The History of the VSI Crusher

In crisp blackness of an early summer night in 1964, my father Mason and I were in sleeping bags looking at the stars while lying in the bed of a Chevrolet pickup. We had just finished an 18 hour shift of welding hard face repair to a roll crusher that was being used to provide material for the Heron Dam project near Chama, New Mexico. I was talking with my Dad about a better way to make "chips and sand" than the methods in use at the time. After some research I found two crushers available, a Tornado and a Simplicity D'cintegrator. Both of these crushers had a terrible reputation of self destructing and enormous parts usage if and when they did work.

We asked Mr. Les Edminister, the owner of West Coast Alloys (WCA), if he could provide a new type crusher part made of the same alloy as the hard face welding rod he was making for our welding process. Les thought that he could and involved all his foundry management in solving the problem. I began the design of a crusher that would use parts made of this high grade alloy. The first crusher was a "basic" VSI in concept. We learned a great deal about manufacturing and applications since our first crusher was built in 1967, but that first machine is still running in a mine in New Mexico. CEMCO continued to build the Turbo™ Vertical shaft impact crusher and entered into an agreement with WCA to also build the crushers that we had designed. CEMCO felt that WCA was a good choice because they had a dealer network and it would be good to build the crushers in two places to better service the USA.

There were others that interacted with WCA that also sought to use CEMCO ideas to build their own VSI crushers. Drawings of the CEMCO Turbo crusher ended up in the hands of Spokane Foundry, who began building their own version of a VSI, the Spokane Crusher, in 1972. CANICA crushers entered the market with their copy in 1974 and ISC crushers came along in 1984, intermixing methods from CANICA and Spokane. As employees moved from one company to another, the Cedar Rapids (El Jay) became a direct copy of the Spokane crusher. Although our competitors were much better located to sell into the aggregate market, as they rapidly grew our competitors sacrificed quality, innovation and integrity for corporate growth and sales. 40 years later CEMCO's products still lead the industry in innovative design.

The Premier Manufacturer of Vertical Shaft Impact Crushers
Superior Service & Quality Since 1962

We are proud of our high quality crushers, and the incredible progress we have made in processing hard abrasive materials from small tonnages to tonnages that exceed 2000TPH. We now handle feed sizes that range from "superfines" to size in excess of ten inches. We continue to be a principal equipment supplier within the aggregate industry but today our VSI Crusher processes materials in a variety of industrial applications, including energy production and recycling, in many countries of the world.

Neil Hise - President
Principles of Operation

Feed material drops through the feed tube onto the impeller table or enclosed rotor which, through centrifugal force, which throws the material against stationary anvils made up of composite alloys. When the rock impacts the anvils, it shatters along natural stress lines, creating a uniform, cubical product. This method of crushing is simple and economical to operate.

VSI Benefits

- High throughput capacity;
- Reduced Energy Costs;
- Cubical shaped product;
- Reduces "slabby" or slivered material output;
- Meets constantly changing state DOT specifications;
- Consistently produces product in a tight gradation range;
- High Product Yield;
- Produces intermediates and fines;
- Simple maintenance;
- Low wear cost per ton.

The Science Behind VSI Crushing

The Science in Vertical Shaft Impact (VSI) crushing is based on the fundamental principle of conservation of energy.
In order to provide the most energy efficient crusher on the market, CEMCO considers the complexity of three dimensional collision forces and investigates the projectile of the material by taking into account five major physical components:

1. Free fall of a body with variable mass and geometrical configuration;
2. Conversion of energy and momentum;
3. Internal and external ballistic properties including the projectile's initial velocity and impact force over time;
4. Conversion of the physical properties of solid bodies into a fluid model and replacing the classical Newton's physics with Bernoulli's dynamic-kinematics of fluids;
5. Friction.

The five major physical components of the VSI are employed into a three dimensional real time mathematical model representing functional logic relationships. A mathematical model is then utilized to observe the collision process and forces to reveal solutions for a better final product, higher energy efficiency and a lower wear cost. By using advanced next generation computer applications, CEMCO is able to import the mathematical model or CAD programs such as Solidworks and Matlab.
CEMCO Turbo™ VSI Crusher Features

Wear Resistant adjustable feed tube maximizes throughput and ensures that all feed material is processed through Superchipper™ or Shoe Table.

Optional V-Twin™ motor design minimizes cyclic vibration and correctly loads pedestal bearings for more power and longer pedestal life.

Hydraulic lid lifter and camlock system provide quick internal access making routine inspection and maintenance easy, reducing downtime.

Interchangeable crushing chambers can accommodate several rotor / anvil ring combinations for a broader range of applications.

CEMCO’s upper and lower double row spherical bearing pedestal system has the longest operational life of any VSI crusher. It is oil lubricated with a filtered system.
Customize Your Crusher

CEMCO has been designing and manufacturing crushing solutions since 1962. Our company has hundreds of crusher installations in 26 countries around the world. We understand that not all crushing applications are the same. Therefore, we offer a large variety of options to customize each crusher to produce the customer's specific product gradation. CEMCO Turbo™ VSI crushers are proven in extreme environmental conditions and can be equipped to process wet, dry or sticky material in extreme heat or cold. CEMCO offers self contained diesel powered portable units for remote installations and optional dust control systems.

Optional Packages

- Trailer or Skid Mounted Units;
- Custom Stands;
- Custom Conveyors;
- Dust Control Systems;
- Internal Wet Kits for Sticky Material;
- Oil Coolers and Oil Heaters;
- Variable Frequency Drives;
- Generators and Diesel Motors;

TURBO™ 80 Portable Unit with Variable Frequency Drive

TURBO™ 54 Portable Unit with GenSet Power Supply

TURBO™ 54 Custom Structure
### Model T-35 (Single Drive Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>5,500 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: 1&quot;, Shoe Table: 1&quot; - 1.5&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>75 - 100</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>18 inches</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>18 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>5 - 50 TPH</td>
</tr>
</tbody>
</table>

### Model T-54 (Single Drive Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>11,000 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: 1.5&quot;, Shoe Table: 2&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>150 - 250</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>27 inches</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>27 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>30 - 125 TPH</td>
</tr>
</tbody>
</table>

### Model T-70 (Single Drive Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>15,500 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: 2&quot;, Shoe Table: 3&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>200 - 300</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>32 inches</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>32 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>50 - 150 TPH</td>
</tr>
</tbody>
</table>

### Model T-80 (Single & V-Twin™ Drives)

<table>
<thead>
<tr>
<th>Weight</th>
<th>25,200 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: 2.5&quot;, Shoe Table: 4&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>250 - 400 Single, 300 - 600 Dual</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>35 inches</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>35 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>100 - 275 TPH</td>
</tr>
</tbody>
</table>

### Model T-96 (Single & V-Twin™ Drives)

<table>
<thead>
<tr>
<th>Weight</th>
<th>27,900 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: 3&quot;, Shoe Table: 4&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>250 - 400 Single, 400 - 800 Dual</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>39 inches</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>38 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>150 - 450 TPH</td>
</tr>
</tbody>
</table>

### Model T-128 (V-Twin™ Drives Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>41,800 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Rotor: N/A, Shoe Table: 6&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>600 - 800 Dual</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>N/A</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>41 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>500 - 900 TPH</td>
</tr>
</tbody>
</table>

### Model T-160 (V-Twin™ Drives Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>56,400 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Shoe Table: 7&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>850 - 1000 Dual</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>N/A</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>48 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>600 - 1500 TPH</td>
</tr>
</tbody>
</table>

### Model T-175 (V-Twin™ Drives Only)

<table>
<thead>
<tr>
<th>Weight</th>
<th>72,800 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Size</td>
<td>Shoe Table: 7&quot;</td>
</tr>
<tr>
<td>HorsePower</td>
<td>800 - 1000 Dual</td>
</tr>
<tr>
<td>Superchipper™ Diameter</td>
<td>N/A</td>
</tr>
<tr>
<td>Shoe Table Diameter</td>
<td>48 inches</td>
</tr>
<tr>
<td>Max Feed Tonnage</td>
<td>600 - 1500 TPH</td>
</tr>
</tbody>
</table>

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage. The Performance data provided is for general guidance purposes only and does not constitute to a contract.*
Model T-35 (Single Drive Only)

Dry weight, (crusher only) including motor (pictured above) 5,500lbs (2,495kg)

Application Specifications

Maximum Feed Size Enclosed Rotor 1” (25mm)
Maximum Feed Size Shoe Table 1.5” (40mm)

Rotor/Table Operation Range

2,000 - 2,600 RPM*

Crusher Capacity

Maximum Feed Tonnage 50 TPH (45MTPH)*

Motor Horsepower

75 HP (56 kW)
100 HP (75kW)

Enclosed Rotor Diameter 18” (457mm)
Impeller Shoe Table Diameter 18” (457mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.

The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-54 (Single Drive Only)

Dry weight, (crusher only) including motor (pictured above) 11,000lbs (4,990 kg)

Application Specifications

Maximum Feed Size Enclosed Rotor 1.5" (40mm)
Maximum Feed Size Shoe Table 2" (50mm)

Rotor/Table Operation Range

1,200 - 1,950 RPM*

Crusher Capacity

Maximum Feed Tonnage 125 TPH (113 MTPH)*

Motor Horsepower

150 HP (112 kW)
200 HP (149 kW)
250 HP (187 kW)

Enclosed Rotor Diameter 27" (686mm)
Impeller Shoe Table Diameter 27" (686mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.
The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-70 (Single Drive Only)

Dry weight, (crusher only) including motor (pictured above) 15,500lbs (7,030 kg)

Application Specifications

Maximum Feed Size Enclosed Rotor 2” (50mm)
Maximum Feed Size Shoe Table 3” (75mm)

Rotor/Table Operation Range

1,200 - 1,850 RPM*

Crusher Capacity

Maximum Feed Tonnage 150 TPH (136 MTPH)*

Motor Horsepower

200 HP (149 kW)
250 HP (187 kW)
300 HP (224 kW)

Enclosed Rotor Diameter 32” (813mm)
Impeller Shoe Table Diameter 32” (813mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.
The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-80 (Single & V-Twin Drive)

Dry weight, (crusher only) including motor (V-Twin pictured above) 25,200bs (11,430 kg)

Application Specifications

Maximum Feed Size Enclosed Rotor 2.5" (65mm)
Maximum Feed Size Shoe Table 4" (100mm)

Rotor/Table Operation Range

1,250 - 1,650 RPM*

Crusher Capacity

Maximum Feed Tonnage 275 TPH (250 MTPH)*

Motor Horsepower

250 HP (187 kW) to 400 HP (298 kW) Single Drive
500 HP (373 kW) to 800 HP (597 kW) Dual Drives

Enclosed Rotor Diameter 35" (889mm)
Impeller Shoe Table Diameter 35" (889mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage

The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-96 (Single & V-Twin Drive)

Dry weight, (crusher only) including motor (V-Twin pictured above) 27,900bs (12,655 kg)

Application Specifications

Maximum Feed Size Enclosed Rotor 3" (75mm)
Maximum Feed Size Shoe Table 4" (100mm)

Rotor/Table Operation Range

1,250 - 1,650 RPM*

Crusher Capacity

Maximum Feed Tonnage 450 TPH (408 MTPH)*

Motor Horsepower

250 HP (187 kW) to 400 HP (298 kW) Single Drive
500 HP (373 kW) to 800 HP (597 kW) Dual Drives

Enclosed Rotor Diameter 39" (991mm)
Impeller Shoe Table Diameter 38" (965mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.
The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-128 (V-Twin Drive Only)

Dry weight, (crusher only) including motor (V-Twin pictured above) 41,800bs (18,960 kg)

**Application Specifications**

- Maximum Feed Size Enclosed Rotor N/A
- Maximum Feed Size Shoe Table 6” (150mm)

**Rotor/Table Operation Range**

800 - 1,300 RPM*

**Crusher Capacity**

- Maximum Feed Tonnage 900 TPH (816 MTPH)*

**Motor Horsepower**

- 600 HP (448 kW) to 800 HP (597 KW) Dual Drives
- Enclosed Rotor Diameter N/A
- Impeller Shoe Table Diameter 41” (1,041mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.

The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-160 (V-Twin Drive Only)

Dry weight, (crusher only) including motor (V-Twin pictured above) 56,400bs (25,583 kg)

Application Specifications
- Maximum Feed Size Enclosed Rotor N/A
- Maximum Feed Size Shoe Table 7" (178mm)

Rotor/Table Operation Range
- 500 - 1,000 RPM*

Crusher Capacity
- Maximum Feed Tonnage 1,500 TPH (1,360 MTPH)*

Motor Horsepower
- 800 HP (597 kW) to 1,000 (746 KW) Dual Drives
  - Enclosed Rotor Diameter N/A
  - Impeller Shoe Table Diameter 48" (1,219mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.
The Performance data provided is for general guidance purposes only and does not constitute to a contract.
Model T-175 (V-Twin Drive Only)

Dry weight, (crusher only) including motor (V-Twin pictured above) 72,800 lbs (33,022 kg)

Application Specifications

Maximum Feed Size Enclosed Rotor N/A
Maximum Feed Size Shoe Table 7” (178mm)

Rotor/Table Operation Range

500 - 1,000 RPM*

Crusher Capacity

Maximum Feed Tonnage 1,500 TPH (1,360 MTPH)*

Motor Horsepower

800 HP (597 kW) to 1,000 (746 KW) Dual Drives

Enclosed Rotor Diameter N/A
Impeller Shoe Table Diameter 48” (1,219mm)

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.
The Performance data provided is for general guidance purposes only and does not constitute to a contract.
# Overall Crusher Dimensions and Weights

<table>
<thead>
<tr>
<th>TURBO MODEL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 SINGLE</td>
<td>in</td>
<td>80.00</td>
<td>10.00</td>
<td>12.00</td>
<td>97.25</td>
<td>31.31</td>
<td>49.50</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>203</td>
<td>25</td>
<td>30</td>
<td>247</td>
<td>80</td>
<td>126</td>
</tr>
<tr>
<td>54 SINGLE</td>
<td>in</td>
<td>96.25</td>
<td>18.00</td>
<td>12.00</td>
<td>131.00</td>
<td>48.00</td>
<td>76.00</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>245</td>
<td>46</td>
<td>30</td>
<td>333</td>
<td>122</td>
<td>191</td>
</tr>
<tr>
<td>70 SINGLE</td>
<td>in</td>
<td>98.25</td>
<td>19.25</td>
<td>12.00</td>
<td>138.00</td>
<td>49.50</td>
<td>79.25</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>250</td>
<td>49</td>
<td>30</td>
<td>351</td>
<td>126</td>
<td>201</td>
</tr>
<tr>
<td>80 SINGLE</td>
<td>in</td>
<td>108.63</td>
<td>19.25</td>
<td>12.00</td>
<td>139.38</td>
<td>51.00</td>
<td>82.38</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>276</td>
<td>49</td>
<td>30</td>
<td>354</td>
<td>130</td>
<td>209</td>
</tr>
<tr>
<td>80 V-TWIN</td>
<td>in</td>
<td>108.63</td>
<td>19.25</td>
<td>12.00</td>
<td>164.75</td>
<td>51.00</td>
<td>82.38</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>276</td>
<td>49</td>
<td>30</td>
<td>418</td>
<td>130</td>
<td>209</td>
</tr>
<tr>
<td>96 SINGLE</td>
<td>in</td>
<td>121.00</td>
<td>19.25</td>
<td>12.00</td>
<td>165.50</td>
<td>57.25</td>
<td>9.00</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>307</td>
<td>49</td>
<td>30</td>
<td>420</td>
<td>145</td>
<td>234</td>
</tr>
<tr>
<td>96 V-TWIN</td>
<td>in</td>
<td>121.00</td>
<td>19.25</td>
<td>12.00</td>
<td>188.80</td>
<td>57.25</td>
<td>92.00</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>307</td>
<td>49</td>
<td>30</td>
<td>478</td>
<td>145</td>
<td>234</td>
</tr>
<tr>
<td>128 V-TWIN</td>
<td>in</td>
<td>113.00</td>
<td>28.88</td>
<td>12.00</td>
<td>205.50</td>
<td>74.50</td>
<td>101.00</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>287.02</td>
<td>73.36</td>
<td>30</td>
<td>521.97</td>
<td>169.23</td>
<td>256.54</td>
</tr>
<tr>
<td>160 V-TWIN</td>
<td>in</td>
<td>104.75</td>
<td>19.81</td>
<td>N/A</td>
<td>232.75</td>
<td>75.44</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>266</td>
<td>50</td>
<td>N/A</td>
<td>591</td>
<td>191</td>
<td>335</td>
</tr>
<tr>
<td>175 V-TWIN</td>
<td>in</td>
<td>104.75</td>
<td>19.25</td>
<td>N/A</td>
<td>249.00</td>
<td>86.00</td>
<td>146.50</td>
</tr>
<tr>
<td></td>
<td>cm</td>
<td>266</td>
<td>49</td>
<td>N/A</td>
<td>632</td>
<td>218</td>
<td>372</td>
</tr>
</tbody>
</table>

The Performance data provided is for general guidance purposes only and does not constitute to a contract.
**Possible Internal Configuration Options**

**Shoe Table / Anvil Ring**
- Medium range friable material;
- Medium to low abrasion material;
- Low to Medium recirculating load;
- Good reduction rate / Good for "chips" and sand;

**Superchipper™ / Anvil Ring**
- Low recirculating load;
- High reduction rate / High "fractured face" ratio;
- Use with high abrasion, low friability material;
- Excellent for producing sands and fines;

**Shoe Table / Rockshelf**
- Friable, low abrasion material;
- Low reduction rate / High recirculating load;
- Low percentage of "fracture face" material;

**Superchipper™ / Rockshelf**
- Good for shaping abrasive material;
- Good for light crushing;

---

**Shoe Table Data**

<table>
<thead>
<tr>
<th>Diameter (Inches - #shoes)</th>
<th>Feed Size (Max inches)</th>
<th>Capacity (TPH)</th>
<th>Crusher Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 4,5</td>
<td>1 1/2</td>
<td>5 - 50</td>
<td>T-35</td>
</tr>
<tr>
<td>27 - 4,5</td>
<td>2</td>
<td>30 - 125</td>
<td>T-54</td>
</tr>
<tr>
<td>32 - 4,5</td>
<td>3</td>
<td>50 - 150</td>
<td>T-70</td>
</tr>
<tr>
<td>35 - 4,5,6</td>
<td>4</td>
<td>100 - 275</td>
<td>T-80</td>
</tr>
<tr>
<td>38 - 4,5</td>
<td>4</td>
<td>150 - 450</td>
<td>T-96</td>
</tr>
<tr>
<td>41 - 4</td>
<td>6</td>
<td>500 - 900</td>
<td>T-128</td>
</tr>
<tr>
<td>48 - 3,4,5</td>
<td>7</td>
<td>600 - 1500</td>
<td>T-160, T-175</td>
</tr>
</tbody>
</table>

**Superchipper™ Rotor Data**

<table>
<thead>
<tr>
<th>Diameter (Inches - #ports)</th>
<th>Feed Size (Max inches)</th>
<th>Capacity (TPH)</th>
<th>Crusher Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 - 4</td>
<td>1</td>
<td>5 - 50</td>
<td>T-35</td>
</tr>
<tr>
<td>27 - 4</td>
<td>1 1/2</td>
<td>30 - 125</td>
<td>T-54</td>
</tr>
<tr>
<td>32 - 4</td>
<td>2</td>
<td>50 - 150</td>
<td>T-70</td>
</tr>
<tr>
<td>35 - 4,5</td>
<td>2 1/2</td>
<td>100 - 275</td>
<td>T-80</td>
</tr>
<tr>
<td>39 - 3,4,6</td>
<td>3</td>
<td>150 - 450</td>
<td>T-96</td>
</tr>
</tbody>
</table>

*Approximate capacities based on cubical feed, individual configurations and RPM will determine max feed tonnage.

The Performance data provided is for general guidance purposes only and does not constitute to a contract.
At CEMCO, we are committed to customer service and providing the correct crusher configuration to produce the specific product gradation that is desired. Our full scale test crushing facility can simulate six sizes of CEMCO Vertical Shaft Impact crushers and internal crusher components. We offer a comprehensive material testing plan that will find the optimal custom crusher configuration to transform your raw feed material into the finished product that is desired. Our testing includes crushing, screening, material analysis, and product gradations.

The CEMCO test program includes:

- Raw material analysis for proper feed gradation.
- A test plan based on customers requirements for desired product, Tons Per Hour (TPH), feed size, recirculating load, moisture content, and power availability.
- Recommended crusher size and configuration (Open or Closed Rotor, and throw distance).
- Detailed sieve analysis from samples of each test and physical samples for customer to review.

Test Material: What is Required?
Proper feed material samples for testing must be provided by the customer. A typical test crush requires four (4) to six (6) 55-gallon drums or a supersack or material. Some tests will require a larger quantity of material. Please contact CEMCO at 505-864-1200 to discuss the amount of test material that is needed for your specific project. CEMCO may charge a fee of $700.00 per day. This will be determined on a case-by-case basis. Samples need to be identified with: Company Name, Contact Person, Phone Number, Test Material, and a Return Address.
The CEMCO Advantage

- CEMCO is a ISO 9001:2008 certified company.
- Numerous equipment combinations offer more options to meet customer needs;
- Expedient service to customers and dealer network by qualified factory personnel;
- Excellent OEM product support on crusher parts;
- Castings are stocked at CEMCO, dealers and at foundries for quick delivery;
- CEMCO will test crush material on a full-sized crusher at our test facility;
- CEMCO will make personalized adjustments to our products to meet crushing needs;
- CEMCO meets and exceeds customer expectations when applying Turbo crushers.

At CEMCO, our goal is to provide you with the best quality, in-house, manufacturing methods including CNC machining, robotic welding, aggressive quality control and extensive post sale support. Wear parts, designed and sold by CEMCO, adhere to CEMCO's strict quality specifications. Through continuously funded wear resistance research and development, we are constantly striving to reduce our customers operating costs. CEMCO takes pride in providing quality customer service and will always go the extra mile to help customers solve problems.
Turbo™ 175 Installation Crushing Dolomite / Limestone at 1400 TPH 24 Hours a Day / 7 Days a Week.

Two Turbo™ 160's installed in a Power Plant Crushing Gob Coal For Fluidized Bed Combustion. This Power Plant Burns 1000 TPH 24 Hours a Day / 7 Days a Week.

The Largest VSI Installation in the World, 16 Dual-Motor Turbo™ 96's Crushing Gold Ore at the 3rd Largest Gold Mine on Earth. This Plant Processes 1.1 Million Tons per Month Since 1995.