

## Agitators for Standard Tanks

### **I Anchor-type agitators**

Anchor-type agitators are principally designed to mix highly viscous products and non-Newtonian fluids, i.e., they lack a certain degree of viscosity because it depends on the temperature. These agitators can be mounted in tanks with rounded or conical bottoms.

The different types of anchor available in the INOXPA range are presented below.

#### **Option 01: U-shaped anchor**

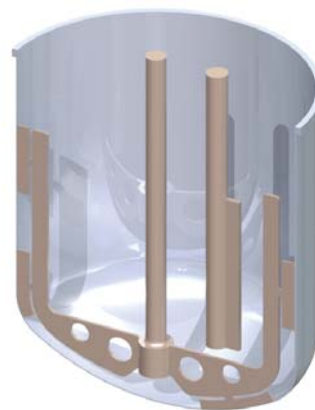
The U-shaped anchor is designed for a broad range of viscosities. It can be used in mixing, dissolving and homogenization processes.

Depending on the application, it has a variable speed operation ranging from 3 to 120 rpm.

This type of anchor is normally complemented by one or more radially-mounted agitators or a radial flow deflector system.

Scrapers can be incorporated for products that are likely to adhere to the tank's walls. In double-walled tanks, the scrapers also help transfer heat to the product.

Applications include: melting products, jams, temperature control, etc.



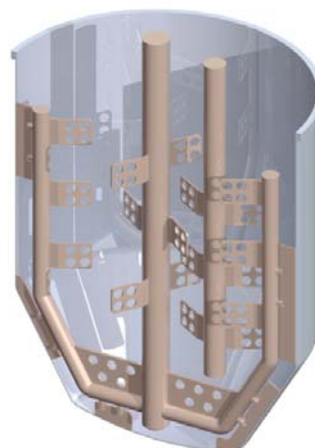
#### **Option 02: Anchor with radial flow deflector**

This agitator comprises an anchor with a central shaft and blades. These are complemented by one or two static radial flow deflectors with blades. These features mean it can operate in a broad range of viscosities.

Depending on the application, it has a variable speed operation ranging from 3 to 120 rpm.

Scrapers can be incorporated for products that are likely to adhere to the tank's walls. In double-walled tanks, the scrapers also help transfer heat to the product.

Applications include: cosmetic creams, ointments, pâtés, etc.



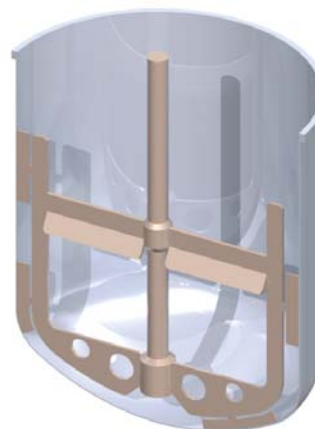
#### **Option 03: U-shaped anchor with blade**

The U-shaped anchor with blade is designed with a central shaft. The shaft is fitted with angled radial blades to help mix the product. It is used to prepare very good mixtures of medium-viscosity products.

Depending on the application, it has a variable speed operation ranging from 3 to 120 rpm.

Scrapers can be incorporated for products that are likely to adhere to the inside of the tank's walls. In double-walled tanks, the scrapers also help transfer heat to the product.

Applications include: mixing chocolate-based products, cream solutions, dairy products, etc.



## Agitators for Standard Tanks

### Option 04: Helical ribbon-type anchor

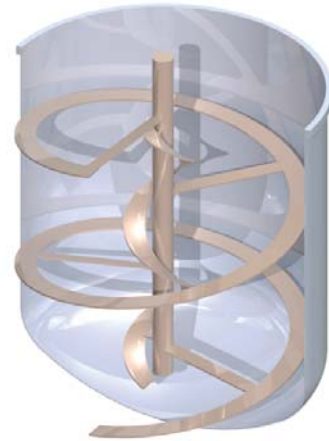
The helical ribbon anchor is the best solution for mixing liquid products with solids or only granulated solids, without damaging them. It operates over a broad range of viscosities. Mixing times are short and a homogeneous final product is obtained.

These agitators are capable of strongly displacing the product from top to bottom, even at very high viscosities. The near impossibility of creating turbulence in viscous and non-Newtonian materials means that all of the liquid is in motion, ensuring excellent mixing.

Depending on the application, it has a variable speed operation ranging from 3 to 200 rpm.

Scrapers cannot be fitted to this type of agitator.

Applications include: food products, pharmaceutical and cosmetic products, paints, varnishes, polymers, ground rubber, lubricants, granulated solids, etc.



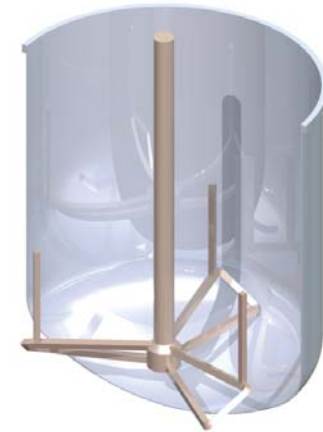
### Option 05: Loop-type anchor

The loop-type anchor is designed for high-viscosity products. This type of anchor is always supplied with a radial turbine agitator. This model is ideal for flushing viscous product towards the area of the radial agitator in order to help disperse the product being processed. The final product is a homogeneous mixture.

Depending on the application, it has a variable speed operation ranging from 3 to 80 rpm.

Scrapers can be incorporated for products that are likely to adhere to the tank's walls. In double-walled tanks, the scrapers also help transfer heat to the product.

Typical applications are: mastic, plastisols, silicones, etc.



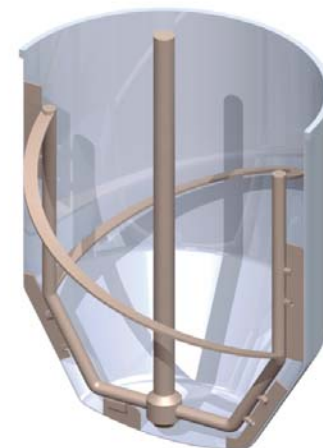
### Option 06: Helical loop-type anchor

The helical loop-type anchor is designed for high-viscosity products.

Depending on the application, it has a variable speed operation ranging from 3 to 120 rpm.

Scrapers can be incorporated for products that are likely to adhere to the tank's walls. In double-walled tanks, the scrapers also help transfer heat to the product.

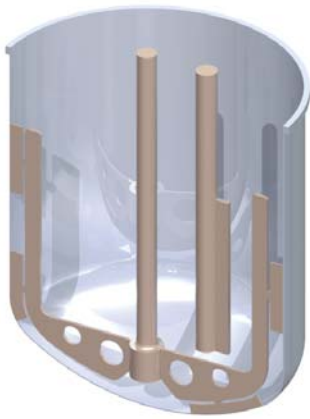
Applications include: mixing polymers, food products, creams, lotions, pastes, granulated solids, etc.



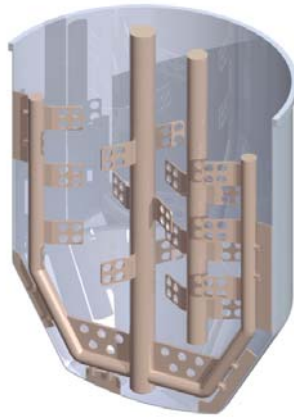
# Agitators for Standard Tanks

## Summary of anchor-type agitators

Agitator	Viscosity	Optional		
		Flow deflector	Radial agitator	Scrapers
U-shaped anchor	Broad range	Yes	Yes	Yes
Anchor with radial flow deflector	Broad range	Yes	No	Yes
U-shaped anchor with blade	Medium	No	No	Yes
Helical-ribbon-type anchor	Broad range	No	No	No
Loop-type anchor	High	No	Yes	Yes
Helical loop-type anchor	High	No	No	Yes



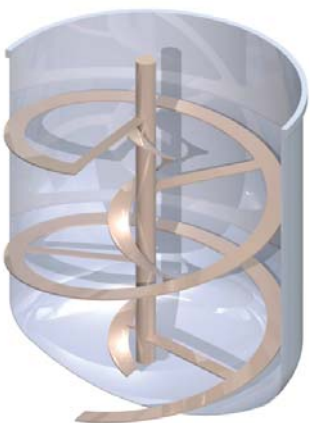
U-shaped anchor



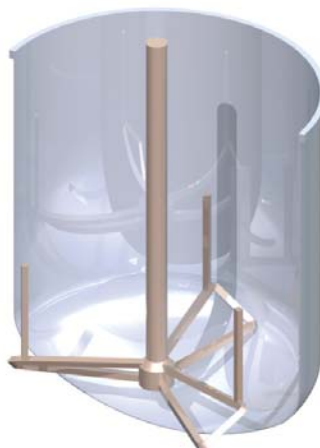
Anchor with radial flow deflector



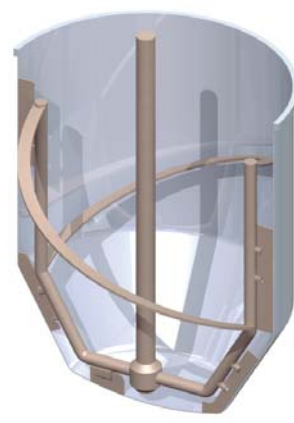
U-shaped anchor with blade



Helical-ribbon-type anchor



Loop-type anchor



Helical loop-type anchor



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# Agitators for Standard Tanks

## I Propeller-type agitators

Propeller-type agitators can be used for suspension, dispersion and homogenization processes with low-viscosity products, where it is important to operate at medium and high speeds. These agitators can be mounted in tanks with rounded or conical bottoms.

Propellers are axial flow agitators, ideal for solid-in-liquid solutions or suspensions because they prevent solid particles from depositing on the bottom of the tank. They can also be used for mixing liquids.

Depending on the application, deflectors or flow deflector baffles can also be mounted in the tank.

All propeller-type agitators can be accompanied by an anchor-type agitator.

### Marine propeller



Agitator designed for low-viscosity products. The speeds available range from 400 to 1,800 rpm, depending on the diameter, with a typical peripheral velocity of between 3 and 15 m/s.

According to the agitator's speed, the agitation system generates a high product recirculation flow rate inside the tank. This means it can produce good mixtures in the shortest possible times.

If the tank is tall and requires more than one impeller, two or more can be mounted on the same agitator.

Typical applications include the treatment of milk, mixing liquids or liquids of different viscosities, solvation of solids, etc.

### Gamma propeller



Agitator designed for medium-viscosity products. The mixing speed does not exceed 750 rpm with a peripheral velocity of 2 to 15 m/s.

Based on the agitator's speed, the system generates a good rate of mixing depending on the viscosity.

These types of agitators are very efficient in medium and large sized tanks. If the tank is tall and requires more than one impeller, two or more can be mounted on the same single shaft of the agitator.

Applications include: homogeneous mixing processes, suspensions, mixing juice concentrates with water and other ingredients, etc.

### Lineflux propeller



Agitator designed to mix very low-viscosity products. The peripheral velocity varies between 3 and 15 m/s.

They are generally installed in tanks with a volume of less than 1,000 litres. Their main application is for solutions.



# Agitators for Standard Tanks

## I Blade-type agitators

Blade agitators can be used in suspension, dispersion and homogenization processes with low- and medium-viscosity products. These agitators can be mounted in tanks with rounded or conical bottoms. They operate at a low-moderate mixing speed with a peripheral velocity of 2 to 7 m/s.

Blades are axial flow agitators, ideal for solid-in-liquid solutions and suspensions because they prevent solid particles from depositing on the bottom of the tank. They can also be used for mixing liquids.

Depending on the application, deflectors or flow deflector baffles can also be mounted in the tank.

### T6 inclined blades



Agitator designed to mix medium-viscosity products.

Some applications include the homogenization and mixture of liquid products and liquids with solids. It is also used to help stop solids from settling out of suspensions.

### T11 inclined blades



This agitator is similar to the previous one (T6 angled blade). The most notable difference being that the T11 has a greater output than the T6.

### High flow blades



Agitator designed to mix medium-viscosity products.

It is most often used to help maintain the homogeneity of dairy products such as buttermilk, liquid yoghurt, etc.

### Blades on the central shaft

Mixing with blades is especially suited to mixing low- to medium-viscosity products, at both high and low temperatures.

It is equipped with a current deflector to prevent the product from entering into rotation, thereby guaranteeing a more homogeneous mixture.



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## Agitators for Standard Tanks

### I Turbine-type agitators

Turbine agitators can be used in emulsification and dispersion processes which require operation at very high speeds. They are efficient across a broad range of viscosities with a highly effective mixing capacity. These agitators can be mounted in tanks with rounded or conical bottoms.

If the agitator is placed in the centre of the tank, depending on the type of product, the installation of a radial flow deflector could be necessary to ensure the best possible standards of mixing. This is not required if the agitator is off-centred.

#### Cowles disk



The Cowles turbine is specially designed for liquid products with dispersed solids, or for very viscous products at both low and high temperatures.

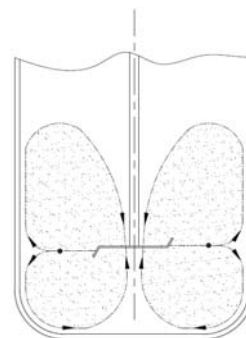
This cowls agitator comprises a circular disk with folded teeth around the edges and a central aperture for subjection and mounting. It is made of stainless steel, shaft-mounted, diameters range from 80 to 650 mm and it incorporates a quick removal system for replacement or cleaning. The unit is fitted with a clutch safety system.

Two cowles disks can be mounted on the same agitator.

When the Cowles disk rotates it sucks the product in from the zones above and below it, then perpendicularly propels the product from the upper and lower zones over the folded teeth and outwards at great speeds.

It covers a range of mixing speeds from 600 to 1,200 rpm. If the unit is set to operate at the correct speed, the bottom of the tank is swept almost completely clean by the actual product, gathering up any sediment.

Applications include: sauces, cosmetic dispersions, paints, resins, etc.



#### Radial turbine



Radial flow agitator ideal for the aeration of low- and medium-viscosity products. It can be fitted with two, four, six or eight blades.

Applications include: mixing polyurethane, foams, gels, etc.