Zeta Rev

Industrial water chillers

Swegon Cooling

R410A

50÷200 kW

General

High energy efficiency, water chillers with scroll compressors for industrial applications. Wide operating envelope and broad selection of options makes it suitable for various industrial process cooling applications such as food, drink, dairy, pharmaceutical, chemical, plastics, automotive, aerospace, electronics and many more….

Configurations

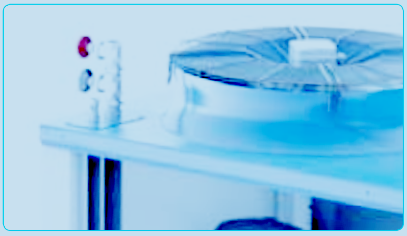
HE: high efficiency
SLN: Super Low Noise

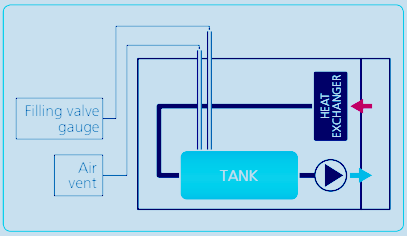
Features and benefits

- New micro-channel coils use 30% less refrigerant
- Bluethink advanced programmable control always available as option
- Web based service portal for alarms and condition monitoring
- Multilogic, for the system management of multiple chillers
- Various configurations of pumps and buffer tank to suit various requirements
- Optional Inverter driven water pumps and compressors for improved load matching and reduced energy consumption
- Energy saving EC fans available as option with typical 12 month payback
- Independently certified for performance by Eurovent

BlueBox
A Swegon Group company

INDUSTRIAL KIT





- Thermal storage vessel on supply-side
- Compatible with various pump + tank options
- **FILLING KIT**, allowing easy filling of the system thanks to:
  - *1'' Fill point*
  - *1/2'' air vent valve*
  - *Water pressure gauge*

EC AXIAL FANS

EC axial fans with electronically commutated brushless motor as option.

15%
energy saving per fan

Payback time one year

Hydraulic module

A wide range of options allow you to configure the chiller to suit various industrial applications.
Different levels of pump pressure are available, with or without buffer tank.

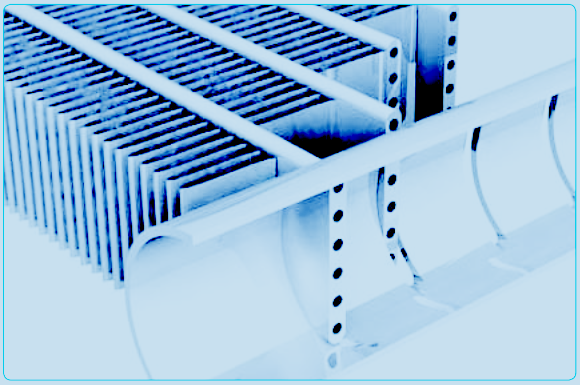
2•3•5 bars

Buffer vessels are generously sized to ensure reliable operation of the system and provide adequate temperature stability which is important for many processes.

(reference Air: 25°C Water: 20°C)

MICROCHANNEL ALUMINIUM COIL

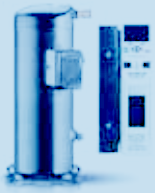
Microchannel coils are the latest innovation in refrigeration technology



FEATURES & BENEFITS

- Environmentally friendly with less refrigerant charge
- Extended life cycle, more robust product than the traditional aluminium finned copper tubes.
- Less air side pressure drop means lower wattage fans
- E-coating for enhanced corrosion resistance

30% less refrigerant
3 years warranty



INVERTER*
SCROLL COMPRESSOR

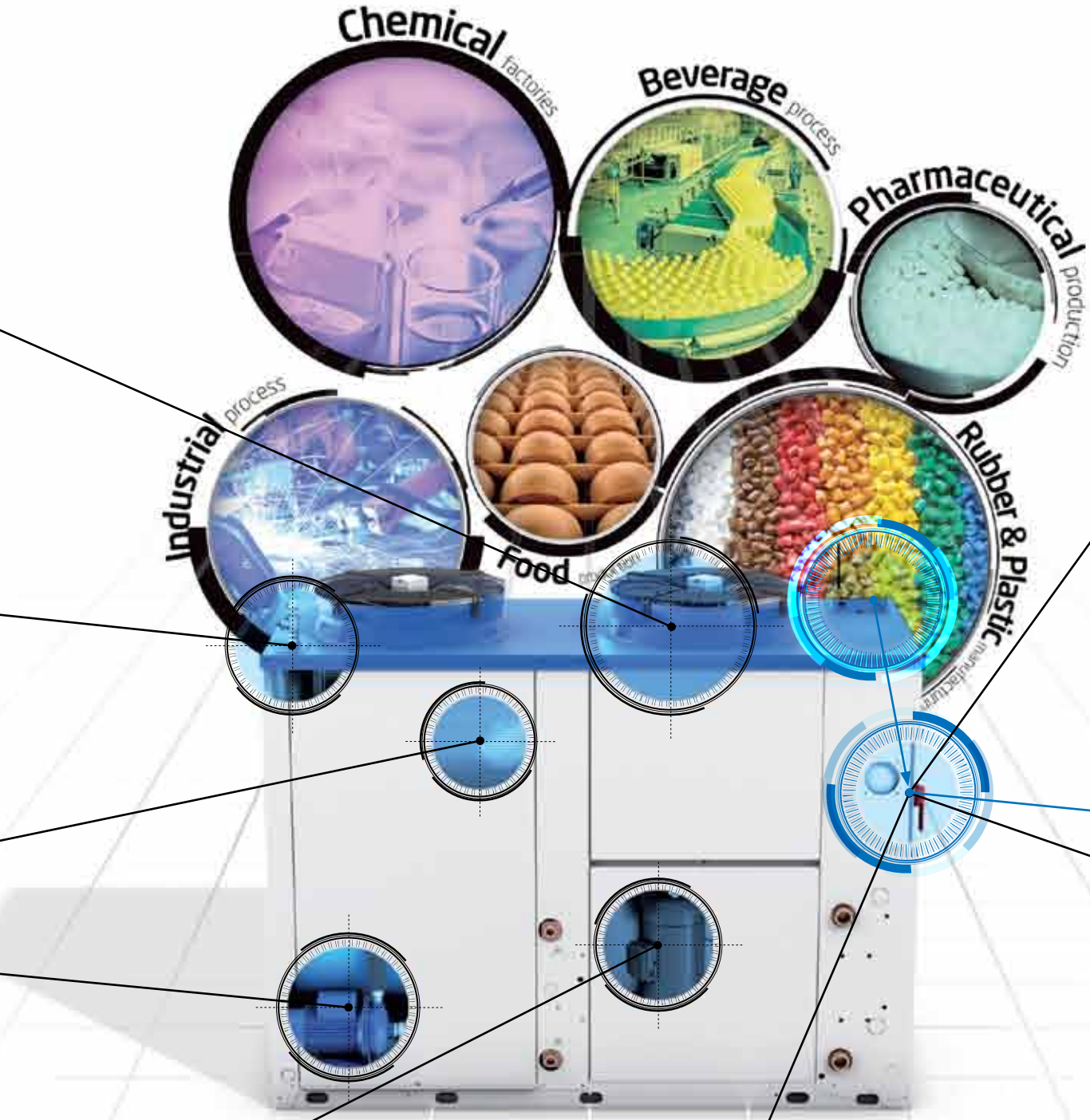
The very latest in inverter technology incorporated into these new scroll compressors provide:

- excellent energy efficiency at part load
- higher cooling capacity at peak load
- more accurate temperature control

energy saving

up to 12% per year

(compared to standard scroll compressor)



FREECOOLING MANAGEMENT*

Embedded as standard on all Zeta Rev units is the ability to operate and manage a separate remote free cooler.
By taking advantage of low ambient conditions it is possible to make large energy savings typically with paybacks of less than 2 years.

*: available on request (contact local office)

⚙: available as option

BLUE THINK

Advanced control functions

Management of up to 5 languages, cyrillic and thai alphabet included.

User friendly interface based on visual icons. 240 x 96 graphic display with 8 fully configurable buttons.

Easy access to parameters and managements settings via Ethernet/USB

Continuous 24 day rolling data recording every 15 seconds with FIFO logic

Every parameter is recorded and stored for easy interrogation

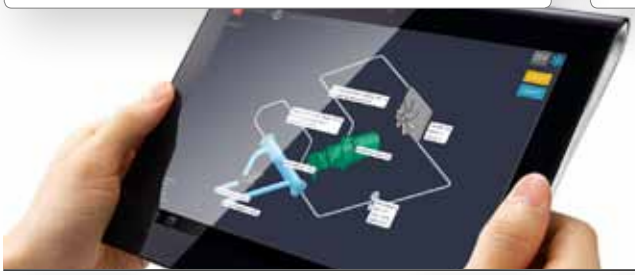
View and management of chiller status and condition using any smart device. Optional WiFi module

Supervision and remote managing system

A fully configurable web based system allows us to monitor the chiller 24/7. If an alarm or preset limit is detected an alert is instantly sent via email and SMS text for immediate response.

MULTILOGIC FUNCTION

- Manage up to 31 slaves with different logics and priority levels
- Master / Slave logic
- Different plant configurations



Integrated web server main features

Set point
operating unit set point

Alarm
alarm history

Schematics
showing circuit diagrams

Service
working parameters and variables setting

In/Out
digital and analogic output and input signal

Graphs
in-out temparature, pressure, superheat in real time

TECHNICAL SPECIFICATIONS - ZETA REV Industrial

Unit Size			3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	12.2	13.2	15.2	16.2
Cooling (A32°C; W15°C)														
Cooling capacity	(1)	kW	50,4	56,5	66,4	74,7	82,4	100,1	115,6	127,6	145,2	156,2	182,3	198,3
Absorbed power by compressors		kW	12,8	15,6	19,0	19,4	23,6	25,0	29,8	35,0	38,9	45,1	50,4	59,4
Total absorbed power	(2)	kW	13,9	16,7	20,1	20,5	24,7	26,7	31,5	36,7	42,1	48,3	53,6	62,6
EER			3,63	3,38	3,30	3,64	3,34	3,76	3,68	3,48	3,45	3,23	3,40	3,17
Cooling (A25°C; W15°C)														
Cooling capacity	(3)	kW	54,8	60,6	71,7	80,6	90,1	109,0	124,8	137,0	155,7	167,4	195,8	213,4
Absorbed power by compressors		kW	11,2	13,6	16,4	16,9	20,7	22,0	26,2	30,6	34,1	39,6	44,3	52,1
Total absorbed power	(2)	kW	12,3	14,7	17,5	18,0	21,8	23,7	27,9	32,3	37,3	42,8	47,5	55,3
EER			4,46	4,12	4,10	4,48	4,13	4,61	4,48	4,25	4,17	3,91	4,12	3,86
Compressors														
Quantity		n°	2	2	2	2	2	2	2	2	2	2	2	2
Fans														
Quantity		n°	2	2	2	2	2	3	3	3	2	2	2	2
Hydraulic modules														
Expansion vessel volume		l	5	5	5	18	18	18	18	18	18	18	18	18
Buffer tank volume		l	165	165	165	200	200	450	450	450	400	400	390	390
3 bar pumps														
P3: Rated power		kW	1,5	1,5	1,5	2,2	2,2	2,2	3,0	3,0	5,5	5,5	5,5	5,5
P3: Rated current		A	3,2	3,2	3,2	4,6	4,6	4,6	6,3	6,3	10,4	10,4	10,4	10,4
P3: Available pressure 1P3S (A32°C; W15°C)		kPa	309	294	281	293	300	250	297	267	336	323	323	312
P3: Available pressure 1P3S (A25°C; W15°C)		kPa	287	269	248	274	281	224	271	237	318	302	303	289
Electrical data														
Total absorbed power		kW	19,8	22,9	26,0	29,4	32,7	37,9	44,4	50,0	59,7	64,7	73,2	81,7
Max absorbed current		A	37,6	47,2	49,2	55,2	67,2	75,9	81,9	87,9	97,1	105,6	122,5	139,4
Power supply		V/ph/Hz	400V / 3 ph+N / 50 Hz								400V / 3 ph / 50 Hz			
Dimensions and weight (1P3S setting)														
Length		mm	1750	1750	1750	2200	2200	3200	3200	3200	3200	3200	3200	3200
Width		mm	1000	1000	1000	1000	1000	1100	1100	1100	1100	1100	1100	1100
Height		mm	1450	1450	1450	1788	1788	1788	1788	1788	1880	1880	2380	2380
Weight		kg	720	730	730	910	940	1410	1410	1430	1440	1510	1780	1900
Inlet water connection diameter/type			G2"M	G2"M	G2"M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M
Outlet water connection diameter/type			G 1 1/4" M	G 1 1/4" M	G 1 1/4" M	G 1 1/4" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M	G2" M

1. External air temperature 32 °C; inlet/outlet water temperature on evaporator 20-15 °C
2. Total absorbed power is the sum of the compressors and fans absorbed power
3. External air temperature 25 °C; inlet/outlet water temperature on evaporator 20-15 °C

COEFFICIENT DATA FOR INDUSTRIAL APPLICATION

LWT [°C]	K1
15	**1,00**
10	0,89
7	0,83
5	0,79
0	0,67
-5	0,58

Air Temp [°C]	K2
20	1,13
25	1,08
30	1,02
32	**1,00**
35	0,96
40	0,90

$$P' = P_n \cdot K_1 \cdot K_2$$

P' : capacity at required condition

P_n : unit power with air at 32°C and water at 20/15°C

Default set-up for industrial application

- Main disconnect switch
- Differential pressure switch
- Condensing control
- Automatic circuit breakers
- Phase monitor
- Digital input for double set point
- RS485 serial port with Modbus protocol

Blue Box Zeta Rev chillers are the lastest evolution of the Zeta family, successfully applied across a wide range applications and industries throughout Europe for more than 20 years.

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