Choosing the correct stirring shafts

Stirring shafts must be chosen bearing in mind the stirrer power, the volume of substances to be stirred and its viscosity. The technical features and the application fields of the stirring shafts are summarized in the following tables.

Stirring shaft with floating blades code A00001304
Features: The two blades open when speed increases giving raise to an axial flow in the vessel from top to bottom. Particularly useful for stirring in narrow neck containers, e.g. flasks.
Uses: Stirring at medium to high speed of high solids, flocculation, mixing the thickening agents, sludges,etc.

Stirring shaft with folding blade code A00001305
Features: The blade falls into line automatically during rotation and gives raise to an axial flow in the vessel from top to bottom. Particularly useful for stirring in narrow neck containers.
Uses: Stirring at medium to high speed of high solids, flocculation, mixing of thickening agents, sludges, etc.

Stirring shaft with fixed blade code A00001306
Features: Produces an axial flow in the vessel from top to bottom.
Uses: Stirring at medium to high speed of high solids, flocculation, mixing of thickening agents, sludges, etc.

Stirring shaft with propeller code A00001307
Features: Standard stirring shaft. Produces an axial flow in the vessel from bottom to top with local shearing.
Uses: Stirring at medium to high speed of high solids, flocculation, mixing of thickening agents, sludges, etc.

Stirring shaft with paddle, 6 holes code A00001308
Features: Produces a tangential flow with a limited turbulence and a gentle mixing.
Uses: Stirring at low to medium speed when a good heat exchange among the mixed products is required.

Stirring shaft with turbine code A00001309
Features: Produces a radial flow with a movement of products from top and from bottom with a strong turbulence and shearing.
Uses: Use at medium to high speed for dissolving products or breaking particles.

Stirring shaft with turbo propeller code A00001310
Features: Produces an axial flow in the vessel from top to bottom with a limited shearing. The possibility of a contact of the propeller with the sides of vessel is limited.
Uses: Stirring at medium to low speed of high solids, flocculation or dissolving dyestuffs.

Stirring shaft with anchor code A00001311
Features: Produces a tangential flow with high shearing at the outer parts. The produced flow limits the deposition of solids on the sides of vessel.
Uses: Homogenization at low to medium speed of high solids in liquids of mean to high viscosity.

Speed range	rpm
Low (L)	<250
Medium (M)	250-800
High (H)	>800

Viscosity range	mPa.s
Very low (VL)	0-100
Low (L)	100-1000
Medium (M)	1000-10000
High (H)	10000-100000

Approximate viscosity values of different substances, expressed in centipoise (mPa.s) at 20°C

Viscosity	Substance
1	Water
5	Milk
10	Kerosene
100	Lubricating oil
1000	Castor oil, Glicerine
7000	Refined honey
25000	Chocolate syrup
50000	Ketchup
100000	Molasse

Description	Code	Blades number	Blade Ø mm	Shaft Ø mm	Lenght of the shaft	Speed range	Viscosity
Stirring shaft with floating blades	A00001304	2	93	7	400	M-H	VL-L
Stirring shaft with folding blade	A00001305	1	60	7	400	M-H	VL-L
Stirring shaft with fixed blade	A00001306	1	50	7	400	M-H	VL-L-M
Stirring shaft with propeller	A00001307	3	60	7	400	M-H	VL-L-M
Stirring shaft with paddle six holes	A00001308	1	69	7	450	L-M	L-M
Stirring shaft with turbine	A00001309	10	49	7	450	M-H	M-H
Stirring shaft with turbo propeller	A00001310	3	46	7	450	M-H	M-H
Stirring shaft with anchor	A00001311	2	45	8	450	L-H	M-H