

## Bottom Driven Processing Vessels



# Bottom Driven Processing Vessels

TERLET cookers and coolers, with bottom driven agitators, are used in all kind of high viscosity food products, like soups/sauces, ready meals, etc. where gentle mixing is important.

Terlet produces a standard range of bottom driven process vessels with a volume range from 50 to 1,500 liters. Other dimensions and/or executions are available on request

## PROCESSES

- /// Mixing
- /// Heating (indirect via the jacket with steam or water)
- /// Pasteurizing
- /// Cooling (indirect via the jacket with water or glycol)
- /// Dissolving – homogenizing function – in-line or with a top-flange mixer
- /// Product de-aeration/evaporation (optional vacuum with condenser)

## THE CHOICE FOR A TERLET VESSEL

For high viscosity food products our bottom driven construction offers the best processing practice, for the following reasons:

- /// Superb mixing effect of the (scraped) agitator in combination with a sloped inner vessel and inner agitator cylinder (Proper agitation even at slower speed, no “dead spot” in center of the product batch and no food contact with bearings, no risk of drive oil leaks above the product)
- /// Effective heat transfer through Terlet’s special spot welded dimple jacket system with high efficient steam inlet and condensate outlet.

These Terlet features have proven to be a key factor in the production of high quality products over 100 years of manufacturing experience.

The (scraped) agitator is designed in such a way that it will stir and mix the product in combination with a baffle plate. Different executions are possible to suit the product and mixing needs such as intersecting cross blades, solid round bar or solid plate agitator frame. The scrapers are fully removable without any tools for easy maintenance and cleaning.

Additionally, a dissolving or homogenizing mixer can be fully integrated for emulsion products or other types that require this functionality.



## Our design for your benefits

### FEATURES AND BENEFITS

- Full access from the top of the vessel. (with top flange mixer cover is fixed approx. 1/3 surface)
- Hygienic design
- Splitting dimple jacket for small cooking batches is possible
- Fast heating times through in house fabricated Terlet spot welded dimple jacket
- Wall and bottom surface scraped for optimal heat transfer
- Easy removable scrapers
- Special agitator for intensive mixing action resulting in a more homogeneous end product
- Low maintenance
- Less product loss
- No dead corners
- No seals or bearings in contact with product due to special cylinder construction
- Wide range of options available to suit your specific product needs or wishes

### YOUR PRODUCTS

- SAUCES
- SOUPS
- HUMMUS
- STEWES
- TAPENADES
- RAGOUTS
- CREAMS
- CARAMELS
- FRUIT PULP
- PIE FILLING
- PUDDINGS
- BABY FOOD
- READY MEALS
- CUSTARD
- ETC.



## Standard product range



<b>Batch size [l]</b>	<b>50</b>	<b>150</b>	<b>300</b>	<b>500</b>	<b>800</b>	<b>1,000</b>	<b>1,250</b>	<b>1,500</b>
<b>Outer diameter [Ømm]</b>	710	795	1,005	1,395	1,395	1415	1,545	1,575
<b>Internal diameter [Ømm]</b>	450	650	850	1,200	1,200	1,200	1,330	1,530
<b>Infeed height [mm]</b>	950	1,150	1,220	1,230	1,430	1,620	1,630	1,820
<b>Outfeed height [mm]</b>	450	450	450	450	450	450	450	450
<b>Total height with open lid [mm]</b>	1,660	1,945	2,225	2,625	2,825	3,035	3,175	3,395
<b>Installed power [kW]</b>	0.75	1.1	2.2	3	3	4	4	5.5
<b>Steam requirement [kg/h] estimate*</b>	100	130	165	275	345	410	490	560

\*Other dimensions and/or executions are available on request.

\*Based on 10-95 °C, 3 bar(g) steam, heating times between 15-25 minutes.

\*Actual product properties and temperature range define the actual supply loads for the vessel.

Shown info can deviate after detail engineering.

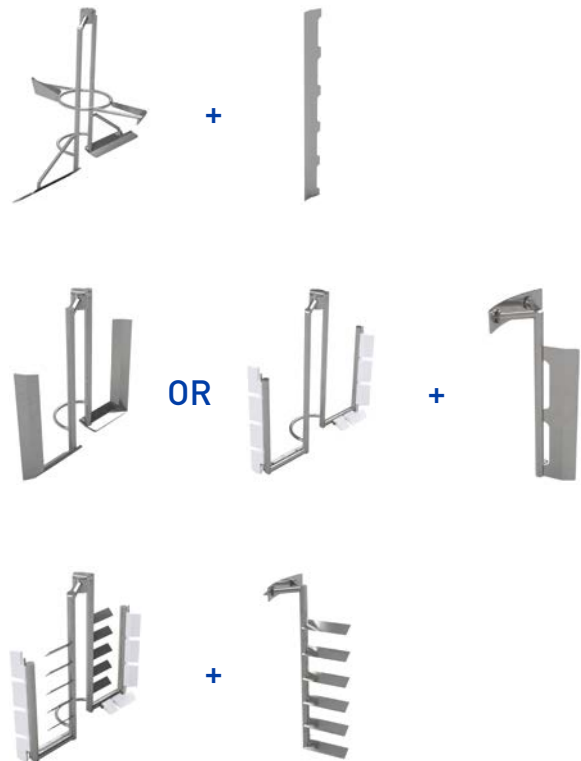


## Terlet modular vessel configuration for your process

### BASIC VESSEL EXECUTION

- /// Atmospheric
- /// Baffle [3 types]
- /// Solid SS 316 L anchor agitator
- /// Product contact parts Stainless Steel 316 L (RA 0.8  $\mu\text{m}$  (NEN-EN-ISO 4288))
- /// 40 mm mineral wool isolation
- /// Double wire PT-100 (Behind the baffle)
- /// Cover safety switch (Heating + agitating/CIP stops when cover is opened)
- /// Split dimple jacket wall and bottom
- /// Manual outfeed valve on the side of the vessel
- /// Top access through counter weight opened cover < 1,000 L, or > 1,000 L pneumatic or electric cylinder

### AGITATOR AND BAFFLE COMBINATIONS



# Plug and play process control

## BASIC HARDWARE CONTROL EXECUTION

- /// Stainless steel panel
- /// Emergency stop on panel door
- /// Temperature control
- /// Speed agitator control
- /// Cooking time control
- /// Counter clock wise cleaning mode agitator
- /// On-Off heating and or cooling
- /// Control high speed mixer (if option is included in vessel scope)
- /// PLC control – recipe control (on request)
- /// HMI (on request)



## BASIC MEDIA PIPING EXECUTION

- Media control valves/PID control
- Pressure gauge steam (if applicable)
- Temperature gauge cooling water/glycol (if applicable)
- Jacket pressure relieve valve to floor
- Condensate traps (if applicable)
- Combination – steam cooking and water cooling (optional)
- Basic stainless steel grid shielding (piping- valves not insulated)





## Extending the Terlet design to your specific needs

### OPTIONS

- /// Pressure-vacuum execution
- /// Extra heating sections for specific batch volumes
- /// CIP provisions
- /// Dissolving/homogenizing top flange mixer
- /// Ingredient hatch with welded grid
- /// Removable grid
- /// Infeed chute for 200 l Norm bins
- /// Bin lifter for 200 l Norm bins
- /// Loadcells
- /// Water dosing through flow meter
- /// Automatic pneumatic product outfeed valve
- /// Volume index in steps of 100 l on baffle plate

Terlet B.V.  
Oostzeestraat 6  
NL-7202 CM Zutphen  
THE NETHERLANDS

phone +31 575 593-100  
fax +31 575 593-111

info@terlet.com  
www.terlet.com

member of >  
**ProXES**  
the processing > group