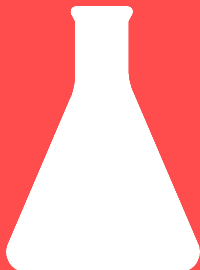


Room Data Sheets



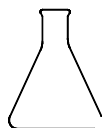
*Research Laboratory
NIH Design Policy and Guidelines*

E.1 Lab Room Data Sheets Table of Contents

The following data sheets provide detailed specifications for the architectural, mechanical, electrical, telecommunications, and special requirements for specific laboratory room types.

LAB ROOMS

L.1	Typical Laboratory
L.2	BL3 Module
L.3	Equipment Room
L.4	Tissue Culture Lab
L.5	Darkroom
L.6	Radioisotope Laboratory
L.7	Electron Microscope Room
L.8	Laser Room
L.9	Magnetic Resonance Imaging Room
L.10	X-Ray Crystallography Room
L.11	Mass Spectrometry Room
L.12	Autoclave Room
L.13	Standard Ice Support Room
L.14	Cold Room (Storage)
L.15	Cold Room (Chromatography)
L.16	Warm Room
L.17	Glassware Washing
L.18	Chemical Storage
L.19	Flammable Liquid Storage
L.20	General Laboratory Storage



E.2 General

These data sheets should be used as guides and references. Final laboratory layouts must be developed with the users and their research requirements. Specific criteria and requirements should be verified by the project team with the NIH, local, state, and federal regulatory agencies. For other abbreviations see section F Appendix.

General Abbreviations:

AFF Above Finished Floor
BSC Biological Safety cabinet

Architectural Abbreviations:

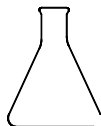
ACT Lay-in acoustical ceiling tile
ACT-2 Lay-in acoustical tile with mylar protective finish
AFF Above finished floor
CMU Concrete masonry unit
CPT Carpet
CT Ceramic tile
ET Epoxy terrazo
GW Gypsum wallboard (with paint type not specified)
IR Integral resinous epoxy base
IV Integral sheet vinyl
PL Plastic laminate
R Resilient base (vinyl with cove base is acceptable)
RE Resinous epoxy
SS Stainless steel
SV Sheet vinyl
U/C Under-counter
VCT Vinyl composition tile
VWF Vinyl wall covering

Electrical Abbreviations:

GFI Ground fault interpreter
LAN Local area <computer> network
lx Lux
V Volts
A Amps

Mechanical Abbreviations:

°C Celsius
% Percentage
Sum Summer
Win Winter
L/s Liters per second



Typical Laboratory

L.1

ARCHITECTURAL:

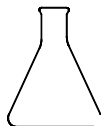
Finishes - Walls	GW
Base	IV
Floor	SV / VCT
Ceiling	ACT
Countertops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm (Active 900 mm leaf) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	Yes

Architectural Notes: Locate desks near windows.
Locate fume hoods away from the primary exit.
Provide secondary exits.
Provide shelving as required.

MECHANICAL:

Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure independent terminal unit for supply duct connections.



PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Gases	Yes		

Plumbing Notes: Provide one set of laboratory gas services including laboratory air, laboratory vacuum and gas on each laboratory bench.
Provide lab hot water, lab cold water, reverse osmosis water, and an eyewash at each main lab sink.
Provide lab air, lab vacuum, gas, and lab cold water at each chemical fume hood.
Provide lab cold water at cupsink locations.

ELECTRICAL:

Ambient Illum (lx)	800 - 1100
Task Illum (lx)	1100

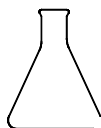
Electrical Notes: Mount normal 120V duplex outlets in the surface metal raceway at 600 mm on center at laboratory benches.
Mount normal 120V duplex outlets in the surface metal raceway at 600 mm on center at equipment spaces.
Provide selected 120V duplex receptacles on emergency power in the equipment spaces.
Provide one normal 208V, 30A, single-phase outlet per laboratory module in the equipment spaces.
Provide one light fixture on emergency with one light switch per lab.

COMMUNICATION:

Telephone
Provide a telephone near the door
LAN

SPECIAL REQUIREMENTS:

Chemical fume hood
Drench shower
Eye-wash
Automatic sprinklers
Eyewash and safety shower
Flammable liquid storage cabinet
Containment devices located so as not to block egress, entrap or pose safety hazard to occupant
Signage for radioactive uses and/or storage



Note: The following additional requirements are for specific laboratory types.

Molecular Biology

One 120V outlet per 600 mm is required. Dry and liquid storage with radioactive shielding is required.

Cell Biology

Low-bench knee-hole for microscope and drawers for pipettes near the BSC are required. Shelving, not exceeding 2250 mm high, for storage of plastic ware is needed.

Organic Chemistry

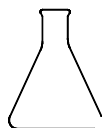
Piped services may include lab and filtered water, industrial cold and hot water, steam, waste vents, carbon dioxide (CO₂).

Physical Chemistry

Services may include lab and filtered water, cooling water, industrial cold and hot water, steam, waste vents, carbon dioxide (CO₂), nitrogen, vacuum, compressed air, high-pressure air, natural gas, telephone, local area network, and power.

Electrophysiology/Biophysics

Services may include lab and filtered water, industrial cold and hot water, waste vents, carbon dioxide (CO₂), local nitrogen, vacuum, high-pressure compressed air, natural gas, telephone, local area network, and clean power and grounding.



BL3 Laboratory L.2

ARCHITECTURAL:

Finishes - Walls	GW
Base	IV
Floor	SV
Ceiling	GWB
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm (Active 900 mm leaf) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	Yes

Architectural Notes: Locate desks near windows.
Locate fume hoods away from the primary exit.
Provide secondary exits.
Windows are sealed.

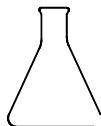
MECHANICAL:

Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply duct connections. Exhaust shall be individually discharged and filtered as required by CDC/NIH Guidelines.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	No	Floor Drain	Yes
Steam	Yes	Condensate	Yes
Gases	Yes		



Plumbing Notes: Provide one set of laboratory gas services including laboratory air, laboratory vacuum and gas on each laboratory bench.
Provide lab hot water, lab cold water, reverse osmosis water, and an eyewash at each main lab sink.
Provide lab air, lab vacuum, gas, and lab cold water at each chemical fume hood.
Provide lab cold water at cupsink locations.
Provide services for autoclave.
Lab vacuum shall be filtered as defined by CDC/NIH Guidelines.

ELECTRICAL:

Ambient Illum (lx) 800 - 1100
Task Illum (lx) 1100

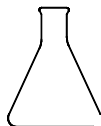
Electrical Notes: Mount normal 120V duplex outlets in the surface metal raceway at 600 mm on center at equipment spaces.
Provide selected 120V duplex receptacles on emergency power in the equipment spaces.
Provide one normal 208V, 30A, single-phase outlet per laboratory module in the equipment spaces.
Provide one light fixture on emergency with one light switch per lab.
Seal conduits penetrating space gasketed or clean room lighting fixtures may be required.

COMMUNICATIONS:

Telephone
Provide a telephone near the door
LAN
Room should be monitored for temperature, air changes, and space pressure.

SPECIAL REQUIREMENTS:

Chemical Fume Hood
Drench Shower
Eye Wash
Automatic Sprinklers
Autoclave



Equipment Room

L.3

ARCHITECTURAL:

Finishes - Walls GW
 Base R
 Floor VCT
 Ceiling ACT
Ceiling Height 2850 mm
Door Width 1200 mm (900 mm Secondary Exit)
Vision Panel in Door Yes

Architectural Notes: Provide durable surfaces and sufficient access for large equipment.

MECHANICAL:

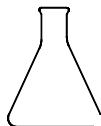
Room Pressure Negative
Temperature °C 23
Relative Hum (%) Sum 50 ±5 Win 40 ±10
Exhaust Air Yes
Return Air No
Filtration (%) 30,90

Mechanical Notes: Freezers have temperature alarms requiring interface with the building control system.

PLUMBING:

Cold Water	No	Hot Water	No
Pure Water	No	Chilled Water	No
Waste/Vent	No	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.



ELECTRICAL:

Ambient Illum (lx) 325-525

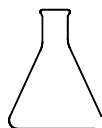
Electrical Notes: Mount normal 120V duplex outlets in the wall at 450 mm AFF.
Lab equipment power shall come from electrical panelboards surface mounted in the service corridor.

COMMUNICATION:

Provide wall-mounted phone near door
Some equipment may require remote alarms.

SPECIAL REQUIREMENTS:

Base Cabinets
Wall Cabinets
Counter Top-Epoxy Resin
Pegboard at Each Lab Sink
Automatic Sprinklers



ARCHITECTURAL:

Finishes - Walls	GW
Base	IV
Floor	SV
Ceiling	GW or ACT-2
Ceiling Height	2850 mm
Door Width	1200 mm
Vision Panel in Door	Yes

Architectural Notes: None

MECHANICAL:

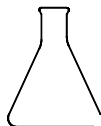
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each lab and a pressure independent terminal unit for supply and exhaust duct connections. BSCs shall be connected to the laboratory exhaust system as directed by Division of Safety.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No		
Condensate	No		

Plumbing Notes: Provide one set of laboratory gas services including laboratory air, laboratory vacuum, and gas on each laboratory bench.
Provide lab hot water, lab cold water, reverse osmosis water, and an eyewash at each main lab sink.
Provide lab air, lab vacuum, gas, and lab cold water at each BSC.
Provide lab cold water at cupsink locations.



ELECTRICAL:

Ambient Illum (lx) 800 - 1100
Task Illum (lx) 1100

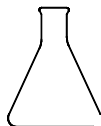
Electrical Notes: Mount normal 120V duplex outlets in the surface metal raceway at 600 mm on center at laboratory benches.
Mount normal 120V duplex outlets in the surface metal raceway at 600 mm on center at equipment spaces.
Provide selected 120V duplex receptacles on emergency power in the equipment spaces.
Provide one normal 208V, 30A, single phase outlet per laboratory module in the equipment spaces.
Provide one light fixture on emergency with one light switch per lab.
Provide emergency receptacle 2400 mm AFF at BSCs.
Provide gasketed lighting fixtures.

COMMUNICATION:

Provide a wall-mounted telephone near the door

SPECIAL REQUIREMENTS:

Base Cabinets
Wall Cabinets
Biosafety Cabinet
Cylinder Restraints
Counter Top-Epoxy Resin
Drench Shower
Automatic Sprinklers
Eyewash and safety shower
Flammable liquid storage cabinet
Containment devices located so as not to block egress, entrap, or pose safety hazard to occupant.



ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	Revolving Darkroom Door
Vision Panel in Door	No

Architectural Notes: Light tight construction.
Darkrooms may be required for autoradiography, fluorescence microscopy, and other instruments requiring a dark environment.

MECHANICAL:

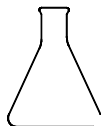
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.
Directly exhaust photo processors.

PLUMBING:

Cold Water	Yes
Hot Water	Yes
Pure Water	Yes
Chilled Water	Local Chiller or cooling water for processor
Waste/Vent	Yes
Floor Drain	If required for processor
Steam	No
Condensate	No

Plumbing Notes: Provide distilled water, hot water and cold water at processing sink, and thermostatic mixing valve for photo processor.
Provide silver recovery unit and neutralizer for processor drain (coordinate with equipment manufacturer).



ELECTRICAL:

Ambient Illum (lx) Cleaning - 500
Task Illum (lx) Safe Light for processing, coordinate filter color with user
Dark-Room IN USE light above door connected to safe light switch.

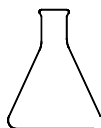
Electrical Notes: Coordinate special power requirements with film processors.

COMMUNICATION:

Telephone
LAN

SPECIAL REQUIREMENTS:

Film Processing Sink
Chiller
Safe Light, Switch at 1200 mm AFF
Refrigerator
Film Drying Cabinet
White Light, Switch at 1500 mm AFF
Eyewash and Safety Shower
Light control required
Interconnected light-tight doors required
Special power and circuits required



ARCHITECTURAL:

Finishes - Walls	GW
Base	IV
Floor	SV
Ceiling	ACT
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm (Self-Closing) (Active Leaf 1060 mm) (Height 2100 mm)
Vision Panel in Door	Yes

Architectural Notes: Provide surfaces that can be easily decontaminated.

MECHANICAL:

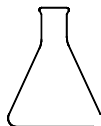
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure independent terminal unit for supply duct connections. Exhaust shall be individually discharged and filtered as required by CDC/NIH Guidelines.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Gases	Yes		

Plumbing Notes: Provide one set of laboratory gas services including laboratory air, laboratory vacuum, and gas on each laboratory bench.
Provide lab hot water, lab cold water, reverse osmosis water, and an eyewash at each main lab sink.
Provide lab air, lab vacuum, gas, and lab cold water at each chemical fume hood.
Provide lab cold water at cupsink locations.



ELECTRICAL:

Ambient Illum (lx) 800 - 1100
Task Illum (lx) 1100

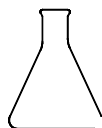
Electrical Notes: None

COMMUNICATION:

Telephone
LAN

SPECIAL REQUIREMENTS:

Chemical Fume Hood
Drench Shower
Eyewash
Automatic Sprinklers
Gown-In Shower is optional
Emergency Shower (ES) at lab door in anteroom (see notes for single module)
Windows are sealed
Anteroom for gowning and degowning
Dedicated exhaust system for radioisotope hood, no recirculation of air
Emergency power
Drain at sink connected to waste holding container



Electron Microscope Room

L.7

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT or ACT 2
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm
	Self-Closing Light Tight Door (Active Leaf 900 mm) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	No

Architectural Notes: Careful consideration of functional arrangement is required.

MECHANICAL:

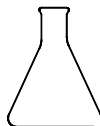
Room Pressure	Negative
Temperature ° C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.



ELECTRICAL:

Ambient Illum (lx) 50 - 1100 variable with switching or dimming

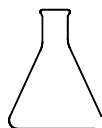
Electrical Notes: Provide low impedance clean ground to microscope.
Provide special filtered clean power for electron microscope as required.

COMMUNICATION:

Telephone
LAN

SPECIAL REQUIREMENTS:

Chilled water or cooling water source required (Local Chiller)
Drench shower
Eyewash
Flammable liquid storage cabinet
Containment devices located so as not to block egress, entrap, or pose safety hazard to occupant
Automatic Sprinklers
Eyewash and safety shower
Light tight entry and windows
Room lighting control required
Vibration isolation required
Special power and circuits required for microscope
Heavy floor loads required
Local liquid nitrogen supply required
Adjoining rooms may include sample prep, imaging, darkroom, and graphics room
Harmonic interference needs to be tested and shielded
Depending on the gases in use, a secondary exit may be required



ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm
	(Self-Closing Light Tight Door)
	(Active Leaf 900 mm)
	(Inactive Leaf 300 mm)
	(Height 2100 mm)
Vision Panel in Door	No

Architectural Notes: Functional arrangement of equipment and amenities within the space is required.

MECHANICAL:

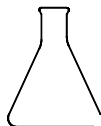
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.
Provide humidity controls.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.



ELECTRICAL:

Ambient Illum (lx) 50 - 1100 Variable with switching or dimming

Electrical Notes: None

COMMUNICATION:

Telephone

LAN

SPECIAL REQUIREMENTS:

Chilled water or cooling water source required (Local Chiller)

Drench shower

Eyewash

Flammable liquid storage cabinet

Containment devices located so as not to block egress, entrap or pose safety hazard to occupant

Automatic sprinklers

Light tight entry and windows

Room lighting control required

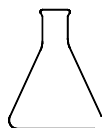
Vibration isolation required

Special power and circuits required

Heavy floor loads required

Local liquid nitrogen supply required

Adjoining rooms may include sample prep, imaging, darkroom, and graphics room



Magnetic Resonance Imaging Room L.9

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm and up to 3400 mm over magnet
Door Width	1200 mm (Active Leaf 900 mm) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	No

Architectural Notes: Logistics of equipment assembly, installation and weight shall be evaluated. Analysis of existing building structure and elevator capability is required.

MECHANICAL:

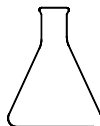
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.
Specialized exhaust venting.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.



ELECTRICAL:

Ambient Illum (lx) 100-800 Variable

Electrical Notes: Large power feeder from switchgear required.

COMMUNICATION:

Telephone

LAN

SPECIAL REQUIREMENTS:

Chilled water or cooling water source required (Local Chiller)

Drench shower

Eyewash

Flammable liquid storage cabinet

Containment devices located so as not to block egress, entrap or pose safety hazard to occupant

Automatic sprinklers

Requirements depend on magnet sizes (200 MHz to 600 MHz)

Vibration isolation required

Light control required

Shielding of magnetic and radio frequency interference required

Special power and circuits required

Heavy floor loads required

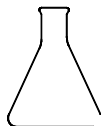
Local specialty gases (liquid helium and oxygen) required

Use of nonferrous construction, furniture, gas cylinders and utility systems may be required

Aluminum conduit

Electrical filters required on all electrical conductors including data that penetrate shield.

Filters usually supplied with shield.



X-Ray Crystallography Room

L.10

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Counter Tops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm (Active Leaf 900mm) (Inactive Leaf 3400 mm) (Height 2100 mm)
Vision Panel in Door	No

Architectural Notes: Ergonomteric layouts are required in the design of this space.

MECHANICAL:

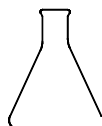
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.



ELECTRICAL:

Ambient Illum (lx) 300-800 variable

Electrical Notes: Low impedance clean ground

COMMUNICATION:

Telephone

LAN

SPECIAL REQUIREMENTS:

Chilled water or cooling water source required (Local Chiller)

Drench shower

Eyewash

Flammable liquid storage cabinet

Containment devices located so as not to block egress, entrap or pose safety hazard to occupant

Automatic sprinkler

Vibration isolation required

Radiation enclosures (leaded glass) required

Light control required

Precise humidity and temperature controls required

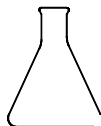
Liquid nitrogen source required

Special clean power and circuits required

Heavy floor loads required

Local specialty gases required

Adjoining rooms include sample prep, crystal growing room



Mass Spectrometry Room

L.11

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Countertops	PL or Epoxy
Ceiling Height	2850 mm
Door Width	1200 mm (Active Leaf 900 mm) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	No

Architectural Notes: The layout of the space shall maximize the functions of the room.

MECHANICAL:

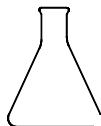
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ±5 Win 40 ±10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each single lab module and a pressure-independent terminal unit for supply and exhaust duct connections.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cooling water supply and return to specialty equipment when required.
Provide reverse osmosis water.
Provide lab air.



ELECTRICAL:

Ambient Illum (lx) 50-800 Variable
Task Illum (lx) 1100

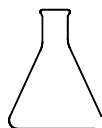
Electrical Notes: Provide clean ground.

COMMUNICATION:

Telephone
LAN

SPECIAL REQUIREMENTS:

Chilled water or cooling water source required (Local Chiller)
Drench shower
Eyewash
Flammable liquid storage cabinet
Containment devices located so as not to block egress, entrap or pose safety hazard to occupant
Eyewash and safety shower
Vibration isolation required
Light control required
Special power and circuits required
Heavy floor loads required
Local specialty gases (argon and oxygen) required
Adjoining rooms may include sample prep
Automatic sprinklers



Autoclave Room

L.12

ARCHITECTURAL:

Finishes - Walls	GW
Base	IV
Floor	SV
Ceiling	ACT-2
Counter Tops	SS
Ceiling Height	2850 mm
Door Width	1200 mm
	(Self Closing Door)
	(Active Leaf 900 mm)
	(Inactive Leaf 300 mm)
	(Height 2100 mm)
Vision Panel in Door	Yes

Architectural Notes: Moisture and steam resistant finishes are required. Space shall be provided for drying at hot items and a cart for moving sterilized items back to the laboratory.

MECHANICAL:

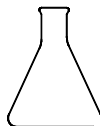
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each room and a pressure-independent terminal unit for each supply duct connection. Dedicated wet exhaust system shall be provided for canopy hoods.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	Yes
Steam	Yes	Condensate	Yes

Plumbing Notes: Provide floor drain at washers. Equip rinsing sink with lab hot water, lab cold water, eyewash, and a rinse hose assembly on a flexible mount.



ELECTRICAL:

Ambient Illum (lx) 500

Electrical Notes: None

COMMUNICATION:

Telephone

LAN

SPECIAL REQUIREMENTS:

Drench shower

Eyewash

Flammable liquid storage cabinet

Containment devices located so as not to block egress, entrap or pose safety hazard to occupant

Ethylene oxide sterilizer (EtO) requires gas safety monitoring alarms (see NIH Safety Guidelines)

Models vary in size and requirements.

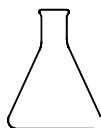
Consult specifications for specific requirements

Automatic sprinklers

Windows are sealed

Floor drains

Overhead exhaust



Standard Ice Support Room

L.13

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	SV or VCT
Ceiling	ACT
Counter Tops	N/A
Ceiling Height	2850 mm
Door Width	1200 mm (Active Leaf 900 mm) (Inactive Leaf 300 mm) (Height 2100 mm)
Vision Panel in Door	Yes

Architectural Notes: Moisture resistant and washable surfaces shall be provided.

MECHANICAL:

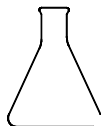
Room Pressure	Negative
Temperature °C	23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each room and a pressure-independent terminal unit for each supply duct connection. Dedicated wet exhaust system shall be provided.

PLUMBING:

Cold Water	Yes	Hot Water	No
Pure Water	No	Chilled Water	No
Waste/Vent	Yes	Floor Drain	Yes
Steam	No	Condensate	No

Plumbing Notes: None



ELECTRICAL:

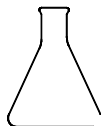
Ambient Illum (lx) 500
Task Illum (lx) None

Electrical Notes: None

COMMUNICATION:

SPECIAL REQUIREMENTS:

Automatic sprinklers
Equipment alarm systems
Eyewash and safety shower
Special power and circuits may be required
Floor drain required
Exhaust for addition heat loads required



Cold Room (Storage)

L.14

ARCHITECTURAL:

Finishes - Walls	Prefab Aluminum Panels
Base	None
Floor	Prefab Aluminum Panels
Ceiling	Prefab Aluminum Panels
Countertops	N/A
Ceiling Height	2100 mm ceiling inside box
Door Width	900 mm Prefab Aluminum
Vision Panel in Door	Yes

Architectural Notes: Provide a minimum of 25 mm clear between the environmental room wall and the surrounding partition

MECHANICAL:

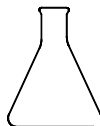
Room Pressure	Equal
Temperature °C	4 ± 1
Relative Hum (%)	N/A
Exhaust Air	No
Return Air	No
Filtration (%)	N/A

Mechanical Notes: Ventilation air shall be provided for occupied cold rooms from laboratory air system.
Cold room condenser shall be located in a serviceable location.
Alarm temperature sensor within room.

PLUMBING:

Cold Water	No	Hot Water	No
Pure Water	Yes	Chilled Water	No
Waste/Vent	No	Floor Drain	Yes (for condensate)
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cold water back-up for condenser heat rejection



ELECTRICAL:

Ambient Illum (lx) 800

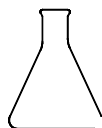
Electrical Notes: Provide weather proof outlets
Verify warm/cold room requirements
Power to remote condenser
External light switch with pilot light
Provide fluorescent ballasts suitable for operation in room ambient temperature.
Provide gasketed lighting fixtures.
Provide seal-off conduit fittings between cold and warm rooms.

COMMUNICATION:

Environmental room monitor cabled to central location

SPECIAL REQUIREMENTS:

Cold Room mechanical equipment and building utilities must be readily accessible without disruption of cold room internal functions.
Eyewash and safety shower
Automatic sprinklers
Equipment alarm system
Stainless steel shelves



Cold Room (Chromatography)

L.15

ARCHITECTURAL:

Finishes - Walls	Prefab Aluminum Panels
Base	None
Floor	Prefab Aluminum Panels
Ceiling	Prefab Aluminum Panels
Ceiling Height	2100 mm ceiling inside box
Door Width	900 mm Prefab Aluminum
Vision Panel in Door	Yes

Architectural Notes: Prefab Aluminum Panels:
Provide a minimum of 25 mm clear between the environmental room wall and the surrounding partition.

MECHANICAL:

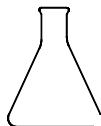
Room Pressure	Equal
Temperature °C	4 ± 1
Relative Hum (%)	N/A
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Ventilation air shall be provided for occupied cold rooms from laboratory air system.
Cold room condenser shall be located in a serviceable location.
Alarm temperature sensor within room.
Locate condenser in serviceable location

PLUMBING:

Cold Water	Yes	Hot Water	No
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	Yes (for condensate)
Steam	No	Condensate	No
Cooling Water	Yes		

Plumbing Notes: Provide cold water back-up for condenser heat rejection.



ELECTRICAL:

Ambient Illum (lx) 800

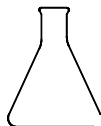
Electrical Notes: Verify warm/cold room requirements.
Provide normal power and emergency power.
Provide fluorescent ballasts suitable for operation in room ambient temperature.
Provide gasketed lighting fixtures.
Provide seal-off conduit fittings between cold and warm rooms.

COMMUNICATION:

Environmental room monitor cabled to central location

SPECIAL REQUIREMENTS:

Cold Room mechanical equipment and building utilities must be readily accessible without disruption of cold room internal functions.
Eyewash and safety shower
Stainless steel countertop
Stainless steel wire shelves
Unistrut support
Flex-a-Frame
Automatic sprinklers



ARCHITECTURAL:

Finishes - Walls	Prefab Aluminum Panels
Base	None
Floor	Prefab Aluminum Panels
Ceiling	Prefab Aluminum Panels
Ceiling Height	2100 mm ceiling inside box
Door Width	900 mm Prefab Aluminum
Vision Panel in Door	Yes

Architectural Notes: Prefab Aluminum Panels:
Provide a minimum of 25 mm clear between the environmental room wall and the surrounding partition.

MECHANICAL:

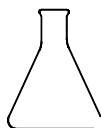
Room Pressure	Equal
Temperature °C	25-40 ± 1
Relative Hum (%)	N/A
Exhaust Air	No
Return Air	No
Filtration (%)	N/A

Mechanical Notes: Ventilation air shall be provided for occupied warm rooms from laboratory air system
Alarm temperature sensor within room.

PLUMBING:

Cold Water	No	Hot Water	No
Pure Water	Yes	Chilled Water	No
Waste/Vent	No	Floor Drain	No
Steam	No	Condensate	No

Plumbing Notes: None



ELECTRICAL:

Ambient Illum (lx) 800

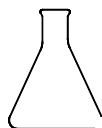
Electrical Notes: Verify warm/cold room requirements.
Provide wiring insulation and lighting fixtures suitable for the ambient temperature.
Provide gasketed lighting fixtures.
Provide seal-off conduit fittings between cold and warm rooms.

COMMUNICATION:

Environmental room monitor cabled to central location

SPECIAL REQUIREMENTS:

Eyewash and safety shower
Stainless steel shelving
Automatic sprinklers
Warm Room mechanical equipment and building utilities must be readily accessible without disruption of cold room internal functions.



ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	VCT + Concrete
Ceiling	GW
Ceiling Height	2850 mm
Door Width	1200 mm
Vision Panel in Door	Yes

Architectural Notes: Recess door and swing in direction of egress.
Provide sound attenuation in partitions.
All finishes must be moisture resistant.
Provide a functional layout for receiving dirt glassware and picking up of clean glassware. Direct pass than is preferred.

MECHANICAL:

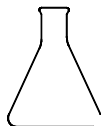
Room Pressure	Negative
Temperature °C	Sum 23 Win 23
Relative Hum (%)	Sum 60 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each room and a pressure-independent terminal unit for each supply duct connection.
Exhaust room air over equipment and/or washer doors to remove heat and steam when equipment is in use.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	Yes
Steam	Yes	Condensate	Yes

Plumbing Notes: Provide floor drain at washers.
Equip glassware rinsing sink with lab hot water, lab cold water, eyewash, and a rinse hose assembly on a flexible mount.



ELECTRICAL:

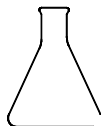
Ambient Illum (lx) 500

Electrical Notes: Provide weatherproof GFI outlets.
Verify equipment loads.
Provide gasketed lighting fixtures.

COMMUNICATION:

SPECIAL REQUIREMENTS:

Eyewash and safety shower
Stainless steel counter
Tall cabinets
Drying oven
Autoclave
Glassware washer
Glassware dryer
Stainless steel sink
Automatic sprinklers



Chemical Storage

L.18

ARCHITECTURAL:

Finishes - Walls	GW
Base	None
Floor	VCT
Ceiling	ACT
Ceiling Height	2850 mm
Door Width	1200 mm
Vision Panel in Door	No

Architectural Notes: Recess door and swing in direction of egress.
Provide blocking or straps for mounting wall cabinets or adjustable shelves in all laboratory partitions.

MECHANICAL:

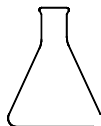
Room Pressure	24 L/s/Module
Temperature °C	23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each room and a pressure-independent terminal unit for each supply duct connection. Dedicated exhaust system shall be provided.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	Yes	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No

Plumbing Notes: Provide eyewash at sink.
Provide safety shower and eyewash at exit.



ELECTRICAL:

Ambient Illum (lx) 525

Electrical Notes

COMMUNICATION:

SPECIAL REQUIREMENTS:

Countertop-epoxy resin

Wall cabinets

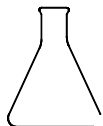
Base cabinets

Metal shelving

Freezer

Refrigerator

Eyewash and Safety shower



Flammable Liquid Storage

L.19

ARCHITECTURAL:

Finishes - Walls	CMU
Base	150 mm Concrete Curb
Floor	Hardened Concrete + Sealant
Ceiling	GW
Ceiling Height	2850 mm
Door Width	1050 mm
Vision Panel in Door	No

Architectural Notes Recess door and swing in direction of egress.
Provide blocking or straps for mounting wall cabinets or adjustable shelves in all laboratory partitions.
Type H-3 occupancy.
Slope floor to floor drain at a minimum of 3 mm per 300 mm.

MECHANICAL:

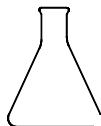
Room Pressure	23 L/s/Module
Temperature °C	23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: Provide independent temperature control for each room and a pressure-independent terminal unit for each supply duct connection. Dedicated exhaust system shall be provided.
Do not ventilate OSHA flammable liquids storage cabinets unless approved by NIH Fire and Safety Division.

PLUMBING:

Cold Water	Yes	Hot Water	Yes
Pure Water	No	Chilled Water	No
Waste/Vent	Yes	Floor Drain	No
Steam	No	Condensate	No

Plumbing Notes: Provide safety shower and eyewash at exit.
Floor drain and door grate drain piped to holding tank.



ELECTRICAL:

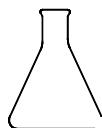
Ambient Illum (lx) 525

Electrical Notes: Provide explosion-proof lighting fixtures and no receptacles.
Light switch shall be located outside hazardous location.
Provide seal-off fittings outside hazardous location for conduits penetrating hazardous location.

COMMUNICATION:

SPECIAL REQUIREMENTS:

Eyewash and safety shower
Flammable liquid storage cabinet
Containment devices located so as not to block egress, entrap or pose safety hazard to occupant.
Wall cabinets
Countertop-epoxy resin
OSHA cabinets
Base cabinets
Metal shelves
Automatic sprinklers



General Laboratory Storage

L.20

ARCHITECTURAL:

Finishes - Walls	GW
Base	R
Floor	VCT
Ceiling	ACT
Ceiling Height	2850 mm
Door Width	1200 mm
Vision Panel in Door	No

Architectural Notes: Recess door and swing in direction of egress.
Provide blocking or straps for mounting wall cabinets or adjustable shelves in all laboratory partitions.

MECHANICAL:

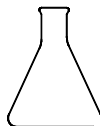
Room Pressure	Equal
Temperature °C	Sum 23
Relative Hum (%)	Sum 50 ± 5 Win 40 ± 10
Exhaust Air	Yes
Return Air	No
Filtration (%)	30,90

Mechanical Notes: None

PLUMBING:

Cold Water	No	Hot Water	No
Pure Water	No	Chilled Water	No
Waste/Vent	No	Floor Drain	No
Steam	No	Condensate	No

Plumbing Notes: None



ELECTRICAL:

Ambient Illum (lx) 500

Electrical Notes: None

COMMUNICATION:

Room should be monitored for temperature, humidity, light cycles, air changes, smoke, automatic watering system pressure and flow, condition of filters at main banks, and, optimally, access.

SPECIAL REQUIREMENTS:

Eyewash and safety shower
Tall cabinets with doors
Adjustable shelves
Automatic sprinklers

