

Langsenkamp

Separators

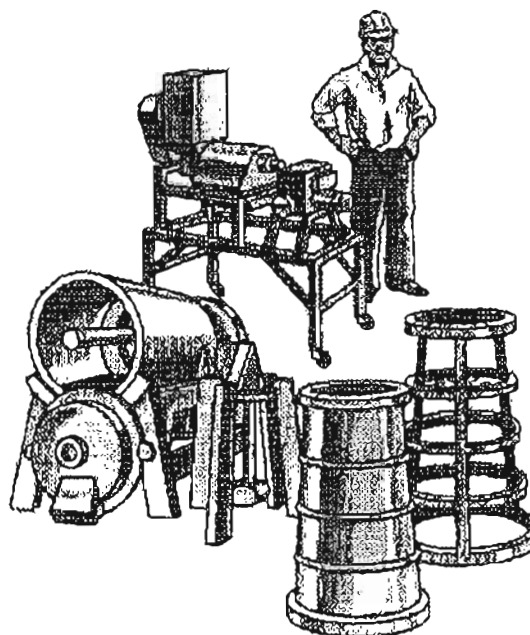
Separators

Langsenkamp stage 1 rotary separators handle products with larger particles (up to 1/2") with up to 90% solids content. Stage 2 separators handle product down to 500 microns for juice extraction. All of our separators feature variable speed/flow rates and have optional Cleaning in Place. Our Laboratory series replicates stages 1 and 2 in one machine for prototyping and process development.

Stage 1 vs. Stage 2 Separators

Stage 1 and stage 2 separators are very similar in appearance, but have distinctly different applications. The stage 1 separator is designed to break up whole fruit or vegetables, so that the juices and pulp may be later separated from seeds, skins and stems. An impeller accomplishes the breaking down or macerating process by forcing product through a grid-like crusher partition. The screen section then separates seeds and other larger extraneous materials.

While the single stage separation that is provided by the stage 1 separator might be sufficient for some applications, in most cases the pulp must be further refined. This is where the stage 2 separator is especially appropriate. The stage 2 separator is not equipped with an impeller or crusher partition. It is, however, equipped with screens that have much smaller perforations than those found in the stage 1 separator. The smaller screen perforations in the stage 2 separator allow the separator to efficiently separate tiny seeds and fibrous materials from pulp and juices. The stage 2 separator also discharges a highly refined and uniform product. One additional distinction is that the stage 2 separators are more commonly equipped with a product feed pipe inlet, while the stage 1 separator is usually equipped with a square or cone shaped hopper inlet. The unique Langsenkamp design allows the stage 1 separator to be converted for use as a stage 2 separator, providing maximum flexibility.



Hopper or Pipe Inlet

The type of inlet selected will depend upon the condition of the product to be processed. The hopper inlet is recommended for fruits and vegetables that must be shredded or broken prior to separation. The pipe inlet is recommended for hot-break products that are in a semi-liquid condition.

Screens

Our screens are constructed of either Monel or Stainless Steel. The size ranges are from 500 microns to .5 inches. The proper size depends upon the product and the process.

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Separators

Some of our current applications and products consist of:

Features

Vapor-proof Housing

Minimizes exposure of product to the atmosphere.

High Capacity

Rated 10-20 tons with 10hp motor; 20-50 tons with 15hp.

One Piece Screen

Most sanitary design without laps or joints.

Instant Adjustment

Adjusting wheel allows finite adjustments during operation.

Simplistic Design

Screen and frame slide out in one piece. Paddles remove by lifting a latch and sliding the assembly off of the shaft.

Products

Apples
Apricots
Avocados
Bananas
Beans
Beets
Berries
Carrots
Cherries
Currants
Dates
Figs
Grapes
Guava
Kiwifruit
Mangoes
Melons
Papayas
Peaches
Pears
Pineapples
Peppers
Plums
Pumpkin
Prunes
Tomatoes

Applications

Additives
Beverages
Chili Sauce
Citrus
Clarification
Cocktail Sauce
Concentrates
Flavoring
Infant Foods
Hot Sauce
Jams
Jellies
Juices
Ketchup
Mustard
Nectars
Pie Filling
Preserves
Purées
Salsa
Sauces
Specialty Foods
Soup
Sweet Potatoes
Sweeteners
Tomato Paste

Specifications

Model	150		1000		1500	
Product Inlet Type	Hopper Inlet	Hopper Inlet	Pipe Inlet	Hopper Inlet	Pipe Inlet	Pipe Inlet
Overall Height (inches)	46.25	43.25	43.25	47.25	47.25	47.25
Overall Width (inches)	20	30	30	37	37	37
Overall Length (inches)	39.25	56.25	50	70.5	63	63
Height of Inlet (inches)	52	40.5	39	43.5	42.25	42.25
Size of Inlet (inches)	7 x 8.5	12 x 16	3 IPS	14 x 20	4 IPS	4 IPS
Height of Outlet (inches)	28	11	11	11	11	11
Size of Outlet (inches)	2 IPS	3 IPS	3 IPS	4 IPS	4 IPS	4 IPS
Height of Discharge (inches)	28	21.75	21.75	21.25	21.25	21.25
Speed (rpm)	585 to 1750	600 to 950	600 to 950	450 to 700	450 to 700	450 to 700
Input Power (hp)	1.5	10	10	15	15	15
Capacity per Hour (tons)	1 to 2.5	10 to 20	10 to 20	20 to 50	20 to 50	20 to 50
Weight, Crated (lbs.)	350	675	650	1275	1250	1250

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Model 150 Laboratory Series 1 and Series 2 Separator **(Previously Model 17 and 18 Laboratory Pulper and Finisher)**

Standard Pricing

Model 150 Stage 2 Separator

Complete with leak-proof enclosure, hopper inlet with ten-inch high extension, all contact parts constructed of T-316 stainless steel, framework constructed of T-304 stainless steel mounted on casters. Includes one of any screen listed, 1.5 hp TEFC, 230/460 volt, 3 phase, 60-hertz, 585 - 1750 speed variable drive motor assembly.

11,990.00

Model 150 Stage 1 Separator

Same as above except with quick connecting pulper attachment to convert from Stage 2 (finisher) to Stage 1 (pulper).

13,750.00

Stage 1 Pulper Attachment

Conversion attachment to convert from Stage 2 (finisher) to Stage 1 (pulper).

1,800.00

Stage 2 separator Only

Separator less frame, drive assembly, and casters.

9,850.00

440.00

Price Adjustment for Single Phase 115/230 volt motor

Other modifications to electrical or drive characteristics priced on request

Screens

2 piece cylindrical construction 5.625" x 12" OAL

Per Set

Perforations

.020 Monel	178.00
.023 Monel	178.00
.027 Monel	178.00
.033 Monel	178.00
.045 Stainless	178.00
.060 Stainless	178.00
.093 Stainless $\frac{3}{32}$ "	178.00
.125 Stainless $\frac{1}{8}$ "	178.00
.187 Stainless $\frac{3}{16}$ "	178.00

Metro Products

8818 Corporation Dr., Indianapolis, Indiana 46256
(317) 585-1950 Fax (317) 585-1951

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Operating Instructions

Instructions for using the Langsenkamp Laboratory Model 17 Stage 2 and Model 18 Stage 1 & 2 separator.

General

The laboratory models are generally used for low volume production or experimental purposes to simulate the production process. The unit is mounted on a portable stand and driven by a variable speed motor.

The Model 17 stage II separator is used mainly to separate solids from liquids, seeds from pulp, or to refine slurries.

The Model 18 stage I separator consists of a model 17 with a pulper attachment. This attachment is mounted to the inlet hopper and driven by the main shaft. This combination is used when the product consists of whole fruits or produce.

Adjustments

There are four adjustments available to the operator.

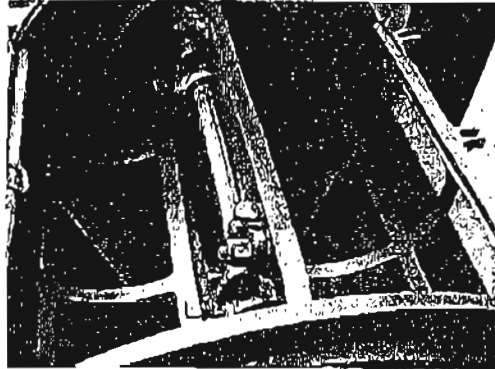
1. Speed: The speed of this unit can be varied from 585 rpm to 1750 rpm.

We have found that the best results are normally between 1300 to 1500 rpm. This will vary with individual product characteristics. Increased speed results in more centrifugal force applied and will effect the rate of free liquid separated.

Note: Products that are dried too quickly are subject to abrasion.

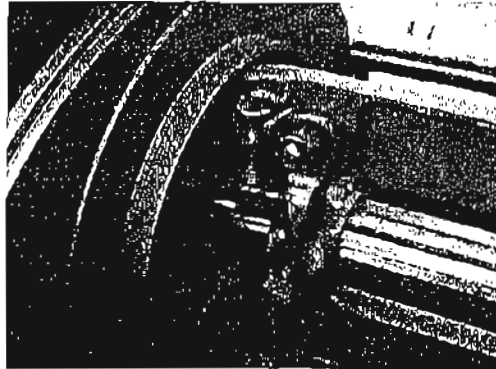
2. Feed: Changing the angle of the paddles can vary the flow rate of product through the machine. This adjustment is referred to as "paddle lead". To obtain the least amount of retained moisture in the end product, the paddles should be in the neutral position. The neutral position is with the paddles parallel to the shaft.

2. Feed: (cont.) To adjust the paddles, set one end of the paddle ahead of the other. Set the paddle lead in the direction of rotation. This adjustment will move the product through the machine faster.



Lead Adjustment

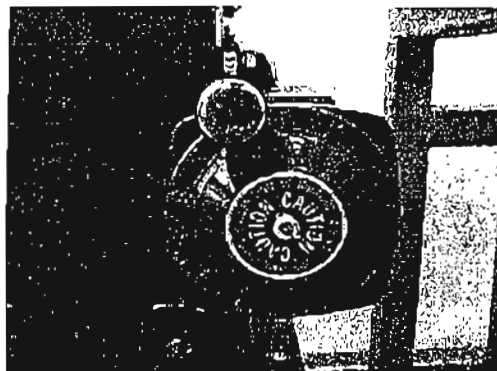
3. Screens: Screens are furnished as sets. Each set consists of one female and one male half. The screen size is determined by the diameter of the perforated holes. These holes are measured in thousandths of an inch, from .020" to .1875". The proper screen for your needs will depend upon the product and the degree of separation desired.



Clearance Adjustment

4. Clearance: Increasing the distance between the screen and paddle results in reduced pressure on the product. This action results in forcing fewer solids through the screen. The distance between the paddle and the screen is set at .125" or 1/8" from the factory.

Note: Adjustments to clearance and feed should not be made simultaneously. The desired results can be better evaluated using smaller incremental changes.



Speed Adjustment