



# STADCO GENERATORS

## SALES SPECIFICATIONS

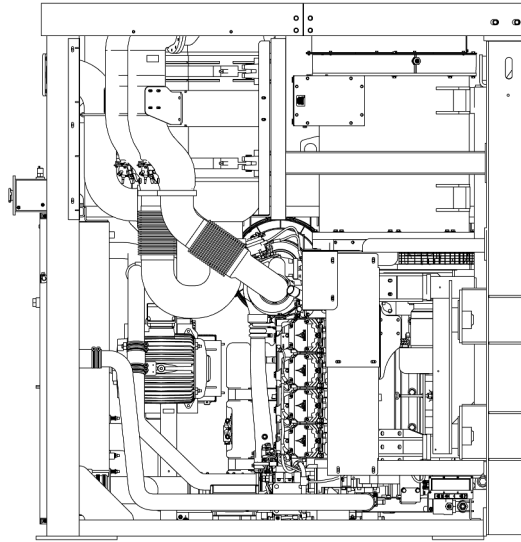


### RP524 Railpower Generator - T4F

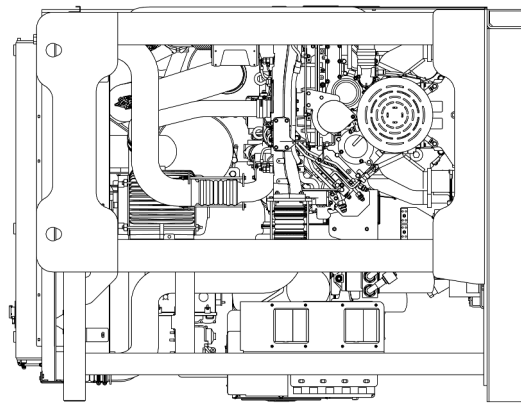
GENSET RATINGS		RP524
Sales Drawing No.		13245
Stadco Spec. No.		RP52416
Type: -T600 Unit Output Rating (1) 12- Leads, 3-Phase 600V. WYE, 0.9PF	Intermittent	485 kWe
	Prime	440 kWe
	Continuous	410 kWe
Unit Max. Rated Current: (1) @ 0.9 PF.	Amps @ 600V	518
A.C. Alternator Max. Capacity (2) 600V, 3-ph., 0.9 PF. WYE Connection	KW @ 80°C Rise / 40°C Ambient	500
	Motor Starting Capability @ 30% Dip	
	% Efficiency - 0.9PF	94
Operating Speed	Variable	1400-1900 RPM
<b>Engine Specifications</b>		
Deutz diesel engine with basic components liquid cooled & turbocharged. EPA & CARB certified.	Model	TCD16.0V8
	No. of Cylinders	8
	Liters / C.I.D.	15.9 / 969
	Max. HP @ 1900 RPM	697
Speed/Frequency regulation (typical)		0.5 Hertz
Battery Charging Alternator		None
Heavy Duty Starter		24V, 6.6KW
Fuel Consumption @ Continuous rating	100% Load GPH	33.7
	50% Load GPH	16.9
Typical Cold Starting Capability	w/o cold starting aid	(-17°C) (1°F)
	(3) w/ starting aid	(-32°C) (-25°F)
Service Life, Typical (Hrs.)		25,000
<b>Unit Specifications</b>		
(4) Lube oil change interval max.		1500 Hrs. (4)
(5) Lube oil capacity	Engine Oil pan quarts(liters)	74 (70) (5)
	Auxiliary oil sump quarts(liters)	74 (70) (5)
Maximum permissible engine inclination		5% grade
Recommended Fuel - Diesel		ASTMD975 #2-D 515
Recommended 24V Battery Capacity (CCA)		2x 1040
Recommended Battery type: BCI#		2x #4D
Average sound emission: @ full load w/o fan	dB(A) @ 1 Meter	100
	dB(A) @ 7 Meters	86
Approx. Unit Size (inches)	Length	99.1
	Width	73.2
	Height	96.1
Approx. Unit Weight (Lbs.)		11,100

- (1) "Unit Output Rating" refers to the rating of the engine/generator combination w/o fan burden.
- (2) "A.C. Alternator Max Capacity" refers to the manufacturers rating of the alternator.
- (3) Includes 24VDC intake manifold heater & 6.6 KW starter. For lower starting temp. coolant heater and battery warmer are required.
- (4) Oil samples must be taken at 1000 hour intervals to determine if oil change can be extended.
- (5) Quantity is only approximate. When changing bypass filters & full flow filters additional volume is required. Fill to upper dipstick marking. Do not overfill.

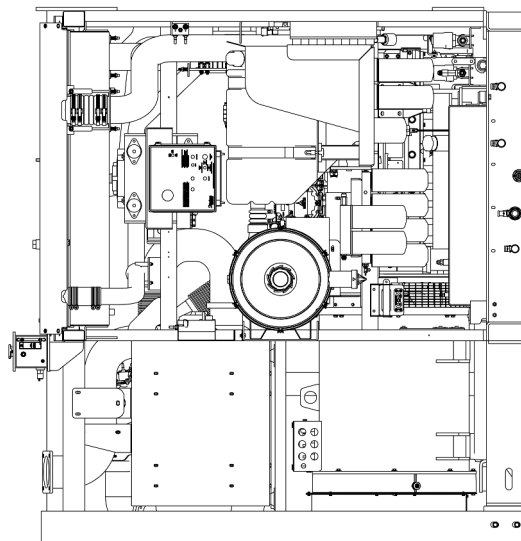
#### All Genset ratings @ 1900 RPM



**OUTBOARD SIDE VIEW**



**FRONT VIEW**



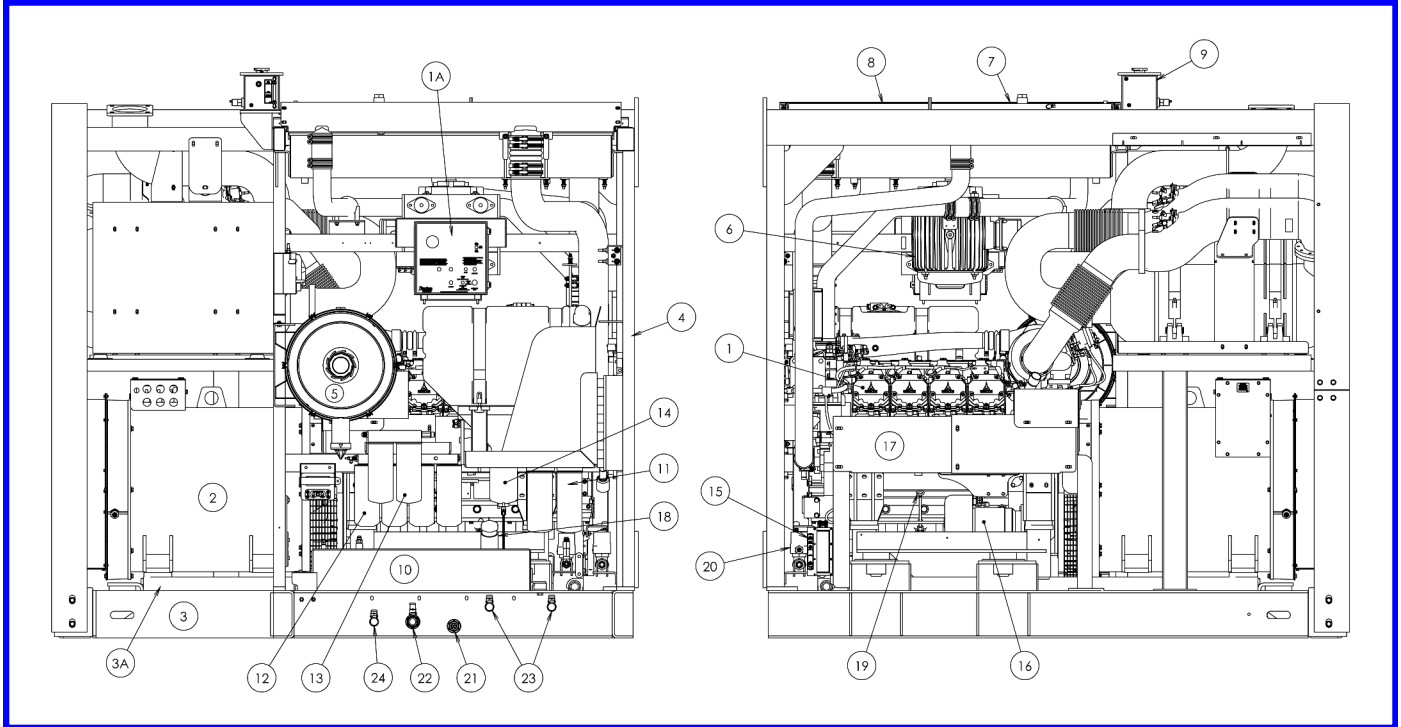
**INBOARD SIDE VIEW**



**RP524 Railpower Generator**  
**STANDARD EQUIPMENT**



<b>STANDARD EQUIPMENT</b>	<b>Genset Model</b>
	<b>RP524</b>
<b><i>Engine Diesel</i></b>	
Air cleaner dry type, dual element, 24VDC restriction indicator	•
Air to air charge air cooler, heavy duty aluminum heat exchanger rated @ 50 psig., 8 FPI	•
Water separator filter w/ drain valve, water in fuel sensor, Mtd.	•
Oil & Fuel Filters -Spin on - Dual sets	•
Quadruple oil bypass filters, spin on	•
Cold starting aid system, 24V Manifold Heater. Temp. Controller	•
Fuel Transfer Pump - mechanical	•
Piston cooling - oil spray nozzles	•
Steel Crankshaft / Camshaft	•
Closed Crankcase Ventilation System (PCV)	•
Individual Fuel Injection pumps	•
EMR3 Electronic engine controller w/ CAN buss links	•
24V. Starting system	•
<b><i>Cooling System</i></b>	
Liquid Cooling heavy duty aluminum heat exchanger rated @ 30 psig., 8 FPI	•
AC Motor Driven Cooling Fan	•
Coolant reservoir w/ visual level monitoring	•
<b><i>AC Generator</i></b>	
Brushless "Railspec" Generator, direct coupled, 1-Brg.	•
Generator leads - Internally WYE connected.	•
Winding Insulation Class H, 50°C Rise	•
Electronic Voltage Regulation: Customer Supplied	•
<b><i>Frame &amp; Accessories</i></b>	
Welded steel frame with formed steel channels	•
Vibration isolating mounts and crash stops	•
(2) Mufflers, compact extra critical grade	•
<b><i>Miscellaneous</i></b>	
Placards, nameplates, instructions & caution decals	•
Operators/Parts manual	•
Installation instructions & diagrams	•
Routine service points on curb side	•
Factory test run & QA inspection	•
Finish paint: Industrial enamel, Signal Gray RAL 7004	•
Packaging for motor freight shipment	•
<b><i>Protection Control Devices, 7-point</i></b>	
Coolant temperature & level switch	•



## **FEATURES**

### **1. ENGINE:**

Deutz TCD16.0V8 INDUSTRIAL DIESEL ENGINE. V-8, 16-Liter, 520KWm, 697HP @ 1900 RPM Intermittent Duty. State of the art engine, evolved from the former 1015 Series Engine. EPA Certified Tier 4 Final - Industrial Off-Road.

Features: Forged steel crankshaft and connecting rods.

Large engine features: Pistons cooled with lube oil by oil jet and integral cooling channel. Individual cylinder heads with all coolant channels cast into main block. 4-Valve cylinder heads for improved power and fuel economy. Individual fuel injection pumps coupled with electronically fired injectors for maximum durability. Integrated oil cooler.

Stadco considers these engines an excellent combination of features essential to rail operations; premium quality, consistent performance, compactness, reliability and survivability, fuel economy, service life, service cost and nationwide service access.

### **1A. ENGINE CONTROL PANEL:**

Stadco Engine Control System provides interconnection with Railpower Master Control System via CAN Bus. Equipped with CAN Bus reader. Standard engine control devices include; Oil Pressure SW, Oil Level SW, Coolant Temp. SW, and Coolant Level SW. Panel is double isolated from engine vibration.

### **2. GENERATOR:**

Purpose built to withstand the severe operating conditions imposed by railroad duty.

Marathon Railspec type alternator, 573FSS direct coupled, form wound single bearing generator. Without voltage regulation system. Alternator capacity Rating @ 1900 RPM, 600 VAC, 80° rise above 40°C ambient 500 kW @ 0.9 PF, Continuous Duty



## **RP524 Railpower Generator**

### **Features**



**3. SKID BASE:**

Formed steel channel skid base with internal sub-base supports generator set and equipment. Captive type elastomer element mounts isolate engine/generator vibration from the base. Steel crash stops protect the isolating mounts during coupling impact. Full width drip pan with screened drain. Intermediate sub-base for mounting engine/alternator rigidly as a unit. Elastomer element mounts for sub-base, cooling system and fan motor.

**4. LIFTING FRAME & ACCESSORY PLATFORM:**

Detachable dual-purpose tubular steel lifting frame. Designed to lift complete genset and act as a vibration isolated platform for mounting unit accessories. All accessories isolated from engine vibration.

**5. COMBUSTION AIR FILTER:**

Dry type, heavy duty 2-stage elements; primary and secondary. Metal can. Electronic service signal.

**6. FAN & FAN MOTOR:**

Pusher fan: 42 inches, 16 Blade, high back pressure design.  
Motor: 20 HP, 1500 RPM, 416V. Protected by rain deflector shield.

**7. RADIATOR - ALUMINUM:**

Purpose designed heavy duty welded aluminum Bar and Plate (heat exchanger type) radiator with a pressure rating of 30 PSIG, several times stronger than conventional cores. Heavy gauge tanks and nozzles. Aluminized steel piping and heavy duty clamps. Double isolated from vibration.

Industrial type 8 - FPI core fin spacing to pass more debris without clogging. Hot air discharges vertically. May be cleaned with a low pressure washer.

**8. CHARGE AIR COOLER:**

Efficient, direct Air-to-Air charge cooler. Aluminum Bar and Plate construction similar to radiator. Pressure rating: 50 PSI. Mounted side-by-side with radiator for greatest cooling efficiency.

Aluminized steel piping with mechanical retainers and heavy duty Bellville hose clamps. Double isolated from vibration. May be cleaned with a low pressure washer.

**9. AUXILIARY COOLANT RESERVOIR:**

Dedicated compensating coolant bypass eliminates air lock in the block and cavitation around cylinders. Coolant bypass flows through this reservoir to eliminate recurring aeration. Sealed, operates at system pressure. Level sight glass provided. System pressure: 16 PSI.

**10. AUXILIARY OIL RESERVOIR:**

Dedicated oil reservoir tank to prolong oil life and extend hours between oil change. By-pass oil stream flows through external oil reservoir. Includes pressure relief bypass system.

**11. STANDARD OIL FILTER(2):**

Standard full flow main oil filter. Spin on. Dual set for up to 1500 hour service interval.

**12. AUXILIARY BYPASS OIL FILTERS (4):**

Auxiliary bypass oil filters (4). Removes most hydrocarbons and conditions lube oil for extended lube oil change intervals. Wire braid oil supply hoses. Oil sampling port provided. Spin-on.

**13. FUEL FILTERS(4):**

Standard final (fine) 3 micron fuel filters (4). Gear driven mechanical fuel supply pump. Wire braid fuel supply hoses. Spin-On.

**14. AUXILIARY FUEL FILTER (1)**

Auxiliary primary fuel filter (10 micron). Spin On.

**15. LUBE OIL LEVEL SWITCH**

High and Low Lube oil level monitoring switch. Used to prevent low levels and overfilling of lube oil.



## RP524 Railpower Generator

### Features



16. **STARTER:**  
Electric, 24VDC, Heavy Duty 6.6 kW, (9.0 HP).
17. **HEAT SHIELDING:**  
Metal shielding of exhaust manifold, up to and including turbo. Mounted off engine to eliminate vibration damage and reduce sound propagation.
18. **OIL FILL TUBE:**  
Special oil fill tube provides safer oil fill location.
19. **DIPSTICK:**  
Standard dipstick for 70 Liter fill.
20. **FUEL CUT-OFF:**  
Emergency fuel cut-off valve, 24V activated ETR. NC, opens on Start Signal, closed on shutdown & E-Stop.
21. **DRAIN:**  
External drain for full width drip pan.
22. **LUBE OIL DRAIN:**  
External drain valve for engine lube oil.
23. **FUEL VALVES(2):**  
Two fuel valves for engine fuel (Inlet & Return).
24. **COOLANT DRAIN(1):**  
One external drain valve for engine coolant.

### **NOT SHOWN:**

1. Cold starting system: 24VDC Flame heater in intake manifold, temperature controlled against operating on a warm engine.
2. Marking placards: Includes operational and safety/caution instruction placards.
3. Testing and Quality Assurance:  
Entire QA Procedure is continually monitored and recorded on check lists during assembly process. Testing procedures and performance values also documented. QA and Performance test reports permanently filed for back reference.
4. Service Access:  
Easy routine and periodic servicing access. All routine service points and engine control panel are accessible from the service side.
5. Lube oil sampling port located on oil bypass manifold.



## **RP524 Railpower Generator**

### **Features**



#### **SAFETY & RELIABILITY FEATURES:**

1. Safety hoses: All fuel supply hoses and oil hoses are wire reinforced to provide fire resistance and prevent failures due to chafing or cutting. All hose ends are machine crimped. Deutz engine fuel piping is primarily metal tubing.
2. AC/DC Electrical components: Most components (except engine mounted sensors) are mounted into enclosures and isolated from vibration.
3. Electrical wiring: All wiring is multi-stranded copper wire with fire resistant insulation of irradiated Exane brand Polyolefin, 600V, Amtrak Spec #323 approved; highly resistant to chafing and fire damage. All wiring shielded by Fire resistant loom material and secured against chafing.
4. Sound reduction measures: Special tuned elastomer mounts isolate engine/generator from skid base. Extra critical grade mufflers provided to reduce annoying exhaust pulsations. Fan sound reduction: New 1500 RPM fan reduces sound level by 2 dBA

#### **SERVICE STATEMENT:**

Stadco's parent company has been a full service Deutz engine distributor since 1963. We provide full spectrum repair parts and service support directly from our own facilities. Our experienced staff has the product knowledge to help diagnose problems and keep Stadco generators running. On site service is also available nationwide. Service training available on a fee basis.

#### **RATING METHODS**

- a. Climatic rating method: Conforms to SAE J1349 conditions of 80°F (27°C) ambient temp, 500 ft. altitude, 50% relative humidity. Duty at more severe conditions, ie; higher temp and/or higher altitude requires derating of unit output. Contact Stadco for specific derating values.

### **GENERAL INFORMATION**

**UNIT DIMENSIONS:** Refer to Stadco Sales Drawing

**SERVICE POINTS:** Refer to Stadco Sales Drawing.

**STANDARDS:** Gen sets quoted herein meet the following standards:

- a. Electrical instrumentation: UL listed.
- b. Electrical system & wiring: NEMA code / Amtrak code, Exane brand.
- c. NFPA 130
- d. Stadco Quality Assurance inspection.
- e. Deutz Engine: ISO 9001: 1994 Certified.

**REGULATORY COMPLIANCE:** EPA Tier 4 certification for engine exhaust emissions (Heavy Duty Off Road Certification).

Stadco reserves the right to change product specifications at any time without incurring obligations.

#### ***STADCO PRODUCTS DIVISION***

PO Box 586, Ephrata, PA 17522 USA  
Phone: 717-738-2500, Toll Free 800-377-2120  
Fax: 717-738-2550  
Email: gensales@stadcogen.com