Recuperación de Oro
Recuperação de Ouro
Récupération de l'or
Добыча золота

www.iconcentrator.com

Patents Pending

iCON IGR 100 Plant
i150 Artisanal Plant

iCON Gold Recovery Corp.

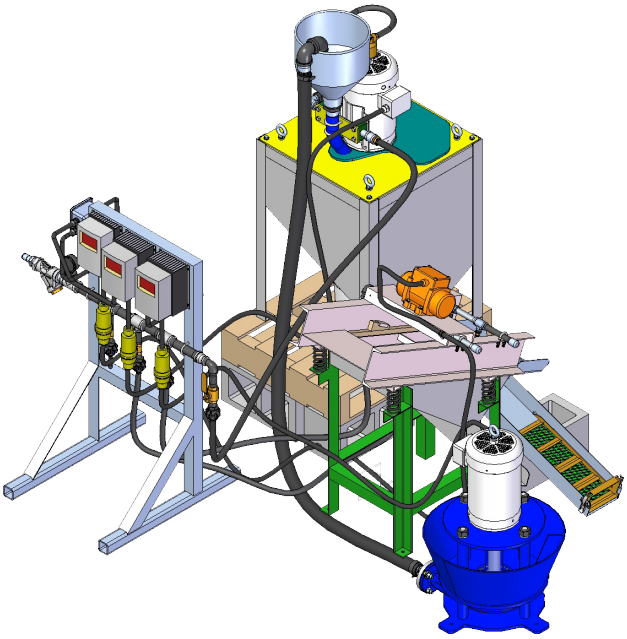
IGR 100 Plant

Assembly Instructions

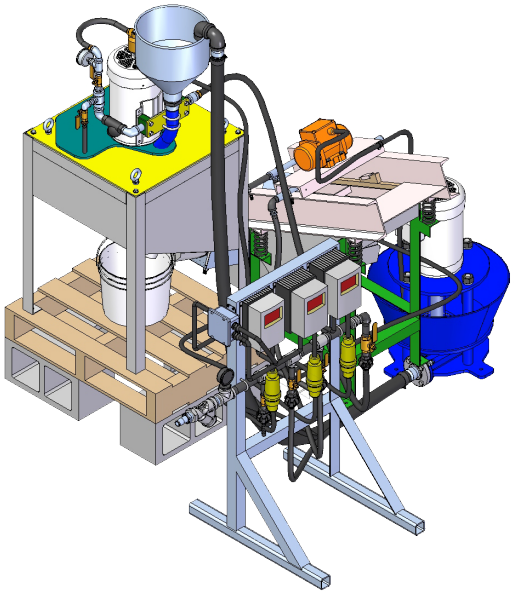
IGR 100 Plant
i150 Artisanal Plant

Photo included for reference

This is not new technology.
This is the process of major mines now available to Small Scale and Artisanal Miners



View 1



View 2

Views 1 and 2 are engineering drawings showing the standard configuration of the IGR 100 Plant.

The IRG 100 Plant arrives in 4 pallets:

- **i150 Concentrator and VFD**
- **iPump 1.0 with VFD**
- **iScreen 12 Inch x 24 Inch with VFD**
- **Installation Kit**

Plumbing Connections

The control station includes the water distribution manifold.

The large barb on the left hand side is the clean water connection. Connect this to a pump capable of supplying both the clean process water near 15 L/M and the slurry water near 77 L/m (to make 30% solids at 2 tph) at 15 psi.

Using the large diameter hose supplied (3/4”) connect the large valve from the manifold to the brass barb on the concentrator. The supply valve on the manifold will remain fully open for operation.

Using the small diameter hose supplied (1/2”) connect 2 valves to the matched size barbs on the screen. During operation the valves on the water distribution manifold will be used to regulate the water to the spray bars on the screen. Open the valves sufficiently for the spray to fan across the full width of the screen.

There is an additional valve included on the distribution manifold. This is not required and could be used for other accessories as needed.

Electrical Connections

The important thing to note is that the iCON components all use 3phase 220 volts. The user only needs to supply 1phase 220 volts. The VFDs provided clean/regulate the power, control the frequency and convert 1 phase voltage to 3 phase.

Lines from the VFDs to the motors require 4 conductors: 3 lines and ground.

Supply lines from the customer’s source (outlet or generator) to the distribution box (grey box mounted on the upper left of the stand) and from the distribution box to the VFDs require only 3 conductors: 2 lines and ground.

Mount the 3 VFDs on the stand using the nuts & bolts supplied.

Using the supplied 3 conductor wire, cut 3 lengths to fit from the distribution box to each of the VFDs. These lengths will be approximately 1.5 to 3 feet. Use the remaining 3 conductor wire to connect the user supply to the distribution box.

Inside of the distribution box join the 4 green wires together using wire nuts or electrical tape. The green wires can be attached to the steel frame if desired. Join each (4) of the other matching colors together using either wire nuts or electrical tape.

Join the 3 conductor supply wires inside of each VFD. Use caution to insure that no wires accidently touch another. The green wires attach to the ground prong just as the existing green wire is attached.

The Line 1 and Line 2 connect to the supply leads as described in figure 3.2.1.2, page 14 of the VFD manual.

As the electrical plugs add room for error, it is recommended to test each item connected directly to the VFD prior to using the plugs/sockets.

After confirming functionality without the electrical plugs, one can install them taking note of the instruction on the plastic packages. The most important thing is assure that the green/ground wires connect from the plug to the socket. The terminals are colored green to help assure this is done correctly. The arrangement of the other 3 wires is up to the user. It the equipment rotates in the wrong direction – simply swap any 2 of 3 wires as described below.

First confirm that the voltage to input is 200 to 240 VAC.

The VFDs will have red lights when power is supplied.

Pump

On the pump, press the green start button and use the arrow to set the hertz to 10. As you look down on the pump, it must rotate clockwise. This means the slurry will be thrown in the direction of the pump outlet. If rotation is not correct, simply swap the connection for any 2 of the 3 wires from the VFD to the pump motor. The pump is limited to 70 hertz. Do not operate the pump for any longer than required to verify the rotation without water.

Concentrator

Test the concentrator be pressing the green button and using the arrow to rotate at 10 hertz. The direction of rotation is not important. The pump is limited to 50 hertz from the factory. Do not operate for longer than required to verify functionality without water supplied to the fluid coupling. The concentrator may squeak initially and may have the odor of warm rubber. This is not a concern as there is an o-ring that must be broken-in.

Screen

On the screen, press the green button on the VFD to start vibration. Use the arrows to increase the vibration to it maximum. Test a small amount of sand on the screen. If the wet material seems to bounce down hill, then change the rotation of the motor by swapping any 2 of the 3 wires from the VFD to the screen.

The concentrator operation manual is available at iconcentrator.com under manuals. It is printed in Spanish, English and French.

Orientation

Please refer to the photos and drawing for the physical arrangement of the equipment.

The screen is designed to classify the material in 2 size fractions. The sand finer than 2 mm will pass through the screen and will be pumped to the concentrator. Therefore, the outlet of the screen must feed into the pump. The vertical height can be arranged using the shipping pallets if desired.

The sluice attaches to the tails outlet of the concentrator. The sluice is not intended to catch fine gold. The sluice used the volume of water from the concentrator tails to carry the material over the riffles.

The screen must be located with the finger grizzly above the sluice. At material too large to pass through the screen reaches the grizzly, the material finer than 6mm will fall through the grizzly and to the sluice – intended only as a nugget trap. Any material bigger than 6mm and therefore passing over the finger grizzly will be rejected by the system.

The user will find the 2 class system, Concentrator and Nugget trap to be highly effective for recovering alluvial gold and other precious metals. Good Luck!