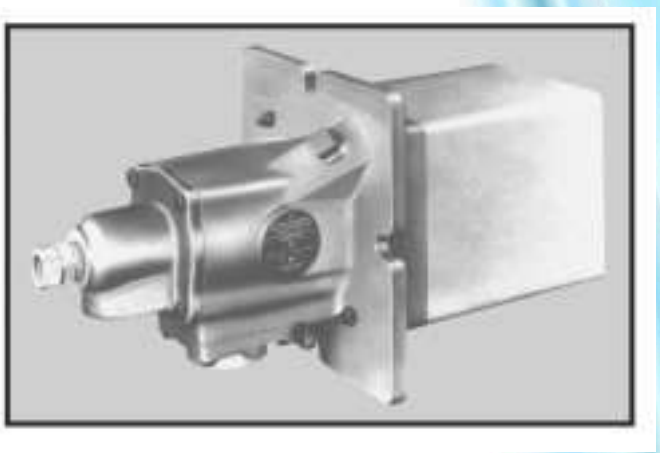
Fire.All Burners are used on almost any kind of industrial furnace from low temperature air heaters to kilns and forge furnaces that operate in 2000-2400 F ranges.

423 nozzle-mix burners are the small version of Contitherm's famous 42 series. They provide medium velocity flames with wide air/fuel ratio and turn down flexibility. For applications above
1900 F, the 424 modification is recommended.



CONTROL

The most common control scheme uses a cross connected atmospheric regulator (zero governor).

On lower temperature installations, fuel-only control is frequently
used to take advantage of superior convection heat transfer and uniformity afforded by excess air operation.

More economical gas utilization can be realized by using a 726 Variable Ratio Regulator, which allows correct air/fuel ratio at high fire but reduces gas faster than air or turn down.

CONSTRUCTION

Cast iron bodies and gas connections. Prefired refractory tiles suitable for 2950 F maximum tile temperature. 423 air tubes are stainless steel. 424 tubes are Inconel, with a refractory biscuit around them.

Carbon steel like jackets are used where there is no supporting refractory adjacent to the tile: Specify an "LC" suffix. Maximum jacket temperature 800 F. For higher temperature alloy jackets, consult Continental Thermal.

All burners have an observation port in the back of the gas connection, and provision for pilot and flame detector.

FLAME SUPERVISION and PILOT

Flame Supervision: Use a UV detector with an adapter from Bulletin 8832. Flame rod Supervision is not recommended.

Flame Supervision is stronly recommended for any application that will be below 1400 F during any part of its cycle. When flame supervision is used, pilots must be interrupted: Pilot is automatically turned off within 10 seconds of main flame ignition so detector monitors main flame only.

Pilot. Use a 411-12 spark ignited or 411-11 manual pilot tip. If pilot
is not offered, a 3/4" pipe plug is supplied in the mounting.

For most reliable ignition and flame signals, operate pilot at no less than 4" mixture pressure.

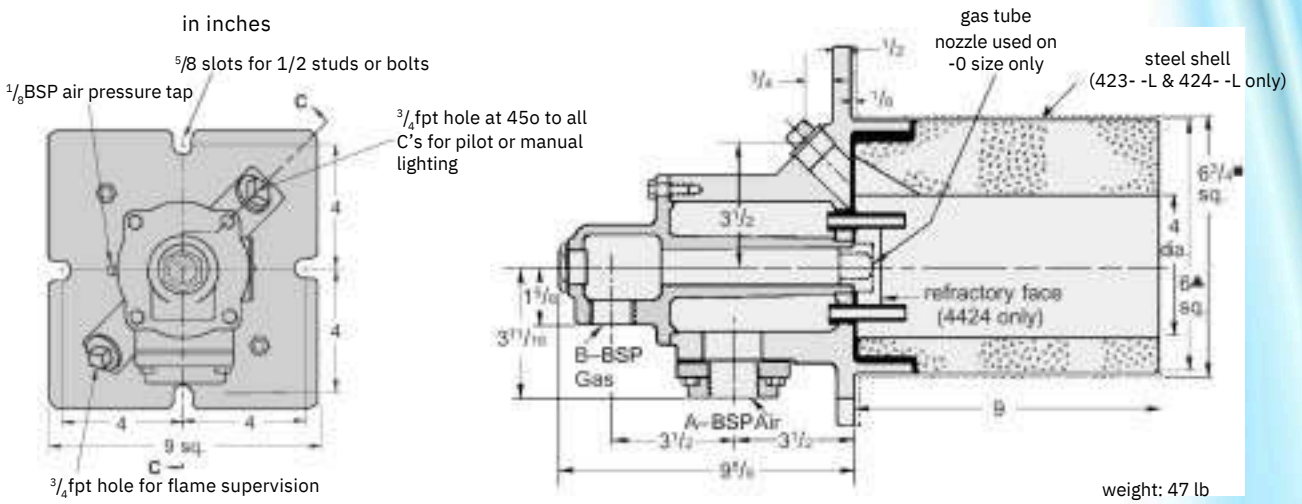
Combustion Air Capacities in scfh

(for Btu/hr, multiply by 100)

Burner designation	0.2	1	5	6	8	12	16	flame length stoichiometric ratio 8 osi	max. excess air, % 1 osi	9 osi	16 osi
423- & 424-0	70	155	350	380	440	540	630	6"	170	120	100
423- & 424-1	140	315	705	770	890	1090	1260	9"	165	255	285
423- & 424-2	260	585	1300	1430	1650	2010	2340	14"	730	455	455
423- & 424-3-A	395	885	1980	2160	2500	3050	3540	20"	900	730	670
423- & 424-3-B	480	1080	2410	2640	3050	3720	4320	20"	900	900	730

* XSA rates shown for 423 Burners. They are somewhat less for the 424 modification, used on high temperature applications that normally do not require high excess air rates.

423-3-A Burners firing salt posts dramatically demonstrate they are designed for severe service conditions.

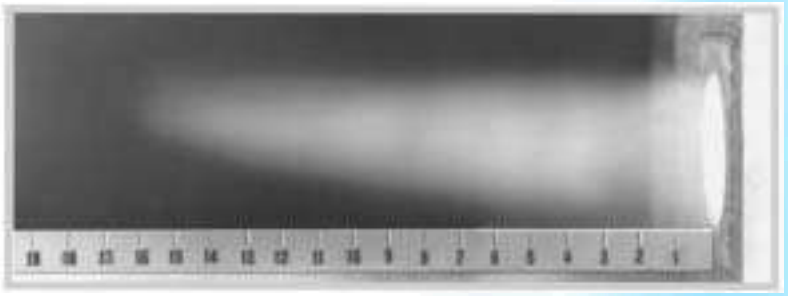


Section C-C

Opening in furnace shell or outer wall must be 1/2" larger than dimension shown to allow for mounting plate fillet and draft.
Opening in furnace shell or outer wall must be 1/4" larger than dimension shown.

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE PLEASE OBTAIN CERTIFIED PRINTS FROM CONTINENTAL THERMAL. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

Burner designation	dimensions in inches A	B
423 or 424-0	3/4	1/2
423 or 424-1	1	3/4
423 or 424-2	1 1/4	1
423 or 424-3-A	1 1/2	1
423 or 424-3-B	1 1/2	1



423-3-A flame with 8 osi air, correct air/gas ratio
(the eye would see a somewhat longer flame)

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