Air handling unit "Aeromaster"

Sales Order Number:
(PO / OD):

Type and size:

Position:

For example XP 06; Cirrus 84

The serial number of the control unit:

Designation of HVAC equipment according to specifications (by the execution):

If Remak control (VCS) is not used, fill in "without VCS control"

Name of contract:

Air handling unit with fan power control in five stages

Commissioning   Operating service

Check the box to indicate the type of work to be performed

1. Connection of main electrical supply, phasing, control of main switch

Cable:

Fusing:

Connected from switchboard:

Yes / No

Check the power switch function — Without defects

2. Checking the connection of the HMI control module to the controller — Without defects

3. Checking input circuit functions, temperature measurement, Modbus communication

Temperature measurment — Without defects

With the HMI-SG press the button ✓ , scroll through "+" "-" buttons, press to end 🏠

Digital inputs — Without defects

Modbus communication — Without defects

4. Connect the air handling unit heater

Outdoor temperature at the time of execution of works: _____ °C

4.1. Hot water heater

Heating water parameters: (actual when commissioning) _____ °C

Operating pressure of heating system: _____ kPa

Yes / No

Valve actuator connection at SUMX

Bleeding the heater — Done — Yes / No

Connection of circulation pump in SUMX

Bleeding the circulating pump — Done

4.2. Electric heater

Power: _____ kW   Fusing: _____ A

Electric heater control mode:

Working current: _____ A

Switching the section [ ] PWM [ ] ON / OFF

Yes / No

5. Inspection of flexible cuffs for air duct connection — Done

Yes / No

6. Check the seal of the service panels and doors of the unit chambers — Done

7.Checking the fan chambers

Frekquency inverters		EC motors		Yes / No

Check mechanical assembly of the fan supply air, silentblocks check — Without defects

Check mechanical assembly of the fan exhaust air, silentblocks check — Without defects

Air supply fan — Power……….W, 50Hz, Voltage…….V, Speed ……………../min, Current…..A

Fill in the data read from the motor nameplate

Fill in the following data only when controlling the fans with frequency inverters:

Yes / No

Check the Modbus signal control settings	Parameter 8-01=2	Set
	Parameter 8-02=1	Set
	Parameter 8-30=2	Set

Working Frequency: ………. Hz   Communication address: Yes / No

Parameter 8-31=1 Set

Communication address of the second fan (for Cirruss units): Yes / No

Parameter 8-31=2 Set

Minimum Frequency: 20 Hz   Ramp run up time   Parameter 3-41: ……… sec

Maximum Frequency: ………. Hz   Ramp run down time: Parameter 3-42: ……… sec

Air exhaust fan — Power……….W, 50Hz, Voltage…….V, Speed ……………../min, Current…..A

Fill in the data read from the motor nameplate

Fill in the following data only when controlling the fans with frequency inverters:

Yes / No

Check the Modbus signal control settings	Parameter 8-01=2	Set
	Parameter 8-02=1	Set
	Parameter 8-30=2	Set

Working Frequency: ………. Hz   Communication address: Yes / No

Parameter 8-31=5 Set

Communication address of the second fan (for Cirruss units): Yes / No

Parameter 8-31=6 Set

Minimum Frequency: 20 Hz   Ramp run up time   Parameter 3-41: ……… sec

Maximum Frequency: ………. Hz   Ramp run down time: Parameter 3-42: ……… sec

8. Setting the power stages of the fans

					Yes / No
				Set	

Power supply fan			Data point	Power exhaust fan		Data point
1st stage		%	141		%	151
2nd stage		%	143		%	153
3rd stage		%	145		%	155
4th stage		%	147		%	157
5th stage		%	149		%	159

Yes / No

Set

9. The Direction of Rotation of Fans

Should be taken of the increase of caution.

Attention to the open fan of the chamber!!! Fan leave only divaricate, not get off the ground at full power!!!

Use the local HMI to perform a short start of the unit:

HMI-TM,DM: Main Menu / Settings / Manual Mode / Comfort St.1.; HMI-SG: Briefly press button T1 ⏻

Supply fan		Exhaust fan	

Check the correct direction of rotation of the impeller by confirming "Correct" in the appropriate box

After the check, switch off the unit:

HMI-TM, DM: Main menu / settings / manual mode / STOP; HMI-SG: Briefly press button T1 ⏻

10. Checking the rotary heat exchanger, setting the parameters for controlling the heat exchanger motor.

This check is performed when the rotary heat exchanger is integrated into the air handling unit assembly.

Yes / No

Checking the mechanical assembly and connection to the relevant chambers	Without defects	
Checking the tilt indicator	Without defects	
Checking the mechanical bearing and rotation of the heat exchanger exchanger	Without defects	
Checking the heat exchanger drive belt	Without defects	

<u>Check the setting frequency inverter and the drive function of the heat exchanger</u>

Transmission drive

> Power……….W, 50Hz, Voltage…….V, Speed ………………/min, Current…..A

Fill in the data read from the motor nameplate

Yes / No

Check the Modbus signal control settings	Parameter 8-01=2	Set	
	Parameter 8-02=1	Set	
	Parameter 8-30=2	Set	
	Communication address:	Set	
	Parameter 8-31=11		

Working Frequency: ……….. Hz

Depending on the gearbox used, 50Hz or 85Hz

Yes / No

Set

	Ramp run up time	Parameter 3-41: 30 sec

Minimum Frequency: 18 Hz

Yes / No

Set

	Ramp run up time	Parameter 3-42: 30 sec

Maximum Frequency: ……….. Hz

Depending on the gearbox used, 50Hz or 85Hz

11. Checking and adjusting the unit:

11.1- Off   Unit turn Off from HMI: Data point HMI-SG: 125=1

Achieved statues			Unit Off	Check
○	Air supply damper	Closed	0%	
○	Air exhaust damper	Closed	0%	
○	Air mixing damper	Open	100%	
○	The damper of By-Passing the recuperator	Open	100%	
	common shaft (the opposite direction)	Closed	0%	
○	Heater circulation pump	Current state:	* 1)	
○	Electric heater	Off	0%	
○	Control valve heating	Current state:	* 1)	
○	Integrated cooling	Off	0%	
	Heat pump			
○	Fans	Off	0%	

* 1) Circulation heater pump and SUMX control valve position automatically controlled by active frost protection

Yes / No

11.2 The direction of rotation of compressors | Done | |

In the control unit, activate the cooling circuit / heat pump.

Compressor 1		Compressor 2	

Check the correct operation of the compressor confirm record "correctly" in the appropriate box

12. PLC Parameterization for a given application.

12.1. Damper adjustment with activated air mixing function

Yes / No

Main menu/Settings/Control Parameters/Sequence/Mixing | Set | |

		Data point

Mixing	1/8
MinFreshAir	55%
MixDampTempFullOp	15,0°C
MixDampTmFullOp	60s
ValueOfMixing	0%

Set value:

Minimum fresh air:	.... %	484
Opening temperature setting:	.... °C	486
The activation time opening:	.... sec	488

12.2. Setting limit for supply air temperature:

Yes / No | Set | |

			Data point
Minimum supply air temperature		°C	194
Maximum exhaust air temperature		°C	195
Maximum deviation between room and inlet air temperature		°C	121
Minimum deviation between room and inlet air temperature		°C	123

12.3. Enable air cooling circuit, heat pump operation

Yes / No | Set | |

Blocking from the outside temperature:

			Data point
Temperature for heating mode:		°C	365
Temperature for cooling mode:		°C	378

12.4 Set the time schedules   Yes / No

Set	

Set the schedules according to user requirements

12.5 Set the required temperature: Yes / No

Set	

Operation mode		Temperature	HMI-SG data point
Full operatin "Comfort"	Heating	°C	103
Full operation "Comfort"	Cooling	°C	101
Mufled operation "Economic"	Heating	°C	107
Mufled operation "Economic"	Cooling	°C	105

12.6 Set the required humidity: Yes / No

Set	

Operation mode	Humidity	HMI-SG data point
Full operatin "Comfort"	%	531
Mufled operation "Economic"	%	535

Yes / No

Set	

13. Set the filter clogging sensors:

Air supply (1st stage of	Pa	Air supply (2nd stage of filtration)	Pa	Exhaust air	Pa

14. Other settings made:

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~~To check the operation of the unit, switch the "Comfort" / "Economy" mode and set~~ the fan power in stages 1, 2, 3, 4, 5.
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15. Checking the protection circuits of the unit   Yes / No

Frost protection of the water heater / protection of the electric heater	Without defects	
Low pressure circuit protection of the heat pump / cooling	Without defects	
High pressure circuit protection of the heat pump / cooling	Without defects	
Circuit protection winding motor supply fan	Without defects	
Circuit protection winding motor exhaust fan	Without defects	

Yes / No

16. Test operation of the unit in "Comfort" and "Economy" modes

Done	

Prior to the start of these work, it is necessary to check clearing the chambers, to close all the service panels!

To check the operation of the unit, switch the "Comfort" / "Economy" mode and set the fan power

in stages 1, 2, 3, 4, 5.

17. Testing the operation of the unit in the "Auto" mode

Yes / No

| Done | |

Air supply fan

Parameters read in the control unit

Fan speed

Stage:

Air flow m³/hod

% of power signal in VCS

Parameters read in the frequency inverter

Frequency / Hz   Power / W   Current / A

Air exhaust fan

Parameters read in the control unit

Fan speed

Stage:

Air flow m³/hod

% of power signal in VCS

Parameters read in the frequency inverter

Frequency / Hz   Power / W   Current / A

Achieved parametres of the microclimate of the ventilated space

Air temperature in the room (in the exhaust duct)   Air humidity in the room (in the exhaust duct)

°C   %

Yes / No

Check of the switching unit operation according to schedule	Without defects	
Compliance with the limit set air temperature	Without defects	
Verify the correct function of the additional function for VCS	Without defects	
Switch off the unit by "Fire" signal	Without defects	
Switch off the unit by remote control	Without defects	

Yes / No

18. Check the integrated cooling circuit, the heat pump circuit

| Without defects | |

Aggregat: **Type of complette aggregate:**

Serial number: ……………………………………

Heat pump / cooling circuit operation

Low refrigerant pressure   Bar   High refrigerant pressure   Bar

Compressor 1

Indicate the type of compressor installed

Working current compressor   A

Compressor 2

Indicate the type of compressor installed

Working current compressor   A

The amount of refrigeration   kg   Used refrigerant

Yes / No

Checking functions injection valve Refrigerants: | Functional | |

Additional information on cooling circuits, condensing units, etc.:

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19. Check the condensate drain function from the unit

	Yes / No	Note / Comment:
Installation of siphons	Without deffects	....
Filling siphons with water	Without deffects	....
Proper function of siphons	Without deffects	

20. Notes technician

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21. Next steps / planned repairs

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22. Client's statement / comments

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Work performed	**Date**	**The deliveries and work took over:**
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