

ultracool midi 2001

(type 0300 to 1700)

The ultimate water chiller

Application

Cooling and temperature control of water flow. The ultracool can be used to cool down lasers, ozone generators, plastic applications, vacuum pumps, cutting and welding machines, solvents recovery, X-ray machines, and many others.

How does the ultracool work?

The water to be chilled passes through the heat exchanger, which is cooled by a separate refrigeration unit. The refrigerant gas is the environmentally friendly and highly efficient R-407C. The ultracool midi superplus is a compact unit equipped with a water pump and an additional water storage tank to avoid temperature increases after stand-by periods.

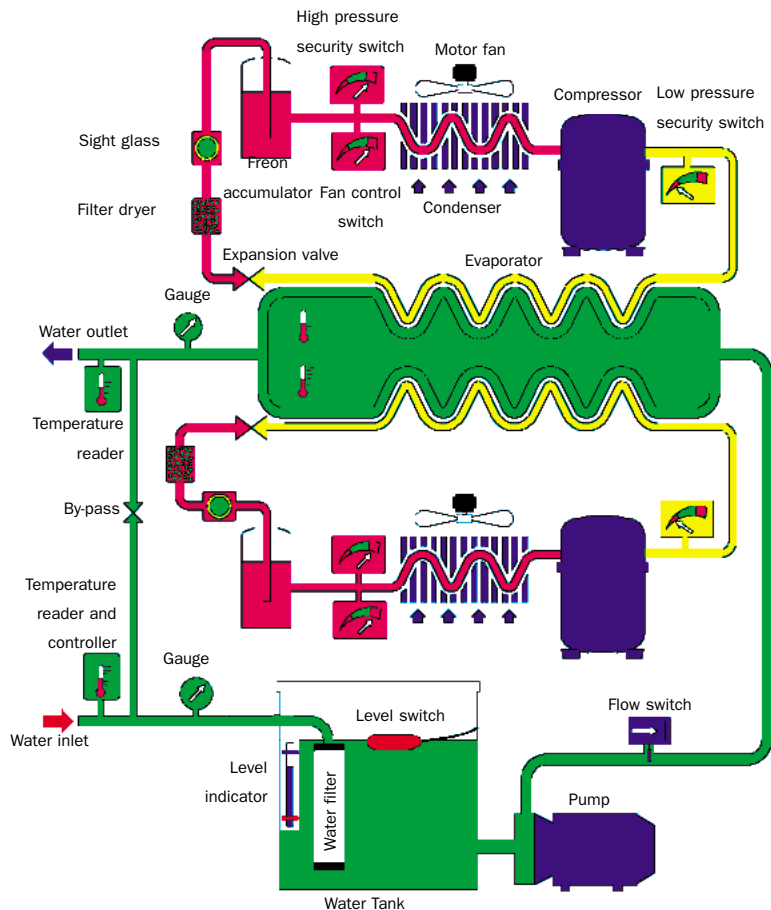
Competitive advantages

- Pump and evaporator in stainless steel
- All motors are protected with circuit breakers
- Protection degree: IP54
- Water filter 50 µm included (superplus)
- 2 independent fridge circuits, rotation of compressors
- Flow switch and level switch included
- Antifreeze thermostat for each circuit
- Water inlet temperature indicator and controller
- Water outlet temperature indicator
- Free tension contacts for an external alarm
- Low power consumption
- Oversized condenser



Options

- Water filter (included on SP version)
- 3 bar pump (included on SP version)
- 5 bar pump
- Auto filling kit (only for SP version)
- Centrifugal fans
- Water flow meter
- Refrfluid
- External by-pass
- Transformer
- Water temperature stability $\pm 1^{\circ}\text{C}$
- Motor fans speed regulator
- Pre-heater



ultracool superplus

Technical alterations reserved (Date 03/03)

Features:	Benefits:
R-407C	Environmentally friendly, does not harm the ozone layer High efficiency of refrigerant Low power consumption
Housings in galvanised steel and externally coated with epoxy resin	Corrosion resistant even in aggressive environments
Evaporator in stainless steel, water pipes of PE	No iron materials for even higher resistance
2 Independent fridge circuits	Increased safety of the system
Antifreeze thermostat	Evaporator protection
Flow switch	Pump protection
Protection degree: IP54	Can be installed outdoors
superplus version	
Watertank of PE	Keeps water temperature constant even under varying load conditions.
Level switch	Pump protection in case of lack of water
Level indicator	Control of water level in watertank
Water filter PP-TF 50µm included	Keeps water free of particles
Pump: Impeller, intermediate chambers and shaft always in stainless steel. Suction and discharge in stainless steel or cast iron depending on model.	High resistance against corrosion
Internal by-pass included in delivery	Allows any water flow from 0% to 100%

Temp. and pressure range for cold water (outlet water)
min: - 5 °C (with ethylene glycol)
max: 20 °C
P _{max} : 10 bar _g

Ambient temperature
T _{max} : 40 °C
T _{min} : -15 °C with speed regulator option, 0°C otherwise

Power supply
400/3+N/50 Hz, others under request

Noise level
Less than 70 dB (A) measured at 5 m from the Unit and 1 m from the ground

Approval
CE, all components UL and CSA listed

Correction: cold water temperature F ₁						
Outlet temperature (°C)	≥ 20	15	10	5	0	-5
F ₁	1,25	1,17	1	0,75	0,5	0,38

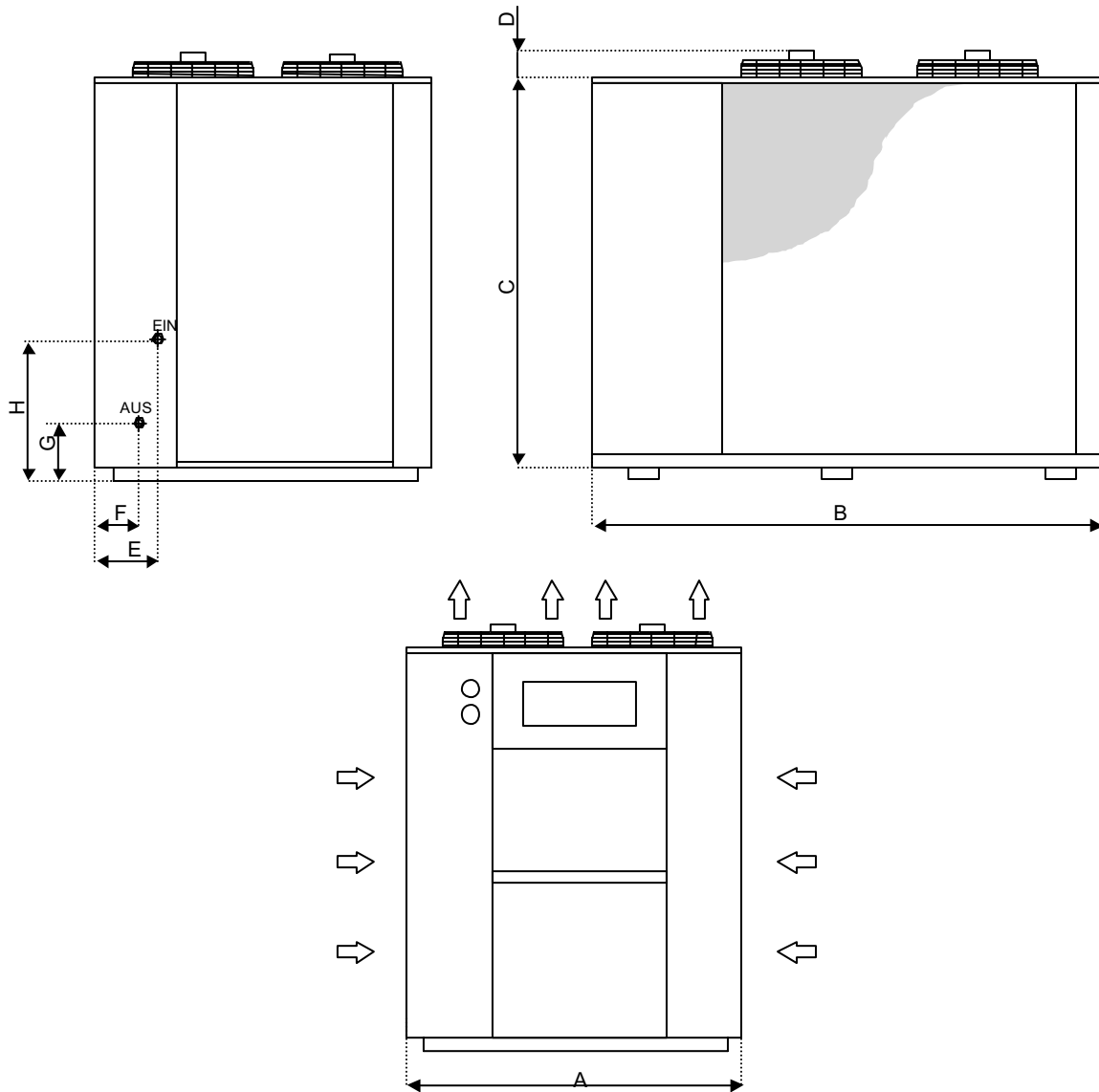
Correction: ambient temperature F ₂				
Ambient temperature (°C)	≤ 25	30	35	40
F ₂	1	0,9	0,85	0,78

Selection example
$P_{NOM} = P_{WORK} (F_1 \cdot F_2)$
Example:
P _{WORK} = 90 kW
Cold water temperature: 20°C
Ambient temperature: 30°C
$P_{NOM} = 90 / (1,25 \cdot 0,9) = 80 \text{ kW}$
ultracool UC-0800

UC	Cooling capacity		Fridge circuits		Water flow l/h	Water pressure (1)		Water tank (1) l	Water filter (1) PP-TF 20/3	Motor fan		Power kW		
	kW	kcal/h	N°	Compressors		3 bar	5 bar			N°	m ³ h	ST	SP3bar	SP5bar
0300	34,2	29412	1	1	5882	3,5	5,5	320	1	2	19000	9,7	11,2 (2)	11,9 (2)
0400	43,1	37075	1	1	7415	3,2	5,0	320	1	2	19000	12,3	13,8 (2)	14,5 (2)
0500	52,2	44909	2	2	8982	2,8	5,4	320	1	3	33000	15,0	16,5 (2)	18,0 (2)
0650	68,4	58824	2	2	11765	3,5	5,2	320	2	3	31200	18,6	21,6 (2)	22,6
0800	86,2	74149	2	2	14830	3,1	4,7	320	3	4	37200	24,7	27,7 (2)	28,7
1000	104,4	89818	2	4	17964	2,8	4,7	520	4	4	45200	28,5	31,5	34,0
1350	136,8	117648	2	4	23530	3,8	5,5	520	4	6	60000	37,3	42,8	44,8
1700	172,4	148298	2	4	29660	3,1	4,7	520	6	6	54000	47,9	53,4	55,4

Related to nominal conditions: Water outlet temperature 10°C and ambient temperature 25°C

(1)- superplus units (2)- pump completely in stainless steel



UC	Water connection	Weight (kg)		A	B	C	D	E	F	G	H
		ST	SP	mm	mm	mm	mm	mm	mm	mm	mm
0300	1 1/2"	520	560	1050	1610	1825	120	205	205	240	790
0400	1 1/2"	520	560	1050	1610	1825	120	205	205	240	790
0500	2	840	900	1545	2230	1875	120	340	260	210	880
0650	2	920	980	1545	2230	1875	120	340	260	210	880
0800	2	960	1020	1545	2230	1875	120	340	260	210	880
1000	2 1/2"	1380	1460	1545	3400	1975	120	340	260	210	880
1350	2 1/2"	1480	1570	1545	3400	1975	120	340	260	210	880
1700	2 1/2"	1540	1630	1545	3400	1975	120	340	260	210	880