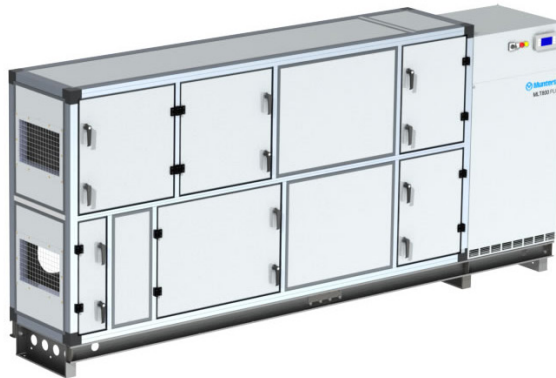


ML 1100 Plus System

Unit Submittal Data

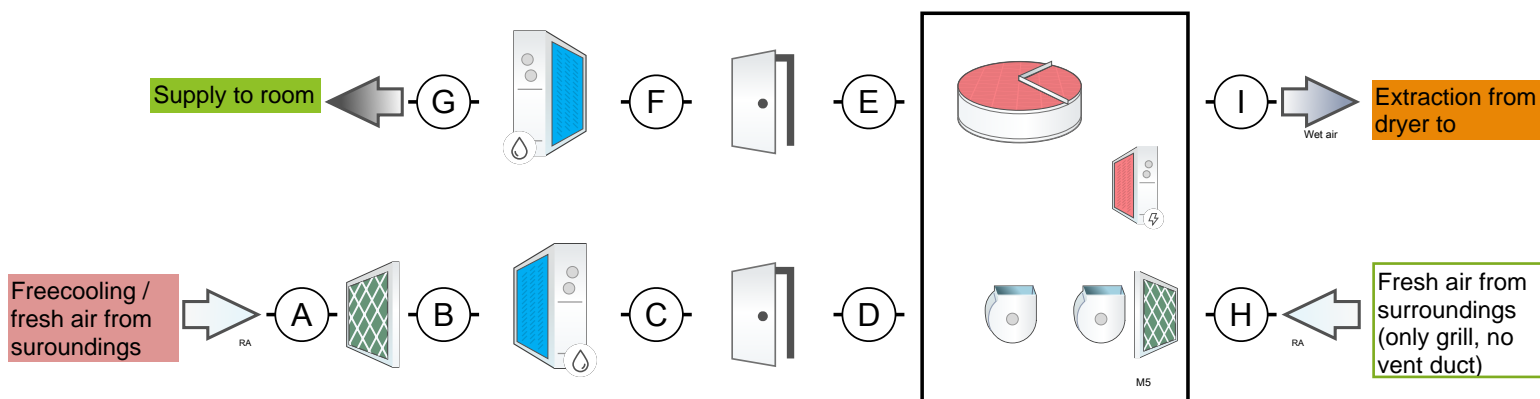


System name	ALT COOLING FINAL - ANTI - Lift out - ML1100+
Genesys No	G319979-2
Labels	Pfizer FFW
Prepared by	An Timmermans
Print date	07/03/2023 08:29:43
Program version	2023.3.1.37036

System Type ML 1100 Plus System
Plenum Code 0710
Genesys No G319979-2
Name ALT COOLING FINAL - ANTI - Lift out - ML1100+

Prepared by An Timmermans
Print date 07/03/2023
Labels Pfizer FFW

Flow diagram



Climate data location:Belgium, ANTWERP INTL 12 m / 1011.8 mbar

Summer

	A	B	C	D	E	F	G	H	I
Sm ³ /h	700	700	700	700	700	700	700	408	408
°C	25	25	6	6	32	32	4	25	48
dp°C	13.9	13.8	5.9	5.9	-26.9	-26.9	-26.9	13.9	24.6
% r.H.	50	50	99	99	1	1	6	50	28
Pa	0	-134	-181	-181	775	775	740	0	846

System capacities

Total Dehumidification 8.2 kg/h
Dehumidifier 4.8 kg/h
Cooling Coil 3.5 kg/h

Dehumidification @ maximum capacity

System utilities

System total rated power 12.8 kW
System rated current 20.2 A
Chilled Water 0.62 l/s

System Type ML 1100 Plus System
Plenum Code 0710

Prepared by
Print date

An Timmermans
07/03/2023

Project Summary

Number of systems 1
System configurations 1 x ALT COOLING FINAL - ANTI - Lift out - ML1100+ (G319979-2)

System

System arrangement	ML Plus System
DH Model	ML1100
React heater type	Electric
System airflow direction	Process left side
System voltage	400/3/50
System connection side	Back
Control system	Climatix
System weight	520.88 kg
Case number	0

Operating conditions

Operating temperature, minimum	-20.0 °C
Operating temperature, maximum	40.0 °C
Installation altitude, maximum	2000.00 m

Transport and Storage

Minimum temperature for transport and storage	-20.0 °C
Maximum temperature for transport and storage	70.0 °C
Packaging	Included

System Type	ML 1100 Plus System	Prepared by	An Timmermans
Plenum Code	0710	Print date	07/03/2023
Genesys No	G319979-2	Labels	Pfizer FFW
Name	ALT COOLING FINAL - ANTI - Lift out - ML1100+		

Technical data - Filter, pre-treatment

Casing

Door	Removable panel
Inspection side	Right

Panel filter

Panel Filter grade (EN 779)	M5
Panel filter part no.1	150-016847-001 (1pcs)
Panel filter size 1	395x595x48

Bag filter

Bag filter grade (EN 779)	without
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Design

Dirtyness % for design	50 %
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Options

Pressure indicator	Pressure Switch 50-500Pa QBM9903-5
Pressure indicator quantity	1

Panel filter

Panel filter pressure drop design	134 Pa
Panel filter pressure drop clean	17 Pa
Panel filter pressure drop dirty	250 Pa

Filter

Average face velocity	0.86 m/s
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Prepared by	An Timmermans
Print date	07/03/2023
Labels	Pfizer FFW

System Type	ML 1100 Plus System	Prepared by	An Timmermans
Plenum Code	0710	Print date	07/03/2023
Genesys No	G319979-2	Labels	Pfizer FFW
Name	ALT COOLING FINAL - ANTI - Lift out - ML1100+		

1 x Valve Actuator

Actuator	SIEMENS SAS61.03
Actuator voltage	24 V AC/DC
Actuator positioning voltage	0-10V DC

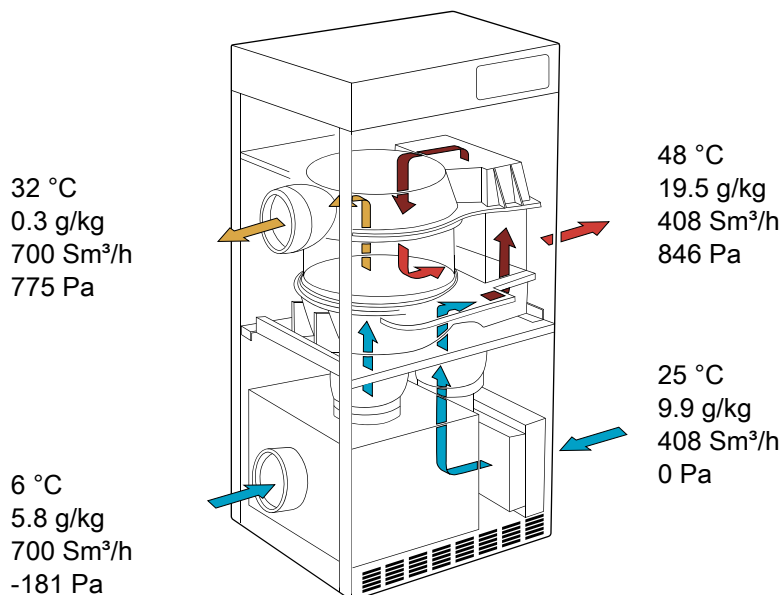
1 x Siphon Drainage, Non-Return Valve

Drainage valve	Water trap, non-return, under pressure
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System Type ML 1100 Plus System
Plenum Code 0710
Genesys No G319979-2
Name ALT COOLING FINAL - ANTI - Lift out - ML1100+

Prepared by An Timmermans
Print date 07/03/2023
Labels Pfizer FFW

Technical data - Dehumidifier



Dehumidifier

System arrangement	ML Plus System
Control system	Climatix
System voltage	400/3/50
DH Model	ML1100
Desiccant rotor type	Silica Gel Blocked Rotor Center
Material, Coated galvanised steel 1.0mm, painted outside	AluZink

React Heater

React heater type	Electric
-------------------	----------

React filter

React filter	M5
Reactivation filter size	520x310x45
Reactivation filter part no.	150-012355-001

Process filter

Process filter	Without
Process filter size	n/a
Process filter part no.	n/a

Options

Insulated process inlet	Yes
User Manual	GB

Weight

Weight	169 kg
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React Heater

Reactivation heater power	8.43 kW
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Process fan(s)

Fan grid power	0.47 kW
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React fan

Fan grid power	0.44 kW
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Dehumidifier

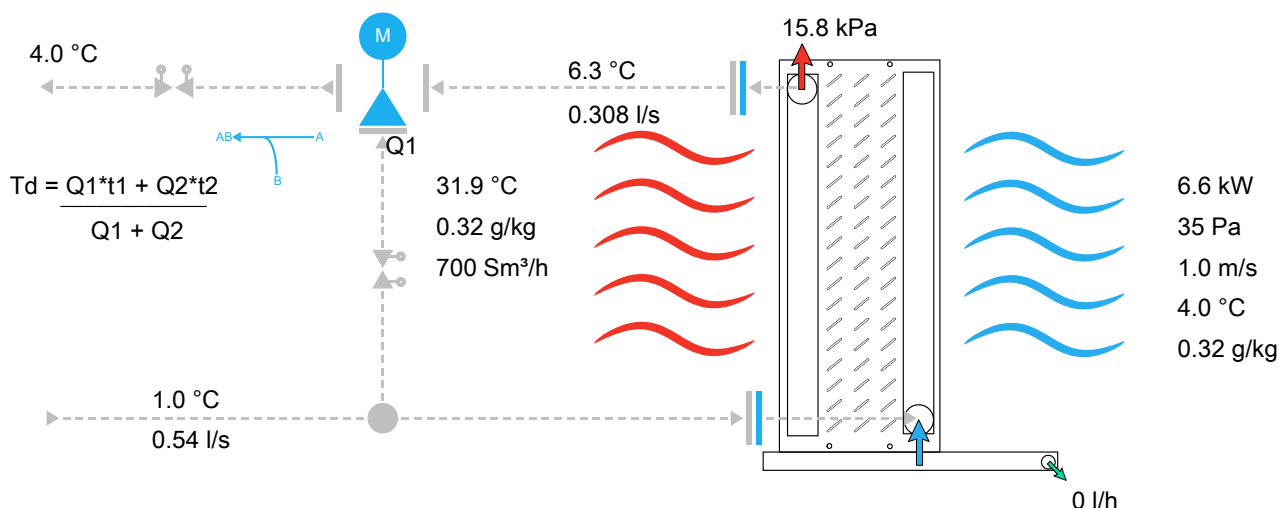
Component total rated electric power	12.75 kW
Component total rated electric current	20.20 A

System Type	ML 1100 Plus System	Prepared by	An Timmermans
Plenum Code	0710	Print date	07/03/2023
Genesys No	G319979-2	Labels	Pfizer FFW
Name	ALT COOLING FINAL - ANTI - Lift out -		
	MI 1100+		
Reactivation max power			11.10 kW

System Type ML 1100 Plus System
Plenum Code 0710
Genesys No G319979-2
Name ALT COOLING FINAL - ANTI - Lift out - ML1100+

Prepared by An Timmermans
Print date 07/03/2023
Labels Pfizer FFW

Technical data - Post cooler, Propylene glycol



Design

Cooling fluid temperature in 1.0 °C
Cooling fluid temperature out 4.0 °C

Coil casing

Connection side Right
Coil frame material FeZn 1.5 mm
Coil dimensions 502x685
Cooling coil fluid drainage Flat tray, Inox304

Tubes

Tube material Copper
Tube diameter 9.9mm (3/8")
Tube thickness 0.30 mm
Number of tube rows 10
Number of circuits 9

Fins

Fin material Aluminium
Fin spacing 3mm
Fin thickness 0.2 mm

Fluid

Fluid Propylene glycol
Cooling fluid antifreeze by weight 30 %
Coil fluid Pipe Connection Size DN 50
Fluid volume 12 L

Accessories

Coil Flanges Threaded flanges PN16
Frost Protection None
Droplet eliminator No
Mist eliminator frame None

1 x Valve, Post cooler, Propylene glycol

Fluid valve type 3-WAY, VXG44.15-2.5
Valve fittings Brass
Coil fluid Pipe Connection Size DN 50
Valve, pipe side Rp ½ "
Valve connection, valve side G 1 "

System Type	ML 1100 Plus System	Prepared by	An Timmermans
Plenum Code	0710	Print date	07/03/2023
Genesys No	G319979-2	Labels	Pfizer FFW
Name	ALT COOLING FINAL - ANTI - Lift out - ML1100+		

1 x Valve Actuator

Actuator	SIEMENS SAS61.03
Actuator voltage	24 V AC/DC
Actuator positioning voltage	0-10V DC

1 x Siphon Drainage, Non-Return Valve

Drainage valve	Water trap, non-return, overpressure
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System Type	ML 1100 Plus System	Prepared by	An Timmermans
Plenum Code	0710	Print date	07/03/2023
Genesys No	G319979-2	Labels	Pfizer FFW
Name	ALT COOLING FINAL - ANTI - Lift out - ML1100+		

Technical data - Control system

System arrangement

System arrangement	ML Plus System
--------------------	----------------

Control system

Control system	Climatix
HMI	Magnetic Text Display
Communications protocols	Modbus TCP/IP
Munters Connected Climate®	No

Humidity control

Humidity transmitter	Dew Point Sensor
Humidity transmitter control	Dew Point
Sensor 2	No
Sensor 3	No
Sensor 4	No
Temperature sensor	PT1000
Temperature sensor	PT1000

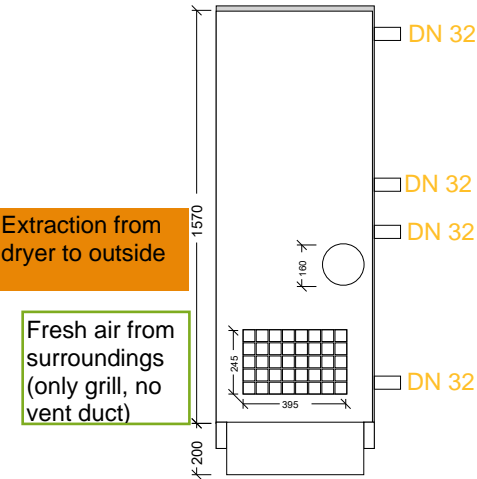
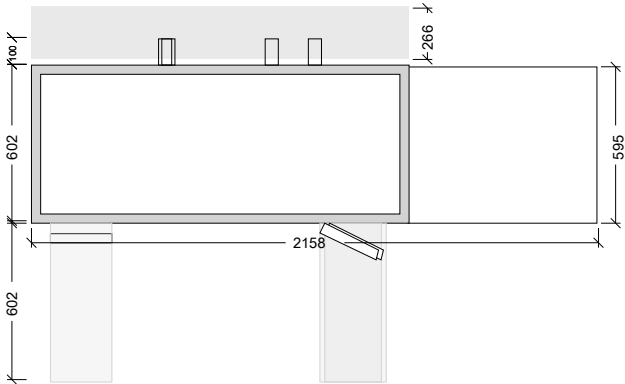
Options

External Control	No
External temperature setpoint	No
CO2 Sensor	No
CO2 damper output	No
Floating dew point control	No
Re-transmission control	No
Re-transmission signal	No
Re-transmission control nr.2	No
Re-transmission signal nr.2	No

System

Process pretreatment temp sensor	PT1000
Limitation temp sensor	PT1000

Preliminary sketch



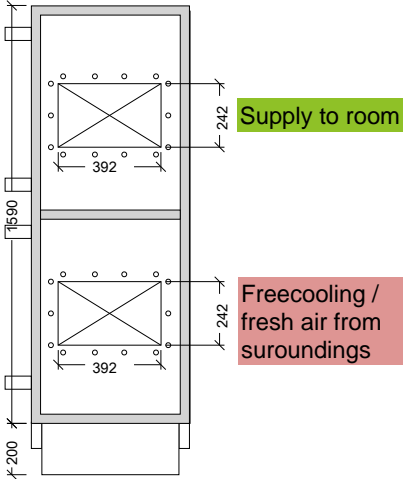
Supply to room

Freecooling / fresh air from surroundings



Extraction from dryer to

Fresh air from surroundings (only grill, no vent duct)



- 1 - Filter, pre-treatment
- 2 - Precooler, Propylene glycol
- 3 - Section, Empty/Access
- 4 - Dehumidifier
- 5 - Section, Empty/Access
- 6 - Post cooler, Propylene glycol

System weight
B1 521 kg
L 521 kg

System name
ALT COOLING FINAL - ANTI - Lift out - ML1100+

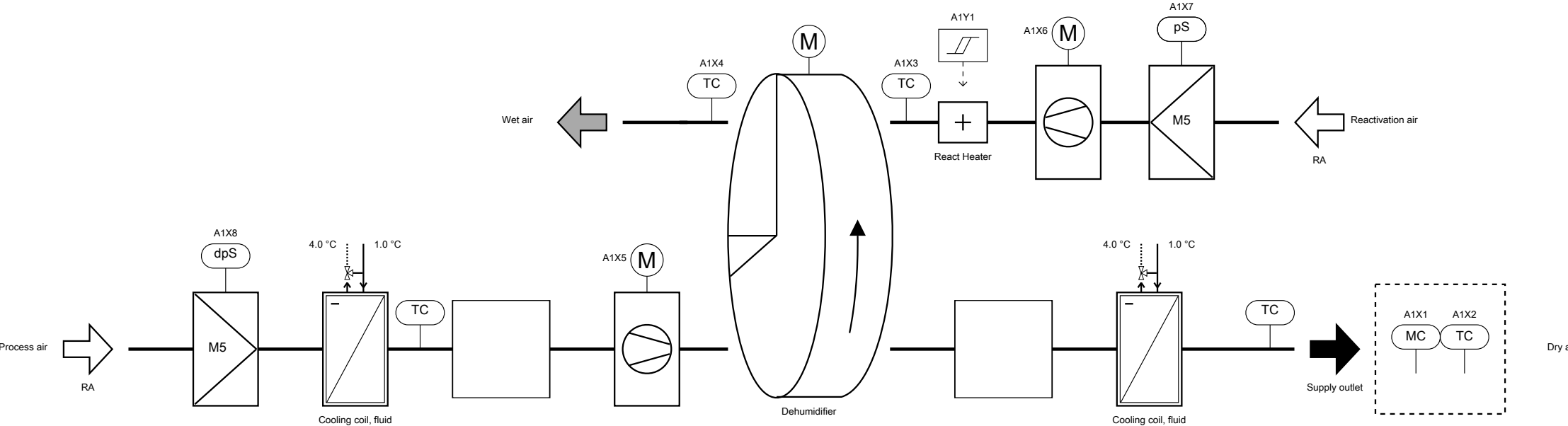
Tolerances, if not indicated, according to
160-010266-001

Preliminary sketch (not to scale)



Design by
An Timmermans

Genesys No
G319979-2



System	
System arrangement	ML Plus System
Process pretreatment temp sensor	PT1000
Limitation temp sensor	PT1000
Precooler	Yes
Preheater	No
Post-treatment is present	Yes
Humidifier present	No
Post cooler or heater present	Yes
Control system	
Control system	Climatix
HMI	Magnetic Text Display
Communications protocols	Modbus TCP/IP

Humidity sensor	
Humidity transmitter	Dew Point Sensor
Humidity transmitter control	Dew Point

Main selections	
Remote start/stop	Yes
External control	No
External Control	Yes
External temperature setpoint	Yes

Sensor	
CO2 Sensor	
Floating dew point control	

Yes	System name	
No	ALT COOLING FINAL - ANTI - Lift out - ML1100+	
No	Tolerances, if not indicated, according to	
No	160-010266-001	
No	P&ID	
No	Munters	
No	Design by	
No	An Timmermans	
No	Genesys No	
No	G319979-2	