

TMXFLOW[®]
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Product Catalogue | **TVF Hygienic
Vertical Agitator**



Key Uses

The TVF series is the optimal solution for mixing applications in small-sized tanks, typically up to approximately 15 m³.

These agitators are mainly used in closed tanks and are available with different sealing systems depending on process requirements, making them suitable for industries such as water and wastewater treatment, chemical processing, food & beverage, pharmaceutical and cosmetics, as well as general industrial applications including storage and buffer tanks.

Design and Features

The TVF range is equipped with a worm gear reducer, offering key advantages such as:

- Cost-effective solution
- Lightweight construction
- Compact design

However, compared to other gearbox types, worm gear reducers have lower efficiency and are therefore not recommended for higher power applications.

The agitator shaft is directly inserted into the hollow shaft of the gearbox and secured with a head screw, eliminating the need for a coupling.

Available configurations:

- **L Version:** Includes an additional DN flange with lip seal.

Designed to:

1. Ensure all wetted parts are made of the required material.
2. Prevent the escape of fumes or splashes.
3. Avoid contamination of the product in case of gearbox oil leakage.

- **S Version:** Features a lantern with additional DN flange and mechanical seal.

Designed to:

1. Withstand pressure or vacuum inside the tank.
2. Include a coupling below the flange, allowing shipment with the seal assembled and shaft disassembled.

Materials

Motor: IEC electric motor, IP55, aluminum or cast iron housing

Lantern Housing: Cast iron or carbon steel

Agitator Shaft: Stainless steel (AISI 304 / AISI 316)

Impeller: Stainless steel (AISI 304 / AISI 316)

Mechanical Seal (Standard Version): Single mechanical seal

Seal Faces (Standard): Carbon / Ceramic

Mechanical Seal: Single mechanical seal

Bearing System: Gearbox integrated bearings

Operating

The TVF series is designed for operation in tanks up to approximately 15 m³, handling mainly low to medium viscosity fluids. It is typically installed vertically with top entry and operates under atmospheric conditions in the –L version, while the –S version is suitable for applications involving pressure or vacuum inside the tank. The operating speed is determined by the worm gear reducer selection, and the unit is intended for continuous operation.

Operating Limits

Power Range: 0.12 – 4 kW

Rotation Speed: 60 – 280 rpm (depending on gearbox and configuration)

Tank Height: Up to 15 m³

Drive Type: Worm gear drive, direct shaft connection.

Seal Configuration:

- L Version: Lip seal
- S Version: Mechanical seal

Power and Speed Range

		kW										
		0,12	0,18	0,25	0,37	0,55	0,75	1,1	1,5	2,2	3	4
RPM	280											
	180											
	140											
	122											
	90											
	70											
	60											
		TVF1	TVF2	TVF3	TVF4	TVF5	TVF6					

Configurations

L Version

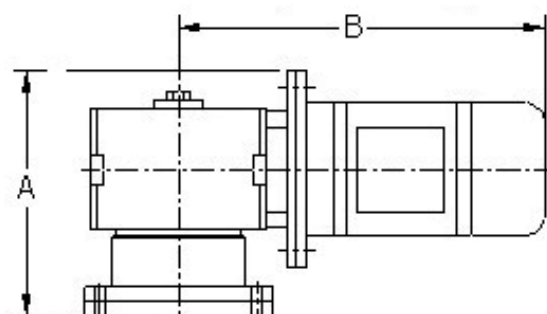
Equipped with an additional DN flange with integrated lip seal. This configuration ensures that all wetted parts are manufactured in the required material, prevents the escape of fumes or splashes, and avoids contamination of the process fluid in case of possible gearbox oil leakage.

S Version

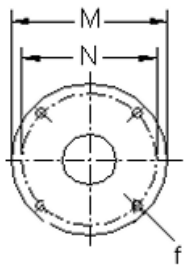
Equipped with a lantern including an additional DN flange and a mechanical seal. This configuration is designed to withstand pressure or vacuum conditions inside the tank. A coupling is installed below the flange, allowing shipment with the mechanical seal pre-assembled and the shaft supplied separately.

Dimensions And Loads On The Support

Model	Flange	A	B	Ø Dia.	Mt (Nm)	Mf (Nm)	Fa (N)
TVF 1	OD110	180	285	25	5	25	60
TVF 1-L	DN50	200					
TVF 2	OD125	200	295	30	15	60	230
TVC 2-L	DN50	220					
TVF 3	OD125	200	295	30	35	120	370
TVF 3-L	DN80	220					
TVF 3-S	DN100	340					
TVF 4	OD210	270	380	35	60	220	600
TVF 4-L	DN100	290					
TVF 4-S	DN100	410					
TVF 5	OD210	270	440	40	130	340	900
TVF 5-L	DN100	290					
TVF 5-S	DN150	450					
TVF 6	OD280	330	470	50	300	550	1700
TVF 6-L	DN150	350					
TVF 6-S	DN150	510					

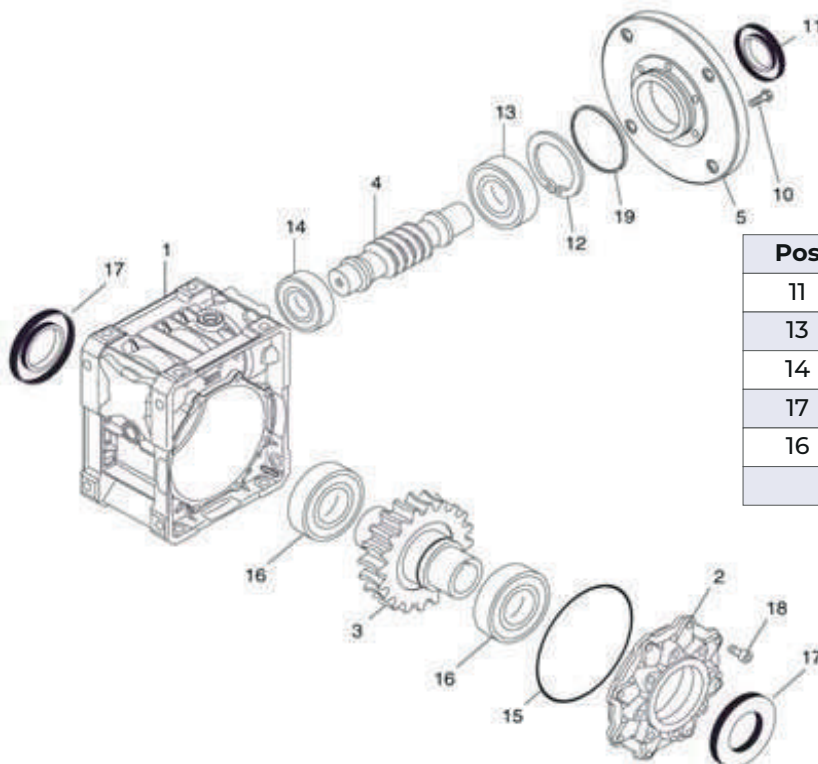


Reducer and Added Flange Details



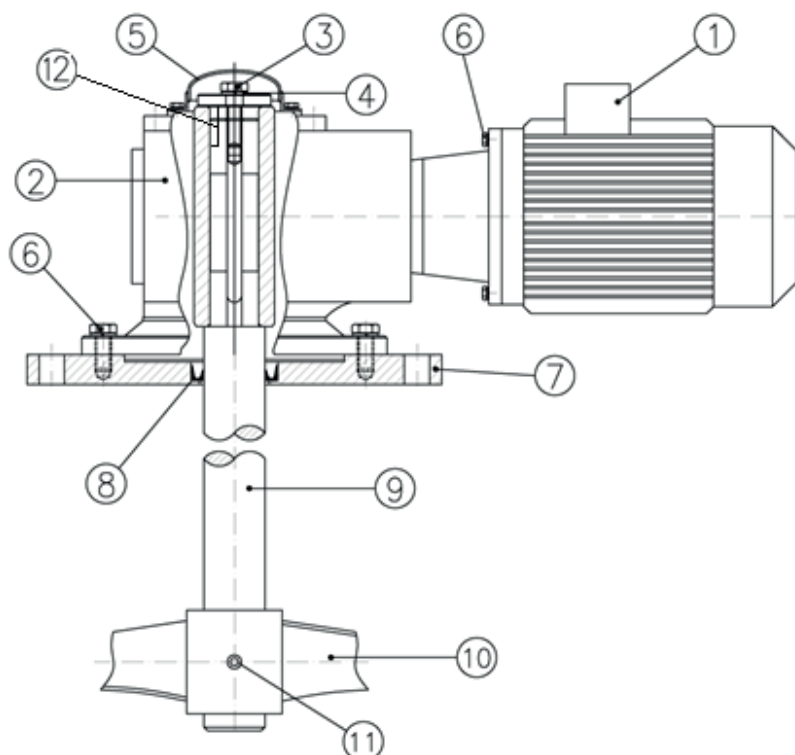
	Reducer Flange				Added Flange			
	OD110	OD125	OD210	OD280	DN50	DN80	DN100	DN150
M	110	125	250	280	165	200	220	285
N	80	90	215	230	125	160	180	240
f	4x9	4x11	4x14	8x13	4x18	4x18	8x18	8x22

Wear Component



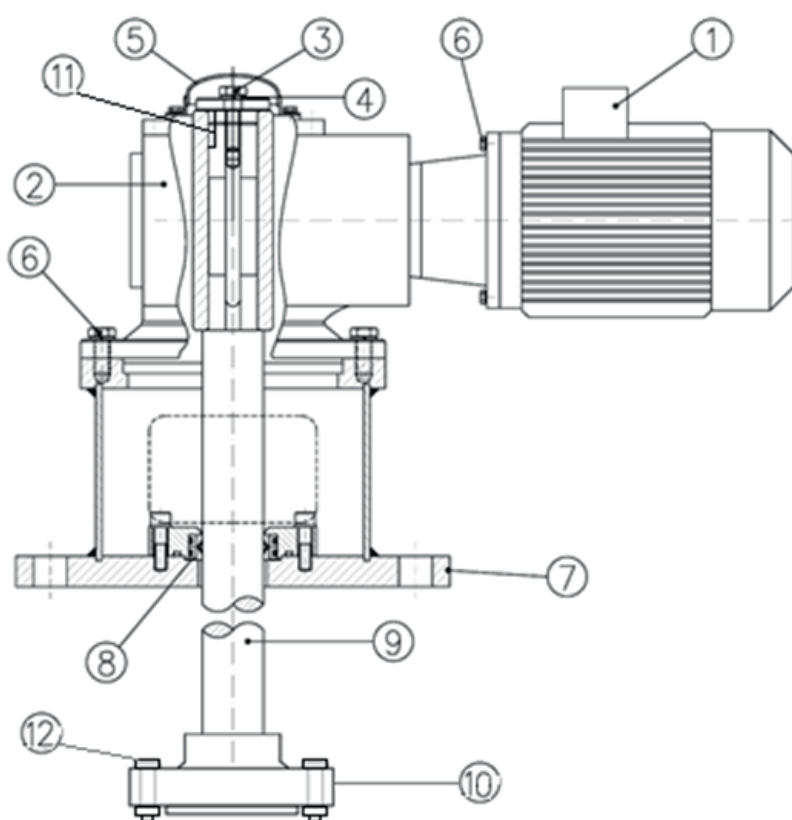
Pos	Qty	Description
11	1	High-speed shaft oil seal
13	1	Fast shaft bearing
14	1	Fast shaft bearing
17	2	Slow shaft oil seal
16	2	Slow shaft bearing
	1	Lip seal -L

TVF-L Parts List



Pos	Description
1	Electric Motor
2	Gear reducer
3	Fixing screw
4	Lock washer
5	Protection guard
6	Fixing screw
7	Connection flange
8	Radial seal
9	Shaft
10	Impeller
11	Impeller fastening
12	Key

TVF-S Parts List



Pos	Description
1	Electric Motor
2	Gear reducer
3	Fixing screw
4	Lock washer
5	Protection guard
6	Lantern
7	Connection flange
8	Cartridge seal
9	Shaft
10	Flanged coupling
11	Key
12	Fixing screws

APPLICATION AREAS & INDUSTRY SOLUTIONS

FOOD PROCESSING & BEVERAGE APPLICATIONS



In food processing applications, the TVF series is suitable for mixing, blending, and homogenization of liquid and low-viscosity products such as syrups, sauces, beverages, and dairy-based fluids. Its compact design and hygienic material options allow reliable operation in closed tanks, while ensuring product consistency and process efficiency. The availability of different sealing configurations enables safe operation by preventing contamination and leakage, making it suitable for processes requiring controlled conditions and high product quality standards.

PHARMACEUTICAL & BIOTECHNOLOGY INDUSTRY



The TVF series supports critical mixing operations in pharmaceutical and biotechnology processes where precision and process stability are essential. It is suitable for applications such as solution preparation, media blending, and gentle agitation of sensitive fluids. The design enables reliable performance in enclosed systems, while appropriate sealing options help maintain controlled environments and protect product integrity. Its configuration allows easy integration into processes that require consistent quality and operational reliability.

APPLICATION AREAS & INDUSTRY SOLUTIONS

PETROCHEMICAL & CHEMICAL PROCESSING



The TVF series is suitable for mixing and blending operations in petrochemical and chemical processes involving low to medium viscosity fluids. It is commonly used for additive dosing, solution preparation, and maintaining homogeneity in storage or process tanks.

COSMETICS & PERSONAL CARE MANUFACTURING



The TVF series is suitable for mixing and blending operations in cosmetics and personal care manufacturing, particularly for low to medium viscosity products such as lotions, creams, gels, and liquid formulations. It supports uniform distribution of ingredients and stable product consistency during batch processing. The compact design allows integration into closed vessels, while appropriate sealing configurations help prevent contamination and product loss. It provides a reliable solution for standard mixing duties requiring repeatability and consistent quality.



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you can access the up-to-date contact information for all countries via our website.

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