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General instructions

1. The technical solutions accepted in the project comply with the requirements of environmental safety, sanitary, fire and other standards and rules.

2. The project has been developed on the basis of technical specification, tecnology, architectural drawings issued by the Customer.

3. HVAC system has been designed according the following standards:

- ASHRAE 170-2017;
- SP 158.13330.2014 "Buildings and rooms for health care facilities. Design rules";
- SP 60.13330.2012 "Heating, ventilation and conditioning";
- PN 01.05-08 "Construction climatology";

4. The following ventilation systems has been designed in the project:

AHU-1.1 – supply/return ventilation system of Sterilization, Sterile materials rooms, Medicament storage and storage of expensive raw materials. AHUs location is outside in place provided by the Client. Ventilation with steam humidification. Class of filtration – G4+F7+F9. Final HEPA filters installed inside in clean rooms, by diffusers for clean rooms;

In Sterilization above autoclaves installed exhaust hoods, to avoid steam dissipation. Discharge air of hoods above roof.

AHU-1.2 – supply/return ventilation system of other rooms Sterilization and medicament and offices area. AHUs location is outside in place provided by the Client. Ventilation with plate heat recovery. Class of filtration – G4+F7+F9.

AHU-2.1 – supply/return ventilation system of Operating and other clean rooms of Endoscopy. AHUs location is outside in place provided by the Client. Ventilation with steam humidification and recirculation. Class of filtration – G4+F7+F9. Final HEPA filters installed inside in clean rooms, by diffusers for clean rooms;

AHU-2.2 – supply/return ventilation system of other rooms Endoscopy area. AHUs location is outside in place provided by the Client. Ventilation with plate heat recovery. Class of filtration – G4+F7+F9.

AHU-3.1..3.4 – supply/return ventilation system of Operating and other clean rooms of Ophthalmology area. AHUs location is outside in place provided by the Client. Ventilation with steam humidification and recirculation. Class of filtration – G4+F7+F9. Final HEPA filters installed inside in clean rooms, by diffusers for clean rooms. Return ventilation from top and bottom parts of operating rooms (40% exhaust from top part of room, 60% from bottom part of room);

Parameters of outside air

	For heatgains calculations	For heaflosses calculations	For ventilation (summer time)	For ventilation (winter time)
Temperature °C	+35	-8	+38	-8
Rel. humidity %	-	-	30	70

AHU-3.5 – supply/return ventilation system of other rooms Ophthalmology area. AHUs location is outside in place provided by the Client. Ventilation with plate heat recovery. Class of filtration – G4+F7+F9.

AHU-4.1 – supply/return ventilation system of Catlab laboratory. AHUs location is outside in place provided by the Client. Ventilation with steam humidification and recirculation. Class of filtration – G4+F7+F9. Final HEPA filters installed inside in clean rooms, by diffusers for clean rooms. Return ventilation from top and bottom parts of operating rooms (40% exhaust from top part of room, 60% from bottom part of room);

AHU-4.2 – supply/return ventilation system of other rooms Catlab area. AHUs location is outside in place provided by the Client. Ventilation with plate heat recovery. Class of filtration – G4+F7+F9.

TEFs – exhaust ventilation systems of toilets. Air discharge to facade.

EF1.1 – exhaust ventilation systems of morgue. Air discharge above roof.

EF1.4 – exhaust ventilation systems of citoxic liquid preparation rooms. Air discharge above roof.

EF1.5 – exhaust ventilation systems of hoods in sterilization. Air discharge above roof.

EF1.7...EF1.8 – exhaust ventilation systems of exhaust hume hoods of citoxic liquid preparation rooms. Air discharge above roof.

EF2.1 – exhaust ventilation systems of dirty utility, temporary waste, janitor room in Endoscopy area. Air discharge above roof.

EF3.2 – exhaust ventilation systems of utility soiled, janitor room in Ophthalmology area. Air discharge above roof.

EF4.2 – exhaust ventilation systems of utility soiled, janitor room in Catlab area. Air discharge above roof.

5. Air intake from place of AHUs locations.

6. Air discharge of exhaust systems in the facade and at the roof.

End of outside ducts must be equipped by birdscreen mesh with size not smaller than 13mm.

7. Material of ductworks:

Galvanized steel sheet with thickness:

Round ducts till Ø450 mm – 0,6 mm;

Round ducts Ø500-Ø800 mm – 0,7 mm;

Rectangular ducts with size of bigger side 300-1000 mm – 0,7 mm;

8. Ducts and fittings of supply systems shall be covered by elastomeric rubber insulation with thickness:

Supply air ducts of AHU – 9 mm;

Supply ducts of split indoor unit – 13 mm;

9. Connection of plenum-boxes – flexible ducts;

10. Domestic water supply, water supply of steam humidificators, electrical supply, dranaige, control systems of HVAC systems is not scope of the project;

11. Heating and cooling system with ventilation combined with heating, VRF and split systems, electrical radiators.

11. Source of AHUs heating supply is electricity due to boiler room existed and not possible to connect new systems to existed boiler room.

12. Source of AHUs cooling supply are chiller #1 and chiller #2. Location of chillers near AHUs in place of locations provided by the Client.

PROJECT CLIENT:
ՊՆԵՐՈՐԴ:
REGISTERED ADDRESS:
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NOTES

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