

Pumps

Centrifugal pumps



LKH: Premium, energy efficient pump with extremely gentle product treatment - including an UltraPure version for high-purity applications



SolidC: Reliable and cost-effective standard duty pump

Liquid ring pumps



MR: Used for CIP return applications where pumping liquids containing air or gas is needed

Valves and Automation

Mixproof valves



Unique Mixproof valve: Allows product to flow in one housing and CIP solution in the other, without risk of co-mingling – reduces the number of single-seat valves needed while increasing automation capabilities



Unique Large Particulate (LP) valve: Available in up to 6" port sizes for the largest particulate passage possible.



Unique PMO Cheese Curd valve for gentle yet efficient handling of the largest curd particulates – available in 4" and 6" port sizes.



Tri-Clover® Single-seat valves



Unique 7000 – Standard valve: Interchangeable one-piece valve body has no welds which ensures corrosion resistance and minimizes the potential of stress related valve port and body irregularities



Unique 7000 – Aseptic valve: Innovative one-piece diaphragm eliminates the need for a steam barrier – resulting in improved cleanability and fewer spare parts



Unique 7711 regulating valve: A regulating valve for metering, blending, weighing and filling duties, with an advanced electro-pneumatic controller – for the most precise control of product flow



Unique 7000 – Long stroke valve: For processing suspended solids or viscous products



LKB – Butterfly valve: An economical on/off routing valve for either automatic or manually operated systems



Unique diaphragm valve (DV-ST): A standard BioPharm valve used in sterile and ultra-hygienic processes



Unique diaphragm valve (DV-P): Designed with optimized fluid handling characteristics - significantly improves flow rate while reducing pressure drops and turbulence.



Tri-Clover Ball valve: The full-flow design minimizes line turbulence and pressure drops

CPM 2: Designed to maintain either constant inlet or outlet pressure



Valve automation



ThinkTop®: The most advanced automated control unit for all air-operated Alfa Laval and Tri-Clover valves



ThinkTop® Basic®: Has a "no touch" sensor system and "set and forget" programming feature



IndiTop: A simple, easy to install and use electrical feedback unit



Tank Cleaning Equipment

Rotary Jet Heads



Toftejorg SaniJet 20: A versatile self-cleaning, self-draining device ideal for tanks between 130 and 8,000 gallons – cleans in a 360° 3D indexed pattern



Toftejorg SaniJet 25: The first EHEDG (European Hygienic Engineering and Design Group) compliant device built to clean the largest size tanks/vats



Toftejorg TJ20G: Our most popular jet head provides 360° high impact cleaning for a wide variety of applications including brewery, food and dairy



Toftejorg TZ-74: A proven solution for the brewery industry designed for tanks/vessels between 13,000 to 130,000 gallons



Toftejorg TZ-82: Provides the same 360° high impact cleaning for the largest storage tanks in petro-chemical and chemical processing industries

Positive displacement pumps



SX: Premium pump for sensitive and ultra-clean products that require the lowest shear possible



Our most versatile pump designed to handle the widest temperature and pressure ranges in virtually all applications



OptiLobe: A cost-effective rotary lobe pump for general applications



SCPP: Ideal for entering historical circumferential piston pump markets - includes the SCPP-1 for strip-clean and SCPP-2 for CIP applications

Unique PMO vertical and horizontal tank valve: Completely drainable in vertical or horizontal positions – for continuous processing right up to the tank port



Unique PMO valves: Complies with the FDA's Pasteurized Milk Ordinance (PMO) and covers all Mixproof dairy applications including viscous and large particulate products



Unique PMO Plus®: Allows seat lift cleaning in one chamber while product is in the other to reduce downtime



Unique PMO – F: Has an O.D. balancer cleaning element so product build-up can be cleaned or “flushed” without having to shut down



Unique PMO Plus – CP: Utilizes features from the Unique PMO – F and Unique PMO Plus to allow for continuous processing



Unique 7000 – Y-body valve: When unobstructed flow is required for the most demanding viscous products



Unique 7000 - Tangential/Tank valves: A single-seat valve solution for a variety of tank/vat sizes and configurations.



700 Series valves: Designed to deliver years of reliable performance and available in a variety of configurations including throttling and tank versions.

LKC-2: A non-return valve designed to prevent reverse product flow



Unique 7000 vacuum breaker: Eliminates vacuum on the downstream side of a pasteurizer in an HTST system



45 BYMP ball check valve: The body design allows full flow to prevent reverse product flow



Air blow check valve: Evacuates lines of product or CIP solution for air agitation of product in tanks/ vessels



A self-draining valve that allows for multi-directional product flow

Unique control: an innovative yet simple unit with built in valve actuator - with quick and easy “push n’ play” configuration.

Tank Mixing Equipment



Magnetic mixer: A patented levitating design and eight wing impeller for the most gentle and cleanest mix available



Rotary jet mixer: A versatile device used to inject fluid, gas or powder through jet nozzles that rotate both horizontally and vertically

Rotary Spray Heads



Toftejorg SaniMidget: With a 3A dairy version available, it uses low CIP fluid volumes at low pressures for tanks up to 2,700 gallons in size

Static Spray Balls



8000 Series Spray Balls: Designed to meet all 3A standards, and provide a low cost, manual way of distributing CIP fluid

Tank Accessories



3A LKD Manway (oval): Installed on the side of tanks and used when access to the vessel interior is required below the liquid level



Sight glasses
Accurate gage glasses that provide distortion-free, visual inspection of products, liquid levels and cleaning inside vessels.



3A LKDC Manway (circular): Installed on the top of tanks and used when access to the vessel interior is required above the liquid level



Tank weighing systems
A highly precise and non-impact measurement of weight – from mixing, dosing level or batch related applications.

Heat Exchangers

Plate Heat Exchangers



FrontLine 10 and 15 Automatic: A one-of-a-kind oil-free, electric powered automatic opening and closing frame with clean, quiet and reliable operation



FrontLine: Offers more heat transfer area per plate for increased throughput, higher heat recovery and lower pressure drops



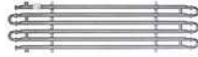
A versatile PHE for both process and utility duties from heating/cooling to pasteurization at low flow rates



Tubular Heat Exchangers



Pharma-X: A tube-in-tube-in-tube heat exchanger for point of use heat transfer in purified water applications



A corrugated tubular heat exchanger engineered to handle medium viscosity food products or food/beverage products containing small particulates



FusionLine: Combines strengths of plate and shell-and-tube heat exchangers - for gentler handling of medium viscosity food or beverage products.

Scraped-Surface Heat Exchanger



Contherm: An Ideal continuous or semi-continuous heat exchanger solution for highly viscous and sticky foods or foods with particulates, and personal care products



Contherm Core: Designed to process low to medium viscosity products and provides exceptional thermal efficiency, higher throughput and uniform heat transfer

Separation



Self Cleaning Design: Intermittent solids discharge, with hermetic design eliminating oxygen pick-up, and gentle acceleration with low shear flow. Configurable for 2phase or 3phase applications



Nozzle Bowl Design: Continuous solids discharge used to separate, wash and concentrate micro-organisms, widely used in yeast production



Skid-Mounted System: Centrifuges can be supplied as stand-alone machines or integrated into a skid mounted system with auxiliaries



Solid Wall Bowl Design: Manual solids removal, in which the machine is stopped and bowl is opened. Used in high fouling applications such as blood and natural latex processing

Filtration

Membranes and Filters



Plate and frame: Specifically designed for ultra and microfiltration of highly viscous products and fermentation broths in the food, beverage, biotechnology and pharmaceutical industries



Spiral membranes: Used to supplement centrifugal separation processes – micro, nano, ultra and reverse osmosis versions are available depending on the level of filtration needed



Safety filters: Installed directly in the feed line, they serve as particulate-retaining slot tube filters to comply with sanitary requirements

Utility Heat Exchangers

TS Steam heaters:

Designed for steam to water heating, the unique plate geometry and heavy duty gaskets make it ideal for use in hot water sets



A compact BHE with high heat transfer coefficients and small hold-up volumes for water heating/cooling



AlfaNova: Constructed with 100% stainless steel for demanding water, steam and CIP heating duties



M-line: A reliable and efficient general heating and cooling solution

All-Welded Heat Exchangers



Compabloc: A durable heat exchanger used as a main or overhead condenser on BioPharm reactors and vent condensers



Spiral: A versatile heat transfer solution with a compact, self-cleaning design to process everything from dirty fluids to high vacuum condensation

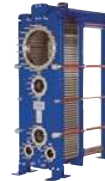
Evaporation and Condensing



AlfaVap: Uses a rising-film operation for gentle and complete flow control and is especially efficient at high concentrations and viscosities



ViscoVap: Tubular evaporator systems for concentration of products such as tomato and fruit purees



AlfaCond: Condenses vapors under low pressure/vacuum conditions in evaporation and distillation systems

Decanter Centrifuges



Stand alone decanter: For clarification during food and beverage processing with design features focusing on hygiene, better clarification and higher yield performance



ALDEC: For dewatering of wastewater and process waste streams, ALDEC consistently applies high torque and effective control for large volumes of sludge to provide the best optimized performance



Decanter modules: A wide range of configurations to optimize your process requirements – from clarifying process streams to dewatering your wastewater

Tri-Clover Fittings and Tubing



Bio-Pharmaceutical Fittings: Constructed with 316L stainless steel to BPE standards, each fitting is individually capped and bagged with material test reports



Food and Beverage Fittings: Manufactured to 3A standards, all product surfaces are polished to 32 micro inch Ra or better



Tubing: Available in a full line of sizes and finishes to ensure a perfect fit with all Tri-Clover fittings