

# North American Quick Take-Apart Dual-Fuel™ Burners

Bulletin 6421

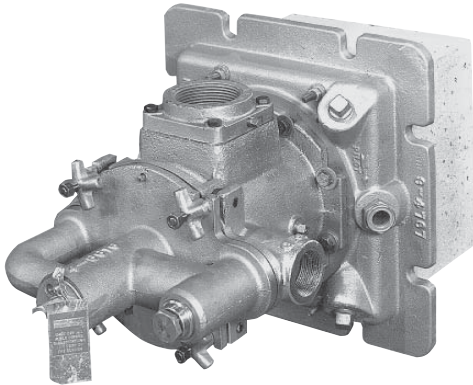


Figure 1. Assembled burner.

## EASY ACCESS FOR CLEANING PROCESS RESIDUE FROM BURNER TILE

The 6421 Quick Take-Apart Dual-Fuel Burner is designed specifically for dirty atmospheres that tend to plug burner firing tunnels. Some processes, such as a multiple hearth sludge or regeneration furnace, often have significant ash and other build-up that must be removed to maintain optimum performance. The 6421 has a readily removable backplate and internals to allow quick access to its tile, which facilitates cleaning the burner tunnel "on the fly". Cleaning a conventional burner tile requires dismantling piping and removal of the burner, which involves expensive labor and possible loss of production.

Quick Take-Apart Burner performance characteristics are similar to North American's renowned 6422 series. Thus they are appropriate for a wide variety of industrial heating applications from low temperature ovens to high temperature metallurgical, ceramic, etc. furnaces.

**CAPACITIES** in scfh--multiply by 100 for Btu/hr.

Removal of 6421 internals is accomplished by breaking the oil line (using quick disconnects with shutoff) and loosening four hand knobs and swinging the four bolts to the side (as shown in Figure 2) for the -4 through -6 sizes. The -7-A through -8-A sizes have six readily accessible cap screws to remove. Reassembly is just as quick and easy.

QTA Burners are sealed-in, nozzle-mix units for gas and/or light oil. Models are available with air lines from 2" to 6". Capacities range from 700,000 to 4,000,000 Btu/hr. They have built-in limiting orifice valves for setting air/gas ratio. Flame supervision with UV detectors is strongly recommended. A 4011-12 pilot set is recommended for individual burner ignition. When multiple burners share a single pilot pre-mix header, a 4021-12 pilot tip per burner with an appropriately sized air/gas mixer is recommended. Maintain at least 14 osi atomizing air (at the burner) when burning oil, 4 osi or more (to cool the atomizer) when burning gas.

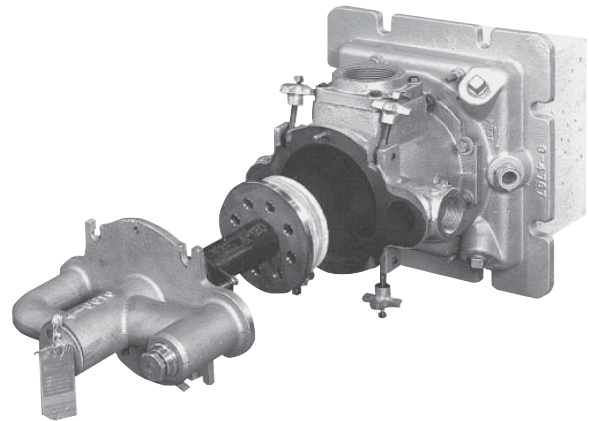
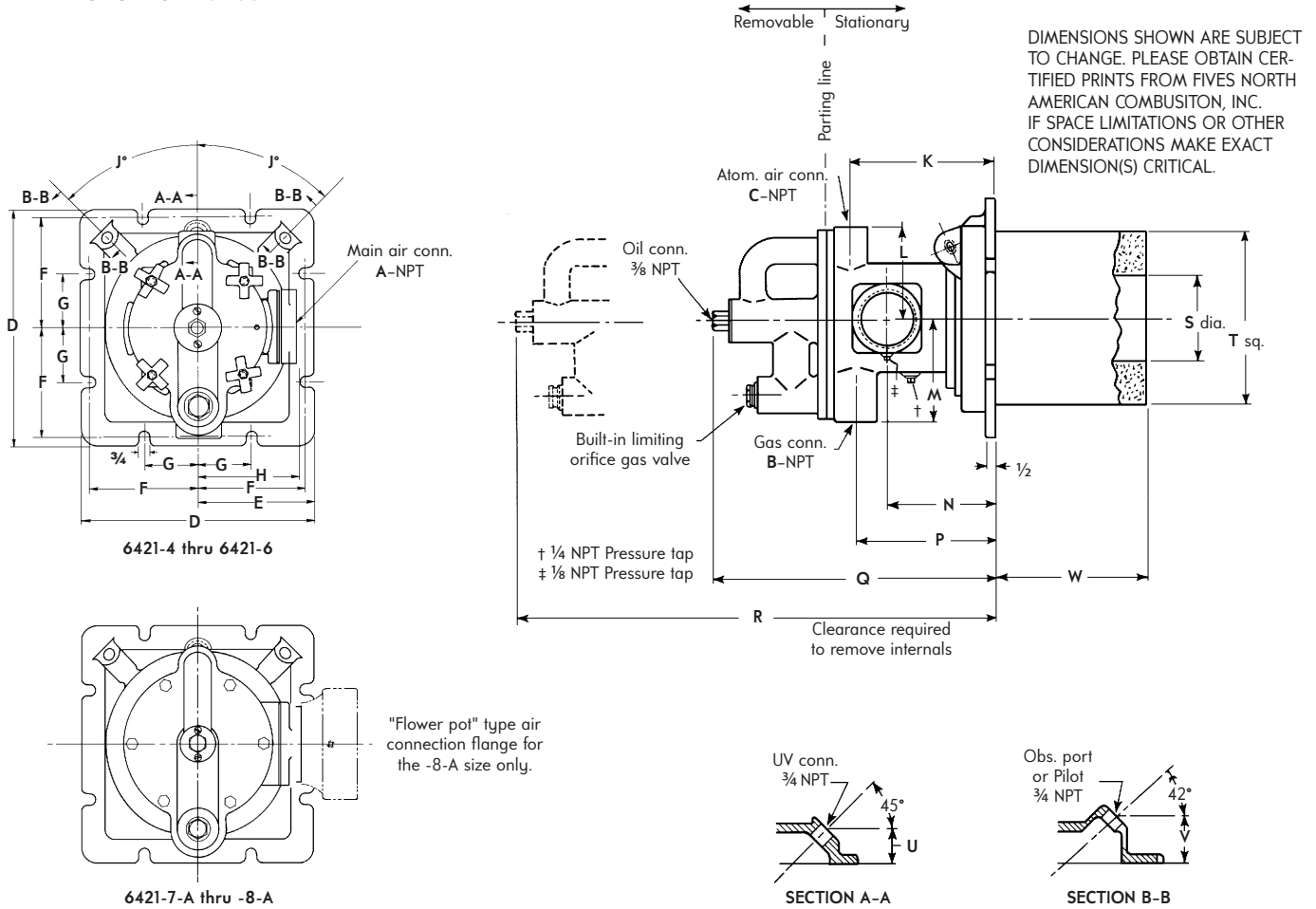


Figure 2. Internals removed for tile cleaning (shows hand knobs on sizes -4 through -6).

Burner designation	16 osi Main Air, 14 osi Atomizing Air			Max % XSAir		0.5 osi Main Air, 14 osi Atomizing Air			Max % XSAir	
	Main	Atom.	Total	Gas	Oil	Main	Atom.	Total	Gas	Oil
6421-4	6 690	425	7 115	425	350	1200	430	1630	275	150
6421-5	9 900	400	10 300	475	575	1800	440	2240	75	75
6421-6	15 000	400	15 400	225	350	2700	400	3100	450	125
6421-7-A	30 600	480	31 080	875	525	5400	520	5920	500	325
6421-7-B	38 400	400	38 800	600	400	8100	600	8700	350	50
6421-8-A	42 300	400	42 700	250	180	9160	650	9810	300	100

Burner can be operated with up to 16 osi main air pressure.

DIMENSIONS inches



Burner designation	Dimensions in inches												
	A	B	C	D	E	F	G	H	J	K	L	M	N
6421-4	2	1 1/4	3/4	14	7	6 1/4	3 3/8	5 7/8	67 1/2	8 3/8	5 1/4	6 1/16	6 3/16
6421-5	2 1/2	1 1/2	1	14	7	6 1/4	3 3/8	5 7/8	67 1/2	8 3/8	5 1/4	6 1/16	6 3/16
6421-6	3	1 1/2	1	14	7	6 1/4	3 3/8	5 7/8	67 1/2	8 3/8	5 1/4	6 1/16	6 3/16
6421-7-A	4	2 1/2	1 1/4	16	8	7 3/8	3 11/16	7 1/4	58 1/2	9 7/8	6 7/8	7 15/16	7 9/16
6421-7-B	4	2 1/2	1 1/4	16	8	7 3/8	3 11/16	7 1/4	58 1/2	9 7/8	6 7/8	7 15/16	7 9/16
6421-8-A	6	2 1/2	1 1/4	16	8	7 3/8	3 11/16	7 1/4	58 1/2	9 7/8	6 7/8	7 15/16	7 9/16

Burner designation	Dimensions in inches							Approx wt, lb	Recommended Sensitrol™ Oil Valve*	Approx. Flame Lengths with 14 psi Main Air (in open furnace)	
	P	Q	R	S	T	U	V				W
6421-4	8 1/8	16 5/8	31	5	10	1 29/32	2 13/32	7	80	1813-02-A	3 1/2'
6421-5	8 1/8	16 5/8	31	5	10	1 29/32	2 13/32	7	80	1813-02-A	4 1/2'
6421-6	8 1/8	16 5/8	31	5	10	1 29/32	2 13/32	7	80	1813-02-B	4 1/2'
6421-7-A	9 3/16	20 1/16	33	7	12	1 13/16	2 5/8	7	140	1813-02-C	5'
6421-7-B	9 3/16	20 1/16	33	7	12	1 13/16	2 5/8	7	140	1813-02-C	5'
6421-8-A	9 3/16	20 1/16	33	7	12	1 13/16	2 5/8	7	150	1813-02-D	7'

\* Sensitrol Oil Valve is not included as part of the burner assembly and must be ordered separately.

**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.



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