

Thermostats



Basic model (RAB) – shall be electromechanical, remote wall thermostat, gas diaphragm based and shall include the following features: Temperature set-point control with dual set-point temperature scale (F/C) and adjustable min/max temperature mechanical limit stops; system off and 3-speed fan switch; heat/cool manual temperature switch; on/off control valve(s) output; fan auto or continuous selection; 24V thru 277V control voltage, 50 or 60Hz; and UL and cUL listed.



Electronic with LED indication model (RCC) – shall be electronic remote wall or unit mounted thermostat with LED indicators and shall include the following features: Temperature set-point control with dual set-point temperature scale (F/C) and adjustable min/max temperature mechanical limit stops; operational modes: off, normal, energy saving and frost protection; system off and 3-speed fan switch; fan continuous or temperature dependent operation; automatic heat/cool temperature changeover control; heat/cool and fan on LED indication; on/off control valve(s) output; 24V control voltage, 50 or 60Hz; optional remote wall or duct sensor connection; and UL and cUL listed.



Electronic with LCD indication model (RDF) – shall be electronic remote wall or unit mounted thermostat with LCD indication and shall include the following features: Operational modes: off, normal, energy saving and standby; system off and 3-speed fan switch; fan continuous or temperature dependent operation; manual or automatic heat/cool temperature changeover control; min/max setpoint temperature limitation; setpoints or room temperature display; on/off control valve(s) output; 24V control voltage, 50 or 60Hz; optional remote duct or wall sensor connection; selectable installation and control parameters; and UL and cUL listed.

Modulated model (RLA) – Shall be an electronic remote wall mounted thermostat with modulated outputs, UL and cUL listed.

Thermostat Accessories

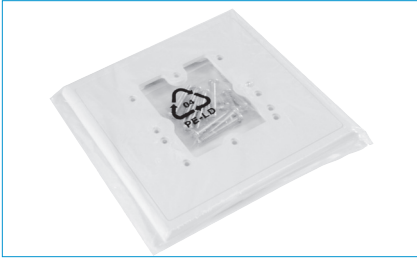


Thermostat shall be supplied with a remote duct mounted sensor (RCC, RDF and RLA models only).

Thermostat shall be supplied with a remote wall mounted sensor (RCC, RDF and RLA models only).

ACCESSORIES

Thermostat Accessories (continued)



Thermostat shall be supplied with a wall mount plate (4.75" SQR) for covering unpainted wall areas or non-wallpaper areas.

Thermostats shall be supplied with lockable covers to prevent unauthorized changes to the temperature set-points.

Thermostat shall be suitable for 24V control voltage (all RCC, RDF and RLA thermostats must be 24V).

Motorized Control Valves



Motorized control valves shall be 2- or 3-Way valve(s) with sweat or threaded connections and shall have the following features: Body and body trim made of brass; stem made of stainless steel ASTM A582 type 303 with Ethylene propylene sealing O-rings, suitable for water/glycol concentrations up to 50%; and operation between 34 to 230°F. Maximum inlet pressure of 125 psig; metal-to-metal seat with a stroke of 1/10-inch and rated to ANSI Class 125, close-off ratings in accordance with ANSI/FCI 70-2, class rate ANSI Class III and mounting location shall be NEMA1 (interior only).

Motorized Valve Actuators



Valve actuators shall be ON/OFF or modulated, normally closed to the coil with spring return action for CW and HW applications or normally open to the coil for HW applications only and shall have the following features: ON/OFF actuators shall be suitable for 24, 120, 208 or 277V control voltage; UL listed for plenums to UL 873; cUL certified to Canadian Standards C22.2 No 24-93; direct coupled installation without tools; manual override; visual position indication; 40 sec max running time; 1/10-inch nominal stroke; 24lb nominal force; operation temperature between 41 and 122°F and 0% to 90% relative humidity (non corrosive); NEMA 1 mounting location.



Modulated actuators shall be suitable for 24V control voltage and a signal voltage of 0-10V; UL listed for plenums to UL 873; cUL certified to Canadian Standards C22.2 No 24-93; direct coupled installation without tools; manual override; visual position indication; 40 sec max running time; 1/10-inch nominal stroke; 24lb nominal force; Operation temperature between 41 and 122°F.

All valve actuators shall be compatible with 2 or 3-Way valves.

Valve Package Accessories



Ball valves shall be manufactured of brass OT58-UNI-5705-65 with a chrome plated brass ball with Teflon[®] seals. The shaft shall be sealed via dual VITON O-rings and capable of operating at 325°F and 600 psi pressure WOG. All ball valves shall be supplied with a memory stop actuator and be located in the inlet pipes to the fan coil unit.

ACCESSORIES

Valve Package Accessories (continued)



Unions shall be of forged brass ASTM B283 with VITON O-rings installed in the return and supply CW and/or HW pipes to facilitate the connection or removal of the unit.



Pressure and temperature test plugs shall have 1/4-inch MNPT thread, suitable for operation up to 325°F and 1000 psi pressure. Test plugs shall be located in the return and supply CW and/or HW pipes to measure unit total pressure drop and/or unit water in/out temperatures.

Strainers shall be of forged brass ASTM B283, suitable for operation up to 325°F and 600 psi pressure WOG. Mesh shall be #20 made of stainless steel and the mesh access cap shall be sealed with a VITON O-ring and the cap shall have a 1/4-inch NPT access port. Strainers shall be installed to the supply CW and/or HW pipes to avoid blockages on the unit water system components.



Coil blow down drain valves shall be of the chromed plated ball type with Teflon[®] seals; dual VITON O-rings seal suitable for operation up to 325°F and 600 psi pressure WOG. Valve connections shall be 1/4-inch MNPT and 3/4 inch hose bib and cap. Blow down valves shall be installed at the lowest point of the coils to enable the evacuation of all water for system repairs and/or coil replacements.

Automatic water flow control valve shall be manufactured of forged brass ASTM B283, suitable for operation up to 325°F and 600 psi pressure WOG. The automatic flow cartridge shall be removable and be accessible via forged brass cap sealed with VITON and EPDM O-rings. Auto flow control valves shall be installed with two pressure test plugs and be located in the return CW and/or HW pipes. The Auto Flow Control Valve(s) shall control the water flow in accordance with the project Fancoil coil schedule.

Manual adjustable flow control valve shall be manufactured of forged brass ASTM B283 and be of the calibrated manual balancing valve type, modified venture ball valve with a union end and capable of operation at 325°F, 600 psi pressure WOG with the following features: Ball valve with chrome plated brass ball and Teflon seals; Shaft sealed via dual VITON O-rings; Handle shall have a calibrated scale indicator and a stainless steel memory stop. Manual flow control valve shall be installed with two pressure test plugs and be located in the return CW and/or HW pipes. The Auto Flow Control Valve shall control the water flow in accordance with the project Fancoil coil schedule.

ACCESSORIES

Flexible Connectors



Pipe flexible connectors shall be fire rated in compliance with ASTM E 84-00 (NFPA 225, ANSI/UL 723 and UBC 8-1) with the following features:
Operating pressure 400 psi @ 265°F, fittings made of brass with NPSM swivel w/ seal and MNPT; fabric reinforced EPDM core; stainless steel braid reinforcement; brass OT58 fittings; stainless steel ferrule; fiber EPDM gasket.

“Combo” Accessories

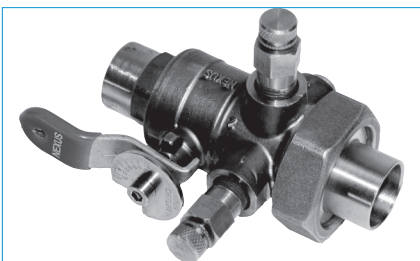
Valve package components shall be provided in single body “COMBO” package as follows:



Ball valve + Strainer + Union and be installed in the supply side of the CW and/or HW coil, or



Ball valve + Auto flow control valve + Union and installed in the return side of the CW and/or HW coil, or



Ball valve + Manual adjustable flow control valve + Union and be installed in the return side of the CW and/or HW coil.

Valve Package Connection Size

Valve package connections shall be suitable for 5/8-inch in diameter copper piping for units up to and including sizes 08 (800 cfm nominal airflows) with CW connections and units up to size 20 (2000 cfm nominal airflow) for HW connections. All units sizes 10 (1000 cfm nominal airflow) and above the CW connections shall be suitable for copper piping in 7/8-inch diameter.