

# Commissioning & Service Pack

Ensuring efficient operation of your  
Ecodan heating and hot water system



# Commissioning Checklist

This Commissioning Checklist is to be completed in full by the installer who commissioned the Ecodan and associated equipment as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

For further information, please refer to Mitsubishi Electric training literature and installation manual. Failure to install and commission this equipment to the manufacturer’s instructions may invalidate the warranty but does not affect statutory rights.

Customer Information	
Name:	Address:
Telephone:	
Email:	

Installer Information	
Name:	Address:
Company:	
Telephone:	
Email:	ME Installer No.
MCS Installer Reg No.	F-Gas Certification No.
G3 Certification No.	Certified Operative Reg. No.

Building Information		(Tick appropriate boxes if applicable)
Heating System Peak Heat Loss (kW):		
Peak Hot Water Volume (L):		
Building Regulations Notification No.		
DNO Notification:	Connect & Notify	Apply to Connect



# Commissioning Checklist

Heat Pump Information					(Tick appropriate boxes if applicable)
Heat Pump Technology:	Air Source	Ground Source	Water Source	Other	
Model No.	Qty:	Serial No.			
Type:		Monobloc	Split	Other	
Application:	Heating & Hot Water	Heating Only	Hybrid	Cascade	

Hot Water System Information				
Manufacturer:				
Model No.	Qty:	Serial No.		
Type:	Vented	Un-Vented	Thermal Store	Other
Application:			Direct	In-Direct

Electrical & Hydronic Control Information				
Manufacturer:				
Model No.	Qty:	Serial No.		
Type:			Wired	Wireless

Wi-Fi Adapter Information				
Manufacturer:				
Model No.	Qty:	Serial No.		
MAC ID Address:				

Supplementary Hybrid System Information				
Manufacturer:				
Model No.	Qty:	Serial No.		
Type:	Vented	Gas Boiler	Oil Boiler	Other
Application:	Heating & Hot Water	Heating Only	Hybrid	Cascade



# Commissioning Checklist

Electrical & Hydronic Controls - System & Heat Pump										(Tick appropriate boxes if applicable)						
1	Time & Temperature Control to Heating			Room Thermostat & Programmer/Timer		Programmable Room Thermostat		Load/Weather Compensation		Optimum Start Control						
2	Time & Temperature Control to Hot Water			Cylinder Thermostat & Programmer/Timer				Combined with Heat Pump main controls								
3	Hybrid System - synchronised control of boiler and heat pump fitted			Yes		If Yes - boiler model switching point (Quote Tariff or Temperature Level)										
4	Heating Zone Valves (including underfloor loops)				Pre-existing		Fitted		Not Required							
5	Hot Water Zone Valves				Pre-existing		Fitted		Not Required							
6	Thermostatic Radiator Valves				Pre-existing		Fitted		Not Required							
7	Outdoor Sensor				Pre-existing		Built In		Provided							
8	Heat Pump Safety Interlock (3)				Pre-existing		Built In		Provided							
9	Flow & Cylinder temperature sensors correctly positioned?						No		Yes							
10	Automatic Bypass System				Pre-existing		Fitted		Not Required							
11	Buffer Vessel Fitted			No		Yes		If Yes, Volume:		Litres:						
12	Plate Heat Exchanger fitted to give hydronic separation								No		Yes					
13	Expansion vessel for heating is sized, fitted & charged in accordance with manufacturers instructions?									Yes						
14	Legionella protection for stored hot water provided by timed temperature control?									Yes						
15	Weather Compensation Settings			°C flow at		°C outdoor &		°C flow at		°C outdoor						
16	Control System						FTC2		FTC3		FTC4		FTC5		FTC6	
17	Third Party Controls?			No		Yes		Manufacturer Name & Model:								
18	Are third party controls correctly interlocked?									No		Yes				

All Systems										(Tick appropriate boxes if applicable)				
1	The heating system has been filled and pressure tested									Yes				
2	Expansion vessel for heating is sized, fitted & charged in accordance with manufacturer's instructions									Yes				
3	The system has been flushed and cleaned in accordance with BS7593: 2019 and heat pump manufacturer's instructions									Yes				
4	What system cleaner was used?			Brand:			Product:							
5	What heating system inhibitor was used?			Brand:			Product:							
6	What heat pump anti-freeze has been used?			Brand:			Product:							
7	What is the heat pump anti-freeze concentration level?						%							





# Commissioning Checklist

All Systems						(Tick appropriate boxes if applicable)
8	System filter fitted in accordance with BS 7593: 2019?					Yes
9	Outdoor fuse rating	A	Type			
10	Cylinder coil surface area or Plate heat exchanger	M²	Plate Heat Exchanger Fitted		Not Available Heating Only	
11	Legionella protection	°C every	Days			
12	Circulating pump(s) speed settings?					
13	Measured flowrate	Domestic Hot Water		Litres/Min	Heating	Litres/Min
14	Measured steady state delta T (Flow and Return)	°C	Flow Temperature		°C	Return Temperature °C

Outdoor Unit			
1	Is the heating system adequately frost protected and pipes insulated to prevent heat loss?		
2	Split only: The refrigerant circuit has been evacuated and charged in accordance with manufacturer's instructions	Yes	
3	The heat pump is fitted on a solid/stable surface capable of taking its weight	Yes	
4	The necessary heat pump defrost provision been put in place	Yes	
5	The heat pump fan free from obstacles and operational	Yes	
6	Is all external pipework insulated?	No	Yes
7	ASHP only: Does the outdoor unit have adequate airflow as per the manufacturers guidelines?	No	Yes
8	Has suitable consideration been made for condensate discharge?	No	Yes
9	Flow and return isolation valves fitted?	No	Yes
10	Anti-Vibration mounting pads fitted?	No	Yes
11	Refrigerant type:	Weight (kg):	
12	Has the condensate drain been installed to the manufacturers instructions?	No	Yes

Heating Mode						
1	The heating system has been filled and pressure tested					Yes
2	Heating Temperatures	Heating Flow Temperature		°C	Heating Return Temperature	°C
3	Emitter type	Underfloor Heating		Radiators	Towel Rail	
4	Emitters balanced?					Yes
5	Air removed from system?				Not Required	Yes
6	System correctly balance/rebalanced					Yes



# Commissioning Checklist

Domestic Hot Water Mode - Measure & Record				(Tick appropriate boxes if applicable)	
1	Is the heat pump connected to a hot water cylinder?	Unvented	Vented	Thermal store	Not Connected
2	Hot water cylinder size	Litres			
3	Domestic hot water target temperature	°C		Cylinder heat up	Minutes
4	Hot water has been checked at all outlets	Yes			
5	Have Thermostatic blending valves been fitted?	Not Required			Yes

Additional System Information					
1	Water Flow rate setting of the heat pump at commissioning (l/min):				
2	Additional heat sources connected	Gas Boiler	Oil Boiler	Electric Heater	Solar Thermal
		Other			
3	Remove & clean line strainer if present		No	Yes	Not Applicable
4	The operation of the heat pump and system controls have been demonstrated to the end-user		No	Yes	Not Applicable

All installations		
1	All electrical work complies with the appropriate Regulations	Yes
2	The heat pump and associated products have been installed and commissioned in accordance with the manufacturer's instructions	Yes
3	The operation of the heat pump and system controls have been demonstrated to and understood by the customer	Yes
4	The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer	Yes



# Mains Pressure Hot Water Storage System Commissioning Checklist

Domestic Hot Water Mode - Measure & Record		(Tick appropriate boxes if applicable)	
1	Is the primary circuit a sealed or open vented system?	Sealed	Open
2	What is the maximum primary flow temperature?		°C

All Systems			
1	What is the incoming static cold water pressure at the inlet to the system?		Bar
2	Has a strainer been cleaned on installation debris (if fitted) ?	No	Yes
3	Is the installation in a hard water area (above 200ppm) ?	No	Yes
4	If Yes, has a water scale reducer been fitted ?	No	Yes
5	What type of scale reducer has been fitted ?		
6	What is the hot water thermostat set temperature ?		°C
7	What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet) ?		l/min
8	Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?		Yes
9	Type of control system (if applicable)	Y Plan	S Plan Other
10	Is the cylinder solar (or other renewable) compatible ?	No	Yes
11	What is the hot water temperature at the nearest outlet ?		°C
12	All appropriate pipes have been insulated up to 1 metre or the point where they become concealed		Yes

Unvented Systems			
1	Where is the pressure reducing valve situated (if fitted) ?		
2	What is the pressure reducing valve setting ?		Bar
3	Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested ?	No	Yes
4	The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations		Yes
5	Are all energy sources fitted with a cut out device ?	No	Yes
6	Has the expansion vessel or internal air space been checked ?	No	Yes



# Mains Pressure Hot Water Storage System Commissioning Checklist

Thermal Stores Only		(Tick appropriate boxes if applicable)
1	What store temperature is achievable ?	°C
2	What is the maximum hot water temperature ?	°C

All Installations		
1	The hot water system complies with the appropriate Building Regulations	Yes
2	The system has been installed and commissioned in accordance with the manufacturer's instructions	Yes
3	The system controls have been demonstrated to and understood by the customer	Yes
4	The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer	Yes

Commissioning Engineer's Signature

Customer's Signature\*

\* (To confirm satisfactory demonstration and receipt of manufacturers' literature)

Date



# Annual Service Tasks

## Mechanical Tasks

(Tick appropriate boxes if applicable)

- 1 Inspect and clean evaporator fins. Repair damaged fins using a fin comb if required
- 2 Check visually for signs of oil leaks which may indicate a refrigerant leak (check for leaks if necessary)
- 3 Check integrity of refrigerant / water pipe work and lagging, repair lagging if required
- 4 Check system operation
- 5 Check the antifreeze and if necessary top up the concentration as per manufacturer's recommendations
- 6 Check and clean the magnetic particle filter
- 7 Check system pressure
- 8 Release any air from the primary/heating systems

## Controller Tasks

- 9 Check for the correct operation and temperature setting of the thermostats
- 10 Check the operation of the zone valves
- 11 Check the operation and the timing of the immersion heater

## On Completion

### Check that the whole system is working satisfactorily

Mitsubishi Electric recommends that the frequency of maintenance visits to be a maximum of 12 months between inspections.

Frequency of maintenance may increase dependent upon the equipment and local water conditions e.g. hard water, scale forming, water containing a high proportion of solids.

Failure to maintain the system to the above minimum recommendations could result in the warranty becoming null and void.

Please fill in the Service Record sheet to confirm the above tasks have been carried out on the Ecodan outdoor unit.

# Service Record

It is recommended that your Ecodan is serviced regularly and that the appropriate Service Interval Record is completed.

## Service Provider

Before completing the appropriate Services Interval Record below, please ensure you have carried out the service as described in the manufacturer’s instructions.

Always use the manufacturer’s specified spare part when replacing components.

Service 1		
Engineer Name:		Date:
Company Name:		
Telephone No:	Operative ID No:	
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and heat pump manufacturers’ instructions.		Yes    N/A
Comments:		

Service 2		
Engineer Name:		Date:
Company Name:		
Telephone No:	Operative ID No:	
System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and heat pump manufacturers’ instructions.		Yes    N/A
Comments:		



### Service 3

Engineer Name:

Date:

Company Name:

Telephone No:

Operative ID No:

System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and heat pump manufacturers' instructions.

Yes

N/A

Comments:

### Service 4

Engineer Name:

Date:

Company Name:

Telephone No:

Operative ID No:

System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and heat pump manufacturers' instructions.

Yes

N/A

Comments:

### Service 5

Engineer Name:

Date:

Company Name:

Telephone No:

Operative ID No:

System inhibitor concentration has been checked and appropriate action taken, in accordance with BS 7593 and heat pump manufacturers' instructions.

Yes

N/A

Comments:



Telephone: **01707 282880**

MELSmart Customer Services & Support: **0161 866 6089**

**Option 1** - Homeowner

**Option 2** - Air Conditioning, Ventilation, Commercial Heating & Modular Chiller Support

**Option 3** - Ecodan Installer or Service Provider

email: [livingenvironmentalsystems@meuk.mee.com](mailto:livingenvironmentalsystems@meuk.mee.com)

website: [ecodan.co.uk](http://ecodan.co.uk)

UNITED KINGDOM Mitsubishi Electric Europe Living Environment Systems Division

Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, England

General Enquiries Telephone: 01707 282880 Fax: 01707 278881

IRELAND Mitsubishi Electric Europe, Westgate Business Park, Ballymount, Dublin 24, Ireland

Telephone: (01) 419 8800 Fax: (01) 419 8890 International code: (003531)

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**Note:** The fuse rating is for guidance only. Please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). \*These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).



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