FUJI KING DEBARKER

Advantages, compared to conventional

• Effective debarking on the inaccessible area of cooked or

 Dry debarking system allows easy combustion of wastebark. The *Fuji King Debarker* can process frozen

• Cutting and immediate expulsion of stringy bark of such

• Minimal damage to log's end, and less fibre loss

• More flexibility to mechanical designs of system

logs without the need for hot ponds.

as Eucalyptus or Acacia wood

Lower noise levelLower power consumption

Drum debarkers:

knotty logs and frozen logs

Noise Reduction Option:

For applications sensitive to noise generated from the debarking process, a noise reduction option is available. The **Fuji King Debarker** can be supplied with sand and insulation materials within the rotors, sidewall and top covers to provide noise reduction.



Installation references:















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Fuji King Debarkers are manufactured in North America by *Carmanah Design and Manufacturing Inc.* Vancouver, Canada, under license from Fuji Kogyo Co., Ltd.





Pioneer of the Rotary Debarker

Technology proven at over 250 installations through 30 years; including 180 units in Japan, 20 units in Southeast Asia, and over 50 units in North America. Installations include Pulp Woodrooms, OSB Plants, and Chip and Pellet Mills.



over 250 installations through 30 years



PERFORMANCE CHARACTERISTICS:

- Simultaneous processing of a wide variation in wood species, diameter, length and shapes
- High fiber recovery. The rotor and comb design provide tight clearances, minimizing the opportunity for fibre to fall into the waste stream below.
- During processing, logs make contact with the rotors over their entire length. This feature ensures that logs with non-uniform shapes can be effectively debarked. In addition to swept and crooked logs, the design also works well with dry, frozen (down to -40 degrees C) and stringy-barked species such as Eucalyptus and Acacia.
- The Fuji King can process logs of varying diameters (4 to 60 cm) and lengths (0.5 to 7 m).

wood with stringy bark)

costs and noise.

conveyor



• The Fuji King' s rotor action is much less aggressive

• Loose bark is cut and forcibly expelled to a lower waste-bark

compared to conventional drum debarkers. This provides

advantages in reduced log damage, fibre loss, operating

(debarking thin Eucalyptus logs down to 4 cm)

DEBARKING PRINCIPLES and DESIGN:

- The Fuji King Debarker utilizes a combination of cylindrical rotors complete with surface mounted debarking-plates to easily remove bark.
- Bark removal is achieved with a combination of mechanical abrasion from debarking plates contacting logs plus log-to-log contact generated from the overall rotation of logs. This ensures very effective and uniform debarking with minimal fibre loss.
- As bark is removed from logs it is cut and forcibly expelled by bark cutters and debarking plates as they pass through the slots of the rotor comb.
- The rotor and rotor comb are designed and manufactured to tight clearances minimizing the possibility for wood fibre to fall through to the lower bark conveyor.

Movement of Logs



- Bond broken between bark and wood at the cambium layer - Mimics action of RING DEBARKERS
 - without being sensitive to size, shape, season and ambient conditions

• Optimal over-all log rotation within the chamber exposing more logs to the

log-to-log contact

debarking-plates and creating - Mimics action of DRUM DEBARKERS with log-to-log action to remove bark

 Quick bark expulsion Loose bark is cut and guickly expelled by debarking plates.



• Logs are conveyed by slope of the module, aided by the arrangement of the debarking plates.

DATUM



PRODUCTION VARIABLES - MECHANICAL DESIGN VARIABLES:

- Fuji Kogyo designed the Fuji King Debarker as a modular system with several model types to address the wide variety of customer requirements. The following detail provides the choices available when determining optimal supply.
- Cross section (see the right illustrations)
 - [To be determined mainly by wood size (diameter and length) and operational conditions]
- The modular design offers flexibilities to fit the variations in the throughput capacities varying from approx. 10 up to 350 (SOB)m3 per hour. - (modular design to ensure fit for any application)

• Length and Slope (inclination of each module)

- (To be determined by throughput capacity, proper dwell time for debarking degree, wood conditions, and steady log flow)

Variation of cross section of the Fuil King Debarker:





- Variable Module Slope [PAT.] ensures a uniform log flow. This feature is particularly effective when processing stringy barked species such as Eucalyptus and Acacia.

rpm.



The replaceable Debarking-plate consists of an upper block and lower shoe.

The profile can be varied to suit variations in: Wood species, wood size, wood shape, and wood freshness

• Season variation (e.g. frozen conditions)

There are two styles of debarking-plates, either weld-on Fixed type or Replaceable-type which has a bolt-on detachable upper block attached to the lower shoe. Both types are re-buildable with hardfacing rods when they are worn and offer variable profiles, to address variations in wood conditions and seasonal conditions.

• Outfeed gate height – adjustable - (essential to adjust log dwell time and fill level in the debarker to optimize for conditions)



The operator controls the height of the outfeed-gate to adjust log dwell time and wood fill level within the log compartment.

Raising and lowering of the gate prolongs and shortens the log dwell time respectively.

Raising the gate retains logs within the debarker therefore increasing dwell time. This is necessary when logs are underbarked and require additional levels of bark removal.

OPERATING VARIABLES - CONTROLS:

The Fuji King Debarker provides flexibility to applications.

- Rotor Speed variable typical operating range is 20 to 45
- Variable profiles of debarking upper block [PAT.] - (essential to bark scoring)

