

Steel, Stainless Steel, High & Super Alloy-  
 Heat, Wear, Abrasion, Pressure & Corrosion Resistant  
 Castings, Spares, Replacement Parts, Custom-Made Components  
 Manufacturer-Supplier to OEM's, Plants, & Process Industry  
 Machined, Proof-Machined, CNC/VMC Precision Machined Components  
 Conversion to Castings from Fabrications, Forgings & Welded Assemblies  
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## Elevated Temperature Service Oxidation, Wear Erosion-Corrosion Resistant AFBC & CFBC Boiler Air Injection Nozzles & Blow Pipe Assemblies

High performance air injection nozzles for AFBC/ CFBC Boilers to withstand high temperature oxidation and erosion-corrosion due to pulverized coal and hot air injection

### ACME® Fe-Cr-Ni & Fe-Ni-Cr Heat Resistant Alloys with Rare Earth Metal (REM) Mod

Most of the installed AFBC Boilers are being now converted into CFBC Boilers to improve boiler thermal efficiency. Air injection nozzles are used to inject pulverized coal and hot air mix into the combustion chamber.

High ash and volatile content coal injection at elevated temperature at under high pressure and velocity results in high temperature oxidation corrosion, wear and erosion of nozzle material demanding frequent replacements.

ACME high chromium heat resistant alloys are designed to withstand such demanding applications. To combat high temperature oxidation of alloys, rare earth metal (REM) modified alloys are also offered along with ASTM A 560 Grade 50Cr-50Ni-Nb/Cb alloy grade when longer service life and less boiler shut downs are desired. Useful operational life of such nozzles has been reported as 6-8 years. High performance, longer life of nozzles helps reducing boiler shut down times and maintenance costs, leading to overall lower cost benefits of power generation at the power plants that off set high initial cost of nozzles.

ACME alloys can offer custom made cast and machined air injection nozzle assemblies in various alloy options including all grades of ASTM A 297/ A 297 M, USA Standard Specification of Heat Resistant Stainless Steels and its equivalents in DIN, JIS, ANFOR, UNS or alike alloys as well as proprietary alloy solutions.

Candidate alloys include ASTM A 297-Grade HH, HH Modified, HE, HD. Picture at top right show alloy nozzles in proof machined condition before making specified geometry hole patterns. Middle picture shows proof machined bars in alloy A297 grade HE (25-28Cr, 8-11Ni) along with its cut section. Pictures at the right show proof machined nozzles to client's CFBC boiler design, and specifications.



For boiler plant/ power plant solutions, air injection nozzles and complete blow pipe assemblies in heat resistant alloys, contact

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