

Fan coil unit with Design cabinet, only 10 cm of minimum depth and EC motor

## ART-U 1 - 4 kW



EC motor

Tangential fan

Supervision GARDA

2 pipes systems

Vertical installation

### PLUS

- » A furnishing with an innovative design and width up to only 10 cm
- » Inverter-controlled EC motor
- » Low energy consumption

### Design-driven innovation

From the extensive experience of Galletti in the development and design of fan coil units, and in confirmation of its continuous search for innovation, ART-U was created, a perfect combination of performance and design. ART-U is a unique product that, on the one hand is able to meet the increasingly stringent demands for energy efficiency, while on the other hand it reflects, for the first time, the latest trends in furnishings and interior design. With its width, which in some places is only 10 cm, and thanks to its unique lines, it was designed to be an absolutely all-purpose product that adapts perfectly to rigorous and essential environments as well as to warmer and more sophisticated spaces. The achievement of extremely high aesthetic standards has not weakened the usual construction integrity of Galletti products: striving for innovation has, in fact, also focused on the components and the use of new materials. With ART-U the state of the art has been redefined also in terms of technical performance, thanks to the use of computational fluid dynamics simulations for the optimisation of the heat exchange inside the indoor unit combined with the use of permanent magnet electric motors. It is the only innovative product that combines design, reduced width, and energy efficiency.

### Design Award

Its evolution has just begun but has already received important awards, winning over the judging panels of the most prestigious international industrial product design awards.



### AVAILABLE VERSIONS

The versions of ART-U whose front panel has a metallic finish are summarised in the CMF table (Colours, Materials, Finishes). CMF is a true industrial design tool that focuses on the chromatic, tactile, and decorative identity of products and environments.

ART-U	Metallic Skin			
	Grey	White	Red	Black
<b>Colour</b>	Silver	White RAL9010	Red RAL3020	Black RAL9005
<b>Material</b>	Aluminium			
<b>Finishing</b>	Metallic brushed finish		Metallic matt finish	

**MAIN COMPONENTS**
**Cabinet with a refined design**

The elegant front panel consists of two sheets of aluminium with a polyethylene core and possibly a polyester-based surface coating. It is a light but very resistant material, created for covering façades in the building sector. The side panels are made of UV-stabilized ABS to maintain the colour over time. The polyethylene core acts as a flexible filler and thermal insulation while the aluminium provides structural strength and aesthetics.


**Conveyors**

Made in ABS. They are designed to optimise the air flow inside the hydronic indoor unit allowing optimal distribution of the air flow in the coil and low noise in every operating mode.

**Upper grille**

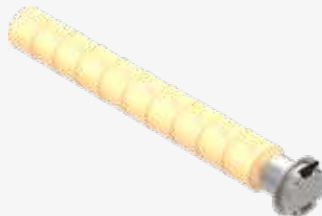
Consisting of adjustable fins made of anodised aluminium, available in the version for on-board or wall-mounted control. The ABS combs support the grilles and prevent them from being bent, thus always guaranteeing the user's safety.


**Front grille**

Steel. Designed to stabilize the operation of the tangential fan.


**Electric motor**

Permanent magnet EC motor with inverter integrated in the ventilation unit. An IP44, protection rating is guaranteed; therefore, dust inside is avoided and resistance to water spray is guaranteed.


**Tangential fans**

Tangential fan, statically and dynamically balanced to reduce its noise during operation. The plastic material used for the blades guarantees, in comparison with metal fans, a reduction in vibrations and an absence of bending along the rotation axis. The blades are alternated with intermediate reinforcement disks in order to increase their sturdiness.

**Heat exchangers**

With a high efficiency turbocoil-type heat exchanger, and made with copper tubing and aluminium fins, it is equipped with brass manifolds and a vent valve. The hydrophilic treatment is applied to the fins as a standard treatment, to increase their efficiency during cooling and at the same time a greater resistance to aggressive atmospheres.


**Air filter**

Honey-comb polypropylene washable air filter, easily removable for maintenance operations.

## Fan coil ART-U

### AVAILABLE VERSIONS



#### ART-U Grey

The use of a natural brushed aluminium front panel combined with black side panels enhances the absolute elegance of this unique fan coil and its reduced width. This product, with its simple, clean, and essential lines, adapts perfectly to spaces where furnishings follow the latest trends and where a high level of design is required for each item.



#### ART-U White

The neutrality of the white ensures maximum integration with the space in an adaptive context, allowing the fan coil unit to almost disappear into the wall.

**AVAILABLE VERSIONS**

**ART-U Red**

Thanks to the refined and elegant lines of this product, even a strong and decisive colour like red actually further enhances the unique personality of ART-U and turns it into a true furnishing classic.

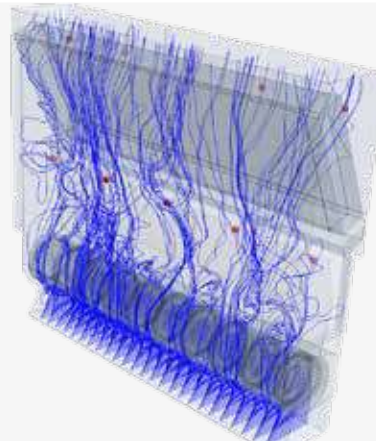

**ART-U Black**

The unique black colour solution allows the fan coil to blend into the surrounding space, providing a touch of absolute elegance.

## COMPUTATIONAL FLUID DYNAMICS SIMULATIONS

In CFD simulations the following was considered: a computational domain discretized by means of a polyhedral computation grid (mesh) consisting of 12 million cells that best reproduces the whirling movement of the air inside the hydronic indoor unit. The research also focused on improving the air distribution along the longitudinal axis of the fan unit.

The study of the air motion field has allowed the reduction of fluid recirculation downstream from the fan, preventing unwanted pressure drop inside the fan coil. The end benefit obtained from CFD simulations is an improvement in heat exchange, with a consequent reduction in power consumption and noise emissions with the same components and under the same operating conditions.



## ACCESSORIES

### EVO-2-TOUCH

The EVO-2-TOUCH controller can also be installed directly on the unit and guarantees maximum temperature and humidity comfort combined with the ergonomics of its touch screen. The tap and swipe functions make the control experience similar to that of your smartphone.

The various screens are designed to make human-machine communication intuitive. Each page contains a few essential items of information that allow the consultation of the unit's main operating parameters and enable the initial control configuration according to system requirements.

The external frame of the interface is available in four different chrome plating options and is made with double aluminium foil and a polyethylene core.



### DISC-COVER

The minimalist style of the DISC-COVER is in harmony with the elegant and essential lines of ART-U. Available in three different colours: white RAL9010, black RAL9005, and red RAL3020. It adapts perfectly to the style of the space to be air-conditioned, whether it be severe and formal or ironic. Its shape was purposely designed to make installation quick and easy even during cleaning and maintenance operations. The magnet coupling system allows its position to be adjusted according to the installation height and the position of the pipes.



## ACCESSORIES

### Electronic microprocessor control panels with display

<b>DIST</b>	MY COMFORT controller spacer for wall mounting
<b>E2T</b>	Touch screen 2.8" user panel for EVO control EVO-2-TOUCH
<b>EVOBOARD</b>	EVO control circuit board ART-U
<b>EVO DISP</b>	User interface for ART-U EVO control with display
<b>EYNAVEL</b>	Device for Wi-Fi or Bluetooth communication between EVOBOARD and smartphone
<b>KBEVS</b>	EVO DISP on-board installation Kit for ART-U
<b>MCLE</b>	Microprocessor control with display MY COMFORT LARGE
<b>MCSUE</b>	Humidity sensor for MY COMFORT (medium e large), EVO
<b>MCSWE</b>	Water sensor for MYCOMFORT and EVO controllers
<b>TOUCHKB</b>	Kit for installation of EVO-2-TOUCH onboard of ART-U
<b>Electronic microprocessor control panels</b>	
<b>TED10</b>	Electronic controller for EC fan equipped with inverter and ON/OFF valves 230 V
<b>TEDKB-W</b>	On-board ART-U White version installation kit suitable for TED controller

**TEDKB-Y** Kit for installation of TED onboard of ART-U, Grey, Red and Black version

**TED SWA** Water temperature sensor for TED controls

### Auxiliary water drip trays, insulating shell, condensate drainage pump

**GIVK-2** Insulating shell for KV - 2 ways valve

**GIVK-3** Insulating shell for VKS - 3 ways valve

### Base and enclosure elements

**DISC-K** Covering foot for ART-U fan coil - black RAL 9005

**DISC-R** Covering foot for ART-U fan coil - red RAL 3020

**DISC-W** Covering foot for ART-U fan coil - white RAL 9010

### Valves

**V2VSTD** 2-way valve, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main heat exchanger

**V3VSTD** 2-way valves, ON/OFF or MODULATING actuator, 230 V or 24 V power supply, hydraulic kit, for main heat exchanger

**RATED TECHNICAL DATA**

ART-U			10				20				30			
Speed			1	2	3	4	1	2	3	4	1	2	3	4
Control voltage	(E)	V	2,00	5,50	7,00	10,0	2,00	5,50	7,00	10,0	2,00	5,50	7,00	10,0
Total cooling capacity	(1)(E)	kW	0,31	0,71	0,84	1,08	0,58	1,15	1,41	1,76	0,66	1,63	1,97	2,44
Sensible cooling capacity	(1)(E)	kW	0,21	0,56	0,69	0,91	0,41	0,89	1,08	1,36	0,46	1,18	1,44	1,78
FCEER class	(E)		C				C				B			
Water flow	(1)	l/h	53	122	145	185	100	198	242	303	113	280	339	418
Water pressure drop	(1)(E)	kPa	1	4	5	8	2	6	9	13	2	12	17	24
Heating capacity	(2)(E)	kW	0,29	0,82	1,05	1,40	0,59	1,33	1,60	1,98	0,67	1,78	2,15	2,65
FCCOP class	(E)		C											
Water flow	(2)	l/h	51	143	183	243	103	231	278	345	117	310	374	461
Water pressure drop	(2)(E)	kPa	1	4	6	11	2	7	10	14	2	12	17	24
Rated air flow		m <sup>3</sup> /h	40	148	207	312	82	224	287	389	91	302	392	529
Power input	(E)	W	4	7	9	14	4	10	12	17	5	11	15	24
Total sound power level	(3)(E)	dB(A)	28	41	46	54	28	41	47	54	28	42	47	54

ART-U			40				50			
Speed			1	2	3	4	1	2	3	4
Control voltage	(E)	V	2,00	5,50	7,00	10,0	2,00	5,50	7,00	10,0
Total cooling capacity	(1)(E)	kW	0,76	1,84	2,37	3,12	0,92	2,32	2,89	3,69
Sensible cooling capacity	(1)(E)	kW	0,53	1,38	1,77	2,33	0,65	1,72	2,15	2,77
FCEER class	(E)		B							
Water flow	(1)	l/h	131	315	406	535	157	398	496	634
Water pressure drop	(1)(E)	kPa	2	12	18	29	3	13	19	29
Heating capacity	(2)(E)	kW	0,74	1,99	2,49	3,21	0,95	2,56	3,16	4,02
FCCOP class	(E)		C				B			
Water flow	(2)	l/h	128	347	433	559	165	446	550	698
Water pressure drop	(2)(E)	kPa	2	11	17	26	2	13	19	28
Rated air flow		m <sup>3</sup> /h	104	363	496	724	129	439	587	831
Power input	(E)	W	5	12	17	27	5	12	18	30
Total sound power level	(3)(E)	dB(A)	31	42	47	54	32	42	47	54

(1) Water temperature 7°C / 12°C, air temperature dry bulb 27°C, wet bulb 19°C (47% relative humidity) according to EN1397:2015

(2) Water temperature 45°C / 40°C, air temperature 20°C

(3) Sound power measured according to standards ISO 3741 and ISO 3742

(E) EUROVENT certified data

Power supply 230-1-50 (V-ph-Hz)

NOTE: The dimensional drawings of the ART-U units are the same of the ART-U Canvas. They are reported at page 39