

MONSTER INDUSTRIAL™



Monster Solutions

Major Seafood Waste Processor Tackles Tough Alaskan Ocean

Cordova, AK – Managers for seafood processing plants operated by Norquest Seafoods Inc. report significantly improved discharge compliance through installation of special Monster waste grinders for commercial fish waste processing. They also note easier operation, lowered power requirement, reduced maintenance, and enhanced safety for marine waste handling.

The Monster waste processing grinder, 4-SHRED-H was custom designed and manufactured by JWC Environmental in Costa Mesa, CA, were provided locally by APSCO Inc. of Kirkland, WA.

“We’re required to grind remains, such as fish heads, to particles with diameters of ½” (12mm) or less before we can discharge them into Alaskan waters,” noted Lee Murrell II, now roe manager at the Cordova plant. “When we replaced our previous grinder with a 4-Shred-H on our Aleutian Falcon floating processor, we were able to meet requirements consistently for all the various seafood remains we put through. It also ended the problem of the grinders plugging up, overflowing, and having to be reversed to clear them.”

“Then, we installed them for the startup of the land-based Adak plant in 2001,” Murrell continued, “we had excellent results there as well. Now we’ve installed Monster



Monsters readily grind up the many types of seafood remains conveyed into its specially designed cutter teeth.

PROBLEM: High volume of seafood remains clogging pumps

SOLUTION: Monster marine waste grinders

CONSULTANT: APSCO, Inc.

seafood waste processing grinders company-wide.”

Aleutian Falcon was processing 10-11 million lbs. (4-5million kg) of round product annually, including salmon, herring and snow crab, operating around-the-clock for five months, with marine waste volumes running at about 23%, or 2.5 million lbs. (1 million kg), before grinding.

The Adak plant, established to gain a foothold for the company in processing of Pacific cod (“pcod”), success was documented initially through 45 consecutive days of 24/7 operation, with volume averaging about 150,000 lbs/day (68,000 kg) of pcod, halibut, rock fish, and king crab round product, with remains volume running at about 55%.

“That included the grinder handling heavy-duty #6 and #7 stainless steel fish hooks, with 12/0 or 13/0 openings, that we couldn’t remove from 100% of the heads,” he noted. “It also had to grind rocks ingested by the pcod. In an effort to minimize replacement of the grinding teeth and gears, we worked to eliminate them, by removing the fish stomachs.”

At the Cordova plant, manager Bill Gilbert and plant engineer Brian Parsons also noted improved discharge compliance through the installation of a Monster grinder. Parsons has proposed the installation of an additional seafood waste processing grinder. “We’ve improved the discharge



compliance to about 95% with the Monster shred grinder, and are installing another one for secondary treatment so we can increase it even more," said Gilbert.

At the Chignik plant, production manager John Lombardo has observed significant operational and safety improvements as well as improved discharge compliance since the installation of the marine waste shred grinder in 1999. A second unit was added in 2004.

"The previous unit operated similar to a hand-held meat grinder in a butcher shop," he recalled, "an auger pushed remains into a blade against a perforated plate with ½" (12mm) diameter holes. The remains were pressed out the other side. Maintaining the ½" (12mm) size was inconsistent and difficult."

"Meanwhile, it was limited by the width of the deepest groove of its auger," he continued. "It could handle 5" (127mm) round heads from regular salmon, but 8" (200mm) or larger heads, from king salmon or halibut, would pop up and down unless we forced them downward by hand."

"We handled the input problem by chopping larger salmon heads in half with a butcher knife, and installed a bandsaw for the larger halibut heads."

"With the Monster shred grinder—all of that is history. If we put a 200lb. (90 kg) fletched halibut in tail first – it sucks the carcass right in. We can put a whole 30lb. (14 kg) halibut head in the shred grinder, and it is reduced to puree in about 15 seconds."

"The grinders are virtually maintenance-free during a processing season. We change the blades every other season, unless pcod are processed with rocks in their stomachs."

Dale McBain of APSCO Inc., JWC Environmental's local application representative, recalled that power consumption had also been a major concern with the previous grinder.

"In addition to having a larger footprint and lower feed rate, the previous manufacturer's units ran at a minimum of 30 HP (22 kW)," he said. "The Monster waster grinder runs at a mere 5 HP (3.7 kW), maintains the feed rates needed, and was very easy to integrate into their production operations."

"They've been successfully installed in different orientations, including at a 45 degree

angle to the floor, so gravity holds the remains against the cutter; and horizontally, with the cutters pointing straight up, receiving feed from a hopper above the unit."

The dual-shafted Monster grinds a wider variety of solids than single-shafted machines, while its low-speed operation results in higher torque and fewer interrupts. Its special cutter teeth and configuration were developed specifically for fish remains processing.

Monster shred grinders effectively reduce particle size of wood, plastics, rocks, nuts, bolts, wire, sludge, and other foreign material that would otherwise foul, clog or damage waste stream and process equipment, typically reducing the handling costs associated with solids removal.

JWC Environmental adds that the Monster waste grinder adapts to most applications with little or no modification to piping, channel, or power, and offer high-pressure – 90 psi (6 bars) capability, with no seal flush required and no packing gland to adjust.

Founded in 1973, JWC Environmental is a global leader in high-efficiency, dual-shafted waste grinders. We've built and shipped over 35,000 Monster shredders, screens and compaction systems to customers around the world. We offer over 200 different shredder configurations. Our commitment to quality and reliability makes Monster waste grinders legendary in many industries.



The specially designed cutters can shred through a 200lb. (90 kg) halibut and turn it into puree within seconds.

"We've improved the discharge compliance to about 95%..."

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Headquarters

290 Paularino Ave.
Costa Mesa, CA 92626 USA
Toll Free: (800) 331-2277
Phone: (949) 833-3888
Fax: (949) 833-8858
jwce@jwce.com

Western Service

2600 S. Garnsey St.
Santa Ana, CA 92707, USA
Toll Free: (800) 331-2277
Phone: (949) 833-3888
Fax: (714) 751-1913
jwce@jwce.com

Eastern Service

4485 Commerce Dr, Ste 109
Buford, GA 30518, USA
Toll Free: (800) 331-8783
Phone: (770) 271-2106
Fax: (770) 925-9406
jwce@jwce.com

