



# OptiChill™ & OptiChill™ FreeCool

## 500 - 1365kW

- + EER up to 3.21
- + ESEER up to 4.21
- + OPC 500 – 1140kW
- + OFC 750 – 1365kW



Authorised User No. 00007

# Optimum control and flexibility

## Advanced chiller technology at its best

Designed and optimised for R134a, the OptiChill™ range offers a large capacity, low energy and low sound cooling solution designed to minimise environmental impact.

Boasting a relatively small footprint, the OptiChill™ is a high efficiency, large capacity, air-cooled screw chiller with a raft of flexible options making it suitable for a wide range of applications. The OptiChill™ range is ideal for precision air conditioning and process or comfort cooling involving substantial and diverse cooling loads.

### Extensive choice

Choose from two ranges; High Efficiency and High Efficiency Plus, 13 capacity sizes, 52 models and two sound level variants; standard and quiet. The extensive OptiChill™ range is also available as a free-cooling version which provides exceptional flexibility and enables you to select a chiller which best accommodates your site requirements.



#### Inverter controlled pump

Speeds up and down to maintain the design flow rate and offers flow protection.



#### EC fans

Up to 80% more efficient.\*  
Electronically commutated fans provide increased performance for reduced power input (option).

\*than AC fans at part load



#### Victaulic water connections

Ensure simple and quick installation.



#### Electronic expansion valves

Typically provide an EER increase of 30% by reducing the need for high head pressure.



### Minimise your carbon footprint

In recognition of its superior energy efficiency, the OptiChill™ range has been awarded a place on the Energy Technology List. Products included on this list offer businesses investing in energy saving products the opportunity to claim 100% first year capital allowances on their spending.

For more info visit [www.eca.gov.uk](http://www.eca.gov.uk)

# Ultimate energy efficiency

## Reduces operating costs

### Smart controls for optimal performance

Smart controls ensure optimum operating conditions and allow sequencing of up to eight chillers, intelligent head pressure control, automatic rescheduling of chilled water set points and energy monitoring. All of which make the OptiChill™ range increasingly energy efficient, enabling it to benefit from a European Seasonal Energy Efficiency Ratio (ESEER) of up to 4.21.

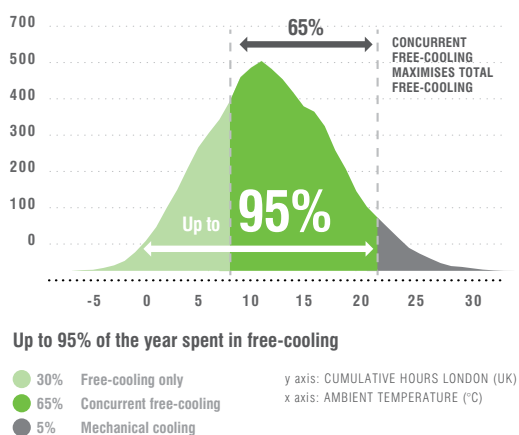
Eseer of up to  
**4.21**

### Free-cooling

The OptiChill™ FreeCool offers concurrent free-cooling for more than 95% of the year (cumulative hours, London, UK) which can save more than 50% of the energy consumed by a conventional chiller, therefore greatly reducing operating costs.

For up to 30% of the year, the OptiChill™ FreeCool can operate in total free-cooling mode. This enables free-cooling EER's\* of up to 80 to be achieved. During mechanical cooling, excellent part load efficiencies ensure an ESEER of up to 3.62.

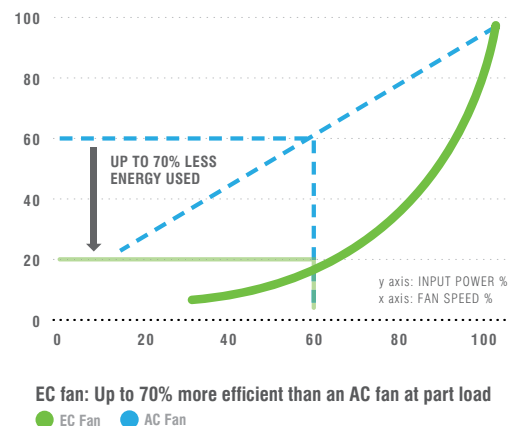
\* Free-cooling EER at 15°C return water; 20% ethylene glycol; 3°C ambient temperature



### Energy saving

Fitted as standard, the OptiChill™ range uses the latest EC fan technology to provide even greater control. EC fans offer one of the most effective solutions for reducing cooling system energy consumption and can potentially reduce energy usage by up to 70%.

EC fans automatically respond to load fluctuations enabling fan efficiency to be significantly improved and cooling system performance to be optimised. Low air flow resistance also increases fan performance at reduced power input.



# Enhanced system performance

## Increased reliability and efficiency

### Modulating screw compressors

Twin screw compressors increase reliability, efficiency and improve overall chiller performance. The compressors adapt to match cooling load and are complemented by economisers to increase cooling capacity.

### Intelligent head pressure control

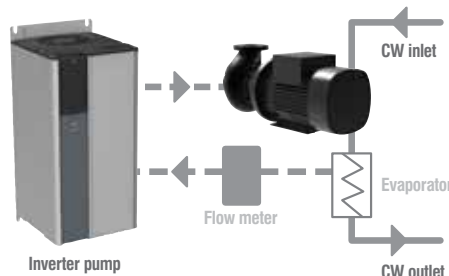
Interactive head pressure set point management allows greater energy optimisation.

### Closed transition star/delta starting

The OptiChill™ offers closed transition or electronic soft starting to minimise starting current. During normal star delta starting of a motor, a disconnection occurs between the star and delta steps which can cause currents to spike when the delta step is initiated. Closed transition star delta fills this gap with a resistive load to reduce the current peak.

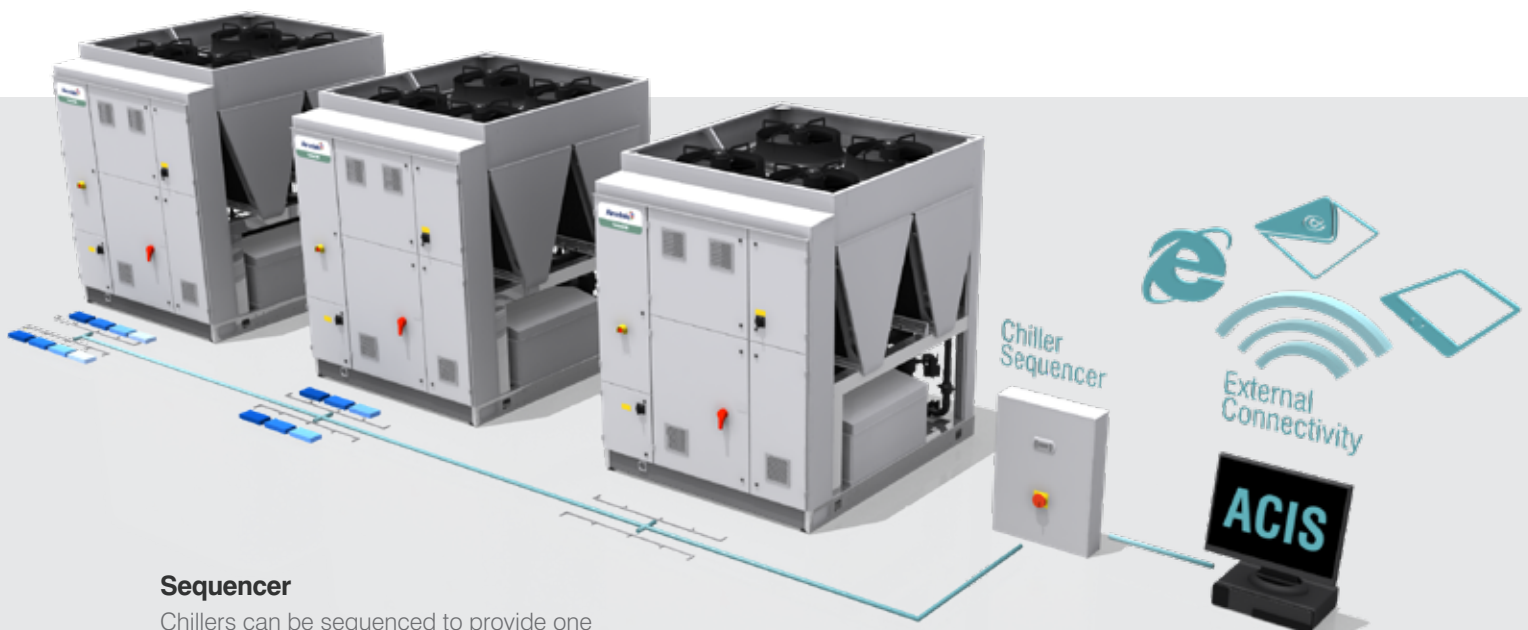
### Inverter controlled pump

The OptiChill's inverter controlled pump provides effective water management enabling significant energy savings to be made. The pump is able to speed up and down to maintain the design flow rate and enables flow monitoring and low flow rate protection.



**30%**  
increase in EER

The use of electronic expansion valves within the OptiChill™ reduce the need for high head pressure, resulting in an energy efficiency ratio increase of 30%, which allows operating costs to be dramatically reduced.



### Sequencer

Chillers can be sequenced to provide one seamless operating system which maximises efficiency and ensures even wear of components. When sequenced, chillers are automatically balanced and are optimised to run in their most efficient state.







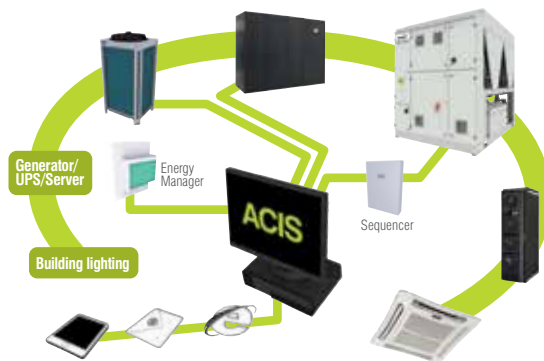
# Intelligent controls

## Seamlessly managing your system

The control centre of each of our cooling systems is a sophisticated electronic microprocessor specially developed by Airedale. The intelligent microprocessor uses sensors which allow active components to interact. By integrating and sequencing components, the controller manages and optimises the system's performance, availability and power draw, giving the operator complete system control.

Fully-programmable via the control panel's user-friendly display, the microprocessor can be linked with all standard BMS protocols to:

-  **Trigger alarm messages**
-  **Send alarm/service messages via email or SMS using an interface**
-  **Operate time scheduling**
-  **Allow adjustment of temperature setpoints**

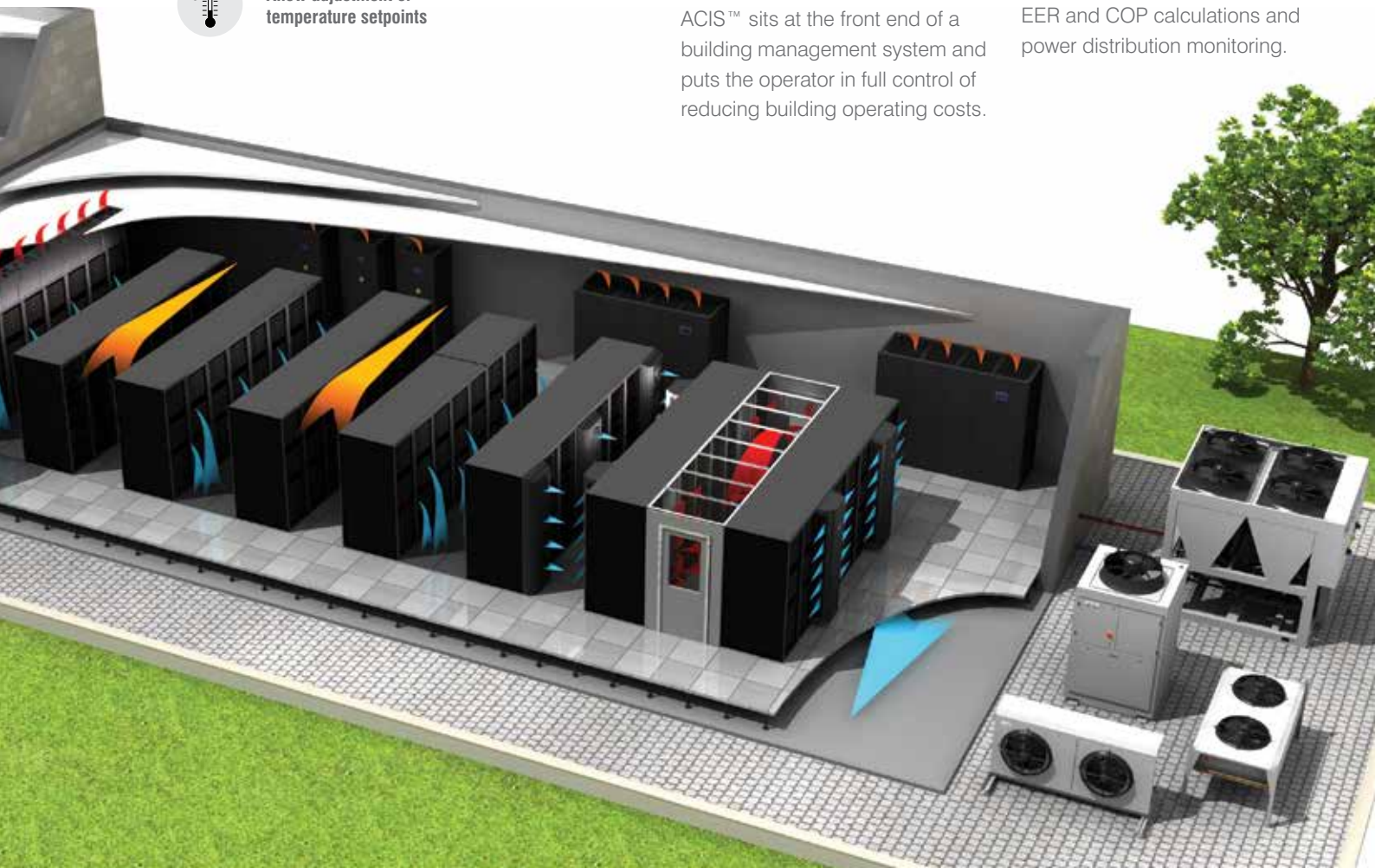


### ACIS™

ACIS™ is a building management system developed, by Airedale, which enables smart cooling and other building services, from any manufacturer, to be managed through a single, integrated solution across multiple sites and communication protocols.

ACIS™ sits at the front end of a building management system and puts the operator in full control of reducing building operating costs.

Through the click of a button on a PC, tablet or phone, intelligent information can be retrieved automatically allowing informed, data driven decisions to be made. With 24/7 access, ACIS™ provides an ideal solution for remote monitoring and maintenance, including live PUE, EER and COP calculations and power distribution monitoring.



# Total support

## Whenever you need it

At Airedale, we don't just manufacture and supply cooling and refrigeration products; we also provide a broad range of supporting services to ensure our customers receive the best possible aftersales care.

With more than 40 years' experience in business critical cooling, investing in an Airedale cooling or refrigeration solution means that you can benefit from our advice, expertise and technical support too. From design and selection, through to commissioning and beyond, we make sure your system reduces your total cost of ownership, whilst providing maximum availability and longevity.

### Service plans

#### Maximising your system's effectiveness 24/7



An Airedale service plan provides a planned, preventative maintenance package to sustain the optimum efficiency of your system, enabling the user to see real savings in energy costs and reduced carbon emissions.

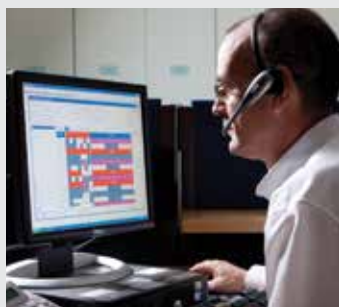
With Airedale, you can rest assured that help is never far away. Our 24/7 emergency helpline and call out service is available 365 days of the year, ensuring that we are always on hand to provide expert advice and immediate help, day or night.

A guaranteed emergency response time means that a qualified Airedale engineer will be with you in no time, therefore maximising your system's uptime. Service plans also ensure F Gas compliance and incorporate a full parts and labour warranty for the first 12 months.

For more information visit

**[www.airedale.com](http://www.airedale.com)**

\* For customers outside the UK, our international distributors trained by Airedale would be pleased to offer service on Airedale units



**Talk directly with an experienced engineer**

Find out how we design our systems to reduce your whole life costs. Our highly experienced engineers are adept at tailoring our systems to suit your requirements.

**+44 (0)113 239 1000**



**Have complete control of your site**

Customers with critical sites can benefit from our remote monitoring facility. Aftersales services include chiller sequencing, network setup and integration as well as a live demonstration and training centre at our head office.



**24/7 support; maintenance and spares**

Immediate help on hand to keep your critical cooling system operational. Realise the full potential of your system; improve its longevity and efficiency and be F Gas compliant. Avoid downtime with our fast, efficient spares service.



**Develop your skills**

Learn more about your cooling system by attending an air conditioning and refrigeration course in our purpose-built training school. Train on high-tech cooling systems and fully operational rigs in our dedicated workshops. Industry recognised courses also available. Email **[training@airedale.com](mailto:training@airedale.com)** for further details.

# Specifications at a glance

Model no.	Nominal cooling (kW) <sup>1</sup>		EER <sup>2</sup>		ESEER <sup>3</sup>		Sound pressure @ 10m (dBA)		Dimensions (H x W x L)(mm)		Operating weight (kg)	
	HE	HE +	HE	HE +	HE 4	HE 4 +	HE	HE +	HE	HE +	HE	HE +
<b>Standard (D)</b>												
OPC500 (HE / HE+) D	539	558	2.96	3.05	3.93	4.02	68	68	2600 x 2200 x 4675	2600 x 2200 x 4675	5600	6010
OPC525 (HE / HE+) D	565	601	2.91	3.19	3.76	4.01	66	66	2600 x 2200 x 4675	2600 x 2200 x 5675	5640	6500
OPC550 (HE / HE+) D	591	631	2.85	3.14	3.62	3.89	63	63	2600 x 2200 x 4675	2600 x 2200 x 5675	5650	6510
OPC600 (HE / HE+) D	635	662	3.06	3.14	3.82	3.93	64	64	2600 x 2200 x 5675	2600 x 2200 x 5675	6170	6550
OPC650 (HE / HE+) D	691	701	3.14	3.17	3.96	4.01	65	65	2600 x 2200 x 5675	2600 x 2200 x 5675	6570	6830
OPC700 (HE / HE+) D	756	770	3.15	3.19	3.95	3.99	65	65	2600 x 2200 x 7100	2600 x 2200 x 7100	7530	7820
OPC750 (HE / HE+) D	805	824	3.00	3.05	3.86	3.93	64	64	2600 x 2200 x 7100	2600 x 2200 x 7100	8000	8300
OPC800 (HE / HE+) D	849	883	2.91	3.12	3.85	4.02	64	64	2600 x 2200 x 7100	2600 x 2200 x 8100	8020	8800
OPC850 (HE / HE+) D	909	929	2.87	3.06	3.92	4.04	64	64	2600 x 2200 x 7100	2600 x 2200 x 8100	8330	8810
OPC900 (HE / HE+) D	969	986	2.96	3.10	3.82	3.92	65	65	2600 x 2200 x 8100	2600 x 2200 x 9100	8900	9390
OPC950 (HE / HE+) D	1009	1043	2.88	3.12	3.65	3.82	66	67	2600 x 2200 x 8100	2600 x 2200 x 10100	8990	9940
OPC1000 (HE / HE+) D	1075	1090	3.01	3.13	3.78	3.86	66	66	2600 x 2200 x 9100	2600 x 2200 x 10100	9490	9970
OPC1100 (HE / HE+) D	1121	1137	3.01	3.13	3.81	3.90	66	66	2600 x 2200 x 9100	2600 x 2200 x 10100	9490	10000
<b>Quiet (DQ)</b>												
OPC500 (HE / HE+) DQ	534	565	2.89	3.16	3.98	4.21	61	61	2600 x 2200 x 5675	2600 x 2200 x 7100	6500	7360
OPC525 (HE / HE+) DQ	560	595	2.82	3.10	3.81	4.03	60	60	2600 x 2200 x 5675	2600 x 2200 x 7100	6530	7440
OPC550 (HE / HE+) DQ	585	625	2.76	3.05	3.66	3.90	57	57	2600 x 2200 x 5675	2600 x 2200 x 7100	6570	7460
OPC600 (HE / HE+) DQ	611	653	2.74	3.03	3.70	3.94	58	58	2600 x 2200 x 5675	2600 x 2200 x 7100	6570	7460
OPC650 (HE / HE+) DQ	637	683	2.71	3.03	3.72	3.97	59	59	2600 x 2200 x 5675	2600 x 2200 x 7100	6580	7460
OPC700 (HE / HE+) DQ	744	758	3.01	3.06	3.94	3.98	59	59	2600 x 2200 x 8100	2600 x 2200 x 8100	8420	8710
OPC750 (HE / HE+) DQ	793	823	2.87	3.06	3.84	4.01	59	59	2600 x 2200 x 8100	2600 x 2200 x 9100	8910	9680
OPC800 (HE / HE+) DQ	851	867	2.80	2.96	3.87	3.99	59	59	2600 x 2200 x 8100	2600 x 2200 x 9100	9210	9680
OPC850 (HE / HE+) DQ	895	926	2.72	3.01	3.89	4.11	58	58	2600 x 2200 x 8100	2600 x 2200 x 10100	9220	10180
OPC900 (HE / HE+) DQ	950	978	2.79	3.02	3.79	3.97	60	60	2600 x 2200 x 9100	2600 x 2200 x 11100	9780	10750
OPC950 (HE / HE+) DQ	987	1020	2.71	2.94	3.62	3.80	61	61	2600 x 2200 x 9100	2600 x 2200 x 11100	9860	10850
OPC1000 (HE / HE+) DQ	1049	1065	2.82	2.94	3.75	3.83	61	61	2600 x 2200 x 10100	2600 x 2200 x 11100	10390	10870
OPC1100 (HE / HE+) DQ	1094	1111	2.80	2.93	3.78	3.86	61	61	2600 x 2200 x 10100	2600 x 2200 x 11100	10420	10880

1) Nominal cooling capacity at 7/12°C water and 35°C ambient temperature.

2) EER (Energy Efficiency Ratio) at 7/12°C water and 35°C ambient temperature

3) ESEER (European Seasonal Energy Efficiency Ratio) based on Eurovent standard calculation method at 7/12°C water.

4) The ESEER data given in this column applies to the HED range featuring optional EC fan. For ESEER data relating to the HED range with AC fan, please contact Airedale.

Performance data calculated in accordance with BSEN 14511-2011 and Eurovent 6/6

Model no.	Nominal cooling (kW) <sup>1</sup>	EER <sup>2</sup>	EER <sup>3</sup>	Free-cooling <sup>4</sup> (kW)	Free-Cooling EER	Sound pressure @ 10m (dBA)	Dimensions (H x W x L)(mm)
OFC076R16-66HS1	811	3.13	3.41	629	48.58	68.1	2600 x 2200 x 9850
OFC081R16-76MS2	875	3.12	3.46	645	32.22	68.8	2600 x 2200 x 9850
OFC087R18-77HS2	922	3.09	3.37	725	42.44	68.6	2600 x 2200 x 10850
OFC091R18-87MS4	990	3.07	3.50	742	34.60	69.6	2600 x 2200 x 10850
OFC095R18-88HS4	1036	3.05	3.56	752	35.66	70	2600 x 2200 x 11850
OFC099R20-88MS6	1078	3.09	3.48	835	40.32	69.7	2600 x 2200 x 11850
OFC104R22-99HS5	1159	3.02	3.56	926	40.71	68.8	2600 x 2200 x 12850
OFC108R22-99HS6	1205	3.09	3.52	936	40.44	68.9	2600 x 2200 x 12850
OFC119R22-00MS7	1269	2.78	3.12	949	32.13	71	2600 x 2200 x 12850
OFC126R22-11MS8	1368	2.73	3.36	966	29.64	73.1	2600 x 2200 x 12850
OFC076R16-66MS1	811	3.08	3.45	706	46.88	68.2	2600 x 2200 x 9850
OFC082R18-76HS2	870	3.10	3.34	801	40.55	68.4	2600 x 2200 x 10850
OFC087R18-77MS2	930	3.12	3.47	822	41.27	68.7	2600 x 2200 x 10850
OFC092R20-87HS4	984	3.07	3.50	918	42.35	69.2	2600 x 2200 x 11850
OFC095R20-87MS6	1023	3.13	3.41	932	41.84	69.3	2600 x 2200 x 11850
OFC099R20-88HS6	1073	3.11	3.49	948	43.02	69.8	2600 x 2200 x 11850
OFC104R22-99HS5	1155	2.98	3.51	1055	42.91	68.9	2600 x 2200 x 12850
OFC108R22-99HS6	1200	3.05	3.46	1069	42.79	69	2600 x 2200 x 12850
OFC119R22-00MS7	1264	2.73	3.07	1086	34.25	71.1	2600 x 2200 x 12850
OFC126R22-11MS8	1363	2.69	3.30	1108	31.61	73.2	2600 x 2200 x 12850
OFC073X16-66HS1	780	3.01	3.38	528	48.58	64	2600 x 2200 x 9850
OFC076X20-66MS1	808	3.21	3.62	649	71.05	63.9	2600 x 2200 x 11850
OFC081X20-76HS2	856	3.15	3.42	658	51.00	63.7	2600 x 2200 x 11850
OFC085X20-77MS2	913	3.15	3.56	669	50.67	63.6	2600 x 2200 x 11850
OFC091X22-87HS4	967	3.11	3.59	739	80.47	62.9	2600 x 2200 x 12850
OFC093X22-87MS6	1001	3.16	3.49	745	49.11	62.9	2600 x 2200 x 12850
OFC101X22-99HS5	1120	2.91	3.54	766	49.74	63.6	2600 x 2200 x 12850
OFC104X22-99HS7	1157	2.97	3.57	771	50.03	63.6	2600 x 2200 x 12850
OFC073X16-66HS1	773	2.95	3.32	579	51.79	64	2600 x 2200 x 9850
OFC080X18-76MS2	842	3.03	3.43	659	52.26	63.8	2600 x 2200 x 10850
OFC084X18-77HS2	880	2.93	3.29	667	52.70	63.6	2600 x 2200 x 10850
OFC085X20-77MS2	905	3.10	3.50	739	52.40	63.6	2600 x 2200 x 11850
OFC092X20-87HS6	972	3.02	3.37	754	53.45	62.9	2600 x 2200 x 11850
OFC098X22-88HS6	1042	3.07	3.51	836	53.58	62.1	2600 x 2200 x 12850
OFC101X22-99HS5	1110	2.85	3.48	850	53.87	63.6	2600 x 2200 x 12850
OFC104X22-99HS7	1147	2.91	3.51	857	54.16	63.6	2600 x 2200 x 12850

Performance data calculated in accordance with BSEN 14511-2011 and Eurovent 6/6

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All specifications are subject to change without prior notice | **ENG-CHIL-OPC/OFC-05-18**

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