

AIRTREND Ltd Predstavništvo u Beogradu Kumanovska 14, 11000 Beograd

Tel: 011/3836886, 3085740

Faks: 011/3444113 e-mail: gobrid@eunet.rs web: www.airtrend.rs







Optimal room air conditions In the office or health services

In daily life, concentration is of primary importance. A crucial condition for effective office work is the quality of the prevailing conditions: after all, who wants to work at freezing temperatures or be subjected to an irritating draft? Innovative visions can only arise under optimal room air conditions, allowing small ideas to grow into brilliant results.

Reforms, structural changes, capping and budgeting increasingly challenge health service providers in a competitive environment. Attributes such as capacity utilization, service, quality management and friendliness today play as large a role in a company's economic success as the medical ratings themselves. The room comfort is also a significant factor for your facility, because if people feel comfortable where they are, they will gladly remain or return with pleasure.

Economical, sustainable, and reliable

Buildings are unique objects. Location, size, construction quality and the building technology determine value and returns. The energy state of a building gains appreciably in significance. We offer highly efficient air treatment and supply with the greatest possible reduction of energy consumption over the entire service life of the plants. Our solutions reliably satisfy all international standards.

The feel-good climate manager

With the HyCassette-Geko using SWIRL outlet technology, we have developed a system that sets new standards in terms of comfort, hygiene and design – experience room climate control at a completely new level!





Our Know-how

- · Many years of experience
- Greatest reliability
- Passion
- Top quality
- Highest standards
- · Efficient products
- Economic solutions

A TOTALLY NEW DEFINITION OF ROOM AIR COMFORT

Certified room air quality at a glance:

- Circular SWIRL air outlet for regulated swirl airflow
- Continuously-variable GreenTech EC fan technology
- · Optimized heat exchanger
- Low-noise operation
- Intelligent ISYteq controlling
- Compatibility of control system
- Software flexibility (individual operating points)
- Certified hygiene conformity (VDI6022)
- Attractive design

Minimum air draft and maximum hygiene

Traditional fan coil units with a 4-way outlet discharge air in four directions at right angles to each other. Cold air currents are distributed unevenly in the room, so that air drafts cannot always be avoided. This is a phenomenon that many people find disagreeable.

With SWIRL technology, we systematically go one step further: the circular outlet generates a regulated air flow that is distributed uniformly and in a barely perceptible manner. The intelligent ISYteq control reacts directly to climate changes in the room and immediately sets the operation back to the desired setpoint conditions – no matter whether this involves heating or cooling.

Eyes and ears likewise profit: the appealing design converts the fan coil unit into an attractive design element, a modern plastic casing furthermore reduces noise emissions to a minimum.

The HyCassette-Geko with SWIRL outlet also scores points with regard to hygienic standards: thanks to plastic technology, the unit can be easily cleaned and disinfected, and thus satisfies the VDI6022 guideline.



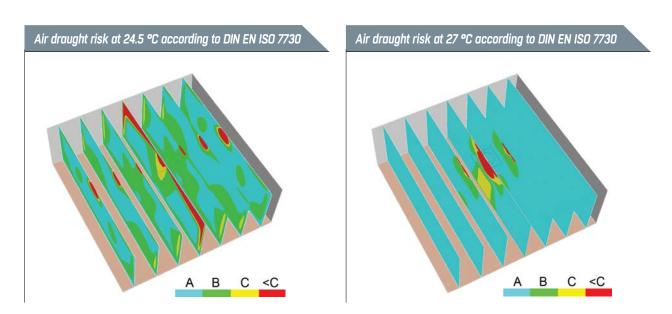








SWIRL outlet stands for a lower risk of air draughts



The simulated room air flow clearly shows for 308 m³/h according to DIN EN ISO 7730:

- smaller risk of air draft because of greater temperature homogeneity and lower air velocities
- Category A at 27 °C according to DIN EN ISO 7730 measured in the occupied zone of a sample office
- Category A and B at 24.5 °C according to DIN EN ISO 7730 measured in the occupied zone

First-class components for a reliable system

PATENTED, EFFICIENT AND INTELLIGENT





SWIRL® air outlet

The patented SWIRL outlet ensures a swirl flow current with a regulated-air throw and projection angle. This means that cold air currents can be uniformly distributed in the room and the risk of air drafts is minimized according to DIN EN ISO 7730.

The swirled air stream, which can extend in all directions compared to the conventional 4-way air outlet technology, guarantees an optimal feeling of comfort. The flat air flow of the motordriven SWIRL outlet thus supports the Coanda effect in cooling operation. In heating operation, it acts to counter the thermals of the rising warm air thanks to the steeper discharge angle.



EC Fans

Continuously-variable and reliable EC fans manufactured by ebm-papst are employed in our units. With up to 75 percent reduced power consumption compared to conventional AC fans, the components are especially energy-efficient.

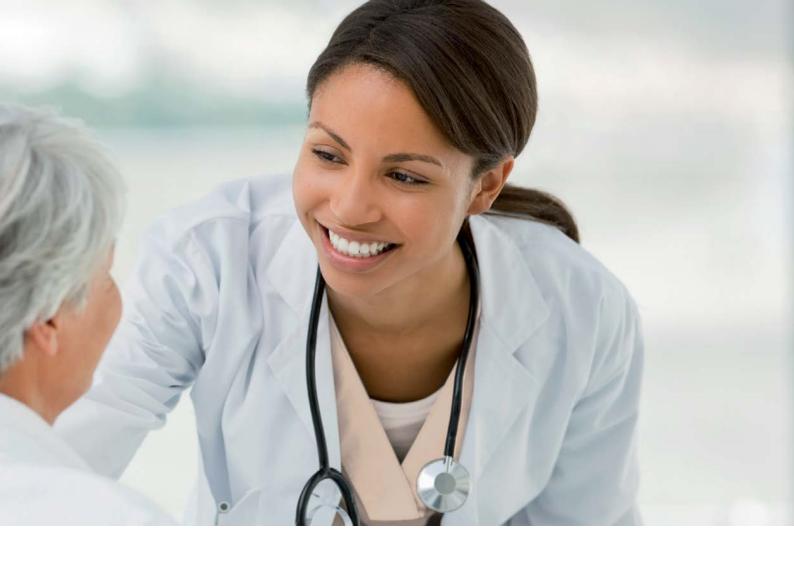
This energy-saving potential pays off not only in full-load operation but especially in partial-load operation. The speed is then adapted by demand to the current temperature requirements. GreenTech EC motors clearly run more efficiently than asynchronous motors with the same power.



ISYteq system control

Our ISYteq control system offers an intelligent solution that reacts to climate changes in the room. The cross-product system permits the cost-effective design of single-room and network solutions. Many energy-saving functions and high user comfort round off the performance spectrum.

The control system ISYteq unites innovative technology with simple operation. Every current plant parameter and setting can be easily displayed and adapted with the user touch control panel or other smart devices. The unit parameters can be adjusted to the required functions, e.g. comfort control for cassette units. These units provide additional functions such as the Turbo or Swirl mode for rapid cooling of a room before use, or in order to generate dynamic air movement.



Capacity overview

HyCassette-Geko® with SWIRL® outlet

SWIRL® outlet							
System	CS*	Speed	V max.	Cooling capacity at 27°C/46 r.h. PCW 6/12°C	Heating capacity at 20°C PWW 70/50°C	Sound pressure level **	Motor data EC motor 1 ~ 230 Volt
4 nino	1	min	210 m³/h	1.40 kW	1.10 kW	<20 dB(A)	5 W
4-pipe	1	max	670 m³/h	4.00 kW	2.40 kW	50 dB(A)	45 W
O mine		min	210 m³/h	1.40 kW	2.70 kW	<20 dB(A)	5 W
2-pipe	1	max	670 m³/h	3.90 kW	7.60 kW	50 dB(A)	45 W
2 nino	2	min	210 m³/h	1.70 kW	3.10 kW	22 dB(A)	W
2-pipe	2	max	640 m³/h	4.60 kW	8.60 kW	51 dB(A)	43 W
2-pipe +	1	min	210 m³/h	1.40 kW	0.75 kW	<20 dB(A)	5 W
E-heating	1	max	670 m³/h	3.90 kW	1.50 kW	50 dB(A)	45 W

^{*} CS = Capacity stage, PC(W)W-pumped chilled (warm) water
** sound pressure level for hemispheric radiation (direction coefficient 2) with 5 m distance to the noise source, room size 100 m³, reverberation time 0.5 sec

EFFECTIVELY AND QUIETLYHEATING, COOLING, AND VENTILATION



Comfortable climate-control solution:

- Heating, cooling, ventilation, and filtering with only one unit
- Fast reaching of the desired temperature by a unit with compact dimensions
- Energy savings by only slight temperature differences between the heating and cooling medium and the room temperature
- Flexible temperature-regulation with quiet operation

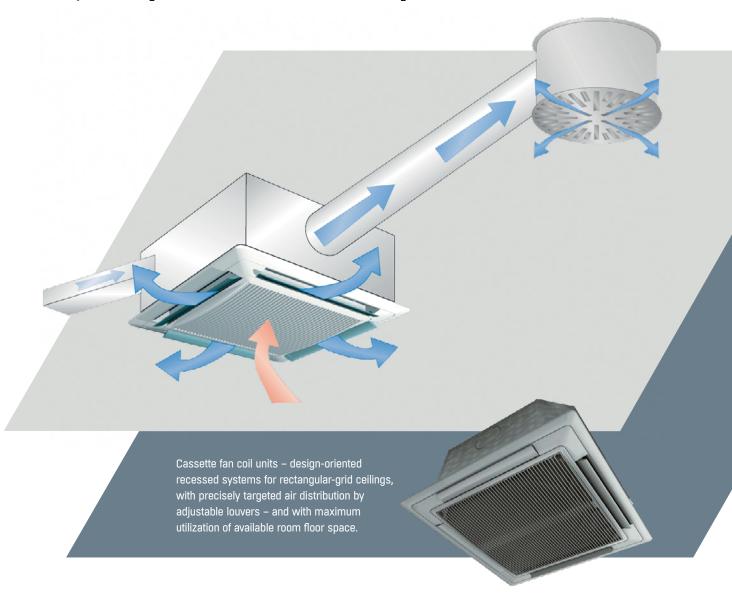
Cassette fan coil units are designed for the climate control of rooms. They are installed above suspended ceilings as flush-mounted units. The 3 models available – the Single, Double, and Big Single versions – assure pleasant, comfortable room climate in summer and winter. Installation in the open space between the suspended ceiling and the floor slab above minimises space requirements and saves costs.

The 2-pipe systems feature 1 heat exchanger. Seasonable changeover from heating to cooling, and vice-versa, is possible. The 4-pipe systems are quite impressive due to their 2 separate heat exchangers for heating and cooling operations. This means that they allow spontaneous changer-over to the heating or cooling mode in any zone, as required.

Very quiet 3-speed fans can additionally condition the air that is pulled in through primary air feed. Fully optimised heat exchangers are your guarantee for effective and energy-saving medium temperatures. Minimum losses on the air path to the energy generators are the result. A regenerable G1 filter medium comes with the series-production versions.

In addition, 3-speed fans, optionally pre-installed valves, as well as 4-side, individually adjustable air directional louvers ensure a pleasantly uniform distribution of the conditioned air flow in the zones to be climate-controlled.

Harmony in engineering and design Quality down to the very smallest detail



The quality standard of Cassette fan coil units is apparent in many technical characteristics, all of which go to make up an overall perfectly harmonising unified solution.

Thanks to its optimised engineering design, the heat exchanger assures ideal transfer of cold and heat. The incoming air streams can be individually directed and are especially gently distributed throughout the room.

A condensate pump and an air filter are part of the series-production versions. Condensate that forms at the connections is captured by a collector on the side and passed on to the main condensate pan. The designer enclosure is available upon request in special colours.

The extensive valve equipment provided allows flawless regulation of medium feed. Two pre-punched openings for primary and supply air can even simultaneously provide climate-control for a small adjacent room (although the extra room cannot be separately temperature-controlled).



Our models: Single, Double, and Big Single



Single

An especially compact suspended-ceiling model, which makes it the smallest of the Cassette range of fan coil units. With its dimensions, it matches the installation sizes made available in a conventional rectangular-grid ceiling.

Dimensions:

575 x 575 mm, covering enclosure 660 x 660 mm



Double

This model is the right one where greater capacity is required. Truly a double: with 2 fans, 2 heat exchangers, 2 filters, and 2 air-intake openings, the Double model matches the dimensions of two Single units. This also means that the version fits the dimensions of a conventional rectangular-grid ceiling.

Dimensions:

1175 x 575 mm, covering enclosure 1260 x 660 mm



Big Single

This model is the preferred choice if the user requires a very quiet unit in combination with greater capacity. Thanks to its larger enclosure, the Big Single has the same capacity as the Double model. Since, however, the key components are included only once in the model, the Big Single combines high capacity with low energy consumption, low operating costs, and very quiet operation.

Dimensions:

822 x 822 mm, covering enclosure 905 x 905 mm





SIMPLY INTELLIGENTLY REGULATED ISYTEQ CONTROLS



Comprehensive control possibilities:

- Control system for EC & AC fans
- Energy-optimized equipment operation
- Equipment ready to operate and highly competent service
- Plug-and-play functionality
- Modbus RTU and TCP/IP always on board
- BACnet MSTP and TCP/IP always on board
- On Board Webserver (PC/Smartphone/Tablet control)
- Several digital and analogue interface function for all customer requirements

INNOVATIVE TECHNOLOGY WITH INTUITIVE USER INTERFACE

Upon request, the proven ISYteq intelligent control system will be integrated into cassette fan-coil unit at the factory. Thus only completely tested equipment will be supplied to your construction site.

The user can optimally match the Cassette Geko units to the required functions: either by means of the control panel with a touchscreen, or by the USB socket and an external notebook. The system acquires a wide range of measured values and continuously monitors them, to assure safe and reliable operation.

Using the control panel with the new HMI touchdisplay, which resembles a modern smartphone, enables the user to access the most important functions. The functional handling of the new control interface creates a completely new perspective for the unit operation, events and settings. The user can select between 4 functional profiles. As a result, setpoint values and switching times can be very quickly and easily entered, and current actual values and messages can be simply visualized and read off.

ISYteq furthermore ensures energy-optimised operation of Cassette Geko fan coil units. A coordinated switchover function, for example, prevents heating and cooling circulation systems from working against each other. Hardware and software are developed entirely at FläktGroup. As a result of close collaboration in the company, our engineers can systematically adjust the control system to match every component – and in turn optimally exploit the possibilities of fan coil units. Service and support also benefit from this arrangement, and can rapidly and competently react whenever questions arise.

ISYtea system control

There are several open protocols routinely available for the connection to an external building automation system. The two interfaces BACnet and Modbus are always on board as standards and must not be supplemented by add-on modules. This enables the easy and cost-efficient integration in the building automation. The Ethernet interface with an integrated Webserver is suitable for the integration in a local network (LAN) . This enables a very simple and clear access with the PC, tablet or smartphone.

Controls panels

ISYteq system controls



ISYteq Touch 4.0

- 4.3" Touch Panel as a high-end solution
- · Graphical and multilingual interface
- · Timer is included
- 2 different designs possible: Hotel and Business layout
- · Available with white or black frame
- LED bar for additional user experience
- Horizontal or vertical installation
- Temperature and humidity sensor
- On-wall and in-wall installation
- Non-Browser panel (Modbus communication)



ISYteq LCD LW

- Modern cost-efficient design
- Control panel with LCD in protection class IP20
- 7 soft touch buttons for the user navigation
- · For wall mounting with a black frame
- · Display of alarms
- Temperature sensor is always included



ISYteq CET.ACEC

- White casing in white RAL 9016
- Rotary switch is used for setpoints
- · Relative setpoint shift is enabled
- Rotary switch provides 3-stage fan and automatic mode
- Digital inputs for window contact, heating/ cooling changeover, economy mode
- Analog inputs for room temperature and inlet temperature
- ModbusRTU is included
- Temperature sensor is always included
- · Room frost protection

Systems and performance ratings

Cassette-Geko®

Single					
Fan speeds 1 - 2 - 3	GCS	Air Flow m³/h	Heating rating kW	Cooling rating kW	
Recirculated air with primary-air feed	Performance rating	min max	min max	min max	
Pumped hot water / pumped cold water					
Heating with pumped hot water	UOW	000	250 850	2.9 9.2	
Cooling with pumped cold water	UW0	000	250 850		1.5 5.0
Cooling with pumped cold water or heating with pumped hot water (change-over)	UWC	000	250 850	2.9 9.2	1.5 5.0
Cooling with pumped cold water and heating with pumped hot water (4-pipe system)	UWW	000	250 850	2.2 5.4	1.5 3.7
Pumped cold water + electrical heating					
Cooling with pumped cold water and heating with electric heater 1 ~ 230 V	UWE	0 0 0	250 850	0.8 1.5	1.5 5.0
Double					
Fan speeds 1 - 2 - 3		GCD	Air Flow m³/h	Heating rating kW	Cooling rating kW
Recirculated air with primary-air feed	Туре	Performance rating	min max	min max	min max
Pumped hot water / pumped cold water					
Heating with pumped hot water	UOW	0 0	530 1.400	7.3 16.0	
Cooling with pumped cold water	UW0	0 0	530 1.400		4.0 8.8
Cooling with pumped cold water or heating with pumped hot water (change-over)	UWC	0 0	530 1.400	7.3 16.0	4.0 8.8
Cooling with pumped cold water and heating with pumped hot water (4-pipe system)	UWW	0 0	530 1.400	3.8 9.4	3.2 6.6
Pumped cold water + electrical heating					
Cooling with pumped cold water and heating with electric heater 1 ~ 230 V	UWE	0 2	530 1.400	2.0 4.0	4.0 8.8
Big Single					
Fan speeds 1 - 2 - 3		GCB	Air Flow m³/h	Heating rating kW	Cooling rating kW
Recirculated air with primary-air feed	Туре	Performance rating	min max	min max	min max
Pumped hot water / pumped cold water					
Heating with pumped hot water	UOW	0	620 1.200	8.6 14.6	
Cooling with pumped cold water	UWO	0	620 1.200		4.9 8.2
Cooling with pumped cold water or heating with pumped hot water (change-over)	UWC	0	620 1.200	8.6 14.6	4.9 8.2
Cooling with pumped cold water and heating with pumped hot water (4-pipe system)	UWW	0	620 1.200	5.3 8.6	3.5 5.9
Pumped cold water + electrical heating					
Cooling with pumped cold water and heating with electric heater 1 ~ 230 V	UWE	0	620 1.200	2.0 2.0	4.8 8.1

Noise Emission dB(A)

Cassette-Geko®

Single					
Fan speeds 1 - 2 - 3		GCS	0	Performance rating	0
At air flow of	Fan speed 1	m³/h	250	330	480
Acoustic power level		Lw	34	35	44
Acoustic pressure level*		Lp*	25	26	35
At air flow of	Fan speed 2	m³/h	310	480	710
Acoustic power level		Lw	35	43	54
Acoustic pressure level*		Lp*	26	34	45
At air flow of	Fan speed 3	m³/h	460	660	850
Acoustic power level		Lw	44	52	58
Acoustic pressure level*		Lp*	35	43	49

Double				
Fan speeds 1 - 2 - 3		GCD	Performance rating	0
At air flow of	Fan speed 1	m³/h	530	840
Acoustic power level		Lw	38	48
Acoustic pressure level*		Lp*	30	40
At air flow of	Fan speed 2	m³/h	740	1220
Acoustic power level		Lw	47	59
Acoustic pressure level*		Lp*	39	50
At air flow of	Fan speed 3	m³/h	1000	1400
Acoustic power level		Lw	56	62
Acoustic pressure level*		Lp*	47	54

Big Single			
Fan speeds 1 - 2 - 3		GCB	Performance rating
At air flow of	Fan speed 1	m³/h	620
Acoustic power level		Lw	32
Acoustic pressure level*		Lp*	23
At air flow of	Fan speed 2	m³/h	920
Acoustic power level		Lw	43
Acoustic pressure level*		Lp*	35
At air flow of	Fan speed 3	m³/h	1200
Acoustic power level		Lw	50
Acoustic pressure level*		Lp*	42

^{*} Conditions for measurement of acoustic pressure level Lp:
Measuring interval = 5 m. Room volume = 100 m³. Reverberation period = 0.5 s. Directional factor = 2 (hemisphere sound emission)

Performance ratings

Cassette-Geko®

onigio .					
Fan speeds 1 - 2 - 3		GCS	0	2	
At air flow of	Fan speed 1	m³/h	250	330	480
Heating, 2 pipes UOW / UWC		kW	2.9	4.3	6.0
Heating, 2 pipes UWE (electrical)		kW	0.8	0.8	1.5
Cooling, 2 pipes UWO / UWC / UWE		kW	1.5	2.3	3.3
Heating, 4 pipes UWW		kW	2.2	2.8	3.7
Cooling, 4 pipes UWW		kW	1.5	1.9	2.6
At air flow of	Fan speed 2	m³/h	310	480	710
Heating, 2 pipes UOW / UWC		kW	3.5	5 .8	8.1
Heating, 2 pipes UWE (electrical)		kW	0.8	0.8	1.5
Cooling, 2 pipes UWO / UWC / UWE		kW	1.8	3.2	4.4
Heating, 4 pipes UWW		kW	2.7	3.7	4.8
Cooling, 4 pipes UWW		kW	1.8	2.6	3.3
At air flow of	Fan speed 3	m³/h	460	660	850
Heating, 2 pipes UOW / UWC		kW	4.7	7.3	9.2

kW

kW

kW

0.8

2.5

3.6

4.2

4.5

3.2

1.5

5.0

5.4

3.7

Double							
Fan speeds 1 - 2 - 3		GCD	Performance rating	0			
At air flow of	Fan speed 1	m³/h	530	840			
Heating, 2 pipes UOW / UWC		kW	7.3	10.8			
Heating, 2 pipes UWE (electrical)		kW	2.0	4.0			
Cooling, 2 pipes UWO / UWC / UWE		kW	4.0	5.9			
Heating, 4 pipes UWW		kW	3.8	6.7			
Cooling, 4 pipes UWW		kW	3.2	4.6			
At air flow of	Fan speed 2	m³/h	740	1220			
Heating, 2 pipes UOW / UWC		kW	9.7	14.4			
Heating, 2 pipes UWE (electrical)		kW	2.0	4.0			
Cooling, 2 pipes UWO / UWC / UWE		kW	5.3	8.0			
Heating, 4 pipes UWW		kW	4.9	8.7			
Cooling, 4 pipes UWW		kW	4.2	6.0			
At air flow of	Fan speed 3	m³/h	1000	1400			
Heating, 2 pipes UOW / UWC		kW	12.4	16.0			
Heating, 2 pipes UWE (electrical)		kW	2.0	4.0			
Cooling, 2 pipes UWO / UWC / UWE		kW	6.8	8.8			
Heating, 4 pipes UWW		kW	6.0	9.4			
Cooling, 4 pipes UWW		kW	5.3	6.6			

Heating, 2 pipes UWE (electrical)

Heating, 4 pipes UWW

Cooling, 4 pipes UWW

Cooling, 2 pipes UWO / UWC / UWE

Performance ratings

Cassette-Geko®

Bly Sillyle					
Fan speeds 1 - 2 - 3	GCB				
At air flow of	Fan speed 1	m³/h		620	
Heating, 2 pipes UOW / UWC		kW		8.6	
Heating, 2 pipes UWE (electrical)		kW		2.0	
Cooling, 2 pipes UWO / UWC / UWE		kW		4.9	
Heating, 4 pipes UWW		kW		5.3	
Cooling, 4 pipes UWW		kW		3.5	
At air flow of	Fan speed 2	m³/h		920	
Heating, 2 pipes UOW / UWC		kW		11.8	
Heating, 2 pipes UWE (electrical)		kW		2.0	
Cooling, 2 pipes UWO / UWC / UWE		kW		6.7	
Heating, 4 pipes UWW		kW		7.2	
Cooling, 4 pipes UWW		kW		4.9	
At air flow of	Fan speed 3	m³/h		1200	

kW

kW

kW

kW

14.6

2.0

8.2

8.6

5.9

Heating with pumped hot water: 70/50°C, tL1 +20°C; Cooling with pumped cold water: 6/12°C, tL1 +27°C, 46% relative humidity

Dimensions and weights

Heating, 2 pipes UOW / UWC

Heating, 4 pipes UWW

Cooling, 4 pipes UWW

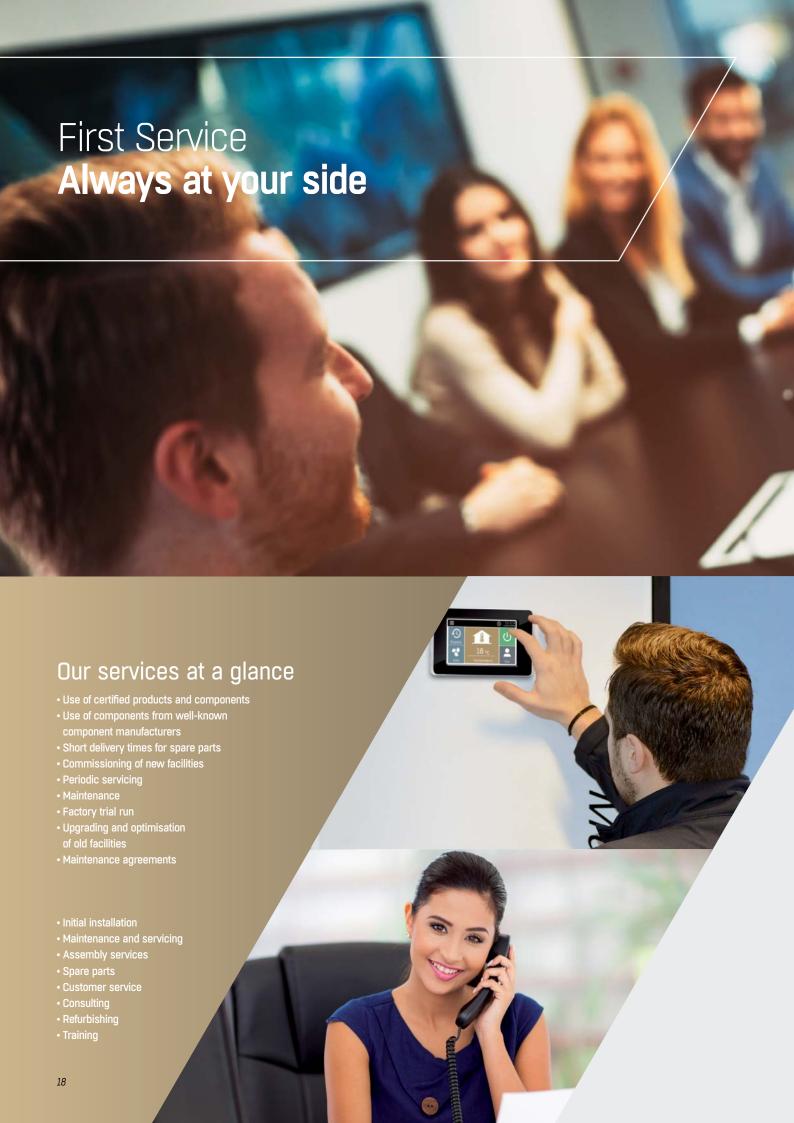
Heating, 2 pipes UWE (electrical)

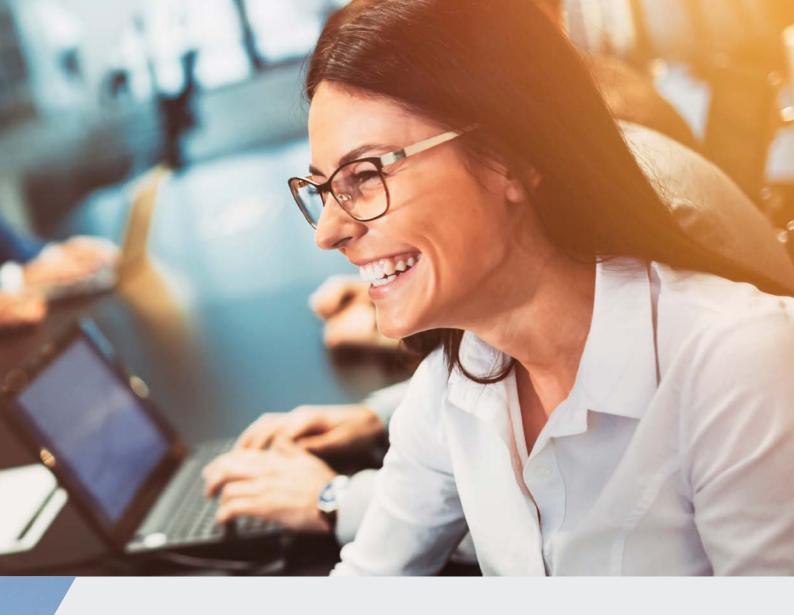
Cooling, 2 pipes UWO / UWC / UWE

Cassette-Geko®		Dimensions Height Width Depth			Weights	
Single	GCS	mm	mm	mm	kg	
Unit without design panel		298	575	575	23	
Design panel		25	660	660	5	
Double	GCD					
Unit without design panel		298	1175	575	45	
Design panel		25	1260	660	9	
Big Single	GCB					
Unit without design panel		322	822	822	36	
Design panel		25	905	905	9	

Δ		н							F
VA1	ra.		Э	Q	Q	п	101	Э	[4

Air-outlet side		
Single - Double - Big Single		
Spare filter set	Filter class G1 (EN 779)	





Economical from the beginning

The technical developments of FläktGroup represent state-of-the-art swimming pool climate control. Our systems support diverse applications that optimally conform to current criteria of cost effectiveness, safety and sustainability. Our products and services go far beyond pure technology. They are integrated into a comprehensive and in every respect customised service package. This programme includes not only conventional services such as spare part delivery, maintenance, and repair. It unites the consulting and engineering of a technology leader with customised after-sales service and rapid response times. And this not only for installing new equipment. This service also applies for upgrading and optimising old equipment and provides you with perfect support in all project phases. The functionality of the system is secured over its entire service life.

International service und support in experienced hands

Wherever you need us, we will be there for you in the shortest time. All over Europe, our own customer service ensures that you are able to make optimal use of our units' advantages at all times. Many tech-

nicians are ready on-call in Germany alone for rapid deployment. All services are designed for absolute safety and reliability. For example, an on-site function check is a part of our delivery service, conducted by an experienced FläktGroup technician together with the installer. This way we directly and personally pass on our functional know-how built up over many years. In this context we should also mention the training we offer in the technology of our climate control systems. Such training is a beneficial instrument for ensuring the lasting functionality and availability of the systems.

A decision for quality

A high quality standard is the basis and principle for all our services. All our service specialists are highly experienced and devote themselves to their work with great diligence. Technically and personally convincing: this is what you can expect from us.

EXCELLENCEIN SOLUTIONS

WWW.FI AKTGROUPCOM

HyCASSETTE- & CASSETTE-GEKO

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

PRODUCT FUNCTIONS BY FLÄKTGROUP

Air Treatment | Air Movement | Air Diffusion | Air Distribution
Air Filtration | Air Management | Air Conditioning & Heating
Controls | Service

