



## BELL TOWER

### HEATING, VENTILATION, & AIR CONDITIONING FACTSHEET

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**Address:** 10104 – 103 Avenue, Edmonton, AB

**General Description:** Bell Tower is a AA class 31 storey building plus storage and mechanical levels, contains 423,744 square feet of rentable office space, retail space and 430 heated underground and above ground surface stalls with a parking ratio of 1 stall per 1,100 square feet of leased space. The building was designed by Skidmore, Owings & Merrill in association with B. James Wensley and Associates, and construction was complete in 1982.

**Mechanical Engineer:** Stantec Consulting Ltd.

**General:**

- The building automation is a Johnson Controls Metasys System.
- Heating and cooling to the tenant spaces is provided by perimeter radiation (8 zones per floor) and Variable Air Volume ("VAV") interior and exterior (cooling) air boxes (26 per floor).
- High efficiency boilers were installed in 2011, and chillers were installed in 2007

**Design Criteria:** Bell Tower's Heating, Ventilation, and Air Conditioning system consists of a VAV system with perimeter heating radiation. The Tower is split into low rise and high rise fan systems. Each floor has four interior and twelve exterior VAV boxes that distribute air through thermostatically controlled zone air diffusers in the light fixtures. The base building design was 11,870 CFM per floor.

**Filters:** MERV 8 pre-filters and MERV 13 bag filters.

**Heat:** Primary heating source for Bell Tower is provided by four Unilux natural gas fired boilers.

**Air Conditioning:** Ventilation, air conditioning, and humidification for the Bell Tower are delivered to the conditioned space by various air systems. VFDs were added to the supply air fans and the return air fans of AS-1 upper air handling unit and AS-2 lower air handling unit. The supply fan discharge air volume is controlled by maintaining a supply air duct static pressure at a level which satisfies the variable air volume terminal units.

**Air Exchange:** Tower Floor Air Exchanges will be up to 4 times per hour, with a complete Outdoor air replacement every 90 minutes.

**Standard Hours of HVAC Operation:** 6:00am – 6:00pm Monday to Friday.



## **COVID-19 and HVAC**

Ventilation and filtration provided by HVAC systems can reduce the airborne concentration and risk of transmission through the air. However, even the most robust HVAC system cannot control all airflows and completely prevent the spread of the virus. Ventilation and effective airflow pattern is however a primary infectious control strategy. The filtration systems in Bell Tower are first class and at the high end of the MERV (Minimum Efficiency Reporting Value) rating system, which is consistent with recommendations from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) April 2020 position paper on Infectious Aerosols. With the warmer weather, our dampers are open to allow for maximum fresh outdoor air to dilute air contaminants that are generated by the building, its furnishings and its occupants that may potentially carry COVID-19.