

Energieprestatie verklaring

Opwekrendement, energiefractie, hulpenergie ruimteverwarming t.b.v. NTA 8800:2020 + A1:2020

Fabrikant : Itho Daalderop
Adres : Admiraal de Ruiterstraat 2
3115 HB Schiedam
Warmtepomp type : Vincent V45-Hybrid
Versie : 06-05-2022

Voor de functie ruimteverwarming is het opwekrendement bepaald van de warmtepomp type Vincent V45-Hybrid 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

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-Hybrid 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, $Q_{H;nd}/A_{g;tot} \leq 41,67$ [kWh/m²]
 - o Hoog energiegebruik, WHE, $Q_{H;nd}/A_{g;tot} > 41,67$ [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. Tusseliggende waarden mogen worden geïnterpoleerd.

Uitgangspunt

Het betreft een lucht/water warmtepomp met buitenlucht, en eventueel gemengd met ventilatie-afvoerlucht, als bron.

De warmtepomp kan bij alle bron- en afgifte temperaturen in bedrijf komen. De bijverwarming 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

$\theta_{sup} \leq 30 \text{ }^{\circ}\text{C}$ $Q_{H};dis / A_{g};tot \leq 41,67 \text{ kWh/m}^2 \text{ (WLE)}$									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	4,218	4,218	4,211	3,967	3,381	3,133	3,034	2,968
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,994	0,936	0,808	0,690	0,596
	$WH; aux$ [kWh-elek/jr]	64	67	73	87	120	143	158	168
	$QH; hp; in$ (incl f-prac) [kWh/jr]	425	850	1701	3386	6406	8348	9549	10330
10	$\eta H; gen; hp; si$ [-]	4,263	4,263	4,256	4,011	3,425	3,160	3,055	2,992
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,994	0,942	0,816	0,698	0,603
	$WH; aux$ [kWh-elek/jr]	64	67	73	87	119	143	158	168
	$QH; hp; in$ (incl f-prac) [kWh/jr]	392	785	1569	3126	5969	7835	8998	9760
20	$\eta H; gen; hp; si$ [-]	4,308	4,308	4,302	4,046	3,460	3,185	3,073	3,016
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,997	0,950	0,825	0,706	0,610
	$WH; aux$ [kWh-elek/jr]	64	67	73	87	119	143	159	168
	$QH; hp; in$ (incl f-prac) [kWh/jr]	360	721	1441	2878	5538	7324	8447	9185
30	$\eta H; gen; hp; si$ [-]	4,353	4,353	4,347	4,090	3,499	3,213	3,094	3,041
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,997	0,955	0,833	0,714	0,617
	$WH; aux$ [kWh-elek/jr]	64	67	73	86	119	143	159	169
	$QH; hp; in$ (incl f-prac) [kWh/jr]	329	659	1317	2632	5100	6802	7883	8596
40	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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

$30 \text{ }^{\circ}\text{C} < \theta_{sup} \leq 35 \text{ }^{\circ}\text{C}$ $Q_{H};dis / A_{g};tot \leq 41,67 \text{ kWh/m}^2 \text{ (WLE)}$									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	4,058	4,058	4,051	3,845	3,327	3,083	2,988	2,924
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,987	0,913	0,793	0,679	0,587
	$WH; aux$ [kWh-elek]	64	67	74	88	119	143	158	168
	$QH; hp; in$ (incl f-prac) [kWh/jr]	417	834	1667	3298	6154	8071	9260	10040
10	$\eta H; gen; hp; si$ [-]	4,101	4,101	4,095	3,867	3,351	3,100	3,001	2,942
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,994	0,930	0,808	0,692	0,598
	$WH; aux$ [kWh-elek]	64	67	73	88	120	144	159	169
	$QH; hp; in$ (incl f-prac) [kWh/jr]	384	768	1536	3060	5791	7632	8781	9536
20	$\eta H; gen; hp; si$ [-]	4,145	4,145	4,139	3,909	3,377	3,121	3,016	2,963
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,994	0,943	0,821	0,703	0,607
	$WH; aux$ [kWh-elek]	64	67	73	88	120	145	160	170
	$QH; hp; in$ (incl f-prac) [kWh/jr]	352	704	1409	2809	5392	7152	8261	8992
30	$\eta H; gen; hp; si$ [-]	4,188	4,188	4,182	3,943	3,410	3,146	3,036	2,987
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,997	0,950	0,829	0,711	0,614
	$WH; aux$ [kWh-elek]	64	67	73	87	120	145	160	170
	$QH; hp; in$ (incl f-prac) [kWh/jr]	321	643	1285	2568	4967	6643	7710	8416
40	$\eta H; gen; hp; si$ [-]	4,231	4,231	4,225	3,985	3,441	3,170	3,054	3,006
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,997	0,958	0,838	0,719	0,622
	$WH; aux$ [kWh-elek]	64	67	73	87	120	145	161	171
	$QH; hp; in$ (incl f-prac) [kWh/jr]	291	583	1165	2329	4545	6132	7157	7838
50	$\eta H; gen; hp; si$ [-]	4,274	4,274	4,268	4,018	3,474	3,202	3,078	3,027
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,963	0,844	0,726	0,628
	$WH; aux$ [kWh-elek]	64	67	73	87	120	145	161	171
	$QH; hp; in$ (incl f-prac) [kWh/jr]	262	525	1049	2098	4120	5610	6594	7251
70	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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 < θsup =< 40 °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 [-]	3,834	3,834	3,829	3,658	3,250	3,027	2,941	2,882
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,987	0,898	0,783	0,672	0,581
	WH;aux [kWh-elek]	64	67	74	89	119	143	158	168
	QH;hp;in (incl f-prac) [kWh/jr]	408	815	1630	3227	5950	7848	9029	9804
10	ηH;gen;hp;si [-]	3,875	3,875	3,871	3,697	3,295	3,056	2,963	2,907
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,987	0,901	0,789	0,678	0,587
	WH;aux [kWh-elek]	64	67	74	89	119	143	158	168
	QH;hp;in (incl f-prac) [kWh/jr]	375	750	1500	2974	5527	7347	8489	9241
20	ηH;gen;hp;si [-]	3,917	3,917	3,912	3,719	3,309	3,071	2,974	2,925
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,994	0,919	0,805	0,692	0,598
	WH;aux [kWh-elek]	64	67	74	89	120	144	160	170
	QH;hp;in (incl f-prac) [kWh/jr]	343	687	1374	2740	5181	6920	8022	8749
30	ηH;gen;hp;si [-]	3,958	3,958	3,953	3,759	3,323	3,086	2,986	2,942
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,994	0,937	0,821	0,705	0,610
	WH;aux [kWh-elek]	64	67	74	89	121	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	313	626	1251	2498	4812	6467	7526	8228
40	ηH;gen;hp;si [-]	3,999	3,999	3,994	3,791	3,360	3,114	3,007	2,964
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,997	0,940	0,827	0,711	0,615
	WH;aux [kWh-elek]	64	67	74	89	120	146	161	171
	QH;hp;in (incl f-prac) [kWh/jr]	283	566	1132	2264	4393	5958	6975	7652
50	ηH;gen;hp;si [-]	4,039	4,039	4,035	3,829	3,380	3,138	3,026	2,980
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,997	0,953	0,838	0,722	0,625
	WH;aux [kWh-elek]	64	67	74	88	121	146	162	172
	QH;hp;in (incl f-prac) [kWh/jr]	254	508	1017	2034	3996	5464	6439	7092
70	ηH;gen;hp;si [-]	4,119	4,119	4,115	3,901	3,453	3,193	3,078	3,019
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,967	0,854	0,737	0,640
	WH;aux [kWh-elek]	64	67	73	88	120	146	163	174
	QH;hp;in (incl f-prac) [kWh/jr]	200	400	799	1599	3179	4449	5328	5938
100	ηH;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	ηH;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 < θsup =< 45 °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 [-]	3,633	3,633	3,632	3,480	3,270	3,024	2,934	2,873
	FH;gen;si,gpref [-]	0,987	0,987	0,987	0,981	0,821	0,732	0,634	0,551
	WH;aux [kWh-elek]	64	68	75	91	114	138	153	163
	QH;hp;in (incl f-prac) [kWh/jr]	394	788	1575	3136	5387	7265	8439	9210
10	ηH;gen;hp;si [-]	3,655	3,655	3,671	3,517	3,237	3,012	2,926	2,874
	FH;gen;si,gpref [-]	0,994	0,994	0,987	0,981	0,869	0,769	0,663	0,574
	WH;aux [kWh-elek]	64	68	75	90	118	142	157	167
	QH;hp;in (incl f-prac) [kWh/jr]	364	728	1450	2888	5257	7057	8191	8939
20	ηH;gen;hp;si [-]	3,694	3,694	3,692	3,543	3,276	3,041	2,947	2,899
	FH;gen;si,gpref [-]	0,994	0,994	0,994	0,987	0,871	0,774	0,668	0,580
	WH;aux [kWh-elek]	64	68	75	90	117	142	157	167
	QH;hp;in (incl f-prac) [kWh/jr]	333	666	1333	2655	4864	6582	7675	8399
30	ηH;gen;hp;si [-]	3,733	3,733	3,731	3,580	3,263	3,042	2,948	2,908
	FH;gen;si,gpref [-]	0,994	0,994	0,994	0,987	0,906	0,801	0,690	0,598
	WH;aux [kWh-elek]	64	68	75	90	120	145	160	170
	QH;hp;in (incl f-prac) [kWh/jr]	303	606	1213	2418	4594	6226	7277	7975
40	ηH;gen;hp;si [-]	3,764	3,764	3,769	3,617	3,273	3,056	2,959	2,920
	FH;gen;si,gpref [-]	0,997	0,997	0,994	0,987	0,925	0,817	0,704	0,610
	WH;aux [kWh-elek]	64	68	75	90	121	146	162	172
	QH;hp;in (incl f-prac) [kWh/jr]	274	548	1096	2188	4240	5781	6790	7463
50	ηH;gen;hp;si [-]	3,802	3,802	3,800	3,637	3,307	3,087	2,984	2,942
	FH;gen;si,gpref [-]	0,997	0,997	0,997	0,994	0,928	0,822	0,710	0,615
	WH;aux [kWh-elek]	64	67	74	90	120	146	162	172
	QH;hp;in (incl f-prac) [kWh/jr]	246	491	982	1965	3841	5284	6251	6900
70	ηH;gen;hp;si [-]	3,870	3,870	3,868	3,705	3,349	3,125	3,025	2,971
	FH;gen;si,gpref [-]	1,000	1,000	1,000	0,997	0,958	0,849	0,733	0,637
	WH;aux [kWh-elek]	64	67	74	89	122	147	164	175
	QH;hp;in (incl f-prac) [kWh/jr]	192	385	769	1539	3064	4310	5179	5785
100	ηH;gen;hp;si [-]	3,980	3,980	3,978	3,810	3,434	3,205	3,102	3,032
	FH;gen;si,gpref [-]	1,000	1,000	1,000	1,000	0,974	0,871	0,754	0,657
	WH;aux [kWh-elek]	64	67	74	88	121	147	164	176
	QH;hp;in (incl f-prac) [kWh/jr]	125	249	498	997	1994	2924	3636	4165
150	ηH;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	$\eta H;gen;hp;si$ [-]	3,508	3,508	3,508	3,418	3,280	3,005	2,908	2,845
	$FH;gen;si;gpref$ [-]	0,981	0,981	0,981	0,944	0,759	0,691	0,603	0,526
	$WH;aux$ [kWh-elek]	64	68	75	90	110	134	149	159
	$QH;hp;in$ (incl f-prac) [kWh/jr]	382	764	1528	2970	4918	6764	7920	8681
10	$\eta H;gen;hp;si$ [-]	3,546	3,546	3,545	3,417	3,216	2,980	2,891	2,839
	$FH;gen;si;gpref$ [-]	0,981	0,981	0,981	0,966	0,822	0,737	0,639	0,556
	$WH;aux$ [kWh-elek]	64	68	75	91	115	140	155	165
	$QH;hp;in$ (incl f-prac) [kWh/jr]	351	702	1405	2782	4899	6666	7782	8520
20	$\eta H;gen;hp;si$ [-]	3,571	3,571	3,582	3,454	3,253	3,007	2,911	2,863
	$FH;gen;si;gpref$ [-]	0,987	0,987	0,981	0,966	0,823	0,741	0,644	0,560
	$WH;aux$ [kWh-elek]	64	68	75	90	114	139	155	165
	$QH;hp;in$ (incl f-prac) [kWh/jr]	322	644	1285	2547	4535	6219	7295	8007
30	$\eta H;gen;hp;si$ [-]	3,608	3,608	3,607	3,490	3,213	2,995	2,903	2,864
	$FH;gen;si;gpref$ [-]	0,987	0,987	0,987	0,966	0,873	0,779	0,674	0,585
	$WH;aux$ [kWh-elek]	64	68	75	90	119	144	160	169
	$QH;hp;in$ (incl f-prac) [kWh/jr]	293	585	1171	2320	4356	5954	6987	7674
40	$\eta H;gen;hp;si$ [-]	3,644	3,644	3,644	3,499	3,247	3,022	2,924	2,885
	$FH;gen;si;gpref$ [-]	0,987	0,987	0,987	0,981	0,875	0,784	0,679	0,590
	$WH;aux$ [kWh-elek]	64	68	75	90	118	144	160	170
	$QH;hp;in$ (incl f-prac) [kWh/jr]	264	528	1056	2109	3981	5487	6478	7139
50	$\eta H;gen;hp;si$ [-]	3,663	3,663	3,680	3,534	3,232	3,026	2,929	2,889
	$FH;gen;si;gpref$ [-]	0,994	0,994	0,987	0,981	0,911	0,811	0,701	0,608
	$WH;aux$ [kWh-elek]	64	68	75	90	121	146	163	173
	$QH;hp;in$ (incl f-prac) [kWh/jr]	236	472	945	1888	3680	5088	6035	6674
70	$\eta H;gen;hp;si$ [-]	3,734	3,734	3,733	3,595	3,285	3,070	2,974	2,923
	$FH;gen;si;gpref$ [-]	0,994	0,994	0,994	0,987	0,932	0,832	0,720	0,626
	$WH;aux$ [kWh-elek]	64	68	75	90	121	147	164	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	184	367	735	1470	2930	4139	4988	5583
100	$\eta H;gen;hp;si$ [-]	3,831	3,831	3,831	3,686	3,334	3,129	3,035	2,972
	$FH;gen;si;gpref$ [-]	0,997	0,997	0,997	0,994	0,969	0,868	0,752	0,655
	$WH;aux$ [kWh-elek]	64	67	74	89	123	149	166	178
	$QH;hp;in$ (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	$\eta H;gen;hp;si$ [-]	3,384	3,384	3,384	3,270	3,167	3,034	2,925	2,855
	$FH;gen;si;gpref$ [-]	0,922	0,922	0,922	0,922	0,759	0,622	0,551	0,485
	$WH;aux$ [kWh-elek]	64	68	75	91	112	126	141	151
	$QH;hp;in$ (incl f-prac) [kWh/jr]	355	710	1420	2839	4823	6059	7206	7963
10	$\eta H;gen;hp;si$ [-]	3,381	3,381	3,381	3,304	3,206	2,964	2,876	2,823
	$FH;gen;si;gpref$ [-]	0,944	0,944	0,944	0,922	0,759	0,695	0,608	0,531
	$WH;aux$ [kWh-elek]	64	68	75	90	111	136	151	161
	$QH;hp;in$ (incl f-prac) [kWh/jr]	333	665	1330	2617	4487	6230	7337	8070
20	$\eta H;gen;hp;si$ [-]	3,416	3,416	3,416	3,339	3,243	2,992	2,895	2,848
	$FH;gen;si;gpref$ [-]	0,944	0,944	0,944	0,922	0,759	0,699	0,612	0,535
	$WH;aux$ [kWh-elek]	64	68	75	90	110	135	151	161
	$QH;hp;in$ (incl f-prac) [kWh/jr]	305	609	1219	2401	4159	5819	6885	7593
30	$\eta H;gen;hp;si$ [-]	3,449	3,449	3,449	3,374	3,173	2,965	2,877	2,839
	$FH;gen;si;gpref$ [-]	0,944	0,944	0,944	0,922	0,824	0,746	0,649	0,565
	$WH;aux$ [kWh-elek]	64	68	75	90	116	141	157	167
	$QH;hp;in$ (incl f-prac) [kWh/jr]	277	555	1110	2191	4075	5647	6670	7353
40	$\eta H;gen;hp;si$ [-]	3,482	3,482	3,482	3,370	3,206	2,991	2,897	2,860
	$FH;gen;si;gpref$ [-]	0,944	0,944	0,944	0,944	0,825	0,751	0,654	0,570
	$WH;aux$ [kWh-elek]	64	68	75	90	115	141	157	167
	$QH;hp;in$ (incl f-prac) [kWh/jr]	251	502	1004	2007	3729	5208	6190	6847
50	$\eta H;gen;hp;si$ [-]	3,475	3,475	3,475	3,404	3,164	2,980	2,892	2,855
	$FH;gen;si;gpref$ [-]	0,966	0,966	0,966	0,944	0,877	0,788	0,685	0,595
	$WH;aux$ [kWh-elek]	64	68	75	90	120	145	162	172
	$QH;hp;in$ (incl f-prac) [kWh/jr]	226	452	905	1801	3498	4879	5816	6450
70	$\eta H;gen;hp;si$ [-]	3,540	3,540	3,540	3,473	3,188	3,009	2,926	2,880
	$FH;gen;si;gpref$ [-]	0,966	0,966	0,966	0,944	0,914	0,820	0,712	0,620
	$WH;aux$ [kWh-elek]	64	68	75	89	122	148	164	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	176	351	702	1405	2803	3984	4822	5412
100	$\eta H;gen;hp;si$ [-]	3,605	3,605	3,605	3,537	3,230	3,064	2,984	2,927
	$FH;gen;si;gpref$ [-]	0,981	0,981	0,981	0,966	0,955	0,858	0,745	0,650
	$WH;aux$ [kWh-elek]	64	68	75	90	124	150	167	179
	$QH;hp;in$ (incl f-prac) [kWh/jr]	112	225	450	900	1800	2661	3342	3853
150	$\eta H;gen;hp;si$ [-]	3,749	3,749	3,750	3,665	3,355	3,187	3,098	3,048
	$FH;gen;si;gpref$ [-]	0,987	0,987	0,987	0,987	0,985	0,898	0,784	0,684
	$WH;aux$ [kWh-elek]	64	67	74	89	123	151	169	180
	$QH;hp;in$ (incl f-prac) [kWh/jr]	50	100	199	399	797	1196	1587	1927

55 °C < θ_{sup} =< 65 °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	$\eta H;gen;hp;si$ [-]	3,020	3,020	3,020	3,004	2,913	2,991	2,844	2,765
	$FH;gen;si,gpref$ [-]	0,657	0,657	0,657	0,657	0,584	0,416	0,397	0,362
	$WH;aux$ [kWh-elek]	63	66	72	84	103	105	120	130
	$QH;hp;in$ (incl f-prac) [kWh/jr]	242	483	966	1932	3493	3869	4941	5653
10	$\eta H;gen;hp;si$ [-]	3,045	3,045	3,045	3,030	2,938	2,878	2,776	2,723
	$FH;gen;si,gpref$ [-]	0,657	0,657	0,657	0,657	0,584	0,496	0,459	0,412
	$WH;aux$ [kWh-elek]	63	66	72	84	103	116	131	141
	$QH;hp;in$ (incl f-prac) [kWh/jr]	225	450	899	1798	3264	4257	5288	5976
20	$\eta H;gen;hp;si$ [-]	3,069	3,069	3,069	3,056	2,963	2,903	2,795	2,745
	$FH;gen;si,gpref$ [-]	0,657	0,657	0,657	0,657	0,584	0,497	0,461	0,414
	$WH;aux$ [kWh-elek]	63	66	72	83	103	115	131	141
	$QH;hp;in$ (incl f-prac) [kWh/jr]	208	417	833	1667	3039	3991	4980	5642
30	$\eta H;gen;hp;si$ [-]	2,957	2,957	2,957	3,081	2,988	2,928	2,813	2,765
	$FH;gen;si,gpref$ [-]	0,759	0,759	0,759	0,657	0,584	0,498	0,463	0,417
	$WH;aux$ [kWh-elek]	64	67	74	83	102	115	131	141
	$QH;hp;in$ (incl f-prac) [kWh/jr]	212	425	849	1538	2819	3730	4674	5311
40	$\eta H;gen;hp;si$ [-]	2,981	2,981	2,981	2,969	2,915	2,850	2,765	2,730
	$FH;gen;si,gpref$ [-]	0,759	0,759	0,759	0,759	0,657	0,575	0,523	0,465
	$WH;aux$ [kWh-elek]	64	67	74	88	109	125	141	151
	$QH;hp;in$ (incl f-prac) [kWh/jr]	193	387	773	1547	2826	3860	4763	5374
50	$\eta H;gen;hp;si$ [-]	3,005	3,005	3,005	2,995	2,941	2,874	2,788	2,749
	$FH;gen;si,gpref$ [-]	0,759	0,759	0,759	0,759	0,657	0,576	0,526	0,468
	$WH;aux$ [kWh-elek]	64	67	74	87	108	125	141	151
	$QH;hp;in$ (incl f-prac) [kWh/jr]	175	350	699	1399	2581	3555	4410	4999
70	$\eta H;gen;hp;si$ [-]	3,053	3,053	3,053	3,048	2,991	2,855	2,787	2,750
	$FH;gen;si,gpref$ [-]	0,759	0,759	0,759	0,759	0,657	0,639	0,576	0,511
	$WH;aux$ [kWh-elek]	64	67	74	87	107	132	149	160
	$QH;hp;in$ (incl f-prac) [kWh/jr]	139	278	556	1112	2106	3110	3866	4408
100	$\eta H;gen;hp;si$ [-]	3,037	3,037	3,037	3,043	2,943	2,810	2,770	2,738
	$FH;gen;si,gpref$ [-]	0,826	0,826	0,826	0,826	0,759	0,773	0,682	0,600
	$WH;aux$ [kWh-elek]	64	68	75	89	116	149	166	177
	$QH;hp;in$ (incl f-prac) [kWh/jr]	89	179	358	716	1431	2137	2732	3192
150	$\eta H;gen;hp;si$ [-]	3,159	3,159	3,159	3,104	2,944	2,869	2,838	2,815
	$FH;gen;si,gpref$ [-]	0,826	0,826	0,826	0,882	0,887	0,870	0,764	0,668
	$WH;aux$ [kWh-elek]	64	67	74	91	125	158	175	187
	$QH;hp;in$ (incl f-prac) [kWh/jr]	39	78	155	311	621	932	1241	1528

65 °C < θ_{sup} =< 75 °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	$\eta H;gen;hp;si$ [-]	2,960	2,960	2,960	2,960	2,868	2,899	2,793	2,721
	$FH;gen;si,gpref$ [-]	0,416	0,416	0,416	0,416	0,416	0,326	0,323	0,302
	$WH;aux$ [kWh-elek]	62	64	68	75	91	96	110	120
	$QH;hp;in$ (incl f-prac) [kWh/jr]	154	307	614	1229	2457	2964	3920	4611
10	$\eta H;gen;hp;si$ [-]	2,980	2,980	2,980	2,980	2,890	2,920	2,812	2,743
	$FH;gen;si,gpref$ [-]	0,416	0,416	0,416	0,416	0,416	0,326	0,324	0,304
	$WH;aux$ [kWh-elek]	62	64	68	75	91	96	110	120
	$QH;hp;in$ (incl f-prac) [kWh/jr]	144	289	578	1156	2311	2802	3714	4379
20	$\eta H;gen;hp;si$ [-]	3,000	3,000	3,000	2,859	2,913	2,781	2,711	2,674
	$FH;gen;si,gpref$ [-]	0,416	0,416	0,416	0,498	0,416	0,416	0,400	0,366
	$WH;aux$ [kWh-elek]	62	64	68	79	91	108	124	134
	$QH;hp;in$ (incl f-prac) [kWh/jr]	135	271	542	1254	2168	3252	4197	4837
30	$\eta H;gen;hp;si$ [-]	2,875	2,875	2,875	2,879	2,935	2,803	2,730	2,693
	$FH;gen;si,gpref$ [-]	0,498	0,498	0,498	0,498	0,416	0,416	0,402	0,368
	$WH;aux$ [kWh-elek]	63	65	70	79	91	108	123	133
	$QH;hp;in$ (incl f-prac) [kWh/jr]	146	291	583	1166	2027	3041	3941	4555
40	$\eta H;gen;hp;si$ [-]	2,896	2,896	2,896	2,899	2,958	2,825	2,748	2,711
	$FH;gen;si,gpref$ [-]	0,498	0,498	0,498	0,498	0,416	0,416	0,404	0,370
	$WH;aux$ [kWh-elek]	63	65	70	79	90	108	123	133
	$QH;hp;in$ (incl f-prac) [kWh/jr]	135	270	540	1080	1889	2834	3688	4276
50	$\eta H;gen;hp;si$ [-]	2,916	2,916	2,916	2,919	2,845	2,847	2,769	2,729
	$FH;gen;si,gpref$ [-]	0,498	0,498	0,498	0,498	0,498	0,416	0,404	0,372
	$WH;aux$ [kWh-elek]	63	65	70	79	98	107	123	133
	$QH;hp;in$ (incl f-prac) [kWh/jr]	124	249	498	995	1990	2630	3432	3999
70	$\eta H;gen;hp;si$ [-]	2,956	2,956	2,956	2,959	2,891	2,775	2,735	2,706
	$FH;gen;si,gpref$ [-]	0,498	0,498	0,498	0,498	0,498	0,498	0,471	0,427
	$WH;aux$ [kWh-elek]	63	65	69	78	97	118	134	145
	$QH;hp;in$ (incl f-prac) [kWh/jr]	104	208	415	831	1662	2493	3201	3719
100	$\eta H;gen;hp;si$ [-]	3,017	3,017	3,017	2,887	2,960	2,754	2,736	2,712
	$FH;gen;si,gpref$ [-]	0,498	0,498	0,498	0,584	0,498	0,581	0,538	0,485
	$WH;aux$ [kWh-elek]	63	65	69	82	96	128	144	156
	$QH;hp;in$ (incl f-prac) [kWh/jr]	75	149	298	613	1193	1839	2384	2818
150	$\eta H;gen;hp;si$ [-]	2,970	2,970	2,970	2,987	2,953	2,738	2,748	2,739
	$FH;gen;si,gpref$ [-]	0,584	0,584	0,584	0,584	0,584	0,738	0,665	0,589
	$WH;aux$ [kWh-elek]	63	66	71	81	103	147	164	175
	$QH;hp;in$ (incl f-prac) [kWh/jr]	34	67	134	269	538	807	1076	1335

$\theta_{sup} \leq 30 \text{ }^{\circ}\text{C}$ $Q_{H,dis} / A_{g,tot} > 41,67 \text{ kWh/m}^2 \text{ (WHE)}$									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	4,308	4,308	4,308	4,170	3,652	3,284	3,121	3,016
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,973	0,889	0,782	0,686
	$WH; aux$ [kWh-elek/jr]	64	67	73	86	117	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	430	859	1718	3437	6715	9248	10900	11990
10	$\eta H; gen; hp; si$ [-]	4,351	4,351	4,351	4,212	3,692	3,310	3,144	3,042
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,978	0,897	0,790	0,693
	$WH; aux$ [kWh-elek/jr]	64	67	73	86	117	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	399	798	1596	3192	6275	8701	10310	11370
20	$\eta H; gen; hp; si$ [-]	4,394	4,394	4,394	4,254	3,728	3,335	3,166	3,067
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,984	0,905	0,799	0,701
	$WH; aux$ [kWh-elek/jr]	63	67	73	86	117	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	369	739	1477	2955	5844	8157	9712	10740
30	$\eta H; gen; hp; si$ [-]	4,437	4,437	4,437	4,295	3,763	3,363	3,197	3,094
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,911	0,805	0,707
	$WH; aux$ [kWh-elek/jr]	63	66	72	85	116	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	340	681	1362	2724	5406	7603	9099	10100
40	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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

$30 \text{ }^{\circ}\text{C} < \theta_{sup} \leq 35 \text{ }^{\circ}\text{C}$ $Q_{H,dis} / A_{g,tot} > 41,67 \text{ kWh/m}^2 \text{ (WHE)}$									
Ventilatie-debiet [dm³/s]		Bruto warmtebehoefte [kWh/a]							
		694	1.389	2.778	5.556	11.111	16.667	22.222	27.778
0	$\eta H; gen; hp; si$ [-]	4,158	4,158	4,158	4,028	3,595	3,232	3,075	2,974
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,951	0,874	0,771	0,677
	$WH; aux$ [kWh-elek]	64	67	73	87	117	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	422	844	1687	3374	6465	8966	10600	11680
10	$\eta H; gen; hp; si$ [-]	4,200	4,200	4,200	4,069	3,611	3,248	3,090	2,994
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,966	0,889	0,784	0,688
	$WH; aux$ [kWh-elek]	64	67	73	87	118	148	169	183
	$QH; hp; in$ (incl f-prac) [kWh/jr]	391	783	1566	3131	6100	8492	10080	11130
20	$\eta H; gen; hp; si$ [-]	4,241	4,241	4,241	4,110	3,635	3,267	3,109	3,017
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,976	0,900	0,795	0,698
	$WH; aux$ [kWh-elek]	64	67	73	86	118	149	170	184
	$QH; hp; in$ (incl f-prac) [kWh/jr]	362	724	1447	2895	5700	7979	9517	10530
30	$\eta H; gen; hp; si$ [-]	4,283	4,283	4,283	4,150	3,665	3,292	3,138	3,041
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,981	0,907	0,802	0,705
	$WH; aux$ [kWh-elek]	64	67	73	86	118	149	170	184
	$QH; hp; in$ (incl f-prac) [kWh/jr]	333	666	1332	2665	5276	7439	8916	9906
40	$\eta H; gen; hp; si$ [-]	4,324	4,324	4,324	4,190	3,691	3,317	3,162	3,065
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,987	0,915	0,810	0,712
	$WH; aux$ [kWh-elek]	64	67	73	86	118	149	170	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	305	610	1221	2442	4857	6899	8314	9277
50	$\eta H; gen; hp; si$ [-]	4,364	4,364	4,364	4,231	3,729	3,354	3,189	3,090
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,990	0,921	0,816	0,719
	$WH; aux$ [kWh-elek]	64	67	73	86	117	148	170	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	278	556	1112	2224	4435	6349	7706	8640
70	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	$\eta H; gen; hp; si$ [-]	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	3,509	3,175	3,031	2,937
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,935	0,864	0,764	0,672
	$WH; aux$ [kWh-elek]	64	67	74	88	117	148	168	183
	$QH; hp; in$ (incl f-prac) [kWh/jr]	414	827	1655	3310	6267	8741	10370	11450
10	$\eta H; gen; hp; si$ [-]	3,992	3,992	3,992	3,880	3,553	3,204	3,055	2,964
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,936	0,869	0,770	0,677
	$WH; aux$ [kWh-elek]	64	67	74	88	117	147	168	182
	$QH; hp; in$ (incl f-prac) [kWh/jr]	384	767	1534	3068	5842	8207	9786	10830
20	$\eta H; gen; hp; si$ [-]	4,032	4,032	4,032	3,920	3,562	3,217	3,070	2,982
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,953	0,884	0,784	0,689
	$WH; aux$ [kWh-elek]	64	67	74	88	118	149	169	184
	$QH; hp; in$ (incl f-prac) [kWh/jr]	354	708	1417	2834	5496	7747	9275	10290
30	$\eta H; gen; hp; si$ [-]	4,071	4,071	4,071	3,959	3,567	3,230	3,090	3,001
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,969	0,899	0,796	0,700
	$WH; aux$ [kWh-elek]	64	67	74	87	118	150	171	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	326	651	1303	2606	5128	7263	8729	9715
40	$\eta H; gen; hp; si$ [-]	4,110	4,110	4,110	3,998	3,603	3,260	3,118	3,027
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,970	0,904	0,802	0,706
	$WH; aux$ [kWh-elek]	64	67	73	87	118	149	170	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	298	596	1192	2384	4712	6725	8130	9088
50	$\eta H; gen; hp; si$ [-]	4,149	4,149	4,149	4,036	3,622	3,288	3,138	3,047
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,980	0,914	0,812	0,715
	$WH; aux$ [kWh-elek]	64	67	73	87	118	150	171	186
	$QH; hp; in$ (incl f-prac) [kWh/jr]	271	542	1084	2168	4319	6203	7549	8479
70	$\eta H; gen; hp; si$ [-]	4,226	4,226	4,226	4,113	3,680	3,348	3,185	3,093
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,991	0,929	0,827	0,730
	$WH; aux$ [kWh-elek]	64	67	73	86	118	149	171	186
	$QH; hp; in$ (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	$\eta H; gen; hp; si$ [-]	3,764	3,764	3,764	3,686	3,449	3,178	3,028	2,932
	$FH; gen; si; gpref$ [-]	0,989	0,989	0,989	0,985	0,905	0,813	0,726	0,641
	$WH; aux$ [kWh-elek]	64	67	74	89	116	142	163	177
	$QH; hp; in$ (incl f-prac) [kWh/jr]	402	804	1608	3206	5982	8158	9776	10850
10	$\eta H; gen; hp; si$ [-]	3,787	3,787	3,787	3,714	3,491	3,161	3,022	2,935
	$FH; gen; si; gpref$ [-]	0,996	0,996	0,996	0,989	0,905	0,849	0,755	0,665
	$WH; aux$ [kWh-elek]	64	67	74	89	116	146	167	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	374	748	1497	2983	5579	7916	9485	10530
20	$\eta H; gen; hp; si$ [-]	3,825	3,825	3,825	3,751	3,532	3,189	3,046	2,961
	$FH; gen; si; gpref$ [-]	0,996	0,996	0,996	0,989	0,905	0,853	0,760	0,670
	$WH; aux$ [kWh-elek]	64	67	74	89	115	146	167	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	345	691	1381	2755	5187	7409	8926	9935
30	$\eta H; gen; hp; si$ [-]	3,862	3,862	3,862	3,789	3,502	3,186	3,055	2,971
	$FH; gen; si; gpref$ [-]	0,996	0,996	0,996	0,989	0,937	0,879	0,781	0,688
	$WH; aux$ [kWh-elek]	64	67	74	88	118	149	170	184
	$QH; hp; in$ (incl f-prac) [kWh/jr]	317	635	1269	2533	4918	7022	8478	9460
40	$\eta H; gen; hp; si$ [-]	3,893	3,893	3,893	3,811	3,504	3,200	3,071	2,988
	$FH; gen; si; gpref$ [-]	0,998	0,998	0,998	0,996	0,955	0,894	0,795	0,700
	$WH; aux$ [kWh-elek]	64	67	74	88	119	150	171	186
	$QH; hp; in$ (incl f-prac) [kWh/jr]	290	580	1160	2320	4567	6548	7942	8897
50	$\eta H; gen; hp; si$ [-]	3,930	3,930	3,930	3,848	3,542	3,236	3,098	3,013
	$FH; gen; si; gpref$ [-]	0,998	0,998	0,998	0,996	0,955	0,898	0,800	0,705
	$WH; aux$ [kWh-elek]	64	67	74	88	118	149	171	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	263	527	1054	2108	4172	6024	7359	8284
70	$\eta H; gen; hp; si$ [-]	3,997	3,997	3,997	3,916	3,563	3,276	3,132	3,049
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	0,998	0,982	0,923	0,823	0,727
	$WH; aux$ [kWh-elek]	64	67	74	88	119	151	173	188
	$QH; hp; in$ (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	3,646	3,352	3,203	3,118
	$FH; gen; si; gpref$ [-]	1,000	1,000	1,000	1,000	0,993	0,942	0,845	0,748
	$WH; aux$ [kWh-elek]	64	67	73	87	119	150	173	188
	$QH; hp; in$ (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	$\eta H; gen; hp; si$ [-]	3,643	3,643	3,643	3,589	3,430	3,161	3,003	2,905
	$FH; gen; si; gpref$ [-]	0,985	0,985	0,985	0,973	0,858	0,772	0,695	0,616
	$WH; aux$ [kWh-elek]	64	68	75	89	114	139	159	174
	$QH; hp; in$ (incl f-prac) [kWh/jr]	391	783	1566	3105	5600	7648	9243	10300
10	$\eta H; gen; hp; si$ [-]	3,680	3,680	3,680	3,625	3,380	3,129	2,987	2,901
	$FH; gen; si; gpref$ [-]	0,985	0,985	0,985	0,973	0,905	0,817	0,731	0,646
	$WH; aux$ [kWh-elek]	64	68	75	89	118	144	165	179
	$QH; hp; in$ (incl f-prac) [kWh/jr]	363	725	1450	2878	5456	7516	9062	10090
20	$\eta H; gen; hp; si$ [-]	3,705	3,705	3,705	3,662	3,419	3,156	3,011	2,926
	$FH; gen; si; gpref$ [-]	0,989	0,989	0,989	0,973	0,905	0,820	0,736	0,651
	$WH; aux$ [kWh-elek]	64	68	75	89	117	144	165	179
	$QH; hp; in$ (incl f-prac) [kWh/jr]	335	670	1341	2658	5065	7037	8531	9526
30	$\eta H; gen; hp; si$ [-]	3,741	3,741	3,741	3,672	3,452	3,137	3,009	2,927
	$FH; gen; si; gpref$ [-]	0,989	0,989	0,989	0,985	0,905	0,857	0,765	0,675
	$WH; aux$ [kWh-elek]	64	68	75	89	116	148	169	184
	$QH; hp; in$ (incl f-prac) [kWh/jr]	308	615	1231	2457	4684	6742	8173	9142
40	$\eta H; gen; hp; si$ [-]	3,777	3,777	3,777	3,709	3,424	3,166	3,035	2,952
	$FH; gen; si; gpref$ [-]	0,989	0,989	0,989	0,985	0,938	0,861	0,770	0,680
	$WH; aux$ [kWh-elek]	64	67	74	89	119	148	169	183
	$QH; hp; in$ (incl f-prac) [kWh/jr]	281	562	1123	2244	4398	6246	7616	8556
50	$\eta H; gen; hp; si$ [-]	3,796	3,796	3,796	3,745	3,459	3,170	3,040	2,960
	$FH; gen; si; gpref$ [-]	0,996	0,996	0,996	0,985	0,938	0,887	0,791	0,699
	$WH; aux$ [kWh-elek]	64	67	74	89	118	150	172	186
	$QH; hp; in$ (incl f-prac) [kWh/jr]	255	509	1019	2037	4015	5820	7130	8041
70	$\eta H; gen; hp; si$ [-]	3,866	3,866	3,866	3,805	3,497	3,217	3,079	3,000
	$FH; gen; si; gpref$ [-]	0,996	0,996	0,996	0,989	0,956	0,906	0,810	0,716
	$WH; aux$ [kWh-elek]	64	67	74	88	119	151	173	188
	$QH; hp; in$ (incl f-prac) [kWh/jr]	205	410	821	1642	3284	4821	6005	6852
100	$\eta H; gen; hp; si$ [-]	3,961	3,961	3,961	3,896	3,536	3,270	3,134	3,056
	$FH; gen; si; gpref$ [-]	0,998	0,998	0,998	0,996	0,988	0,939	0,842	0,746
	$WH; aux$ [kWh-elek]	64	67	74	88	120	152	175	191
	$QH; hp; in$ (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	$\eta H; gen; hp; si$ [-]	3,526	3,526	3,526	3,473	3,299	3,202	3,024	2,918
	$FH; gen; si; gpref$ [-]	0,938	0,938	0,938	0,938	0,858	0,703	0,643	0,575
	$WH; aux$ [kWh-elek]	64	68	75	89	116	131	151	166
	$QH; hp; in$ (incl f-prac) [kWh/jr]	369	738	1475	2951	5497	6942	8527	9584
10	$\eta H; gen; hp; si$ [-]	3,525	3,525	3,525	3,507	3,331	3,117	2,976	2,890
	$FH; gen; si; gpref$ [-]	0,956	0,956	0,956	0,938	0,858	0,775	0,700	0,621
	$WH; aux$ [kWh-elek]	64	68	75	89	115	140	161	175
	$QH; hp; in$ (incl f-prac) [kWh/jr]	347	694	1388	2740	5130	7080	8614	9638
20	$\eta H; gen; hp; si$ [-]	3,558	3,558	3,558	3,542	3,363	3,144	3,000	2,914
	$FH; gen; si; gpref$ [-]	0,956	0,956	0,956	0,938	0,858	0,778	0,704	0,625
	$WH; aux$ [kWh-elek]	64	68	75	89	115	140	161	175
	$QH; hp; in$ (incl f-prac) [kWh/jr]	320	641	1282	2535	4772	6637	8118	9109
30	$\eta H; gen; hp; si$ [-]	3,591	3,591	3,591	3,539	3,315	3,109	2,986	2,907
	$FH; gen; si; gpref$ [-]	0,956	0,956	0,956	0,956	0,905	0,824	0,741	0,656
	$WH; aux$ [kWh-elek]	64	68	75	89	119	145	166	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	295	589	1179	2358	4574	6435	7854	8818
40	$\eta H; gen; hp; si$ [-]	3,624	3,624	3,624	3,573	3,346	3,138	3,012	2,931
	$FH; gen; si; gpref$ [-]	0,956	0,956	0,956	0,956	0,905	0,827	0,745	0,660
	$WH; aux$ [kWh-elek]	64	67	75	89	118	145	166	181
	$QH; hp; in$ (incl f-prac) [kWh/jr]	270	539	1078	2157	4205	5968	7325	8261
50	$\eta H; gen; hp; si$ [-]	3,619	3,619	3,619	3,607	3,377	3,124	3,005	2,930
	$FH; gen; si; gpref$ [-]	0,973	0,973	0,973	0,956	0,905	0,864	0,775	0,686
	$WH; aux$ [kWh-elek]	64	68	75	89	118	149	171	185
	$QH; hp; in$ (incl f-prac) [kWh/jr]	246	492	984	1961	3845	5611	6908	7815
70	$\eta H; gen; hp; si$ [-]	3,683	3,683	3,683	3,637	3,386	3,153	3,033	2,961
	$FH; gen; si; gpref$ [-]	0,973	0,973	0,973	0,973	0,938	0,894	0,802	0,710
	$WH; aux$ [kWh-elek]	64	67	75	89	120	151	173	188
	$QH; hp; in$ (incl f-prac) [kWh/jr]	198	396	792	1584	3167	4667	5836	6678
100	$\eta H; gen; hp; si$ [-]	3,749	3,749	3,749	3,710	3,418	3,200	3,084	3,014
	$FH; gen; si; gpref$ [-]	0,985	0,985	0,985	0,985	0,973	0,929	0,835	0,740
	$WH; aux$ [kWh-elek]	64	67	74	89	121	153	176	192
	$QH; hp; in$ (incl f-prac) [kWh/jr]	137	274	548	1096	2191	3282	4242	4977
150	$\eta H; gen; hp; si$ [-]	3,891	3,891	3,891	3,846	3,528	3,326	3,206	3,126
	$FH; gen; si; gpref$ [-]	0,989	0,989	0,989	0,996	0,997	0,961	0,872	0,776
	$WH; aux$ [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

55 °C < θ_{sup} =< 65 °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	$\eta H; gen; hp; si$ [-]	3,155	3,155	3,155	3,152	3,061	2,998	2,941	2,832
	$FH; gen; si; gpref$ [-]	0,715	0,715	0,715	0,715	0,651	0,575	0,489	0,452
	$WH; aux$ [kWh-elek]	63	66	73	85	106	122	131	146
	$QH; hp; in$ (incl f-prac) [kWh/jr]	269	539	1077	2155	3987	5373	6200	7199
10	$\eta H; gen; hp; si$ [-]	3,179	3,179	3,179	3,177	3,086	3,023	2,875	2,792
	$FH; gen; si; gpref$ [-]	0,715	0,715	0,715	0,715	0,651	0,575	0,551	0,502
	$WH; aux$ [kWh-elek]	63	66	72	84	106	121	142	156
	$QH; hp; in$ (incl f-prac) [kWh/jr]	252	505	1009	2018	3747	5071	6504	7470
20	$\eta H; gen; hp; si$ [-]	3,203	3,203	3,203	3,201	3,016	3,048	2,898	2,814
	$FH; gen; si; gpref$ [-]	0,715	0,715	0,715	0,715	0,715	0,575	0,553	0,504
	$WH; aux$ [kWh-elek]	63	66	72	84	111	121	142	156
	$QH; hp; in$ (incl f-prac) [kWh/jr]	236	471	942	1884	3769	4774	6151	7085
30	$\eta H; gen; hp; si$ [-]	3,093	3,093	3,093	3,091	3,041	3,073	2,921	2,836
	$FH; gen; si; gpref$ [-]	0,802	0,802	0,802	0,802	0,715	0,575	0,554	0,507
	$WH; aux$ [kWh-elek]	64	67	74	88	111	120	141	156
	$QH; hp; in$ (incl f-prac) [kWh/jr]	236	472	945	1890	3507	4483	5797	6703
40	$\eta H; gen; hp; si$ [-]	3,116	3,116	3,116	3,117	3,067	2,982	2,872	2,804
	$FH; gen; si; gpref$ [-]	0,802	0,802	0,802	0,802	0,715	0,651	0,613	0,556
	$WH; aux$ [kWh-elek]	64	67	74	88	110	130	152	166
	$QH; hp; in$ (incl f-prac) [kWh/jr]	217	435	870	1739	3251	4587	5839	6716
50	$\eta H; gen; hp; si$ [-]	3,140	3,140	3,140	3,142	3,092	3,008	2,893	2,825
	$FH; gen; si; gpref$ [-]	0,802	0,802	0,802	0,802	0,715	0,651	0,616	0,559
	$WH; aux$ [kWh-elek]	64	67	74	88	110	130	151	166
	$QH; hp; in$ (incl f-prac) [kWh/jr]	199	398	796	1592	3000	4256	5446	6293
70	$\eta H; gen; hp; si$ [-]	3,188	3,188	3,188	3,193	3,144	2,980	2,886	2,829
	$FH; gen; si; gpref$ [-]	0,802	0,802	0,802	0,802	0,715	0,713	0,666	0,602
	$WH; aux$ [kWh-elek]	64	67	74	87	109	137	159	174
	$QH; hp; in$ (incl f-prac) [kWh/jr]	163	327	654	1308	2514	3765	4824	5604
100	$\eta H; gen; hp; si$ [-]	3,173	3,173	3,173	3,185	3,102	2,915	2,858	2,818
	$FH; gen; si; gpref$ [-]	0,858	0,858	0,858	0,858	0,802	0,844	0,772	0,690
	$WH; aux$ [kWh-elek]	64	68	75	89	116	153	176	191
	$QH; hp; in$ (incl f-prac) [kWh/jr]	114	228	455	911	1821	2732	3578	4248
150	$\eta H; gen; hp; si$ [-]	3,294	3,294	3,294	3,240	3,162	2,964	2,924	2,887
	$FH; gen; si; gpref$ [-]	0,858	0,858	0,858	0,905	0,858	0,933	0,851	0,760
	$WH; aux$ [kWh-elek]	64	67	74	90	118	161	185	201
	$QH; hp; in$ (incl f-prac) [kWh/jr]	60	119	238	477	954	1431	1908	2366

65 °C < θ_{sup} =< 75 °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	$\eta H; gen; hp; si$ [-]	3,111	3,111	3,111	3,111	3,019	3,025	2,899	2,801
	$FH; gen; si; gpref$ [-]	0,500	0,500	0,500	0,500	0,500	0,416	0,415	0,393
	$WH; aux$ [kWh-elek]	63	65	69	78	96	104	122	135
	$QH; hp; in$ (incl f-prac) [kWh/jr]	190	379	759	1518	3036	3877	5158	6131
10	$\eta H; gen; hp; si$ [-]	3,131	3,131	3,131	3,131	3,041	2,893	2,919	2,822
	$FH; gen; si; gpref$ [-]	0,500	0,500	0,500	0,500	0,500	0,500	0,416	0,394
	$WH; aux$ [kWh-elek]	63	65	69	78	96	116	121	135
	$QH; hp; in$ (incl f-prac) [kWh/jr]	179	359	718	1436	2872	4307	4909	5848
20	$\eta H; gen; hp; si$ [-]	3,151	3,151	3,151	3,151	3,064	2,914	2,820	2,756
	$FH; gen; si; gpref$ [-]	0,500	0,500	0,500	0,500	0,500	0,500	0,492	0,456
	$WH; aux$ [kWh-elek]	63	65	69	77	95	115	135	149
	$QH; hp; in$ (incl f-prac) [kWh/jr]	169	339	678	1355	2710	4065	5345	6255
30	$\eta H; gen; hp; si$ [-]	3,026	3,026	3,026	3,026	3,086	2,935	2,840	2,776
	$FH; gen; si; gpref$ [-]	0,575	0,575	0,575	0,575	0,500	0,500	0,493	0,458
	$WH; aux$ [kWh-elek]	63	66	71	81	95	115	135	149
	$QH; hp; in$ (incl f-prac) [kWh/jr]	177	354	707	1415	2552	3828	5042	5923
40	$\eta H; gen; hp; si$ [-]	3,046	3,046	3,046	3,046	2,975	2,956	2,860	2,796
	$FH; gen; si; gpref$ [-]	0,575	0,575	0,575	0,575	0,575	0,500	0,494	0,460
	$WH; aux$ [kWh-elek]	63	65	71	81	102	115	134	148
	$QH; hp; in$ (incl f-prac) [kWh/jr]	165	330	661	1321	2642	3594	4743	5594
50	$\eta H; gen; hp; si$ [-]	3,066	3,066	3,066	3,066	2,998	2,978	2,880	2,816
	$FH; gen; si; gpref$ [-]	0,575	0,575	0,575	0,575	0,575	0,500	0,495	0,462
	$WH; aux$ [kWh-elek]	63	65	70	80	101	114	134	148
	$QH; hp; in$ (incl f-prac) [kWh/jr]	154	307	615	1229	2459	3365	4449	5268
70	$\eta H; gen; hp; si$ [-]	3,106	3,106	3,106	3,106	3,044	3,020	2,838	2,793
	$FH; gen; si; gpref$ [-]	0,575	0,575	0,575	0,575	0,575	0,500	0,561	0,518
	$WH; aux$ [kWh-elek]	63	65	70	80	101	114	145	159
	$QH; hp; in$ (incl f-prac) [kWh/jr]	131	263	526	1051	2102	2919	4141	4892
100	$\eta H; gen; hp; si$ [-]	3,167	3,167	3,167	3,167	2,989	2,962	2,832	2,800
	$FH; gen; si; gpref$ [-]	0,575	0,575	0,575	0,575	0,651	0,575	0,628	0,575
	$WH; aux$ [kWh-elek]	63	65	70	80	107	123	155	170
	$QH; hp; in$ (incl f-prac) [kWh/jr]	99	199	398	796	1621	2387	3212	3852
150	$\eta H; gen; hp; si$ [-]	3,121	3,121	3,121	3,123	3,106	2,873	2,832	2,817
	$FH; gen; si; gpref$ [-]	0,651	0,651	0,651	0,651	0,651	0,738	0,752	0,682
	$WH; aux$ [kWh-elek]	63	66	72	83	105	143	174	190
	$QH; hp; in$ (incl f-prac) [kWh/jr]	54	108	216	432	863	1295	1726	2151