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Product Catalogue | **TVC Industrial
Vertical Agitator**



Key Uses

The TVC Industrial Vertical Agitator is engineered to provide high efficiency, durability, and operational flexibility across a broad spectrum of industrial mixing applications. Its vertical, top-entry configuration is specifically optimized for use in deep tanks and reactors, enabling effective mixing performance while minimizing installation footprint. The robust mechanical structure, featuring a heavy-duty shaft and reinforced support system, ensures reliable operation and long service life even under continuous and demanding working conditions.

Design and Features

Thanks to its modular design, the agitator can be easily adapted to different process requirements through configurable components such as shaft length, impeller type, and sealing systems. The optimized impeller geometry is designed to maximize flow efficiency, delivering effective axial and/or radial mixing depending on the application. Additionally, the unit offers flexible mounting options, making it suitable for both open and closed tanks with flange or plate connections.

From a technical perspective, the agitator supports a wide range of motor power ratings, allowing it to meet diverse operational needs. It can be equipped with fixed or variable speed control systems for precise process management. The use of corrosion-resistant materials, including stainless steel and specialized coatings, ensures reliable performance in aggressive environments. Advanced sealing solutions, such as mechanical seals, provide safe and leak-free operation. Furthermore, the design prioritizes low maintenance requirements, enabling easy inspection and servicing while reducing downtime. High-efficiency drive and impeller systems also contribute to reduced energy consumption without compromising mixing performance.

Materials

Motor: Vertical Electric Motor

Lantern Housing: Aluminum Casting (Optional)

Agitator Shaft: Steel Shaft

Impeller: Fixed or Foldable Impeller

Mechanical Seal (Standard Version): Internal Mechanical Seal or Lip Seal

Seal Faces (Standard): Graphite / Carbon

Mechanical Seal (-W Version): Mechanical Seal

Seal Faces (-W Version): Graphite / Carbide

Bearing System: Thrust Bearing Integrated in Lantern (where applicable)

Radial Seals: Double Radial Seals

Process Connection: Flanged Connection (DIN / PN10)

ATEX Version: Available for Zone 1 and Zone 2 Applications

Operating

The TVC Industrial Vertical Agitator is designed for continuous operation in a wide range of industrial processes. It can be installed on atmospheric or pressurized tanks depending on the selected sealing system. The unit operates efficiently across different fluid viscosities, with performance defined by impeller type, speed, and motor power.

Operating temperature and pressure limits depend on material selection and sealing configuration. With appropriate options, the agitator is suitable for corrosive, abrasive, and hazardous fluids. ATEX versions are available for safe operation in Zone 1 and Zone 2 environments.

Operating Limits

Power Range: 0.18 – 200 kW

Rotation Speed: 5 – 1500 rpm (depending on gearbox and configuration)

Flow Capacity: Defined according to impeller type and diameter

Tank Height: Up to 20 m (depending on shaft design)

Drive Type: Gear Driven

Seal Configuration:

- Internal Mechanical Seal or Lip Seal (Standard)
- Cartridge Mechanical Seal
- Double Mechanical Seal (for pressurized systems)

Power and Speed Range

		kW										
		1,1	1,5	2,2	3	4	5,5	7,5	11	15	18,5	22
RPM	280											
	180											
	140											
	94											
	62											
	44											
	27											
		TVC1	TVC2	TVC3	TVC4	TVC5	TVC6	TVC7	TVC8			

Configurations

L Version

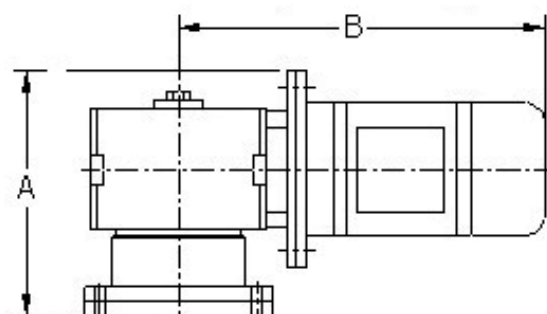
The –L configuration is equipped with an additional DN flange and an integrated lip seal. Its purpose is to prevent the escape of fumes or splashing, while also ensuring that any oil leakage from the gearbox does not contaminate the agitated product.

S Version

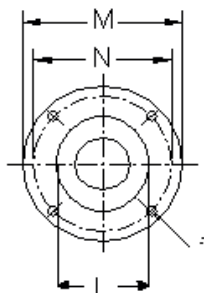
The –S configuration includes a lantern housing fitted with an additional DN flange and a mechanical seal. This setup is designed to withstand internal tank pressure or vacuum conditions. In this version, a coupling is installed beneath the flange, allowing shipment with the seal pre-assembled while the shaft remains dismounted.

Dimensions And Loads On The Support

Model	Flange	A	B	Ø Dia.	Mt (Nm)	Mf (Nm)	Fa (N)
TVC 1	IEC80	250	620	40	500	500	1500
TVC 1-L	DN150	270					
TVC 2	IEC100	270	700	50	800	900	3600
TVC 2-L	DN200	290					
TVC 3	IEC132	310	800	60	2000	2000	5000
TVC 3-L	DN250	335					
TVC 4	IEC132	320	820	70	1700	2000	4500
TVC 4-L	DN250	345					
TVC 5	IEC160	350	900	80	3000	3000	6000
TVC 5-L	DN300	375					
TVC 6	IEC225	400	1000	90	5000	5000	10000
TVC 6-L	DN400	430					
TVC 7	IEC225	430	1070	100	8000	6500	12000
TVC 7-L	DN400	460					
TVC 8	IEC250	450	1200	110	10000	12000	15000
TVC 8-L	DN400	480					



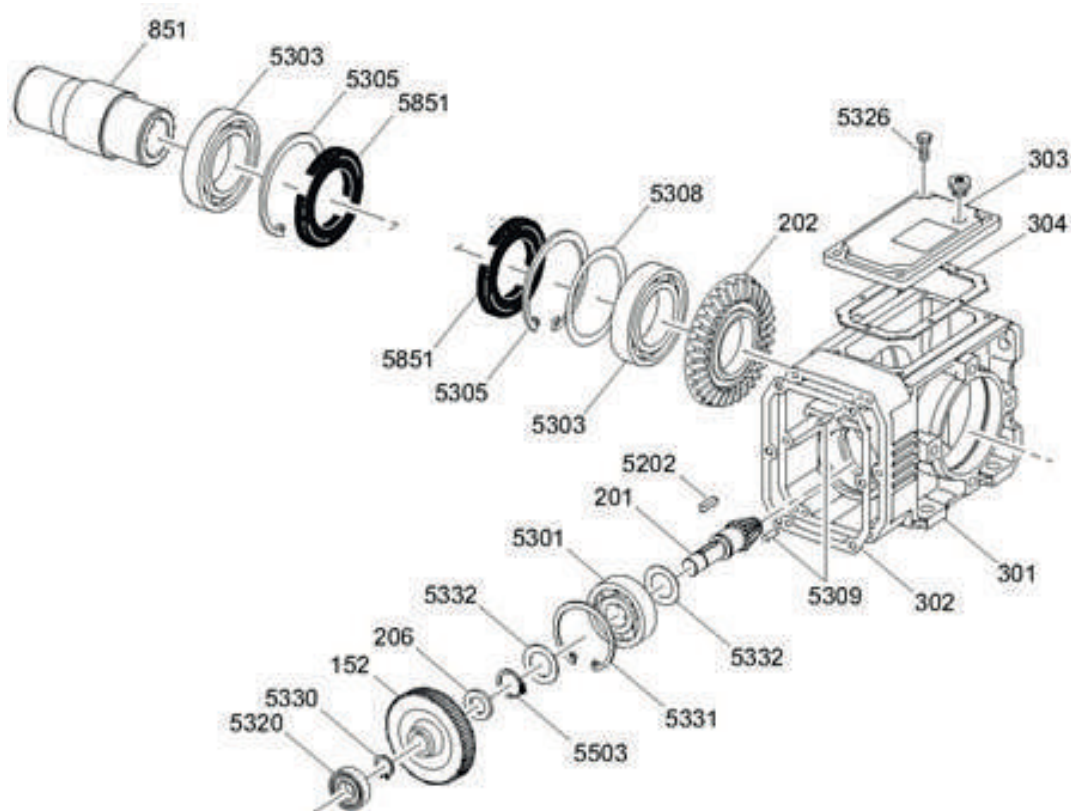
Reducer and Added Flange Details



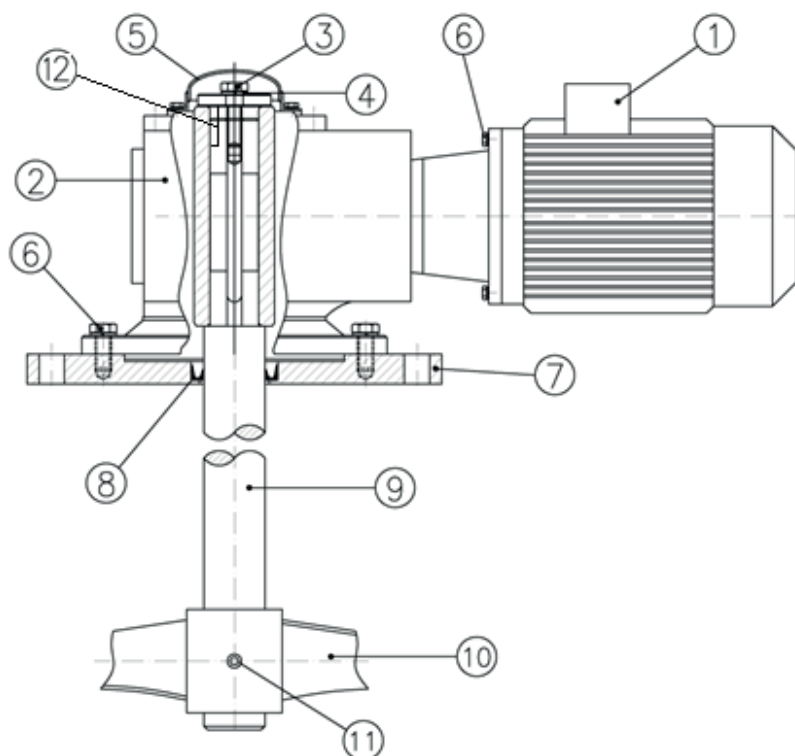
	Reducer Flange						Added Flange					
	IEC80	IEC100	IEC132	IEC160	IEC225	IEC250	DN150	DN200	DN250	DN300	DN350	DN400
M	200	250	300	350	450	550	285	340	395	445	505	565
N	165	215	265	300	400		240	295	350	400	460	515
L	130	180	230	250	350	450						
f	4 x 11	4 x 14	4 x 14	4 x 18	8 x 19	8 x 19	8 x 22	8 x 22	12 x 22	12 x 22	16 x 22	16 x 26

Wear Component

Pos	Qty	Description
5851	2	Slow shaft oil seal
5303	1	Slow shaft bearing
5021	1	Fast shaft bearing
5023	2	High-speed shaft oil seal

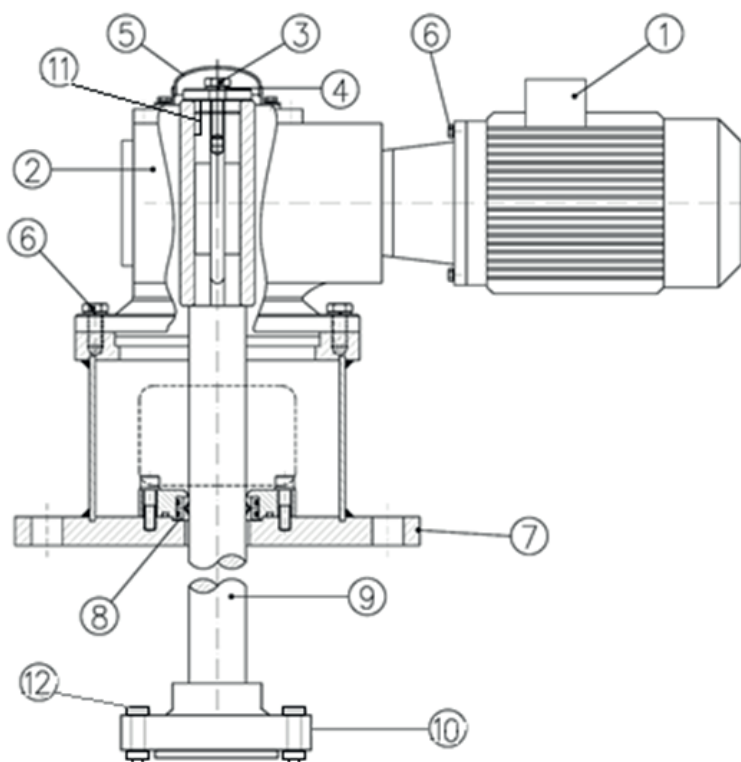


TVC-L Parts List



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

TVC-S Parts List



Pos	Description
1	Electric Motor
2	Reducer
3	Fixing screw
4	Fixing washer
5	Protection
6	Bell Housing
7	Connection flange
8	Radial seal
9	Shaft
10	Flanged joint
11	Key
12	Fixing screws

APPLICATION AREAS & INDUSTRY SOLUTIONS

FOOD PROCESSING & BEVERAGE APPLICATIONS



TVC vertical agitators provide efficient and hygienic mixing solutions for food and beverage processes. They ensure consistent homogenization of liquids and semi-viscous products, support fast dissolution and dispersion of ingredients, and maintain uniform temperature distribution during thermal processes. Suitable for dairy, beverages, sauces, and syrups, they help improve product quality, stability, and process reliability while meeting strict hygiene standards.

PHARMACEUTICAL & COSMETIC INDUSTRY



TVC Industrial Vertical Agitators deliver precise and hygienic mixing for pharmaceutical and cosmetic applications. They enable uniform blending of sensitive formulations, support efficient dispersion of active ingredients, and ensure controlled processing conditions. Suitable for creams, lotions, gels, and liquid formulations, they help maintain product consistency, quality, and compliance with strict industry standards.

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



TVC vertical agitators provide efficient and reliable mixing solutions for water and wastewater treatment processes. They support homogenization, flocculation, and sludge mixing, ensuring uniform distribution of chemicals and preventing sedimentation. Suitable for equalization tanks, reaction basins, and storage applications, they enhance treatment efficiency, process stability, and operational reliability.



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

For more detailed information, please visit www.tmxflow.com