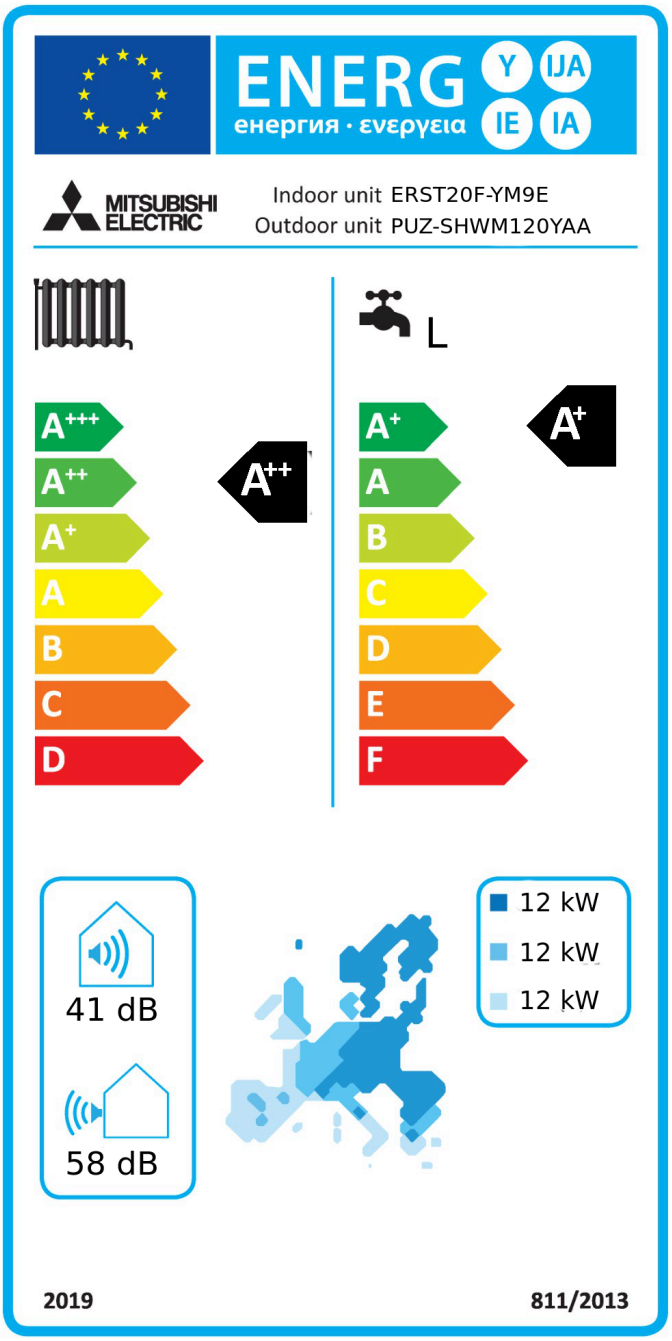
Heat Pump Package Calculator Results

Outdoor: PUZ-SHWM120YAA / Indoor: ERST20F-YM9E

Energy Label



1. SPACE HEATER

1	Outdoor unit		**PUZ-SHWM120YAA**
2	Indoor unit		**ERST20F-YM9E (Cylinder)**
For medium-temperature application			
3	Medium-temperature application		✓
6	Seasonal space heating energy efficiency class		**A++**
8	Rated heat output under average climate conditions	kW	12.1
11	Seasonal space heating energy efficiency under average climate conditions	%	142
9	For space heating, annual energy consumption under average climate conditions	kWh	6901
13	Sound power level L_{WA} indoor	dB	41
15	Rated heat output under colder climate conditions	kW	12.1
16	Rated heat output under warmer climate conditions	kW	12.1
21	Seasonal space heating energy efficiency under colder climate conditions	%	118
22	Seasonal space heating energy efficiency under warmer climate conditions	%	164
17	For space heating, annual energy consumption under colder climate conditions	kWh	9827
18	For space heating, annual energy consumption under warmer climate conditions	kWh	3881
25	Sound power level L_{WA} outdoor	dB	58
For low-temperature application			
4	Low-temperature application		✓
6	Seasonal space heating energy efficiency class		**A+++**
8	Rated heat output under average climate conditions	kW	12.1
11	Seasonal space heating energy efficiency under average climate conditions	%	182
9	For space heating, annual energy consumption under average climate conditions	kWh	5404
13	Sound power level L_{WA} indoor	dB	41
15	Rated heat output under colder climate conditions	kW	12.1
16	Rated heat output under warmer climate conditions	kW	12.1
21	Seasonal space heating energy efficiency under colder climate conditions	%	150
22	Seasonal space heating energy efficiency under warmer climate conditions	%	238
17	For space heating, annual energy consumption under colder climate conditions	kWh	7781
18	For space heating, annual energy consumption under warmer climate conditions	kWh	2680
25	Sound power level L_{WA} outdoor	dB	58

2. COMBINATION HEATER

1	Outdoor unit		**PUZ-SHWM120YAA**
2	Indoor unit		**ERST20F-YM9E (Cylinder)**
For medium-temperature application			
3	Medium-temperature application		✓
5	Declared load profile		**L**
6	Seasonal space heating energy efficiency class		**A++**
7	Water heating energy efficiency class		**A+**
8	Rated heat output under average climate conditions	kW	12.1
9	For space heating, annual energy consumption under average climate conditions	kWh	6901
10	For water heating, annual electricity consumption under average climate conditions	kWh	796
11	Seasonal space heating energy efficiency under average climate conditions	%	142
12	Water heating energy efficiency under average climate conditions	%	137
13	Sound power level L_{WA} indoor	dB	41
14	Work only during off-peak hours		-
19	For water heating, annual energy consumption under colder climate conditions	kWh	945
20	For water heating, annual energy consumption under warmer climate conditions	kWh	696
25	Sound power level L_{WA} outdoor	dB	58
For low-temperature application			
4	Low-temperature application		✓
5	Declared load profile		**L**
6	Seasonal space heating energy efficiency class		**A+++**
7	Water heating energy efficiency class		**A+**
11	Seasonal space heating energy efficiency under average climate conditions	%	182
12	Water heating energy efficiency under average climate conditions	%	137
25	Sound power level L_{WA} outdoor	dB	58

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		medium-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	1.00	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.0	kW
Degradation co-efficient(**)	C_{dh}	0.98	
T_j = +12°C	P_{dh}	3.0	kW
Degradation co-efficient(**)	C_{dh}	0.95	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	6901	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	3.620	kWh
Annual electricity consumption	AEC	796	kWh

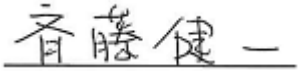
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	142	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.13	
T_j = +2°C	COP_d	3.55	
T_j = +7°C	COP_d	4.75	
T_j = +12°C	COP_d	6.61	
T_j = bivalent temperature	COP_d	1.78	
T_j = operation limit temperature(***)	COP_d	1.78	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
Water heating energy efficiency	η_{wh}	137	%

Contact details

MITSUBISHI ELECTRIC AIR CONDITIONING SYSTEMS MANUFACTURING TURKEY JOINT STOCK COMPANY

Manisa OSB 4.Kisim Kecilikoyosb Mah. Ahmet Nazif Zorlu Bulvari No;19 Yunusemre - Manisa, Turkey

The identification and signature of the person empowered to bind the supplier:



Kenichi SAITO

Manager, Quality Assuarance Department

TURKEY

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		medium-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	1.00	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.0	kW
Degradation co-efficient(**)	C_{dh}	0.98	
T_j = +12°C	P_{dh}	3.0	kW
Degradation co-efficient(**)	C_{dh}	0.95	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	9827	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	4.290	kWh
Annual electricity consumption	AEC	945	kWh

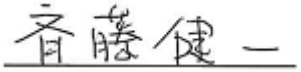
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	118	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.13	
T_j = +2°C	COP_d	3.55	
T_j = +7°C	COP_d	4.75	
T_j = +12°C	COP_d	6.61	
T_j = bivalent temperature	COP_d	1.78	
T_j = operation limit temperature(***)	COP_d	1.78	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
Water heating energy efficiency	η_{wh}	115	%

Contact details

MITSUBISHI ELECTRIC AIR CONDITIONING SYSTEMS MANUFACTURING TURKEY JOINT STOCK COMPANY

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TURKEY

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		medium-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	1.00	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.0	kW
Degradation co-efficient(**)	C_{dh}	0.98	
T_j = +12°C	P_{dh}	3.0	kW
Degradation co-efficient(**)	C_{dh}	0.95	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	3881	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	3.160	kWh
Annual electricity consumption	AEC	696	kWh

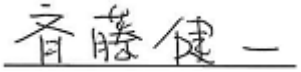
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	164	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.13	
T_j = +2°C	COP_d	3.55	
T_j = +7°C	COP_d	4.75	
T_j = +12°C	COP_d	6.61	
T_j = bivalent temperature	COP_d	1.78	
T_j = operation limit temperature(***)	COP_d	1.78	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
For heat pump combination heater:			
Water heating energy efficiency	η_{wh}	158	%

Contact details

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PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		low-temperature application.
Parameters for		average climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.2	kW
Degradation co-efficient(**)	C_{dh}	0.97	
T_j = +12°C	P_{dh}	4.0	kW
Degradation co-efficient(**)	C_{dh}	0.96	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	5404	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	3.620	kWh
Annual electricity consumption	AEC	796	kWh

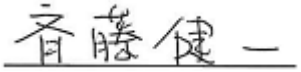
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	182	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.87	
T_j = +2°C	COP_d	4.57	
T_j = +7°C	COP_d	6.04	
T_j = +12°C	COP_d	7.02	
T_j = bivalent temperature	COP_d	2.45	
T_j = operation limit temperature(***)	COP_d	2.45	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
Water heating energy efficiency	η_{wh}	137	%

Contact details

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TURKEY

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		low-temperature application.
Parameters for		colder climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.2	kW
Degradation co-efficient(**)	C_{dh}	0.97	
T_j = +12°C	P_{dh}	4.0	kW
Degradation co-efficient(**)	C_{dh}	0.96	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	7781	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	4.290	kWh
Annual electricity consumption	AEC	945	kWh

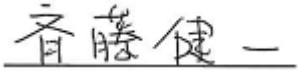
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	150	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.87	
T_j = +2°C	COP_d	4.57	
T_j = +7°C	COP_d	6.04	
T_j = +12°C	COP_d	7.02	
T_j = bivalent temperature	COP_d	2.45	
T_j = operation limit temperature(***)	COP_d	2.45	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
Water heating energy efficiency	η_{wh}	115	%

Contact details

MITSUBISHI ELECTRIC AIR CONDITIONING SYSTEMS MANUFACTURING TURKEY JOINT STOCK COMPANY

Manisa OSB 4.Kisim Kecilikoyosb Mah. Ahmet Nazif Zorlu Bulvari No;19 Yunusemre - Manisa, Turkey

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Kenichi SAITO

Manager, Quality Assuarance Department

TURKEY

PRODUCT INFORMATION / TECHNICAL DOCUMENTATION

Model(s):	Outdoor unit:	PUZ-SHWM120YAA
	Indoor unit:	ERST20F-YM9E
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:		yes
Heat pump combination heater:		yes
Parameters for		low-temperature application.
Parameters for		warmer climate conditions.

Item	Symbol	Value	Unit
Rated heat output(*)	P_{rated}	12.1	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	P_{dh}	10.7	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +2°C	P_{dh}	6.5	kW
Degradation co-efficient(**)	C_{dh}	0.99	
T_j = +7°C	P_{dh}	5.2	kW
Degradation co-efficient(**)	C_{dh}	0.97	
T_j = +12°C	P_{dh}	4.0	kW
Degradation co-efficient(**)	C_{dh}	0.96	
T_j = bivalent temperature	P_{dh}	12.1	kW
T_j = operation limit temperature(***)	P_{dh}	12.1	kW
Bivalent temperature	T_{biv}	-7	°C
Reference design conditions for space heating	$T_{designh}$	-10	°C
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0.022	kW
Thermostat-off mode	P_{TO}	0.022	kW
Standby mode	P_{SB}	0.022	kW
Crankcase heater mode	P_{CK}	0.000	kW
Other items			
Capacity control		variable	
Sound power level, indoors/outdoors	L_{WA}	41 / 58	dB
Annual energy consumption	Q_{HE}	2680	kWh
For heat pump combination heater:			
Declared load profile		L	
Daily electricity consumption	Q_{elec}	3.160	kWh
Annual electricity consumption	AEC	696	kWh

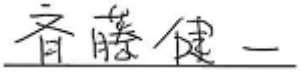
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	238	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
T_j = -7°C	COP_d	2.87	
T_j = +2°C	COP_d	4.57	
T_j = +7°C	COP_d	6.04	
T_j = +12°C	COP_d	7.02	
T_j = bivalent temperature	COP_d	2.45	
T_j = operation limit temperature(***)	COP_d	2.45	
Operation limit temperature	T_{OL}	-25	°C
Heating water operating limit temperature	W_{TOL}	70	°C
Supplementary heater			
Rated heat output(*)	P_{sup}	0.1	kW
Type of energy input		Electrical	
Rated air flow rate, outdoors		2640	m³/h
For heat pump combination heater:			
Water heating energy efficiency	η_{wh}	158	%

Contact details

MITSUBISHI ELECTRIC AIR CONDITIONING SYSTEMS MANUFACTURING TURKEY JOINT STOCK COMPANY

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