Depressurization Values (-Pascals)

Total CFM of Exhaust Ventilation and Appliances	Depressurization Tightness Limit (DTL), House CFM_{50}																	
	750	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000
25	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.8	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
75	1.4	0.9	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
100	2.3	1.4	1.0	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
125	3.2	2.0	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
150	4.2	2.7	1.9	1.4	1.1	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2
175	5.3	3.4	2.4	1.8	1.4	1.2	1.0	0.8	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.3
200	6.5	4.2	3.0	2.3	1.8	1.4	1.2	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.4	0.4	0.4
225	7.8	5.0	3.6	2.7	2.1	1.7	1.4	1.2	1.1	0.9	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.4
250	9.2	5.9	4.2	3.2	2.5	2.0	1.7	1.4	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5
275	10.7	6.9	4.9	3.7	2.9	2.4	2.0	1.7	1.4	1.3	1.1	1.0	0.9	0.8	0.7	0.7	0.6	0.6
300	12.2	7.8	5.6	4.2	3.3	2.7	2.3	1.9	1.7	1.4	1.3	1.1	1.0	0.9	0.8	0.8	0.7	0.7
325	13.8	8.9	6.3	4.8	3.8	3.1	2.5	2.2	1.9	1.6	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7
350	15.5	9.9	7.1	5.3	4.2	3.4	2.9	2.4	2.1	1.8	1.6	1.4	1.3	1.2	1.1	1.0	0.9	0.8
375	17.2	11.1	7.8	5.9	4.7	3.8	3.2	2.7	2.3	2.0	1.8	1.6	1.4	1.3	1.2	1.1	1.0	0.9
400	19.0	12.2	8.7	6.5	5.2	4.2	3.5	3.0	2.6	2.3	2.0	1.8	1.6	1.4	1.3	1.2	1.1	1.0
425	20.9	13.4	9.5	7.2	5.7	4.6	3.8	3.3	2.8	2.5	2.2	2.0	1.8	1.6	1.4	1.3	1.2	1.1
450	22.8	14.6	10.4	7.8	6.2	5.0	4.2	3.6	3.1	2.7	2.4	2.1	1.9	1.7	1.6	1.4	1.3	1.2
475	24.8	15.9	11.3	8.5	6.7	5.5	4.6	3.9	3.4	2.9	2.6	2.3	2.1	1.9	1.7	1.6	1.4	1.3
500	26.8	17.2	12.2	9.2	7.3	5.9	4.9	4.2	3.6	3.2	2.8	2.5	2.3	2.0	1.9	1.7	1.6	1.4
525	28.9	18.6	13.2	9.9	7.8	6.4	5.3	4.5	3.9	3.4	3.0	2.7	2.4	2.2	2.0	1.8	1.7	1.6
550	31.0	19.9	14.1	10.7	8.4	6.9	5.7	4.9	4.2	3.7	3.3	2.9	2.6	2.4	2.2	2.0	1.8	1.7
575	33.2	21.3	15.1	11.4	9.0	7.3	6.1	5.2	4.5	3.9	3.5	3.1	2.8	2.5	2.3	2.1	1.9	1.8
600	35.5	22.8	16.2	12.2	9.6	7.8	6.5	5.6	4.8	4.2	3.7	3.3	3.0	2.7	2.5	2.3	2.1	1.9
625	37.8	24.3	17.2	13.0	10.3	8.4	7.0	5.9	5.1	4.5	4.0	3.5	3.2	2.9	2.6	2.4	2.2	2.0
650	40.1	25.8	18.3	13.8	10.9	8.9	7.4	6.3	5.4	4.8	4.2	3.8	3.4	3.1	2.8	2.5	2.3	2.2
675	42.5	27.3	19.4	14.6	11.5	9.4	7.8	6.7	5.8	5.0	4.5	4.0	3.6	3.2	2.9	2.7	2.5	2.3
700	45.0	28.9	20.5	15.5	12.2	9.9	8.3	7.1	6.1	5.3	4.7	4.2	3.8	3.4	3.1	2.9	2.6	2.4
725	47.5	30.5	21.6	16.3	12.9	10.5	8.8	7.4	6.4	5.6	5.0	4.4	4.0	3.6	3.3	3.0	2.8	2.6
750	50.0	32.1	22.8	17.2	13.6	11.1	9.2	7.8	6.8	5.9	5.2	4.7	4.2	3.8	3.5	3.2	2.9	2.7
775	52.6	33.8	24.0	18.1	14.3	11.6	9.7	8.2	7.1	6.2	5.5	4.9	4.4	4.0	3.6	3.3	3.1	2.8
800	55.2	35.5	25.2	19.0	15.0	12.2	10.2	8.7	7.5	6.5	5.8	5.2	4.6	4.2	3.8	3.5	3.2	3.0

Flow Exponent = 0.65

Example: Assume a house has a bath fan with a measured flow of 30 CFM, kitchen fan with 70 CFM, dryer with 130 CFM, and will have whole-building ventilation added of 45 CFM

Question 1: What is the Depressurization Tightness Limit (DTL), House CFM_{50} post-weatherization if the combustion appliance of concern is a gas-fired water heater installed by itself?

Answer:

1. The total exhaust, post-weatherization, will be 275 CFM if all running at the same time. It is best to measure the actual CFM flows, if possible.

2. On the vertical axis "Total CFM Exhaust Ventilation and Appliances", draw a line to the right from "275" CFM.

3. The Combustion Appliance Depressurization Limit for Safe Operation for a gas water heater is -2 Pascals (see smaller chart on reverse page).

4. In the chart above, move to the right along the line at 275 CFM until you reach "2.0", the Appliance Depressurization Limit for a gas water heater.

5. Now move up to the Depressurization Tightness Limit (DTL), House CFM_{50} at the top of the chart.

6. For this example, the DTL is 2250 CFM_{50}. If the house is made tighter than this, the negative pressure around this water heater is likely to cause it to spill and/or backdraft.

7. With this chart, it is easy to see how a tighter and looser house (or more or less total exhaust fan/appliance CFM) will affect house negative pressure.

Question 2: What is the Depressurization Tightness Limit (DTL), House CFM_{50} post-weatherization if the combustion appliance of concern is an oil-fired boiler?

Answer:

1. Assuming a similar "Total CFM Exhaust Ventilation and Appliances" as for example 1, draw a line to the right from "275" CFM.

2. The Combustion Appliance Depressurization Limit for Safe Operation for an oil-fired boiler is -5 Pascals (see smaller chart on reverse page).

3. In the chart above, move to the right along the line at 275 CFM until you reach "4.9" (closest number to 5.0), the Appliance Depressurization Limit for an oil-fired boiler.

4. Now move up to the Depressurization Tightness Limit (DTL), House CFM_{50} at the top of the chart.

5. For this example, the DTL is 1250 CFM_{50}. If the house is made tighter than this, the negative pressure around this oil-fired boiler is likely to cause it to spill and/or backdraft.