

# Smart

Liquid-cooled close-control air-conditioning unit



Close-control air-conditioning unit  
Cooling capacity 5–130 kW



Data centres



Electrical and machine rooms



Laboratories/other special facilities

For the reliable cooling of large heat loads

Suitable also for medium heat loads in spaces with access to a cooling-water network

Compatible with cooling-water networks of varying temperatures, such as 7/12 and 10/18 °C

## Flexible and versatile

The Smart close-control air conditioner's modular structure enables several airflow directions. The airflow may be either upwards or downwards. In addition, the unit can be mounted on a raised floor, connected to a duct or placed freely in the space.

Smart can be selected for different temperatures and airflows. The sound level can also be used as a criterion in the selection of the machine.

The L series devices' technical solutions make them an ideal choice for small data centres and machine rooms. The XL series is optimised for the liquid temperatures in district cooling networks.

## Reliable

Units equipped with a dual refrigeration system can be connected to two separate cooling systems. Because of this, the unit's cooling function works even if one of the cooling networks is not in operation. One of the two refrigeration systems can be set to switch on automatically during disruptions. In these situations, for example, domestic water can be used for cooling.

## 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.

## Energy efficient and silent

The Smart close-control air conditioner is energy efficient. The units are always dimensioned based on project-specific water and air temperatures and airflows to ensure optimal results. EC fans reduce energy consumption by 10%.

The unit's sound levels are low. Its innovative frame design dampens sound.

## Technical data

Model		Smart S-series			Smart L-series			Smart XL-series		
		12 - 20	25 - 35	40 - 75	80 - 150	160 - 230	40 - 100	100 - 200	200 - 300	
Airflow rate, nominal		1 200	2 500	4 000	8 000	16 000	4 000	10 000	20 000	
m <sup>3</sup> /h		2 000	3 500	7 500	15 000	23 000	10 000	20 000	30 000	
m <sup>3</sup> /s		0,3 - 0,5	0,7 - 1,0	1,1 - 2,1	2,2 - 4,2	4,4 - 6,4	1,1 - 2,8	2,8 - 5,6	5,6 - 8,3	
Cooling capacity (7 / 12 °C)	kW	7,6 - 11,6	15 - 20	21 - 33	43 - 69	81 - 106				
Liquid flow rate (7 / 12 °C)	l/s	0,4 - 0,6	0,7 - 0,9	1,0 - 1,6	2,1 - 3,3	3,9 - 5,0				
Pressure drop of liquid flow	kPa	8 - 17	15 - 24	15 - 23	34 - 59	48 - 60				
Cooling capacity (10 / 18 °C)	kW	4,8 - 7,1	9,3 - 12				16 - 32	39 - 67	74 - 102	
Liquid flow rate (10 / 18 °C)	l/s	0,15 - 0,2	0,3 - 0,4				0,5 - 1,0	1,2 - 2,0	2,2 - 3,0	
Pressure drop of liquid flow	kPa	7 - 13	14 - 22				7 - 14	10 - 19	17 - 30	
Dimensions										
Height without plenum*	mm	1920	1920	1980	1980	1980				
Height with plenum*	mm	2420	2420	2465	2465	2465	2465	2465	2465	
Width	mm	760	1010	1110	1895	2680	1110	1895	2680	
Depth	mm	730	730	850	850	850	850	850	850	
Electrical data										
Power supply		400 V / 3 Ph / 50 Hz			400 V / 3 Ph / 50 Hz			400 V / 3 Ph / 50 Hz		
Cooling	kW	0,8	0,8	2,0	3,9	5,9	2,7	5,4	8,1	
	A	1,3	1,3	3,0	6,0	9,0	4,2	8,4	12,5	
Cooling + heating + humidification	kW	6,5	7,5	11,1	20,7	33,2	11,8	22,1	35,4	
With all additional accessories	A	12,4	15,4	16,2	30,2	48,5	17,4	32,5	52,0	

\* In S and L models, the need for a plenum depends on the air supply and exhaust direction. A plenum is required for the XL machines.

## Standard features

Fan control principles  
 constant speed  
 differential pressure control  
 constant pressure control  
 constant airflow control  
 external control  
 temperature control  
 2-way valves  
 EC fans  
 Filter class EU4

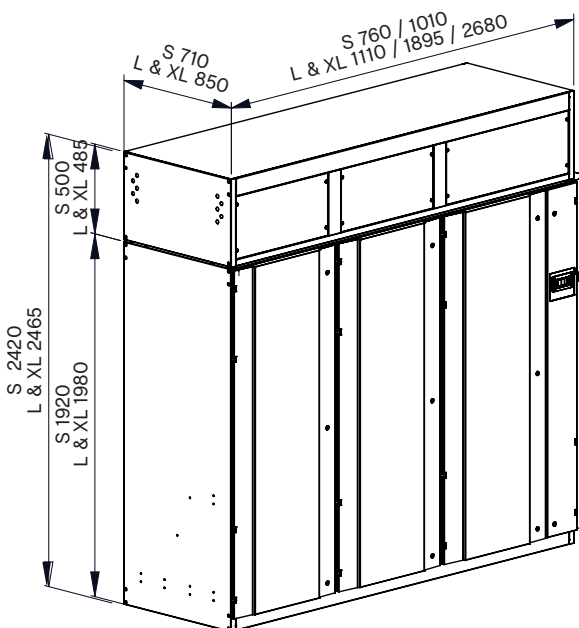
## Additional accessories

3-way valves  
 Humidifier, several capacities between 5 and 15 kg/h  
 Reheating, electrical resistor  
 Filter class EU7  
 Condensate pump  
 External condensate basin  
 Airflow damper  
 Base frame  
 Airflow outlet equipment: mesh, grille

Room temperature and humidity sensor, installed separately  
 Filter guard  
 Fire alarm  
 Water leak alarm  
 ServiceNext remote monitoring  
 Bus connections: Modbus RTU and Modbus TCP  
 Group control

## Dimensions

## Diagram



The picture shows a plenum on top of the machine. Depending on the exhaust and supply direction, a plenum is not required or it may be placed underneath the machine.

