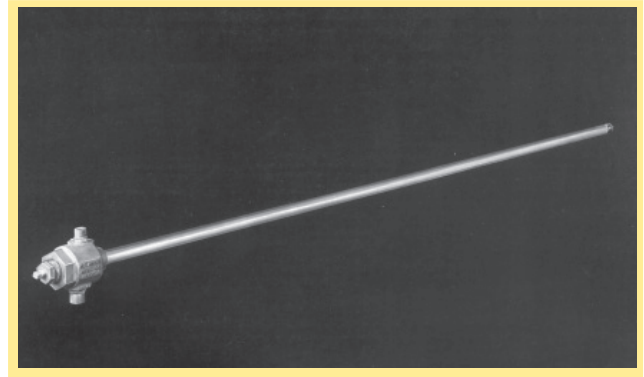


**5642 Atomizers firing heavy oil in Dual-Fuel™ burners on a steel mill reheat furnace.**



**5642 Full Emulsion Atomizers** use high pressure steam or compressed air to atomize liquid fuels. They are particularly suitable for burners on high temperature, continuous duty applications.

5642 Atomizers can be adapted to fit most burners, but they should not be used for low temperature furnaces or installations where cold lightings are frequent. Specify atomizer length ("L" dimension) to suit burner involved.

Matched sets of oil, steam, and emulsion orifices permit a wide range of atomizing capacities for each size atomizer. All orifices can be cleaned easily, and oil and steam orifices can be changed without removing the atomizer from the burner. Precision machining of orifices assures uniform distribution to all atomizers in a zone level (not at different elevations).

Atomizer bodies are cast bronze; all other parts are stainless steel.

A differential steam regulator is recommended for control of oil/steam ratio. See Sheet 5642-1 for details.

**REQUIREMENTS**

Steam or compressed air should be furnished to the atomizer at 80 to 100 psi. Oil pressure at the atomizer is usually held 10 psi below steam pressure. Line pressure must be high enough to maintain these requirements allowing for pressure drops through metering and control systems.

**Atomizing Medium Rates at Maximum Capacity**

Fuel	lb. steam/ gallon oil	scf air/ gallon oil
#2	2.5	55.5
#6	4.0	88.8

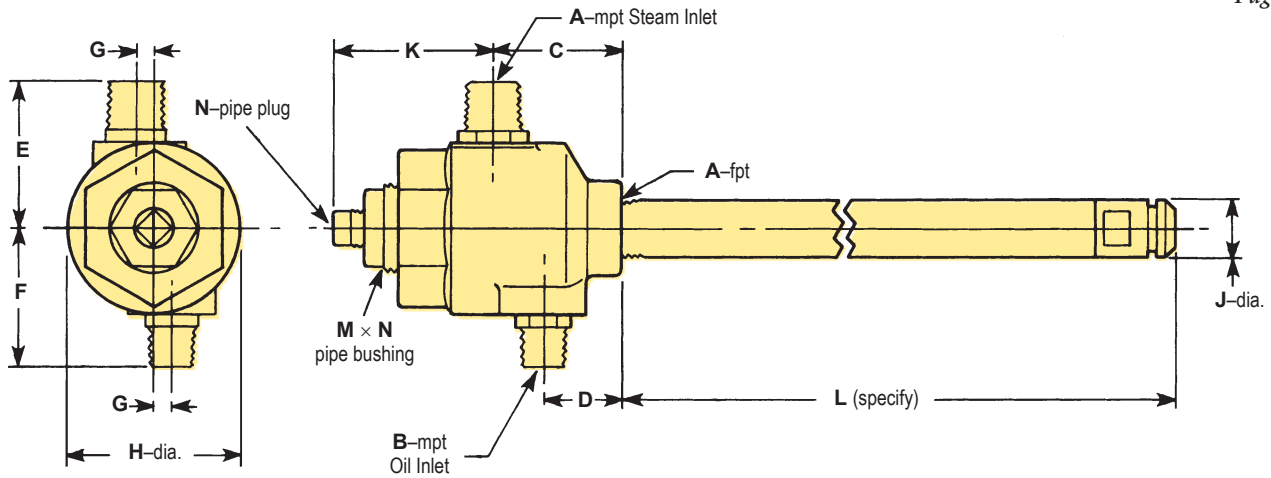
These rates are at maximum atomizer capacity. At smaller capacities, total steam or compressed air consumption will decrease, although consumption per gallon of oil may be higher. In general, for atomizing purposes, 1 pound of steam is equivalent to 22 scf of air at the same pressures.

**OIL CAPACITIES**

(Based on 80 psi steam at atomizer; for #6 oil, 100 SSU viscosity.)

Model No.	Oil Capacity, gph		Model No.	Oil Capacity, gph		Model No.	Oil Capacity, gph	
	#2	#6		#2	#6		#2	#6
5642-02-5	8	5	5642-01-55	88	55	5642-1-110	176	110
5642-02-10	16	10	5642-01-60	96	60	5642-1-120	192	120
5642-02-15	24	15				5642-1-130	208	130
5642-02-20	32	20	5642-0-65	104	65	5642-1-140	224	140
5642-02-25	40	25	5642-0-70	112	70	5642-1-150	240	150
			5642-0-75	120	75	5642-1-160	256	160
5642-01-30	48	30	5642-0-80	128	80	5642-1-170	272	170
5642-01-35	56	35	5642-0-85	136	85	5642-1-180	288	180
5642-01-40	64	40	5642-0-90	144	90	5642-1-190	304	190
5642-01-45	72	45	5642-0-95	152	95	5642-1-200	320	200
5642-01-50	80	50	5642-0-100	160	100			

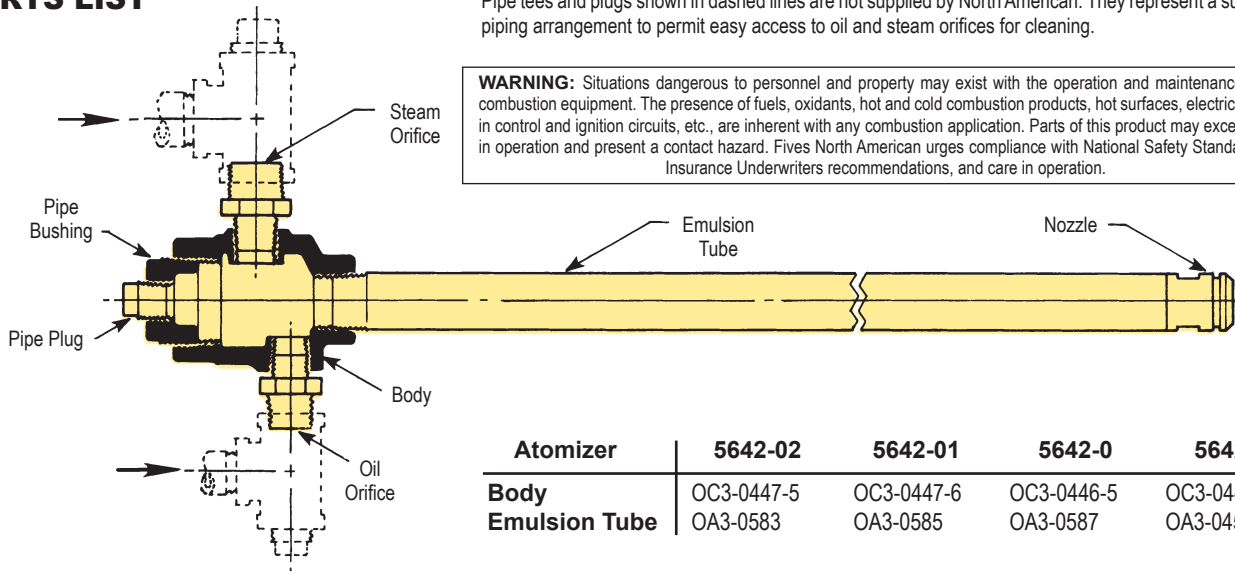
**DIMENSIONS**



Atomizer designation	dimensions in inches											
	A	B	C	D	E	F	G	H	J	K	M	N
<b>5642-02</b>	3/8	1/4	1 7/8	1 1/8	2	1 15/16	1/4	2 1/2	0.675	2 5/16	1	1/4
<b>5642-01</b>	1/2	3/8	1 7/8	1 1/8	2 1/8	2	1/4	2 1/2	0.840	2 5/16	1	1/4
<b>5642-0</b>	3/4	1/2	2 5/16	1 1/2	2 1/2	2 3/8	3/8	3	1.05	3 1/8	1 1/2	3/8
<b>5642-1</b>	1	3/4	2 5/16	1 1/2	2 9/16	2 1/2	3/8	3	1.315	3 1/8	1 1/2	3/8

**PARTS LIST**

Pipe tees and plugs shown in dashed lines are not supplied by North American. They represent a suggested piping arrangement to permit easy access to oil and steam orifices for cleaning.



**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 urges compliance with National Safety Standards and Insurance Underwriters recommendations, and care in operation.

Atomizer	5642-02	5642-01	5642-0	5642-1
<b>Body</b>	OC3-0447-5	OC3-0447-6	OC3-0446-5	OC3-0446-6
<b>Emulsion Tube</b>	OA3-0583	OA3-0585	OA3-0587	OA3-0451

To select proper nozzle or orifice from this table, start with atomizer designation in left hand column (for example, 5642-1) and read across to number in table that corresponds to last part of atomizer model number (e.g., 140). Add suffix from head of column in which number appears (-4) to appropriate nozzle or orifice part number (e.g. OA3-0450-4). Contact product manager for complete atomizer assembly, part numbers and pricing. Dimension "L", as shown above, must be specified for pricing.

Atomizer	Nozzle	Steam Orifice	Oil Orifice	Suffix										
				-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	
<b>5642-02</b>	OA3-0582-	OA3-1644-	OA3-1643-	5	10	15	20	25	—	—	—	—	—	—
<b>5642-01</b>	OA3-0584-	OA3-1646-	OA3-1645-	30	35	40	45	50	55	60	—	—	—	—
<b>5642-0</b>	OA3-0586-	OA3-1648-	OA3-1647-	65	70	75	80	85	90	95	100	—	—	—
<b>5642-1</b>	OA3-0450-	OA3-1650-	OA3-1649-	110	120	130	140	150	160	170	180	190	200	—

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

Fives North American Combustion, Inc., 4455 East 71st Street, Cleveland, OH 44105 USA, Phone 216.271.6000  
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