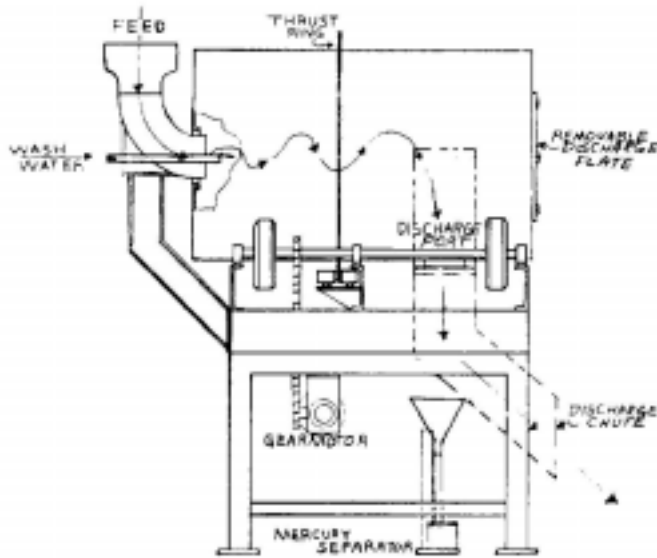




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BATCH MERCURY AMALGAMATOR



GENERAL ARRANGEMENT DRAWING OF DRUM AMALGAMATION UNIT WITH FEED CHUTE AND MERCURY SEPARATOR OR DISCHARGE CHUTE



APPLICATION

The Batch Amalgamator 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 concentrates for precipitation and subsequent production of gold bullion.

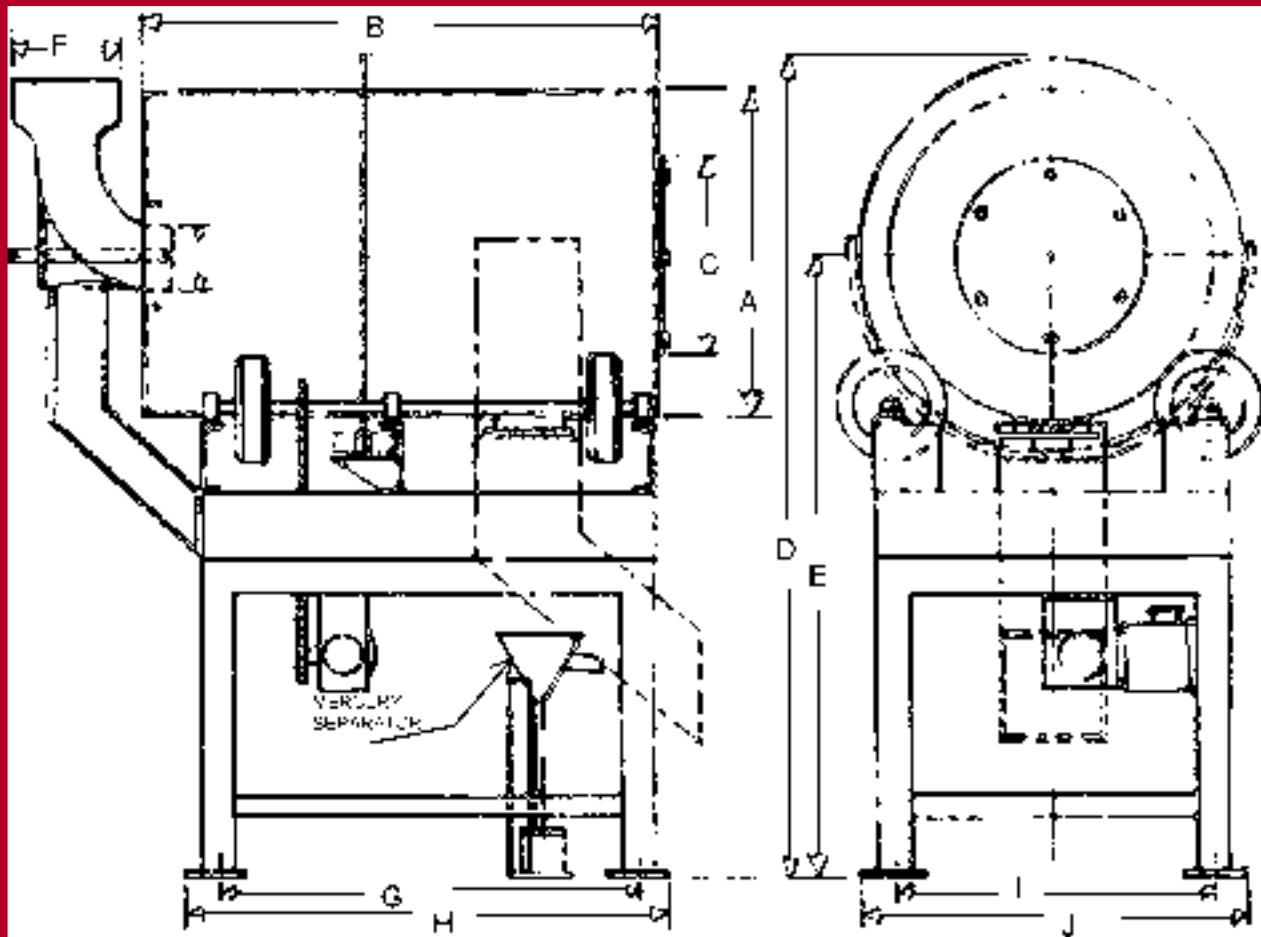
DESIGN

Stage 1. The Batch Amalgamator units are designed with a two speed motor to grind the concentrates at the higher speed to liberate gold or to polish the surface of the gold to facilitate chemical bonding. 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 6 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 is 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 Mercury Separator unit located beneath the amalgamation unit.

The cleanout door is removed, the mill rotated at the slow speed and the contents discharged into a peripheral collecting housing. The mercury separator is attached to the bottom of this housing. Grinding balls are retained in the unit by a grate. 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 production to a gold or silver bar.



CATALOG NUMBER	(IN) DIMENSIONS (INCHES)												
	SIZE	A	B	C	D	E	F	G	H	I	J	HP	RPM
050N-001	18 X 30	18	30	10	63	36	6	21	26	16	21	1.5	32
050N-002	24 X 36	24	36	14	72	36	8	29	34	23	28	2	24
050N-003	30 X 42	30	42	18	83	36	10	31	37	30	36	3	20
050N-004	36 X 48	36	48	22	103	48	12	36	42	38	44	5	17
050N-005	48 X 54	48	54	34	120	48	12	40	46	48	54	7.5	11

SPECIFICATIONS

Dimensions: Shown in above table and drawing.

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

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

Discharge Opening: 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 maintains alignment of the rotating drum.

Support Bearing: The drum roller shafts are supported on six self aligning pillow block bearings.

Reducer: Enclosed running in oil worm gear reducer is conveniently mounted beneath the drum area.

Motor: Totally enclosed fan cooled and "C" faced 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 are available with wetted parts rubber or elastomer lined and stainless steel for abrasion or corrosion resistance.