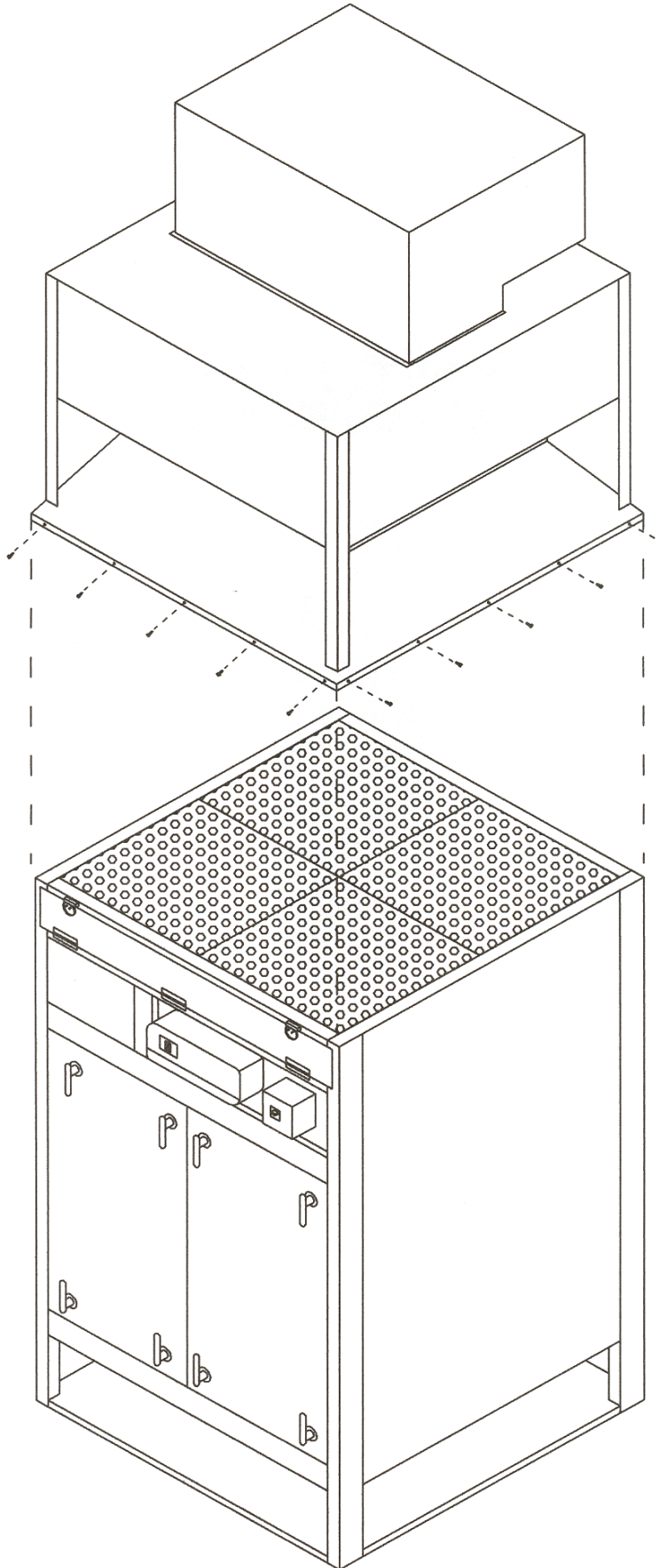
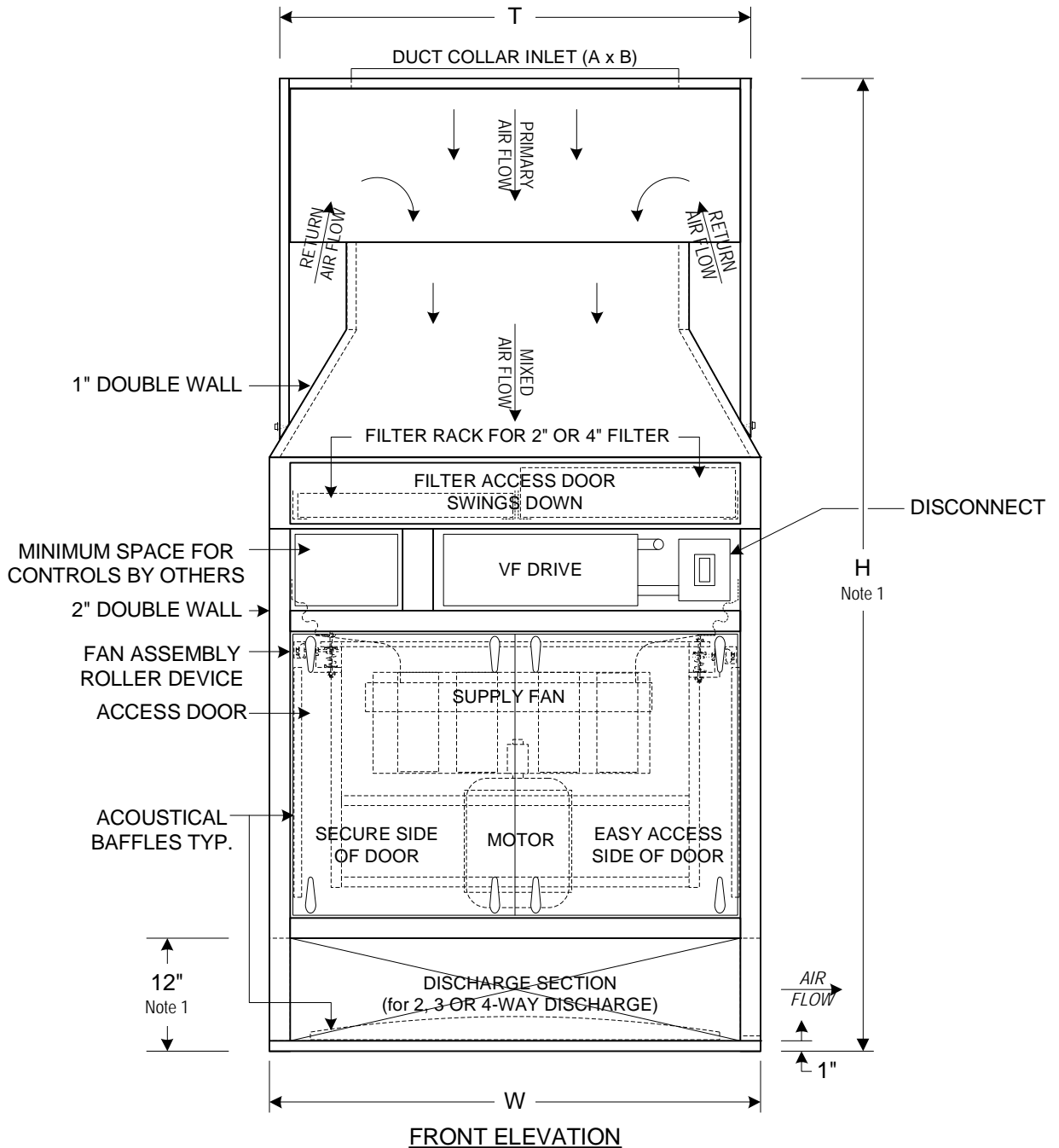


**MIXED-FLOW AIR COLUMN UNIT**



## MIXED-FLOW AIR COLUMN UNIT



### DIMENSIONS IN INCHES

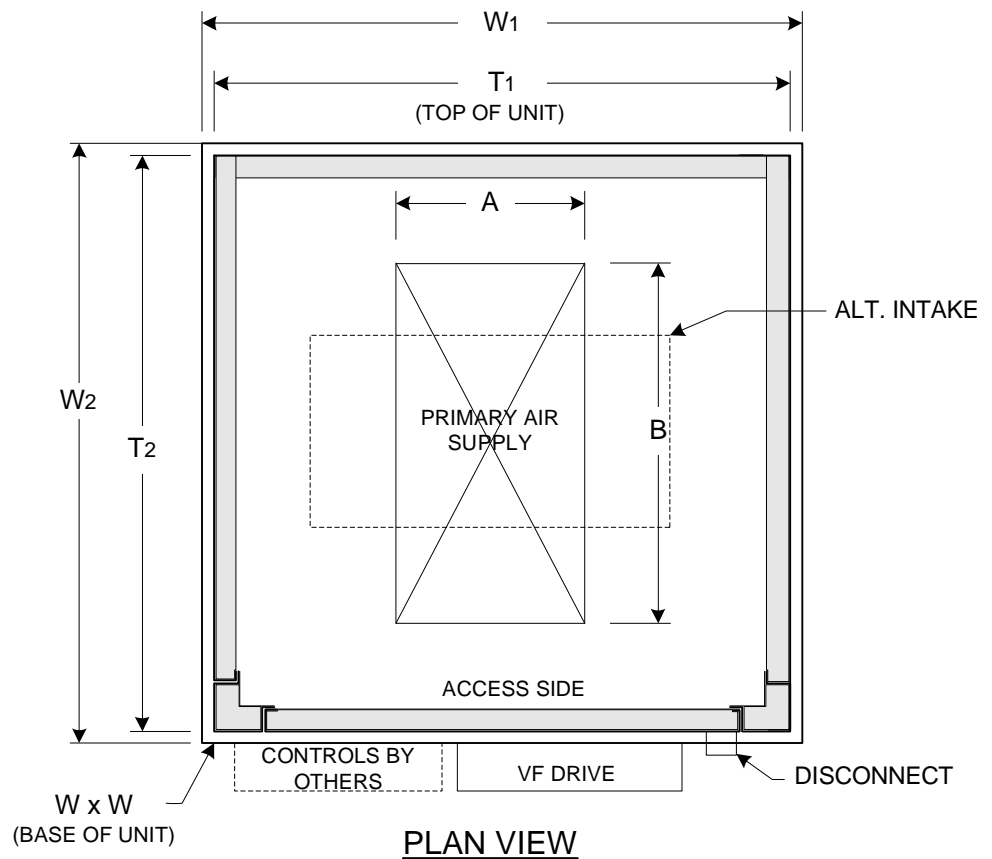
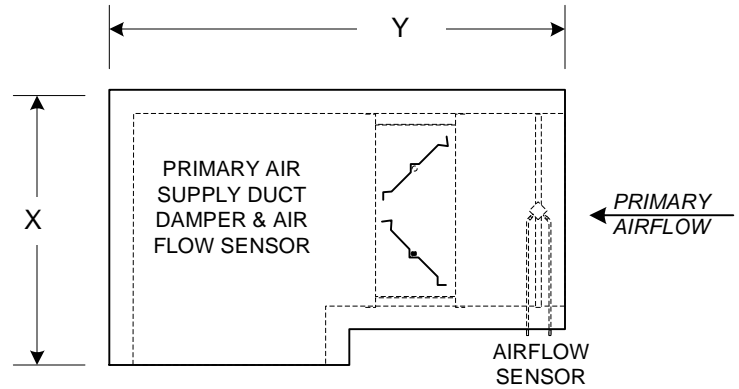
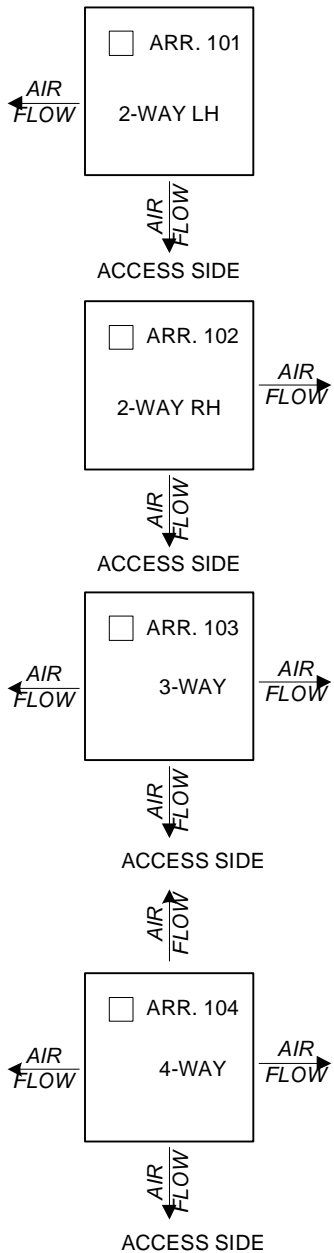
MODEL	Rated CFM	A*	B*	X x Y	T <sub>1</sub> x T <sub>2</sub>	W <sub>1</sub> x W <sub>2</sub>
VDT-03CU	1,500	10	12	14 x 21	32 x 32	36 x 36
VDT-06CU	3,000	12	20	16 x 26	40 x 40	44 x 44
VDT-10CU	5000	14	28	18 x 27	40 x 40	44 x 44
VDT-17CU	7,000	16	36	20 x 32	48 x 48	52 x 52
VDT-21CU	10,000	20	40	24 x 40	60 x 60	64 x 64
VDT-25CU	12,500	22	46	26 x 41	60 x 60	64 x 64
VDT-30CU	15,000	24	50	28 x 48	72 x 72	76 x 76
VDT-36CU	18,000	28	52	32 x 50	72 x 72	76 x 76

\* SUGGESTED SIZE; VERIFY EXACT SIZE FROM PROJECT PLANS

Note 1: Unit height will increase or decrease based on raised floor height. The height shown is for a 12" high raised floor. The unit lower chamber is built to accept the design floor height.

## MIXED-FLOW AIR COLUMN UNIT

### ARRANGEMENT



**Note:**

Purchaser must mark proper the discharge arrangement for each unit.

### DIMENSIONS IN INCHES

MODEL	Rated CFM	A*	B*	X x Y	T1 x T2	W1 x W2
VDT-03CU	1,500	10	12	14 x 21	32 x 32	36 x 36
VDT-06CU	3,000	12	20	16 x 26	40 x 40	44 x 44
VDT-10CU	5000	14	28	18 x 27	40 x 40	44 x 44
VDT-17CU	7,000	16	36	20 x 32	48 x 48	52 x 52
VDT-21CU	10,000	20	40	24 x 40	60 x 60	64 x 64
VDT-25CU	12,500	22	46	26 x 41	60 x 60	64 x 64
VDT-30CU	15,000	24	50	28 x 48	72 x 72	76 x 76
VDT-36CU	18,000	28	52	32 x 50	72 x 72	76 x 76

\* SUGGESTED SIZE; VERIFY EXACT SIZE FROM PROJECT PLANS

## SPECIFICATIONS VDT-CU

**Unit Floor** is constructed of a welded tubular base frame and galvanized steel panels. The exterior panel is (min) 18-gauge solid galvanized G-90 steel and the interior is perforated with dual-density insulation. The floor is reinforced, braced and welded for rigidity to form a unitized assembly. The unit floor is complete with an aerodynamically shaped acoustical discharge assembly to control sound and properly direct the airflow to the individual openings. This unit is shipped in one piece unless otherwise specified at time of release.

**Unit Casing** is constructed of double wall panels fabricated of (min) 18-gauge solid galvanized G-90 steel and the perforated interior sound panels with dual-density insulation, reinforced and supported with galvanized steel angles and channels to form a rugged assembly. A Foil Scrim Kraft (FSK) covering over the insulation in all perforated sound panels protects the air stream from loose insulation fibers. The casing panels are lined with 2# density dual density encapsulated between the inner and outer skin, in full accordance with NFPA 90A and UL 181. The internal liner is secured in place with a suitable UL listed adhesive. Full service access panels are provided on the access side of the unit for easy service. The filter access door and all panels are sealed with close-cell gaskets to prevent casing leakage.

**Access Doors** are provided on the front of the unit with Ventlock latches and EPDM bulb type gaskets. Each access door is provided with (4) roller-ball handles for complete removal and easy access. Viewing windows with double-glazing and internal lighting are optional features.

**Fans** are direct drive plenum type, selected for ultra-quiet performance and are rated according to AMCA. All fans are statically and dynamically balanced and operate below the fan first critical speed. The fan and motor assembly are mounted on a welded common tubular steel frame with open spring isolators and a quick release flexible connection at the fan inlet. The fan, motor and frame assembly is designed to roll out of the fan chamber on a unique suspension roller assembly for service or quick replacement.

**Motors** are direct drive high efficient type, specifically tested for VFD operation; open drip proof or TE motors are factory mounted. Fan motor are mounted on an adjustable NEMA type base and factory wired.

**Filter Sections** are provided in a flat arrangement designed to accept either 2" or 4" deep filters. Each filter is provided with gaskets to prevent unfiltered air and pull trays for easy removal and service. The unit is provided complete with one-set of factory installed 2"-30% pleated filters. After commissioning the owner or installer may install the field provided 4" filters.

**Wiring Components** include a VF Drive and disconnect switch factory installed and wired in accordance with NEC; the entire assembly is ETL Certified. The field connection is (min) 5-amp single point 480/3/60. Optional NEMA 12 design is available when required by local codes.

**Control Components** are not included; all controls are the responsibility of others. Factory options include inlet flow sensors, VF drive interface and the installation of DDC controls furnished by others

**Exterior Finish** is standard mill galvanized. All galvanized steel is G 90 with a minimum 1.25 ounces of zink per square foot on both sides and conform to ASTM A525, coating class, lock-forming quality. All welds are cleaned and protected with a minimum 4 mils zinc rich paint. Optional exterior painting with Air Zone pure white or pearl gray is available.

**Performance:** Certified Independent Laboratory test provide NC 40 performance six-feet from the operating unit under mixed-flow and full flow conditions. Certified Test Results are available upon request.

PHYSICAL DATA

Model	Rated CFM	HP	Fan	NC	Weight
VDT-03CU	1,500	3/4	15"	40	1,250#
VDT-06CU	3,000	1	22"	40	1,250#
VDT-10CU	5,000	2	27"	40	1,505#
VDT-17CU	7,000	2	36"	40	1,775#
VDT-21CU	10,000	3	36"	40	2,150#
VDT-25CU	12,500	5	44"	40	2,620#
VDT-30CU	15,000	5	44"	40	2,620#
VDT-36CU	18,000	7.5	49"	40	2,990#

FILTER DATA

Model	Rated CFM	(Qty) Size	Area*	Max. Vel.
VDT-03CU	1,500	(4) 16" x 16"	7.11	211
VDT-06CU	3,000	(4) 20" x 20"	11.11	270
VDT-10CU	5000	(4) 20" x 20"	11.11	450
VDT-17CU	7,000	(4) 24" x 24"	16.00	438
VDT-21CU	10,000	(9) 20" x 20"	25.00	400
VDT-25CU	12,500	(9) 20" x 20"	25.00	500
VDT-30CU	15,000	(9) 24" x 24"	36.00	417
VDT-36CU	18,000	(9) 24" x 24"	36.00	500

\* Gross Area

Run testing of each unit is conducted at Air Zone International prior to shipment.

The VF Drive is factory set to the required CFM. A two year warranty is provided on the VFD.

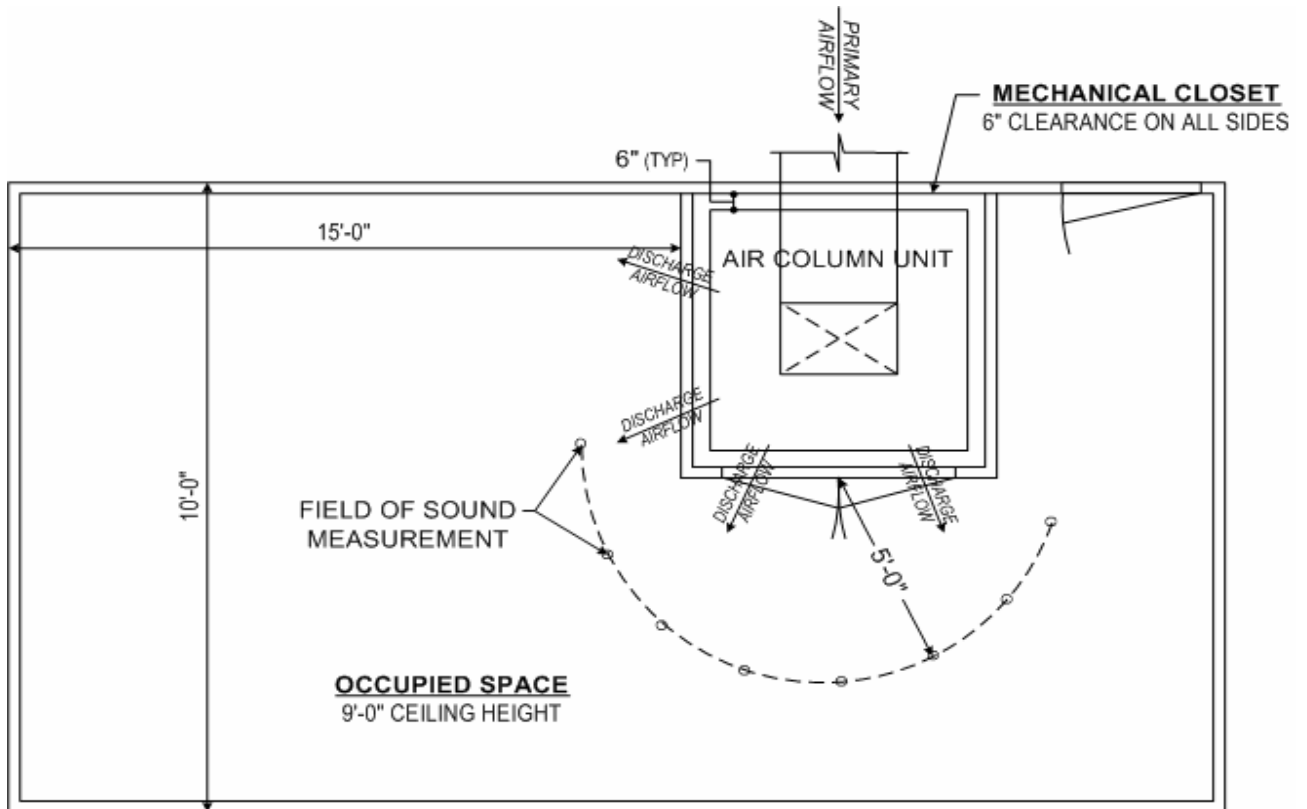




**Certified Sound Performance  
Air Column Units**

VOLUME CFM	OCTAVE BANDS								NC LEVEL
	1 63	2 125	3 250	4 500	5 1K	6 2K	7 4K	8 8K	
1,500	51	48	46	37	34	33	26	22	40
3,000	51	50	49	44	40	36	30	26	36
5,000	55	53	51	45	42	37	31	28	40
7,500	57	50	47	43	39	35	26	22	39
10,000	63	49	46	42	37	30	25	21	39
12,500	64	49	46	42	38	30	23	19	40
15,000	63	48	45	41	36	28	21	17	39
18,000	63	50	49	43	38	30	22	18	39

Certified Sound Data based on independent laboratory testing in a mock-up facility as shown below.



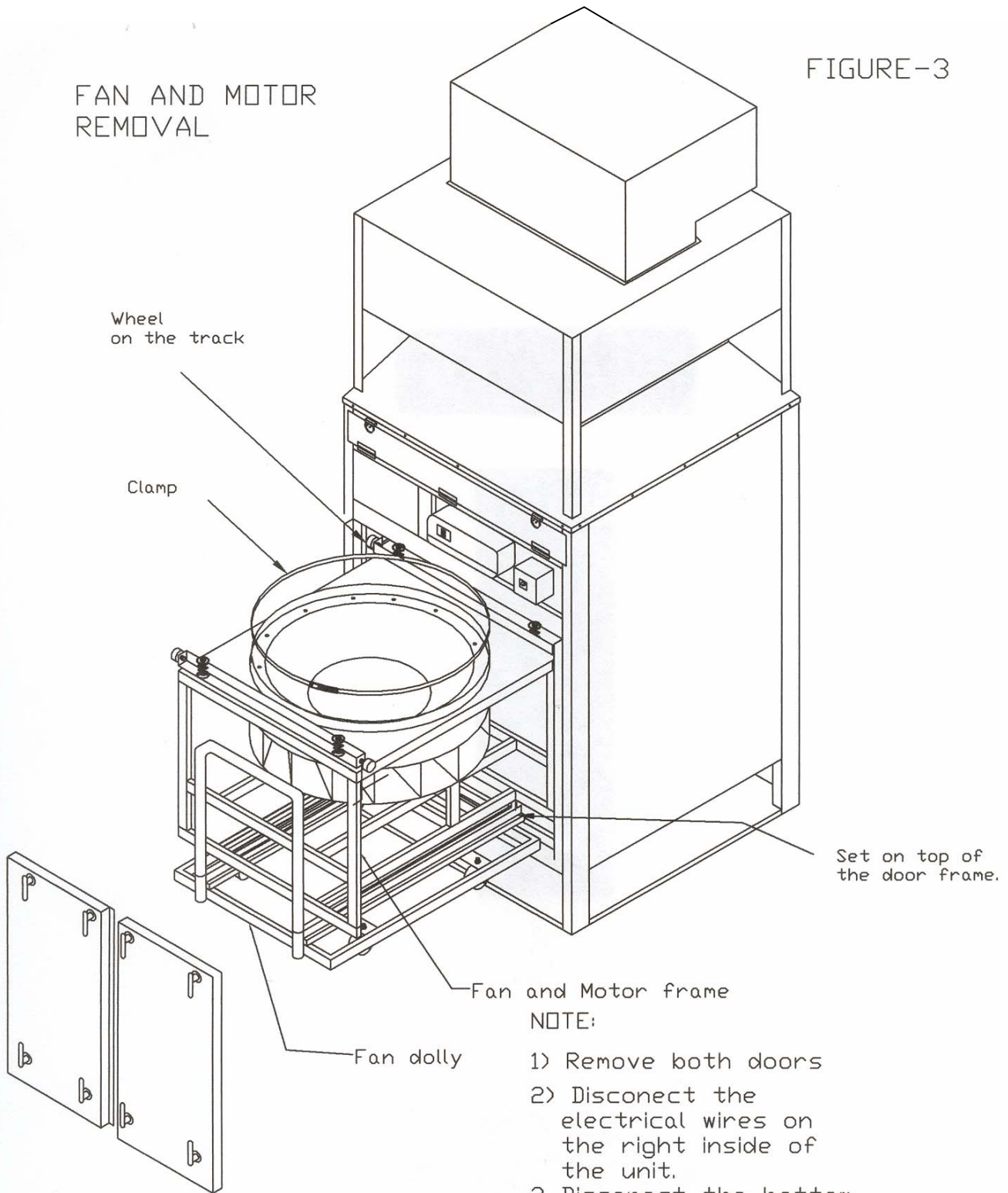
**TYPICAL TEST SET-UP**





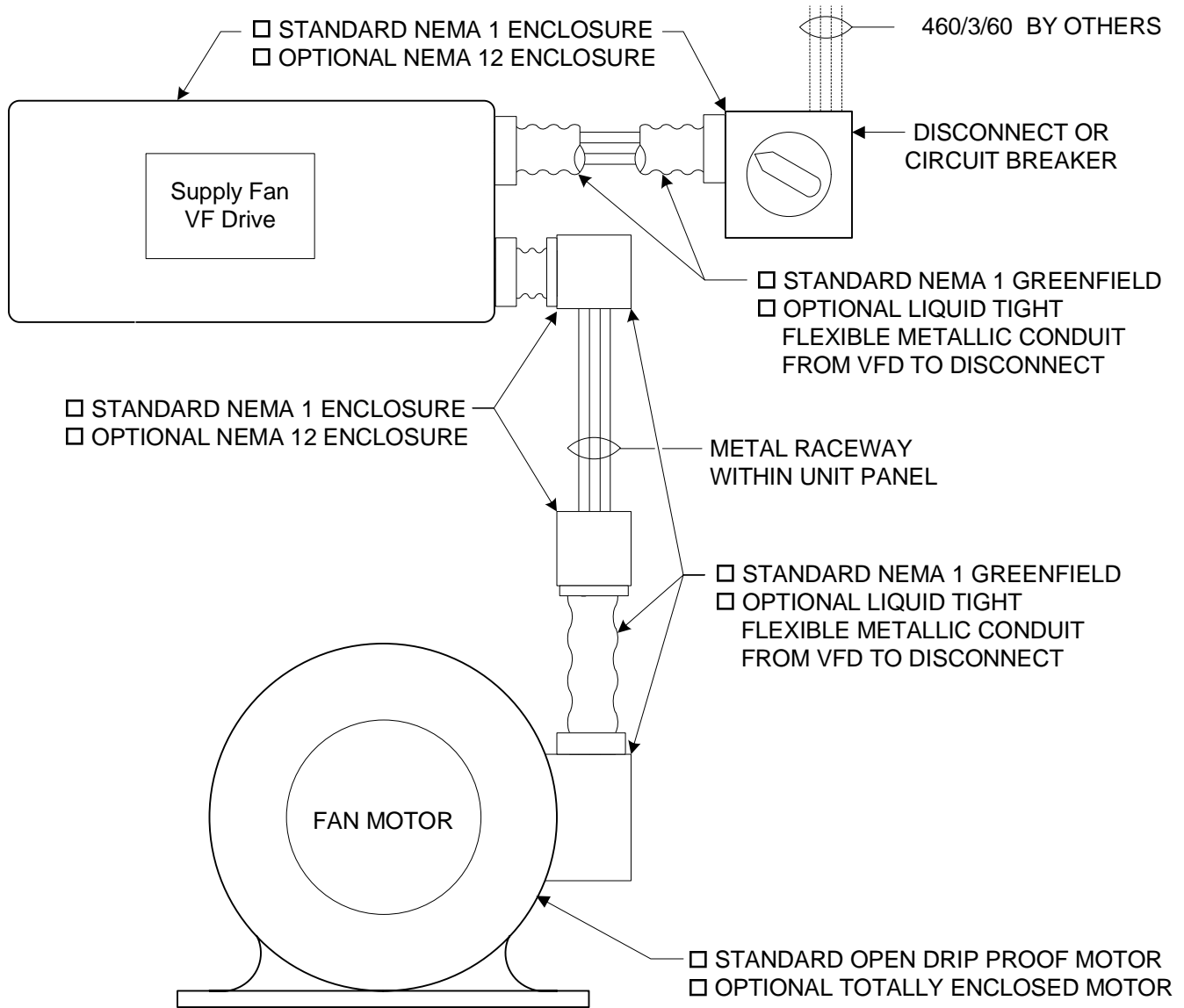
FIGURE-3

FAN AND MOTOR  
REMOVAL



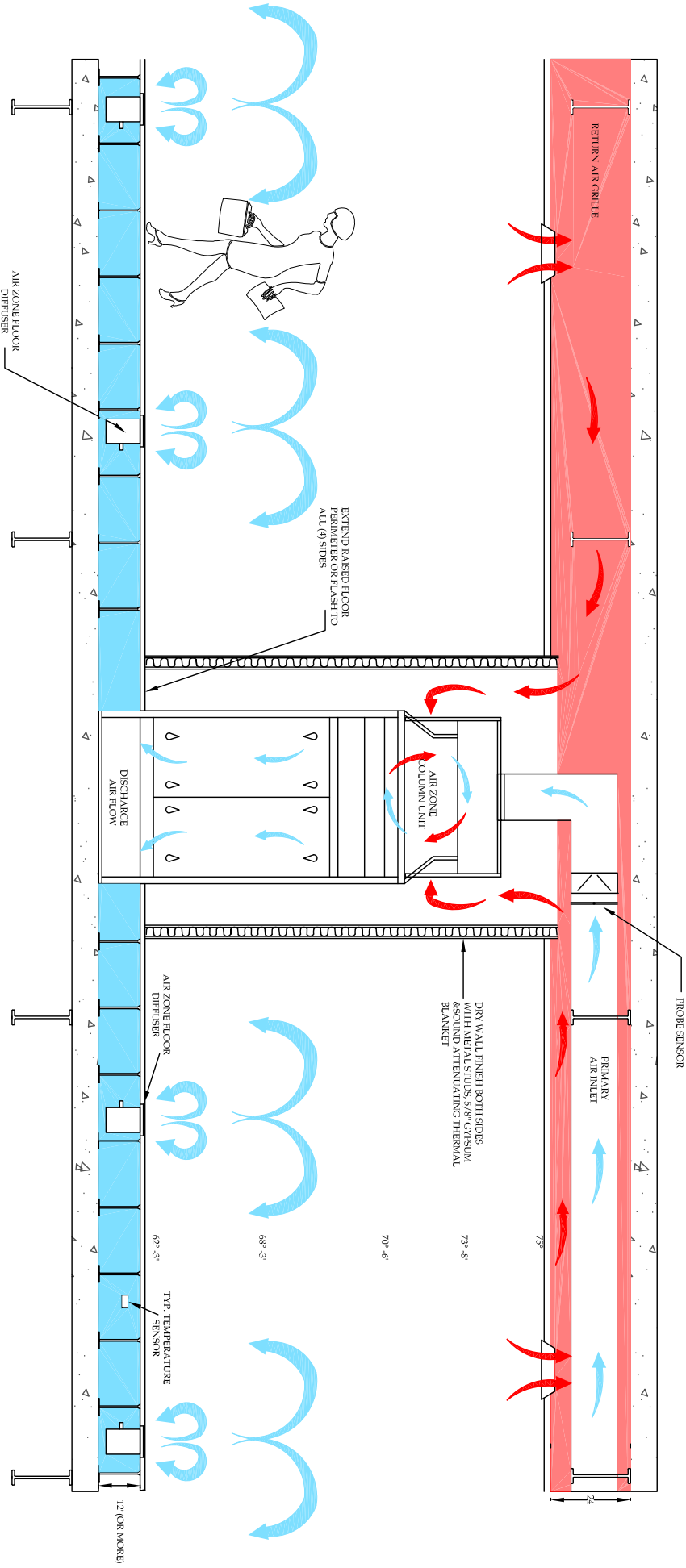
NOTE:

- 1) Remove both doors
- 2) Disconnect the electrical wires on the right inside of the unit.
- 3) Disconnect the bottom clamp from the top of the fan.
- 4) Set the fan dolly on top of the door frame and lock all the wheels.
- 5) Pull the fan frame, make sure that the bottom of the frame will align on the dolly track.



**Note:**

1. All wiring in accordance with NEC.
2.  Optional NEMA 12 construction complies with Chicago Building Code .
3. All units are ETL Certified



AIR ZONE FLOOR DIFFUSER

EXTEND RAISED FLOOR PERIMETER OR FLASH TO ALL (4) SIDES

DISCHARGE AIR FLOW

AIR ZONE COLUMN UNIT

AIR ZONE FLOOR DIFFUSER

DRY WALL FINISH BOTH SIDES WITH METAL STUDS, 1/2\"/>

PROBE SENSOR

PRIMARY AIR INLET

62°-3'

68°-3'

70°-4'

73°-8'

75°

TYP. TEMPERATURE SENSOR

12" (OR MORE)