

Gelijkwaardigheidsverklaring

Opwekrendement, energiefractie, hulpenergie ruimteverwarming

Opwekrendement warm tapwater

t.b.v. NTA 8800:2020 + A1:2020

Fabrikant : Itho Daalderop
Adres : Admiraal de Ruiterstraat 2
3115 HB Schiedam
Warmtepomp type : Vincent V45-combi
warmtapwatervat : WPV 150L en WPV 200L
Versie : 06-05-2022

Voor de functies ruimteverwarming en warmtapwaterbereiding is het opwekrendement bepaald van de warmtepomp type Vincent V45-Combi voor het gebruik in NTA 8800:2020 + A1:2020

Voor het rendement ruimteverwarming, en de hulpenergie ruimteverwarming is bijlage Q gebruikt van de NTA 8800:2020 + A1:2020 ter vervanging van forfaitaire waarden.

Ruimteverwarming

De gegeven waarden mogen worden gebruikt in plaats van de forfaitaire waarden voor:

- Opwekrendement $\eta_{H;gen;hp;si}$ ter vervanging van $COP_{gi;mi}$ verwarming zijn bepaald cf paragraaf 9.6.3.2 (methode 1)
- De energiefractie $F_{H;ge;si;gpref}$ conform paragraaf 9.6.1.
- Hulpenergie verwarming: $W_{H;aux;hp;an}$ conform 9.2.4

Warmtapwaterbereiding

De gegeven waarden, bepaald bij de profielen M en L mogen worden gebruikt in plaats van de forfaitaire waarden voor:

- Het dagelijks energie gebruik $E_{w;gen;in;test}$
- De praktijk correctie factor $f_{prac;gi}$

Ter informatie

- Het opwekrendement $\eta_{w;gen;gi;prac}$ cf 13.8.4 voor warm tapwater

Koeling

Het toestel is voorzien van een koelfunctie.

hiervoor kan gebruik worden gemaakt van een Forfaitaire waardering.

TO-juli hoeft niet te worden bepaald

Deze verklaring is geldig, totdat de onderliggende norm wordt gewijzigd of het betreffende apparaat wordt aangepast. Onderliggende metingen zijn door Kiwa Apeldoorn gedaan.

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Entry Technology

Elbert Stoffer (innovatie manager)
Itho Daalderop

Opwekrendement $\eta_{H;gen;hp;si}$	[--],
Energiefractie $F_{H;gen;si;gpref}$	[--]
Hulpenergie $W_{H;aux}$	[kWh/jr]

In de tabellen staat voor een warmtepomp type Vincent V45-Combi met een boilervat type WPV 150L of WPV 200L, het opwekrendement $\eta_{H;gen;hp;si}$ [--], de energiefractie $F_{H;gen;si;gpref}$ [--], en de hulpenergie $W_{H;aux}$ [kWh/jr] voor ruimteverwarming bepaald, afhankelijk van:

- Hoogte van het energie gebruik van de woning,
 - o Laag energiegebruik, WLE, $Q_{H;nd}/A_{g;tot} \leq 1,67$ [kWh/m²]
 - o Hoog energiegebruik, WHE, $Q_{H;nd}/A_{g;tot} > 1,67$ [kWh/m²]
- De warmtebehoefte van de woning $Q_{H;dis;nren}$ [kWh/jr]
- De ontwerp aanvoertemperatuur na het verwarmingssysteem Θ_{sup} [°C]

De hier vermelde waarden voor het opwekrendement voor verwarming, zijn bepaald volgens NTA8800 bijlage Q, en mogen worden gebruikt als vervangende waarde zoals die in tabel 9.27 zijn gegeven. Tussentijdse waarden mogen worden geïnterpoleerd.

Uitgangspunt

Lucht/water warmtepomp werkend buitenlucht eventueel gemengd met ventilatie-afvoerlucht. De warmtepomp kan bij alle bron- en afgifte temperaturen in bedrijf komen. De bij verwarming wordt alleen ingeschakeld als de warmtepomp de warmtebehoefte niet kan dekken.

Hulpenergie

De hulpenergie is berekend cf NTA8800-2020, inclusief het verbruik van de elektronica gedurende het hele jaar.

Grootheden in de tabellen

$\eta_{H;gen;hp;si}$	[--]	opwekrendement
$F_{H;gen;si;gpref}$	[--]	energiefractie
$W_{H;aux}$	[kWh/jr]	hulpenergie
$Q_{H;nd}$	[kWh/jr]	warmtebehoefte woning
$A_{g;tot}$	[m ²]	gebruiksoppervlakte van de woning
Θ_{sup}	[°C]	ontwerp aanvoertemperatuur
$Q_{H;hp;in}$ (incl f-prac)	[kWh/jr]	duurzame energie bijdrage aan BENG-3

θsup ≤ 30 °C									
QH;dis / Ag;tot ≤ 41,67 kWh/m² (WLE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	ηH;gen;hp;si [-]	4,218	4,218	4,211	3,950	3,363	3,123	3,026	2,961
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,946	0,815	0,695	0,600
	WH;aux [kWh-elek/jr]	64	67	73	87	120	144	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	425	850	1701	3401	6464	8405	9607	10390
10	ηH;gen;hp;si [-]	4,263	4,263	4,256	3,994	3,413	3,153	3,050	2,988
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,949	0,821	0,701	0,606
	WH;aux [kWh-elek/jr]	64	67	73	87	120	144	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	392	785	1569	3138	6001	7867	9030	9792
20	ηH;gen;hp;si [-]	4,308	4,308	4,302	4,038	3,455	3,183	3,071	3,014
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,953	0,827	0,708	0,611
	WH;aux [kWh-elek/jr]	64	67	73	87	119	144	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	360	721	1441	2882	5548	7334	8456	9194
30	ηH;gen;hp;si [-]	4,353	4,353	4,347	4,082	3,496	3,212	3,093	3,040
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,956	0,833	0,714	0,617
	WH;aux [kWh-elek/jr]	64	67	73	87	119	144	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	329	659	1317	2635	5103	6805	7886	8599
40	ηH;gen;hp;si [-]	4,398	4,398	4,392	4,125	3,536	3,240	3,115	3,063
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,960	0,840	0,720	0,623
	WH;aux [kWh-elek/jr]	63	67	73	86	118	143	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	299	598	1197	2394	4665	6280	7318	8006
50	ηH;gen;hp;si [-]	4,443	4,443	4,437	4,167	3,574	3,275	3,140	3,085
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,964	0,845	0,727	0,629
	WH;aux [kWh-elek/jr]	63	66	72	86	118	143	159	169
	QH;hp;in (incl f-prac) [kWh/jr]	270	540	1080	2160	4236	5753	6752	7416
70	ηH;gen;hp;si [-]	4,531	4,531	4,525	4,250	3,670	3,342	3,201	3,129
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,969	0,856	0,738	0,640
	WH;aux [kWh-elek/jr]	63	66	72	86	117	142	159	170
	QH;hp;in (incl f-prac) [kWh/jr]	214	429	857	1714	3399	4721	5623	6245
100	ηH;gen;hp;si [-]	4,659	4,659	4,654	4,373	3,786	3,437	3,290	3,195
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,977	0,872	0,755	0,657
	WH;aux [kWh-elek/jr]	63	66	72	85	116	142	158	170
	QH;hp;in (incl f-prac) [kWh/jr]	141	282	564	1128	2256	3267	4015	4562
150	ηH;gen;hp;si [-]	4,864	4,864	4,859	4,574	3,996	3,602	3,431	3,343
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,986	0,897	0,783	0,683
	WH;aux [kWh-elek/jr]	63	66	71	84	113	140	158	170
	QH;hp;in (incl f-prac) [kWh/jr]	62	123	246	493	985	1478	1943	2322

30 °C < θsup ≤ 35 °C									
QH;dis / Ag;tot ≤ 41,67 kWh/m² (WLE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	ηH;gen;hp;si [-]	4,058	4,058	4,051	3,808	3,272	3,052	2,964	2,904
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,946	0,815	0,695	0,600
	WH;aux [kWh-elek]	64	67	74	88	122	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	417	834	1667	3333	6343	8260	9448	10230
10	ηH;gen;hp;si [-]	4,101	4,101	4,095	3,851	3,318	3,081	2,987	2,931
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,949	0,821	0,702	0,606
	WH;aux [kWh-elek]	64	67	73	88	122	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	384	768	1536	3071	5882	7722	8872	9627
20	ηH;gen;hp;si [-]	4,145	4,145	4,139	3,893	3,358	3,110	3,009	2,956
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,953	0,828	0,708	0,612
	WH;aux [kWh-elek]	64	67	73	88	121	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	352	704	1409	2817	5429	7189	8298	9029
30	ηH;gen;hp;si [-]	4,188	4,188	4,182	3,936	3,397	3,139	3,030	2,982
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,957	0,834	0,714	0,617
	WH;aux [kWh-elek]	64	67	73	88	121	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	321	643	1285	2571	4985	6661	7728	8434
40	ηH;gen;hp;si [-]	4,231	4,231	4,225	3,977	3,435	3,167	3,052	3,005
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,960	0,840	0,721	0,623
	WH;aux [kWh-elek]	64	67	73	87	120	145	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	291	583	1165	2331	4549	6136	7161	7841
50	ηH;gen;hp;si [-]	4,274	4,274	4,268	4,018	3,472	3,201	3,077	3,026
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,964	0,845	0,727	0,629
	WH;aux [kWh-elek]	64	67	73	87	120	145	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	262	525	1049	2098	4121	5610	6595	7251
70	ηH;gen;hp;si [-]	4,358	4,358	4,353	4,099	3,564	3,265	3,136	3,070
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,969	0,856	0,738	0,640
	WH;aux [kWh-elek]	64	67	73	86	119	144	161	172
	QH;hp;in (incl f-prac) [kWh/jr]	207	414	828	1656	3288	4581	5469	6083
100	ηH;gen;hp;si [-]	4,482	4,482	4,477	4,218	3,675	3,358	3,223	3,136
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,977	0,872	0,755	0,658
	WH;aux [kWh-elek]	63	66	72	86	117	144	161	172
	QH;hp;in (incl f-prac) [kWh/jr]	135	271	541	1082	2164	3145	3877	4416
150	ηH;gen;hp;si [-]	4,679	4,679	4,675	4,414	3,874	3,517	3,361	3,279
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,986	0,897	0,783	0,683
	WH;aux [kWh-elek]	63	66	72	85	115	142	160	172
	QH;hp;in (incl f-prac) [kWh/jr]	59	117	234	469	937	1406	1853	2223

35 °C < θ_{sup} =< 40 °C									
QH;dis / Ag;tot =< 41,67 kWh/m ² (WLE)									
Ventilatie-debiet [dm ³ /s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H;gen;hp;si$ [-]	3,834	3,834	3,829	3,622	3,170	2,981	2,905	2,852
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,946	0,815	0,696	0,601
	$WH;aux$ [kWh-elek]	64	67	74	90	124	148	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	408	815	1630	3259	6215	8113	9294	10070
10	$\eta H;gen;hp;si$ [-]	3,875	3,875	3,871	3,663	3,213	3,009	2,928	2,878
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,950	0,822	0,702	0,606
	$WH;aux$ [kWh-elek]	64	67	74	90	124	148	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	375	750	1500	2999	5756	7577	8719	9470
20	$\eta H;gen;hp;si$ [-]	3,917	3,917	3,912	3,704	3,251	3,038	2,949	2,904
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,953	0,828	0,709	0,612
	$WH;aux$ [kWh-elek]	64	67	74	89	123	148	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	343	687	1374	2747	5306	7045	8147	8874
30	$\eta H;gen;hp;si$ [-]	3,958	3,958	3,953	3,744	3,288	3,067	2,971	2,929
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,957	0,834	0,715	0,618
	$WH;aux$ [kWh-elek]	64	67	74	89	123	148	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	313	626	1251	2503	4864	6519	7578	8280
40	$\eta H;gen;hp;si$ [-]	3,999	3,999	3,994	3,784	3,325	3,094	2,993	2,951
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,961	0,840	0,721	0,624
	$WH;aux$ [kWh-elek]	64	67	74	89	122	147	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	283	566	1132	2265	4430	5995	7012	7688
50	$\eta H;gen;hp;si$ [-]	4,039	4,039	4,035	3,823	3,360	3,127	3,018	2,973
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,964	0,846	0,727	0,629
	$WH;aux$ [kWh-elek]	64	67	74	88	122	147	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	254	508	1017	2034	4004	5471	6446	7099
70	$\eta H;gen;hp;si$ [-]	4,119	4,119	4,115	3,901	3,447	3,190	3,076	3,017
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,970	0,856	0,739	0,641
	$WH;aux$ [kWh-elek]	64	67	73	88	121	146	163	174
	$QH;hp;in$ (incl f-prac) [kWh/jr]	200	400	799	1599	3179	4449	5328	5938
100	$\eta H;gen;hp;si$ [-]	4,235	4,235	4,232	4,016	3,552	3,280	3,161	3,083
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,977	0,872	0,755	0,658
	$WH;aux$ [kWh-elek]	64	67	73	87	119	146	163	174
	$QH;hp;in$ (incl f-prac) [kWh/jr]	130	260	520	1040	2079	3035	3758	4292
150	$\eta H;gen;hp;si$ [-]	4,423	4,423	4,420	4,206	3,742	3,436	3,298	3,225
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,898	0,783	0,684
	$WH;aux$ [kWh-elek]	63	66	73	86	117	144	162	174
	$QH;hp;in$ (incl f-prac) [kWh/jr]	57	113	227	454	907	1361	1798	2162

40 °C < θ_{sup} =< 45 °C									
QH;dis / Ag;tot =< 41,67 kWh/m ² (WLE)									
Ventilatie-debiet [dm ³ /s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H;gen;hp;si$ [-]	3,602	3,602	3,599	3,433	3,068	2,909	2,845	2,799
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,947	0,816	0,697	0,601
	$WH;aux$ [kWh-elek]	64	68	75	92	126	150	165	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	397	795	1590	3178	6075	7953	9127	9898
10	$\eta H;gen;hp;si$ [-]	3,641	3,641	3,639	3,471	3,107	2,937	2,868	2,825
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,950	0,822	0,703	0,607
	$WH;aux$ [kWh-elek]	64	68	75	91	126	150	165	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	365	730	1461	2921	5619	7419	8553	9301
20	$\eta H;gen;hp;si$ [-]	3,681	3,681	3,678	3,510	3,143	2,966	2,890	2,850
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,954	0,829	0,709	0,613
	$WH;aux$ [kWh-elek]	64	68	75	91	125	150	165	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	334	668	1336	2671	5171	6889	7982	8706
30	$\eta H;gen;hp;si$ [-]	3,719	3,719	3,717	3,548	3,178	2,994	2,911	2,876
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,957	0,835	0,716	0,618
	$WH;aux$ [kWh-elek]	64	68	75	91	125	150	165	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	304	607	1214	2429	4732	6364	7415	8113
40	$\eta H;gen;hp;si$ [-]	3,758	3,758	3,755	3,586	3,213	3,021	2,933	2,898
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,961	0,841	0,722	0,624
	$WH;aux$ [kWh-elek]	64	68	75	90	124	150	166	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	274	548	1096	2193	4300	5842	6851	7523
50	$\eta H;gen;hp;si$ [-]	3,796	3,796	3,793	3,623	3,247	3,053	2,959	2,920
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,965	0,846	0,728	0,630
	$WH;aux$ [kWh-elek]	64	67	75	90	124	149	166	176
	$QH;hp;in$ (incl f-prac) [kWh/jr]	246	491	982	1965	3878	5321	6287	6937
70	$\eta H;gen;hp;si$ [-]	3,870	3,870	3,868	3,699	3,328	3,114	3,016	2,964
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,970	0,857	0,739	0,641
	$WH;aux$ [kWh-elek]	64	67	74	89	123	149	165	176
	$QH;hp;in$ (incl f-prac) [kWh/jr]	192	385	769	1539	3064	4310	5179	5785
100	$\eta H;gen;hp;si$ [-]	3,980	3,980	3,978	3,810	3,428	3,202	3,100	3,030
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,978	0,873	0,756	0,659
	$WH;aux$ [kWh-elek]	64	67	74	88	121	148	165	177
	$QH;hp;in$ (incl f-prac) [kWh/jr]	125	249	498	997	1994	2924	3636	4165
150	$\eta H;gen;hp;si$ [-]	4,156	4,156	4,156	3,994	3,608	3,354	3,235	3,170
	$FH;gen;si;gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,898	0,784	0,684
	$WH;aux$ [kWh-elek]	64	67	73	87	119	146	164	176
	$QH;hp;in$ (incl f-prac) [kWh/jr]	55	110	220	440	879	1319	1745	2103

45 °C < θ_{sup} =< 50 °C									
QH;dis / Ag;tot =< 41,67 kWh/m ² (WLE)									
Ventilatie-debiet [dm ³ /s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	3,462	3,462	3,460	3,306	2,979	2,838	2,782	2,739
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,947	0,816	0,697	0,601
	$WH; aux$ [kWh-elek]	64	68	76	93	128	153	167	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	387	774	1548	3095	5925	7770	8927	9688
10	$\eta H; gen; hp; si$ [-]	3,500	3,500	3,498	3,343	3,015	2,866	2,804	2,765
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,950	0,823	0,703	0,607
	$WH; aux$ [kWh-elek]	64	68	76	92	128	152	168	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	355	710	1419	2839	5470	7237	8353	9090
20	$\eta H; gen; hp; si$ [-]	3,538	3,538	3,536	3,380	3,049	2,893	2,825	2,790
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,954	0,829	0,709	0,613
	$WH; aux$ [kWh-elek]	64	68	76	92	127	152	168	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	324	648	1295	2590	5023	6707	7783	8495
30	$\eta H; gen; hp; si$ [-]	3,575	3,575	3,573	3,417	3,083	2,921	2,847	2,815
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,958	0,835	0,716	0,618
	$WH; aux$ [kWh-elek]	64	68	75	92	127	152	168	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	294	587	1174	2349	4585	6183	7216	7903
40	$\eta H; gen; hp; si$ [-]	3,612	3,612	3,610	3,454	3,116	2,947	2,868	2,836
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,961	0,841	0,722	0,624
	$WH; aux$ [kWh-elek]	64	68	75	91	126	152	168	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	264	529	1057	2115	4155	5661	6652	7314
50	$\eta H; gen; hp; si$ [-]	3,648	3,648	3,647	3,490	3,148	2,977	2,893	2,858
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,965	0,847	0,728	0,630
	$WH; aux$ [kWh-elek]	64	68	75	91	126	152	168	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	236	472	945	1889	3735	5143	6090	6729
70	$\eta H; gen; hp; si$ [-]	3,720	3,720	3,718	3,563	3,224	3,036	2,948	2,901
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,970	0,857	0,739	0,641
	$WH; aux$ [kWh-elek]	64	68	75	90	125	151	168	179
	$QH; hp; in$ (incl f-prac) [kWh/jr]	184	367	735	1470	2930	4139	4988	5583
100	$\eta H; gen; hp; si$ [-]	3,824	3,824	3,824	3,672	3,320	3,121	3,029	2,967
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,978	0,873	0,756	0,659
	$WH; aux$ [kWh-elek]	64	67	74	90	123	150	167	179
	$QH; hp; in$ (incl f-prac) [kWh/jr]	118	236	472	945	1889	2781	3472	3989
150	$\eta H; gen; hp; si$ [-]	3,994	3,994	3,995	3,852	3,489	3,268	3,161	3,102
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,898	0,784	0,684
	$WH; aux$ [kWh-elek]	64	67	74	88	121	149	166	178
	$QH; hp; in$ (incl f-prac) [kWh/jr]	52	104	207	414	828	1242	1646	1992

50 °C < θ_{sup} =< 55 °C									
QH;dis / Ag;tot =< 41,67 kWh/m ² (WLE)									
Ventilatie-debiet [dm ³ /s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	3,213	3,213	3,215	3,108	2,874	2,765	2,721	2,686
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,947	0,817	0,697	0,602
	$WH; aux$ [kWh-elek]	65	69	77	95	131	155	170	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	375	750	1499	2998	5759	7582	8729	9487
10	$\eta H; gen; hp; si$ [-]	3,249	3,249	3,251	3,143	2,908	2,793	2,743	2,711
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,951	0,823	0,704	0,607
	$WH; aux$ [kWh-elek]	65	69	77	94	130	155	170	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	343	686	1373	2745	5308	7051	8158	8891
20	$\eta H; gen; hp; si$ [-]	3,284	3,284	3,286	3,178	2,940	2,820	2,765	2,736
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,954	0,830	0,710	0,613
	$WH; aux$ [kWh-elek]	65	69	77	94	130	155	170	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	312	625	1250	2499	4864	6524	7590	8298
30	$\eta H; gen; hp; si$ [-]	3,319	3,319	3,321	3,213	2,971	2,847	2,787	2,761
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,958	0,836	0,716	0,619
	$WH; aux$ [kWh-elek]	64	68	77	94	129	155	170	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	283	565	1131	2261	4429	6002	7025	7708
40	$\eta H; gen; hp; si$ [-]	3,354	3,354	3,355	3,248	3,002	2,873	2,808	2,782
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,962	0,842	0,723	0,625
	$WH; aux$ [kWh-elek]	64	68	76	93	129	154	170	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	254	508	1016	2031	4004	5484	6465	7123
50	$\eta H; gen; hp; si$ [-]	3,388	3,388	3,389	3,283	3,033	2,902	2,833	2,804
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,965	0,847	0,729	0,630
	$WH; aux$ [kWh-elek]	64	68	76	93	128	154	170	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	226	453	906	1812	3591	4972	5909	6543
70	$\eta H; gen; hp; si$ [-]	3,454	3,454	3,456	3,353	3,103	2,959	2,887	2,847
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,970	0,858	0,740	0,642
	$WH; aux$ [kWh-elek]	64	68	76	92	127	153	170	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	176	351	702	1405	2803	3984	4823	5413
100	$\eta H; gen; hp; si$ [-]	3,550	3,550	3,554	3,459	3,194	3,042	2,967	2,913
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,978	0,874	0,757	0,659
	$WH; aux$ [kWh-elek]	64	68	75	91	126	152	169	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	112	225	450	900	1800	2661	3342	3853
150	$\eta H; gen; hp; si$ [-]	3,709	3,709	3,714	3,633	3,352	3,185	3,097	3,047
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,899	0,785	0,685
	$WH; aux$ [kWh-elek]	64	68	75	90	123	151	169	180
	$QH; hp; in$ (incl f-prac) [kWh/jr]	50	100	199	399	797	1196	1587	1927

θsup ≤ 30 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	ηH;gen;hp;si [-]	4,308	4,308	4,308	4,170	3,629	3,272	3,113	3,010
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,983	0,896	0,787	0,690
	WH;aux [kWh-elek/jr]	64	67	73	86	118	148	168	183
	QH;hp;in (incl f-prac) [kWh/jr]	430	859	1718	3437	6773	9306	10960	12050
10	ηH;gen;hp;si [-]	4,351	4,351	4,351	4,212	3,676	3,303	3,139	3,038
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,985	0,901	0,794	0,696
	WH;aux [kWh-elek/jr]	64	67	73	86	118	148	168	183
	QH;hp;in (incl f-prac) [kWh/jr]	399	798	1596	3192	6308	8733	10340	11400
20	ηH;gen;hp;si [-]	4,394	4,394	4,394	4,254	3,721	3,332	3,164	3,066
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,987	0,906	0,800	0,702
	WH;aux [kWh-elek/jr]	63	67	73	86	117	148	168	183
	QH;hp;in (incl f-prac) [kWh/jr]	369	739	1477	2955	5853	8166	9722	10750
30	ηH;gen;hp;si [-]	4,437	4,437	4,437	4,295	3,760	3,361	3,196	3,093
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,988	0,912	0,806	0,707
	WH;aux [kWh-elek/jr]	63	66	72	85	117	147	168	183
	QH;hp;in (incl f-prac) [kWh/jr]	340	681	1362	2724	5409	7606	9102	10100
40	ηH;gen;hp;si [-]	4,479	4,479	4,479	4,336	3,797	3,391	3,225	3,120
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,990	0,917	0,811	0,713
	WH;aux [kWh-elek/jr]	63	66	72	85	116	147	168	182
	QH;hp;in (incl f-prac) [kWh/jr]	312	625	1250	2500	4974	7052	8485	9457
50	ηH;gen;hp;si [-]	4,522	4,522	4,522	4,378	3,840	3,432	3,253	3,147
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,991	0,921	0,817	0,719
	WH;aux [kWh-elek/jr]	63	66	72	85	116	146	168	182
	QH;hp;in (incl f-prac) [kWh/jr]	285	570	1141	2281	4547	6497	7873	8817
70	ηH;gen;hp;si [-]	4,605	4,605	4,605	4,459	3,924	3,507	3,308	3,199
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,993	0,930	0,828	0,730
	WH;aux [kWh-elek/jr]	63	66	72	84	115	145	167	182
	QH;hp;in (incl f-prac) [kWh/jr]	233	466	932	1864	3726	5413	6666	7548
100	ηH;gen;hp;si [-]	4,727	4,727	4,727	4,580	4,038	3,599	3,389	3,276
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,996	0,943	0,845	0,748
	WH;aux [kWh-elek/jr]	63	66	72	84	113	144	167	182
	QH;hp;in (incl f-prac) [kWh/jr]	164	327	654	1309	2618	3894	4943	5721
150	ηH;gen;hp;si [-]	4,921	4,921	4,921	4,778	4,221	3,781	3,545	3,410
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,998	0,961	0,871	0,775
	WH;aux [kWh-elek/jr]	63	66	71	83	111	142	165	182
	QH;hp;in (incl f-prac) [kWh/jr]	84	168	337	673	1347	2020	2685	3262

30 °C < θsup ≤ 35 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	ηH;gen;hp;si [-]	4,158	4,158	4,158	4,028	3,524	3,197	3,051	2,956
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,983	0,896	0,788	0,690
	WH;aux [kWh-elek]	64	67	73	87	120	150	171	185
	QH;hp;in (incl f-prac) [kWh/jr]	422	844	1687	3374	6653	9154	10790	11870
10	ηH;gen;hp;si [-]	4,200	4,200	4,200	4,069	3,569	3,227	3,076	2,983
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,985	0,901	0,794	0,696
	WH;aux [kWh-elek]	64	67	73	87	119	150	171	185
	QH;hp;in (incl f-prac) [kWh/jr]	391	783	1566	3131	6190	8582	10170	11220
20	ηH;gen;hp;si [-]	4,241	4,241	4,241	4,110	3,611	3,256	3,101	3,010
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,987	0,907	0,800	0,702
	WH;aux [kWh-elek]	64	67	73	86	119	150	171	185
	QH;hp;in (incl f-prac) [kWh/jr]	362	724	1447	2895	5737	8016	9554	10570
30	ηH;gen;hp;si [-]	4,283	4,283	4,283	4,150	3,649	3,284	3,132	3,037
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,989	0,912	0,806	0,708
	WH;aux [kWh-elek]	64	67	73	86	118	149	170	185
	QH;hp;in (incl f-prac) [kWh/jr]	333	667	1332	2665	5294	7457	8934	9924
40	ηH;gen;hp;si [-]	4,324	4,324	4,324	4,190	3,684	3,314	3,160	3,063
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,990	0,917	0,812	0,713
	WH;aux [kWh-elek]	64	67	73	86	118	149	170	185
	QH;hp;in (incl f-prac) [kWh/jr]	305	610	1221	2442	4861	6903	8318	9280
50	ηH;gen;hp;si [-]	4,364	4,364	4,364	4,231	3,725	3,352	3,188	3,089
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,991	0,922	0,817	0,719
	WH;aux [kWh-elek]	64	67	73	86	117	149	170	185
	QH;hp;in (incl f-prac) [kWh/jr]	278	556	1112	2224	4436	6349	7707	8640
70	ηH;gen;hp;si [-]	4,445	4,445	4,445	4,310	3,806	3,424	3,242	3,141
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,993	0,930	0,828	0,731
	WH;aux [kWh-elek]	63	66	72	85	116	147	170	185
	QH;hp;in (incl f-prac) [kWh/jr]	226	453	905	1811	3620	5269	6503	7374
100	ηH;gen;hp;si [-]	4,562	4,562	4,562	4,428	3,915	3,514	3,321	3,216
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,996	0,943	0,845	0,748
	WH;aux [kWh-elek]	63	66	72	85	115	146	169	185
	QH;hp;in (incl f-prac) [kWh/jr]	158	316	632	1265	2529	3767	4796	5563
150	ηH;gen;hp;si [-]	4,750	4,750	4,750	4,620	4,093	3,689	3,473	3,348
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,998	0,961	0,871	0,775
	WH;aux [kWh-elek]	63	66	72	84	113	144	168	184
	QH;hp;in (incl f-prac) [kWh/jr]	81	162	324	648	1296	1944	2587	3152

35 °C < θ_{sup} =< 40 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	3,952	3,952	3,952	3,840	3,406	3,123	2,994	2,909
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,984	0,896	0,788	0,691
	$WH; aux$ [kWh-elek]	64	67	74	88	122	152	173	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	414	827	1655	3310	6532	9006	10630	11710
10	$\eta H; gen; hp; si$ [-]	3,992	3,992	3,992	3,880	3,448	3,152	3,020	2,936
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,985	0,902	0,794	0,697
	$WH; aux$ [kWh-elek]	64	67	74	88	121	152	173	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	384	767	1534	3068	6071	8436	10010	11060
20	$\eta H; gen; hp; si$ [-]	4,032	4,032	4,032	3,920	3,488	3,180	3,044	2,962
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,907	0,801	0,702
	$WH; aux$ [kWh-elek]	64	67	74	88	121	152	173	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	354	708	1417	2834	5620	7872	9400	10410
30	$\eta H; gen; hp; si$ [-]	4,071	4,071	4,071	3,959	3,523	3,208	3,075	2,989
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,989	0,912	0,806	0,708
	$WH; aux$ [kWh-elek]	64	67	74	87	120	152	172	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	326	651	1303	2606	5180	7314	8781	9767
40	$\eta H; gen; hp; si$ [-]	4,110	4,110	4,110	3,998	3,558	3,238	3,102	3,015
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,990	0,918	0,812	0,714
	$WH; aux$ [kWh-elek]	64	67	73	87	120	151	172	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	298	596	1192	2384	4749	6761	8166	9125
50	$\eta H; gen; hp; si$ [-]	4,149	4,149	4,149	4,036	3,597	3,275	3,129	3,041
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,991	0,922	0,818	0,720
	$WH; aux$ [kWh-elek]	64	67	73	87	119	151	172	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	271	542	1084	2168	4326	6210	7556	8486
70	$\eta H; gen; hp; si$ [-]	4,226	4,226	4,226	4,113	3,673	3,344	3,183	3,091
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,994	0,931	0,829	0,731
	$WH; aux$ [kWh-elek]	64	67	73	86	118	150	172	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	220	440	880	1760	3519	5138	6359	7226
100	$\eta H; gen; hp; si$ [-]	4,338	4,338	4,338	4,227	3,778	3,431	3,261	3,166
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,996	0,944	0,846	0,748
	$WH; aux$ [kWh-elek]	64	67	73	86	117	149	171	187
	$QH; hp; in$ (incl f-prac) [kWh/jr]	153	307	613	1226	2453	3659	4675	5437
150	$\eta H; gen; hp; si$ [-]	4,517	4,517	4,517	4,413	3,949	3,600	3,410	3,297
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,998	0,962	0,871	0,776
	$WH; aux$ [kWh-elek]	63	66	72	85	114	146	170	186
	$QH; hp; in$ (incl f-prac) [kWh/jr]	79	158	317	633	1267	1900	2530	3089

40 °C < θ_{sup} =< 45 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	3,737	3,737	3,737	3,647	3,286	3,049	2,937	2,861
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,984	0,897	0,789	0,691
	$WH; aux$ [kWh-elek]	64	68	75	90	124	155	175	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	405	810	1620	3240	6399	8846	10460	11540
10	$\eta H; gen; hp; si$ [-]	3,775	3,775	3,775	3,685	3,325	3,077	2,962	2,887
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,985	0,902	0,795	0,697
	$WH; aux$ [kWh-elek]	64	68	75	89	124	154	175	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	375	750	1500	3000	5941	8278	9847	10890
20	$\eta H; gen; hp; si$ [-]	3,813	3,813	3,813	3,723	3,362	3,105	2,987	2,914
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,908	0,801	0,703
	$WH; aux$ [kWh-elek]	64	67	74	89	123	154	175	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	346	692	1384	2767	5494	7716	9233	10240
30	$\eta H; gen; hp; si$ [-]	3,850	3,850	3,850	3,761	3,396	3,132	3,017	2,940
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,989	0,913	0,807	0,709
	$WH; aux$ [kWh-elek]	64	67	74	89	123	154	175	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	318	635	1270	2541	5056	7160	8616	9598
40	$\eta H; gen; hp; si$ [-]	3,888	3,888	3,888	3,799	3,430	3,162	3,044	2,966
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,990	0,918	0,813	0,714
	$WH; aux$ [kWh-elek]	64	67	74	89	122	153	174	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	290	580	1160	2321	4627	6608	8003	8957
50	$\eta H; gen; hp; si$ [-]	3,925	3,925	3,925	3,836	3,466	3,197	3,071	2,991
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,991	0,922	0,818	0,720
	$WH; aux$ [kWh-elek]	64	67	74	88	122	153	174	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	263	527	1054	2108	4209	6060	7396	8321
70	$\eta H; gen; hp; si$ [-]	3,997	3,997	3,997	3,910	3,537	3,263	3,123	3,042
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,994	0,931	0,829	0,732
	$WH; aux$ [kWh-elek]	64	67	74	88	120	152	174	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	213	427	853	1707	3413	4999	6208	7071
100	$\eta H; gen; hp; si$ [-]	4,103	4,103	4,103	4,020	3,638	3,348	3,200	3,116
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,996	0,944	0,846	0,749
	$WH; aux$ [kWh-elek]	64	67	73	87	119	151	173	189
	$QH; hp; in$ (incl f-prac) [kWh/jr]	148	297	594	1188	2375	3549	4552	5308
150	$\eta H; gen; hp; si$ [-]	4,274	4,274	4,274	4,199	3,802	3,511	3,347	3,246
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,999	0,962	0,872	0,776
	$WH; aux$ [kWh-elek]	64	67	73	86	117	148	172	188
	$QH; hp; in$ (incl f-prac) [kWh/jr]	77	155	310	620	1239	1859	2475	3028

45 °C < θ_{sup} =< 50 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H;gen;hp;si$ [-]	3,602	3,602	3,602	3,519	3,183	2,973	2,872	2,803
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,984	0,897	0,789	0,692
	$WH;aux$ [kWh-elek]	64	68	75	91	126	157	178	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	395	791	1581	3162	6250	8654	10250	11310
10	$\eta H;gen;hp;si$ [-]	3,639	3,639	3,639	3,557	3,220	3,000	2,897	2,829
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,986	0,903	0,795	0,697
	$WH;aux$ [kWh-elek]	64	68	75	90	126	157	178	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	365	731	1462	2924	5794	8087	9633	10660
20	$\eta H;gen;hp;si$ [-]	3,676	3,676	3,676	3,594	3,255	3,027	2,921	2,854
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,908	0,802	0,703
	$WH;aux$ [kWh-elek]	64	68	75	90	125	157	178	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	337	673	1346	2692	5348	7526	9019	10010
30	$\eta H;gen;hp;si$ [-]	3,712	3,712	3,712	3,631	3,287	3,054	2,950	2,879
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,989	0,913	0,807	0,709
	$WH;aux$ [kWh-elek]	64	68	75	90	125	156	177	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	308	617	1233	2467	4912	6971	8402	9371
40	$\eta H;gen;hp;si$ [-]	3,748	3,748	3,748	3,668	3,320	3,082	2,976	2,905
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,990	0,918	0,813	0,715
	$WH;aux$ [kWh-elek]	64	68	75	90	124	156	177	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	281	562	1124	2248	4485	6420	7790	8730
50	$\eta H;gen;hp;si$ [-]	3,784	3,784	3,784	3,704	3,354	3,116	3,002	2,929
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,992	0,923	0,818	0,720
	$WH;aux$ [kWh-elek]	64	67	75	89	124	155	177	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	255	509	1019	2037	4070	5874	7185	8096
70	$\eta H;gen;hp;si$ [-]	3,853	3,853	3,853	3,777	3,422	3,178	3,052	2,979
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,994	0,931	0,830	0,732
	$WH;aux$ [kWh-elek]	64	67	74	89	122	154	177	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	205	410	821	1642	3284	4821	6005	6852
100	$\eta H;gen;hp;si$ [-]	3,955	3,955	3,955	3,884	3,519	3,260	3,128	3,051
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,996	0,944	0,846	0,749
	$WH;aux$ [kWh-elek]	64	67	74	88	121	153	176	192
	$QH;hp;in$ (incl f-prac) [kWh/jr]	142	284	568	1136	2273	3399	4375	5115
150	$\eta H;gen;hp;si$ [-]	4,120	4,120	4,120	4,057	3,677	3,415	3,269	3,177
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,999	0,962	0,872	0,776
	$WH;aux$ [kWh-elek]	64	67	73	87	118	151	174	191
	$QH;hp;in$ (incl f-prac) [kWh/jr]	74	148	296	592	1183	1775	2364	2899

50 °C < θ_{sup} =< 55 °C									
QH;dis / Ag;tot > 41,67 kWh/m² (WHE)									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H;gen;hp;si$ [-]	3,368	3,368	3,368	3,313	3,059	2,897	2,814	2,754
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,984	0,898	0,789	0,692
	$WH;aux$ [kWh-elek]	64	68	76	93	129	160	180	195
	$QH;hp;in$ (incl f-prac) [kWh/jr]	385	770	1539	3078	6094	8466	10050	11110
10	$\eta H;gen;hp;si$ [-]	3,404	3,404	3,404	3,350	3,093	2,924	2,839	2,779
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,986	0,903	0,796	0,698
	$WH;aux$ [kWh-elek]	64	68	76	92	129	159	180	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	355	711	1421	2843	5641	7901	9435	10460
20	$\eta H;gen;hp;si$ [-]	3,439	3,439	3,439	3,386	3,126	2,950	2,863	2,805
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,908	0,802	0,704
	$WH;aux$ [kWh-elek]	64	68	76	92	128	159	180	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	327	653	1307	2613	5198	7342	8823	9814
30	$\eta H;gen;hp;si$ [-]	3,473	3,473	3,473	3,422	3,156	2,976	2,891	2,830
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,989	0,914	0,808	0,709
	$WH;aux$ [kWh-elek]	64	68	76	92	127	159	180	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	299	598	1195	2391	4766	6790	8209	9173
40	$\eta H;gen;hp;si$ [-]	3,507	3,507	3,507	3,458	3,186	3,005	2,917	2,855
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,991	0,919	0,813	0,715
	$WH;aux$ [kWh-elek]	64	68	76	91	127	158	180	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	272	544	1088	2176	4344	6243	7601	8537
50	$\eta H;gen;hp;si$ [-]	3,540	3,540	3,540	3,493	3,218	3,036	2,942	2,879
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,992	0,923	0,819	0,721
	$WH;aux$ [kWh-elek]	64	68	76	91	126	158	179	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	246	492	985	1969	3936	5704	7001	7908
70	$\eta H;gen;hp;si$ [-]	3,605	3,605	3,605	3,563	3,282	3,096	2,992	2,928
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,994	0,932	0,830	0,732
	$WH;aux$ [kWh-elek]	64	68	75	90	125	157	179	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	198	396	792	1584	3168	4668	5837	6679
100	$\eta H;gen;hp;si$ [-]	3,700	3,700	3,700	3,667	3,374	3,176	3,067	3,000
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,996	0,945	0,847	0,750
	$WH;aux$ [kWh-elek]	64	68	75	90	124	156	178	194
	$QH;hp;in$ (incl f-prac) [kWh/jr]	137	274	548	1096	2191	3282	4242	4977
150	$\eta H;gen;hp;si$ [-]	3,856	3,856	3,856	3,833	3,524	3,325	3,205	3,125
	$FH;gen;si,gpref$ [-]	1,000	1,000	1,000	1,000	0,999	0,962	0,872	0,777
	$WH;aux$ [kWh-elek]	64	67	74	88	121	153	177	193
	$QH;hp;in$ (incl f-prac) [kWh/jr]	72	144	288	576	1152	1728	2303	2832

Opwekkingsrendement warmtapwater onder praktijkomstandigheden

Dit opwekkendement onder praktijkomstandigheden, is bepaald voor de Vincent V45-Combi i.c.m. een voorraadvat type WPV 150L en de WPV 200L conform de NTA8800 hoofdstuk 13.8.4 met 24 uren metingen, de testen zijn uitgevoerd met EN16147 tapprofielen M en L met buitenlucht (7(6) [°C]) als bron. Het opwekkendement is bepaald zonder het stand-by verbruik van de elektronica, welke is verdisconteerd in de hulpenergie voor ruimteverwarming.

De aansturing van de warmtepomp voorziet er in dat de warmtapwaterbereiding (per etmaal) op het optimale tijdstip wordt gerealiseerd.

De gegeven waarden kunnen worden gebruikt voor het berekenen van het opwekkendement onder praktijk omstandigheden voor warmtapwater cf NTA8800

Voor de bepaling van de gemiddelde dagelijkse hoeveelheid energie $E_{w;gen;in}$ [kWh] die door deze warmtepomp gebruikt wordt ten behoeve van warmtapwaterbereiding moet lineair tussen de twee genoemde tapklassen geïnterpoleerd worden. Bij een lagere behoefte mag ge-extrapoleren worden tot 0. Bij een hogere behoefte mag ge-extrapoleren worden tot ten hoogste 5607 [kWh]

		WPV 150L		WPV 200L	
Tappatroon		i1 = M	i2 = L	i1 = M	i2 = L
Invoerwaarden NTA 8800					
$Q_{w;test;i(x)}$	[kWh/dg]	5,865	11,655	5,865	11,655
$E_{w;gen;in;test;i(x)}$	[kWh/dg]	2,071	4,556	2,240	4,730
$P_{nom;gi}$	[kW]	4,5	4,5	4,5	4,5
$f_{prac;gi}$	[--]	0,95	0,95	0,95	0,95
Waarden voor gebruik correcties en gebruik van slimme regeling					
SCF_{gi}		n.v.t.	n.v.t.	n.v.t.	n.v.t.
Smart	[--]	0	0	0	0
$T_{max;test;i}$	[°C]	57,34	55,78	57,34	55,78
$T_{set;design}$	[°C]	55	55	55	55
Informatieve waarden					
P_{rated}	[kW]	3,034	3,082	3,034	3,082
Thermostaat inst.	[°C] / [K]	58 / 5	58 / 5	58 / 5	58 / 5
$\eta_{w;gen;gi;prac}$	[--]	2,690	2,432	2,487	2,343

Grootheden in de tabellen

$Q_{w;test;i(x)}$	[kWh/dg]	Dagelijkse hoeveelheid geleverde energie voor het tappatroon i(x)
$E_{w;gen;in;test;i(x)}$	[kWh/dg]	Energieverbruik voor tappatroon i(x) voor de ingestelde temperatuur
$P_{nom;gi}$	[kW]	Nominale vermogen van de warmtepomp
$f_{prac;gi}$	[--]	Correctiefactor onder praktijkomstandigheden
SCF_{gi}	[--]	Smart control factor cf EN16147
Smart	[--]	Is 0 indien $SFC < 0,7$
$T_{max;test;i}$	[°C]	Gemiddelde gemeten maximale warmwater temperatuur
$T_{set;design}$	[°C]	Ontwerptemperatuur instelling
P_{rated}	[kW]	Het gemiddelde vermogen van de warmtepomp cf EN16147
Thermostaat inst.	[°C] / [K]	Thermostaat instelling en schakel differentie
$\eta_{w;gen;gi;prac}$	[--]	Opwekkendement onder praktijkomstandigheden inclusief correcties voor $T_{max;test}$ o.b.v. thermostaat instelling