

ANTΛΙΑ ΘΕΡΜΟΤΗΤΑΣ ΑΕΡΑ - NEPOY AIR TO WATER HEAT PUMP

MPH-12231

TEXNIKA XAPAKTHPIΣTIKA TECHNICAL DATA

ΣΗΜΑΝΤΙΚΗ ΣΗΜΕΙΩΣΗ

Ευχαριστούμε πολύ για την αγορά του προϊόντος μας.: Πριν χρησιμοποιήσετε τη μονάδα σας, διαβάστε προσεκτικά αυτό το εγχειρίδιο και φυλάξτε το για μελλοντική αναφορά.

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Model(s):				-	PH-12231				
Air-to-water heat pump:				yes					
Vater-to-water heat pump:				no					
Brine-to-water heat pump:				no					
ow-temperature heat pump:				no					
Equipped with a supplementary heater:				yes	(3kW)				
leat pump combination heater:				no					
Declared climate condition:					rage				
Parameters are declared for low-tempera	ture application	on.							
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Item	Symbol	Value	Unit		Item	Symbol	Value	Unit	
Rated heat output (*)	P _{rated}	12.1	kW		Seasonal space heating energy efficiency	η_{s}	187	%	
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or prima temperature 20 °C and outdoor temperature		for part load at i	ndoor		
-j = -7°C	P _{dh}	10.7	kW		$T_j = -7^{\circ}C$	COP _d	2.60	-	
-j = + 2°C	P _{dh}	6.7	kW		T _j = + 2°C	COPd	4.41		
-j = + 7°C	P _{dh}	4.3	kW		T _j = + 7°C	COP _d	7.23	-	
-j = + 12°C	P_{dh}	3.4	kW		T _j = + 12°C	COP _d	9.93	-	
j = bivalent temperature	P_{dh}	10.7	kW		T _j = bivalent temperature	COP _d	2.60	-	
j = operation limit temperature	P_{dh}	11.3	kW		T _j = operation limit temperature	COP _d	2.75	-	
For air-to-water heat pumps: $T_j = -15^{\circ}C$ if TOL $< -20^{\circ}C$)	P_{dh}	N/A	kW		For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if TOL < $-20^{\circ}C$)	COP _d	N/A	-	
Bivalent temperature	T _{biv}	-7	°C		For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C	
Cycling interval capacity for heating	P _{cych}	N/A	kW		Cycling interval efficiency	COP _{cyc}	N/A	-	
Degradation co-efficient (**)	C_{dh}	0.9	-		Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes other than	active mode		•		Supplementary heater		•		
Off mode	P _{OFF}	0.014	kW		Rated heat output (**)	P _{sup}	0.8	kW	
hermostat-off mode	P _{TO}	0.024	kW						
Standby mode	P _{SB}	0.014	kW		Type of energy input	Electric			
Crankcase heater mode	P _{CK}	0.000	kW						
			•	•					
Other items					,				
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	5000	m ³ /h	
Sound power level, indoors/ outdoors	L _{WA}	-/64	dB		For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	N/A	m³/h	
Annual energy consumption	Q _{HE}	5262	kWh		heat exchanger				
or heat pump combination heater:									
Declared load profile		N/A			Water heating energy efficiency	η_{wh}	N/A	%	
Daily electricity consumption	Q _{elec}	N/A	kWh		Daily fuel consumption	Q_{fuel}	N/A	kWh	
Annual electricity consumption	AEC	N/A	kWh		Annual fuel consumption	AFC	N/A	GJ	
Contact details	To	k cover of the	e manual	•					

Model(s):				MPH-12231				
Air-to-water heat pump:	Air-to-water heat pump:							
Water-to-water heat pump:				00				
Brine-to-water heat pump:				00				
Low-temperature heat pump:	·	· · · · · · · · · · · · · · · · · · ·	·	00				
Equipped with a supplementary heater:				res (3kW)				
Heat pump combination heater:				10				
Declared climate condition:				varmer				
Parameters are declared for low-temperat	ure application	on.						
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Item	Symbol	Value	Unit	Item	Symbol	Value	Un	
Rated heat output (*)	P _{rated}	12.3	kW	Seasonal space heating energy efficiency	η _s	274	%	
Declared capacity for heating for part load outdoor temperature Tj	at indoor ter	mperature 20	°C and	Declared coefficient of performance or prim temperature 20 °C and outdoor temperature	, ,,	for part load at i	ndoor	
T _j = - 7°C	P_{dh}	N/A	kW	$T_j = -7$ °C	COP _d	N/A	-	
T _j = + 2°C	P_{dh}	11.7	kW	$T_j = + 2^{\circ}C$	COP _d	3.28	-	
T _j = + 7°C	P_{dh}	7.9	kW	$T_j = + 7^{\circ}C$	COP _d	5.97	-	
T _j = + 12°C	P_{dh}	3.6	kW	T _j = + 12°C	COP _d	9.54	-	
T _j = bivalent temperature	P_{dh}	7.9	kW	T _j = bivalent temperature	COP _d	5.97	-	
T _j = operation limit temperature	P_{dh}	11.7	kW	T _j = operation limit temperature	COP _d	3.28	-	
For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if TOL < $-20^{\circ}C$)	P_{dh}	N/A	kW	For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if $TOL < -20^{\circ}C$)	COP _d	N/A	-	
Bivalent temperature	T _{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C	
Cycling interval capacity for heating	P _{cych}	N/A	kW	Cycling interval efficiency	COP _{cyc}	N/A	-	
Degradation co-efficient (**)	C _{dh}	0.9	1	Heating water operating limit temperature	WTOL	75	°C	
Power consumption in modes other than a	active mode			Supplementary heater				
Off mode	P _{OFF}	0.014	kW	Rated heat output (**)	P _{sup}	0.6	kV	
Thermostat-off mode	P _{TO}	0.024	kW					
Standby mode	P _{SB}	0.014	kW	Type of energy input	Electric			
Crankcase heater mode	Рск	0.000	kW					
Other items								
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors	-	5000	m³/	
Sound power level, indoors/ outdoors	L _{WA}	-/64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	N/A	m³/	
Annual energy consumption	Q_{HE}	2376	kWh	heat exchanger				
For heat pump combination heater:				·		•	•	
Declared load profile		N/A		Water heating energy efficiency	η_{wh}	N/A	%	
Daily electricity consumption	Q _{elec}	N/A	kWh	Daily fuel consumption	Q _{fuel}	N/A	kW	
Annual electricity consumption	AEC	N/A	kWh	Annual fuel consumption	AFC	N/A	G	
Contact details	See the bac	k cover of th	e manual	•	•			

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MPH-12231							
no							
	1	T					
Item	Symbol	Value	Unit				
al space heating energy cy	η_s	172	%				
d coefficient of performance or printure 20 °C and outdoor temperatu		for part load at i	ndoor				
°C	COP _d	3.52	-				
°C	COP _d	5.47	-				
C	COP _d	7.06	-				
2°C	COPd	8.31	-				
alent temperature	COP _d	2.55	-				
ration limit temperature	COP _d	2.22	-				
o-water heat pumps: T _j = - 15°C (i - 20°C)	f COP _d	N/A	-				
o-water heat pumps: Operation perature	TOL	-22	°C				
interval efficiency	COP _{cyc}	N/A	-				
water operating limit temperature	WTOL	75	°C				
nentary heater		I					
eat output (**)	P _{sup}	2.5	kW				
Rated heat output (**)							
energy input	Electric						
	1						
For air-to-water heat pumps: Rated air flow rate, outdoors		5000	m³/h				
er- or brine-to-water heat pumps: rine or water flow rate, outdoor	-	N/A	m³/h				
changer							
eating energy efficiency	η_{wh}	N/A	%				
el consumption	Q _{fuel}	N/A	kWh				
fuel consumption	AFC	N/A	GJ				
	1	1	i				
h	heating energy efficiency lel consumption fuel consumption Prated is equal to the design load for the des	heating energy efficiency η_{wh} lel consumption Q_{fuel} fuel consumption AFC	heating energy efficiency In Indian Provided Indian India				

Model(s): Air-to-water heat pump:				MPH	I-12231									
ir-to-water heat pump:							MPH-12231							
			Air-to-water heat pump:											
Vater-to-water heat pump:				no										
Brine-to-water heat pump:				no										
ow-temperature heat pump:				no										
Equipped with a supplementary heater:				yes ((3kW)									
leat pump combination heater:				no										
Declared climate condition:				avera	age									
Parameters are declared for medium-tem	perature appl	ication.												
	T													
ltem	Symbol	Value	Unit		Item	Symbol	Value	Unit						
Rated heat output (*)	P _{rated}	11.9	kW		Seasonal space heating energy efficiency	η_{s}	148	%						
Declared capacity for heating for part load at indoor temperature 20 $^{\circ}\text{C}$ and outdoor temperature Tj					Declared coefficient of performance or primatemperature 20 °C and outdoor temperature	, ,,	for part load at i	ndoor						
-j = -7°C	P _{dh}	10.5	kW		T _j = - 7°C	COP _d	2.25	•						
	P _{dh}	6.6	kW] [T _j = + 2°C	COP _d	3.59	-						
	P_{dh}	4.2	kW] [T _j = + 7°C	COP _d	5.60	-						
-j = + 12°C	P_{dh}	4.0	kW		T _j = + 12°C	COP _d	7.68							
j = bivalent temperature	P _{dh}	10.5	kW] [T _j = bivalent temperature	COP _d	2.25	-						
j = operation limit temperature	P _{dh}	10.3	kW		T _j = operation limit temperature	COP _d	2.15	-						
For air-to-water heat pumps: $T_j = -15^{\circ}C$ if $TOL < -20^{\circ}C$)	P_{dh}	N/A	kW		For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if TOL < $-20^{\circ}C$)	COP _d	N/A	-						
Bivalent temperature	T _{biv}	-7	°C		For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C						
Cycling interval capacity for heating	P _{cych}	N/A	kW		Cycling interval efficiency	COP _{cyc}	N/A 75	-						
Degradation co-efficient (**)	C_{dh}	0.9	-		Heating water operating limit temperature	WTOL		°C						
Power consumption in modes other than a	active mode				Supplementary heater									
Off mode	P _{OFF}	0.014	kW		Rated heat output (**)	P_{sup}	1.6	kW						
hermostat-off mode	P _{TO}	0.024	kW											
Standby mode	P _{SB}	0.014	kW] ·	Type of energy input	Electric								
Crankcase heater mode	P _{CK}	0.000	kW											
Other items														
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors		5000	m³/h						
Sound power level, indoors/ outdoors	L _{WA}	-/64	dB		For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	N/A	m³/h						
Annual energy consumption	Q _{HE}	6442	kWh	4 1	heat exchanger									
or heat pump combination heater:														
Declared load profile		N/A		,	Water heating energy efficiency	η_{wh}	N/A	%						
Daily electricity consumption	Q _{elec}	N/A	kWh		Daily fuel consumption	Q_{fuel}	N/A	kWh						
Annual electricity consumption	AEC	N/A	kWh	 	Annual fuel consumption	AFC	N/A	GJ						
Contact details	See the bac	k cover of the	e manual			l		l						

				_								
odel(s):					MPH-12231							
Air-to-water heat pump:				yes	3							
Vater-to-water heat pump:				no								
Brine-to-water heat pump:				no								
ow-temperature heat pump:				no								
Equipped with a supplementary heater:				yes	s (3kW)							
leat pump combination heater:				no								
Declared climate condition:				war	rmer							
Parameters are declared for medium-temp	perature app	lication.										
Item	Symbol	Value	Unit		Item	Symbol	Value	Unit				
Rated heat output (*)	P _{rated}	12.1	kW		Seasonal space heating energy efficiency	η_{s}	196	%				
Declared capacity for heating for part load outdoor temperature Tj	at indoor ter	mperature 20) °C and		Declared coefficient of performance or prima temperature 20 °C and outdoor temperature	, ,,	for part load at i	ndoor				
-j = -7°C	P_{dh}	N/A	kW		T _j = -7°C	COP _d	N/A	-				
j = + 2°C	P_{dh}	12.0	kW		$T_j = + 2^{\circ}C$	COP _d	2.42	-				
j = + 7°C	P{dh}	7.8	kW		T _j = + 7°C	COP _d	4.27	-				
-j = + 12°C	P_{dh}	3.5	kW		T _j = + 12°C	COP _d	6.48	-				
j = bivalent temperature	P _{dh}	7.8	kW		T _j = bivalent temperature	COP _d	4.27	-				
j = operation limit temperature	P_{dh}	12.0	kW		T _j = operation limit temperature	COP _d	2.42	-				
For air-to-water heat pumps: $T_j = -15^{\circ}C$ if TOL < $-20^{\circ}C$)	P_{dh}	N/A	kW		For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if TOL < $-20^{\circ}C$)	COP _d	N/A	1				
Bivalent temperature	T _{biv}	7	°C		For air-to-water heat pumps: Operation limit temperature	TOL	2	°C				
Cycling interval capacity for heating	P _{cych}	N/A	kW		Cycling interval efficiency	COP _{cyc}	N/A	-				
Degradation co-efficient (**)	C _{dh}	0.9	-		Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes other than a	active mode				Supplementary heater							
Off mode	P _{OFF}	0.014	kW		Rated heat output (**)	P _{sup}	0.1	kW				
hermostat-off mode	P _{TO}	0.024	kW	 								
Standby mode	P _{SB}	0.014	kW		Type of energy input	Electric						
Crankcase heater mode	P _{CK}	0.000	kW									
Other items												
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	5000	m ³ /h				
Sound power level, indoors/ outdoors	L _{WA}	-/64	dB		For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor	-	N/A	m³/h				
Annual energy consumption	Q_{HE}	3271	kWh	L	heat exchanger							
For heat pump combination heater:												
Declared load profile		N/A			Water heating energy efficiency	η_{wh}	N/A	%				
Daily electricity consumption	Q _{elec}	N/A	kWh		Daily fuel consumption	Q _{fuel}	N/A	kWh				
Annual electricity consumption	AEC	N/A	kWh		Annual fuel consumption	AFC	N/A	GJ				
Contact details	Cas the has	k cover of th	e manual	-	•							

Model(s):											
				MPH-12231							
Air-to-water heat pump:				es							
Vater-to-water heat pump:				по							
Brine-to-water heat pump:				0							
ow-temperature heat pump:				0							
equipped with a supplementary heater:				es (3kW)							
leat pump combination heater:				0							
Peclared climate condition:				older							
Parameters are declared for medium-tem	perature app	lication.									
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit				
Rated heat output (*)	P _{rated}	12.4	kW	Seasonal space heating energy efficiency	$\eta_{\rm s}$	138	%				
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary temperature 20 °C and outdoor temperature T		for part load at i	ndoor				
j = -7°C	P{dh}	7.4	kW	T _j = -7°C	COP _d	2.84	-				
	P _{dh}	4.6	kW	T _j = + 2°C	COP _d	4.17	-				
-j = + 7°C	P _{dh}	3.0	kW	T _j = + 7°C	COP _d	6.04	-				
	P _{dh}	4.2	kW	T _j = + 12°C	COPd	7.67	-				
j = bivalent temperature	P_{dh}	10.1	kW	T _j = bivalent temperature	COP _d	2.21	-				
j = operation limit temperature	P_{dh}	9.1	kW	T _j = operation limit temperature	COP _d	1.80	-				
For air-to-water heat pumps: $T_j = -15^{\circ}C$ if TOL < $-20^{\circ}C$)	P _{dh}	N/A	kW	For air-to-water heat pumps: $T_j = -15^{\circ}C$ (if $TOL < -20^{\circ}C$)	COP _d	N/A	-				
sivalent temperature	T _{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C				
Cycling interval capacity for heating	P _{cych}	N/A	kW	Cycling interval efficiency	COP _{cyc}	N/A	-				
Degradation co-efficient (**)	C _{dh}	0.9	-	Heating water operating limit temperature	WTOL	75	°C				
Power consumption in modes other than a	active mode			Supplementary heater							
Off mode	P _{OFF}	0.014	kW	Rated heat output (**)	P _{sup}	3.3	kW				
hermostat-off mode	P _{TO}	0.024	kW								
Standby mode	P _{SB}	0.014	kW	Type of energy input	Electric						
Crankcase heater mode	P _{CK}	0.000	kW								
Other items											
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		5000	m ³ /h				
Sound power level, indoors/ outdoors	L _{WA}	-/64	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor		N/A	m³/h				
nnual energy consumption	Q _{HE}	8697	kWh	heat exchanger			III /N				
or heat pump combination heater:		<u> </u>	1				Ī				
Declared load profile		N/A		Water heating energy efficiency	η_{wh}	N/A	%				
Daily electricity consumption	Q _{elec}	N/A	kWh	Daily fuel consumption	Q_{fuel}	N/A	kWh				
Annual electricity consumption	AEC	N/A	kWh	Annual fuel consumption	AFC	N/A	GJ				
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Inform	ation	requ	iremen	ts	for comfort chille	rs				
Model(s):			MPH-12231							
Outdoor side heat exchanger of cl	niller:		Air	to water						
indoor side heat exchanger chiller	:		Wa	ter						
Туре:				con	npressor driven vapour compressio	n				
Driver af compressor:			Ele	ctric motor						
Item	Symbol	Value	Unit		Item	Symbol	Value	Unit		
Rated cooling capacity	P _{rated,c}	11.5	kW		Seasonal space cooling energy efficiency	η _{s,c}	204	%		
Declared capacity for cooling for p temperature Tj	art load at	given ou	tdoor		Declared energy efficiency ratio for given outdoor temperature Tj	r cooling f	or part lo	ad at		
Tj = + 35°C	P _{dc}	11.5	kW		Tj = +35°C	EER _d	3.04	-		
Tj = + 30°C	P _{dc}	8.5	kW		Tj = + 30°C	EER _d	4.43	-		
Tj = + 25°C	P _{dc}	5.4	kW		Tj = + 25°C	EER _d	5.41	-		
Tj = + 20°C	P _{dc}	2.4	kW		Tj = + 20°C	EER _d	7.94	-		
Degradation co-efficient of chiller (*)	C _{dc}	0.9	-							
	Power	consum	otion in modes	oth	ner than "active mode"					
Off mode	P _{OFF}	0.014	kW		Crankcase heater mode	P _{CK}	0.000	kW		
Thermostat-off mode	P _{TO}	0.024	kW		Standby mode	P _{SB}	0.014	kW		
			Other it	ems	5					
Capacity control	v	ariable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	5000	m³/h		
Sound power level, indoors/ outdoors	LWA	-/64	dB							
Emissions of nitrogen oxide (if applicable)	NO _x (**)	-	mg/kWh input GCV		For water/brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	N/A	m ³ /h		
GWP of the refrigerant	-	3	kg CO _{2 eq} (100 years)		oddoor side fleat excitatiget					
Standard rating conditions used	Low temp	erature a	pplication		,					
Contact details	See the b	ack cove	r of the manu	al						
(*)If C _{dc} is not determined by meas (**)From 26 September 2018.	surement t	hen the d	efault degrad	atior	n coefficient of chillers shall be 0.9.					

Inform	ation	requ	iremen	ts	for comfort chille	rs				
Model(s):			MPH-12231							
Outdoor side heat exchanger of cl	niller:		Air	to water						
indoor side heat exchanger chiller	:		Wa	ter						
Туре:			con	npressor driven vapour compressio	n					
Driver af compressor:			Ele	ctric motor						
Item	Symbol	Value	Unit		Item	Symbol	Value	Unit		
Rated cooling capacity	P _{rated,c}	12.0	kW		Seasonal space cooling energy efficiency	η _{s,c}	288	%		
Declared capacity for cooling for p temperature Tj	art load at	given ou	tdoor		Declared energy efficiency ratio for given outdoor temperature Tj	r cooling f	or part lo	ad at		
Tj = + 35°C	P _{dc}	12.0	kW		Tj = +35°C	EER _d	4.48	-		
Tj = + 30°C	P _{dc}	8.8	kW		Tj = + 30°C	EER _d	5.63	-		
Tj = + 25°C	P _{dc}	5.7	kW		Tj = + 25°C	EER _d	8.87	-		
Tj = + 20°C	P _{dc}	2.5	kW		Tj = + 20°C	EER _d	12.97	-		
Degradation co-efficient of chiller (*)	C _{dc}	0.9	-							
	Power	consum	otion in modes	oth	ner than "active mode"					
Off mode	P _{OFF}	0.014	kW		Crankcase heater mode	P _{CK}	0.000	kW		
Thermostat-off mode	P _{TO}	0.024	kW		Standby mode	P _{SB}	0.014	kW		
			Other it	ems	3					
Capacity control	V	ariable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	5000	m ³ /h		
Sound power level, indoors/ outdoors	LWA	-/64	dB							
Emissions of nitrogen oxide (if applicable)	NO _x (**)	-	mg/kWh input GCV		For water/brine-to-water chillers: Rated brine or water flow rate, outdoor side heat exchanger	-	N/A	m ³ /h		
GWP of the refrigerant	-	3	kg CO _{2 eq} (100 years)		oddoor side fleat exertanger					
Standard rating conditions used	Medium t	emperatu	ıre application							
Contact details	See the b	ack cove	r of the manu	al						
(*)If C_{dc} is not determined by meas (**)From 26 September 2018.	surement t	hen the d	efault degrada	atior	n coefficient of chillers shall be 0.9.					

