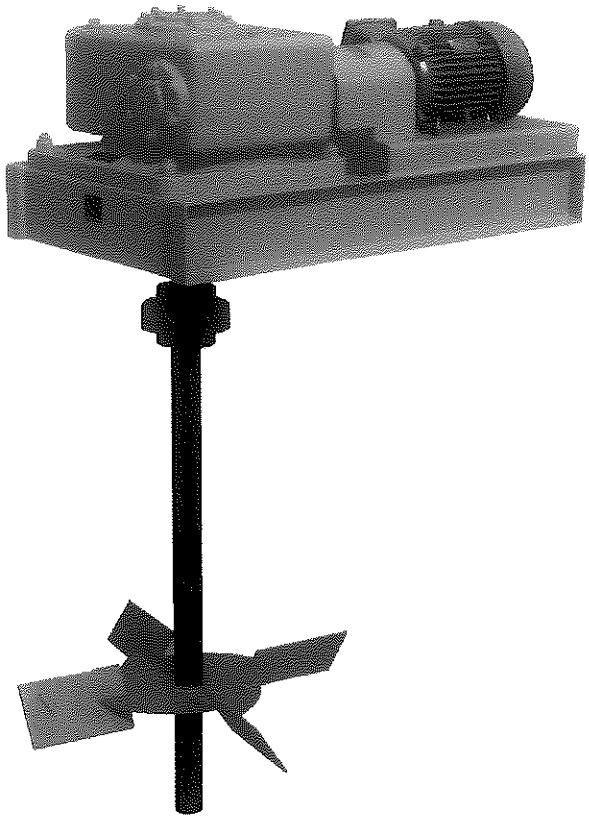
Brandt Mud Agitators

The Brandt Agitator has been the industry standard for many years. Its rugged design, simplicity and dependability have made it preferred by the majority of operators and contractors.

Brandt Agitators are very compact, their low profile reduces headroom requirements and provides more layout space on top of the tanks for other Brandt equipment. The 1:1 height-to-width ratio results in a low center of gravity providing stability and safety should the impeller encounter a sudden shock load. This, coupled with the action of the worm gear being more resistant to shock and vibration gives a more reliable unit than those using helical and bevel gears. The sliding action of the worm and gear insures quiet, smooth, vibration-free operation.

Seven models of Brandt Agitators, ranging from 3 to 25 horsepower, are available. Using the Brandt introduced turn over rate (TOR^{SM}) calculations for sizing to specific applications, the agitators have been extremely successful.



Impeller Choices

Impellers range in size from 24" to 52" and can displace over 18,000 gpm. The canted blade impeller, used in tanks deeper than five feet, promotes axial as well as radial flow. Because the blades move the liquid downward to the bottom of the tank and then toward the tank walls and up, all fluid is mixed continuously and the same consistency is maintained in all parts of the tank. Field experience has confirmed that this design provides the most homogeneous mixture over the widest range of installations and helps to eliminate heavy slugs or light spots that could cause control problems when pumped downhole.

Flat blade impellers are also available. These impellers produce adequate, radial agitation in tanks shallower than five feet and are used as the bottom impeller on a two impeller installation in extremely deep tanks.

Impeller Specifications

Displacement (gpm,l/m)

Diameter (in, mm)		58 rpm, (60 Hz) Canted Blades		58 rpm, (60 Hz) Turbine Blades (flat)		49 rpm, (50 Hz) Canted Blades		49 rpm, (50 Hz) Turbine Blades (flat)		Weight (lbs. kg)	
20	508.0	909	3,440	1,051	3,978	760	2,877	877	3,319	19	8.62
24	609.6	1,645	6,226	1,941	7,347	1,373	5,197	1,620	6,139	21	9.53
28	711.2	2,468	9,341	2,839	10,746	2,060	7,797	2,370	8,970	38	17.24
32	812.8	3,764	14,246	4,365	16,522	3,142	11,892	3,644	13,732	50	22.68
36	914.4	5,402	20,446	6,273	23,743	4,510	17,070	5,237	19,822	61	27.67
40	1016.0	7,284	27,570	8,411	31,836	6,081	23,016	7,023	26,582	74	33.57
44	1117.6	9,928	37,577	11,300	42,770	8,288	31,370	9,435	35,711	10	45.81
48	1219.2	12,512	47,358	14,401	54,508	10,445	39,534	12,024	45,511	11	53.52
52	1320.8	16,100	60,945	18,630	70,522	13,440	50,876	15,552	58,870	12	57.15

*Based on the projected area of the impeller blades B_A x V, x C = D, where B_A = total blade area (ft^2), V = impeller velocity (ft min.), C = gal ft^3, and D = displacement (gpm).

Agitator Sizing

Proper sizing can be determined easily with your Brandt representative. Using the TOR calculation and time proven modeling, the process becomes very simple. Ask for assistance and request a copy of the Brandt Agitator Selection Guide.

Motors

The motors used on the Brandt Agitators are T-frame, explosion proof, three phase motors direct coupled to the gear reduction assembly using a flexible coupling with a solid steel guard. They are available for most voltage/frequency requirements.

Gear Reduction

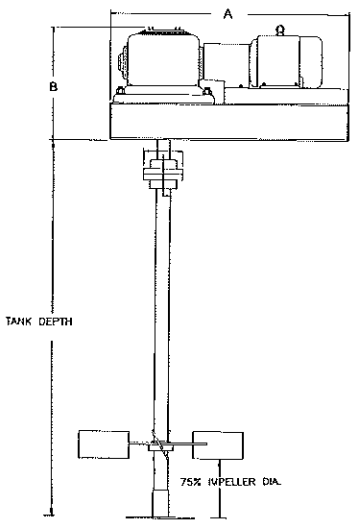
The gear reduction assembly is a single reduction worm - worm gear drive, reducing the motor rpm to the agitator rpm in a single 30:1 reduction. Depending on the gear box model, each assembly contains an output shaft, two seals and four to six bearings. The bearings, which are generously spaced to minimize shaft vibration and deflection, and seals are readily obtainable standard sizes. Unlike many other agitators, Brandt's reducer requires no manual lubrication of the bottom output bearing.

Agitator Shafts

Manufactured of solid, mild steel bar, the shaft is coupled to the gear reduction assembly with a rigid coupling. All shafts are keyed at the bottom for adjusting the height of the impeller. Depending on the model, shaft diameters range from 1 3/4 to 3 1/2 inches. Shaft length is determined by tank depth and should be carefully reviewed before ordering. Consideration must be given to the difference in height of the agitator models, the gear reducer stub shaft length and the rigid coupling length. A bottom shaft stabilizer is supplied with the MA-3 on installations in tanks six feet and deeper and other models at eight feet and deeper, to reduce side loading on the bearings. The stabilizer also protects the shaft and impeller when auxiliary equipment is carried inside the tanks during location moves.

Agitator Dimensions and Weights

Model	Horse-power	Dimensions (in, mm) A Length		B Height		Width		Minimum Impeller Diameter	Weight Shaft Diameter			Shaft (lbs/ft kg/m)		Agitator Less Shaft and Impeller (lbs/kg)	
MA3	3	35-1/4	**895.4**	15-11/1	**398.5**	19-9/16	**496.9**	24	**609.6**	1-3/4	**44.4**	8.2	**12.4**	406	**184.2**
MA5	5	40-1/4	**1022.4**	16-3/4	**425.5**	21-9/16	**526.1**	28	**711.2**	2-3/8	**60.3**	15.1	**22.8**	580	**263.1**
MA7.5	7.5	52-1/8	**1324.0**	24-1/4	**615.9**	27-5/8	**701.7**	32	**812.8**	2-3/8	**60.3**	15.1	**22.8**	1200	**544.3**
MA10	10	52-1/8	**1324.0**	24-1/4	**615.9**	27-5/8	**701.7**	32	**812.8**	3	**76.2**	24.0	**36.2**	1224	**555.1**
MA15	15	52-1/8	**1324.0**	24-1/4	**616.0**	27-5/8	**701.7**	36	**914.4**	3	**76.2**	24.0	**36.2**	1830	**830.0**
MA20	20	61-1/4	**1555.8**	27-1/8	**689.0**	34-1/4	**869.9**	40	**1016.0**	3-1/4	**82.6**	28.1	**42.4**	1898	**860.9**
MA25	25	68-5/8	**1743.1**	30-7/8	**784.2**	39-1/2	**1003.3**	40	**1016.0**	3-1/2	**88.9**	32.7	**49.4**	3130	**1419.7**



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