

Table 5-2. Imbert Nozzle and Hearth Diameters

	d_r/d_h mm	d_h in.	d_r in.	d_r' in.	h in.	H in.	R in.	A No.	d_m mm	$A_m \times 100$ A_h	d_r/d_h	h/d_h	Range of Gas Output		Maximum Wood Consumption	Air Blast Velocity
													max. Nm^3/h	min. Nm^3/h	Lbs/h	V_m m/s
A	268/60	2.375	10.5	5.875	3.125	10.125	4.00	5	7.5	7.8	4.5	1.33	30	4	31	22.4
B	268/80	3.125	10.5	6.875	3.75	10.125	4.00	5	9.0	6.4	3.3	1.19	44	5	46	23.0
C	268/100	4.000	10.5	8.00	4.00	10.125	4.00	5	10.5	5.5	2.7	1.00	63	8	66	24.2
D	268/120	4.750	10.5	8.50	4.25	10.125	4.00	5	12.0	5.0	2.2	0.92	90	12	92.4	26.0
E	300/100	4.000	11.75	8.125	4.00	10.80	4.50	5	10.5	5.5	3.0	1.00	77	10	79	29.4
F	300/115	4.500	11.75	9.00	4.125	10.80	4.50	5	11.5	5.0	2.6	0.92	95	12	99	30.3
G	300/130	5.125	11.75	9.75	4.25	10.80	4.50	5	12.5	4.6	2.3	0.85	115	15	121	31.5
H	300/150	5.875	11.75	10.25	4.75	10.80	4.50	5	14.0	4.4	2.0	0.80	140	18	147	30.0
I	400/130	5.125	15.75	10.25	4.25	14.50	6.00	7	10.5	4.6	3.1	0.85	120	17	125	32.6
J	400/150	5.325	15.75	10.25	4.75	14.50	6.00	7	12.0	4.5	2.7	0.80	150	21	156	32.6
K	400/175	6.875	15.75	12.125	5.125	14.50	6.00	7	13.5	4.2	2.3	0.74	190	26	198	31.4
L	400/200	7.875	15.75	12.50	5.75	14.50	6.00	7	16.0	3.9	2.0	0.73	230	33	242	31.2

Variables not given in figure are defined as follows:

d_m = inner diameter of the tuyere.

A_m = sum of cross sectional areas of the air jet openings in the tuyeres.

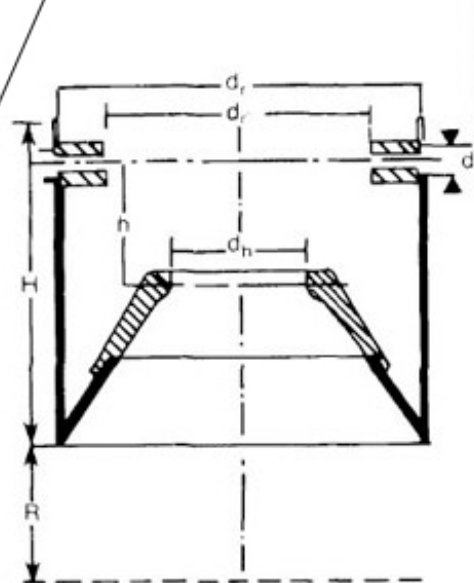
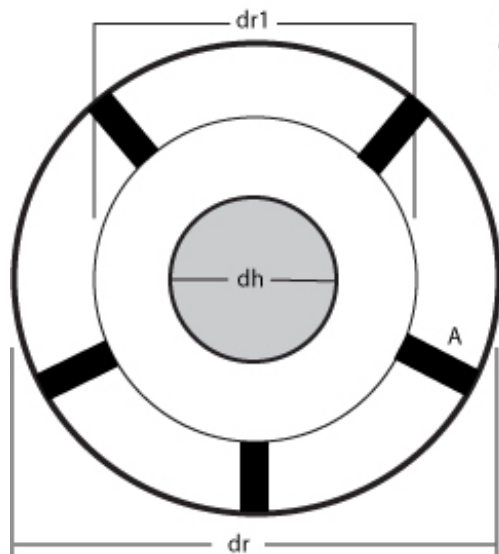
A_h = cross sectional area of the throat.

A = number of tuyeres.

Source: Kaupp 1984a, Table 5; Fig. 75.

Conversions and notes made by
VictoryGasworks.com

Every engine horsepower requires about 2 cubic meters per hour. Example: a 50 hp motor would require 100 cubic meters per hour of fuel gas. That output is available by following the sizes on lines "F" & "G"



20 lbs of wood is equal to one gallon of gas