

THE ULTRAPLANT

Portable



THE GENCOR ULTRAPLANT

Gencor's Ultraplant™ concept is the most fuel efficient, environmentally clean and lowest maintenance design available to the hot mix industry. A totally integrated drum concept that allows high production continuous mix with high-volume, high moisture recycle and the optional flexibility of feeding a batch tower, all in a unitized drum design.

Gencor's Ultraplant™ has taken top honors year after year for being the only hot mix plant with a positive volatile capture and recovery system that totally eliminates blue smoke and asphalt odors from the process and feeds them to the combustion process as fuel.

As a result, Gencor plants have been accepted in the most stringent and environmentally sensitive areas of the country, producing high quality polymer and superpave mixes.

The Gencor Ultraplant™ combines simple design with the most advanced control technology and massive heavy construction unmatched in the industry. Backed by world class product support and training, Gencor Ultraplants provide contractors years of dependable long life with low cost, low maintenance operation for the highest profitability.

The Gencor Portable Ultraplant™ has taken this proven technology to the road with mobile features for contractors on the move and all the heavy-duty features you've come to expect from Gencor. Designed for years of uncompromising service without sacrificing mobility, the Gencor Portable Ultraplant™ is recognized as the most rugged and highest production plant in the industry.



COLD FEED SYSTEM

Gencor's cold feed systems are rugged built for years of use under the harshest conditions. The unique bin design provides steep sided tapered bin walls and a self-relieving throat to virtually eliminate bridging and material flow problems. A rugged rack and pinion gate design provides easy material height adjustment to suit a variety of material gradations. All feeders are available with Variable frequency direct drive to assure accurate flow at varying productions rates and include two material flow indicators.



Gencor's feeders are driven by a direct drive system which assures precise speed control at varying production rates using a standard motor coupled with Variable Frequency Drives. Standard features include tail shaft tachometer.

All Gencor feeders are equipped standard with an easily adjustable rack and pinion gate and two no flow indicator switches to indicate material flow.



Gencor's "skirtless" feeder design incorporates troughing idlers which contain the flow of material to the feeder belt without the need of additional skirting. All feeders include adjustment for height and belt tension to accommodate any material size.



PORTABILITY FEATURES

- Large 10' x 14' bin openings
- Heavy-Duty landing gear
- Folding reversible bulkhead
- Quick disconnect plug wiring
- Folding incline conveyor



- Dual no-flow indicators
- Rack and pinion gate design allows easy material height adjustment
- Variable direct drive system
- Tail shaft tachometers
- Bin extensions (optional) - fold down
- Bin Dividers- fold down



SCREENS & CONVEYORS

Gencor's aggregate screening systems are designed and built to withstand long hours of operation. Heavy-duty construction resists the effects of heavy screening loads and vibration. The extra strong truss-frame of the stationary aggregate scale conveyor provides rigid weigh bridge support where it's needed the most. Screen configurations are available in single, and double deck with remote selective bypass options.



Gencor's *heavy-duty lattice frame* conveyors provide superior support to typical channel frame conveyors. The added strength provides superior support against vibration and wind.

Gencor's precision *weigh bridge system* is a gravity type belt tensioner with self-cleaning rolls for constant tensioning of the conveyor belt. The weigh bridge load cell incorporates a unique moisture resistant protective coating with balanced temperature compensation for accurate weighing of material.



SCALE CONVEYOR FEATURES

- 2-ply vulcanized rubber belting
- Lifetime lubricated idlers
- Rubber lagged head pulley
- Torque arm, shaft mounted reducer
- TEFC electric motor
- Telescopic leg support

WEIGH BRIDGE FEATURES

- Gravity belt tensioner
- A test weight holder and two 30 lbs. or two 50 lbs. test weights based on width of conveyor
- Heavy-duty wind screen for accurate weighing

SCREEN DECK FEATURES

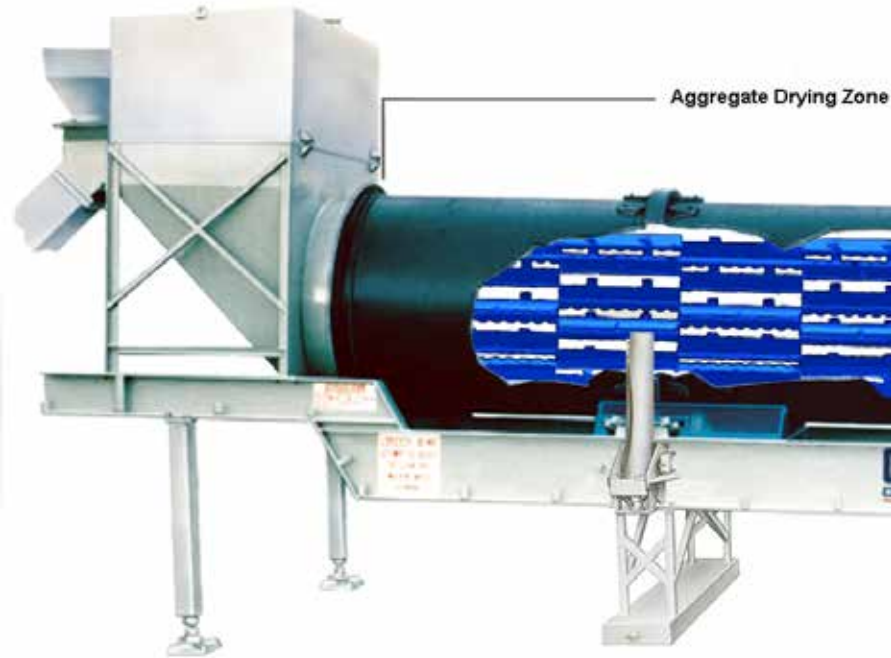
- H beam design with double spring heavy duty pivoted motor base
- TEFC electric motor
- V belt, motor sheave and belt guard
- Oil bath with internal and external labyrinth seals
- Coil spring tension assembly and tension plates.
- Reject pan at the rear of the screen deck



ULTRADRUM

The heart of the Ultraplant® is built around the unique patented counterflow Ultradrum® technology. The innovative Ultradrum® has been proven in 100's of applications around the globe for producing high quality hot mix without degradation, cleanly and efficiently. Designed with all the heavy-duty features you've come to expect from Gencor, the Ultraplant® is without question the heaviest built and most rugged drum mix plant in the industry.

The Genco Ultra II® burner is extended well inside the dryer for maximum efficiency and contact with the wet aggregates. There are no refractory chambers of high maintenance combustion ports. The Ultra II is the only burner to use compressed air to atomize each droplet of fuel for optimum fuel efficiency.

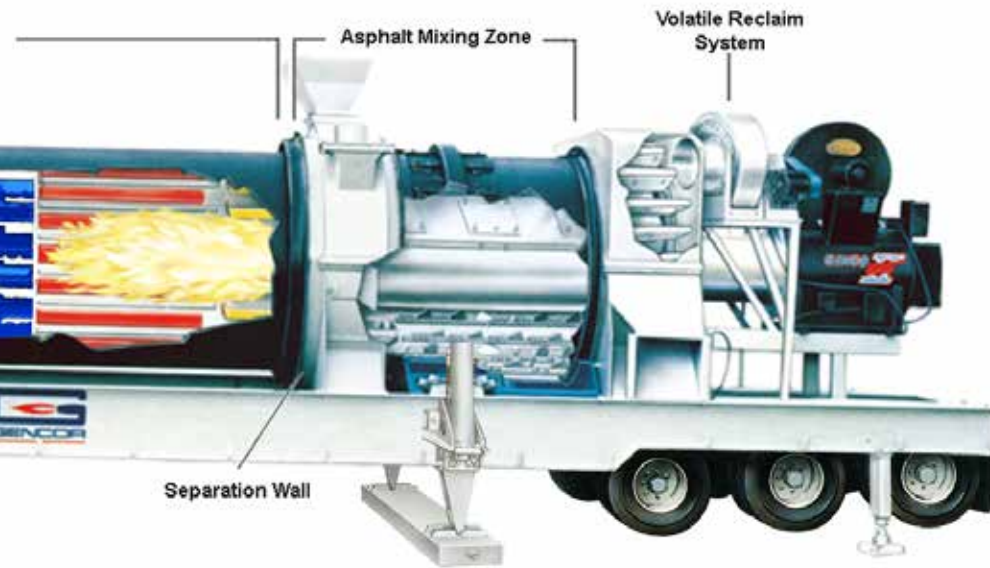


The isolated mixing section is located behind the burner so there is no chance of liquid asphalt coming in contact with the burner flame. This means there is no oxidation of the asphalt, no degradation of the mix and no asphalt vapors entering the exhaust gas stream. Vapors generated in the mixing section are pulled through the burner by a patented volatile reclaim system and consumed as fuel. There are no odors or blue smoke emissions to pollute the environment.

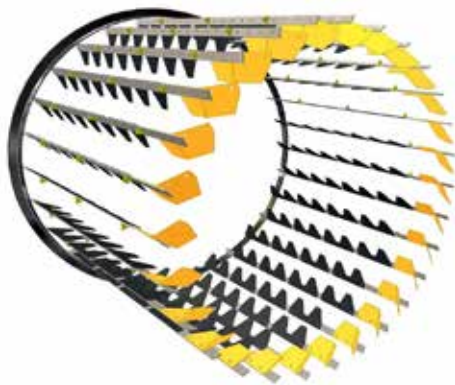
Gencor's patented combustion T-flights reduce energy costs by allowing conductive and convective heat transfer to the aggregates while creating an isolated combustion zone free from flame impingement.



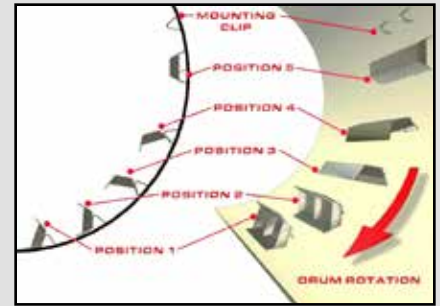
All Gencor *Ultradrum's* have oversized drum diameters, in fact the largest in the industry, which provides lower exhaust gas velocities reducing dust carryout and wear on the drum, ductwork and the entire plant exhaust system.



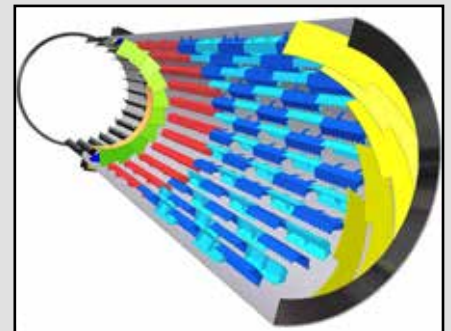
Gencor's *isolated mixing zone* provides for both dry and wet mixing of the materials. The patented flights pull through the mix for thorough homogeneous coating of the aggregates. The kneading action reduces energy demand on the drum drive system and once coated with material virtually eliminates wear associated with typical mixing paddles.



The Gencor *discharge wheel* is made of abrasion resistant steel paddles that are adjustable and replaceable. The wheel design reduces energy demand on the drum drive system and eliminates segregation of the mix.



Gencor's patented *Converta-flight™* is a 5-way adjustable veiling flight that provides easy adjustment of material veil in the drying section for highly efficient energy utilization and precise control over exhaust gas temperatures especially with RAP, RAS, and Warm mixes. Flight position 5 protects the drum shell against friction and blind wear spots totally eliminating the need to remove the flights from the drum.



The *Ultradrum* flight design concept provides for the highest efficiency heat exchange between the aggregates and the combustion system making it the most efficient drum mixer in the industry. Each flight section is designed for maximum wear life, low maintenance and results in even drum loading. From the inlet sweeps to the discharge paddles, the low energy gravity movement of the material minimizes dust generation and virtually eliminates segregation through the process. The *Ultradrum* concept provides thorough drying of the aggregates and allows dry mixing of recycle, fines and aggregates prior to the point of asphalt injection.

ULTRADRUM



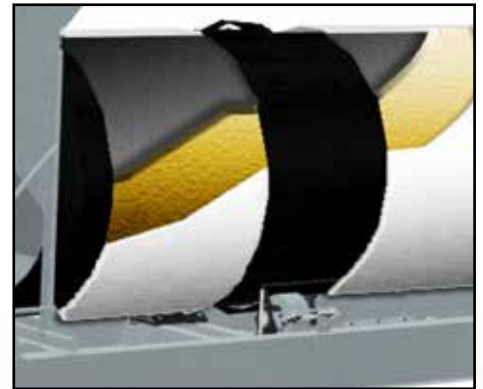
Recycle is added to the isolated mixing zone through a wide collar behind the burner flame. The wide opening design assures free flow of RAP material even at high RAP capacities of 50 % due to a unique self-cleaning design. The collar opening is wear lined and has easy access inspection hatches. The Ultradrum recycle collar and isolated mixer provides dry mixing of the aggregates with the RAP and fines prior to the point of injection eliminating balling or clumping associated with other types of mixers.



Gencor's fines return system provides simple metering and easy transportability.

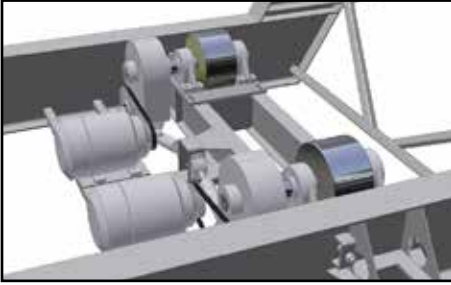


Gencor's heavy-duty replaceable wear liners in all the right places provide longer wear and lower maintenance.



*Gencor's optional **Ultradrum insulation Package** substantially reduces thermal heat loss by reducing fuel usage as much as 7%.*





The Gencor **Portable Ultradrum** is driven by a heavy-duty friction drive system that evenly distributes positive energy to each tire. Gencor provides four (4) independent drive units to ensure positive traction under any type of climate condition. Friction drive has been proven as more efficient with lower maintenance and lower noise than chain drive systems.



The oversized feed breechings allow for smooth uninterrupted flow of material while also providing a large knock-out area to minimize dust carry-out. The breaching is equipped with replaceable Ni-hard wear liners, vibrator and pneumatically operated calibration divert chute.



Gencor's **Hydraulic Erection System** allows easy set-up of the Ultradrum. The portable Skid support pads provide solid footing without the need for concrete foundations.



STANDARD FEATURES

- Patented adjustable 5-way veiling flights for higher efficiency
- Patented combustion T-flights reduce energy costs
- Sweeping material inlet flights for even drum loading
- Self-cleaning RAP inlet allows up to 50% RAP
- Larger drum diameter reduces air velocity and dust carry-out
- Friction driven trunnion rolls for lower noise, maintenance and energy.
- Positive volatile reclaim system captures and destroys hydrocarbons



PORTABLE ULTRAPLANT FEATURES

- Drum erection skirts - no foundation required
- Hydraulic erection cylinders
- Quick-disconnect plug wiring
- Two-speed landing gear
- Fifth Wheel pin

GENCOR SE SILOS

Bituma™ first began making hot mix storage in the early 1970's as Bituma-Stor™, formerly Boeing Construction Company, building a reputation for quality products, which has carried forth and expanded as Gencor Industries.

SELF-ERECTING ONE-PIECE SILO

Gencor's One-Piece SE Silo is the most highly portable Surge system in the world. Available in 75 and 100 ton capacities, it self-erects in as little as ten minutes without a crane. So simple, yet rugged enough in design to be moved into position after being fully erected.

Innovative design and quality construction make Gencor's SE silo the best in the industry. A continuous weld body provides enormous strength and maximum structural integrity to withstand frequent transport, dismantle and setup.



Floating Electric Cone Heat



Dual Safety Gates



RECYCLE SYSTEMS

Gencor® Recycle systems incorporate the heaviest construction in the industry with innovative design features that accommodate any plant configuration and unlimited process versatility to feed, crush, break, and screen virtually any type of recycled asphalt pavement.

All Gencor Recycle feed bins are designed to eliminate material bridging, with steep sided 1/4" tapered walls, self-relieving throat and welded beater plates on the sides of the bins. With the rack and pinion gate design, material height can be easily adjusted to suit any feed rate. Dependable variable speed direct drives assure steady consistent flow at varying production rates. All Gencor Recycle bins feature unitized heavy beam construction and are available in portable, stationary or skid-mounted configurations.



STANDARD FEATURES

- 10' x 15' steep sided bin, 36" feeder (series I)
- 8' x 14' steep sided bin (series IV)
- Precision weigh bridge ensures accurate material weighing
- Dual no flow indicators
- Variable speed direct drive system
- Wheels
- Two-speed landing gear
- Quick disconnect plug wiring
- Folding reversible bulkhead
- Fifth wheel pin

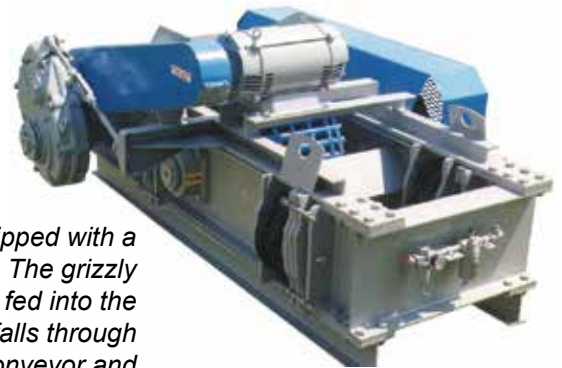


RECYCLE CRUSHER

Gencor offers two types of crushers for processing RAP. Hammermill Crushers and RAP Breakers. Each unit is ruggedly designed of thick heavy steel plate and mounted on a skid structure to straddle the base of the portable conveyor. Both crushers have wide feed openings and large motors to process and break down large-sized asphalt chunks with ease. All crushers include replaceable breaker plates made of Manganese steel and sixteen (16) carbide steel hammers. All RAP Breakers include twin counter-rotating drums constructed of Manganese allow bars and offer pneumatically adjustable breaking pressure between the drums.



The Hammermill Crusher is hinged for easy access to mill interior by means of a hydraulic power unit.



The RAP Breaker is equipped with a receiving hopper and grizzly. The grizzly directs the flow of material being fed into the lump breaker. The smaller RAP falls through the grizzly directly onto a belt conveyor and the larger RAP is directed down the chute into the RAP lump breaker.

RAP Breaker

RAP BREAKER

The Gencor Giraffe Recycle System combines a RAP bin, feeder, RAP breaker, Vibrating Screen, and Scale Conveyor on a unitized portable trailer for simple and safe transport and operation. The 8' x 14' bin is steep-sided and tapered to eliminate bridging of material and has a self-relieving throat design. The reversing bulkhead allows loading from either side to accommodate any side arrangement. A rack and pinion gate adjustment makes for easy changes to material height. Grizzly, access platform, folding conveyor and Quick-Disconnect plug wiring provided standard.



MINERAL ADDITIVE SILOS

Gencor offers a full range of Mineral Additive Silos to accommodate any dust return or metering system. The perfect solution for storing and metering lime dust, fly ash or mineral fillers to the hot mix product. The heavy-duty steel construction of Gencor's filler silos stand up to the rigors of continuous operation.

A specially designed weigh hopper ensures precise measuring of any required additive. Minerals can be augered or pneumatically blown to the isolated mixer of the Ultradrums. For plants requiring a lime additive mixture, Gencor can accommodate an optional pugmill mixer for pre-blending of aggregates.



3-Point Weigh Batcher



Rotary Airlock



Optional Lime Pugmill



MINERAL ADDITIVE SILOS



Gencor offers highly portable Self-erecting Mineral Silos that erect in minutes. Each additive system is sized per application to assure optimum mix design quality and to meet the tightest State and DOT specifications. SE Mineral Silos are available in 300 to 700 BBL capacity to addition of fly ash, lime, or other mineral additives to the asphalt product.

STANDARD FEATURES

- Hydraulic lift system - erects in minutes
- Three-point load cell suspension
- Quick-Disconnect plug wiring
- Two-speed landing gear
- Fifth wheel pin
- Hydraulic leveling outriggers
- 1/4" steel construction
- Airlock and baghouse filler (optional)



Rotary Airlock



ULTRAFLO BAGHOUSE

The Ultraflo™ Baghouse Filtration System is the ultimate alternative to pulse jet baghouses. Developed primarily to increase efficiency, reduce maintenance and reduce size and weight, the Ultraflo Baghouse cleaning system from Gencor provides many advantages to typical pulse-jet baghouses.

The most obvious feature is the compact, yet rugged modular design of the Ultraflo, which allows greater cleaning efficiency with reduced size and weight for ease of transport and setup. The Ultraflo is provided standard, with full sidewall and top section insulation to maintain a consistent baghouse temperature avoiding condensation dew point levels while increasing the efficiency of the filtration system.

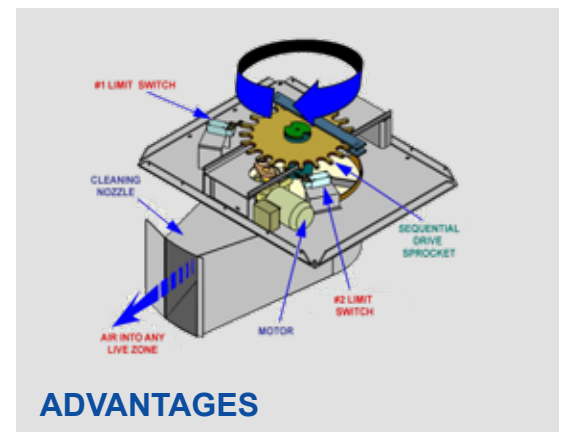
The result is a compact baghouse design which provides more filter area in a much smaller structure along with fewer moving parts and much lower maintenance and operating costs compared with conventional pulse-jet baghouses.



Built-in Primary Collector



Elliptical Bags



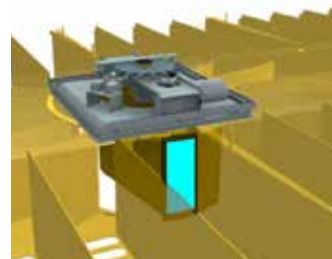
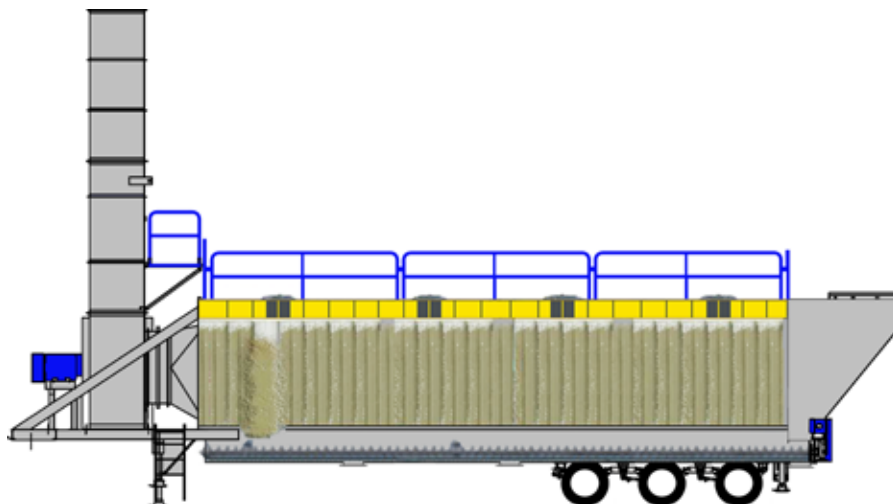
ADVANTAGES

- Smooth cleaning with reduced wear on the bags
- Fewer moving mechanical parts
- No air compressor or solenoid valves
- Smaller compact design; less weight for easy transport
- Elliptical bag and cage design
- More cloth area in a reduced size structure
- High efficiency radial vortex exhaust damper
- Fully insulated for high efficiency
- Corrosion resistant steel construction



PORTABLE BAGHOUSE

The Portable Baghouse design completely eliminates the need for a crane during erection and includes a full portability tow package. All bags and cages are completely pre-fitted from the factory on most models, eliminating the need for field bag installation. A standard built-in primary collection unit is provided on all portable units with separate ports for independent metering of return fines to accommodate any state requirement. Various independent fines metering and waste management systems are available.



DUST METERING SYSTEMS

Gencor provides a variety of dust metering systems and configurations to conform to any specification or state and local requirements. Several basic metering devices are available which can be integrated to accommodate any plant configuration and achieve the desired level of precision for metering of dust or minerals.



Mounted Primary Fines Separator



Indiana Fines Dust Return System

PORTABILITY FEATURES

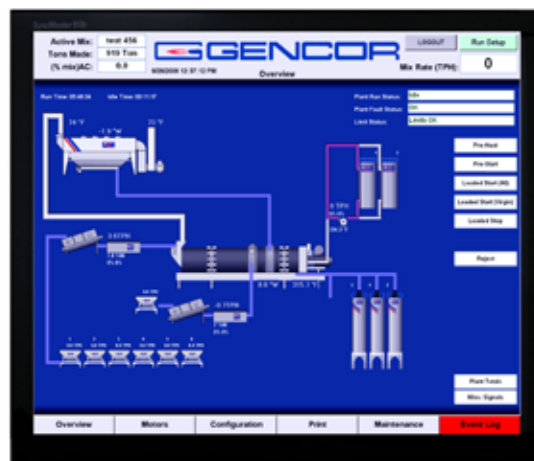
- Crack-down landing pads
- Quick-Disconnect plug wiring
- Fifth Wheel pin
- Bags and cages installed at factory
- Insulated top and sidewalls
- Folding stack on some sizes (optional)
- VFD exhaust fan drive (optional)



CONTROL AUTOMATION

ULTRALOGIKS® TOTAL PLANT CONTROL SYSTEM

The Gencor Ultralogiks® Plant Control System is a totally integrated automation package that manages and monitors all plant control functions with a windows based environment and graphical user interface. The hardware is an advanced PLC control platform that performs all the plant operations including both blending and loadout functions. The graphical user interface is PC based using a high-speed PC compatible computer with a large capacity hard drive. The backup computer and redundant hard drive assures the operator of complete security of the data and operating system in the event of a failure of the PC or the PLC.



The Gencor Ultralogiks® Plant Control System's main operating screens display a logical presentation of operating data through the use of segregated screen sections. The upper section displays items at the point of liquid asphalt injection, the center section offers selectable views of motors, maintenance, or event log information as well as configuration settings and calibration screens. Detailed user screens for each equipment component are displayed by simply clicking on the equipment image.

CONTROL AUTOMATION

VECTOR™ BURNER CONTROL

The **Vector™** burner control is a fully automatic digital control system that minimizes fuel usage and gas emissions while maximizing production capacity. It is designed to control the start-up sequence, firing rate, and safe operation of the burner. The **Vector™** is the latest evolution in process automation that programs and controls the character of the plant draft and fuels over the entire spectrum of operating range for optimum fuel to air ratio.

A large 10" LCD color display with touch-screen, controls the burner functions. A visual display indicates the current burner function, status, and alarm conditions via the HMI with audible alarm.

Digital actuators improve performance of the burner providing highly accurate and independent control of air, oil, and gas valves. Physical minimum and maximum positions for each servo for air and fuel are set and programmed allowing up to 10 programmable points to create air/fuel sets points for optimal air to fuel characterization throughout the firing range.

The Vector meets approvals for UC/CUL, FM, and NFPA-86.

GEN 3D® DIGITAL BURNER CONTROL

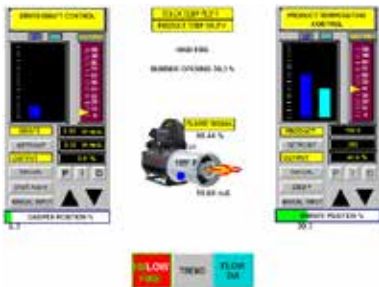
The GEN 3D® is a fully digital PLC based control that automatically manages start-up sequence, firing rate, and draft to provide smooth and accurate temperature adjustment and minimize fuel surges and spikes in the process. The control accuracy is increased by the "Advanced Temperature Detection" (ATD) circuit that monitors stack temperature changes due to moisture and feed rate changes and automatically makes corrections to the firing rate.

A large graphical HMI interface displays the current burner function, status, and alarm conditions for the operator, including an exclusive self-diagnostic "first out logic" feature for limits, and ignition and purge cycles. A standard built-in modem feature enables remote troubleshooting and diagnostics.



PLC FEATURES

- Gencor's Ultraplant® control system utilizes a high-speed Allen Bradley process controller and I/O for all plant functions including equipment interlocking and interlock bypassing controls.
- A fault finding system is programmed into the PLC to ease equipment troubleshooting and system startups. The Ultraplant® PLC comes with a modem for direct on-line communication with Gencor's Service Center.



PORTABLE CONTROL CENTER

Gencor's Portable Control Centers offer the ultimate in structural design and efficiency. The center is mounted on a heavy-duty steel beam and is a split-level design allowing the operator a 306 degree view of the entire plant. The motor control center is situated on the lower level of the unit for operator convenience. All Portable Control Centers provide efficiency with double-pane, sound-insulated windows, industrial-grade insulation, industrial vinyl siding and a high-efficiency climate control system. All Portable Control Centers are pre-wired from the factory and include standard Quick-Disconnect plug wiring, two-speed landing gear, air ride suspension, and Disc wheels.



CONTROL CENTER FEATURES

- Raised operator position & brightly lit work area
- Night lighting
- UL approved building materials
- Split-level design with 360° view
- Industrial grade vinyl siding
- Heavy insulation & climate control
- Meets BOCA building codes
- High efficiency heat pump
- UL approved process controls
- Quick disconnect wiring plugs (optional)



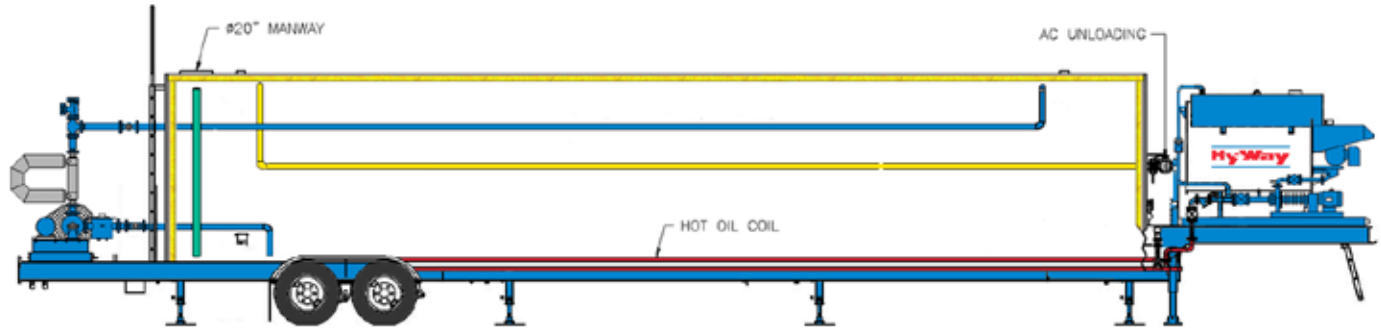
Power Plug Bay

PORTABILITY FEATURES

- Fifth wheel pin
- Two-speed landing gear
- Crank-down landing pads
- Disc wheels
- Air-ride suspension
- Quick-Disconnect plug wiring

ASPHALT STORAGE TANKS

Hy-Way® portable asphalt and polymer tanks are the most energy-efficient tanks available for today's liquid storage requirements. All Hy-Way™ coil tanks are constructed with the highest quality materials and construction for durability and maximum heat retention. Hy-Way® portable tanks are available in capacities from 1,000 to 35,000 gallons and in a variety of configurations to accommodate any plant site.



PORTABLE TANKS

Hy-Way® Portable storage tanks feature a high-efficiency, close-wound, serpentine coil for increased oil circulation and better heat transfer. A quarter-inch butt-welded steel plate forms the rugged shell construction of the tank with four inches of fiberglass insulation to reduce conductive heat loss. A series of integral saddles mounted on heavy twin I-beams form the support frame which is easily set to grade with the swing-down landing jacks. An all-weather, durable, scratch resistant, embossed aluminum skin provides years of protection.



ADDITIVE TANKS

For efficiency and convenience, the Hy-Way® additive metering system is an all inclusive, skid mounted unit. Each additive system is equipped with piping that runs from tank to pump; from pump to three-way valve; and from three-way valve to the tank.

The storage tank has four inches of insulation and is fitted with either an electrical heating unit or a thermal fluid heating unit. Both the electrical heating unit and the thermal fluid heating unit contain automatic temperature control. The standard liquid storage capacity for the additive metering system ranges from 1,000 to 2,000 gallons.



CALIBRATION TANKS

The Hy-Way® AC Calibration tank is a vertical 1,000 gallon coiled weight system. The unit is mounted on three (3) 5,000 lb. load cells which in turn are mounted on a platform. The platform scale has a remote digital indicator graduated in 5 lb. increments. The tank is insulated with 4" of high efficiency firm fiberglass. The insulation is covered with 18 gauge embossed aluminum covered with clear acrylic to maintain its luster. The AC calibration tank has a 20" man way on top which can be accessed via a tank mounted aluminum ladder. Features include two (2) test weight platforms that can be folded up when not in use, discharge ports, 3" butterfly valve and SOW control cable. Also available in skid-mounted or portable configurations.



Quick-Release Hatch



Electronic Temperature Controller



Mounted Unloading Pump



Mounted High-Torque Agitator

STANDARD FEATURES

- Serpentine coil design for adequate expansion and contraction
- Four inches of high quality fiberglass insulation and embossed aluminum skin
- Safety suction system prevents the liquid level from dropping below the heating coil, yet allows complete emptying of the tank
- Internal vent and overflow system to prevent overfilling
- Disc wheels
- Quick-Disconnect plug wiring
- Two-speed landing gear
- Crank-down landing pads
- Fifth wheel pin

ASPHALT HEATING

ASPHALT HEATER

Gencor is recognized worldwide for manufacturing the Hy-Way® line of premium thermal fluid heating systems. Gencor's HY heaters incorporate the all premium design features you've come to expect from Hy-Way®, including a close-wound helical coil design for maximum efficiency, high flow centrifugal pump, multi fuel burner, external insulation and low stack temperatures in an economical package. Better heat transfer and lower stack temperatures mean that Gencor heaters can use light heat transfer oils without the fear of coking, sludging or hot spots. HY heaters can burn Oil, Gas, LP and are available in electric models.



HY FEATURES

- Low pressure burner
- Annunciated control panel
- Adjustable differential temperature control
- Easy fill/drain system
- High capacity centrifugal pump
- Fully insulated with embossed aluminum



ASPHALT METERING

GENCOR ASPHALT INJECTION SYSTEM CORIOLIS METER

The Coriolis asphalt meter delivers exceptional measurement accuracy for metering asphalt liquids. Based on the mass flow theory, the meter measures the flow of liquid asphalt through two tubes. The deflection of the tubes is measured and an electronic pulse is generated. The Coriolis asphalt meter measures total throughput of the liquid asphalt as it is injected into the drum and automatically adjusts to variations in product density and transmits an accurate flow rate to the computer for a highly accurate adjustment of the asphalt rate.

The asphalt injection system is protected by a hot oil jacketed asphalt strainer located prior to the asphalt meter. A remotely controlled, pneumatic operated, two position asphalt divert valve is provided at the AC meter. The drum inlet line is equipped with a tee and two butterfly valves for calibration purposes and an AC no flow indicator.



GENCOR FUEL OIL HEATER

The Hy-Way® line heater is a deluxe counterflow pre-heater for use with viscous fuels such as no.4, 5 and 6 or reclaimed oils. The fuel heater can quickly and efficiently boost oil temperatures on demand to achieve optimum viscosity for proper atomization of heavier fuels. Heated thermal fluid is circulated through the inner manifold while oil is circulated counter-current through the external jacket, thus providing optimum heat exchange and transfer to the fuel.

The heat exchanger is skid mounted and thermally insulated with an embossed aluminum skin for maximum efficiency and durability. Uniform pressure and volume are critical to a well-balanced and efficient combustion system.

