

MIXERS & BLENDERS **CATALOG**

Since 1964























Supply House to the Processing Industries Since 1964

Trusted supply house of sanitary processing equipment, parts and supplies for the dairy and food, brewery, beverage and pharmaceutical industries.

Harco Enterprises offers a diverse line of sanitary and hygienic processing equipment, parts and supplies including pumps, sanitary valves, separators, homogenizers, gaskets and fittings, sanitary hoses, and instrumentation as well as a variety of other products from world leading manufacturers such as Alfa Laval, Ampco, Tetra Pak, Burkert, Tri-Clover, Remco, Vikan, Carlisle, Haynes, Strahman, and more.

These products are distributed to dairy, food, beverage processing facilities as well as the pharmaceutical, brewing, and fisheries industries throughout North America.

Many of our products are customized in design due to strict sanitary and hygienic standards, and all are built to stand up to the demands of high production environments. Resourcefulness and quick delivery are important to you, and Harco always provides both.

Check out our large collection of equipment, parts and supplies, including our line of color-coded products available.

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POWDER-blend

Powder Induction System

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 guickly 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 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 ZP Series circumferential piston pumps for higher viscosities.







POWDER-max Delivers Efficient, Precise Mixing

POWDER-max Standard Features

- Model 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 M3/hr

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

SPECIFICATION	POWDER-max				
Ideal operating flow rate (low viscosity)	30 – 210 GPM 7 – 48 m3/hr				
Powder feed rates (highly soluable)	Up to 300#/min 136 kg/min				
Maximum viscosity	2500 cPs*				
Dynamic shearing teeth	Yes				

^{*} May require a supply or take-away pump





SHEAR-blend

Powder Induction System - Portable Single Blender Induction

SHEAR-blend portable tabletop hopper system is designed for ergonomic small 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 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.

- Model sizes available for powder induction rates of up to 150 lbs/ 68kg per minute*
- Washdown and CIP capability
- Does not require a feed pump for low viscosity fluids
- Not recommended for high shear/high viscosity applications

*Powder induction rates are dependent on pressure, viscosity and temperature of system.







Portable Precision Blending

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
- 316L stainless steel shaft

Max Flow Rate: 300 GPM / 68 M³/hr

Max Powder Induction Rate: 200 lbs/min / 91 kg/min



SHEAR-blend
50 – 510 GPM 11 – 116 m3/hr
Up to 150#/min 68 kg/min
1000 cPs
Yes

* May require a supply or take-away pump







SIMPLE-blend

Powder Induction System

SIMPLE-blend from Ampco is a lower cost option with a simplified design. The system is 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 lavout.						

SIMPLE-blend Features

- SP liquid ring pump
- 304 stainless steel base material
- 316L wetted parts
- Motor starter NEMA 4X / VFD upon request
- Stainless steel casters
- Powder control valve
- Fluid control valve

Max Flow Rate:

350 GPM / 79.5 M3/hr

Max Powder Induction

Rate: 700 lbs/min / 318 kg/min

SPECIFICATION	SIMPLE-blend
Ideal operating flow rate (low viscosity)	30 – 210 GPM 7 – 48 m3/hr
Powder feed rates (highly soluable)	Up to 300#/min 147 kg/min
Maximum viscosity	2500 cPs*
Dynamic shearing teeth	No

^{*} May require a supply or take-away pump





DRY-blend

Powder Induction System

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.

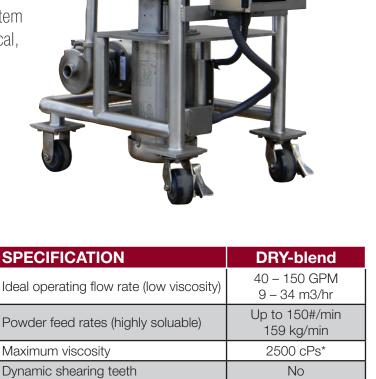
DRY-blend Features

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

Max Flow Rate: 150 GPM / 34 M³/hr

Max Powder Induction Rate:

350 lbs/min / 159 kg/min



^{*} May require a supply or take-away pump

For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.





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SBH/SBI SERIES BLENDERS

Customizable, Multi-Tasking, Efficient Shear Blending

Mixing is becoming increasingly important in the widest variety of processes. Today's products often comprise a magnitude of ingredients such as stabilizers, thickeners, surfactants, abrasives, foods, preservatives, chemicals and more. This offers a challenge to processors trying to provide a consistent blend quality in the most efficient manner.

To meet this challenge, Ampco has developed three types of shear blenders that are based on our popular LF platform. This means shared wear items for your pumps and easy piping solutions. The wide range of mechanical seal materials (single and double mechanical) and elastomers from the LF line are also available to fine tune the shear blender to the processor's needs.







SBH / SBI SHEAR BLENDING ADVANTAGE:

- Uniform and repeatable product batches
- Reduce process times
- Application-specific adjustability for custom fine-tuning of the end of product
- Process improvement by installing in-line blender or replacing a pump
- Familiarity and ease-of-design (front loading seal)
- Applicable for small laboratory or large-scale production
- Front-loading mechanical seals (single and double)





Performance Personified in SBH/ SBI Shear Blender Series

AMPCO SBH SHEAR BLENDER

The high shear blender

The SBH Shear Blender maximizes shear-area by having several rows of rectangular teeth that mesh with each other at close clearances. This is the best blender for improving process time when the highest shear is desired.





SPECIFICATIONS

Up to 200 GPM / 45.4 m³/hr Up to 50 psi/116 ft - 3.44 BAR/ 35.4m



For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.

AMPCO SBI SHEAR PUMP

The ability to pump and blend in a single stage

The SBI Shear Pump moves the product with considerable capacity and pressure capabilities. This is achieved through a hybrid design of a finetuned impeller paired with rectangular shear teeth. Users will be surprised at the performance of this pump as a replacement to a feed pump and blender setup for certain applications.





SPECIFICATIONS

Up to 500 GPM / $45.4 \text{ m}^3/\text{hr}$ Up to 100 psi/231 ft -6.9 BAR/ 70.4m





SHEAR-max

High Shear Inline Mixer

HIGH SHEAR INLINE MIXING WITH AN EFFICIENT TWIST - The SHEAR-max is the ultimate in high shear mixing and dispersing, meeting the tight tolerances required in high shear applications while maintaining extremely efficient flow. The curved wedge rotor and one piece stator design make it one of the most efficient and hygienic designs on the market. The SHEAR-max will disperse, dissolve, emulsify, de-agglomerate, homogenize, or simply blend. It is designed for single pass or batch style processing of liquids and semi-solids and is extremely effective at hydrating and dispersing powders. The innovative wedge style rotor allows solids into the shear zone while efficiently employing motor horsepower. The one piece stator provides superior clean-ability and tight rotor/stator tolerances.

SHEAR-max Features

- Integrated impeller and dynamic shear teeth
- Washdown and CIP capability, or Chemical Duty Design
- 316L stainless steel construction
- 304 stainless steel adapter
- Dynamically balanced impeller
- Multiple stator designs
- Available in single or multi stage design
- 3 Model Sizes available from 1 400 GPM
- Single piece stator for easy inspection and cleaning
- Droplet size as low as 1-10 microns

Max Flow Rate: 400 GPM / 91 M3/hr



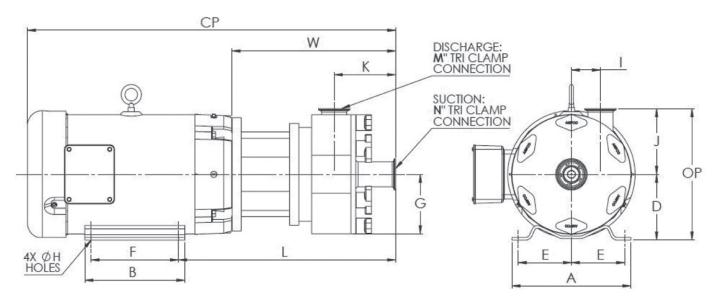




High Shear Inline Mixing with a Twist

PRODUCT SPECIFICATIONS

MODEL	Flowrate (GPM)	Motor HP	Motor Speed	Rotor Tip Speed
SM-1300	1 – 40	1 – 5	3,600	47 FPS
SM-1437	30 – 150	5 – 10	3,600	69 FPS
SM-1575	100 – 400	20 – 40	3,600	90 FPS



	TI	EFC MO	OTOR		DIMENSIONS IN INCHES (For Reference Only)										Approx					
MODEL	НР	RPM	FRAME	A (typ)	B (typ)	D	Ε	F	G	ØH	I	J	K	L	W	СР	0P	M	N	Weight (lbs)
SM-1300	3	3500	145TC	6½	6	3½	2¾	5	3¾	11/32	1.57	4.35	4.51	13.51	10.63	22.67	7.85	1½	1½	127.8
SM-1437	7.5	3500	213TC	9½	8	51⁄4	41/4	5½	4¾	13/32	2.32	5-1/4	4.91	17.35	13.08	29.44	10-½	2	2	215
SM-1575	30	3500	286TC	12¾	12.84	7	5½	11	6	17/32	2.81	7.20	6.18	18.5	14¾	37.89	14.20	3	3	565

^{**} Weights represent fluid end + motors with SS enclosure







JET-mix

High Efficiency Mixing in Sanitary Stainless Design

Ampco's in-tank JET-mixers will rapidly mix, disperse, and suspend solids in liquids covering a wide range of applications in food, personal care, clean chemical, and pharmaceutical industries. The modular construction of the JET-mix makes it ideal for a wide viscosity range and batch sizes up to 6,000 gallons in open or closed tanks, drums, and tote processing.

JET-MIX FEATURES

- 25 6,000 Gallon Batches
- ½ 3 HP motor on standard model
- Up to 20 HP motor on custom models
- 316 stainless steel removable shaft
- 316 stainless steel bearing frame
- High efficiency impellers 4" 20" (welded or adjustable)
- Designed to 3A standards
- CIP-able
- Multiple mounting configurations
- Shaft lengths up to 84" on standard design
- Custom options available







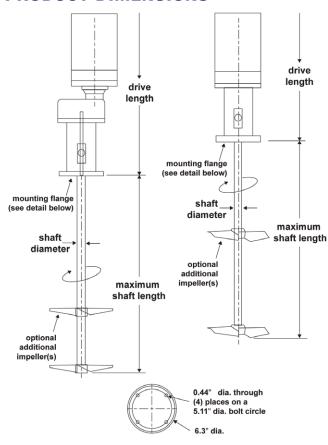
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The **JET-mix** is great for rapid blending, hold tanks, suspension tanks and general storage tanks. The high-efficiency impeller design offers superior tank circulation with low HP requirements over a large range of viscosities.

PRODUCT SPECIFICATIONS

JET-mix Model	JM-100RD	JM-100RG	JM-125RD	JM-125RG
Drive Type	Direct	Bevel Gear/ Reduction	Direct	Bevel Gear/ Reduction
Output Speed	1750	350	1750	350
Shaft Diameter	1"	1"	1.25"	1.25"
Maximum Shaft Length	48"	60"	72"	84"
Maximum Motor Frame	145	145	145	145
Maximum Diameter Impeller	9"	16"	9"	20"
Drive Length (Typical)	20"	24"	20"	24"

PRODUCT DIMENSIONS













JET-shear

High Shear In-tank Mixing

The JET-shear by Ampco is an efficient, high-performance solution for emulsifying, dissolving, and dispersing ingredients in various processing applications. With top and bottom impellers on the work head, it creates a mechanical shear as centrifugal force draws in and expels material, enhancing blend consistency and quality while reducing processing time and boosting throughput. Ampco's in-tank mixers, ideal for food, personal care, chemical, and pharmaceutical industries, come with interchangeable stainless steel work heads designed for 3A and CIP. The JET-shear can be used in open or closed tanks, drums, or totes, handling capacities up to 5,000 gallons (22,730 liters).

JET-shear Features

- Emulsion to less than 10 microns
- Max volumes up to 5000 gallons
- 316 stainless steel shaft
- 304 stainless steel bearing frame
- Multiple 316 stainless work head styles available
- Work heads can be interchanged
- Designed to 3A standards
- CIP-able
- Multiple mounting configurations
- Multiple shaft lengths
- Custom options available

MOUNTING OPTIONS

In-tank mixing applications demand a variety of mounting design options. No matter the size of your tank, drive type or unique processing application, we have custom stands and tank mounting options to offer maximum flexibility.

For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.



Standard Bearing Frame Sizes	Max Shaft Length	Standard Shaft Diameter	Workhead Diameter
JS125	48"	1.25"	2.5"-4.0"
JS150	60"	1.50"	3.5"-4.0"
JS200	84"	2.00"	3.5"-4.5"
JS225	84"	2.25"	4.5"-6.0"
JS300	96"	3.00"	5.0"-8.0"
JS400	96"	4.00"	6.0"-10.0"

WORK HEAD OPTIONS

Selecting the correct work head or work head combinations to fit your process is key. We have engineered a wide variety of interchangeable work heads and work head combinations to offer maximum fl exibility and efficiency for:

- Mixing
- Dispersing
- Hydration
- De-agglomeration
- Particle Size Reduction
- Emulsifi cation







ROLEC DH for Brewing Industry

The simplicity of the ROLEC DH means dry hopping just got safer and easier.

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

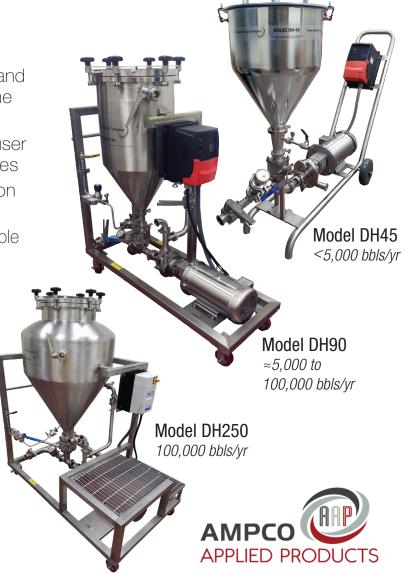
The systems use carbon dioxide (CO2) to purge oxygen from the hop chamber.

Pellets can be induced into fermenting, finished, or crashed beer. The chopper pump creates a differential pressure for induction from the vessel. The pellets and other media is chopped to maximize the surface area, flavor and aroma.

FEATURES:

- 3 Models DH45/DH90/DH250
- A glass-top manway on the DH90 and DH250 allows the user to ensure the pellets are moving
- Gauges and sight glasses aid the user in monitoring induction and pressures
- Everything needed for pellet induction is contained on the ROLEC DH
- 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

For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.





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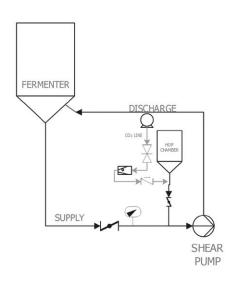
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The ROLEC DH Provides Safe, **Efficient Hop Induction**

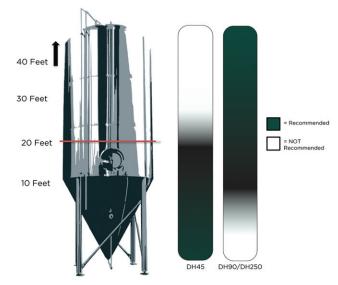
SPECIFICATIONS

	PELLET CAPACITY	PUMP	RECIRCULATION /MIN	PORT SIZE	MOTOR
DH45	44 lbs/20 kg	SBI-R10	2.0 bbls/2.4 hectoliters	1.5"/DIN 40	5 hp/4 kW
DH90	88 lbs/40 kg	SBI-R10	2.9 bbls/3.4 hectoliters	1.5"/DIN 40	5 hp/4 kW
DH250	264 lbs/120 kg	SBI-R20	3.7 bbls/4.3 hectoliters	2"/DIN 50	10 hp/7.5 kW

- Base material 304 stainless steel, wetted parts 316L stainless steel
- Stainless steel casters
- The DH90 and DH250 can CIP with or without a sprayball due to its internal whirlpool system. (Sprayball for the hop chamber is optional)
- The DH45 requires a sprayball for CIP.
- Standard 50'/15m cord
- All models include VFD or motor starter.



Functional design under license of ROLEC PROZ-ESS- UND BRAUTECHNIK GMBH, GERMANY, United States Patent no. 8,875,616



Recommended fermenter heights







ROLEC DH45 Induction System

The simplicity of the ROLEC DH means dry hopping just got safer and easier.

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

The systems use carbon dioxide (CO₂) to purge oxygen from the hop chamber.

Pellets can be induced into fermenting, finished, or crashed beer. The chopper pump creates a differential pressure for induction from the vessel. The pellets and other media is chopped to maximize the surface area, flavor and aroma.



For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.

FEATURES:

- The DH45 is a smaller scale version offering a non-pressurized vessel utilizing a "blanket" of CO₂ to protect the product from oxygen intrusion.
- The DH45 is capable of induction on fermenters with a maximum height of 20 feet and can be used additionally as transfer and CIP pumps.
- Gauges and sight glasses aid the user in monitoring induction and pressures
- Everything needed for pellet induction is contained on the ROLEC DH
- 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





ROLEC DH90 Induction System

The ROLEC DH Provides Safe, Efficient Hop Induction

The **ROLEC DH units** utilize the Ampco SBI pump to recirculate a fermenter and simultaneously induce hop pellets dry into the stream of beer. The pellets are held in a pressurized chamber, which is purged of air using carbon dioxide (Co₂). Pellets can be induced into fermenting, finished, or crashed beer. The shear pump creates a differential pressure for induction of the pellets from the hop vessel. The pellets are chopped to just the right size so they can settle during the dry hop holding period.

FEATURES:

- A glass-top manway on the DH90 and DH180 allows the user to ensure the pellets are moving
- Gauges and sight glasses aid the user in monitoring induction and pressures
- Everything needed for pellet induction is contained on the ROLEC DH90/DH180
- All components are sanitary and CIP-able (no additional CIP pump is required)
- The fully portable DH90/DH180 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

Model DH90 ≈5.000 to 100,000 bbls/yr





ROLEC DH250 Induction System

The simplicity of the ROLEC DH means dry hopping just got safer and easier.

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

The systems use carbon dioxide (CO₂) to purge oxygen from the hop chamber.

Pellets can be induced into fermenting, finished, or crashed beer. The chopper pump creates a differential pressure for induction from the vessel. The pellets and other media is chopped to maximize the surface area, flavor and aroma.



For more information, call 1-800-361-5361 or e-mail sales@harco.on.ca.

FEATURES:

- A glass-top manway on the DH250 allows the user to ensure the pellets are movina
- Gauges and sight glasses aid the user in monitoring induction and pressures
- Everything needed for pellet induction is contained on the ROLEC DH
- 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





Alfa Laval Hybrid Powder Mixer M15

Versatile hybrid powder mixer for various powder-liquid blending duties

The Alfa Laval Hybrid Powder Mixer M15 is a mobile dual-stage inline powder dissolution unit that quickly and efficiently disperses powders, mixing them with liquids into a homogeneous blend. Using a single-motor pump, it then transfers the resulting solution at outlet pressures of up to 5 bar. Versatile, cost effective and easy to use, this inline high-shear mixer efficiently produces homogeneous products at high dry matter concentrations and high yields.

The Hybrid Powder Mixer M15 is an excellent choice for blending thickeners, stabilizers and emulsifiers into concentrations required in most hygienic applications in the dairy, beverage and food industries. It is also capable of producing recombined milk with more than 50% dry matter.

BENEFITS:

- Fast and homogenous powder dissolving
- A combination of a mobile inline powder-liquid mixer and a pump
- High dynamic shear, gentle mixing
- Reduced installation, emissions, energy and maintenance costs
- Reduced total cost of ownership combining the functions of powder mixing and pumping into a single unit





Alfa Laval Hybrid Powder Mixer S15

Versatile hybrid powder mixer for various powder-liquid blending duties

The **Alfa Laval Hybrid Powder Mixer S15** is a stationary dual-stage inline powder dissolution unit that quickly and efficiently disperses powders, mixing them with liquids into a homogeneous blend. Using a single-motor pump, it then transfers the resulting solution at outlet pressures of up to 5 bar. Versatile, cost effective and easy to use, this inline high-shear mixer efficiently produces homogeneous products at high dry matter concentrations and high yields.

The Hybrid Powder Mixer S15 is an excellent choice for blending thickeners, stabilizers and emulsifiers into concentrations required in most hygienic applications in the dairy, beverage and food industries. It is also capable of producing recombined milk with more than 50% dry matter.

BENEFITS:

- Fast and homogenous powder dissolving
- A combination of a stationary inline powder-liquid mixer and a pump
- High dynamic shear, gentle mixing
- Reduced installation, emissions, energy and maintenance costs
- Reduced total cost of ownership combining the functions of powder mixing and pumping into a single unit
- Reduced investment cost due to the reduction to basic functions







Product Line Card

Supply House to the Processing Industries Since 1964

Harco partners with leading manufacturers in the industry to bring you an innovative range of sanitary and hygienic processing equipment and supplies. With experience in design, manufacturing and support, our partners are selected for their quality, reliability, and advanced products.







































































































