Installation Considerations
DS-Series™

Your purchase of a DS-Series™ Desiccant Dehumidifier is a great and economical investment. Although we build the best desiccant dehumidifier in the universe, satisfactory results depend upon the following:

1. Properly matching dehumidification capacity with the expected moisture loads in the arena. Consult Dry Solutions Inc.
2. Operating the arena in a manor that allows the dehumidifier to run for the least amount of time, saving operating costs.
    a. Never over control to a humidity level lower than necessary to stop visible humidity problems. Over-drying has no benefit and drives up electric costs! Most facilities will operate well at 65° FDB and 40% relative humidity (40F Dew-point) without visible humidity problems (condensation, fog). If there are no symptoms, it's dry enough.
    b. Don't introduce any more outdoor air than is necessary. Be sure you meet code requirements but economize as much as you can and turn ventilation rates down to match your occupancy.
    c. Seal any leaks in the building. Most doors leak even when closed (poor weather-stripping). Other common moisture leak sources include team-room doors, concession windows, exhaust fans or grilles that pull air from the arena.
    d. Keep the ice-resurfacer room door closed when machinery is not needing to move between spaces.

INSTALLATION REQUIREMENTS

PLEASE RELY ON A QUALIFIED MECHANICAL OR HVAC CONTRACTOR.

Dry Solutions DS-Series™ units make ideal replacements for conventional packaged refrigeration-style dehumidifiers. Please ensure the following requirements are met for replacement installation:

1. Place unit in a location suitable to service the filters and electrical. *Please see the clearances section.*
2. Attach high volt, three-phase power to Disconnect Switch within sight of the unit, then wire from the disconnect switch to the inlet in electric panel. Consult IOM for sizing.
3. Mount humidistat(s) within the arena space and wire per local codes to the unit electrical panel terminals. (two conductors suitable for 115 volts AC)
4. Install 8" diameter reactivation duct for DS-1000 model, 8" diameter for DS-2000 model and 12" diameter for DS-4000 model. Insulate reactivation inlet and outlet ducts to the building exterior.
    - Duct must tolerate up to a minimum of 200° F.
    - Separate the inlet and outlet by about ten feet at minimum in order to prevent rejected humidity from reentering the inlet.
    - Pitch the exhaust ducts down and away from the dehumidifier slightly.
    - Protect the inlet and outlet to the building with weather hoods or louvers.
    - Duct work system designed for a maximum of .6" ESP
5. Drain - A drain on the unit is not required like a mechanical refrigeration dehumidifier, because a desiccant system does not remove moisture as a liquid. A desiccant transfer the moisture in a vapor state. However, depending on the reactivation duct design, a drain may be required on the duct system. This is because, even with insulation, the humid air in the reactivation can condense inside the duct due to the cool environment it is exposed to. Here are the rules:
    a. If the inlet and outlet is run straight away from the unit (nearly parallel to the floor) and is pitched away from the unit, no drain is required.
    b. If the duct needs to run vertical, perpendicular to the floor, a drain in the duct (at its lowest point before it enters the unit) is required. This keeps any condensate that may form from running into the unit and causing damage.
    c. If the duct runs vertical (even a short distance) and then turn nearly perpendicular to the floor, a drain is still required. The drain should again be in the lowest point of the duct before it enters the unit. The portion of the duct system that is running nearly parallel to the floor should again be pitched away from the unit to allow condensate to flow outdoors.
6. Adjust the supply air discharge vanes so that the dry supply air does not blow directly on the ice surface.
7. Commission the unit according to the Operation, Installation and Maintenance manual.

Installation requirements for a "non-replacement" unit are similar to the above, except that a suitable mounting location will need to be considered.

The unit can be mounted on any flat surface. Best is a location that allows the supply air to blow down the length of the ice sheet to promote circulation in the arena. (See Figure 1). Consider ongoing service access as well.

The unit can also be suspended from the ceiling structure if it is capable of supporting the weight of the unit (consult IOM for weight). Mounting lugs are provided in base to allow for this mounting.

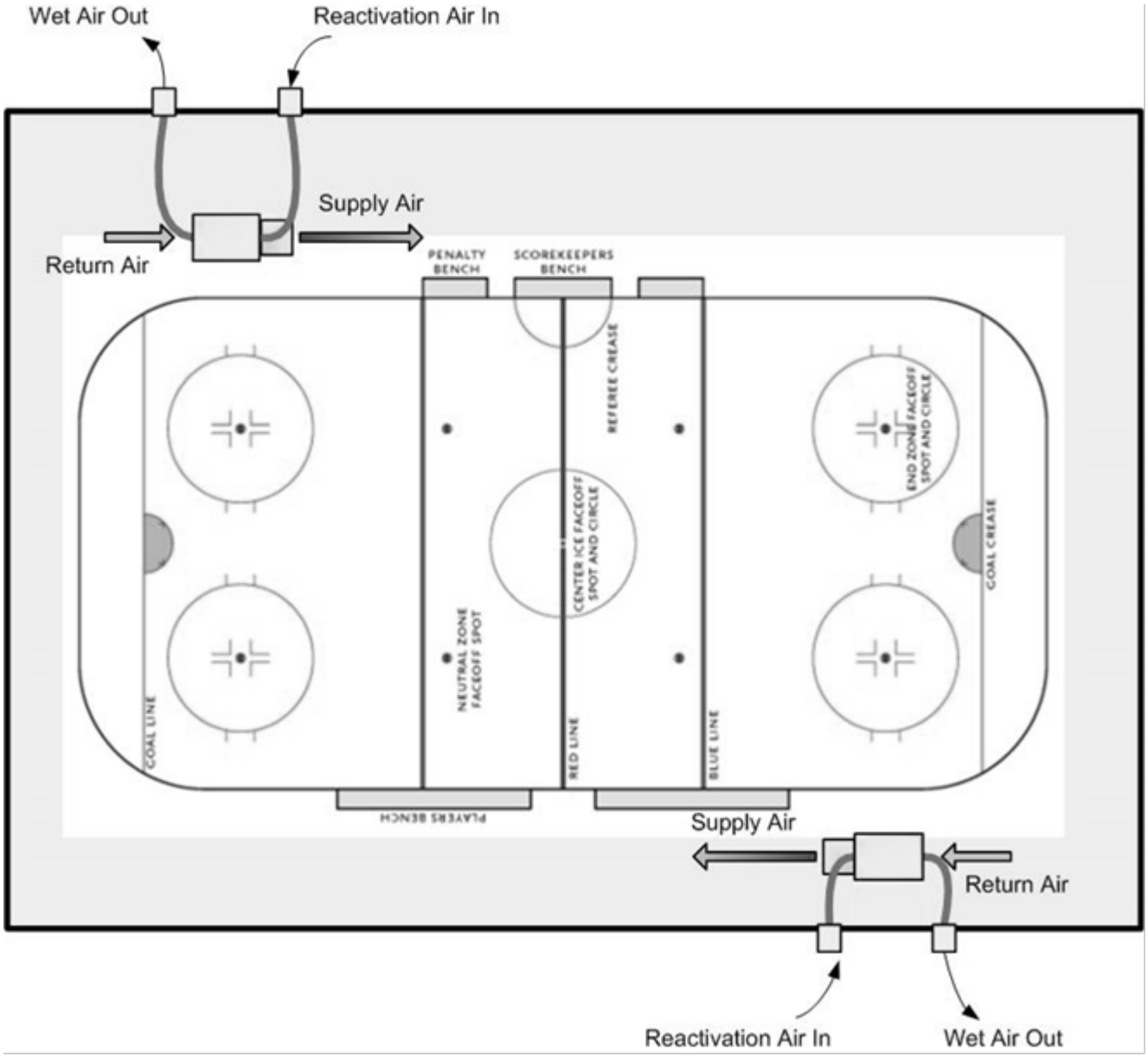
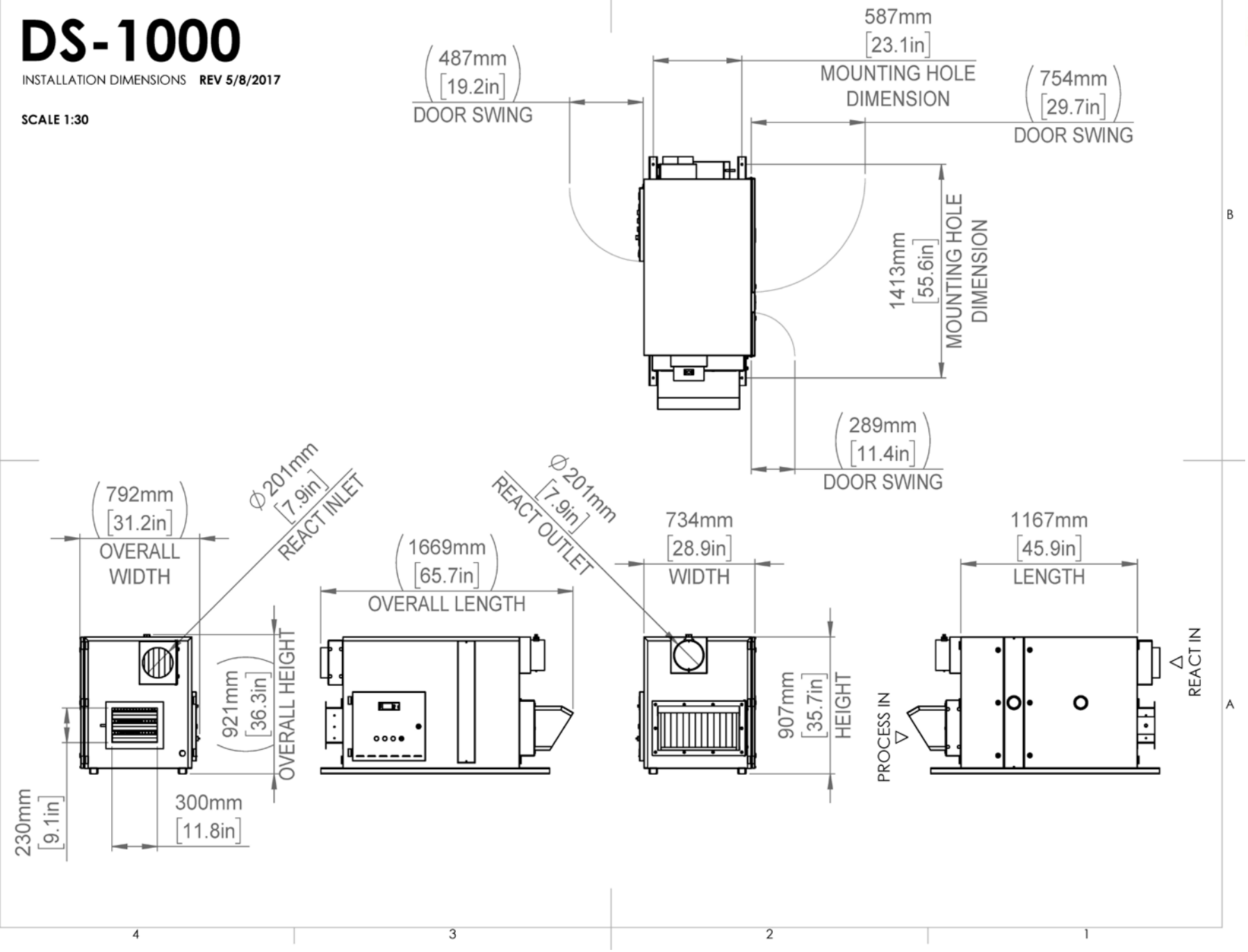


Figure 0-1 Ice Rink Layout

DS-1000

INSTALLATION DIMENSIONS **REV 5/8/2017**

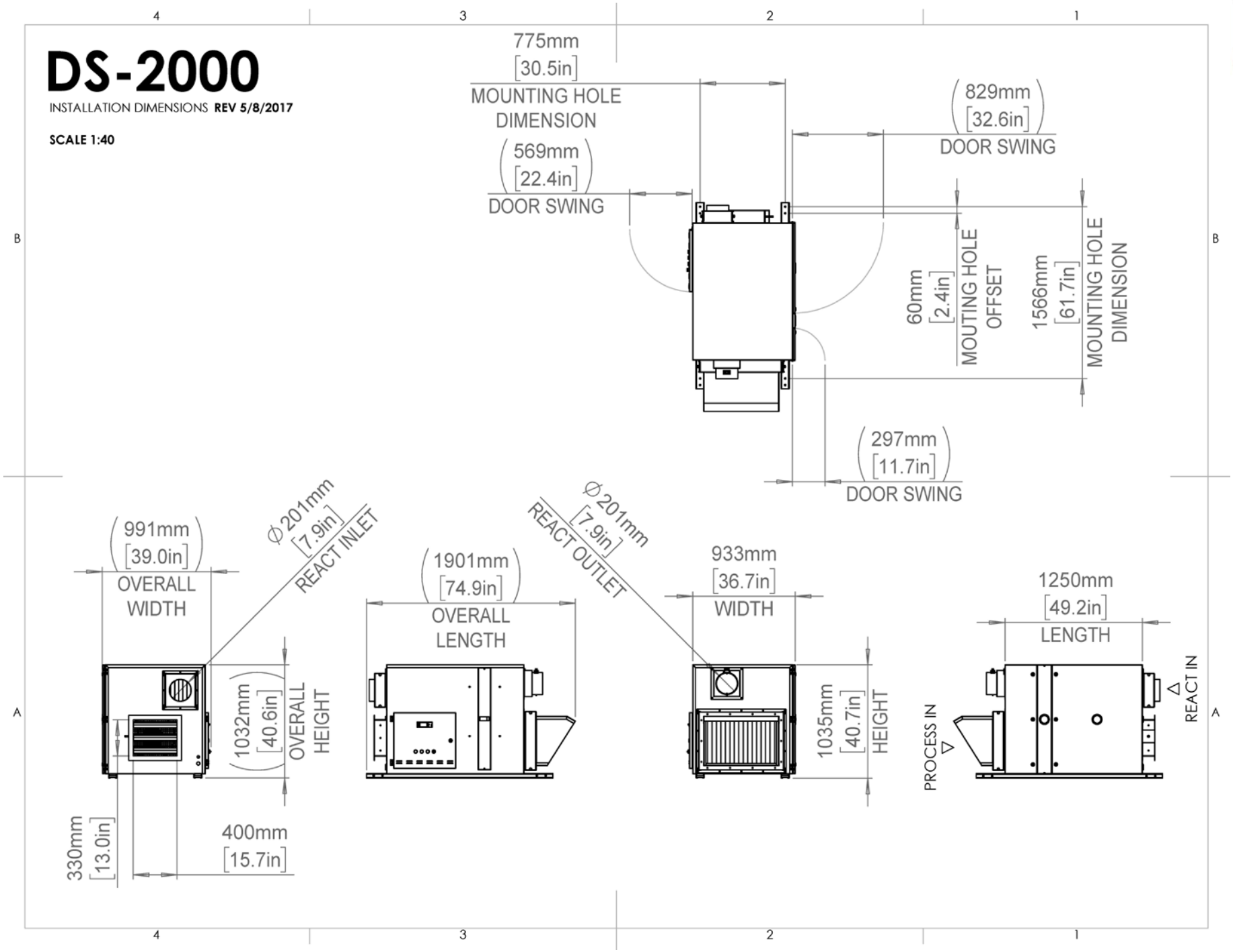
SCALE 1:30

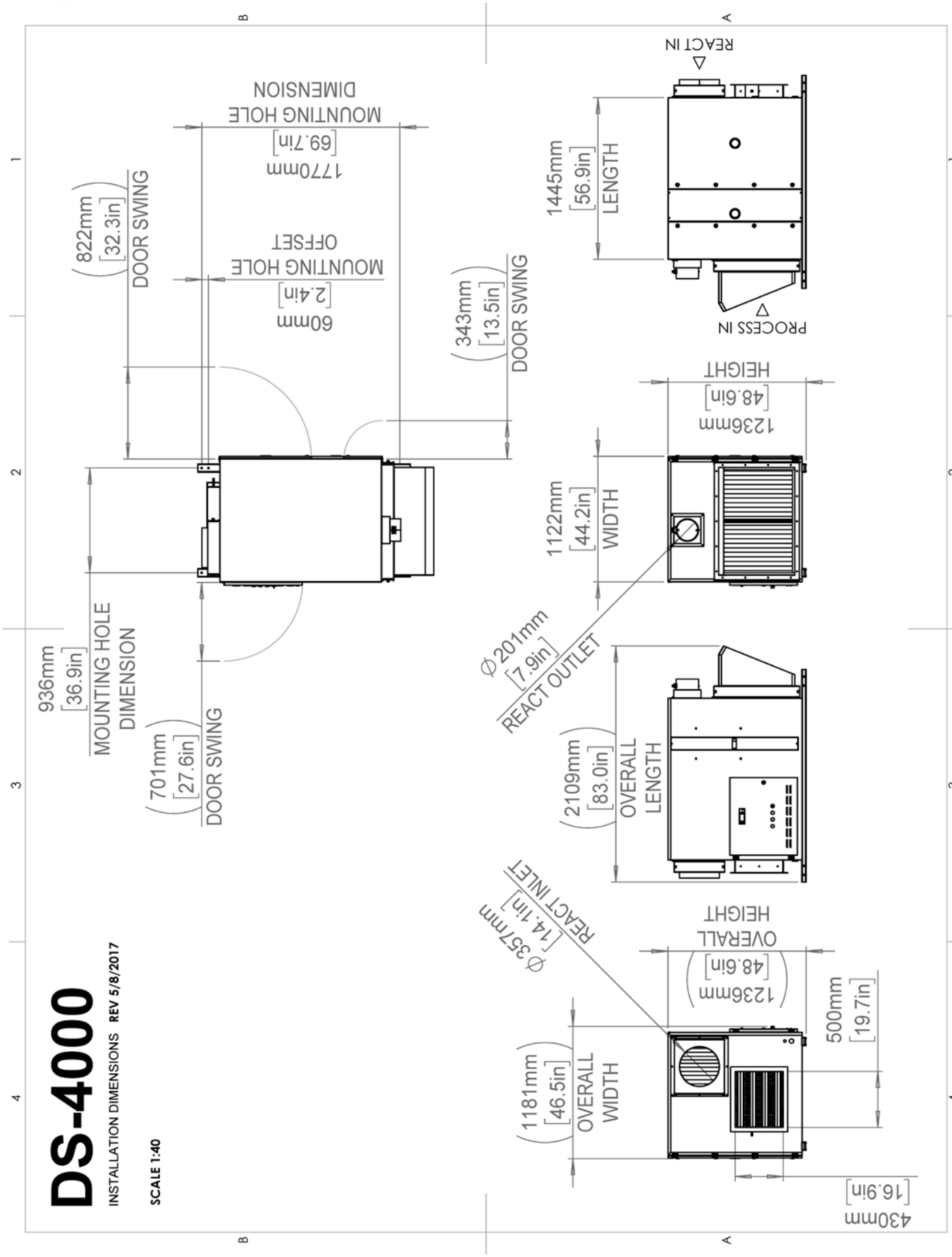


DS-2000

INSTALLATION DIMENSIONS **REV 5/8/2017**

SCALE 1:40




DS-4000
INSTALLATION DIMENSIONS REV 5/8/2017
SCALE 1:40
936mm [36.9in] MOUNTING HOLE DIMENSION
701mm [27.6in] DOOR SWING
822mm [32.3in] DOOR SWING
60mm [2.4in] MOUNTING HOLE OFFSET
1770mm [69.7in] MOUNTING HOLE DIMENSION
343mm [13.5in] DOOR SWING
1445mm [56.9in] LENGTH
REACT IN
PROCESS IN
1236mm [48.6in] HEIGHT
1122mm [44.2in] WIDTH
Ø201mm [7.9in] REACT OUTLET
2109mm [83.0in] OVERALL LENGTH
Ø357mm [14.1in] REACT INLET
1236mm [48.6in] OVERALL HEIGHT
500mm [19.7in]
1181mm [46.5in] OVERALL WIDTH
430mm [16.9in]