

## Mixing sprays on-demand

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**W**ith government regulators and the public becoming more concerned with chemical use for pest control and lawn & garden care, it is becoming critical for professional pest control and lawn care operators to ensure the efficient and accurate use of chemicals. Furthermore, the cost and environmental impact of hauling and disposing of diluted chemicals, in tanks on large trucks, is a significant cost driver for pest control and lawn & garden care companies. These factors led to the development of the patented Gate Modular Mix On-Demand System™ that allows chemicals to be mixed on-demand as they are used, as opposed to being premixed at a warehouse and then loaded into tanks, or batched-mixed by an operator in the field.

The MMOD™ eliminates the need for tank mixing of the active ingredients, ensuring that the products are mixed at the recommended rate and pressure, virtually eliminating the liability of under or over dosing an active ingredient (AI). The potential for significant savings in chemical cost are obvious; only mix the AI required for the application, no tank mix disposal or cleanout, no wasted AI due to over-rate misapplication. Furthermore, the accuracy maximizes the performance and response to the products applied.

In terms of worker exposure to the active ingredient, the MMOD™ eliminates the need to measure and dispense the concentrated product, thereby practically eliminating potential worker contact with dangerous materials, spills, etc. Additionally, in a truck mounted setting with large tanks of diluted chemicals, traffic accidents and spills are a very significant liability. The MMOD™ eliminates this risk: 2.5 gallon jugs of undiluted AI are stored in a locked container, not subject to spills in case of a traffic accident.

The Gate MMOD™ comes with one, two or three active ingredient modules. The MMOD™ is comprised of a small pump and bypass regulator for the active

ingredient, a variable rotameter to adjust the flow rate of the active ingredient and a Gate CFValve™ which controls the actual flow rate of the active ingredient. The MMOD™ injects the desired rate of AI into the inlet side of the main water pump in a single hose setup or into the secondary hose of a dual hose system. Additionally, the system provides constant agitation of the AI.

The operation of the MMOD™ is simple and straightforward. There is no need for calibration of the system and the accuracy of the AI rate is within  $\pm 3\%$ . The MMOD™ provides constant visual verification of the application rate and the overall flow rate for the mixed material which eliminates the need for calibration, bucket checks and other inaccurate methods of confirming application rates. The multi-active ingredient units – 2AI or 3AI – provide the ability to apply any combination of the actives for each job – so that various chemicals can be applied in varying combinations to customize for each spray application.

Finally, the MMOD™ has applications beyond lawn and pest control. Specifically, it is being evaluated for use in industrial settings to mix cleaning



*One company hauled one million gallons of diluted solution per year, containing only 8% active ingredient. Imagine the savings in capital (truck costs) and costs (fuel) if the active ingredient was mixed from concentrate on-demand at the site of application/use.*

materials on-demand on site on factory floors, in grocery stores and in food processing plants, where chemicals or ingredients can be mixed on-demand as needed. There are also applications in agriculture, building off tractor mounted, boom or sprinkler spraying. Furthermore, a Mini MMOD™ has been developed for ATVs and small tractor mounted mix on-demand spraying for golf courses, feed lot management and other applications.

■ For more information contact Global Agricultural Technology & Engineering LLC at <http://www.gate-llc.com>

*Lawn care operators reported savings of 30% in labour and time to treat by mixing on-demand and eliminating double spraying of spot treatment. Each truck with an MMOD™ can serve substantially more customers on its route each month, increasing revenues dramatically.*



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