



ADATTA MONOBLOCCO 2T

Adatta

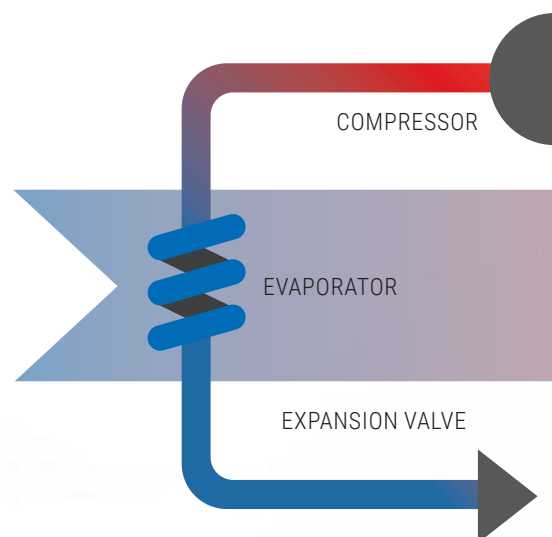
TWO-PIPE HEAT PUMPS

Two-pipe inverter air-water heat pumps

The ADATTA heat pump units are ideal for use with radiant panel heating systems or low-temperature applications such as fancoils and air handler units suitably sized for maximum supply temperatures of 55°C.

All versions are equipped with extremely quiet EC axial fans and with Twin Rotary inverter compressors which allow complete management of the power of each individual component. The compressor, fan and pumps indeed feature continuous modulation by a control unit programmed with internally developed control logic. It is designed to be extremely intuitive to use, allowing the unit to be installed in a wide range of system configurations.

Switching between the various operating modes (within the same season) is performed automatically via reading of the temperature sensors and by the setpoints. The switching times and logic are designed to ensure maximum system efficiency and reliability. The configuration with production of sanitary DHW with diverter valve requires the installation of an appropriately sized storage cylinder for the high-temperature water. The cylinder must have a well for installation of the DHW operation probe in the upper section, which the unit's controller uses to monitor the need for DHW production.



Technical specifications

Compact air-water heat pump for outdoor installation with EC axial fan and BLDC Twin Rotary Inverter compressor; modern design with RAL 7016 powder-coated structure. The framework is self-supporting, with removable panels to facilitate inspection and maintenance.

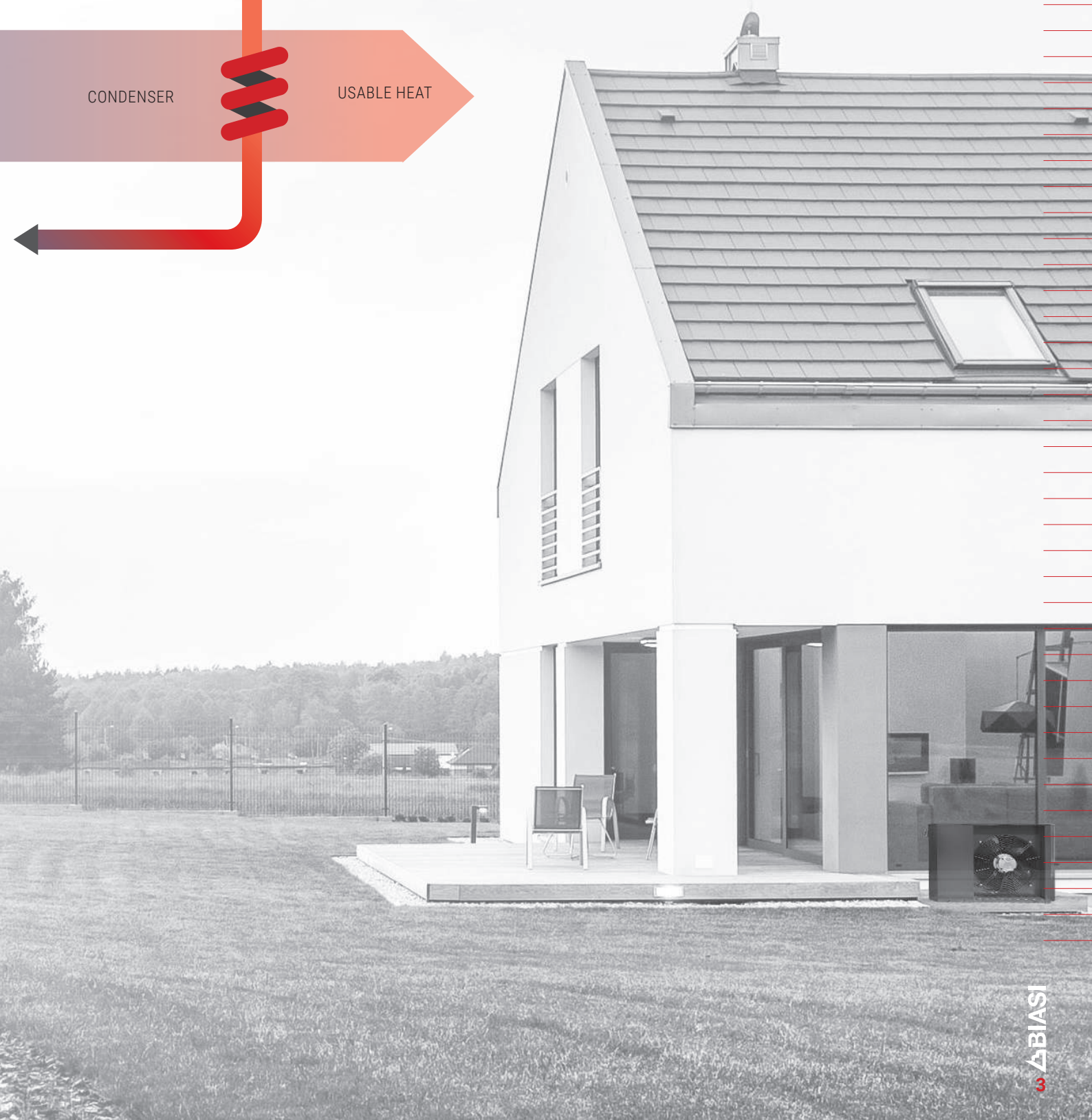
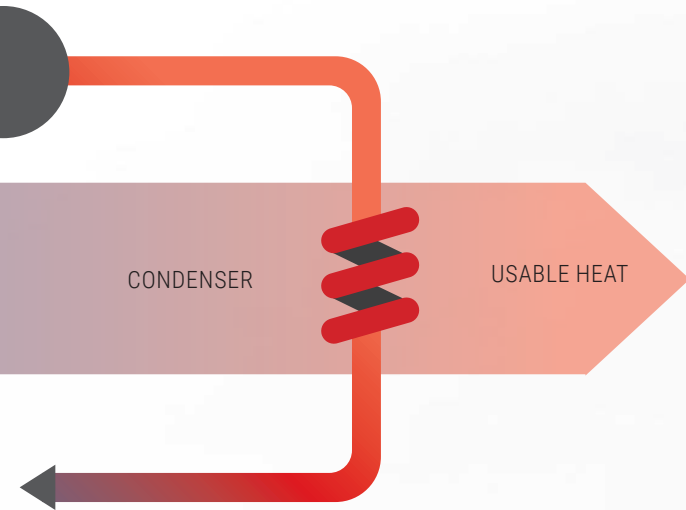
The heat source is the outside air, down to a minimum temperature of -20°C. The limited noise level is ensured by an intelligent control system which regulates the speed of the compressor and fan to meet the actual demand. Moreover, the use of silent blocks for the compressor and the multi-layer sound insulation on the casing allow very low noise levels to be achieved.

The control logic allows the following:

- Regulation of the fan and compressor for particular installation environments
- Electronic control of system supply temperature via climate curve

Operation

The heat pumps absorb heat from an outdoor environment and transfer it to an indoor environment, warming it up. Operation of the heat pump in reverse allows the indoor spaces to be cooled during summer.



Two-pipe inverter air-water heat pumps

Refrigeration circuit

The refrigerant used is R410a. Refrigeration circuit with very high-efficiency BLDC twin-rotary inverter compressor. Safety pressure switch and pressure sensors. Stainless-steel plate heat exchanger for de-overheating and plate heat exchanger for evaporation/condensation. Copper-aluminium finned evaporator with special fins coated with hydrophilic treatment. Dual defrost system via injection of hot gas and/or cycle inversion.

Heat exchangers

The source-side heat exchangers are made from copper tubes and aluminium fins with a hydrophilic coating which encourages water to slide off. On the terminal side is a brazed stainless steel plate heat exchanger, which allows the use of refrigerant to be minimised by optimising its performance via the large heat-exchange surface area.

Fan

The fan is of EC brushless axial type, and has been designed to minimise noise while maximising efficiency. The rotation speed is continuously adjusted by the control unit.

Control and Protection

Carel electronic management with integrated management of the inverter-drive compressor, modulation of the pumps and the fan. Climate logic management. ModBUS communication protocol as standard. The unit is equipped with a series of alarms to protect against potential faults. This eventuality is completely managed by the control unit, which makes them available and accessible. It also allows access to the controller to implement any corrective actions.

PGD remote display (optional)

The control unit is implemented on Carel hardware and is combined with an extremely intuitive remote control which allows control of all operational parameters, as well as operational settings and setpoints. The controller allows direct connection to the heating system, both without the aid of a storage cylinder or, more typically, via connection to two or four points of a storage cylinder. Heating of the storage cylinder uses a setpoint for sanitary DHW and climate curve for the heating/cooling circuit.

"Twin Rotary Inverter" technology

Power Regulation

The Twin Rotary Inverter technology is able to modulate the power to meet the actual requirements. This modulation is also applied to the fan and circulation pumps to achieve the highest possible level of efficiency.



Adatta Monoblocco 2T



COP 4.81



POWER OUTPUT 6.38 kW - POWER INPUT 1.33 kW



DHW 55°C



HEATING FLUID



OPERATING TEMPERATURE RANGE -22°C - +45°C



ENERGY CLASS

(refers to 8 kW version)

Available sizes (power output): 6, 8, 10, 12, 14, 16 kW

Adatta Monoblocco 2T

Available in **6 kW, 8 kW, 10 kW, 12 kW, 14 kW** and **16 kW** versions.

Two-pipe heat pump with system-side heat exchanger, able to produce hot or cold water to meet the building's heating or cooling requirements, depending on the season, and produce sanitary DHW.

Benefits

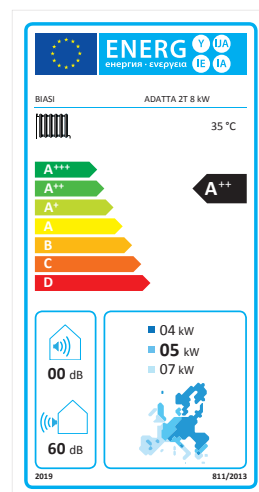
- Electronic expansion valve (suitable for all operating situations)
- Units with modular power output thanks to the inverter technology
- Climate management included with outdoor temperature sensor
- Larger heat-exchange surface

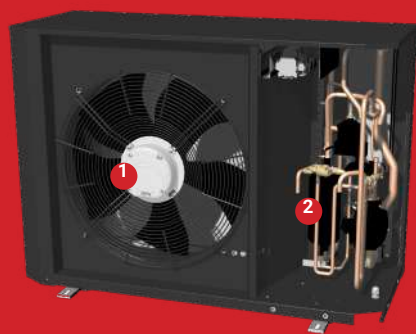
Where can it be installed?

- Suitable for new-build construction with high levels of energy efficiency
- Suitable for cold climates and high T production up to 50°
- Ideal where no mains gas supply is possible
- Suitable for applications with radiant systems, fancoils and air handler units

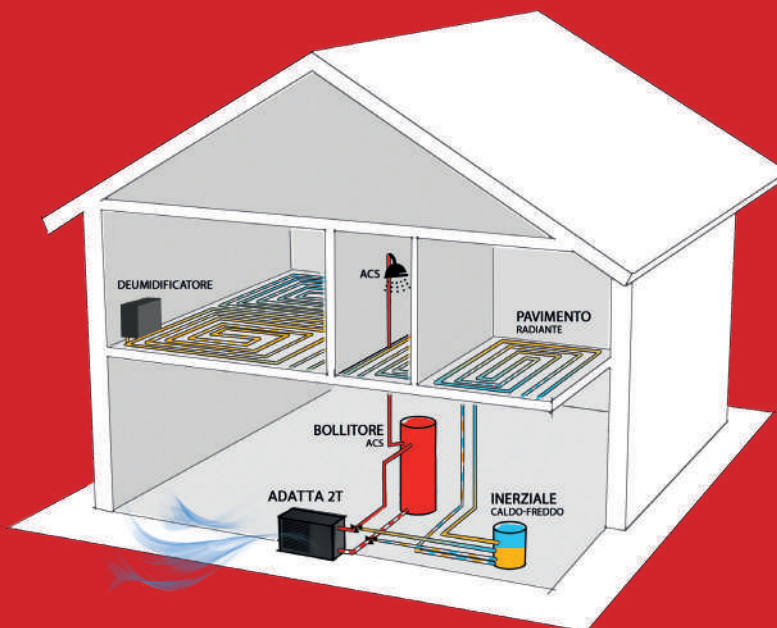
Energy Class

All versions of Adatta Monoblocco 2T are **energy class A**.





1. EC Fan
2. Twin Rotary Compressor
3. Finned pack with hydrophilic treatment
4. Heat exchanger with larger rows, large heat-exchange surface



Summer operation

The summer operating modes are:

1. Chiller mode: the unit only produces chilled water for the system
2. Heat pump mode for production of sanitary domestic hot water: when there is no cold demand, and on demand from the DHW operation sensor, the unit will heat the water inside the DHW storage cylinder, using the finned pack as the evaporator. The use of hot outside air as the heat source ensures that very high COPs are obtained.

Automatic seasonal regulation

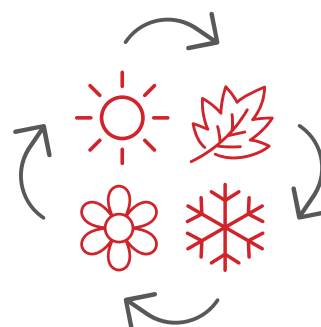
Switching between modes occurs in a completely automatic manner according to a priority logic for the production of sanitary DHW.



Winter operation

The winter operating modes are:

1. Heat pump mode for heating: the unit produces hot water at the system-side heat exchanger for the heating
2. Heat pump mode for production of sanitary domestic hot water: high-temperature hot water is produced at the heat exchanger connected to the DHW storage cylinder.



Technical Data

Adatta Monoblocco 2T

TWO-PIPE HEAT PUMP



COP 4.81



POWER OUTPUT 6.38 kW - POWER INPUT 1.33 kW



SANITARY DHW 55°C



HEATING FLUID

Simultaneous functions



OPERATING TEMPERATURE RANGE -22°C - +45°C



ENERGY CLASS

(refers to 8 kW version)

Available sizes (power output): 6, 8, 10, 12, 14, 16 kW

Technical Data		Adatta					
Adatta 2T		6kW	8kW	10kW	12 / 12 T kW	14 / 14 T kW	16 / 16 T kW
Winter operation A7/W35							
Heat output	100% kW	6.16	8.41	9.94	12.08	13.18	15.05
Heat output	66% kW	4.21	5.23	7.26	7.56	8.51	10.48
Heat output	33% kW	2.75	2.45	3.33	3.67	4.08	4.92
Compressor power draw	100% kW	1.18	1.63	2.16	2.51	2.74	3.20
Total power draw	100% kW	1.34	1.82	2.35	2.75	3.02	3.50
COP		4.59	4.62	4.22	4.39	4.36	4.30
System side							
Water flow rate (system)	m3/h	1.06	1.45	1.71	2.08	2.27	2.59
Usable head	mwc	5.20	4.80	5.50	3.00	5.00	4.20
Pump power draw	kW	0.06	0.06	0.06	0.06	0.09	0.09
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Usable head	Pa	24.00	40.00	54.00	20.00	20.00	22.00
Power draw	kW	0.10	0.14	0.14	0.18	0.19	0.21
Winter operation A7/W45							
Heat output	100% kW	5.99	8.19	9.76	11.68	12.74	14.52
Heat output	66% kW	4.08	5.07	7.06	7.28	8.20	10.13
Heat output	33% kW	2.66	2.37	3.22	3.52	3.92	4.73
Compressor power draw	100% kW	1.50	2.04	2.75	3.06	3.35	3.90
Total power draw	100% kW	1.65	2.23	2.95	3.30	3.62	4.20
COP		3.62	3.67	3.31	3.54	3.52	3.46
System side							
Water flow rate (system)	m3/h	1.03	1.41	1.68	2.01	2.19	2.50
Usable head	mwc	6.50	4.70	4.50	3.40	4.90	3.80
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Usable head	Pa	24.0	40.0	54.0	20.0	20.0	22.0
Power draw	kW	0.10	0.14	0.14	0.18	0.19	0.21
Summer operation A35/W18							
Cooling power output	100% kW	8.05	10.65	12.59	15.48	16.83	19.27
Cooling power output	66% kW	5.58	6.54	9.44	9.77	10.92	13.44
Cooling power output	33% kW	3.70	3.12	4.45	4.78	5.29	6.38
Compressor power draw	100% kW	1.36	1.88	2.56	2.67	3.04	3.76
Total power draw	100% kW	1.52	2.07	2.76	2.91	3.32	4.06
EER		5.29	5.15	4.57	5.32	5.07	4.75



Technical Data

Adatta 2T		Adatta					
		6kW	8kW	10kW	12 / 12 T kW	14 / 14 T kW	16 / 16 T kW
System side							
Water flow rate (system)	m3/h	1.39	1.83	2.17	2.66	2.90	3.31
Usable head	mwc	5.60	4.00	3.40	1.90	3.60	2.70
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Usable head	Pa	24.0	40.0	54.0	20.0	20.0	22.0
Power draw	kW	0.10	0.14	0.14	0.18	0.19	0.21
Summer operation A35/W7							
Cooling power output	100% kW	5.62	7.47	8.77	10.79	11.72	13.36
Cooling power output	66% kW	3.87	4.39	6.61	6.78	7.59	9.35
Cooling power output	33% kW	2.55	2.06	3.08	3.29	3.64	4.40
Compressor power draw	100% kW	1.39	1.89	2.62	2.87	3.17	3.74
Total power draw	100% kW	1.54	2.09	2.81	3.11	3.45	4.04
EER		3.64	3.58	3.11	3.47	3.40	3.31
System side							
Water flow rate (system)	m3/h	1.0	1.28	1.51	1.86	2.02	2.30
Usable head	mwc	6.5	5.1	4.9	3.6	5.1	4.5
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Usable head	Pa	24.0	40.0	54.0	20.0	20.0	22.0
Dimensions							
Dimensions	L x H x D	1000x735x443 mm			1000x1336x443 mm		
Weight	kg	83	85	87	140	142	142
Refrigerant		R410a					
Compressor type		Twin Rotary					
Number of compressors		1	1	1	1	1	1
Number of fans		1	1	1	1	1	1
Electricity supply	V/Ph/Hz	230-1-50	230-1-50	230-1-50	230-1-50/400-3-50	230-1-50/400-3-50	230-1-50/400-3-50
Plumbing connection fitting diameters		1"	1"	1"	1"	1"	1"
Sound power level	dB(A)	57	60	63	61	61	64
Sound pressure level at 1 m	dB(A)	55	57	61	59	59	61

Model
ADATTA 6 MONO 2T
ADATTA 8 MONO 2T
ADATTA 10 MONO 2T
ADATTA 12 MONO 2T
ADATTA 14 MONO 2T
ADATTA 16 MONO 2T
ADATTA 12T MONO 2T THREE-PHASE
ADATTA 14T MONO 2T THREE-PHASE
ADATTA 16T MONO 2T THREE-PHASE

Accessories

Accessories	Product	Description
	10449.1000.0	
		SET OF FOUR SILENT BLOCKS FOR PDC MONO 2T
	10449.1001.0	
		SET OF TWO WALL BRACKETS FOR PDC MONO 2T
	10449.1003.0	
		REAR GRILLE KIT PDC MONO 2T 6-8-10
	10449.1010.0	
		REAR GRILLE KIT PDC MONO 2T 12-14-16
	10449.1004.0	
		"Y" STRAINER KIT, DN20, PDC MONO 2T
	10449.1005.0	
		"Y" STRAINER KIT, DN25, PDC MONO 2T
	10449.1006.0	
		MOT. BALL VALVE KIT, 3/4" BSP, PDC MONO 2T
	10449.1007.0	
		MOT. BALL VALVE KIT, 1" BSP, PDC MONO 2T
	10449.1008.0	
		CAREL DISPLAY KIT, PGDE000F00 PDC MONO 2T

Product	Description
10449.1009.0	
	UNDER PDC STORAGE TANK EXTRATANK 50L + EXP. VES.



Code 4823.0760.00 Adatta 2T EN



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