

Trusted for experience. Preferred for performance.

Petroleum Coke Handling System

Designed to efficiently process and transport petroleum coke from coking vessels to truck.



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Who is Allen-Sherman-Hoff (A-S-H)?

ASH is...

an operating unit of Houston based McDermott International, Inc.

- Engineering, Construction, Specialty Manufacturing, Services
- Oil, Gas, Power Generation, Commercial Nuclear, Government Nuclear
- Offices located in Malvern Pa

a leader in material conveying business since 1917

- Over 2,000 Material Handling Systems installed in the U.S.
- Over 130 Material Handling Systems installed in over 20 countries outside the U.S.

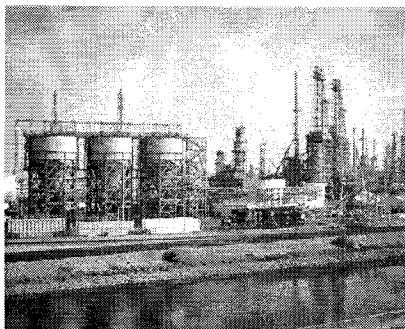


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Industries Served

- Petroleum/HPI
- Electric Utility
- Pulp & Paper
- Waste to Energy
- Industrial Steam Generation

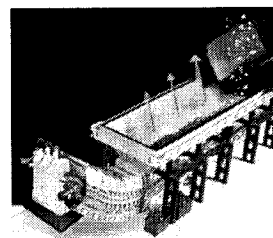
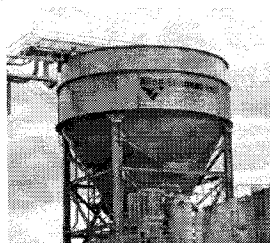


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Materials Conveyed

- Coal Ash
- Petroleum Coke
- Oil Soot
- Pet Coke Ash
- Waste to Energy Ash
- Bio Mass Ash

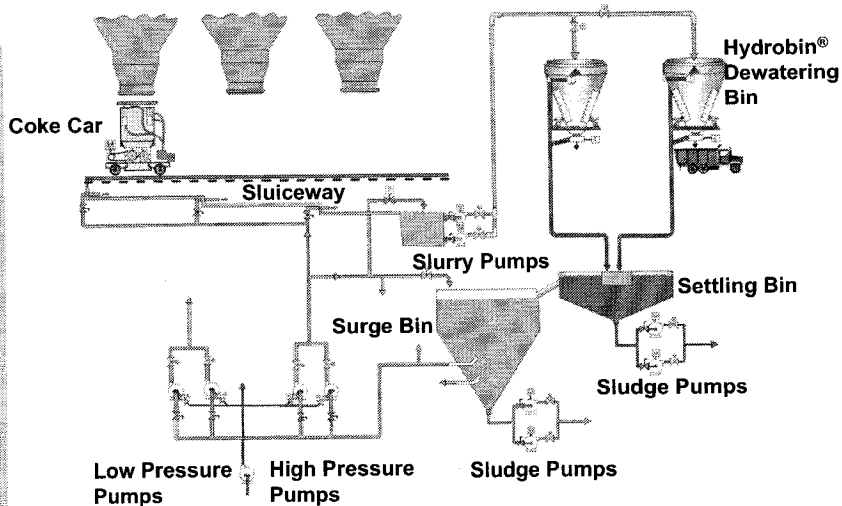


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A-S-H™ Custom Coke Handling System



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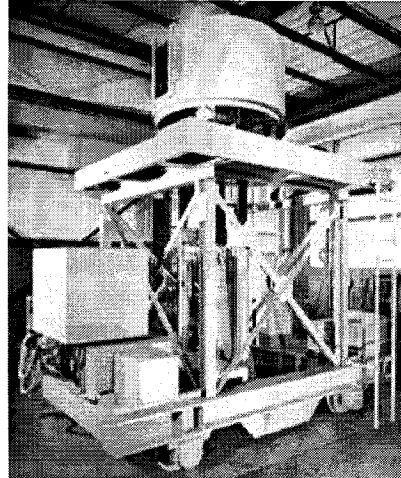


Dehead Car – Electro/Hydraulic Control System

The Dehead Car is utilized to lower & move the coke drum head prior to cutting and crushing the coke

Hydraulic power unit:
This system is installed to propel the Dehead Car on the track and to raise and lower the drumhead.

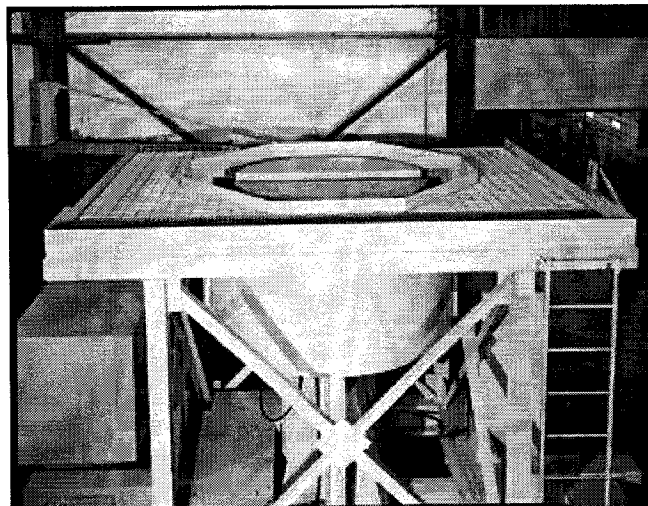
The lifting capacity of the system is *custom designed* to meet the plant's specification.



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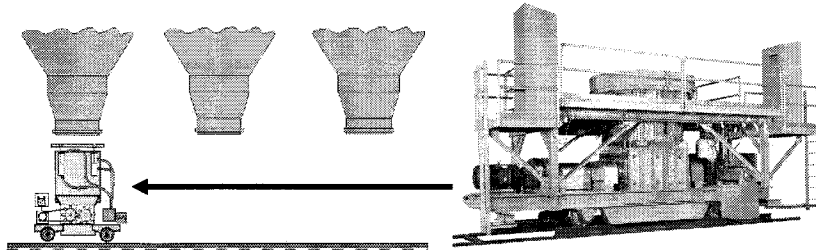
Dehead Car Platform



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Coke Car – Key Component of Coke Handling System

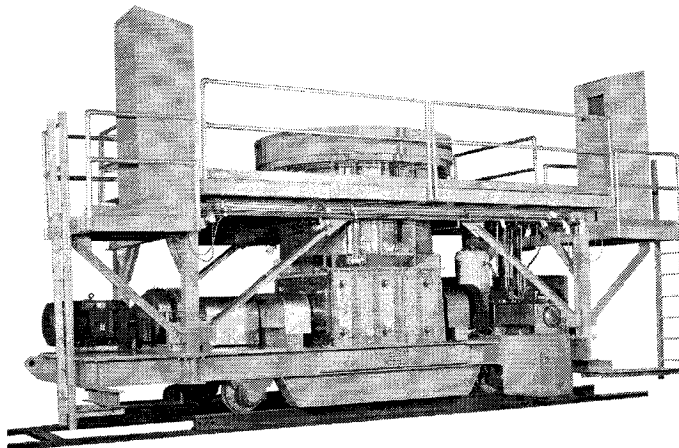


This vessel receives coke cut with high pressure water from the drums directly above. The self propelled car moves along rails and can service multiple coke drums.

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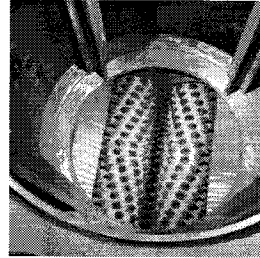
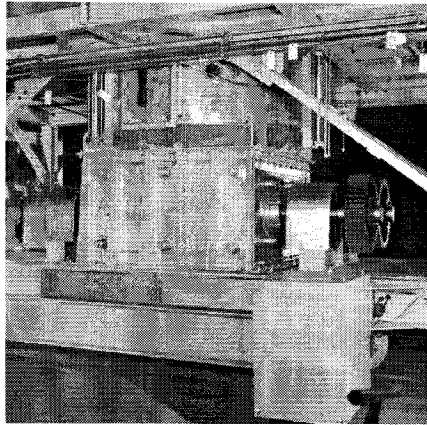
Allen-Sherman-Hoff® Petroleum Coke Car



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A-S-H™ Coke Car Design

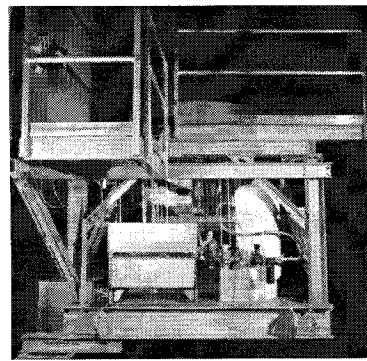
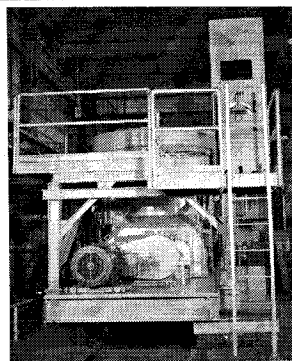


The grinder and drive unit are mounted on the car. Electrical supply can be a cable or a festooning system.

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A-S-H™ Coke Car Design

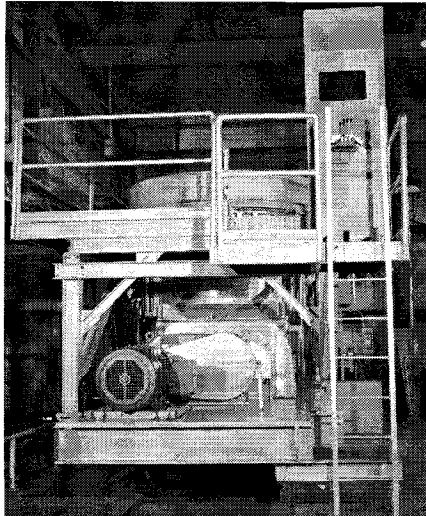


Hydraulic power system for “trolleying” the coke car and for extending its receiving chute up to the coke drum outlet.

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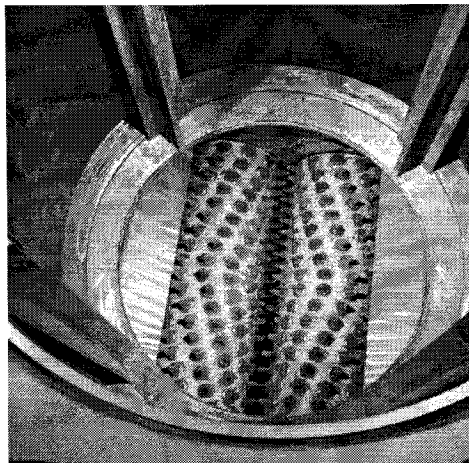
Allen-Sherman-Hoff® Petroleum Coke Car



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Allen-Sherman-Hoff® Petroleum Coke Car - Grinder



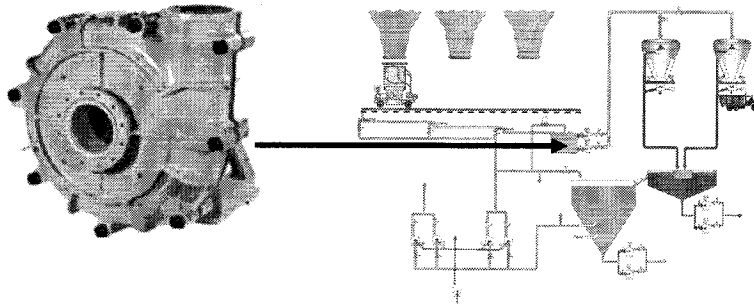
The grinder crushes coke collected from coke drums. The particles are then conveyed through a sluiceway and hydraulic transport line via slurry pumps to the selected Hydrobin® dewatering bin.

- Construction 316 SS
- Capacity of 350+ TPH
- Two roll arrangements for 2" (nominal) or 4" (nominal) Particle size
- Motor 75 to 200 HP

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Slurry Pumps



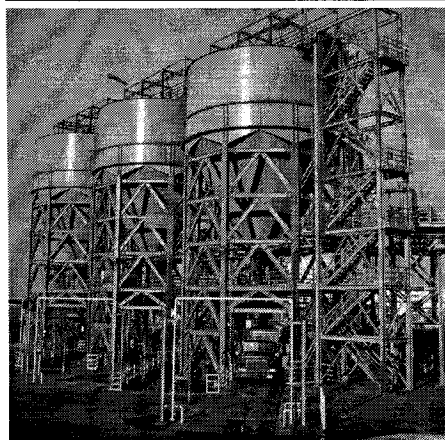
This equipment functions to convey coke slurry from the sump to the selected dewatering bin.

Note: The slurry pumps can be lined with a hard abrasion resistant material to best fit the application.

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Hydrobin[®] Dewatering Bin



The Hydrobin[®] receives, stores and dewateres the coke slurry before unloading into truck or railcar.

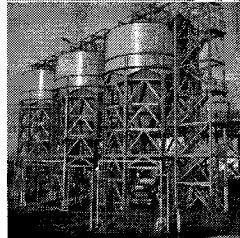
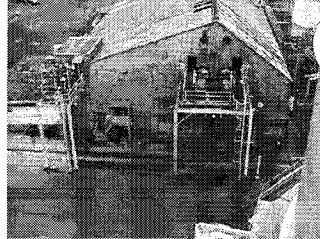
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Hydrobin® Closed Loop Recirculation System

Hydrobin® Dewatering Bin vs. Coke Barn

- Closed-loop system: no water treatment required
- Reduced dewatering time
- Addresses environmental concerns
 - A-S-H Hydrobin® dewatering bin technology approved by CARB
- Significant reduction in real estate
- Reduced maintenance (no conveyors and associated equipment)

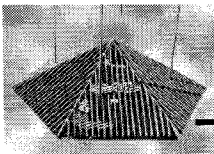


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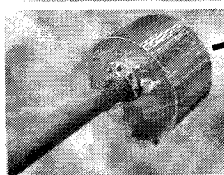


Hydrobin® Dewatering Bin Key Components

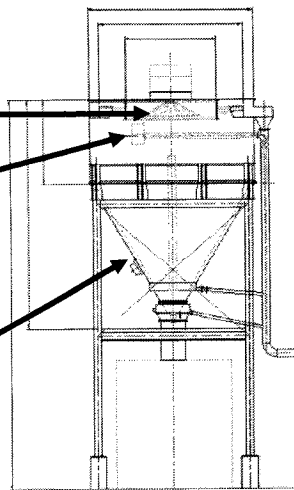
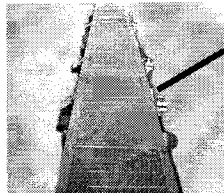
Bar Screen



Floating Decanter



Stationary Hinged Decanter

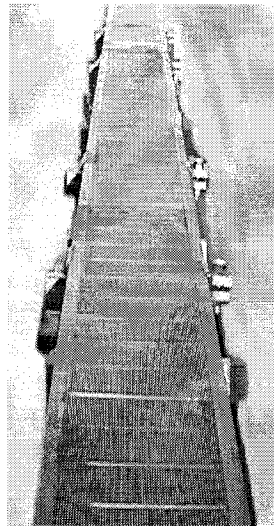


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Hydrobin® Dewatering Bin Stationary Decanter Unit

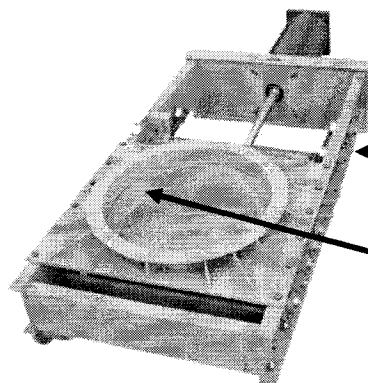
- Drains off the water retained in the Hydrobin® from the coke, in preparation for unloading
- Self cleaning stainless steel screens with internal back flushing nozzle system



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Hydrobin® Dewatering Bin Gate



Gate rollers mounted on eccentric axles permit gate adjustment.

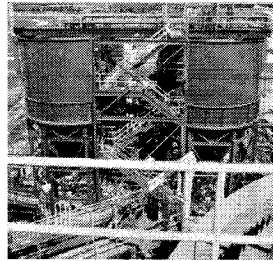
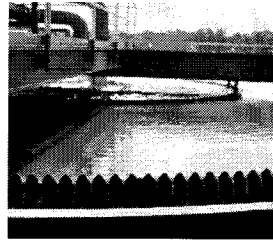
Gate seal tube is inflated when gate is closed to provide a tight closure between the gate and frame.

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Hydrobin® Dewatering Bin Features

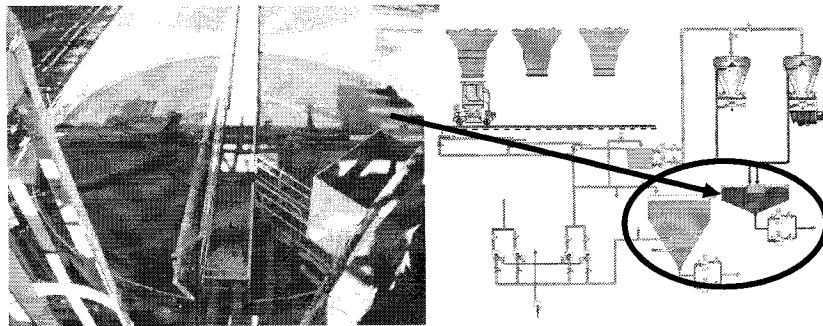
- Self cleaning decanter screens provide ease of maintenance
- Decanting is automatically sequenced and controlled
- Inflatable seal tube prevents water leakage between gate and frame
- Floating decanter quickly siphons off standing water above material



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Hydrobin® Settling & Surge Water Bins



The settling bin further removes material fines from the water. The surge bin completes the closed-loop system for the A-S-H™ Coke Handling System.

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Case Study –Valero Ultramar

- Valero's existing Coke Handling Facility had reached the end of its economic life
- The former equipment was in need of extensive repairs and capital improvements
- The former system could not be modified to support a large expansion of refinery capacity

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Benefits

- Increased Coke Handling Capacity
- Avoided Capital
- Reduced Maintenance Costs
- Avoided Capacity Reductions

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Increased Capacity

“ Prior to Hydrobins[®], the refinery ran into existing coke handling capacity limit. Removing that constraint has enabled the refinery to process a higher fraction of cheaper heavy crude increasing revenue ”

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Avoided Capital

“ Extensive repairs would have been necessary to ensure the former system's reliability. The capital investment to replace the existing system like in kind (with added capacity) was not economically beneficial. In addition, both Coker Units would have had to be down for 7 days to make final tie-ins. “

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Reduced Maintenance Cost

“ Our former system was inherently high maintenance. In contrast, the Hydrobin system is very simple. A significant maintenance cost reduction has been realized with the installation of Hydrobins®. Also, the simplicity of the Hydrobins® facilitated the addition of automatic truck loading. The new loading system has eliminated the need to pay contract labor to load trucks. The new Hydrobin®, system has allowed the Coke handling crew size to be reduced “

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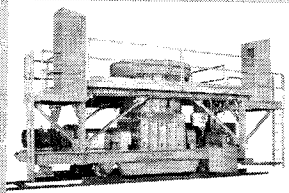
Avoided Capacity Reductions

“ Breakdowns in the former system typically resulted in Crude Unit reductions. Any future strategic projects to increase crude run and improve yield structure were limited by the capability of the former Coke Handling Facility and the ability to increase capacity whereas Hydrobins®, would allow for an efficient future expansion of coke handling capacity. “

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Known for experience. Preferred for performance.



Petroleum Coke Handling System

Thank you.

...Questions?

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