

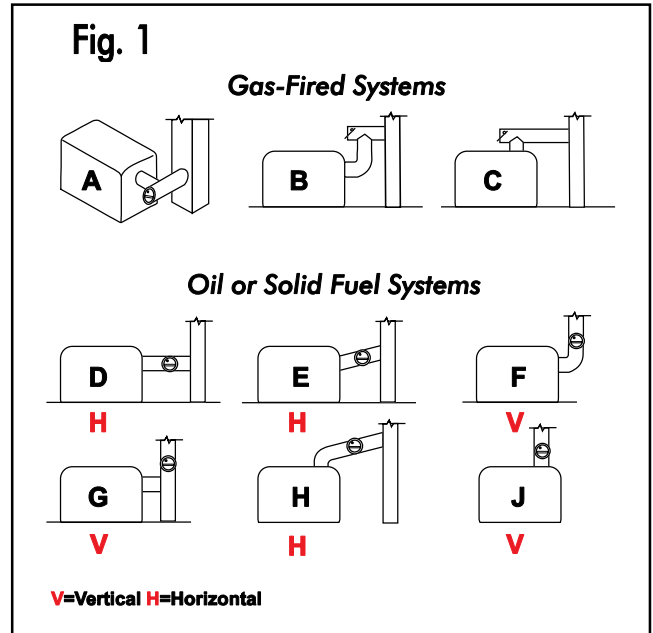
Draft Control

(Installation Options)

Recommended Locations for Field Draft Controls

For gas-fired equipment, the preferred location of the control is on the bull head tee. This location provides maximum relief of downdrafts with minimum positive pressure. (See Fig. 1, Dia. A-C)

With oil or solid fuels, the bull head tee is not recommended, so locate the control as shown. (See Fig. 1, Dia. D-J) These locations are acceptable for gas units as well. Except on forced draft systems, locate the control as close as possible to the furnace or boiler, at least 12" beyond a stack switch on oil-fired units, and at least 18" from a combustible ceiling or wall.



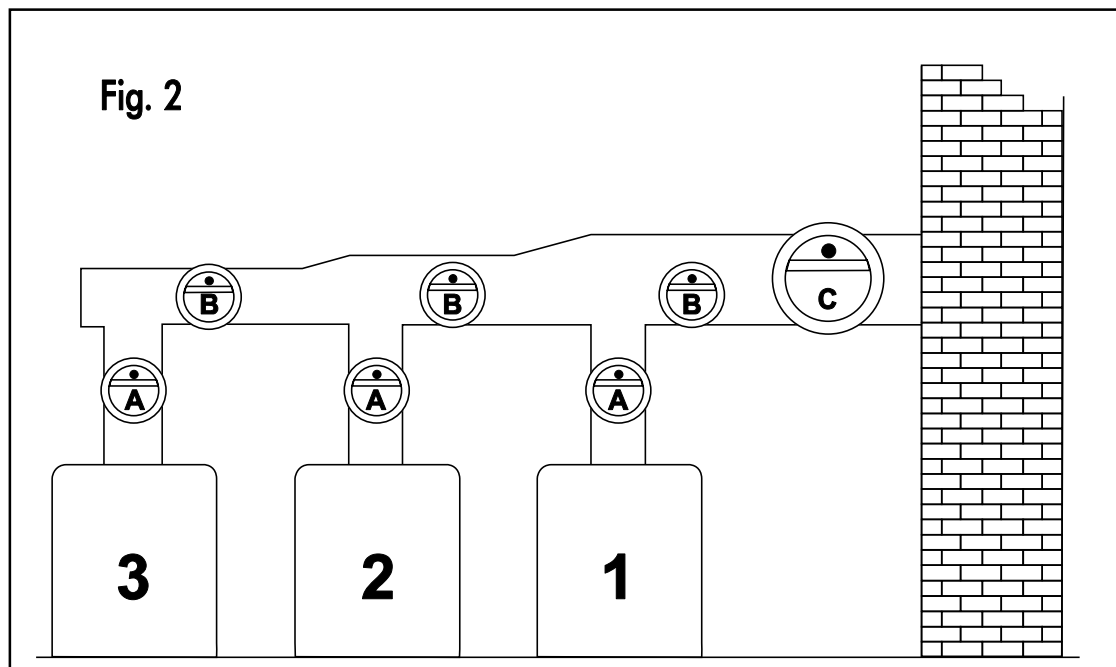
Multiple Appliance Location Recommendations

Commercial and industrial furnaces and boilers are frequently installed in multiples. (See Fig. 2)

Use a draft control for each boiler located on the uptake between the smoke outlet and the breaching (**location A**). When this uptake is too short to permit the installation of a control, locate a separate control for each boiler on the main breaching (**location B**). If neither of these locations is possible, use a single large

control in the breaching between the chimney and the nearest boiler (**location C**).

Where several units are vented into a common breaching, the most draft-critical should vent highest in, or be placed closest to the chimney. Incinerators should generally be placed farthest from, or vented lowest in the chimney.



Draft Control

(Sizing the Control)

Choosing The Right Size

Simple rules of thumb to guide size selections:

1. **For most applications**, the draft control should be the same size as the flue pipe. In other words, use a 6" control for a 6" pipe.
2. **If the flue pipe or breaching is square**, use the round equivalent. For example - on a 14" x 14" breaching use a 14" control. Little flow occurs in the corners of a square pipe, so its capacity is approximately the same as a round pipe of the same diameter.

| Control Size | Nominal Cross-Sectional Area (Sq. In.) | Control Size | Nominal Cross-Sectional Area (Sq. In.) |
|--------------|--|--------------|--|
| 6" | 28 | 16" | 201 |
| 7" | 38 | 18" | 255 |
| 8" | 50 | 20" | 314 |
| 9" | 63 | 24" | 452 |
| 10" | 78 | 28" | 616 |
| 12" | 113 | 32" | 804 |
| 14" | 154 | | |

3. **If the breaching is rectangular or oval**, compute its cross-sectional area and select a draft control having the same or a greater nominal cross-sectional area. A breaching 14" high x 10" wide would have a cross-sectional area of 140 square inches. From the table, select a 14" control with a cross-sectional area of 154 square inches.

4. **Where a control larger than 32" is required**, use more than one draft control with combined cross-sectional areas equal to or greater than that of the breaching.

5. **When chimneys are of an unusual height**, or if the draft to be maintained is either very high or very low, it is advisable to deviate from the rules of thumb outlined here and refer to the sizing chart.

| Sizing Chart | | | | | | |
|-------------------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|
| Diameter of Flue or Breaching | If Chimney Height is | Use This Size Control | If Chimney Height is | Use This Size Control | If Chimney Height is | Use This Size Control |
| 4 | 15' or less | 4" | 16' or more | 5" | | |
| 5 | 15' or less | 5" | 16' or more | 6" | | |
| 6 | 15' or less | 6" | 16' or more | 7" | | |
| 7 | 15' or less | 7" | 16' or more | 8" | | |
| 8 | 15' or less | 8" | 16' or more | 9" | | |
| 9 | 15' or less | 9" | 16'-30' | 10" | 31' or more | 12" |
| 10 | 20' or less | 10" | 21'-40' | 12" | 41' or more | 14" |
| 11 | 20' or less | 12" | 21'-40' | 12" | 41' or more | 14" |
| 12 | 20' or less | 12" | 21'-40' | 14" | 41' or more | 16" |
| 13 | 22' or less | 14" | 23'-45' | 16" | 46' or more | 18" |
| 14 | 22' or less | 14" | 23'-45' | 16" | 46' or more | 18" |
| 15 | 22' or less | 16" | 23'-45' | 16" | 46' or more | 18" |
| 16 | 30' or less | 16" | 31'-50' | 18" | 51' or more | 20" |
| 17 | 30' or less | 18" | 31'-50' | 20" | 51' or more | 20" |
| 18 | 30' or less | 18" | 31'-50' | 20" | 51' or more | 20" |
| 19 | 30' or less | 20" | 31'-50' | 20" | 51' or more | 24" |
| 20 | 30' or less | 20" | 31'-50' | 20" | 51' or more | 24" |
| 21 | 30' or less | 20" | 31'-50' | 24" | 51' or more | 24" |
| 22 | 30' or less | 24" | 31'-50' | 24" | 51' or more | 24" |
| 23 | 35' or less | 24" | 36'-60' | 24" | 61' or more | 28" |
| 24 | 35' or less | 24" | 36'-60' | 24" | 61' or more | 28" |
| 25 | 35' or less | 28" | 36'-60' | 28" | 61' or more | 28" |
| 26 | 40' or less | 28" | 41'-70' | 28" | 71' or more | 28" |
| 27 | 40' or less | 28" | 41'-70' | 28" | 71'-100' | 28" |
| 28 | 50' or less | 28" | 51'-100' | 32" | 100' or more | 32" |
| 29 | 50' or less | 28" | 51'-100' | 32" | 100' or more | 32" |
| 30 | 50' or less | 32" | 51'-100' | 32" | 100' or more | 32" |
| 31 | 50' or less | 32" | 51'-100' | 32" | 100' or more | Two 24" |
| 32 | 50' or less | 32" | 51'-100' | 32" | 100' or more | One 24" One 28" |
| 33 | 50' or less | 32" | 51'-100' | One 32" One 20" | 100' or more | One 32" One 24" |
| 34 | 50' or less | 32" | 51'-100' | One 32" One 24" | 100' or more | One 32" One 24" |