







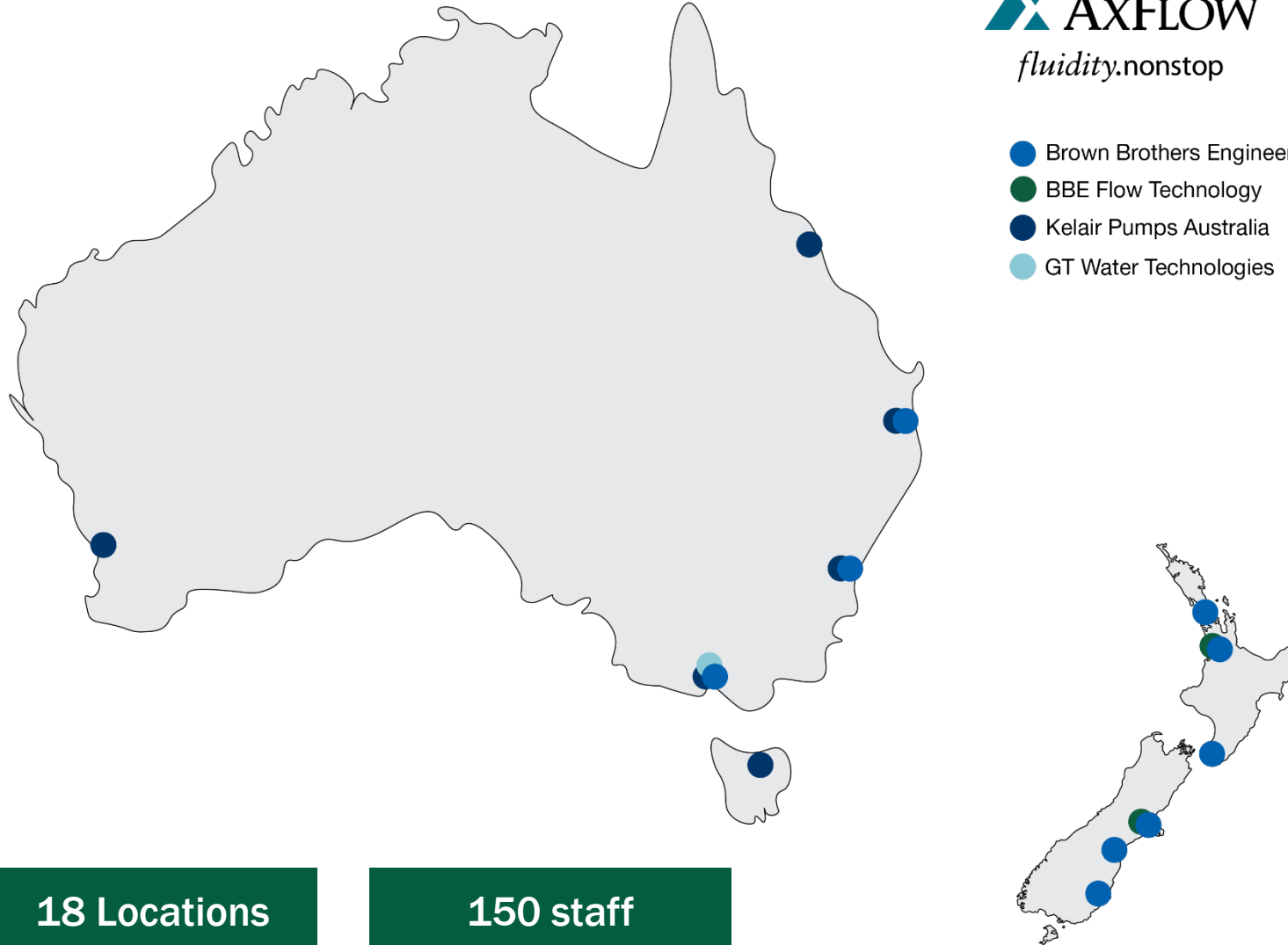
Product Portfolio F&B NZ

Brown Brothers Engineers Flow Technology

Who is Who



-  Brown Brothers Engineers
-  BBE Flow Technology
-  Kelair Pumps Australia
-  GT Water Technologies



18 Locations

150 staff

Primary Brands

SPXFLOW

> APV

**> Waukesha
Cherry-Burrell**

> Seital Separation

> Anhydro

> Bran+Luebbe

**> Gerstenberg
Schröder**

> Lightnin

> Johnson Pump

Local Facilities



➤ 2 Kaimiro Street, Te Rapa, Hamilton



➤ Unit #11, 9 Craft Place, Middleton, Christchurch

- Assembly of Plate heat exchanger, Pumps and Valve
- Re-gasketing of PHEs
- Refurbishing of separators, SSHE, PHE, other APV equipment



Product Portfolio – company split

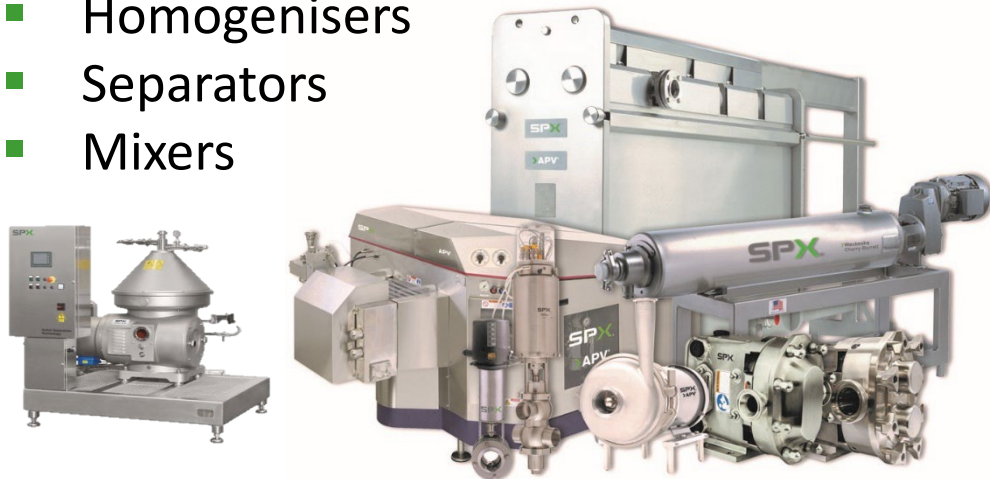


APV Component Sales After Market Support

- Plate Heat Exchangers
- Centrifugal Pumps
- PD pumps
- Valves
- Homogenisers
- Separators
- Mixers



- > Waukesha
Cherry-Burrell
- > Seital Separation
- > Gerstenberg
Schröder
- > Bran+Luebbe



Pumping Solutions

- Water
- Waste Water
- Irrigation

www.brownbros.com.au

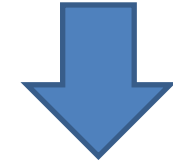
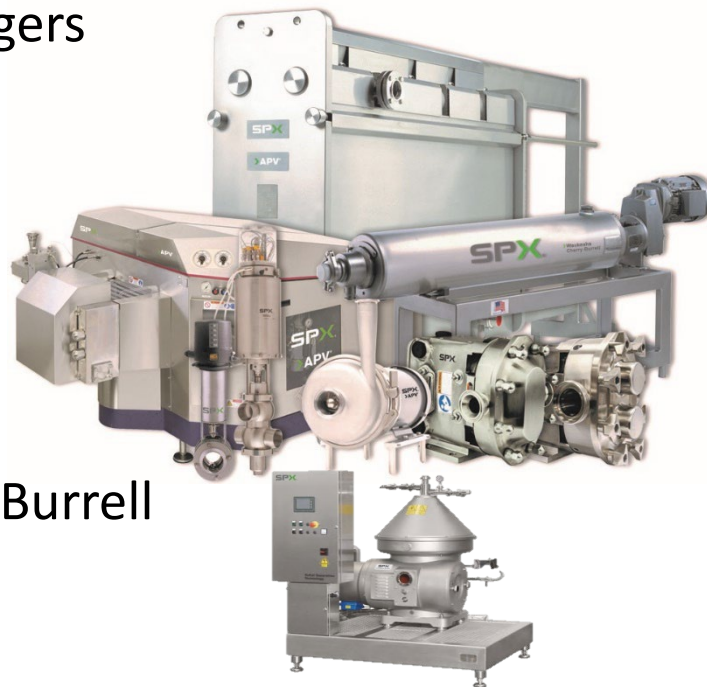


Product Portfolio - market split



APV Component Sales After Market Support

- Plate Heat Exchangers
- Centrifugal Pumps
- PD pumps
- Valves
- Homogenisers
- Separators
- Mixers
- Waukesha Cherry-Burrell
and APV Votator



Process Solutions

- Butter
- UHT
- Yoghurt
- Fats & Oils
- Other SPX packaged
process systems



Plate Heat Exchanger

APV Plate type heat exchangers

- Paraflow
- ParaWeld (Semi-welded plate pairs)
- Duo-Safety (Double-wall plates)
- Hybrid (Fully welded)



Industries

- Dairy
- Winery
- Brewery
- Oil and gas
- Mining
- HVAC
- Waste water

Applications

- Milk
- Beverage
- Juice
- Water/water
- Heat reclaim
- Evaporators
- Condensers
- Waste water
- High solids
- Viscous products



Centrifugal Pump Range

Comprehensive

- 16 single stage models
- 1 multistage model - W+140/50
- Inducer option on 13 models
- High pressure versions – up to 60 bar
- Aseptic versions
- Liquid ring option – 3 models



W+
SINGLE STAGE MODEL



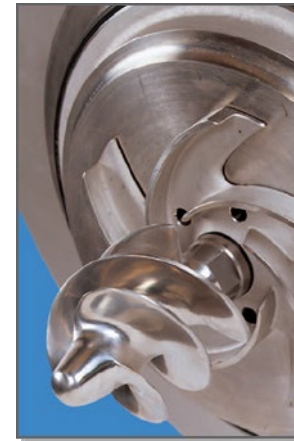
WI+
WITH INDUCER



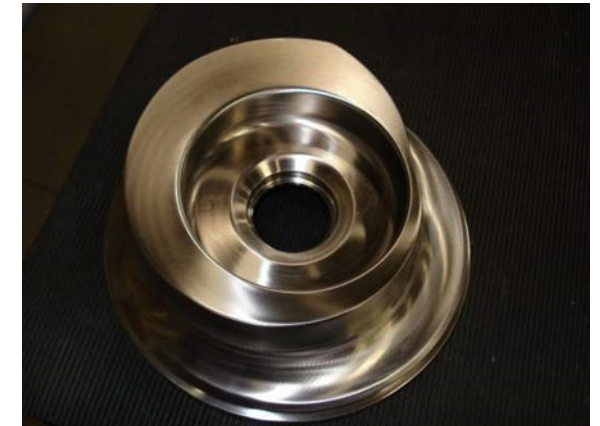
WS+
SELF PRIMING

Advanced Design

- Spiral volute backplate
- Impeller statically balanced
- Several optional features – jacketed, casing drain



INDUCER



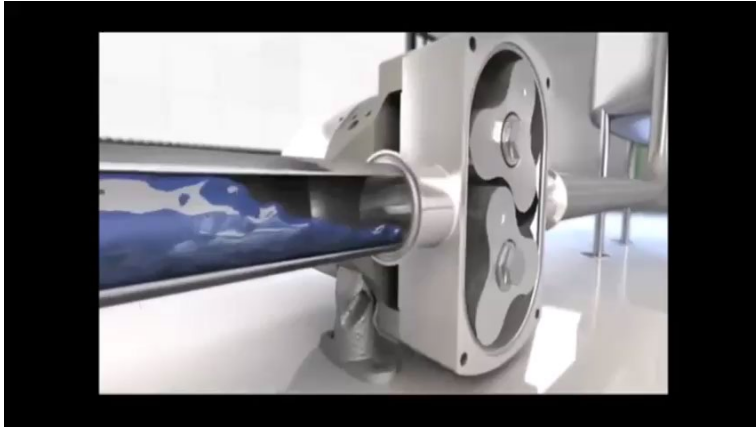
SPIRAL VOLUTE BACK PLATE

Proven

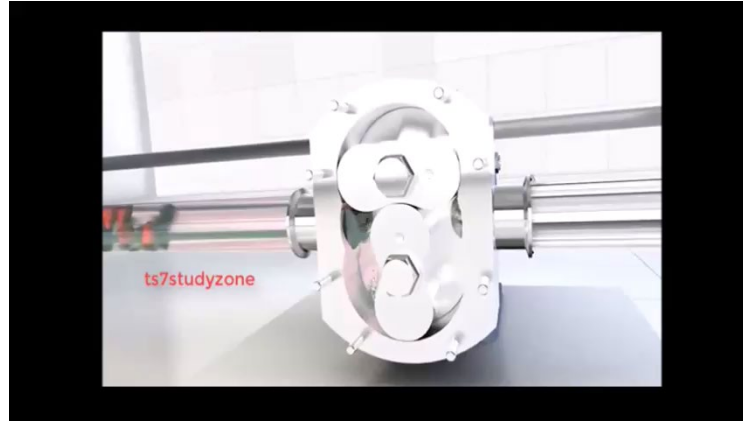
- Over 150,000 installed worldwide (>3000 to 4000 in NZ)

Lobe Pump

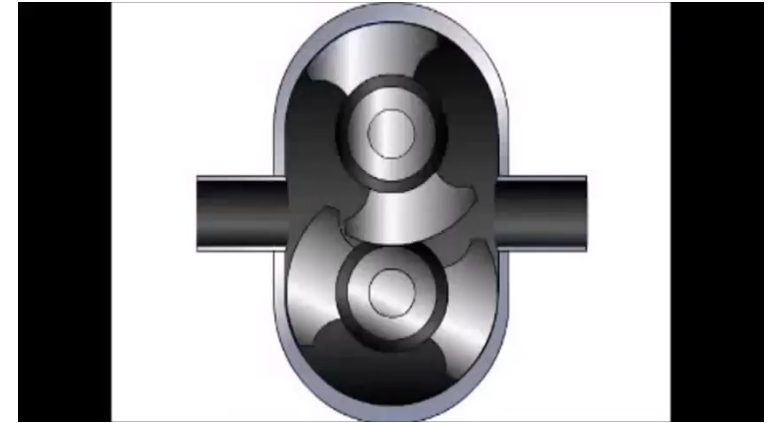
Tri-lobe



Bi-lobe



Circumferential piston



HL series

- ❑ 0.04 Lit/rev to 3.45 Lit/rev
- ❑ 1" to 6" connections
- ❑ All models rated to **10 bar**



DW series

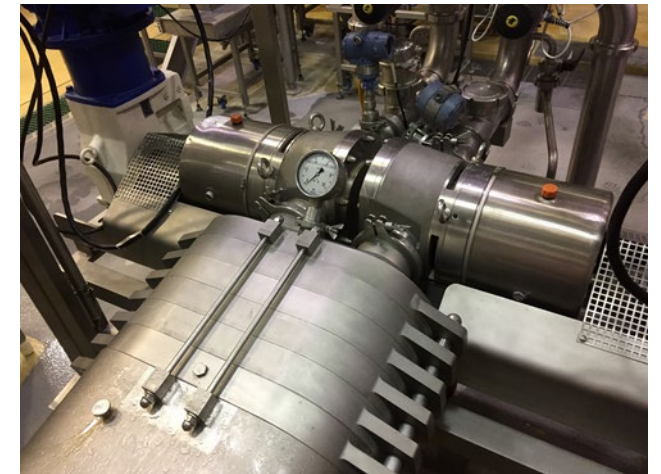
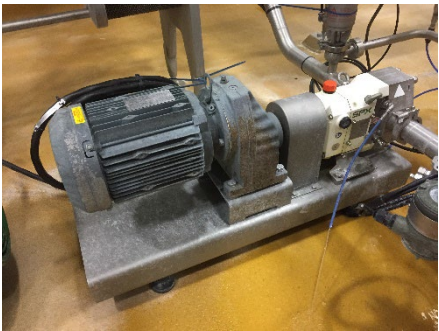
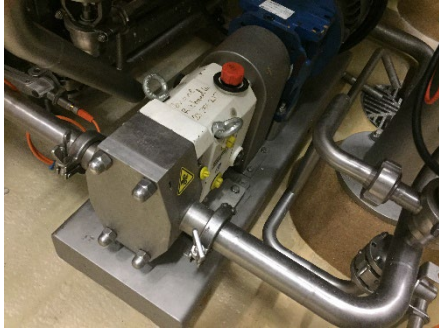
- ❑ 0.03 Lit/rev to 5.19 Lit/rev
- ❑ 1" to 6" connections
- ❑ Models rated from 5 to **30 bar**



U1, U2, U3 series

- ❑ 0.03 Lit/rev to 2.85 Lit/rev
- ❑ 1" to 6" connections
- ❑ Models rated from 10 to **35 bar**

Large Install base



DW pumps in outlet of butter maker

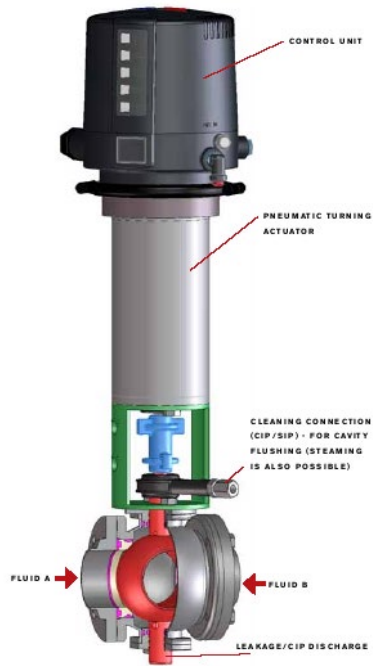
Extensive Valve Range



The DELTA range consists of:

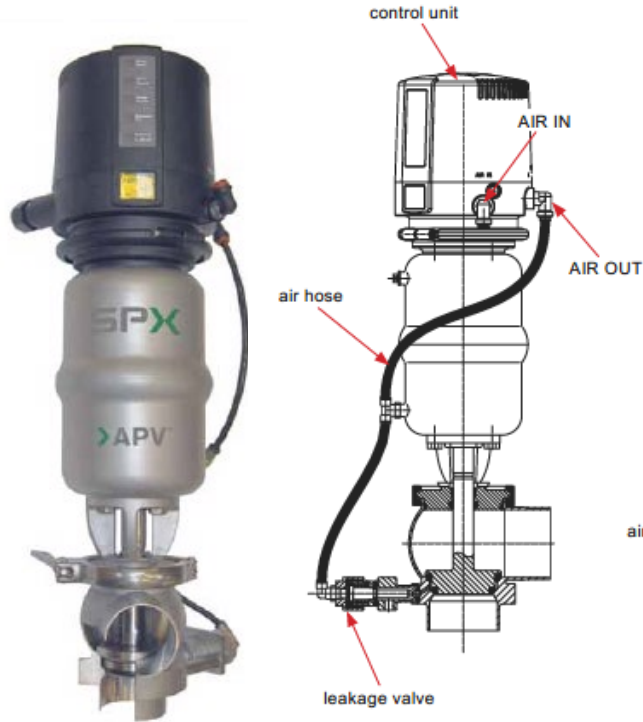
- Butterfly Valve
- Single Seat Valve
- Double Seal Valve
- **Mix-proof valve Double Seat Valve**
- Mix-proof ball valve
- Butterfly Control Valve
- Diaphragm Control Valve
- Check Valve
- Constant pressure valve
- Pressure Safety Valve
- Vacuum Relief Valve

Unique Valve Designs



Double Seal Ball DKR2

- provides a double block-n-bleed solution in one plane
- with no obstruction in flow path



Double Seal SWcip4

- Provides a double bleed-n-block solution
- for CIP applications



Pressure Relief UF3

- protects pumps, PHEs, from over pressure
- Relief pressure set by adjusting external spring



Vacuum Relief VRA

- protects tanks from collapsing under vacuum

Install Base of Valves

Large number of APV DELTA valves are installed at:

- Danone, Balclutha
- 6 X Butter sites in Fonterra
- Tatura dairies, Tatanui
- Miraka dairies, Mokai
- Frucor Beverages, Manakau
- Asahi Beverages, Papakura
- Epicurean dairies, Auckland
- GROENZ, Wellington
- Juice Products, Timaru

Most sites of Fonterra have install base of Pacilac VPB, VPS, VPL and VPR range:

- We support these valves, now obsolete for over 30 years!!!



Rannie & Gaulin Homogenisers



APV-2000



Rannie 5 / Gaulin 5

E.g. 180 l/hr @ 600bar @ 5.5KW



Rannie 185Q / Gaulin 185Q

E.g. 8,300 l/hr @ 500bar @ 160 KW

- Very large range in capacity, pressure, other parameters
- Either mono-block (Rannie) or Three-piece block (Gaulin) design.
- Both hygienic and aseptic designs are available
- Homogenising valves are **hydraulically actuated**
- Pulsation dampeners are fully-CIPable as standard
- **Hard metal plungers** giving 4-5 times the life of duplex plungers
- Over 200 Rannie & Gaulin homogenisers are installed in NZ



GAULIN MONO-BLOCK VALVE HOUSING



RANNIE THREE-PIECE VALVE HOUSING

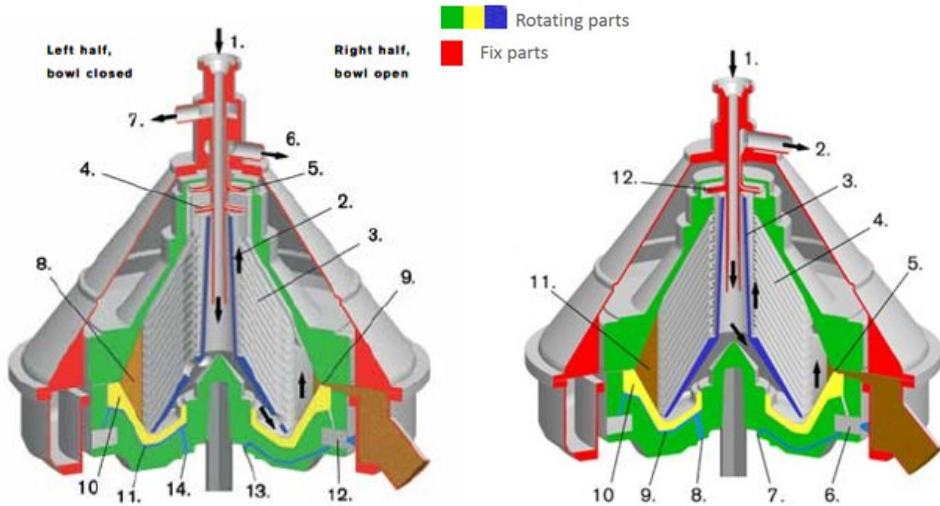
Seital Separator & Clarifier

SPXFLOW

› Seital Separation

Skimming efficiency is expressed as residual fat content in the skimmed milk. At rated capacity, Seital separators generally give a residual fat content in the range of:

- 0.03 - 0.05% measured by Gerber method
- 0.040 - 0.055% measured by Röse-Gottlieb method



SEPARATOR
3 phase separation

CLARIFIER
2 phase separation

- All parts in green and yellow are in super-duplex as standard
- Not so much for its higher corrosion resistance but essentially for its increased tensile and yield strength compared to conventional 316L stainless steel.



SE06V-X
Solid bowl warm milk separator
Warm milk skimming capacity: 2000 l/hr
Milk standardisation capacity: 300 l/hr
5.5kW 4-pole motor,
Bowl speed 7500 rpm



SE60X-Q3P3 Self-cleaning warm milk separators
Skimming capacity : 20,000 lit/hr

**TPM Mixer
(Venturi method)**



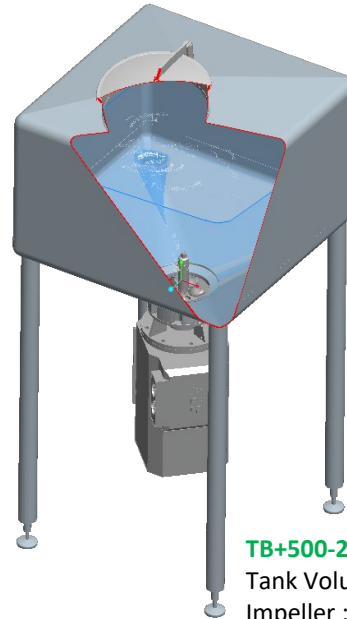
TPM-2
Max. Liquid capacity: 50m³/hr
Powder : Upto 150kg/min
depending on powder type
11-15KW

TPM-1
Max. Liquid capacity: 25m³/hr
Powder : Upto 60kg/min
depending on powder type
4 - 7.5kw

- Easy dissolvable powders
- Low viscosity products with Dry Matter lesser than 15%
- Large air incorporation in product

Mixing powder into liquids

**Liquiverter
(Vortex method)**

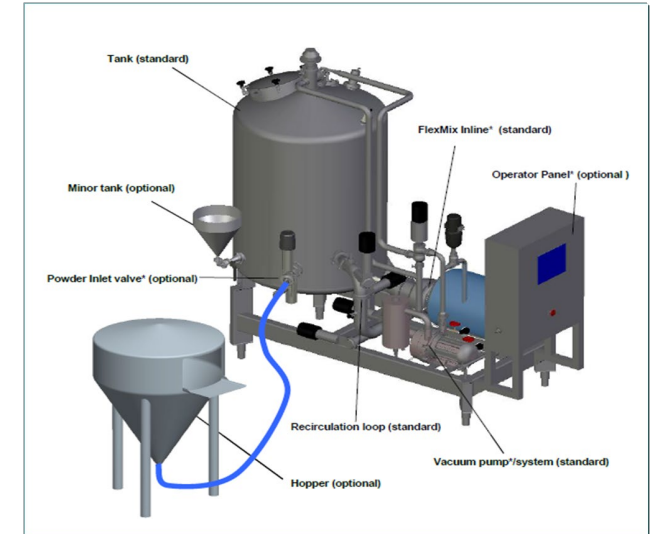


TB+500-250
Tank Volume: 500 litres
Impeller :250mm
30KW 4pole



- Ice cream mix, gravies, starch slurry, beverage, sugar, sauces
- Medium viscosity products with Dry Matter lesser than 45%
- Lesser air incorporation in product

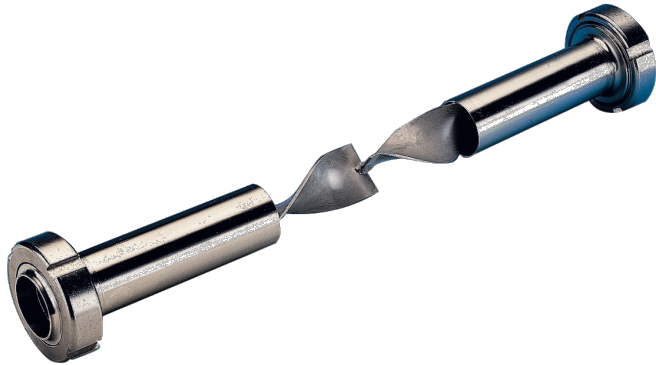
**Flex-Mix Instant
(Vacuum method)**



Flex-Mix Instant 3000-250
Tank Volume: 3000 litres
Full vacuum to 0.5bar
Inline mixer size :250mm, 30KW
Vacuum pump capacity:
150m³/hr, 4 kW

- Infant formula, cheese, sweetened condensed milk, sugar, beverages
- Vacuum processing, less oxidation – better nutritional values
- Higher capacity on powders to high DM (55-60%)

TPX Static Mixer
(torturous flow path)

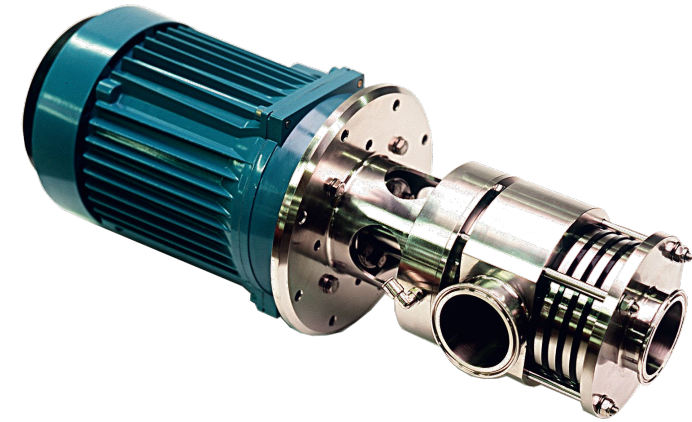


Typical application is in the Beverage Industry mixing water with sugar syrup.

Mixing Liquid into liquid



DAR Dynamic Mixer
(Rotor stator)



Typical application is mixing low viscosity vegetable oil into high viscosity butter at low temperature. Other applications are:

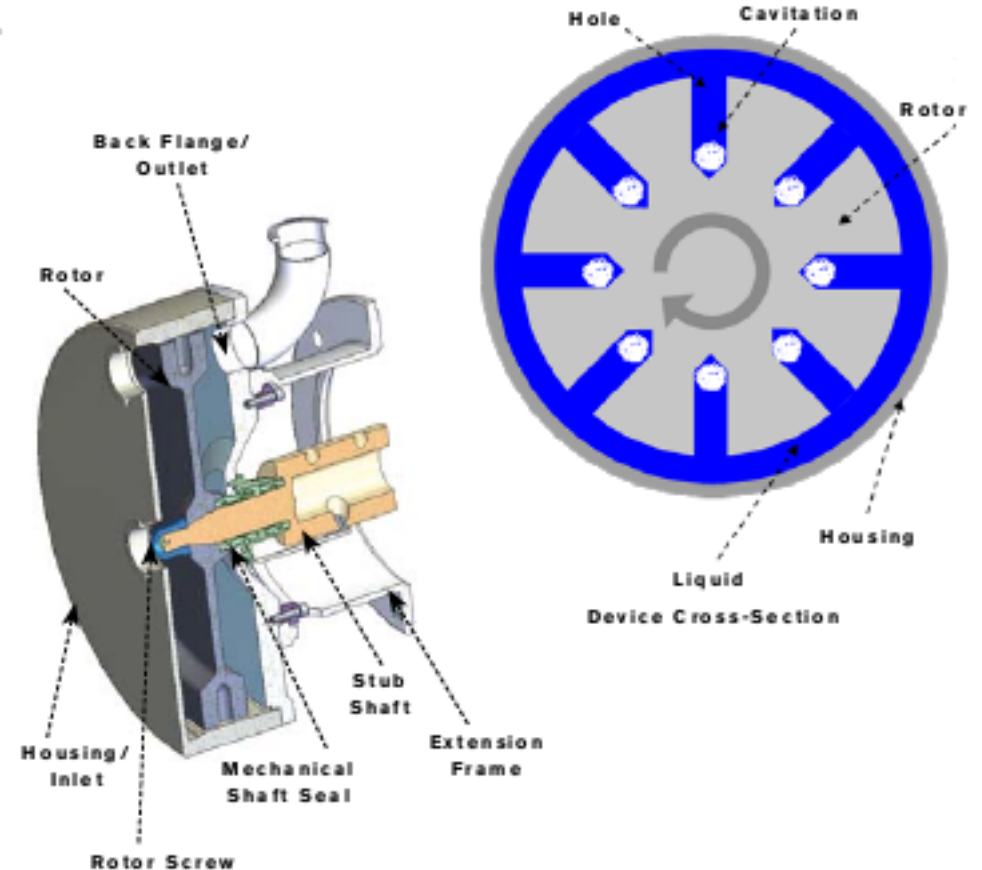
- Low fat spreads
- Butter and margarine
- Mayonnaise and dressings
- Gravies, soups and sauces
- Fruit puree
- Whipped desserts
- Dips



Cavitator



- Controlled cavitation results in **efficient dispersion** leading to emulsification
- Product gets **heated uniformly** without contact with any heat transfer surface
- Can be used to **decrease viscosity** of product



Model	Rotors can be supplied with 2,3, or 4 rows of holes		
8" rotor dia			
12" rotor dia			
14" rotor dia			
16" rotor dia			

Other Scraped Surface Heat Exchanger

Waukesha Cherry-Burrell and APV Votator

- Applications are:
- MDM
- Ice cream
- Fruit purees
- Jams
- Honey
- Custards
- Hummus
- Whole berries
- Butter/margarine/spreads



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