

► Static Pressure Fan Coil Units

VHF 01, 05, 10 & 12



Technical Brochure

TM VHF-W.2GB

Date : January 2006

Supersedes : TM VHF-W.1GB/02.05

Wesper®

Design Features

► Presentation

The VHF fan coil units has been specially designed to meet the job requirements that call for false-ceiling installations and for air distribution by ductwork.

To meet your applications, the VHF fan coil units, composed of 4 sizes, provide 3 types of air ducting configurations.

► Casing

Fabricated from 1.0 mm thick galvanized sheet steel with the fixing brackets located at the top part of the casing for installation to the ceiling.

The VHF fan coil units are available with 3 types of casing configurations :

- Without plenum (**SP**)
- With supply air plenum (**APS**)
- With return and supply air plenums (**APSA**)

The condensate drain pan is made from 1.0 mm thick galvanized sheet steel, painted and is externally insulated by 2 mm thick closed cell polyethylene foam, having M1 fire classification.

An optional auxiliary drain pan can be provided to collect condensates from coils headers.

Access to internal components (fan-motor assembly and coils) for service and maintenance works is facilitated by dismantling the central bottom panel of the fan coil unit, without removing the distribution ducts.

► Integrated plenums

Return and supply air plenums are equipped with 2 or 3 connecting duct collars (having diameter of 160, 200 or 250 mm), according to the unit models.

They are completely integrated into the unit casing.

The supply air plenum is insulated by 10 mm thick closed cell polyethylene foam, having M1 fire classification.

► Fixation

The unit is supplied with 4 slotted fixing brackets as standard.

► Coil compartment

It is lined with 10 mm thick closed cell polyethylene foam insulation, having M1 fire classification.

It incorporates water coils which are fitted with 1/2"Ø female threaded couplings.

The coils of models VHF 01, 05 & 10 have 4 rows for 2-pipe systems and 3+1 rows for 4-pipe ones. Those of VHF 12 have 5 rows for

2-pipe systems and 4+1 rows for 4-pipe ones.

Coils are leak tested under water (21 bar) and are suitable for a maximum working pressure of 10 bar.

► Fan compartment

It incorporates a fan-motor assembly of which the fan is composed of double inlet forward curved type aluminium wheels and galvanized sheet steel scrolls.

Motor is of direct drive type having 5 or 6 speeds according to the models.

Motor is suitable for nominal voltage of 230 V / 1 Ph / 50 Hz and is equipped with a built-in thermal overload protection of automatic reset type.

► Air filter

Filter consists of cleanable synthetic media having G2 or G3 classification.

Filter is removable and is easily pulled out downward for cleaning or replacement, after removing the access metal plate.

► Options and accessories

→ Electric heater for 2-pipe/2-wire system

Electric heater consists of sheathed type heating elements equipped with a manual reset and an automatic reset high temperature cutout switches.

Standard voltage : Single phase 230 V and three-phase 400 V + Neutral for a capacity higher than 3000 W.

→ Fresh air intakes

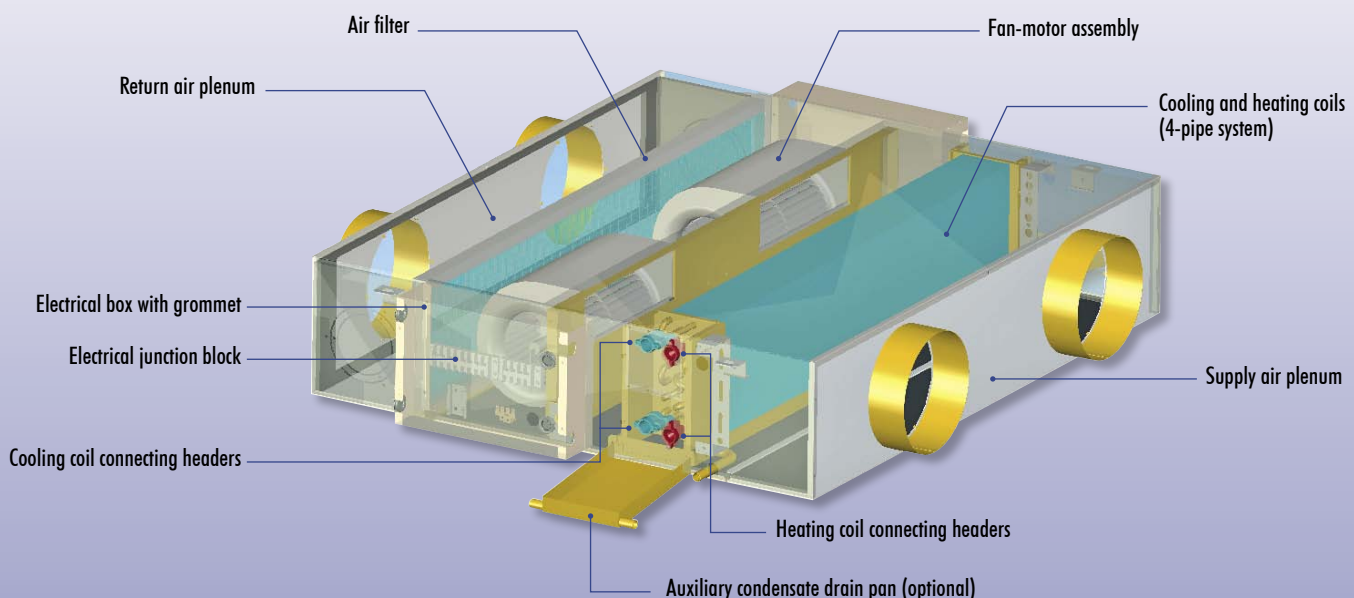
The fresh air intake can be realized by using a pre-cut opening Ø100 mm or 125 mm (Ø 100 mm for VHF 01 only) located on the left or right side of the unit.

→ Regulation valves

On/Off (thermal type actuator), 2-way or 4-way type for 2-pipe or 4-pipe systems.

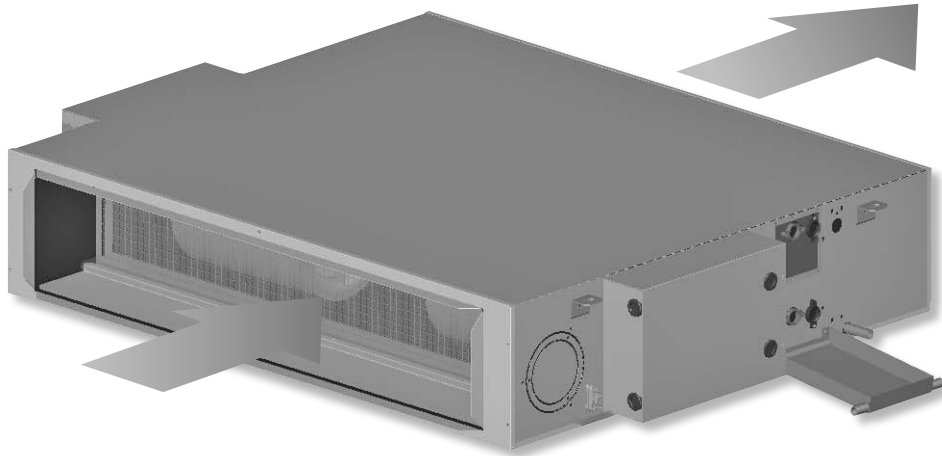
→ Controls

Electromechanical, electronic or digital type.

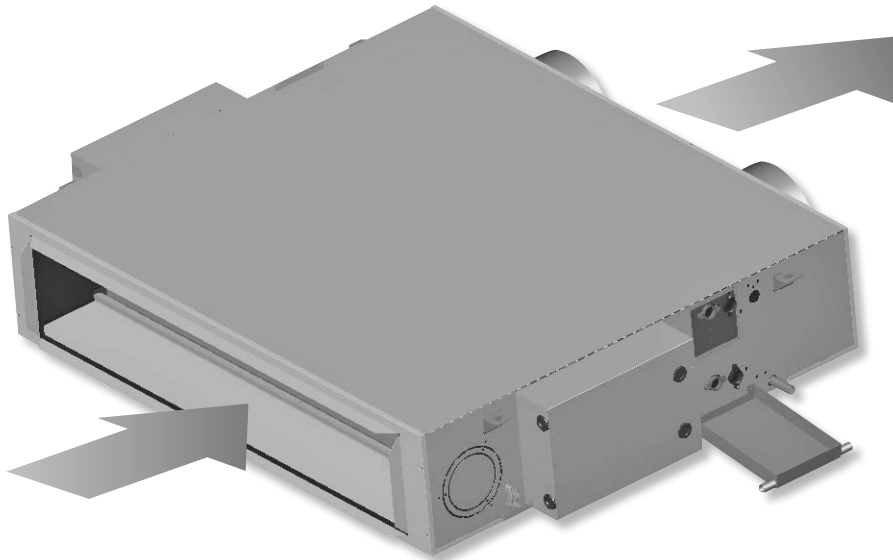


Configurations of VHF

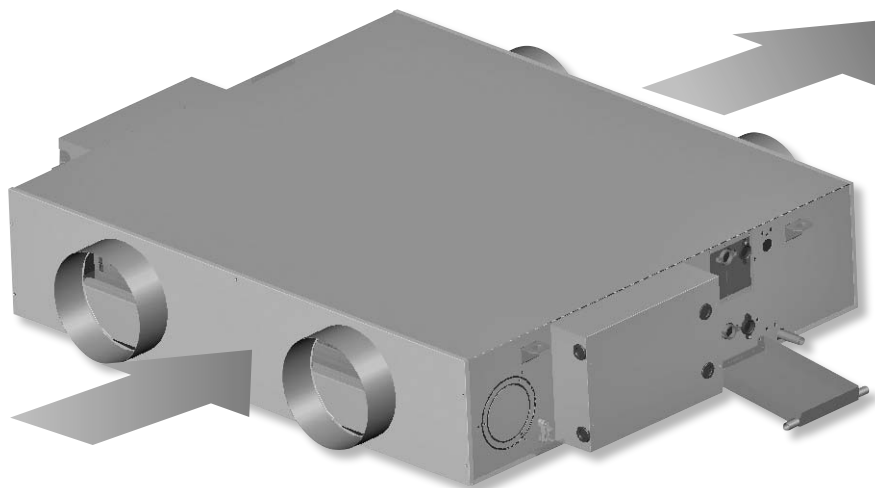
SP Version (without plenum)



APS Version (with supply air plenum)



APSA Version (with return and supply air plenums)



Air Flow Data

VHF 01 - Air Flow (m³/h)

External static pressure	Plenum	Duct collar	Filter	V1	V2	V3	V4	V5	V6
0 Pa	SP		Without	177	260	332	438	514	612
			G2	175	252	322	428	500	585
			G3	174	251	320	424	492	580
	APS 2 x 160		Without	173	260	321	430	502	602
			G2	172	258	318	424	492	590
			G3	171	256	314	414	483	576
	APSA 2 x 160		Without	166	235	315	430	502	610
			G2	155	225	305	415	485	590
			G3	134	222	300	412	476	580
15 Pa	SP		Without	142	236	318	427	501	600
			G2	140	228	308	417	486	573
			G3	139	226	305	412	482	565
	APS 2 x 160		Without	137	236	309	417	488	588
			G2	136	234	305	412	482	576
			G3	134	232	300	406	472	564
	APSA 2 x 160		Without	124	210	300	415	488	605
			G2	115	202	288	402	470	574
			G3	114	200	284	396	464	564
25 Pa	SP		Without	104	212	302	416	490	585
			G2	102	205	294	405	472	560
			G3	101	203	289	402	468	552
	APS 2 x 160		Without	101	212	291	405	477	575
			G2	100	210	288	400	468	563
			G3	99	208	284	386	458	548
	APSA 2 x 160		Without	86	186	280	402	474	588
			G2	74	174	272	388	456	556
			G3	72	172	268	384	450	544
40 Pa	SP		Without	77	196	292	408	482	575
			G2	75	188	284	396	465	551
			G3	74	186	281	392	460	542
	APS 2 x 160		Without	76	196	282	398	468	565
			G2	75	194	279	392	460	552
			G3	74	192	275	382	448	538
	APSA 2 x 160		Without	56	168	268	392	464	576
			G2	48	158	262	378	446	546
			G3	44	156	258	374	442	532

Air Flow Data (continued)

VHF 05 - Air Flow (m³/h)

External static pressure	Plenum	Duct collar	Filter	V1	V2	V3	V4	V5	V6
0 Pa	SP		Without	836	956	1109	1224	1321	1498
			G2	805	872	960	1085	1174	1258
			G3	639	741	813	862	908	993
	APS 2 x 200		Without	731	820	912	983	1045	1124
			G2	705	763	836	906	958	1019
			G3	596	665	718	756	802	858
	APSA 2 x 200		Without	685	762	828	880	927	964
			G2	663	716	783	829	865	917
			G3	577	632	677	710	756	801
15 Pa	SP		Without	742	855	992	1103	1199	1369
			G2	703	781	872	976	1064	1155
			G3	580	661	729	778	826	910
	APS 2 x 200		Without	655	743	830	900	964	1052
			G2	624	689	762	829	881	948
			G3	541	600	651	692	736	792
	APSA 2 x 200		Without	618	696	760	813	864	916
			G2	590	650	715	766	803	860
			G3	525	574	618	656	697	741
25 Pa	SP		Without	679	786	913	1020	1114	1278
			G2	636	719	810	901	987	1080
			G3	537	607	672	720	769	851
	APS 2 x 200		Without	604	690	771	840	905	996
			G2	569	638	709	774	825	895
			G3	502	555	605	647	688	743
	APSA 2 x 200		Without	572	648	711	763	816	875
			G2	541	603	666	719	756	815
			G3	487	533	576	615	653	696
40 Pa	SP		Without	584	681	792	892	980	1133
			G2	539	623	712	786	866	960
			G3	470	525	584	630	678	756
	APS 2 x 200		Without	525	605	679	744	809	901
			G2	489	557	625	684	734	804
			G3	440	484	531	573	610	663
	APSA 2 x 200		Without	500	572	631	681	735	802
			G2	467	529	587	641	677	737
			G3	427	467	508	548	581	624
50 Pa	SP		Without	521	610	710	804	888	1031
			G2	477	557	642	706	782	875
			G3	422	469	523	568	614	688
	APS 2 x 200		Without	471	545	614	676	739	830
			G2	435	501	565	621	668	737
			G3	395	436	479	519	555	606
	APSA 2 x 200		Without	450	517	573	622	676	745
			G2	417	477	532	584	619	678
			G3	384	421	460	498	529	571

Air Flow Data (continued)

VHF 10 - Air Flow (m³/h)

External static pressure	Plenum	Duct collar	Filter	V1	V2	V3	V4	V5
0 Pa	SP		Without	612	831	1132	1340	1632
			G2	576	784	982	1137	1257
			G3	508	692	870	1008	1091
	APS 3 x 200		Without	533	723	1042	1261	1466
			G2	520	707	967	1141	1290
			G3	497	677	870	1004	1083
	APSA 3 x 200		Without	499	677	1004	1227	1395
			G2	496	674	960	1143	1304
			G3	492	671	869	1003	1080
15 Pa	SP		Without	612	779	1040	1292	1525
			G2	576	714	896	1024	1162
			G3	508	658	819	946	1035
	APS 3 x 200		Without	528	703	967	1194	1385
			G2	513	679	900	1061	1215
			G3	473	643	822	951	1036
	APSA 3 x 200		Without	492	671	935	1152	1325
			G2	485	664	902	1076	1238
			G3	458	636	824	953	1037
25 Pa	SP		Without	612	760	995	1262	1476
			G2	576	676	847	959	1090
			G3	430	609	788	914	1001
	APS 3 x 200		Without	519	689	920	1149	1334
			G2	503	658	856	1008	1160
			G3	454	616	787	910	999
	APSA 3 x 200		Without	479	658	888	1100	1273
			G2	471	650	860	1029	1190
			G3	508	633	783	902	995
40 Pa	SP		Without	612	732	934	1193	1391
			G2	576	619	774	870	969
			G3	382	561	727	847	937
	APS 3 x 200		Without	497	658	849	1071	1249
			G2	480	618	788	928	1069
			G3	420	570	727	843	935
	APSA 3 x 200		Without	448	627	813	1019	1188
			G2	439	618	794	953	1111
			G3	508	590	726	835	930
50 Pa	SP		Without	612	698	890	1120	1313
			G2	576	573	718	809	882
			G3	346	524	681	797	888
	APS 3 x 200		Without	477	628	800	1010	1182
			G2	460	584	738	872	1002
			G3	394	535	682	794	886
	APSA 3 x 200		Without	419	598	762	962	1126
			G2	410	589	747	899	1054
			G3	420	570	727	843	883

Air Flow Data (continued)

VHF 12 - Air Flow (m³/h)

External static pressure	Plenum	Duct collar	Filter	V1	V2	V3	V4	V5
0 Pa	SP		Without	900	1158	1466	1779	2245
			G2	884	1122	1400	1648	2050
			G3	870	1102	1358	1569	1908
	APS 3 x 250		Without	942	1168	1461	1762	2165
			G2	908	1145	1415	1664	2020
			G3	894	1124	1378	1600	1897
	APSA 3 x 250		Without	910	1163	1432	1671	1980
			G2	900	1142	1390	1602	1875
			G3	890	1128	1363	1551	1803
15 Pa	SP		Without	842	1098	1390	1680	2112
			G2	823	1060	1315	1546	1910
			G3	810	1040	1270	1462	1782
	APS 3 x 250		Without	870	1102	1380	1658	2030
			G2	842	1078	1328	1556	1880
			G3	828	1058	1292	1485	1765
	APSA 3 x 250		Without	860	1103	1355	1580	1860
			G2	848	1080	1308	1510	1750
			G3	838	1065	1283	1455	1680
25 Pa	SP		Without	785	1030	1305	1575	1972
			G2	765	997	1230	1435	1763
			G3	750	972	1183	1347	1650
	APS 3 x 250		Without	800	1036	1300	1546	1889
			G2	772	1006	1240	1442	1730
			G3	762	986	1202	1370	1635
	APSA 3 x 250		Without	805	1040	1272	1482	1732
			G2	789	1018	1224	1410	1620
			G3	783	1000	1200	1356	1550
40 Pa	SP		Without	745	987	1248	1504	1880
			G2	726	948	1170	1366	1665
			G3	710	923	1120	1268	1563
	APS 3 x 250		Without	754	988	1240	1470	1796
			G2	723	960	1180	1368	1635
			G3	714	939	1142	1290	1545
	APSA 3 x 250		Without	765	998	1220	1414	1647
			G2	750	972	1168	1342	1540
			G3	743	954	1140	1284	1465
50 Pa	SP		Without	704	940	1192	1430	1780
			G2	686	900	1107	1285	1564
			G3	670	872	1055	1194	1480
	APS 3 x 250		Without	708	940	1180	1395	1700
			G2	680	908	1119	1292	1540
			G3	668	885	1080	1210	1460
	APSA 3 x 250		Without	728	948	1160	1345	1563
			G2	705	925	1105	1270	1450
			G3	703	905	1080	1210	1384

Electric Heating Coil Data

Sizes	VHF 01	VHF 05	VHF 10	VHF 12	
Capacity (W)	BE1	600	500	1000	1000
	BE2	800	750	1200	1200
	BE3	1200	1000	1500	1500
	BE4	1400	1500	2000	2000
	BE5	1600	2000	2400	2400
	BE6	-	3000	3600*	3600*

(*) Supply voltage is three phase 400 V + Neutral + Earth (power contactor is included).

Fan Motor Electrical Data

Motors absorbed current - 230 V/1 Ph/50 Hz

Sizes		VHF 01		VHF 05		VHF 10		VHF 12	
		Absorbed current (A)*	Absorbed power (W)*	Absorbed current (A)*	Absorbed power (W)*	Absorbed current (A)*	Absorbed power (W)*	Absorbed current (A)*	Absorbed power (W)*
Fan speed	V1	0.19	40	0.37	80	0.60	132	0.60	132
	V2	0.30	68	0.40	85	0.70	152	0.70	152
	V3	0.44	100	0.42	90	0.80	177	0.80	177
	V4	0.61	138	0.45	100	0.91	205	0.93	210
	V5	0.70	160	0.49	105	1.17	267	1.21	278
	V6	0.85	190	0.60	130	-	-	-	-

(*) Motor maximum absorbed current data given for operation with 230 V/1 Ph/50 Hz power supply and 0 Pa external static pressure for APSA version.

Sound Power Levels Lw

VHF 01

		Fan speed	V1	V2	V3	V4	V5	V6
Lw in dB(A)	Return *		36.0	44.0	50.4	56.9	59.8	63.6
	Discharge *		36.4	43.5	50.3	56.8	60.6	64.9
	Radiated **		33.2	37.0	42.2	48.1	51.3	54.5

VHF 05

		Fan speed	V1	V2	V3	V4	V5	V6
Lw in dB(A) *	Return and discharge		48.8	51.4	54.4	55.1	56.9	58.6
	Radiated		39.6	43.5	44.4	46.7	48.3	50.6

VHF 10

		Fan speed	V1	V2	V3	V4	V5
Lw in dB(A) *	Return and discharge		48.6	53.4	58.1	60.9	64.0
	Radiated		40.6	44.5	49.0	51.6	53.0

VHF 12

		Fan speed	V1	V2	V3	V4	V5
Lw in dB(A)	Return *		49.5	54.1	57.3	60.1	62.6
	Discharge *		48.6	53.6	57.2	60.0	63.2
	Radiated **		46.0	49.1	51.7	53.8	55.7

(*) Data given for APSA version and 0 Pa external static pressure.

(**) Data given for APSA version, 30 Pa (VHF 01) & 50 Pa (VHF 12) external static pressure at speed V5.

Coil Water Volume

Sizes		VHF 01	VHF 05	VHF 10	VHF 12
Water volume (litres)	1 row	0.2	0.50	0.60	1.1
	3 rows	0.8	1.6	1.9	3.2
	4 rows	0.90	1.9	2.3	4.2

Note : The 2-pipe system is equipped with 4-row (5-row for VHF 12) coil whereas the 4-pipe system is fitted with 3-row (4-row for VHF 12) and 1 row coils.

Cooling Capacities - VHF 01 - 2-pipe system

Fan speed			V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)			61	165	267	383	451	550
5/10 °C	27 °C	Pt W	621	1408	2191	2874	3214	3882
	50%	Ps W	399	911	1429	1864	2079	2537
	25 °C	Pt W	532	1113	1729	2252	2515	3050
	50%	Ps W	362	780	1227	1591	1778	2178
	23 °C	Pt W	446	879	1350	1748	1946	2369
	50%	Ps W	324	677	1059	1370	1525	1881
6/11 °C	27 °C	Pt W	583	1276	1987	2598	2901	3511
	50%	Ps W	379	842	1325	1727	1927	2354
	25 °C	Pt W	493	999	1557	2016	2245	2728
	50%	Ps W	341	724	1143	1479	1647	2025
	23 °C	Pt W	407	793	1188	1539	1712	2088
	50%	Ps W	304	636	983	1270	1416	1749
7/12 °C	27 °C	Pt W	543	1151	1782	2320	2592	3142
	50%	Ps W	359	782	1230	1596	1778	2180
	25 °C	Pt W	453	884	1383	1788	1988	2419
	50%	Ps W	321	670	1064	1372	1529	1883
	23 °C	Pt W	368	712	1033	1342	1494	1826
	50%	Ps W	284	597	912	1181	1317	1631
8/13 °C	27 °C	Pt W	503	1030	1601	2068	2303	2797
	50%	Ps W	338	727	1145	1482	1649	2029
	25 °C	Pt W	412	796	1212	1566	1741	2122
	50%	Ps W	301	630	987	1276	1420	1755
	23 °C	Pt W	328	634	892	1166	1300	1592
	50%	Ps W	264	562	850	1105	1231	1527
10/15 °C	27 °C	Pt W	416	796	1235	1593	1769	2154
	50%	Ps W	298	626	991	1278	1424	1759
	25 °C	Pt W	328	631	906	1180	1315	1607
	50%	Ps W	262	560	857	1113	1241	1540
	23 °C	Pt W	251	502	714	895	1002	1231
	50%	Ps W	229	440	714	895	1002	1231

Note : Cooling capacities are given for APSA version with G2 air filter and 30 Pa external static pressure.

Cooling Capacities - VHF 01 - 4-pipe system

Fan speed			V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)			61	165	267	383	451	550
5/10 °C	27 °C	Pt W	552	1205	1866	2467	2876	3314
	50%	Ps W	363	798	1238	1647	1938	2249
	25 °C	Pt W	457	929	1447	1913	2239	2582
	50%	Ps W	323	682	1059	1414	1668	1947
	23 °C	Pt W	376	763	1105	1464	1719	1982
	50%	Ps W	288	610	911	1219	1447	1689
6/11 °C	27 °C	Pt W	508	1077	1676	2217	2588	2983
	50%	Ps W	341	739	1147	1529	1804	2098
	25 °C	Pt W	418	848	1289	1703	1994	2298
	50%	Ps W	304	643	986	1318	1560	1819
	23 °C	Pt W	341	688	965	1283	1508	1740
	50%	Ps W	271	575	846	1137	1350	1582
7/12 °C	27 °C	Pt W	464	961	1494	1973	2307	2661
	50%	Ps W	320	685	1065	1423	1680	1958
	25 °C	Pt W	381	767	1133	1498	1757	2023
	50%	Ps W	286	606	917	1229	1456	1700
	23 °C	Pt W	306	616	853	1118	1317	1521
	50%	Ps W	254	543	796	1065	1267	1485
8/13 °C	27 °C	Pt W	425	854	1325	1748	2046	2356
	50%	Ps W	302	638	990	1324	1568	1830
	25 °C	Pt W	343	689	986	1307	1535	1769
	50%	Ps W	269	572	854	1147	1361	1594
	23 °C	Pt W	271	550	767	956	1126	1304
	50%	Ps W	238	513	759	956	1126	1304
10/15 °C	27 °C	Pt W	346	689	1006	1330	1560	1797
	50%	Ps W	267	570	859	1156	1371	1606
	25 °C	Pt W	271	548	764	969	1139	1319
	50%	Ps W	237	514	762	969	1139	1319
	23 °C	Pt W	210	438	623	773	894	1038
	50%	Ps W	161	438	623	773	894	1038

Note : Cooling capacities are given for APSA version with G2 air filter and 30 Pa external static pressure.

Cooling Capacities - VHF 05 - 2-pipe system

Fan speed			V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)			417	477	532	584	619	678
5/10 °C	27 °C	Pt W	3924	4372	4809	5169	5472	5895
	50%	Ps W	2515	2832	3135	3357	3566	3869
	25 °C	Pt W	3161	3517	3861	4142	4383	4729
	50%	Ps W	2179	2455	2726	2910	3100	3360
	23 °C	Pt W	2518	2780	3048	3256	3454	3717
	50%	Ps W	1888	2129	2367	2520	2683	2915
6/11 °C	27 °C	Pt W	3598	4002	4396	4721	5001	5388
	50%	Ps W	2346	2644	2931	3133	3329	3612
	25 °C	Pt W	2865	3166	3471	3710	3933	4230
	50%	Ps W	2027	2283	2534	2700	2874	3122
	23 °C	Pt W	2239	2473	2713	2894	3071	3305
	50%	Ps W	1751	1977	2202	2345	2501	2720
7/12 °C	27 °C	Pt W	3260	3623	3976	4260	4515	4867
	50%	Ps W	2178	2456	2727	2913	3098	3361
	25 °C	Pt W	2577	2844	3117	3332	3531	3800
	50%	Ps W	1888	2132	2370	2519	2686	2918
	23 °C	Pt W	1960	2165	2378	2538	2696	2902
	50%	Ps W	1617	1836	2048	2179	2325	2532
8/13 °C	27 °C	Pt W	2941	3252	3561	3810	4033	4345
	50%	Ps W	2027	22830	2537	2699	2877	3122
	25 °C	Pt W	2284	2518	2761	2945	3124	3363
	50%	Ps W	1751	1982	2207	2349	2505	2722
	23 °C	Pt W	1690	1873	2060	2201	2340	2521
	50%	Ps W	1494	1701	1905	2029	2166	2361
10/15 °C	27 °C	Pt W	2327	2565	2810	2996	3179	3415
	50%	Ps W	1750	1981	2209	2349	2504	2728
	25 °C	Pt W	1712	1893	2080	2222	2359	2542
	50%	Ps W	1499	1709	1915	2036	2176	2372
	23 °C	Pt W	1241	1388	1534	1643	1751	1891
	50%	Ps W	1241	1388	1534	1643	1751	1891

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Cooling Capacities - VHF 05 - 4-pipe system

Fan speed			V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)			417	477	532	584	619	678
5/10 °C	27 °C	Pt W	3674	4088	4470	4794	5053	5398
	50%	Ps W	2411	2725	2959	3163	3310	3478
	25 °C	Pt W	2928	3254	3552	3809	4014	4282
	50%	Ps W	2089	2368	2569	2737	2859	2985
	23 °C	Pt W	2316	2561	2793	2983	3147	3351
	50%	Ps W	1820	2070	2234	2378	2477	2567
6/11 °C	27 °C	Pt W	3355	3724	4064	4366	4597	4911
	50%	Ps W	2249	2550	2768	2947	3083	3222
	25 °C	Pt W	2651	2929	3190	3414	3599	3834
	50%	Ps W	1952	2218	2400	2551	2661	2763
	23 °C	Pt W	2051	2268	2471	2642	2787	2966
	50%	Ps W	1693	1930	2086	2216	2306	2380
7/12 °C	27 °C	Pt W	3022	3356	3659	3922	4135	4413
	50%	Ps W	2091	2374	2576	2743	2861	2979
	25 °C	Pt W	2372	2620	2853	3049	3216	3421
	50%	Ps W	1823	2075	2243	2384	2481	2569
	23 °C	Pt W	1791	1983	2161	2311	2439	2596
	50%	Ps W	1572	1799	1945	2064	2146	2209
8/13 °C	27 °C	Pt W	2723	3010	3275	3505	3696	3935
	50%	Ps W	1955	2221	2405	2555	2660	2760
	25 °C	Pt W	2091	2310	2515	2688	2834	3014
	50%	Ps W	1698	1937	2094	2222	2311	2383
	23 °C	Pt W	1548	1717	1874	2006	2118	2256
	50%	Ps W	1464	1683	1818	1932	2006	2057
10/15 °C	27 °C	Pt W	2128	2349	2556	2731	2879	3061
	50%	Ps W	1702	1944	2101	2228	2316	2383
	25 °C	Pt W	1566	1735	1893	2025	2137	2275
	50%	Ps W	1475	1696	1833	1944	2018	2066
	23 °C	Pt W	1178	1294	1416	1521	1608	1719
	50%	Ps W	1178	1294	1416	1521	1608	1719

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Cooling Capacities - VHF 10 - 2-pipe system

Fan speed			V1	V2	V3	V4	V5
Air flow (m ³ /h)			410	589	747	899	1054
5/10 °C	27 °C	Pt W	4019	5508	6820	7886	8903
	50%	Ps W	2568	3498	4476	5117	5800
	25 °C	Pt W	3312	4469	5497	6323	7167
	50%	Ps W	2260	3015	3906	4441	5042
	23 °C	Pt W	2667	3581	4405	5030	5676
	50%	Ps W	1965	2614	3430	3865	4380
6/11 °C	27 °C	Pt W	3705	5065	6251	7208	8161
	50%	Ps W	2401	3246	4192	4776	5419
	25 °C	Pt W	3033	4075	5003	5724	6461
	50%	Ps W	2112	2809	3669	4142	4698
	23 °C	Pt W	2375	3190	3927	4472	5043
	50%	Ps W	1815	2412	3194	3598	4079
7/12 °C	27 °C	Pt W	3422	4597	5666	6508	7372
	50%	Ps W	2254	3008	3907	4442	5044
	25 °C	Pt W	2736	3666	4508	5137	5789
	50%	Ps W	1963	2606	3428	3867	4387
	23 °C	Pt W	2075	2798	3449	3929	4428
	50%	Ps W	1669	2218	2974	3341	3794
8/13 °C	27 °C	Pt W	3119	4186	5139	5866	6626
	50%	Ps W	2107	2799	3667	4143	4696
	25 °C	Pt W	2425	3250	3999	4549	5127
	50%	Ps W	1818	2408	3196	3599	4080
	23 °C	Pt W	1780	2421	2996	3416	3854
	50%	Ps W	1534	2044	2769	3110	3537
10/15 °C	27 °C	Pt W	2477	3308	4064	4622	5203
	50%	Ps W	1814	2400	3200	3598	4083
	25 °C	Pt W	1809	2448	3023	3443	3882
	50%	Ps W	1540	2045	2779	3123	3551
	23 °C	Pt W	1394	1804	2243	2572	2918
	50%	Ps W	1362	1771	2243	2572	2918

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Cooling Capacities - VHF 10 - 4-pipe system

Fan speed			V1	V2	V3	V4	V5
Air flow (m ³ /h)			410	589	747	899	1054
5/10 °C	27 °C	Pt W	3908	5183	6281	7143	8044
	50%	Ps W	2536	3381	4100	4612	5227
	25 °C	Pt W	3171	4159	5030	5746	6485
	50%	Ps W	2214	2936	3565	4001	4548
	23 °C	Pt W	2546	3275	3947	4493	5085
	50%	Ps W	1937	2547	3087	3443	3930
6/11 °C	27 °C	Pt W	3593	4733	5734	6530	7346
	50%	Ps W	2375	3159	3832	4292	4868
	25 °C	Pt W	2889	3727	44695	5130	5814
	50%	Ps W	2071	2726	3306	3702	4222
	23 °C	Pt W	2275	2915	3509	3991	4513
	50%	Ps W	1801	2373	2879	3199	3656
7/12 °C	27 °C	Pt W	3270	4277	5176	5902	6638
	50%	Ps W	2212	2939	3562	3992	4531
	25 °C	Pt W	2607	3349	4028	4585	5189
	50%	Ps W	1935	2547	3092	3441	3928
	23 °C	Pt W	2000	2560	3083	3504	3963
	50%	Ps W	1671	2211	2682	2973	3402
8/13 °C	27 °C	Pt W	2968	3821	4611	5257	5942
	50%	Ps W	2068	2729	3306	3698	4209
	25 °C	Pt W	2317	2965	3566	4053	4580
	50%	Ps W	1801	2376	2883	3198	3660
	23 °C	Pt W	1734	2226	2683	3053	3455
	50%	Ps W	1549	2058	2505	2770	3175
10/15 °C	27 °C	Pt W	2359	3013	3620	4109	4646
	50%	Ps W	1800	2377	2885	3201	3658
	25 °C	Pt W	1752	2244	2703	3072	3475
	50%	Ps W	1553	2065	2514	2778	3187
	23 °C	Pt W	1279	1667	2023	2311	2622
	50%	Ps W	1279	1667	2023	2311	2622

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Cooling Capacities - VHF 12 - 2-pipe system

Fan speed			V1	V2	V3	V4	V5
Air flow (m ³ /h)			705	925	1105	1270	1450
5/10 °C	27 °C	Pt W	6417	8191	9648	10904	12272
	50%	Ps W	4113	5290	6269	7089	7989
	25 °C	Pt W	5125	6544	7727	8710	9807
	50%	Ps W	3536	4565	5420	6147	6933
	23 °C	Pt W	3985	5096	6019	6789	7655
	50%	Ps W	3021	3911	4663	5290	5968
6/11 °C	27 °C	Pt W	5856	7481	8821	9940	11189
	50%	Ps W	3825	4919	5832	6610	7451
	25 °C	Pt W	4566	5841	6894	7777	8763
	50%	Ps W	3258	4210	5016	5691	6422
	23 °C	Pt W	3521	4523	5349	6031	6803
	50%	Ps W	2796	3628	4337	4930	5564
7/12 °C	27 °C	Pt W	5282	6747	7953	8962	10090
	50%	Ps W	3539	4558	5417	6143	6925
	25 °C	Pt W	4088	5217	6158	6937	7822
	50%	Ps W	3026	3913	4665	5296	5971
	23 °C	Pt W	3060	3954	4687	5293	5975
	50%	Ps W	2577	3364	4034	4588	5181
8/13 °C	27 °C	Pt W	4694	6003	7080	7977	8988
	50%	Ps W	3260	4207	5011	5691	6417
	25 °C	Pt W	3600	4609	5445	6133	6917
	50%	Ps W	2804	3633	4342	4939	5570
	23 °C	Pt W	2616	3416	4068	4601	5201
	50%	Ps W	2379	3125	3750	4275	4831
10/15 °C	27 °C	Pt W	3672	4692	5538	6235	7021
	50%	Ps W	2807	3637	4345	4941	5580
	25 °C	Pt W	2664	3456	4106	4639	5239
	50%	Ps W	2398	3140	3770	4294	4853
	23 °C	Pt W	2055	2528	3030	3441	3899
	50%	Ps W	2055	2528	3030	3441	3899

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Cooling Capacities - VHF 12 - 4-pipe system

Fan speed			V1	V2	V3	V4	V5
Air flow (m ³ /h)			705	925	1105	1270	1450
5/10 °C	27 °C	Pt W	5598	7087	8290	9287	10420
	50%	Ps W	3684	4688	5525	6213	6997
	25 °C	Pt W	4353	5533	6496	7282	8183
	50%	Ps W	3139	4027	4758	5368	6060
	23 °C	Pt W	3304	4231	4981	5593	6298
	50%	Ps W	2678	3448	4099	4633	5242
6/11 °C	27 °C	Pt W	5055	6400	7491	8392	9417
	50%	Ps W	3416	4358	5145	5792	6533
	25 °C	Pt W	3858	4902	5756	6457	7258
	50%	Ps W	2908	3730	4416	4983	5642
	23 °C	Pt W	2871	3704	4375	4918	5543
	50%	Ps W	2479	3208	3818	4324	4896
7/12 °C	27 °C	Pt W	4505	5715	6697	7506	8428
	50%	Ps W	3155	4035	4773	5380	6077
	25 °C	Pt W	3402	4339	5100	5721	6436
	50%	Ps W	2698	3469	4122	4657	5272
	23 °C	Pt W	2529	3205	3802	4282	4833
	50%	Ps W	2326	2985	3567	4041	4586
8/13 °C	27 °C	Pt W	3978	5044	5915	6631	7451
	50%	Ps W	2924	3743	4437	5006	5665
	25 °C	Pt W	2951	3784	4460	5009	5639
	50%	Ps W	2506	3234	3848	4348	4932
	23 °C	Pt W	2260	2622	3112	3516	3966
	50%	Ps W	2208	2622	3112	3516	3966
10/15 °C	27 °C	Pt W	3022	3859	4540	5093	5730
	50%	Ps W	2525	3254	3869	4376	4961
	25 °C	Pt W	2251	2798	3147	3544	4000
	50%	Ps W	2215	1874	3147	3544	4000
	23 °C	Pt W	1807	2182	2477	2819	3197
	50%	Ps W	1807	2182	2477	2819	3197

Note : Cooling capacities are given for APSA version with G2 filter and 50 Pa external static pressure.

Heating Capacities - VHF 01 - 2-pipe system

Fan speed				V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)				61	165	267	383	451	550
80/60 °C	19 °C	PC	W	1103	2579	3948	5116	5852	6856
	20 °C	PC	W	1082	2526	3866	5011	5731	6714
	21 °C	PC	W	1062	2474	3785	4906	5610	6570
70/50 °C	19 °C	PC	W	924	2066	3155	4069	4661	5468
	20 °C	PC	W	903	2011	3072	3959	4534	5321
	21 °C	PC	W	883	1956	2987	3849	4408	5172
50/40 °C	19 °C	PC	W	584	1314	2007	2592	2970	3485
	20 °C	PC	W	563	1260	1925	2484	2845	3340
	21 °C	PC	W	542	1205	1842	2376	2721	3194

Heating Capacities - VHF 01 - 4-pipe system

Fan speed				V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)				61	165	267	383	451	550
80/60 °C	19 °C	PC	W	848	1772	2459	3107	3452	3877
	20 °C	PC	W	829	1732	2404	3036	3373	3788
	21 °C	PC	W	810	1690	2347	2965	3294	3698
70/50 °C	19 °C	PC	W	656	1347	1862	2365	2635	2955
	20 °C	PC	W	636	1306	1804	2291	2553	2866
	21 °C	PC	W	618	1264	1745	2217	2470	2777
50/40 °C	19 °C	PC	W	421	867	1200	1525	1700	1906
	20 °C	PC	W	401	826	1142	1451	1617	1819
	21 °C	PC	W	384	785	1085	1378	1536	1731

Heating Capacities - VHF 05 - 2-pipe system

Fan speed				V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)				417	477	532	584	619	678
80/60 °C	19 °C	PC	W	6478	7286	8001	8661	9098	9821
	20 °C	PC	W	6349	7141	7842	8488	8916	9623
	21 °C	PC	W	6220	6996	7682	8316	8735	9427
70/50 °C	19 °C	PC	W	5248	5899	6479	7015	7371	7958
	20 °C	PC	W	5115	5749	6315	6837	7182	7755
	21 °C	PC	W	4982	5599	6150	6659	6995	7552
50/40 °C	19 °C	PC	W	3331	3744	4114	4455	4681	5054
	20 °C	PC	W	3199	3597	3950	4279	4495	4853
	21 °C	PC	W	3068	3448	3788	4102	4309	4653

Heating Capacities - VHF 05 - 4-pipe system

Fan speed				V1	V2	V3	V4	V5	V6
Air flow (m ³ /h)				417	477	532	584	619	678
80/60 °C	19 °C	PC	W	4749	5249	5687	6085	6346	6772
	20 °C	PC	W	4649	5138	5567	5957	6211	6629
	21 °C	PC	W	4550	5029	5448	5829	6078	6486
70/50 °C	19 °C	PC	W	3683	4174	4517	4829	5031	5363
	20 °C	PC	W	3783	4064	4397	4700	4897	5219
	21 °C	PC	W	3584	3954	4277	4571	4762	5076
50/40 °C	19 °C	PC	W	2412	2662	2881	3081	3211	3424
	20 °C	PC	W	2314	2553	2763	2954	3079	3282
	21 °C	PC	W	2215	2444	2645	2827	2946	3141

Heating Capacities - VHF 10 - 2-pipe system

Fan speed				V1	V2	V3	V4	V5
Air flow (m ³ /h)				410	589	747	899	1054
80/60 °C	19 °C	PC	W	5889	8002	9735	11286	12791
	20 °C	PC	W	5768	7837	9535	11055	12527
	21 °C	PC	W	5647	7671	9335	10822	12264
70/50 °C	19 °C	PC	W	4705	6386	7763	9012	10224
	20 °C	PC	W	4580	6217	7556	8772	9952
	21 °C	PC	W	4455	6046	7350	8532	9680
50/40 °C	19 °C	PC	W	2994	4063	4942	5739	6510
	20 °C	PC	W	2869	3896	4737	5501	6244
	21 °C	PC	W	2745	3729	4533	5263	5975

Heating Capacities - VHF 10 - 4-pipe system

Fan speed				V1	V2	V3	V4	V5
Air flow (m ³ /h)				410	589	747	899	1054
80/60 °C	19 °C	PC	W	4928	6474	7697	8778	9800
	20 °C	PC	W	4826	6340	7535	8594	9595
	21 °C	PC	W	4724	6205	7375	8409	9389
70/50 °C	19 °C	PC	W	3946	4892	6122	6966	7766
	20 °C	PC	W	3843	5163	5959	6781	7559
	21 °C	PC	W	3741	5027	5798	6595	7351
50/40 °C	19 °C	PC	W	2513	3290	3903	4445	4956
	20 °C	PC	W	2411	3156	3741	4263	4753
	21 °C	PC	W	2311	3023	3584	4079	4548

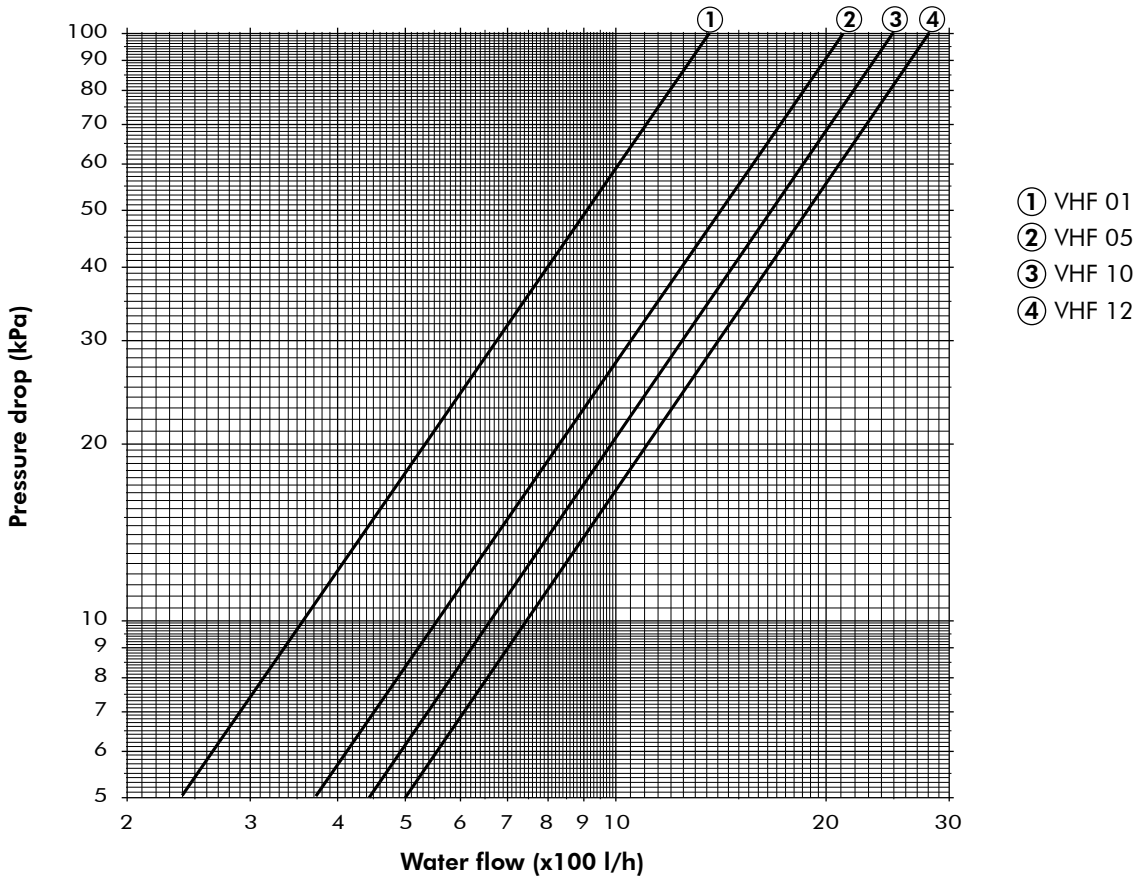
Heating Capacities - VHF 12 - 2-pipe system

Fan speed				V1	V2	V3	V4	V5
Air flow (m ³ /h)				705	925	1105	1270	1450
80/60 °C	19 °C	PC	W	11989	15454	18449	21051	24034
	20 °C	PC	W	11769	15190	18129	20711	23610
	21 °C	PC	W	11560	14917	17806	20316	23195
70/50 °C	19 °C	PC	W	9381	12101	14488	16537	18886
	20 °C	PC	W	9147	11798	14129	16131	18428
	21 °C	PC	W	8913	11498	13771	15721	17967
50/40 °C	19 °C	PC	W	6246	8047	9601	10949	12495
	20 °C	PC	W	6038	7780	9291	10584	12078
	21 °C	PC	W	5824	7512	8964	10222	11664

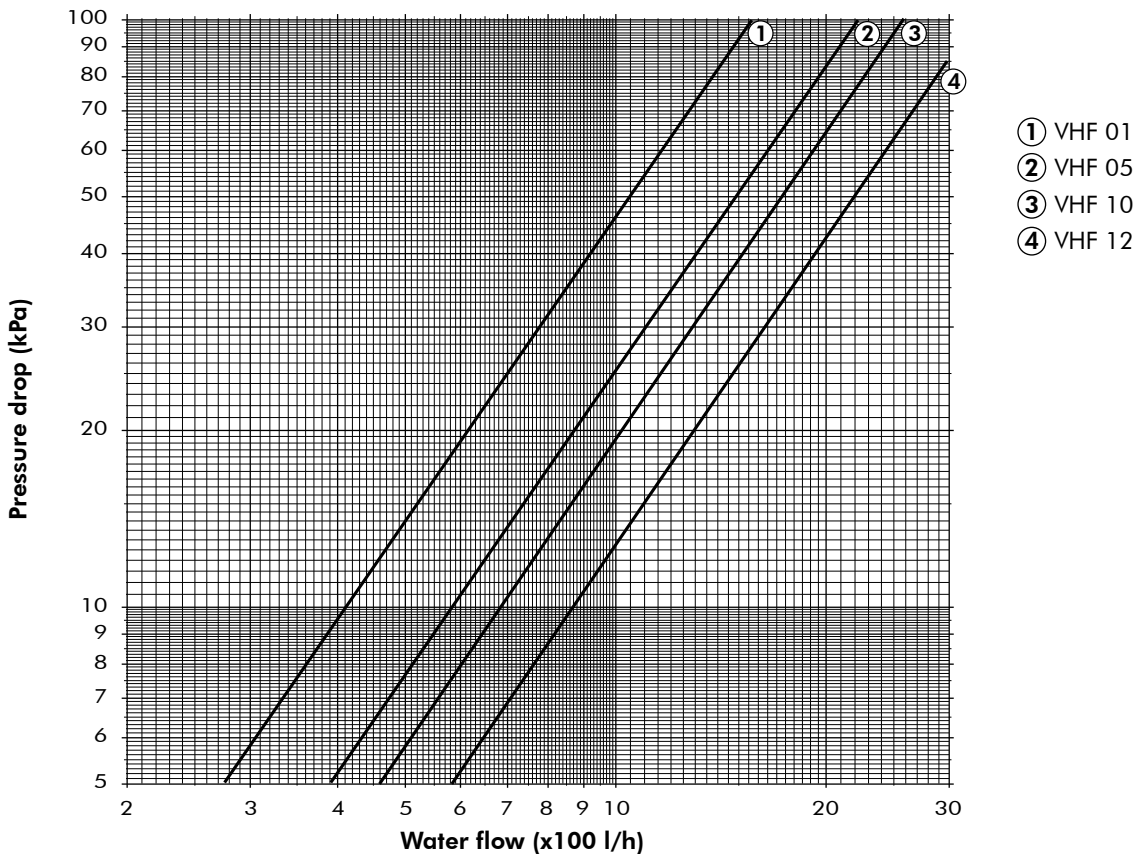
Heating Capacities - VHF 12 - 4-pipe system

Fan speed				V1	V2	V3	V4	V5
Air flow (m ³ /h)				705	925	1105	1270	1450
80/60 °C	19 °C	PC	W	5169	6432	7505	8422	9441
	20 °C	PC	W	5060	6297	7346	8243	9241
	21 °C	PC	W	4951	6161	7188	8064	9039
70/50 °C	19 °C	PC	W	4058	5071	5922	6639	7437
	20 °C	PC	W	3945	4932	5763	6461	7237
	21 °C	PC	W	3833	4791	5602	6280	7036
50/40 °C	19 °C	PC	W	2593	3240	3786	4245	4758
	20 °C	PC	W	2482	3102	3627	4070	4559
	21 °C	PC	W	2372	2965	3471	3892	4360

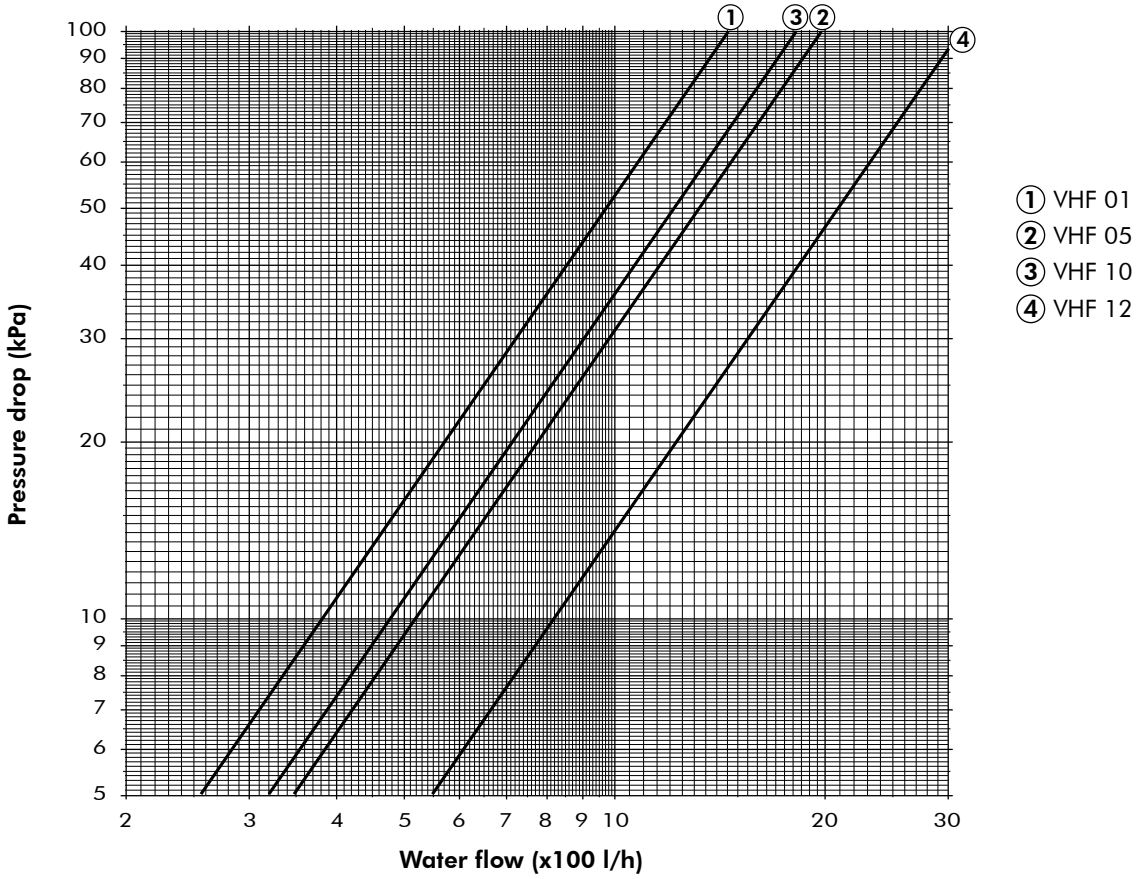
Water Pressure Drops - Cooling Mode - 2-pipe system



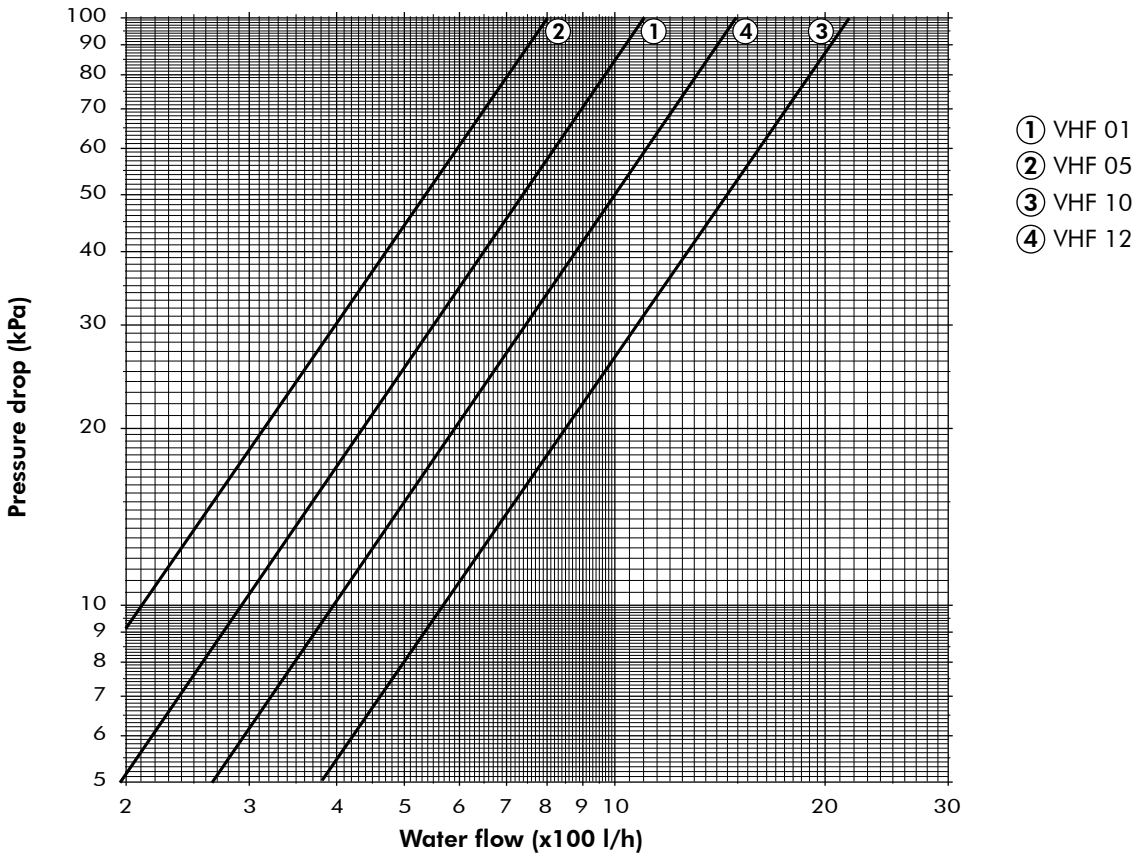
Water Pressure Drops - Heating Mode - 2-pipe system



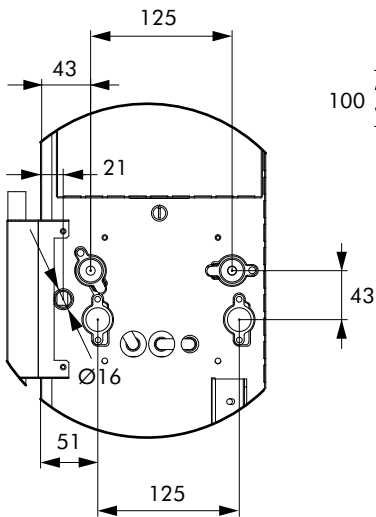
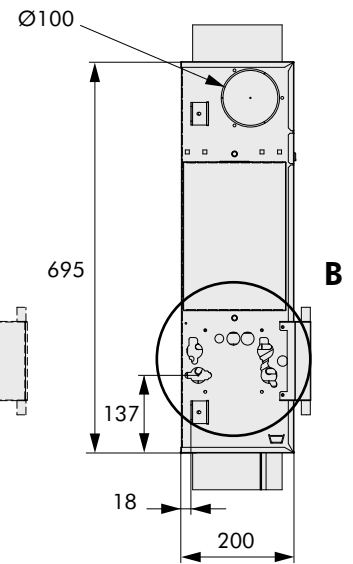
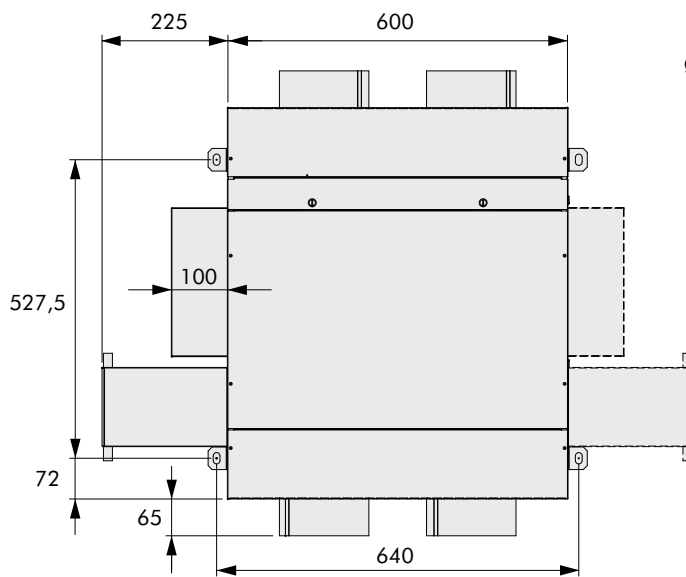
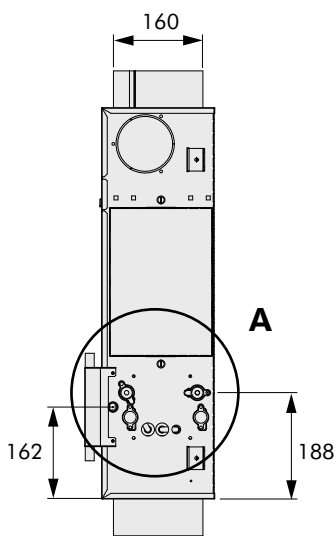
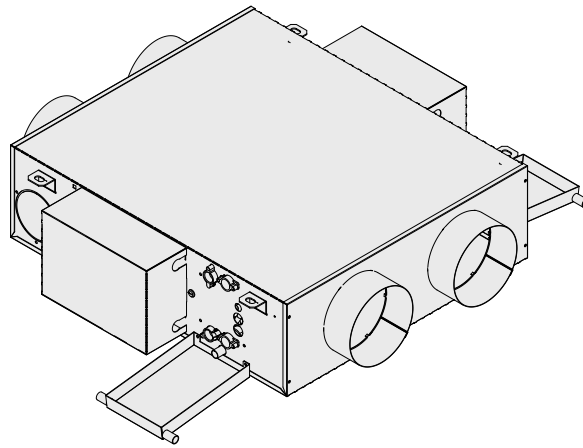
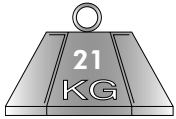
Water Pressure Drops - Cooling Mode - 4-pipe system



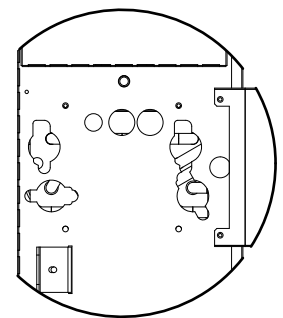
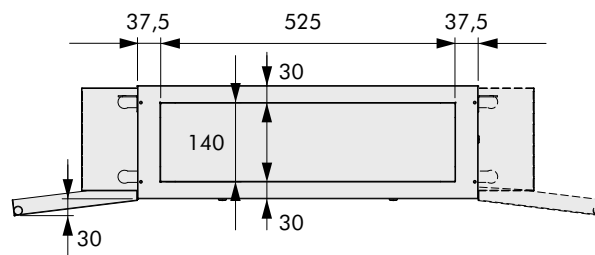
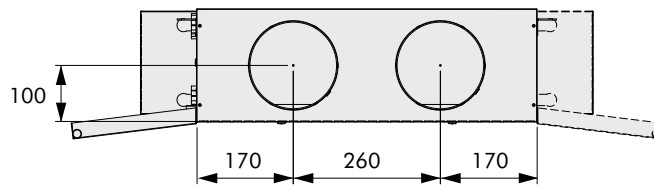
Water Pressure Drops - Heating Mode - 4-pipe system



Dimensional Data - VHF 01



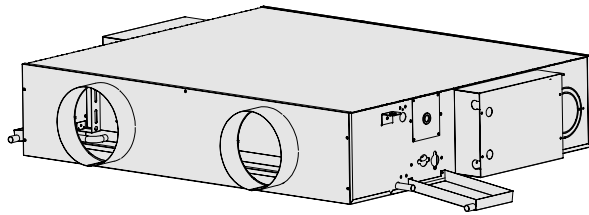
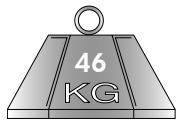
Detail A
VHF 4-pipe



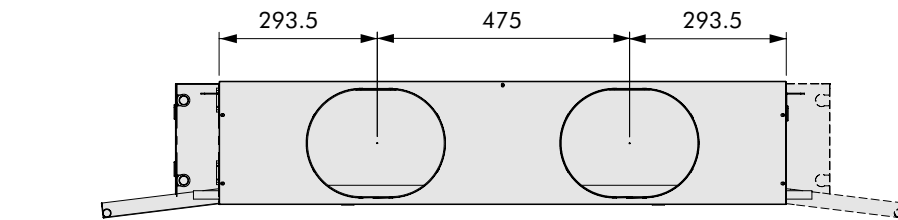
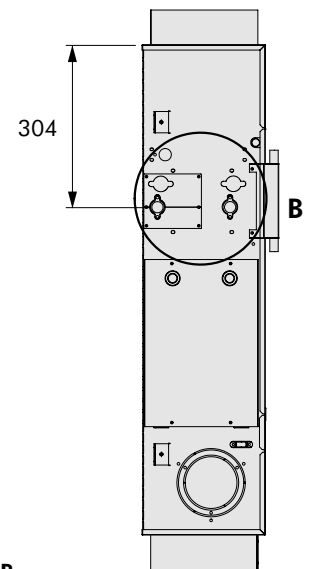
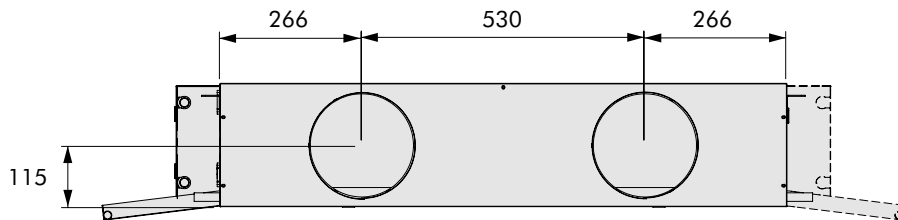
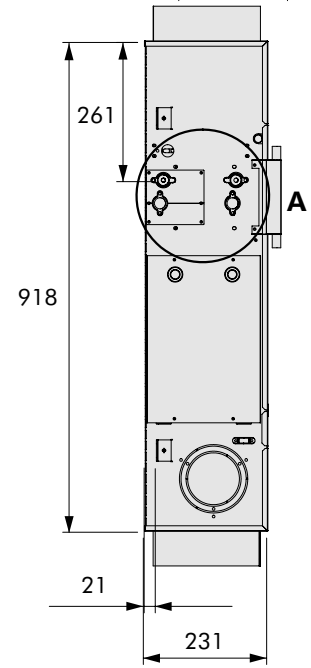
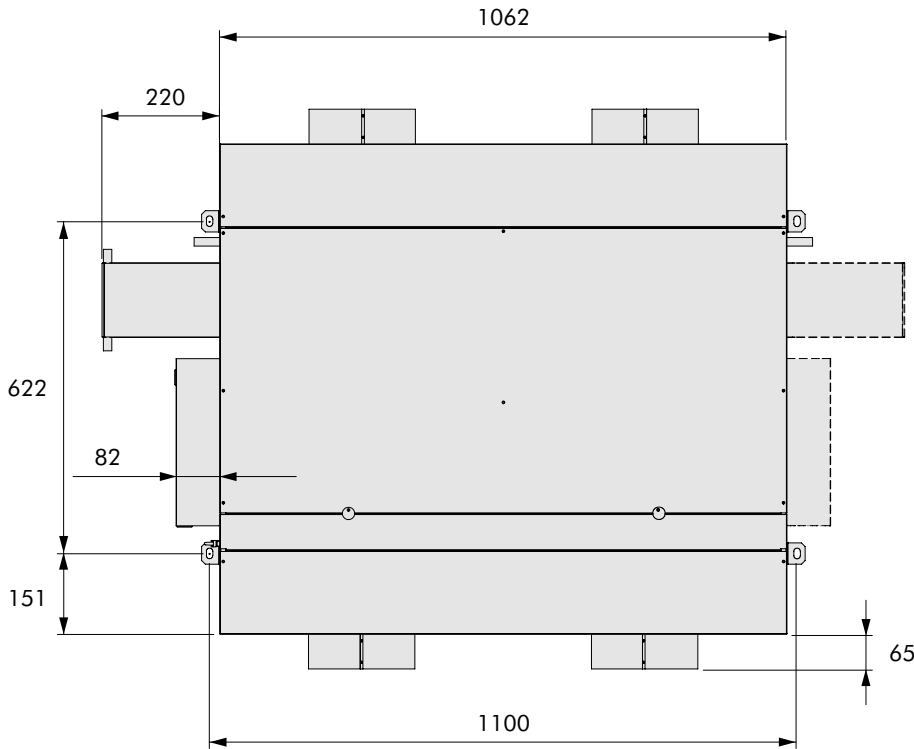
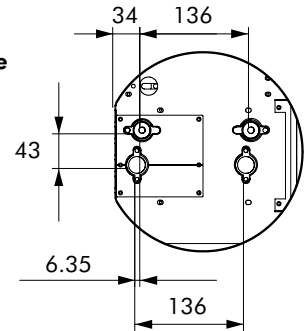
Detail B
VHF 2-pipe

Note : The weight is given for APSA version in operation without accessory, nor option.

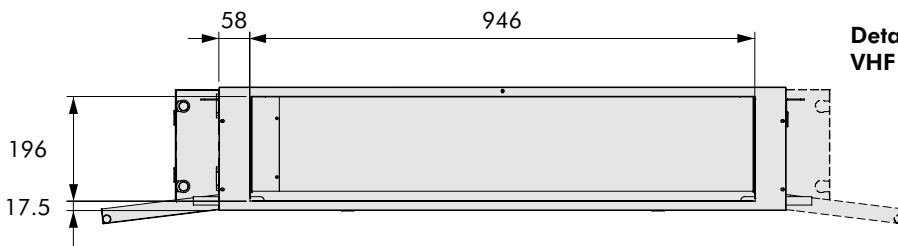
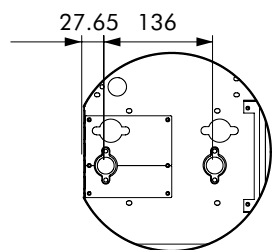
Dimensional Data - VHF 05



Detail A
VHF 4-pipe

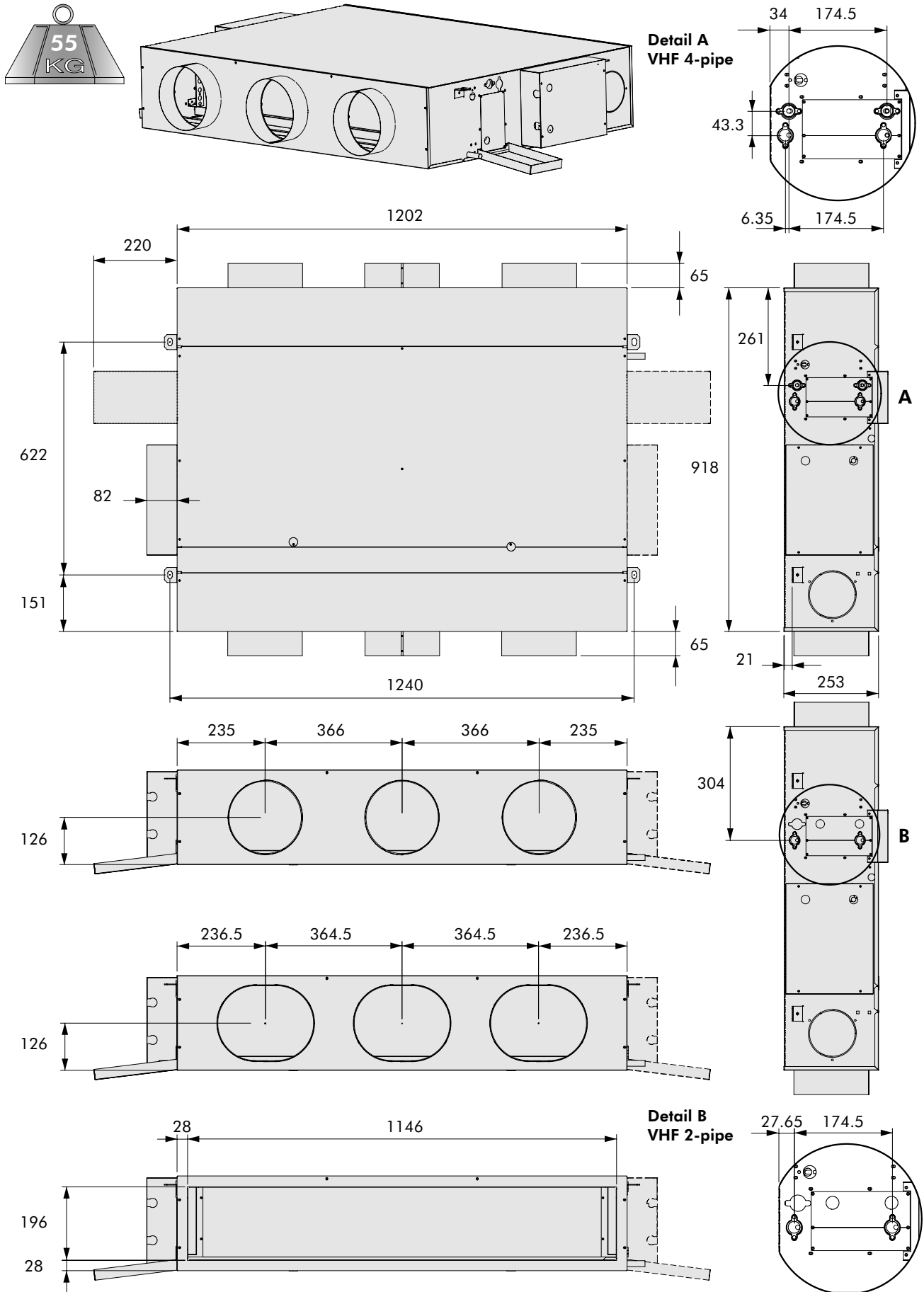


Detail B
VHF 2-pipe



Note : The weight is given for APSA version in operation without accessory, nor option.

Dimensional Data - VHF 10

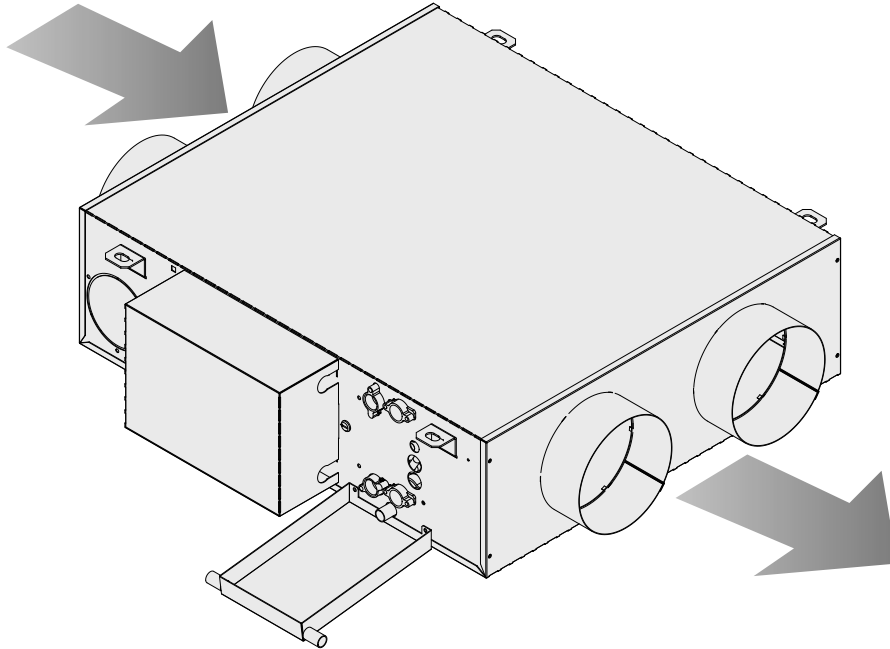


Note : The weight is given for APSA version in operation without accessory, nor option.

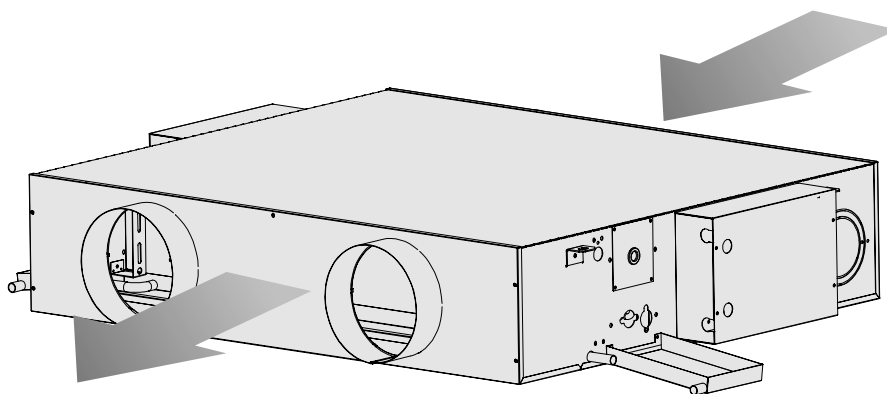
Definition of the Service Sides

The service side is determined by coil connection side when observer is looking at the unit from the discharge side.

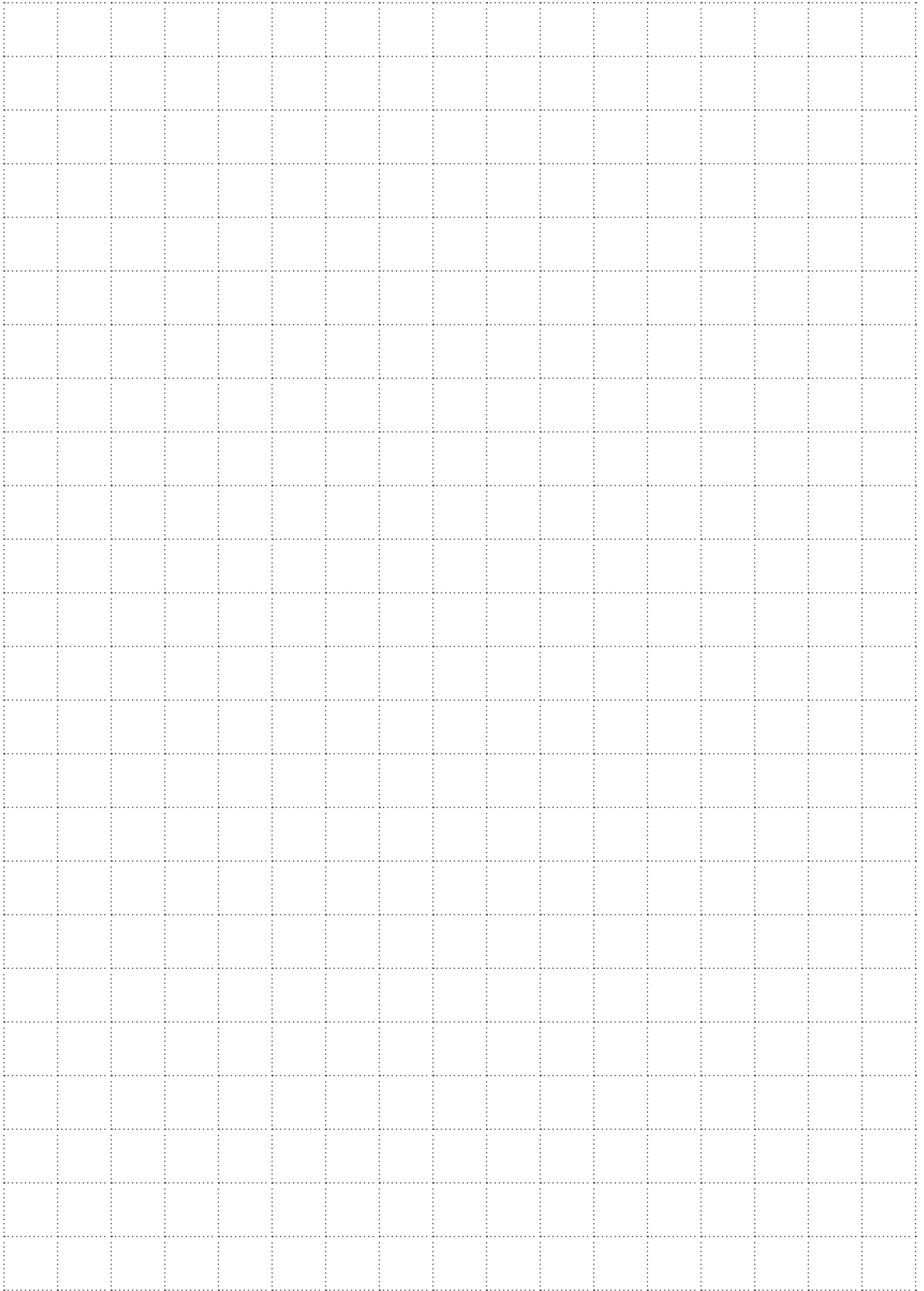
LEFT-HAND service side



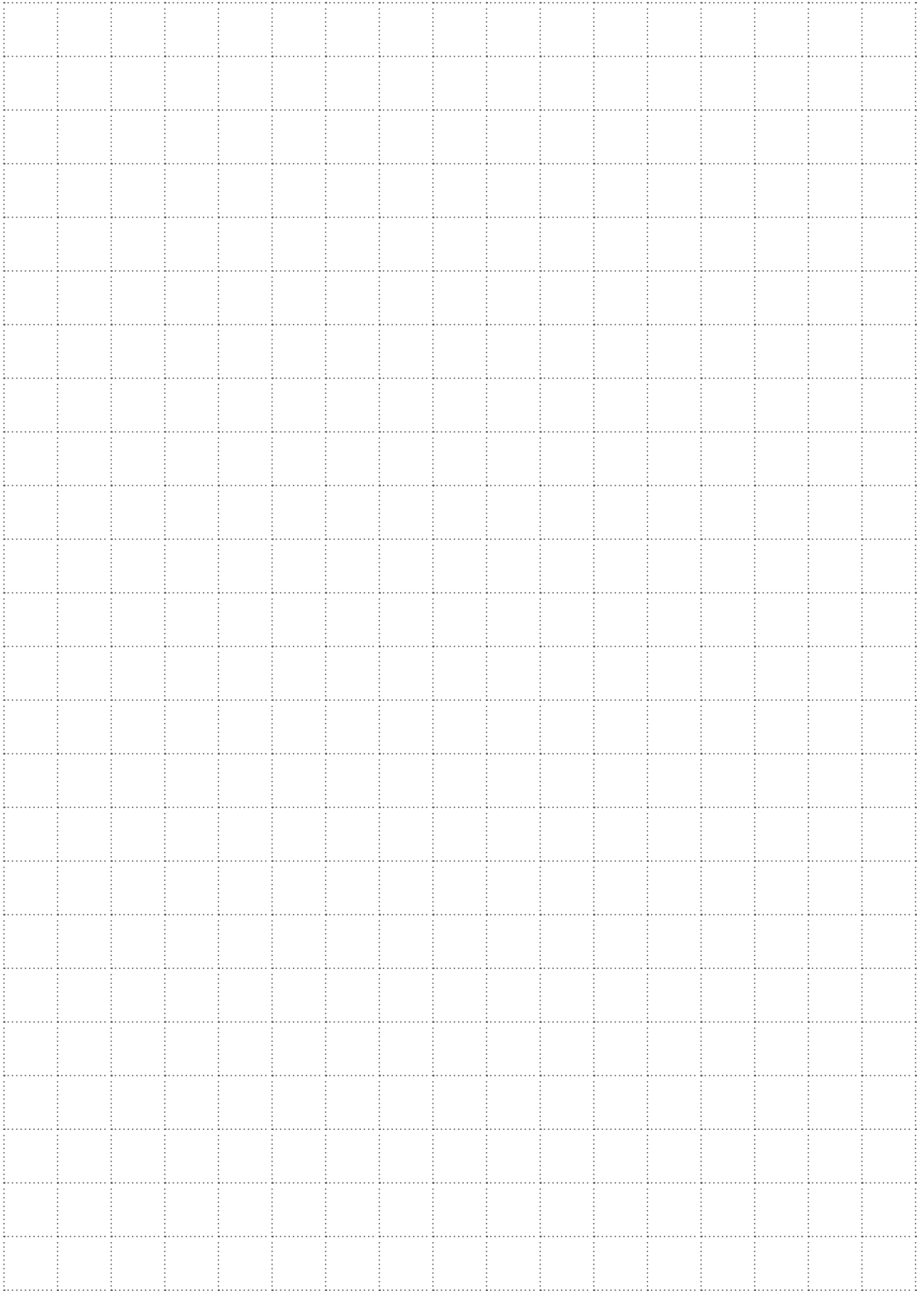
RIGHT-HAND service side



Notes



Notes



Wesper[®]

As part of our ongoing product improvement programme, our products are subject to change without prior notice. Non contractual photos.



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