

our pursuit. *your* potential.

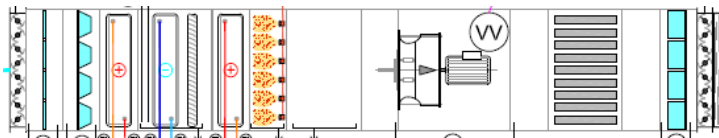
PEGASUS HVAC Design

Clean room HVAC systems

CURRENT DESIGN

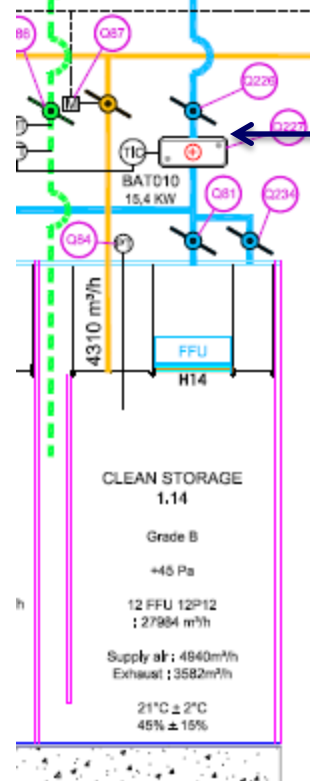
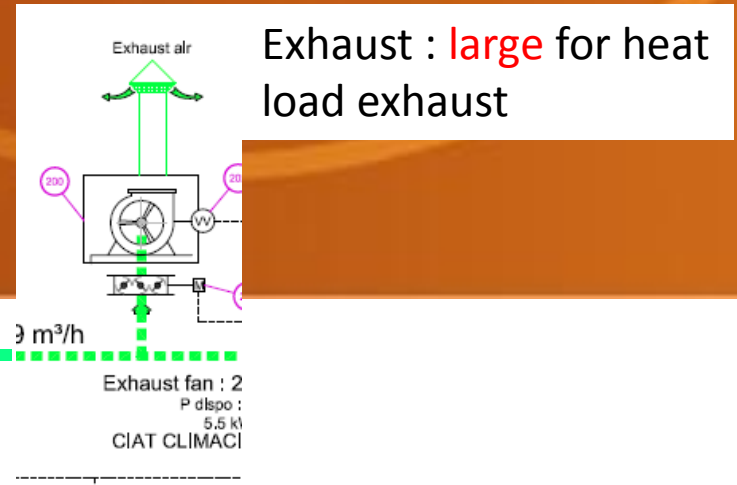
Winter Outside Temperature =	-12°C
Summer Outside Temperature =	34°C
Minimum Relative Humidity Outside - Winter =	90%
Maximum Relative Humidity Outside - Summer =	40%

Fresh air Air Handling Unit (AHU)



Supplies @ ~15°C

Fresh air :
Mini 10 Vol/h
 (+ where required)
 ⇒ Humidity
 ⇒ Heat Load
 ⇒ Overpressure



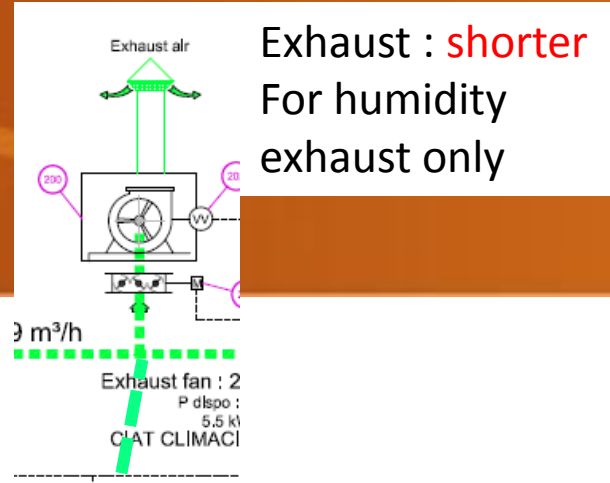
Heating coil :
 To control Temp when heat load is low in the room

Air change rate : Given by FFUs
 => Particulate class

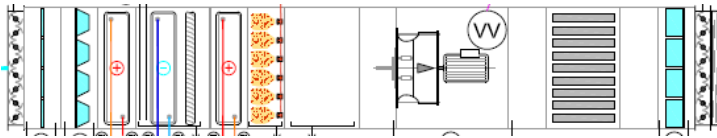
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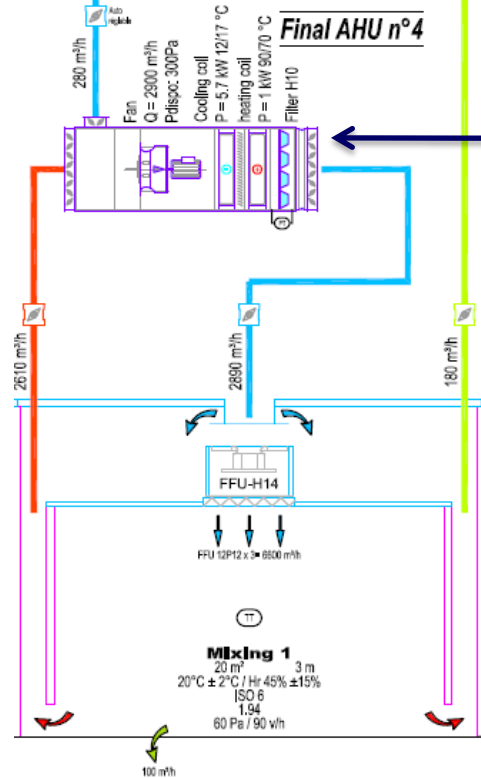


Fresh air Air Handling Unit (AHU)



Supplies @ ~15°C

Fresh air : 4 Vol/h
 ⇒ Humidity
 ⇒ Overpressure



Recycling unit = temp control

Air change rate : Given by FFUs
 => Particulate class (no change)

Offices HVAC design

Current	Pegasus
Heat pump reversible 2 pipes cassetts	VRD 3 pipes (recovery of heat/cooling when some places are requesting heat when others are requesting cooling)
RT2008 Isolation standards	RT2012 Isolation standards
Manual switches (zoning)	Presence sensors (light)
-	Night modes (T° / Light ...)

Energy usage projections

Base data								
	Zone	Surface (m ²)	Headcounts	Usage	T°	Hty	Fresh air m3	Heat load W
Current	SB ISO 7 & 8	91	5	24/24h	21°C	45%	2 297	6 000
	SB ISO 5 & 6	772,3	39	24/24h	21°C	45%	45 152	41 100
	Offices	237,16	24	8h-17h 7/7 days	22°C	NC	900	5 760
Pegasus	SB ISO 7 & 8	535,9	27	24/24h	20°C	45%	7 305	1 500
	SB ISO 5 & 6	569	29	24/24h	20°C	45%	20 030	21 000
	Offices	557,5	56	8h-17h 7/7 days	22°C	NC	2 505	13 440
ANALYSE DES CONSOMMATIONS								
Etat	Zone	Projections KWh/m2.y					Saving KWh/y	
Current	SB ISO 7 & 8	1236					-	
	SB ISO 5 & 6	2632						
	Offices	128						
Pegasus	SB ISO 7 & 8	728					272 237	
	SB ISO 5 & 6	1512					637280	
	Offices	77					28 433	
TOTAL						937 950		

Average 40% energy saving

~ 100 K€ / y