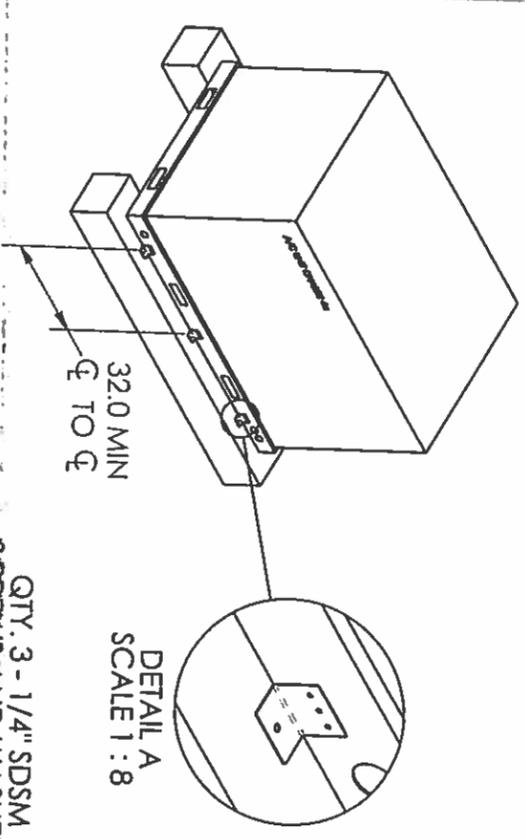
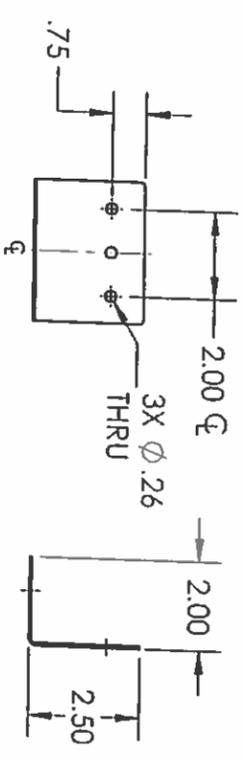
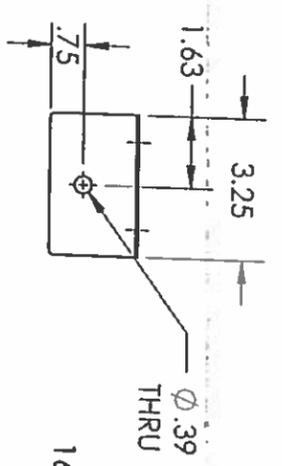


Optional Mounting



QTY. 3 - 1/4" SDSM SCREWS AND WASHERS PER BRACKET, (6) BRACKETS

QTY. 1 - 3/8" SAE GR5 BOLT, NUT AND WASHER PER BRACKET INTO PROPERLY DESIGNED METAL STAND (BY OTHERS) OR
 QTY. 1 - 3/8" POWERS WEDGE-BOLT+ ANCHOR PER BRACKET INTO MINIMUM 2000 PSI CONCRETE (BY OTHERS), AS FOLLOWS:
 2-1/8" MIN EMBED
 2-3/4" EDGE DISTANCE
 2-1/2" MIN SPACING



BRYANT Chassis 3 & 4:

Models:
 580J/558J - size 08 (min) through 14 (max), 548J - size 08 (min) through 12 (max)
 581J/551J - size 07 (min) through 12 (max), 549J - size 07 (min) through 09 (max)

Each condenser unit listed above conforms to the Florida Building Code 6th Edition (2017) requirements for installation including High Velocity Hurricane Zone (HVHZ), Risk Category III/IV (V = 186 MPH), exposure category "D", and installation height up to and including 65 feet above grade.

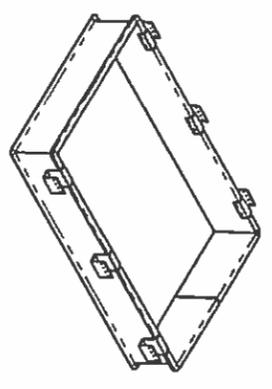
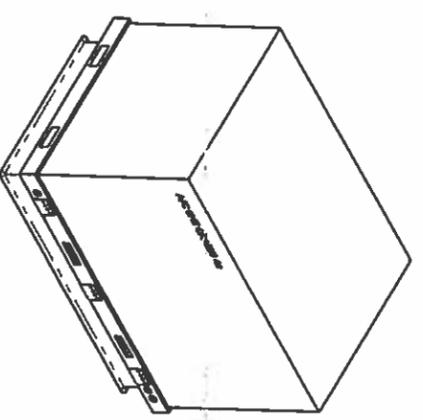
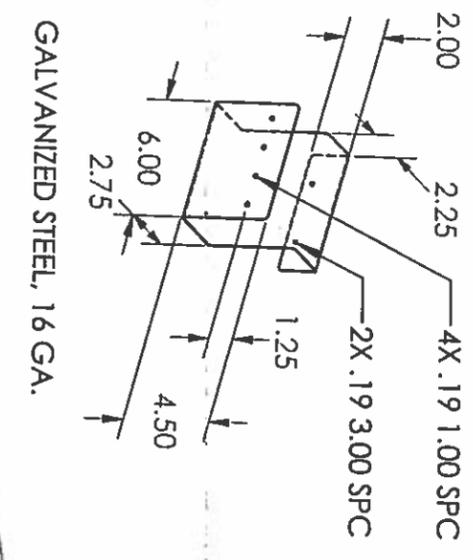
Worst Case is -09 (Chassis 4a) 88-1/8" x 59-1/2" x 49-3/4"

ALLOWABLE DESIGN PRESSURES FOR THE UNIT ITSELF:

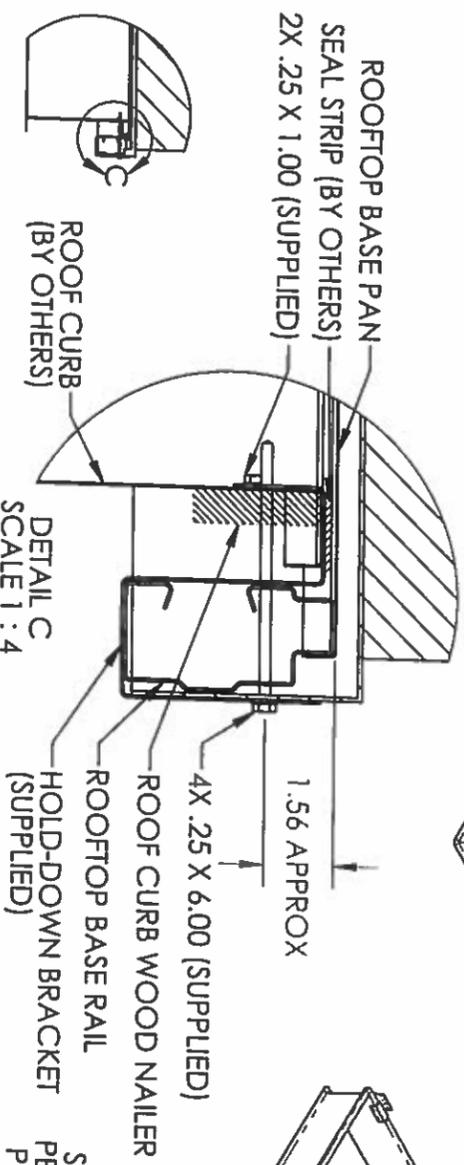
Design Lateral Pressure = 197.2 psf
 Design Uplift Pressure = 95.4 psf

Unit itself will withstand wind loads imposed by 197.2 psf lateral and 95.4 psf uplift design pressures, provided the 16 GA. galvanized base rails are fastened to a properly designed concrete slab, metal stand, curb, curb adapter, or other suitable mounting arrangement and all factory supplied assembly fasteners are in place.

Curb Mounting



QTY. 4 - TEK .25-6.00 GALVANIZED SHEETMETAL S.D. SCREWS AND WASHERS PER Z-BRACKET, (6) BRACKETS



QTY. 2 - TEK .25-1.00 GALVANIZED SHEETMETAL S.D. SCREWS AND WASHERS PER Z-BRACKET, (6) BRACKETS PRIOR TO SEAL STRIP INSTALL

AUG 10 2018
 Bryant RTUs
 P.O. Box 0050567
 Sample Road
 Bldg. 3, Suite 220
 Pompano Beach, FL 33064
 954-633-4692

Job No:	Chassis 3 & 4
Date:	2-11-16
Created by:	CORE

Job No:	Bryant RTUs
Title:	Model List and Details

Rational Analysis: Worst case is -09 (Chassis 4a) 88-1/8" x 59-1/2" x 49-3/8"

Design Pressures complying to FBC Building 1620.6 (HVHZ):

V = 186 mph (Risk Cat. III/IV), For Exp. Cat. "D" and Z = 65 ft, Kz = 1.33, Kzt = 1.0, Kd = 0.90
 Qz = .00256KzKztKdV2 = 106.0 psf
 Lateral Wind Pressure = WL = qz(3.1) = 328.64 lb/R2
 Uplift Wind Pressure = UL = qz(1.5) = 159.02 lb/R2
 Factoring in the required Load Combination factor (0.6):

Design Lateral Pressure = WL(0.6) = 197.2 psf
 Design Uplift Pressure = UL(0.6) = 95.4 psf

Since positive pressure acts toward the surface being considered and negative pressure acts away, only the uplift pressure will remove a panel from the machine. The design lateral pressure which is considered to act toward the windward surface is recognized to be a combination of the pressures acting on the windward and leeward surfaces. Wall pressure coefficients from ASCE7-10, Chapter 27, Figure 27.4-1 may be used to distribute the Design Lateral Pressure into positive and negative components acting on the windward and leeward surfaces, respectively.

L/B = 59.5/88.125 = 0.68 for wind on long (88-1/8") side
 L/B = 88.125/59.5 = 1.48 for wind on short (59-1/2") side

Worst case positive pressure coefficient is 0.8 for windward wall which has a corresponding negative pressure coefficient of 0.5 on the leeward wall. The worst case negative pressure coefficient is 0.7 for the sidewall (side parallel to wind). Since the windward and leeward wall pressures act in the same direction, the distributed pressures are computed as follows:

Lateral Positive Design Pressure = $197.18(0.8)/(0.8+0.5) = 121.3$ psf (Worst Case Positive)
 Lateral Negative Design Pressure = $197.18(0.5)/(0.8+0.5) = 75.8$ psf
 Sidewall Negative Design Pressure = $197.18(0.7)/(0.8+0.5) = 106.2$ psf (Worst Case Negative)

22, 20, and 18 ga. panels and columns are fastened together and to 16 ga. base rails using #10 serrated washer head self tapping screws having 0.425" head diameter, 0.19" nominal diameter, and 0.14 minor diameter. These screws are expected to exhibit the following properties based upon ICC-ES Report ESR-2196:

Pullout Strength in 22 ga. = 306 lbs (ultimate) Pullout Strength in 20 ga. = 351 lbs (ultimate)
 Pullover Strength of 22 ga. = 828 lbs (ultimate) Pullover Strength of 20 ga. = 993 lbs (ultimate)
 Shear Strength in 22 ga. = 684 lbs (ultimate) Shear Strength in 20 ga. = 684 lbs (ultimate)
 Pullout Strength in 18 ga. = 450 lbs (ultimate)
 Shear Strength in 16 ga. = 927 lbs (ultimate)

For Top Panel (50HJ501228):
 87.32" x 57.68" draw formed 20 ga. panel anchored at edges and through top to 18 ga. center panel and 20 ga. control box. Worst case portion is over air handler section since condenser section has two large holes in the top causing internal and external pressure to be equal. For portion tributary to air handling section:
 A = 42.86(57.68)/12(12) = 17.17 sqft
 Load = 17.17(95.41) = 1638.0 lbs
 For outside edge (8) screws, all in shear through 20 ga. top panel into 22 ga. indoor panel and corner posts:
 Screw Load = 1638.0/2(8) = 102.4 lbs
 Safety Factor = 684/102.4 = 6.7

For inside edge (5) screws in tension through 20 ga. top panel into 18 ga. center panel and 4 screws in shear through top panel into 22 ga. center posts:
 Screw Load = 1638.0/2(9) = 91.0 lbs
 Safety Factor = 684/91.0 = 7.5
 OK for Components and Cladding
 OK for Components and Cladding

For Inside Panel (50DK500689):
 57.56" x 45.49" draw formed 22 ga. panel anchored at edges with 6 screws through top panel into face at top, 5 screws each vertical edge through flange perpendicular to face, and 6 screws at one inch above bottom edge through panel into base rail, and 4 screws between supply and return openings into stiffener (50DK502637) fastened to condensing coil.

A = 57.56(45.49)/12(12) = 18.18 R2
 Load = 18.18(106.17) = 1930.5 lbs
 Screw Load = 1930.5/2(5+6) = 87.75 lbs
 Safety Factor = 450/87.75 = 5.1

For Access Panel (48TM500388):
 45.33" x 42.95" draw formed 22 ga. panel anchored with 2 screws through face each vertical side, 3 screws through face at bottom edge into 16 ga. base rail, and top edge fits inside top panel (trapped).

A = 45.33(42.95)/12(12) = 13.52 sqft
 Load = 13.52(106.17) = 1435.4 lbs
 Screw Load = 1435.4/2(2+3) = 143.54 lbs
 Safety Factor = 684/143.54 = 4.8

For Filter Panel (50DK506970):
 40.40" x 21.62" draw formed 20 ga. panel anchored with 3 screws through face at bottom edge and top edge fits inside top panel (trapped).

A = 40.40(21.62)/12(12) = 6.12 sqft
 Load = 6.12(106.17) = 649.8 lbs
 Screw Load = 649.8/2(3) = 108.32 lbs
 Safety Factor = 684/108.32 = 6.3

Remaining panels are trivial cases of the above due to greater fastener quantity or having openings that limit negative pressure effects.
 OK for Components and Cladding

For connection of upper frame and panels to base rails:
 12 screws each long side fasten frame columns and panels to the long base rails. 6 screws fasten inside panel to short base rail at air handler end. Opposite end is louvered and has a large opening in the top and mesh over cooling coils. Screws fasten 22 ga. (min) panels and columns to 16 ga. base rails.

Lateral Wind Area = AL = 87.32(45.63)/12(12) = 27.67 sqft
 Lateral Design Load = 27.67(197.18) = 5455 lbs
 Overturning Moment = 5455(45.63)/2 = 124443 in-lb
 Uplift Wind Area = AU = 87.32(57.68)/12(12) = 34.98 sqft
 Uplift Design Load = 34.98(95.41) = 3337 lbs
 Uplift Moment = 3337(57.68)/2 = 96242 in-lb

Screw Load = (124443 + 96242)/12(57.68) = 318.8 lbs (shear)
 Safety Factor = 927/318.8 = 2.9
 OK for Components and Cladding

Unit itself will withstand wind loads imposed by 197.18 psf lateral and 95.41 psf uplift design pressures provided the 16 gage galvanized base rails are properly fastened to a suitable slab, stand, curb, curb adapter, or other suitable mounting arrangement and all factory supplied assembly fasteners are in place.

For connection of unit base rails to properly designed curb, metal stand, or structural concrete (by others):
 Lateral Wind Area = AL = 88.125(49.375)/12(12) = 30.22 R2
 Lateral Design Load = 30.22(197.18) = 5958 lbs
 Overturning Moment = 5958(49.375)/2 = 147090 in-lb
 Uplift Wind Area = AU = 88.125(59.5)/12(12) = 36.41 R2
 Uplift Design Load = 36.41(95.41) = 3468.5 lbs
 Uplift Moment = 2697(59.5)/2 = 88272 in-lb

For connection of 16 ga. (min) straps, clips, or brackets spaced 32" min apart to unit base rails on long sides using 1/4" (#14) self-drilling screws:
 Pullout Strength in 16 ga. = 573 lbs (ultimate)
 Shear Strength in 16 ga. = 1389 lbs (ultimate)

Using (3) screws per strap, clip, or bracket, with (3) straps, clips, or brackets each long side (see sheet 4):
 Screw Load = (147090 + 88272)/3(3)(59.5) = 439.5 lbs (shear) at base rail outer surface
 Safety Factor = 1389/439.5 = 3.2
 OK

For Z-brackets similar to Micromet design but modified to eliminate hidden structural fasteners anchored to 18 ga. (min) curb (by others):
 Shear Strength in 18 ga. = 1218 lbs (ultimate)

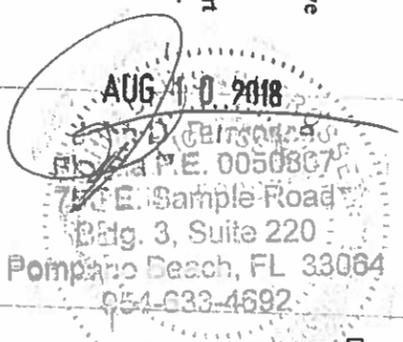
Screw Load = (147090 + 88272)/3(4)(49.75) = 394.2 lbs (shear) at curb inside surface
 Safety Factor = 1218/394.2 = 3.1
 OK for Components and Cladding

For brackets 3.25" wide x 2" x 2-1/2", 16 ga. (min), spaced 32" (min) on-center each long side, Using (3) screws per bracket, (3) brackets each side:

Anchor Load = (147090 + 88272)/3(60.25) = 1302.2 lbs (tension)
 Anchor Load = 5958/6 = 993.0 lbs (shear) at 3/4" beyond base rail outer surface

For 3/8" SAE Gr. 5 bolts with nuts and washers to steel (by others):
 Safety Factor = 3720/1302.2 = 2.9 (tension)
 Safety Factor = 1937/993.0 = 2.0 (shear)
 OK
 OK

For 3/8" Powers Wedge-Bolt + anchors with 2-1/8" (min) embedment into 2000 psi (min) concrete (by others), 4" (min) thick, 2-3/4" (min) edge distance, and 2-1/2" (min) spacing:
 Safety Factor = 3000/1302.2 = 2.3 (tension)
 Safety Factor = 3100/993.0 = 3.1 (shear)
 OK
 OK



Job No: Chassis 3 & 4	Job No: Bryant RTUs
Date: 1-08-16	Title: Model List and Details
Created by: CORE	