USask Master Specification Directions: The master specifications are intended to be incorporated into the Consultant's final, project specific specification package. The project specific specifications are expected to include any and all sections or portions of sections (Part 1, Part 2, Part 3) that are required to create a fully executable project specification. USask Master Specs only provide information that USask **requires** be a part of the final specification package. Components or sections not included in the Master USask Specifications may still be required for a complete, well-designed project. **It is the consultant's responsibility to ensure all specifications match USask requirements. Any deviations or revisions to any section included in the master specifications requires written consent from the USask Engineering department. The consultant is liable for any omissions, errors, or incorrect equipment or components supplied to site.**
The Master Specifications shall be used in conjunction with USask's Design Guidelines. Any conflicts shall be brought to the attention of USask Engineering staff for clarification.

Part 1 General

Part 2 Products

2.1 SYSTEM DESCRIPTION

.1 Performance Requirements:

.1 Catalogued or published ratings for manufactured items: obtained from tests carried out by manufacturer or those ordered by manufacturer from independent testing agency signifying adherence to codes and standards in force.

.2 Capacity: flow rate, total static pressure, external static pressure, bhp, efficiency, revolutions per minute, power, model, size, sound power data and as indicated on schedule.

.3 Fans: statically and dynamically balanced, constructed in conformity with ANSI/AMCA Standard 99.

2.2 FANS GENERAL

.1 Motors:

.1 In accordance with Section 23 05 13- Common Motors Requirements for HVAC Equipment supplemented as specified herein.

.2 For use with variable speed controllers.

.3 Sizes as indicated.

.2 Accessories and hardware: matched sets of V-belt drives, adjustable motor bases, belt guards, coupling guards fan safety screens as indicated and as specified in Section 23 05 13- Common Motor Requirements for HVAC Equipment.

.3 Inlet dampers and vanes are not permitted.

.4 Factory primed before assembly in colour standard to manufacturer.

.5 Motor Speed: 1800rpm. Overspeed not permitted.

.6 Scroll casing drains: as indicated.

.7 Finish on fume hood exhaust fans: as noted.

.8 Bearing lubrication systems plus extension lubrication tubes where bearings are not easily accessible.

.9 Vibration isolation: to Section 23 05 48- Vibration and Seismic Controls for HVAC Piping and Equipment.

.10 Flexible connections: to Section 23 33 00- Air Duct Accessories.

2.3 CENTRIFUGAL FANS

.1 Fan wheels:

.1 Welded steel construction.

.2 Maximum operating speed of centrifugal fans not more than 50% of first critical speed.

.3 Air foil blades.

.2 Bearings: split pillow-block grease lubricated ball or roller self aligning type with oil retaining, dust excluding seals and a certified minimum rated life of 200,000 hours.

.3 Housings:

.1 Volute with inlet cones: fabricated steel for wheels 300 mm or greater, steel, for smaller wheels, braced, and with welded supports.

.2 For horizontally and vertically split housings provide flanges on each section for bolting together, with gaskets of non-oxidizing non-flammable material.

.4 Variable volume control devices:

.1 Supplied by electrical division.

.2 Variable speed drives: refer to Division 26.

.5 Acceptable manufacturers: Loren Cook, Greenheck, Twin City, PennBarry.

2.4 CABINET FANS - GENERAL PURPOSE

.1 Fan characteristics and construction: as centrifugal fans.

.2 Cabinet hung single or multiple wheel with DWDI centrifugal fans in factory fabricated casing complete with vibration isolators and seismic control measures, motor, variable speed V-belt drive and guard outside casing.

.3 Fabricate casing of zinc coated or phosphate treated steel, reinforced and braced for rigidity. Provide removable panels for access to interior. Paint uncoated, steel parts with corrosion resistant paint to MPI #18. Finish inside and out, over prime coat, with rust resistant enamel.

.4 Acceptable manufacturers: Loren Cook, Greenheck, PennBarry.

2.5 Plenum Fans

.1 TBC

2.6 High Corrosive Fans

.1 TBC

2.7 Utility Blowers

.1 TBC

2.8 Axial Fans

.1 TBC

2.9 Fan Walls

.1 TBC

2.10 Plume Fans

.1 TBC

Part 3 Execution

3.1 FAN INSTALLATION

.1 Install fans as indicated, complete with resilient mountings specified in Section 23 05 48- Vibration and Seismic Controls for HVAC Piping and Equipment, flexible electrical leads and flexible connections in accordance with Section 23 33 00- Air Duct Accessories.

.2 Provide sheaves and belts required for final air balance.

.3 Bearings and extension tubes to be easily accessible.

.4 Access doors and access panels to be easily accessible.

END OF SECTION