



**WEHR**

**ESCO**

Production Master® Dippers  
For Cable Shovels

## ESCO® Production Master® cable shovel dippers

ESCO offers world class Production Master cable shovel dippers for all OEM makes and models. Our precision engineering and manufacturing increases shovel availability with more reliable, longer-lasting components that eliminates unplanned downtime, while reducing maintenance costs and increasing safety.

ESCO custom engineers each Production Master dipper to meet mine requirements. Scale model testing is used to maximize productivity and digging efficiency. We consult with mine personnel to address capacity, lip, G.E.T., rope connection and wear package options to improve reliability and productivity.

### Unsurpassed productivity

#### Lighter dipper, higher payload

Extensive Finite Element Analysis (FEA) of the dipper and door results in reduced weight allowing up to 4% more payload than traditional OEM designs.

#### Increased machine availability

Long-lasting G.E.T. systems improve penetration for higher digging efficiency which increases machine utilization.



### Reduced maintenance

#### Industry-leading tooth systems and wear protection

Nemisys® and WhislerPlus™ systems deliver longer life, fewer replacements and extended intervals between rebuilds.

#### Best-in-class lip technology

Proprietary lip alloy improves weldability and reduces likelihood of fatigue cracks.

#### Engineered to outlast

ESCO doors and bails provide superior strength over OEM versions.

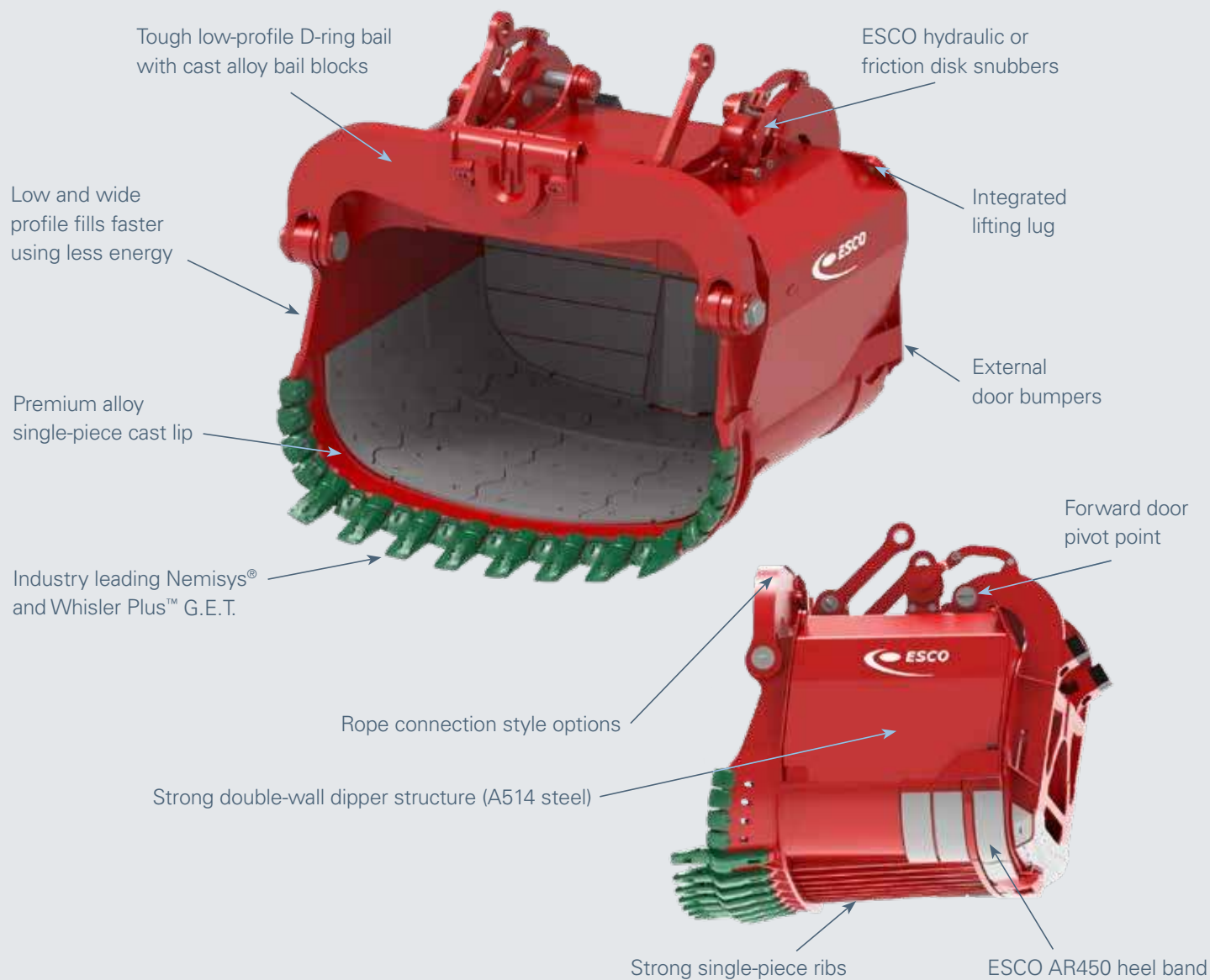
#### Less planned maintenance

The rear-taper door's short travel lowers truck impact during loading and softer closing for reduced dipper and snubber wear and tear. A 35% lower peak side-loading stress results in better reliability and longer service life.





## ESCO® Production Master® dipper standard features



### A recent customer comparison of an ESCO Production Master vs. OEM dipper resulted in:

- A sustained 5.7% hourly production rate increase (same shovel in similar conditions)
- Over 70% reduction in unplanned downtime for dipper maintenance



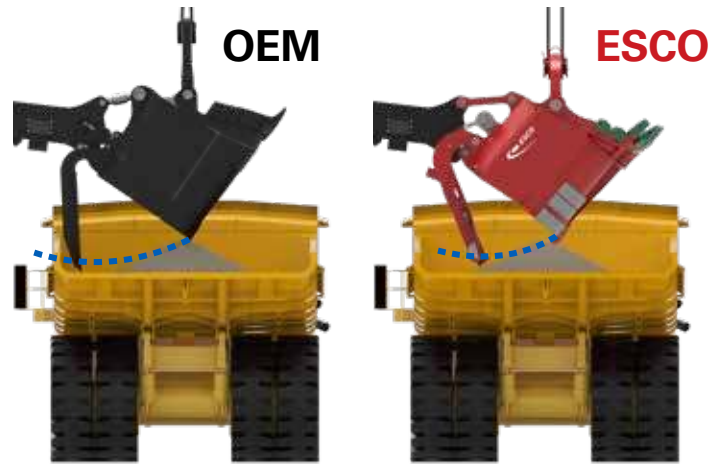
## The ESCO® Production Master® dipper door advantage

Production Master's innovative door and pivot point results in lower impact truck loading and reduced likelihood of truck cabin shock.

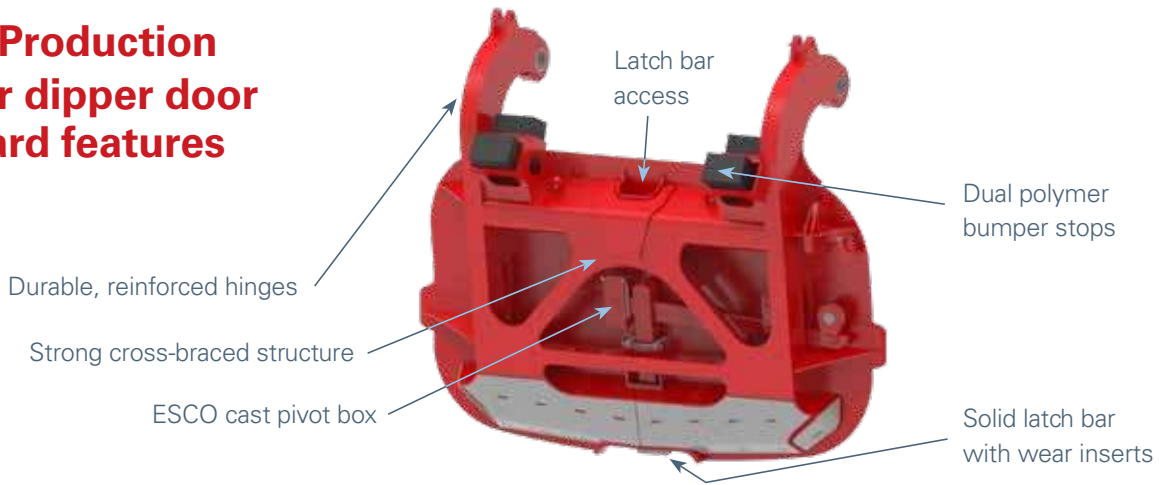
The short travel door provides an expanded target dump zone in the truck body. This allows operators to efficiently load the truck for faster cycle times.

The engineered dynamics of the Production Master door provides softer closing to reduce dipper and snubber wear and tear.

At right are the static position of the dipper doors. The dashed blue lines represent the maximum potential swing radius of the doors. While the OEM door can swing into or beyond the side of the truck body, the Production Master door stops short of the side providing improved safety and cycle times.



## ESCO Production Master dipper door standard features



Likelihood of dipper and truck impact is influenced by operator practice such as dipper positioning when tripped, dipper and truck size, and snubber effectiveness. Installation, operating conditions, wear and tear and maintenance are factors outside the control of ESCO and will affect product performance.



## Production Master® dipper lip options

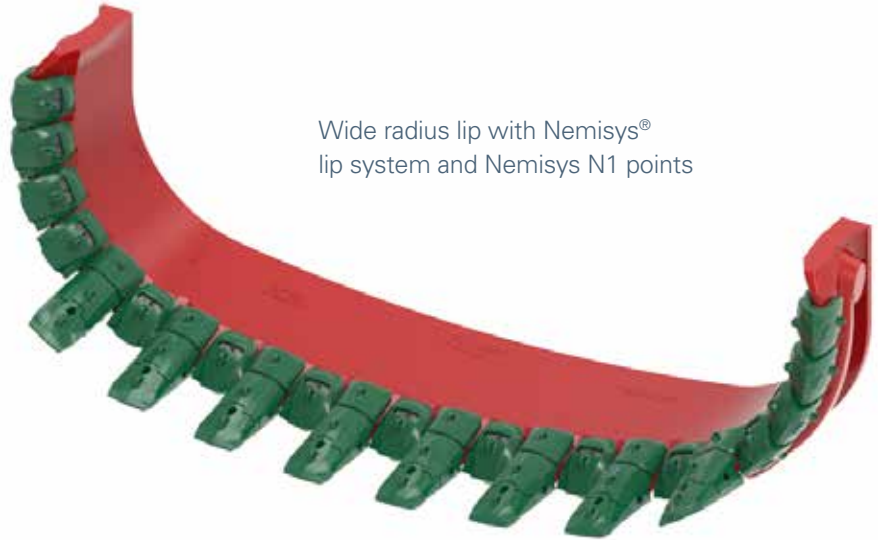
ESCO® lips are single-piece castings poured in premium alloys for excellent toughness and weldability. ESCO's wide range of lip profiles can match customer requirements and optimize dipper performance.

Wide radius lips deliver better penetration and increased production, with corner teeth cutting clearance for the dipper.

### Nemisys® mining tooth system

enhances loading, offers superior wear life and has a fully hammerless locking system. Full lip protection is provided by the same shroud in all positions on wide radius lips.

Operating on hundreds of machines worldwide, the Nemisys system has demonstrated market leadership in reliability, site safety and enhancing machine performance.



Wide radius lip with Nemisys® lip system and Nemisys N1 points

Nemisys N1 point



Nemisys intermediate adapter

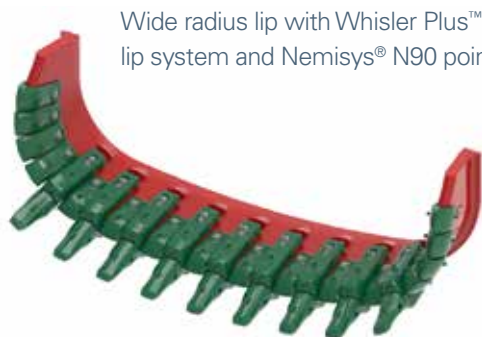


Nemisys lip shroud

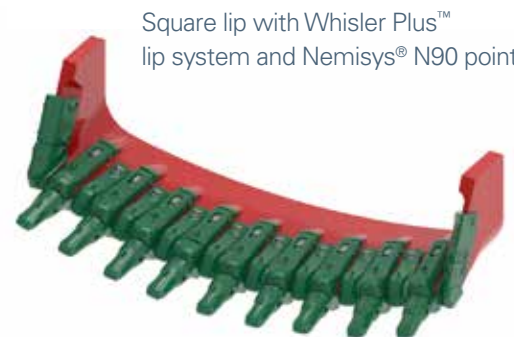


### Whisler Plus™ lip system

offers longer service life, less maintenance and easier part replacement than any other system available.



Wide radius lip with Whisler Plus™ lip system and Nemisys® N90 points



Square lip with Whisler Plus™ lip system and Nemisys® N90 points

Nemisys N90S point



Whisler Plus lip shroud

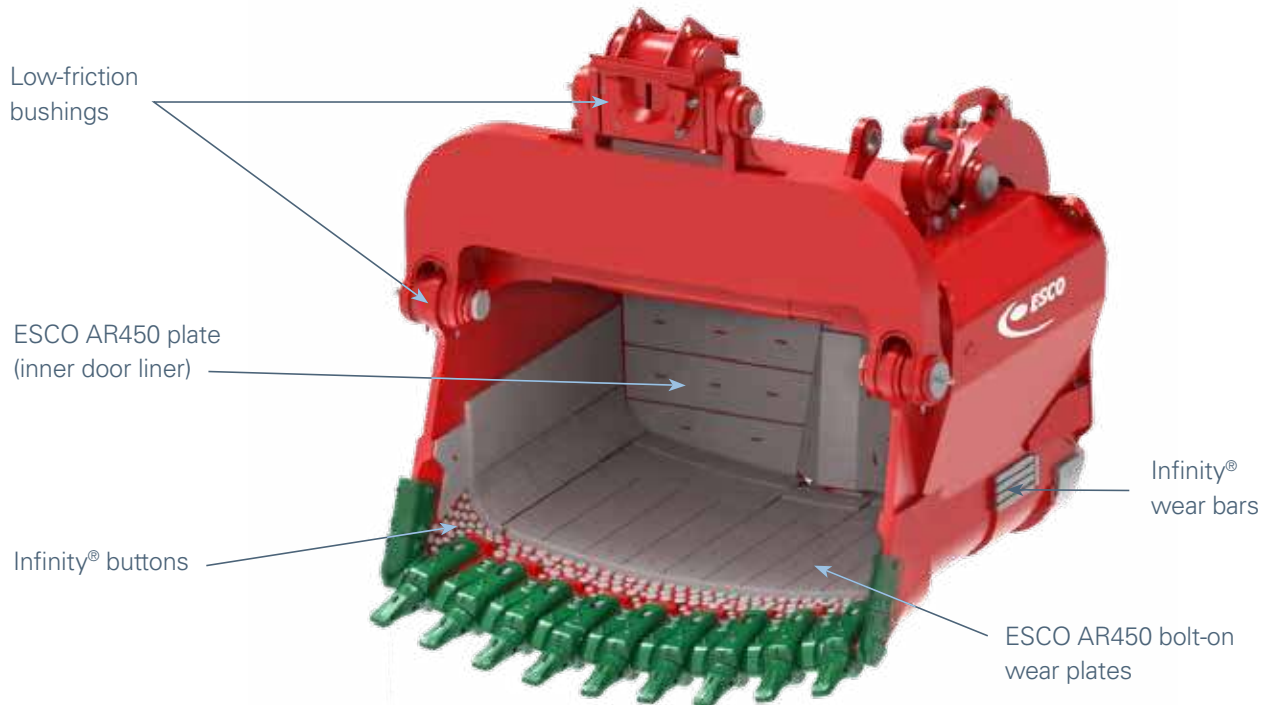
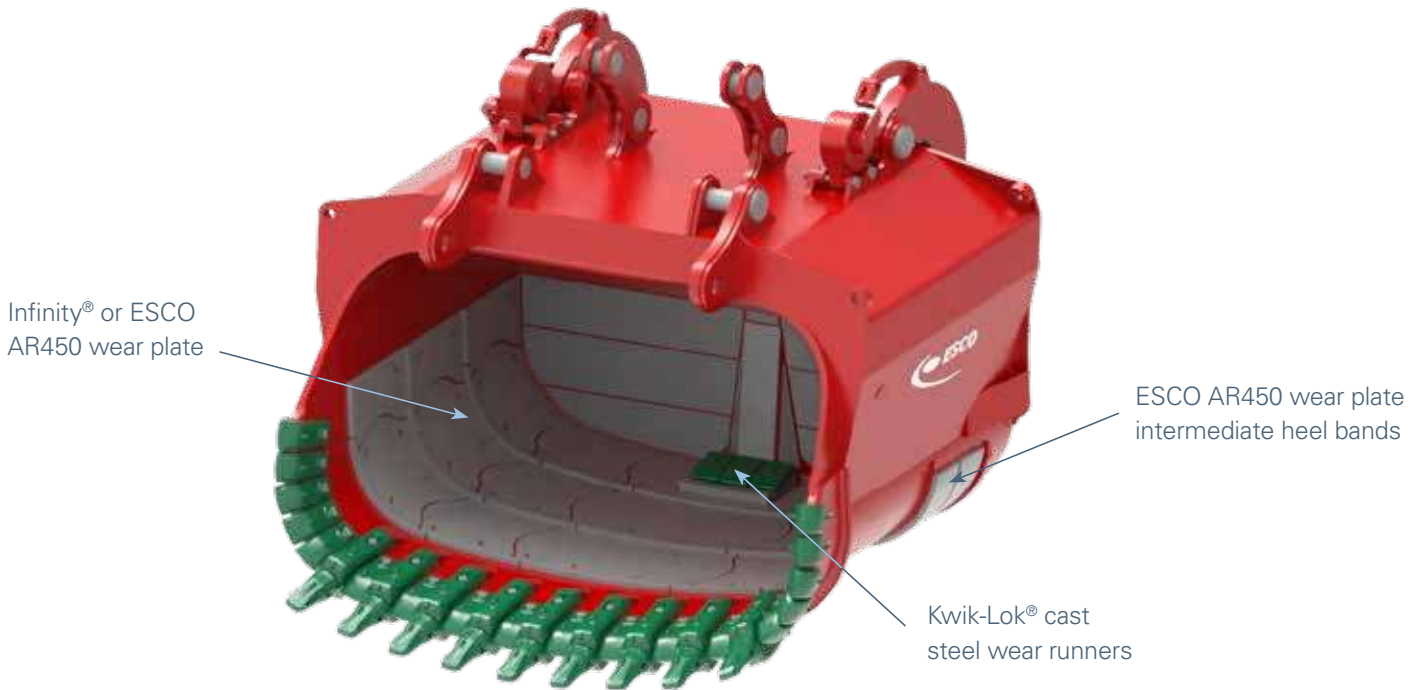


Whisler Plus adapter



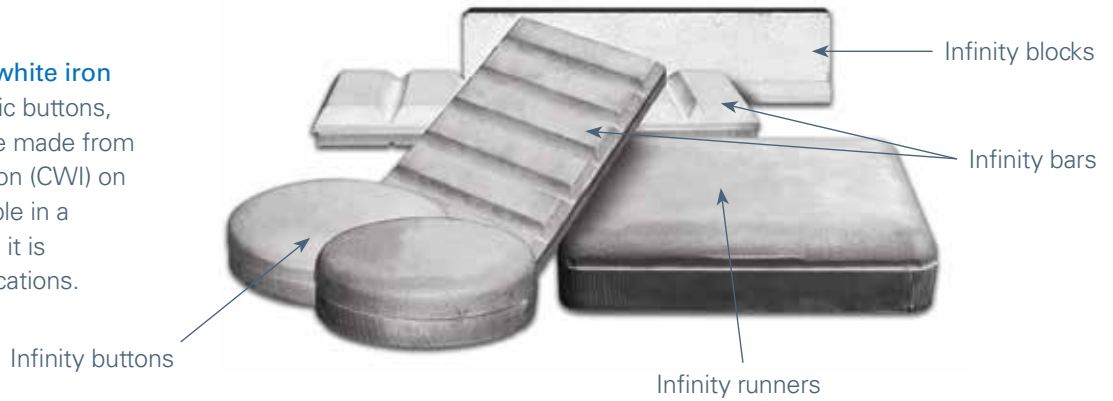
## ESCO® cable shovel dipper wear protection options

Custom wear packages are available for new or existing dippers. The wide variety of wear products to choose from ensures the right protection to match the application.



**Infinity® metallic chrome white iron**

Abrasion resistant, bimetallic buttons, bars, blocks and runners are made from 700 Brinell chrome white iron (CWI) on a mild steel backing. Available in a variety of sizes and shapes, it is ideal for high abrasive applications.



**ESCO® AR450 abrasion resistant plate**

AR450 plate is through-hardened plate with a typical hardness of 420-470 BHN and a typical toughness of 18-20 ft.-lbs. Manufactured to handle extreme abrasion with optimum resistance to gouging abrasion under severe impact. The plate is formable, has superior wear resistance, and has very good toughness and weldability.



**Infinity® chromium carbide overlay plate**

Infinity plate has a minimum hardness of 573 BHN and offers optimum wear protection in extreme abrasion and medium impact applications. The overlay plate is formable and is available in custom designed kits to fit a wide variety of surface configurations.



**Kwik-Lok® II wear runners**

Cast steel, heavy-duty wear runners in a wide variety of profiles are sized for easy handling and placement where needed most – including high impact locations. The system features a one-piece locking system that provides safer and faster replacement.







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