



# Taurus EC 90-720

Optimum Efficiency Environmental Control System  
For Water Leisure and Competition Pools

- Hybrid systems - dual heat recovery methods for exhausted air
- 'Blue-EC' ultra efficient digital inverter fan systems
- Dual function dehumidifying and expelled air heat pumps
- Full rate outside air ventilation with 'Cross Flow' heat recuperators
- 'Auto fan' intelligent air recirculation fan management
- Active heat recycling into pool room air and pool water
- Integral air space and pool water support heating provision



# Taurus

90 - 720

Optimum Efficiency Environmental Control System For Water Leisure and Competition Pools

Available with a range of technologies, the Taurus offers high energy efficiency environmental control for swimming pools and larger water leisure complexes.

## Introduction

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Recoswim Taurus systems are a dedicated range of premium quality high capacity environmental control units, designed solely and specifically for application on larger swimming and leisure pool.

Taurus units offer humidity control, energy recovery, outside air, variable rate ventilation, mechanical cooling and renewable energy heating solutions.

The specialist dedicated design of the Taurus overcomes all the traditional problems associated with operation in aggressive, corrosive and comparatively humid environments.

The Taurus systems features the latest energy saving approaches and can be specified with a range of technologies including EC digital fans, active energy recycling via a dehumidifying heat pump, passive recovery via heat recuperators and heat pipes.

## 'Blue EC' Ultra-efficient digital inverter fan system

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Against the consideration that the permanent operation of large air fan motors may represent the largest single consumer of energy within a pool complex, the Taurus employs a very special type of digital fan to offer the best possible energy efficiency and, so, the lowest operating cost of any such system. The digital fan uses a directly driven, backward curved, centrifugal impellor, which features a DC motor coupled to an AC inverter.

## 'Intelligent' Auto-Fan - Why run the fan at full power when you don't need to?

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The Taurus features 'auto-fan' technology, whereby the speed and power of the air recirculation fan is managed automatically to enable significant energy savings whenever there is low demand for dehumidification or air heating.

## Fully adjustable air re-circulation air flow

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The air flow rate provided by the fan system can be adjusted electronically on-site to precisely match the exact requirement of the pool room.

## Perfect pool room air quality

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The Taurus always provides a modulated level of outside air dilution to achieve an enhanced impression of freshness and to prevent any build up of chemical odours.

A slightly negative air pressure is also achieved to help prevent the pool hall atmosphere migrating into adjoining areas, or compromising vapour barriers. The 'dual' process of heat extraction is retained to maintain efficiency.

## Close-Control precision outside air ventilation management

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As the quantity of air emitted to atmosphere has an increased relevance to the overall energy usage of the application, the expelled air volume is precisely regulated by the combined effect of a motorized air damper and the automated power of the exhaust air fan.

## Integral support heating provision

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To ensure that the optimum pool hall 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 are incorporated within the Taurus.

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. For installations where a separate heat pump boiler is used, special up-rated emitters and fan systems are used to compensate for the lower heating circuit temperature. 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.

## Economizer 'free cooling' provision

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Automated free cooling to the pool hall air, utilizing the introduction of outside air, is a standard feature on all Taurus models.

## Stand-Alone dedicated controls package

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

Once the desired 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, via a link to the pool surface cover or other switch facility.

The controls feature robust digital technology and are specifically selected for assured long term operation and serviceability within the equipment room atmosphere. Various optional BMS interfaces are also available.

## Highest quality construction

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The Taurus is designed and constructed to the highest possible standard. All components are sourced from USA or Europe and have been especially selected for use within corrosive swimming pool environments.

For maximum strength and durability, the units are constructed from a 2" thick anodized aluminum skeleton frame. All exterior access panels are formed from an insulated double skin 'sandwich' construction using galvanized steel, with a tough PVC coating to prevent corrosion, fixed via chrome latches.

All air heat exchange coils feature 'gold' epoxy coating to protect against corrosion.

Where applied, the refrigeration compressors which drive the heat pumps use a special 'orbital scroll' design, manufactured by Copeland, offering the best possible operating efficiency.

The heat pumps utilizes zero ozone depletion eco refrigerant and are completely hermetically sealed to guard against leakage.

### Performance and configuration flexibility

Each Taurus unit is tailor-made to the precise individual requirements of the application, obviating the need to under or oversize performance aspects or tolerate inappropriate equipment room layout.

Dehumidification rates, air flows and heating duties are all specified individually to give a completely balanced, highly effective system, operating at ideal efficiency.

Where two or more units are to be utilized on an application, the units can be master-slave controlled from a common control system.

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

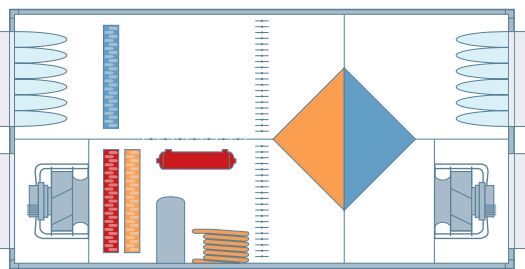
For retrofit and refurbishment applications, the Taurus units can be custom-made as necessary to accommodate existing services and plant space restrictions.

Special 'weatherproof' and rooftop models are also available for external positioning.

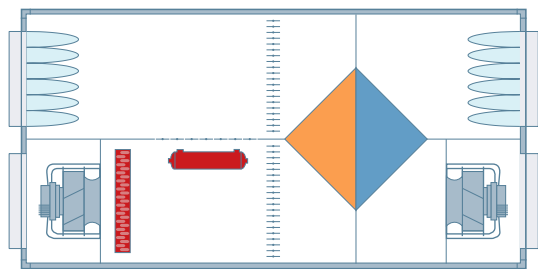
Therefore, irrespective of the demand characteristics of the application, the Taurus is the perfect uncompromised approach.

## → Taurus EC standard configurations

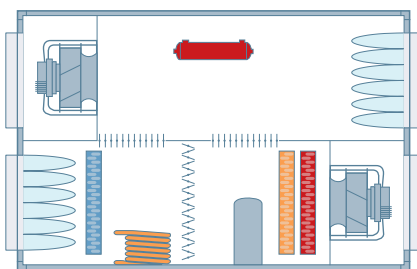
Taurus HPXF



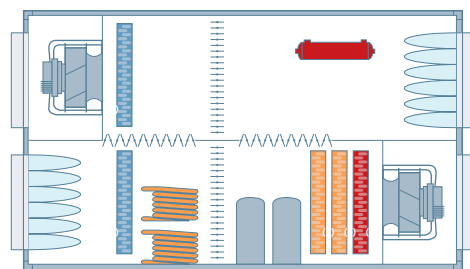
Taurus XF



Taurus HP



Taurus ATHP



## → Taurus EC standard performance specifications

	Type	90		120		180		240		360		720	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Supply air fan duty	cfm	2850	5700	3800	7600	5100	10200	7600	15200	10200	20400	20400	40800
Variable speed control range	%	0	100	0	100	0	100	0	100	0	100	0	100
Exhaust / outside air fan duty	cfm	2993	5985	3990	7980	5355	10710	798	15960	10710	21420	21420	42840
Variable speed control range	%	0	100	0	100	0	100	0	100	0	100	0	100
<b>Fan type</b>	'Blue EC' backward curved, direct drive, electronically commutated, brushless DC motor												
<b>Dehumidification</b>													
Dehumidifying heat pump	lbs./Hr.	41.0		60.7		87.9		121.4		175.8		328.0	
Outside air	lbs./Hr.	64	128	85	171	114	229	171	341	229	458	458	915
Total refrigeration capacity	MBh	97		144		208		287		416		832	
<b>Room air heating potential</b>													
Dehumidifying heat pump recycled heat	MBh	128		184		273		368		546		1092	
LTHW coil	MBh	138	276	184	368	247	493	368	735	493	986	986	1973
<b>Pool water heating potential</b>													
Dehumidifying heat pump recycled heat	MBh	128		184		273		368		546		1092	
LTHW coil	MBh	355		478		713		956		1426		2852	

**Rated conditions:**

Pool air: 84°F/60% R.H. - Pool water: 82°F - Outside air: 50°F/50% R.H. - LPHW: 180°F Flow/160°C return

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

### **Pre-Packaged for simplified installation**

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To reduce installation work and complexity to a minimum, the Taurus can be offered as a completely pre-assembled package, incorporating all heating coils, controls and motorized heating valves, providing dehumidification, heat recovery, air heating, pool water heating and outside air ventilation, all from a single, easily installed unit.

### **Sectional delivery**

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To ensure convenient and practical access for the equipment into the technical area, the Taurus units are normally supplied in a sectional format for re-assembly in situ.

### **Rigorous testing procedures**

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

### **Warranty and maintenance**

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The Taurus comes with the assurance and peace of mind of a comprehensive, warranty with extended warranty options available.

### **Free application selection service**

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

### **Why choose Recoswim – leaders for more than 40 years**

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

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

Recoswim have been producing pre-packaged climate control units like the Taurus longer than any other company and this experience is evident throughout the product range. Through the years, over 15,000 Recoswim systems have been supplied.

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 Recoswim and their products systems have been demonstrated beyond question.

### **Contact us**

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

