

Supplier		NIBE AB						
Model		F1145-5 3x400V	F1145-6 3x400V	F1145-8 3x400V	F1145-10 3x400V	F1145-12 3x400V	F1145-15 3x400V	F1145-17 3x400V
Model hot water heater		VPB300	VPB300	VPB300	VPB300	VPB300	VPB500	VPB500
Temperature application	°C	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55
Declared load profile for water heating		XXL	XXL	XXL	XXL	XXL	XXL	XXL
Seasonal space heating energy efficiency class, average climate		A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++	A++ / A++
Water heating energy efficiency class, average climate		A	A	A	A	A	A	A
Rated heat output (P _{designh}), average climate	kW	6 / 5	7 / 6	9 / 8	12 / 10	14	18	20
Annual energy consumption space heating, average climate	kWh	2 669 / 3 027	3 010 / 3 425	3 797 / 4 433	4 906 / 5 345	6 042 / 7 785	8 134 / 10 194	9 474 / 11 407
Annual energy consumption water heating, average climate	kWh	2 138	2 025	1 995	1 945	2 121	2 283	2 235
Seasonal space heating energy efficiency, average climate	%	172 / 128	184 / 137	188 / 141	194 / 147	183 / 141	175 / 138	166 / 137
Water heating energy efficiency, average climate	%	101	106	108	111	102	94	96
Sound power level L _{WA} indoors	dB	43	43	45	45	45	43	43
Rated heat output (P _{designh}), cold climate	kW	6 / 5	7 / 6	9 / 8	12 / 10	14	18	20
Rated heat output (P _{designh}), warm climate	kW	6 / 5	7 / 6	9 / 8	12 / 10	14	18	20
Annual energy consumption space heating, cold climate	kWh	3 097 / 3 495	3 487 / 3 969	4 393 / 5 142	5 695 / 6 214	6 993 / 9 049	9 454 / 11 893	11 047 / 13 300
Annual energy consumption water heating, cold climate	kWh	2 138	2 025	1 995	1 945	2 121	2 283	2 235
Annual energy consumption space heating, warm climate	kWh	1 731 / 1 985	1 966 / 2 237	2 463 / 2 864	3 173 / 3 462	3 949 / 5 120	5 333 / 6 636	6 224 / 7 404
Annual energy consumption water heating, warm climate	kWh	2 138	2 025	1 995	1 945	2 121	2 283	2 235
Seasonal space heating energy efficiency, cold climate	%	177 / 133	190 / 141	194 / 145	200 / 151	189 / 145	180 / 141	171 / 140
Water heating energy efficiency, cold climate	%	101	106	108	111	102	94	96
Seasonal space heating energy efficiency, warm climate	%	171 / 127	182 / 135	187 / 141	194 / 146	181 / 138	172 / 137	164 / 136
Water heating energy efficiency, warm climate	%	101	106	108	111	102	94	96
Sound power level L _{WA} outdoors	dB	-	-	-	-	-	-	-

Data for energy efficiency of the package

Model		F1145-5 1x230V	F1145-8 1x230V	F1145-10 1x230V	F1145-12 1x230V
Model hot water heater		VPB300	VPB300	VPB300	VPB300
Temperature application	°C	35 / 55	35 / 55	35 / 55	35 / 55
Controller, class		VII			
Controller, contribution to efficiency	%	3,5			
Seasonal space heating energy efficiency of the package, average climate	%	175 / 132	188 / 144	191 / 150	179 / 139
Seasonal space heating energy efficiency class of the package, average climate		A+++ / A++	A+++ / A++	A+++	A+++ / A++
Seasonal space heating energy efficiency of the package, cold climate	%	180 / 137	193 / 149	196 / 153	184 / 143
Seasonal space heating energy efficiency of the package, warm climate	%	175 / 130	187 / 144	192 / 150	176 / 137

Model		F1145-6 3x230V	F1145-8 3x230V	F1145-10 3x230V	F1145-12 3x230V	F1145-15 3x230V	F1145-17 3x230V
Model hot water heater		VPB300	VPB300	VPB300	VPB300	VPB500	VPB500
Temperature application	°C	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55
Controller, class		VII					
Controller, contribution to efficiency	%	3,5					
Seasonal space heating energy efficiency of the package, average climate	%	188 / 140	191 / 145	194 / 147	183 / 141	178 / 141	170 / 140
Seasonal space heating energy efficiency class of the package, average climate		A+++ / A++	A++				
Seasonal space heating energy efficiency of the package, cold climate	%	193 / 145	198 / 149	200 / 151	188 / 144	183 / 145	174 / 144
Seasonal space heating energy efficiency of the package, warm climate	%	186 / 139	191 / 145	194 / 147	181 / 138	176 / 140	167 / 140

Model		F1145-5 3x400V	F1145-6 3x400V	F1145-8 3x400V	F1145-10 3x400V	F1145-12 3x400V	F1145-15 3x400V	F1145-17 3x400V
Model hot water heater		VPB300	VPB300	VPB300	VPB300	VPB300	VPB500	VPB500
Temperature application	°C	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55	35 / 55
Controller, class		VII						
Controller, contribution to efficiency	%	3,5						
Seasonal space heating energy efficiency of the package, average climate	%	175 / 132	188 / 140	191 / 145	198 / 150	187 / 144	178 / 141	170 / 140
Seasonal space heating energy efficiency class of the package, average climate		A+++ / A++	A+++ / A++	A+++ / A++	A+++	A+++ / A++	A+++ / A++	A++
Seasonal space heating energy efficiency of the package, cold climate	%	180 / 137	193 / 145	198 / 149	203 / 154	193 / 148	183 / 145	174 / 144
Seasonal space heating energy efficiency of the package, warm climate	%	175 / 130	186 / 139	191 / 145	198 / 150	185 / 142	176 / 140	167 / 140

The reported efficiency of the package also takes the controller into account. If an external supplementary boiler or solar heating is added to the package, the overall efficiency of the package should be recalculated.

Technical documentation

Model		F1145-5 1x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	5,0	kW	Seasonal space heating energy efficiency	η_s	128	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	3,5	kW	$T_j = -7\text{ °C}$	COPd	2,99	kW
$T_j = +2\text{ °C}$	Pdh	4,1	kW	$T_j = +2\text{ °C}$	COPd	3,57	kW
$T_j = +7\text{ °C}$	Pdh	4,3	kW	$T_j = +7\text{ °C}$	COPd	3,84	kW
$T_j = +12\text{ °C}$	Pdh	4,6	kW	$T_j = +12\text{ °C}$	COPd	4,04	kW
$T_j = \text{biv}$	Pdh	3,8	kW	$T_j = \text{biv}$	COPd	3,26	kW
$T_j = \text{TOL}$	Pdh	3,2	kW	$T_j = \text{TOL}$	COPd	2,74	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-3,9	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{ych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	1,8	kW
Thermostat-off mode	P_{TO}	0,008	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,012	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	43 / -	dB	Nominal heating medium flow		0,35	m ³ /h
Annual energy consumption	Q_{HE}	3 027	kWh	Brine flow brine-water or water-water heat pumps		0,62	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	101	%
Daily energy consumption	Q_{elec}	9,73	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 138	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-8 1x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	9,0	kW	Seasonal space heating energy efficiency	η_s	141	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	7,5	kW	$T_j = -7\text{ °C}$	COPd	3,27	kW
$T_j = +2\text{ °C}$	Pdh	7,8	kW	$T_j = +2\text{ °C}$	COPd	3,77	kW
$T_j = +7\text{ °C}$	Pdh	8,0	kW	$T_j = +7\text{ °C}$	COPd	4,09	kW
$T_j = +12\text{ °C}$	Pdh	8,1	kW	$T_j = +12\text{ °C}$	COPd	4,39	kW
$T_j = \text{biv}$	Pdh	7,6	kW	$T_j = \text{biv}$	COPd	3,33	kW
$T_j = \text{TOL}$	Pdh	7,4	kW	$T_j = \text{TOL}$	COPd	3,07	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,9	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	1,6	kW
Thermostat-off mode	P _{TO}	0,012	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	45 / -	dB	Nominal heating medium flow		0,80	m ³ /h
Annual energy consumption	Q _{HE}	4 993	kWh	Brine flow brine-water or water-water heat pumps		1,50	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	108	%
Daily energy consumption	Q _{elec}	9,09	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	1 995	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-10 1x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	10,2	kW	Seasonal space heating energy efficiency	η_s	147	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	8,2	kW	$T_j = -7\text{ °C}$	COPd	3,40	kW
$T_j = +2\text{ °C}$	Pdh	8,8	kW	$T_j = +2\text{ °C}$	COPd	3,90	kW
$T_j = +7\text{ °C}$	Pdh	9,2	kW	$T_j = +7\text{ °C}$	COPd	4,22	kW
$T_j = +12\text{ °C}$	Pdh	9,6	kW	$T_j = +12\text{ °C}$	COPd	4,50	kW
$T_j = \text{biv}$	Pdh	8,3	kW	$T_j = \text{biv}$	COPd	3,52	kW
$T_j = \text{TOL}$	Pdh	7,9	kW	$T_j = \text{TOL}$	COPd	3,21	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,2	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	1,00	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	2,3	kW
Thermostat-off mode	P_{TO}	0,010	kW	Type of energy input			
Standby mode	P_{SB}	0,007	kW	Electric			
Crankcase heater mode	P_{CK}	0,009	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	45 / -	dB	Nominal heating medium flow		0,85	m ³ /h
Annual energy consumption	Q_{HE}	5 454	kWh	Brine flow brine-water or water-water heat pumps		1,64	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	111	%
Daily energy consumption	Q_{elec}	8,86	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	1 945	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-12 1x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	14	kW	Seasonal space heating energy efficiency	η_s	136	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	P _{dh}	10,8	kW	$T_j = -7\text{ °C}$	COP _d	3,16	kW
$T_j = +2\text{ °C}$	P _{dh}	11,1	kW	$T_j = +2\text{ °C}$	COP _d	3,68	kW
$T_j = +7\text{ °C}$	P _{dh}	11,4	kW	$T_j = +7\text{ °C}$	COP _d	3,97	kW
$T_j = +12\text{ °C}$	P _{dh}	11,6	kW	$T_j = +12\text{ °C}$	COP _d	4,24	kW
$T_j = \text{biv}$	P _{dh}	10,9	kW	$T_j = \text{biv}$	COP _d	3,35	kW
$T_j = \text{TOL}$	P _{dh}	10,6	kW	$T_j = \text{TOL}$	COP _d	2,98	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	P _{dh}		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COP _d		kW
Bivalent temperature	T _{biv}	-4,3	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	C _{dh}	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	3,4	kW
Thermostat-off mode	P _{TO}	0,018	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,030	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	45 / -	dB	Nominal heating medium flow		1,14	m ³ /h
Annual energy consumption	Q _{HE}	8 040	kWh	Brine flow brine-water or water-water heat pumps		2,12	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	102	%
Daily energy consumption	Q _{elec}	9,66	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	2 121	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-6 3x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	6,0	kW	Seasonal space heating energy efficiency	η_s	137	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	4,8	kW	$T_j = -7\text{ °C}$	COPd	3,18	kW
$T_j = +2\text{ °C}$	Pdh	5,3	kW	$T_j = +2\text{ °C}$	COPd	3,69	kW
$T_j = +7\text{ °C}$	Pdh	5,6	kW	$T_j = +7\text{ °C}$	COPd	4,02	kW
$T_j = +12\text{ °C}$	Pdh	6,0	kW	$T_j = +12\text{ °C}$	COPd	4,29	kW
$T_j = \text{biv}$	Pdh	4,9	kW	$T_j = \text{biv}$	COPd	3,30	kW
$T_j = \text{TOL}$	Pdh	4,5	kW	$T_j = \text{TOL}$	COPd	2,96	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,3	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	1,5	kW
Thermostat-off mode	P_{TO}	0,010	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	43 / -	dB	Nominal heating medium flow		0,49	m ³ /h
Annual energy consumption	Q_{HE}	3 425	kWh	Brine flow brine-water or water-water heat pumps		0,90	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	106	%
Daily energy consumption	Q_{elec}	9,22	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 025	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-8 3x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	8,0	kW	Seasonal space heating energy efficiency	η_s	141	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	6,2	kW	$T_j = -7\text{ °C}$	COPd	3,28	kW
$T_j = +2\text{ °C}$	Pdh	6,9	kW	$T_j = +2\text{ °C}$	COPd	3,81	kW
$T_j = +7\text{ °C}$	Pdh	7,2	kW	$T_j = +7\text{ °C}$	COPd	4,13	kW
$T_j = +12\text{ °C}$	Pdh	7,6	kW	$T_j = +12\text{ °C}$	COPd	4,41	kW
$T_j = \text{biv}$	Pdh	6,4	kW	$T_j = \text{biv}$	COPd	3,44	kW
$T_j = \text{TOL}$	Pdh	5,9	kW	$T_j = \text{TOL}$	COPd	3,07	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,9	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	C _{dh}	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	2,1	kW
Thermostat-off mode	P _{TO}	0,012	kW	Type of energy input			
Standby mode	P _{SB}	0,007	kW	Electric			
Crankcase heater mode	P _{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	45 / -	dB	Nominal heating medium flow		0,64	m ³ /h
Annual energy consumption	Q _{HE}	4 433	kWh	Brine flow brine-water or water-water heat pumps		1,20	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	108	%
Daily energy consumption	Q _{elec}	9,09	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	1 995	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-10 3x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	10,0	kW	Seasonal space heating energy efficiency	η_s	144	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	7,9	kW	$T_j = -7\text{ °C}$	COPd	3,34	kW
$T_j = +2\text{ °C}$	Pdh	8,7	kW	$T_j = +2\text{ °C}$	COPd	3,84	kW
$T_j = +7\text{ °C}$	Pdh	9,2	kW	$T_j = +7\text{ °C}$	COPd	4,18	kW
$T_j = +12\text{ °C}$	Pdh	9,6	kW	$T_j = +12\text{ °C}$	COPd	4,51	kW
$T_j = \text{biv}$	Pdh	8,2	kW	$T_j = \text{biv}$	COPd	3,46	kW
$T_j = \text{TOL}$	Pdh	7,6	kW	$T_j = \text{TOL}$	COPd	3,13	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,2	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	1,00	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	2,4	kW
Thermostat-off mode	P_{TO}	0,010	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	45 / -	dB	Nominal heating medium flow		0,82	m ³ /h
Annual energy consumption	Q_{HE}	5 438	kWh	Brine flow brine-water or water-water heat pumps		1,55	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	111	%
Daily energy consumption	Q_{elec}	8,86	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	1 945	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-12 3x230V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	14,0	kW	Seasonal space heating energy efficiency	η_s	137	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	10,8	kW	$T_j = -7\text{ °C}$	COPd	3,21	kW
$T_j = +2\text{ °C}$	Pdh	11,1	kW	$T_j = +2\text{ °C}$	COPd	3,70	kW
$T_j = +7\text{ °C}$	Pdh	11,3	kW	$T_j = +7\text{ °C}$	COPd	4,00	kW
$T_j = +12\text{ °C}$	Pdh	11,5	kW	$T_j = +12\text{ °C}$	COPd	4,30	kW
$T_j = \text{biv}$	Pdh	10,9	kW	$T_j = \text{biv}$	COPd	3,83	kW
$T_j = \text{TOL}$	Pdh	10,7	kW	$T_j = \text{TOL}$	COPd	3,05	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,2	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	3,3	kW
Thermostat-off mode	P _{TO}	0,018	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,030	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	45 / -	dB	Nominal heating medium flow		1,15	m ³ /h
Annual energy consumption	Q _{HE}	7 971	kWh	Brine flow brine-water or water-water heat pumps		2,16	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	102	%
Daily energy consumption	Q _{elec}	9,66	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	2 121	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-15 3x230V					
Model hot water heater		VPB500					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	18,0	kW	Seasonal space heating energy efficiency	η_s	138	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	14,6	kW	$T_j = -7\text{ °C}$	COPd	3,16	kW
$T_j = +2\text{ °C}$	Pdh	14,8	kW	$T_j = +2\text{ °C}$	COPd	3,72	kW
$T_j = +7\text{ °C}$	Pdh	15,1	kW	$T_j = +7\text{ °C}$	COPd	4,01	kW
$T_j = +12\text{ °C}$	Pdh	15,4	kW	$T_j = +12\text{ °C}$	COPd	4,27	kW
$T_j = \text{biv}$	Pdh	14,6	kW	$T_j = \text{biv}$	COPd	3,27	kW
$T_j = \text{TOL}$	Pdh	14,6	kW	$T_j = \text{TOL}$	COPd	2,96	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,1	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	3,4	kW
Thermostat-off mode	P_{TO}	0,022	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,035	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	43 / -	dB	Nominal heating medium flow		1,57	m ³ /h
Annual energy consumption	Q_{HE}	10 194	kWh	Brine flow brine-water or water-water heat pumps		2,89	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	94	%
Daily energy consumption	Q_{elec}	10,39	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 283	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-17 3x230V					
Model hot water heater		VPB500					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	20,0	kW	Seasonal space heating energy efficiency	η_s	137	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	16,0	kW	$T_j = -7\text{ °C}$	COPd	3,25	kW
$T_j = +2\text{ °C}$	Pdh	16,2	kW	$T_j = +2\text{ °C}$	COPd	3,70	kW
$T_j = +7\text{ °C}$	Pdh	16,6	kW	$T_j = +7\text{ °C}$	COPd	3,95	kW
$T_j = +12\text{ °C}$	Pdh	16,9	kW	$T_j = +12\text{ °C}$	COPd	4,16	kW
$T_j = \text{biv}$	Pdh	16,1	kW	$T_j = \text{biv}$	COPd	3,35	kW
$T_j = \text{TOL}$	Pdh	16,0	kW	$T_j = \text{TOL}$	COPd	3,08	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,8	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	4,0	kW
Thermostat-off mode	P _{TO}	0,025	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,035	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	43 / -	dB	Nominal heating medium flow		1,72	m ³ /h
Annual energy consumption	Q _{HE}	11 407	kWh	Brine flow brine-water or water-water heat pumps		3,23	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	96	%
Daily energy consumption	Q _{elec}	10,18	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	2 235	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-5 3x400V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	5,0	kW	Seasonal space heating energy efficiency	η_s	128	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	3,5	kW	$T_j = -7\text{ °C}$	COPd	2,99	kW
$T_j = +2\text{ °C}$	Pdh	4,1	kW	$T_j = +2\text{ °C}$	COPd	3,57	kW
$T_j = +7\text{ °C}$	Pdh	4,3	kW	$T_j = +7\text{ °C}$	COPd	3,84	kW
$T_j = +12\text{ °C}$	Pdh	4,6	kW	$T_j = +12\text{ °C}$	COPd	4,04	kW
$T_j = \text{biv}$	Pdh	3,8	kW	$T_j = \text{biv}$	COPd	3,26	kW
$T_j = \text{TOL}$	Pdh	3,2	kW	$T_j = \text{TOL}$	COPd	2,74	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-3,9	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	1,8	kW
Thermostat-off mode	P_{TO}	0,008	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,012	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	43 / -	dB	Nominal heating medium flow		0,35	m ³ /h
Annual energy consumption	Q_{HE}	3 027	kWh	Brine flow brine-water or water-water heat pumps		0,62	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	101	%
Daily energy consumption	Q_{elec}	9,73	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 138	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-6 3x400V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	6,0	kW	Seasonal space heating energy efficiency	η_s	137	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	P _{dh}	4,8	kW	$T_j = -7\text{ °C}$	COP _d	3,18	kW
$T_j = +2\text{ °C}$	P _{dh}	5,3	kW	$T_j = +2\text{ °C}$	COP _d	3,69	kW
$T_j = +7\text{ °C}$	P _{dh}	5,6	kW	$T_j = +7\text{ °C}$	COP _d	4,02	kW
$T_j = +12\text{ °C}$	P _{dh}	6,0	kW	$T_j = +12\text{ °C}$	COP _d	4,29	kW
$T_j = \text{biv}$	P _{dh}	4,9	kW	$T_j = \text{biv}$	COP _d	3,30	kW
$T_j = \text{TOL}$	P _{dh}	4,5	kW	$T_j = \text{TOL}$	COP _d	2,96	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	P _{dh}		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COP _d		kW
Bivalent temperature	T _{biv}	-5,3	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	C _{dh}	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	1,5	kW
Thermostat-off mode	P _{TO}	0,010	kW	Type of energy input			
Standby mode	P _{SB}	0,007	kW	Electric			
Crankcase heater mode	P _{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	43 / -	dB	Nominal heating medium flow		0,49	m ³ /h
Annual energy consumption	Q _{HE}	3 425	kWh	Brine flow brine-water or water-water heat pumps		0,90	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	106	%
Daily energy consumption	Q _{elec}	9,22	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	2 025	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-8 3x400V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	8,0	kW	Seasonal space heating energy efficiency	η_s	141	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	6,2	kW	$T_j = -7\text{ °C}$	COPd	3,28	kW
$T_j = +2\text{ °C}$	Pdh	6,9	kW	$T_j = +2\text{ °C}$	COPd	3,81	kW
$T_j = +7\text{ °C}$	Pdh	7,2	kW	$T_j = +7\text{ °C}$	COPd	4,13	kW
$T_j = +12\text{ °C}$	Pdh	7,6	kW	$T_j = +12\text{ °C}$	COPd	4,41	kW
$T_j = \text{biv}$	Pdh	6,4	kW	$T_j = \text{biv}$	COPd	3,44	kW
$T_j = \text{TOL}$	Pdh	5,9	kW	$T_j = \text{TOL}$	COPd	3,07	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,9	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	2,1	kW
Thermostat-off mode	P_{TO}	0,012	kW	Type of energy input			
Standby mode	P_{SB}	0,007	kW	Electric			
Crankcase heater mode	P_{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	45 / -	dB	Nominal heating medium flow		0,64	m ³ /h
Annual energy consumption	Q_{HE}	4 433	kWh	Brine flow brine-water or water-water heat pumps		1,20	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	108	%
Daily energy consumption	Q_{elec}	9,09	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	1 995	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-10 3x400V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	10,0	kW	Seasonal space heating energy efficiency	η_s	147	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	7,9	kW	$T_j = -7\text{ °C}$	COPd	3,40	kW
$T_j = +2\text{ °C}$	Pdh	8,7	kW	$T_j = +2\text{ °C}$	COPd	3,91	kW
$T_j = +7\text{ °C}$	Pdh	9,2	kW	$T_j = +7\text{ °C}$	COPd	4,25	kW
$T_j = +12\text{ °C}$	Pdh	9,6	kW	$T_j = +12\text{ °C}$	COPd	4,58	kW
$T_j = \text{biv}$	Pdh	8,2	kW	$T_j = \text{biv}$	COPd	3,52	kW
$T_j = \text{TOL}$	Pdh	7,6	kW	$T_j = \text{TOL}$	COPd	3,19	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-5,2	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	Cdh	1,00	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	2,4	kW
Thermostat-off mode	P _{TO}	0,010	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,014	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	45 / -	dB	Nominal heating medium flow		0,82	m ³ /h
Annual energy consumption	Q _{HE}	5 345	kWh	Brine flow brine-water or water-water heat pumps		1,56	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	111	%
Daily energy consumption	Q _{elec}	8,86	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	1 945	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-12 3x400V					
Model hot water heater		VPB300					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	14,0	kW	Seasonal space heating energy efficiency	η_s	141	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	10,8	kW	$T_j = -7\text{ °C}$	COPd	3,30	kW
$T_j = +2\text{ °C}$	Pdh	11,1	kW	$T_j = +2\text{ °C}$	COPd	3,80	kW
$T_j = +7\text{ °C}$	Pdh	11,3	kW	$T_j = +7\text{ °C}$	COPd	4,10	kW
$T_j = +12\text{ °C}$	Pdh	11,5	kW	$T_j = +12\text{ °C}$	COPd	4,40	kW
$T_j = \text{biv}$	Pdh	10,9	kW	$T_j = \text{biv}$	COPd	3,46	kW
$T_j = \text{TOL}$	Pdh	10,7	kW	$T_j = \text{TOL}$	COPd	3,12	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,2	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	3,3	kW
Thermostat-off mode	P_{TO}	0,018	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,030	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	45 / -	dB	Nominal heating medium flow		1,15	m ³ /h
Annual energy consumption	Q_{HE}	7 785	kWh	Brine flow brine-water or water-water heat pumps		2,18	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	102	%
Daily energy consumption	Q_{elec}	9,66	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 121	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-15 3x400V					
Model hot water heater		VPB500					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	18,0	kW	Seasonal space heating energy efficiency	η_s	138	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	P _{dh}	14,6	kW	$T_j = -7\text{ °C}$	COP _d	3,16	kW
$T_j = +2\text{ °C}$	P _{dh}	14,8	kW	$T_j = +2\text{ °C}$	COP _d	3,72	kW
$T_j = +7\text{ °C}$	P _{dh}	15,1	kW	$T_j = +7\text{ °C}$	COP _d	4,01	kW
$T_j = +12\text{ °C}$	P _{dh}	15,4	kW	$T_j = +12\text{ °C}$	COP _d	4,27	kW
$T_j = \text{biv}$	P _{dh}	14,6	kW	$T_j = \text{biv}$	COP _d	3,27	kW
$T_j = \text{TOL}$	P _{dh}	14,6	kW	$T_j = \text{TOL}$	COP _d	2,96	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	P _{dh}		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COP _d		kW
Bivalent temperature	T _{biv}	-5,1	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{ych}		kW	Cycling interval efficiency	COP _{yc}		-
Degradation coefficient	C _{dh}	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P _{OFF}	0,002	kW	Rated heat output	P _{sup}	3,4	kW
Thermostat-off mode	P _{TO}	0,022	kW	Type of energy input Electric			
Standby mode	P _{SB}	0,007	kW				
Crankcase heater mode	P _{CK}	0,035	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L _{WA}	43 / -	dB	Nominal heating medium flow		1,57	m ³ /h
Annual energy consumption	Q _{HE}	10 194	kWh	Brine flow brine-water or water-water heat pumps		2,89	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	94	%
Daily energy consumption	Q _{elec}	10,39	kWh	Daily fuel consumption	Q _{fuel}		kWh
Annual energy consumption	AEC	2 283	kWh	Annual fuel consumption	AFC		GJ

Model		F1145-17 3x400V					
Model hot water heater		VPB500					
Type of heat pump	<input type="checkbox"/> Air-water <input type="checkbox"/> Exhaust-water <input checked="" type="checkbox"/> Brine-water <input type="checkbox"/> Water-water						
Low-temperature heat pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Integrated immersion heater for additional heat	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Heat pump combination heater	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
Climate	<input checked="" type="checkbox"/> Average <input type="checkbox"/> Cold <input type="checkbox"/> Warm						
Temperature application	<input checked="" type="checkbox"/> Average (55 °C) <input type="checkbox"/> Low (35 °C)						
Applied standards	EN-14825 & EN-16147						
Rated heat output	Prated	20,0	kW	Seasonal space heating energy efficiency	η_s	137	%
<i>Declared capacity for space heating at part load and at outdoor temperature T_j</i>				<i>Declared coefficient of performance for space heating at part load and at outdoor temperature T_j</i>			
$T_j = -7\text{ °C}$	Pdh	16,0	kW	$T_j = -7\text{ °C}$	COPd	3,25	kW
$T_j = +2\text{ °C}$	Pdh	16,2	kW	$T_j = +2\text{ °C}$	COPd	3,70	kW
$T_j = +7\text{ °C}$	Pdh	16,6	kW	$T_j = +7\text{ °C}$	COPd	3,95	kW
$T_j = +12\text{ °C}$	Pdh	16,9	kW	$T_j = +12\text{ °C}$	COPd	4,16	kW
$T_j = \text{biv}$	Pdh	16,1	kW	$T_j = \text{biv}$	COPd	3,35	kW
$T_j = \text{TOL}$	Pdh	16,0	kW	$T_j = \text{TOL}$	COPd	3,08	kW
$T_j = -15\text{ °C}$ (if TOL < -20 °C)	Pdh		kW	$T_j = -15\text{ °C}$ (if TOL < -20 °C)	COPd		kW
Bivalent temperature	T_{biv}	-4,8	°C	Min. outdoor air temperature	TOL	-10	°C
Cycling interval capacity	P _{psych}		kW	Cycling interval efficiency	COP _{psych}		-
Degradation coefficient	Cdh	0,99	-	Max supply temperature	WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Additional heat</i>			
Off mode	P_{OFF}	0,002	kW	Rated heat output	P _{sup}	4,0	kW
Thermostat-off mode	P_{TO}	0,025	kW				
Standby mode	P_{SB}	0,007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0,035	kW				
<i>Other items</i>							
Capacity control	Fixed			Rated airflow (air-water)			m ³ /h
Sound power level, indoors/outdoors	L_{WA}	43 / -	dB	Nominal heating medium flow		1,72	m ³ /h
Annual energy consumption	Q_{HE}	11 407	kWh	Brine flow brine-water or water-water heat pumps		3,23	m ³ /h
<i>For heat pump combination heater</i>							
Declared load profile for water heating	XXL			Water heating energy efficiency	η_{wh}	96	%
Daily energy consumption	Q_{elec}	10,18	kWh	Daily fuel consumption	Q_{fuel}		kWh
Annual energy consumption	AEC	2 235	kWh	Annual fuel consumption	AFC		GJ

Recovery



Leave the disposal of the packaging to the installer who installed the product or to special waste stations.

Do not dispose of used products with normal household waste. It must be disposed of at a special waste station or dealer who provides this type of service.



Improper disposal of the product by the user results in administrative penalties in accordance with current legislation.