

## ENDA LINE

Amid a landscape of ever-evolving technology, changing customer needs, and a competitive labor market, the imperative for continually transforming and reinventing your business has never been stronger. With more than 14 years of experience, we will be with you step by step from the initial research of your projects to commissioning, so we establish partnerships with customers in different sectors to drive large-scale change.

## WE ARE DIFFERENT

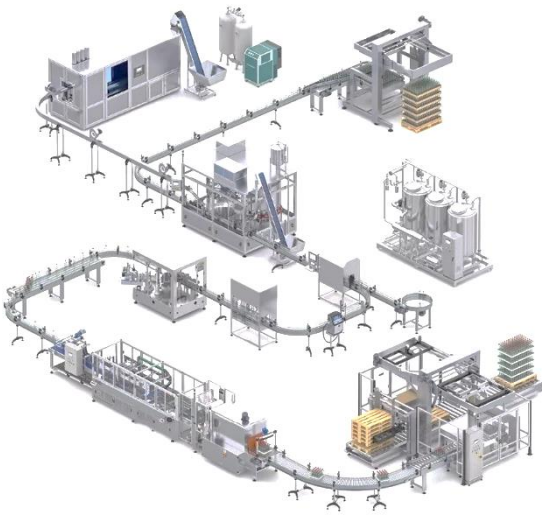
In addition to competencies in management and technical issues, ENDA LINE offers innovative and tailor-made solutions to the clients. To achieve this, listens to clients, analyze problems and search for alternative solutions through challenging conditions minimizes the costs of solutions based on the customer's needs which meets customer's expectation best

## GROWTH AND INNOVATION

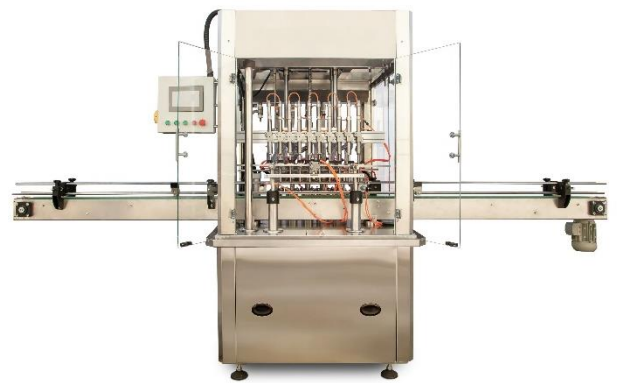
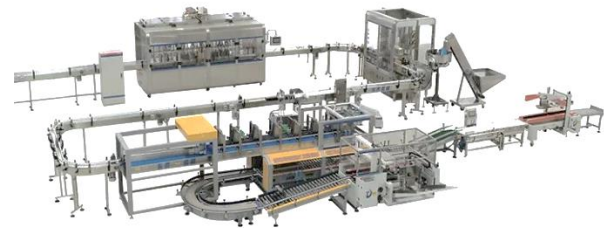
CREATE PATHWAYS FOR YOUR BUSINESS TO REACH NEW PEAK OF PRODUCT AND MARKET SUCCESS.

Innovation enables problem solving and provides creative insight that allows your company to look at things from a different perspective, regardless of whether you are developing a new product, refreshing strategy or finding an original way to stay ahead of the competition.

**SOLUTIONS**



**FILLING LINES**

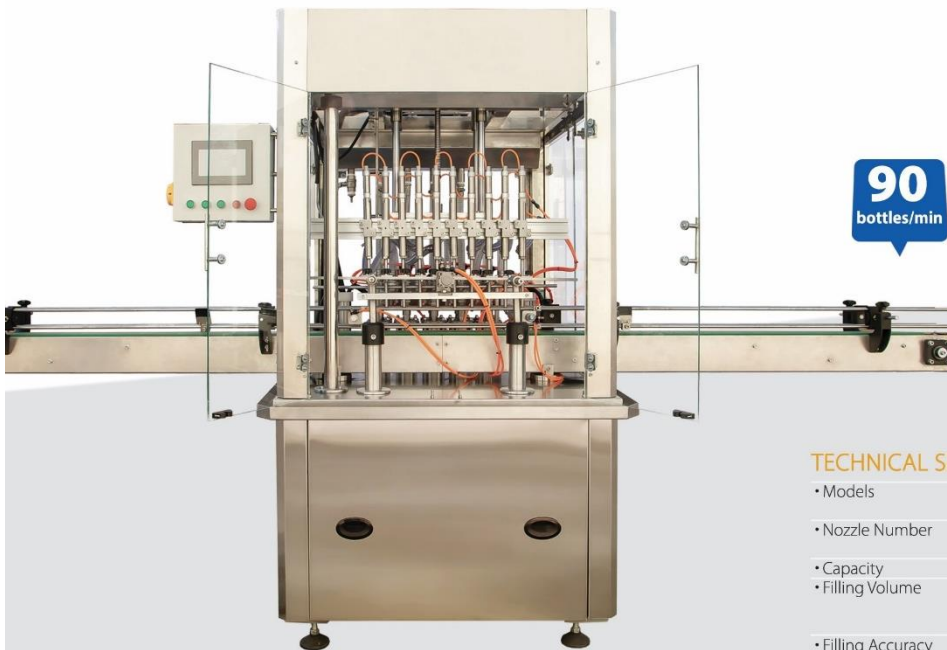


## AUTOMATIC LIQUID VOLUMETRIC FILLING MACHINE (SERVO SYSTEM)

MODEL: DLF -10N

### FEATURES

- Dual line conveyor increases capacity up to 30% in compare with single line fillers.
- Volume/weight is easily adjustable through touch screen.
- Filling pistons are controlled by servo system.
- Nozzles can set to be above bottle mouth or bottom up, synchronizing with liquid level (beneath or above) to eliminate bubbling of foamy liquids.
- Adjustable speed while filling, it can fill slowly at the beginning and then accelerate to faster speed, finally slow down once again to finish up. This can prevent foamy liquids from bubbling and avoid spillage
- Integrated digital control with Siemens PLC and Siemens touch screen controls for easy operation
- GMP standard stainless steel
- Designed for easy changeover and cleaning
- Sturdy conveyer system driven by Siemens motor
- Adjustable conveyor speed and conveyor guide rails to accommodate with different products
- Drip detect system
- Bottle holding mechanism for the best position of the bottles before filling action.
- No bottle-no fill system
- Filling zone protected by interlock guards for safety registration
- Memory slots for storing filling parameters for different containers
- Easy to install and operate, requiring minimum maintenance for maximum performance and useful life
- Delicate filler structure with high quality finish
- Warning light and buzz alarm on production error



### TECHNICAL SPECIFICATIONS

• Models	DLF -10N DLF-6N
• Nozzle Number	10 in DLF-10N 6 in DLF-6N
• Capacity	90 /min for 500 ml
• Filling Volume	50 -500 cc 100-1000 cc 1000-5000 cc
• Filling Accuracy	0.5 % filling volume
• Machine Size (L*W*H)	400*140*216 cm
• Weight	950 kg
• Power Consumption	2.7 kw
• Power Source	3-phase, 380 V, 50/60 Hz
• Air Source	6 kg/cm <sup>2</sup> ; (0.6 MPa)

## LABELING MACHINE

MODELS: LB-1S-120, One-Side  
LB-2S-120, Two-Side  
LB-R-100, Wrap Around

### FEATURES

#### Adaptability:

- The machine can be configured for one-side apply, and also has an optional wrap station.
- Regardless of bottle size or shape (flat or round), its sensors can be adjusted for various applications.

#### Simple to use:

- The built-in operating instructions and troubleshooting guide offered in operating interface (HMI)
- Hand wheels that provide simple adjustments, enable quick set up and easy changeovers.

- Hand wheels are equipped with thrust bearing to smooth and easy adjustment.

#### Easy to upgrade:

- The modular design and ability to adjust applicators in three axes allows you to upgrade your capabilities as your needs evolve.
- You simply upgrade the machine to accommodate your new requirements.

#### Durable:

- The machine is mostly made of 304 stainless steel and anodized aluminum. A few steel parts are galvanized coated.

#### Accuracy:

- Two smart applicators and main conveyor are equipped with servo systems and planet gearboxes.
- Label and container detected by Sick ultrasonic sensors.
- Side belt aligners center your products before entering top hold-down controls that keep your product in place.
- Controls of machine are fully synchronized, ensuring all components run at the same speed.



### TECHNICAL SPECIFICATIONS

• Model	LB-2S-100
• Product Specifications	Rectangular, flat-arched to oval, cylindrical, free-standing
• Speed (Capacity)	120 products/min
• Power Consumption	2 kw
• Power Source	3-phase, 380 V, 50/60 Hz
• Machine Size (L*W*H)	250*165*160 cm
• Weight	350 kg
• Air Source	6 kg/cm <sup>2</sup> ; (0.6 MPa)

## CARTESIAN PALLETIZER

MODEL: PAL-06

### FEATURES

- A gripper with pick and place mechanism, which provides accurate arrangement of product on pallets
- Grippers based on handling application and the type of your material.
- Ability to change the pallet size
- No waiting time during pallet change. When one pallet is full, the robot automatically starts to palletize on the second pallet, allowing plenty of time to remove the first full pallet and replace it with an empty pallet
- Manual or automatically loaded pallet magazines
- Ability to manual or automatically loaded layer-card magazine
- PLC controls and digital HMI for the setting of production parameters, variables and alarm display
- Possibility of auto programming, Memory for saving product layout
- Providing daily production report



### TECHNICAL SPECIFICATIONS

• Model	PAL-06
• Speed (Capacity)	800 cases/hr.
• Power Consumption	6.5 Kw
• Power Source	3-phase, 380 v, 50/60 Hz
• Machine Size (L*W*H)	570*290*400 cm
• Weight	1500 Kg
• Air Source	Pressure: 6 kg /cm <sup>2</sup> ; (0.6 MPa)

## FULLY AUTOMATIC DEPALLETIZER

MODEL: DP-HL-300

### FEATURES

- Equipped with automatic pick and place layer carton gripper to remove
- Heavy-duty carbon steel frame construction with industrial powder-coated finish
- Stainless steel side walls
- High speed machine that allows the delivery of jars or cans to one or two lines with a capacity of 300 units per minute.

- Possibility of storing three rows of jar or can pallets to prevent the line from stopping when changing pallets.
- The machine has a jar washer or can washer at the exit; depend on the buyer's order.
- The machine has an anti-lock system to prevent the jar from stopping in line.
- The conveyors are made of 304 steel and resistant against corrosion and are washable.
- Integrated four-point lift system built within the frame
- Easily adjustable elevation detection system for precise layer indexing
- Equipping the carrier to prevent bottle falling
- Fully integrated PLC and user friendly HMI touch screen with auto/manual controls

**300**  
bottles/min



### TECHNICAL SPECIFICATIONS

• Model	DP-HL-300
• Output Capacity	300 can or jar or bottle/min
• Input Pallet Dimension	120*10*16 cm
• Power Consumption	6 kw
• Power Source	3-phase, 380 V, 50/60 Hz
• Machine Size (L*W*H)	770*190*450 cm
• Weight	1450 kg
• Air Source	6 kg/cm <sup>2</sup> ; (0.6 MPa)

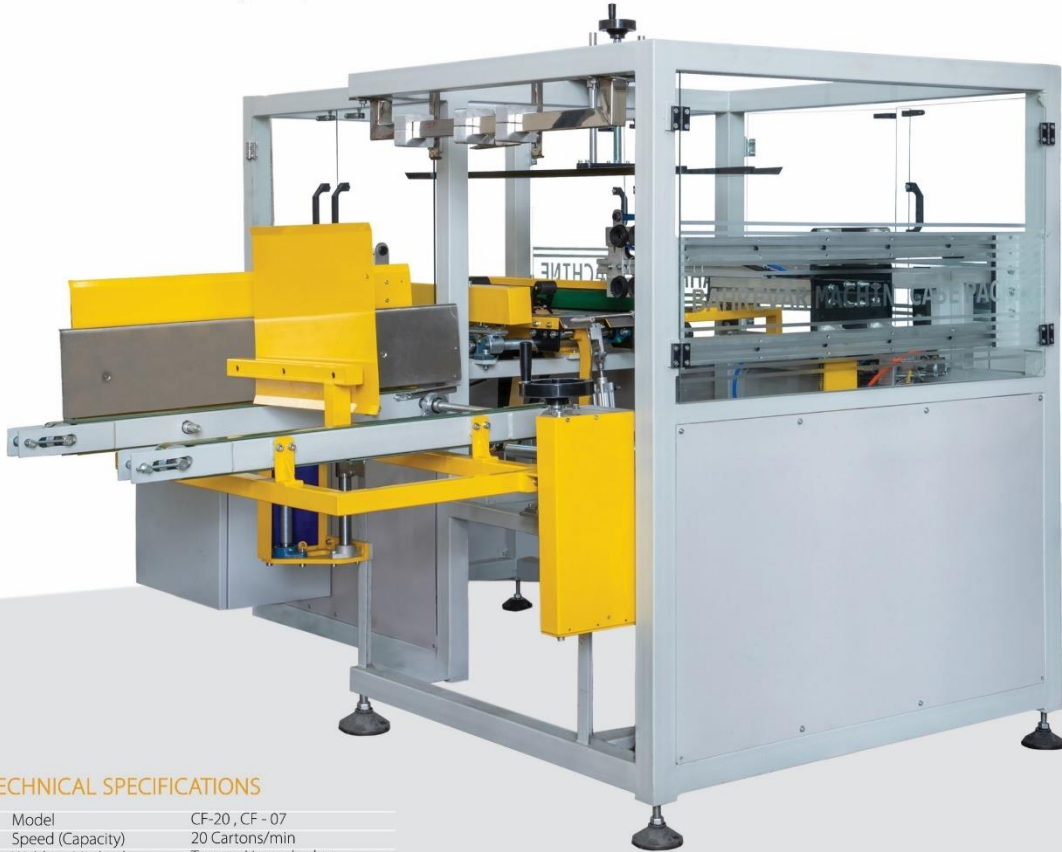
## CARTON FORMER (CASE ERECTOR)

MODELS: CF -20  
CF - 07

### FEATURES

- Carton Erecting, vertical forming, bottom flaps folding and bottom tape sealing automatically
- Carton erecting by servo system
- Compact structure and strong frame keep the machine reliable and durable with low noise.
- Constant speed for different carton dimensions
- It can be easily adjusted to different sizes of cartons
- PLC controller and digital HMI for the setting of production parameters, variables and alarm display
- Embedded wheels for easy transportation

**20**  
cartons/min



### TECHNICAL SPECIFICATIONS

• Model	CF-20 , CF - 07
• Speed (Capacity)	20 Cartons/min
• Welding Method	Tape or Hotmelt glue
• Paper Size	250*200*150 cm 500*450*250 cm
• Power Consumption	0.7 kw
• Power Source	3-phase, 380 V, 50/60 Hz
• Machine Size (L*W*H)	300*200*160 cm
• Weight	480 kg
• Air Source	6 kg/cm <sup>2</sup> ; (0.6 MPa)



## SERVOFILLER MACHINE



- Suitable for different kind of thin & thick materials from 100 to 1000 ml in one shot and 1000 to 2000 ml in two shots .
- Filling speed: 45×1 lit bottles per minute (depending on the product type)
- Filling accuracy: ±1 %
- All contact parts are made of stainless steel 316L
- Equipped with Servo motor
- With SIEMENS PLC and HMI
- Equipped with 10 nozzles
- Adjustable filling volume on HMI
- Electrical parts of power panel: Schneider (made in Germany)
- Pneumatic accessories: FESTO (made in Germany)
- Equipped with drop free nozzles and automatic CIP system
- Machine is equipped with a 160 liter tank.
- Bucket filler: 5 lit. cylinder & 6 nozzles available



- Tek atışta 100 ila 1000 ml ve iki atışta 1000 ila 2000 ml arasındaki farklı ince ve kalın malzemeler için uygundur.
- Doldurma hızı: Dakikada 45×1 lit şişe (ürün tipine göre değişir)
- Doldurma hassasiyeti: ±1 %
- Tüm temas parçaları: 316L paslanmaz çelikten yapılmıştır
- Servo motor ile donatılmıştır
- SIEMENS PLC ve HMI ile
- 10 nozul ile donatılmıştır
- HMI üzerinde ayarlanabilir dolum hacmi
- Güç panelinin elektrikli parçaları: Schneider (Almanya'da üretilmiştir)
- Pnömatik aksesuarlar: FESTO (Almanya'da üretilmiştir)
- Damlatmayan nozullar ve otomatik CIP sistemi ile donatılmıştır
- Makine 160 litrelik bir depo ile donatılmıştır.
- Kova doldurucu: 5 lt. silindir ve 6 nozul mevcut





## METAL CAPPING MACHINE



- Capacity: about 10,000 bottles per hour
- Approximate dimensions of the machine: 2800 x 1000 x 3000 mm
- All 6 heads equipped with mechanical clutch - adjustable rotation speed
- Equipped with an anti-wear side belts – adjustable for bottle diameter
- Equipped with 3 inverters (side belts – conveyor – 6 heads)
- Full automatic cap sorter
- Suitable for metal and plastic caps – diameter: 24 to 120 mm (Twist Off)
- Adjustable for glasses, height: 25 to 300 mm - without change parts
- Custom features upon request:
  - Magnetic cap sorter
  - CM20000 model for capacities higher than 10.000 bottles per hour
  - 8 heads with adjustable rotation speed
  - Capable of steaming under the cap



- Kapasite: saatte yaklaşık 10.000 şişe
- Makinenin yaklaşık boyutları: 2800 x 1000 x 3000 mm
- 6 başlığın tümü mekanik kavrama ile donatılmıştır - ayarlanabilir dönüş hızı
- Şişe çapına göre ayarlanabilen, aşınma önleyici yan kayışlarla donatılmıştır
- 3 invertör ile donatılmıştır (yan bantlar – konveyör – 6 kafa)
- Tam otomatik kapak ayırıcı
- Metal ve plastik kapaklar için uygun – çap: 24 - 120 mm (Çevirerek Çıkarma)
- Camlar için ayarlanabilir, yükseklik: 25 - 300 mm - değişen parça olmadan
- İstek üzerine özel özellikler:
  - Manyetik kapak ayırıcı
  - Saatte 10.000 şişeden daha yüksek kapasiteler için CM20000 modeli
  - Ayarlanabilir dönüş hızına sahip 8 kafa
  - Kapağın altından buhar çıkarılabilme özelliği

## SEMI AUTOMATIC OVER CAPPING MACHINE



- Plastic lids are fed manually to the machine
- Adjustable for the height of the metal can
- Machine capacity controlled by inverter
- Ability to adjust the pressure applied to plastic lids
- Automatic stop in case of no plastic lid
- Stainless steel chute and cabin cover .
- Maximum capacity: 120 cans per minute (depending on the speed of manual placing of plastic lids)
- Height & Diameter : Adjustable for wide variety of cans



- Plastik kapaklar makineye manuel olarak beslenir.
- Metal kutunun yüksekliğine göre ayarlanabilir
- İnvörtör tarafından kontrol edilen makine kapasitesi
- Plastik kapaklara uygulanan basıncı ayarlayabilme
- Plastik kapak olmaması durumunda otomatik durdurma
- Paslanmaz çelik oluk ve kabin kapağı.
- Maksimum kapasite: Dakikada 120 kutu (plastik kapakların manuel olarak yerleştirilme hızına bağlı olarak)
- Yükseklik ve Çap: Çok çeşitli kutular için ayarlanabilir

## AUTOMATIC TUBE FILLER MACHINE

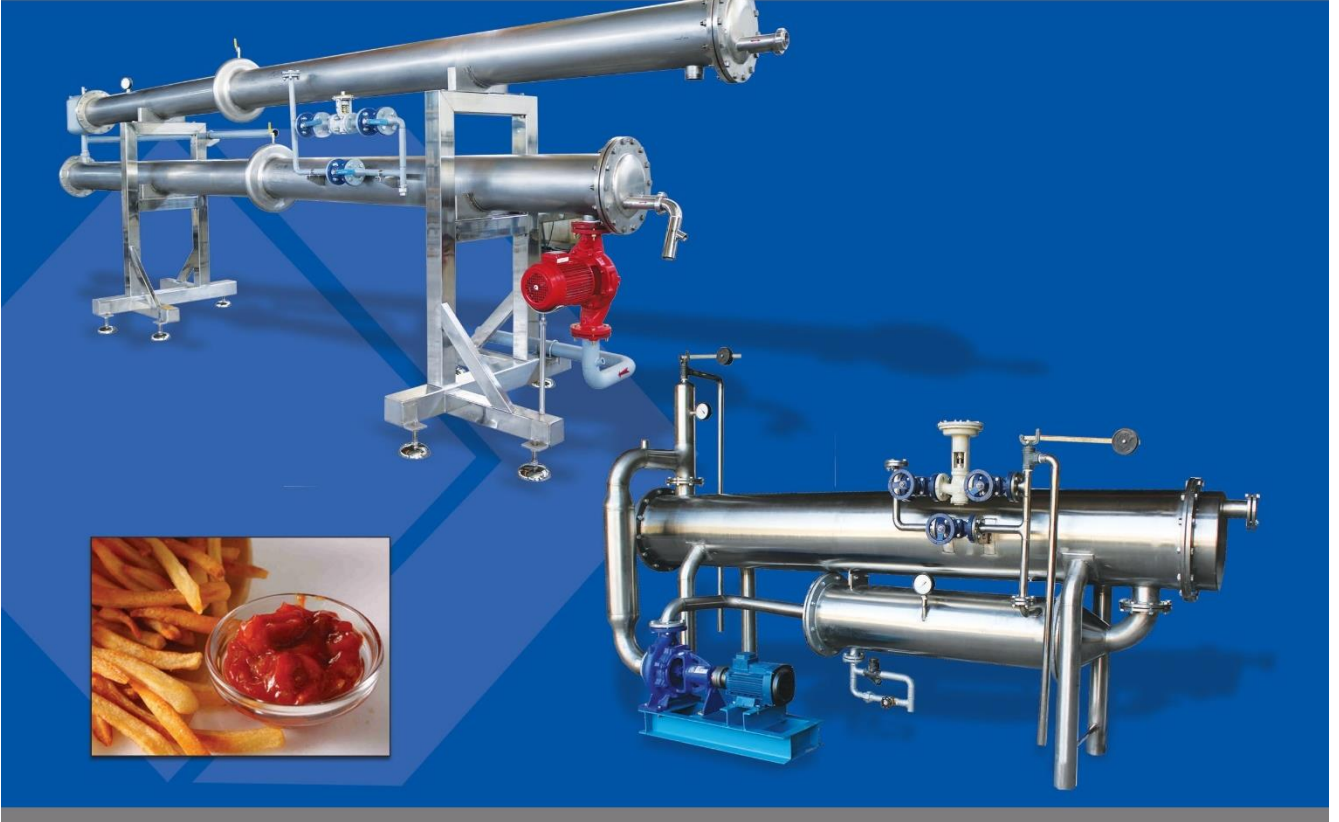


- Heavy duty injection system
- Equipped with Nozzle dive in system to fill the tube from bottom to top
- All parts in contact made of stainless steel 316L
- Cut & Blow Off nozzle equipped with a new technology cutting system
- With servo motor (for very smooth and accurate movement of mechanisms)
- Equipped with P.L.C and H.M.I
- Ability to be equipped with full automatic tube loader
- Tube diameter: from 19 to 60 mm
- Tube height: from 60 to 210 mm
- Maximum speed of : 2200 tubes per hour
- Filling range: 10-500 ml
- Filling accuracy:  $\pm 1\%$
- For filling all kinds of creams, gels, shampoos, toothpaste, honey and chocolate
- Ideal for Laminates & Aluminum tubes .



- Ağır hizmet tipi enjeksiyon sistemi
- Boruyu aşağıdan yukarıya doldurmak için sistemde Nozzle dalış sistemi ile donatılmıştır
- Temas eden tüm parçalar 316L paslanmaz çelikten yapılmıştır
- Yeni teknoloji kesme sistemi ile donatılmış Cut & Blow Off nozulu
- Servo motorlu (mekanizmaların çok yumuşak ve hassas hareketi için)
- P.L.C ve H.M.I ile donatılmış
- Tam otomatik masura yükleyici ile donatılabilme özelliği
- Boru çapı: 19'dan 60 mm'ye
- Boru yüksekliği: 60'tan 210 mm'ye
- Maksimum hız : saatte 2200 tüp
- Doldurma aralığı: 10-500 ml
- Doldurma hassasiyeti:  $\pm 1\%$
- Her türlü krem, jel, şampuan, diş macunu, bal ve çikolatayı doldurmak için
- Laminatlar ve Alüminyum borular için idealdir.

## SAUCE PASTEURIZATION SHELL & TUBE



- Ideal solution for pasteurizing ketchup sauce
- Separate boiling pot to avoid direct contact of steam to ketchup
- All contact parts : S.S.316L
- Equipped with steam pneumatics & manual valves
- Adjustable heating temperature & holding time of ketchup
- Capacity : 1-4 tons/hr.
- Digital indicator of ketchup & boiling water temperature



- Ketçap sosunu pastörize etmek için ideal çözüm
- Buharın ketçapla doğrudan temasını önlemek için ayrı bir kaynatma kabı
- Tüm temas parçaları : S.S.316L
- Buhar pnömatikleri ve manuel valflerle donatılmıştır
- Ayarlanabilir ısıtma sıcaklığı ve ketçap tutma süresi
- Kapasite : 1-4 ton/saat.
- Ketçap ve kaynar su sıcaklığının dijital göstergesi

## VACUUM MIXER HOMOGENIZER



- Vessel designed according to ASME
- Vessel Volumes: 25-50-125-300-500-700-1000-1300-2000-2400-4000 liters
- Suitable for producing nearly all kinds of hot and cold sauces, cosmetic creams, confectionary cream, gel, hair dye, lotion, hair glue, mask, ointment, toothpaste, agricultural poisons, baby food
- Dispersion, homogenization and emulsification at the same time
- Has a vacuum pump and a vacuum sensor
- With C.I.P nozzles and S.I.P
- Counter rotation mechanism on stirrer & scraper (adj. speed)

### Custom options:

- Second homogenizer under the side tank (for primary mixing)
- Pneumatic automatic valves (actuator)
- Fully automatic control system using PLC
- Shorter cooling/heating time (compare to VMH series)
- Electrical heating (instead of steam)



- ASME'ye göre tasarlanmış gemi
- Tank boyutlarına sahiptir:  
25-50-125-300-500-700-1000-1300-2000-2400-4000 litre
- Hemen her türlü sıcak ve soğuk soslar, kozmetik kremler, şekerleme kremleri, jel, saç boyası, losyon, saç tutkalı, maske, merhem, diş macunu, zirai zehirler, bebek maması üretimine uygundur.
- Aynı anda dispersiyon, homojenizasyon ve emülsifikasyon
- Vakum pompası ve vakum sensörü vardır
- C.I.P nozulları ve S.I.P ile
- Karıştırıcı ve sıyrıcı üzerinde ters dönüş mekanizması (ayarlanan hız)

### Özel seçenekler:

- Yan tankın altındaki ikinci homojenizatör (birincil karıştırma için)
- Pnömatik otomatik valfler (aktüatör)
- PLC kullanan tam otomatik kontrol sistemi
- Daha kısa soğutma/ısıtma süresi (VMH serisine kıyasla)
- Elektrikli ısıtma (buhar yerine)

## HOMOGENIZER (Homogenization – Dispersion - Emulsification)



- Designed to be installed inside the cap bottom vessel
- Option to be installed vertically, horizontally, or angular.
- Simultaneous Homogenization, Dispersion, and Emulsification.
- Capable of functioning under various viscosity and temperature conditions
- Applicable to work under vacuum, pressure, and atmospheric conditions.
- no need for coolant tank and pump for cooling mechanical seal
- Option for installing Inverter to create high/low velocity into the surrounding mix and homogenization.



- Kapaklı alt haznenin içine monte edilmek üzere tasarlanmıştır
- Dikey, yatay veya açılı montaj seçeneği.
- Eşzamanlı Homojenleştirme, Dispersiyon ve Emülsifikasyon.
- Çeşitli viskozite ve sıcaklık koşullarında çalışabilme
- Vakum, basınç ve atmosferik koşullar altında çalışmaya uygundur.
- mekanik salmastrayı soğutmak için soğutma sıvısı tankına ve pompasına gerek yoktur
- Çevreleyen karışıma yüksek/düşük hız ve homojenizasyon oluşturmak için İnverter kurma seçeneği.

Model	Power (kw)	R.P.M	Min-Max Batch vol (lit)
BH - 1.5	1.5	3000	30 - 100
BH - 2.2	2.2	3000	50 - 200
BH - 4	4	3000	100 - 300
BH - 5.5	5.5	3000	150 - 500
BH - 7.5	7.5	3000	300 - 1000
BH - 11	11	3000	800 - 1500
BH - 18.5	18.5	3000	1000 - 2000

Min-Max batch volume is calculated for water

## HOMOGENIZER (Homogenization – Dispersion – Emulsification & Mix.)



- Homogenizer pump with rotor-stator structure and pumping chamber
- Ability to install horizontally or vertically
- No need for a stirrer inside the mixing tank (due to the pump outlet circulation pipe)
- German superior technique for producing highly stable homogenized products
- Mixing, dispersion, homogenization and emulsion simultaneously.
- Design based on GMP principles
- CIP and SIP capability.

### Use cases for:

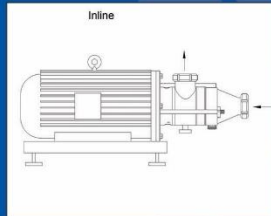
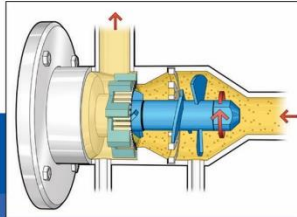
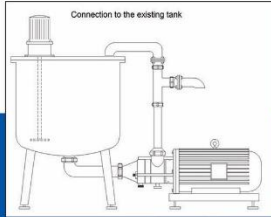
- Food industry: mayonnaise, ketchup, all kinds of hot and cold sauces
- Cosmetic industry: shampoo, creams, gel, lotion, toothpaste and hair dye
- Pharmaceutical industry: gels, ointments, tablet coating, additives, etc.
- Chemical industries: adhesives, shoe wax, car wax, vegetable pesticides, etc.



- Rotor-stator yapısına ve pompalama odacığına sahip homojenleştirici pompa
- Yatay veya dikey kurulum imkanı
- Karıştırma tankı içinde karıştırıcıya gerek yoktur (pompa çıkış sirkülasyon borusu sayesinde)
- Son derece kararlı homojenleştirilmiş ürünler üretmek için üstün Alman tekniği
- Aynı anda karıştırma, dağıtma, homojenleştirme ve emülsiyon.
- GMP ilkelerine dayalı tasarım
- CIP ve SIP özelliği.

### Kullanım örnekleri:

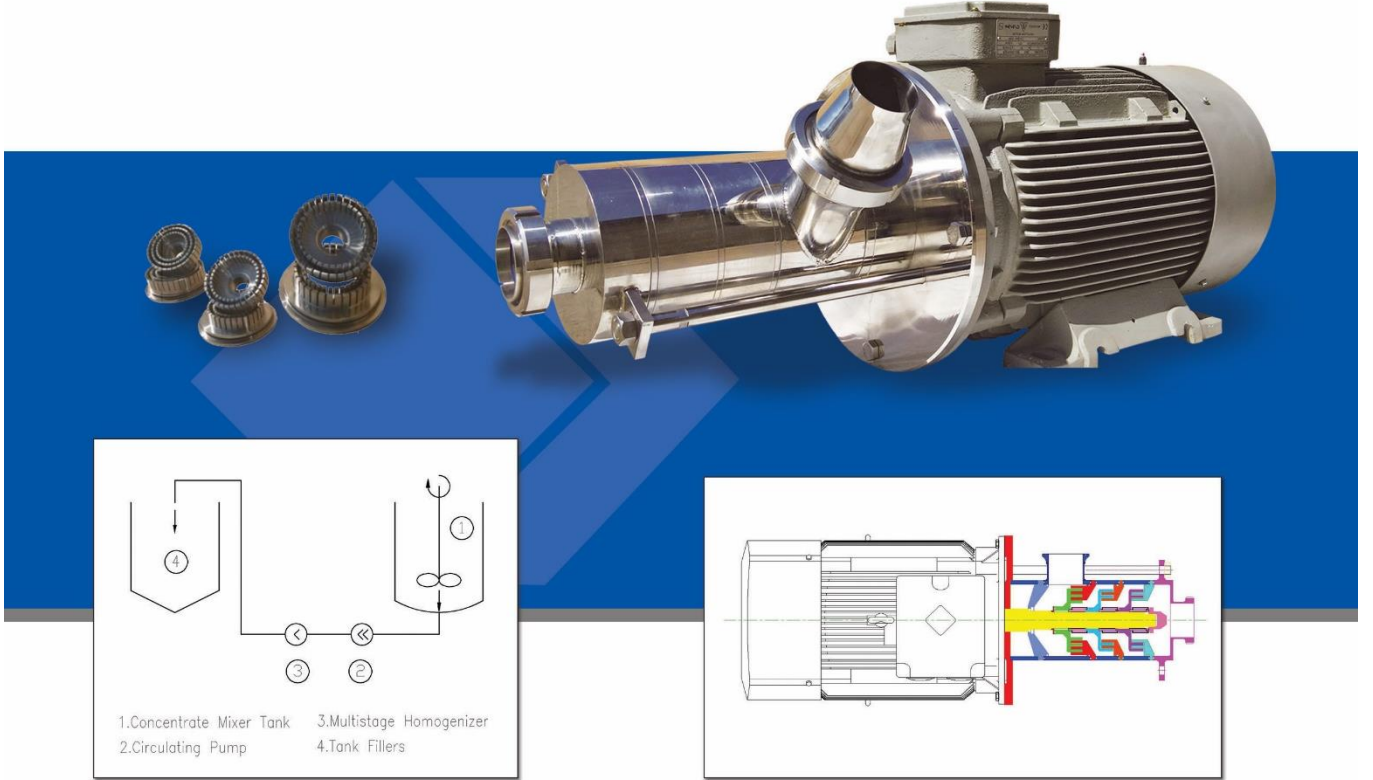
- Gıda endüstrisi: mayonez, ketçap, her türlü sıcak ve soğuk soslar
- Kosmetik endüstrisi: şampuan, kremler, jel, losyon, diş macunu ve saç boyası
- İlaç endüstrisi: jeller, merhemler, tablet kaplama, katkı maddeleri vb.
- Kimya endüstrileri: yapıştırıcılar, ayakkabı cilası, araba cilası, bitkisel böcek ilaçları, vb.



Model	Power (kw)	R.P.M	Flow Rate (m3/hr)	Inlet Dia (inch)	Outlet Dia(inch)
RS 4 M	2.2	3000	2 ½	2	4
RS 5 M	4	3000	2 ½	2	5
RS 10 M	7.5	3000	3	2	11
RS 20 M	15	3000	4	3	20
RS 25 M	18.5	3000	4	3	25
RS 40 M	30	3000	5	4	40
RS 50 M	37	3000	5	4	50
RS 60 M	45	3000	6	4	55

Explanation: In the above table, the maximum flow is calculated for a fluid with the viscosity of water. Material must pass through the homogenizer pump at least 3 times achieve the ideal texture.

## MULTISTAGE HOMOGENIZER PUMP (German TYRON design)



- Ultimate machine for providing extreme shear rate
- Maximum droplet and particle size reduction
- Ideal for homogenizing mass products in the shortest time
- 11 times of introducing shear on a single pass of product
- Standard 3 sets of shear head (rotor/stator)
- Each head has 2 or 3 distinct stages
- Milling of soft products to under 1 micron (or hard particles down to 1-2 microns)
- Suitable for: ketchup, mustard, salad dressing , mayonnaise, pet food, soup , flavor emulsions , pharmaceutical preps , polymers and more..



- Aşırı kesme hızı sağlamak için üstün makine
- Maksimum damlacık ve parçacık boyutu küçültme
- Toplu ürünleri en kısa sürede homojenleştirmek için ideal
- Tek bir ürün geçişinde 11 kez kesme uygulaması
- Standart 3 takım kesme kafası (rotor/stator)
- Her başın 2 veya 3 farklı aşaması vardır
- Yumuşak ürünlerin 1 mikronun altına (veya sert parçacıkların 1-2 mikrona) kadar öğütülmesi
- Şunlar için uygundur: ketçap, hardal, salata sosu, mayonez, evcil hayvan yemi, çorba, aroma emülsiyonları, farmasötik müstahzarlar, polimerler ve daha fazlası..





**Powder Filler**



**Powder Screw Elevator**



**Bottle Inside Cleaner**



**Block Cheese Cutting Machine**



**Bottel Cleaner**



**Industrial Water Sterilizer**



Shell & Tube Pastourizator



Tray Former



Spiral Conveyor



Carton Capping &  
Sealing Machine

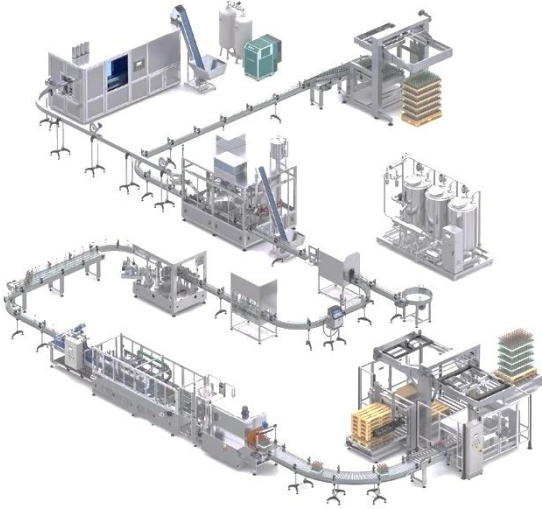


Curved Conveyor



Turning Table

## SOLUTIONS



### CONCENTRATE SYRUP PREPARATION PLANTS

- Syrup rooms are complete plants used for the preparation of syrups used in the production of the final beverage, such as Carbonated, Non Carbonated, Fruit Juices and Milk



**SOLUTIONS**

**END OF LINE SOLUTIONS  
PACKAGING AND  
CARTONING**



**SECOND HAND LINES RENEW AND SERVICES**



**PACKAGING MATERIALS**

**MOLD DESIGN & SPARE PARTS**



**CONVEYORS SOLUTIONS**

**INTELLIGENT LOGISTICS SOLUTIONS**

**GRAIN STORAGE AND TRANSPORTATION SYSTEMS**

**COOLING SYSTEMS**



**CHEMICAL PRODUCTS AND COSMETICS**

