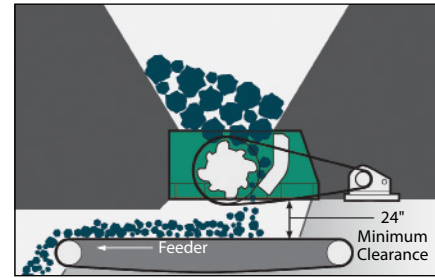
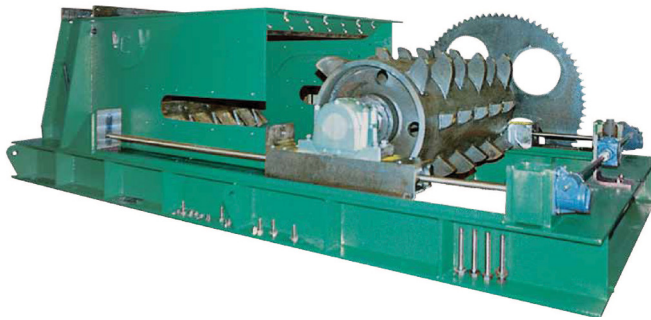


TERRASOURCE GLOBAL Frozen Coal Crackers

HANDLING A WORLD OF MATERIALS

When the Quick and Effective Reduction of Frozen Coal Matters!



Typical Frozen Coal Cracker installation under a rotary car dump or reclaim hopper.

Applications/Advantages

Pennsylvania Crusher Frozen Coal Crackers solve unloading problems in rotary car dump operations where frozen lumps as large as four feet thick are not uncommon, creating serious jam-ups in hoppers, conveying systems and transfer points. Frozen coal chunks even cause unloading problems at plants located in warm weather areas if the rail cars have originated in or passed through freezing, wet weather.

In addition to jamming the coal handling system, frozen coal chunks frequently require conveying systems to be pitched at inclines no greater than 15 degrees, resulting in the need for longer conveyors and more space for the entire coal handling operation.

In designing our first frozen coal crackers back in the 1940's, we determined that most of the major problems caused by frozen coal could be eliminated by a system which performed as follows:

- The coal is unloaded at rotary car dump stations from rail cars or from stockpile storage into the "cracker" via open-throated hoppers, without using grates over the dump hopper.
- The cracker must have a low profile, enabling it to fit into any space.
- The cracker must have an extremely wide feed opening so that large frozen chunks can enter the chamber.
- Frozen chunks larger than the feed opening must be exposed to the shearing action of the teeth on the revolving roll. This shearing action must reduce those large chunks to the point where the teeth can pull them into the cracker for further reduction by impact, shear and compression.

- The cracker must reduce the large frozen chunks completely and feed a minus 6" to 8" output size to the conveyors.
- The operator must be able to start the cracker up under a head of coal, *using a normal torque motor.*
- The entire breaker plate assembly of the cracker must be externally adjustable to control product size and to compensate for wear.

Today's Pennsylvania Crusher Frozen Coal Crackers do all this and more for power stations in cold weather areas throughout the world.

A few of the benefits that our new FCC and FCCR models provide include: quick size reduction of frozen coal to enable normal feed rates, faster unloading of unit trains for reduced or eliminated demurrage charges, elimination of damage caused by large unfrozen lumps, elimination of hopper jams and damage to conveyor belts, elimination or severe reduction of expensive yard equipment, downtime and labor to handle frozen chunks and greatly simplified changeovers to warm or cold weather operation with no need to disturb the feed hopper (as the roll shell on all units can be either removed or retracted, depending on the model, to form a dust-tight chute for unhindered passage of the coal during warm weather periods).

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GUNDLACH CRUSHERS

JEFFREY RADER

Pennsylvania Crusher

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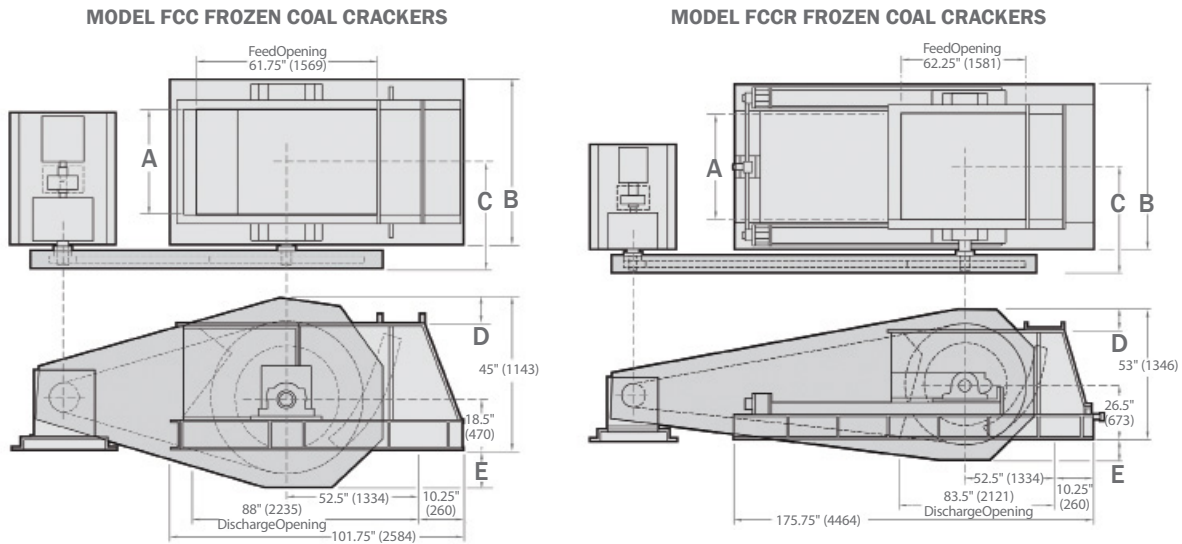
Damage Protection Features

Protection is provided by a spring-loaded toggle mechanism which acts automatically. This feature allows the breaker plate to retreat instantly when an uncrushable material enters the chamber. As

soon as such material is clear of the chamber, the breaker plate returns immediately to its normal position. The drive assembly is incorporated on a single modular frame separate from the cracker,

providing flexibility in positioning. A slip type coupling between the motor and speed reducer allows the crusher to be started under choke feed conditions and helps to protect the motor.

Dimensions and Weights



Note: Standard chain drive centers are shown and can be varied to suit installation conditions.

DIAMETER X LENGTH IN. (MM)	MODEL FCC APPROXIMATE LAYOUT DIMENSIONS** AND SHIPPING WEIGHTS					
	A	B	C	D	E	LBS (KG)
30" X 40" (762 x 1016)	42-3/4" (1086)	64-1/2" (1638)	43-7/8" (1114)	5-1/2" (140)	13-1/2" (343)	10,700 (4,853)
30" X 50" (762 x 1270)	52-3/4" (1340)	74-1/2" (1892)	48-13/16" (1240)	7-7/8" (200)	15-1/2" (394)	15,880 (6,985)
30" X 60" (762 x 1524)	62-3/4" (1594)	84-1/2" (2146)	53-13/16" (1367)	9" (229)	23-1/2" (597)	17,810 (8,079)
30" X 72" (762 x 1829)	73-1/4" (1861)	96-3/4" (2457)	64-3/4" (1645)	13-1/2" (343)	22-3/4" (578)	25,700 (11,657)
30" X 84" (762 x 2134)	85-1/4" (2165)	108-3/4" (2762)	70-3/4" (1797)	16" (406)	21-1/2" (546)	32,000 (14,515)
30" X 100" (762 x 2540)	101-1/4" (2572)	124-3/4" (3169)	81" (2057)	16-1/2" (419)	24-3/4" (629)	34,000 (15,422)
30" X 120" (762 x 3048)	124" (3150)	144-3/4" (3677)	87-1/4" (2216)	21-1/2" (546)	29" (737)	37,700 (17,100)

DIAMETER X LENGTH IN. (MM)	MODEL FCCR APPROXIMATE LAYOUT DIMENSIONS** AND SHIPPING WEIGHTS					
	A	B	C	D	E	LBS (KG)
30" X 40" (762 x 1016)	42-3/4" (1086)	68-1/4" (1734)	44-11/16" (1135)	10-3/4" (273)	8-11/16" (221)	18,900 (8,573)
30" X 50" (762 x 1270)	52-3/4" (1340)	78-1/4" (1988)	49-5/8" (1260)	10-3/4" (273)	8-11/16" (221)	20,200 (9,163)
30" X 60" (762 x 1524)	62-3/4" (1594)	88-1/4" (2241)	54-5/8" (1387)	10-3/4" (273)	8-11/16" (221)	21,500 (9,752)
30" X 72" (762 x 1829)	74-3/4" (1899)	100-1/4" (2546)	62-7/8" (1597)	10-3/4" (273)	8-11/16" (221)	24,300 (11,022)
30" X 84" (762 x 2134)	86-1/4" (2191)	112-1/4" (2851)	67-1/8" (1705)	10-3/4" (273)	8-11/16" (221)	26,300 (11,929)
30" X 100" (762 x 2540)	102-3/4" (2610)	128-1/4" (3258)	76-15/16" (1954)	10-3/4" (273)	8-11/16" (221)	32,500 (14,742)

** All dimensions are approximate. Certified drawings will be furnished for installation. Installation supervision is available.

DIAMETER X LENGTH IN. (MM)	MODEL FCC & FCCR CAPACITY	
	(TPH)	HP
30" X 40" (762 x 1016)	625	60
30" X 50" (762 x 1270)	750	75
30" X 60" (762 x 1524)	1000	100
30" X 72" (762 x 1829)	1250	125
30" X 84" (762 x 2134)	1500	150
30" X 100" (762 x 2540)	1800	150
30" X 120" (762 x 3048)	2100	200

Capacities shown are based on reducing precrushed coal weighing 50 lbs./cu. ft. (801 kg/cu. m.) that has frozen into agglomerated clumps to a nominal 6" (152 mm) output size.

For other output sizes, consult us for capacity information.

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