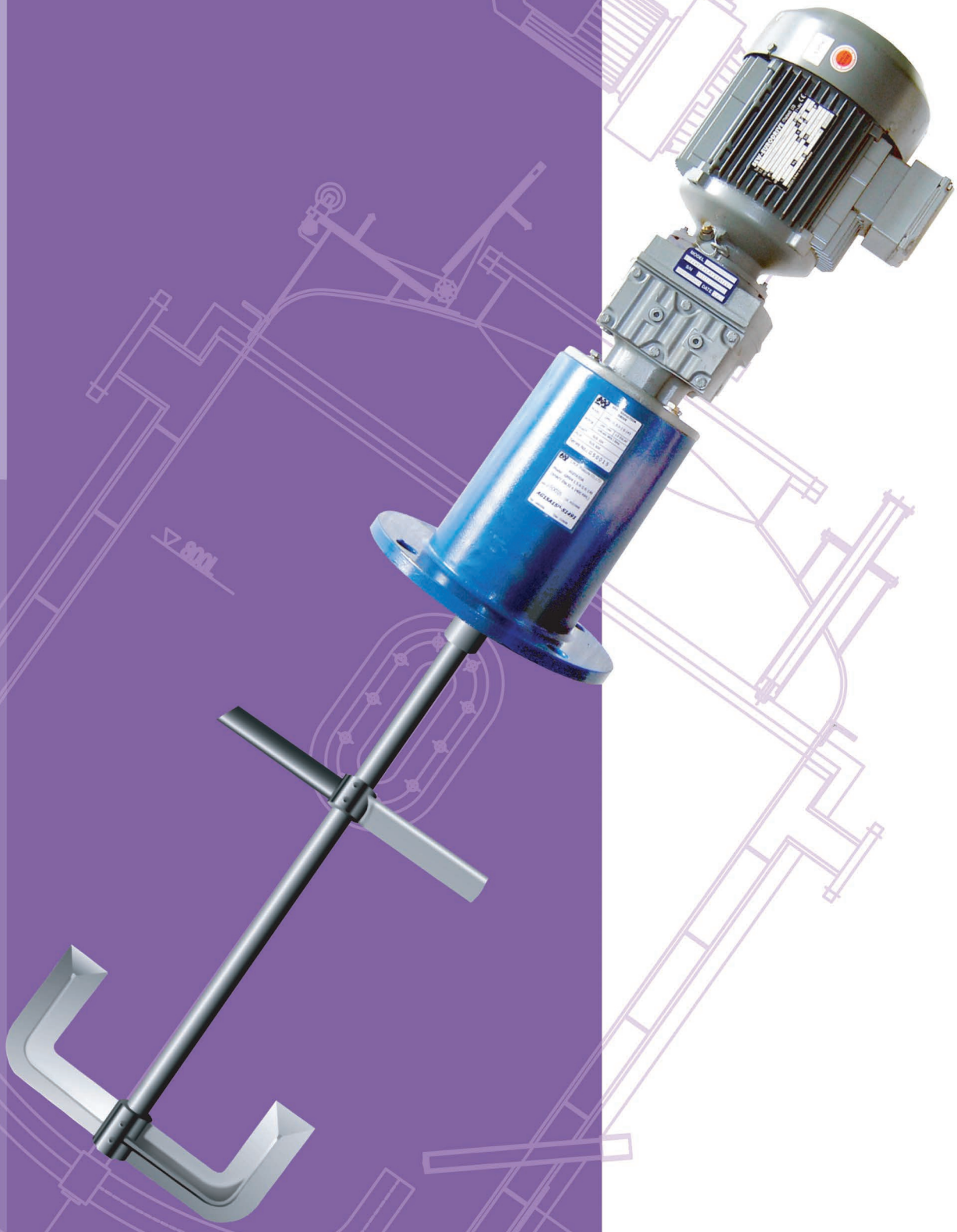
THE SPECIALIST OF MIXING TECHNOLOGY

We think and act global

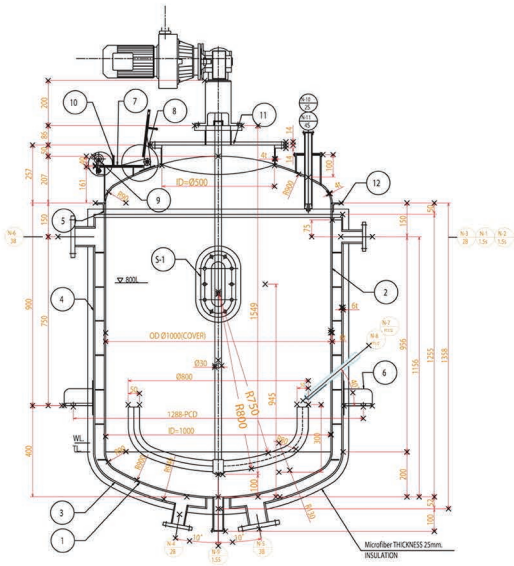
ZELLA



ZELLA Has Know-How for Innovation

Many years of experience, combined with modern technology, are the basic fundamentals supporting the products of C.M.P. PRODUCT Since 1975.The engineering background ensured that the latest and most suitable technology is used in the construction of equipment.The many years of experience, combined with highly qualified employees, provide us the know-how to develop and supply mixers, that meet customers'demands for modern technology and functionality to a board range of industries.Regardless of the know-how and experience build up over the years by the company, new assignments demand continued research, development and testing in cooperation with our customers.In order to give the best possible technical advice.

ZELLA enjoys a reputation of providing optimal service and last but not least, "after –sales-service.



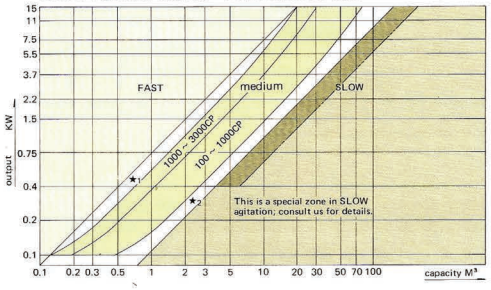
Wide Spectrum of Applications

- Food industry
- Textile industry
- Paper-making industry
- Brewing industry
- Pharmaceutical industry
- Agricultural industry
- Synthetic resin industry
- Paint industry
- Civil engineering industry
- Metal-working industry
- Ceramic industry
- Water purification industry
- Petroleum industry
- Coal industry
- Prevention of air pollution
- Oil and fat industry
- Desalination industry
- Waste water and sewage disposal plants
- Rubber industry
- Electronics industry
- Dry industry
- Fermentation industry

SELECTING THE BEST MODEL FOR YOUR NEEDS

Since agitation is a complicated phenomenon, the model and power of agitator required should be carefully selected in consideration of : the physical and chemical properties; the purpose for use; and the operating conditions.
See Table I. when estimating the power required, and refer to Table II. When the speed required is unknown. Note, however, these tables may not be practical in special case. For details consult our service staff.

Table I. Agitation Capacity — Power Selection Table

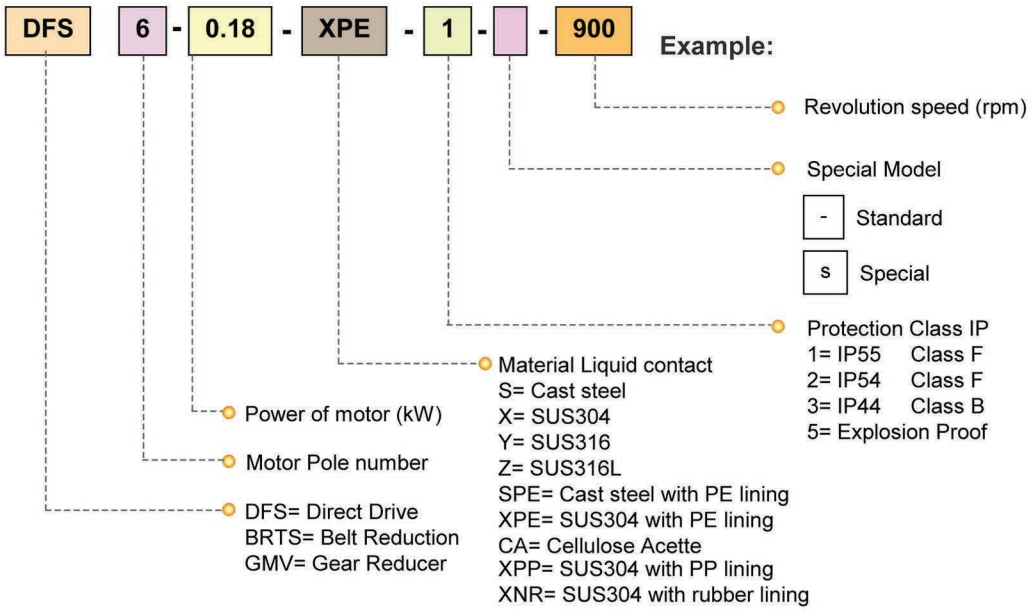


NOTE:
- This table refers to agitation of miscible liquids
- SLOW agitation means liquids may be stirred well only by slow agitation.
- Standard agitation time is 15 to 25 minutes
- Specific gravity of liquids is estimated within a range of 1.0 to 1.05
- The agitation tank is of cylindrical shape, of which ratio of diameter (D) to liquid height (H) should be within 0.8 to 1.1 respectively
- Asterisked zoned *1 and *2 may be selected on either side

Table II. Purpose and Strength of Agitation

Purpose / Speed	Liquid + liquid agitation	Solid + liquid agitation	Gas + liquid agitation	Heat conducting agitation
FAST	• Mixing and uniform stirring of high viscosity liquids. • Mixing and making uniform miscible liquids of different phase	• Mixing, dispersing, dissolving, and stirring of matter including solid particles high in concentration, high in specific gravity, or large in particle size	• Gas absorption, reaction, incubated agitation of medium to high viscosity liquid	• Making liquid temperature uniform in tank of high viscosity liquid • Sudden agitation required by low, to medium viscosity liquid
MEDIUM	• Agitation of miscible liquids in short time • Mixing of medium, high viscosity liquids requiring moderate stirring	• Dispersion, mixing, dissolving and other agitation of solid particles - true specific gravity of particles: 2.3 or less - particle size: 200-mesh or less - particle concentration: 10 to 20 wt.%	• Gas absorption, reaction, incubated agitation of low viscosity liquid	Making liquid temperature uniform in tank of medium, low viscosity liquid
SLOW	• Moderate stirring of low viscosity, miscible liquids • Storage tank of low viscosity product	• Prevention of settling solid particle - true specific gravity of particles: 2.3 - particle size: 200-mesh (74 microns) - particle concentration: 10 wt.% or less		

Model Code



Multi Mixers Suited to A Variety of Application

Optimum strength, high safety factor and long service life have been realized with a marked improvement in load factor. While increasing the capacity over that offered by completing mixers of the same class, each model is extremely compact, light and sturdy, Furthermore, the use of light metal alloys materials for the housing and the elimination of all excessive materials have achieved an all - around cost - saving effect while simplifying operation and maintenance.

Vertical Agitators

Fixed on the tank with the shaft inserted vertically, agitation is stable without oscillation, and the life. Various model available from enclosed to open type

Portable Agitators

Easy-to-handle, small-sized. Using a newly devised clamp, the unit be easily mounted on a tank or bed, and the angle can be freely set both laterally and vertically

Custom Order

Suitable agitators which are designed and manufactured for each special procedural jobs

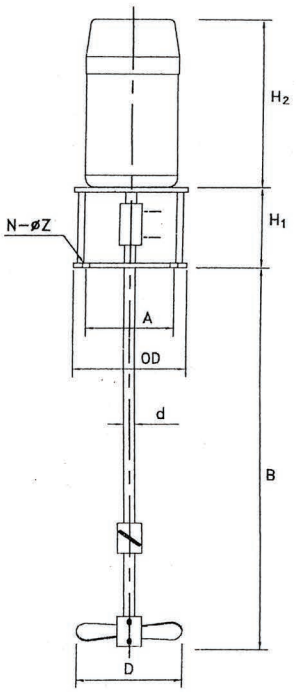

Homogenize


Sedimentation


Solid - Liquid Blending


Crystallization

DIRECT DRIVE TOP ENTERING AGITATOR TYPE



DFS SERIES

Features

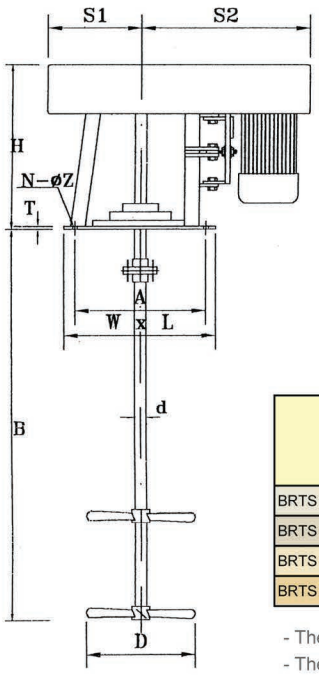
By aligning motor shaft and drive shaft with coupling in their design, they can be operated at an extremely high speed. This series can achieve exceptional mixing in a short time frame in various applications, such as powder dispersions, suspensions, or liquids with very different, etc.

Specifications

Model	Motor		Speed	Impeller			Shaft		Demension (mm.)						Weight (kg.)	Max. Agitation Capacity (L.)
	Output KW.	No. of poles P.	r.p.m. (50 Hz)	Dia		Stage	Nom. Dia d.	Effective length B. (mm.)	OD	A	N- Z	T	H1	H2		Dilute liquid 100 cp.
DFS 6-0.18-XCA	0.18	6	900	(CA)	4"	1	1/2"	750	160	130	4-10	8	120	210	9	200 LITERS
DFS 6-0.37-XCA	0.37				4"	1	3/4"		200	160				234	13	500 LITERS
DFS 6-0.18-X,Y	0.18			(SUS 304)	5"	1	1/2"		160	130				210	9	200 LITERS
DFS 6-0.37-X,Y	0.37				5-1/2"	2	3/4"		200	160				234	13	500 LITERS
DFS 4-0.37-X,Y	0.37	4	1400		5"	2	1/2"		160	130				206	9	500 LITERS

- The Impeller is 2 stage, 2-vane propeller
- The standard motor is totally enclosed fan-cooled outdoor type

BELT REDUCTION TOP ENTERING AGITATOR TYPE



BRTS SERIES

Features

Among top entering agitators, Model BRTS is extensively used in agitating dilute solutions of small to large volume.

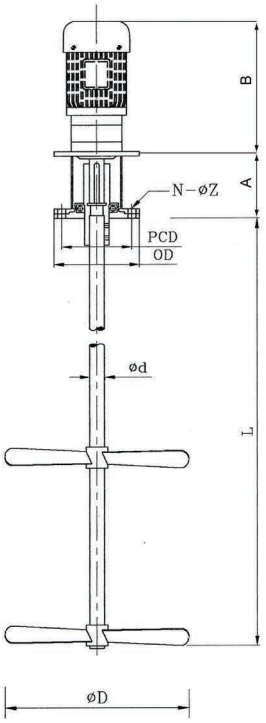
Due to use of V-belt speed reduction drive system, this model features low operation noise.

Specifications

Model	Motor		Speed	Impeller	Shaft		Demension (mm.)							Weight (kg.)	Max. Agitation Capacity (L.)	
	Output KW.	No. of poles P.	r.p.m. (50 Hz)	Dia.	Nom. Dia d.	Effective length B. (mm.)	W x L	A	N- Z	T	H	S1	S2		Dilute liquid 100 cp.	Medium Viscosity Liquid 2000 cp.
BRTS 4-0.37	0.37	4	290	250	3/4"	1200	300x300	250	4-17	9	400	180	310	35	1500	500
BRTS 4-0.75	0.75			300	1"	1350						200	370	40	2500	1000
BRTS 4-1.5	1.5			350	1 1/4"	1600	350x350	300			600	250	450	52	4000	2000
BRTS 4-2.2	2.2			400		1700						250	450	54	6000	3000

- The Impeller is 2 stage, 3-vane propeller
- The standard motor is totally enclosed fan-cooled outdoor type

GEAR REDUCER TOP ENTERING AGITATOR TYPE



GMV SERIES

Features

Among top entering agitators model GMV is primarily for small to large volume agitation. It can operate continuously for a long time at heavy load and high precision helical gear unit, it emits little sound during operation

Specifications

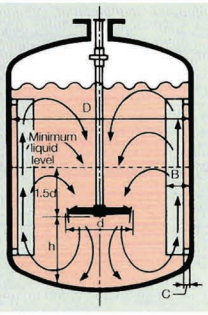
Model	Motor Output kW	Speed rpm. (50 Hz)	Agitation shaft		Propeller Dia. (Dia.D)	Main Body		Mounting Flange					Max. Agitation Capacity Midium Viscosity Liquid 500 cp	Approx. Weight W/ motor
			Standard Length (L)	Dia. (Dia.d)		(A) mm.	(B) mm.	Norminal Dia. JIS-10K	Outer Dia. (OD)	Pitch (PCD)	Hole (Z)	Hole (N)		
			mm	mm	mm				mm	mm	mm	pcs	L	kg
GMV4-0.12	0.12	306	800	16	160	170	324	100	210	175	19	4	200	22
GMV4-0.18	0.18	293	1000	16	200	170	324	100	210	175	19	4	400	25
GMV4-0.37	0.37	306	1200	25	250	190	339	125	250	210	23	4	800	35
GMV4-0.75	0.75	306	1400	25	300	210	389	125	250	210	23	4	1500	60

- The impeller is 2 stage, 3-vane propeller
- The standard motor is a 4-pole, totally enclosed fan-cooled type
- Dimention B varies slightly According T motor factory

Mounting position and mixing flow

Mixing efficiency depends to a very large extent on the mounting position and the resulting mixing flow. Before mounting the mixer, carefully consider the mixing purpose, the specific gravity of the liquid to be mixed, its viscosity, the mixing ratio, and the mixing time.

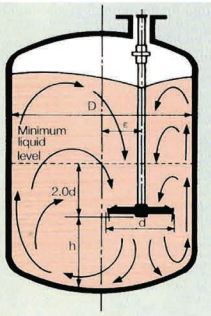
h = 1.0 to 3.5 d (medium-speed type)
h = 1 to 2 d (low-speed type)
When preventing slurry sedimentation and accumulation
h = 0.25 to 0.5 d
B = 0.1 D
C = 0.025 D



Center mounting with baffle plates

In this case, the turning flow is restricted and the vertical convection flows become prevalent. Powerful turbulent flows are thus generated, greatly enhancing the mixing effect. To obtain the best results, two or four baffles are usually installed on the tank wall at equal intervals and vertical to the turning flow.

h = 1.0 to 3.5 d (medium-speed type)
h = 1 to 2 d (low-speed type)
When preventing slurry sedimentation and accumulation
h = 0.25 to 0.5 d
When d > 0.35 D
ε = 0.5 d
When d ≦ 0.35 D
ε = 0.25 D



Off-center mounting

When the mixer is installed off-center to the tank without using a baffle, the flow running concentric to the tank is eliminated and an excellent turbulent flow is obtained.

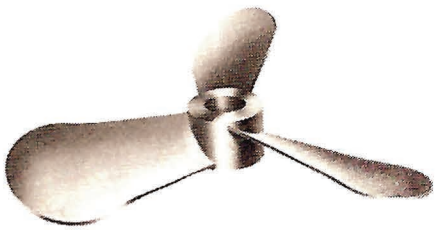
A Complete Selection of Impellers

TYPES OF IMPELLERS

Impeller type is determined after considering rotation speed, agitation purpose, capacity, physical properties, mounting system and so on. Standard impellers and their specifications are described below for reference. The impeller itself is important as the part which transmits mechanical power to the liquid as agitationenergy, and so major differences will result from factors such as shape, twist, rotation and balance. ZELLA has carefully analyzed all factors to create impellers which aremost suitable for various particular agitation needs.

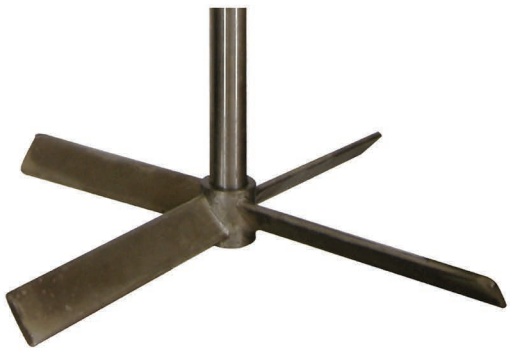
Propeller blade

This is the most widely used type of agitation impeller for medium-to high-speed rotation in relatively low viscosity liquids. It provides a high grade turbulent flow by the powerful axial flow and suitable installation conditions, and its generates an ideal circulating flow. It is widely used in various agitation tanks and in tanks with a large capacity.



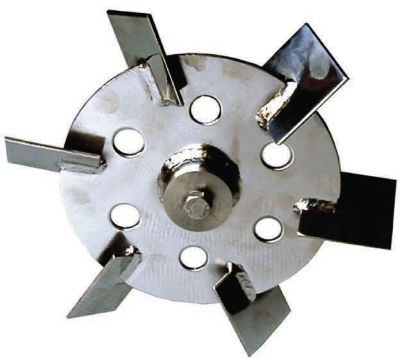
Pitched paddle blade

Featuring blades with slats at an inclined angle, this is frequency used as a low-speed, large-size impeller (often with 4 blades). It generates a flows to deliver a flow pattern with a high agitation effect. Although it is suited to the agitation of medium-to high-viscosity liquids, it is often used in large-capacity tanks with low-viscosity liquids.



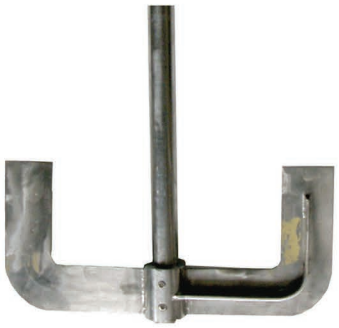
Pitched turbine blade

This type 's slats are inclined at an angle and installed around the outside of the impeller disc. During rotation, this causes both and axial flow and radial flow to be generated simultaneously, creating complex turbulent flows, and a strong impact and powerful shearing force are administered to the liquids. This type is suited to insoluble liquid + liquid agitation, forced dissolution of solids, dispersion of highly concentrated liquid slurry, and the agitation of medium-to high-viscosity liquids.



Anchor blade

This is used at low rotational speeds for the agitation ofhigh-viscosity liquids and highly concentrated liquid slurry. In order to clear away matter which has adhered to the walls inside tanks, auxiliary blades (with a lining of plastic or rubber) may be provided intermittently on its outside diameter parts.



Sawtooth turbine blade

This is special impeller featuring sawtooth slats which are arranged pointing upward and then downward alternatively on the outside of the impeller disc. Since a powerful shearing force is generated, it is used at high rotational speeds for the emulsification of insoluble liquids, very fine shearing and mixing of liquid droplets, and the agitation of high-viscosity liquids and highly concentrated liquid slurry.

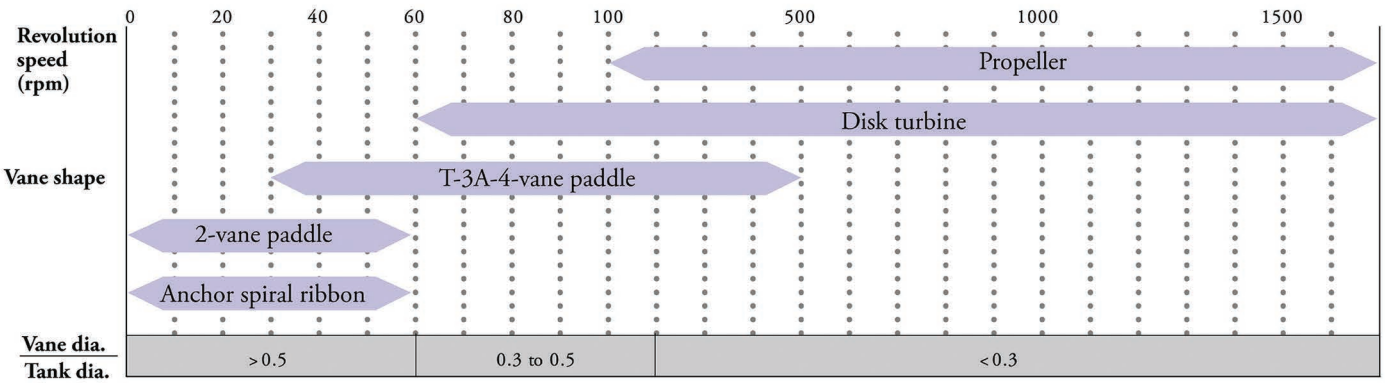
Folding blade

The folding impeller is designed for small mount nozzle fit into the bung of drums and bulk container, impeller folds for entry, open to large diameter when rotation.

The impeller must also be selected.

This is selected by us in accordance with the specifications provided.

(Rotational speed and blade shape)



ZELLA Spares and Reconditioning

A full after sales back - up service for your machine

SPARES

Heavy duty construction keeps spare parts requirements to a minimum. Our comprehensive range of spare parts stocks ensures minimum delay in dispatching your immediate requirements.As manufacturers of mixers for over 32 years, we appreciate the urgency and reliability requirements of modern technology

RECONDITIONED

Mixers are designed and built with traditional engineering techniques and can be reconditioned to as new by our expert engineers. This work, however, is carried out in our workshops where the highest possible standards can be maintained.

When Inquiring

Please specify the following item so that we can recommend the most suitable model for your requirements.

Products		Quantity [kg]	Density [kg/m3]	Vicosity [mPas]	Particle Size [um]	Phase e.g. liquid	Temp. [°C]
In							
In							
Out							
Out							

Special Product Features	☐ abrasive ☐ glutinous ☐ lumpy ☐ hydrophobic ☐ foams ☐ sublimates ☐ insoluble ☐ others :
Flow Behaviour	☐ pseudoplastic ☐ diatant ☐ thixotropic ☐ viscoelastic ☐ newtonian
Agitation Duty	☐ homogenize ☐ suspend ☐ heat-transfer ☐ gassing ☐ disperse (L/L) ☐ disperse (S/L)
Additional Informations suspending	: Adding of solids : ☐ Dosing System ☐ Big Bags ☐ Agitator starting in settled suspension
Production Process	☐ batch ☐ continuous (m3/h)
Drive	☐ Provided by custome ☐ Provided by C.M.P.Product
Type of drive	☐ one speed ☐ two speeds ☐ variable speed ☐ Power/kW:
Main Voltage :	[V] Frequency : [Hz] Motor Protection :
Ambeint Temp.:	[°C] Mounting height : [m] above sea level ☐ Protection Cover
Shaft Sealing	☐ non ☐ O-ring ☐ Labyrinth seal ☐ stuffing box ☐ double mechanical seal ☐ single mechanical seal ☐ dry-running seal
	elastomers made from:
	others: ☐ seal flushing ☐ shut-off ☐ drip pan ☐ bearing in housing
Bottom Bearing permitted on tank bottom?	☐ yes ☐ no
Agitator/Impeller determination by	☐ Custome ☐ C.M.P.Product
Material of wetted parts :	
Notes :	

Vessel - Specification		
Rate Volume [m3] Fill.Vol. [m3]		
Manway Size : Flange Size :		
	Temp.[°C]	Pressure [bar.abs]
Working		
Calculated		
Maximum filling level in tank [m] :		
Minimum filling level in tank [m] :		
Running while emptying/filling? ☐ yes ☐ no		

Company:
Address:
Contact:
Dept.:
Tel. No.:
Fax. No.:

A Quality Product of
C.M.P. Group.

Polyethylene Tank 25L, 100L, 200L, 500L

Custom - made Tank

AGENT

SINCE 1975

MIXER SECTION

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