

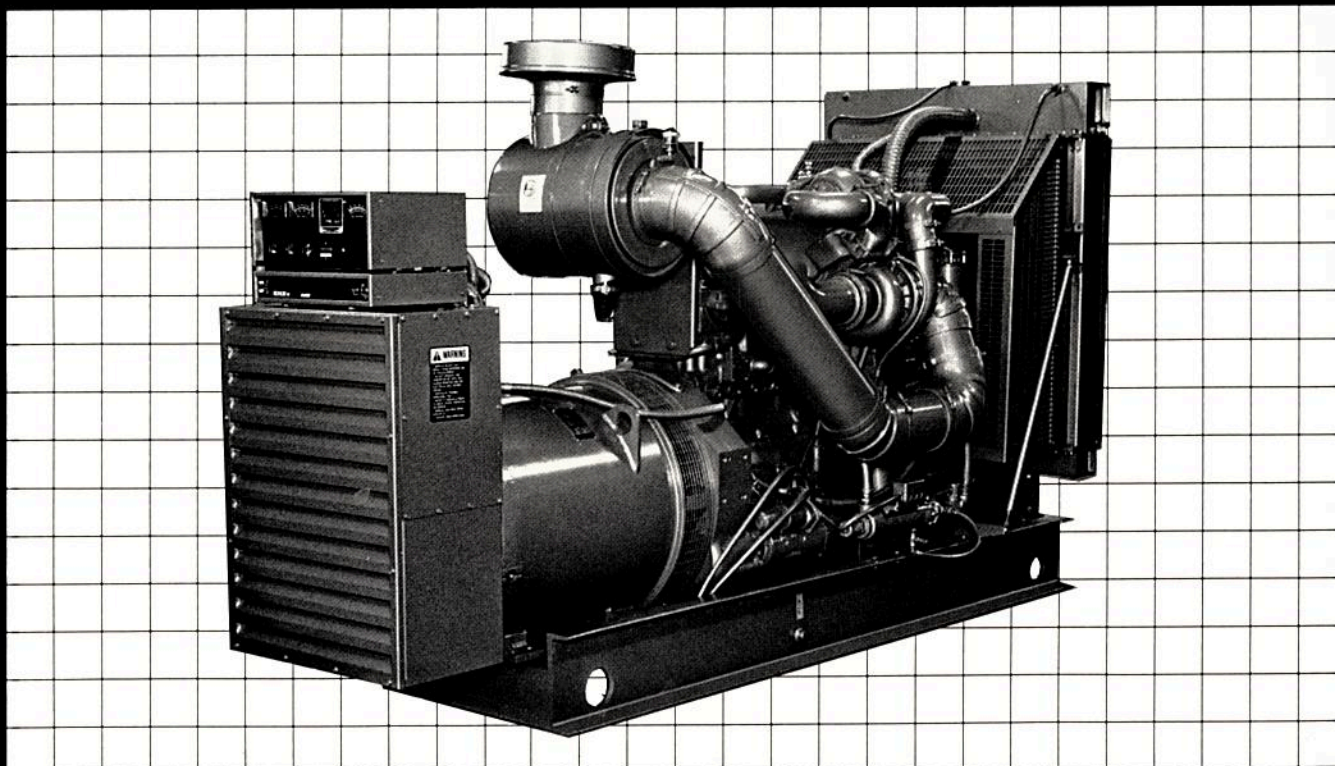
# KOHLER

## TR-SERIES

# 300 ROZ

### AC liquid-cooled diesel continuous standby generator set

- **Generator Design—**  
The generators are of 10 lead brushless design, 4 pole, rotating field. Temperature rise is in accordance with the National Electrical Manufacturers Association MGI-22. Standard components include a pre-lubricated ball bearing and a flexible disc coupling between the engine and the generator.  
With isochronous governors as standard equipment, steady-state frequency regulation from no load to full load is plus or minus 0.25%. A static type regulator maintains voltage at plus or minus 1%.  
The generators utilize NEMA Class F insulation with five varnish dips and a fungus resistant epoxy coating for moisture and abrasion protection.  
The two-thirds pitch windings for these 4-pole rotating field generators eliminate third harmonic neutral currents during parallel operation.
- **Engine Features—**  
Engines for the TR-Series™ are supplied by Cummins. All are turbocharged, and the majority are also after-cooled. There is a self-protection feature for overcranking as well as cutouts for high water temperature, engine overspeed, and low oil pressure. There are primary and secondary fuel filters. Coolant filters are supplied as standard, plus an oil cooler and oil filter or filters.
- **Accessories—**  
Accessories available include cooling system, exhaust system, and electrical system equipment. Accessories for the solid state Decision Maker Controller are also supplied with any of these units.  
Contact Kohler Co. or the nearest Kohler distributor for full model specifications.



# GENERATOR PERFORMANCE

Model	kW/kVA		Generator Model	Voltage	Amps	Phase	Leads
	Continuous	Standby					
300ROZ51	300/375	60	4M44	139/240	903	3	10
300ROZ71	300/375	60	4M44	277/480	452	3	10
300ROZ81	300/375	60	4M48	120/208	1042	3	10
300ROZ91	300/375	60	4M44	347/600	361	3	4
300RFOZ71	275/344	50	4M48	220/380	523	3	10
300RFOZ81	275/344	50	4M48	220/208	955	3	10

RATINGS: All models are continuous standby rated. Unit will operate at this rating for the duration of any power outage.

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If specification calls for:

- higher short circuit capability,
- lower voltage dip,
- temperature rise for NEMA standard other than Class F insulation,

Larger generators may be used to meet requirements.

### Deration Factors at Rated kW

Maximum altitude before gen. set derating ft. (m)	5000 (1500)	Maximum intake air temp. before gen. set derating °F (°C)	100 (38)
altitude deration factor—% per 1000 ft. (365 m)	4%	temp. deration factor—% per 10°F (5.5°C)	1%

# APPLICATION DATA ENGINE

### SPECIFICATIONS

	60 Hertz	50 Hertz
Manufacturer	Cummins	
Model	NTTA-855G	
Type	Dual-Turbo charged and After-Cooled	
Cylinder arrangement (Number, inline, V., etc.)	6-inline	
Displacement in. <sup>3</sup> (cm <sup>3</sup> )	855 (14,000)	
Bore and stroke in. (mm)	5.5 (140) x 6 (152)	
Compression ratio	13.7:1	
Piston speed ft./min (meters/sec.)	1800 (9.1)	1500 (7.6)
Bearings: mains, type connecting rod, number	6	
Rated RPM	1800	1500
Max. power at rated RPM HP (kW)	465 (347)	420 (313)
Cylinder head type and material	O.H.V. - Cast Iron	
Piston type and material	cam ground aluminum	
Crankshaft material	forged steel	
Valves, material	Stellite Faced	
Governor, make/model	Cummins EFC	
regulation % frequency no load to full load	Isochronous	
steady state regulation ± % frequency	0.25	

### COOLING SYSTEM

	60 Hertz	50 Hertz
Engine jacket water capacity gal. (litre)	5.5 (21)	
Engine jacket water flow gpm (Lpm)	123 (468)	104 (396)
Heat rejected to cooling water (without fan) at rated kW—dry exh. BTU/min (kW)	12,555 (220)	11,340 (199)
Water pump type	Centrifugal	
Radiator system capacity (incl. engine) gal. (litre)	15.5 (59)	
Total inlet air requirement cfm (m <sup>3</sup> /min.)	22,000 (622)	18,000 (510)
Fan, blades	8	
dia. in. (mm)	34 (860)	



# APPLICATION DATA (Continued)

## SPECIFICATIONS

### AIR INDUCTION SYSTEM

	60 Hertz	50 Hertz
Combustion air rated kW cfm (m <sup>3</sup> /min.)	1110 (31)	860 (24)
Air cleaner type		Dry

### LUBRICATING SYSTEM

Total system oil capacity gals. (litres)	8.2 (31)	
Oil filter	One—bypass	
Oil cooler	Tubular Type-Oil/Water	

### FUEL SYSTEM

Fuel supply line, min. I.D. in. (mm)	7/8 (22)	
Fuel return line, min. I.D. in. (mm) type	3/4 (19)	
Max. lift of engine driven fuel pump ft. (m)	6 (1.8)	
Fuel filter	2 (primary & secondary)	

## SPECIFICATIONS

### EXHAUST SYSTEM

	60 Hertz	50 Hertz
Exhaust flow at rated kW cfm (m <sup>3</sup> /min.)	2800 (99)	2265 (64)
Exhaust temp. at rated kW, dry exhaust, °F (°C)	875 (468)	925 (496)
Maximum allowable back pressure in. Hg. (kPa)	3 (10)	
Exhaust outlet size at hook-up in. (mm)	5" NPT	

### ENGINE ELECTRICAL SYSTEM

Battery charging system ground (negative, positive)	Negative
volts	24 D.C.
ampere rating	35
Starter motor type	24 D.C.
Minimum recommended battery 0°F/cold cranking performance quantity	935 Ampere 2

### Fuel Consumption

Load	gph (L/hr.)	
100%	22.5 (85)	20 (76)
75%	17 (65)	15 (57)
50%	13 (49)	11 (42)
25%	9 (34)	7.5 (28)

# GENERATOR

## Specifications

	60 Hertz	50 Hertz
Type	4 pole, rotating field	
Exciter	Rotating brushless	
Voltage regulator	Static type, Basler KR7F	
Insulation	Class F	
Type	Synthetic, nonhygroscopic	
Bearing	Fungus resistant	
Coupling	1 - pre-lubricated ball	
Amortisseur windings	Flexible disc	
Rotor balancing	Full	
—type	Dynamic	
—speed %	125%	150%
Voltage regulation		
steady state		
no load to full load	± 1%	
Telephone influence factor (TIF)	Less than 50	
Maximum total RMS harmonic distortion	5%	

## STANDARD FEATURES

Battery cables  
High temperature cutout  
Low oil pressure cutout  
Stainless steel flexible exhaust connector  
Mounting base  
Flexible fuel lines  
Operating instructions

## GENERATOR FEATURES

Voltage adjusting rheostat  
Field circuit breaker  
Radio interference suppression to commercial standards  
CSA listed  
Full wave rotating rectifier protected against high  
transient voltages by surge suppressor  
Self-ventilated by cast aluminum fan  
Special 2/3 pitch design windings eliminate third harmonic  
neutral currents during parallel operation  
Skewed stator for smooth voltage wave form  
Large conduit box allows load connection from all sides,  
top and bottom  
Shielded ball bearing designed for minimum B-10 life of  
40,000 hours  
Rotor dynamically balanced to maximum vibration of 2 mils  
NEMA Class F insulation system with 5 varnish dips and  
epoxy coating for moisture and abrasion protection  
Generator test performed in accordance with IEEE standards 115

## GENERATOR ACCESSORIES

Under frequency protection  
Series boost option  
Line circuit breakers  
Basler KR7FF voltage regulator  
Basler SR8 voltage regulator  
Safeguard field circuit breaker  
Generator strip heater  
Reactive droop compensator  
Volts/hertz voltage regulator module  
Raised drip cover  
Spring type vibration isolators  
Export boxing

# DECISION MAKER II CONTROLLER

## SPECIFICATIONS

Manufacturer	Kohler
Type	microcomputer remote
Starting method	25 (11.34)
Weight lbs. (kg)	10 (25) x 17.75 (451)
Size—H x W x D in. (mm)	x 11.5 (292)
Power source	12 volt DC

## INSTRUMENTS

	Size in. (mm)	Accuracy % FS
• AC voltmeter	3.5 (89)	2%
• AC ammeter	3.5 (89)	2%
• AC frequency meter	3.5 (89)	0.5%
• DC voltmeter	2 (51)	2%
• Engine H <sub>2</sub> O temp.	2 (51)	2%
• Engine oil pressure	2 (51)	2%
• Running time meter	1.12 x 29	

## MOUNTING CAPABILITIES

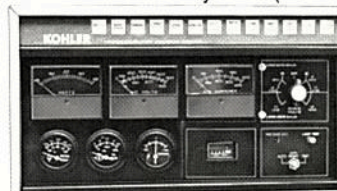
- Controller can be positioned so instruments face toward either side or toward rear of generator set.

## STANDARD EQUIPMENT

- Lamp test switch
- Cyclic cranking
- Overcrank and starter unmesh protection
- Overspeed protection
- Two-wire remote start/stop control
- Phase selector switch
- Voltage adjusting rheostat, front panel mounted
- DC circuit protection
- Test-OFF-Automatic selector switch
- Panel lamps (2)
- Engine cool-down timer, 5 minutes

## INDICATOR LAMPS

- Overcrank (red lamp)
- High water temperature (red lamp)
- Low oil pressure (red lamp)
- Overspeed (red lamp)
- Emergency stop (red lamp)
- Switch "off" (flashing red lamp) warns that engine start control selector switch has been left in the off position.
- Low fuel (red lamp)
- System ready (green lamp)
- High battery volts (red lamp)
- Low battery volts (red lamp)



# ACCESSORIES

## OPTIONAL COOLING SYSTEMS

- City water cooling system with heat exchanger includes: pipe threaded water connections, thermostatically controlled water saver valve, surge tank Heater exchanger mfg./model Exhaust manifold type Cooling system capacity gal. (L) Connection sizes, water inlet in. water outlet in. City water consumption, gpm (Lpm)/at °F (°C)
- Remote radiator system Exhaust manifold type Cooling system capacity (incl. rad. & eng.) gal. (L) (Based on ) Total inlet air requirement @ 25°F rise cfm (m<sup>3</sup>/min.) Connection sizes (Based on ) engine; water inlet in. (mm) engine; water outlet in. (mm) remote radiator; top tank (inlet) in. bottom tank (outlet) in.

## COOLING SYSTEM ACCESSORIES

- Block heater—1500 watt, 120 or 208-240 volt AC.
- Radiator duct flange.
- Remote radiator—vertical mount with 3-phase, 60 cycle motor.

## FUEL SYSTEM ACCESSORIES

- Flexible fuel lines.
- 20 gallon fuel transfer tank with pump.
- 8 gallon fuel transfer tank with pump.

## EXHAUST SYSTEM ACCESSORIES

- Industrial exhaust silencer.
- Critical exhaust silencer.
- Flexible exhaust connector.

## ENGINE ELECTRICAL SYSTEM—ACCESSORIES

- Battery.
- Battery rack w/cables.
- Battery charger, trickle type with power cord and leads.
- Battery charger, automatic float type.

## ENGINE & GENERATOR ACCESSORIES

- Line circuit breakers.
  - a. 240 volt (3 phase)
  - b. 120/240 volt (1 phase)
  - c. 277/480 volt (3 phase)
  - d. 120/208 volt (3 phase)
  - e. 347/600 volt (3 phase)
- Generator strip heater.
- CSA approval.
- Export boxing.
- Safeguard breaker.
- Reactive droop compensator.

## DECISION MAKER II ACCESSORIES

- Prealarm lamp group
  - Anticipatory low oil pressure (yellow lamp)
  - Anticipatory high water temperature (yellow lamp)
  - Low water temperature (red lamp)
- Alarm relay plus horn. (also available on Relay Controller)
  - Horn silence switch.
- Decision Monitor—sixteen light remote annunciator panel.
- Fast-Check—diagnostic fault detector activates controller indicator circuits without operating engine/generator.
- Extension wiring harness for remote mounting of controller.
- Isolated alarm contact kit.
- Overvoltage protection.

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# ENGINE ACCESSORIES

## Optional Cooling System

- City water cooling with heat exchanger, dry exhaust
- Remote radiator cooling, dry exhaust

## Cooling System Accessories

- Block heater, 2500 watt, 120 or 208/240 volt
- Radiator duct flange
- Remote radiator - vertical mount with 3 phase motor

## Fuel System Accessories

- 8 gallon fuel transfer tank with electric transfer pump
- 20 gallon fuel transfer tank with electric transfer pump

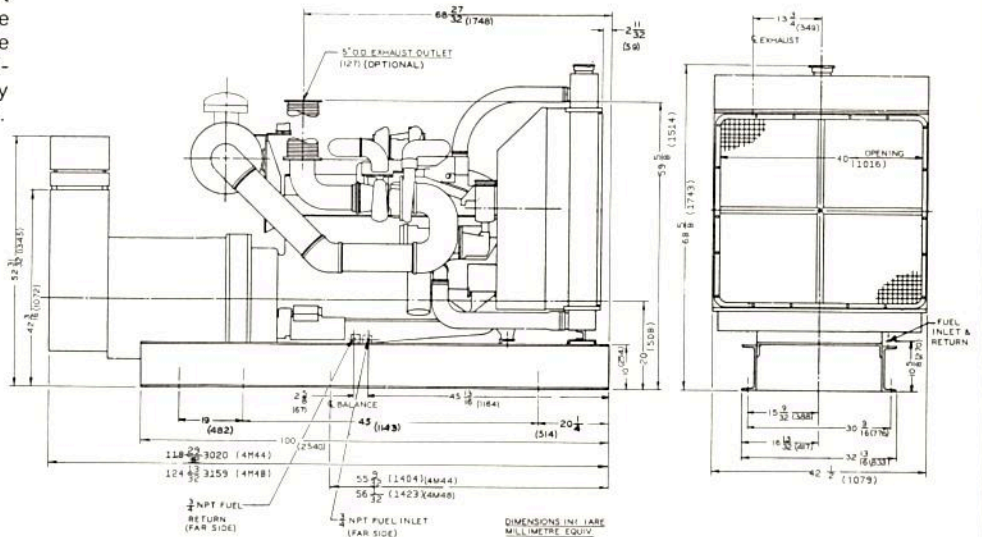
## Exhaust System Accessories

- Residential exhaust silencer
- Critical exhaust silencer

## Electrical System Accessories

- 12 volt battery, 935 ampere cold cranking performance, 2 req'd.
- Battery rack
- Battery charger 24 volt, automatic float type
- Battery charger 24 volt, trickle with power cord and leads

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## WEIGHT AND DIMENSIONS

Weight: 6650 lbs. (3016) kg.

Overall size: L x W x H in. (mm):

Generator model 4M44—120½ (3061) x 45½ (1156) x 70-25/64 (1788)

Generator model 4M48—126 (3200) x 45½ (1156) x 70-25/64 (1788)

300KW/NTA-855-G W4M44 & 4M48 GEN RADIATOR MODEL

KOHLER CO., KOHLER, WISCONSIN 53044

PHONE 414 565-3381

TELEX 26888

TWX 910 264-3877

YOUR DISTRIBUTOR