

# ME DISCHARGE END

## ME Discharge End

### 1. General

This “ME Elecmetal discharge end” features the best available technology. It is designed for highest availability and is fully suitable for reversible mill rotation, simplicity, ease of maintenance and parts inventory and dynamic operational stability in the mill, i.e. “to stay in place not shift”. Critical to the success of this design is installation and maintenance according to ME Elecmetal’s recommendations, including bolt torque utilizing the Ridgeback Bolt ® supplied by ME Elecmetal.

### 2. Specifics

- A. The filler block design allows worn grate and outer pulp lifters to be removed without disturbing the filler ring or discharge end shell liner/lifter. This part is not a wear part and should never have to be replaced assuming outer pulp lifter is replaced when needed.
- B. Both the outer and inner pulp lifters are provided in WS-170 (0.85% carbon, chrome-molybdenum steel) for increased slurry abrasion resistance. Each pulp lifter has a dedicated bolt to safely hold the part in place during installation and to provide positive resistance to shifting. Further, “Hold-it” (Patent No. 6,390,401 B1) bosses plug into unused bolt holes to securely prevent radial and circumferential movement.

“Race breakers” are proved to prevent slurry abrasion in the radial joints. They can also be incorporated into the circumferential joints.

The “pulp-carrying tunnel” formed by two adjacent septums has a greater cross sectional area than current rubber-covered fabrication provide.

- C. The inner discharge end head liner is a double chord design with key/slot locks into pulp lifter to prevent radial shifting. Alloy is WS-120 (0.60% carbon, chrome-molybdenum steel) for highest impact resistance. Bolts are used for fastening and one position used for maintenance “knockout” from mill external.
- D. The grate is designed with specific slot openings.

Combined slot and radial grate joint area is more than twenty-five percent (+25%) greater than conventional designs.

Two (2) or three (3) bolts, depending on customer preference, hold the grate in place, and depending on how the mill was drilled there may be an additional external “knock out” hole for worn grate removal assist.

The grate is prevented from moving radially by the key/slot lock into the outer pulp lifter septum.

Grate "twisting" in position is prevented by recessing the top of the pulp lifter septum 3/4" into a radial groove on the back-side (non charge side) of the grate.

The grates are designed with tight gaps and tolerances to further inhibit movement. Finally, the radial edges have a 1" wide radial slot with typical grate slot relief angles for ease of removal when worn. 3" wide pads at O.D. and I.D. control the 0.5" gaps and maintain the grate in proper alignment. These radial slots add to the discharge open area available. Pad-to-pad joint has a 10-degree releasing angle to assist in worn grate removal.

Grate alloy is our proven WS-120, a fully heat-treated 0.60% carbon, chrome-molybdenum steel.

- E. Fabricated rubber-covered or cast urethane center discharge cone can be supplied by ME Elecmetal. In order to provide good slurry flow pattern and transition from our metal parts to client's rubber or urethane parts we need a drawing or sketch showing all key dimensions and thickness of this part.

An optional two piece cast inner discharge cone can be designed if there are sufficient bolt holes available.

Note: Both conical and straight-ended mills are readily adaptable to the ME Discharge End.