AIR ASSIST FLARE

Engineering a Safer World

SMOKELESS COMBUSTION WITHOUT STEAM INFRASTRUCTURE

Heavy waste streams smoke when burned without enough mixing energy. Many sites, tank batteries, and production pads without a steam header cannot use steam assist and need a different way to reach smokeless performance.

CRA's Air Assist Flares use an on-site blower to deliver forced air to the flare tip through a concentric ring or multiple injection ports, entraining the waste gas as it exits and supplying the additional oxygen needed for complete, smokeless combustion. Air delivery stages across the flow range, from minimum pilot conditions to full emergency relief, maintaining smokeless performance throughout. CFD-simulated, custom-designed systems match blower capacity to the specific site's gas composition and flow conditions.

CRA has engineered air-assisted flaring systems for over 30 years, designed to API 537, API 521, EPA 40 CFR 60.18, and international flare emission standards, and manufactured end-to-end under one roof.

CRA ADVANTAGE

+ Smokeless Operation (forced air ensures complete combustion without visible smoke)	+ Optimal Design & Performance + Accomodate Special Requirements
+ Handles Variable Flows (high turndown from routine venting to full emergency relief)	+ On-Time Delivery + Responsive & Organized Team
+ Engineered Precision (CFD-simulated, site-specific system design)	+ Stringent Quality Management + Fast Turnaround
+ Efficient And Clean (complete combustion, reduced greenhouse gases)	+ Cost Effective Maintenance Packages + Long-Term CRA Support

APPLICATIONS

Supplied for smokeless combustion of heavy waste streams where steam infrastructure isn't available

+ Heavy Hydrocarbon Vent Gas
+ Variable Flow And Low-Pressure Streams
+ Tank Vapors And Loading Emissions
+ Emergency Relief Gas Combustion
+ Odorous Waste Gas Streams
+ Low-BTU Gas Disposal

CRA
7, Sector 140A
Noida, UP, 201304

Learn more at www.cra.energy

contact@cra.energy
0120 415 6787 · +91 85060 09433

ISO 9001 QUALITY ASSURANCE MANAGEMENT

WORKING & PERFORMANCE

Engineering a Safer World

ON-SITE BLOWER REPLACES STEAM AS THE SMOKELESS MIXING SOURCE

WORKING

+ An on-site blower delivers air to the flare tip through a concentric ring or multiple injection ports

+ Entrained air supplies the additional oxygen needed for complete combustion, preventing the soot formation that produces visible smoke

+ Air delivery stages across the flow range, from minimum pilot conditions to full emergency relief

+ Blower motors for this duty typically range from about 1 HP up to 250 HP depending on flow rate and smokeless requirement[L]

+ Automated controls adjust blower output to hold smokeless combustion as flow conditions change

WHY AIR ASSIST

+ No Steam Header Required

+ Turndown Ratio: Up To 50:1

+ Blower Power: Approx. 1-250 HP, Flow-Dependent[L]

+ Well-Suited To Tank Batteries And Production Pads[L]

+ Suits Cold Climates Where Steam Would Freeze[L]

Air assist trades peak smokeless capacity for lower capital and no steam dependency; steam assist is the better fit where flows are very large and steam is already available.

TYPICAL DESIGN & PERFORMANCE PARAMETERS

Turndown ratio	Up to 50:1
Air source	On-site blower
Blower power range	Approximately 1-250 HP depending on flow rate and smokeless requirement[L]
Applicable standards	API 537, API 521; emissions per EPA 40 CFR 60.18
Best-fit scale	Small to medium flows, lower operating cost than steam assist when steam is unavailable

Figures per CRA published product data; items marked with a superscript L are drawn from published industry literature.

CRA
7, Sector 140A
Noida, UP, 201304

Learn more at www.cra.energy

contact@cra.energy
0120 415 6787 · +91 85060 09433

ISO 9001 QUALITY ASSURANCE MANAGEMENT