GENERAL COMBUSTION

Asphalt Storage Tanks, Burners, Heaters





A tradition of **Excellence**

y-Way leads the world as the choice for thermal fluid process and liquid storage equipment. In fact, Hy-Way has been leading the industry since 1947. Serving both the industrial and asphalt markets, Hy-Way liquid storage tanks prove themselves dependable, highly efficient and durable in hundreds of industry application worldwide. Hy-Way maintains a reputation for highefficiency and reliability in all applications from asphalt to petrochemicals and from food processing to textiles.

Today, Hy-Way continues this tradition with innovative technology, an experienced staff and applications to meet the needs of an expanding market.

Hy-Way designs the most energy efficient heating system to address today's complex liquid storage requirements. All Hy-Way heated coil tanks feature the highest quality construction for durability under the most rugged conditions. No matter what the application.

Every Hy-Way coil tank is constructed with intuitive design features that are normally considered optional or not available on competitive units. A large heat exchange coil surface is featured for fast heat recovery and heat rise for even the most viscous liquids. A serpentine coil design allows adequate horizontal expansion and contraction under full operating conditions. Four inches of high quality fiberglass insulation maintain optimum operating temperatures while minimizing conductive heat loss. An extra inch of insulation is added to stationary and horizontal tanks 20,000 gallons and larger.

Our exclusive "hard hat" cap design prevents damage to the tank surface and allows easy access to the coil through a twenty-inch, quick-opening manhole with energy vent. To prevent premature burnout of the coil and heat system , a standard safety suction system prevents the liquid level from dropping below the heating coil while in operation, yet allows complete emptying of the tank when necessary. The unique internal vent and overflow system is also a standard Hy-Way feature to prevent condensing vapors from collecting in the insulation during truck unloading.

In addition to the many standard features, every Hy-Way coil tank allows for optional equipment upgrades to be easily added to maximize performance. Whether polymers, latex, emulsions, or asphalt. Hy-Way has the experience and know-how to design and package a complete heating system to meet your specific requirements.

The superior high efficiency design of the General Combustion Turbocoil Heaters outperforms competitive units in all types of process applications. The closewound helical coil design eliminates the poor oil circulation problems experienced with others designs. Coking, sludge, hot spots, and burnouts are prevented. In addition, low stack temperatures mean the heat is going into the oil, not up the stack.

The expansion tank is mounted remote from the heater so in normal operation, it is at ambient temperature, This permits the use of light heat transfer oils resulting in lower pumping costs and better heat transfer. It is also safer; chances of fire are greatly reduced.

By contrast, heaters with expansion tanks mounted directly on top require high flash point oil, which is more difficult to circulate at ambient temperatures. Heaters are available vertical, horizontal, and underground tanks in steel, stainless steel, nickel, and other materials designed to meet specific jobs requirements large or small.

General Combustion has been the leader in combustion technology for over 50 years, with an emphasis on fuel efficiency and reliability, General Combustion has continually strived to increase operating economies through sophisticated design and advanced process control systems that create the perfect combination of form and function.

General Combustion has engineered combustion systems that can transform almost any fuel into energy or burn multiple fuels simultaneously. Whether conventional fuels such as oil or coal or synthetic process or refuse solid fuels, General Combustion has designed a system to go beyond the norm, constantly pushing the limits of the imagination. The external endeavor for the perfect blend of nature's basic element to produce the ultimate flame.

Stationary tanks feature a high-efficiency, close-wound, serpentine coil for increased oil circulation and better heat transfer. 1/4" butt-welded steel plate forms the rugged shell construction of the tank with 4' of fiberglass insulation on the shell to reduce conductive heat loss. A series of integral saddles mounted on heavy twin 25 pound beams form the support frame which is easily set to grade or adaptable to concrete foundations. To ensure all-weather protection and durability, the Hy-Way coil tank is beautifully finished in a durable scratch resistant, powder coated aluminum skin.



STATIONARY TANK SPECIFICATIONS

| MODEL | CAPACITY | LENGTH | WIDTH | HEIGHT |
|--------|----------|--------|--------|--------|
| CTS-10 | 10,000 | 21'0" | 10'10" | 11'4" |
| CTS-15 | 15,000 | 29'6" | 10'10" | 11'4" |
| CTS-20 | 20,000 | 38'0" | 10'10" | 11'4" |
| CTS-25 | 25,000 | 46'6" | 10'10" | 11'4" |
| CTS-30 | 30,000 | 55'0" | 10'10" | 11'4" |
| CTS-35 | 35,000 | 58'0" | 11'4" | 11'10" |



STATIONARY TANK

WEIGHT 13.000 LBS. 18,000 LBS. 22,000 LBS. 27,000 LBS. 31,000 LBS. 36.000 LBS.

FEATURES

- Easy access quick opening hatch
- Internal vent/overflow pipe
- 25 lb. channel frame
- 1/4 shell thickness
- 2" serpentine coil
- 4" insulation with powder coated aluminum

VERTICAL TANK

Hy-Way vertical storage tanks are a space saving alternative to conventional tanks and provide a higher efficiency alternative for polymer blend and emulsified liquids. Each tank comes equipped with a 2.5" finned serpentine coil for maximum heat release into the product. In some special applications, an optional electric low-watt density coil can be added for extra heat transfer.

Constructed of heavy 1/4" plate, every Hy-Way vertical tank features a standard OSHA approved ladder safety system and 20" manhole access at the top of the tank. Diamond plate top deck construction surrounded by a safety railing with kick plate provide a sturdy access platform. A 24" secondary access is located at the base of the tank and a cable level indicator is mounted externally along with an electronic temperature controller.

All tank controls and piping are completely accessible at grade and include 3" or 4" inlet and outlet flanges and safety level and cut-off switches.

VERTICAL TANK SPECIFICATIONS

| MODEL | CAPACITY | WIDTH | HEIGHT | Heating Surface SQ FT. | WEIGHT |
|--------|----------|-------|--------|---------------------------|-------------|
| HTS-10 | 10,000 | 12'0" | 14'9" | 1,100 | 17,000 LBS. |
| HTS-15 | 15,000 | 12'0" | 21'9" | 1,100 | 23,000 LBS. |
| HTS-20 | 20,000 | 12'0" | 30'6" | 1,100 | 29,000 LBS. |
| HTS-25 | 25,000 | 12'0" | 37'6" | 1,100 | 35,000 LBS. |
| HTS-30 | 30,000 | 12'0" | 44'3" | 1,100 | 41,000 LBS. |
| HTS-35 | 35,000 | 13'0" | 42'0" | 1,100 | 49,000 LBS. |
| HTS-40 | 40,000 | 13'0" | 48'6" | 1,100 | 55,000 LBS. |
| HTS-45 | 45,000 | 14'0" | 46'0" | 1,100 | 59,000 LBS. |





Hy-Way engineers the ultimate combination of heavy, rugged design and ease of transport for portable storage tank applications requiring high mobility.

A highly efficient, 2" close-wound serpentine coil provides increased oil circulation and heat transfer for the most viscous materials. For rugged transport, every Hy-Way portable tank is constructed on twin 12" beams with tandem or triple axle configurations. The optional portability package includes a pre-piped and mounted unloading and metering pump system, unloading pipe carrier, swing down support jacks, fuel tank and a goose-neck mounted thermal oil heater.

For maximum heat retention, a thick blanket of fiberglass insulation and powder coated aluminum cover the entire shell and heads.



PORTABLE TANK SPECIFICATIONS

| MODEL | CAPACITY | LENGTH | WIDTH | HEIGHT |
|--------|----------|--------|-----------|-------------|
| CTT-10 | 10,000 | 18'4" | 10'10" | 13'4" |
| CTT-15 | 15,000 | 26'7" | 10'10" | 13'4" |
| CTT-20 | 20,000 | 34'10" | 10'10" | 13'4" |
| CTT-25 | 25,000 | 48'1" | 10'10" | 13'4" |
| CTT-30 | 30,000 | 55'4" | 10'10" | 13'4" |
| CTT-35 | 35,000 | 60'2" | 10'10" | 13'4" |
| | | | *ſemptv t | ank. no equ |



PORTABLE TANK

T WEIGHT* 19,000 LBS. 24,000 LBS. 28,000 LBS. 33,000 LBS. 37,000 LBS. 41,000 LBS. equipped mounted)

FEATURES

- Mounted pipe carrier
- Pre-piped mounted metering and unloading pumps
- Quick disconnect cabling
- Dual axle portability
- Air ride suspension
- Wheels / air brakes / brake lights / mud flaps
- Fifth wheel pin and glad hand connections

TANK FEATURES & ADVANTAGES



The industry's best choice for the most efficiently operating thermal fluid heater is the HY series. HY heaters incorporate the basic, sound design features of General Combustion's other wellestablished models, only in a smaller, more economical package. Skid-mounted for easy installation, HY heaters are suitable for either indoor or outdoor applications. HY heaters are capable of utilizing natural gas, LP gas, No. 2 fuel oil, or combination fuels. HYF series heaters are available with an increased "high flow and high temperature" oil system.

| | | HY SERIE | S SPECIF | ICATIONS | | |
|--------|-----------|-----------|----------|------------|--------|---------------|
| MODEL | INPUT | OUTPUT | | DIMENSIONS | 5 | SHIPPING |
| | M/BTU/hr | M/BTU/hr | Length | Width | Height | WEIGHT (lbs.) |
| HY-70 | 700,000 | 595,000 | 9'6" | 5'0" | 7'7" | 3,250 |
| HY-100 | 1,000,000 | 850,000 | 9'6" | 5'4" | 7'7" | 3,765 |
| HY-200 | 2,000,000 | 1,700,000 | 14'0" | 5'4" | 7'7" | 5,490 |
| HY-280 | 2,800,000 | 2,380,000 | 14'0" | 5'4" | 7'7" | 6,915 |



HY SERIES HEATER







MKVGO SERIES HEATER

General Combustion's MKVO Vertical Heaters are designed specifically for high temperature terminal applications where space is limited. Because of the unique design of the MKVO Vertical Heater, conventional fuels as well as heavy waste oils and recycled fuels can be burned without fear of coking, sludging, or damage to the coil. Heavy fuel oils have the greatest BTU energy content and are also some of the most inexpensive fuels available. The unique "Ash-Out" heater design eliminates the problems associated with burning of these types of fuel oils and allows the highest energy efficiency to maximize the caloric value of the fuel. Rugged I-Beam design coupled with a high-efficiency helical coil and a fully insulated exterior skin, make the MKVO Vertical Heater the ideal choice for Terminal Operators and Waste Oil Recyclers.





| MKVGO SERIES SPECIFICATIONS | | | | | | |
|-----------------------------|------------|------------|--------|-----------|--------|---------------|
| MODEL | INPUT | OUTPUT | | DIMENSION | S | SHIPPING |
| | M/BTU/hr | M/BTU/hr | Length | Width | Height | WEIGHT (lbs.) |
| MKVGO-340 | 3,400,000 | 2,900,000 | 17' | 7' | 7' | 14,300 |
| MKVGO-600 | 6,000,000 | 5,200,000 | 10' | 10' | 16' | 36,000 |
| MKVGO-750 | 7,500,000 | 6,400,000 | 10' | 10' | 17' | 37,500 |
| MKVGO-1000 | 10,000,000 | 8,500,000 | 10' | 10' | 18' | 38,500 |
| MKVGO-1250 | 12,500,000 | 10,300,000 | 10' | 10' | 19' | 40,000 |
| MKVGO-1500 | 15,000,000 | 12,800,000 | 11' | 11' | 20' | 48,000 |
| MKVGO-1750 | 17,500,000 | 14,800,000 | 11' | 11' | 22' | 52,000 |
| MKVG0-2000 | 20,000,000 | 17,000,000 | 12' | 12' | 24' | 61,000 |

General Combustion's Twin-coil HYT heaters are designed for high temperature industrial process applications. Designed with twin closewound helical coils, the HYT heater provides greater thermal efficiency in a small compact package for limited space applications. In addition, the internal use of a ceramic fiber blanket 🔊 on the heads, in place of cast refractory, greatly reduces weight and the expense of maintaining castable refractory. Built to provide years of dependable service, its design protects it from the rigors of process industry applications. Suitable for use with a wide range of fuels and thermal fluids. the General Combustion's HYT is the

most versatile and efficient heater available anywhere.

| ΜΟΠΕΙ | INPI IT | ΟΙ ΙΤΡΙ ΙΤ | | DIMENSIONS | } | SHIPPING |
|----------|------------|------------|--------|------------|-------------|---------------|
| MODEL | M/BTU/hr | M/BTU/hr | Length | Width | , Height | WEIGHT (lbs.) |
| HYT-340 | 3,400,000 | 2,900,000 | 11' | 7' | 8' | 14,300 |
| HYT-500 | 5,000,000 | 4,200,000 | 12' | 8' | 9' | 15,500 |
| HYT-750 | 7,500,000 | 6,400,000 | 13' | 9' | 10' | 29,800 |
| HYT-1000 | 10,000,000 | 8,500,000 | 22' | 10' | 11' | 32,100 |
| HYT-1250 | 12,500,000 | 10,625,000 | 28' | 11' | 12' | 55,800 |
| HYT-1500 | 15,000,000 | 12,800,000 | 27' | 11' | 12' | 64,200 |
| HYT-2000 | 20,000,000 | 17,000,000 | 30' | 12' | 13' | 66,500 |
| HYT-2500 | 25,000,000 | 21,300,000 | 33' | 13' | 14' | 76,200 |
| HYT-3000 | 30,000,000 | 25,500,000 | 35' | 14' | 15' | 88,900 |



HYT SERIES HEATER



HYT SERIES SPECIFICATIONS



HEATER FEATURES & ADVANTAGES

RAPID ENERGY-ABSORBING, TURBOCOIL DESIGN

- ASME stamped heater coil (optional)
- Every heater is thoroughly fire tested
- Maximum radiant energy absorption
- Helical coil is removable for easy maintenance
- Large combustion volume and low heat flux rates assuring long fluid life
- Precise coil/shell gapping producing even distribution airflow for maximum thermal efficiency
- Helical coil hydrostatically tested with oil. to 400 PSIG (ten times normal working pressure)

SUPERIOR INSTALLATION

- Stack extension (optional)
- External insulation preventing heat loss from the shell for maximum energy conservation
- Internally insulated with multi-level cast refractory

BURNER

- UL rated industrial complete packaged burner
 - All necessary fuel control valves • Mounted, piped, and wired
 - Spark ignition and flame safeguard • IRI, FM, CSA, or CGA fuel trains
 - Specialized ratings also available Capable of using natural gas, LP gas,
 - or commercial grades of fuel oil

REMOTE EXPANSION TANK

- ASME code expansion tank (optional)
- Transfer oil remains at ambient
- Minimizes oxidation and sludge
- Prevents cold areas by maintaining positive pressure on system at all times
- Rapidly removes vapors
- Reduces fire hazards
- Capable of using ultralight transfer oils with cleaning agents for ease of start-up and operation
- Expansion tank blanketing system (optional)
- Hot oil filter for system clean-up (optional)

AUTOMATIC CONTROLS



Status lights for troubleshooting with indicators for fuel on, pump running, lock-out, stack switch, flow switch, over-temperature control, and low liquid level Terminals for remote alarm Designed for safety, easy operation, and service 7-day programmable time clock

CENTRIFUGAL PUMP

- API seventh edition pumps
- Specifically engineered for thermal fluids
- Duplex pumping units (optional)
- Mechanical seals to prevent leaking
- Reduced horsepower requirements
- 600°F air-cooled
- for high heat applications • Higher flow rate/
- less temperature fluctuation ANSI Flanges



E-Z FILL SYSTEM

• Unique system allows ease of filling and unloading of transfer oil

AIR ELIMINATOR

- Air eliminator for rapid removal of vapor from the system FP-1 Filter package
- (optional)



With its efficient, compact design, The Astraflame™ burner is extremely reliable and inexpensive to maintain. It fires directly into the dryer, so the energy which would normally be absorbed by refractories and lost to radiation goes to the product, increasing plant production and decreasing fuel consumption. It costs less to install because of its small size and light weight. It can operate on most liquid or gaseous fuels, and is compatible with nearly every control system. The Astraflame™ offers capacities from 25 to 200 BTU/hr and is available

in single fuel, or any one

gas or liquid propane.

combination of oil, natural



| ASTRAFLAME SERIES SPECIFICATIONS | | | | | | | |
|----------------------------------|--------------|-------------|--------------------|--------------------------------|-----------------|----------------|-----------------|
| MODEL | BTU/ (mm) | Motor HP | EXHAUST (X1000) | HI-ALT 50hz/motor 50hzhp | LENGTH (in.) | WIDTH (in.) | HEIGHT (in.) |
| AF-8 | 12 | 10 | 6.5 | 15 | 81.0 | 60.50 | 76.88 |
| AF-15 | 20 | 20 | 14.3 | 25 | 84.0 | 60.50 | 79.38 |
| AF-25 | 40 | 25 | 23.5 | 40 | 84.0 | 62.25 | 83.75 |
| AF-40 | 70 | 40 | 40.0 | 60 | 85.0 | 64.25 | 91.75 |
| AF-50 | 85 | 50 | 48.0 | 75 | 86.0 | 64.25 | 91.75 |
| AF-60 | 100 | 60 | 60.0 | 100 | 86.0 | 68.75 | 98.75 |
| AF-75 | 125 | 75 | 71.0 | 125 | 88.0 | 72.00 | 102.25 |
| AF-100 | 150 | 100 | 85.25 | 150 | 89.0 | 72.00 | 104.25 |
| AF-125 | 200 | 125 | 114.0 | - | 90.0 | 92.00 | 111.25 |





ASTRAFLAME SERIES BURNER

ULTRA II SERIES BURNER

Genco's Ultra II™ Burners can be used in any rotary drying process that requires between 25 Million and 150 Million BTU/hr of heat release. The Low NOx, total air system significantly reduces combustion noise while providing total and efficient combustion of conventional fuels - whether oil, gas or LP. With no refractory requirements. You achieve faster heatup and cool-down, lower maintenance and reduced heat loss. This compact package is ideal where size and weight are critical. The Ultra II™ comes on a unique skid-mount for quick and easy installation.



LOW NOX TOTAL AIR BURNER

The Equinox[™] Combustion system is the latest engineering achievement from Genco, for applications requiring ultra Low NOx emissions. A combustion system so advanced it challenges the imagination with its simplicity and east of operation. Nature's perfect balance of earth, air, and water, make it the most environmentally advanced burner, satisfying the most stringent HMA facility NOx emission requirements.



| ULTRA II SERIES SPECIFICATIONS | | | | | | | |
|--------------------------------|--------------|-------------|--------------------|--------------------------------|-----------------|----------------|-----------------|
| MODEL | BTU/ (mm) | Motor HP | EXHAUST (X1000) | HI-ALT 50hz/motor 50hzhp | LENGTH (in.) | WIDTH (in.) | HEIGHT (in.) |
| ULII-25 | 25 | 20/5 | 14.3 | 25/5 | 103.19 | 46.50 | 80.81 |
| ULII-40 | 40 | 25/7.5 | 23.0 | 40/7.5 | 103.19 | 48.25 | 80.81 |
| ULII-55 | 55 | 40/10 | 31.5 | 60/10 | 105.19 | 51.88 | 84.31 |
| ULII-70 | 70 | 40/15 | 40.0 | 60/15 | 105.19 | 51.88 | 84.31 |
| ULII-85 | 85 | 50/20 | 48.0 | 75/20 | 111.19 | 53.00 | 85.00 |
| ULII-100 | 100 | 60/20 | 60.0 | 100/20 | 111.19 | 53.00 | 85.00 |
| ULII-135 | 135 | 75/30 | 74.0 | 125/30 | 114.69 | 58.88 | 97.31 |
| ULII-150 | 150 | 100/30 | 85.25 | - | 114.69 | 58.88 | 97.31 |

| EQUINOX SERIES SPECIFICATIONS | | | | | | | |
|-------------------------------|--------------|-------------|--------------------|--------------------------------|-----------------|----------------|-----------------|
| MODEL | BTU/ (mm) | MOTOR HP | EXHAUST (X1000) | HI-ALT 50hz/motor 50hzhp | LENGTH (in.) | WIDTH (in.) | HEIGHT (in.) |
| EF-100 | 100 | 60/20 | 60 | 100/20 | 122.25 | 70.25 | 85 |
| EF-135 | 135 | 75/30 | 74 | 125/30 | 125.50 | 75.38 | 97.31 |
| EF-150 | 150 | 100/30 | 85.25 | | 125.50 | 75.38 | 97.31 |

EQUINOX SERIES BURNER

BURNER FEATURES & ADVANTAGES

For over five decades, General Combustion has been the leader in Burner Technology. All Genco Burners give the operator complete control over air, fuel, and operating range. Because of their efficient design, maintenance, and fuel costs are lowered.

| 2 Stage Quarl Generator | Built-in Flame Shaping | Liquid Filled Gauges |
|--|---|---|
| High swirl, low pressure mixing zone for maximum flame retention Faster heat-up and cool down Lower maintenance cost Maximum heat utilization and low fuel consumption No refractory | Adjustable double quarl swirl plates for proper heat balance Multi-variable fuel nozzle | Longer Life expectancy Continuous increased accuracy for proper flame adjustment |
| Single, Compact "mini-skid" Design | All Metal Construction | Low Noise/Less Pollution |
| Integrated blower assemblyQuick & easy installationSmall footprint | Few Moving partsBuild sturdyIncreased reliability | ULTRA II & EQUINOX BURNERS • Totally enclosed burners • Completey sealed to drum breech |
| Compressed Air Atomization | Blade Damper | Remote Flame Scanners |
| Highly efficient gas/air mixing Easy preheating of plant Less horsepower Better flame stability Built-in air purge 10/1 turn down ratio on natural gas | Provides true independent modulation of low pressure air High-torque syncro modulating drive | Dual Safety flame scanners Easy access through burner door |









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