

MOBILE INTERNAL COMBUSTION ENGINE (ICE) SYSTEMS

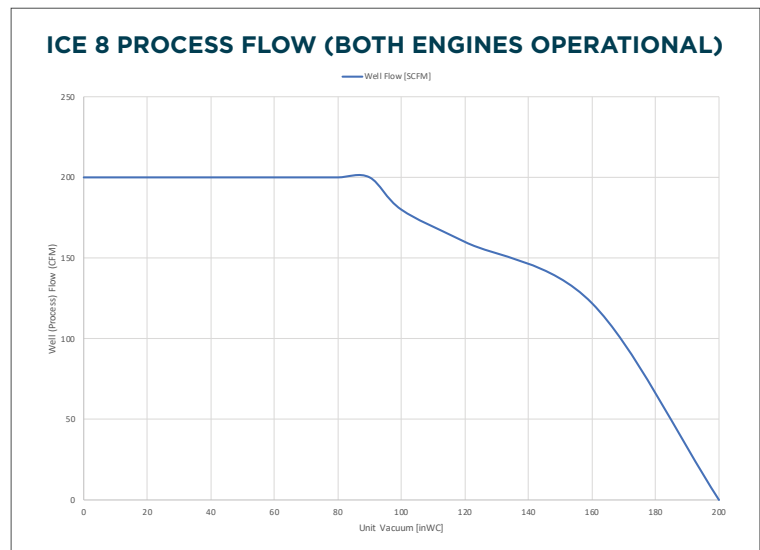


APPLICATIONS

Evoqua's internal combustion engine (ICE) units include dual engine systems designed to destroy volatile organic compounds (VOCs) and hydrocarbons in vapors. These systems are cost-effectively used to treat gases released in applications, including:

- Aboveground storage tank degassing
- Aboveground storage tank refilling
- Odor control
- Pipeline degassing
- Pipeline decommissioning
- Solids removal enhancement
- Strip and refill activities
- Underground storage tank remediation
- Vacuum truck abatement

ICE systems control combustion conditions to ensure thorough VOC destruction and to monitor and control emissions. The units maintain the optimum time, temperature, degree of mixing, and oxygen concentrations needed for a complete combustion reaction.



INSTALLATION, STARTUP, AND OPERATION

The ICE units require minimal field assembly and site connections. Dual engine units have hydraulic or magnetic load capabilities. The ability to manually introduce a load to the dual engines can ensure smooth system operations under certain site specific conditions.

All ICE units require either a propane or natural gas fuel supply. Nearly all of Evoqua's ICE systems are stack source tested and meet or exceed 99.9% DRE of non-methane hydrocarbons. They can be operated in automatic or manual mode to suit operational needs.

Evoqua can provide a total service package that includes using OSHA-trained personnel providing onsite bonding, vapor hose packages, operation and monitoring, compliance records, and reporting.

Specifications / Typical Properties	Dual 8-Cylinder
Dual Engine System	Yes
Loading Capability	Hydraulic or magnetic
Dimensions (width x length)	6' x 23'
Overall Height	11'6"
Process Inlet Connection	3" female cam-lock
Auxiliary Fuel Requirements	Propane or natural gas*
Auxiliary Fuel Connection	POL
Onboard Propane Tank Capacity (lb.)	100
Maximum Unit Heat Capacity (mmBtu/hr.)	2
Max. Total Flow (scfm)	300
Max. Process Flow (scfm)**	200
Destruction Removal Efficiency***	>99.9%****
NOx @ 3% O2 (ppmv)	<400
CO @ 3% O2 (ppmv)	<15
Cylinders per Engine	8
Max Process Vacuum (inWC)	250
Flame Arrestor Classification*****	D
Catalytic Converters	2
Knock-Out Tank Volume (gal.)	30
Horsepower Non-Carb Reg. Requirement	<50 bhp

Contact your local Evoqua sales representative to confirm vessel selection, verify appropriate flow rates and obtain detailed specifications, dimensional information or drawings.

* Natural gas connection available on select units. Conversion to natural gas auxiliary fuel supply requires unit modifications.

** Maximum flow based on unit vacuum. In order to verify appropriate flow rates and unit sizes, contact your Evoqua representative.

*** Non-methane hydrocarbons.

**** While most units are above 99.9% some units may be lower. If high DRE is needed it will need to be requested specifically.

***** Evoqua can supply flame arrestors of a higher rating upon request.

Features and Benefits

- Continuous monitoring system
- Process flow meter and totalizer logging
- Estimated mass destruction log
- Automated controls with easy-access monitoring screen
- Data logging
- Sample ports
- Adjustable setpoints
- Dual-emergency stop buttons
- Automated auxiliary fuel addition to ensure continuous combustion
- Synthetic loads used to increase flow and VOC destruction for quicker project completion
- Enclosed trailer protects the internal components, ensuring system integrity while reducing noise

Safety Note: ICE units are used for combustion of organic compounds present at potentially flammable or hazardous concentrations.

Workers should follow all Evoqua and site-based safety protocols and have a predetermined emergency plan before starting work.

Compatibility of units with organic compounds must be verified before job start, and all involved personnel must be trained in propane or natural gas safe handling procedures to prevent incident or injury.



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