625 Burners are designed specifically for higher temperature operations such as forge furnaces, ceramic kilns, metal and glass melters, heat treat furnaces, etc. They are the high temperature version of Continental Thermal's 642 Fire • All Burner, one of the most widely used industrial burners in the world.

625's are particularly appropriate for applications that run at both high and low temperatures --an example is a batch type kiln in which early parts of the cycle run below 1200 F and require free oxygen in kiln atmosphere for raw material to process properly; then frequently the product must "soak" at temperatures above 2000 F. 625 Burners handle this duty with ease due to their excess air flexibility and their construction that withstands radiant heat.

CONSTRUCTION

Metal parts are shielded by refractory: the tile and an insulating refractory "biscuit" covering face of burner. Mounting plate and burner body are made of heat resistant cast iron. Air tubes are high grade alloy.

In furnace chambers above 2000 F, combustion air should not be turned down below 2 osi (with or without fuel on).

HIGH VELOCITY TILES

625- -MB Burners have a 13-1/2" "Milk Bottle" tile with reduced outlet; they produce higher velocity flames than the standard burner, also offer somewhat better protection for burner internals from furnace radiation. Good tile installation practice is important with any burner (see supplements DF-M1 and -M2). It is critical with Milk Bottle tiles because of higher pressures developed in the tile, which can cause burner and furnace wall damage if not properly sealed into the wall.

FLAME SUPERVISION

All burners should use flame supervision if they operate in combustion chambers that are below 1400 F during at least part of their cycles. Interrupted pilots are required for such installations. For continuous high temperature furnaces and those with 1400 F flame supervision bypass systems, intermittant pilots are sometimes used. These should be tuned off in all applications above 2000 F to avoid overheating burner body and mounting.

Table 1. TOTAL AIR CAPACITIES
scfh
(for Btu/hr, multiply by 100)

Burner designation	16 osi air at burner
625-2	2600
625-3	4100
625-4	6300
625-5	10300
625-6	15700
625-7-A	27000
625-7-B	33500
625-8-A	44800

Table II. MAXIMUM EXCESS AIR RATES in %
(with 9" long tiles, without pilot)

Burner designation	GAS Combusion Air pressure			GAS Combusion Air pressure		
	1 osi	8 osi	14 osi	1 osi	8 osi	14 osi
625-2	-	380	500	-	380	500
625-3	330	1000	1300	210	480	670
625-4	560	1560	1560	480	800	900
625-5	1070	1440	1150	50	250	400
625-6	380	1000	1400	140	560	610
625-7-A	3200	4900	1000	160	330	450
625-7-B	900	1450	1600	150	700	830
625-8-A	460	660	400	200	280	350

NOTE: Excess air ratings are based on operation in a cold open furnace.

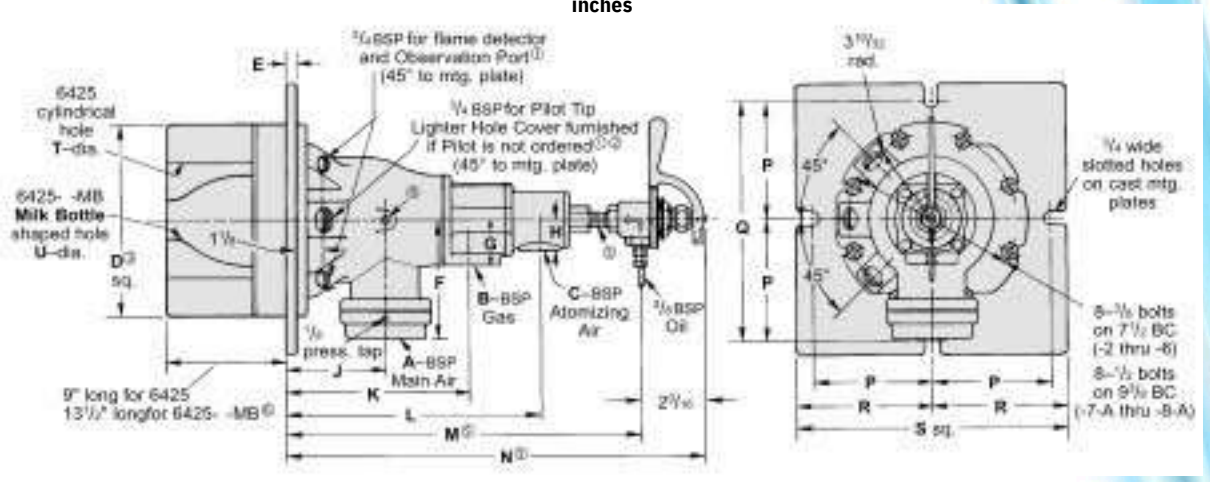
Table III. MAIN AIR CAPACITIES
scfh (not including atomizing air)

Burner designation	air pressure ar burner in osi					
	0.1	1	5	8	12	16
625-2	160	520	1160	1470	1800	2100
625-3	280	890	1980	2500	3050	3550
625-4	460	1450	3240	4100	5000	5800
625-5	750	2370	5300	6700	8150	9450
625-6	1180	3700	8300	10500	12900	14800
625-7-A	2070	6550	14600	18500	22700	26200
625-7-B	2580	8150	18200	23000	28200	32600
625-8-A	3320	10500	23500	29700	36400	42000

Table IV. ATOMIZING AIR CAPACITIES
scfh

Burner designation	air pressure ar burner in osi			
	14	16	18	20
625-2,-3,-4	500	520	560	600
625-5 625-6	640	690	720	760
625-7-A,7-B	800	850	910	950
625-8-A	870	930	990	1040
	2650	2840	3000	3170

DIMENSIONS
inches



Burner designation	A	B	C	D	E	F	G	H	J	K	L	M	N
625-2	1¼	1	¾	8½	½	5¼	2	1⅜	4⅜	8⅜	11⁵⁄₁₆	15¹³⁄₁₆	18⅜
625-3	1½	1	¾	8½	½	5¼	2	1⅜	4⅜	8⅜	11⁵⁄₁₆	15¹³⁄₁₆	18⅜
625-4	2	1¼	¾	8½	½	5¼	2	1⅜	4⅜	8⅜	11⁵⁄₁₆	15¹³⁄₁₆	18⅜
625-5	2½	1½	1	8½	½	5¼	2	1⅜	4⅜	8⅜	11⁵⁄₁₆	15¹³⁄₁₆	18⅜
625-6	3	1½	1	8½	½	5¼	2	1⅜	4⅜	8⅜	11⁵⁄₁₆	15¹³⁄₁₆	18⅜
625-7-A	4	2½	1¼	10	⁹⁄₁₆	6¹⁵⁄₁₆	2⅝	2⅛	5⅞	11	15⅛	20¹⁄₁₆	22⅝
625-7-B	4	2½	1¼	10	⁹⁄₁₆	6¹⁵⁄₁₆	2⅝	2⅛	5⅞	11	15⅛	20¹⁄₁₆	22⅝
625-8-A	6	2½	2	10	⁹⁄₁₆	10¹⁵⁄₁₆	2⅝	1¾	5⅞	11	15⅛	20¹⁄₁₆	22⅝

Burner designation	A	B	C	D	E	F	wt. in lb	Microtrol Oil Valve	approx. flame lengths* with 16 osi Main Air (in open furnace) gas	oil
625-2	5¼	10½	6	12	5	3	83	183-02-A	½'	1½'
625-3	5¼	10½	6	12	5	3	83	183-02-A	1½'	2'
625-4	5¼	10½	6	12	5	3	83	183-02-A	2'	2½'
625-5	5¼	10½	6	12	5	3	83	183-02-A	2½'	2½'
625-6	5¼	10½	6	12	5	3	83	183-02-B	3'	4'
625-7-A	6⅛	12¼	6¾	13½	7	4½	139	183-02-C	6'	6'
625-7-B	6⅛	12¼	6¾	13½	7	4½	139	183-02-C	6'	5'
625-8-A	6⅛	12¼	6¾	13½	7	-	139	183-02-D	7'	6'

All burners use 411-11 or 411-12 Pilot tips
625- -MB Burners have a 1/16 gasket between mounting plate and burner body.

*625 Burners with standard tiles

1. Pilot, flame detector, and Obesrvation Port positions are interchangeable as long as Pilot and flame detector are in adjacent holes.
2. For 625- -MB Burners, as second observation port is substituted for Lighter Hole Cover.
3. Opening in furnace shell should be about 1/2" larger than dimension D to allow for fillets and draft on mounting plate.
4. 1/4" air pressure tap on -2,-3,-4,-5 and -6.
5. Dimensions M and N assuem use of a 3/8" close nipple (not furnished by Continental Thermal) between burner and Sensitrol Valve.
6. Milk Bottle tile is not offered with 625-8-A Burner.

Tiles for 625 Burners

Burner designation	Standard 42% alumina PN	Premium 80% alumina PN	Milk Bottle 80% alumina PN
625-2 thru-6	4-2121-2	4-2121-3	OC4-2332-1
625-7A, -7B, -8A	4-2142-2	4-2142-6	OC4-2547-2

All tiles are pre-fired.
80% Alumina end use limit temperature is 3200 F; 42% is 3000 F

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