



ENERG
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Y IJA
IE IA

 MITSUBISHI
ELECTRIC

CAHV-R450YA-HPB(-BS)



55 °C

35 °C



A⁺⁺

A⁺

■ 47
■ 27
■ 18
kW

■ 49
■ 27
■ 18
kW



76 dB



2019

811/2013

		For medium-temperature application.												For low-temperature application.																													
1	2	3	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Outdoor unit	Indoor unit	✓	Medium-temperature application	Seasonal space heating energy efficiency class	Water heating energy efficiency class	Rated heat output under average climate conditions	For space heating, annual energy consumption under average climate conditions	For water heating, annual electricity consumption under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Work only during off-peak hours	Rated heat output under colder climate conditions	For space heating, annual energy consumption under warmer climate conditions	For space heating, annual energy consumption under colder climate conditions	For space heating, annual energy consumption under warmer climate conditions	For water heating, annual energy consumption under warmer climate conditions	Seasonal space heating energy efficiency under warmer climate conditions	Water heating energy efficiency under warmer climate conditions	Work only during off-peak hours	Rated heat output under average climate conditions	For space heating, annual energy consumption under average climate conditions	For water heating, annual electricity consumption under average climate conditions	Seasonal space heating energy efficiency under average climate conditions	Water heating energy efficiency under average climate conditions	Sound power level L _{WA} indoor	For space heating, annual energy consumption under warmer climate conditions	For water heating, annual energy consumption under warmer climate conditions	Seasonal space heating energy efficiency under warmer climate conditions	Water heating energy efficiency under warmer climate conditions	Work only during off-peak hours	Rated heat output under colder climate conditions	For space heating, annual energy consumption under colder climate conditions	For water heating, annual energy consumption under warmer climate conditions	Seasonal space heating energy efficiency under warmer climate conditions	Water heating energy efficiency under warmer climate conditions	Sound power level L _{WA} outdoor							
CAHV-R450YA-HPB-(BS)	-	✓	A++	-	27	55678	-	127	-	-	47	18	115855	23681	-	-	91	132	-	-	76	-	27	55468	-	140	-	-	49	18	120924	24144	-	-	105	160	-	-	76				

	English	Deutsch	Français	Italiano	Español
	Nederlands	Svenska	Dansk	Português	Ελληνικά
	suomi	Čeština	Български	Polski	-
1	Outdoor unit	Außengerät	unità esteriore	unità esterna	-
2	buitenuit	Utomhusenhet	Udenders enhed	unidade exterior	-
	Sisäyskikkö	Inomhusenhet	Indanders enhed	unidad interior	Εσωτερική μονάδα
	Medium-temperature application	Mitteltemperaturanwendung	l'application à moyenne température	le applicazioni a media temperatura	la aplicación de media temperatura
3	midtemperatur-toepassing	mediumtemperaturapplikation	middletemperaturanvendelsen	a aplicação a média temperatura	η εφαρμογή σε μέση θερμοκρασία
	keskilämpötilän sovellus	středotemperaturní aplikace	среднотемпературное приложение	zastosowania w średnich temperaturach	-
4	Low-temperature application	NiederTemperaturanwendung	l'application à basse température	le applicazioni a bassa temperatura	la aplicación de baja temperatura
	lagettemperatur-toepassing	lägetemperaturapplikation	lävtemperaturanvendelsen	a aplicação a baixa temperatura	η εφαρμογή σε χαμηλή θερμοκρασία
	matlanlämpötilän sovellus	nízkotepelní aplikace	нижнотемпературный приложение	zastosowania w niskich temperaturach	-
5	Seasonal space heating energy efficiency class	die Klasse für die jahreszeitbedingte Raumheizungs-Energieeffizienz	la classe d'efficacité énergétique saisonnière, pour le chauffage des locaux	la classe di efficienza energetica stagionale del riscaldamento d'ambiente	la clase de eficiencia energética estacional de calefacción
	de seizoensgebonden energie-efficiëntieklassen voor ruimteverwarming	säsongsrelaterade energieeffektivitetsklass vid rumstoppvarmning	klassen för årsvarningsgrad ved rumopvarming	A classe de eficiência energética do aquecimento ambiente sazonal	η τάξη ενεργειακής απόδοσης της εποχιακής θέρμανσης χώρου
	tilalämmitykseen kausittainen energiatehokkuusluokka	trída sezónně energetické účinnosti vytápení	klasť na sezónnata otopenitelná energetická efektivita	klasa sezonowej efektywności energetycznej ogrzewania pomieszczeń	-
6	Water heating energy efficiency class	die Klasse für die Warmwasserbereitungs-Energieeffizienz	la classe d'efficacité énergétique, pour le chauffage de l'eau	la classe di efficienza energetica del riscaldamento dell'acqua	la clase de eficiencia energética del caldeo de agua
	de energie-efficiëntieklassen voor waterverwarming	energielämmityksen energiatehokkuusluokka	klassen för årsvarningsgrad vid vattenuppvärmning	A classe de eficiência energética do aquecimento de água	η τάξη ενεργειακής απόδοσης θέρμανσης νερού
	vedenlämmityksen energiatehokkuusluokka	trída energetické účinnosti ohřevu vody	klasť na energetickú efektivitu pri podgrávaní na vodu	klasa efektywności energetycznej podgrzewania wody	-
7	Rated heat output under average climate conditions	die Wärmeneinleistung bei durchschnittlichen Klimaverhältnissen	la puissance thermique nominale dans les conditions climatiques moyennes	la potencia calorífica nominal(en condiciones climáticas medias)	la potencia calorífica nominal(en condiciones climáticas medias)
	de nominale warmteafgifte(onder gemiddelde klimaatomstandigheden)	Den nominella avgivna värmeeffekten(under genomsnittliga klimatförhållanden)	den nominelle nyttoeffekt(under gennemsnitlige klimaforhold)	A potência calorífica nominal(em condições climáticas médias)	η ονομαστική θερμική ισχύς(υπό μέσες κλιματικές συνθήκες)
	tilalämmitykseen kausittainen energiatehokkuusluokka	jmenovitý tepelný výkon(z průměrných klimatických podmínek)	nominalnata tóplinna možnost(prí sredni klimatickej podmínke)	znamionowa moc cieplna(w warunkach klimatu umiarkowanego)	-
	For space heating, annual energy consumption under average climate conditions	für die Raumheizung, den jährlichen Energieverbrauch bei durchschnittlichen Klimaverhältnissen	pour le chauffage des locaux, la consommation annuelle d'énergie(dans les conditions climatiques moyennes)	per il riscaldamento d'ambiente, il consumo annuo di energia(en condiciones climáticas medias)	para calentar espacios, el consumo anual de energía(en condiciones climáticas medias)
8	voor ruimteverwarming, het jaarlijkse energieverbruik(onder gemiddelde klimaatomstandigheden)	För rumstoppvarmning, årlig energiförbrukning(vid genomsnittliga klimatförhållanden)	for rumopvarming det årlige energiforbrug(under gennemsnitlige klimaforhold)	Para o aquecimento ambiente, o consumo anual de energia(em condições climáticas medias)	για τη θέρμανση χώρου, η ετήσια κατανάλωση ενέργειας(υπό μέσες κλιματικές συνθήκες)
	tilalämmitykseen vuotuinen energiankulutus(keskimäärisässä ilmasto-ulosuhteissa)	pro vytápení – roční spotřeba energie za průměrných klimatických podmínek	za otopenie, godišnato потребление на енергия(при средни кlimatickih usloviya)	w odniesieniu do ogrzewania pomieszczeń, roczne zużycie energii(w warunkach klimatu umiarkowanego)	-
9	For water heating, annual electricity consumption under average climate conditions	für die Warmwasserbereitung, den jährlichen Stromverbrauch bei durchschnittlichen Klimaverhältnissen	pour le chauffage de l'eau, la consommation annuelle d'électricité(dans les conditions climatiques moyennes)	per il riscaldamento dell'acqua, il consumo annuo di energia(en condiciones climáticas medias)	para calentar agua, el consumo anual de electricidad(en condiciones climáticas medias)
	voor waterverwarming, het jaarlijkse elektriciteitsverbruik(onder gemiddelde klimaatomstandigheden)	För vattenuppvärmning, årlig elförbrukning(vid genomsnittliga klimatförhållanden)	for vandopvarming det årlige elforbrug(under gennemsnitlige klimaforhold)	para o aquecimento de água, o consumo anual de eletricidade(em condições climáticas medias)	για τη θέρμανση νερού, η ετήσια κατανάλωση ηλεκτρικής ενέργειας(υπό μέσες κλιματικές συνθήκες)
	vedenlämmitykseen vuotuinen sähkökulutus(keskimäärisässä ilmasto-ulosuhteissa)	pro ohřev vody – roční spotřeba elektrické energie za průměrných klimatických podmínek	za podhrávanie na voda, godišnato потребление(при средни klimatickih usloviya)	w odniesieniu do podgrzewania wody, roczne zużycie energii elektrycznej(w warunkach klimatu umiarkowanego)	-
10	Seasonal space heating energy efficiency under average climate conditions	die Jahreszeitbedingte Raumheizungs-Energieeffizienz bei durchschnittlichen Klimaverhältnissen	l'efficacité énergétique saisonnière pour le chauffage des locaux(dans les conditions climatiques moyennes)	l'efficienza energetica stagionale di riscaldamento d'ambiente(en condiciones climáticas medias)	la eficiencia energética estacional de calefacción(en condiciones climáticas medias)
	de seizoensgebonden energie-efficiëntie voor ruimteverwarming(onder gemiddelde klimaatomstandigheden)	Säsongsmedelverkningsgrad för rumstoppvarmning(vid genomsnittliga klimatförhållanden)	årsvarningsgraden ved rumopvarming(under gennemsnitlige klimaforhold)	A eficiencia energética do aquecimento ambiente sazonal(em condições climáticas médias)	η ενεργειακή απόδοση της εποχιακής θέρμανσης χώρου(υπό μέσες κλιματικές συνθήκες)
	tilalämmitykseen kausittainen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	sezonni energetická účinnost vytápení za průměrných klimatických podmínek	sezonnata energetická efektivita(za otopenie)	sezonowa efektywność energetyczna ogrzewania pomieszczeń(w warunkach klimatu umiarkowanego)	-
11	Water heating energy efficiency under average climate conditions	die Warmwasserbereitungs-Energieeffizienz bei durchschnittlichen Klimaverhältnissen	l'efficacité énergétique pour le chauffage de l'eau(dans les conditions climatiques moyennes)	l'efficienza energetica di riscaldamento dell'acqua(en condiciones climáticas medias)	la eficiencia energética del caldeo de agua(en condiciones climáticas medias)
	de energie-efficiëntie voor waterverwarming(onder gemiddelde klimaatomstandigheden)	Energieeffektivitet vid vattenuppvärmning(vid genomsnittliga klimatförhållanden)	energielämmityksen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	a eficiencia energética do aquecimento de água(em condições climáticas médias)	η ενεργειακή απόδοση νερού(υπό μέσες κλιματικές συνθήκες)
	tilalämmitykseen kausittainen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	energetická účinnost ohřevu vody za průměrných klimatických podmínek	energičnata efektivita(za otopenie)	efektywność energetyczna podgrzewania wody(w warunkach klimatu umiarkowanego)	-
12	Sound power level L _{WA} indoor	der Schallleistungspegel L _{WA} in Gebäuden	le niveau de puissance acoustique L _{WA} , à l'intérieur	el nivel de potencia acústica L _{WA} en interiores	el nivel de potencia acústica L _{WA} en interiores
	het geluidsvormogensniveau L _{WA} binnen	Ljudeffektivitén L _{WA} i inomhus	lydefektivitetet L _{WA} i inde	O nível de potência sonora L _{WA} no interior	η στάθμη ηχητικής ισχύος L _{WA} εσωτερικού χώρου
	tilalämmitykseen kausittainen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	hladina akustického výkonu L _{WA} ve vnitřním prostoru	nívoto na zvukovou možnost L _{WA} na zákrito	poziom mocy akustycznej L _{WA} w pomieszczeniu	-
13	Work only during off-peak hours	dass ein ausschließlicher Betrieb des Kombiheizgerätes zu Schwachlastzeiten	fonctionne qu'en heures creuses	funciona solamente durante las horas de pico	funcionar solamente durante las horas de baja demanda
	werken uitsluitend in de daluren	drives uteslutande under perioder med låg belastning	fungere uden for spidsbelastningsperioder	de funcionar únicamente fora das horas de pico	λειτουργία μόνο εκτός των ώρων αιχμής
	toimimaan ainoastaan kulutushuipujen ulkopuolella	provozu pouze mimo špičku	pracovati samo u časovete izven výrovného nátopvarbané	pracować jedynie w godzinach poza szczytowym obciążeniem	-
14	Rated heat output under colder climate conditions	die Wärmeneinleistung bei kälteren Klimaverhältnissen	la puissance thermique nominale, dans les conditions climatiques plus froides	la potencia calorífica nominal, en condiciones climáticas más frías	la potencia calorífica nominal en condiciones climáticas más frías
	de nominale warmteafgifte, onder koudere klimaatomstandigheden	Nominell avgiven värmeeffekt vid kallare klimatförhållanden	den nominelle nyttoeffekt under koldre klimaforhold	A potência calorífica nominal em condições climáticas mais frias	η ονομαστική θερμική ισχύς υπό ψυχρότερες κλιματικές συνθήκες
	tilalämmitykseen kausittainen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	jmenovitý tepelný výkon za chladnejších klimatických podmínek	nominalnata tóplinna možnost pri po-studeni klimatickej podmínke	znamionowa moc cieplna w warunkach klimatu chłodnego	-
15	Rated heat output under warmer climate conditions	die Wärmeneinleistung bei wärmeren Klimaverhältnissen	la puissance thermique nominale, dans les conditions climatiques plus chaudes	la potencia calorífica nominal, en condiciones climáticas más calidas	la potencia calorífica nominal en condiciones climáticas más cálidas
	de nominale warmteafgifte, onder warmere klimaatomstandigheden	Nominell avgiven värmeeffekt vid varmare klimatförhållanden	den nominelle nyttoeffekt under varmare klimaforhold	A potência calorífica nominal em condições climáticas mais quentes	η ονομαστική θερμική ισχύς υπό ψυχρότερες κλιματικές συνθήκες
	tilalämmitykseen kausittainen energiatehokkuus(keskimäärisässä ilmasto-ulosuhteissa)	jmenovitý tepelný výkon za teplejších klimatických podmínek	nominalnata tóplinna možnost pri po-topli klimatickej podmínke	znamionowa moc cieplna w warunkach klimatu cieplego	-
16	For space heating, annual energy consumption under colder climate conditions	für die Raumheizung, der jährliche Energieverbrauch bei kälteren Klimaverhältnissen	pour le chauffage des locaux, la consommation annuelle d'énergie, dans les conditions climatiques plus froides	per il riscaldamento d'ambiente, il consumo annuo di energia, in condizioni climatiche più fredde	para calentar espacios, el consumo anual de energía en condiciones climáticas más frías
	voor ruimteverwarming, het jaarlijkse energieverbruik onder koudere klimaatomstandigheden	För rumstoppvarmning, årlig energiförbrukning under kallare klimatförhållanden	for rumopvarming det årlige energiforbrug under koldre klimaforhold	Para o aquecimento ambiente, o consumo anual de energia em condições climáticas mais frias	για τη θέρμανση χώρου, η ετήσια κατανάλωση ενέργειας υπό ψυχρότερες κλιματικές συνθήκες
	tilalämmitykseen vuotuinen energiankulutus kylmissä ilmasto-ulosuhteissa	pro vytápení – roční spotřeba energie za chladnejších klimatických podmínek	za otopenie, godišnato потребление на енергия при po-studeni klimatickih usloviya	w odniesieniu do ogrzewania pomieszczeń, roczne zużycie energii w warunkach klimatu chłodnego	-
17	For space heating, annual energy consumption under warmer climate conditions	für die Raumheizung, der jährliche Energieverbrauch bei wärmeren Klimaverhältnissen	pour le chauffage des locaux, la consommation annuelle d'énergie, dans les conditions climatiques plus chaudes	per il riscaldamento d'ambiente, il consumo annuo di energia, in condizioni climatiche più calde	para calentar espacios, el consumo anual de energía en condiciones climáticas más cálidas
	voor ruimteverwarming, het jaarlijkse energieverbruik onder warmere klimaatomstandigheden	För rumstoppvarmning, årlig energiförbrukning under varmare klimatförhållanden	for rumopvarming det årlige energiforbrug under varmere klimaforhold	Para o aquecimento ambiente, o consumo anual de energia em condições climáticas mais quentes	για τη θέρμανση χώρου, η ετήσια κατανάλωση ενέργειας υπό θερμότερες κλιματικές συνθήκες
	tilalämmitykseen vuotuinen energiankulutus kylmissä ilmasto-ulosuhteissa	pro vytápení – roční spotřeba energie za teplejších klimatických podmínek	za otopenie, godišnato потребление на енергия при po-topli klimatickej podmínke	w odniesieniu do ogrzewania pomieszczeń, roczne zużycie energii w warunkach klimatu cieplego	-
18	For water heating, annual energy consumption under colder climate conditions	für die Warmwasserbereitung, der jährliche Stromverbrauch bei kälteren Klimaverhältnissen	pour le chauffage de l'eau, la consommation annuelle d'électricité, dans les conditions climatiques plus froides	per il riscaldamento dell'acqua, il consumo annuo di energia, in condizioni climatiche più fredde e più calde	para calentar agua, el consumo anual de electricidad en condiciones climáticas más frías
	voor waterverwarming, het jaarlijkse elektriciteitsverbruik onder koudere klimaatomstandigheden	För vattenuppvärmning, årlig elförbrukning under kallare klimatförhållanden	for vandopvarming det årlige elforbrug under koldre klimaforhold	para o aquecimento de água, o consumo anual de eletricidade em condições climáticas mais frias	για θέρμανση νερού, η ετήσια κατανάλωση ηλεκτρικής ενέργειας υπό ψυχρότερες κλιματικές συνθήκες
	tilalämmitykseen vuotuinen energiankulutus kylmissä ilmasto-ulosuhteissa	pro ohřev vody – roční spotřeba elektrické energie za chladnejších klimatických podmínek	za podhrávanie na voda, godišnato потребление на електроенергия при po-studeni klimatickej podmínke	w odniesieniu do podgrzewania wody, roczne zużycie energii elektrycznej w warunkach klimatu chłodnego	-
19	For water heating, annual energy consumption under warmer climate conditions	für die Warmwasserbereitung, der jährliche Stromverbrauch bei wärmeren Klimaverhältnissen	pour le chauffage de l'eau, la consommation annuelle d'électricité, dans les conditions climatiques plus chaudes	per il riscaldamento dell'acqua, il consumo annuo di energia, in condizioni climatiche più fredde e più calde	para calentar agua, el consumo anual de electricidad en condiciones climáticas más cálidas
	voor waterverwarming, het jaarlijkse elektriciteitsverbruik onder warmere klimaatomstandigheden	För vattenuppvärmning, årlig elförbrukning under varmare klimatförhållanden	for vandopvarming det årlige elforbrug under varmere klimaforhold	para o aquecimento de água, o consumo anual de eletricidade em condições climáticas mais quentes	για θέρμανση νερού, η ετήσια κατανάλωση ηλεκτρικής ενέργειας υπό θερμότερες κλιματικές συνθήκες
	tilalämmitykseen vuotuinen energiankulutus kylmissä ilmasto-ulosuhteissa	pro ohřev vody – roční spotřeba elektrické energie za teplejších klimatických podmínek	za podhrávanie na voda, godišnato потребление на електроенергия при po-topli klimatickej podmínke	w odniesieniu do podgrzewania wody,	

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	medium-temperature application.		
Parameters for	average climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	27	kW	Seasonal space heating energy efficiency	η_s	127	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj						Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	
Tj= - 7 °C	Pdh	23.8	kW	Tj= - 7 °C	COPd	2.08	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= + 2 °C	COPd	3.22	-
Tj= + 2 °C	Pdh	14.7	kW	Tj= + 7 °C	COPd	4.60	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	5.81	-
Tj= + 7 °C	Pdh	13.9	kW	Tj= bivalent temperature	COPd	2.08	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	1.72	-
Tj= +12 °C	Pdh	13.7	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-10	°C
Tj= bivalent temperature	Pdh	23.8	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	27.0	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode						Supplementary heater	
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	0.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				

Other items							
Capacity control	Variable		Rated air flow rate, outdoors	-	18000	m ³ /h	
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	17161	kWh				

For heat pump combination heater:							
Declared load profile	-		Water heating energy efficiency	η_{wh}	-	%	
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

Contact details				
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	medium-temperature application.		
Parameters for	colder climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	47	kW	Seasonal space heating energy efficiency	η_s	91	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj						Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	
Tj= - 7 °C	Pdh	29.1	kW	Tj= - 7 °C	COPd	2.14	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= + 2 °C	COPd	3.27	-
Tj= + 2 °C	Pdh	17.7	kW	Tj= + 7 °C	COPd	4.28	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	5.63	-
Tj= + 7 °C	Pdh	14.0	kW	Tj= bivalent temperature	COPd	2.14	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	1.58	-
Tj= +12 °C	Pdh	14.0	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-20	°C
Tj= bivalent temperature	Pdh	29.1	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	19.7	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode						Supplementary heater	
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	47.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				
Other items							
Capacity control	Variable			Rated air flow rate, outdoors	-	18000	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	49179	kWh				

For heat pump combination heater:	Declared load profile	-	Water heating energy efficiency	η_{wh}	-	%
	Daily electricity consumption	Qelec	-	kW/h		
	Annual electricity consumption	AEC	-	kW/h		

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	medium-temperature application.		
Parameters for	warmer climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	18	kW	Seasonal space heating energy efficiency	η_s	132	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj= - 7 °C	Pdh	-	kW	Tj= - 7 °C	COPd	-	-
Degradation co-efficient (**)	Cdh	-	-	Tj= + 2 °C	COPd	2.23	-
Tj= + 2 °C	Pdh	17.7	kW	Tj= + 7 °C	COPd	3.28	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	4.97	-
Tj= + 7 °C	Pdh	14.0	kW	Tj= bivalent temperature	COPd	1.76	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	2.28	-
Tj= +12 °C	Pdh	14.0	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-10	°C
Tj= bivalent temperature	Pdh	29.1	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	27.8	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	0.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				
Other items							
Capacity control	Variable			Rated air flow rate, outdoors	-	18000	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	7018	kWh				

For heat pump combination heater:	Declared load profile	-	Water heating energy efficiency	η_{wh}	-	%
	Daily electricity consumption	Q _{elec}	-	kW/h		
	Annual electricity consumption	AEC	-	kW/h		

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	low-temperature application.		
Parameters for	average climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	27	kW	Seasonal space heating energy efficiency	η_s	140	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj						Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	
Tj= - 7 °C	Pdh	23.8	kW	Tj= - 7 °C	COPd	2.60	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= + 2 °C	COPd	3.33	-
Tj= + 2 °C	Pdh	15.3	kW	Tj= + 7 °C	COPd	5.20	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	5.05	-
Tj= + 7 °C	Pdh	9.3	kW	Tj= bivalent temperature	COPd	2.60	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	2.21	-
Tj= +12 °C	Pdh	8.7	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-10	°C
Tj= bivalent temperature	Pdh	23.8	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	26.9	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode						Supplementary heater	
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	0.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				
Other items							
Capacity control	Variable		Rated air flow rate, outdoors		-	18000	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	15556	kWh				
For heat pump combination heater:							
Declared load profile	-		Water heating energy efficiency		η_{wh}	-	%
Daily electricity consumption	Qelec	-	kWh				
Annual electricity consumption	AEC	-	kWh				
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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	low-temperature application.		
Parameters for	colder climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	49	kW	Seasonal space heating energy efficiency	η_s	105	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj						Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj	
Tj= - 7 °C	Pdh	29.7	kW	Tj= - 7 °C	COPd	2.53	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= + 2 °C	COPd	3.82	-
Tj= + 2 °C	Pdh	18.1	kW	Tj= + 7 °C	COPd	4.93	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	4.99	-
Tj= + 7 °C	Pdh	11.6	kW	Tj= bivalent temperature	COPd	2.53	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	2.91	-
Tj= +12 °C	Pdh	8.7	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-10	°C
Tj= bivalent temperature	Pdh	29.7	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	28.0	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode						Supplementary heater	
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	49.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				
Other items							
Capacity control	Variable			Rated air flow rate, outdoors	-	18000	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	44894	kWh				

For heat pump combination heater:	Declared load profile	-	Water heating energy efficiency	η_{wh}	-	%
	Daily electricity consumption	Qelec	-	kW/h		
	Annual electricity consumption	AEC	-	kW/h		

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Model(s):	Outdoor unit:	CAHV-R450YA-HPB-(BS)	
	Indoor unit:	-	
Air-to-water heat pump:	yes		
Water-to-water heat pump:	no		
Brine-to-water heat pump:	no		
Low-temperature heat pump:	no		
Equipped with a supplementary heater:	no		
Heat pump combination heater:	no		
Parameters for	low-temperature application.		
Parameters for	warmer climate conditions.		

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	18	kW	Seasonal space heating energy efficiency	η_s	160	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj= - 7 °C	Pdh	-	kW	Tj= - 7 °C	COPd	-	-
Degradation co-efficient (**)	Cdh	-	-	Tj= + 2 °C	COPd	3.40	-
Tj= + 2 °C	Pdh	18.1	kW	Tj= + 7 °C	COPd	4.24	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= +12 °C	COPd	5.03	-
Tj= + 7 °C	Pdh	11.6	kW	Tj= bivalent temperature	COPd	2.53	-
Degradation co-efficient (**)	Cdh	0.9	-	Tj= operation limit temperature	COPd	3.12	-
Tj= +12 °C	Pdh	9.4	kW	Tj = - 15 °C (if TOL < - 20 °C)	COPd	-	-
Degradation co-efficient (**)	Cdh	0.9	-	Operation limit temperature	TOL	-10	°C
Tj= bivalent temperature	Pdh	29.7	kW	Heating water operating limit temperature	WTOL	70	°C
Tj= operation limit temperature	Pdh	28.0	kW				
Tj = - 15 °C (if TOL < - 20 °C)	Pdh	-	kW				
Bivalent temperature	Tbiv	-7	°C				
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	0.014	kW	Rated heat output (*)	P _{sup}	0.0	kW
Thermostat-off mode	P _{TO}	0.014	kW	Type of energy input			
Standby mode	P _{SB}	0.014	kW				
Crankcase heater mode	P _{CK}	0.065	kW				
Other items							
Capacity control	Variable			Rated air flow rate, outdoors	-	18000	m ³ /h
Sound power level, indoors/outdoors	L _{WA}	-76	dBA				
Annual energy consumption	Q _{HE}	5929	kWh				

For heat pump combination heater:	Declared load profile	-	Water heating energy efficiency	η_{wh}	-	%
	Daily electricity consumption	Q _{elec}	-	kW/h		
	Annual electricity consumption	AEC	-	kW/h		

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(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.