1. GENERAL

1.01 SECTION INCLUDES

.1 Shutdown relays.

.2 Smoke Control.

1.02 RELATED REQUIREMENTS

.1 Section 23 30 00 – HVAC Air Distribution.

.2 Section 23 34 00 – HVAC Fans.

.3 Section 23 70 00 – Centralized HVAC Equipment.

.4 Section 23 75 00 – Custom Air Handling Units.

.5 Section 28 46 13 – Fire-Alarm Systems.

.6 Section 28 46 31 – Fire-Alarm Initiating Devices: duct mounted smoke detectors.

1.03 REFERENCES

.1 Ontario Building Code.

1.04 SUBMITTALS

.1 Submit under provisions of Section 01 33 00.

.2 Product Data: Manufacturer's data sheets on each product to be used, including:

.1 Preparation instructions and recommendations.

.2 Storage and handling requirements and recommendations.

.3 Installation methods.

.3 Shop Drawings: Door Schedule showing each item of hardware to be installed on each door.

.1 Use door numbers on door schedule.

.2 Schedule may be combined with submittals required in other door hardware sections.

.4 Operating and Maintenance Data: Include operating, troubleshooting, maintenance, and repair instructions for each item, with lists of spare

parts, if any, and name, address, and phone number of local stocking distributors.

1.05 QUALITY ASSURANCE

.1 Installer Qualifications: experienced door hardware installer.

1.06 DELIVERY, STORAGE, AND HANDLING

.1 Store products in manufacturer's unopened packaging until ready for installation.

1.07 WARRANTY

.1 Provide manufacturer's standard warranties:

.1 Magnets: Lifetime warranty.

2. PRODUCTS

2.01 MATERIALS

.1 General Requirements: Provide devices suitable for door type, lock type, frame type, dimensions, and overall operation.

.1 Coordinate with doors, frames, and hardware specified in other sections.

.2 Provide all brackets, spacers, shims, lip extensions, strike boxes, and other accessory parts necessary to complete the installation.

.3 Power Supplies or Transformers: Provide all necessary components to supply power to devices from building power distribution system.

2.02 AIR HANDLING UNIT SHUTDOWN RELAYS

.1 Provide duct smoke detectors in the supply air duct of air handling units feeding more than one storey, or more than one suite in a storey.

.2 Provide a relay to shut down the air handling system upon detection of smoke at the aforementioned smoke detector.

2.03 [HVLS FANS]

.1 In buildings equipped with sprinklers, all HVLS (High Volume, Low Speed) fans shall be interlocked to shut down immediately upon receiving a sprinkler waterflow signal via the fire alarm system.

2.04 [SMOKE DAMPERS]

.1 Smoke dampers and combination smoke and fire dampers shall be configured so as to close automatically upon a signal from an adjacent smoke detector located as described in CAN/ULC-S524, "Installation of Fire Alarm Systems", within 1.5 m horizontally of the duct or air-transfer opening in the fire separation,

.1 on both sides of the air-transfer opening, or

.2 in the duct downstream of the smoke damper or combination smoke and fire damper.

.2 Provide smoke detectors in accordance with code requirements for control of smoke dampers.

2.05 [SMOKE CONTROL ANNUNCIATOR]

.1 On/Auto/Off switches and status indicators (LEDS) shall be provided for monitoring and manual control of each fan, damper, HVAC control unit, stairwell pressurization fan, and smoke exhaust fan. To ensure compliance the units supplied shall meet the following UL categories: UUKL, PAZX, UDTZ, QVAX as well as the requirements of NFPA 90A, HVAC, and NFPA 92A & 92B, Smoke Control. The control System shall be field programmable for either 90A operation or 92A/B operation to allow for future use and system expansion.

.2 The OFF LED shall be Yellow, the ON LED shall be green, the Trouble/Fault LED shall be Amber/Orange for each switch. The Trouble/Fault indicator shall indicate a trouble in the control and/or monitor points associated with that switch. In addition, each group of eight switches shall have two LEDS and one momentary switch which allow the following functions: An Amber LED to indicate an OFF-NORMAL switch position, in the ON or OFF position; A Green LED to indicate ALL AUTO switch position; A Local Acknowledge/Lamp Test momentary switch.

.3 Each switch shall have the capability to monitor and control two addressable inputs and two addressable outputs. In all modes, the ON and OFF indicators shall continuously follow the device status not the switch position. Positive feedback shall be employed to verify correct operation of the device being controlled. Systems that indicate on/off/auto by physical switch position only are not acceptable.

.4 [All HVAC switches (i.e., limit switches, vane switches, etc.) shall be provided and installed by the HVAC contractor.]

.5 It shall be possible to meet the requirements mentioned above utilizing wall mounted custom graphic.

3. EXECUTION

3.01 EXAMINATION

.1 Do not begin installation until substrates have been properly prepared.

.2 If substrate preparation is the responsibility of another installer, notify the Consultant of unsatisfactory preparation before proceeding.

3.02 PREPARATION

.1 Clean surfaces thoroughly prior to installation.

.2 Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

.1 Install in accordance with manufacturer's instructions.

.2 Coordinate with installers of other door hardware.

.3 Adjust installed items to operate properly without interfering with operation of door and other hardware.

.4 Test for proper operation with building power energized; coordinate with start-up procedures of other installers.

3.04 SITE TESTS AND INSPECTIONS

.1 Perform functional test to confirm that held doors release upon smoke detection.

3.05 PROTECTION

.1 Protect installed products until completion of project.

.2 Repair or replace damaged products before Substantial Performance.

.3 Three bound copies which summarize the training instruction shall be submitted to the Owner for future reference.

End of Section