



## TRIO TV SERIES VERTICAL IMPACT CRUSHERS

Highly Efficient Crushing Solutions



TRIO offers World Class Design, Engineering and Manufacturing to provide high value solutions for your crushing, screening, washing and material handling requirements.

The core goal of TRIO Engineered Products, Inc. is to pursue product improvement, product quality, and provide our customers with the most cost-effective equipment solutions.

## TRIO - Building Solutions Together



TRIO continues to expand as a world-class designer & manufacturer of crushers, screens, washers, and conveyors for the aggregate, mining, recycling, and industrial minerals industries.

TRIO strives to provide the most rugged, robust, and reliable equipment for the most demanding applications. TRIO provides customized high value solutions according to our customers' needs, from single machines to stationary or portable plants, including turnkey projects.

### TRIO: Creates Value for You

TRIO Vertical Shaft Impactors are a combination of quality, reliability, and performance, providing an extra long service life while operating in the most demanding applications and extreme conditions.

TRIO Vertical Shaft Impact Crushers offer customers a low cost crusher alternative that has the ability to work in a wide range of applications shaping material; making a cubical product and producing a high percentage of fractured faces.

TRIO TV Series Impactors provide outstanding performance for fine crushing applications and can be widely applied in mining, recycling, industrial minerals and aggregate industry settings.



## High Performance

TRIO's vertical shaft impact crushers utilize the most advanced design features, giving them superior performance and maximum flexibility. TV Series crushers are tertiary or quaternary stage crushers, which can be applied in the most demanding applications processing ores, minerals and aggregates.

All TRIO TV Series crushers are convertible between three styles of crushing chamber designs for maximum flexibility. Configuration options include open shoe table and anvil ring, enclosed rotor and anvil ring, and enclosed rotor and rock shelf. This maximizes flexibility and allows the crusher to be configured as needed to achieve the highest performance possible.

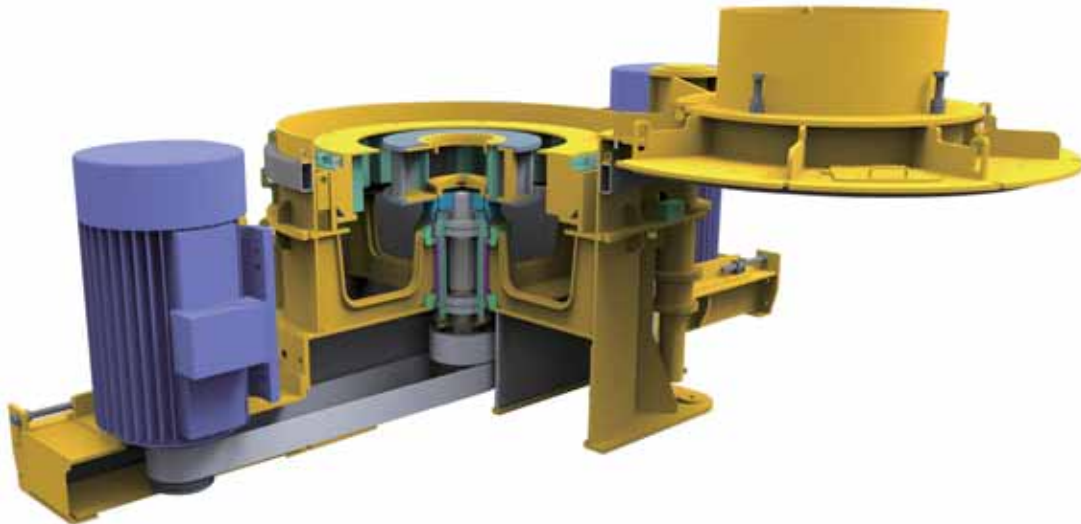


## Features

- High production capacity
- Multiple configuration crushing chambers
- High quality product gradation
- Easy wear parts exchange
- Safe & easy maintenance access



## INNOVATIVE RELIABLE DESIGN



Standard features on all TRIO VSI's include a large accessible receiving hopper; adjustable feed diverter insures even feed distribution; externally adjusted feed tube with a convenient inspection door mounted on the lid provides for safe and easy inspection access.

TRIO VSI's are equipped with factory plumbed water stub-outs that can be used as a water spray system to eliminate wet material buildup, or as a dust suppression system. TRIO's innovative air transfer system allows excess discharge air to be re-circulated to assist with dust control.

Electrical motor mounts are provided with easy adjustment hardware. An off-set drive arrangement reduces motor thrust loads the on drive components. The integral solid v-belt drive guard prevents dust intrusion and end venting of drive assembly provides cooling to the V-belt drive. A V-belt inspection port insures easy access to check proper belt tension.

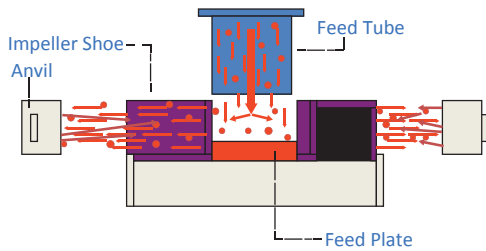
TRIO uses top and bottom oil lubricated spherical, self-aligning roller bearings with a drop in style bearing assembly. The bearing cartridge is mounted within the main frame housing which supports the cartridge at the top and bottom of the housing. This rigid heavy duty construction method is especially important with high speed applications.



## VERSATILE APPLICATIONS

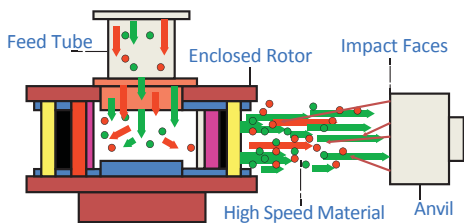
For Soft and/or Non - Abrasive Materials

### Steel on Steel "SOS"



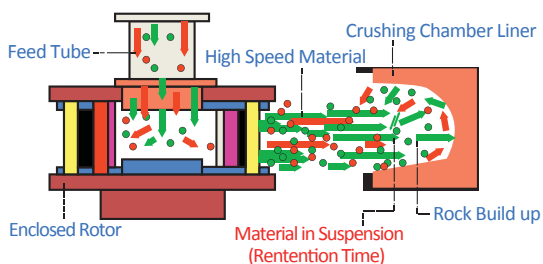
The Steel on Steel "SOS" configuration is recommended when: Crushing low abrasive materials such as limestone in secondary and tertiary crushing applications with larger feed sizes.

### Rock on Steel "ROS"



The Rock on Steel "ROS" configuration is recommended when: Crushing low abrasive materials such as limestone in tertiary and quaternary applications where a higher rotor speed is necessary to achieve additional fines production. Additional speed or energy is also necessary when feeding smaller size material.

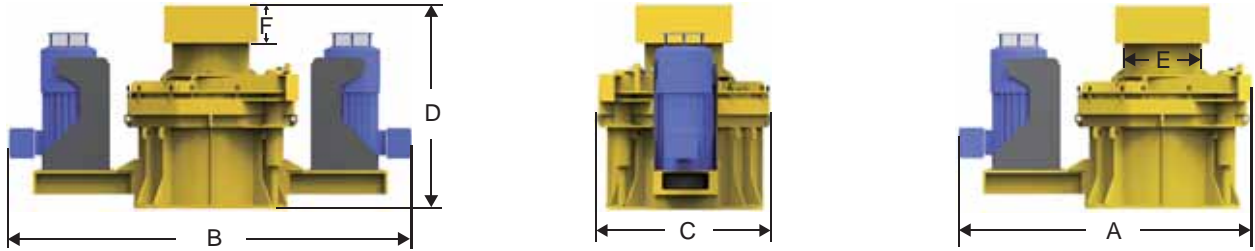
### Rock on Rock "ROR"



The Rock on Rock "ROR" configuration has the widest application range of all VSI crushing chambers. Only the "SOS" configuration has a larger feed acceptance size. Recommended applications for the "ROR" VSI configuration are: Material shaping; differential crushing; Tertiary and quaternary crushing applications, where fractured faces, particle shape and fines production are the primary objectives.

In the "ROR" configuration even hard highly abrasive materials can be crushed economically. Maybe one of the most important aspects of the "ROR" crushing chamber is that both the rotor and rock box maintain the same shape and produce a more consistent shape and graded product than crushers with wear parts that change shape as they wear.





MODEL	A	B	C	D
TV65	2891mm	n/A	1800mm	2443mm
TV85	3645mm	5035mm	2240mm	2794mm
TV95	3700mm	5035mm	2240mm	2905mm

MODEL	MAX POWER ALLOWED		*WEIGHT		** MAX FEED SIZE	SPEED RANGE	*** MAX CAPACITY	
	HP	KW	LBS	KG	MM	RPM	STPH	MTPH
TV65-ROR-SD	220	160	17,688	8,040	up to 40	1,800-2,700	200	180
TV65-ROS-SD	220	160	17,688	8,040	up to 40	1,800-2,700	200	180
TV85-ROR-SD	300	220	26,180	11,900	up to 50	800-1,800	350	315
TV85-ROR-DD	150 x 2	110 x 2	29,040	13,200	up to 50	800-1,800	400	360
TV85-ROS-SD	350	250	30,580	13,900	up to 40	800-1,800	350	315
TV85-ROS-DD	200 x 2	160 x 2	34,056	15,480	up to 40	800-1,800	400	360
TV85-SOS-SD	350	250	31,460	14,300	up to 90	800-1,400	350	315
TV85-SOS-DD	250 x 2	200 x 2	35,156	15,980	up to 90	800-1,400	500	450
TV95-ROR-SD	400	315	28,248	12,840	up to 63	800-1,800	400	360
TV95-ROR-DD	350 x 2	250 x 2	34,320	15,600	up to 63	800-1,800	600	540
TV95-ROS-SD	400	315	34,848	15,840	up to 63	800-1,800	400	360
TV95-ROS-DD	350 x 2	250 x 2	40,920	18,600	up to 63	800-1,800	600	540
TV95-SOS-SD	400	315	35,948	16,340	up to 125	800-1,300	400	360
TV95-SOS-DD	350 x 2	250 x 2	42,020	19,100	up to 125	800-1,300	600	540

\*Machine weight shown does not include drive motor package

\*\*Max Feed size; longest one way dimension-is subject to; application ,RPM required and power installed.

\*\*\*Results may vary depending on feed material gradation, moisture content, friability, RPM required, power installed, and application. Please consult TRIO's application department for specific capacity for your application.

## COMPREHENSIVE SOLUTIONS

TRIO can provide not only key single machines, but also complete crushing, screening, washing, and material conveying solutions. We take your investment scale, working environment, capacity and product gradation requirements into consideration to provide a customized solution. Our optimized solutions include machine model selection, operating simulation, and on-site layout drawings.

## GLOBAL SERVICE & SUPPORT

Combined with, off-the-shelf availability, Global distribution for rapid delivery and Superior quality, TRIO replacement parts, and skilled service support personnel make TRIO a valued partner in the global mining and aggregate industries.

All TRIO products are assembled and test run in our factory to ensure a fast and efficient installation, creating extra value for you. We also provide professional training for maintenance and operations personnel to insure smooth and efficient plant operations along with safe and easy maintenance.





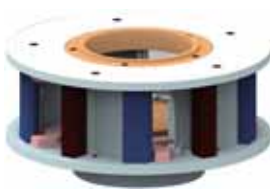
**SAFE EFFECENT OPERATION**



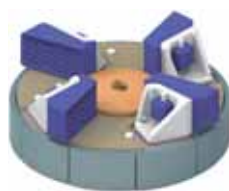
TRIO provides as standard equipment an independent modular oil lubrication skid with built-in heating and cooling systems to provide superior bearing lubrication. The lubrication unit is equipped with oil pump, directional selector valves; pressure and temperature gauges; oil filter and incorporates a flow meter and temperature sensors with inter-lock safety shut downs for out of tolerance conditions.

The Lubrication skid also provides power to the crusher lid lifter allowing full crushing chamber access via the hydraulically operated lid opening cylinder. The innovative swing bolt design allows quick access of the lid assembly making inspection and wear parts replacement, safe and easy. A Micro Switch incorporated into the lid opening system prevents the crusher from start up during inspection or maintenance.

A vibration sensor is standard equipment on all TRIO VSI crushers to shut down feed to the crusher if excess vibration is present. This photo also shows the Lid opening safety micro switch.



Shoe Table



Enclosed Rotor



Anvil Ring



Rock Shelf

The open shoe table uses bolt-on and pin-on attachments for the wear shoes and are available in 4 or 6 shoe configurations. Shoes are available in high chrome wear castings and other metallurgies.

Enclosed Rotors with 4, 5, 6 or 7 ports are factory balanced. Drop-in replacement parts are utilized for faster maintenance.

Anvil Rings utilize a drop-in parts design and the entire assembly lifts out for safe and easy parts replacement.

The Rock Shelf designed crushing chamber with hybrid gusseting is a drop-in cartridge type of exchange.



## CRUSHERS

CT Series Jaw Crusher  
TC Series Cone Crusher  
APS& APP Series Impact  
Crusher  
TV Series VSI Crusher

## SCREENS

TIH, TIO&TIOSP Series  
Inclined Screen  
TTH Series Horizontal  
Screen  
TBSS& TBSD Series Banana  
Screen

## PORTABLE PLANTS

Track mounted portable  
plants  
Wheel mounted portable  
plants

## PLANT SOLUTIONS

'Turn-key' projects

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