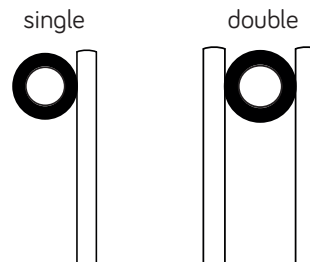
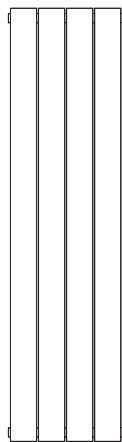


# Livorno

Technical sheet



h: from 670mm to 2000mm



WIDTH: from 309mm to 1059mm  
ELEMENTS: from 4 to 14

Description	Single and double
Material	Carbon steel
Pipes - mm	70x11x1,5
Collectors - Ø	35x1,5
Connections	4x1/2" (air bleeding valve connection, included)
Wall fixings	4
Max operating pressure	4 bar
Max operating temperature	90 °C
Paint	Epoxy polyester powder
Standard equipment	1 kit wall fixing brackets - 1 air bleeding valve - 1 blind plug

### Connection

single

Vert.	Hor.
55	40

double

Vert.	Hor.
55	81

- ALSO PERSONALIZED CONNECTIONS (NOT AVAILABLE FOR CHROME). ONLY FOR VERTICAL INSTALLATION
- ALSO 50 MM CONNECTIONS (NOT AVAILABLE FOR CHROME). ONLY FOR VERTICAL INSTALLATION
- VERTICAL AND HORIZONTAL INSTALLATION\*

\* In case of horizontal installation, please specify in the order

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### Wall distance

single

Vert.	Hor.
85	65

double

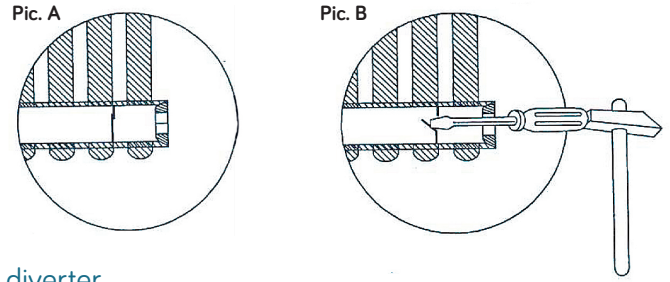
Vert.	Hor.
85	107

### Pipe centres

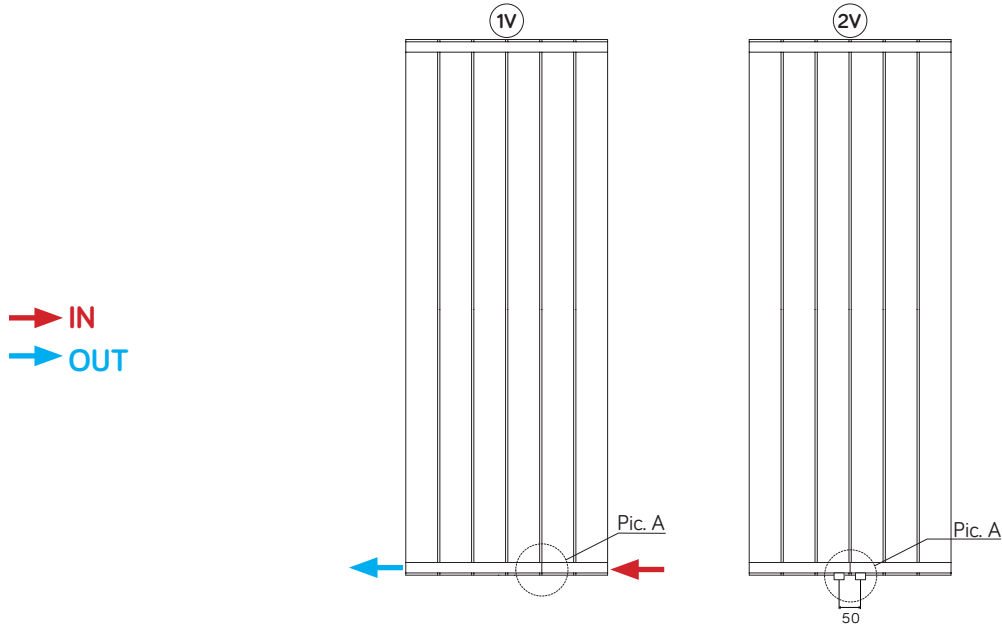
**N1** = Please add the pipe centre distance of the valves to N1. (Lazzarini = + 90 mm)  
**N3** = 50 mm

## Possible configurations Livorno vertical installation (front view)

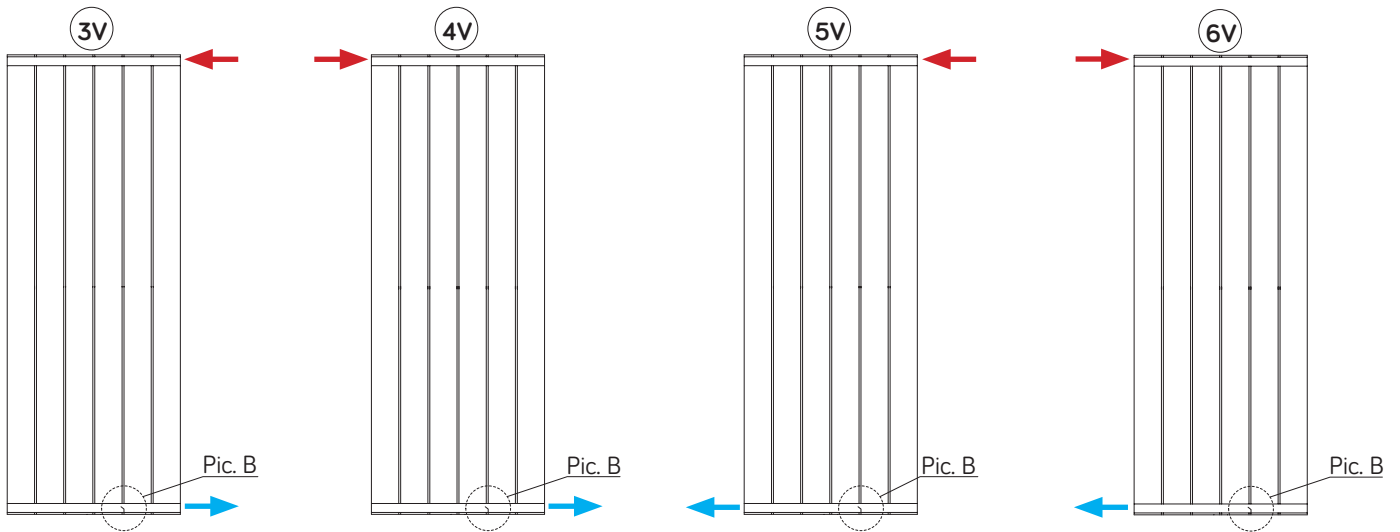
1. Each radiator has a closed diverter (**Pic. A**) and it is arranged for configuration 1V.
2. For configurations 3V, 4V, 5V and 6V, the diverter has to be opened using a screwdriver and a hammer (**Pic. B**).
3. Configuration 2V is available only on demand;
4. Drawings are merely representative.



Closed diverter

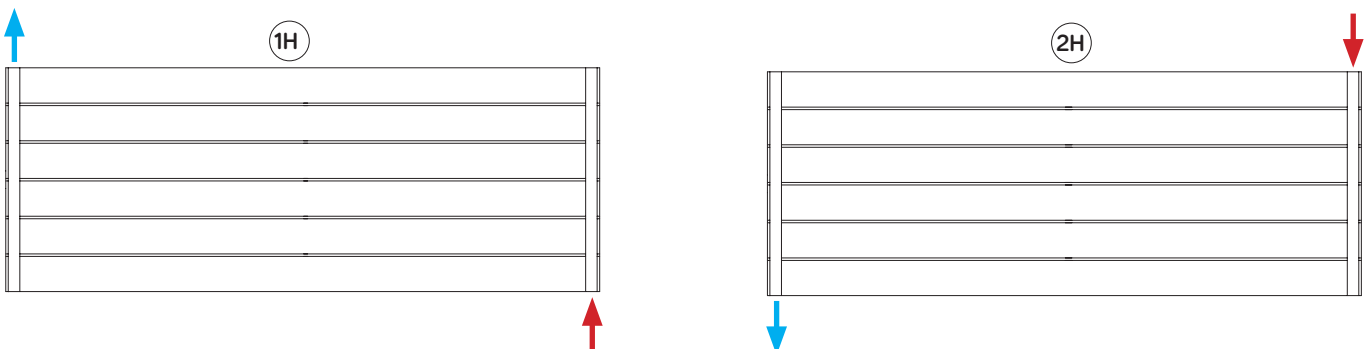


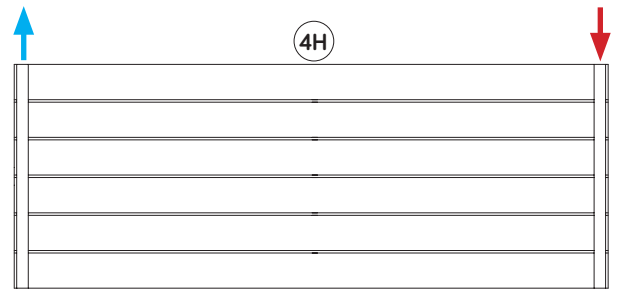
Open diverter



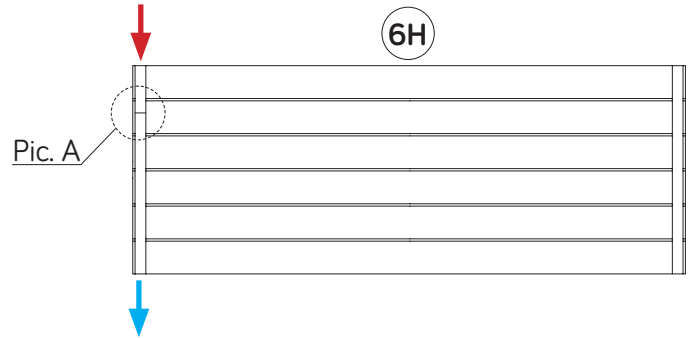
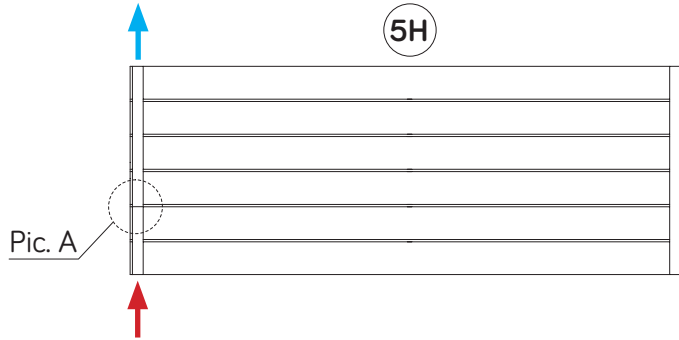
## Possible configurations Livorno horizontal installation (front view)

For configurations 1H, 2H, 3H and 4H, there is no need of a diverter inside.





For configurations 5H and 6H a closed diverter is needed (Pic. A).



### Chrome - single

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50} \text{ }^\circ\text{C}$ Watt	$\Delta T_{30} \text{ }^\circ\text{C}$ Watt	$\Delta T_{42,5} \text{ }^\circ\text{C}$ Watt	$\Delta T_{60} \text{ }^\circ\text{C}$ Watt	Exponent n
386777	1800	309	309	1750	4	13,2	4,2	354	180	286	451	1,32824
386778	1800	459	459	1750	6	19,8	6,3	532	270	429	678	1,32824

### Anthracite VOV12 - single

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50} \text{ }^\circ\text{C}$ Watt	$\Delta T_{30} \text{ }^\circ\text{C}$ Watt	$\Delta T_{42,5} \text{ }^\circ\text{C}$ Watt	$\Delta T_{60} \text{ }^\circ\text{C}$ Watt	Exponent n
386710	1800	309	309	1750	4	13,2	4,2	566	294	460	716	1,28546
386711	1800	459	459	1750	6	19,8	6,3	848	440	689	1072	1,28546

### White RAL 9016 - single

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50} \text{ }^\circ\text{C}$ Watt	$\Delta T_{30} \text{ }^\circ\text{C}$ Watt	$\Delta T_{42,5} \text{ }^\circ\text{C}$ Watt	$\Delta T_{60} \text{ }^\circ\text{C}$ Watt	Exponent n
386719	670	459	459	620	6	8,1	2,8	349	183	284	440	1,26878
386720	670	534	534	620	7	9,5	3,3	407	213	332	513	1,26878
386721	670	609	609	620	8	10,8	3,8	465	244	379	587	1,26878
386722	670	684	684	620	9	12,2	4,3	523	274	426	660	1,26878
386723	670	759	759	620	10	13,6	4,8	581	304	473	733	1,26878
386724	670	834	834	620	11	14,9	5,2	639	335	520	806	1,26878
386725	670	909	909	620	12	16,3	5,7	697	365	568	879	1,26878
386726	670	984	984	620	13	17,6	6,2	755	395	615	952	1,26878
386727	670	1059	1059	620	14	19	6,7	813	426	662	1025	1,26878
386728	870	459	459	820	6	10,3	3,4	449	234	365	568	1,28163
386729	870	534	534	820	7	12,1	3,9	524	273	426	662	1,28163
386730	870	609	609	820	8	13,8	4,5	599	312	487	757	1,28163
386731	870	684	684	820	9	15,5	5,1	674	351	548	852	1,28163
386732	870	759	759	820	10	17,3	5,7	749	390	609	947	1,28163
386733	870	834	834	820	11	19	6,2	824	429	670	1041	1,28163
386734	870	909	909	820	12	20,7	6,8	899	468	730	1136	1,28163

## White RAL 9016 - single

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50}^{\circ C}$ Watt	$\Delta T_{30}^{\circ C}$ Watt	$\Delta T_{42,5}^{\circ C}$ Watt	$\Delta T_{60}^{\circ C}$ Watt	Exponent n
386735	870	984	984	820	13	22,4	7,4	974	507	791	1231	1,28163
386736	870	1059	1059	820	14	24,2	7,9	1049	546	852	1326	1,28163
386741	1500	459	459	1450	6	17,2	5,3	732	379	594	927	1,29275
386742	1500	534	534	1450	7	20,1	6,2	854	442	693	1081	1,29275
386743	1500	609	609	1450	8	23	7,1	976	505	792	1236	1,29275
386744	1500	684	684	1450	9	25,9	8	1098	568	890	1390	1,29275
386745	1500	759	759	1450	10	28,8	8,9	1220	631	989	1545	1,29275
386746	1500	834	834	1450	11	31,6	9,7	1342	694	1088	1699	1,29275
386747	1500	909	909	1450	12	34,5	10,6	1464	757	1187	1854	1,29275
386748	1500	984	984	1450	13	37,4	11,5	1586	820	1286	2008	1,29275
386749	1500	1059	1059	1450	14	40,3	12,4	1708	883	1385	2162	1,29275
386751	1800	309	309	1750	4	13,2	4,2	566	294	460	716	1,28546
386752	1800	384	384	1750	5	16,5	5,3	707	367	574	894	1,28546
386753	1800	459	459	1750	6	19,8	6,3	848	440	689	1072	1,28546
386754	1800	534	534	1750	7	23,1	7,4	990	514	804	1252	1,28546
386755	1800	609	609	1750	8	26,4	8,4	1131	587	918	1430	1,28546
386756	1800	684	684	1750	9	29,7	9,5	1273	661	1033	1610	1,28546
386757	1800	759	759	1750	10	33	10,6	1414	734	1148	1788	1,28546
386758	1800	834	834	1750	11	36,3	11,6	1555	807	1262	1966	1,28546
386759	1800	909	909	1750	12	39,6	12,7	1697	881	1378	2146	1,28546
386760	1800	984	984	1750	13	42,9	13,7	1838	954	1492	2324	1,28546
386761	1800	1059	1059	1750	14	46,2	14,8	1980	1027	1607	2503	1,28546
386762	2000	309	309	1950	4	16,0	4,0	661	345	538	834	1,27473
386763	2000	384	384	1950	5	20,0	5,0	827	431	673	1044	1,27473
386764	2000	459	459	1950	6	24,0	6,0	992	517	807	1252	1,27473
386765	2000	534	534	1950	7	28,0	7,0	1157	603	941	1460	1,27473
386766	2000	609	609	1950	8	32,0	8,0	1322	690	1075	1668	1,27473
386767	2000	684	684	1950	9	36,0	9,0	1488	776	1210	1878	1,27473
386768	2000	759	759	1950	10	40,0	10,0	1653	862	1344	2086	1,27473
386769	2000	834	834	1950	11	44,0	11,0	1818	948	1478	2294	1,27473
386770	2000	909	909	1950	12	48,0	12,0	1984	1034	1613	2504	1,27473
386771	2000	984	984	1950	13	52,0	13,0	2149	1121	1747	2712	1,27473
386772	2000	1059	1059	1950	14	56,0	14,0	2314	1207	1882	2920	1,27473

## White RAL 9016 - double

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50}^{\circ C}$ Watt	$\Delta T_{30}^{\circ C}$ Watt	$\Delta T_{42,5}^{\circ C}$ Watt	$\Delta T_{60}^{\circ C}$ Watt	Exponent n
386651	670	459	459	620	6	16,8	4,0	440	231	359	555	1,26725
386652	670	534	534	620	7	19,6	4,7	514	270	419	648	1,26725
386653	670	609	609	620	8	22,4	5,4	587	308	478	740	1,26725
386654	670	684	684	620	9	25,2	6,0	661	346	538	833	1,26725
386655	670	759	759	620	10	28,0	6,7	734	385	598	925	1,26725
386656	670	834	834	620	11	30,8	7,4	807	423	657	1017	1,26725
386657	670	909	909	620	12	33,6	8,0	881	462	718	1110	1,26725
386658	670	984	984	620	13	36,4	8,7	954	500	777	1202	1,26725
386659	670	1059	1059	620	14	39,2	9,4	1028	539	837	1296	1,26725
386663	870	459	459	820	6	21,9	5,2	544	279	440	691	1,31054
386664	870	534	534	820	7	25,6	6,1	634	325	513	806	1,31054
386665	870	609	609	820	8	29,2	7,0	725	372	586	921	1,31054

## White RAL 9016 - double

Code	Height mm	Width mm	Pipe centre N1 mm	Pipe centre N2 mm	Elements	Weight kg	Water lt	$\Delta T_{50}^{\circ C}$ Watt	$\Delta T_{30}^{\circ C}$ Watt	$\Delta T_{42,5}^{\circ C}$ Watt	$\Delta T_{60}^{\circ C}$ Watt	Exponent n
386666	870	684	684	820	9	32,9	7,8	815	418	659	1035	1,31054
386667	870	759	759	820	10	36,5	8,7	906	464	733	1151	1,31054
386668	870	834	834	820	11	40,2	9,6	997	511	806	1267	1,31054
386669	870	909	909	820	12	43,8	10,4	1087	557	879	1381	1,31054
386670	870	984	984	820	13	47,5	11,3	1178	604	953	1496	1,31054
386671	870	1059	1059	820	14	51,2	12,2	1268	650	1025	1611	1,31054
386677	1500	459	459	1450	6	35,4	8,4	854	453	698	1072	1,24499
386678	1500	534	534	1450	7	41,3	9,8	997	528	815	1252	1,24499
386679	1500	609	609	1450	8	47,2	11,2	1139	604	931	1430	1,24499
386680	1500	684	684	1450	9	53,1	12,6	1282	679	1048	1609	1,24499
386681	1500	759	759	1450	10	59	14	1424	754	1164	1787	1,24499
386682	1500	834	834	1450	11	64,9	15,4	1566	830	1280	1966	1,24499
386683	1500	909	909	1450	12	70,8	16,8	1709	905	1396	2145	1,24499
386684	1500	984	984	1450	13	76,7	18,2	1851	980	1512	2323	1,24499
386685	1500	1059	1059	1450	14	82,6	19,6	1994	1056	1629	2503	1,24499
386687	1800	309	309	1750	4	28,1	6,5	704	371	575	885	1,25417
386688	1800	384	384	1750	5	35,1	8,1	880	464	718	1107	1,25417
386689	1800	459	459	1750	6	42,1	9,7	1056	557	862	1328	1,25417
386690	1800	534	534	1750	7	49,1	11,3	1232	650	1005	1549	1,25417
386691	1800	609	609	1750	8	56,2	13,0	1408	742	1149	1770	1,25417
386692	1800	684	684	1750	9	63,2	14,6	1584	835	1292	1991	1,25417
386693	1800	759	759	1750	10	70,2	16,2	1760	928	1436	2213	1,25417
386694	1800	834	834	1750	11	77,2	17,8	1936	1021	1580	2434	1,25417
386695	1800	909	909	1750	12	84,2	19,4	2112	1113	1723	2655	1,25417
386696	1800	984	984	1750	13	91,3	21,1	2288	1206	1867	2876	1,25417
386697	1800	1059	1059	1750	14	98,3	22,7	2464	1299	2010	3098	1,25417
386698	2000	309	309	1950	4	31,2	7,2	805	423	656	1013	1,26029
386699	2000	384	384	1950	5	39,0	9,0	1007	529	821	1268	1,26029
386700	2000	459	459	1950	6	46,8	10,8	1208	635	985	1521	1,26029
386701	2000	534	534	1950	7	54,6	12,6	1409	741	1149	1773	1,26029
386702	2000	609	609	1950	8	62,4	14,4	1610	846	1312	2026	1,26029
386703	2000	684	684	1950	9	70,2	16,2	1812	952	1477	2281	1,26029
386704	2000	759	759	1950	10	78,0	18,0	2013	1058	1641	2533	1,26029
386705	2000	834	834	1950	11	85,8	19,8	2214	1164	1804	2786	1,26029
386706	2000	909	909	1950	12	93,6	21,6	2416	1270	1969	3041	1,26029
386707	2000	984	984	1950	13	101,4	23,4	2617	1375	2133	3294	1,26029
386708	2000	1059	1059	1950	14	109,2	25,2	2818	1481	2297	3546	1,26029

The radiators can be supplied in RAL colours or special VOV Lazzarini colours.

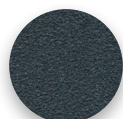
Due to technical limitations, printed colours may slightly differ from the real ones. Concerning RAL references we suggest to refer to an official RAL palette and Lazzarini colour chart.



**VOV08**  
Tabak



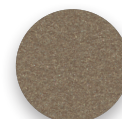
**VOV09**  
Mineral white



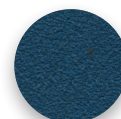
**VOV12**  
Anthracite



**VOV13**  
Amethyst



**VOV15**  
Quartz



**VOV16**  
Azurite

Our radiators are tested in qualified laboratories according to EN-442 regulations which determine the output value by fixing the  $\Delta T$  at 50 °C.  $\Delta T$  is the difference between the average temperature of the water inside the radiator and the room temperature. The formula is:  $\left(\frac{T_1+T_2}{2}-T_3\right)$ .

Ex.:  $\left(\frac{75+65}{2}-20\right)=50$  °C. For output values with a different  $\Delta T$  use the following formula:  $\phi_x = \phi_{\Delta T 50} * (\Delta T_x / 50)^n$ .

See calculation example of the output at  $\Delta T$  60 °C of article 386777:  $354 * (60/50)^{1,32824} = 451$ .

Output values in kcal/h = watt x 0,85984.

Output values in btu = watt x 3,412.

#### KEY

$T_1$  = supply temperature -  $T_2$  = return temperature -  $T_3$  = room temperature.

$\phi_x$  = output to be calculated -  $\phi_{\Delta T 50}$  = output at  $\Delta T$  50 °C (table) -  $\Delta T_x = \Delta T$  value to be calculated -  $n$  = exponent "n" (table).