STADCO RAILGEN™ GENERATORS

SALES SPECIFICATIONS - S32

MARK 6 SERIES ENCLOSED RAIL GENERATORS
FOR COMMERCIAL OPERATORS

	GENSET RATINGS - 60Hz. (3.)		6-42T4F	6-50T4	6-80T4
	Sales Drawing No.		13747	TBD	13645
	Spec. No.		6-42T4F19	TBD	6-80T4F19
1	**Type: -T240/T480** **Unit Output Rating (1)** 12- Leads, 3-Phase 240/480V. WYE, 0.8PF	Intermittent	42 KW	--	80KW
		Prime	40 KW	--	74 KW
		Continuous	38 KW	--	70 KW
	Unit Max. Rated Current: (1) @ 0.8 PF.	Amps @ 240V	131	--	228
		Amps @ 480V	66	--	114
	A.C. Alternator Max. Capacity (2) 240/480V, 3-ph., 0.8 PF. WYE Connection	KW @ 125ºC Rise	48	--	83
		Motor Starting Capability @ 35% Dip	124 SKVA	--	270SKVA
		% Efficiency - 0.8PF	91	--	91
2	**Type: -T208** **Unit Output Rating (1)** 12- Leads, 3-Phase 208V. WYE, 0.8PF	Intermittent	42 KW	--	75 KW
		Prime	40 KW	--	72 KW
		Continuous	38 KW	--	70 KW
	Unit Max. Rated Current: @ 0.8 PF.	Amps @ 208V	133	--	243
	A.C. Alternator Max. Capacity (2) 208V, 3-ph., WYE Connection	KW @ 125ºC Rise	42	--	76
		Motor Starting Capability @ 35% Dip	81 SKVA	--	190 SKVA
		% Efficiency - 0.8PF	91	--	91
3	**Type: -TD240** Unit Output Rating (1) 12- Leads, 3-Phase 240V. Delta Connection		Performance Similar to Type: -T208		

* Export Only or NSE Exemption

Completely packaged diesel generator systems. Purpose built specifically for under-slung mounting on passenger railcars.

Your best investment in railcar generator systems. Field proven quality, performance and service life. - Since 1990

Note:

1. "Unit Output Rating" refers to the rating of the engine/generator combination.
2. "A.C. Alternator Max Capacity" refers to the manufacturers rating of the alternator.
3. See “Ratings Methods”.

Model 6-80T4

Note:
Genset ratings @ 60Hz.
Standard 3-Ph Conn. -T240/480
Optional 3-Ph Conn. -T208
Optional 3-Ph Conn. -TD240

Refer to price sheet #P23 for ordering information and a list of available accessories.

GENSET RATINGS CON'T.

Stadco GENERATORS STAUFFER DIESEL INC

GENSET DATA		6-42T4F	6-50T4	6-80T4
Engine Specifications				
Deutz diesel engine with basic components liquid cooled & turbocharged.	Model	TD2.9L4	TBD	TCD3.6
	No. of Cylinders	4	--	6
	Liters / C.I.D.	2.9 / 177	--	3.6 / 220
	Max. HP @ 1800 RPM	66	--	124
Speed/Frequency regulation %(typical)		0.5	--	0.5
Battery Charging Alternator		14V/95A	--	14V/45A
Fuel Consumption @ Contiuous rating	100% Load GPH	3.1	--	5.3
	50% Load GPH	1.6	--	2.65
Typical Cold Starting Capability w/ std. Battery & 15W-40 Lube Oil	without cold starting aid	(-10ºC) (14ºF)	--	(-10ºC) (14ºF)
	w/ starting aid	(-20ºC) (-4ºF)	--	(-20ºC) (-4ºF)
EPA Emissions Certification (flex)		EPA 4	--	EPA 4
Routine Exhaust System Maintenance Required		No	--	DOC/SCR
Unit Specifications				
Lube oil change interval		500 Hrs.	TBD	500 Hrs.
Lube oil capacity: quarts(liters)*		9.9 (9.4)	--	13.9 (13.2)
Recommended Fuel		ASTM D975, Grade 2D		
Recommended 12V Battery Capacity (CCA)		1100	--	1100
Recommended 12V Battery type: BCI#		31	--	31
Average sound emission: @ full load with fan	dB(A) @ 1 Meter		--	
	dB(A) @ 7 Meters		--	
Approx. Unit Size w/o battery box (inches)	Frame Length	72	--	103
	Frame Width	32	--	36
	Height	30	--	32
Impact, Allowable Maximum		5.0G	--	8.0G
Approx. Unit Weight (Lbs.)		1790	--	3126

* Lube oil quantity is only approximate. Fill to upper dipstick marking. Do not overfill.

Engine Diesel			
STANDARD EQUIPMENT	**6-42T4**	**6-50T4**	**6-80T4**
Air cleaner dry type, dual element w/ restriction indicator	•	**TBD**	•
Air precleaner - Rotary type	•	--	•
CAC Turbocharge air cooler: Air to Air		--	•
Water seperator filter w/ drain valve, loose	•	--	•
Oil & Fuel Filters -Spin on	•	--	•
Cold starting aid system, 12V	•	--	•
Fuel Transfer Pump	•	--	•
Cylinder liners - wet replaceable		--	
Piston cooling - oil spray nozzles	•	--	•
Steel Crankshaft / Camshaft	•	--	•
Closed Crankcase Ventilation System (PCV)	•	--	•
Fuel injection pumps - individual plunger	Rail	--	Rail
Governor — Electronic 0.25%	•	--	•
12V. Starting system w/ battery charging alt.	•	--	•

STANDARD EQUIPMENT CON'T.

AC Generator		
Brushless Alternator, direct coupled, 1-Brg.	•	--
Generator leads - 12-lead reconnectable (Std. Wiring)	•	--
Winding Insulation Class H, 50ºC Rise	•	--
Electronic Voltage Regulation: 1.5%	•	--
Severe Environment Insulation/Coating	•	--
Frame & Enclosure		
Welded steel frame with formed steel mounting plates on both ends.	•	--
Total enclosure w/ removable access panels, service access doors & louvered air inlet panel. Removable belly pan.	•	--
Sound absorbing insulation multi-layer	•	--
Exhaust & fuel connections outside to rear	•	--
Oil drain access hatch	•	--
Vibration isolating mounts and crash stops	•	--
Muffling provisions	DOC Only	--
Battery box & cables, remote mountable	•	--
Miscellaneous		
Placards, nameplates, instructions & cautions	•	--
Operators/Parts manual	•	--
Installation instructions & diagrams	•	--
Fire detection / Shutdown only system	•	--
Fire resistant fuel hoses, wiring & loom	•	--
Routine service points on curb side	•	--
Factory test run & QA inspection. Load ready	•	--
Finish paint:Industrial enamel, medium gray - RAL7004	•	--
Packaging for motor freight shipment	•	--
Standard Control Devices		
Lube oil level switch	•	--
Cooling air flow sensor/shutdown switch	•	--

Engineered specifically for the passenger railcar industry. STADCO generator packages come completely ready to install. Wide range of control systems and optional accessories available.

Design objectives are:
Affordability - Reliability - Efficiency - Convenient Operation - Serviceability - Simplified Installation - Fire safety.

Reliability Features:

UNIT FRAME & ENCLOSURE:

Welded tubular steel unit frame supports generator set and protective enclosure. Steel plate mounting points provided at both ends of main frame to accept customer supplied brackets (or optional roll-out service track) for mounting unit to host railcar. Captive type vibration isolating mounts for generator set. Steel crash stops protect the isolating mounts in the event of coupling impact.
All side/top panels and belly pan are removable for service access. Two service access doors provide convenient routine service access.

ENGINES:

Dual fuel filter system: Primary water/dirt separator fuel filter with water drain for remote mounting. Secondary fine fuel filter mounted to unit frame. Wire braid fuel supply hoses. Fuel transfer pump. Fuel supply connections on outside rear of enclosure. Energized to run fuel solenoid designed to shut down in event of system failure.

Since their first installation in Stadco Railgens in 1996, Deutz 2012/1013 diesels have become known for their reliability and fault free operation. The 2.9L and 3.6L Deutz Tier 4 engines continue the tradition of reliable performance. Stadco considers these engines the best available combination of features essential to railgen operation; premium quality, consistent performance, compactness, reliability & survivability, fuel economy, service life, service cost and nationwide service access. Operation at 1800 Rpm assures low engine noise levels and extensive service life.

COLD STARTING SYSTEM:

Sealed pintle type 12 V. glow plugs mounted directly in combustion chambers. Operation is manually controlled from either control panel. 6-80 use a heater coil in the intake manifold, which is thermostatically controlled. The 2.9L and 3.6L engines have automatically operated glow plugs in the heads.

COMBUSTION AIR FILTERS:

Dual element dry type heavy duty air cleaner with self-cleaning pre-cleaner, mounted inboard. Rotary type centrifugal precleaner extends main filter cartridge life and provides 4 stage air filtration. Service access from curb side.

COOLING AIR STREAM FILTER:

Cooling air intake stream is filtered by a high capacity master filter which filters out most air-borne dirt and debris. Dirty operating conditions require this filter system to keep the cooling system functioning normally. The long life cleanable foam filter element is quickly and easily accessible from curb side for service.

EXHAUST SYSTEM:

Internal exhaust components wrapped with heat insulation blankets. Exhaust piping exits enclosure at rear. Critical quality high mass muffler, furnished with stainless flex tailpipe for remote mounting.

COOLING SYSTEM:

Positive forced air flow through interior of unit provides ambient temperature air supply to engine and generator cooling systems. Cooling air inlet separated from the hot air outlet to reduce unit heat recirculation.

Purpose designed heavy duty welded aluminum heat-exchanger radiator with a high pressure rating, many times stronger than a conventional core. So strong a core sample easily survived a drive-over by our pick-up truck. Elastometric mounts provide double isolation from engine vibration. May be cleaned with a 100 PSI pressure washer.

On board air-to-air charge air coolers provide high output and best fuel economy while meeting EPA exhaust emissions regulations.

AC GENERATOR:

Totally brushless type alternators, Class H insulation (130ºC rise), typically sized to operate at or below 105ºC Continuous rating. Conservative sizing provides additional margin for nonlinear (unequal) phase loading. High efficiency performance with excellent motor starting capability. Severe environmental coating provides protection from tropical environments.

Solid state electronic voltage regulator (AVR) with 2-wire sensing, thermal protection and under frequency (UFRO) protection feature.

AC/DC ELECTRICAL & COMPONENTS:

All components mounted into sealed metal enclosures, isolated from vibration. All wiring is fire resistant Exane multi-stranded copper wire with 600 V. rated insulation. Wiring harness bundled with fiberglass loom material exclusively.

Generous sized distribution box located externally on back side of unit. Main AC power leads wired to terminal block. AC/DC control circuits wired to terminal strips to receive Remote control wiring.

CONTROL SYSTEM:

Choice of several control systems are optionally available from Stadco. Control systems provide interconnected dual control. Also available with electrical interface kit only to accommodate third party control systems. Refer to Stadco bulletin #S232 for more product information. Standard engine control devices include; lube oil level SW, oil press SW, coolant temp SW, coolant level SW and air flow sensor SW.

SOUND REDUCTION SYSTEM:

Unit totally enclosed with solid steel panels lined with multi-layer high performance sound absorbing material to absorb engine noise and air intake sounds. All panels facing toward railcar are totally solid (without openings) for improved noise control.

Special tuned rubber "floating" mounts isolate engine vibration from frame to reduce secondary (in-car) vibration & noise. Engines are selected for their low noise characteristics. Critical quality high mass mufflers provided to reduce annoying exhaust pulsations to tolerable levels.

Optional secondary vibration isolating mounting system available for further vibration and noise reduction.

MARKING PLACARDS:

Includes placards for unit and control systems with operating instructions, safety and cautionary statements.

FIRE SAFETY EQUIPMENT:

* Primary fuel filter (with drain) located outside enclosure.
* Thermal heat detection fuse devices mounted internally around frame perimeter; connected with engine shut down system.
* Wiring insulation is fire resistant Exane irradiated Polyolefin, 600 V, Amtrak Spec #323 approved, highly resistant to chafing & fire damage. Noncombustible fiberglass loom.
* Internal exhaust components wrapped with heat insulation material to reduce surface temperature.

TESTING & QUALITY ASSURANCE:

Each genset is individually factory load tested in confirm function and performance. Vital functions and results are documented. All engine adjustments are checked after test run.

SIMPLIFIED INSTALLATION:
Completely packaged product, designed to simplify the on-site installation procedure. All operating connections brought to outside. Steel plated ends of the main frame serve as mounting points. Installation Instructions provided.

SERVICEABILITY:
Easy routine and periodic servicing access. All routine service points and engine control panel are accessible from the (2) main service doors. Air cleaner and electrical device boxes also accessible from curb side.

Easy-to-keep-clean design. Designed with a minimum of joints and connections to minimize potential for leaks. Lube oil drains directly down through an access hatch in the belly pan. Cooling air stream filter system is designed to minimize interior dirt build up and extend radiator cleaning intervals.

Optionally available Roll Out service track system provides unrestricted access for major service.

Comprehensive Operators Instruction Manual and trouble shooting charts included to facilitate easier self servicing. Call 1-800-377-2120 or 717-738-2500 for Stadco service advice.

SERVICE STATEMENT:
Stadco's parent company has been a full service industrial engine distributor since 1963. We provide full spectrum repair parts and service backup 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.

We stock a comprehensive amount of engine repair parts and critical generator unit components at our own facility to provide next day parts delivery to anywhere in the USA if necessary.

OPTIONAL EQUIPMENT:
- Control system - AC/DC. Refer to Sales Spec sheet S232 & Price list P23 for details.
- Other accessories Refer to Price list P23.
- Interface connector box for mounting on railcar body #NW-GC-CBL-6-B, P/N 59779.

RATING METHODS
a. Climatic rating method: Standard SAE J1349 conditions of 80ºF (27ºC) 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 for the unit of your choice.

PERFORMANCE RATINGS:
a. All Stadco generator sets are individually load tested and certified by Stadco to deliver advertised performance under climatic operating conditions of SAE J1349 standards.
b. POWER RATING: Conforms to SAE J1349 climatic conditions of 80ºF (27ºC) ambient temp, 500 ft. altitude, 50% relative humidity.
c. Resistance loads such as lights and heaters are considered Continuous loads for generator sizing purposes.

UNIT SIZING BULLETINS: Request: #11316 "Unit Sizing Data".
#11317 "Climatic Derating Factors".

GENERAL INFORMATION

WARRANTY:
Provisions of D34 Stadco Rail generator warranty policy statement apply; a copy is available upon request, or download directly from our website: www.stadcogen.com.

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 where available.
b. A.C. Alternator: NEMA MGI-22 and ISP 9002.
c. Electrical system & wiring: NEMA code / Amtrack code.
d. NFPA 130
e. Stadco Quality Assurance inspection.

REGULATORY COMPLIANCE: Refer to individual unit specifications for EPA certification levels.

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

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