



Recuperación de Oro
Recuperação de Ouro
Récupération de l'or
Altın Cevheri Konsantrasyonu
Добыча ЗОЛОТА

iCON SB150 Professional Plant Gold Recovery Plant



iCON Gold Recovery Corp.

is proud to present the

SB150 Professional Plant



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SB150 Professional Plant Includes

1. Patented SB150 Centrifugal Concentrator
2. iCON VS1224 heavy duty vibrating screen with Italvibras motor
3. Hi performance iCON SP1.5 Slurry Pump
 - Quickly moves screened material to the centrifugal concentrator and/or moves tails away from the plant
4. Variable frequency drives (VFDs) and control station
 - Allow the end-user to easily adjust each component individually to maximize productivity
5. Mini grizzly
 - Directs the 'oversize' of the screen to the sluice/nugget trap
6. Extra long sluice with dredging riffle
 - Used only as a nugget trap



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iCON is Used For

Hard Rock: *(No Chemicals Required)*

- Scavenging/Reprocessing Hard Rock Tails
- Initial Processing of Hard Rock Ores
- Concentrating Ores/Tails for Regional Final Processing

Alluvial/Placer & Dredging

- Primary processing when you know your gold is too fine for a sluice
- Reprocessing years of old concentrates
- Processing daily sluice box concentrates

Upgrading Concentrates

- Classifying and upgrading sluice concentrates
- Upgrading concentrates for regional processing

Prospectors/Driller

- Analyzing samples in the field. iCON is portable and conveniently classifies your sample to give you confidence in the size of your gold.
- It is easily cleaned from sample to sample without fear of contamination.

Hard Rock Applications

Hard Rock miners around the world have historically recovered as little as 30% of their free gold using mercury amalgamation. The iCON process is being used to scavenge/reprocess old tails without using mercury. These miners are now recovering more gold reprocessing tails with iCON than the original miners recovered.

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The number 1 application for iCON worldwide is Hard Rock. The 2tph capacity and the ability to recover fine, flat milled gold are ideal for iCON. The major mines of the world use gravity concentration in their grinding circuits. The concentrators can recover over 90% of the overall production of major/professional mines.

A typical Hard Rock application would involve a crusher and ball mill. The material would be size classified using a cyclone in closed-circuit or simply a screen in semi-closed circuit milling. After the mill the material will pass through the concentrator.

A Hard Rock operator may choose to run 1.5 tons per hour of a high grade ore. He may choose to rinse the bowl every 10 minutes. Here he would have run 250 kg and collected 1 kg of concentrate. That is a concentration ratio of 250 to 1.

The concentrate will still need to be upgraded or cleaned to have a sellable product. Some miners around the world are choosing to collect the concentrates from multiple mine sites and clean the cons at a regional secure facility.

When scavenging old tails the operator must understand that there is a reason the first miner missed this gold. It may be that it was poorly milled and needs to be re-milled to liberate the gold. In order to recover what another team missed the operator must pay attention to the details and be prepared to adjust their process as required.

As hand held x-ray spectrometers become more common more miners are analyzing their ore. It is common to analyze your feed only 1 time and determine that the entire tails pile has xx grams per ton. It is also common to analyze the grade of the concentrate and compare this to 1 measurement from the feed. This is not an acceptable comparison.

All analysis must determine the amount of "FREE GOLD." Yes, this means that some gold will be 'recoverable by gravity' and some will be 'entrapped gold.' The only acceptable analysis method is to analyze your concentrate AND your tails or feed during the same

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batch on the same day. Any difference in the amount of free gold will indicate the performance of the concentrator. If you are expecting to capture the 'entrapped gold' then you must address the milling process.

The iCON Hard Rock Plant is designed to re-mill your ore and then pass the feed through 2 concentrators in series to give you the highest reasonable recovery.

Alluvial/Placer & Dredging

Alluvial miners often ignore the fine gold because sluices and jigs can't catch it. Depending on the size and shape of your gold a sluice may begin to lose gold at 40 mesh. Some alluvial deposits have 90% of their gold finer than this where enhanced gravity, iCON, is the only solution.

Concentrators are being tested on the ends of sluices and dredges. In this case the operation is still capturing the same amount of gold in the sluice. The added value of the concentrator becomes very clear.

After seeing the additional recovery of the concentrator some operators are choosing to redesign their process. An efficient plant design would include a screen (typically 2mm or 10 mesh) where only the coarse material will be routed to a sluice and only the fine material will be routed to your concentrator.

An example of this process is the iCON 2xSB150 Alluvial Plant.

Upgrading Sluice Concentrates

Any placer miner or dredger understands the vast amount of concentrate you will accumulate. They also understand the incredible amount of work required to clean the cons. Considering that a concentrate is already 'heavy,' the operator may run 1 tph through a

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concentrator. He may choose to rinse the bowl every 6 minutes which means after each 100 kg of feed. Here the SB150 will produce 1 kg of cons from 100 kg of feed.

Placer miners also understand the need to classify their concentrate. Let's say a placer miner is processing ½ inch material. He will have this coarse material and the finest sands in his sluice concentrate. The first step here is to classify or separate this concentrate into at least 2 sizes of material. The iCON SB150 Professional Plant will handle this process for you. The screen will separate you material into 2mm+ and 2mm- sizes. (+/- 10 mesh) The fine material will be pumped to the concentrator and the coarse material will go to the nugget trap.

You may choose to wash your sluice directly into an iCON Slurry Pump. The pump could then move the material to your screen to greatly reduce the daily labor involved in cleaning your sluice, lifting, storing and transporting the material.

Methods to Clean Your Concentrates

Mercury Amalgamation

This is not recommended due to the environmental impacts and the effectiveness of the blue bowl and/or tables. Without concentration an operator would be processing maybe 250 times the amount of ore. The iCON process allows an operator to either amalgamate, table or bowl a reasonable quantity.

Cyanide Leaching

This is the recommended method of the Global Mercury Program. Without pre-concentration the volume of material to treat and the amount of chemicals are tremendous. Concentration allows the operator to treat a reasonable amount of material either on site or at regional facilities serving many mines.

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Table / Blue Bowl

Tables and bowls have been proven to be very effective for final cleaning. They are slow but very clean. They use no chemicals are safe for the environment and your family. They are fun and provide immediate gratification – after each cleanup you will see high grade gold. ICON is proud to recommend the Blue Bowl for small volume final cleanups.



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What is iCON

iCON is a family of products specifically designed to recover fine gold. iCON was designed by the professional engineers at Falcon Concentrators and uses the same patented technologies used at the largest mines in the world.

The heart of the iCON family is the world renowned iCON SB150 Concentrator.

iCON uses classification and enhanced gravity in its centrifugal concentrators to ensure that you are recovering the most gold possible.

iCON is supported by governments around the world due to its ability to recover gold without the use of mercury, cyanide and other toxic chemicals. iCON was designed for the United Nations' Global Mercury Project to bring professional techniques to small miners throughout the world. iCON uses the same proven technology as the Falcon brand of professional mining products: it was designed by Falcon's engineers and is now a product of iCON Gold Recovery Corp.. History and Environmental Responsibility are discussed on our website.

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The iCON Product Line

iCON Gold Recovery Corp. offers a wide range of gold recovery plants *and* sells the components individually. The product line includes:

- iCON SB150 Concentrator
- iCON SB350 Concentrator - *Coming Soon*
- iCON SP1.5 Slurry Pump
- iCON VS1224 Screen
- iCON SB150 Professional Plant - *Available Now*
 - Trailer mounted - *Coming Soon*
- iCON 2xSB150 Alluvial Plant including Scrubber and Gold Room
- iCON Hard Rock Plant including Gold Room - *Coming Soon*
 - This is an engineered Plant
 - Material sampling and analysis are required
 - Contact your distributor to find out if this is right for you
- Blue Bowl for upgrading your concentrates

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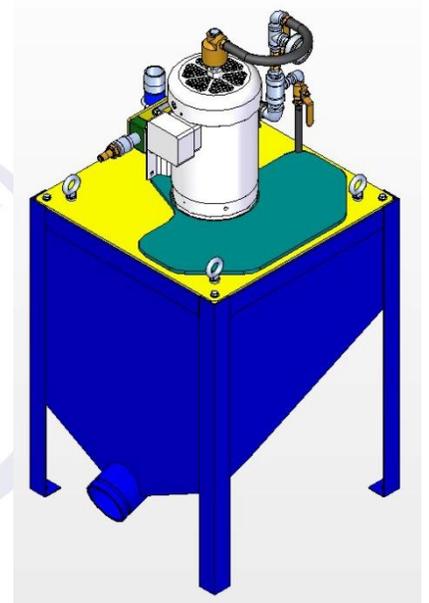
Specifications

iCON SB150 Professional Plant

Electrical Requirement	8KW 220Volt Generator, Single Phase
Water Consumption	50 mm external pump is suggested

iCON SB150 Concentrator:

Solids Capacity	2t/h
Max Slurry Capacity	100 L/min
Concentrating Surface Area	968 cm ²
G-Force Range	60-150 G's
Machine Weight	115 kg
Motor Power	1.5 kW
Power Requirements	220V/1PH/50-60Hz
Process Water Requirements	17 L/min
Water Pressure Requirements	1.0 Bar
Dimensions	610 X 610 X 1193 mm



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iCON SP1.5 Slurry Pump:

Pump Discharge Size	ø 1"
Solids Capacity	3 t/h
Max Recommended % Solids	50 %
Max Slurry Flowrate	70 USgal/min
Max Pressure Head	40 ft
Wear Component Material	Ni-Hard 4
Machine Weight	153 kg
Motor Power	1.5 kW
Power Requirements	220V/1ph/50-60Hz
Max Feed Particle size	2 mm
Overall Dimensions	ø 0.55m X 0.75m



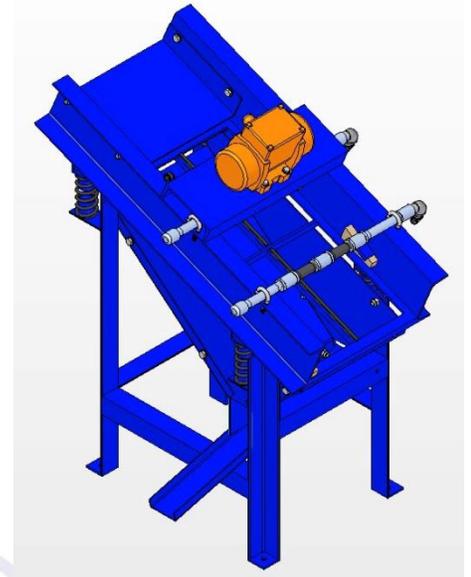
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iCON VS1224 Screen:

Machine Mass	78 kg
Dimensions	460 X 812 X 1016 mm
Solids Capacity	20 L/min
Feed Particle Size	> 2 mm
Process Water Requirements	17 L/min
Motor Power	0.21 kW
Voltage	220 V/1ph/50-60Hz
Current	0.70 A



The SB150 Professional Plant also Includes:

Control Station (as seen in photos)

- Water Manifold
- Electrical Connectors

Installation Kit with All Hoses and Fasteners

Sluice/Negget Trap

Blue Bowl

For Final Cleaning of Your Concentrates

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How It Works

The iCON Concentrator is designed to capture all heavy minerals including Gold, Silver and PGMs. It uses a centrifugal field to concentrate very fine, free minerals that are not recoverable using the traditional techniques of small scale and artisanal miners. The technology is based on the batch-type Falcon Concentrator and designed by the same Falcon engineers that design concentrators for the largest mines in the world.

In operation, material is fed as mixture of milled rock and water into a rotating bowl that includes special fluidized grooves or riffles to capture the heavies. Periodically, a rich concentrate is rinsed out that requires further upgrading to be turned into a final gold product.

Features that make the **iCON Concentrator** ideal for small scale applications include:

- Low machine weight
- Ease of Installation
- Only one moving part
- Use of wear components readily available in developing areas
- Rigid structure conducive to running at high speeds
- Low acquisition and operating costs
- A proven, robust and simple mechanical/electrical platform
- Efficient clean out
- High concentration ratios

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A Few Comments on Mineral Processing

Throughout history gold processing has been plagued with inefficiency and contamination. Millions of dollars of fine gold have been discarded in the tails or “washed down the creek” due to inadequate processing. Other operations have long put the health of both workers, and our planet at risk with the use of mercury, cyanide and other dangerous chemicals. iCON technology successfully addresses both issues, ensuring that the highest percentage of gold is recovered and no hazardous chemicals are needed.

The most important factor in mineral processing is classification; the relative size of the gold you are processing must be known. Mineral processing is expensive and time consuming. Processing large material that is known to have no value, costs both money and time. With classification, time, energy and money will not be wasted processing excess material that is known to have no values. For example, if you know that your largest gold is .5mm then there is no reason to put 10mm material through your process. Also, the large feed will affect the efficiency on any process. The large material will hinder the recovery of the finer materials. For example, one miner improved his recovery from 40% to 70% simply by screening his feed from 8mm to 2mm. No gold was lost, because his largest gold was around .5mm. The iCON method will improve your process by screening your feed to the proper size (reducing the volume of feed) and increasing the percentage of gold that you recover.

iCON uses a 2 step process; classification and concentration. Your feed will be screened to 2mm (or less based on your results) before processing in the concentrator. Any material larger than the screen will pass over the nugget trap. This will give the user confidence that they are collecting the BIG gold while minimizing the feed to the concentrator and maximizing its efficiency.

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Batch Process / Cycle Time

The SB series of concentrators use a batch process. Your cycle time will depend on the grade and weight of your feed. A heavy or rich feed will need a shorter cycle time. The iCON SB concentrators can be cleaned out in around 3 minutes.

Hard Rock operations may have 100 grams of gold per ton of feed. This is very rich. In this case it is common to run for only 10 minutes between rinse cycles. You may choose to feed at ½ ton per hour.

When upgrading concentrates you will be processing rich and heavy material. In this case the cycle time may also be only 10 minutes. Here you may be feeding at ½ ton per hour.

Alluvial operations will have less value and lighter feed. In this case you may choose a batch cycle time of 2 hours.

Every feed is different. The proper process for you will be determined by analyzing the free gold in your tails and adjusting your process to fit your ore.

Capacity

The throughput of the SB150 Centrifugal Concentrator is nominally 2 tons per hour. If you have large material in your feed, if you have a heavy feed or if you are using iCON to 'upgrade' a concentrate the throughput will be reduced. All ores and all processes are different. Each user must assess their situation as with any mineral recovery process.

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Process Examples

	Alluvial Mining	Upgrading Alluvial Concentrates	Drilling Sampling Exploration	Initial Hard Rock Processing	Hard Rock Tails Scavenging
These Are Only Examples	Feed Rate				
	Tons per Hour	2	0.5	2	1.5
	Kilograms per Hour	2000	500	2000	750
	Batch Time				
	Minutes	120	30	<5	10
	Feed per Batch				
Kilograms	4000	250	20 Kg Sample	125	
Concentrate Volume					
Kilograms	1	1	1	1	
Concentration Ratio					
Ratio	4000:1	250:1	20:1	125:1	

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What to Expect from iCON

It is common for internet advertisements to show a process where a small amount of gravel goes in and a large quantity of bright shiny gold comes out. Experienced miners know this is not the case. A sluice box is a gravity concentrator. Let's say you put 1000kg of feed over your sluice. At the end of the day, you may have 20kg of 'concentrate.' This concentrate is not bright and shiny, in fact, it looks just like the feed material. This material has to be post processed to further 'clean your cons' and give you a sellable product. Although a sluice can give you a very high concentration ratio, it is not effective for recovering fine gold. In the case of sluice operations, miners are choosing iCON to upgrade their concentrates.

When using an 'enhanced centrifugal concentrator,' you may put 100kg into the process and get 1kg out. This will be a 'concentrate.' It will look just like the feed material. Some people choose to sell this concentrate while others choose to continue refining it to shiny, clean, high grade gold.

Trust iCON, your neighbor is already using it..

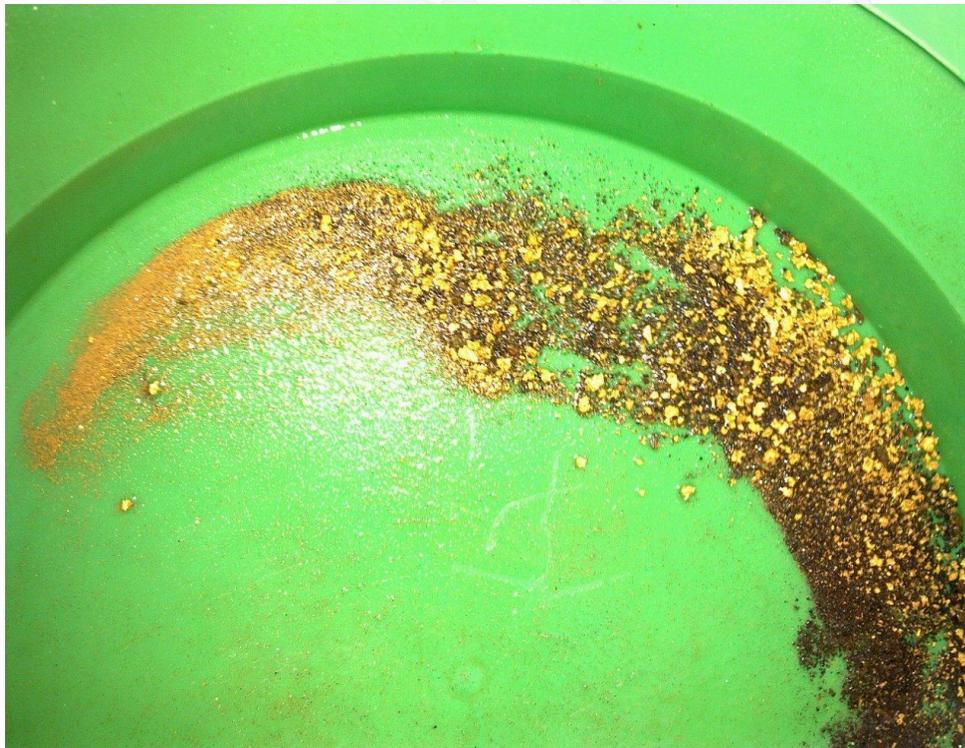
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This photo shows what your concentrate may look like. It will not be pure gold and will require post processing.



This photo reveals 2 sizes of gold. The larger material passed over the iCON Screen and was caught in the nugget trap. The finer gold was recovered in the concentrator. It is the same material from above.

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