Merlin VSI Crushers

Sandvik Rock Processing

Merlin-VSI®

- **What is an Autogenous crusher ?**
- **How Does it Work ?**
- **Where does it belong ?**
- **Why should it be used ?**

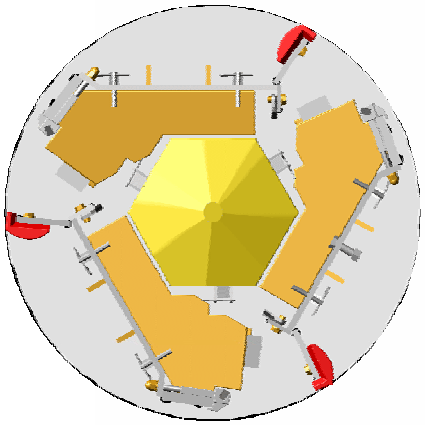
What is an Autogenous Crusher ?

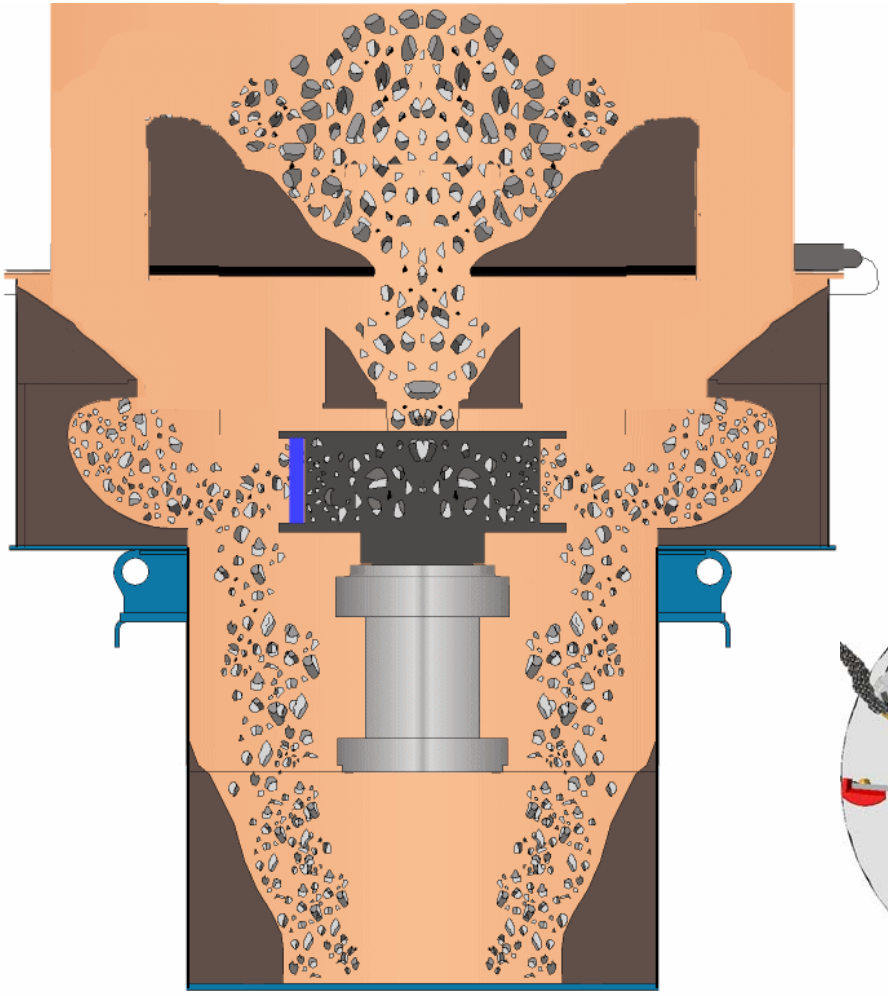
- **What mother nature achieves over millions of years (weathering, glacial deposits etc), Merlin-VSI® accomplishes in seconds.**

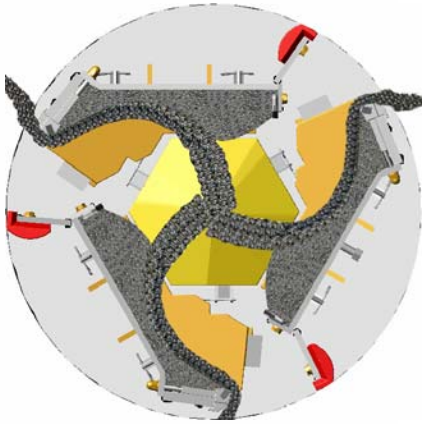
- **A third or fourth stage crusher, that crushes with a “rock on rock” crushing action.**

- **No wear parts are used to directly “crush” the rock.**

Merlin-VSI® How It Works

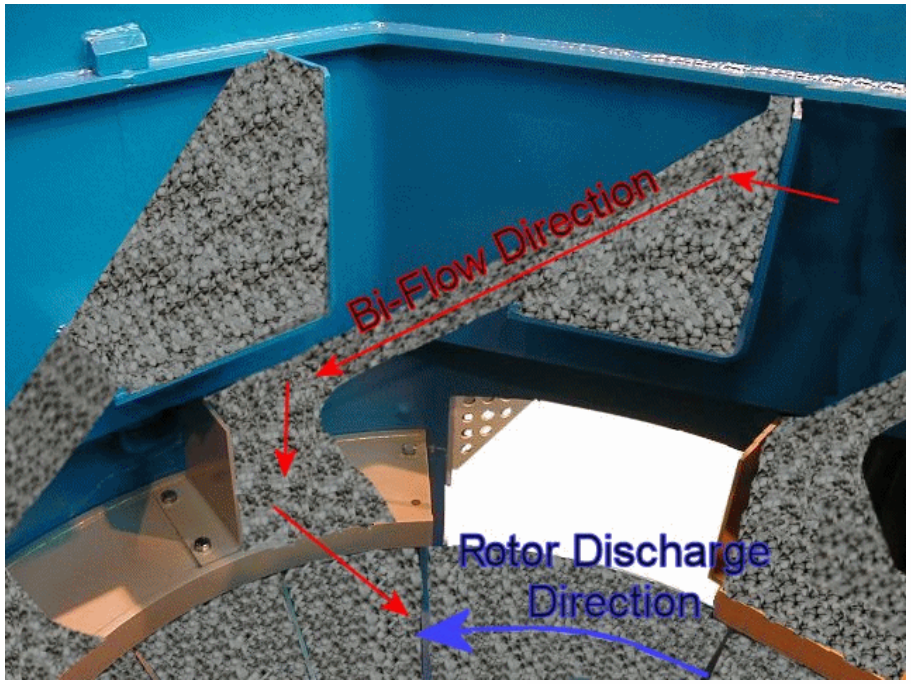


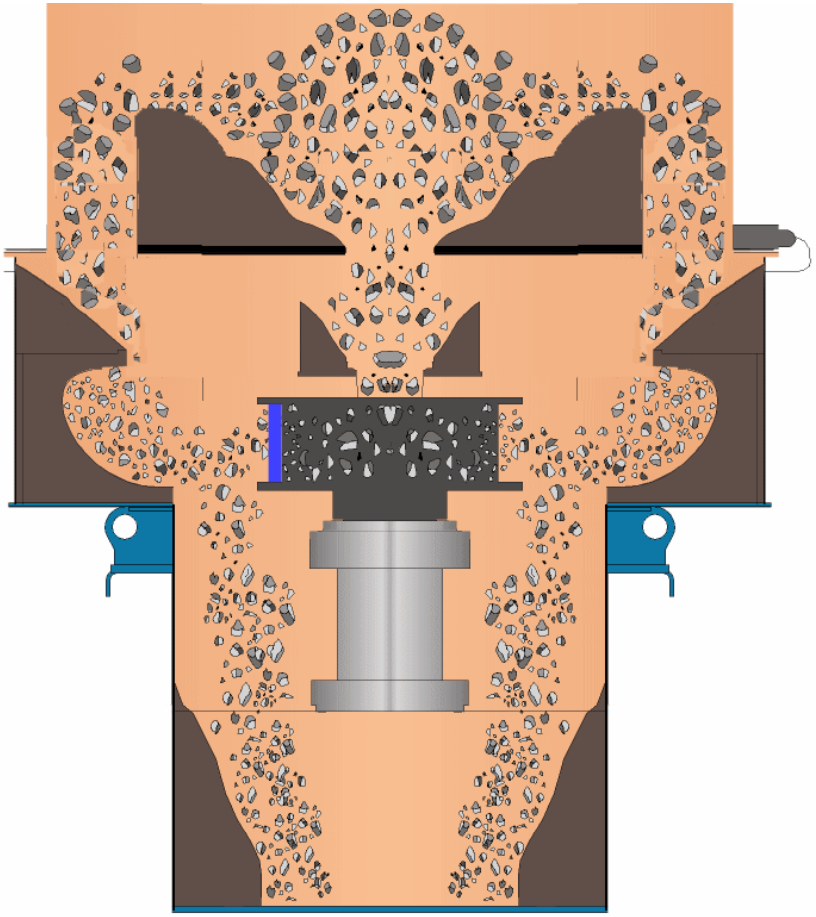




Rotor Only Feed

Merlin-VSI® How It Works



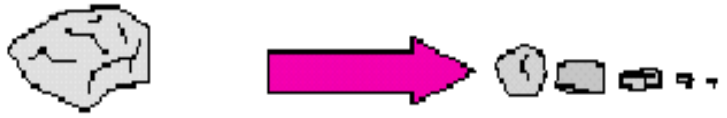


Rotor And Bi-Flow Feed

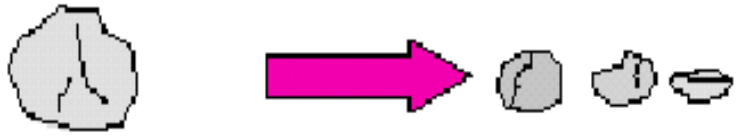
How It Works - VSI Crushing Action

To maximise all 3 types of crushing action listed below which are:-

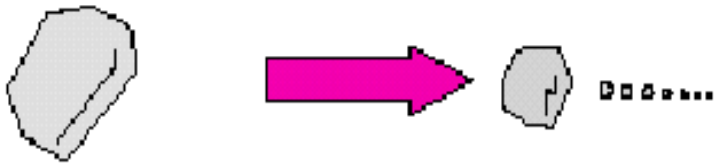
Impact



Cleavage



Attrition



Operate crusher at maximum designed tonneage throughput.

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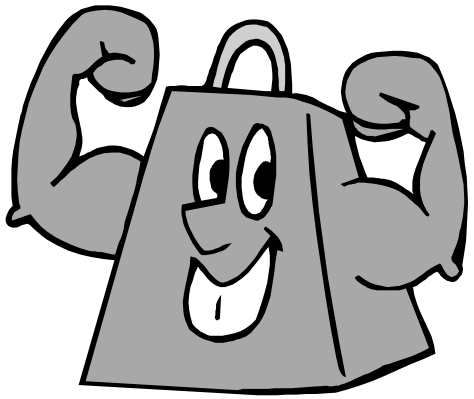
How It Works - Maximum Designed Tonneage Throughput ?

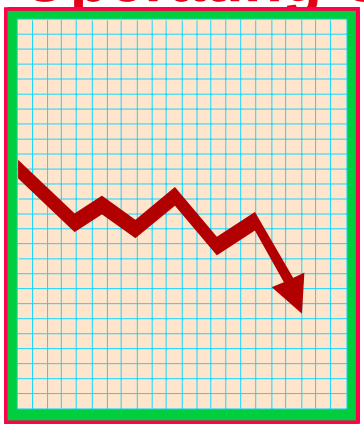
- Set the crusher at a middle to low range speed.
- Load the crusher to pull full load motor current.
- Add up to a further 17% in Bi-Flow.



You will then achieve.

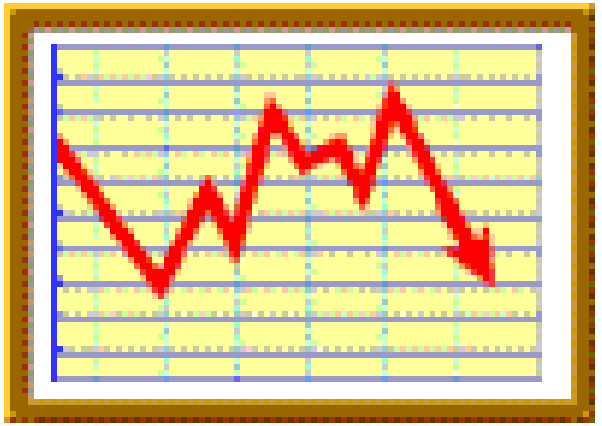
Maximum Tonneage Production

Lowest cost per Tonne Operating Costs.



How can we change the product gradation?

- Rotor speed is normally referred to in terms of “Tip Speed”. This is measured as Metres per second (M/sec.).
- Tip speeds vary with machine size and vary from 44M/sec. to 66M/sec.
- Increasing Tip speed, generally results in a “finer” gradation product.
- BUT BE AWARE !!
- Total throughput of rotor fed material will decrease, resulting in a reduced production rate.
- Operating costs increase with rotor speed.

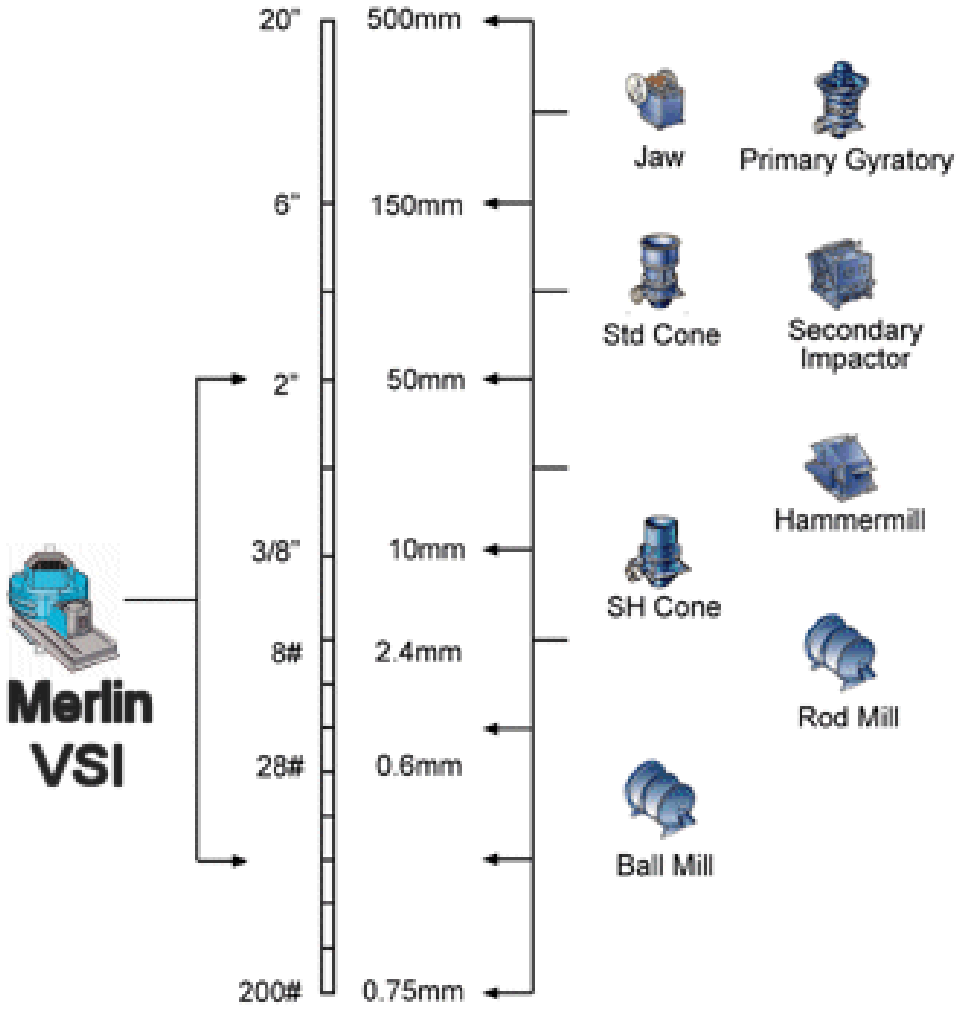


Where In The Production Line ?

The VSI – where does it belong?

If there is nothing in the feed below 1½" (37mm), then it is NOT a VSI application.

However, if the top feed is less than 1"(25mm), Nothing can compare to the VSI's efficiency.



Merlin-VSI® Capacities (nominal)

Model	Min. tonneage	Max. Tonneage	Max Feed Size	Kw Power Range
RP109D/D	445	600	55	400 - 500
RP108 D/D	251	444	55	264 - 370
RP108S/D	193	250	55	200 - 220
RP107 S/D	122	192	50	132 - 185
RP106 S/D	51	121	50	75 - 110
RP105 S/D	10	50	37	55

Why Merlin-VSI® ?

- **Autogenous rock on rock action results in unbeatable cost per tonne, especially for very abrasive materials such as Industrial minerals (Brown Fused Alumina, Zirconia, White Fused Alumnia, Calcined Bauxite etc.).**

Quartz

Why Merlin-VSI® ?

- **In applications where superior product shape is required, e.g. concrete aggregate / sand, road surfacing.**

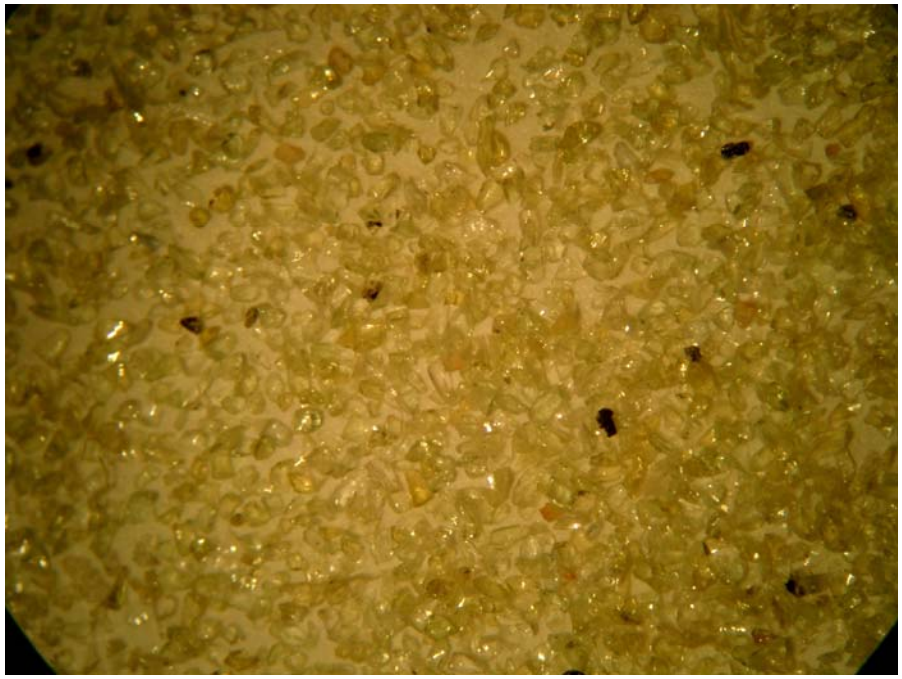
Why Merlin-VSI® ?

- **To reduce flake and elongation from preceding crushers (jaws, cones etc.).**

Why Merlin-VSI® ?

- **In recycling applications, where minimal contamination of product is required in conjunction with cubicle shape (glass cullet etc.)**

0.500 – 1.00mm



0.125 - 0.250mm

Why Merlin-VSI® ?

- For differential crushing to liberate ores (gold heap leaching etc.)
- To remove contaminants (clay, lignite, sandstone, etc.).
- Production of De-Gasser for Steel industries.
- Production of fertiliser from steel furnace slag.

Why Merlin-VSI® ?

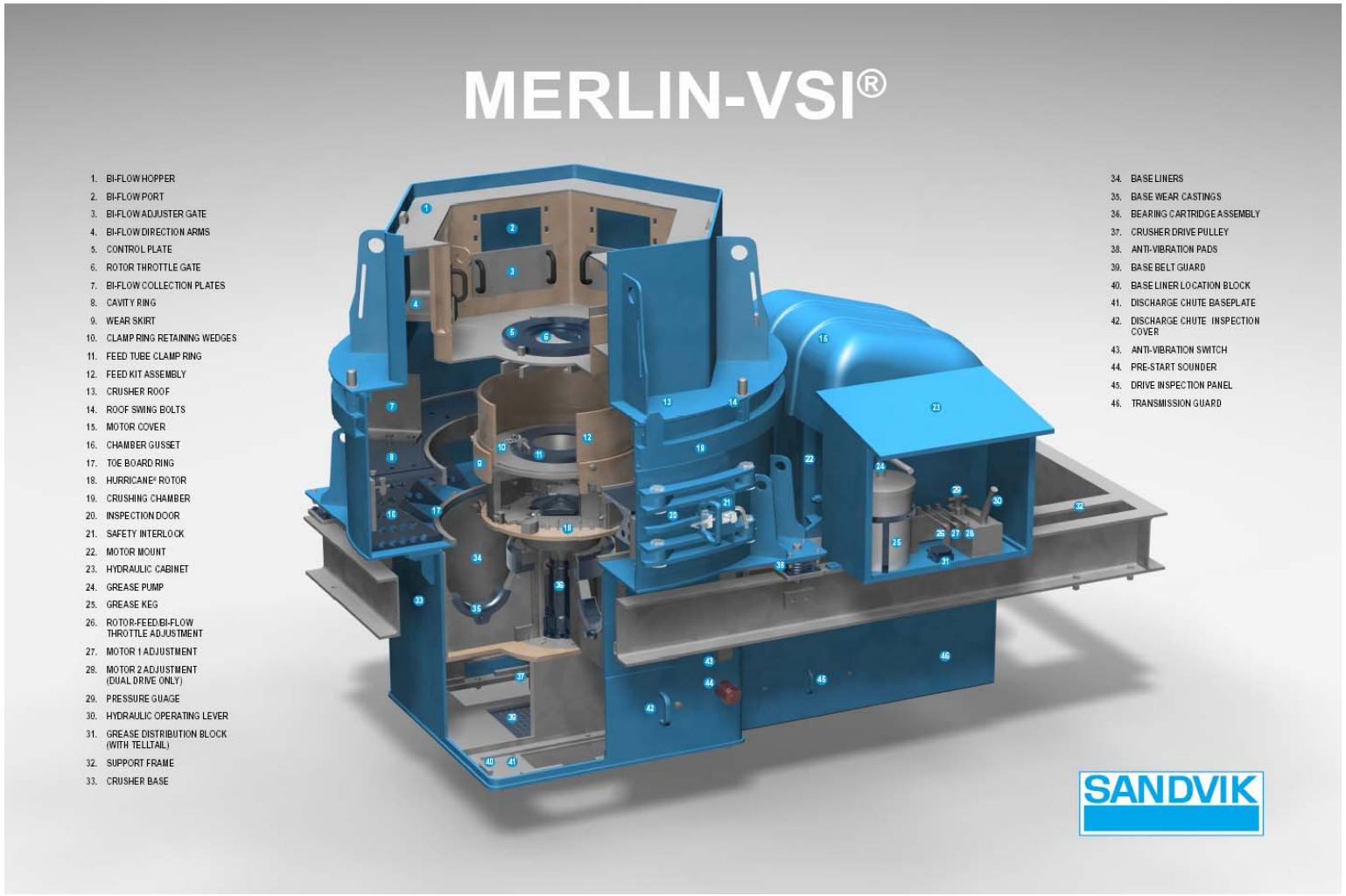
- **In Mining applications, to reduce the feed size to the ball mills, enabling huge savings to be realised in both mill charge and tonneage throughput of the mills.**

S.S.G.P.O. Kazakhstan

Why Merlin-VSI® ?

- **To manufacture sand – a growing market area due to the increased worldwide environmental restrictions for digging natural sand.**

Merlin-VSI®



THE END

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