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CONDOR
Ingenieria E.U.
Servicios en el área de Ingeniería.

Concepto Técnico:

estudios y diseños para la construcción del Puesto de Salud el Ortigal, Municipio de Miranda, Cauca, Departamento del Cauca.

De:

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Cali, agosto 28 de 2022

Yo, **JUAN CARLOS SALDARRIAGA CARVAJAL** obrando en mi calidad de Ingeniero mecánico, identificado con la cedula de ciudanía No. 76.324.046 expedida en Popayán y con Matricula profesional N° .CU 230 32560 ACIEM CAUCA.

CERTIFICO QUE:

Teniendo en cuenta que en la Tabla 3.3 "Parámetros de Diseño de Ventilación del Manual de Diseño de Calefacción, Ventilación y Aire Acondicionado Para Hospitales y Clínicas" de ASHRAE (**ver anexo adjunto**) no se encuentran estipulados los valores de las presiones negativas, positivas y re cambios del sistema de aire acondicionado para el nivel de complejidad y tamaño de la unidad de salud ubicada en el centro poblado El Ortigal, no se requiere diseño de ventilación mecánica.
Sin embargo, cabe resaltar que, por aspectos de confort se puede instalar el sistema de aire acondicionado de 9000 B.T.U en el área correspondiente al Rack donde se encuentran almacenados los sistemas de datos y servidores de la unidad.
Se anexa Tabla 3-3 Parámetros de diseño de ventilación de ASHRAE 2021.

Se asume la responsabilidad por los diseños siempre que sean respetados en el momento de la construcción.

Dada en la ciudad de Popayán, a los veintiocho (28) días del mes de agosto de 2022

Cordialmente

JUAN CARLOS SALDARRIAGA CARVAJAL
Ingeniero Mecánico
M.P CU 20529913 ACIEM CAUCA.

Anexos

Table 3-3 *Ventilation Design Parameters*

Function of Space	Pressure Relationship to Adjacent Areas (a)	Minimum Outdoor ACH, ach	Minimum Total ACH, ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	RH (k) (%)	Design Temperature (l), (°F/°C)
SURGERY AND CRITICAL CARE							
Class B and C Operating room, (m),(n) (o)	Positive	4	20	N/R.	No	20-60	68-75/20-24
Operating/surgical cystoscopic rooms, (m), (n) (o)	Positive	4	20	N/R.	No	20-60	68-75/20-24
Delivery room (Caesarean) (m),(n), (o)	Positive	4	20	N/R.	No	20-60	68-75/20-24
Substerile service area	N/R.	2	6	N/R.	No	N/R.	N/R.
Recovery room	N/R.	2	6	N/R.	No	30-60	70-75/21-24
Critical and intensive care	N/R.	2	6	N/R.	No	30-60	70-75/21-24
Intermediate case (s)	N/R.	2	6	N/R.	N/R.	max 60	70-75/21-24
Wound Intensive Care (Burn Unit)	N/R.	2	6	N/R.	No	40-60	70-75/21-24
Newborn intensive care	Positive	2	6	N/R.	No	30-60	72-78/22-26
Treatment room (p)	N/R.	2	6	N/R.	N/R.	20-60	70-75/21-24
Trauma room (crisis or shock) (r)	Positive	3	15	N/R.	No	20-60	70-75/21-24
Medical/Anesthesia gas storage (r)	Negative	N/R.	8	Yes	N/R.	N/R.	N/R.
Laser Eye Room	Positive	3	15	N/R.	No	20-60	70-75/21-24
ER Waiting Rooms (q)	Negative	2	12	Yes	N/R.	max 65	70-75/21-24
Triage (q)	Negative	2	12	Yes	N/R.	max 60	70-75/21-24
ER Decontamination	Negative	2	12	Yes	No	N/R.	N/R.
Radiology waiting rooms (q), (w)	Negative	2	12	Yes	N/R.	max 60	70-75/21-24
Class A Operating/Procedure room (o) (d)	Positive	3	15	N/R.	No	20-60	70-75/21-24
INPATIENT NURSING							
Patient room (x)	N/R.	2	6	N/R.	N/R.	max 60	70-75/21-24
Toilet room	Negative	N/R.	10	Yes	No	N/R.	N/R.
Newborn nursery suite	N/R.	2	6	N/R.	No	30-60	72-78/22-26
Protective environment room (t)	Positive	2	12	N/R.	No	max 60	70-75/21-24
AII room (u)	Negative	2	12	Yes	No	max 60	70-75/21-24
Coubination AII/PE room	Positive	2	12	Yes	No	max 60	70-75/21-24
AII anteroom (u)	(e)	N/R.	10	Yes	No	N/R.	N/R.
PE anteroom (t)	(e)	N/R.	10	N/R.	No	N/R.	N/R.
Coubination AII/PE anteroom	(e)	N/R.	10	Yes	No	N/R.	N/R.
Labor/delivery/recovery/postpartum (LDRP) (i)	N/R.	2	6	N/R.	N/R.	max 60	70-75/21-24
Labor/delivery/recovery (LDR) (i)	N/R.	2	6	N/R.	N/R.	max 60	70-75/21-24
Potient Corridor	N/R.	N/R.	2	N/R.	N/R.	N/R.	N/R.
Nourishment are or room	N/R.	N/R.	2	N/R.	N/R.	N/R.	N/R.

Table 3-3 *Ventilation Design Parameters*
– continued –

Function of Space	Pressure Relationship to Adjacent Areas (a)	Minimum Outdoor ACH, ach	Minimum Total ACH, ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	RH (c) (%)	Design Temperature (l), (°F/°C)
NURSING FACILITY							
Resident Room	N/R	2	2	N/R	N/R	N/R	70-75/21-24
Resident Gathering/Activity/Dining	N/R	4	4	N/R	N/R	N/R	70-75/21-24
Physical Therapy	Negative	2	6	N/R	N/R	N/R	70-75/21-24
Occupational Therapy	N/R	2	6	N/R	N/R	N/R	70-75/21-24
Bathing Room	Negative	N/R	10	Yes	N/R	N/R	70-75/21-24
RADIOLOGY (v)							
X-ray (diagnostic and treatment)	N/R	2	6	N/R	N/R	max 60	72-78/22-26
X-ray (surgery/critical care and catheterization)	Positive	3	15	N/R	No	max 60	70-75/21-24
Darkroom(g)	Negative	2	10	Yes	No	N/R	N/R
DIAGNOSTIC AND TREATMENT							
Dialysis treatment area	N/R	2	6	N/R	N/R	N/R	72-78/22-26
Dialyzer reprocessing room	Negative	N/R	10	Yes	No	N/R	N/R
Nuclear medicine hot lab	Negative	N/R	6	Yes	No	N/R	70-75/21-24
Nuclear medicine treatment room	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Bronchoscopy, sputum collection, and pentamidine administration (k)	Negative	2	12	Yes	No	N/R	68-73/20-23
Laboratory, general (v)	Negative	2	6	N/R	N/R	N/R	70-75/21-24
Laboratory, bacteriology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, biochemistry (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, cytology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, glasswashing	Negative	2	10	Yes	N/R	N/R	N/R
Laboratory, histology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, microbiology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, nuclear medicine (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, pathology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, serology (v)	Negative	2	6	Yes	N/R	N/R	70-75/21-24
Laboratory, sterilizing	Negative	2	10	Yes	N/R	N/R	70-75/21-24
Laboratory, media transfer (v)	Positive	2	4	N/R	N/R	N/R	70-75/21-24
Autopsy room (n)	Negative	2	12	Yes	No	N/R	68-75/20-24
Nonrefrigerated body-holding room (h)	Negative	N/R	10	Yes	No	N/R	70-75/21-24
Pharmacy (b)	Positive	2	4	N/R	N/R	N/R	N/R

Table 3-3 *Ventilation Design Parameters*
– continued –

Function of Space	Pressure Relationship to Adjacent Areas (a)	Minimum Outdoor ACH, ach	Minimum Total ACH, ach	All Room Air Exhausted Directly to Outdoors (j)	Air Recirculated by Means of Room Units (a)	RH (c) (%)	Design Temperature (l), (°F/°C)
Examination room	N/R	2	6	N/R	N/R	max 60	70-75/21-24
Medication room	Positive	2	4	N/R	N/R	max 60	70-75/21-24
Gastrointestinal endoscopy procedure room	Positive	2	6	N/R	No	20-60	68-73/20-23
Endoscope Cleaning	Negative	2	10	Yes	No	N/R	N/R
Treatment room	N/R	2	6	N/R	N/R	max 60	70-75/21-24
Hydrotherapy	Negative	2	6	N/R	N/R	N/R	72-80/22-27
Physical therapy	Negative	2	6	N/R	N/R	Max 65	72-80/22-27
STERILIZING							
Sterilizer equipment room	Negative	N/R	10	Yes	No	N/R	N/R
CENTRAL MEDICAL AND SURGICAL SUPPLY							
Soiled or decontamination room	Negative	2	6	Yes	No	N/R	72-78/22-26
Clean workroom	Positive	2	4	N/R	No	max 60	72-78/22-26
Sterile storage	Positive	2	4	N/R	N/R	max 60	72-78/22-26
SERVICE							
Food preparation center (i)	N/R	2	10	N/R	No	N/R	72-78/22-26
Warewashing	Negative	N/R	10	Yes	No	N/R	N/R
Dietary storage	N/R	N/R	2	N/R	No	N/R	72-78/22-26
Laundry, general	Negative	2	10	Yes	No	N/R	N/R
Soiled linen sorting and storage	Negative	N/R	10	Yes	No	N/R	N/R
Clean linen storage	Positive	N/R	2	N/R	N/R	N/R	72-78/22-26
Linen and trash chute room	Negative	N/R	10	Yes	No	N/R	N/R
Bedpan room	Negative	N/R	10	Yes	No	N/R	N/R
Bathroom	Negative	N/R	10	Yes	No	N/R	72-78/22-26
Janitor's closet	Negative	N/R	10	Yes	No	N/R	N/R
SUPPORT SPACE							
Soiled workroom or soiled holding	Negative	2	10	Yes	No	N/R	N/R
Clean workroom or clean holding	Positive	2	4	N/R	N/R	N/R	N/R
Hazardous Material Storage	Negative	2	10	Yes	No	N/R	N/R

Source: Table and following notes adapted from ANSI/ASHRAE/ASHE Standard 170-2008 (ASHRAE 2008), including Addenda a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, and v.
Note: N/R= no requirement

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