

CREATING POWER SOLUTIONS.



**Flywheel-integrated
permanent magnet
generators**

Hatz Systems



The extremely compact way of high-end power generation

The vision behind Hatz products has never changed: enable others to be more efficient by fusing professional expertise and the spirit of innovation into reliable, easy-to-use power solutions. The flywheel-integrated permanent magnet generator (fiPMG) — for use in hybrid systems, as power outage backup or for continuous power supply — prove this once again.

Secure the mission of critical appliances

Numerous applications benefit from the advantages of Hatz fiPMG. This includes among others:

- mobile lighting towers
- solar and conventional mobile road signal equipment
- mobile communications infrastructure
- electrical lifting equipment
- motor homes
- trade show trailers
- range extender for full battery driven equipment
- auxiliary power units in construction machinery
- ecological power plants

Minimize size and weight

Compared to a conventional generator, the permanent magnet technology convinces with its reduced installation space requirements and less weight. The advantage of the Hatz solution is the extra space-saving integration into the flywheel. This reduces dimensions and weight by up to 90 percent compared to a usual solution.

Protect highly sensitive electronics

Whether from AC to DC or from AC to AC — the related inverters ensure consistently high power quality. They also enable adjustment of the engine speed according to load.

Reduce total cost of ownership

The engine only runs as fast as the power demand requires. This extends the lifetime, increases uptime between maintenance and reduces fuel consumption. In addition, this contributes significantly to reduced noise levels.

Never compromise on reliability

With its robustness and longevity, the B-series sets standards in the market for decades. The engines proved themselves a hundred thousand times even under the toughest conditions.

Be well prepared for the digital age

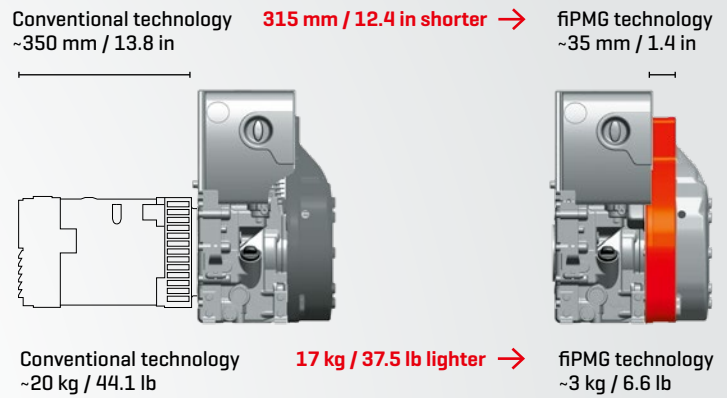
Hatz E1 technology — the world's first electronic control for single cylinder diesels — is a standard feature and provides all necessary electronics for maximum efficient operation. And it is the key to the Internet of Things (IoT) connection.



fiPMG

Conventional vs. permanent magnet

Compared to the conventional design of the engine/generator unit, the flywheel-integrated permanent magnet design is 315 mm / 12.4 in shorter and 17 kg / 37.5 lb lighter. The contactless PMG system has a high degree of efficiency at over 85 percent.



Type	Battery chargers			Generator sets	
	PMDC-28-100	PMDC-56-60	PMDC-56-100	PMAC-230/5-3,0 PMAC-120/6-1,6	PMAC-120/6-3,5
Max. power @ cos(φ) 1,0 [kW]	2.8	3.4	5.6	3.0 1.6	3.5
Max. current [A]	100	60	100	13	29
Voltage [V]	28	56	56	230 120	120
Frequency [Hz]		-		50 60	60
Type of voltage		DC			AC
Generator	permanent magnet, flywheel-integrated (fiPMG)				
Inverter output accuracy acc. ISO 8528-5		class G4			class G2
Electrical efficiency [%]	85				
Emission certification	EU Stage V + US EPA Tier 4 final [dual certification]				
Engine	1B30E/1B30VE		1B50E		1B30E/1B30VE
Speed range [rpm]	1500-3200 full variable according to load				
Start system	electric, 12 V				
Noise level at 7 meters [dB(A)]	72 @ 2300 rpm		76 @ 2300 rpm	70 @ 2000 rpm	68 @ 1500 rpm
Fuel consumption @ ¾ load [l/h / gal/h]	0.7 / 0.18 @ 2300 rpm		1.2 / 0.31 @ 2300 rpm	0.7 / 0.18 @ 2000 rpm	0.5 / 0.13 @ 1500 rpm
Dimensions L x W x H [mm / in]	355 x 398 x 430 13.9 x 15.7 x 16.9		363 x 425 x 480 14.3 x 16.7 x 18.9	355 x 398 x 430 13.9 x 15.7 x 16.9	360 x 372 x 430 14.2 x 14.6 x 16.9
Weight [kg / lb]	54 / 119		71 / 157	54 / 119	52 / 115

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