



**CARRUTHERS**

PRODUCT NAME

# PAK SERIES



## VOLUMETRIC FILLING MACHINES



**CARRUTHERS. QUALITY. PERFORMANCE. INNOVATION.**

WWW.CARRUTHERS.US

441 30TH STREET, ASTORIA, OR 97103

## VOLUMETRIC FILLING MACHINES

# PAK SERIES

### INNOVATIVE CARRUTHERS TECHNOLOGY SOLVES THE “HARD-TO-FILL PRODUCTS” PROBLEM...

- Slide-fill filling basin technology – provides ability to gather large pieces or random/irregular sized products for consistent portioning into container formats with **gentle handling** to preserve the product integrity and provide **excellent product appearance**.
- Eliminates air thru compression of product, creating tightly formed portions which in turn can be easily conveyed and transferred into containers cleanly with **no seal contamination**.
- Forms volumetric shapes for a direct, **accurately placed deposit** to fit containers resulting in **accurate fill weights**, achieving a standard deviation of 2% or better.
- **Swing capability** – Quick changeover time for filling varying container or portion sizes, adjustable product portion shape and portion height. Easy to adjust fill weight on-the-fly.
- **Target feeding** – our patented method of PLC controlled feeding keeps each filler station balanced and does not require a full time operator.

#### CANS/JARS

- Containers fed thru filler
- Bottom fill capability for small mouth containers
- Double pass capability for large or tall portions
- Ability to compact portions in container for head space



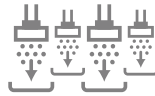
#### SINGLE-LANE TARGET DEPOSITING

- Designed for continuous moving ‘Entree’ and ‘ready meal’ assembly lines at low to high speeds
- Filler synchronized to moving containers
- Containers such as: Trays, Bowls, Tortillas
- Portioning pockets synchronize and move with container during discharge to assure smooth transfer and accurate placement
- Adjustable product placement in both directions



#### MULTI-LANE TARGET DEPOSITING

- Designed for indexing Thermoform/Rollstock or Multi-Lane Tray/Cup Sealing Machines
- Indexing mode for filler
- Simple Electronic handshake signal with packaging machine
- Cantilevered design so no hardware needs to be attached to packaging machine



#### VERTICAL POUCHES

- Pre-made Pouches or Bags
- Filler directly interfaced to pouch handling system for smooth transfer
- Simplex or duplex mode

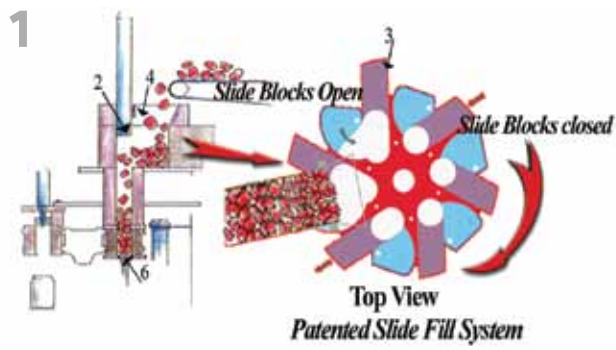


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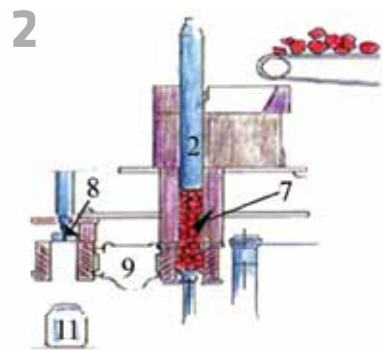
## VOLUMETRIC FILLING MACHINES

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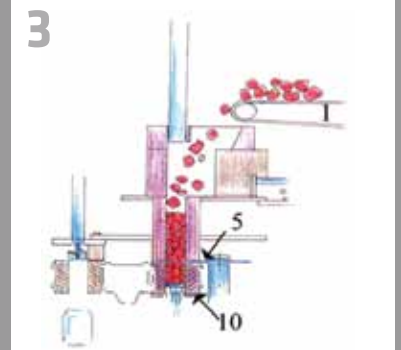
## HOW IT WORKS: FILLING METHODOLOGY



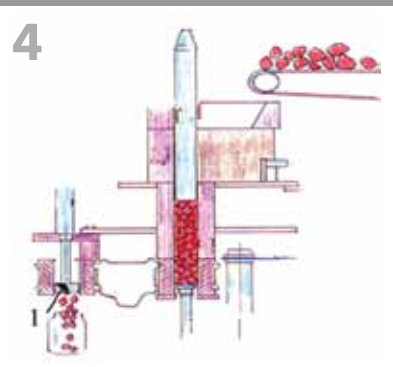
▲ Product transported to the filling basin (4) by a variable speed conveyor regulated by the control system. The conveyor speed is adjusted to maintain a constant level in the filling basin. Filling basin slide blocks slide in around product column. Product in filling column is compressed between upper plunger (2) and lower plunger (6).



▲ Adjusting the stroke of the lower plunger determines the target fill weight. Fill weight variances are eliminated through product compression provided by adjustable pressure from the upper plunger (2). Product in the filling column represents several container portions. Compression levels are adjustable over a wide range to allow for varying products.



▲ The shuttle pocket (10) is located at the bottom of the filling column during the compression phase of the filling cycle. The pocket, now full of compressed product of normalized density, is portioned by a knife (5) which cuts the column of product level with the top of the shuttle pocket.

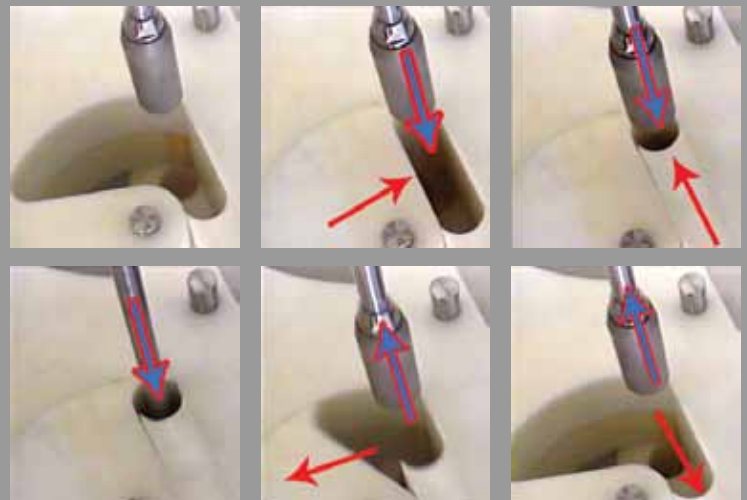


◀ The lower plunger descends and the turret rotates the shuttle pocket and its portioned product outward to the position over the container. The portioned product is placed in the container with a downward stroke of the tamper (8). Machine repeats cycle.

## LEGEND

1. PRODUCT CONVEYOR  
2. UPPER PLUNGER HEAD  
3. SLIDE BLOCK  
4. FILLING BASIN  
5. KNIFE  
6. LOWER PLUNGER HEAD

7. FILLING COLUMN  
8. HEAD TAMPER  
9. TURRET  
10. SHUTTLE POCKET  
11. CONTAINER



## HOW IT WORKS: SLIDE FILL



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## FEATURES AND TERMINOLOGY



Upper plunger spring compression adjustment



Single turret "Bowl" style fill basin



Bowl scrapers



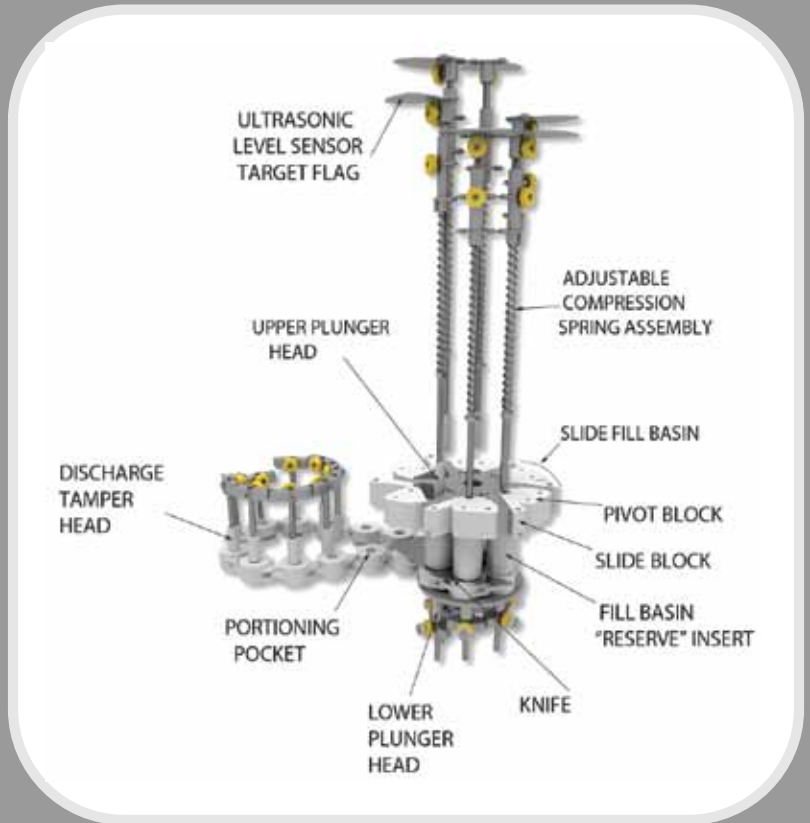
Motor drive and pin-clutch assembly



Portion "swing" change parts



Ultrasonic sensor for target feeding



Single turret - product discharge area



Weight control adjustment - manual or servo driven



Dual turret "Slide Fill" style fill basin



HMI touchscreen controls

**VOLUMETRIC FILLING MACHINES**

# PAK SERIES MODELS

THE PAK SERIES VOLUMETRIC FILLING MACHINES FOR NON-LIQUID PRODUCTS.  
EACH IS CAPABLE OF PROCESSING A WIDE RANGE OF CONTAINERS AND PORTION SIZES.


**NU-PAK 25**

- Single Station
- Speeds up to 25 CPM
- Fill weights up to 5 lbs.


**SIX-PAK**

- 6-Station
- Speeds up to 150 CPM
- Fill weights up to 2 lbs.


**NU-PAK 300**

- 12-Station
- Speeds up to 300 CPM
- Fill weights up to 1 lb.

**NU-PAK 500**  
(shown at left)

- 20-Station
- Speeds up to 500 CPM
- Fill weights up to 1 lb.

**NU-PAK 600**

- 24-Station
- Speeds up to 600 CPM
- Fill weights up to 1 lb.

**WIDE RANGE OF PRODUCTS THAT CAN BE FILLED:**

Tuna – chunk or flake, cooked • Salmon – chunk, cooked or raw • Chicken, diced or strip, cooked or raw, or IQF  
 Beef/Pork – diced or strip, cooked or raw, IQF • Philly cheesesteak – sliced cooked beef with peppers/onions and some gravy  
 Ham – Diced • Corned beef – shredded or minced • Tobacco, Snuff • Kim Chi • Rice, cooked • Pasta, cooked  
 Beef stew garnishes • Bacon bits • Collard greens/blanched spinach • Mixed vegetables – IQF or fresh • Cous Cous/Taboule  
 Turkey stuffing • Roasted bell peppers • Salads with small amount of sauce – pasta salad, carrot salad, beet root  
 Artichoke hearts • Herring chunks • Diced fruit

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## SPECIFICATIONS

MODEL	FILL STATIONS	CPM	SLIDE OR BOWL FILL	MAXIMUM PORTION DIA. (INCHES)	MAXIMUM PORTION HEIGHT (INCHES)	MAXIMUM PORTION WEIGHT
NU-PAK 25	1	25	SLIDE	5.875	8	5 lbs
SIX-PAK	6	150	SLIDE AND BOWL	3.875	6	2 lbs
NU-PAK 300	12	300	BOWL	3.625	2.5	1 lb
NU-PAK 500	20	500	BOWL	3.625	2.5	1 lb
NU-PAK 600	24	600	BOWL	3.125	2.5	1 lb



CARRUTHERS

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