A Tradition of Innovation

KSB delivers process and slurry solutions for mining applications around the world. With their line of GIW Minerals slurry pumps they have been helping Canada remove and process oil sands bitumen since 1990. Together with KSB process pumps, we combine advanced materials, hydraulics, patented mechanical designs and extensive real world experience to maximize productivity and minimize cost.

Experience Matters

Working in oil sands mining for over 25 years, GIW Industries, Inc. (A KSB Company), was instrumental in moving the industry to all-metal pumps instead of rubber lined pumps for the tailings processes. This success led the industry to consider using all-metal pumps for hydrotransport. As mines grew larger and moved farther away from the processing plants, hydrotransport became a more cost-effective option.

GIW engineers tested actual oil sands samples in its Hydraulic Laboratory, replicating the hydrotransport process. Not only did the process provide a more efficient means of transport over long distances, but the pipeline agitation aided the sand processing by separating the bitumen along the way. It has been estimated that these technological breakthroughs have cut the cost of moving oil sand by as much as $2 a barrel.

GIW TBC Design Features

Wear Parts

- Slurry Diverter: GIW technology dramatically increases suction liner life by reducing particle recirculation between the impeller and liner.

Efficiency

- Lower Specific Speed Design: Large diameter impeller allows the pump to run slower for better parts wear life. A lower specific speed also gives the pump the ability to operate over a wide range of flows to meet today’s varying flow conditions.

Maintenance Friendly

- Impeller Release Ring: Provides for easier impeller removal and is standard on all GIW TBC pumps. Drastically reduces wet end change-out interval for less downtime.

- Two Piece Suction Plate Design: TBC 54 and larger pumps have a special 2-piece suction plate design for reduced maintenance tool time and safer lifting due to lighter loads. Inner suction plate “Front Door” allows replacement of suction liner and impeller without removing the outer suction plate.

The TBC is currently the most operated severe duty slurry pump in the Canadian Oil Sands Industry.
The process of extracting bitumen from oil sands is grueling. Maximum productivity is essential. KSB’s experience and know-how, along with GIW slurry hydraulic transport systems, increase both productivity and profits.

The GIW slurry pump is well positioned in the oil sands industry; we know the challenges and our pumps are there. Our local service center is available to meet your specific needs, whenever you need us.
GIW® Minerals pumps and hydrocyclones are designed to tackle the most extreme duty conditions. Wear life is one of the most important features for all GIW slurry products. As one of the first slurry pumps used in hydraulic transport in the oil sands pipelines, these pumps have been put to the test, year after year.
Conditioning (Hydrotransport)
- TBC
- Pumphouse

Primary and Secondary Recirculation Pumps
- LHD
- LSA

PSV
- HVF
- TBC

Froth Treatment
- HVF
- LSA

Middlings
- LSA
- LCC

Coarse Tailings
- Hydrocyclone
- TBC
- Pumphouse

Tailings Pond Recovery
- LSA
- LCC

Upgrading (not shown on illustration)
- KSB pumps

Tailings Recovery Process (not shown on illustration)
- TBC

Recycle Water Pumps
- LSA
- LHD
- MHD
- TBC
The KSB group supplies a comprehensive product portfolio and engineered solutions customized for SAGD applications. This combination guarantees impressive system efficiency in addition to a low total cost of ownership, critical components in the competitive oil sands market. Our experienced engineers are ready to work closely with plant designers, contractors and end users with one goal in mind: to find the optimum solution for your SAGD project.
Pumps

Froth Treatment and Recycled Water
- RDLO

Upgrader Chemistries
- RPH

Separation
- Mega CPK

OTSG
- HG
- HGM

Processing
Transportation
- KWPK
- RDLO

Tailing Water Pond
- Amarex KRT
- KWPK
Service Center Reconditioned Equipment

Lower Costs & Increased Efficiencies

Spend more time running your business and less time worrying about equipment malfunctions. GIW Service Centres can renew all pumps and mechanical ends back to OEM standards—even those from other manufacturers.

Reduce capital expenditures by bringing your worn equipment back to life. If you have a pump that has been taken out of service, Service Centres can restore the unit back to its original specifications. Remanufactured pumps and bearing assemblies are an alternative to new units and combine OEM parts with carefully inspected recycled components—saving you money.

Prolong the Life and Efficiency of your Slurry Pumping Equipment, Pump Drives, Gear Boxes, Mixers and Rotating Equipment

- Rebuild bearing assemblies to GIW specifications and standards
- Incorporate upgrades and integrate customer specific requests:
  - Centered site glasses
  - Oil sampling port
  - Inpro/Seal® retro-fit
  - Impeller release ring conversions
- Rebuild and assemble pumps with hydro test capability
- Refurbish decommissioned pumps and return to new services
- Preassemble drive train
- Confirm fit of equipment and “align-ability” before installation

Services:

- Clean Room Environment
- Unit Restored to OEM Specifications
- Engineering and Application Support
- Long Term Storage Preparation
- Technical Support and Field Service
- Quality Control and Safety Programs
- Remanufactured Unit Exchange Program
- Shop Pre-Alignment
- Pump and Gearbox Rebuilds
Ft. McMurray Service Centre provides round the clock, one-stop, total customer support for all KSB products, GIW products, and other industrial equipment. As a long standing member of the Oil Sands community, we can provide quick, cost effective disassembly, inspection and rebuild of your slurry pumping products. We are dedicated to reducing your costs and increasing your production efficiencies.

Capabilities
- 28,000 sq. ft. climate controlled building
- From 7.5 ton and up to 50 ton overhead cranes
- Additional outdoor storage
- Clean room assembly environment
- Spin testing of rebuilt equipment

Parts Inventory
- Two dedicated stock trucks weekly
- Local inventory levels to support anticipated maintenance needs
- Extensive inventory on hand

Recent Expansion
- Added 10,000 sq. ft. warehouse
- Additional 15 ton overhead crane
- Added commitment to the Oil Sands region
## Severe Duty Slurry Solutions

### LSA-S

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [m³/h]</td>
<td>max. 14,000</td>
</tr>
<tr>
<td>H [m]</td>
<td>max. 90</td>
</tr>
<tr>
<td>p [bar]</td>
<td>max. 16</td>
</tr>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

Premium design, hard iron pumps for long wear life while handling severe slurries. The basic, single-wall construction and heavy suction, hard metal wet end combined with the cartridge bearing assembly provides maximum reliability and easy maintenance.

### TBC

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [m³/h]</td>
<td>max. 18,200</td>
</tr>
<tr>
<td>H [m]</td>
<td>max. 90</td>
</tr>
<tr>
<td>p [bar]</td>
<td>max. 37</td>
</tr>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

A high-pressure design, these pumps are constructed as horizontal, end suction centrifugal pumps to give maximum resistance to wear while simplifying maintenance. The conventional single-wall design transfers stress loads to non-wearing side plates in high-pressure applications.

### WBC

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [m³/h]</td>
<td>max. 16,000</td>
</tr>
<tr>
<td>H [m]</td>
<td>max. 80</td>
</tr>
<tr>
<td>p [bar]</td>
<td>max. 32</td>
</tr>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

Patented design incorporates state-of-the-art hydraulic and wear technologies for heavy duty, high pressure applications. The pump shell is designed to reduce bending movements and associated stresses that can cause a structural failure during a pressure surge.

## Hydrocyclone and Apex Kits

### Hydrocyclone

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

GIW® Minerals' line of hydrocyclones features a patented long wearing design that can reduce rebuild time by up to 75%. Diameters available up to 840 mm.

## Heavy Duty Slurry Solutions

### LCC-M

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [m³/h]</td>
<td>max. 3,405</td>
</tr>
<tr>
<td>H [m]</td>
<td>max. 90</td>
</tr>
<tr>
<td>p [bar]</td>
<td>max. 16</td>
</tr>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

The hydraulic wet end consists of three components: a shell or casing, an impeller and a suction plate/liner to permit easy removal for maintenance and inspections. Reliable pumps for high discharge head, mildly corrosive slurries and a wide range of particle sizes.

### HVF (High Volume Froth) Pump

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q [m³/h]</td>
<td>max. 8,175</td>
</tr>
<tr>
<td>H [m]</td>
<td>max. 35</td>
</tr>
<tr>
<td>p [bar]</td>
<td>max. 10</td>
</tr>
<tr>
<td>T [°C]</td>
<td>max. + 120</td>
</tr>
</tbody>
</table>

GIW® Minerals’ HVF pump provides continuous operation without shutdown or operator intervention. The new hydraulic design removes air from the impeller eye while the pump is running, and the pump can be retrofit into any existing application. It is environmentally friendly and cost effective.
## Process Products

### KWPK

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 1,300</th>
<th>H [m]</th>
<th>max. 100</th>
<th>p [bar]</th>
<th>max. 10</th>
<th>T [°C]</th>
<th>max. + 280</th>
</tr>
</thead>
</table>

Horizontal, radially split volute casing pump in back pull out or close coupled design, single-stage, single-entry, available with various impeller types: non-clogging impeller, free flow impeller. Designed to ATEX. Ideal for all types of slurries without stringy substances and pulps up to 5% bone dry with a maximum density of 1.1 kg/dm³.

### Amarex KRT

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 10,000</th>
<th>H [m]</th>
<th>max. 100</th>
<th>T [°C]</th>
<th>max. + 60</th>
</tr>
</thead>
</table>

Vertical, single-stage, submersible motor pump in close coupled design, various impeller types, for wet or dry installation, stationary and transportable version. Design to ATEX. Can handle all types of abrasive or aggressive waste water.

### Mega CPK

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 1,160</th>
<th>H [m]</th>
<th>max. 162</th>
<th>p [bar]</th>
<th>max. 25</th>
<th>T [°C]</th>
<th>max. + 400</th>
</tr>
</thead>
</table>

Horizontal, radially split volute casing pump in back pull-out design to EN 22 858 / ISO 2858 / ISO 5199, single-stage, single-entry, with radial impeller. Also available as variant with “wet” shaft. ATEX-compliant version available.

### Omega/RDLO

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 10,000</th>
<th>H [m]</th>
<th>max. 240</th>
<th>p [bar]</th>
<th>max. 25</th>
<th>T [°C]</th>
<th>max. + 70</th>
</tr>
</thead>
</table>

Single-stage, axially split volute casing pump for horizontal or vertical installation with double-entry radial impeller, mating flanges to DIN, ISO, BS or ANSI.

### RPH

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 4,860</th>
<th>H [m]</th>
<th>max. 285</th>
<th>p [bar]</th>
<th>max. 110</th>
<th>T [°C]</th>
<th>max. + 450</th>
</tr>
</thead>
</table>

Horizontal, radially split volute casing pump in back pull-out design to API 610, 11th edition, or ISO 13709 (heavy duty), with radial impeller, single-stage, single-entry, centerline pump feet; with inducer, if required. Design to ATEX

### HGM

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 274</th>
<th>H [m]</th>
<th>max. 1,400</th>
<th>p [bar]</th>
<th>max. 140</th>
<th>T [°C]</th>
<th>max. + 160</th>
</tr>
</thead>
</table>

Horizontal, radially split, product-lubricated, multistage ring-section pump with radial impellers, axial and radial single-entry inlet.

### HG

<table>
<thead>
<tr>
<th>Q [m³/h]</th>
<th>max. 1,450</th>
<th>H [m]</th>
<th>max. 4,200</th>
<th>p [bar]</th>
<th>max. 420</th>
<th>T [°C]</th>
<th>-10 to + 200</th>
</tr>
</thead>
</table>

Horizontal, radially split, multistage ring-section pumps with radial impellers, single- or double-entry.
Serving You at these GIW Service Locations

**Georgia, USA**
Manufacturing & Service Center
968 Ferrous Road NE
Thomson, GA 30824 USA
Tel. +1 706-595-5950
Fax +1 706-596-6962
Email: sid.higdon@ksb.com

**Florida, USA**
Manufacturing & Service Center
1351 S.R. 60 West
Mulberry, FL 33860 USA
Tel. +1 863-425-4961
Fax +1 863-425-4850
Email: doyle.bentley@ksb.com

**Canada**
Office & Service Centre
220 MacLennan CR
Fort McMurray, Alberta
T9H4E8 Canada
Tel. +1 780-713-3457
Fax +1 780-713-3458
Email: anthony.robins@ksb.com

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Fax +1 706-210-5967
GIW-WarrantyClaims@ksb.com

Parts Sales and Customer Service
Tel. +1 706-863-1011
Ext. 2407
Dir. +1 706-434-0707
Fax +1 706-210-5985
GIW-Parts@ksb.com

After Hours Breakdown Rush - 24/7
Cell +1 706-513-0585
(For emergencies only)

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