Duct diameter equal to fan diameter.

W

Air filters in doors if desirable

To fan and discharge (fan should have inspection door)

PLAN VIEW
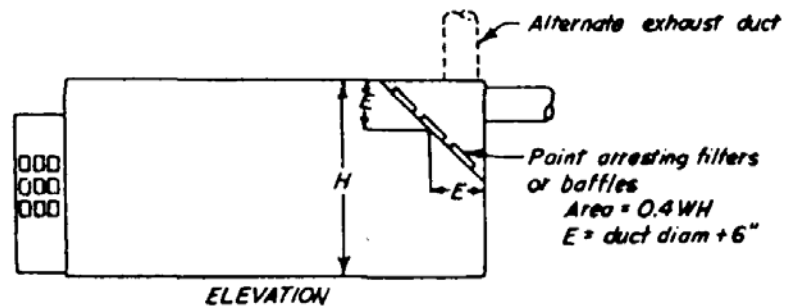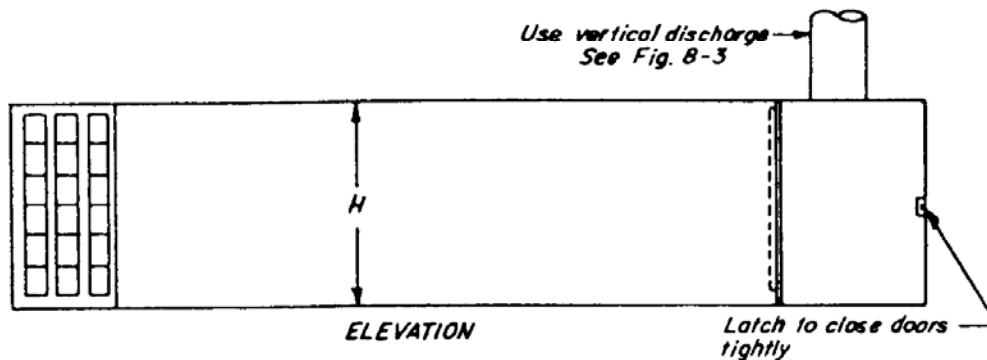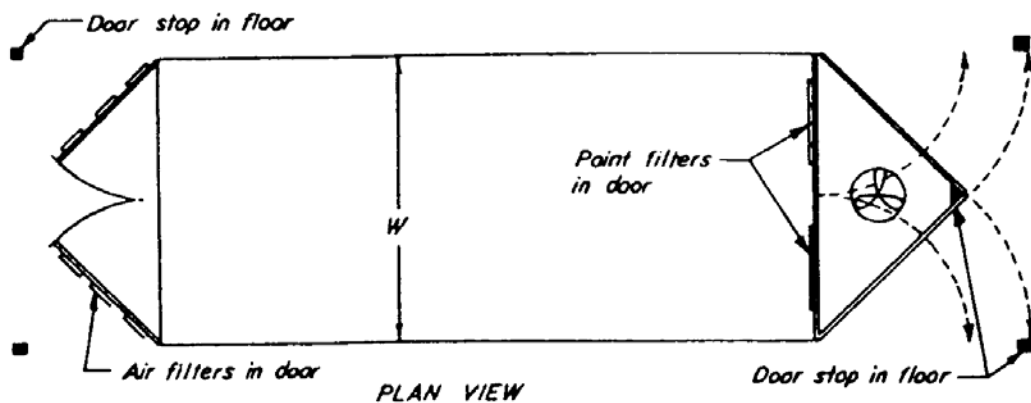
Q = 100 cfm/sq ft of cross-section area
Entry loss = 0.50 VP plus resistance of each filter bank when dirty
Duct velocity = 1000 - 3000 fpm
Air filters to be sized for 275 cfm/sq ft of filter
Paint filters: combustibility Class 2 or better
             size and number of filter for minimum area shown

Alternate exhaust duct

H

E

Paint arresting filters or baffles
Area = 0.4 WH
E = duct diam + 6"

ELEVATION

Typical filter installation

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AUTO SPRAY PAINT BOOTH

Door stop in floor

Paint filters
in door

W

Air filters in door

PLAN VIEW

Door stop in floor

Use vertical discharge
See Fig. 8-3

H

ELEVATION

Latch to close doors
tightly

Q = 50 cfm/sq ft of cross-sectional area
   (when WxH is greater than 150 sq ft)
Entry loss = 0.50 VP plus resistance of each filter bank when dirty
Duct velocity = 1000 - 3000 fpm
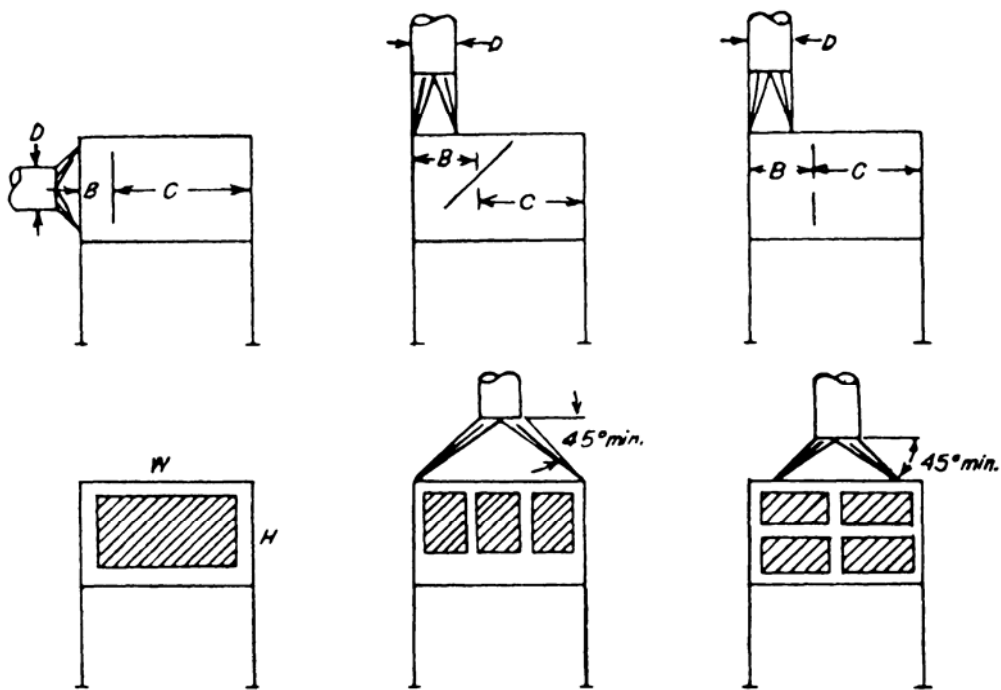Air filters: Size for 275 cfm/sq ft of filters
Paint filters: Combustibility Class 2 or better, consult mfr for size
          and number

Note:
    Fan interlock with make-air supply and compressed air to spray
    gun is desirable

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**LARGE DRIVE-THROUGH
SPRAY PAINT BOOTH**

1. Solid Baffle
B = 0.750
Baffle area = 0.60 WH

2. Angular Baffle
B = D + 6"
Baffle area = 0.60 WH

3. Split Baffle or Filters
B = D + 6"
Baffles or filters = 0.75 WH
Filter combustibility Class 2
or better. Consult NBFU or
insurance underwriters.

Design data —
    Any combination of branch ducts and baffles may be used.
    W = work size + 12"
    H = work size + 12"
    C = 0.75 W or H, whichever is larger.
    Q = 200 cfm/sq.ft (200 WH) — for face area up to 4 sq.ft.
      = 150 cfm/sq ft — for face area over 4 sq.ft.
    Entry loss = Baffles: 1.78 slot VP + 0.50 duct VP
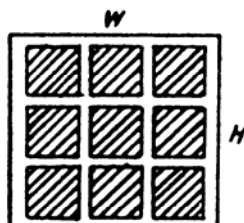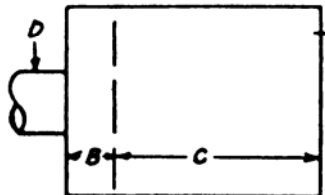   = Filters: Dirty filter resistance + 0.50 duct VP
    Duct velocity = 1000 - 3000 fpm

Note: Baffle arrangements shown
are for air distribution only. Filters
and/or other air cleaning devices
may be required to meet air pollution
codes or local conditions.

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SMALL PAINT BOOTH

1. Split Baffle or Filters
B = 0.75 D
Baffle or filter area = 0.75 WH
Filter combustibility Class 2 or better.
Consult AIA or insurance underwriters

2. Angular Baffle
E = D + 6"
Baffle area = 0.40 WH

DESIGN DATA

Any combination of duct connections and baffles may be used. Large, deep booths do not require baffles. Consult manufactures for water-curtain designs. Use explosion proof fixtures and non-sparking fan. Electrostatic spray booth requires automatic high-voltage disconnects for conveyor failure, fan failure or grounding.

Walk-in booth
W = work size + 6'
H = work size + 3' (minimum = 7')
C = work size + 6'
Q = 100 cfm/sq.ft. booth cross section
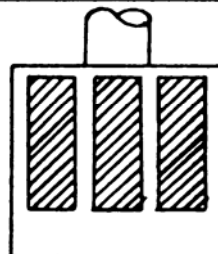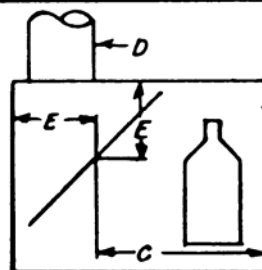 May be 75 cfm/sq.ft. for very large, deep, booth. Operator may require approved respirator.
Entry loss = Baffles: 1.78 slot VP + 0.50 duct VP
  = Filters: dirty filter resistance + 0.50 duct VP
Duct velocity = 1000 – 3000 fpm

Operator outside booth
W = work size + 2'
H = work size + 2'
C = 0.75 x larger front dimension
Q = 100-150 cfm/sq.ft. of open area, including conveyor openings.
Note: Baffle arrangements shown are air distribution only. Filters and/or other air cleaning devices may be required to meet air pollution codes or local conditions.

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LARGE PAINT BOOTH