**Ring Granulators**

**IMPORTANT DIMENSIONS OF RING GRANULATOR**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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**TECHNICAL SPECIFICATIONS**

- **Frame and Hopper Liners**
  - Fabricated from heavy steel plates with large inspection front and rear doors, fitted with dust tight seals. Access for further dismantling the machine. Hydraulic door opening arrangement on both sides of the machine.

- **Rotor Assembly**
  - Rotor shaft, forged and heat treated alloy steel.
  - Rotor assembly, statically/dynamically balanced to operate with minimum of vibration.

- **Crushing Rings**
  - Trapezoidal cage bars are of replaceable cast Mn-steel, ensuring free discharge. Selection of cage bars or screen plate or cage bar wear is compensated by simple adjustment to desired clearance.

- **Breaker Plate**
  - Replaceable abrasion resistant steel, depending on requirement.

- **Tramp Iron Pocket**
  - Tramp iron and uncrushables are prevented from continuing around and back into the crushing zone by a heavy deflector around and back into the crushing zone by a heavy deflector.

- **Cage Assembly**
  - Cage assembly can be easily moved by a ratchet wrench.

- **Unique Crushing Action**
  - Unique crushing action results in higher output and lower power consumption.
  - Ideal for product size of (-) 20 mm. with uniform granular product.
  - Crushing action involves minimum attrition and hence produces minimum fines.
  - Crushing action in terms of power consumption and maintenance.
  - Ideal for continuous high capacity crushing of ROM coal and other medium hard friable materials. These are specially designed for continuous high capacity crushing of ROM coal and other medium hard friable materials.

- **Lubrication**
  - Grease lubrication for small and medium size granulators.
  - Oil splash lubrication system for bigger models.
  - Positive Adjustability of cage assembly can be done while the crusher is running.

- **Construction Features**
  - Heavy duty double row spherical roller bearings with cast steel mechanism at the bottom.
  - Labyrinth type seals.
  - Heavy hinged cage shaft at top and provided with adjusting mechanism.

- **Additional Features**
  - Frame, hopper, and casing are fabricated from heavy steel plates.
  - Specialized design for high capacity crushing of coal and lignites (range from 40 to 1600 TPH).
  - Unique crushing action results in higher output and lower power consumption.
  - Ideal for product size of (-) 20 mm. with uniform granular product.
  - Crushing action involves minimum attrition and hence produces minimum fines.
  - Maximum accessibility is provided to ease the routine inspection.
Ring Granulators

TRF’s Ring Granulators are rugged, dependable units, specially designed for continuous high capacity crushing of ROM coal and other medium hard friable materials. These are ideal machines for crushing coal to a size suitable for pulverisation, in power stations.

The unique crushing action by combining impact and rolling compression as a Ring Granulator results in higher output with lower power consumption. They offer better overall economy in terms of power consumption and maintenance.

Ring Granulators are available with operating capacities from 40 to 1500 tonnes per hour and feed sizes up to 800 mm. Positive adjustment of clearance between the cage and the path of the rings is provided to compensate for wear and to adjust or maintain product gradation.

Internal parts such as breaker plate, cage bars or screen plates, crushing rings and liners are made of abrasion and shock resistant steels for optimum working life.

CONSTRUCTION FEATURES

Frame
Fabricated from heavy steel plates with large inspection front and rear doors, fitted with dust tight seals. Access for further maintenance is provided on the top. Doors on the sides above the rotor shaft facilitate removal of the rotor without completely dismantling the machine. Hydraulic door opening arrangement (optional) can be provided, if required.

Cage Frame
Fabricated from heavy steel plate and supported from heavy hinged cage shaft at top and provided with adjusting mechanism at the bottom.

Cage Adjustment
Cage assembly can be easily moved by a ratchet wrench and worm gear assembly either towards or away from the path of crushing rings. Adjustment which can be made while the granulator is in operation, provides control over the product size within permissible limits. The cage ring bearing is so located that in any adjusted position all parts of cage face are practically equidistant from the rotor assembly. This ensures even wear.

Cage Bars or Screen Plate
Trapezoidal cage bars are of replaceable cast Mn-steel, replaceable abrasion resistant steel. Selection of cage bars or screen plates depends on application.

Breaker Plate
Replaceable abrasion resistant steel, depending on requirement.

Tramp Iron Pocket
Tramp iron and uncrushables are prevented from continuing around and back into the crushing zone by a heavy deflector plate. The debris is collected in a pocket and removed from access door.

Bearing
Heavy duty double row spherical roller bearings with cast steel split type bearing housings with labyrinth type seals.

Lubrication
Grease lubrication for small and medium size granulators. Oil splash lubrication system for bigger models.

Drive
Direct coupled drives are recommended. For smaller models V-Belts drive may be used.

SPECIAL FEATURES

Positive Adjustment - Quick, easy external adjustment of the cage assembly...can...be...done...while...the...crusher...is...running.

Longer Parts Life - screen plate or cage bar wear compensated by simple adjustment to desired clearance.

Automatic Removal of Tramp iron - near access door allows easy, remote removal of debris.

Hinged Cage - adjustable crown width with the rotor blades. Wear occurs on all cage bars.

Wide Hopper Opening - results in uniform, even feeding, no bridging and material build-up.

General data

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<th>TR-3</th>
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Frame and Hopper Liners
Replaceable abrasion resistant steel.

Rotor Assembly
Statically/dynamically balanced to operate with minimum of vibration and noise. Weight concentrated within rotor eliminates the externally mounted wheels.

Rotor Shaft
Forged and heat treated alloy steel.

Suspension Bars
EN-24 duplex suspension bars are provided in all models.

Crushing Rings
Heavy cast Mn-steel toothed and/or plain crushing rings depending upon applications.

Breaker Plate
Replaceable abrasion resistant steel, depending on requirement.

CONSTRUCTION FEATURES

Frame Fabricated from heavy steel plates with large inspection front and rear doors, fitted with dust tight seals. Access for further maintenance is provided on the top. Doors on the sides above the rotor shaft facilitate removal of the rotor without completely dismantling the machine. Hydraulic door opening arrangement (optional) can be provided, if required.

Cage Frame Fabricated from heavy steel plate and supported from heavy hinged cage shaft at top and provided with adjusting mechanism at the bottom.

Cage Adjustment Cage assembly can be easily moved by a ratchet wrench and worm gear assembly either towards or away from the path of crushing rings. Adjustment which can be made while the granulator is in operation, provides control over the product size within permissible limits. The cage ring bearing is so located that in any adjusted position all parts of cage face are practically equidistant from the rotor assembly. This ensures even wear.

Cage Bars or Screen Plate Trapezoidal cage bars are of replaceable cast Mn-steel, replaceable abrasion resistant steel. Selection of cage bars or screen plates depends on application.

Breaker Plate Replaceable abrasion resistant steel, depending on requirement.

Tramp Iron Pocket Tramp iron and uncrushables are prevented from continuing around and back into the crushing zone by a heavy deflector plate. The debris is collected in a pocket and removed from access door.

Bearing Heavy duty double row spherical roller bearings with cast steel split type bearing housings with labyrinth type seals.

Lubrication Grease lubrication for small and medium size granulators. Oil splash lubrication system for bigger models.

Drive Direct coupled drives are recommended. For smaller models V-Belts drive may be used.

Model No. | Rotor Dia (mm) | Rotor Length (mm) | Rotor Weight (less Bearing & P.B.) (Kg.) | Max Feed size (mm) | Approximate Capacity (TPH) | Weight of Rotor Assy. (Kg.) |
<table>
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Ring Granulators

TRF’s Ring Granulators are rugged, dependable units, specially designed for continuous high capacity crushing of ROM coal and other medium hard friable materials. These are ideal machines for crushing coal to a size suitable for pulverisation, in power stations.

The unique crushing action by combining impact and rolling compression in a Ring Granulator results in higher output with lower power consumption. They offer better overall economy in terms of power consumption and maintenance.

Ring Granulators are available with operating capacities from 40 to 1500 tonnes per hour and head sizes up to 800 mm. Positive adjustment of clearance between the cage and the path of the rings is provided to compensate for wear and to adjust or maintain product gradation.

Internal parts such as breaker plate, cage bars or screen plates, crushing rings and liners are made of abrasion and shock resistant steels for optimum working life.

CONSTRUCTION FEATURES

Frame
Fabricated from heavy steel plates with large inspection front and rear doors, fitted with dust tight seals. Access for further maintenance is provided on the top. Doors on the sides above the rotor shaft facilitate removal of the rotor without completely dismantling the machine. Hydraulic door opening arrangement (optional) can be provided, if required.

Frame and Hopper Liners
Replaceable abrasion resistant steel.

Rotor Assembly
Statically/dynamically balanced to operate with minimum of vibration and noise. Weight concentrated within rotor eliminates the externally mounted balance weights.

Cage Frame
Fabricated from heavy steel plate and supported from heavy hinged cage shaft at top and provided with adjusting mechanism at the bottom.

Cage Adjustment
Gear assembly can be easily moved by a ratchet wrench and worm gear assembly either towards or away from the path of crushing rings. Adjustment, which can be made while the granulator is in operation, provides control over the product size within permissible limits. The cage rings bearing is so located that in any adjusted position all parts of cage face are practically equidistant from the rotor assembly. This ensures even wear.

Cage Bars or Screen Plate
Trapezoidal cage bars are of replaceable cast Mn-steel, ensuring long service life. Screen plates are made of replaceable abrasion resistant steel. Selection of cage bars or screen plates depends on application.

Breaker Plate
Replaceable abrasion resistant steel, depending on requirement.

Tramp Iron Pocket
Tramp iron and uncrushables are prevented from continuing around and back into the crushing zone by a heavy deflector plate. The debris is collected in a pocket and removed from access door.

Bearing
Heavy duty double row spherical roller bearings with cast steel split type bearing housings with labyrinth type seals.

Lubrication
Grease lubrication for small and medium size granulators. Oil splash lubrication system for bigger models.

Drive
Direct coupled drives are recommended. For smaller models V-Belts drive may be used.

SPECIAL FEATURES

Positive Adjustability - Quick, easy external adjustment of the cage assembly...can be done while the crusher is running.

Longer Parts Life - screen plate or cage bar wear compensated by simple adjustment to desired clearance.

Automatic Removal of Tramp iron - near access door allows easy removal of debris.

Hinged Cage - adjustable concentricity with the rotor balances wear uniformly among all cage bars.

Wide Hopper Opening - results in uniform, even feeding...no bridges and material build-up.

General data

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**Ring Granulators**

Ring Granulators are rugged, dependable units, specially designed for continuous high capacity crushing of ROM coal and other medium hard friable materials. These are ideal machines for crushing coal to a size suitable for compression in a Ring Granulator results in higher output with minimal generation of fines.

Ring Granulators are available with operating capacities from 40 to 1600 tonnes per hour and feed size up to 800 mm. Positive adjustment of clearance between the cage and the path of crushing rings and liners are made of abrasion and shock resistant materials. Internal parts such as breaker plate, cage bars or screen plate, crushing rings and liners are made of abrasion and shock resistant materials.

**CONSTRUCTION FEATURES**

- **Frame and Hopper Liners**
  - Fabricated from heavy steel plate with large inspection front and back access doors. Heavy steel plates are particularly suitable for large heavy jobs. Forged and heat treated attachment.
  - Fabrics are designed to withstand the severe abrasion and shock of granulating coal. The frame is fabricated from heavy plate steel with large inspection front and back access doors. The heavy steel plate is particularly suitable for large heavy work, for which the frame is designed to withstand the severe abrasion and shock. The frame is designed to withstand the severe abrasion and shock of granulating coal.

- **Suspension Bars**
  - EN-24 duplex suspension bars are provided in all models.

- **Crushing Rings**
  - Replaceable abrasion resistant steel.

- **Bearing and Lubrication**
  - Grease lubrication for small and medium size granulators. Oil splash lubrication system for bigger models.

**SPECIAL FEATURES**

- **Positive Adjustability**
  - Each non-reversing unit comes out of the machine, providing easy removal of cage bars or screen plate. Selection of cage bars or screen plate is made to suit the application. Direct coupling drives are recommended for smaller models.

- **Wear Plate and Hopper Liners**
  - Replaceable abrasion resistant steel.

- **Tramp Iron Pocket**
  - Tramp iron and uncrushables are prevented from continuing around and back into the crushing zone by a heavy deflector plate. The debris is collected in a pocket and removed from the interior of the machine.

**TECHNICAL SPECIFICATIONS**

- **Model No.**
  - TRF-52, TR-42, TR-160

- **Rotor Dia (mm)**
  - 520, 420, 160

- **Rotor Length (mm)**
  - 520, 420, 160

- **(less Bearing & P.B.) (Kg.)**
  - 4900, 6500, 23,500

- **(less Drive) (Kg.)**
  - 7600, 9000, 26,500

- **Capacity (TPH)**
  - 520, 420, 160

- **Weight of rotor Assy. (Kg.)**
  - 7600, 9000, 26,500

- **Total weight (Kg)**
  - 9000, 11000, 30000

- **Weight of rotor Assy. (Kg.)**
  - 7600, 9000, 26,500

- **Total weight (Kg)**
  - 9000, 11000, 30000

- **Rotor Speed (RPM)**
  - 2363, 2045, 1370

- **Likhra / Jsr. (0657) 2291356**

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- **e-mail : dcjha@trf.co.in**

- **Fax : +91 - 657-2345724**