View related documents on the AusHFG website

Plant - Water Treatment

Room Code	PLNT-WT
Briefed Area	18.00 m²
Ceiling Height	2.7 m
Occupancy	1-2 staff
Hours of Operation	24 hours

Description

The Plant - Water Treatment is a lockable room for water treatment systems, including particle filters, water softeners, carbon filters and reverse osmosis (RO) water plant/systems, for the provision of safe water for patients receiving haemodialysis therapy.

Electrical

PROTECTION: body protected	☐
PROTECTION: cardiac protected	☐

Lighting

LIGHTING: general	☑
LIGHTING: colour corrected	☐
LIGHTING: dimmable	☐
LIGHTING: indirect	☐

Nurse Call and Duress

NURSE CALL SYSTEM: buttons / handset	☐

HVAC

AIRCONDITIONING: general	☑
AIRCONDITIONING: HEPA filtered	☐
AIRCONDITIONING: positive pressure	☐
AIRCONDITIONING: negative pressure	☐
VENTILATION: exhaust	☑
VENTILATION: natural	☐

Additional Considerations

- The Water Treatment Plant Room should be located in close proximity to the Renal Dialysis Unit to permit short tubing runs to each Treatment Bay, and permit staff to monitor and service the water treatment systems.
- Refer to manufacturer's specifications for details of RO water treatment plant equipment. In particular, this equipment will incorporate a heat disinfection function, and water saving features. The final components of the system will be determined by the quality of feed water and the ability of the overall system to produce and maintain appropriate water quality. Water treatment requirements to be confirmed by a dialysis water treatment specialist.
- High level sound isolation is required to ensure noise generated from this room does not invade treatment spaces.
- Structural engineer's assessment must be sought for floor load bearing capacity with respect to water treatment and pre-treatment plant equipment.
- Ventilation, exhaust and/or air-conditioning must be designed to accommodate the heat loads of the specified equipment.
- Light is to be minimised; there are to be no windows provided.
- Service access will be required around the perimeter of plant equipment, clearances will be determined by manufacturer's specifications.
- A second door may be provided for separate deliveries and maintenance access if located in the patient treatment area.
- Pipework and components installed after the water inlet in this room shall not contain brass or copper.
- Options for cooling of high temperature (circa 90°C) waste water discharged from RO plant is to be considered.
- Where chilled water is not available, a chiller may be required outside the plant room. The maximum temperature of the feed water to be assessed to allow determination of any requirement for a heat exchanger or chiller design as determined by expert. The intent of this is ensure the temperature at the dialysis point for patient care is between 30-37°C.
- Redundancy within the pre-treatment and treatment devices/filters should be considered based on the hospitals service criticality level, the feed water quality or risk around quality, and the hospital location where supply of replacement equipment is difficult.

Doors and Windows

CODE	DESCRIPTION	COMMENT
DOHI-106	DOOR: hinged, 1 1/2 leaves, 1600 clear opening, solid	[DWSC-027] lockable
AFDPR-006.01	*DOOR PROTECTION: plate, to 900H*	*[DWPR-005] to corridor side, extent dependent on movement of mobile*

CODE	DESCRIPTION	COMMENT
		equipment in adjacent area; to be coordinated with corridor wall protection
AFDPR-006.01	*DOOR PROTECTION: plate, to 900H*	*[DWPR-005] to room side*
AFDPR-056.03	*DOOR FRAME PROTECTION: full wrap, to 1200H*	*[DWPR-010] optional, provision and extent dependent on frame material/finish and movement of beds and mobile equipment in adjacent area*
DOHI-106	DOOR: hinged, 1 1/2 leaves, 1600 clear opening, solid	[DWSC-027] optional secondary access door, lockable
AFDPR-006.01	*DOOR PROTECTION: plate, to 900H*	*[DWPR-005] to room side*
AFDPR-006.01	*DOOR PROTECTION: plate, to 900H*	*[DWPR-005] to corridor side, extent dependent on movement of mobile equipment in adjacent area; to be coordinated with corridor wall protection*
AFDPR-051.03	*DOOR FRAME PROTECTION: corners, to 1200H*	*[DWPR-010] optional, provision and extent dependent on frame material/finish and movement of beds and mobile equipment in adjacent area*

Finishes

CODE	DESCRIPTION	COMMENT
FLGE-003	FLOOR FINISH: concrete, trowel finished, sealed	[FLGE-003]
FLSK-081	SKIRTING: concrete, sealed, coved	[FLSK-002]
WLFI-001	WALL FINISH: paint	[WLWA-004]
CLFS-013	CEILING: flush set, suspended, moisture resistant	[CLFS-009]
CLFI-002	CEILING FINISH: paint, clinical areas	[CLFS-009]
CLCN-031	CORNICE: square set	[CLCN-008]

Fittings, Furniture and Equipment (FF&E)

CODE	DESCRIPTION	GROUP	QTY	COMMENT
FQBS-202	STOOL: clinical areas, mobile	3	1	[FQBS-051] optional
FQDW-131.03	WORKSTATION: straight, adjustable height, 720H nom, 600D x 1500W	3	1	[FQDW-051] optional
FQGE-442	PALLET: half size	3	1	[FQSN-138]

Engineering Services

CODE	DESCRIPTION	GROUP	QTY	COMMENT
ELGP-131.01	GPO: single, emergency power, wall mounted, horizontal	1	1	[ELGP-123] optional, dependent on equipment
ELGP-231.01	GPO: double, emergency power, wall mounted, horizontal	1	8	[ELGP-223] for water treatment equipment, high level (power tools to be on a separate circuit)
ELSW-001	SWITCH: light	1	1	[ELBO-015]
ELSW-001	SWITCH: light	1	1	[ELBO-010] optional
HYDR-021	DRAIN: floor waste, round	1	1	[HYDR-004] floor waste must be capable of handling high flow rates and high temperature water (up to 90°C) from the RO water plant
HYDR-037	DRAIN: floor waste, sump, square	1	1	[HYDR-017] floor waste must be capable of handling high flow rates and high

CODE	DESCRIPTION	GROUP	QTY	COMMENT
				temperature water (up to 90°C) from the RO water plant
HYDR-101	TUNDISH: fixture mounted	1	2	[HYDR-006]
HYDR-102	TUNDISH: floor mounted	1	1	[HYDR-018] tundish must be capable of handling high flow rates and high temperature water (up to 90°C) from the RO water plant
HYGE-181	VALVE: backflow prevention, wall recessed	1	1	[HYGE-028]
HYGE-211	PLANT: water treatment, softener tank	1	1	[HYGE-024] size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-212	PLANT: water treatment, brine tank	1	1	[HYGE-019] size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-213	PLANT: water treatment, multimedia tank	1	1	[HYGE-021] size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-221	PLANT: water treatment, carbon filter	1	3	[HYGE-020] 1 is optional; size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-222	PLANT: water treatment, ultraviolet filter	1	1	[HYGE-027]
HYGE-231	PLANT: water treatment, particle filter, 1 micron	1	1	[HYGE-022] size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-232	PLANT: water treatment, particle filter, 5 micron	1	1	[HYGE-023] size/quantity based on feed water quality and confirmed by a dialysis water pre-treatment expert
HYGE-251	PLANT: dialysis, water treatment, reverse osmosis	1	1	[HYGE-012] details according to manufacturer's specifications
HYGE-301	PUMP: pressure booster	1	2	[HYGE-016] to suit water pressure drop through pre-filtration train where building water pressure and flow is inadequate
HYTP-431	OUTLET: water, cold	1	1	[HYTP-008]
ITBU-376	ALARM: chlorine detector	1	1	[ITBU-024] optional, dependent on local operational policies
ITBU-402	ALARM: equipment monitoring, water treatment malfunction	1	1	[ITBU-002] connected to BMS and staff station in unit
ITIN-026	OUTLET: data, double RJ45, wall mounted	1	1	[ITIN-026]
MEGE-201	PLANT: heat exchanger, supplied by mechanical chilled water	1	1	[MEGE-010] as required; may be necessary to cool feed water where high temperatures are expected, refer to technical expert for required outlet temperature (generally <25°C)

For guidance on how to use the Room Data Sheet, please visit the AusHFG website.