

**Liebert**  
**HIROSS**



H I M O D

HIGH PERFORMANCE AIR CONDITIONING

MEDIUM AND LARGE CAPACITIES FOR  
TELECOMMUNICATIONS INDUSTRY AND  
COMPUTER ROOM APPLICATIONS

Today we are one of the largest suppliers of equipment for telecommunication and computer installations, clean rooms, high security and other critical electrical installations, with an impressive customer list which includes thousands of companies, large and small, around the world. We place a high priority on using the most advanced technology, designed and built to stringent ISO9000 standards, and we continue to invest heavily in research and development.

Himod is the solution for systems demanding uncompromising reliability and precision, year after year, setting new standards in environmental control.

Himod applications include Switching and Internet Data Centres, computer rooms, hospitals, process industries and all technological facilities requiring total environmental control.



Himod is used for conditioning critical systems in a variety of key applications

Computer rooms

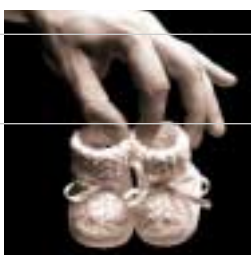
Internet data centres and services

Dealing rooms

Fixed telecom network

Fine art

Technological sites in general



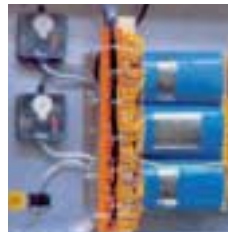
Welcome  
Total reliability

Himod  
High Technology  
Maximum Reliability



### Fan Section

The Himod features an advanced high efficiency direct drive, single inlet backward-curved radial fan. Excellent noise attenuation is achieved by mounting the fan on vibration absorbing rubber supports, which substantially reduces vibration transmission between the fan and unit frame. The high reliability, three phase motor can be adjusted



to run at any one of 20 speeds via an autotransformer. Selecting the appropriate tapping for the required speed ensures that maximum efficiency is always maintained. Capable of providing the rated airflow at external static pressures of up to 350 Pa, the motor is rated to IP54 and incorporates its own thermal protection.



### Cabinet

Double skinned, insulated (class 0 fireproof, ISO 1182, 2) cabinet panels ensure maximum reduction of both noise emission and heat loss.

This is further enhanced through fitted door seals which prevent air loss. All surfaces in contact with the air flow are fully washable, and all materials are recyclable and CFC free. Class 0 fireproof applies to the great variety of accessories as well, base frames, base modules, extension hoods, noise attenuators, high efficiency filters. The unit is constructed in tough, galvanised painted steel.



### Air Filtration

Easy access filter (G4, equivalent to EU4) is designed to minimise air pressure drop while maintaining maximum filter efficiency.

## Himod Network System

Thanks to the know-how gathered through many years of continuous innovations, Himod is endowed with the most advanced control features. Networking is easy and grants unrivalled system optimisation and energy savings.



**System temperature & humidity** self-adapting to load conditions



**Networked Multi-Master System** with smart stand-by & rotation



**Data Record** in each unit and Graphic Data Record through Hiromatic



**Intelligent phased start** and working hours equalization



**Wellness calculation** to lengthen the unit's life



### Microface Evolution

is the standard on-board control and its advanced features ensure energy savings and system optimisation.



### Hiromatic Evolution

allows configuration and graphic data record access to all of the connected units (up to 8 or 16 Microface in LAN). The system settings are protected by passwords.

**Microface Display:** with symbols and codes enabling the full set-up of the unit.

**Network:** up to 16 air conditioners can be easily linked together to provide teamwork mode, stand-by operation and duty cycling without additional hardware.

**Autosetting:** it allows a simple, quick and reliable start-up of your Himod units thanks to self-detection of sensors, automatic set-up of the airflow threshold and automatic Test-Cycle.

**Sequential auto-restart timer:** to allow phased unit start-up after power failure

**Volt-free contact:** for simple remote monitoring of alarms

**Real Time Clock data record:** 200 unit events and components working hours are stored for each unit.

**System window & self-explanatory Icons Menu:** the system operation status is visible at a glance and symbols make the consultation easier.

**On-line Help & Set-up Assistant:** they make the set-up work easier by giving a guide through the necessary steps and offering an explanation of each parameter.

**Automatic set-up & commissioning:** the unit itself can check the system devices available and automatically set up all of the Control Parameters. A self-test program can be run to check the unit functions.

**Two intelligent teamwork modes:** they can answer the load requirements of balanced or unbalanced environments.

**Wellness calculation:** the next required Maintenance is calculated through the actual wear of the unit components.

## Himod Connectivity: TOMORROW'S SOLUTIONS TODAY!

The technological leadership of the Himod range is proved also by its Connectivity potentials. Among the possible unique, simple and efficient supervision solutions are:



**Hirovisor 2000 software:** allows distance monitoring and telemaintenance



**Communication over IP:** (HTTP, SNMP, TCP/IP)



**Hirolink for BMSs:** represents the gateway to the most widespread Building Management Systems.



**Hirolink SMM system:** SMS messages are sent whenever Microface Alarms take place; temperature and humidity status of the unit are always available on demand via SMS

## Technical features

HIMOD DIRECT EXPANSION											Performance	
A/W		20	24	28	34	40	26	32	42	46	55U	65U
Airflow rate	m <sup>3</sup> /h	5,800	6,600	9,980	11,040	12,510	9,980	11,040	12,510	13,500	14,560(*)	15,680(*)
Maximum ESP <sup>(1)</sup>	Pa	450(320)	400(240)	430(290)	400(270)	370(235)	430(290)	400(270)	370(235)	320(190)	100	100
Sound Pressure Level <sup>(2)</sup>	dB(A)	51.1	54.4	56.4	57.5	59.0	56.4	57.5	59.0	60.8	62.8	64.8
Total cooling capacity <sup>(3)</sup>	kW	20.6(21.3)	25.8(24.3)	30.9(30.5)	35.9(37.5)	44.8(44.4)	29.5(28.5)	36.1(33.8)	43.4(43.2)	54.4(50.8)	58.7	66.6
Sensible cooling capacity <sup>(3)</sup>	kW	19.2(19.6)	23.5(23.1)	29.9(29.6)	34.1(35.4)	43.3(43.0)	28.6(28.3)	33.6(33.5)	41.3(42.1)	47.7(46.3)	54.0	60.6
SHR		0.93(0.92)	0.91(0.95)	0.97(0.97)	0.95(0.94)	0.97(0.97)	0.97(0.99)	0.93(0.99)	0.95(0.97)	0.88(0.91)	0.92	0.91
EER		3.81(3.95)	3.63(3.81)	3.40(3.51)	3.42(3.63)	3.53(3.77)	3.51(3.72)	3.61(3.68)	3.8(3.8)	3.73(3.90)	3.23	3.34
Number of compressor	n°	1	1	1	1	1	2	2	2	2	2	2
Number of fans	n°	1	1	2	2	2	2	2	2	2	2	2

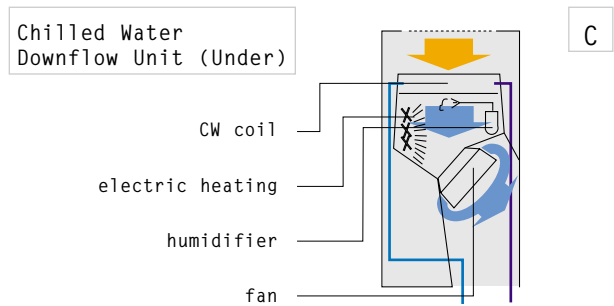
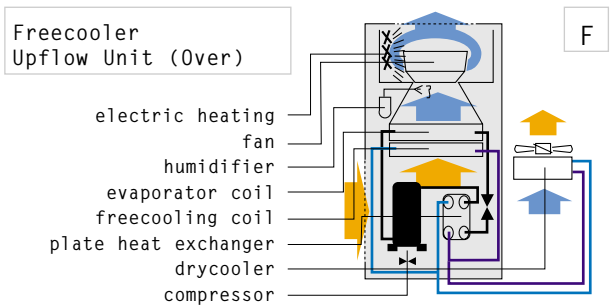
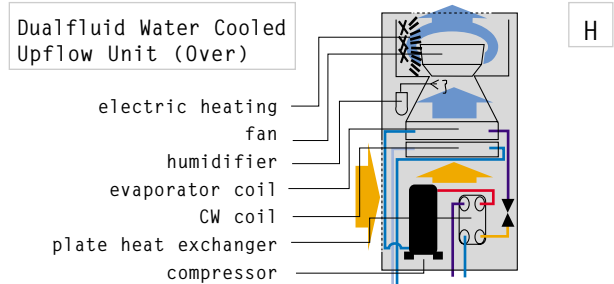
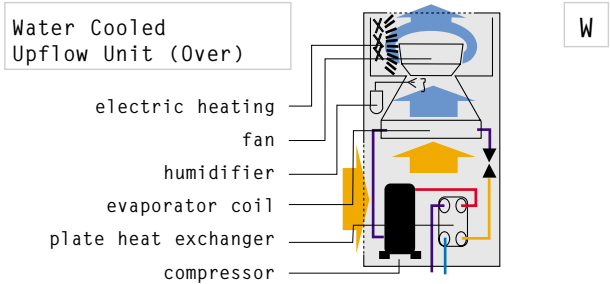
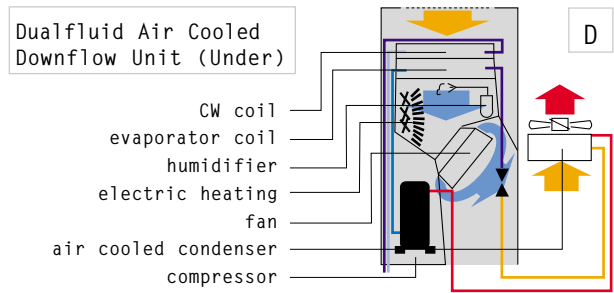
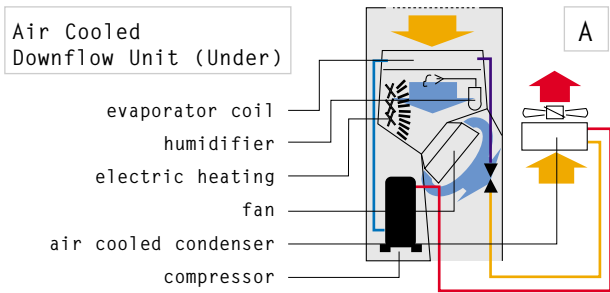
HIMOD FREECOLER											Performance	
F		20	24	28	34	40	26	32	42	46		
Airflow rate	m <sup>3</sup> /h	5,570	6,280	9,980	10,960	11,910	9,980	10,960	11,910	13,100		
Maximum ESP <sup>(1)</sup>	Pa	435(280)	325(165)	410(255)	390(225)	340(185)	410(255)	390(225)	340(185)	280(120)		
Sound Pressure Level <sup>(2)</sup>	dB(A)	51.3	55.4	55.8	57.6	59.1	55.8	57.6	59.1	61.2		
Sound Pressure Level <sup>(4)</sup>	dB(A)	51.0	55.1	55.5	57.3	58.7	55.5	57.3	58.7	60.9		
Total cooling capacity <sup>(5)</sup>	kW	18.4(20.4)	23.7(24.5)	28.8(30.3)	33.6(35.2)	41.7(42.5)	27.7(28.5)	32.6(33.8)	40.3(41.8)	51.0(50.3)		
Sensible cooling capacity <sup>(5)</sup>	kW	18.4(19.2)	22.5(22.8)	28.6(29.1)	32.6(34.4)	41.4(41.8)	27.7(27.9)	32.6(32.8)	40.3(41.3)	46.4(45.8)		
SHR		1.00(0.94)	0.95(0.93)	0.99(0.96)	0.97(0.98)	0.99(0.98)	1.00(0.98)	0.94(0.97)	1.00(0.99)	0.91(0.91)		
EER		2.83(3.38)	2.64(3.41)	2.59(3.07)	2.64(2.98)	2.66(3.17)	2.75(3.29)	3.48(3.65)	3.04(3.26)	2.86(3.39)		
ZET (Zero Energy Temp.)	°C	3.5	2.5	5.1	6.3	3.0	4.9	4.1	6.2	4.4		
Number of compressor	n°	1	1	1	1	1	2	2	2	2		
Number of fans	n°	1	1	2	2	2	2	2	2	2		

HIMOD DUALFLUID											Performance	
D/H		20	24	28	34	40	26	32	42	46		
Airflow rate	m <sup>3</sup> /h	5,570	6,280	9,980	10,960	11,910	9,980	10,960	11,910	13,100		
Maximum ESP <sup>(1)</sup>	Pa	435(280)	325(165)	410(255)	390(225)	340(185)	410(255)	390(225)	340(185)	280(120)		
Sound Pressure Level <sup>(2)</sup>	dB(A)	51.3	55.4	55.8	57.6	59.1	55.8	57.6	59.1	61.2		
Sound Pressure Level <sup>(4)</sup>	dB(A)	51.0	55.1	55.5	57.3	58.7	55.5	57.3	58.7	60.9		
Total cooling capacity <sup>(3)</sup>	kW	20.2(21.0)	25.5(25.3)	30.9(30.5)	35.9(37.3)	44.6(44.2)	29.5(28.7)	35.8(33.9)	43.2(43.8)	54.5(51.1)		
Sensible cooling capacity <sup>(3)</sup>	kW	19.0(19.3)	23.6(23.1)	29.9(29.6)	34.4(35.4)	43.5(43.1)	28.6(28.3)	33.7(33.0)	41.5(42.0)	48.6(47.1)		
SHR		0.94(0.92)	0.93(0.91)	0.97(0.97)	0.96(0.95)	0.97(0.97)	0.97(0.99)	1.00(0.97)	0.96(0.96)	0.89(0.92)		
EER		3.65(3.80)	3.45(3.86)	3.31(3.43)	3.32(3.52)	3.42(3.68)	3.40(3.64)	2.70(3.22)	3.67(3.77)	3.60(3.82)		
Cooling capacity <sup>(6)</sup>	kW	28.0(28.1)	33.5	51.7	63.5	67.3	51.7	63.5	67.3	71.9		
Number of compressor	n°	1	1	1	1	1	2	2	2	2		
Number of fans	n°	1	1	2	2	2	2	2	2	2		

HIMOD CHILLED WATER											Performance	
C		27	45	55	65	80	85	90U	10U	12U	14U	
Airflow rate	m <sup>3</sup> /h	6,560	6,940	13,100	12,710	15,480	15,300	19,420	20,100	24,500	28,350	
Maximum ESP <sup>(1)</sup>	Pa	350(200)	350(200)	325(190)	325(190)	320(170)	320(180)	330	310	340	180	
Sound Pressure Level <sup>(4)</sup>	dB(A)	53.9	55.2	57.6	57.2	59.1	59.0	57.6	58.4	60.6	63.4	
Total cooling capacity <sup>(6)</sup>	kW	26.8	39.1	57.4	69.4	73.8	86.7	90.3	102.5	115.8	142.0	
Sensible cooling capacity <sup>(6)</sup>	kW	24.9	31.6	51.1	55.6	62.8	67.6	76.7	83.0	97.3	116.4	
Water Flow	l/s	1.28	1.87	2.74	3.31	3.52	4.13	4.30	4.89	5.52	6.77	
Number of fans	n°	1	1	2	2	2	2	2	2	3	3	

In brackets: data related to 60Hz power supply.

- (1) Maximum available External Static Pressure for the indicated airflow.
- (2) At 1m height, 2m front distance; free field; compressor(s) and fan(s) operating.
- (3) At the following standard conditions: 400V/3ph/50Hz (208-230-380-460V/3ph/60Hz) power supply 24°Cdb 50% R.H.; indoor conditions; 20Pa available External Static Pressure; 45°C condensing temperature.
- (4) At 1m height, 2m front distance; free field; fan(s) operating.
- (5) At the following standard conditions: 400V/3ph/50Hz (208-230-380-460V/3ph/60Hz) power supply; 24°Cdb 50% R.H.; indoor conditions; 20Pa available External Static Pressure; 35°C outdoor temperature.
- (6) At the following standard conditions: 400V/3ph/50Hz (208-230-380-460V/3ph/60Hz) power supply; 24°Cdb 50% R.H.; 20Pa available External Static Pressure; 7/12°C inlet/outlet water temperature.
- (\*) 60Hz power supply option available on request



**A wide range of options and accessories**

- External Static Pressure (ESP) up to 350 Pa
- Sandwich panels, class A0 fireproof
- Scroll compressors
- High efficiency fans
- Autotransformer
- G4 efficiency filter
- Electric panel to IEC standards
- Microprocessor control

Standard

- Supervision interface systems (Connectivity)
- 60 HZ power supply
- Electric heating
- Hot water re-heating
- Hot gas re-heating
- Humidifier
- Hromatic Graphic
- High efficiency filters (up to F9)
- Smoke / Fire alarm
- Refrigerant non return valve
- Water detection alarm
- Additional Temperature-Humidity sensor
- Modulating water valve
- Fresh air inlet
- Inlet & discharge extension hoods
- Silencer HiSAS 10dB(A) noise reduction
- Plenum with front discharge grille
- discharge grille
- Base frame
- Base module
- Serial communication
- Back draught damper
- Bottom air inlet (up flow units)

Option

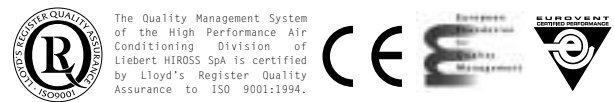
**Dimensions and Weights**

Model	Width	Weights	
DX	mm.	A(kg)	F(kg)
20	1000	380	500
24	1000	385	510
28	1750	580	790
34	1750	585	795
40	1750	590	800
26	1750	580	790
32	1750	585	795
42	1750	590	800
46	1750	605	815
55	1750	760	
65	1750	780	

Model	Width	Weight
CW	mm.	Kg.
27	1000	290
45	1000	340
55	1750	495
65	1750	550
80	1750	590
85	1750	610
90	2050	660
10	2050	670
12	2550	830
14	2550	840



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