Drive efficiency and sustainability with eco chillers

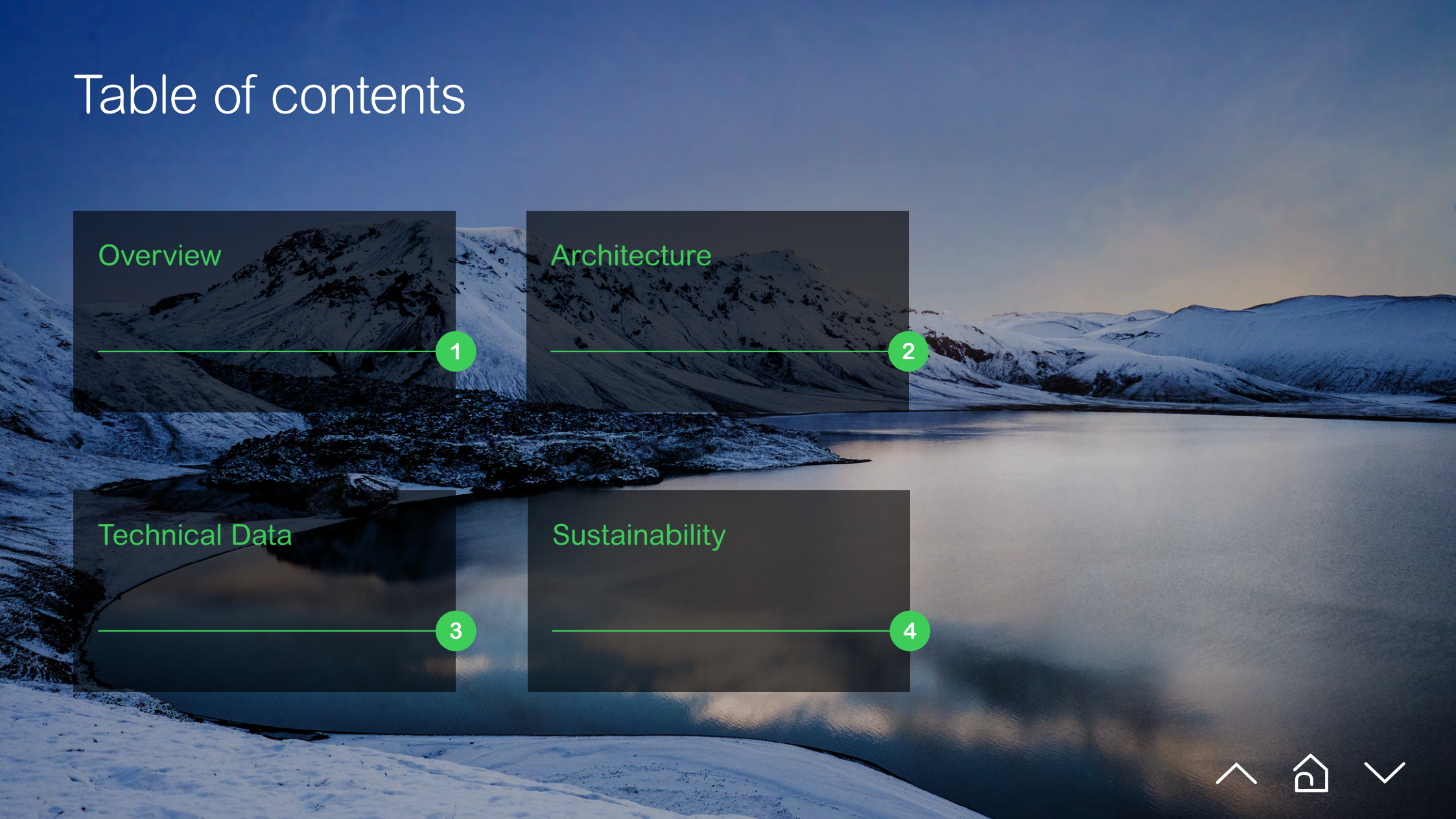


Uniflair Water Cooled Chillers **BCWC** series, 350-2000 kW

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Schneider Electric

Table of contents



Overview 1

Architecture 2

Technical Data 3

Sustainability 4

BCWC

Uniflair Water Cooled solution BCWC is designed to meet your cooling demand: smart combination of oil-free centrifugal compressors, single refrigerant circuit, and flooded evaporator, deliver and provide high performance, flexibility, and efficiency



Efficiency

The optimal combination of oil-free centrifugal compressors, a single refrigerant circuit, and a flooded evaporator delivers superior partial-load efficiency, significantly reducing annual energy consumption.



Data Center Design

Designed for high setpoints up to 25°C and wide ΔT up to 14°C, ensuring efficient operation in line with data center cooling requirements.



Sustainability

Uniflair BCWC supports multiple refrigerants including low GWP R1234ze, and provides full environmental transparency through PEP declaration for greener data center solutions.

Make your data center sustainable

350-2000 kW Uniflair Water Cooled Chiller range with oil-free centrifugal compressors F-gas ready

High efficiency at partial load

- **The optimal combination** of oil-free centrifugal compressors, single refrigerant circuit, and flooded evaporator allows for improved efficiency at partial load, minimizing annual energy consumption

High efficiency at partial load

- **Flexible** in refrigerant choice to be ready for any worldwide regulation and directive
- **Units designed to be compliant with EcoDesign** (minimum value of seasonal energy efficiency guaranteed) and **CE marked**
- **Low GWP refrigerants** included in the offer to be in line with F-gas regulation that progressively phases down current refrigerants

High water temperature design

- **Designed to operate up to 12 °C** delta T between evaporator water inlet and outlet, to improve system efficiency, and reduce pumps power consumption and pumps and piping sizes
- **Chilled water temperature can be stretched up to 25 °C** to increase cooling capacity up to 2.4MW and comply with latest data center design standards

Reduced impact on electrical infrastructure and on the hydraulic system

- **Design based on the most efficient compressor technology** available in the market (OpEx reduction)
- Extension of system water temperature range, up to 32/20 °C, **to minimize pumps power consumption** (OpEx reduction)
- Extension of system water temperature range, up to 32/20 °C, **to reduce pumps and piping size** (CapEx reduction)
- **Low starting current** due to inverter technology on compressors (CapEx reduction)

System Architecture

Uniflair **BCWC**

Compressor refrigeration circuit

Dedicated circuit to cool down compressor using refrigerant, filter, and sight glass

High and low pressure manometers



Refrigerant

Available refrigerants:

- R513A
- R134a
- R1234ze

Electrical board and user interface

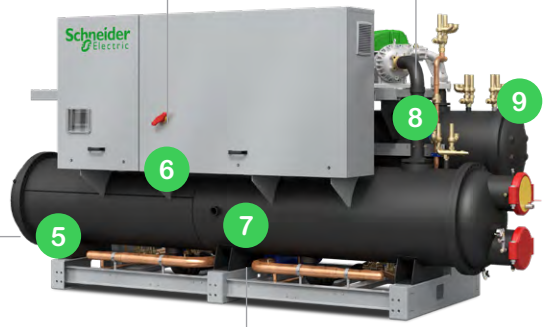
- 7" IT Touch screen display interface
- Native integration with EcoStruxureTM IT platform via SNMP

Condenser

Dry single passage shell and tube condenser

Low load balancing valve

For compressor protection when the cooling load is below the minimum load of the compressor



Evaporator

Flooded double passage shell and tube evaporator to maximize heat exchange coefficient

Subcooling economizer (option)

Optional plate heat exchanger used to improve the unit cooling capacity without changing unit frame

Compressors

- From 1 to 4 oil-free centrifugal compressors
- One single refrigerant circuit

Technical data

Technical data

BCWC		0301A	0602A	0903A	1203A	1204A	1604A	2004A
Power Supply	V/ph/Hz	400/3/50						
Compressors	n.	1	2	3	3	4	4	4
Circuits	n.	1	1	1	1	1	1	1
Evaporator	n.	1	1	1	1	1	1	1
Condensers	n.	1	1	1	1	1	1	1

Dimensions

BCWC		0301A	0602A	0903A	1203A	1204A	1604A	2004A
Length	mm	2040	2045	2100	2268	2330	2330	2383
Width	mm	2602	3662	3914	3859	4955	4955	5019
Height	mm	1225	1370	1487	1668	1673	1673	1918

Technical data

R513A Refrigerant

BCWC		0301A	0602A	0903A	1203A	1604A
Performance Basic Version						
Cooling Capacity (a)*	kW	364,9	775,9	1153,0	1565,3	1990,1
Absorbed Power (a)*	kW	45,8	106,4	155,6	186,9	217,6
EER (a)*	-	7,96	7,29	7,41	8,37	9,15
SEPR HT (b)*	-	9,7	10,0	9,9	10,4	10,3
Noise Levels - Sound Power Level (c)*	dB(A)	87,0	90,0	91,8	92,9	94,1

(a)* data refer to following conditions: evaporator water temperature 30-20°C and glycol 0%, condensing water temperature *-35°C and glycol 0%

(b)* seasonal Energy Performance Ratio according to Regulation EU 2016/2281

(c)* sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

R134A Refrigerant

BCWC		0301A	0602A	0903A	1203A	1604A
Performance Basic Version						
Cooling Capacity (a)*	kW	362,9	767,9	1141,2	1554,9	1975,9
Absorbed Power (a)*	kW	44,2	101,8	149,0	179,7	209,8
EER (a)*	-	8,21	7,54	7,66	8,66	9,42
SEPR HT (b)*	-	10,0	9,5	10,1	10,2	11,2
Noise Levels - Sound Power Level (c)*	dB(A)	87,0	90,0	91,8	92,9	94,1

(a)* data refer to following conditions: evaporator water temperature 30-20°C and glycol 0%, condensing water temperature *-35°C and glycol 0%

(b)* seasonal Energy Performance Ratio according to Regulation EU 2016/2281

(c)* sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

Technical data

R1234ze Refrigerant

BCWC		0301A	0602A	0903A	1203A	1604A
Performance Basic Version						
Cooling Capacity (a)*	kW	361,2	766,8	1146,2	1447,6	2076,2
Absorbed Power (a)*	kW	37,2	86,4	127,6	146,3	228,0
EER (a)*	-	9,72	8,87	8,98	9,90	9,11
SEPR HT (b)*	-	11,3	10,2	10,6	9,7	10,8
Noise Levels - Sound Power Level (c)*	dB(A)	87,0	90,0	91,8	94,1	94,1

(a)* data refer to following conditions: evaporator water temperature 30-20°C and glycol 0%, condensing water temperature *-35°C and glycol 0%

(b)* seasonal Energy Performance Ratio according to Regulation EU 2016/2281

(c)* sound power level for each octave band frequency is supplied in compliance with standard ISO3744–ISO3746

Schneider Electric: Your Partner in Sustainable Data Center Cooling

At Schneider Electric, we are committed to provide innovative and sustainable solutions that help organizations reduce their environmental impact and operational costs. Our Uniflair chiller units are designed to offer a complete solution for mission-critical installations. High energy efficiency, complete reliability, and total flexibility provide an eXtra boost to match future Data Center cooling challenges.

SCHNEIDER ELECTRIC NAMED THE
World's Most Sustainable Company
BY TIME MAGAZINE AND STATISTA

A Product Environmental Profile (PEP) is a quantitative Type III Environmental Declaration in compliance with ISO14025 which ensures appropriate reliability and transparency. Based on a Life Cycle Assessment (LCA) of the product along its whole life-cycle, the document presents the different impacts such as energy consumption, carbon footprint, consumption of raw materials, and pollution of air, water and soil.

Discover PEP

Schneider Electric

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