



HIGH EFFICIENCY, HIGH PERFORMANCE,  
HIGHLY ENGINEERED  
Mixing and Blending

# MIXING & BLENDING



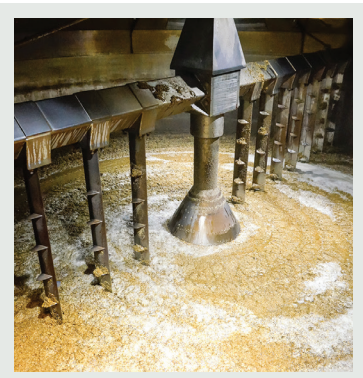
Ampco Applied Products designs highly engineered mixing and blending systems for precise performance. Traditional configurations and complex system designs all receive high level support from the AAP Engineering team.

Systems include POWDER-max, DRY-blend, SIMPLE-blend, SHEAR-blend, SHEAR-max, SBH/SBI Blenders, JET-shear and ROLEC DH Systems. Designed for maximum efficiency and customer specifications, Ampco takes pride in its line of commercial mixing and blending products. Ampco mixers and blenders are customizable for use on a

wide range of batch sizes, varying media, ergonomics and end user requirements. AAP is driven to provide a tailored product solution that ultimately reduces processing time and results in a better end-product.

These highly engineered products with critical tolerances are manufactured and assembled in Glendale, Wisconsin and can be fully customized for every need. Teeth thickness, number of teeth, radius and Cartesian coordinates can all be specified per customer.

**TRIALS, RENTALS AND LEASING OPTIONS ARE AVAILABLE.**







“ AAP customers say...  
...reduced our processing  
time substantially while  
producing a more consistent  
finished product. ”



# POWDER SYSTEMS

## POWDER-max



The POWDER-max by Ampco Applied Products reduces processing time and provides optimal product consistency with no batch size limitations. An innovative design allows POWDER-max to quickly blend wet and dry ingredients in a single, fully portable unit. POWDER-max combines Ampco's SP Series liquid ring pump and High Shear Blender in-line to facilitate limitless production runs. The fully sanitary design is suitable for food, beverage, pharmaceutical and chemical applications.

Five standard models are available and the the POWDER-max can be customized for a multitude of processing requirements. Options include: hopper covers, hopper screens, pneumatic valves, explosion proof options, bulk bag connectors, table designs and positive displacement feed pumps for higher viscosities.

### POWDER-max Standard Features

- SP liquid ring pump
- Ampco shear blender or mixer
- 304 stainless steel base material
- 316L wetted parts
- Dual motor starter – NEMA 4X
- Stainless steel casters
- Powder control valve
- Fluid control valve

**Max Flow Rate:** 350 GPM / 79.5 M<sup>3</sup>/hr

**Max Powder Induction Rate:** 700 lbs/min / 318 kg/min

“ *AAP customers say...  
...we turned our product  
from something great into  
something spectacular  
with this machine.*

*...It's the best money  
we've ever spent!* ”



### SPECIFICATION

Ideal operating flow rate (low viscosity)

Powder feed rates (highly soluble)

Maximum viscosity

Dynamic shearing teeth



## SHEAR-blend



The SHEAR-blend portable tabletop hopper system is designed for ergonomic batch blending where shear is required but a larger two pump system is unnecessary. The SHEAR-blend system combines powder induction and fluid pumping as an economical solution to moderate powder induction applications. The combination of shear teeth and pumping vanes on the Ampco SBI blender efficiently shear and pump the product. The SBI and induction elbow are fully CIP-able and come in multiple sizes based on application requirements. The unit comes complete with a stainless steel tabletop and removable 304SS hopper. Custom options are available, including VFD, cart options, lids, powder screens, 316SS hopper and more.

### SHEAR-blend Features

- Combination integrated impeller and dynamic shear teeth
- Pump and blend in a single stage
- 304 stainless steel adapter
- Dynamically balanced impeller
- 316L wetted parts

**Max Flow Rate:** 512 GPM / 116 M<sup>3</sup>/hr

**Max Powder Induction Rate:** 700 lbs/min / 318 kg/min



|  | POWDER-MAX                                | SIMPLE-BLEND                              | DRY-BLEND                                 | SHEAR-BLEND                                 |
|--|---|---|---|---|
|  | 30 – 350 GPM<br>7 – 79 M <sup>3</sup> /HR | 30 – 350 GPM<br>7 – 79 M <sup>3</sup> /HR | 40 – 150 GPM<br>9 – 34 M <sup>3</sup> /HR | 50 – 510 GPM<br>11 – 116 M <sup>3</sup> /HR |
|  | UP TO 700#/MIN<br>318 KG/MIN              | UP TO 700#/MIN<br>318 KG/MIN              | UP TO 350#/MIN<br>159 KG/MIN              | UP TO 700#/MIN<br>318 KG/MIN                |
|  | 2500 CPS                                  | 2500 CPS                                  | 2500 CPS*                                 | 1000 CPS                                    |
|  | YES                                       | NO  | NO  | YES   |

\* May require a supply or take-away pump



# POWDER SYSTEMS

## SIMPLE-blend



The SIMPLE-blend is a system from Ampco Applied Products designed to induce powders at a highly efficient rate with minimal shear. An Ampco SP Series pump powers this unit and the self-priming SP provides the suction for the induction process. A typical application for the SIMPLE-blend unit would require little to no shear and induce easily dissolved products.

These units can be completely customized per application and process layout. Contact Ampco today to discuss your application with a member of the Ampco Applied Products team.

### SIMPLE-blend Features

- SP liquid ring pump
- 304 stainless steel base material
- 316L wetted parts
- Powder control valve
- Fluid control valve

**Max Flow Rate:** 510 GPM / 116 M<sup>3</sup>/hr

**Max Powder Induction Rate:** 700 lbs/min / 318 kg/min

## DRY-blend



The Ampco Applied Products DRY-blend system offers efficient and thorough blending of wet and dry ingredients. A proven tube within a tube design – powered by an Ampco AC+ centrifugal pump – eliminates foaming, lumping and fisheyes while delivering consistent blending with every batch.

All wetted components are 316L stainless steel. Easy-to-maintain and operate, the DRY-blend system is suitable for food, dairy, beverage, pharmaceutical, personal care, and chemical applications.

### DRY-blend Features

- AC+ centrifugal pump
- 316L wetted parts
- Customizable options: carts, tables, belt drive with base controls
- Easily integrated into existing process systems

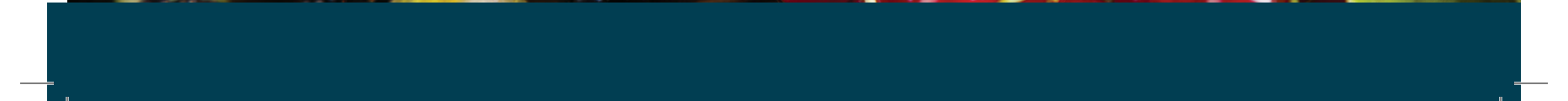
**Max Liquid Flow Rate:** 150 GPM / 34 M<sup>3</sup>/hr

**Max Powder Induction Rate:** 350 lbs/min / 159 kg/min





“ *AAP customers say...  
...Simple and fast, just what  
we needed to expand juice  
production in our plant.* ”





# INLINE MIXERS & BLENDERS

## SBH/SBI SERIES BLENDERS

Ampco Applied Products offers two moderate shear blender models: SBH/SBI. Applications range from pharmaceutical to food, industrial and chemical. Trials, rental and leasing options are available. For additional information contact the Ampco Applied Products team for full details.

### SBH Features

- High shear blending
- 316L stainless steel heavy wall construction
- 304 stainless steel adapter
- Dynamically balanced rotor
- 316L stainless steel shaft

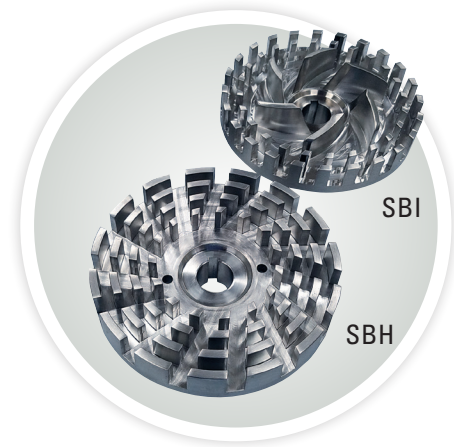
**Max Flow Rate:** 200 GPM / 45 M<sup>3</sup>/hr  
316L stainless steel shaft



### SBI Features

- Medium shear blending
- 316L stainless steel wetted construction
- Combination integrated impeller with dynamic shear teeth
- Pump and blend in a single stage
- 304 stainless steel adapter
- Dynamically balanced impeller
- 316L stainless steel shaft

**Max Flow Rate:** 510 GPM / 116 M<sup>3</sup>/hr



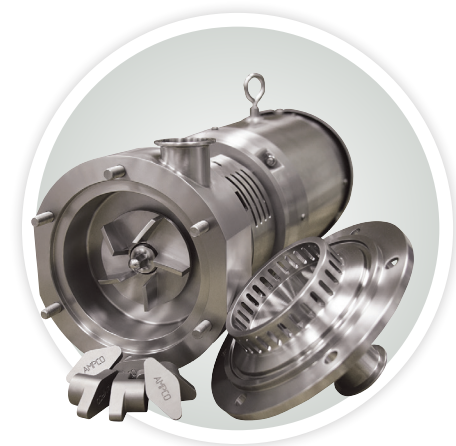
## SHEAR-max HIGH SHEAR INLINE MIXER

Ampco's SHEAR-max is the ultimate inline high shear mixer. It provides particle size reduction, emulsification and dispersion with tight tolerances for high shear applications and extremely efficient flow. The curved rotor and various stator designs make it one of the most efficient and hygienic designs on the market. The SHEAR-max can disperse, dissolve, emulsify, de-agglomerate, homogenize or simply blend.

### SHEAR-max Features

- Integrated curved impeller
- CIP-able
- 316L stainless steel construction
- 304 stainless steel adapter
- Dynamically balanced impeller
- Multiple stator designs
- Available in single or multi stage design

**Max Flow Rate:** 800 GPM / 182 M<sup>3</sup>/hr



## JET-shear

Ampco's in-tank mixers are used to hydrate, dissolve, disperse and emulsify products consistently and efficiently covering a wide range of applications in the food, personal care, chemical, and pharmaceutical industries.

The JET-shear is used in open or closed tanks and totes, creating smooth consistent blends in tanks as large as 10,000 gallons. The JET-shear is much more than an in-tank agitator, capable of creating emulsions under 10 microns.

Options include pneumatic lifts, and multiple mounting options: flange, bridge mount, and tri-clamp. A variety of work head styles and shaft lengths are available.

### JET-shear Features

- Motor speed – 900 - 3600 RPM
- Work head – 316 stainless steel
- Shaft – 316 stainless steel
- Bearing housing – 304SS standard, 316SS option available
- Shaft lengths – vary based on customer requirements
- Batch volumes up to 5000 gallons / 22730 liters for self-mixing



## PRODUCT SPECIFICATIONS

| STANDARD BEARING FRAME SIZES         | MAX SHAFT LENGTH | STANDARD SHAFT DIAMETER | WORKHEAD DIAMETER |
|--------------------------------------|------------------|-------------------------|-------------------|
| JS125                                | 48"              | 1.25"                   | 2.5"-4.0"         |
| JS125R<br>(Removable shaft standard) | 48"              | 1.25"                   | 2.5"-4.0"         |
| JS150                                | 60"              | 1.50"                   | 3.5"-5.0"         |
| JS200                                | 84"              | 2.00"                   | 3.5"-5.0"         |
| JS225                                | 84"              | 2.25"                   | 4.5"-6.0"         |
| JS300                                | 96"              | 3.00"                   | 5.0"-8.0"         |
| JS400                                | 96"              | 4.00"                   | 6.0"-12.0"        |

\* Custom options are available; contact Ampco Pumps for additional information





“ *AAP customers say...  
...Skid use is straightforward and  
safe, with a significant reduction  
in total time required for T90  
pellet dosing.* ”





# ROLEC DH INDUCTION SYSTEMS

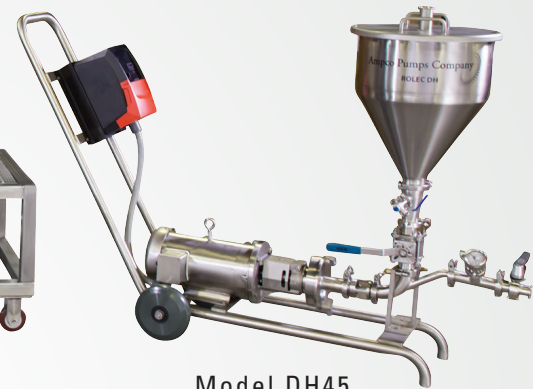
PROVIDES SAFE AND EFFICIENT HOP INDUCTION



Model DH90



Model DH250



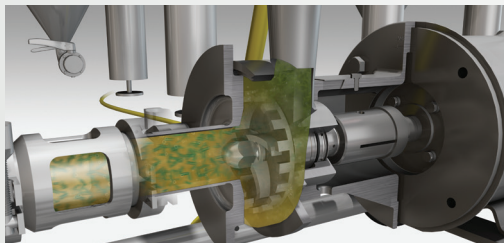
Model DH45

The ROLEC DH units utilize an Ampco SBI blending pump to safely induce dry hop pellets, fruit, spices, coffee, cocoa nibs and more directly into the stream of beer while recirculating the fermenter.

All three systems use carbon dioxide (CO<sub>2</sub>) to purge oxygen from the hop chamber. Pellets can be induced into fermenting, finished, or crashed beer. The induced media is chopped to maximize the surface area, flavor and aroma.

#### ROLEC DH features:

- 3 Models DH45/DH90/DH250
- A pressurized tank with glass-top manway on the DH90 and DH250 allows for balancing fermenter pressures and visual monitoring.
- The DH45 is a lower cost non-pressurized system designed for smaller craft breweries
- Gauges and sight glasses aid the user in monitoring induction and pressures
- Minimal dissolved oxygen (D.O. pick-up) less than 5 PPB
- All components are sanitary and CIP-able (no additional CIP pump is required)
- The fully portable DH can be used on many fermenters and fits well in cramped cellars
- Recirculation can be done as long as desired (Ampco recommends 3-4 fermenter turnovers)
- Improved aroma and flavor profile, faster tank turn-overs and safe, ground level induction



NOT JUST FOR HOPS



SPICES

HOPS

COFFEE

TEA

VANILLA

SYRUP

BOURBON

FRUIT





# APPLICATIONS

## BEVERAGES

Energy drinks, beer, tea, fruit juice, flavoring, vegetable juice, coffee blends

## DAIRY

Yogurt, milk powder, sour cream, ice cream, flavored milk, eggnog

## FOOD

Salad dressing, salsa, hot sauce, mayonnaise, pizza sauce, ketchup

## PERSONAL CARE

Toothpaste, lotion, cream, shampoo, sunscreen, conditioner, body wash, makeup

## PHARMACEUTICAL

Cough syrup, ointment, injectables, topical iodine, cellulose

## THICKENERS

Gum, pectin, starch, gelatin

## INGREDIENTS AND ADDITIVES

Aspartame, non-fat dry milk, salt, citric acid, sugar, egg, powder, protein, xanthan gum

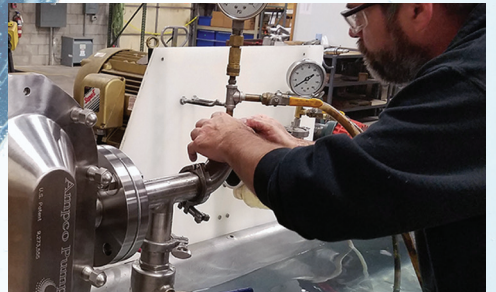
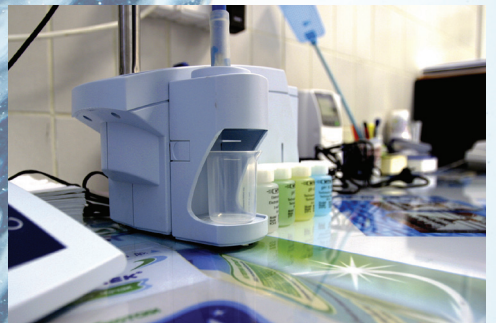
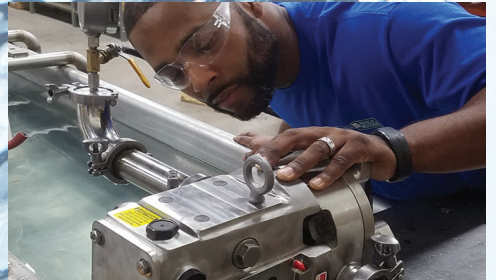
## CHEMICAL

Coatings, fertilizers, paints, herbicides, ink and dye compounds



MANUFACTURED, TESTED  
AND ASSEMBLED IN

GLENDALE, WI USA



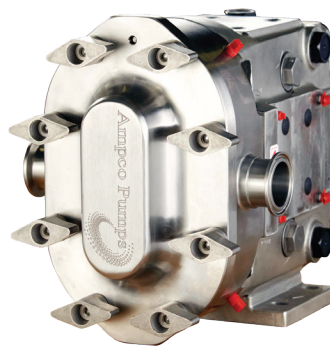


# ADDITIONAL PRODUCTS

MANUFACTURING THE MOST COMPLETE LINE OF PUMPS, MIXERS AND BLENDERS IN THE WORLD



**ZP3**



**ZP1+**



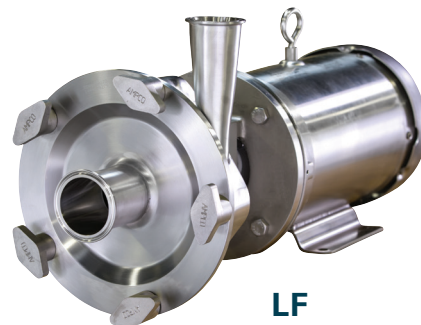
**AC+**



**CB+**



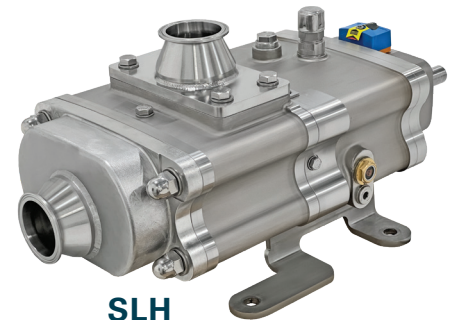
**SP**



**LF**



**AL**



**SLH**





*Experience the  
Ampco Advantage*





**Ampco Pumps**  
Company 

2045 W. Mill Road  
Glendale, WI 53209  
Phone: 800.737.8671  
info@ampcopumps.com

Gewerbepark West II 7  
76863 Herxheim Germany  
Phone: +49 7276 5058515  
info@ampcopumps.de

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[www.ampcopumps.com](http://www.ampcopumps.com)