

VITOCAL 151-A

AWOT-E-AC 151.A16, AWOT-E-AC-AF 151.A16, AWOT-M-E-AC 151.A16, AWOT-M-E-AC-AF 151.A16

The product data specified meets the requirements of EU Regulations 811/2013 and 813/2013.

Product data	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Declared load profile			XL	XL	XL	XL
Seasonal space heating energy efficiency, medium-temperature application			A++	A++	A++	A++
Water heating energy efficiency classes			A+	A+	A+	A+
Rated heat output, medium-temperature application, Average climate conditions	P_{rated}	kW	13	13	13	13
Supplementary heater Rated heat output, Average climate conditions	P_{sup}	kW	2,6	2,6	2,6	2,6
Annual energy consumption	Q_{HE}	kWh	7670	7670	7670	7670
Annual electricity consumption	AEC	kWh	1273	1273	1273	1273
Seasonal space heating energy efficiency, medium-temperature application, Average climate conditions	η_s	%	141	141	141	141
Water heating energy efficiency, Average climate conditions	η_{wh}	%	130	130	130	130
sound power level indoors	L_{WA}	dB	40	40	40	40

For all special precautions to be taken during assembly, installation or maintenance of the space heater, see the service and installation instructions.

Product data	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Rated heat output, medium-temperature application, Colder climate conditions	P_{rated}	kW	11	11	11	11
Rated heat output, medium-temperature application, Warmer climate conditions	P_{rated}	kW	8	8	8	8
Supplementary heater Rated heat output, Colder climate conditions	P_{sup}	kW	11,2	11,2	11,2	11,2
Supplementary heater Rated heat output, Warmer climate conditions	P_{sup}	kW	0	0	0	0
Annual energy consumption, medium-temperature application, Colder climate conditions	Q_{HE}	kWh	10386	10386	10386	10386
Annual energy consumption, medium-temperature application, Warmer climate conditions	Q_{HE}	kWh	2266	2266	2266	2266
Annual electricity consumption, Colder climate conditions	AEC	kWh	1464	1464	1464	1464
Annual electricity consumption, Warmer climate conditions	AEC	kWh	1044	1044	1044	1044
Seasonal space heating energy efficiency, medium-temperature application, Colder climate conditions	η_s	%	117	117	117	117
Seasonal space heating energy efficiency, medium-temperature application, Warmer climate conditions	η_s	%	175	175	175	175
Sound power level, indoors	L_{WA}	dB	56	56	56	56



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Product data	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Operating mode	-	-	-	-
Mark Master/Slave Heat pump	Master	Master	Master	Master
Equipped with a supplementary heater	Yes	Yes	Yes	Yes
Heat pump combination heater	No	No	No	No
Seasonal space heating energy efficiency, medium-temperature application	A++	A++	A++	A++
Seasonal space heating energy efficiency, Low-temperature application	A+++	A+++	A+++	A+++
Water heating energy efficiency classes	A+	A+	A+	A+

Product data	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Rated heat output, medium-temperature application, Average climate conditions	P_{rated}	kW	13	13	13	13
Rated heat output, medium-temperature application, Colder climate conditions	P_{rated}	kW	11	11	11	11
Rated heat output, medium-temperature application, Warmer climate conditions	P_{rated}	kW	8	8	8	8
Rated heat output, Low-temperature application, Average climate conditions	P_{rated}	kW	14	14	14	14
Rated heat output, Low-temperature application, Colder climate conditions	P_{rated}	kW	12	12	12	12
Rated heat output, Low-temperature application, Warmer climate conditions	P_{rated}	kW	8	8	8	8
Seasonal space heating energy efficiency, medium-temperature application, Average climate conditions	η_s	%	141	141	141	141
seasonal coefficient of performance, medium-temperature application, Average climate conditions	SCOP		3,6	3,6	3,6	3,6
Seasonal space heating energy efficiency, medium-temperature application, Colder climate conditions	η_s	%	117	117	117	117
Seasonal space heating energy efficiency, medium-temperature application, Warmer climate conditions	η_s	%	175	175	175	175
Seasonal space heating energy efficiency, Low-temperature application, Average climate conditions	η_s	%	178	178	178	178
seasonal coefficient of performance, Low-temperature application, Average climate conditions	SCOP		4,52	4,52	4,52	4,52
Seasonal space heating energy efficiency, Low-temperature application, Colder climate conditions	η_s	%	141	141	141	141
Seasonal space heating energy efficiency, Low-temperature application, Warmer climate conditions	η_s	%	239	239	239	239

Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Tj= -7°C, medium-temperature application, Average climate conditions	Pdh	kW	11,8	11,8	11,8	11,8
Tj= -7°C, medium-temperature application, Colder climate conditions	Pdh	kW	11,7	11,7	11,7	11,7
Tj= -7°C, medium-temperature application, Warmer climate conditions	Pdh	kW	-	-	-	-
Tj= -7°C, Low-temperature application, Average climate conditions	Pdh	kW	12	12	12	12
Tj= -7°C, Low-temperature application, Colder climate conditions	Pdh	kW	12,1	12,1	12,1	12,1
Tj= -7°C, Low-temperature application, Warmer climate conditions	Pdh	kW	-	-	-	-
Tj= +2°C, medium-temperature application, Average climate conditions	Pdh	kW	7,5	7,5	7,5	7,5
Tj= +2°C, medium-temperature application, Colder climate conditions	Pdh	kW	7,5	7,5	7,5	7,5
Tj= +2°C, medium-temperature application, Warmer climate conditions	Pdh	kW	7,6	7,6	7,6	7,6
Tj= +2°C, Low-temperature application, Average climate conditions	Pdh	kW	7,4	7,4	7,4	7,4
Tj= +2°C, Low-temperature application, Colder climate conditions	Pdh	kW	7,6	7,6	7,6	7,6
Tj= +2°C, Low-temperature application, Warmer climate conditions	Pdh	kW	7,5	7,5	7,5	7,5

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Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature T _j	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
T _j = +7°C, medium-temperature application, Average climate conditions	P _{dH}	kW	6,5	6,5	6,5	6,5
T _j = +7°C, medium-temperature application, Colder climate conditions	P _{dH}	kW	6,6	6,6	6,6	6,6
T _j = +7°C, medium-temperature application, Warmer climate conditions	P _{dH}	kW	6,1	6,1	6,1	6,1
T _j = +7°C, Low-temperature application, Average climate conditions	P _{dH}	kW	6,7	6,7	6,7	6,7
T _j = +7°C, Low-temperature application, Colder climate conditions	P _{dH}	kW	6,7	6,7	6,7	6,7
T _j = +7°C, Low-temperature application, Warmer climate conditions	P _{dH}	kW	6,6	6,6	6,6	6,6
T _j = +12°C, medium-temperature application, Average climate conditions	P _{dH}	kW	5,7	5,7	5,7	5,7
T _j = +12°C, medium-temperature application, Colder climate conditions	P _{dH}	kW	5,7	5,7	5,7	5,7
T _j = +12°C, medium-temperature application, Warmer climate conditions	P _{dH}	kW	5,6	5,6	5,6	5,6
T _j = +12°C, Low-temperature application, Average climate conditions	P _{dH}	kW	5,3	5,3	5,3	5,3
T _j = +12°C, Low-temperature application, Colder climate conditions	P _{dH}	kW	5,4	5,4	5,4	5,4
T _j = +12°C, Low-temperature application, Warmer climate conditions	P _{dH}	kW	5,6	5,6	5,6	5,6
T _j = bivalent temperature, medium-temperature application, Average climate conditions	P _{dH}	kW	11,8	11,8	11,8	11,8
T _j = bivalent temperature, medium-temperature application, Colder climate conditions	P _{dH}	kW	9,1	9,1	9,1	9,1
T _j = bivalent temperature, medium-temperature application, Warmer climate conditions	P _{dH}	kW	7,6	7,6	7,6	7,6
T _j = bivalent temperature, Low-temperature application, Average climate conditions	P _{dH}	kW	12,1	12,1	12,1	12,1
T _j = bivalent temperature, Low-temperature application, Colder climate conditions	P _{dH}	kW	9,7	9,7	9,7	9,7
T _j = bivalent temperature, Low-temperature application, Warmer climate conditions	P _{dH}	kW	7,5	7,5	7,5	7,5
T _j = operation limit temperature, medium-temperature application, Average climate conditions	P _{dH}	kW	10,7	10,7	10,7	10,7
T _j = operation limit temperature, Low-temperature application, Colder climate conditions	P _{dH}	kW	8,4	8,4	8,4	8,4
T _j = operation limit temperature, medium-temperature application, Warmer climate conditions	P _{dH}	kW	7,6	7,6	7,6	7,6
T _j = operation limit temperature, Low-temperature application, Average climate conditions	P _{dH}	kW	11,1	11,1	11,1	11,1
T _j = operation limit temperature, medium-temperature application, Colder climate conditions	P _{dH}	kW	7,7	7,7	7,7	7,7
T _j = operation limit temperature, Low-temperature application, Warmer climate conditions	P _{dH}	kW	7,5	7,5	7,5	7,5
For air-to-water heat pumps: T _j = -15°C (if TOL < -20°C)	P _{dH}	kW	-	-	-	-
bivalent temperature, medium-temperature application, Average climate conditions	T _{biv}	°C	-7	-7	-7	-7
bivalent temperature, medium-temperature application, Colder climate conditions	T _{biv}	°C	-15	-15	-15	-15
bivalent temperature, medium-temperature application, Warmer climate conditions	T _{biv}	°C	2	2	2	2
bivalent temperature, Low-temperature application, Average climate conditions	T _{biv}	°C	-7	-7	-7	-7
bivalent temperature, Low-temperature application, Colder climate conditions	T _{biv}	°C	-15	-15	-15	-15
bivalent temperature, Low-temperature application, Warmer climate conditions	T _{biv}	°C	2	2	2	2
Cycling interval capacity for heating, Average climate conditions	P _{cyh}	kW	-	-	-	-
Cycling interval capacity for heating, Colder climate conditions	P _{cyh}	kW	-	-	-	-
Cycling interval capacity for heating, Warmer climate conditions	P _{cyh}	kW	-	-	-	-
Degradation co-efficient medium-temperature application	C _{dH}		1	1	1	1
Degradation co-efficient Low-temperature application	C _{dH}		1	1	1	1

Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T _j	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
T _j = -7°C, medium-temperature application, Average climate conditions	COP _d		2,3	2,3	2,3	2,3
T _j = -7°C, medium-temperature application, Colder climate conditions	COP _d		2,4	2,4	2,4	2,4

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Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Tj= -7°C, medium-temperature application, Warmer climate conditions	COPd		-	-	-	-
Tj= -7°C, Low-temperature application, Average climate conditions	COPd		2,9	2,9	2,9	2,9
Tj= -7°C, Low-temperature application, Colder climate conditions	COPd		2,8	2,8	2,8	2,8
Tj= -7°C, Low-temperature application, Warmer climate conditions	COPd		-	-	-	-
Tj= +2°C, medium-temperature application, Average climate conditions	COPd		3,4	3,4	3,4	3,4
Tj= +2°C, medium-temperature application, Colder climate conditions	COPd		3,5	3,5	3,5	3,5
Tj= +2°C, medium-temperature application, Warmer climate conditions	COPd		2,8	2,8	2,8	2,8
Tj= +2°C, Low-temperature application, Average climate conditions	COPd		4,3	4,3	4,3	4,3
Tj= +2°C, Low-temperature application, Colder climate conditions	COPd		4,3	4,3	4,3	4,3
Tj= +2°C, Low-temperature application, Warmer climate conditions	COPd		3,8	3,8	3,8	3,8
Tj= +7°C, medium-temperature application, Average climate conditions	COPd		4,8	4,8	4,8	4,8
Tj= +7°C, medium-temperature application, Colder climate conditions	COPd		5	5	5	5
Tj= +7°C, medium-temperature application, Warmer climate conditions	COPd		3,8	3,8	3,8	3,8
Tj= +7°C, Low-temperature application, Average climate conditions	COPd		6,1	6,1	6,1	6,1
Tj= +7°C, Low-temperature application, Colder climate conditions	COPd		6,1	6,1	6,1	6,1
Tj= +7°C, Low-temperature application, Warmer climate conditions	COPd		5,4	5,4	5,4	5,4
Tj= +12°C, medium-temperature application, Average climate conditions	COPd		6,3	6,3	6,3	6,3
Tj= +12°C, medium-temperature application, Colder climate conditions	COPd		6,5	6,5	6,5	6,5
Tj= +12°C, medium-temperature application, Warmer climate conditions	COPd		5,6	5,6	5,6	5,6
Tj= +12°C, Low-temperature application, Average climate conditions	COPd		7,3	7,3	7,3	7,3
Tj= +12°C, Low-temperature application, Colder climate conditions	COPd		7,3	7,3	7,3	7,3
Tj= +12°C, Low-temperature application, Warmer climate conditions	COPd		7,3	7,3	7,3	7,3
Tj= bivalent temperature, medium-temperature application, Average climate conditions	COPd		2,3	2,3	2,3	2,3
Tj= bivalent temperature, medium-temperature application, Colder climate conditions	COPd		2	2	2	2
Tj= bivalent temperature, medium-temperature application, Warmer climate conditions	COPd		2,8	2,8	2,8	2,8
Tj= bivalent temperature, Low-temperature application, Average climate conditions	COPd		2,9	2,9	2,9	2,9
Tj= bivalent temperature, Low-temperature application, Colder climate conditions	COPd		2,4	2,4	2,4	2,4
Tj= bivalent temperature, Low-temperature application, Warmer climate conditions	COPd		3,8	3,8	3,8	3,8
Tj= operation limit temperature, medium-temperature application, Average climate conditions	COPd		2,1	2,1	2,1	2,1
Tj= operation limit temperature, medium-temperature application, Colder climate conditions	COPd		1,7	1,7	1,7	1,7
Tj= operation limit temperature, medium-temperature application, Warmer climate conditions	COPd		2,8	2,8	2,8	2,8
Tj= operation limit temperature, Low-temperature application, Average climate conditions	COPd		2,6	2,6	2,6	2,6
Tj= operation limit temperature, Low-temperature application, Colder climate conditions	COPd		2,2	2,2	2,2	2,2
Tj= operation limit temperature, Low-temperature application, Warmer climate conditions	COPd		3,8	3,8	3,8	3,8
For air-to-water heat pumps: Tj= -15°C (if TOL < -20°C)	COPd		-	-	-	-
For air-to-water heat pumps: operation limit temperature, medium-temperature application, Average climate conditions	TOL	°C	-10	-10	-10	-10
For air-to-water heat pumps: operation limit temperature, Low-temperature application, Average climate conditions	TOL	°C	-10	-10	-10	-10
Cycling interval efficiency, Average climate conditions	COPcyc		-	-	-	-
Cycling interval efficiency, Colder climate conditions	COPcyc		-	-	-	-
Cycling interval efficiency, Warmer climate conditions	COPcyc		-	-	-	-
Heating water operating limit temperature	WTOL	°C	70	70	70	70

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The product data specified meets the requirements of EU Regulations 811/2013 and 813/2013.

Power consumption in operating modes other than the operating state	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Power consumption in modes other than active mode Off mode	P_{OFF}	kW	0	0	0	0
Power consumption in modes other than active mode Thermostat-off mode	P_{TO}	kW	0,014	0,014	0,014	0,014
Power consumption in modes other than active mode Standby mode	P_{SB}	kW	0,016	0,016	0,016	0,016
Power consumption in modes other than active mode Crankcase heater mode	P_{CK}	kW	0	0	0	0

Auxiliary heating appliances	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Supplementary heater Rated heat output, Average climate conditions	P_{SUP}	kW	2,6	2,6	2,6	2,6
Type of energy input			Electrical	Electrical	Electrical	Electrical

Other details	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Capacity control			variable	variable	variable	variable
sound power level indoors	L_{WA}	dB	40	40	40	40
Sound power level, indoors	L_{WA}	dB	56	56	56	56
Annual energy consumption	Q_{HE}	kWh	7670	7670	7670	7670
Annual energy consumption, medium-temperature application, Colder climate conditions	Q_{HE}	kWh	10386	10386	10386	10386
Annual energy consumption, medium-temperature application, Warmer climate conditions	Q_{HE}	kWh	2266	2266	2266	2266
Annual energy consumption, Low-temperature application, Average climate conditions	Q_{HE}	kWh	6242	6242	6242	6242
Annual energy consumption, medium-temperature application, Colder climate conditions	Q_{HE}	kWh	8080	8080	8080	8080
Annual energy consumption, medium-temperature application, Warmer climate conditions Water heating energy efficiency, Colder climate conditions	$Q_{HE}\eta_{wh}$	kWh%	1662111	1662111	1662111	1662111
For air-to-water heat pumps: Rated air flow rate, outdoors		m ³ /h	5393	5393	5393	5393
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger, medium-temperature application		m ³ /h	-	-	-	-
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger, Low-temperature application		m ³ /h	-	-	-	-

For combination heaters with heat pump	Symbol	Unit	AWOT-E-AC 151.A16	AWOT-E-AC-AF 151.A16	AWOT-M-E-AC 151.A16	AWOT-M-E-AC-AF 151.A16
Declared load profile			XL	XL	XL	XL
Daily electricity consumption, Average climate conditions	Q_{elec}	kWh	5,788	5,788	5,788	5,788
Daily electricity consumption, Colder climate conditions	Q_{elec}	kWh	6,656	6,656	6,656	6,656
Daily electricity consumption, Warmer climate conditions	Q_{elec}	kWh	4,746	4,746	4,746	4,746
Annual electricity consumption	AEC	kWh	1273	1273	1273	1273
Annual electricity consumption, Colder climate conditions	AEC	kWh	1464	1464	1464	1464
Annual electricity consumption, Warmer climate conditions	AEC	kWh	1044	1044	1044	1044
Water heating energy efficiency, Average climate conditions	η_{wh}	%	130	130	130	130
Water heating energy efficiency, Colder climate conditions	η_{wh}	%	111	111	111	111
Water heating energy efficiency, Warmer climate conditions	η_{wh}	%	153	153	153	153

Product fiche Energy efficiency category temperature controller

The product data specified meets the requirements of EU Regulations 811/2013.

Criterion	Energy efficiency category, temperature controller	Contribution, central heating energy efficiency
<ul style="list-style-type: none"> • Room thermostat which switches the heat source on/off 	1	1 %
<ul style="list-style-type: none"> • Weather-compensated control • Modulating heat source 	2	2 %
<ul style="list-style-type: none"> • Weather-compensated control • Non-modulating heat source 	3	1,5 %
<ul style="list-style-type: none"> • Room thermostat with TPI (Time Proportional Integral) properties • Non-modulating heat source 	4	2 %
<ul style="list-style-type: none"> • Modulating room thermostat • Modulating heat source 	5	3 %
<ul style="list-style-type: none"> • Weather compensation, control unit • Modulating heat source • Room temperature sensor in conjunction with room hook-up 	6	4 %
<ul style="list-style-type: none"> • Weather compensation, control unit • Non-modulating heat source • Room temperature sensor in conjunction with room hook-up 	7	3,5 %
<ul style="list-style-type: none"> • Individual room control with min. 3 room temperature sensors • Modulating heat source 	8	5 %