

TMXFLOW[®]
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Product Catalogue | **TLF Industrial
Side Entry Agitator**



Key Uses

The TLF side-entry agitator is designed for efficient mixing in storage tanks, maintaining product homogeneity during storage and processing. By generating continuous circulation inside the tank, it prevents sedimentation of suspended solids and ensures consistent product quality. It enables effective dispersion of additives such as bentonite, CO₂, SO₂ and sugar, while supporting the homogenization of liquids with different densities. The TLF agitator is suitable for applications in food and beverage processing, water treatment, chemical preparation and other general industrial mixing processes.

Design and Features

The TLF side-entry agitator is designed for installation on the tank wall, providing efficient mixing and product circulation in storage tanks. Its optimized impeller geometry ensures high hydraulic efficiency and effective blending of the tank contents. The robust mechanical design, featuring an aluminum lantern housing and thrust bearing, guarantees durability and reliable operation.

An internal mechanical seal operating in the product provides secure sealing under process conditions. With standard DIN flange connections and optional configurations available, the TLF agitator offers a compact, versatile and cost-efficient solution for a wide range of industrial mixing applications.

Materials

Gearbox: Worm Gear Reducer

Lantern Housing: Aluminum

Agitator Shaft: Steel Shaft Directly Coupled to Gearbox

Impeller: Mixing Impeller (Process Dependent Design)

Mechanical Seal (Standard Version): Internal Mechanical Seal

Seal Faces (Standard): Graphite / Stainless Steel

Mechanical Seal (-W Version): Hard Faces Mechanical Seal (for sugary products)

Mechanical Seal (-E Version): Sterilizable Mechanical Seal with Protected Springs (for clean applications)

Mechanical Seal (-X Version – ATEX): Graphite / Silicon Carbide Seal Faces

Mechanical Seal (-S Version): Cartridge Mechanical Seal (Single or Double)

Process Connection: Flanged Connection (DN flange option available)

Operating

The TLF Series Side Entry Agitator operates through a compact worm gear reducer that efficiently transmits torque from the motor to the agitator shaft. The shaft is directly inserted into the hollow output of the gearbox and secured with a locking screw, ensuring a simple and reliable mechanical connection. As the impeller rotates, it generates continuous circulation within the tank, promoting uniform mixing and maintaining product homogeneity in slender storage tanks up to 17 m in height.

In the standard configuration, the mechanical seal is positioned inside the process and is suitable for applications where the product does not present sealing difficulties. Depending on the application requirements, different sealing solutions can be selected, including hard-faced seals for sugary products, sterilizable seals for clean applications, graphite/silicon carbide seals for ATEX environments, or cartridge-type seals available in single or double configurations.

Operating Limits

Power Range: 0.12 – 4 kW

Rotation Speed: 90 – 270 rpm

Capacity: 89 – 2100 m³/h

Tank Height: Up to 17 m

Drive Type: Worm Gear Reducer Drive

Seal Configuration: Single or Double Mechanical Seal

Operating Data

Model	kw	In (A)	RPM	D	d x H	Flange	kg	m3/h
TLF 1-0,12-E	0,12	0,45	270	M-220	25 x 580	DN50 PN10	11	89
TLF 2-0,18-E	0,18	0,75	180	C-300	25 x 580	DN80 PN10	16	245
TLF x2-0,25	0,25	0,85	200				21	270
TLF 2-0,18-W	0,18	0,75	180	A-300	25 x 580	DN80 PN10	10	175
TLF 2-0,25-W	0,25	1,0		C-300			17	245
TLF 3-0,25-E	0,25	0,85	140	C-400	30 x 650	DN80 PN10	18	450
TLF 3-0,37-E	0,37	1,4	122	C-450			19	560
TLF x3-0,55	0,55	1,7	140	F-500	30 x 700		25	670
TLF 3-0,55-W			280	C-300	25 x 580		19	380
TLF 3-0,75-W	0,75	2,2	190	C-400	30 x 600		25	600
TLF 3-0,55-S	0,55	1,7	280	C-300	25 x 600	DN100 PN10	30	380
TLF 3-0,75-S	0,75	2,2	190	C-400	30 x 600		35	600
TLF 4-0,75-E	0,75	2,0	90	C-600	35 x 700	DN100 PN10	30	980
TLF x4-1,1	1,1	2,6	140	F-590			50	1100
TLF 4-1,1-C-W			190	C-400	30 x 650		40	600
TLF 4-1,1-W				F-550			35 x 700	50
TLF 4-1,5-W	1,5	3,4			45			1200
TLF 4-1,5-S								
TLF x5-1,5	1,5	3,4	140	F-660	40 x 700	DN100 PN10	70	1560
TLF 5-1,5-W			122	C-600	35 x 700			1320
TLF 5-2,2-W	2,2	4,5	190	F-590	40 x 700	DN150 PN10	85	1500
TLF 5-2,2-S								
TLF 6-4-W	4	8,4	190	F-660	45 x 750	DN150 PN10	110	2100
TLF 6-4-S							125	

The **-W version** is designed for sugar-based products and features sealing faces made of hardened materials.

The **-E version** is suitable for hygienic (clean) applications; it includes a sterilizable seal and protected springs to minimize contamination.

The **-X version** is intended for ATEX environments and uses sealing faces made of graphite and silicon carbide (SiC).

The **-S version** is equipped with a lantern including an additional DN flange and comes with an integrated cartridge-type mechanical seal.

The choice between a single or double mechanical seal is determined by application conditions, including standard operating environments, high temperatures, the presence of solvents, abrasive or toxic media, and products with a tendency to solidify.

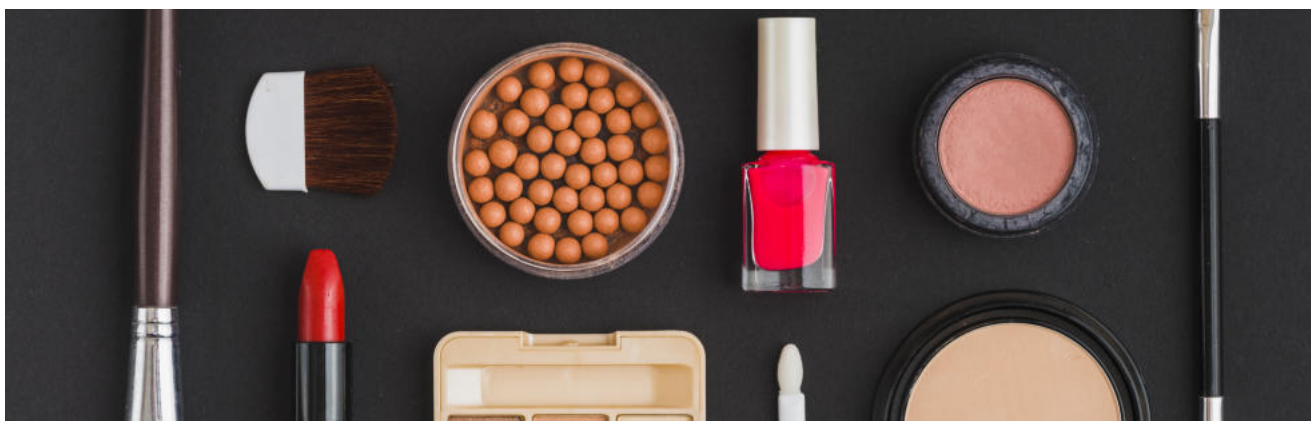
APPLICATION AREAS & INDUSTRY SOLUTIONS

FOOD PROCESSING & BEVERAGE APPLICATIONS



The TLF Industrial Side Entry Agitator is well-suited for food and beverage applications, especially in large tanks requiring hygienic and efficient mixing. Its side-entry design provides energy-efficient, low-shear agitation that preserves product quality while ensuring uniform mixing and preventing sedimentation. Made from food-grade materials and compatible with CIP systems, it supports hygienic processing and improves overall production efficiency.

COSMETIC INDUSTRY



The TLF Industrial Side Entry Agitator is well-suited for cosmetic manufacturing processes, where consistency, product stability, and gentle mixing are essential. It enables efficient blending of creams, lotions, shampoos, and other viscous products while maintaining uniform texture and preventing phase separation. Its low-shear mixing action helps preserve sensitive ingredients such as fragrances and active compounds.

APPLICATION AREAS & INDUSTRY SOLUTIONS

PETROCHEMICAL & CHEMICAL PROCESSING



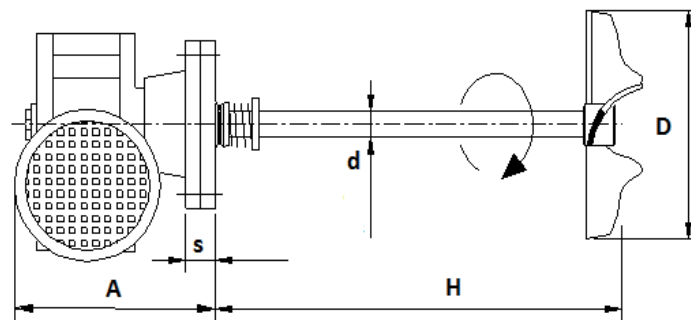
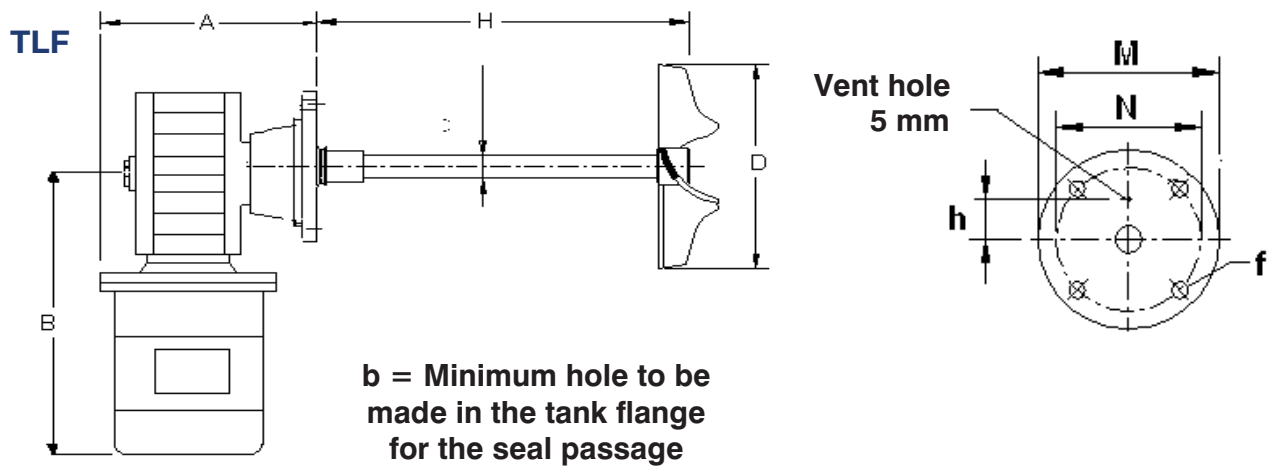
TLF Industrial Side Entry Agitator ensures efficient mixing of high-viscosity and demanding process fluids, preventing stratification and sedimentation in large storage tanks and reactors. It enhances product uniformity, improves heat transfer efficiency, and supports stable process conditions. Its energy-efficient design reduces power consumption while minimizing maintenance and downtime, ensuring long-term operational reliability in petrochemical and chemical processing applications.

WATER AND WASTEWATER TREATMENT APPLICATIONS

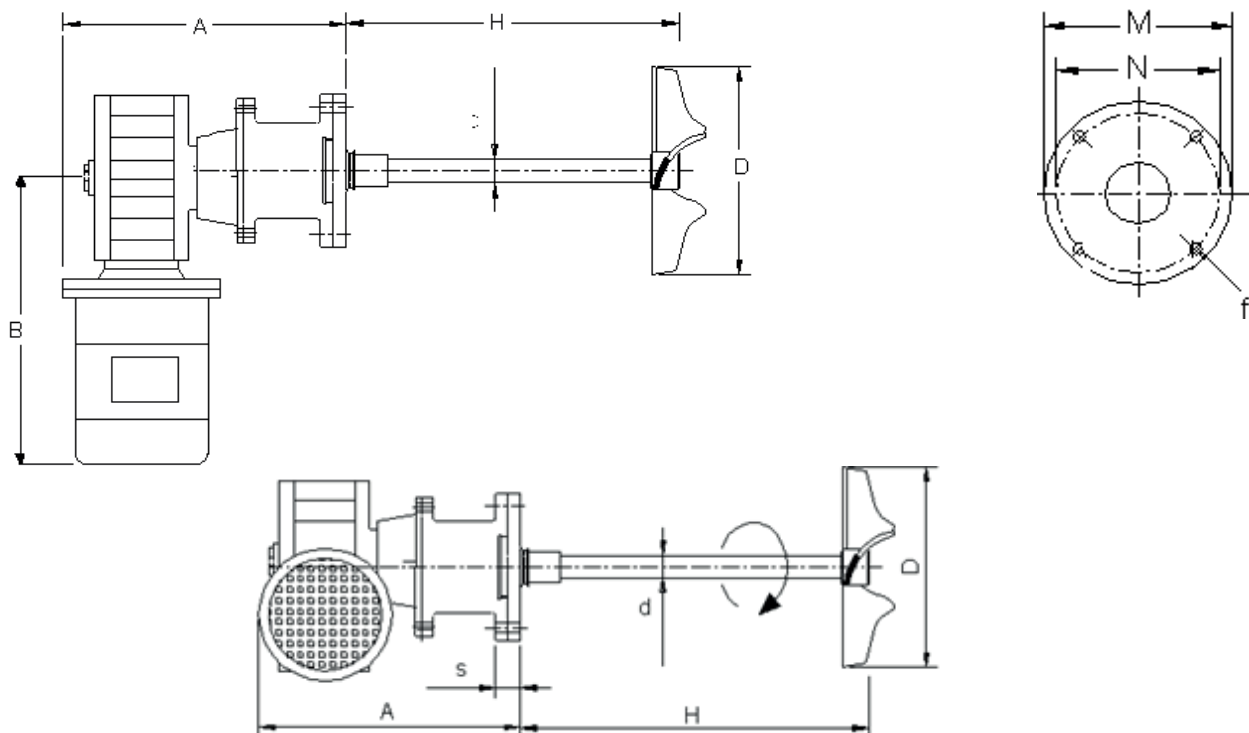


TLF Industrial Side Entry Agitator delivers efficient mixing performance in water and wastewater treatment applications, preventing sedimentation and ensuring uniform distribution of solids and chemicals in large tanks. It enhances process efficiency in equalization, aeration, and sludge handling systems while reducing energy consumption and maintenance requirements. Its robust design ensures reliable and continuous operation under demanding environmental conditions.

MEASUREMENTS AND WEIGHTS



TLF-S



MEASUREMENTS AND WEIGHTS

	Dimensions (mm)								Dynamic Loads		
Model	A	B	M	N	f	h	b	s	Mt [Nm]	Mf [Nm]	Fa [N]
TLF 1-0,12-E	190	255	165	125	4x18	35	50	20	1	6	120
TLF 2-0,18-E	215	295	200	160	4x18	45	50	20	10	20	180
TLF x2-0,25	205	325							7	22	600
TLF 2-0,18-W	215	295							5	20	750
TLF 2-0,25-W	215	295							10	25	770
TLF 3-0,25-E	215	295	200	160	4x18	45	55	20	20	50	300
TLF 3-0,37-E	215	295							30	60	340
TLF x3-0,55	220	355							30	50	1000
TLF 3-0,55-W	220	320					50		20	50	800
TLF 3-0,75-W	220	355					55		35	70	1000
TLF 3-0,55-S	320	320	220	180	8x18	-	-	20	20	60	800
TLF 3-0,75-S	320	360							35	85	1000
TLF 4-0,75-E	275	345	220	180	8x18	45	65	35	80	100	570
TLF x4-1,1	290	370							60	100	1500
TLF 4-1,1-C-W	290	365					55		35	90	1000
TLF 4-1,1-W	290	365							50	100	1200
TLF 4-1,5-W	290	380				65	80	120	1600		
TLF 4-1,5-S	340	380					-	-	20	80	150
TLF x5-1,5	290	420	220	180	8x18	45	65	35	110	170	2000
TLF 5-1,5-W	300	450							120	210	1700
TLF 5-2,2-W	300	450							120	180	1800
TLF 5-2,2-S	390	450	285	240	8x22	-	-	20	120	220	1800
TLF 6-4-W	350	465	285	240	8x22	65	75	35	200	300	3000
TLF 6-4-S	400	460				-	-	20	200	360	3000



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