Rotosolver®

The Ultimate Energy Saver High Shear Mixer

Rotosolver Delivers Performance & Efficiency

The Admix Rotosolver® high shear mixer has been an industry leader since 1993. Its patented design provides processors with significant advantages that greatly improve mixing operations. The Rotosolver delivers high shear and flow patterns that result in faster overall batch times, energy savings, batch to batch consistency, and improved product quality.

Less Energy Consumption: Through extensive streamlining and utilizing the latest CFD software and rigorous physical testing, our Rotosolver mixing impeller has been designed to maximize efficiency while producing mechanical and hydrodynamic shear and optimally direct flow that is beneficial to the process.

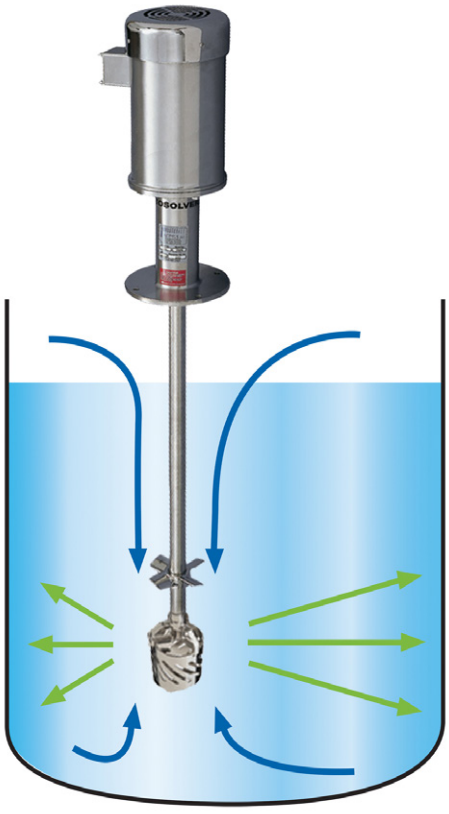
Improved Dispersion: With the Rotosolver, batches can be completed in less time. Powders are 100% hydrated and dispersed, with most mixtures becoming agglomerate-free in under 10 minutes. This is due to the Rotosolver's multiple shear zones in combination with a high product flow that enhances the mixing performance in the tank.

Easy-to-Clean Design: The open design of the mixing chamber ensures that conventional CIP procedures provide maximum cleanability.



3-A® #36-01

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Flow pattern:
Blue arrows = flow into the mixing head

Green arrows = expulsion from the mixing head

- Reduce energy consumption up to 30%
- Increase overall shear rates
- Reduce batch times for increased capacity
- Improved cleanability
- Retrofit available for existing installations
- Wet out and disperse Carbopol®, Methocel®, Opadry®, Avicel®, CMC, xanthan and guar gum, soy proteins, starches, pectin, carrageenan and other "tough" hydrocolloids and ingredients

Typical Selection of a Rotosolver

The following table lists many of our standard Rotosolver models, along with typical working volumes based on the specific design criteria listed below. All selections are based on a moderate level of mixing (mixing intensity of 7.0) and a specific gravity of 1.0. However, we customize our mixers for specific applications.

Higher viscosities, greater mixing intensities, non-standard tank geometries or a specific gravity greater than 1.0 may require a different selection than shown. Different ingredients may require higher tip speeds for best performance and a different mixer selection may also be necessary. Please contact Admix for a design of the optimum mixer configuration.

Models and specifications

Rotosolver Model	Maximim Batch at 100 cP[1] (vol. in gal)	Maximim Batch at 1000 cP[2] (vol. in gal)	Standard (HP)	Speed (RPM)	Mixing Head Diameter (inches / mm)	Foil Head Diameter (mm)	Max Shaft Length (mm)
RS-02	10	5	1	3600	2.4 / 60	76	-
80RS70	250	65	5	3600	2.75 / 70	76	1000
90RS70	250	65	5	3600	2.75 / 70	76	1000
100RS88	650	175	10	3600	3.5 / 88	102	1300
112RS88	650	175	10	3600	3.5 / 88	178	1200
132RS101	860	225	15	3600	4.0 / 101	127	1700
132RS133	1250	300	10	1800	5.25 / 133	202	1900
160RS159	2500	600	20	1800	6.25 / 159	216	1900
180RS175	4000	1000	30	1800	6.7 / 175	203	2000
200RS200	4000	1000	20	1200	7.9 / 200	279	2000
225RS225	5000	1250	30	1200	8.9 / 225	279	3000
250RS250	6250	1500	50	1200	9.8 / 250	318	3000
315RS300	8000	2500	50	900	11.8 / 300	330	3200
355RS300	8000	2500	60	900	11.8 / 300	330	4200
400RS300	10000	2500	75	900	11.8 / 300	330	4200

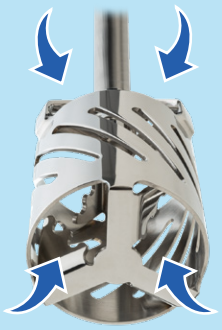
(1) Maximum batch size (100 cps) with a standard upper foil based on 100 cps and 1.0 specific gravity.

(2) Maximum batch size (1000 cps) with a standard upper foil based on 1000 cps and 1.0 specific gravity.

How It Works

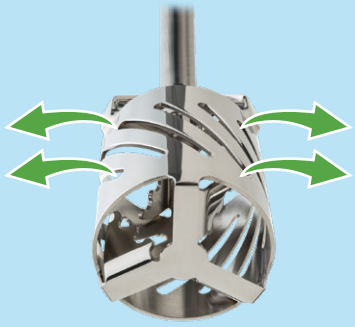
The unique design of the Rotosolver produces high flow, in addition to high shear, resulting in batch process times that are much faster than conventional in-tank rotor/stator designs. The Rotosolver mix head design generates four stages of mixing action for optimal for dispersion:

1. Product flow is drawn into the mixing head from above and below. The resultant flow creates vigorous tank motion, pulling materials and powders from the top of the tank surface (typically the toughest to disperse), instantaneously exposing them to shear zones in the Rotosolver shear head, where these materials are mechanically ripped apart (dispersed).



2. The two high-velocity, counter-current streams converge within the shear head, creating high turbulence and hydrodynamic shear.

3. Pressure, created by the two streams, forces material out the side slots of the shear head, where the resulting radial streams are subjected to further mechanical shear, as material passes through the edges of the slots in the chamber wall.



4. The high velocity radially discharged streams impact the slower moving tank flow for additional hydrodynamic shear and circulation, thus ensuring high flow, with no dead spots in the mix tank.

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