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Algas-SDI

AQUAVAIRE®

VERTICAL WATERBATH VAPORIZERS

*The **SAFEST**, most **RELIABLE**, and most **EFFICIENT** gas-fired LPG waterbath vaporizer on the market.*



START HERE

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The AQUAVAIRE® Advantage



The **AQUAVAIRE** gas-fired waterbath vaporizer offers an extremely safe, efficient, and reliable source of LPG for large energy users who have no access to the natural gas grid or require propane/air as backup to their natural gas supply. As an all-encompassing self-contained unit, **AQUAVAIRE** is the premier choice when you require:

SAFETY

A forced-draft power burner, flame safeguard, purge cycle to prevent backfiring, and low and high gas pressure switches make **AQUAVAIRE** safer than competitors' vaporizers.

RELIABILITY

An auto restart function, a positive float switch, a push-to-prime feature to prevent flooding when starting the vaporizer, and an integral heavy ends trap to collect heavy oils are among the features that make **AQUAVAIRE** reliable.

EFFICIENCY

Features like a forced-draft power burner that fires off center, a low-high-low burner configuration, and flow turbulators in the flue tubes make **AQUAVAIRE** extremely efficient.

IMPROVED UPTIME

AQUAVAIRE incorporates a commonality of components for different models. Components ranging from the water circulation pump to the aquastat allows customers with multiple **AQUAVAIRE** units to stock fewer parts. Fewer parts means less maintenance. And less maintenance means more uptime.

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The AQUAVAIRE® Advantage continued



FASTER DELIVERY

Commonality of parts allows Algas-SDI to pre-build water circulation trains and gas trains. The result is faster delivery time to your location. ASDI also stocks certain **AQUAVAIRE** models for immediate delivery.

ROOM TO EXPAND

AQUAVAIRE is rated at an operating temperature of 160°F. Our competition rates its vaporizers with an operating temperature of 170°F. Increasing our operating temperature offers more capacity, allowing you to handle increased expansion of your facility.

EASY STARTUP

AQUAVAIRE includes an excess air burner for hassle free start-up, even at high elevations.

LOWEST COST OF OWNERSHIP

AQUAVAIRE requires less glycol, which signals lower initial expense than that of the competition. Plus, a more efficient system means lower operating cost. The result: **AQUAVAIRE** represents the lowest overall total cost of ownership.

THE SMALLEST WATERBATH ON THE MARKET MEANS LOWER GLYCOL COST FOR YOU!

	ASDI Model Q960V *(1000 GPH propane vaporized/Hr)*	**Competitor "A"** *1000 GPH vaporizer*	**Competitor "B"** *1000 GPH vaporizer*	**Competitor "C"** *1000 GPH vaporizer*
Water/Glycol Required	291	660	450	825
Pre-Mixed Glycol Cost	$2,765	$6,270	$4,275	$ 7,838
Differential	$ —	$3,506	$1,511	$ 5,073

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Water Saver Tank: Why it Matters

AQUAVAIRE's specially designed water saver tank offers a distinct competitive advantage:

REDUCED MAINTENANCE

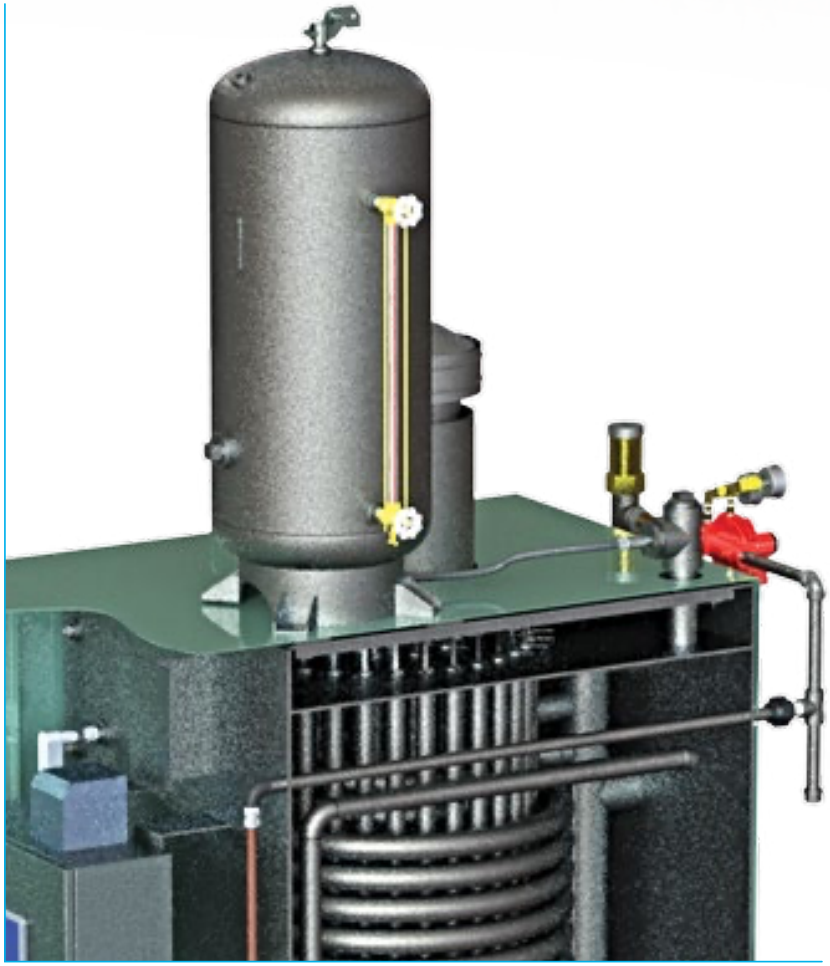
The water saver decreases the amount of water boil-off, reducing the need to add make-up water.

LESS CHANCE FOR CORROSION

The water saver tank reduces the water-to-air surface area, which reduces the amount of air (oxygen) that dissolves into the water.

BETTER CHEMISTRY

Clients tend to add pure glycol for make-up water, which is a bad practice. Since the water saver reduces make-up water requirements, there's less chance for imbalanced chemistry.



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Why Select Waterbath Over Direct-Fired

AQUAVAIRE is a gas-fired waterbath vaporizer that converts LPG liquid into superheated vapor at a balanced pressure. It offers key advantages over a direct-fired vaporizer, which uses a flame to heat the pressure vessel directly — meaning there's no heat transfer medium.

IMPROVED SAFETY

The forced-draft power burner includes a purge cycle to "clean-out" the combustion chamber prior to ignition, preventing any residual fuel from causing a backfire.

INCREASED EFFICIENCY

The forced-draft power burner offers better combustion efficiency than an atmospheric burner, resulting in less fuel consumed.

SOFTER HEAT

Unsaturated olefins are prevented from polymerizing, which means fewer heavy oils in the LPG vapor.

FEWER CARBON EMISSIONS

The forced-draft power burner offers better combustion efficiency than an atmospheric burner.

BULLETPROOF DESIGN

AQUAVAIRE is ideal for grain-drying and other applications where the vaporizer will sit idle for many months without use. The enclosed chamber prevents rodents, bugs, and spiders from damaging the burner tips. **AQUAVAIRE** also serves as propane air backup.

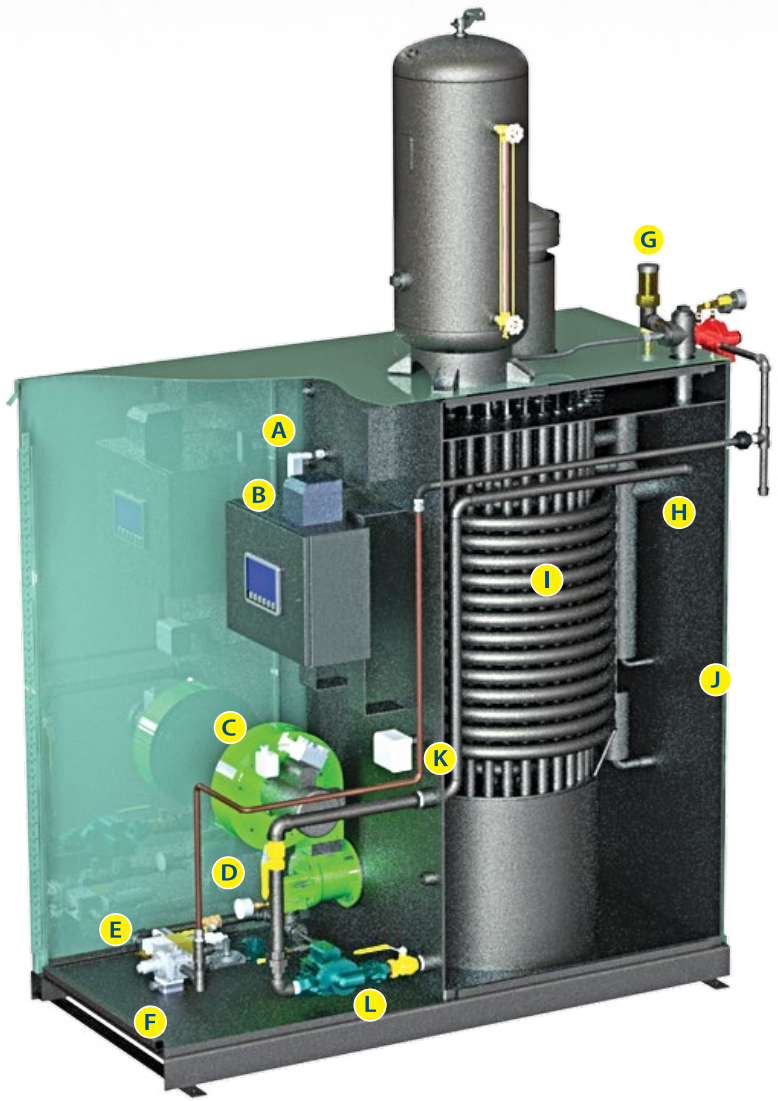
REDUCED MAINTENANCE

Technicians spend less time on maintenance since there's only one burner, one thermostat, one inlet valve, etc.

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AQUAVAIRE® Safety

- **A** Low water-level float switch
- **B** Electronic flame safeguard only allows fuel to the burner if flame is present
- **C** Power burner with purge cycle — "cleans" combustion chamber of residual fuel to prevent backfire. Required by code if fuel input is greater than 400,000 Btu/hr.
- **D** No standing pilot
- **E** Dual safety shutoff valve
- **F** Low and high gas pressure switches

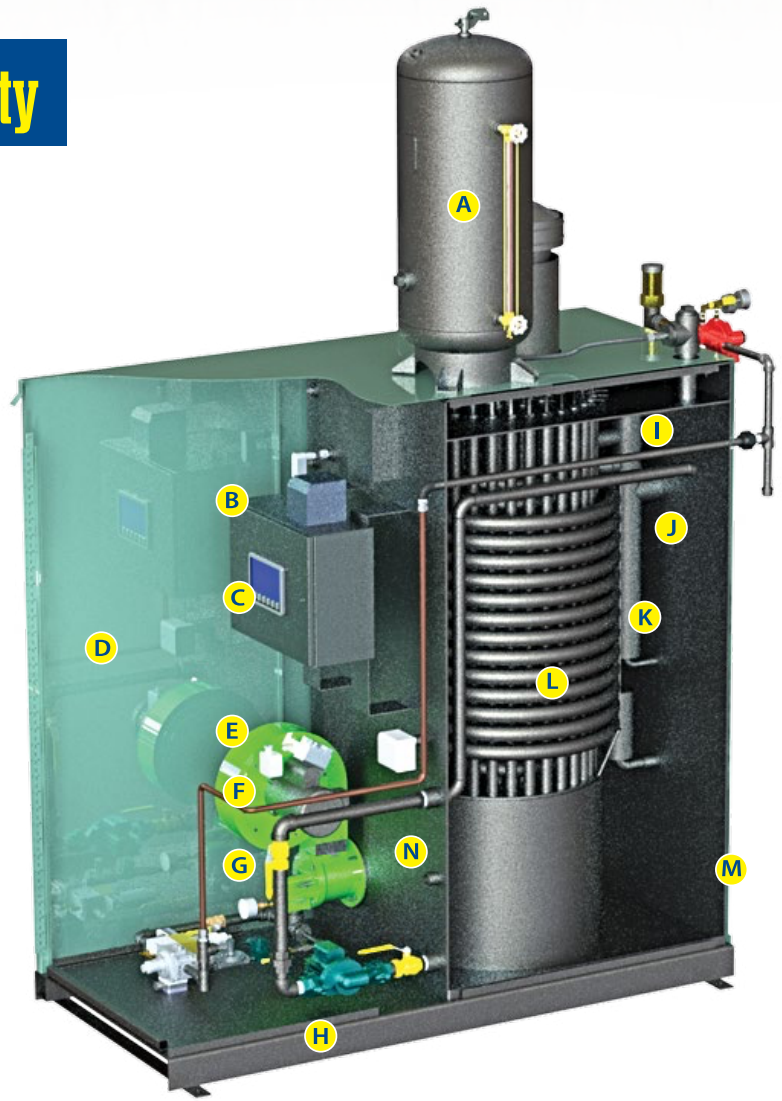


- **G** Safety relief valve
- **H** Positive float switch — no gimmicks to prevent liquid from passing
- **I** Pressure vessel designed to ASME Section VIII
- **J** Backflow safety solenoid valve
- **K** High- and low-temperature safety switch
- **L** Water circulation pump eliminates thermal stratification, preventing liquid from passing

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AQUAVAIRE® Reliability

- **A** Water saver tank prevents water boil-off, reducing the need to add make-up water
- **B** Auto reset included as a standard feature — restarts the unit if power supply fails
- **C** "Push-to-prime" prevents flooding
- **D** Universal components ensure your technician will be familiar with any AQUAVAIRE regardless of the model
- **E** Industrial cast iron burner vs. inferior sheet-metal burner
- **F** Two independent stages of resolution to fuel the burner
- **G** Excess air burner means easy start-up, no adjustment, even at higher elevations



- **H** Access panel included for easy access to water circulation pump
- **I** Gooseneck included at the outlet to force LPG to rise up before exiting, preventing any liquid LPG droplets from exiting
- **J** Float switch installed out of the flow stream, preventing nuisance tripping
- **K** Built-in heavy ends trap to reduce heavy oils from passing downstream
- **L** Use of bare pipe — no pressed-on fins that cause fouling
- **M** Ground rod lug included to ensure unit is installed properly
- **N** Universal components — fewer components to stock

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AQUAVAIRE® Efficiency

The goal for any waterbath vaporizer is to transfer as much heat from the burner to the bath of water and then transfer that heat from the water to the LPG.



A Forced-draft power burner for better combustion efficiency compared to atmosphere burner

B Low-high-low burner configuration reduces fuel consumption during period of low demand

C Flow turbulators in the stack create a "scrubbing" effect, which improves heat transfer

D Burner fires off center to create swirl effect, driving the heat out into the waterbath instead of allowing it to simply go up the stack

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AQUAVAIRE® Specifications by Model

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		Q320V	Q480V	Q640V	Q800V	Q960V	Q1120V	Q1375V	Q1650V
Rated Capacity	Kg/Hr	614	921	1230	1535	1840	2150	2640	3332
	Million BTU/Hr	29.1	43.7	58.2	72.8	87.4	102	125.1	150.2
	Million Kcal/Hr	7.3	11	14.7	18.4	22	25.7	31.5	37.8
Nominal Capacity	US Gallons/Hr	320	480	640	800	960	1,120	1,375	1,650
Heat Exchanger Surface Area	Ft^2	30.5	40.6	58.6	90.5	90.5	99	99	140.7
	m^2	2.83	3.77	5.45	8.41	8.41	9.2	9.2	13.07
Heat Exchanger Design Pressure	PSIG	250	250	250	250	250	250	250	250
	Bar	17.2	17.2	17.2	17.2	17.2	17.2	17.2	17.2
Heat Exchanger Test Pressure	PSIG	375	375	375	375	375	375	375	375
	Kg/cm^2	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
Waterbath Water/Glycol Volume	US Gallons	116	136	237	294	294	505	505	505
	Liters	431	511	893	1101	1101	1911	1911	1929
Waterbath Operating Temperature *(Adjustable)*	°F	160	160	160	160	160	160	160	160
	°C	71	71	71	71	71	71	71	71
Burner Fuel Input	BTU/Hr	370,000	550,000	710,000	880,000	999,000	1,240,000	1,520,000	1,825,000
	Kcal/Hr	93,240	138,600	178,920	221,760	251,748	312,480	383,040	459,890
Shipping Weight	Lbs	1,821	2,076	2,784	2,994	2,994	3,387	3,387	3,587
	Kg	826.0	941.0	1273.0	1358.0	1358.0	1536.0	1536.0	1627.0
Operating Weight *(with 50/50 Glycol/Water)*	Lbs	2,801	3,236	4,804	5,484	5,484	7,717	7,717	7,957
	Kg	1266	1,471	2,183	2,488	2,488	3,496	3,496	3,607
Electrical *Specify 50Hz or optional voltage if required*	Voltage	120	120	120	120	120	120	120	120
	Hz	60	60	60	60	60	60	60	60
	Phase	1	1	1	1	1	1	1	1
	Amperage	10.9	10.9	13.4	15.5	15.5	16.9	16.9	26.5

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The Algas-SDI Advantage

Algas-SDI is the world's leading provider of equipment for the standby and transportable fuels business for the last 80 years. We take pride in creating high-quality engineering design and packaged systems, with distribution to more than 87 countries worldwide. Equipped with an experienced in-house engineering and design team, Algas-SDI ensures quality control with ISO 9001 certification and offers the requisite code compliance. ***Algas-SDI. We make transportable fuels easy to use.***

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