

DrySyn Overhead Stirrer Platforms Comparison

DrySyn Vortex | DrySyn MiniSpin

Both are parallel overhead stirring platforms from Asynt, built to outperform magnetic stirring on viscous or difficult-to-mix reactions. The key difference is scale: DrySyn Vortex handles round-bottom flasks up to 500 mL, while DrySyn MiniSpin is purpose-built for vial-scale reactions (2 dram to 40 mL). The table below summarises the key differences to help you choose the right platform for your application.

	DrySyn Vortex	DrySyn MiniSpin
		
Scale	Flask-scale (round-bottom flasks)	Vial-scale (micro-scale)
Reaction vessel	Round-bottom flasks, via DrySyn MULTI inserts, up to 500 mL	2-dram, 20 mL or 40 mL reaction vials
Parallel positions	Up to 3 flasks from one overhead stirrer motor	Up to 4 vials per control assembly / power supply
Vessel capacity	100 mL, 250 mL or 500 mL flasks (max. 3 × 500 mL)	2-dram, 20 mL and 40 mL vials
Stirring mechanism	Mechanical gearbox splits one overhead stirrer motor into 3 shafts (6 mm); direct or reduction drive	Individual magnetic-coupled Teflon rod/blade per vial, driven by a dedicated 12 V control assembly
Drive / motor	Requires a separate overhead stirrer motor (not included) mounted via bosshead	Self-contained 12 V control assembly and power supply (included in kits)
Speed range	Dependent on overhead stirrer motor used (typ. 50 - 500 rpm)	250 – 1,000 rpm at 12 V, adjustable via voltage control knob
Direction control	Set by overhead stirrer motor	Bidirectional / reversible via switch on unit
Temperature range	Ambient to 150 °C (standard); down to –30 °C with optional DrySyn SnowStorm inserts	–20 °C to 130 °C
Heating / cooling	Standard hotplate stirrer base, or optional Temperature Controlled System with circulator/thermocouple	Asynt magnetic hotplate stirrer (heating tested to 130 °C on 20 mL setup)

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	DrySyn Vortex	DrySyn MiniSpin
Materials	PTFE stirrer shafts and guides; B24 or B29 cone joints	3D-printed PPS-CF/GF body, Kalrez O-rings, Teflon rod/blade - broad chemical resistance
Sealing / pressure	Not designed for use under pressure	Pressure relief cap rated to 150 psig; holds vacuum
Inert atmosphere / sampling	Optional accessories for sealed/inert operation	Optional gas manifold (1 inlet, 4 outlets) for inerting or vacuum per vial; side-arm ports for sampling, additions & condensers
Footprint	Compact freestanding frame on retort stand	Compact, sits directly on a standard hotplate stirrer
Best suited for	Parallel synthesis, method development or scale-up work with viscous materials in round-bottom flasks up to 500 mL	Fast, low-cost parallel screening and viscous/suspension mixing at vial scale, before scaling up

At a glance

DrySyn MiniSpin is the natural starting point for chemists working at micro/vial scale who need consistent, gentle overhead stirring for viscous materials or suspensions without the grinding effect of a magnetic bar - it's self-contained, low-cost per position, and can run up to 4 vials in parallel.

DrySyn Vortex takes the same principle to flask scale: one overhead stirrer motor drives up to three round-bottom flasks (up to 500 mL each) via a mechanical gearbox, making it the choice for scale-up, parallel method development, or reactions that need more volume and higher torque than a vial can offer.

Many customers start on MiniSpin at the optimisation stage and move to Vortex (or Asynt's ReactoMate jacketed reactors) as reactions scale up.

Further information

Please visit the product pages below or contact us to discuss your requirements.

DrySyn MiniSpin	https://www.asynt.com/product/drysyn-minispin-precision-vial-stirring-system/
DrySyn Vortex	https://www.asynt.com/product/drysyn-vortex/
DrySyn Vortex Temperature Controlled system	https://www.asynt.com/product/drysyn-vortex-temperature-controlled-system/
DrySyn Vortex Blend	https://www.asynt.com/product/vortex-blend/
ReactoMate Reactors	https://www.asynt.com/products/jacketed-lab-reactors/

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