

POWER UNLEASHED!!



WHY DO YOU NEED METHANOL INJECTION?

BOOST UP THE OCTANE RATING

Octane rating measures a fuel's knock resistance; higher ratings mean less engine knocking. Racing fuel has a high octane number of up to 116 RON, but mixing 122 RON methanol with high-grade gasoline can create an equivalent blend. This is a more affordable and practical option.

COOL DOWN AT HIGHEST EFFICIENCY

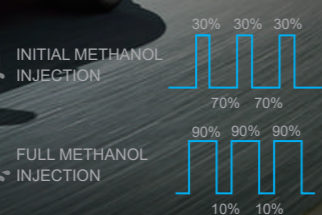
Reducing the intake temperature is crucial for turbocharged engines, particularly those equipped with larger turbochargers, as the standard intercooler may prove inadequate. Methanol injection delivers direct, rapid results, cooling the intake air and reducing turbo lag simultaneously.

SMART BOOST METHANOL INJECTION KIT



METHANOL INJECTION GAUGE PERFORMANCE WITH 2D MAPPING CONTROL

Our METHANOL / WATER INJECTION system can seamlessly integrate with VAITRIX MI GAUGE (METHANOL / WATER GAUGE), enabling precise regulation of methanol / water injection timing in relation to boost pressure.



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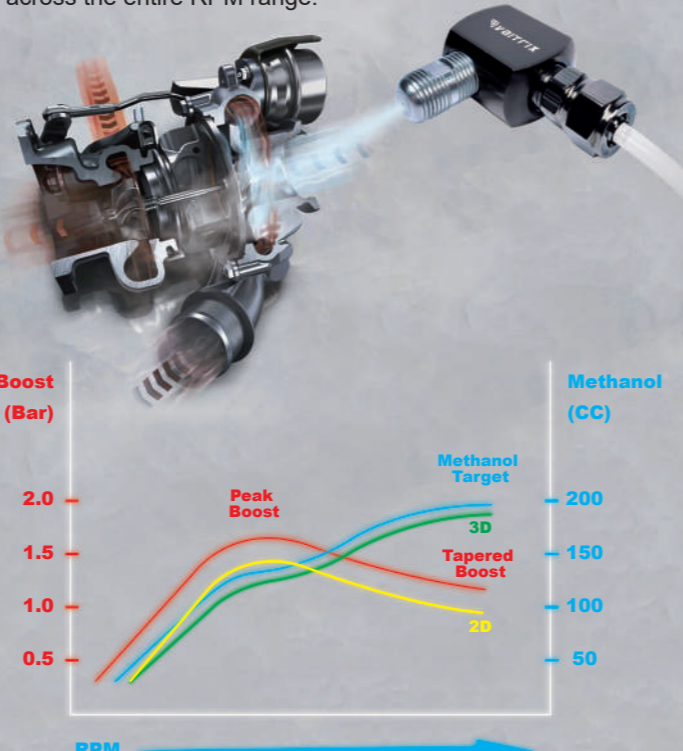


Basic Specification	Size (mm)	Ø 66	129 x 133 x 40	145 x 147 x 40	129 x 133 x 40
	Weight (gram)	170	335	425	335
CPU	8-bit	32-bit	32-bit + 32-bit	32-bit	
Main connector	×	64 pin	64 pin	64 pin	
Map Quantity	Analog In / Out	×	3	4	×
	Pump control	×	1	2	2
	Switch control	×	1	2	2
Function	Data storage	×	1 set in EEPROM Extra pre-programmed templates can be purchased and downloaded		×
	Data modification	×	5 sets in cloud server		×
	Methanol injection control	×	On-screen adjustment (with AirForce ONE software)		
		×	Map control (with optional pump and/or switch control wire sets)		
Optional Function	Power off with liquid level sensor	×	●	●	●
	Pipeline air purge button	×	●	●	●
	Smart OLED Display	×	●	●	×

If you need to manage both engine output and methanol injection together, you can choose VAITRIX SMART BOOST PLUS or PRO based on I/O requirements. For only regulating methanol injection, VAITRIX SMART BOOST MI or MI GAUGE is a suitable option.

SMART BOOST PIGGYBACK PERFORMANCE WITH 3D MAPPING CONTROL

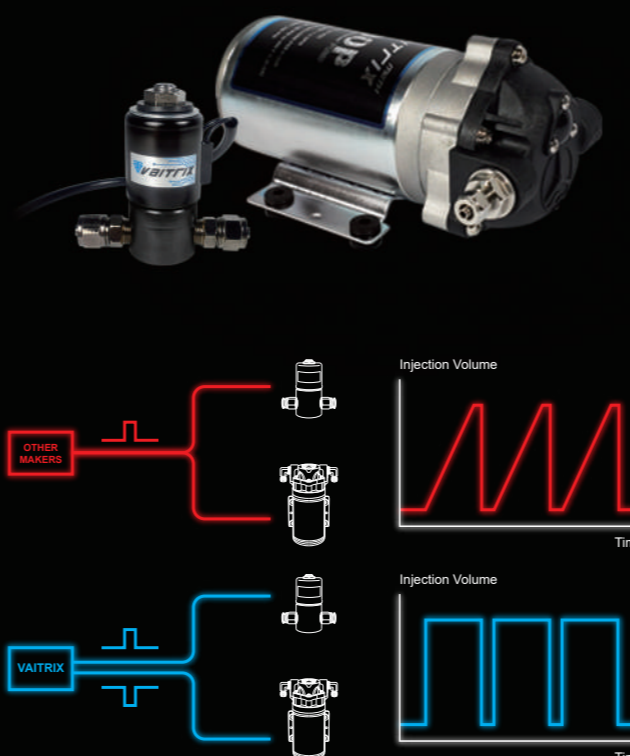
Most MWI (Methanol / Water Injection) systems available in the market regulate the volume of the injected water / methanol mixture solely based on the boost pressure. While this method is simple, it is not ideal for precise injection volume control. To unlock an engine's full potential, the injected mixture must be in proportion to the intake airflow. At low to medium RPM, boost pressure correlates with the intake air flow, but at high RPM, the engine's boost pressure decreases, which presents a challenge for traditional injection methods to provide sufficient fuel to keep the engine running. To address this issue, VAITRIX METHANOL / WATER INJECTION system employs an advanced method of injection control. Our system uses 3D Mapping Control technology to determine the appropriate amount of methanol required based on the engine's RPM and boost pressure. As a result, the system enhances the engine's performance across the entire RPM range.



PRECISE METHANOL INJECTION WITH ASYNCHRONOUS PUMP / VALVE CONTROL

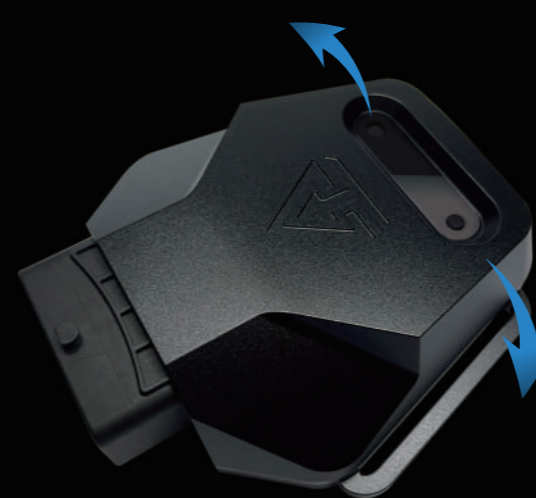
Other manufacturers' MWI (Methanol / Water Injection) systems typically send signals to both the methanol pump and injection valve solenoid simultaneously. This causes an issue where it takes time for the pump to build up pressure, resulting in imprecise injection as expected.

On the contrary, VAITRIX MWI system uses different analog outputs to control its methanol pump and injection valve solenoids. This allows the system to create a time difference between the activation of the pump and solenoids. Consequently, when the valve opens, the injection pressure can immediately reach the expected value. Additionally, users can customize the length of the time difference using VAITRIX AirForce ONE software utility to fit various tubing lengths of different car models.



ONBOARD ON / OFF SWITCH

Switch between enthusiastic tuning mode and manufacturer default with just one click.



ENSURING TIMELY INJECTION WITH PRE-SPRAY FEATURE

VAITRIX's exclusive pre-spray feature is designed to release any trapped air that may accumulate in the tubing when the methanol / water injection system has not been used for a period of time. This ensures that the car receives a full supply of methanol in a timely manner.

MORE SENSORS FOR MORE SAFETY

To ensure the proper functioning of the methanol injection system, consider adding optional boost pressure and intake air temperature sensors to your package.



METHANOL / WATER INJECTION PUMP

The combination of high pressure and flow rate results in an increase in power output.

LIQUID LEVEL SENSOR (optional)

The optional sensor will automatically cut off the power upon detecting a low liquid level in the tank.

SOLENOID VALVE

Included in our methanol injection kit, VAITRIX SOLENOID VALVE functions similarly to a fuel injector, as it aids in boosting pressure while also preventing the reverse flow of the methanol mixture.



Using the optional 90° injector holder prevents methanol residues and ensures a smooth engine start.

SOLID STATE RELAY

The solid state relay included in the POWER WIRE SET can regulate the power to the pump.



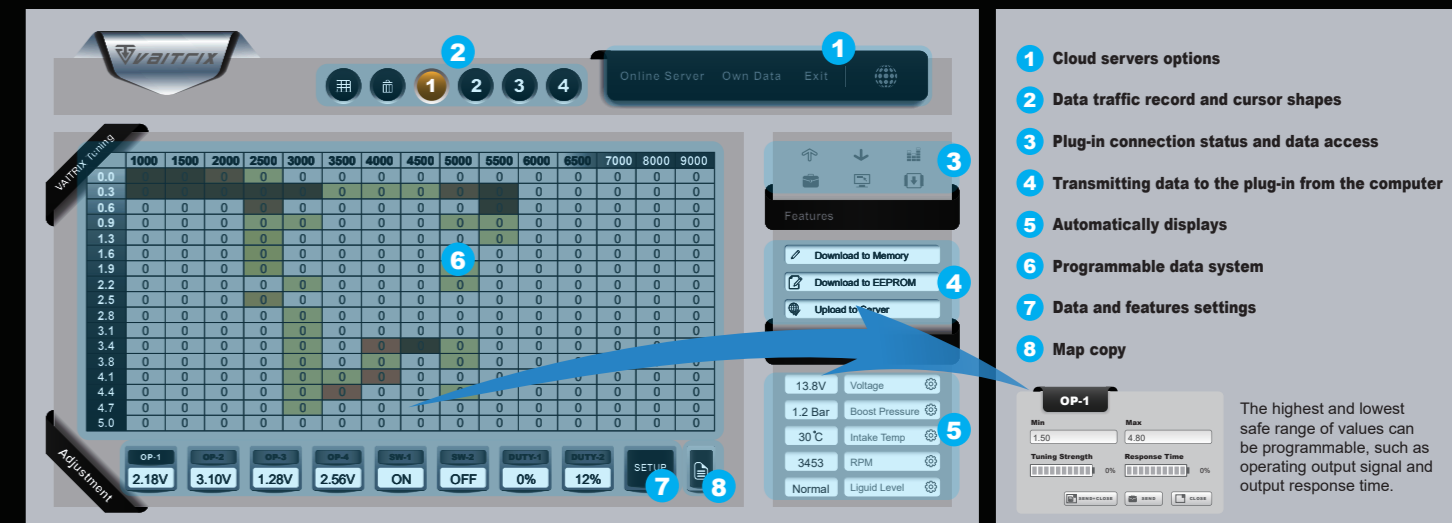
METHANOL / WATER TANK - 12L TYPE

The 12-liter tank has a top-input/bottom-output design with an optional liquid level sensor for added safety.

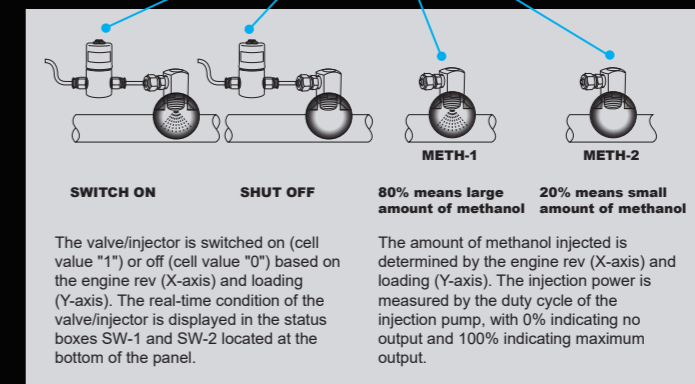
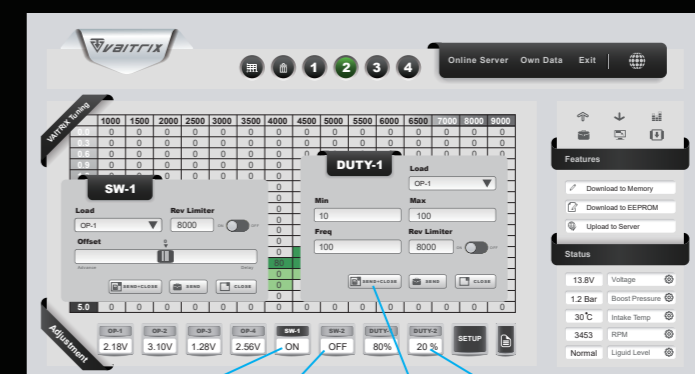
METHANOL INJECTOR

The liquid injector, equipped with an integrated metal filter, sprays a fine mist of the methanol mixture to maximize performance improvement.

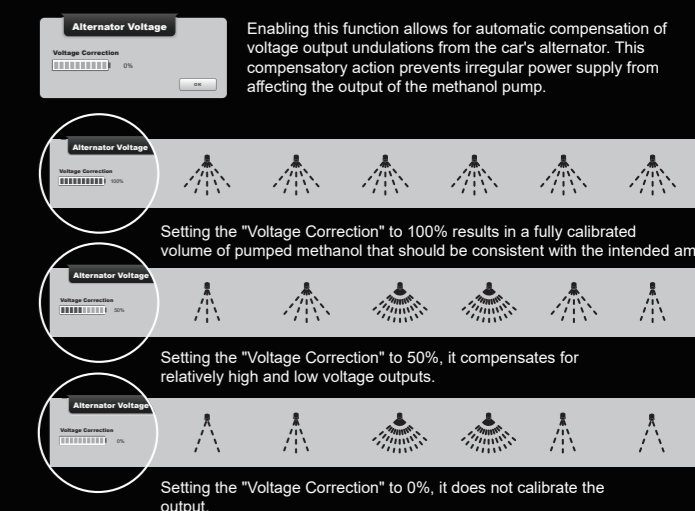
INTERFACE DESCRIPTION



SWITCH CONTROL / METHANOL INJECTION MAPPING



ALTERNATOR VOLTAGE CORRECTION



BOOST PRESSURE SETTING
The maximum boost pressure can be set to prevent the engine from being overcharged.

LOW LIQUID LEVEL AUTO SHUTDOWN SETTING
Enabling the auto shutdown function results in the system automatically shutting down when the methanol liquid level in the tank falls below the safe limit.

CYLINDER NUMBER SETTING
Choose one of the numbers 1, 2, 3, 4, 5, 6, 8, or 10 to match correct engine RPM.