DC GENERATORS · 14–400 kW

ATOLLA

Atolla builds DC generators for recreational and commercial vessels. Rather than running at fixed speed regardless of demand, an Atolla unit varies output to match what the boat is actually drawing — fewer running hours, less fuel - same work.

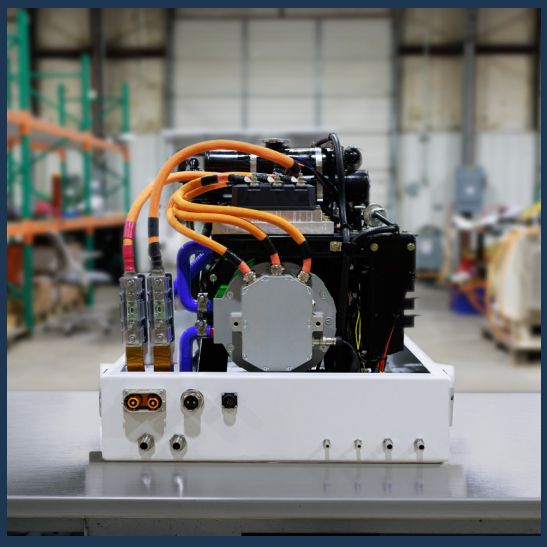


What we build

14 to 100kW Model Specifications

75kW, 200kW, and 400kW on request

Model	Continuous DC power	DC bus window
ATO-GEN-14DC	14kW	48-850 VDC
ATO-GEN-45DC	45kW	200-850 VDC
ATO-GEN-100DC	100kW	350-850 VDC



Specifications
14kW, 45kW, and 100kW Models

Specification	14 kW	45 kW	100 kW
System			
Model designation	ATO-GEN-14DC	ATO-GEN-045	ATO-GEN-105
Continuous DC power (kW)	14	45	100
DC bus voltage window (VDC)	48 to 850	200 to 850	350 to 850
Fuel	Diesel (ULSD #2)	Diesel (ULSD #2)	Diesel (ULSD #2)
Exhaust	Wet elbow	Wet elbow	Wet elbow
Engine			
Configuration	3-cyl inline, NA, indirect injection	4-cyl inline, turbo, direct injection	4-cyl inline, turbo aftercooled
Displacement (L)	1.3	3.32	4.5
Emissions certification	EPA Final Tier 4 / EU Stage V	Marine Tier 3 (EPA Part 1042)	EPA Tier 3 (40CFR1042)
Rated engine power (kW)	17.8	50.4	112
Rated engine speed (RPM)	3000	1800	2600
Engine power used for rating (kW)	17.8 (rated)	46.3 (continuous gross)	112 (prime power)
Engine continuous rating (kW)	15.8 (21.2 hp)	45.6 net / 46.4 gross	89
Engine rating class	Marine Tier 4	Marine Tier 3	Marine Tier 3, ISO 8528 prime
Engine overload capacity (kW)	N.A.	N.A.	123 for 1 h in 12, max 25 h/yr
Engine dry weight (lb)	287	606	1417
Generator			
Type	PMSM permanent magnet	SRPM reluctance assisted PM	SRPM reluctance assisted PM
Efficiency used for rating	0.86	0.97	0.97
Continuous rating	16 kW shaft at 1870 RPM, 82 Nm	148 kW at 3300 RPM nominal	110 kW at 2000 RPM, class H
Maximum DC voltage at machine (VDC)	850	850	850
Weight (kg)	38	172	172
Cooling	Water/glycol 50/50, 8 L/min, 45 C in	Water/glycol, 20 L/min, max 65 C	Water/glycol, 20 L/min, 50 C or below
Converter			
DC link voltage range (VDC)	0 to 850	0 to 850	0 to 850
DC link nominal (VDC)	48	750	750
Continuous DC current limit (A)	350	350	350
Enclosure	IP65 / IP67	IP67	IP67
Communication	CAN, SAE J1939	CAN 2.0, SAE J1939 / CANopen	CAN 2.0, SAE J1939 / CANopen

Constant Power and Fuel at Constant Power

Model	Load point	DC output (kW)	Shaft power (kW)	Fuel (US GPH)	Fuel (L/h)	Fuel (kg/h)	Spec. cons. (g/kWh DC)
14 kW	100%	13.81	16.06	1.32	5.00	4.25	308
14 kW	75%	10.36	12.04	0.99	3.75	3.19	308
14 kW	50%	6.91	8.03	0.66	2.50	2.13	308
45 kW	100%	44.91	46.30	3.75	14.20	12.07	269
45 kW	75%	33.68	34.72	2.81	10.64	9.04	269
45 kW	50%	22.46	23.15	1.88	7.12	6.05	270
105 kW	100%	105.00	108.25	7.65	28.96	24.30	231
105 kW	75%	78.75	81.19	5.80	21.96	18.42	234
105 kW	50%	52.50	54.12	3.92	14.84	12.45	237

Input	Value
Generator efficiency, 14 kW	0.86
Generator efficiency, 45 kW	0.97
Generator efficiency, 105 kW	0.97
Fuel density, 14 / 45 kW (kg/L)	0.850
Fuel density, 105 kW (kg/L)	0.839
Litres per US gallon	3.785

DC Output Current by Bus Voltage

DC bus voltage (VDC)	14 kW (48 to 850 VDC)	45 kW (200 to 850 VDC)	105 kW (350 to 850 VDC)
48	288		
60	230		
72	192		
96	144		
120	115		
150	92		
200	69	225	
300	46	150	
350	39	128	300
400	35	112	263
500	28	90	210
600	23	75	175
700	20	64	150
750	18	60	140
800	17	56	131
850	16	53	124