

TMXFLOW[®]
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Product Catalogue | **TVS Heavy Duty
Vertical Agitator**



Key Uses

The TVS Heavy Duty Vertical Agitator is designed for hygienic mixing, blending, and product circulation applications involving viscous and sensitive fluids. It is widely used in food, dairy, cosmetic, pharmaceutical, and chemical industries where homogeneous mixing, stable process performance, and gentle product handling are required.

Design and Features

The TVS Heavy Duty Vertical Agitator features a vertical motor configuration with a shaft extending below the gearbox, making it ideal for open tank mixing applications. Available with coaxial or planetary gearbox options, the unit is designed to handle high radial loads and transmitted torque through a rigid cast iron housing with reinforced bearings, eliminating the need for additional bearing supports.

Larger models are equipped with reinforced outputs and widely spaced bearings to support extended shaft lengths in demanding industrial processes. Its compact vertical arrangement is particularly suitable for installations with limited tank roof space, while the agitator shaft is connected to the gearbox output shaft through a rigid sleeve coupling for reliable power transmission.

Materials

Motor: Vertical motor configuration with coaxial or planetary gearbox options.

Lantern Housing: Reinforced cast iron gearbox housing designed for high radial loads and torque transmission.

Agitator Shaft: Shaft connected to the gearbox output shaft through a rigid sleeve coupling.

Impeller: Mixing impellers designed according to process requirements and tank geometry.

Mechanical Seal: Sealing system suitable for continuous industrial mixing applications.

Bearing System: Reinforced bearing system for high service factor and long shaft applications.

Radial Seals: Integrated sealing components for reliable operation in industrial environments.

Process Connection: Vertical top-entry mounting configuration for open tanks.

ATEX Version: Available for specific industrial applications upon request.

Operating

The TVS Heavy Duty Vertical Agitator operates through a vertical top-entry configuration in which the motor and gearbox directly transmit torque to the agitator shaft. The rotating impeller generates axial or radial flow patterns inside the tank, ensuring effective product circulation, homogeneous mixing, and stable process performance. The reinforced gearbox structure and bearing system are designed to absorb radial loads generated during operation, enabling reliable continuous-duty performance even in applications with long shafts and demanding process conditions.

Operating Limits

Power Range: 0.55 – 7,5 kW

Rotation Speed: 60 – 280 rpm

Flow Capacity: Defined according to impeller type and diameter

Tank Height: Defined according to shaft design and process requirements

Drive Type: Coaxial or Planetary Gear Driven

Seal Configuration: Available according to application requirements

Power and Speed Range

		kW								
		0,55	0,75	1,1	1,5	2,2	3	4	5,5	7,5
RPM	280									
	240									
	190									
	155									
	120									
	100									
	80									
	60									

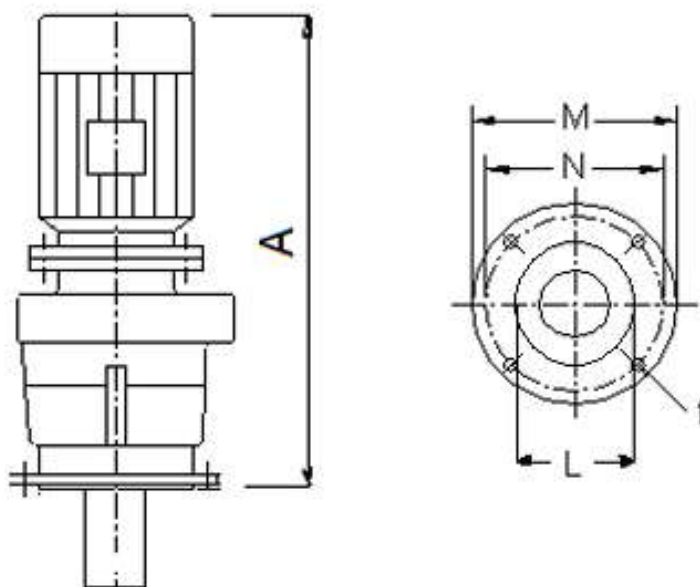
TVS0	TVS1	TVS2	TVS3	TVS4

Configurations

The TVS Heavy Duty Vertical Agitator is available in configurations with coaxial gearbox and vertical motor arrangement designed for open tank applications. Its reinforced cast iron housing and heavy-duty bearing structure allow reliable operation under high radial loads and continuous-duty conditions, including long shaft applications. The agitator shaft is connected to the gearbox through a rigid sleeve coupling to ensure stable torque transmission. Optional lip seal and mechanical seal configurations can be provided according to process requirements, while the standard version is primarily intended for open tanks without sealing requirements.

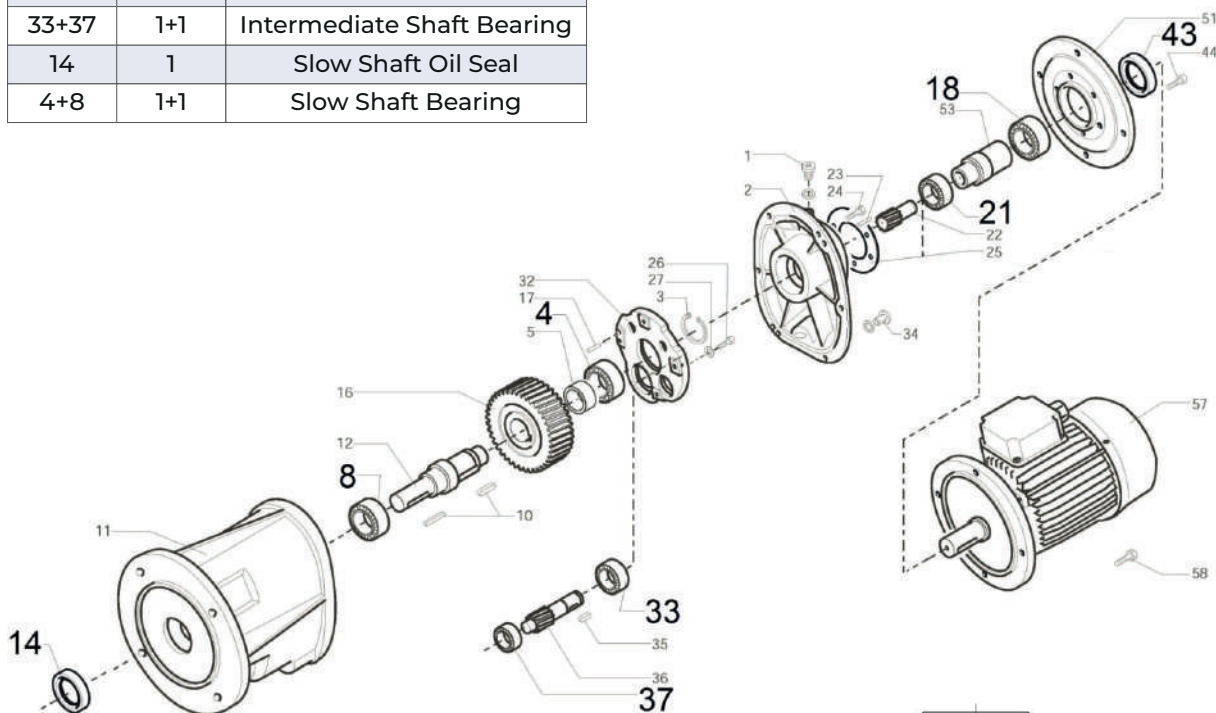
Dimensions And Loads On The Support

Model	Flange	M	N	L	f	A	Ø Dia.	Mt (Nm)	Mf (Nm)	Fa (N)
TVS 0	IEC80	200	165	130 f8	4 x 11	480	30	20	80	250
TVS 1	IEC100	250	215	180 f8	4 x 14	540	30	60	160	500
TVS 2	IEC100	250	215	180 f8	4 x 14	570	40	180	330	1200
TVS 3	IEC132	300	265	230 f8	4 x 14	630	50	500	700	2800
TVS 4	IEC132	300	265	230 f8	4 x 14	720	60	1000	1500	3500

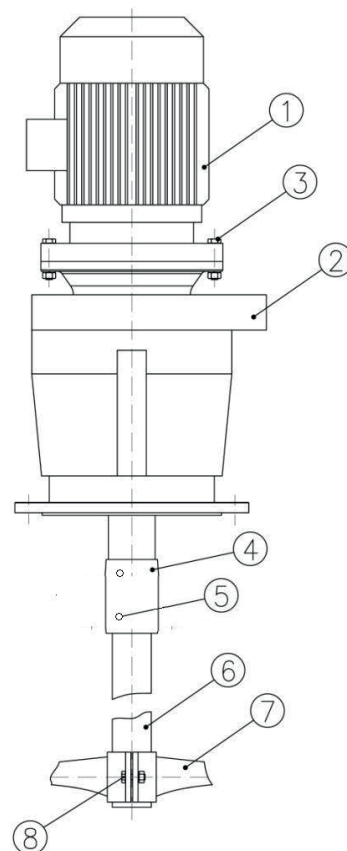


Assembly Components

Pos	Qty	Description
43	1	High-Speed Shaft Oil Seal
21+18	1+1	Fast shaft bearing
33+37	1+1	Intermediate Shaft Bearing
14	1	Slow Shaft Oil Seal
4+8	1+1	Slow Shaft Bearing



Pos	Description
1	Electric Motor
2	Gearbox
3	Fastening Screw
4	Sleeve Coupling
5	Set Screws
6	Shaft
7	Impeller
8	Impeller Fastening System



APPLICATION AREAS & INDUSTRY SOLUTIONS

FOOD PROCESSING & BEVERAGE APPLICATIONS



The TVS Heavy Duty Vertical Agitator is widely used in food and beverage processing applications requiring reliable mixing, blending, and product circulation performance. It is suitable for open tank processes involving dairy products, sauces, syrups, liquid sugar, chocolate, beverages, creams, and other viscous food products. Its heavy-duty gearbox structure and reinforced bearing system provide stable operation in continuous industrial production environments while ensuring homogeneous product consistency and efficient mixing performance.

PHARMACEUTICAL & COSMETIC INDUSTRY



The TVS Heavy Duty Vertical Agitator is designed for hygienic mixing and product circulation processes in pharmaceutical and cosmetic manufacturing applications. It is suitable for the processing of creams, lotions, gels, liquid formulations, syrups, and personal care products requiring stable mixing performance and gentle product handling.

APPLICATION AREAS & INDUSTRY SOLUTIONS

PETROCHEMICAL & CHEMICAL PROCESSING



Industrial vertical agitators provide robust and reliable mixing solutions for petrochemical and chemical processing applications. Designed to handle demanding conditions, they ensure efficient blending of chemicals, support solid suspension and dispersion, and maintain uniform process conditions even at high viscosities. Suitable for reactors, storage tanks, and batch processes, they enhance process efficiency, safety, and operational stability while offering resistance to corrosive environments.

WATER AND WASTEWATER TREATMENT APPLICATIONS



The TVS Heavy Duty Vertical Agitator is designed for mixing, circulation, and homogenization processes in water and wastewater treatment applications. It is suitable for chemical preparation tanks, neutralization systems, sludge conditioning processes, and industrial water treatment operations requiring reliable continuous mixing performance. Its reinforced mechanical structure and heavy-duty bearing system provide stable operation under demanding environmental and process conditions.



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