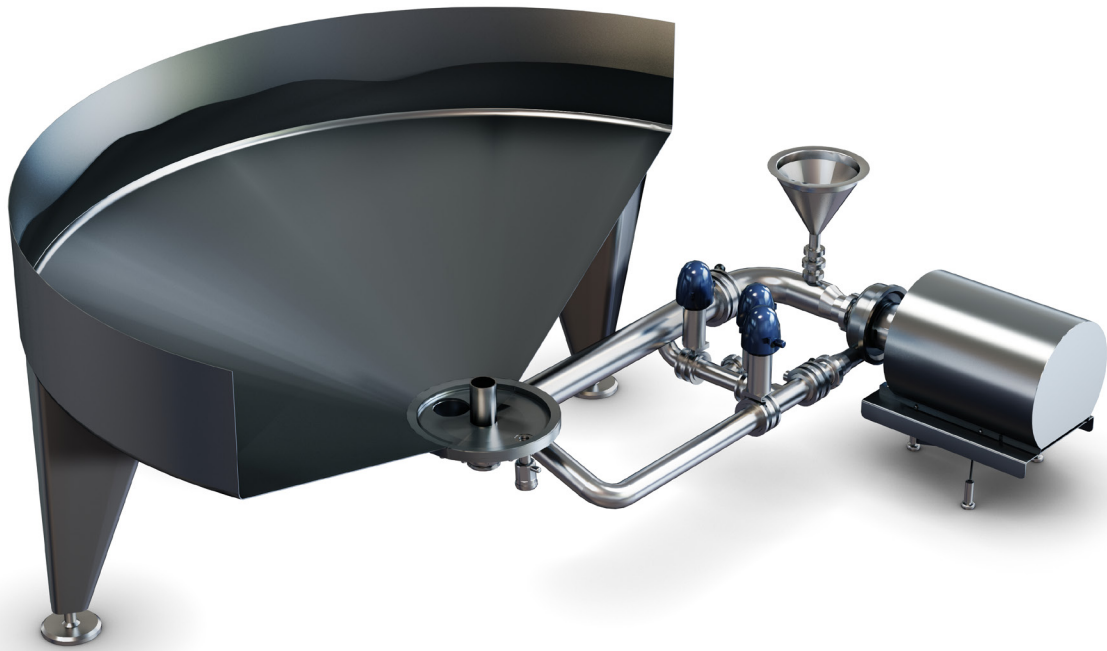




# Tetra Pak® Radial Jet Mixer S & Tetra Pak® Radial Jet Mixer T

Using the force of liquid for superior mixing.

Available with single (S) or twin (T) mixing nozzles.



## Tetra Pak Radial Jet Mixer S applications

Tetra Pak Radial Jet Mixer S agitates liquids inside a regularly proportioned tank without mechanical force on the product for a homogeneous mixing result independent of filling level.

Tetra Pak Radial Jet Mixer T should be considered especially for high and slim tanks but improves cleaning efficiency for all tank geometries.

### Typical applications:

- Dissolving solids in liquids
- Emulsions
- Dispersions
- Suspensions
- Aeration
- Chemical reactions
- Homogenization

## Highlights

- Achieves efficient, flexible mixing
- Mixing time of only 3-10 minutes for a standard beverage after last ingredient added
- Minimizes investment cost
- Simple installation and easy access for maintenance
- Less equipment – pump can be used for transfer, mixing and CIP return
- Completely symmetrical mixing field
- Extremely quiet surface, no vortex
- Low space requirement
- No access into the tank required

### **Tetra Pak Radial Jet Mixer S working principle**

A nozzle specially designed for the tank geometry and connected to a recirculation pump guides a jet of liquid from the pump discharge into the mixing tank and creates steady turbulence. A suction outlet at the bottom of the tank provides the recirculation pump with new liquid.

### **Main components**

- 150 - 60 000 litre tank (not in scope of delivery)
- Single mixing nozzle
- Recirculation pump
- Set of pneumatic and manual butterfly valves
- Continuous level sensor
- Pump seal flushing (optional)
- Level sensor at high level (optional)
- Dosing hopper (optional)

An optional hopper with a manual butterfly valve provides operators with the flexibility to add forgotten ingredients later at floor level in small amounts.

### **Technical data**

Tetra Pak Radial Jet Mixer S is ideal if the batch viscosity is 1 - 99 cP. The product viscosity limit for the mixture is 200 cP. Available in different sizes depending on tank volume. All parts in contact with the product are made of stainless steel grade AISI 316L.

### **Control cabinet and control panel**

Delivered without a control cabinet and control panel. The Tetra Pak Radial Jet Mixer must be integrated at plant level for electrical and automation control.



## Tetra Pak Radial Jet Mixer T applications

Tetra Pak Radial Jet Mixer T uses the latest mixing technology to reduce mixing time by up to 50% compared to Tetra Pak Radial Jet Mixer S and mixes up to 4-6 times faster than a traditional mechanical agitator. This is thanks to a twin stage for creating turbulence at both low and high fluid levels. This provides a mixing time of only 2 - 6 minutes for a standard beverage. It can be easily installed into existing tanks and is ideal for mixes of up to 200 cP in beverage products such as carbonated soft drinks, juices, nectars, still drinks, functional drinks and other applications.

### Typical applications:

- Dissolving solids in liquids
- Emulsions
- Dispersions
- Suspensions
- Aeration
- Chemical reactions
- Homogenization

### Highlights

- Achieves efficient, flexible mixing
- Mixing time of only 2-6 minutes for standard beverage after last ingredient added
- Minimizes investment cost
- Low energy consumption compared to the S model
- Reduces tank cleaning time, especially for sticky products
- Add forgotten ingredients quickly and easily
- Simple installation and easy access for maintenance
- Less equipment – pump can be used for transfer, mixing and CIP return
- Completely symmetrical mixing field
- Extremely quiet surface, no vortex
- Low space requirement
- No access into the tank required

## Working principle

Tetra Pak Radial Jet Mixer T mixes liquid ingredients homogeneously in a tank. Liquid ingredients are fed through the product inlet and circulated by a pump towards the twin mixing nozzle of Tetra Pak Radial Jet Mixer T, which injects these ingredients at high speed into the tank. Different production modes allow mixing at a low or high stage, depending on the fluid level. The pump speed is adjusted to the best level for high energy efficiency. A continuous level sensor monitors the tank fluid level. After mixing, the end-product is transferred to the product outlet. CIP media enter through the spray ball. Tetra Pak Radial Jet Mixer T can also be used for faster and more efficient tank cleaning. For example, the cleaning time for sticky products such as fruit concentrates and energy drinks can be cut from hours to the time of a standard CIP cycle for non-sticky products.

At the lower stage, the jet is radially distributed and symmetrically sprayed in all directions.

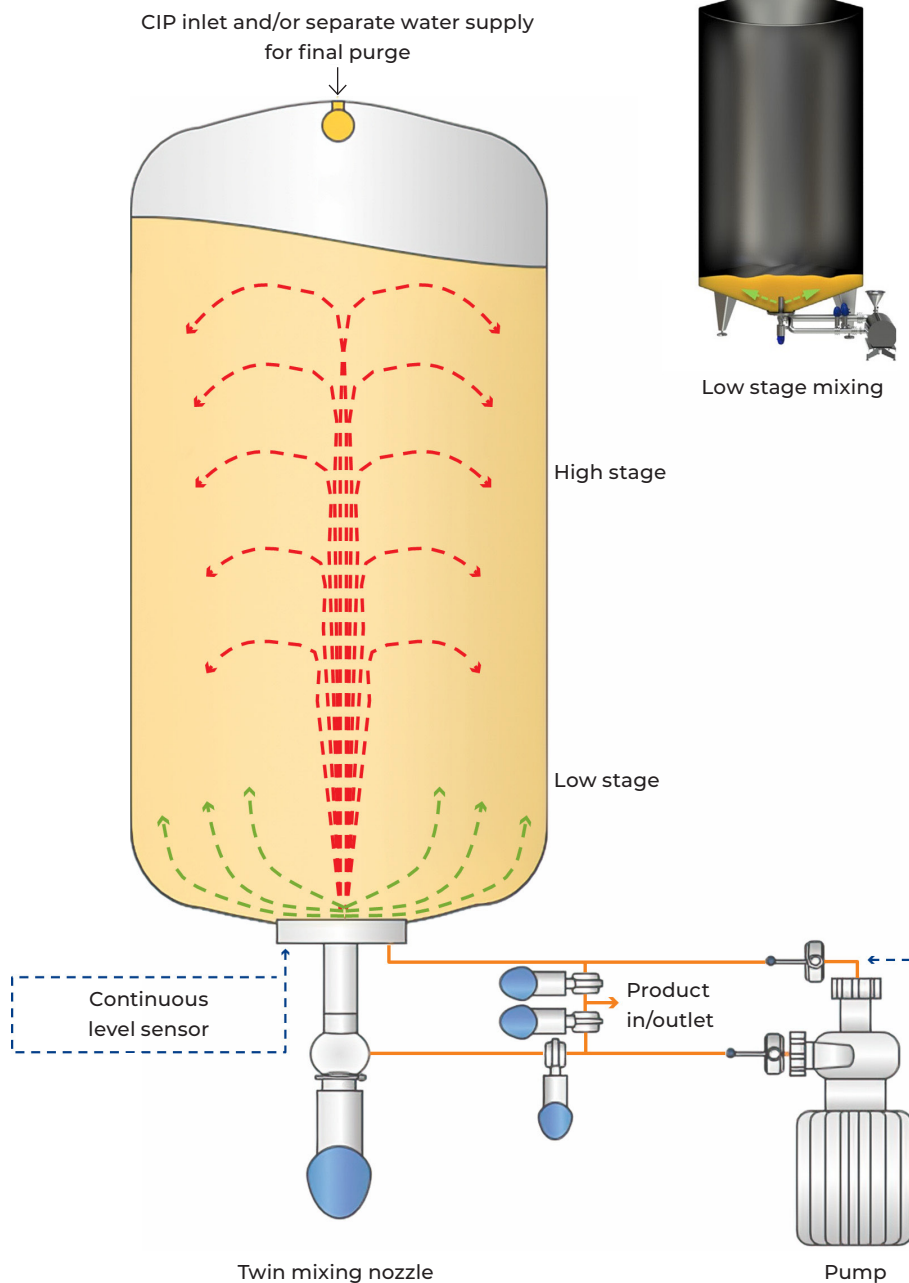


## Tetra Pak Radial Jet Mixer T main components

- 150 - 60 000 litre tank (not in scope of delivery)
- Twin mixing nozzle
- Recirculation pump
- Set of pneumatic and manual butterfly valves
- Continuous level sensor
- Pump seal flushing (optional)
- Level sensor at high level (optional)
- Dosing hopper (optional)

An optional hopper with a manual butterfly valve provides operators with the flexibility to add forgotten ingredients later at floor level in small amounts.

## Operational mode

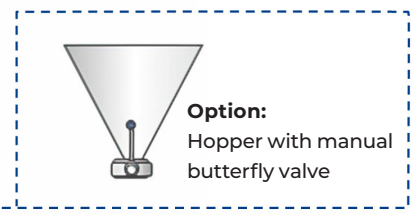
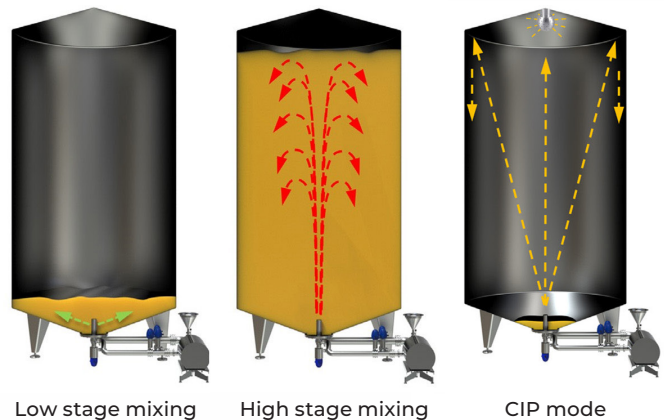


## Technical data

Tetra Pak Radial Jet Mixer T is ideal if the batch viscosity is 100 - 200 cP. The product viscosity limit for the mixture is 200 cP. The mixer is available in different sizes depending on the tank volume. All parts in contact with the product are made of stainless steel grade AISI 316L.

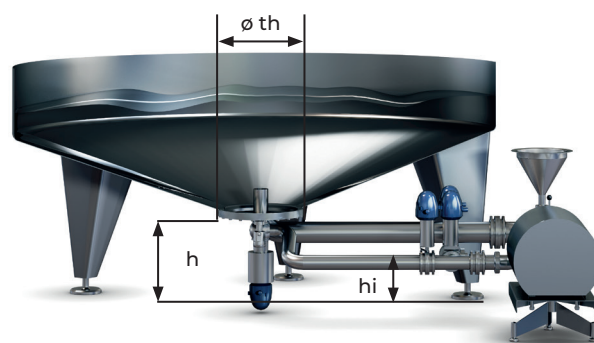
## Control cabinet and control panel

Delivered without a control cabinet and control panel. The Tetra Pak Radial Jet Mixer must be integrated at plant level for electrical and automation control.



### Clearance required below the tank

A minimum height is required for clearance underneath the tank with slightly more clearance required for the Tetra Pak Radial Jet Mixer T. The exact amount of clearance depends on the size of the nozzle selected. See the table for more details. The table also shows the diameter of the tank hole required. Just one flange needs to be welded into the hole in the tank bottom without adding several fittings inside the tank and without needing to access the inside of the tank as is the case when installing an agitator.



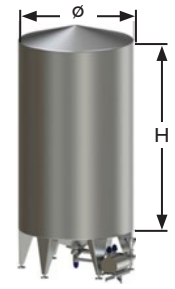
Size	Single + Twin Tank hole, $\varnothing$ th (mm)	Single Min. height, h (mm)	Single Min. height, hi (mm)	Single Min. height, h (mm)	Twin Min. height, h (mm)	Twin Min. height, hi (mm)
DN 50	362	659	439	666	446	
DN 65	362	670	441	690	461	
DN 80	512	746	463	723	440	
DN 100	512	746	472	766	492	

Tetra Pak Radial Jet Mixer S



Tetra Pak Radial Jet Mixer T





### When to choose Tetra Pak Radial Jet Mixer S or T

Based on tank height and diameter, the configuration table below helps you to select the right model and nozzle size. Ingredients fed from the top of the tank always require a Tetra Pak Radial Jet Mixer T. For pulps, it is recommended to choose one size larger of the T model than given in the table.

Tank diameter, Ø	Tank height, H													
	1000	1200	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000
1000	DN50/S1	DN50/S1	DN50/S1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1						
1100	DN50/S1	DN50/S1	DN50/S1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1						
1200	DN50/S1	DN50/S1	DN50/S1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1					
1300	DN50/S1	DN50/S1	DN50/S1	DN50/S2	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1				
1400	DN50/S1	DN50/S2	DN50/S2	DN50/S2	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T2			
1500		DN50/S2	DN50/S2	DN50/S2	DN50/T1	DN50/T1	DN50/T1	DN50/T1	DN50/T2	DN50/T2	DN50/T2	DN50/T2		
1600		DN50/S2	DN50/S2	DN50/S2	DN65/S1	DN50/T1	DN50/T1	DN50/T2	DN50/T2	DN50/T2	DN50/T2	DN50/T2		
1700		DN50/S2	DN50/S2	DN65/S1	DN65/S1	DN50/T1	DN50/T2	DN50/T2	DN50/T2	DN50/T2	DN50/T2	DN65/T1	DN65/T1	
1800			DN50/S2	DN65/S1	DN65/S1	DN50/T1	DN50/T2	DN50/T2	DN50/T2	DN65/T1	DN65/T1	DN65/T1	DN65/T2	DN65/T2
1900			DN50/S2	DN65/S1	DN65/S1	DN65/S1	DN50/T2	DN50/T2	DN65/T1	DN65/T1	DN65/T1	DN65/T2	DN65/T2	DN65/T2
2000			DN50/S2	DN65/S1	DN65/S1	DN65/S2	DN50/T2	DN65/T1	DN65/T1	DN65/T2	DN65/T2	DN65/T2	DN80/T1	DN80/T1
2100			DN50/S2	DN65/S1	DN65/S1	DN80/S1	DN65/T1	DN65/T1	DN65/T2	DN65/T2	DN65/T2	DN80/T1	DN80/T1	DN80/T1
2200				DN65/S1	DN65/S2	DN80/S1	DN80/S1	DN65/T1	DN65/T2	DN65/T2	DN80/T1	DN80/T1	DN80/T1	DN80/T2
2300				DN65/S1	DN65/S2	DN80/S1	DN80/S1	DN65/T2	DN65/T2	DN80/T1	DN80/T1	DN80/T1	DN80/T2	DN80/T2
2400				DN65/S1	DN80/S1	DN80/S1	DN80/S1	DN65/T2	DN80/T1	DN80/T1	DN80/T1	DN80/T2	DN80/T2	DN80/T2
2500				DN65/S1	DN80/S1	DN80/S1	DN80/S1	DN80/T1	DN80/T1	DN80/T1	DN80/T2	DN80/T2	DN80/T2	DN100/T1
2600				DN65/S1	DN80/S1	DN80/S1	DN100/S1	DN100/S1	DN80/T1	DN80/T2	DN80/T2	DN80/T2	DN100/T1	DN100/T1
2700				DN65/S1	DN80/S1	DN80/S2	DN100/S1	DN100/S1	DN80/T1	DN80/T2	DN80/T2	DN100/T1	DN100/T1	DN100/T1
2800				DN65/S1	DN80/S1	DN100/S1	DN100/S1	DN100/S1	DN80/T2	DN80/T2	DN80/T2	DN100/T1	DN100/T1	DN100/T1
2900					DN80/S1	DN100/S1	DN100/S1	DN100/S1	DN100/S1	DN80/T2	DN100/T1	DN100/T1	DN100/T1	DN100/T2
3000					DN80/S1	DN100/S1	DN100/S1	DN100/S1	DN100/S2	DN100/T1	DN100/T1	DN100/T1	DN100/T2	DN100/T2
3100					DN80/S1	DN100/S1	DN100/S1	DN100/S1	DN100/S2	DN100/T1	DN100/T1	DN100/T2	DN100/T2	DN100/T2
3200					DN80/S1	DN100/S1	DN100/S1	DN100/S2			DN100/T2	DN100/T2	DN100/T2	DN100/T2
3300					DN80/S1	DN100/S1	DN100/S1	DN100/S2			DN100/T2	DN100/T2	DN100/T2	
3400					DN80/S1	DN100/S1	DN100/S1	DN100/S2			DN100/T2	DN100/T2		
3500					DN80/S1	DN100/S1	DN100/S1					DN100/T2		

Please contact Tetra Pak Processing Equipment AG if your tank's dimensions are not listed in the table. Note that the tank is not within the scope of delivery.