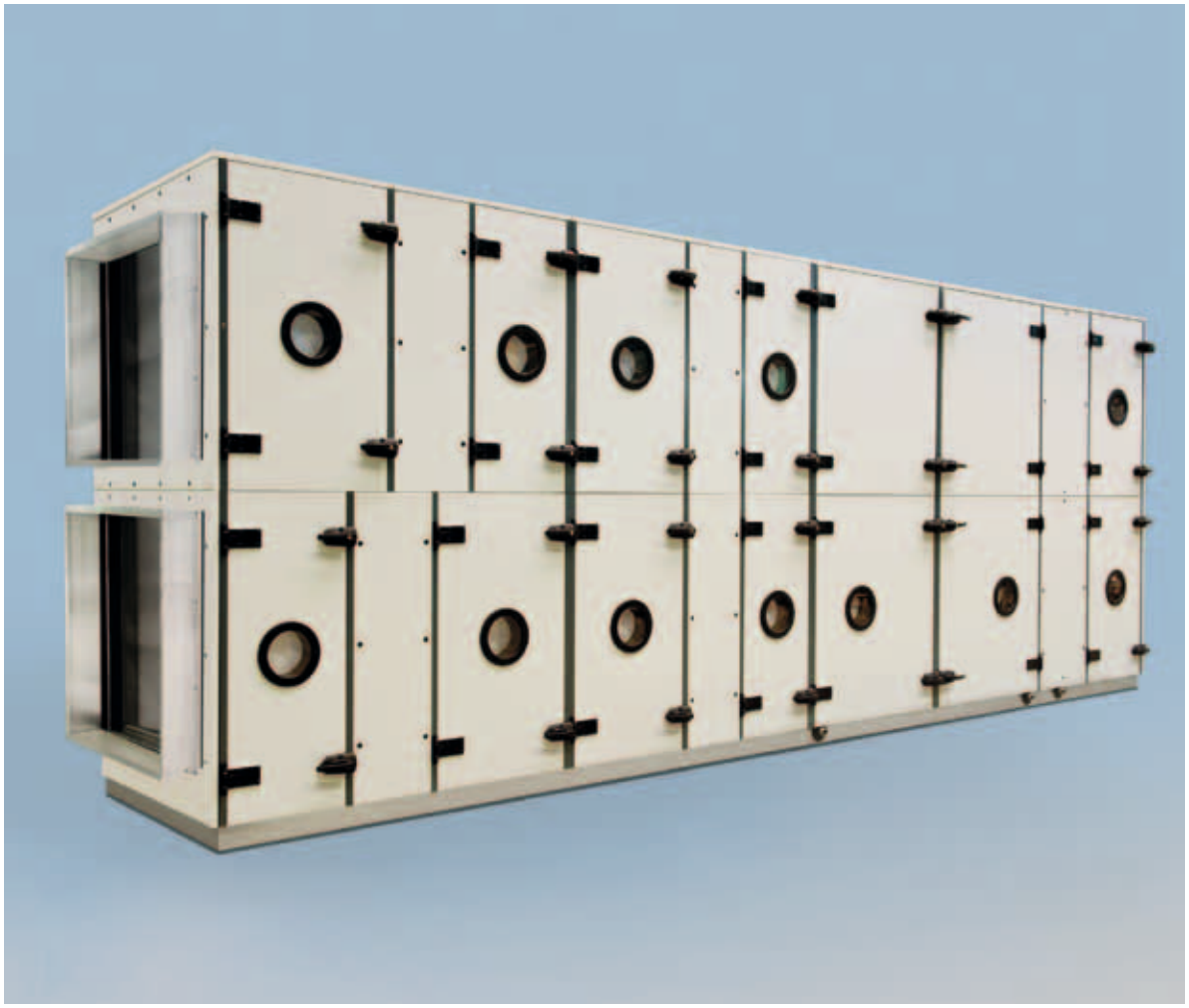
5.0 Air Conditioning



BerlinerLuft.

5.0 Air Conditioning

Contents

5.0 Air Conditioning

BerlinerLuft. Klimatechnik GmbH – Concepts for innovative ventilating and air-conditioning technology

Aims

The development of modern air-conditioning units for modern requirements is the core competency of BerlinerLuft. Klimatechnik GmbH, which has continued furthering the DSD series of air-conditioning units since 2001.
The requirements and the demands of the DSD series produced in the known form and proven quality are taken into account along with the anticipated future requirements .

In addition to the conventional unit functions such as filters, heating, cooling, humidification and dehumidification systems, the units have also been optimised with regard to sound and heat insulation, efficiency, hygiene requirements and ease of maintenance. This is achieved without limiting the series' flexibility.

Technical solutions for the perfect climate

The foundation of each range is always a closed profile frame construction, which is based on a warp-resistant construction between the frame and panel. This design enables a central air conditioning unit to be built according to customer requirements or needs. The panels are generally designed as sandwich panels. They consist of sendzimir galvanised, coil coated aluminium or stainless steel sheets with a minimum thickness of 1 mm and an insulation core made of mineral wool insulation material and connected by means of a special technique for joining parts.

As a result of the smooth inner surfaces and full utilisation of the cross section, energy costs are reduced to a minimum.

Air handling units with integrated refrigeration system and ICA technology, have in the recent years a continually increasing market share, which we have taken into account in our own development of our cooling and control sections in this segment. The „plug-in units" are put into operation by in-house trained personnel.

European quality products are used as attachment and installation parts, which are subject to permanent quality monitoring.

Quality management

BerlinerLuft. Klimatechnik GmbH is certified according to DIN ISO 9001, all processes are subject to internal quality control. The units are type tested according to VDI guideline 6022 „Hygienic requirements for air-conditioning units" and meet the requirements of VDI 3803 and those of DIN 1946 Part 4.

BerlinerLuft. Klimatechnik GmbH is a member of the RLT Raumlufttechnische Geräte Herstellerverbandes e.V. (German AHU Manufacturers' Association).

LGA InterCert Zertifikat QM System ISO 9001

RLT Raumlufttechnische Geräte Herstellerverband e.V.

HYG www.HYG.de

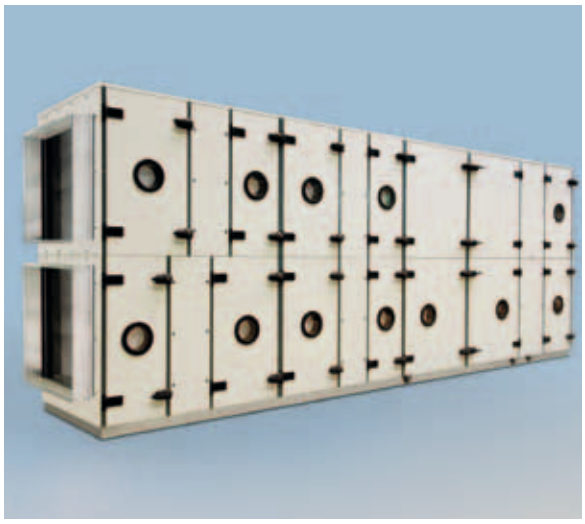
Raumlufttechnik
- VDI 6022 (07/2011)
- DIN 1946-4 (12/2008)
- SWKI VA104-01 (04/2006)
- ÖNORM H 6021 (09/2003)
- ÖNORM H 6020 (02/2007)

Ex

EMV geprüft

5.1 Central Air-Conditioning and Ventilation Systems

Ventilation and air-conditioning units HygCond HC-A, S, E



HygCond

Roof control centre

- Modular design with a grid of 153 mm, functional parts can be put together according to customer requirements, installation-friendly delivery unit
- Type tested according to VDI 6022, DIN 1946 Part 4, ÖNORM 6020, ÖNORM 6021, SWKI VA 104-01
- Compact design with great form stability even at high pressures.
- Self-supporting frame system, optionally made from aluminium, galvanised steel or stainless steel
- Double-shell sandwich panels, wall thickness 64 mm (52 mm in the base), with thermal separation as a result of the special profile
- Integrated base frame
- Insulation core made of mineral wool insulation material, non-inflammable according to DIN 4102 class A1
- Walls of the internal and external sides available in galvanised, coil coated (standard RAL 7035) aluminium and stainless steel (1.4301 and 1.4571)
- Base and walls are smooth, no risk of injury from screw heads or wall fixtures
- Doors and operating covers with peripheral permanently elastic foam seals
- Doors with 3D hinges, lever handles or turn latches
- Weatherproof design with additional roof sealing made from UV-resistant PE film or as a tin roof with roof projection and drip edge
- Roof frame can be supplied as an additional option

Central air handling unit HygCond with integrated refrigeration system and ICA technology

- Air handling system with all air conditioning functions, integrated direct vaporisation refrigeration system for decentralised cooling and additional circulating air cooling, including ICA control cabinet
- Optimised, space-saving design
- Fans designed as free-running impellers with direct drive
- Refrigeration system with control system, compressors within the unit, condenser integrated in the casing and cooled by the exhaust air
- Piston, scroll or screw compressor
- Control system with DDC technology
- Commissioning of the units at the customer's site by in-house qualified commissioning personnel

LGA InterCert Zertifikat QM System ISO 9001

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Ex

EMV geprüft

5.1 Central Air-Conditioning and Ventilation Systems

Ventilation and air-conditioning units HygCond HC-A, S, E

Applications

Office buildings, EDP facilities, banks, conference rooms, restaurants, gymnasiums, cinemas, power-stations, automobile industry, industrial production plant, goods distribution centres, shopping centres, TV and audio studios, switchgear and communication systems, waste recycling and disposal plant, facilities that must must meet high maintenance and operating safety standards

Sanitary design:
Hospitals, foodstuffs and chemical industries, pharmaceuticals manufacturers, clean-rooms, facilities that must meet highest maintenance and operating safety standards

Technical data of the housing EN 1886 (07/2009)

Design HygCond Insulation Standard D_e at:

125 Hz	250 Hz	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz	8.000 Hz
14,3 dB	23,8 dB	27,8 dB	28,7 dB	28,1 dB	37,0 dB	40,6 dB

Mechanical stability	Class D1 (M)
Housing leakage	Class L1 (M)
Filter bypass leakage	meets filter class F9, extensible
Thermal insulation	Class T 2
Heat bridge factor	Class TB 2

Air-conditioning and ventilation equipment

Sizes	HC 4 to 110
Volume flow	1.100 m³/h to 120.000 m³/h

Special sizes on request

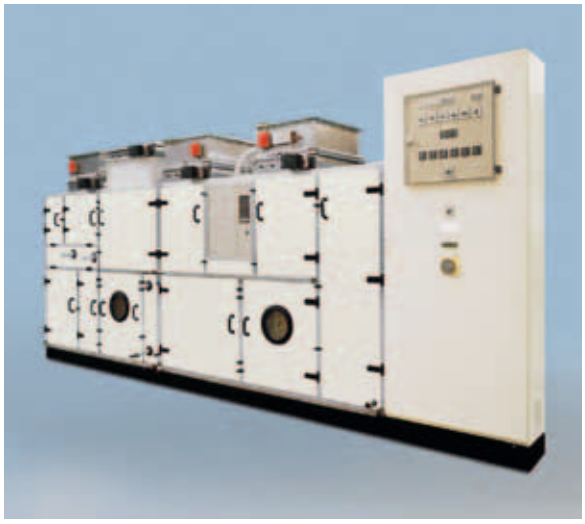
Air-conditioning systems with integral cooling unit

Sizes	HC 4 to 42
Volume flow	2.500 m³/h to 40.000 m³/h
Cooling output	4 kW to 150 kW
Design	HC-A (aluminium) HC-S (galvanized steel) HC-E (stainless steel)

5.3 Equipment with integrated cooling and MSR technology

Hygiene compact air conditioning equipment Hy-Komp

Product description



Hy-Komp

- Compact air conditioning equipment with all air conditioning functions and integrated direct evaporation cooling systems for decentralized cooling in hygiene design, including MSR control cabinet and steam humidifier
- Fans designed as direct drive freewheeling wheels
- Cooling system with suction throttling, compressors in separate equipment block, condenser integrated in equipment escaping air supports, cooled by escaping air.
- Regulation with DDC technology
- Equipment commissioned at customers by own commissioning personnel
- Compact construction with great form stability even at high pressures
- Aluminum profile frame with thermal insulation and inlaid double-shell sandwich panels, outer coating with coil coating color RAL 7035, interior with various materials such as galvanized or coated sheet steel, stainless steel also possible.
- Insulation core of mineral insulation material, flame-resistant to DIN 4102 Class B1 or fire-proof to DIN 4102 Class A.
- Insulation fully bonded to outer and inner sheets.

Application areas

Hospital OP areas, service buildings, clean room areas

5.3 Equipment with integrated cooling and MSR technology

Hygiene compact air conditioning equipment Hy-Komp

Technical parameters (values as per EN 1886)

Fitted insulation value De for the complete enclosure

	63 Hz	125 Hz	250 Hz	500 Hz	1.000 Hz	2.000 Hz	4.000 Hz
NW 35	10 dB	18 dB	20,5 dB	20 dB	23 dB	22 dB	27,5 dB

Mechanical stability	Class D2 (M)
Enclosure leakage	Class L2
Filter bypass leakage	meets filter class F9
Thermal insulation	Class T3
Thermal bridge factor	Class TB 3
Sizes	4.000, 6.000, 8.000, 12.000
Air volumes	4.000 m^3/h to 12.000 m^3/h
Cooling output	12 KW to 50 KW

Design and dimensions can be found in the applicable catalog

5.3 Equipment with integrated cooling and MSR technology

Combi-air conditioning equipment for high thermal load rooms

DVM-D

Product description

DVM-D

- Compact air conditioning equipment with integrated direct evaporation cooling system for decentralized cooling, including MSR control cabinet
- Energy optimized equipment
- Fans designed as direct drive freewheeling wheels
- Cooling system with suction throttling, compressors in equipment, condenser integrated in enclosure and cooled by exhaust air
- Regulation with DDC technology
- Equipment commissioned at customers by own commissioning personnel
- Equipment for interior installation
- Compact construction with great form stability even at high pressures
- Aluminum profile frame with inlaid double-shell sandwich panels, outer coating with coil coating color RAL 7035, inner with various materials such as galvanized or coated sheet steel, stainless steel also possible.
- Insulation core of mineral insulation material, flame-resistant to DIN 4102 Class B1 or fire-proof to DIN 4102 Class A.
- Insulation fully bonded to outer and inner sheets
- Available as accessories: Air ducting chamber, adjustable basic frames

Application areas

Rooms with high thermal loads such as telephone distribution rooms, EDP rooms

Technical parameters

Wall thickness	up to size 5.000	NW 25
	> size 5.000	NW 35
Sizes	2.500, 3.750, 5.000, 7.500, 10.000, 15.000, 20.000, 25.000	
Air volumes	2.500 m^3/h to 25.000 m^3/h	
Cooling output	11 KW to 116 KW	

Design and dimensions can be found in the applicable catalog

5.3 Equipment with integrated cooling and MSR technology

Combi-air conditioning equipment for thermal high load rooms with redundant ventilator in an enclosure DVM-D-Red

Product description

DVM-D-Red

- Compact air conditioning equipment with integrated direct evaporation cooling system for decentralized cooling, including MSR control cabinet, additional components for redundant operation of equipment
- Energy optimized equipment
- Fans designed as direct drive freewheeling wheels
- 3rd ventilator can be used as redundant ventilator for supply and exhaust air ventilator
- Increase of volume flow to 150% of nominal volume possible
- Cooling system with suction throttling, compressors in equipment, condenser integrated in enclosure and cooled by exhaust air
- Regulation with DDC technology
- Equipment commissioned at customers by own commissioning personnel
- Equipment for interior installation
- Compact construction with great form stability even at high pressures
- Aluminum profile frame with inlaid double-shell sandwich panels, outer coating with coil coating color RAL 7035, inner with various materials such as galvanized or coated sheet steel, stainless steel also possible.
- Insulation core of mineral insulation material, flame-resistant to DIN 4102 Class B1 or fire-proof to DIN 4102 Class A.
- Insulation fully bonded to outer and inner sheets.

Application areas

Rooms with high thermal loads such as telephone distribution rooms, EDP rooms

Technical parameters

Wall thickness	up to size 5.000	NW 25
	> size 5.000	NW 35
Sizes	2.500, 3.750, 5.000,	
	7.500, 10.000	
Air volumes	2.500 m^3/h to 15.000 m^3/h	
Cooling output	11 KW to 70 KW	

Design and dimensions can be found in the applicable catalog

5.4 Equipment with integrated MSR technology

Recirculatory cooling equipment ULK

Product description

ULK for double-floor blow out

- Equipment for interior installation
- Air conditioning equipment with cold water cooler, including MSR control cabinet and controller
- Fans designed as direct drive freewheeling wheels
- Aluminum profile frame with double-shell sandwich panels, outer coating with coil coating color RAL 7035, inner with various materials such as galvanized or coated sheet steel, stainless steel also possible.
- Compact construction with great form stability even at high pressures
- Insulation core of mineral insulation material, flame-resistant to DIN 4102 Class B1 or fire-proof to DIN 4102 Class A.
- Insulation fully bonded to outer and inner sheets.

Application areas

EDP rooms, high thermal load rooms

Technical parameters

Sizes	300, 500, 1.000, 1.800
Air volumes	3.000 m^3/h to 18.000 m^3/h
Cooling output	4 KW to 60 KW

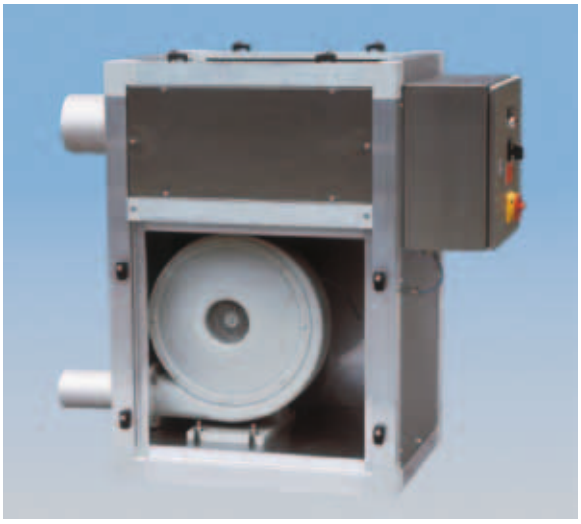
Design and dimensions can be found in the applicable catalog

5.5 Air purifying technology

Catalyser equipment for decomposition of hydrogen peroxide (H_2O_2)

RPAD-Kat

Product description



RPAD-Kat

- Equipment for interior and exterior installation
- Exhaust and escaping air equipment with integrated catalyser for H2O2 decomposition, including control cabinet and controller
- Compact construction with great form stability even at high pressures
- Aluminum profile frame with double-shell sandwich panels, outer coating with coil coating color RAL 7035, inner stainless steel
- Insulation core of mineral insulation material, flame-resistant to DIN 4102 Class B1 or fire-proof to DIN 4102 Class A.
- Insulation fully bonded to outer and inner sheets.

Application areas

Food and drinks industry, packaging industry

Technical parameters

Air volumes	600 m³/h to 12.000 m³/h
Volume flow per catalyser panel	600 m³/h

Reduction of H_2O_2 concentration after the catalyser to values < 1 ppm

Design and dimensions can be found in the applicable catalog

European Patent No. 0882492

5.0 Air Conditioning

Referencelist of air handling units

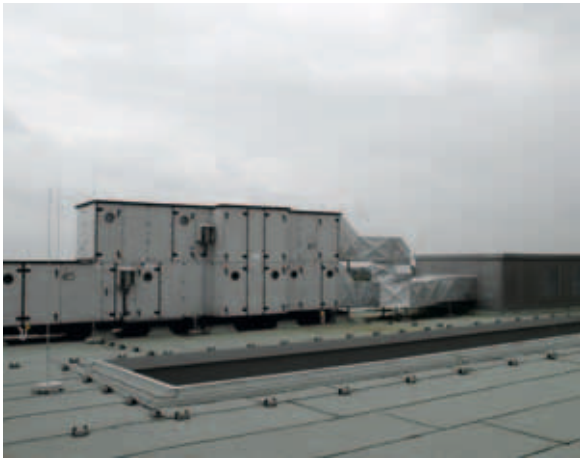
St. Vincentius hospital Karlsruhe

Shopping Center Tempelhofer-Hafen Berlin

Fashion Center Berlin

Discount house Saarbrücken

Brewery Homburg



Medical center Sittartsberg, Duisburg

5.0 Air Conditioning


BLP Nord
Koszalin
Bialogard
BLKS Nord
Hamburg/
Uelzen
Polen
BLT
BLKS Ost
BLV
Berlin
BLKS Mitte
Dresden/
Ottendorf-
Okrilla
BLKS Süd
Niemodlin
BLKS West
Köln
Deutschland
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