



# Orion

100 - 200

## Ducted Dehumidifier with Air and Pool Heating

- 'Suck and Blow' arrangement for air distribution
- Special Flexi-Duct kit
- UK manufacture
- Genuine nationwide 'on-site' service support by Heatstar's own expert technicians

**Heatstar**  
Energy Technology Systems



Engineered with Excellence, Specified with Confidence.

**Suitable for smaller indoor pools or swim spas, the Orion provides a convenient and economical solution to condensation and temperature control.**

### Simple 'Suck and Blow' installation

To eliminate any need for intrusive and unsightly dehumidifiers or radiators within the actual pool room, the Orion is concealed out of sight within the equipment room. The Orion is supplied with its own special 'flexi-duct' kit with grilles etc, to draw in and return the pool room air.

The Orion is therefore fully compatible with the latest Electrical Safety Regulations, which restrict locating mains-voltage equipment within the pool room itself.

The Orion simply stands on the floor in the equipment room and would usually only require an electricity supply, simple pipe connections to a boiler, pool water filtration circuit and waste water drain.

### Special Flexi-Duct kit

The Orion is designed for use with a special flexi-duct kit with air louvres to offer a simple 'suck and blow' air distribution arrangement, straight through openings in the pool room wall.

The high-duty fan has the ability to 'throw' the air into the pool room via the multi-directional air supply louver.

The Orion is equipped with special air duct spigot adapters to enable the flexi-duct kit to simply be 'push-fitted' together.

The flexi-duct kit also ensures tolerance in the exact positioning of the openings through the pool room wall and acts as a barrier against operational vibration transfer.

### Dehumidifying heat pump with 'Active' heat recycling

The pool room air is re-circulated through the Orion by the integral fan. Inside the unit the humid room air is passed through the cold refrigerated coil matrix of the dehumidifying heat pump where, upon contact, the excess humidity condenses to cold water, thus the air is dehumidified prior to being returned back to the room.

The warm, moisture laden pool room air is rich in energy and the dehumidifying heat pump is able to absorb both 'Sensible' (dry heat) and 'Latent' (steam-like energy available within the airborne water vapour). This heat, together with ALL the electrical energy used to operate the dehumidifying heat pump, is then returned back into the pool room air.

Energy recycling efficiencies of up to 350% are possible through 'active' heat recycling via the dehumidification process.

### Integral support heating provision

To ensure that the optimum pool room air and pool water temperatures are always achieved, during periods when the heating requirements exceed the heat recycled and introduced by the dehumidifying heat pump, supplementary heat emitters can be incorporated within the Orion.

These heat exchanging coils transfer heat piped from a separate heat source, typically a fuel or heat pump boiler, into the pool room air or pool water. If there is no boiler available, then direct electric heat emitters are also offered as an option.

A high capacity pool water heat emitter is used to ensure a swift initial warm-up period for the pool from cold and, for salt water pools, special titanium coils are available.

The Orion features a 'heat demand' signal which can be used to activate the heat source.

### Digital temperature controls

All functions of the Orion are completely automatic with the actual temperatures and system status clearly displayed upon the control panel.

Once the desired pool water and pool room air temperatures are set on the intuitive and easy-to-use controller, the integral sensors and processors accurately self-govern the various modes of operation. The controls permit the pool room temperature to automatically be reduced to a 'set back' to save energy when the pool is not in use.

The controls feature robust digital technology and are specifically selected for assured long term operation and serviceability within the equipment room atmosphere.

### Pre-Packaged for easy installation

To reduce installation work and complexity to a minimum, the Orion is offered as a completely pre-assembled package, incorporating all heating coils, controls and motorised heating valves. The use of a packaged Orion also enables the equipment room to be arranged in the neatest and most professional manner possible.

### Total flexibility of configuration

The position of the control panel, pipes, air duct spigots and maintenance access can all be orientated during manufacture to accommodate the ideal equipment room layout. Horizontal versions are also available.

### Highest quality construction

The Orion is designed and constructed to the highest possible standard and all components have been especially selected for use within corrosive swimming pool environments.

For maximum strength and durability, the units are constructed from a 50mm thick anodised aluminium skeleton frame. All exterior access panels are formed from galvanised steel, with a tough PVC coating to prevent corrosion, fixed via chrome latches.

All air heat exchange coils feature a protective coating to protect against corrosion.

The heat pump utilises zero ozone depletion eco refrigerant and is completely hermetically sealed to guard against leakage.

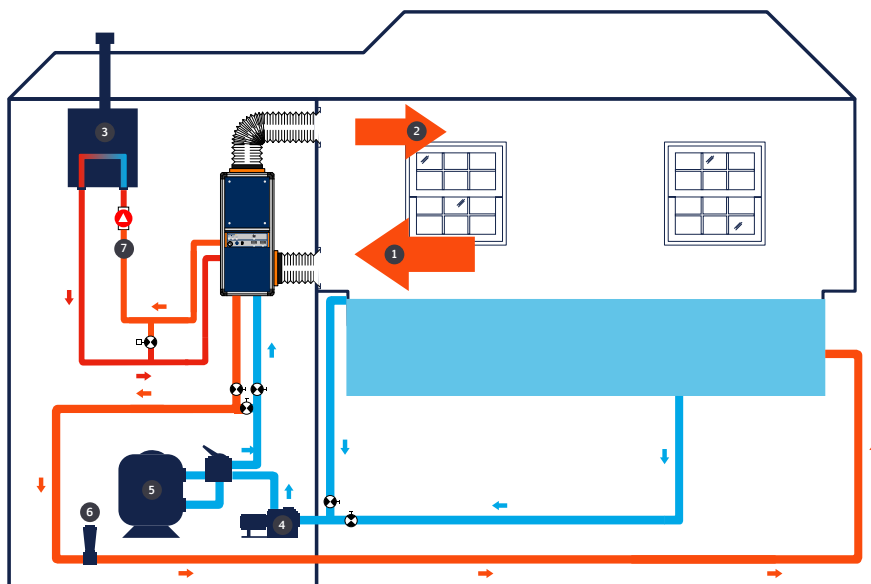
### Energy Related Product Directive compliance (ERP)

The European Union Directive for 'Energy Related Products' is now in force and encompasses sweeping legislation which impacts upon ventilation product engineering, efficiency and performance rating. The Orion fully complies with the new directive.

## → Orion installation

### Key:

- 1: Pool air intake
- 2: Supply air to pool room
- 3: Fuel or heat pump boiler
- 4: Pool water pump
- 5: Pool water filter
- 6: Chemical introduction
- 7: Boiler water pump



## → Orion standard performance specifications

	Type	100	200
<b>Air recirculation fan duty</b>	M <sup>3</sup> /Hr.	1500	1800
Maximum external resistance	Pa	100	100
<b>Expelled / fresh air duty *</b>	M <sup>3</sup> /Hr.	150	180
Maximum external resistance	Pa	50	50
Fan type	Forward curved, direct drive, centrifugal		
<b>Dehumidification</b>			
Dehumidifying heat pump	L/Day	81.6	108.0
Fresh air induction: Summer	L/Day	22.3	26.7
Fresh air induction: Winter	L/Day	36.9	44.3
<b>Room air heating potential</b>			
Dehum heat pump recycled heat	kW	5.0	6.6
LTHW coil	kW	9.8	11.8
<b>Pool water heating potential</b>			
LTHW coil	kW	13.2	13.2

Rated conditions

Pool air: 30°C/60% R.H. Pool water: 28°C

Ambient: 7°C/100 R.H. Winter: 28°C/45% R.H. summer

LTHW: 70°C Flow/50°C return

\* FX option

Due to continuous development the right to alter specifications without notice is reserved. E&OE.

### Rigorous testing procedures

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Prior to every new Orion unit leaving the Heatstar factory, it is first subjected to a thorough procedure of testing and appraisal within Heatstar's own climatic chamber to ensure that all aspects meet the required quality and performance standards. Individual certificates of testing are provided.

### Factory supported warranty and maintenance

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The Orion comes with the assurance and peace of mind of a comprehensive, on-site warranty within the UK. Also available are extended warranty options and the benefit and assurance of future routine servicing by Heatstar's own technicians to ensure minimal maintenance costs, a very long operating life and that the Orion is always able to obtain optimum efficiency.

### Free system design service

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Heatstar offer a free, computer-aided system design facility providing accurate and precise equipment selections, installation schemes and economic assessments. Heatstar's highly experienced team of experts are available for consultation on all related aspects, without charge or obligation.

### Why choose Heatstar?

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Heatstar is a specialist British manufacturer and the renowned leading authority for the application of environmental control technology for indoor swimming pools. Heatstar have pioneered the innovation, design and development of modern, highly energy efficient, systems and are specified with total confidence by the UK's leading pool building experts.

A flag-bearer for energy-efficiency for over three decades, Heatstar continue to play a huge part in making swimming pools role models for energy savings and reduced carbon emissions.

Through the years, over 10,000 Heatstar systems have been supplied within the UK and also exported to numerous Countries.

When investing in equipment of this nature, confidence and assurance in the brand are important considerations. Needless to say, the performance, quality and, very importantly, the long-term reliability and durability of Heatstar and their products systems have been demonstrated beyond question.

### Contact us

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Contact Heatstar for detailed specifications and a full analysis of your swimming pool heating and environmental control requirements.

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