

# APEQ PROCESS SDN BHD

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**SPXFLOW**

**>APV**

**Authorized  
SPXFLOW APV  
Distributor**



**Delivering Modern Innovative  
Process to Your Fingertip**



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## MIXING & BLENDING

### Flex-Mix™



#### Vacuum Instant

Reduced oxygen level (Deaeration) in product & improve quality



#### Processor

Gentle high viscous product mixing / with particulates



#### Liquiverter

Proven, versatile & simple but capably fast & reasonable priced mixer



#### CSD (Continuous Sugar Dissolving)

Soludize dry, white granulated sucrose of a medium crystalline grade with water



#### Power

Inline pin mixer for high shear emulsification & Aseptic Aeration



#### DarMix+

Inline heavy-duty mixing, grinding, dispersion for low to high viscous product



#### TPM+

Simple but yet efficient Inline Powder Mixer



#### APV Cavitator (NEW)

Patented technology - heating of liquids without scaled build up and/or the mixing of liquids with other liquids

## CLEANING IN PLACE (CIP)



#### Skid CIP System

Manual to fully automation unit specially design for each cleaning application. Standard CIP tank size and flow rate available. Pre-assembly, wired and tested skid unit.



#### Customised Cleaning System

Fully automated or customised to specific needs, study of plant cleaning route and tank volume available

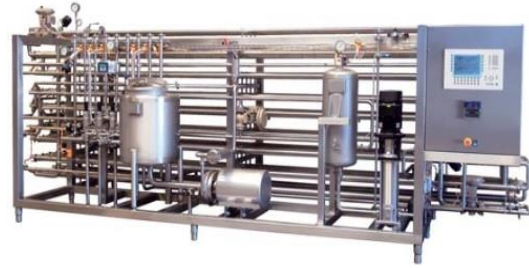


# THERMAL TREATMENT & ASEPTIC TECHNOLOGY



## Pasteurisation System

Pre-assembled standard skid unit & factory tested to full customization with comprehensive selection of plate, tubular or scraper surface heat exchanger.



## UHT & ESL (Extended Shelf Life)

Pre-assembled skid unit & factory tested to full customization and comprehensive range. Selection of plate, tubular, scrapped surface heat exchanger, Injection & Infusion UHT depending on product characteristics.



## Aseptic Tank System- SST & SPT

Available in pre-assembled skid /Modular system/ factory tested. Full automated PLC control for optimal sterile condition control



## Technology and technical expertise for large-scale production under sterile or aseptic conditions

SPX APV has developed and implemented continuous and batch fermentation processes requiring sterile conditions with wide range & customization available

# EVAPORATOR



## Rising Falling & Falling Film Plate Evaporator

World leading Rising/ Falling Film Plate Evaporator – Continuous & high evaporation rate with patent product falling technology. Plate evaporator uses significant less space/ height compared to tubular.



## Paraflash - Forced Circulation Evaporator

Supressed boiling evaporator for high-fouling & high viscosity or crystallizing product.

## DEAERATOR



### VFN E-VAP

Increasing total solid level in liquid food  
Increases total solids/viscosity in milk, smoother and creamy texture in fermented products



### VFJ / VFN

Efficient deaeration of liquid food & improved aroma-recovery system



### Derox Cold water deaeration

Improve your beer and juice quality with low capital outlay & running cost



### Derox+ Hot water deaeration

Heats the water to a high temperature, which reduces the risk of infection and helps remove contaminants

## ANHYDRO SPRAY DRYER

**>Anhydro®**



### Anhydro Spray Dryers & Fluid Bed

Anhydro dryers are designed, engineered and customized to provide unbeatable performance at the lowest possible cost. The majority of drying options can be supplied in standard and GMP configurations, while specialized options can be supplied in accordance with aseptic standard.



### Small to Medium Scale Spray Dryer

SPX offers a full range of small scale evaporators, spray dryers, spin flash dryers and fluid beds that can be adapted to any need - and to new configurations dictated by changing needs.

## PRE-ASSEMBLED SKID UNIT



### Hot Water System – Plug and Play

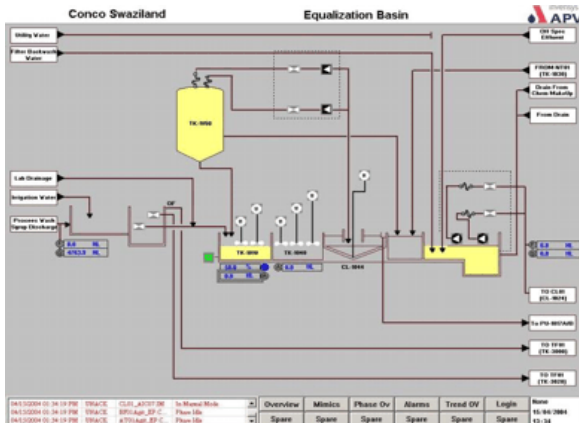
Pre-tested standard or customizable hot water generation one pass or re-circulation, generated using steam supply.



### Customized Pre-assembly Skid Unit – Cut down on-site installation & testing time

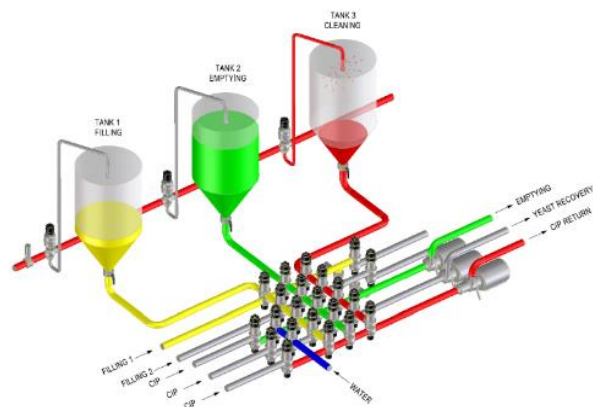
Customizable and tailored made skid unit with wide variety of process equipment such as mixing tank, pump, homogeniser, heat exchanger, separator.

## AUTOMATION & PROCESS STREAMLINING



### New automation project to control conversion/ upgrade

APEQ have built-up strong local team capable of offering complete automation solutions typically in liquid food processing plant, expanding gradually to other key industry in Malaysia as well



### Streamlining Existing Processing Plant

APEQ have understood the need to meet stringent customer requirement in constant improvement of process plant, looking ways to improve customer's product quality, yield, flexibility, reduce energy consumption and serviceability.



# HEAT EXCHANGER



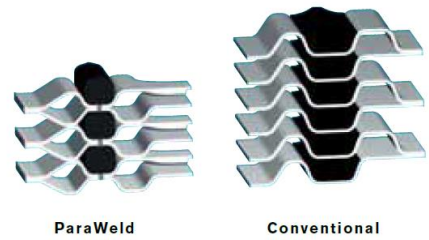
## ParaFlow – Hygienic frames Gasketed Plate Heat Exchanger

Extendable frames to meet stringent hygienic requirements.



## ParaFlow – Industrial frames Gasketed Plate Heat Exchanger

Wide range of extendable frames for meeting various quality needs.



ParaWeld

Conventional

## ParaWeld Gasketed Plate Heat Exchanger

Welded plate pairs. Designed with welded channels allowing handling of aggressive fluids.



## ParaTube Tubular Heat Exchanger

For handling product with particles, high viscosity or sensitive to texture changes product, eg pulp juices, sauces, soup, yoghurt, purees and concentrated beverages.



## Scraped surface heat exchanger

Designed to heat or cool medium and high viscous products with or without particles under sanitary conditions, comes in horizontal or vertical.



## Hybrid Fully welded plate heat exchanger

Operate under harsh conditions where other heat exchanger technologies can fail. It can withstand temperature up to 350°C, design pressure up to 40 bar.



## ParaBrazed Brazed Plate Heat Exchanger

Compact, economical & versatile with wide pressure / temperature range.

# PUMP



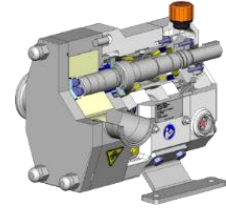
## Centrifugal pump W+

Premium sanitary pump for food & pharmaceutical industry for liquid product less than 500 cps, no particle & abrasive, non-shear sensitive and non-high pressure application.



## Self-priming Ws+

Ws+ revolutionary axial water ring principle is far better compared with less efficient radial water ring, thus replacing dated water ring pump.



## Lobe Pump DW & HL

Handles viscous product more than 500 cps, no particle & abrasive and gentle handling product.

# HOMOGENISER & HIGH PRESSURE PUMP



LW Universal Homogenising valve



SEO Homogenising valve



XFD Homogenising valve

## Homogeniser

2-stage homogenizing effect improve the stability of most water/ oil emulsions. Superior product particle size reduction far comparing to high shear mixer.



**Gaulin**  
Mono-block  
Up to 600 bar

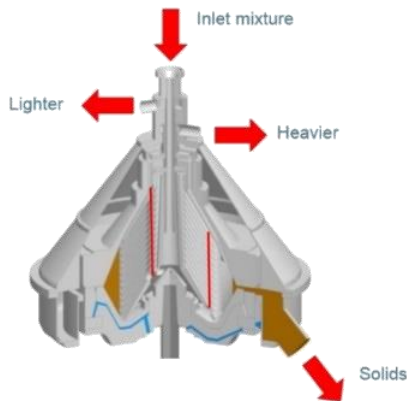


**Rannie**  
Three-piece valve housing  
Up to 1500 bar



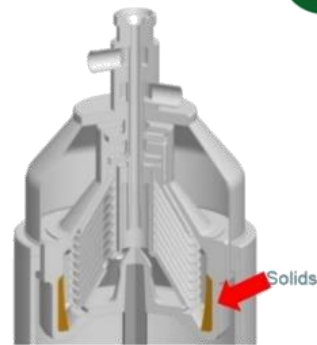
**Lab-scale homogeniser**





**Self-Cleaning Separator & Clarifier (SC)**

Concentrators, clarifiers - special clarifiers (with internal solids stream recirculation). Purifiers  
Nozzles concentrators & clarifiers



**Solids retaining separators and clarifiers (SR)**

Concentrators  
Clarifiers  
Purifiers



**Stand-alone Milk/ Cream Standardization**



**Combination of accessories and separators in skidded solutions**



**Clarifier for wine**



**Oil & Fats separator**



**Solids retaining separator for lube oil**

## Advantages

- Product / energy savings and increased profits
  - Compact footprint
  - Faster installations with skid system
  - High equivalent area of separation
- Increase separation efficiency

## Accessories for separation processes

- Standardizers
- Rotary brush strainers
- Hydro-cyclones

# VALVE

## Complete Range of Sanitary Valve



Butterfly Valve  
Delta SV & SVS



Seat Valve  
Delta SW4



Seat Valve  
Delta SWcip4



Seat Valve  
Delta M4/ MP4



Aseptic Seat Valve  
Delta SD4/ SDM4



Check Valve  
Delta RUF3 & VPN



Constant  
Pressure Valve  
Delta CPV



Sampling Valve  
Delta PR2/  
PRD2



Regulating Valve  
Delta RG4/  
RGE4



Aseptic Valve  
Delta AP1



Relief Valve  
Delta UF / UFR/  
SI2



Ball Valve  
Delta DKR



Ball Valve  
Delta KHV



Air Vent Valve  
Delta VRA/  
VRAH



Control Unit for  
Valve Delta CU4



### Mixproof Valve– Delta DA3+

Seat lifting as well as the separate spraying of the leakage chamber makes a complete and reliable cleaning of all product-wetted parts including seals possible, suitable to be used after pasteurisation.



### Mixproof Valve– Delta DE3

Absolutely safe separation of incompatible liquids with fully balanced & not affected by water hammering on both sides.



### APV Delta Valve Manifolds

APV DELTA Valve Manifolds are vital modules in automated food processing systems. They allow multi-functions and safe operation of the various process units with CIP / SIP between individual food batches

## SaniForce®



**Air Operated Double Diaphragm Pumps**

- Maximum flow rates to 567 lpm
- Tri-clamp connection
- Fluid pressure up to 120 psi
- Durable, lube-free non-sticking air valve



**Air Operated Meat & Poultry Pump**

- Maximum flow rates to (568 lpm)
- One pump transfer two products in the same time
- Durable, lube-free non-sticking air valve
- Handles solids up to 2.5 inch
- Quick knockdown design



**3A HS Diaphragm Pumps**

- Maximum flow rates to (567 lpm)
- Fluid pressure up to 120 psi (8.4bar)
- Quick knockdown design for easy cleaning and draining
- Leak detection
- Interchangeable flapper and ball check



**Piston Pump**

- Fluid transfer and supply of low to medium viscosity fluids
- Flow rates ranging from 5.7 to 53 lpm)
- Double-ball and priming piston designs



**Drum Unloader**

- Unload materials from straight-sided/tapered drums
- Inflatable wiper seals for increased efficiency and faster change-out of drums
- Liner guard to prevent bags from entering pump
- Sanitary flange clamps for quick disassembly



**Bin Evacuation System (BES)**

- Evacuate materials from 1,135L containers without adding water
- Inflatable wiper seals for increased efficiency and faster change-out of bins
- Available with two sanitary diaphragm pumps or up to four sanitary piston pumps
- Pneumatic or electronic control options

## Process Solutions



**Husky AODD Pumps**

- From ¼ in to 3 in connection
- Flow rate from 19 lpm to 1135 lpm
- Aluminium, PP, Stainless steel, PVDF, Hastelloy, Acetal, PTFE



**SoloTech Hose Pump**

- Aluminium housing
- Maximum discharge pressure: 125 psi
- AC or BLDC motor option
- Solid size from 5mm to 24.5mm



**Hydra Clean**

- High-pressure cleaning and sanitizing
- Air-operated for hazardous or confined areas
- 10:1, 12:1, 23:1, 30:1 or 45:1 ratio options
- Available in wall, cart or drum mount package





### Flottweg Decanter

Continuous separation of suspended solids from liquids, clarification of liquid, classification of fine pigments, etc.

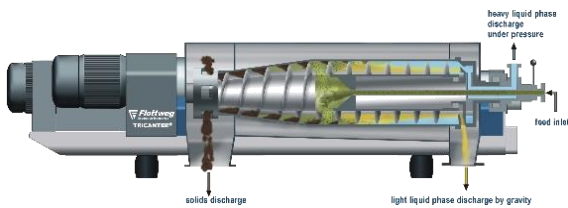
**Applications:** WWT, plastic production, clarification of beverages, recovery & processing fats, mining & mineral separation, clarification & dewatering for biofuels.



### Flottweg Sedicanters

Preferably used in cases where the solids are too fine to be effectively processed in a decanter and the sediment cannot be easily discharged from the decanter due to its soft consistency.

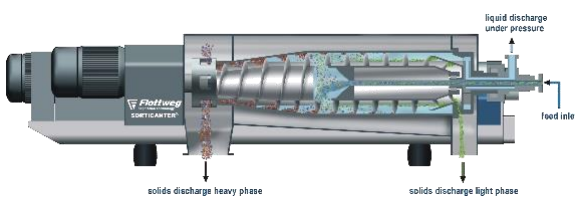
**Applications:** Separation of biomass (yeast cells, bacteria, etc), recovery and processing of vegetable proteins, beer recovery.



### Flottweg Tricanters

Continuous 3-phase separation, i.e. simultaneous separation of two immiscible liquids and one solid phase.

**Applications:** Processing oil sludge, recovery & processing of animal & vegetable fats & oils, separation of wheat starch and gluten.



### Flottweg Sorticanters

The process consists of carrier liquid with a specific gravity that is between the densities of the 2 solid phases to be separated.

**Applications:** Plastic recycling, separation of mixtures with a floating and a settling



### Flottweg Belt Press

A pneumatic belt-control, self-cleaning system ensures for reliable operation with minimal manpower.

**Applications:** Extraction of juice from fruits & vegetables, dewatering of brewer grains, extract from algae, coffee grounds, extract from herbs.

# PIPETITE



## Standard

For new tubing installation



## Reboot

For existing tubing installation



## Sleeve Boot

Pipe to Pipe transitions



## Grommet

For cabinet, enclosure, panel



## Mini Grommet

For cabinet, enclosure, panel



## Flat

For jacketed tank installation or cover hole



## Pipetite Anchor

For mounting Pipetite Standard, Flat and Reboot

## Why seal piping penetrations?

- Airborne contaminants
- Bugs, pests, rodents
- Wall and floor damage
- Energy savings
- Moisture migration

### Sizes

Styles available to fit tube or pipe up to 17" / 434mm in diameter

### Connections

Pipetite Standard, Reboot, and Flat have pre-drilled mounting holes

### Materials

FDA approved hygienic white silicone & flange in Aisi stainless steel

### More InFo

From -40°C to 260°C temperature rating  
Molded lines guide your cutting  
100% self-sealing-no sealant required  
Seal is flexible to accommodate movement  
IP 66/IP68 rated  
No cracking silicon



## LOCAL SERVICE & SPARES

APEQ have established full service team & facility in Shah Alam serving Malaysia market.



### Service Workshop

- **Shah Alam** workshop fully equipped and ready to serve customer.
- Future plans to setup service workshop at **Johor Bahru** to serve Southern region better.



### Spares

- Own local inventory with critical spare parts like valve gaskets, pump seal, plate heat exchanger gaskets and homogenizer parts.
- Only support genuine SPXFlow APV spare parts.
- To reduce customer production downtime.



### Homogenizer Overhaul & Refurbishment

- On-site servicing for pre-planned schedule with customer.
- Pre-plan overhaul servicing of power END/ liquid End.
- Homogenizer capacity upgrading support.
- Yearly service contract.



### Plate Heat Exchanger Service

- Pre-plan servicing with customer schedule.
- Yearly service contract
- Types of servicing available:
  - ✓ UV light crack check- (factory)
  - ✓ Dye Penetrant crack check- (on site)
  - ✓ Chemical soaking
  - ✓ Refurbish old PHE units





## PROCESS TRY BEFORE YOU BUY

We believe key to customer success & satisfaction is to have trial equipment available locally, with continuous effort & investment spent in setting test unit for customer to perform trial and research.



### 1) APV Liquiverter TB+500

Tank size: 500 litre  
 Motor : 18.5 kW  
 Impeller: 150 mm  
 Inlet : 51 mm  
 Outlet : 63.5 mm



### 2) QTS-222 Twin Screw Pump

Clamp ports: 2" x 2"  
 Viscosity : Up to 1,000,000 cps  
 Single Mech Seal SiC/C/Viton  
 3 Thread Rotors  
 Motor : 5.5 kW  
 Voltage : 415V/3PH/50Hz



### 3) APV Mixer TPM+2

Motor: 15 k  
 Funnel size: 100 litre



### 4) Seital Multi-Purpose Separator

Flow rate: 300 ~ 750 LPH  
 Motor : 1.5 kW  
 Voltage : 400V  
 Max product S.G.: 1.1 kg/dm<sup>3</sup>  
 Max solid S.G.: 1.35 kg/dm<sup>3</sup>



### 5) APV In-line mixer type DAR

Model : DAR 100  
 Flow rate: 6,000 LPH Max  
 Motor : 3 kW



### 6) APV Lab Homo APV1000

Capacity : 22 LPH  
 Max Pressure : 1000 bar



### 7) Graco SaniForce Drum Unloader 12:1 (24F189)

Flow rate : 32 lpm  
 Viscosity : Up to 1, 000,000 cps  
 Fluid Pressure: 83 bar



### 8) APV Pilot LAB60

Capacity : 40 LPH  
 Max Pressure : 1000 Bar



### 9) Pasteurizer Skid with Touch Screen Control (READY TO SELL)

Type : Plate Heat Exchanger  
 Flow rate : 500 - 800 LPH  
 Max temp : 120°C

## Rental of Lab / Pilot Scale Equipment for Product Testing

- Customer able to rent the machines from Apeq or perform the text duty either at our facility in Shah Alam or customer site.
- Equipment based in Malaysia is subject to availability, please inform with sales representatives.

## Product Expertise Processing

APEQ Process together with SPX have identified & built-up process knowledge in Malaysia, capable of complete processing line.



**Fresh/ Recombined Milk (Dairy/ Soy/ Coconut) & Non-Dairy**



**Juice, Beverages & Syrups**



**Yoghurt**



**Brewery**

**Sauce & Ketchup**



**Sweetened Condensed Milk (SCM) & Evaporated Milk**



**Ice Cream**



**Butter, low-fat Spread & Cheese**

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*APEQ Process will continue to expand to other sector with strong foundation of expertise, committed to delivering the best process solution to customer*

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**SPXFLOW > APV® > Anhydro®**



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