

ModuSat[®] XR Single Plate Domestic Hot Water

ModuSat® XR Single Plate DHW Heat Interface Units

Heat interface unit for instantaneous domestic hot water (DHW), with electronic PID control using a Pressure Independent Control Valve (PICV) with modulating actuator, providing a low DHW primary return temperature as well as differential pressure control and flow rate regulation.

Application

The ModuSat® XR Single Plate DHW unit is compact and wall mounted, meaning it fits perfectly in an apartment utility room or kitchen cupboard, and offers a simple solution for providing instantaneous hot water in communal and district systems.

These units are designed to operate with the Evinox SmartTalk® two-way communication system for remote metering and diagnostics.

Domestic Hot Water

Domestic hot water is heated via a plate heat exchanger and the temperature is regulated by the modulation of primary flow rate with the integrated PICV actuator. **Mobile billing app** for smart phones and tablets.

ViewSmart room controller with optional upgrade to provide ENE3 compliant smart metering.

Integrated PaySmart® technology - ready for pre-payment billing upprade.

Excellent thermal

efficiency achieved using

Electronically controlled PICV for primary flow rate modulation to match the demand, differential pressure

Fully programmable hot water "Keepwarm" function, for energy saving Integrated heat meter MID approved and class 2 accuracy (BS EN 1434)

- Also capable of readin • Electrical Meter • Cold Water Meter
- (Ontional extras)

Features & Benefits

- A range of sizes available to suit small studio
 apartments or large family homes
- WRAS approved unit
- Pipework constructed from copper
- External filling loop (Optional)
- SmartTalk two-way communication

Remote monitoring, alarms, and diagnostics

The unit delivers fast and responsive domestic hot

water performance, pro-

viding high levels of user comfort and convenience.

- Includes inbuilt TCP/IP technology to operate on an Ethernet network if required
- Capable of reading an electricity meter (Option for ENE3)
- Flushing bypass kit enables the primary side of the system to be flushed and cleaned without damage to the unit

Evinox Energy Ltd 2551872B T. +44 (0)1372 722277

E. info@evinoxenergy.co.uk

W. www.evinoxenergy.co.uk

Circuit diagram

ModuSat® XR Single Plate Domestic Hot Water

Typical ModuSat® XR Single Plate DHW



Components

- А
- Primary / LTHW flow Primary / LTHW return В
- Domestic cold water inlet С
- D Domestic hot water outlet

Primary Side Circuit

- Insulated plate heat exchanger 1 (Domestic Hot Water)
- DHW Pressure Independent 2
- Control Valve with actuator Heat meter
- 3

DHW Secondary Side Circuit

Flow sensor 4

Controls & Other Items

- Electronic control board 5
- ViewSmart room control unit 6
- Flushing by-pass kit 7

Dimensions



Typical ModuSat® XR Single Plate DHW





	Dime	Connections	
ModuSat [®] XR-ECO	А	Н	A,B,C,D
SP-DHW 30/55/70	60	505	3/4"
SP-DHW 100	90	660	1"

Technical Details

ModuSat® XR-ECO models are designed to provide excellent heating and hot water performance at heat network primary flow temperatures as low as 60°C or even 55°C.

Performances at 10/50°C

	ModuSat® XR-ECO Single Plate DHW 30-XX				
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	17.8	18.8	19.8	21.5	24.2
Power (kW)	55	45	40	35	27
DHW flow (I/min)	19.7	16.1	14.3	12.5	9.7
Primary pressure drop** (kPa)	50	50	51	52	50

	ModuSat® XR-ECO Single Plate DHW 55-XX				le
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	17.1	17.9	18.8	20.4	23.2
Power (kW)	65	52	46	40	32
DHW flow (I/min)	23.3	18.7	16.5	14.3	11.5
Primary pressure drop** (kPa)	51	50	50	50	50

	ModuSat® XR-ECO Single Plate DHW 70-XX				le
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	15.6	16.4	17.1	18.5	20.8
Power (kW)	75	64	57	50	40
DHW flow (I/min)	26.9	23.0	20.5	17.9	14.3
Primary pressure drop** (kPa)			50		

	ModuSat® XR-ECO Single Plate DHW 100-XX				
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	17.0	18.0	18.7	20.3	23.1
Power (kW)	120	100	85	75	60
DHW flow (l/min)	43.1	35.9	30.5	26.9	21.5
Primary pressure drop** (kPa)	50	51	50	50	50

Performances at 10/55°C

	ModuSat® XR-ECO Single Plate DHW 30-XX				
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	19.5	21.2	23.0	25.1	
Power (kW)	55	43	37	25	
DHW flow (I/min)	17.5	13.7	11.8	8.0	
Primary pressure drop** (kPa)	52		50		

ModuSat® XR

Single Plate Domestic Hot Water

	ModuSat® XR-ECO Single Plate DHW 55-XX				jle
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	18.4	20.1	21.8	24.9	
Power (kW)	62	50	43	34	
DHW flow (I/min)	19.8	16.0	13.7	10.9	
Primary pressure drop** (kPa)	50				

	ModuSat® XR-ECO Single Plate DHW 70-XX				gle
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	16.7	18.3	19.8	22.7	
Power (kW)	75	62	55	45	
DHW flow (I/min)	23.9	19.8	17.5	14.3	
Primary pressure drop** (kPa)	50		51		

	ModuSat® XR-ECO Single Plate DHW 100-XX				
Primary flow (°C)	80	70	65	60	55
Primary Return* (°C)	18.3	20.2	21.8	24.9	
Power (kW)	115	95	80	65	
DHW flow (I/min)	36.7	30.3	25.5	20.7	
Primary pressure drop** (kPa)	50				

*Industry best practice guides, such as the London Heat Network Manual and CIBSE/ADE Heat Networks Code of Practice (CP1) recommend a primary return temperature of less than 25°C from domestic hot water production at design load.

ModuSat XR/XR-EC0 units deliver return temperatures significantly below this across a wide range of primary system operating conditions, from as low as 55°C (Please refer to figures listed for "Primary return °C" in all tables above).

**Pressure drop produced by all internal components of the ModuSat; including heat meter and PICV.

Technical Details

ModuSat[®] XR Single Plate Domestic Hot Water

Typical Domestic Hot Water Performances - ModuSat® XR/XR- 30/55/70

Performances at 10/50°C

	ModuSat [®] XR Single Plate DHW 30-XX				
Primary flow (°C)	80	70	65		
Primary Return* (°C)	24.6	25.1	25.0		
Power (kW)	45	40	30		
DHW flow (l/min)	19.8	14.3	10.7		
Primary pressure drop** (kPa)	50				

	ModuSat [®] XR Single Plate DHW 55-XX				
Primary flow (°C)	80	70	65		
Primary Return* (°C)	23.8	24.9	24.9		
Power (kW)	70	55	42		
DHW flow (l/min)	25.1	19.7	15.1		
Primary pressure drop** (kPa)	50				

Performances at 10/55°C

	ModuSat [®] XR Single Plate DHW 30-XX				
Primary flow (°C)	80	70	65		
Primary Return* (°C)	24.6	24.8	24.9		
Power (kW)	40	25	17		
DHW flow (I/min)	12.8	8.0	5.40		
Primary pressure drop** (kPa)	50				

Primary flow (°C)	80	70	65
Primary Return* (°C)	24.9	24.8	25.0
Power (kW)	58	35	24
DHW flow (I/min)	18.5	11.2	7.7
Primary pressure drop** (kPa)	50		

Technical features

- Max operating pressure: 16 bar
- Power supply voltage: 220/240 Volt (AC) 50 Hz
- Max supply temperature (Primary): 85 °C
- Min DCW static pressure: 1 bar
- Brazing material: Copper
- Max allowable primary pressure drop: 4 bar

