

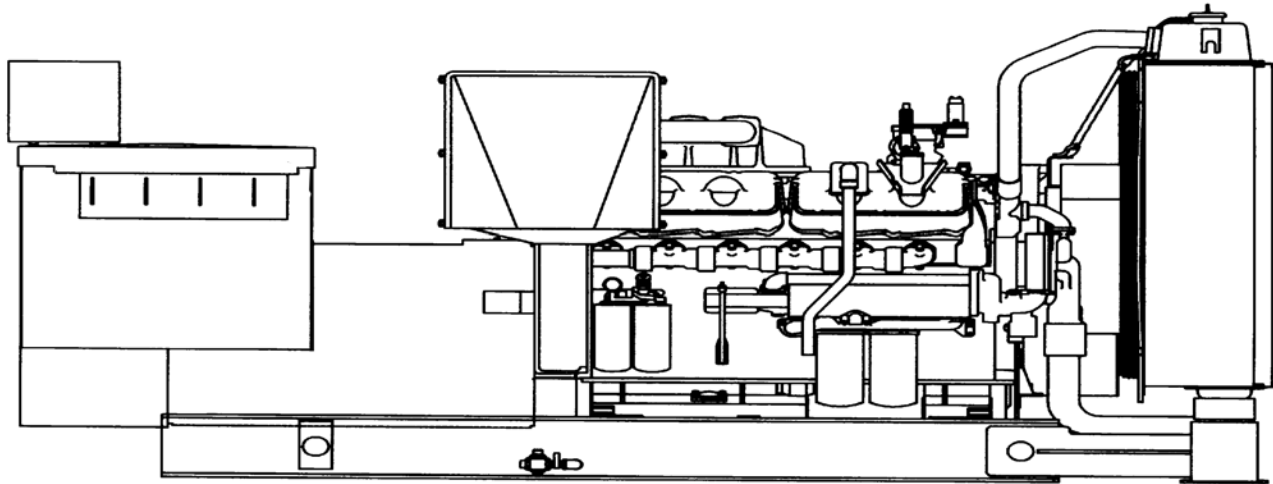


ALTURDYNE



Diesel Generator Sets Liquid Cooled, Four-Cycle

125 to 2000kW / 60 Hz
50 Hz: (.83) x 60 Hz Ratings



DESCRIPTION: Alturdyne Basic Model ARDC-XXX (KW rating)-060-H* 2000 RATINGS

Package Configuration

- Basic package consists of diesel engine coupled to generator and assembled on structural steel skid with unit mounted radiator and pusher fan, control panel and accessories. Electronic governor is standard along with flex fuel lines and fuel/water separator and base isolation pads.
- The Alturdyne designed/manufactured engine and generator control panel is unit mounted and contains ammeter, voltmeter, AM/VM select switch, frequency meter, voltage adjust rheostat, oil pressure gauge, water temperature gauge, three-position mode switch, panel lights, cyclor crank with safeties for overspeed, low oil pressure, high water temperature and overcrank. Customer connections and remote alarms are located on isolated terminal strip.
- Generator leads terminate in an oversize box or at back of circuit breaker located in adjacent NEMA 1 box.

Engine

- All engines are inline or vee-type, multi-cylinder diesels with direct injection and have replaceable wet liners. Units are either naturally aspirated (NA), turbocharged (T), turbocharged with air aftercooling (TA) or turbocharged with water aftercooling (TW). Inline (I) injection pumps are used. Emissions and acoustics are low. Accessories include fuel pump, primary and secondary fuel filters,

lube oil pump and cooler, lube oil filter, water pump, exhaust manifold, jacket water heater, stainless flex exhaust coupling, insulation blankets, DC starter and battery charging alternator.

Generator

- Generators are four pole, brushless broad range machines with a single permanently lubricated, double shielded radial ball bearing and flywheel disc drive coupling. The revolving field design contains a direct drive exciter and stator windings are 2/3 pitch with vacuum epoxy impregnation. Design is to NEMA and International Standards and insulation is either Class F or H. Generators feature a TIF of <50, low radio interference, a wave form deviation of <5%, harmonic content of 3% max and a voltage regulation of 1% with standard static regulator.

Optional Equipment

* Special voltages up to 600 volts and DC.

The following codes are used:

G - 120/240 single phase
P - 120/208 three phase
R - 277/480 three phase
S - 346/600 three phase
E - 220/380 three phase
X - Special (4,160)

- PMG is available along with 3 phase sensing which includes a parallel module and

overvoltage protection with engine relief load acceptance. Additional RF protection is available.

- Special array of temperature rise (80°C and 130°C) generators available meeting NEMA MG1-22.84 standards.
- Custom designed control systems - Special metering - Bussing - Switch gear - Remote annunciator.
- Circuit breaker is an insulated case mounted in a NEMA 1 Box. (except the 4160 V) air breakers are an option.
- Cooling: Remote radiator/hotwell tank - heat exchangers.
- Fuel Systems: Pumps - Valves - Tanks (single and double wall, separate or skid mounted) - switches - water separators.
- Batteries: Lead acid - Lead calcium - Nickel cadmium - Heated boxes - Trickle chargers.
- Enclosures: Weather resistant - Thermal insulated - Sound attenuated - Spring isolation.
- Mechanical governing, AIRSEP vents.
- Prime power ratings.
- Radiator load banks.
- Spares.
- Loose ship kits.

SPECIFICATIONS: 125-2000KW - DIESEL GENERATOR SETS - LIQUID COOLED - FOUR CYCLE - CAT ENGINES - 2000 RATINGS

RATINGS (Standby) ⁶	English / Metric	125kw ¹	200KW ¹	250KW ²	400KW ²	500KW ²	700KW ²	800KW ³	900KW ⁴	1000KW ⁴	1250KW ⁵	1500KW ⁵	1750KW ⁵	2000KW ⁵
RATINGS - (Prime) ⁶		113KW ¹	160KW ¹	225KW ²	365KW ²	455KW ²	635KW ²	725KW ³	820KW ⁴	910KW ⁴	1135KW ⁵	1360KW ⁵	1600KW ⁵	1825KW ⁵
Engine Model - Configuration		3304 T	3208 ATAAC	3306B ATAAC	3406B TA	3412 T	3412 TA	3412 STA	3508 TA	3508B TA	3512 TA	3512B TA	3516 TA	3516B TA
Cylinders / Type Injection Pump			V-8	Inline-6	V-8	V-12	V-12	V-12	V-8	V-8	V-12	V-12	V-16	V-16
Displacement	cu in/l	425/7.0	636/10.4	638/10.5	1099/18.0	1649/27	1649/27	1649/27	2105/34.5	2105/34.5	3158/51.8	3158/51.8	4210	4210/69.0
Horsepower	1800rpm / 1500rpm	186/152	299/240	376/313	603/500				1337	1592	1818	2161/1794	2518	2847/2363
BMEP (1800 rpm Standby)	psi / kPa		207/1425	259/1787	241/1663					309/2130		300/2068		296/2041
Fuel Consumption (Full Load)	gal/hr / l/hr	10.1/38.1	14.8/55.9	19.5/73.8	31.8/120.4	39.3/148	50.1/189	59.2/224	67.9	69.6	86.2	106.0/400.0	120	134.0/505.0
Oil Sump Capacity ¹¹	qt / l	23/21.8	7.1/6.7	9.4/8.9	15.3/14.4	76/72	124/117	124/117	240	240	352	352	497	497
Engine Jacket Water Capacity	gal / l		5.2/19.8	4.2/15.9	15.0/56.0							45.0/170.0	58	58
Engine & Radiator Capacity	gals / l	8.4/31.8	9.0/34.5	11.8/44.6	27.0/101.8	29.9/113	50.1/189	31/117	59/280	55	86	84.0/311018.0	116	116.0/440.0
Water Pump Flow	gal/min / l /min		30.0/113.6	30.0/113.6	152.0/575.0	140/530	140/530	140/530				448.0/1700.0		475.0/1800.0
Exhaust Gas Temp (Stack)	°F / °C	1112/600	1018/548	1050/565	956/514	1119/604	1024	964	1053	945	1018	1018/548998	1053	1027/553
Exhaust Gas Flow	cfm / m ³ /m	1086/30.8	1619/46	1910/54	3401	4301/122	5414	6879	8075	7960	10335	12530	14700	16037
Engine Heat Rejection	BTUM / kW	4663/82	5885/103	5945/105	15830/268	19587	25250	29743	35430	39109/688	46861	62535/1771	58519	64718/1138
Airflow, Radiator	cfm / m ³ /m	8035/227	9840/279	9985/285	21200/600	23767	34759	34759	56284	62535/1771	71044	85265/2414	81000	81000/2295
Combustion Airflow	cfm / m ³ /m	367/10.4	584/16.5	775/22	1386/39.2	1444/41	1946/55	2589	2846	2895	3732	4478/127	5184	5759/163
Genset Radiated Heat	BTUM / kW	1592/28	2936/51.6	3245/56.6	8758/154.0	7905/139	7620	10748	9577	9862/175	10991	13189/232	12322	12866/226
Electrical System Voltage		24	24	24	24	24	24	24	24	24	24	24	24	24
Recommended Battery (32°F/-0°C) CCA (12V/24V)														

DIMENSIONS AND WEIGHT

Diameter Exhaust Outlet, External	in / cm	5/12.7	5/9.0	6/15.2	6	8/203	8/203	8/203	8/203	6" x 2	8	8" x 2	8" x 2	11.5
Length, Overall	in / cm	100/255	109/276	126/319	140	150.6/382	148	152.5	180.4	181/458	209.7	204/516	229	233/593
Width, Skid	in / cm	48/121	39/99	45/114	56	70.1/178	58.4	82.5	82.4	64	82.4	83/210	91.3	92/234
Height, Spring	in / cm													
Height, Overall	in / cm	58/148	39/99	45/114	80.3	78.9/200	84.4	84.4	96.8	92	96.8	102	100.2	105
Height, Injectors	in / cm													
Radiator Center	in / cm													
CEN *	in / cm		18/46	19/49	23/59									22/56
Dry Weight *	lb / kg	3700/1678	3866/1755	5380/2443	7180	9700/4398	11760	12630	18720	19920	23850	26650	29120	30130/13695

- 01: Derate 3.0% per 1,000 feet (305 m.) above 9,843 feet (3,000 m.) and 1.9% per 10°F (5.5°C) above 131°F (55°C)
 02: Derate 3.0% per 1,000 feet (305 m.) above 0 feet (0 m.) and 1.9% per 10°F (5.5°C) above 125°F (50°C)
 03: Derate 3.0% per 1,000 feet (305 m.) above 984 feet (300 m.) and 1.9% per 10°F (5.5°C) above 131°F (55°C)
 04: Derate 3.0% per 1,000 feet (305 m.) above 2,953 feet (900 m.) and 1.9% per 10°F (5.5°C) above 131°F (55°C)
 05: Derate 3.0% per 1,000 feet (305 m.) above 4,019 feet (1,225 m.) and 1.9% per 10°F (5.5°C) above 131°F (55°C)
 06: Derate 3.0% per 1,000 feet (305 m.) above 4,510 feet (1,375 m.) and 1.9% per 10°F (5.5°C) above 131°F (55°C)
 07: Derate 10.0% for Prime kW rating. Standby ratings listed are ±5% at SAE J1995 and ISO 3046
 08: Materials and specifications may change without notice
 09: Maximum allowable exhaust stack back pressure = 27 inches or 685 mm. water column
 10: Maximum radiator discharge back pressure = 0.5 inches or 12.7 mm. water column
 11: Average oil consumption = 0.0008 lb/Bhp/hr (1 qt = 1.9 lb)
 12: Emissions

* Dimensions listed are for reference purposes only. Certified drawings are provided on placement of order.

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