

 **Dimplex**renewables®

# Intelligent heating for a low energy world



Introducing  
 **smartrad**®  
*intelligent fan convector*



*...heat pump systems become not only more **cost effective** in new build projects, but can also be **retro-fitted** in to existing premises with minimal disruption.*

# SmartRad – the perfect heat pump partner

**Dimplex SmartRad sets new standards for the way we think about our heating. Fast and responsive, accurate room by room control, attractively styled and designed specifically to work with modern, renewable heating systems such as heat pumps.**

You might be forgiven for believing that at the low water temperatures produced by heat pumps, underfloor heating is the only suitable option, but now SmartRad offers a practical, cost effective alternative without the constraints associated with oversized radiators.

It means that heat pump systems become not only more cost effective in new build projects, but can also be retro-fitted in to existing premises with minimal disruption.

- Cost effective, practical alternative to underfloor heating
- Much more energy efficient than conventional radiators
- Stylish, compact design, with a choice of white metal, white glass or black glass finishes
- Designed for low water temperature operation
  - Optimises heat pump CoP
  - Reduces heat pump running costs
  - Reduces heat pump CO<sub>2</sub> emissions
- Ultra low water content means:
  - Low thermal mass
  - Better response
  - Faster heat up
  - Improved efficiency through lower energy wastage
- Four times faster room heat up time
- 70% less energy consumption to bring a room from 10°C to 21°C
- Responsive reaction to incidental heat gains (e.g. solar gains)
- Integral electronic thermostatic control, providing automatic control over fan speed output and room temperature stability
- Optional plug-in 24-hour or 7-day programmers

*The stylish white metal  
fronted SRX140M  
with standard left and  
right hand plumbing  
connections.*





# Less energy less water more heat

**SmartRad is an intelligent fan convector, able to use far lower temperature water – and far less of it – than conventional radiator systems. This provides a number of advantages, not least that it makes SmartRad ideal for use with heat pumps.**

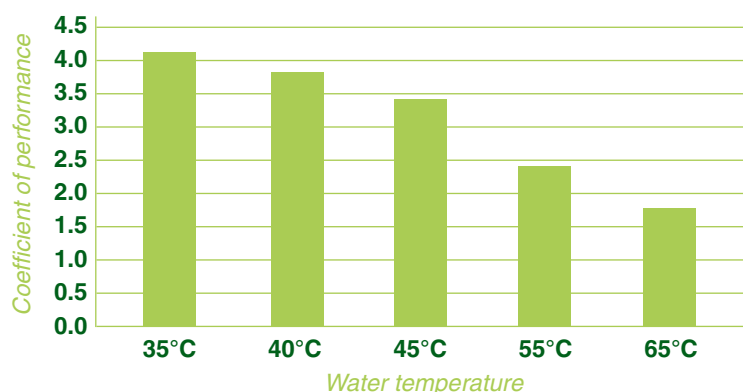
Heat pumps operate most efficiently at low water heating temperatures and SmartRad has been developed specifically to provide excellent levels of heat output at the temperatures normally associated with underfloor heating – typically around 40°C.

This allows the heat pump's coefficient of performance to be maximised, reducing system running costs and household CO<sub>2</sub> emissions. It also allows SmartRad to be used in conjunction with underfloor heating systems –

for example with SmartRads on upper floors – as both can be operated at the same temperature.

And SmartRad is not limited to use only with heat pumps. When used with high efficiency condensing boilers, the high heating outputs obtained by SmartRad at 55°C water temperature means that boilers can be run more effectively in condensing mode and are likely to run more efficiently than when operated with conventional radiators at higher temperatures.

## Heat Pump CoP vs Water Temperature



*The contemporary SRX120WG finished in white glass and with hidden 'through the wall' plumbing connections.*





*SmartRad has been developed specifically to provide **excellent levels of heat output** at the temperatures normally associated with underfloor heating.*



*SmartRad utilises a **compact, high efficiency heat exchanger and intelligently controlled fan** to assist convection and delivery of heat into the room.*



# Space saving high efficiency

**Unlike conventional radiators, SmartRad utilises a compact, high efficiency heat exchanger and intelligently controlled fan to assist convection and delivery of heat into the room.**

This significantly increases heat output, meaning that – despite much lower water temperatures – SmartRads are significantly more powerful and as a result can be 3½ times smaller than a conventional steel convector radiator with the same level of output.

To put this another way, a conventional radiator of the same size would need to operate at over 70°C, while a SmartRad can utilise water at 40°C and be no larger in size. This means that for heat pump installations into existing properties, SmartRad provides an obvious and practical solution.

Utilising fan assisted convection also provides the advantage of even distribution of warm air throughout the room, unlike conventional radiators which heat a room unevenly and tend to leave colder air at lower levels. Ultimately this can also lead to further energy savings as rooms feel more comfortable at lower temperatures.

An added benefit of SmartRad is that it allows flexible left or right handed plumbing connections, or even 'invisible' through the wall connection, offering complete flexibility over installation, particularly in retrofit situations.



*White metal fronted  
SRX140M with left  
hand side plumbed  
connections.*

# Low mass accurate control less energy

**Containing only 5% of the water volume of a conventional radiator, the low thermal mass of SmartRad means heat up time, responsiveness, control – and ultimately comfort – are significantly improved.**

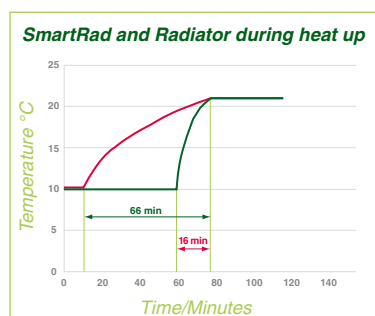
Low water content inside each SmartRad – less than a litre – means reduced thermal inertia so when heating is needed SmartRad is able to respond almost instantly (within 1 minute), compared with a conventional, high water content radiator, which can take up to 15 minutes to reach its full operating output.

This also has a significant impact on the energy consumption during the heat up time of a room. The reduced heat up time and high thermal output from SmartRad allows room temperatures to be raised up to 4 times more quickly than a conventional radiator, reducing energy wastage due to early switch on.

In tests, SmartRad required 70% less energy to raise the temperature of a room from 10°C to 21°C than a radiator (heated by a heat pump at 55°C), simply because the room temperature could be raised so much faster and therefore heating could be started later.

SmartRad's low thermal mass also provides an energy saving advantage once the room temperature has been reached or when heating is no longer needed. Unlike conventional radiators that continue to stubbornly output heat into the room, SmartRad cools quickly, preventing further energy wastage.

SmartRad also provides individual room temperature control, with an integral electronic thermostat to monitor room temperature, control fan speed output accordingly and reduce energy consumption as much as possible. As the room temperature nears its set point, the fan speed is automatically reduced and the room temperature is closely monitored and accurately maintained. In addition, SmartRad can also be fitted with digital programmable timers, allowing individual rooms to be configured with their own heating profile.



*White metal fronted SRX180M with left hand side plumbed connections.*







#### Programmable 24 hour digital timer

- The RX24Ti timer provides programmable 24 hour time control, so each SmartRad can be configured to its own individual operating programme.
- 24 hour digital programming cassette – plugs directly into SmartRad
- 4 programmable time periods, switching heater between On/Off modes
- Programme advance and manual over ride features. 1 timer required per SmartRad
- Cassette can be removed for easy programming
- Back lit LCD with power-save mode
- Programmes saved in memory for 12 hours in event of power failure
- Available in white (RX24Ti) or black (RX24TiB)



*SmartRad's low thermal mass provides an **energy saving advantage** once the room temperature has been reached or when heating is no longer needed.*





*SRX180BG in contemporary black glass finish. Pipework is hidden by through the wall plumbing connections.*

FINISH	NOMINAL OUTPUT kW			
	0.8	1.2	1.4	1.8
White metal	SRX080M	SRX120M	SRX140M	SRX180M
White glass	SRX080WG	SRX120WG	SRX140WG	SRX180WG
Black glass	SRX080BG	SRX120BG	SRX140BG	SRX180BG

OPERATING LIMITS	SRX080	SRX120	SRX140	SRX180
Heating water system/return °C	Max 85 / Min 15 at 150 l/h			
PERFORMANCE	*at medium fan speed and air inlet temp of 20°C			
Heating capacity* mean water flow temp 40°C (kW)	0.6	0.9	1.1	1.5
Heating capacity* mean water flow temp 45°C (kW)	0.8	1.1	1.4	1.8
Heating capacity* mean water flow temp 50°C (kW)	1.0	1.4	1.7	2.2
Heating capacity* mean water flow temp 55°C (kW)	1.1	1.6	2.0	2.6
Heating capacity* mean water flow temp 60°C (kW)	1.3	1.8	2.3	2.9
SOUND PRESSURE LEVEL AT 1M dB (A)				
Low	26			
Medium	29			
Boost	36			
AIR FLOW RATE				
Low (m³/hr)	60	100	120	160
Medium (m³/hr)	125	190	225	300
Boost (m³/hr)	228	345	410	540
DIMENSIONS (mm) HxWxD	530x503x145	530x670x145	530x740x145	530x911x145
Weight (kg)	13	16	18	23
POWER INPUT (W)				
Low	17	22	26	24
Medium	20	32	40	35
Boost	27	47	60	53
Standby power	1W			
Nominal voltage / fuse rating (V/A)	~230 / 3			
Hydraulic connections	15mm left and/or right hand connection or from rear			
Water content (l)	0.31	0.43	0.48	0.60
Cable supplied	1 metre			



## Specifications

Dimplex policy is one of continuous improvement; the Company therefore reserves the right to alter specifications without notice. The information contained in this brochure is correct at the time of printing. You are advised to consult your Dealer before purchasing.

## Installation Guidance

This brochure is designed to assist you with your choice of Dimplex products and it is not intended as an installation guide. For safety, products should only be installed by a competent person, in accordance with current regulations and the manufacturers instructions.

## The Dimplex Range

Dimplex offers the widest range of electric space and water heating products in the world – nearly 400 – to meet almost any heating need. In addition to this publication, we have a wide range of brochures for both domestic and commercial applications.

Please visit our website [www.dimplex.co.uk/renewables](http://www.dimplex.co.uk/renewables) for more information.



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brochure



Heat pumps  
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Fires brochure

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wide range of renewables technologies,  
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email: [marketing@dimplex.co.uk](mailto:marketing@dimplex.co.uk)  
or call: Trade customers **0845 601 5111**  
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