

Solid

Direct expansion cooling and close-control air-conditioning unit, liquid- or air-cooled



Reliable control of **small and medium heat and humidity loads**

The unit is a direct expansion system with a compressor – **no cooling-water network is required**

Can be installed in electrical and machine rooms where water or brine connections are not permitted – **easy to connect to ducts**

Electrical and machine rooms

Machine rooms typically have a high heat load in relation to the humidity load and, with floor space being scarce, a cabinet unit is a good solution.

In addition, the Solid close-control air-conditioning solution can be installed in electrical rooms where water or brine connections are not permitted.

Laboratories, special facilities

Special facilities have strict requirements for both temperature and humidity. Because of this, Solid is available with numerous functions.

It can also be equipped with filters of a higher filtering class.

Versatile functions

The Solid close-control air-conditioning unit can be equipped with cooling, reheating, dehumidification and humidification functions, as required.

The possible heating methods are hot gas, electric and water-based. Both electrode and resistive steam humidifiers are available, with standard capacities of 5–13 kg/h.

Versatile supply and exhaust directions

The unit's frame design enables versatile supply and exhaust directions and the airflow can run both upwards and downwards in the machine. In addition, the machine can be connected to ducts or placed freely in the space.

Reliable choice

As a water-cooled system, the unit is easy to install and commission – all that needs to be done is to connect the condensate pipes and electricity supply. Refrigerant filling and test runs are performed at the factory.

Life cycle services

We look after our machines throughout their life cycles. The ServiceNext IoT service offers optimisation, documentation and maintenance in a single, reliable package.

Technical data

		20	30	40	50	60	75	90	110
Airflow rate, nominal	m ³ /h	1500	2000	3500	3500	3500	7000	7000	7000
Cooling capacity (24 °C/50% RH)	kW	7,0	13	15	20	25	30	40	49
Sensible cooling capacity (24 °C/50% RH)	kW	5,9	9,3	13	15	17	26	30	34
Cooling capacity (22 °C/50% RH)	kW	6,4	12	14	19	23	28	38	47
Sensible cooling capacity (22 °C/50% RH)	kW	5,6	8,9	13	15	17	25	29	34
Humidifier (optional – various options)									
Capacity	kg/h	8	8	8	8	8	15	15	15
Electrical power	kW	6,0	6,0	6,0	6,0	6,0	11,3	11,3	11,3
Electric heater, capacity (optional)	kW	2	2	3	3	3	6	6	6
Hot gas heater, capacity (optional) *		100 %	100 %	100 %	100 %	100 %	50 %	50 %	50 %
Number of fans	pcs	1	1	1	1	1	2	2	2
Number of compressors	pcs	1	1	1	1	1	2	2	2
Refrigerant		R407C	R407C	R407C	R407C	R407C	R407C	R407C	R407C
Power supply	V/Ph/Hz	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50	400/3/50
External max. pressure difference	Pa	150	150	150	150	150	150	150	150
Filter class, standard		EU4	EU4	EU4	EU4	EU4	EU4	EU4	EU4
Condensation capacity, max.	kW	8,2	16	18	24	30	35	47	59
Liquid temperature, design	°C	36/43	36/43	36/43	36/43	36/43	36/43	36/43	36/43
Liquid flow rate	l/s	0,3	0,5	0,6	0,8	1,0	1,2	1,6	2
Pressure drop of liquid flow	kPa	50	50	50	50	50	50	50	50
Width	mm	760	760	1010	1010	1010	1780	1780	1780
Depth	mm	730	730	730	730	730	730	730	730
Height	mm	1920	1920	1920	1920	1920	1920	1920	1920
Weight	kg	280	290	370	380	390	550	560	570
Liquid cooler (optional)									
Capacity (36/43 °C) @ 45 dB(A)	kW	12,1	19,8	35,0	47,0	69,1			
Capacity (36/43 °C) @ 55 dB(A)	kW	14,7	24,1	43,0	60,3	70,6			
Number of fans	pcs	1x EC	1x EC	1x EC	1x EC	2x EC			
Length	mm	968	968	1800	1800	2200			
Width	mm	968	968	1200	1200	1900			
Height	mm	739	739	1505	1505	1485			

* Percentage of the cooling capacity (at a condensation temperature of 40 °C)

Standard features

Compressor with fixed capacity control steps
 Speed-controlled fan
 Evaporator with a hydrophilic coating
 Electronic expansion valve
 Pressure-controlled water valve, 2-way
 Filter class EU4
 Airflow upwards or downwards
 Duct connections or free flow
 Fan speed control for the liquid cooler

Additional accessories

Hot gas reheater
 Hot water heater
 Electric heating (2-step/variable)
 Electrode humidifier 5 or 8 kg/h
 Resistive steam humidifier 6 or 13 kg/h
 Brine cooler
 Brine pump 'P3'
 Pressure-controlled water valve, 3-way
 External room temperature and humidity sensor

Base for the machine
 Connection for the supply air duct
 Filter class, for example, EU7 or EU9
 Filter guard (pressure difference measurement)
 Condensate pump
 Water pan
 Water leak alarm
 Sound shells for compressors
 Bus connection to the BMS (Modbus or BACnet)
 ServiceNext remote monitoring

Dimensions



Unit size	Length mm
20, 30	760
40, 50, 60	1010
75, 90, 110	1780

Diagram

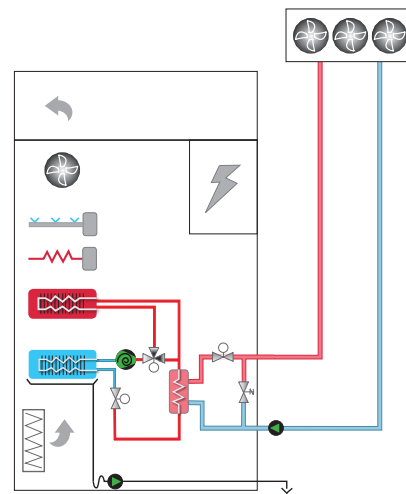


Figure: 1-circuit, liquid condensed
 Liquid- or air-cooled systems available for other flow designs
 Option selection program