

QPEC 18" x 30" Amalgamation Unit ready for shipment

Discharge End

Application

Quinn Batch Amalgamation units are designed to recover gold values from jig, table, flotation, or sluice concentrates by the use of the amalgamation process.

The units can also be used to cyanide leach high grade gold concentrates for precipitation and subsequent production of gold bullion.

Design: Basis three-stage operation.

Stage 1: The Quinn Batch Amalgamation units are designed with a two-speed motor to grind the concentrates at the higher speed to liberate the gold and/or to polish the surface of the gold.

During the grinding-polishing period, chemicals such as lime, soda ash, caustic soda, nitrates, etc., can be added for thorough mixing.

The grinding-polishing period can require 5 to 12 hours depending upon the specific concentrate requirements.

Stage 2: Upon completion of Stage 1, mercury is added to the charge, the speed is reduced approximately 1/3 and the batch amalgamated. One to two hours is usually required. The slower speed reduces the flowing of the mercury to a minimum.

Stage 3: The gold-laden mercury must now be separated from the gangue material. This is accomplished using a Quinn mercury separator unit located beneath the amalgamation unit.

Application

Design:

Stage 3 (continued):

The clean-out door cover is removed, the mill rotated at the slow speed and the contents discharged into a peripheral collecting housing. Grinding balls are retained in the unit by a grate.

Basically, the separator provides a rising column of water. The gangue discharge, gold-laden mercury (amalgam) and mercury drop into the feed chamber. The velocity of the upward water stream is controlled by an operator to flow the gangue over the top and allow the amalgam and mercury to pass downward into a collection vessel for subsequent retorting and reduction to a gold and silver bar.

Specifications

Sizes: As per above drawing.

Drum: Fabricated of heavy mild steel plate. A center guide ring is provided for contact with thrust idlers.

Feed assembly: Heavy cast steel tapered feed pipe assembly with support stand.

Discharge opening: Latch type, gasketed. Includes removable rubber lined ball grate.

Discharge chute: Provided with housing to collect discharge products.

Drum rollers: Drum rotates on pneumatic rubber tires.

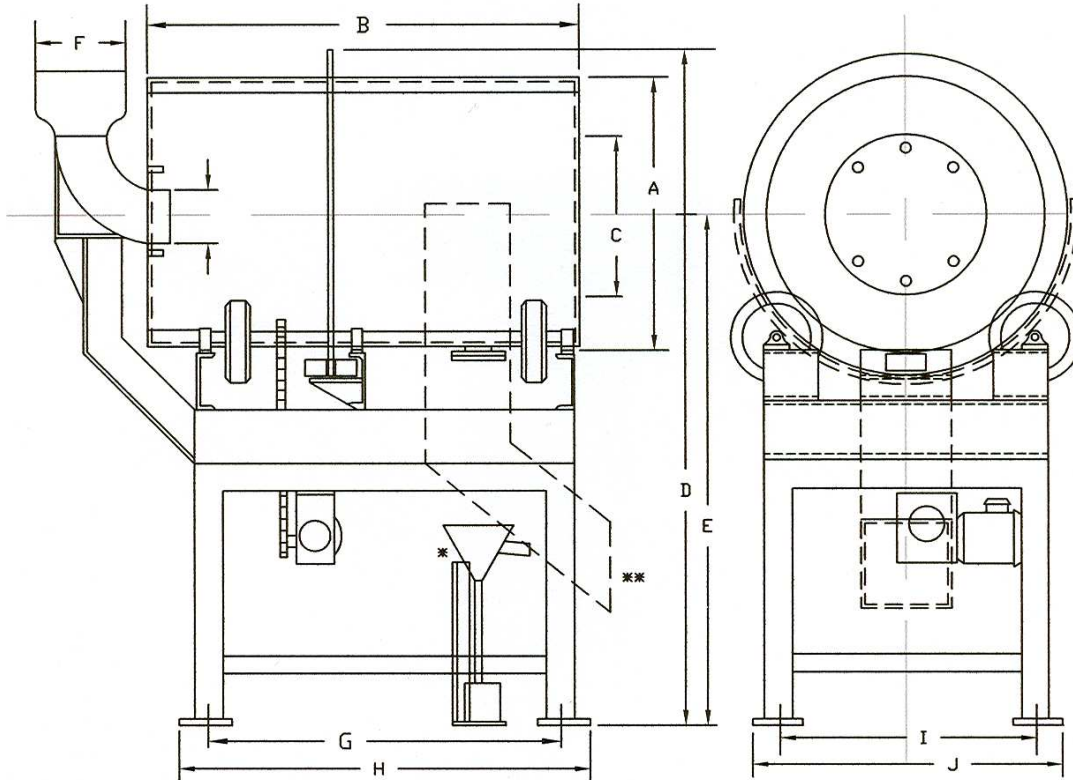
Thrust rollers: Heavy set of urethane or hard rubber thrust rollers maintain alignment of rotating drum. Support hearings: The drum roller shafts are supported on self-aligning pillow block bearings. - Reducer: Enclosed running-in-oil gear reducer is conveniently mounted beneath the drum area.

Motor: Is totally enclosed, fan-cooled, and of the "C" face flanged type for bolting to the reducer. Drive: Roller chain type including chain guard.

Paint assembly: Unit is rustoleum primed, green enamel finished, and shipped completely assembled.

NOTE: Units available with wetted parts, rubber or elastomer lined for abrasion or corrosion, or of stainless steel or other alloys. Also, units can be furnished with modifications to suit customer's requirements.

(Dimensions on next sheet.)



DIMENSIONS AND DATA

SIZE	A	B	C	D	E	F	G	H	I	J	HP	RPM
18x30	18	30	10	63¼	36	6	21	26	16	21	1-½	32
24x36	24	36	14	71-½	36	8	29	34	23	28	2	24
30x42	30	42	18	82-½	36	10	81	37	30	36	3	20
36x48	36	48	22	102-½	48	12	36	42	38	44	5	17
48x54	48	54	34	120	48	12	40	56	48	54	7-½	11

*MERCURY SEPARATOR
OPTIONAL