# HHA

Critical Environment AHU
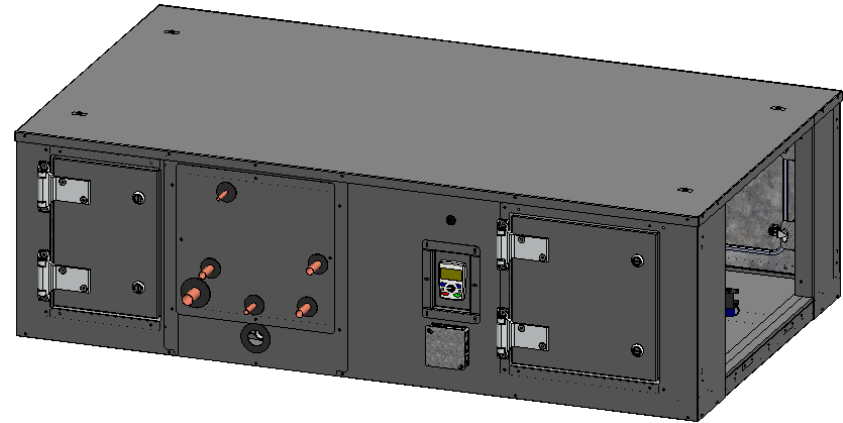
Spec Air Handling Product

Magic Aire

HHA Features

- Size:
  - 400 – 2500 CFM
- Max allowable rows = 12
- Double wall construction
  - Optional IAQ coated liner
- Phenolic Coated or Stainless Steel casing Coil options
- Cooling Coils:
  - 1 – 8 row CW
  - DX (R-22 and R-410A)
    - Single and Dual circuit R-410A
- Heating Coils:
  - 1 – 6 row HW
  - Steam
- Unit voltage:
  - 208-240V in 1 and 3 phase
  - 460V, 3 phase
- Pre-Filters:
  - 2" Pleated (MERV 8)
  - 2" MERV 8 and 4" MERV 13 pre-filter section
    - Extends HEPA filter life 5X

- Motor:
  - ODP 1 – 5 HP with VFD
- Final-Filters:
  - 12" HEPA
  - 12" MERV 14
  - Final 12" final filter
  - No final filter (shorter unit)
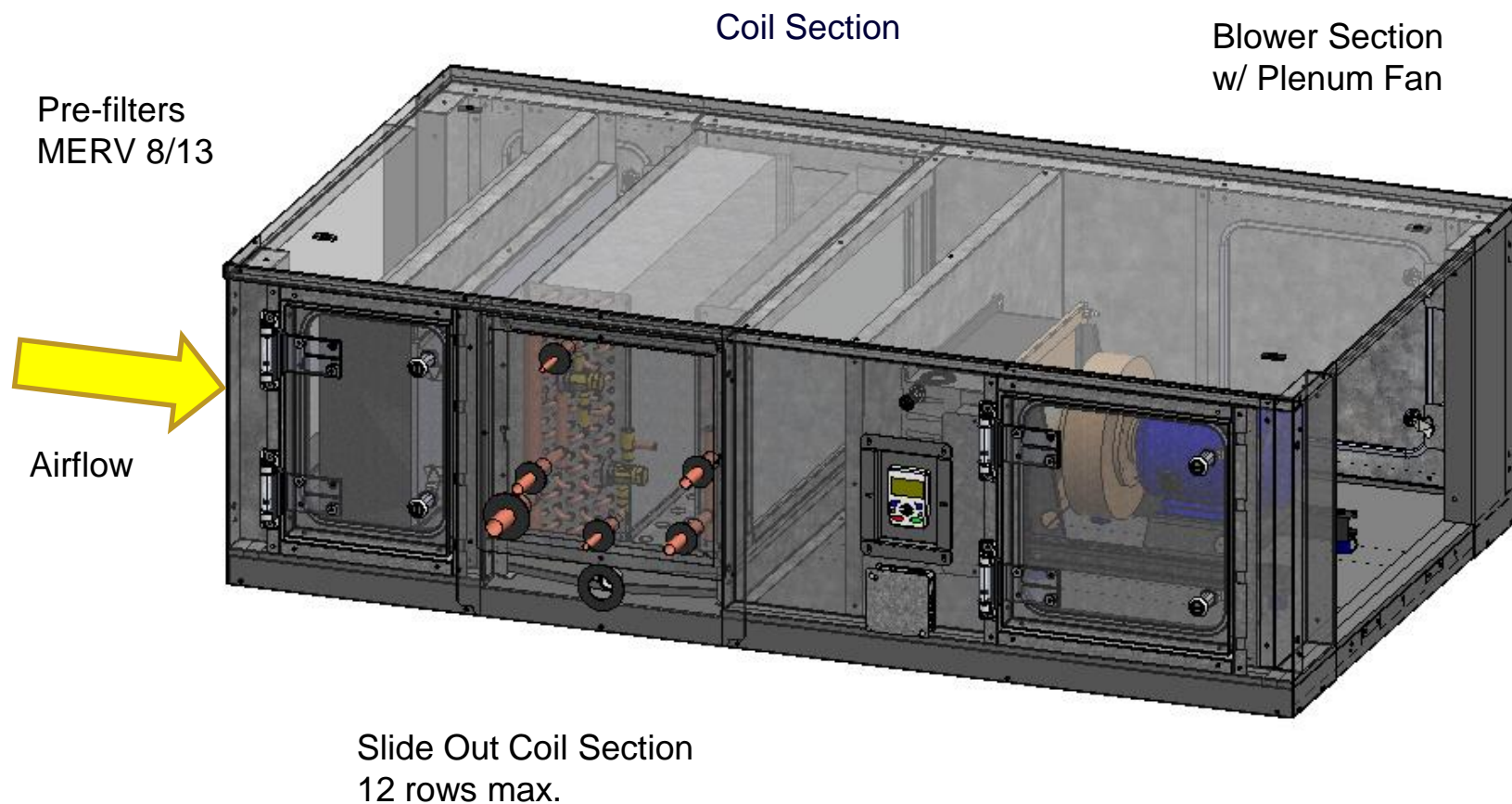
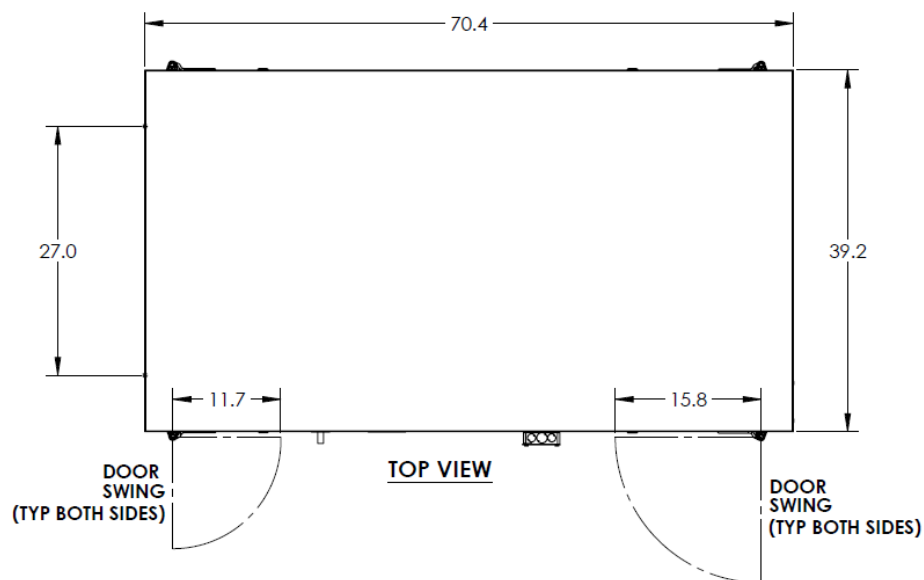*Magic Aire*
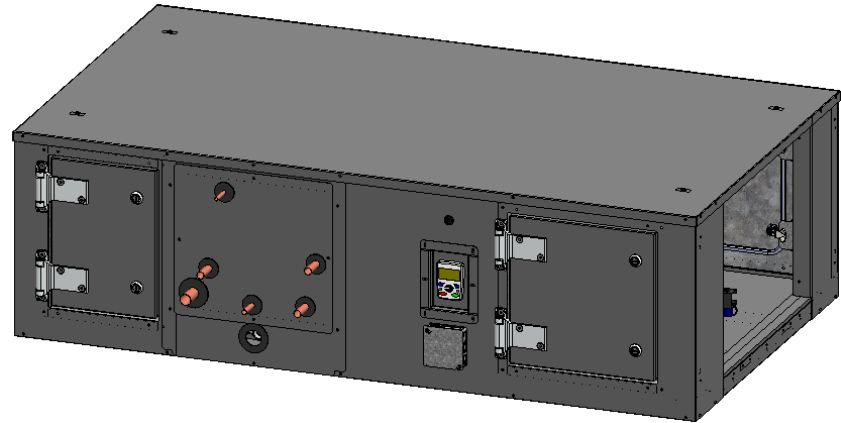
HHA Features, cont'd

- Drain Pans:
  - Stainless Steel (SS) with optional Silver-ion Anti-Microbial powder coating
- Options:
  - Constant-volume airflow control
  - Differential pressure gauge & ports
- Applications – HEPA & MERV 14:
  - Ambulatory Surgical
  - Assisted living community rooms
  - Bone marrow transplant
  - Cancer treatment center
  - Dialysis and MRI suites
  - DOD, DOE sites
  - Patient isolation rooms
  - Pharmaceutical & bio-med clean rooms & labs
  - Photo film manufacturing/processing
  - Veterinary
- Applications – MERV 13:
  - Assisted living quarters
  - High end residential
  - Prototyping rooms and labs
  - Schools

- Applications – MERV 8:
  - Handle components with added pressure drops
  - Office build-outs, longer, narrower ducts, higher TEL values
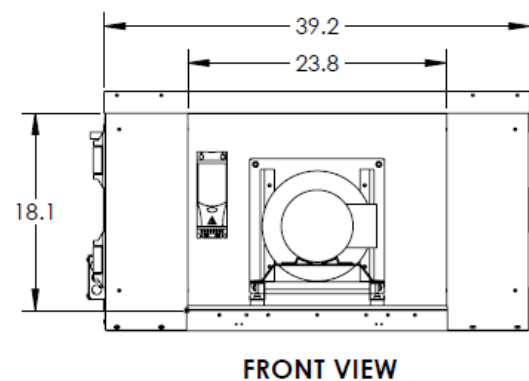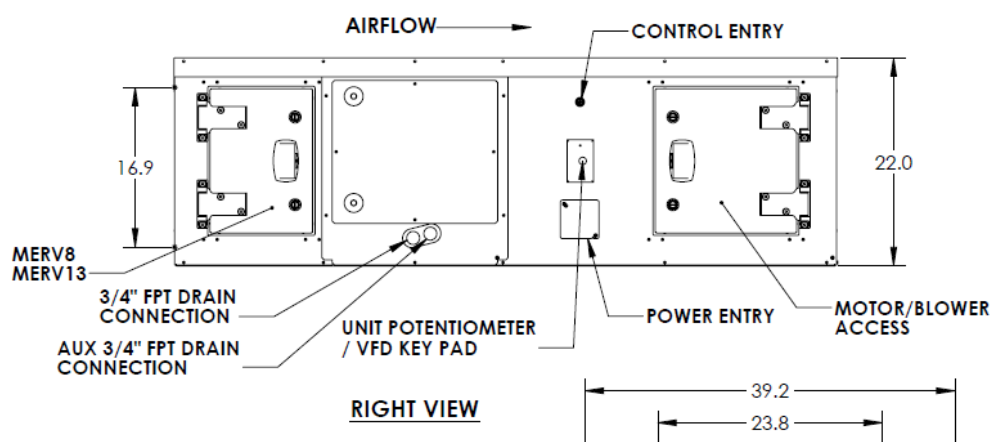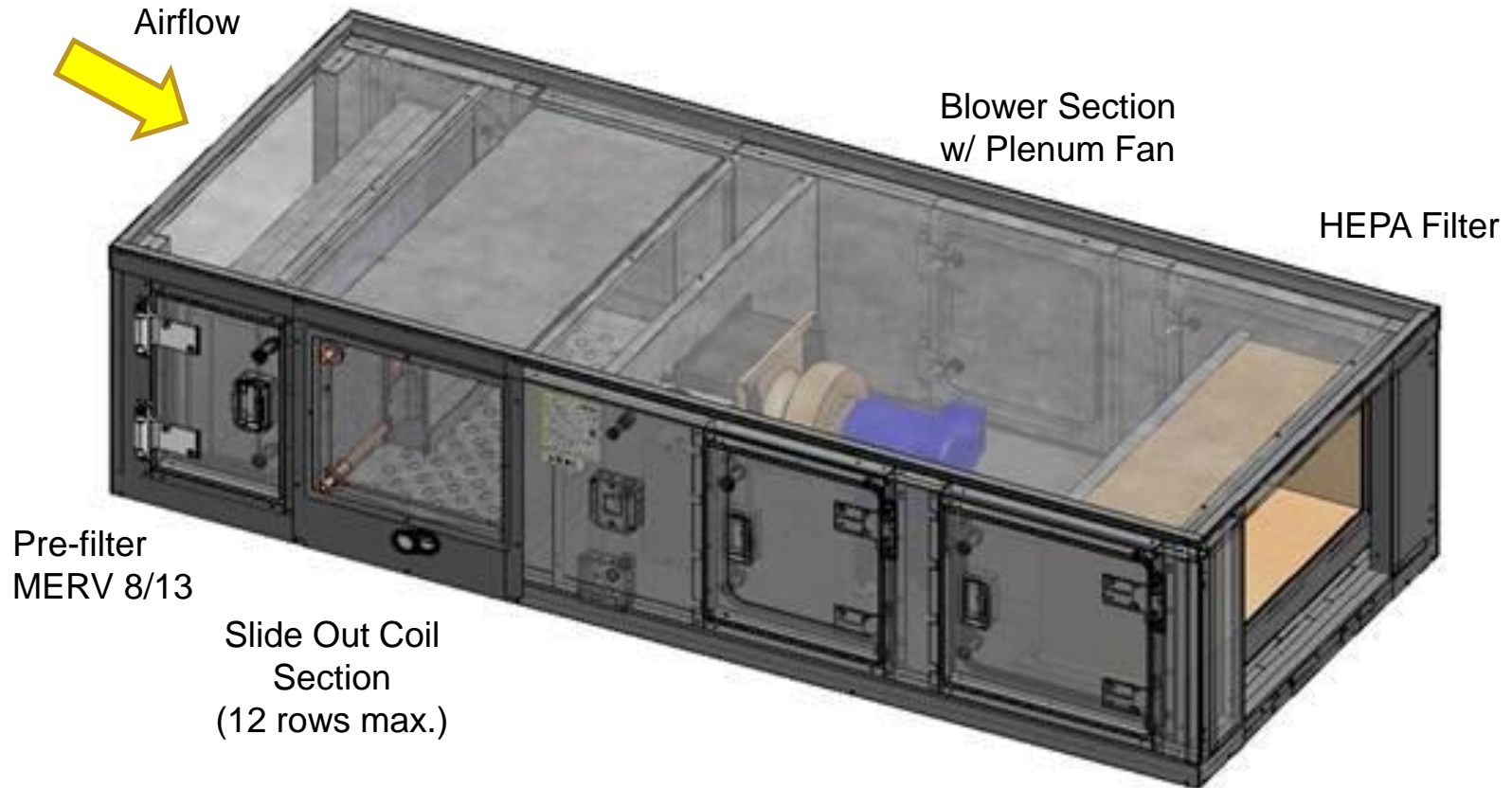 - Wide airflow range applications

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MERV 8/13 Pre-Filters Only

Coil Section

Blower Section
w/ Plenum Fan

Pre-filters
MERV 8/13

Airflow

Slide Out Coil Section
12 rows max.

MERV 8/13 Pre-Filters Only

Nominal	Dimension (in.)		
Size	H	W	L
400	22	33.2	70.4
600	22	33.2	70.4
800	22	39.2	70.4
1200	22	39.2	70.4
1600	28	48.2	74.4
2000	28	48.2	74.4
2500	28	48.2	74.4

Pre-Filters & HEPA Final Filter

Airflow

Blower Section
w/ Plenum Fan

HEPA Filter

Pre-filter
MERV 8/13

Slide Out Coil
Section
(12 rows max.)

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Pre-Filters & HEPA Final Filter
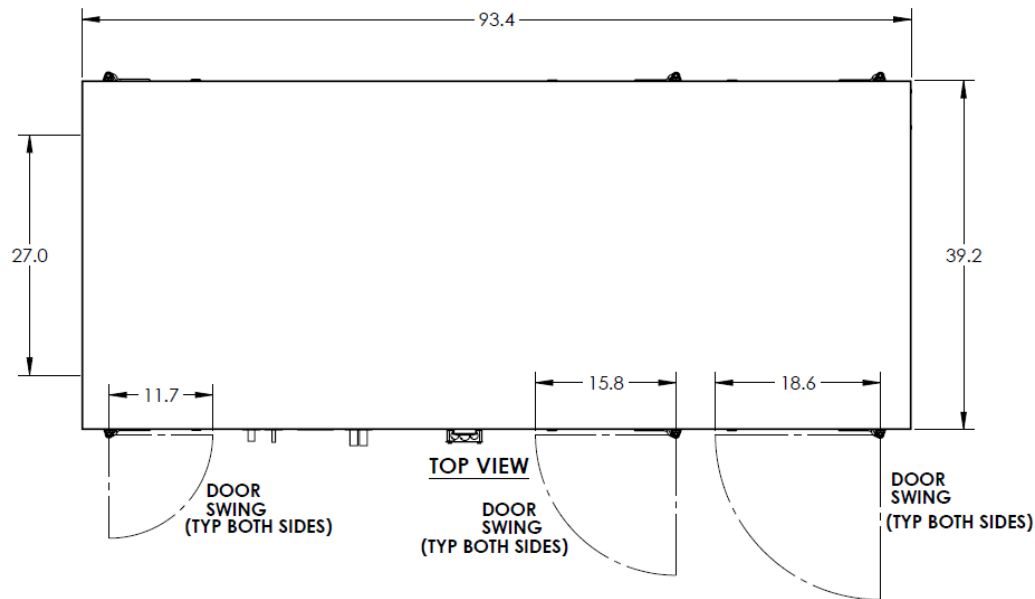
| Nominal Size	Dimension (in.)		
	H	W	L
400	22	33.2	93.4
600	22	33.2	93.4
800	22	39.2	93.4
1200	22	39.2	93.4
1600	28	48.2	97.5
2000	28	48.2	97.5
2500	28	48.2	97.5
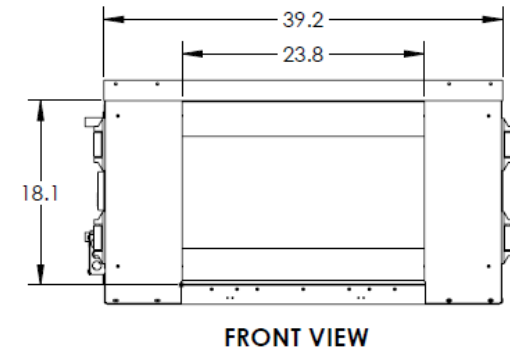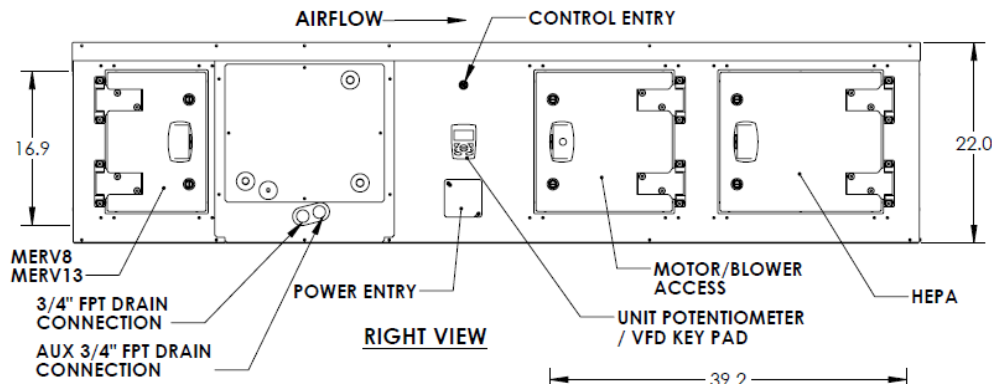
Ceiling-Mounted HEPA Diffuser

- Factory PAO (polyalphaolefin) tested
- Gel type filter seal
- HEPA 99.99% at 0.3μm efficiency
- 10" or 12" diameter duct connection
- Static Pressure test port
- Steel butterfly damper with cable operator
- Room side replaceable filter media
    - Does not disturb ceiling construction
- 24" x 24" or 24" x 48" nominal size
- 2" filter depth
- 4-way directional or Laminar Flow

- Combo is selected as accessory in NM4 software
    - APD is automatically calculated (clean filter)
    - Easy to select
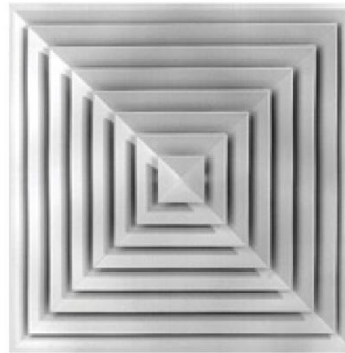
4-Way Directional   Laminar Flow

9-7/8" dia.

Damper

2"

6 1/2"

Overall Diffuser = Nominal Size - 1/4"

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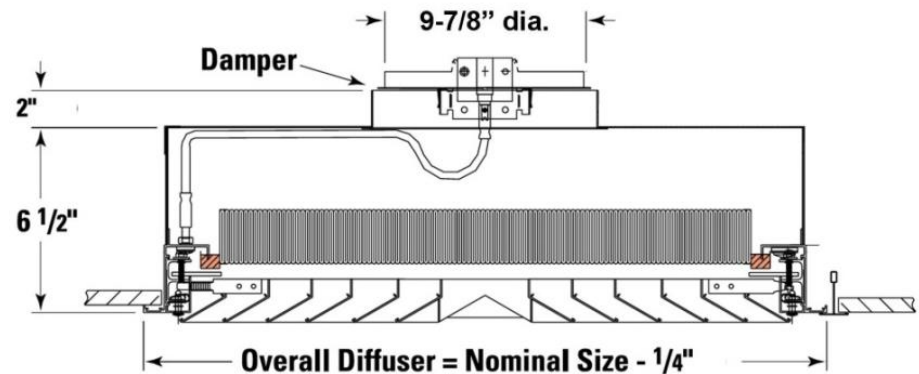
HHA Airflow Examples

Nominal Unit Size (CFM)	800	1600	2500
Available Fan TSP (iwg)	4.9	7.2	5.8

Component	Air Pressure Drop (iwg)		
2" MERV 8 prefilter	0.11	0.11	0.23
4" MERV 13 prefilter	0.12	0.12	0.26
6-row CW coil	0.49	0.48	0.52
2-row HW coil	0.28	0.18	0.20
12" HEPA filter	0.84	0.91	1.50

Available ESP (iwg) after integral filters			
With Clean Filters	3.06	5.40	3.09
With "Loaded" Filters (2x clean APD)	1.99	4.26	1.10

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HHA 04-12 Fan Curves
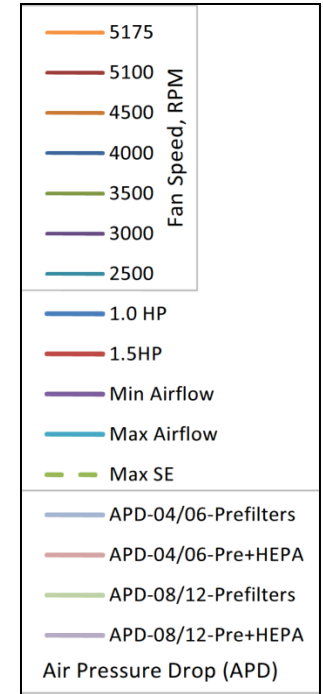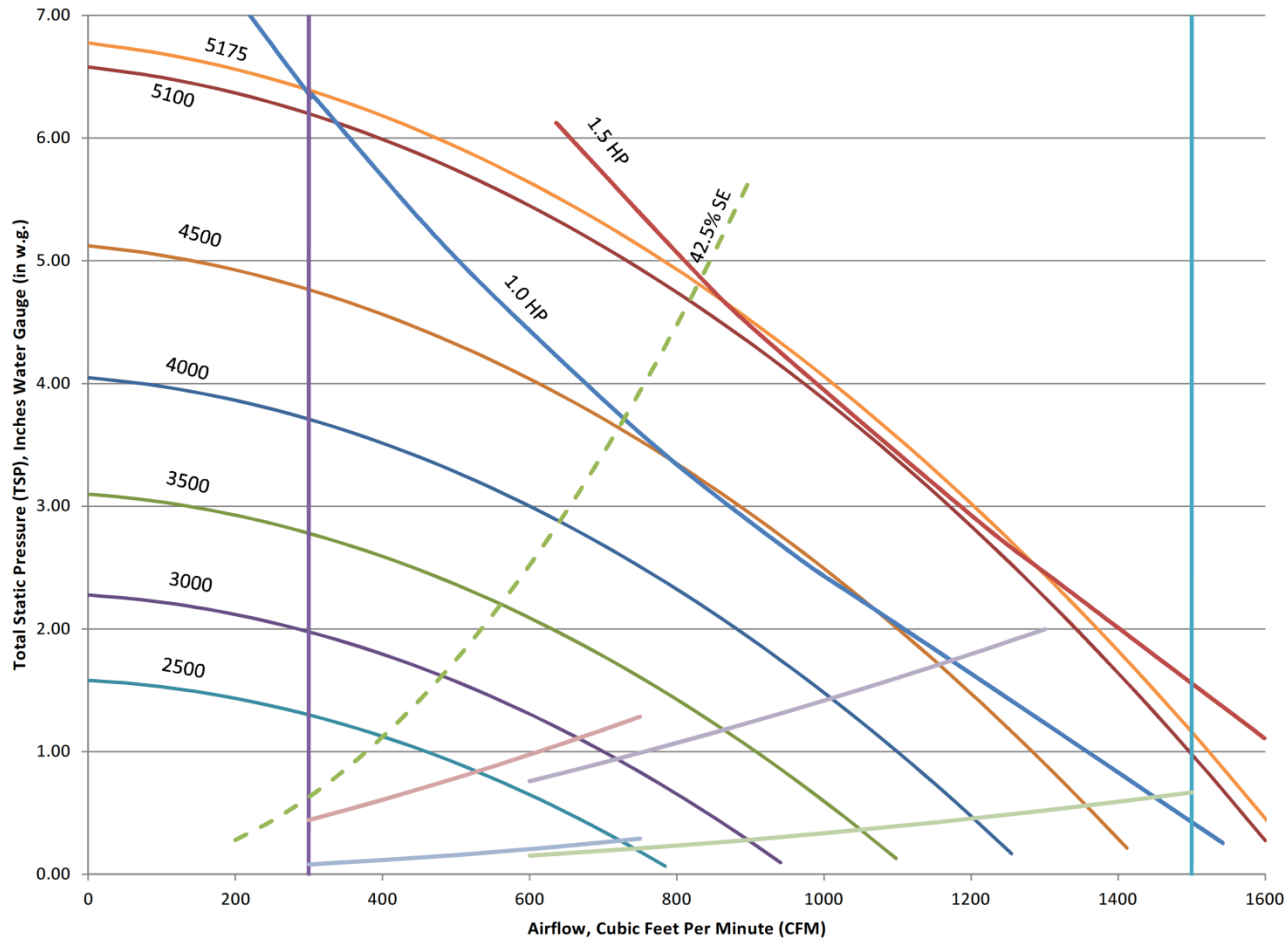
HHA 16-25 Fan Curves
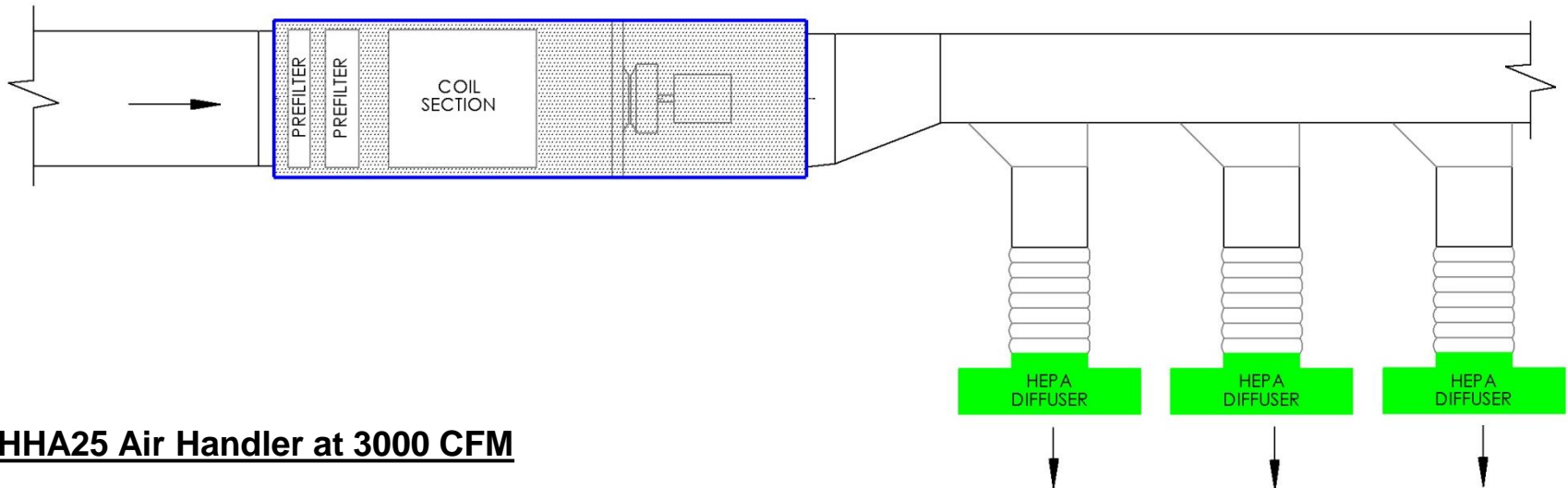

Note:
Coil APD not included.
Refer to selection software for coil capacity and complete static pressure calculation.
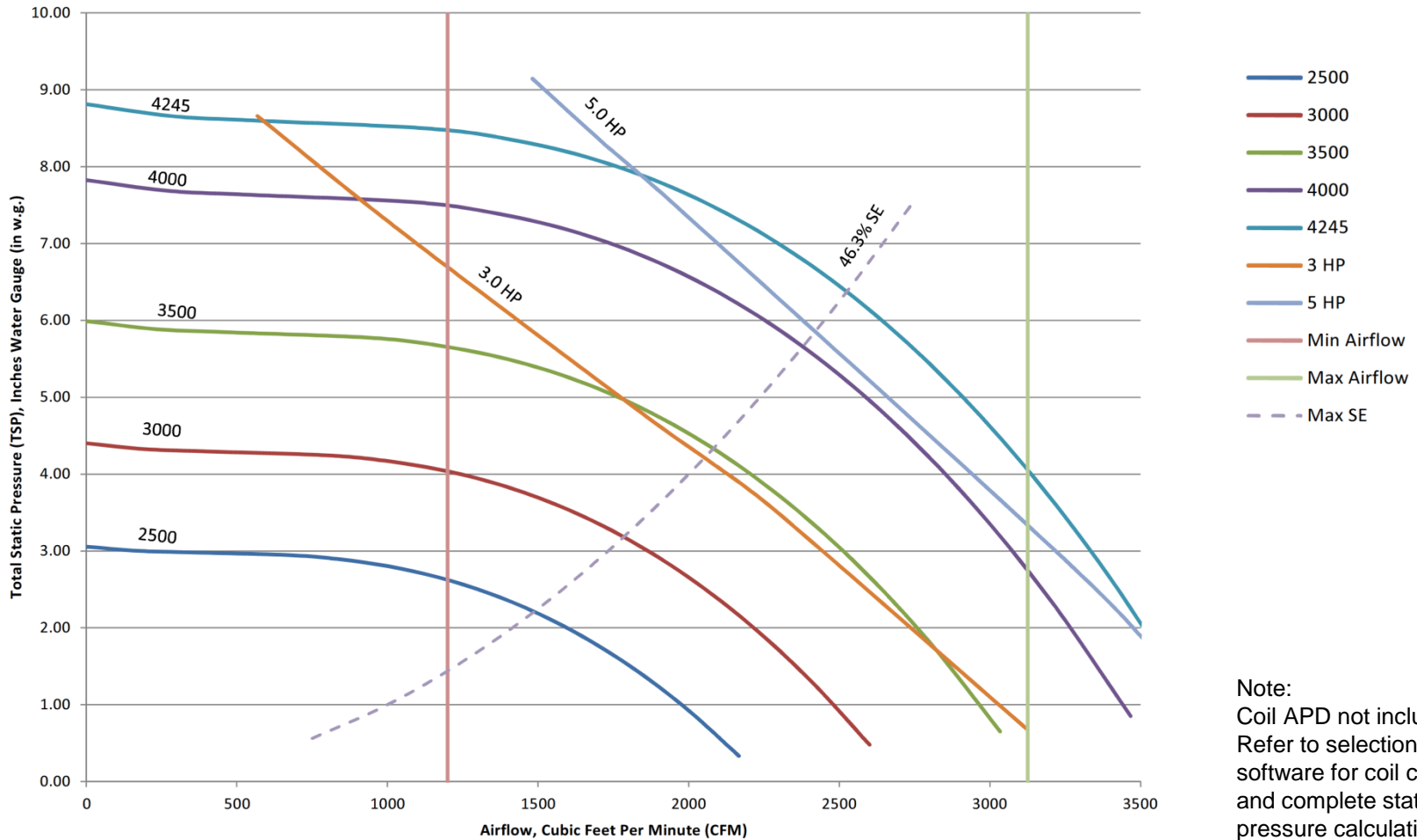
Application Example 1

Pre-Filters only in AHU – HEPA Filter in diffusers
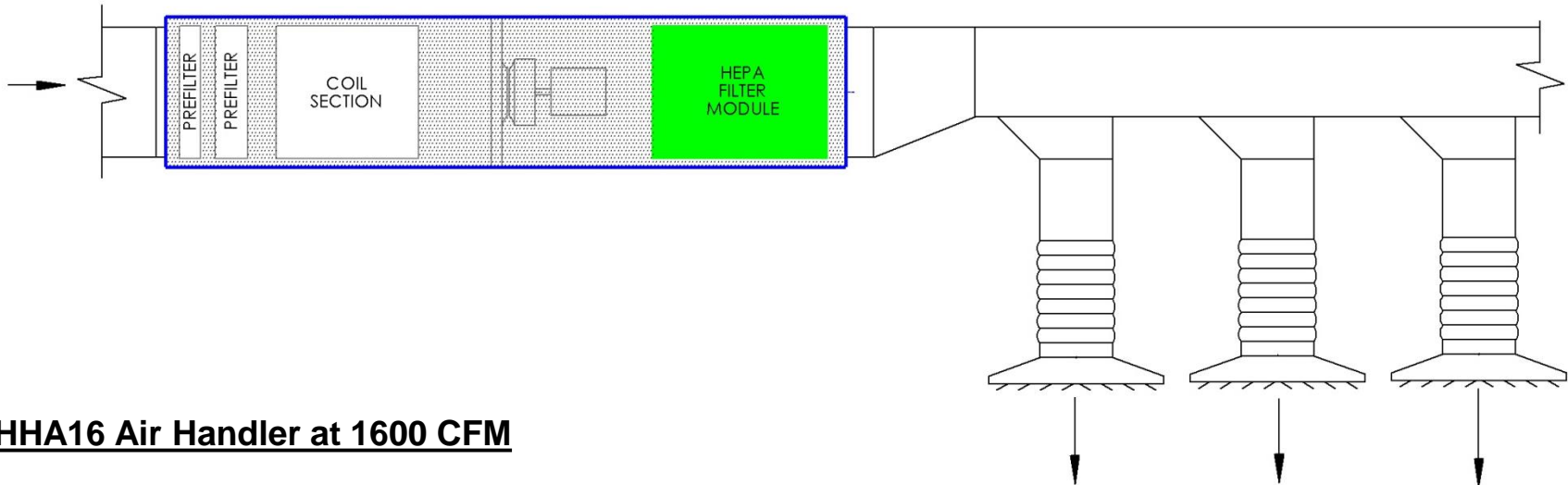

HHA25 Air Handler at 3000 CFM

- 2' x 4' HEPA diffusers
  - 6 laminar flow diffusers
  - 500 CFM each
- Available ESP for ductwork (excluding HEPA diffusers)
  - 2.36 in w.g. ESP – clean filters
  - 1.07 in w.g. ESP – loaded filters

HEPA diffusers mounted in the ceiling system

Application Example 2

Integral HEPA and Conventional diffusers

HHA16 Air Handler at 1600 CFM

Available ESP:
- 5.40 in w.g. ESP – clean filters
- 4.26 in w.g. ESP – loaded filters

Conventional diffusers mounted in the ceiling system

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