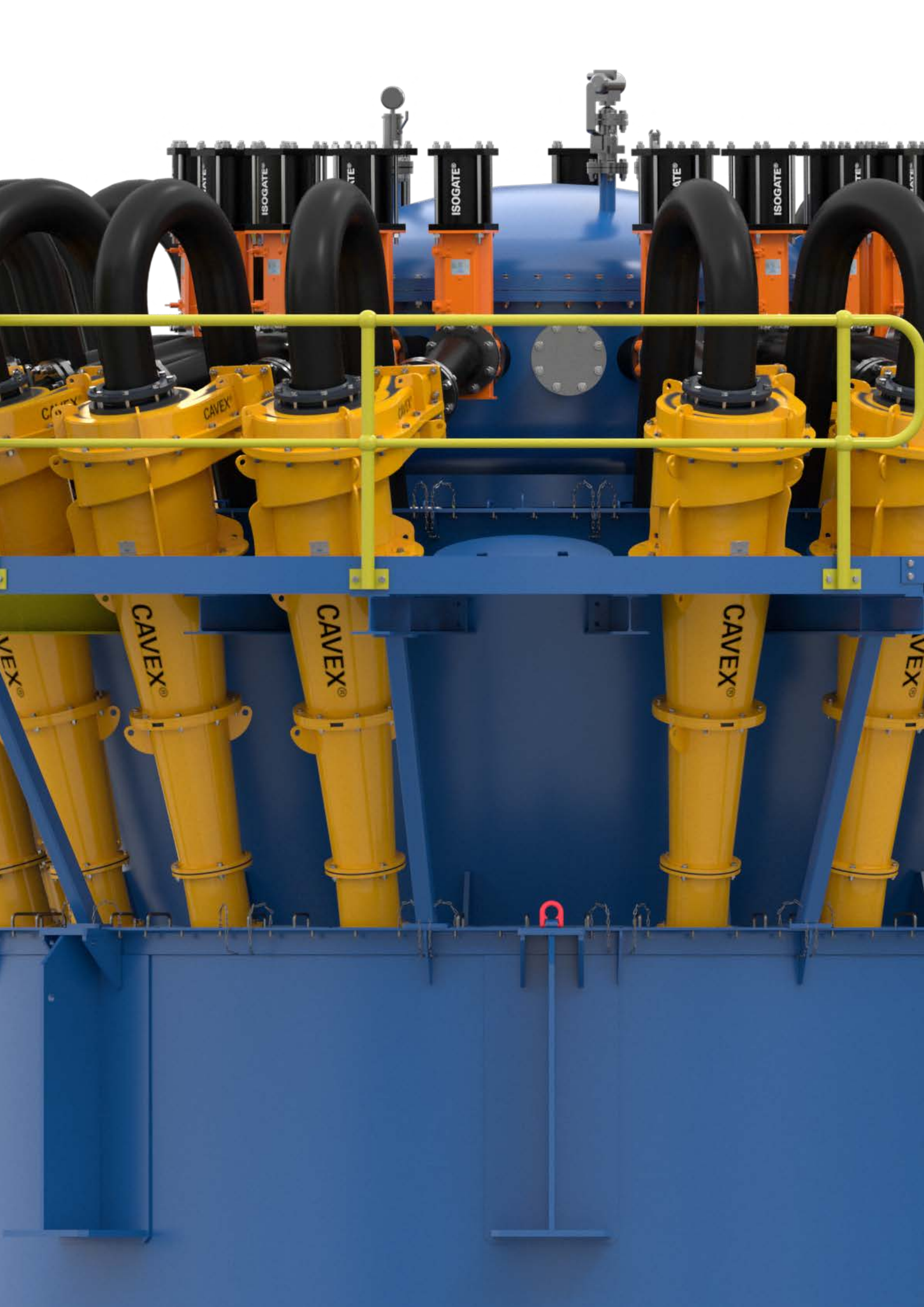
CAVEX® 2

WE INNOVATE. OTHERS IMITATE.

WEIR

Minerals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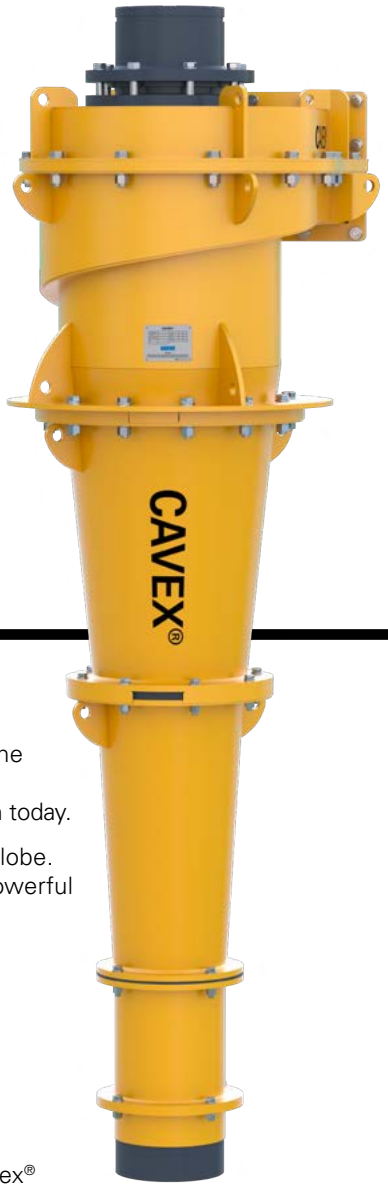


A new era in separation technology

The Cavex® 2 hydrocyclone marks a new era in separation technology. Its LIG+™ advanced laminar spiral inlet together with the size of the feed chamber reduces turbulence and allows the hydrocyclone to classify up to 30% more feed slurry, while occupying the same footprint as the original Cavex® or competitor cyclones. This enhanced performance is unmatched by any known hydrocyclone in operation today.

Our Cavex® 2 hydrocyclone has been trialled with our customers in various applications across the globe. The positive results from these trials provide us with the upmost confidence that this is the most powerful hydrocyclone on the market.

Advanced benefits

- Increased operational and circuit capacity up to 30%.*
- Maximised plant recovery by reducing the quantity of misclassified particles with an average improvement of the alpha parameter in excess of 10%.
- Improvements in bypass with an average of over 15%.
- Fits into existing cyclone cluster footprints. This means that it's easy to retrofit for both the original Cavex® and other cyclone manufacturers.
- Less turbulence during the separation process due to the LIG+™ inlet and chamber design.
- Enhanced performance with a Synertrex® enabled monitoring system which is able to detect roping or blockage conditions in advance. This enables continuous, efficient operation of the hydrocyclone.

Complete customisation for optimal performance

The shape of the liners in this new generation of Cavex® hydrocyclone has been improved to further minimise turbulence. The Cavex® 2 also comes with a range of materials technology options including industry leading Linatex® premium rubber and other robust Weir Minerals natural rubbers such as R55®, which outlast competitors' elastomers in similar applications. In addition, liners can be replaced via a 'snap-in' system which requires zero adhesive. Smaller models (400CVD and below) are also available with moulded fibreglass housings.

Cavex® hydrocyclones can be customised to suit almost any application, with a variety of spigots, vortex finders and liners. Our expert team will tailor the Cavex® 2 hydrocyclone to suit your unique application, and can retrofit Cavex® 2 into your existing footprint to maximise production.

* size dependant

Introducing LIG+™

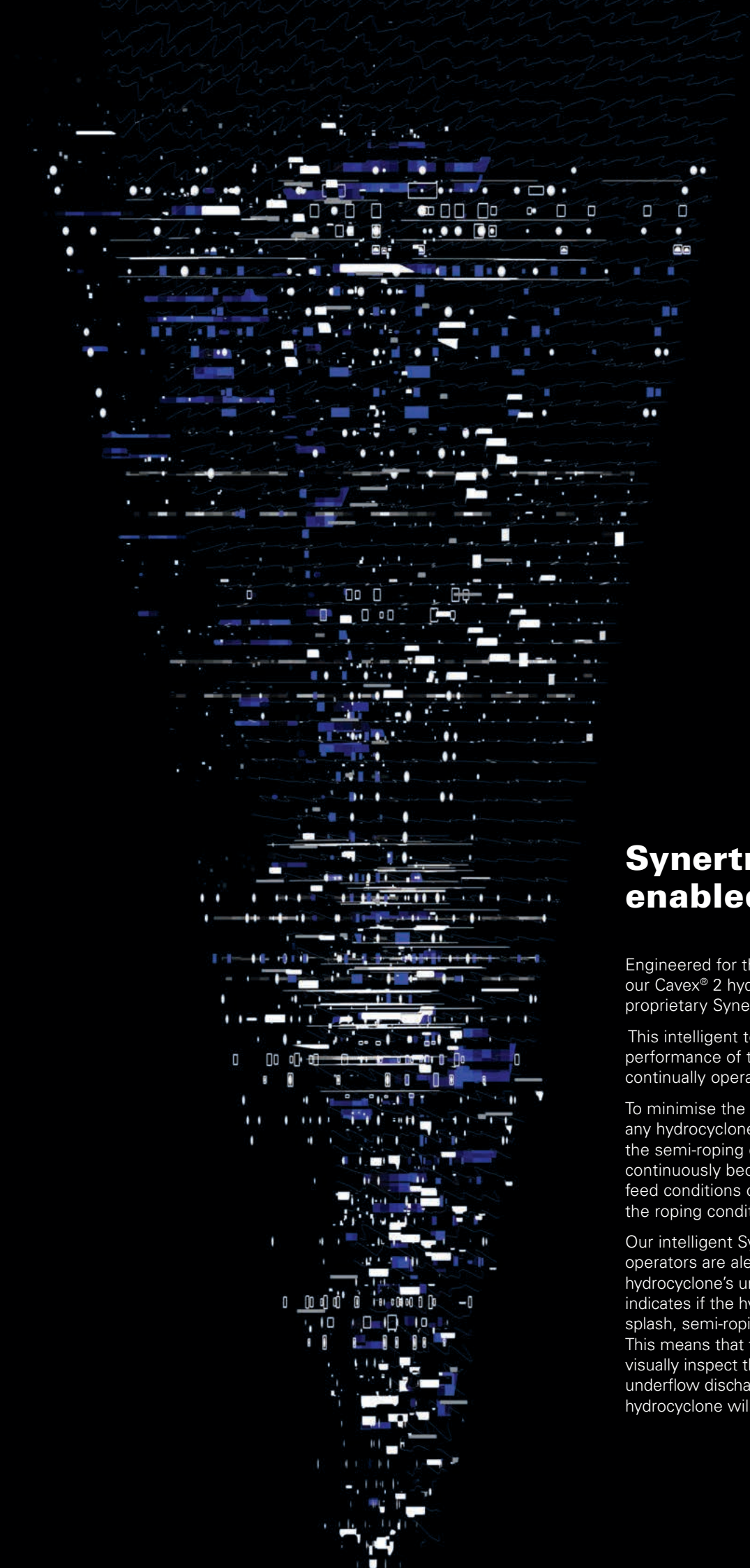
Cavex® 2 features the new LIG+™ inlet and chamber design (patent pending), which provides a range of benefits for the operator.

- A further reduction in turbulence
- Up to 30% more capacity
- Better separation efficiency
- Superior sustainability opportunities

Cavex® hydrocyclones set the industry benchmark when they were first introduced over 20 years ago. The unique Cavex® 360° laminar spiral inlet geometry was created to carefully guide slurry into the feed chamber to deliver a significant reduction in turbulence. Turbulence is a result of abrupt changes to the slurry's rotation in the feed chamber. This not only impacts the separation efficiency, but also carves a distinctive wear pattern into the cyclone's feed chamber walls.

Cavex® 2 hydrocyclones feature the LIG+™ inlet and chamber design. This is the next generation of laminar inlet geometry and reduces turbulence even further. With the ambitious goal of further improving on the original Cavex® hydrocyclone's industry-leading design, many years of research, development and trials went into the creation of Weir Minerals' advanced LIG+™ design.

This unique design produces an even more stabilised flow pattern, further reducing energy loss and, most importantly, providing up to 30% additional capacity.



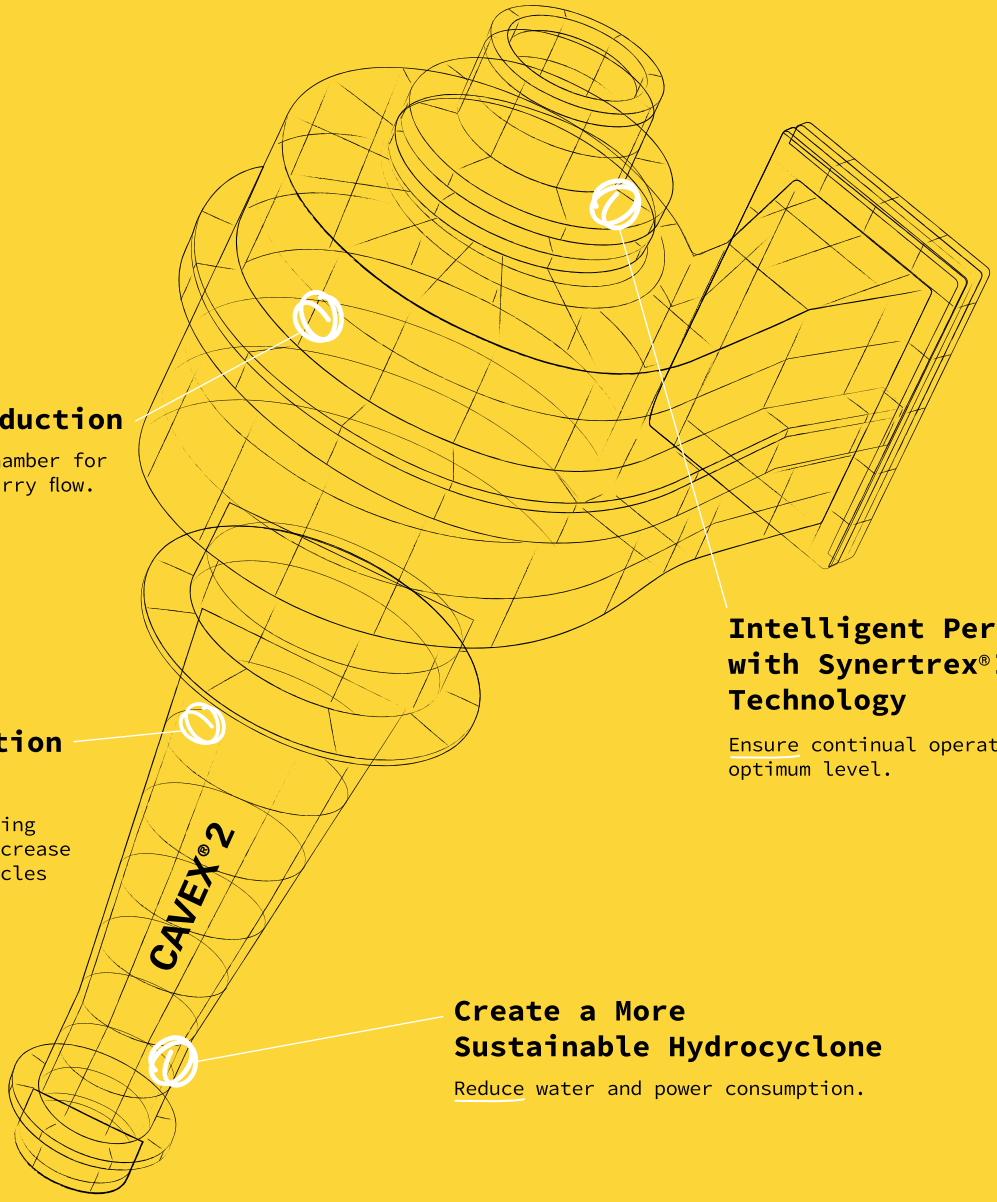
Synertrex® enabled

Engineered for the future mine, the performance of our Cavex® 2 hydrocyclone is enhanced by Weir's proprietary Synertrex® IIoT technology.

This intelligent technology strengthens the overall performance of the hydrocyclone and enables it to continually operate at its optimum level.

To minimise the amount of bypass that is produced in any hydrocyclone, it is favourable for it to operate in the semi-roping condition. This is often difficult to do continuously because any upset in the hydrocyclone's feed conditions could move it into the roping condition.

Our intelligent Synertrex® IIoT technology ensures operators are alerted to any change in the hydrocyclone's underflow condition. The system indicates if the hydrocyclone is operating in a splash, semi-roping, roping, or blocked condition. This means that the operator is not required to visually inspect the hydrocyclone to ensure proper underflow discharge, providing peace of mind that the hydrocyclone will always run at its optimal condition.



Turbulence Reduction

Design a new feed chamber for an even smoother slurry flow.

Greater Separation Efficiency

Reduce the fines reporting to the underflow and decrease misplaced coarse particles to the overflow.

Intelligent Performance with Synertrex® IIoT Technology

Ensure continual operation at an optimum level.

Create a More Sustainable Hydrocyclone

Reduce water and power consumption.

Get more from your mine

Up to 30% additional capacity

The revolutionary LIG+™ design provides up to 30% more capacity. This enables operators to increase throughput with fewer hydrocyclones in the cluster, reducing upfront capital investment.

Cavex® 2 hydrocyclones can be easily retrofitted into cluster installations allowing existing cyclone installations to take advantage of the additional capacity within the same footprint.

Increased capacity within the same footprint also presents an option for operators to install spare hydrocyclones. This provides your maintenance team with the ability to service the Cavex® hydrocyclones while the cluster still operates, ensuring that the process line does not need to shut down.

The result? Significant monetary savings in an extremely short pay-back period.

Separation efficiency

In addition to our LIG+™ technology, the improved design of the shape, angle and proportions of the Cavex® 2 ensures that particles report to the correct stream, improving the overall separation efficiency.

The ability of the hydrocyclone to separate the coarse and fine particles is a fundamental measurement of its performance. And Weir Minerals has surpassed expectations with the Cavex® 2.

Sustainability

The extraction and production of metals and industrial minerals are essential for modern life. And here at Weir Minerals, we believe that it is our responsibility to continually look for ways to perform these functions while minimising the consumables required to do so.

We have always had sustainability in mind when developing new products for the industry, and this was paramount when designing the Cavex® 2 hydrocyclone.

Cavex® 2 introduces a step-change in sustainability, with water and energy savings. Cavex® 2 hydrocyclones can be fed less water to achieve the same separation as the original Cavex® hydrocyclone, resulting in measurable water savings. By reducing the bypass, fewer fines are returned back to the mill. This means less energy is required to further reduce particle sizes that are already small enough to move onto the next process.

By reducing water and power consumption, the Cavex® 2 hydrocyclone is a considered design working towards a more sustainable mining future.

Minerals

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