



ROLLERS

Each conveyor system incorporates hundreds, sometimes thousands of rollers. Rollers allow for support and movement down the conveyor line. ESS conveyor rollers are manufactured utilising composite bearing housings.

Through innovation in design, ESS provides a complete range of rollers for light, medium and heavy duty applications. This unique design and manufacturing process has resulted in a roller series manufactured to ensure optimum performance, reliability and durability. The roller construction and manufacture contains several unique features that result in significant improvements over traditional rollers.

Precision Injected Moulded Housing

- Anti-static pin
- Press fit / no weld
- Perfectly balanced
- No pizza cutter slicing belts

Reverse Multi Labyrinth Seal

- Wash down duty

Bearing Seal

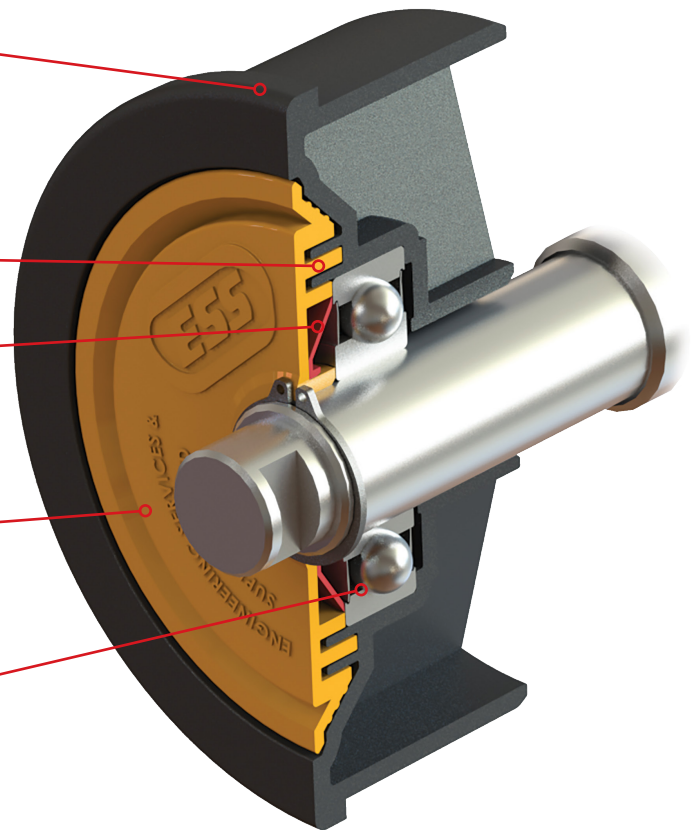
- Water tight
- No dust
- No rust

Fixed Face Flinger

- Non rotational
- Covers 80% roll end
- No rock jams
- No roller seizures

Bearings

- Sealed for life ZZ C3



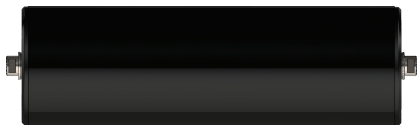
ESS ENGINEERING SERVICES & SUPPLIES

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ROLLER RANGE

Available in a range of materials and sizes



Steel Roller

Unlike conventional steel rollers manufactured using welded end hubs, the ESS steel rollers are produced using our composite bearing housing to ensure optimum performance, reliability and durability. Benefits include being belt friendly (no pizza cutter), superior balance, high impact resistance, and a shell which can be hot vulcanised rubber lagged or galvanised for special applications.

Roller Diameters

BRG	89/102/114	127	152	178
6205	✓	✓		
6306		✓	✓	
6308			✓	✓
6309			✓	✓
6310				✓



Steel Low Noise Roller

Low noise steel rollers have the same extremely tight balance, surface finish, and TIR requirements of weigh rollers. This not only reduces noise, but also reduces reciprocating forces on the roller bearings and nearby structure, enhancing roller reliability and reducing power requirements. Other low noise options are M-PVC, HDPE GF and Aluminium subject to the application.

Roller Diameters

BRG	114	127	152	178
6205	✓	✓		
6306		✓	✓	
6308			✓	✓
6309			✓	✓
6310				✓



Aluminium Roller

ESS aluminium rollers are manufactured using a high quality alloy tube. Due to the quality of our tube and housings the TIR (Total Indicated Run-out) & MIS (Maximum Indicated Slope) of our aluminium roller is naturally low. The standard balance of our aluminium rollers complies with ISO1940-1 G16. A reliable light weight, low noise option. Used extensively on the fast, high tonnage coal loading terminal conveyors.

Roller Diameters

BRG	127	152	178
6205	✓		
6306	✓	✓	
6308		✓	✓
6309		✓	✓
6310			✓



HDPE-GF Roller

This "Heavy Duty" fibre reinforced high-density polyethylene shell has increased strength, stiffness, creep resistance, dimensional stability and has three times the abrasion resistance of standard polymer shell rollers. A durable, naturally low-noise roller which is 35% lighter than a conventional steel roller. An excellent alternative to plain steel flat or vee return rollers on dirty belts.

Roller Diameters

BRG	127	152	178
6205	✓	✓	
6306	✓	✓	
6308		✓	✓
6309		✓	✓

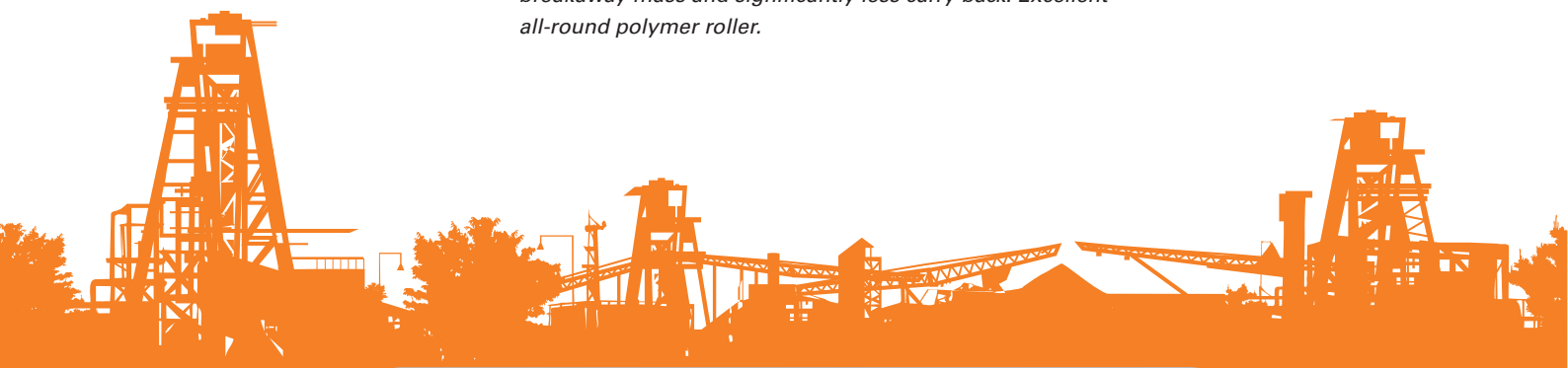


M-PVC Roller

Manufactured using a specifically formulated modified PVC shell. They are 40% lighter than equivalent steel idlers, providing OH&S benefits, and significantly reduced noise levels. Other benefits include being belt friendly, highly corrosion resistant, non-magnetic, impact resistant, low breakaway mass and significantly less carry back. Excellent all-round polymer roller.

Roller Diameters

BRG	114	127	152	178
6205	✓	✓	✓	
6306		✓	✓	
6308			✓	✓
6309			✓	✓



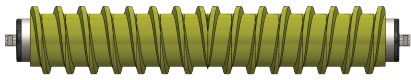


ECO Polymer Roller (114 - 152Ø)

Our ECO polymer roller is an affordable, durable, lightweight, low-noise roller with twice the abrasion resistance than other polymer shell rollers. This light to medium duty polymer tube is manufactured from recycled materials with the benefit of an added fibre fill. An excellent alternative to plain steel rollers on dirty belts.

Roller Diameters

BRG	114	127	152
6205	✓	✓	✓
6306		✓	✓

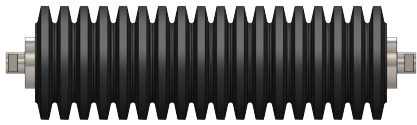


Urethane Cleaning Roller (140 & 165Ø)

Manufactured using highly wear resistant polyurethane spiral rings which prevent and assist in cleaning off sticky carry back from the belt. These rollers offer a maintenance free solution to conveyor belt cleaning and tracking as an alternative to plain steel or disc flat & vee return rollers.

Roller Diameters

BRG	140	165
6205	✓	
6306		✓
6307	✓	
6308		✓



Rubber Impact Roller (133 & 159Ø)

Manufactured using steel shell and rubber discs. Impact Rollers are used in conveyor loading and transfer point applications to protect the belt where lump material is dropped from a height in the transfers which can cause damage to the belt. Also available using FRAS rubber rings.

Roller Diameters

BRG	130	159
6205	✓	
6307		✓



Bullnose Impact Roller

Manufactured using a heavy duty steel shell and robust bullnose rubber discs. Impact Rollers are used in conveyor loading and transfer point applications to protect the belt where large/heavy material lump can cause damage. Spherical bearing option available for extra heavy duty applications.

Roller Diameters

BRG	152	178
6307 / 21307	✓	✓
6308 / 21308		✓
6309 / 21309		✓



Rubber Disc Roller

Manufactured using a steel shell and rubber discs. Offers a maintenance free solution in areas where return rollers are failing regularly due to carry back and shell wear. A good alternative to plain steel rollers on the return side.

Roller Diameters

BRG	159	181
6205	✓	✓
6307	✓	✓

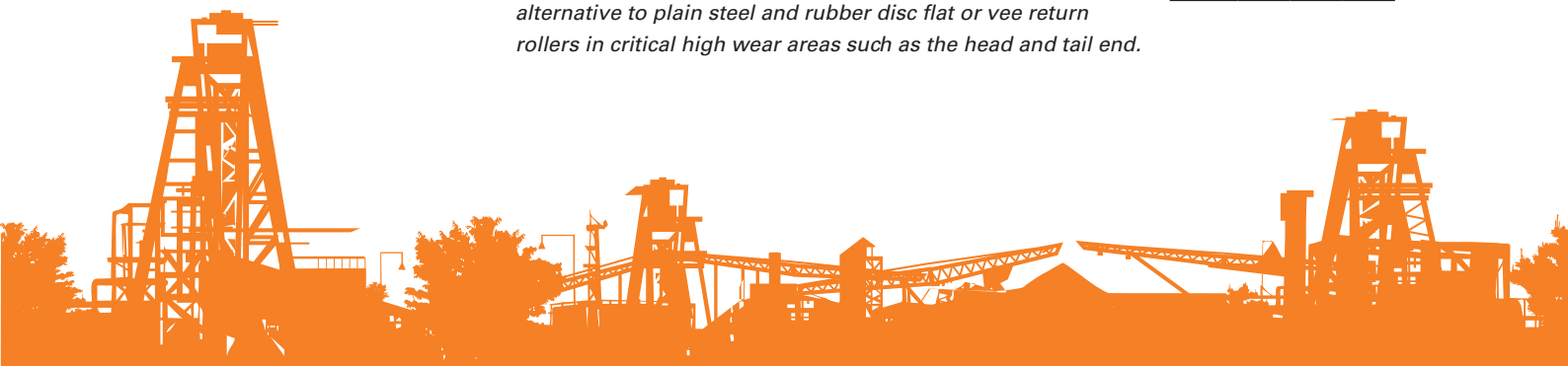


Urethane Disc Roller

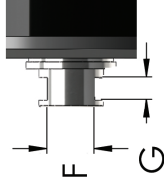
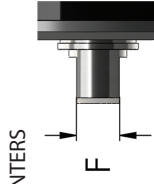
Manufactured using a steel shell and highly wear resistant polyurethane discs. An even longer lasting solution than Rubber Disc Rollers, in areas where return rollers are failing regularly due to carry back and shell wear. An excellent alternative to plain steel and rubber disc flat or vee return rollers in critical high wear areas such as the head and tail end.

Roller Diameters

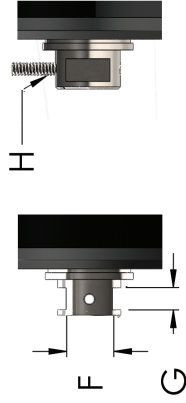
BRG	133	159	181
6205	✓		
6306		✓	✓
6308		✓	✓



END SHAFT TYPES

☐ SUSPENDED

WEIGH



A schematic diagram of a mechanical test setup. A cylindrical specimen is positioned between two horizontal plates. A downward arrow labeled F indicates the applied load on the top plate.



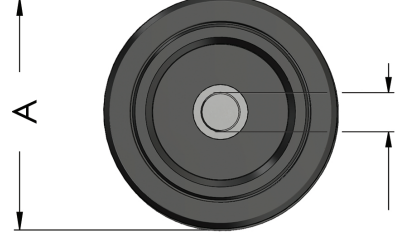
A close-up photograph of a mechanical spring assembly. A coiled metal spring is mounted between two horizontal plates. A black arrow points from the letter 'H' to the spring.

STEEL: ☐ ☐

POLYMER: ☐

OTHER: ☐

Technical drawing of a vertical cylindrical tank. The drawing shows the tank from a side perspective. Three vertical dimension lines are shown to the left of the tank, labeled A, B, and C from top to bottom. Dimension A is the total height from the top flange to the bottom flange. Dimension B is the height from the top flange to the bottom of the tank body. Dimension C is the height from the bottom of the tank body to the bottom flange. The tank has a dark gray body and a lighter gray top and bottom flange. A small vertical pipe is attached to the top flange, and a small horizontal pipe is attached to the bottom flange.



SHELL MATERIAL		A	B	C	D	E	F	G	H
STEEL :	☐	ROLLER DIAMETER	FACE WIDTH	GAUGE/ BACK TO BACK	OVER SHAFT LENGTH	END SHAFT DIAMETER	ACROSS FLATS	SLOT WIDTH	HOLE CENTERS/ GRUB SCREW/ METRIC THREAD
POLYMER :	☐								
OTHER :									
BEARING SPECIFICATION :									
NOTES									