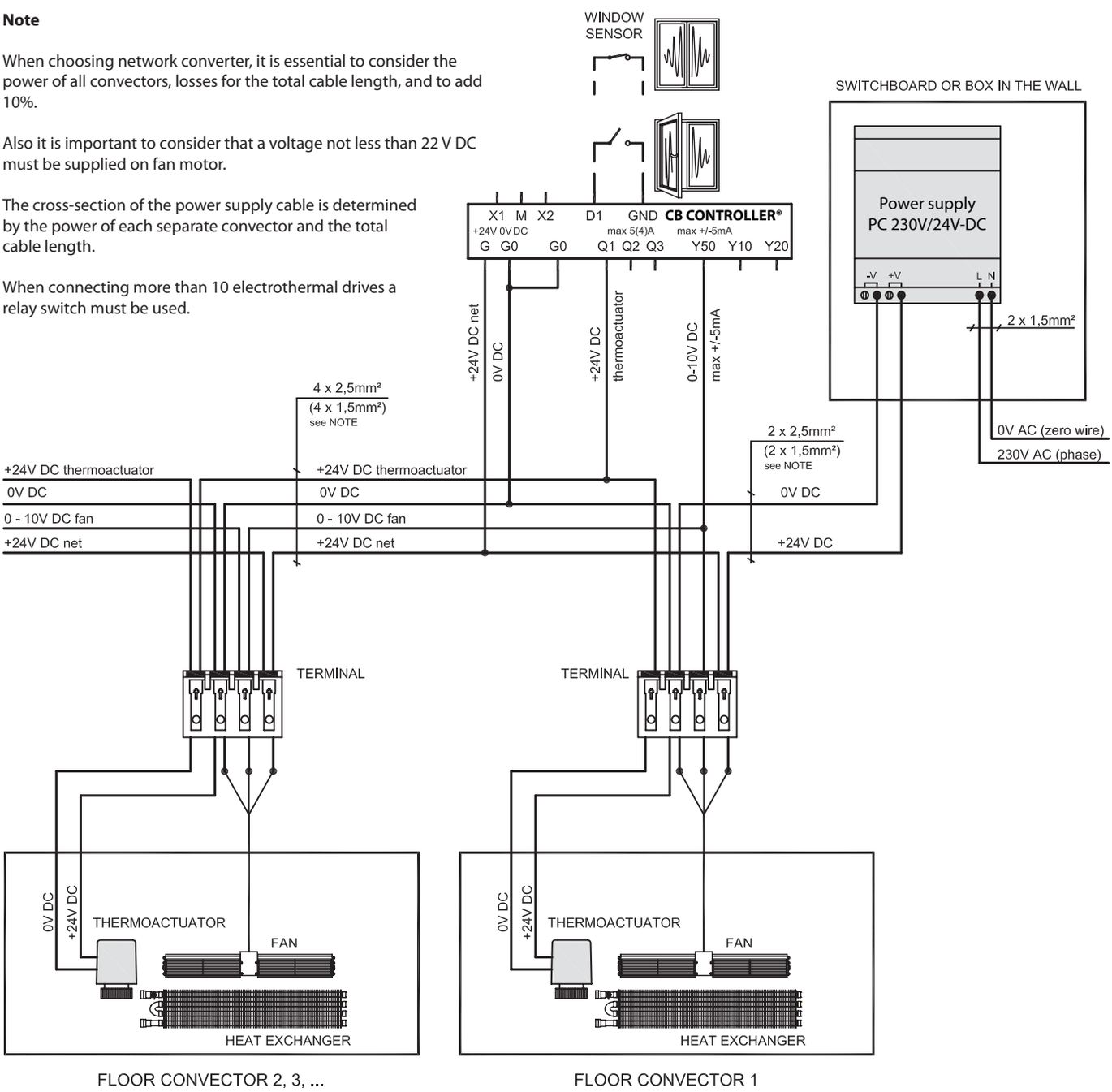
Note

When choosing network converter, it is essential to consider the power of all convectors, losses for the total cable length, and to add 10%.

Also it is important to consider that a voltage not less than 22 V DC must be supplied on fan motor.

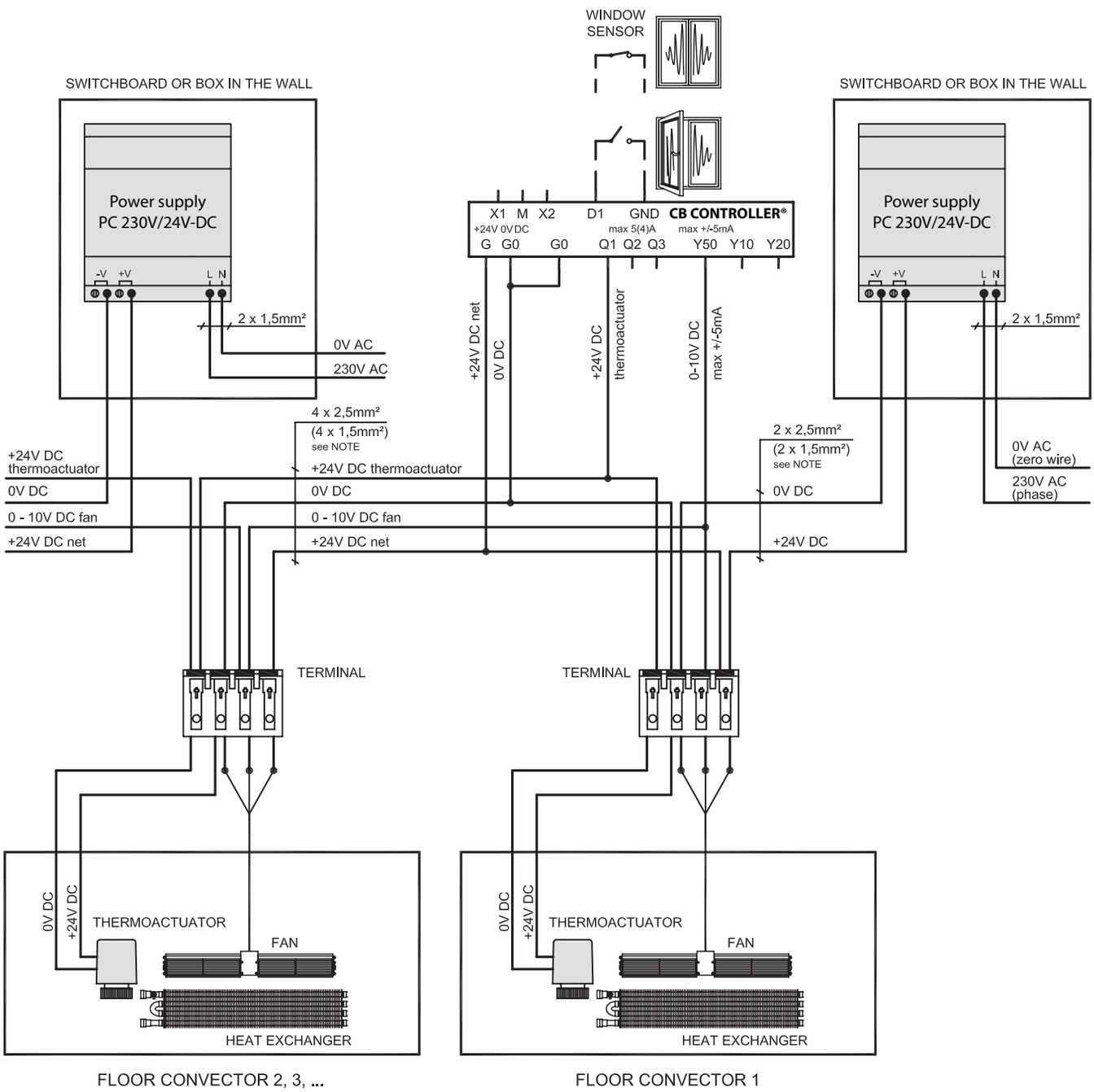
The cross-section of the power supply cable is determined by the power of each separate convector and the total cable length.

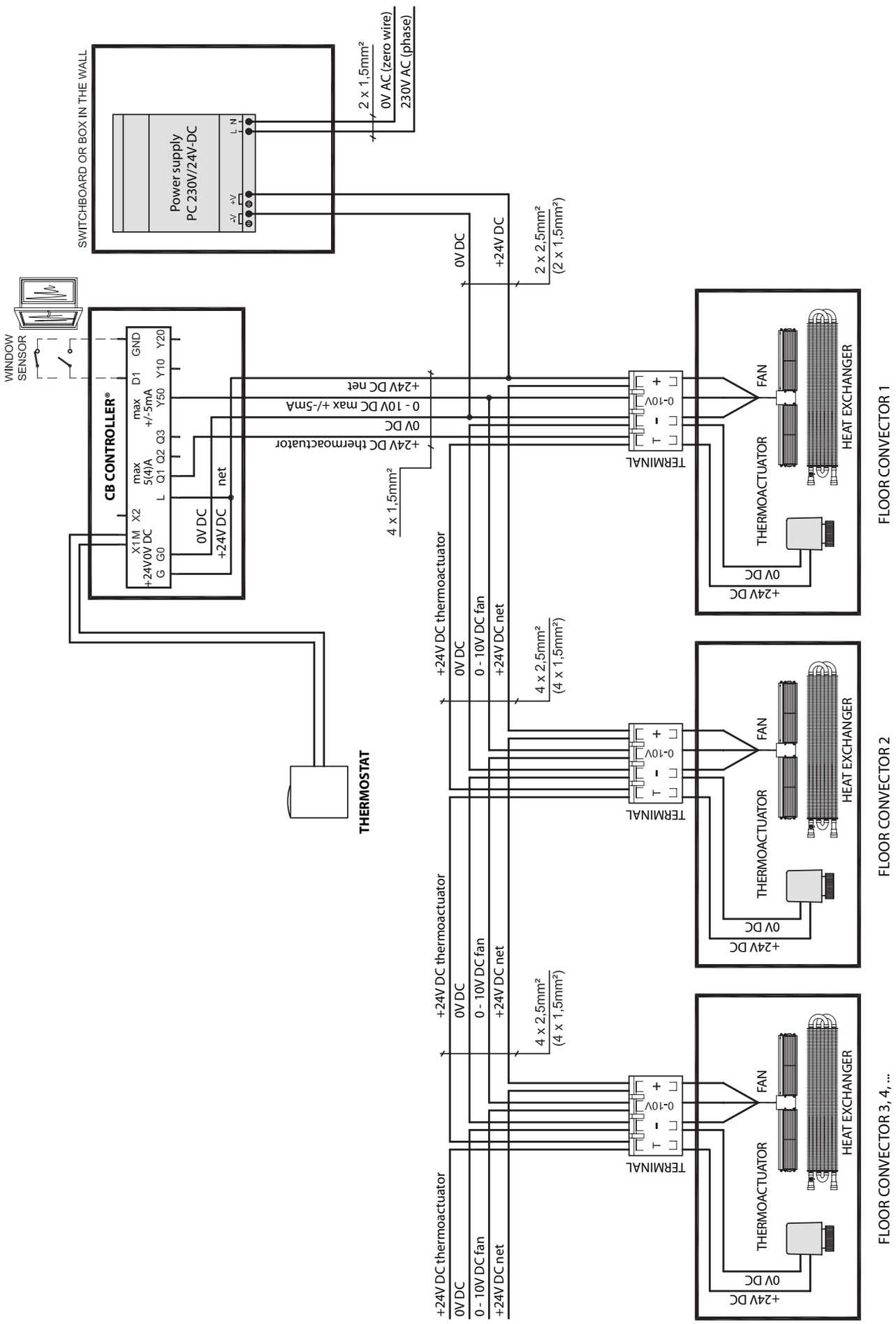
When connecting more than 10 electrothermal drives a relay switch must be used.



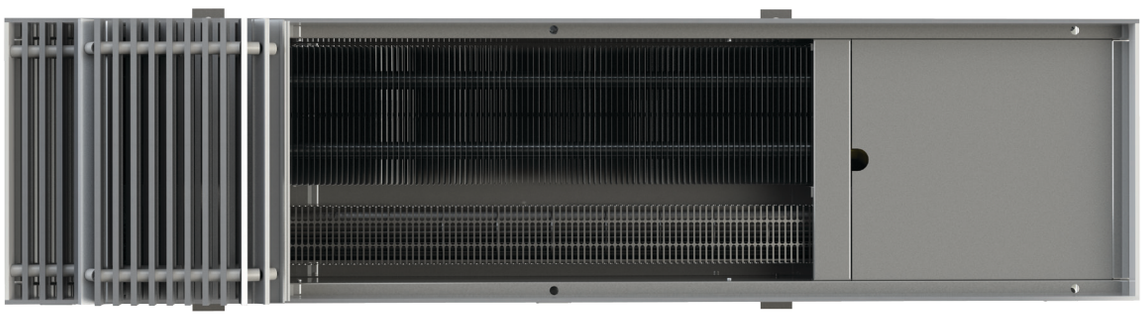
NOISE LEVEL

H	W	Fan speed	2300	2400	2500	2600	2700	2800	2900	3000	3300	3500	3700	4000	4400	4500	4800
065	250, 300	20%	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
080	175, 200, 250, 300	40%	24	24	25	25	25	25	26	26	26	27	27	28	29	29	30
090	175	65%	29	29	30	30	30	30	31	31	31	32	32	33	34	35	35
110	175	100%	35	35	35	36	36	36	36	36	37	37	37	38	38	38	38
090	200, 250, 300, 425	20%	21	21	21	21	22	22	22	22	23	23	24	24	25	25	26
110	200, 250, 300, 425	40%	30	30	31	31	31	31	32	32	32	33	33	34	35	35	36
125	250	65%	40	40	40	40	41	41	41	41	42	42	42	43	43	43	44
140	250	100%	43	43	43	43	43	44	44	44	44	45	45	45	46	46	47
125	300, 425	20%	26	26	26	26	27	27	27	27	28	28	28	28	28	28	28
140	300, 425	40%	30	30	31	31	31	31	31	31	32	33	33	34	35	35	35
		65%	40	40	41	41	41	41	41	41	42	43	43	43	44	44	45
		100%	52	52	52	52	53	53	53	53	54	54	54	55	55	56	56



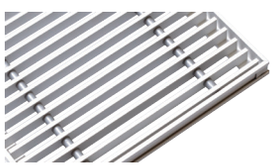

SWITCHBOARD OR BOX IN THE WALL
Power supply
PC 230V/24V-DC
-V +V
L N
2 x 1,5mm²
0V AC (zero wire)
230V AC (phase)
WINDOW SENSOR
CB CONTROLLER®
X1M X2
+24V 0V DC
G G0
L
Q1 Q2 Q3
max 5(4)A
D1 GND
Y10 Y20
Y50
max +/-5mA
0V DC
+24V DC
net
THERMOSTAT
4 x 1,5mm²
+24V DC thermoactuator
0V DC
0 - 10V DC max +/-5mA
+24V DC net
0V DC
+24V DC
2 x 2,5mm²
(2 x 1,5mm²)
TERMINAL
0-10V
T
FAN
THERMOACTUATOR
HEAT EXCHANGER
+24V DC
0V DC
FLOOR CONVECTOR 1
+24V DC thermoactuator
0V DC
0 - 10V DC fan
+24V DC net
4 x 2,5mm²
(4 x 1,5mm²)
FLOOR CONVECTOR 2
FLOOR CONVECTOR 3, 4, ...

Grills

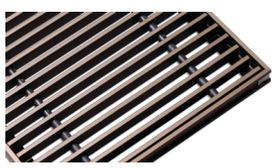


ROLL-UP GRILLS

lamellas positioned perpendicular to the length of the convector, grille can be rolled-up



Grill: aluminium, anodized
Frame: aluminium, anodized

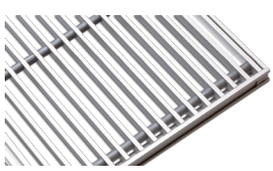


Grill: aluminium bronze, anodized
Frame: aluminium bronze, anodized

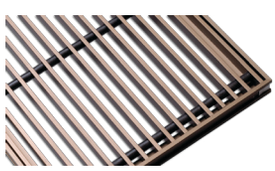
Grill: aluminium, black
Frame: aluminium, black

LINEAR GRILLS

lamellas are arranged parallel to the length of the convector



Grill: aluminium, anodized
Frame: aluminium, anodized

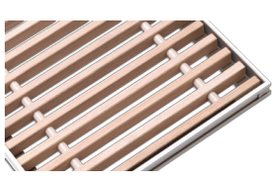


Grill: aluminium bronze, anodized
Frame: aluminium bronze, anodized

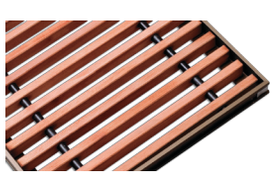
Grill: aluminium, black
Frame: aluminium, black

WOODEN ROLL-UP GRILLS

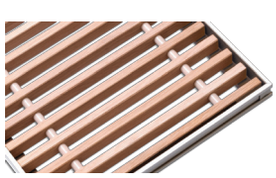
lamellas positioned perpendicular to the length of the convector, grille can be rolled-up



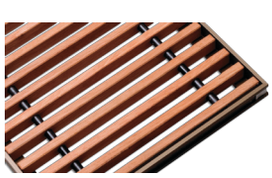
Grill: natural beech, wooden
Frame: aluminium, anodized



Grill: stained beech, wooden
Frame: aluminium bronze, anodized



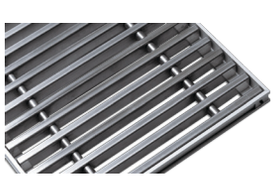
Grill: natural oak, wooden
Frame: aluminium, anodized



Grill: stained oak, wooden
Frame: aluminium bronze, anodized

STAINLESS STEEL GRILLS

lamellas positioned perpendicular to the length of the convector, a fix non-rolling grill

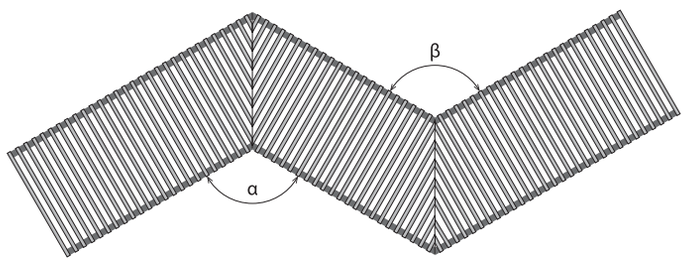


Grill: stainless steel, stainless steel
Frame: aluminium, anodized

We deliver arched, broken-line and curved convectors to fit the architectural design of buildings and customer requirements. A large variety of shapes and arrangements of floor convectors can be delivered. It is important to specify in the customer order the dimensions and a detailed and accurate measurement of the actual shape.

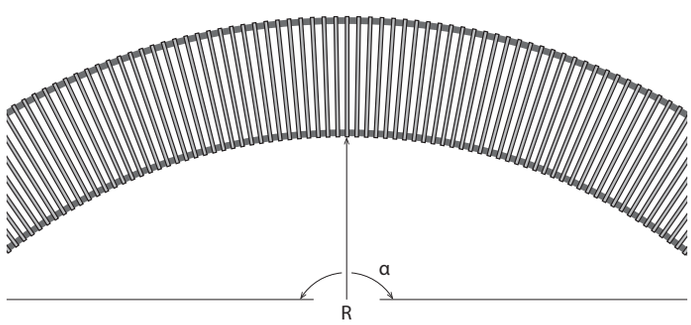
The measurement of the convector, performed by the customer or by an Heatmann specialist, must be carried out on site on the actual structure (not based on the design). The level of completeness of the structure required for the measurement is as follows: final shape of the wall along which the convection heater is to be installed, windows mounted, access to the measuring area (scaffolding dismantled, etc.). The technical documentation developed for the convection heaters previously measured is discussed and approved by the customer and technical details are agreed (water connection side, power connection). Following that, the manufacturing of the floor convector starts.

BROKEN-LINE SHAPE CONVECTORS



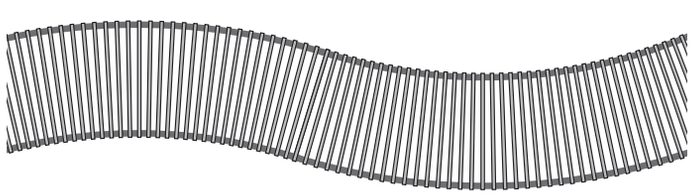
To allow for the design of the convector, the following measured values are necessary:
• lengths of the heater edges (window-side edges) and the angle formed by the edges (calculated using the length of the third leg of the triangle formed by the two edges), the angles α and β are used for verification only
• width (type) of the convection heater
• a sketch of the convection heater

ARCHED CONVECTORS



To allow for the design of an arched convector, the following measured values are necessary:
• outer (inner) diameter of the arc and a total angle formed by the arc sector calculated using the distance of the end points and the diameter (for gentle curved arcs) or the angle α (for arcs forming an angle larger than 120°)
• width (type) of the convection heater
• a sketch of the convection heater
or
• outer (inner) diameter of the arc and the perimeter length of the outer (inner) edge of the arc
• width (type) of the convection heater
• a sketch of the convection heater
Remember that regular shapes occur rarely in real structures.

CURVED CONVECTORS



In case of more complicated shapes, it is necessary to use the reference points to determine the shape. It is recommenced that the measurements are performed by Heatmann specialists.

Warranty, delivery

WARRANTY TERMS

Company “Heatmann” GmbH gives warranty only under the following conditions.

Seller warranty includes all the manufacturing defects (design defects and material defects) in cases when:
- the device is assembled, connected and installed according to the applicable standards and operates on the basis of operating conditions and manufacturer technical data sheet
- the customer follows all the rules contained in assembly instruction and general rules and norms during the assembly and the whole operating period of the product
- device condition and its working capacity were examined by the customer during the product transfer from the seller to the customer
- the warranty is valid during days from the moment of defect detection by the customer
- in the installation area of the convector the applicable standards of the corrosive impact of the surrounding surface in respect of the device surface should not be exceeded

Main warranty periods:
a) for the heat-exchange unit – 10 years from the date of sale
b) for the stainless steel convector duct – 10 years from the date of sale
c) for the galvanized steel convector duct - 5 years from the date of sale
d) other convector parts - 2 years
e) the warranty period starts from the product date of sale

TERMS OF DELIVERY

Rights and responsibilities of the contracting parties in accordance with the delivery contract:
1. The Customer estimates the terms of the delivery and means of transportation and if necessary promptly informs of any transportation changes.
2. The customer makes available free of charge and secure room for the transport delivering the goods.
3. In the place of delivery there must be a person responsible for the acceptance of the supplied goods.
4. The Seller has the right to know or control the identity of the driver or forwarder delivering the goods.
5. Each delivery of the goods is accompanied by a packing list or other documentation necessary for transportation of goods and и obligatory by the terms of the contract between the Seller and the Customer.
6. The Customer undertakes to provide and send signed and stamped confirmed packing list to the Seller.
7. In case of any differences the written notification must be attached to the accompanying documents.

AMOUNT OF DELIVERY

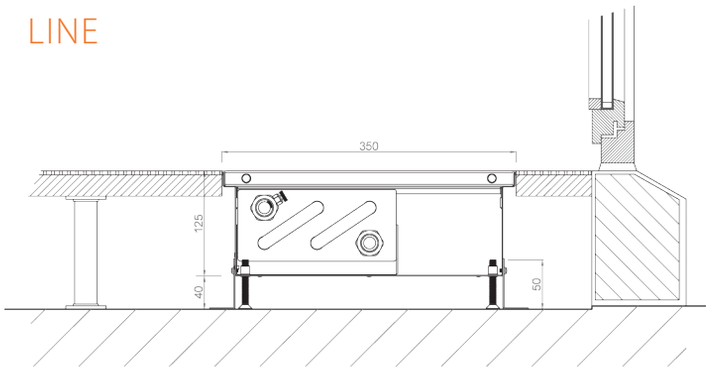
Stainless steel or galvanized steel duct, copper-aluminium heat-exchange-unit, aluminium frame, air valve installed on the heat-exchange unit, adjusting screws, decorative lid installation manual.

The following items are not included in the delivery package:
Decorative grate, connection faucets, thermostatic head.

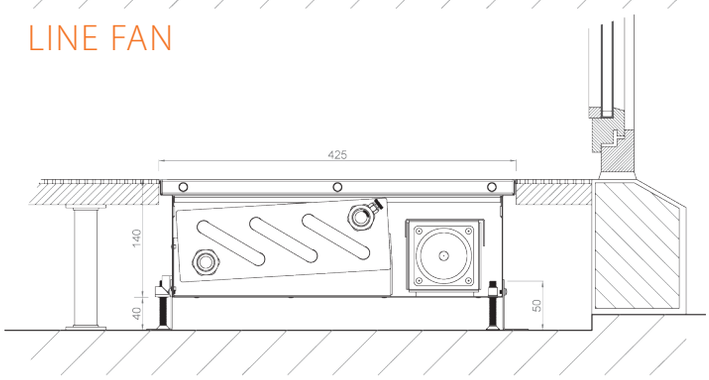
RECOMMENDED STANDARD INSTALLING IN FLOOR

- Ideal position 100–200 mm distance from window
- The air is warmed up by flowing through exchanger
- Hot air is mixed with cold air flowing off the window surface
- Air circulation:
  - warms up the room air
  - screens the window surface
  - secondary demisters the window surface

LINE



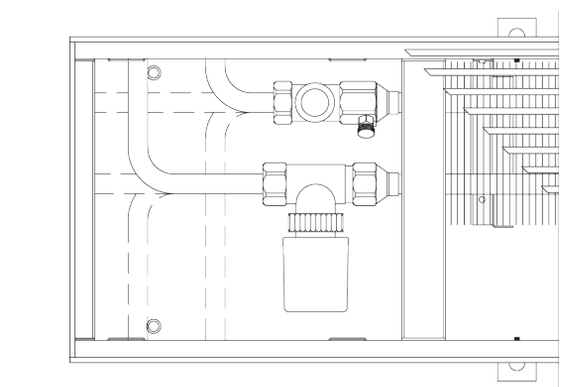
LINE FAN

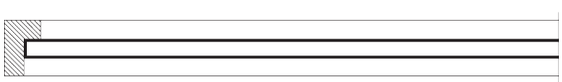


CONVECTOR CONNECTION TO THE HEATING SYSTEM

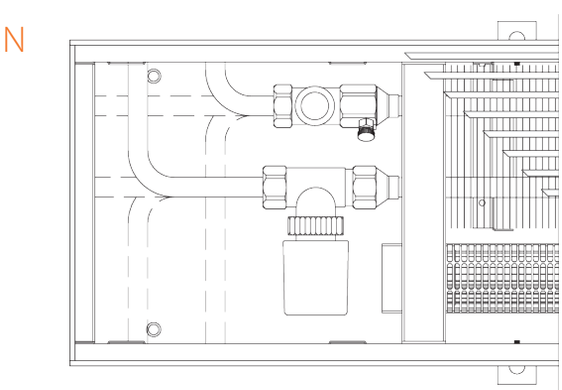
Floor convector is fitted with openings for connection to the heating system. There are three connection possibilities, from the room, side or window wall.

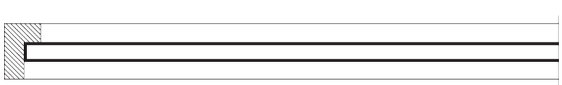
LINE





LINE FAN





How to order convector

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
L	**F**	**-**	**0**	**6**	**5**	**2**	**5**	**0**	**2**	**5**	**0**	**0**	**-**	**X**	**T**	**R**	**0**
Model			Height (mm)			Width (mm)			Length (mm)					Surface finish of trough, frame, connection, note			

Position		Symbol	Transcript
1, 2, 3	**Model**	LN-	Floor convector without fan
		LNP	Floor convector without fan for wet areas
		LNA	Floor convector without fan with a supply of ventilation
		LNW	Floor convector without fan for wet areas with a supply of ventilation
		LF-	Floor convector with fan
		LFP	Floor convector with fan for wet areas
		LFA	Floor convector with fan with a supply of ventilation
		LFW	Floor convector with fan for wet areas with a supply of ventilation
		LFC	Floor convector with heating/cooling fan
4, 5, 6	**Height (mm)**	065	convector height 65 mm
		080	convector height 80 mm
		090	convector height 90 mm
		110	convector height 110 mm
		125	convector height 125 mm
		140	convector height 140 mm
		165	convector height 165 mm
		200	convector height 200 mm
7, 8, 9	**Width (mm)**	175	convector width 175 mm
		200	convector width 200 mm
		250	convector width 250 mm
		300	convector width 300 mm
		350	convector width 350 mm
		425	convector width 425 mm
10, 11, 12, 13	**Length (mm)**	0900	convector length 900 mm
		2500	convector length 2500 mm
		convector length is possible from 800 to 4800 mm. More details on pages 6-7	
14	**Free position**		
15	**Surface finish of trough**	N	standard (galvanized steel trough painted in black)
		H	galvanized steel covered with durable dark grey matt spray painting
		X	stainless steel
		W	stainless steel (trough painted in black)
16	**Frame and grill**	P - frame profile P, color: aluminium	S - frame profile T, color: aluminium
		T - frame profile P, color: light bronze	E - frame profile T, color: light bronze
		K - frame profile P, color: dark bronze	F - frame profile T, color: dark bronze
		M - frame profile P, color: order by RAL	D - frame profile T, color: order by RAL
17	**Connection**	R	right
		L	left
		B	non standard
18	**Note**	1	standard model
		0	non standard model (should be a description of deviations from the standard model)

Example: floor convector with fan, height 65 mm, width 250 mm, length 2500 mm (non standard), trough from stainless steel, frame profile P, color: light bronze, right connection, non standard model (length is not consistent with the standard).

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
G	**R**	**L**	**-**	**2**	**5**	**0**	**1**	**2**	**0**	**0**	**-**	**A**	**L**	**R**	**G**	**D**	**0**
Model				Width (mm)			Length (mm)					Grill material		Color, appearance, grill type			

Position		Symbol	Transcript
1, 2, 3, 4	**Model**	GRL-	floor convector grill
5, 6, 7	**Width (mm)**	175	convector width 175 mm
		200	convector width 200 mm
		250	convector width 250 mm
		300	convector width 300 mm
		350	convector width 350 mm
		425	convector width 425 mm
8, 9, 10,11	**Length (мм)**	0900	convector length 900 mm
		2500	convector length 2500 mm
		convector length is possible from 800 to 4800 mm. More details on pages 6-7	
12	**Free position**		
13, 14	**Grill material**	AL	aluminium
		OK	oak, wooden
		BE	bleech, wood
		IN	stainless steel
15	**Color**	P	aluminium
		T	light bronze
		K	dark bronze
		R	order by RAL
		H	stain varnish
16	**Appearance**	G	horizontal
		V	transverse
17	**Type**	D	roll-up
		C	sectional
		Z	sectional for convector height 65 mm
		S	non standard
18	**Note**	1	standard model
		0	non standard model (should be a description of deviations from the standard model)
		Example: floor convector grill, width 250 mm, length 1200 mm, aluminium grill material, color by RAL, transverse appearance, roll-up type, non standard model (RAL 9001 colored).	

Notes

Notes

Notes

HEATMANN

SMART CONVECTION SOLUTIONS

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