TEREX | CEDARAPIDS

ElJay Rollercone® Classic and ElJay Rollercone® II

36, 45, 54, 60, 66

ELJAY ROLLERCONE®

ELJAY ROLLERCONE®
OFTEN IMITATED, NEVER EQUALED

INCREASED OUTPUT
FROM ADVANCED ENGINEERING

The TEREX | Cedarapids ElJay Rollercone® Classic and Rollercone® II set the standard for high performance cone crushers. As with most leaders, they are often imitated but never equaled. “New” innovations from competitors have usually been proven for years in the ElJay Rollercone.

The Rollercone features advanced crushing chamber technology that yields impressive capacities, fine output gradations and a highly cubical product. Rollercones produce more sized product on the first pass than any competitive cone. Couple the Rollercone’s advanced chamber technology with interchangeable liner configurations for fine or coarse crushing and you have the industry’s most versatile cone crusher.

Advanced crushing chamber technology is the result of using the proper combination of stroke, speed and head angle. All three factors are equally important to optimum cone performance.

The Rollercone hydro-pneumatic tramp iron relief system passes tramp iron efficiently and quickly. Originally invented by ElJay, the superior Rollercone design has never been equaled by competitive cone manufacturers.

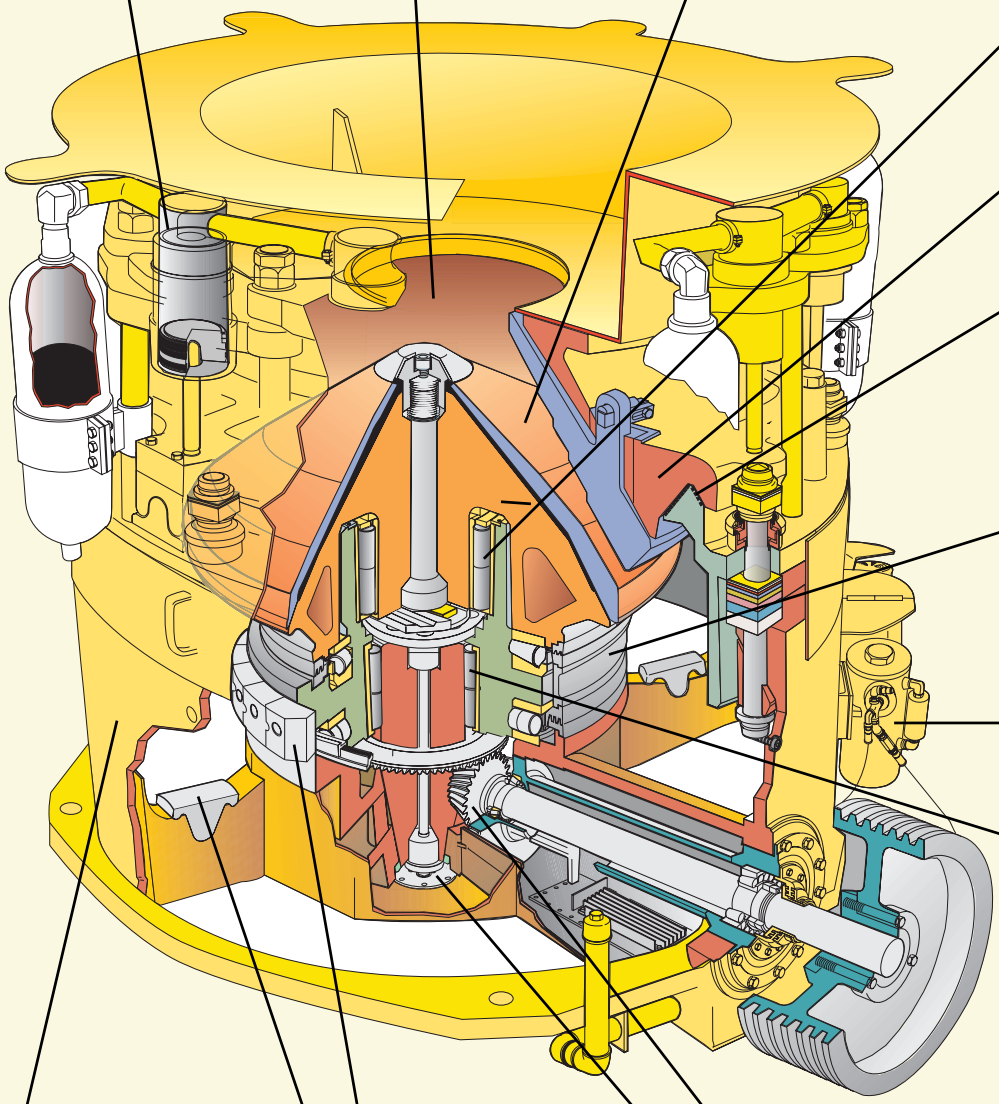
For unmatched high capacity crushing performance, field tested and proven engineering, state-of-the-art features and application versatility, the TEREX | Cedarapids ElJay Rollercone is truly the world’s leading cone crusher.

The Rollercone II is capable of increasing output up to 35%.

Heavy-duty tramp iron relief assembly with larger-bore relief cylinders allows lower operating pressures. Large-diameter tubing with minimum restrictions limit pressure spikes. High hydro-pneumatic hold-down force permits closer settings before bowl float occurs.

This full size cone features a large unobstructed feed opening to permit true choke feed. Motion at the top of the cone helps position oversize and slabs for entering the chamber.

Interchangeable crushing chambers allow conversion from standard to fine configurations with a simple liner change. No special parts are required to change chamber configuration.



Heavy-duty cone head and close tolerance bearings assure tight closed side settings at all load conditions.

Heavy-duty bonnet has thicker cross sections and bolt on stop blocks.

Bonnet support is independent of the base frame. If damaged, it can be replaced quickly and does not require extensive downtime associated with machines that have the V-seat as part of the base frame.

Roller bearings allow usage of non-contact, maintenance-free labyrinth oil seals. Close-running, deep-tapered, multi-grooved labyrinth seals are the best cone crusher oil seals available.

The main oil pump is electrically driven. All lube oil is self-contained within the crusher.

The Rollercone roller bearings have capacities far in excess of maximum load, providing a proven long service life. Highly concentrated thrust loads are spread completely around the entire bearing area. More power can be applied directly to crushing.

Heavy-duty field-proven steel base frame. State-of-the-art design ensures structural integrity.

Counterweights balance the cone allowing smooth operation with minimal vibration.

Replaceable wear resistant guards protect the struts.

Bevel gears are sized for extra production capabilities.

Anti-spin mechanism prevents spinning of cone head when empty.

ELJAY ROLLERCONE®
DURABLE, INNOVATIVE, COST EFFECTIVE

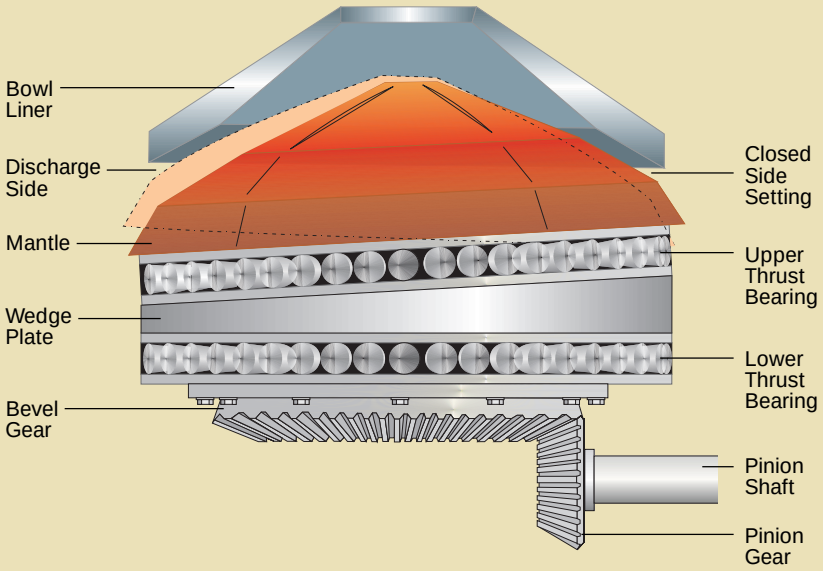
MORE CRUSHING POWER

The unique Cedarapids/ElJay rotating wedge plate transmits 80% of the force through it to direct compression crushing. A Rollercone produces more product passing the crusher's closed side setting on the first pass than any competitive cone.

The combination of the balanced wedge plate with bolt-on counterweights along with large roller thrust and radial bearings produce an action that is smooth, efficient and nearly vibration free.

The cone head rides the wedge plate with a slight eccentric motion, squeezing rock between the mantle and stationary bowl liner.

Rock is crushed as the thick part of the wedge closes the mantle on the liner, creating the closed-side setting. Crushed material discharges simultaneously as the thicker portion of the wedge moves away, creating the open side setting.



MORE SIZED PRODUCT

All Rollercone bearings are designed for capacities in excess of maximum crushing loads. Their superior bearing life has been proven in the field for over fifty years. Because of the impressive amount of net tons a Rollercone produces during the life of its bearings, it is one of the most cost effective crushers on the market.

High capacity roller bearings have a greater-than-average load carrying capacity, can withstand greater forces, minimize friction and generate a fraction of the heat, thus doing more work than bronze bushings in shaft-type cones.

The wedge plate rides on the lower thrust bearings in the base and rotates around the massive central spindle on the lower radial bearings distributing crushing load over a full 360 degrees. The upper thrust and radial bearings allow the wedge plate to rotate inside the cone head.

Due to the tighter tolerances of the wedge plate's roller bearing's —1/10 those of a bronze-bushing cone—a true setting is maintained. The tighter tolerances reduce oversize to about 20% instead of the 50% as with bronze-bushing cones when making a 1/2" (12.7 mm) minus product. This allows more feed material in the circuit with less recirculation and that means more production.

SELF-CONTAINED OIL LUBRICATION SYSTEM

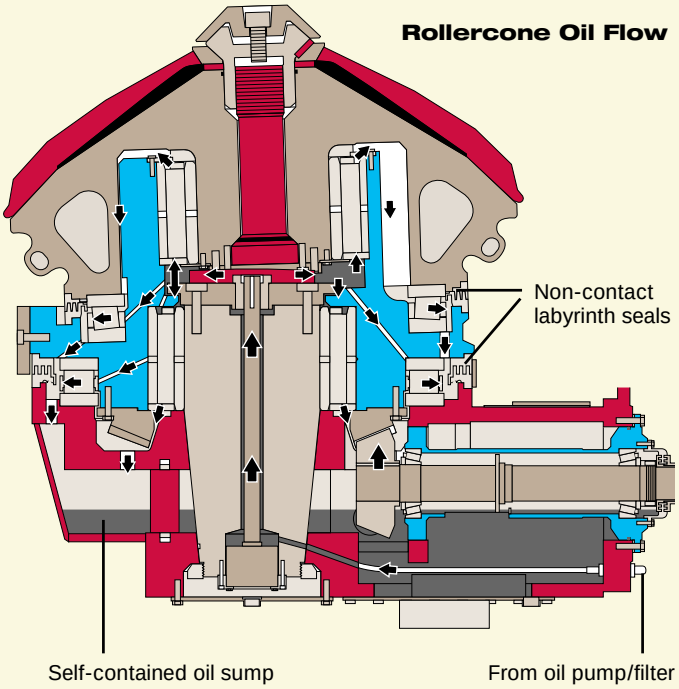
Rollercones run cooler than competitive cones. This is due to the fact that the weight and crushing stresses are spread over two radial and thrust bearings so pressure in any one area is reduced.

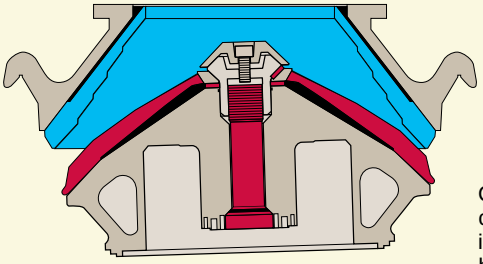
Compare this to the bronze bushings in an old style cone which must withstand all the forces often concentrated in one spot which can lead to breakdown of the oil film, heat producing metal-to-metal contact and increased tolerances.

Low friction generates less heat making less oil necessary. The 54" (1372 mm) Rollercone requires only 24 gallons (91 liters), the 45" (1143 mm) Rollercone only 16 gallons (61 liters). A comparable shaft-type cone requires up to 200 gallons (757 liters), plus needs an extra cooler to dissipate heat.

All Rollercone oil is self-contained in the crusher base. No external cooling tanks are necessary. The tightly sealed system reduces the chance of contamination by water and grit.

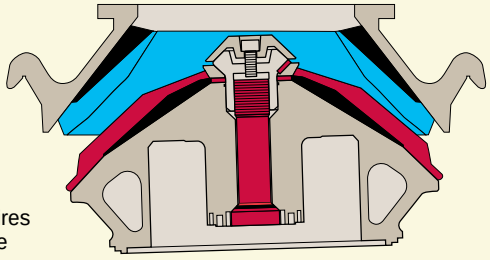
The external lubrication pump assures an adequate oil supply to the bearings prior to start-up. A fail-safe alarm horn alerts the operator if oil flow drops below the required level.





Standard Chamber

Changing crushing chambers only requires installing manganese bowl and mantle.



Fine Chamber

ONE CRUSHER FOR ALL APPLICATIONS

Rollercones feature easy-to-change crushing chambers. Changing from a standard to a fine crushing chamber is all that's required to match a Rollercone to a new application.

With several liner configurations for the fine and standard crushing chambers, Rollercones are truly a highly versatile cone crusher. Rollercone crushing chambers incorporate the same advanced engineering technology as found in all TEREX | Cedarapids products.

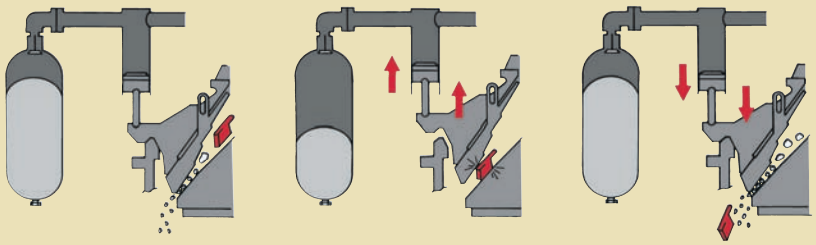
Chamber liners are designed for maximum wear life with a minimum loss of feed opening during normal lifetime operation. Liners are easily changed without dismantling the upper section or removing the cone head.

ELJAY ROLLERCONE®

THE INDUSTRY'S MOST VERSATILE CONE CRUSHER

BEST CRUSHER PROTECTION

The Rollercone's hydro-pneumatic tramp iron relief system provides unequaled protection against damage and allows much higher crushing forces. Rollercones feature larger diameter bore relief cylinders that allow high hold down force at lower operating pressures. Heavy-duty piston seals and protective wear sleeves make servicing the tramp iron relief system quick and easy. The lift on a Rollercone enables it to pass objects up to $5^{1}/_{2}$ inches (140 mm).



The hydro-pneumatic relief system was pioneered and patented by ElJay. The system offers a heavy-duty design with few moving parts that requires minimum maintenance.

The closed circuit relief system has large diameter tubing with a minimum of angles and oversized accumulators minimizing shock levels to the crusher.

The hold-down pressure of a 45" (1143 mm) Rollercone — 400,000 lbs (181,440 kg) — is 1.5 times that used on most competitive cones. That means a Rollercone can be set closer without bowl float and produce more work.

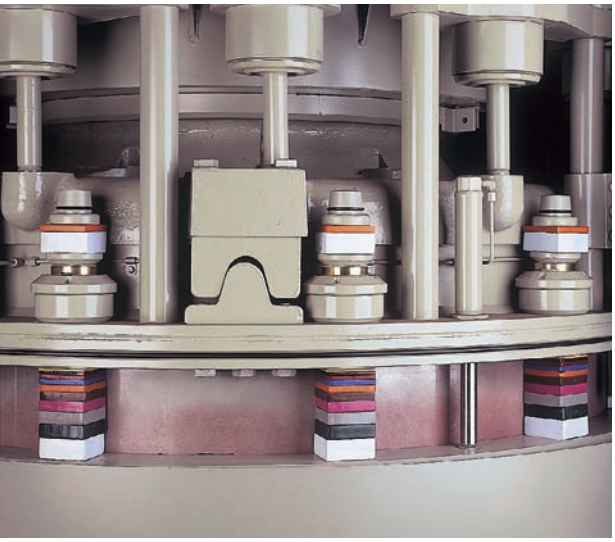
The relief system operates by forcing the bonnet upward against the system's oil pressure in the relief cylinders as an uncrushable object enters the cone's crushing chamber. The oil pressure in turn compresses a nitrogen gas bladder in the accumulator. Once the crushing cavity is cleared, the gas forces the oil back into the relief cylinder and the bonnet lowers to its original position.

This relief system also speeds clearing the cone should it ever become blocked due to power failure or other difficulty. The bonnet is raised by relieving oil pressure without loss of gas pressure. The cavity can be cleaned quickly and easily without damage to the crusher.

SOLID CONSTRUCTION

The base frame consists of a massive stationary central hub and three or more extremely strong beams joining it to the perimeter wall. The even distribution of forces on the Rollercone bearings is a big factor in the extremely long life of the bearings.

The roller bearing design minimizes frame deflection so all crushing energy is directed to the product. Concentrated bending stresses that occur in shaft type cone crushers are evenly distributed in the Rollercone. Relative placement of the bearings directs crushing forces through the bearing envelope. This eliminates all edge loading of the bearings and tipping of the cone.



QUICK ADJUSTMENT SYSTEM

Hydraulic/shim adjustment makes changing the discharge opening fast and easy. Adjustment is vertical using hydraulic rams, therefore bowl rotation is not necessary. This design requires less headroom, less weight and eliminates the problems associated with thread galling.

Exact setting is maintained by shim stacks of equal height. Shims vary in thickness and are color-coded and numbered for quick recognition. The shims have offset slots for easy installation and are interlocking.

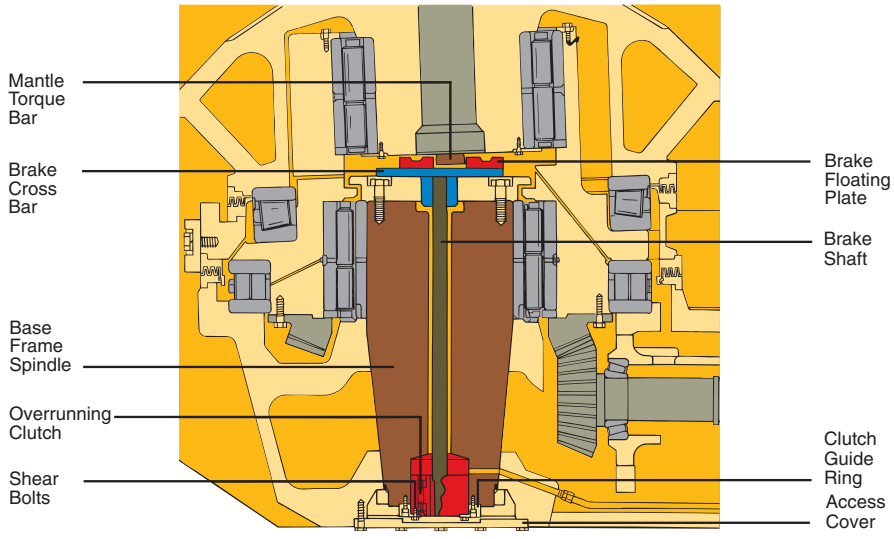
To tighten settings, release the clamp ring and raise the bonnet. Remove shims from the lower stack to establish the new setting. Removed shims are stored in the upper stack. The bonnet is then lowered and the clamp ring tightened. Tensioning of clamp bolts is done hydraulically.

NO HEAD SPIN AT START-UP

The anti-spin brake device prevents the cone head from spinning when the crusher is running empty.

During crushing the brake allows the cone head to rotate slowly to the right (clockwise) but not in the opposite direction. This provides smoother operation and eliminates unnecessary scuffing wear on the manganese at start-up.

The brake shaft is attached to an overrunning clutch at the base of the spindle. A guide ring in the mechanism has shear bolts which will break before there is any damage to the shaft or clutch.



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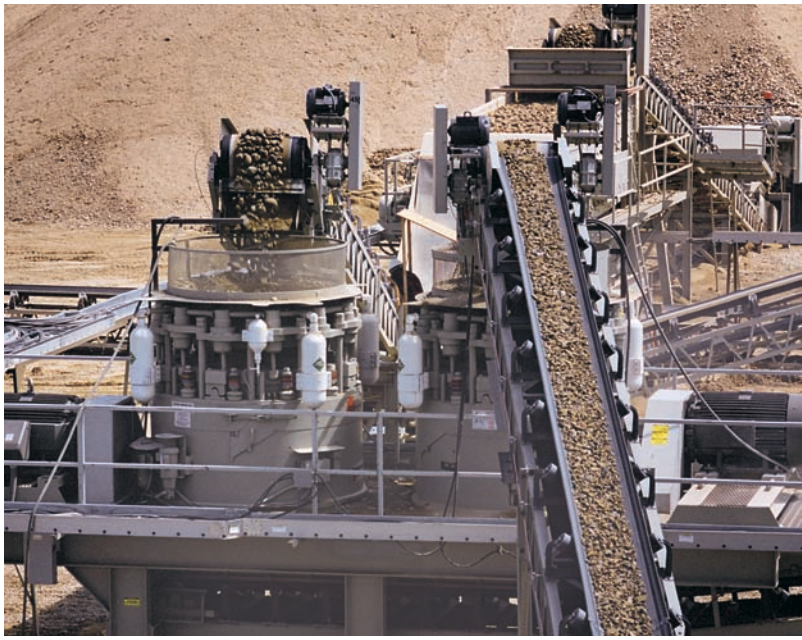
YOUR COMPETITIVE EDGE

In today's competitive environment, it's good to have high quality equipment. It's even better to know that your equipment is backed by an outstanding distributor support network with the factory behind it. That's what we mean by "Better Together" at TEREX | Cedarapids.

The partnership between you, your local distributor and TEREX | Cedarapids assures you of parts and service when you need them, technical expertise and local application knowledge. With that kind of support, both you and your equipment will perform at peak levels.

TEREX | Cedarapids, your distributor and you.
"Better Together."



TEREX | CEDARAPIDS

Cedarapids Inc
909 17th Street NE
Cedar Rapids IA 52402
USA

TEL 319 363 3511
FAX 319 399 4871
WEB www.cedarapids.com

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