

## Features:

- Excitation system: self-excited (AREP and PMG are optional)
- ATS (automatic transfer switch) receptacle
- Lockable battery isolator switch
- Stainless galvanized zinc plates with strong corrosion resistance
- Vibration isolators between the engine/alternator and base frame
- Integrated wiring design
- Base fuel tank for at least 8 hours running
- Equipped with an industrial muffler
- Engine oil pump
- 50 C radiator
- Top lifting and steel base frame with forklift holes
- Drainage for fuel tank
- Complete protection functions and safety labels
- IP54 (soundproof sets), IP56 (control system)
- Water jacket preheater, oil heater and double air cleaner, etc. are available.



### Output Ratings

Generating Set Model	Prime	Standby
<b>X1375C6/S</b>	1563kVA/1250kW	1719kVA/1375kW

Ratings at 0.8 power factor.

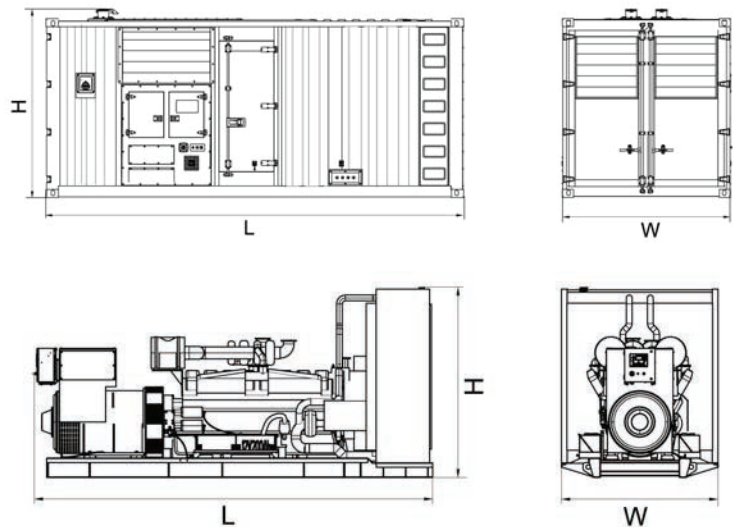
### Ratings and Performance Data

<b>Engine Make &amp; Model:</b>	KTA50-G9	
<b>Alternator Model:</b>	PI734B	
<b>Alternator Brand:</b>	STAMFORD	
<b>Control System:</b>	PLC-8610 / PLC-7420	
<b>Noise Level@7m:</b>	75.8	
<b>Frequency &amp; Phase:</b>	60Hz & 3PH	
<b>Engine Speed: RPM</b>	1800	
<b>Structure Type:</b>	X1375C6	A
	X1375C6S	C
<b>Fuel Tank Capacity: L</b>	X1375C6	/
	X1375C6S	1350
<b>Fuel Consumption: l/hr (100% Load)</b>	<b>Prime</b>	330
	<b>Standby</b>	392

### Dimensions and Weights

Generating Set Model	Length (L) mm (in)	Width (W) mm (in)	Height (H) mm (in)	Dry kg (lb)
<b>X1375C6</b>	5362	2110	2556	9812
<b>X1375C6S</b>	6060	2400	2600	15500

Dry = With Lube Oil      Wet = With Lube Oil and Coolant



Also available in the following voltages: 415/240V-380/220V-220/127V-200/115V;

ESP: Standby Power Standby duty, operation under variable load, without over load;

PRP: Prime Power-Continuous duty operation, under variable load 24/24h-10% over load permissible 1 hour/12 hours;

The data is only for your reference but not for use of sales.

M: Mechanical speed governor, E/ECU: Electronic speed governor;

NA: Naturally aspirated, TC: Turbocharged, TCA: Turbocharged and air-air aftercooled, TCW: Water-cooled Turbocharged;

The weights are approximate and without fuel.

## Engine model: KTA50-G9

### GENERAL ENGINE DATA

Type.....	4-Cycle; 60° Vee; 16-Cylinder Diesel	
Aspiration.....	Turbocharged & Low Temp. Aftercooled	
Bore x Stroke .....	6.25 x 6.25 (159 x 159)	
Displacement .....	3067 (50.3)	
Compression Ratio.....	13.9 : 1	
Dry Weight		
Fan to Flywheel Engine .....	— lb (kg)	11820 (5360)
Wet Weight		
Fan to Flywheel Engine .....	— lb (kg)	12485 (5662)
Moment of Inertia of Rotating Components		
• with FW 6009 Flywheel .....	— lb <sub>m</sub> • ft <sup>2</sup> (kg • m <sup>2</sup> )	301 (12.7)
• with FW 6017 Flywheel.....	— lb <sub>m</sub> • ft <sup>2</sup> (kg • m <sup>2</sup> )	515 (21.7)
Center of Gravity from Rear Face of Flywheel Housing (FH 6024).....	— in (mm)	47.5 (1206)
Center of Gravity above Crankshaft Centerline.....	— in (mm)	11.0 (279)
Maximum Static Loading at Rear Main Bearing.....	— lb (kg)	2000 (908)

### ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block.....	— lb • ft (N • m)	4500 (6100)
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### EXHAUST SYSTEM

Maximum Back Pressure @ Standby Power Rating .....	— in Hg (mm Hg)	2 (51)
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### AIR INDUCTION SYSTEM

Maximum Intake Air Restriction		
• with Dirty Filter Element @ Standby Power Rating.....	— in H <sub>2</sub> O (mm H <sub>2</sub> O)	25 (635)
• with Clean Filter Element @ Standby Power Rating.....	— in H <sub>2</sub> O (mm H <sub>2</sub> O)	15 (381)

### COOLING SYSTEM (Low Temperature Aftercooling Required; 1 Pump / 2 Loop or 2 Pump / 2 Loop)

Coolant Capacity — Engine Only.....	— US gal (liter)	37 (140)
— Aftercoolers.....	— US gal (liter)	9 (34)
Maximum Static Head of Coolant Above Engine Crank Centerline.....	— ft (m)	60 (18.3)
Thermostat Modulating Range — High Flow (Jacket).....	— °F (°C)	180 - 200 (82 - 93)
Maximum Top Tank Temperature for Standby Power / Prime Power.....	— °F (°C)	220 / 212 (104 / 100)
Target Coolant Inlet Temperature to Aftercoolers @ 77 °F (25 °C) Ambient— .....	— °F (°C)	130 (55)
Maximum Coolant Temperature to Aftercoolers; Standby Power / Prime Power .....	— °F (°C)	160 / 150 (71 / 66)

#### Additional 2 Pump / 2 Loop Requirements

Maximum Coolant Friction Head External to Engine— High Flow (Jacket).....	— psi (kPa)	10 (67)
— Low Flow (Aftercooler).....	— psi (kPa)	7 (48)
Thermostat Modulating Range — Low Flow (Aftercooler) (2P / 2L) w/ HX.....	— °F (°C)	N.A. (N.A.)
Minimum Pressure Cap (for Cooling Systems with less than 2 m [6 ft.] Static Head)...	— psi (kPa)	14 (96)

#### Additional 1 Pump / 2 Loop Requirements

Maximum Coolant Friction Head External to Engine— High Flow (Jacket).....	— psi (kPa)	15 (103)
— Low Flow (Aftercooler).....	— psi (kPa)	5 (35)
Thermostat Modulating Range — Low Flow (Aftercooler).....	— °F (°C)	150 - 175 (66 - 79)
Minimum Pressure Cap (for Cooling Systems with less than 2 m [6 ft.] Static Head)...	— psi (kPa)	14 (96)

### LUBRICATION SYSTEM

Oil Pressure @ Idle Speed.....	— psi (kPa)	20 (138)
@ Governed Speed.....	— psi (kPa)	50 - 70 (345 - 483)
Maximum Oil Temperature .....	— °F (°C)	250 (121)
Oil Capacity with OP 6027 Oil Pan : High - Low.....	— US gal (liter)	47 - 39 (178 - 148)
Total System Capacity (Including Bypass Filter) .....	— US gal (liter)	54 (204)

### FUEL SYSTEM

Type Injection System .....	Direct Injection Cummins PT	
Maximum Restriction at PT Fuel Injection Pump — with Clean Fuel Filter.....	— in Hg (mm Hg)	4.0 (102)
— with Dirty Fuel Filter.....	— in Hg (mm Hg)	8.0 (203)
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head).....	— in Hg (mm Hg)	6.5 (165)
Maximum Fuel Flow to Injection Pump .....	— US gph (liter / hr)	183 (693)

## Engine model: KTA50-G9

### ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement).....	— volt	24
Battery Charging System, Negative Ground.....	— ampere	35
Maximum Allowable Resistance of Cranking Circuit.....	— ohm	0.002
Minimum Recommended Battery Capacity		
• Cold Soak @ 50 °F (10 °C) and Above.....	— 0°F CCA	1280
• Cold Soak @ 32 °F to 50 °F (0 °C to 10 °C).....	— 0°F CCA	1800
• Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C).....	— 0°F CCA	1800

### COLD START CAPABILITY

Minimum Ambient Temperature for Aided (with Coolant Heater) Cold Start within 10 seconds.....	— °F (°C)	50	(10)
Minimum Ambient Temperature for Unaided Cold Start.....	— °F (°C)	45	(7)

### PERFORMANCE DATA

- All data is based on:
- Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, fan, and optional driven components.
  - Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
  - ISO 3046, Part 1, Standard Reference Conditions of:
 

Barometric Pressure	: 100 kPa (29.53 in Hg)	Air Temperature	: 25 °C (77 °F)
Altitude	: 110 m (361 ft)	Relative Humidity	: 30%

Steady State Stability Band at any Constant Load .....	— %	+/- 0.25
Estimated Free Field Sound Pressure Level of a Typical Generator Set;		
Excludes Exhaust Noise; at Rated Load and 7.5 m (24.6 ft); 1800 rpm.....	— dBA	94.6
Exhaust Noise at 1 m Horizontally from Centerline of Exhaust Pipe Outlet Upwards at 45° .....	— dBA	130

Governed Engine Speed .....	— rpm	1800
Engine Idle Speed.....	— rpm	725 - 775
Gross Engine Power Output.....	— BHP (kW <sub>m</sub> )	2220 (1656)
Brake Mean Effective Pressure.....	— psi (kPa)	318 (2221)
Piston Speed .....	— ft / min (m / s)	1875 (9.5)
Friction Horsepower.....	— HP (kW <sub>m</sub> )	225 (168)

#### Engine Data with Dry Type Exhaust Manifold

Intake Air Flow.....	— cfm (liter / s)	4400 (2075)
Exhaust Gas Temperature .....	— °F (°C)	960 (515)
Exhaust Gas Flow.....	— cfm (liter / s)	10650 (5025)
Air to Fuel Ratio.....	— air : fuel	25.2 : 1
Radiated Heat to Ambient .....	— BTU / min (kW <sub>m</sub> )	11220 (200)
Heat Rejection to Exhaust.....	— BTU / min (kW <sub>m</sub> )	58925 (1040)

#### Additional Engine Aftercooler Data (2 Pump / 2 Loop)

Engine Jacket Coolant Flow at Stated Friction Head External to Engine:			
• 4 psi Friction Head.....	— US gpm (liter / s)	430 (27.1)	
• Maximum Friction Head.....	— US gpm (liter / s)	376 (23.7)	
Heat Rejection to Coolant (Aftercooler) .....	— BTU / min (kW <sub>m</sub> )	19500 (345)	
Heat Rejection to Coolant (Engine).....	— BTU / min (kW <sub>m</sub> )	40600 (715)	
Aftercooler Coolant Flow at Stated Friction Head External to Engine: .			
• 2 psi Friction Head.....	— US gpm (liter / s)	112 (7.1)	
• Maximum Friction Head.....	— US gpm (liter / s)	100 (6.3)	

#### Additional Engine Aftercooler Data (1 Pump / 2 Loop)

Engine Jacket Coolant Flow at Stated Friction Head External to Engine:			
• 4 psi Friction Head.....	— US gpm (liter / s)	430 (27.1)	
• Maximum Friction Head.....	— US gpm (liter / s)	376 (23.7)	
Heat to be Rejected by Low Temperature Radiator* — BTU / min (kW <sub>m</sub> )		35720 (630)	36620 (645)
Heat to be Rejected by Jacket Coolant Radiator*.....	— BTU / min (kW <sub>m</sub> )	26110 (460)	15600 (275)
Aftercooler Coolant Flow at Stated Friction Head External to Engine: .			
• 2 psi Friction Head.....	— US gpm (liter / s)	97 (6.1)	97 (6.1)
• Maximum Friction Head.....	— US gpm (liter / s)	94 (5.9)	94 (5.9)

		STANDBY POWER		PRIME POWER UNLIMITED TIME	
		60 hz	50 hz	60 hz	50 hz
		1800		1800	
		725 - 775		725 - 775	
		2220 (1656)		1855 (1384)	
		318 (2221)		266 (1835)	
		1875 (9.5)		1875 (9.5)	
		225 (168)		225 (168)	
		4400 (2075)		4100 (1930)	
		960 (515)		880 (470)	
		10650 (5025)		9600 (4530)	
		25.2 : 1		27.6 : 1	
		11220 (200)		9610 (170)	
		58925 (1040)		51690 (910)	
			<b>Not Applicable for 1500 RPM Operation</b>		<b>Not Applicable for 1500 RPM Operation</b>
		430 (27.1)		430 (27.1)	
		376 (23.7)		376 (23.7)	
		19500 (345)		15200 (270)	
		40600 (715)		35100 (620)	
		112 (7.1)		112 (7.1)	
		100 (6.3)		100 (6.3)	
		430 (27.1)		430 (27.1)	
		376 (23.7)		376 (23.7)	
		35720 (630)		36620 (645)	
		26110 (460)		15600 (275)	
		97 (6.1)		97 (6.1)	
		94 (5.9)		94 (5.9)	

\* See AEB 90.39 1 Pump / 2 Loop KTA50-G8/9 system.

**N.A.** - Data is Not Available

**N/A** - Not Applicable to this Engine

**TBD** - To Be Determined

## Alternator model: PI734B

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.		
A.V.R.	MX341	MX321	
VOLTAGE REGULATION	± 1%	± 0.5 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 7)		

INSULATION SYSTEM	CLASS H
PROTECTION	IP23
RATED POWER FACTOR	0.8
STATOR WINDING	DOUBLE LAYER LAP
WINDING PITCH	TWO THIRDS
WINDING LEADS	6
MAIN STATOR RESISTANCE	0.0016 Ohms PER PHASE AT 22°C STAR CONNECTED
MAIN ROTOR RESISTANCE	1.67 Ohms at 22°C
EXCITER STATOR RESISTANCE	17.5 Ohms at 22°C
EXCITER ROTOR RESISTANCE	0.063 Ohms PER PHASE AT 22°C
R.F.I. SUPPRESSION	BS EN 61000-6-2 & BS EN 61000-6-4, VDE 0875G, VDE 0875N. refer to factory for others
WAVEFORM DISTORTION	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%
MAXIMUM OVERSPEED	2250 Rev/Min
BEARING DRIVE END	BALL. 6228 C3
BEARING NON-DRIVE END	BALL. 6319 C3

	1 BEARING	2 BEARING
WEIGHT COMP. GENERATOR	2760 kg	2710 kg
WEIGHT WOUND STATOR	1306 kg	1306 kg
WEIGHT WOUND ROTOR	1139 kg	1077 kg
WR <sup>2</sup> INERTIA	32.7498 kgm <sup>2</sup>	31.7489 kgm <sup>2</sup>
SHIPPING WEIGHTS in a crate	2833kg	2779kg
PACKING CRATE SIZE	194 x 105 x 154(cm)	194 x 105 x 154(cm)

	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	2.69 m <sup>3</sup> /sec 5700 cfm				3.45 m <sup>3</sup> /sec 7300 cfm			
VOLTAGE STAR	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277
kVA BASE RATING FOR REACTANCE VALUES	1360	1400	1400	1375	1525	1625	1655	1690
X <sub>d</sub> DIR. AXIS SYNCHRONOUS	3.50	3.26	3.02	2.64	4.25	4.04	3.77	3.53
X' <sub>d</sub> DIR. AXIS TRANSIENT	0.21	0.20	0.18	0.16	0.26	0.25	0.23	0.22
X'' <sub>d</sub> DIR. AXIS SUBTRANSIENT	0.16	0.15	0.14	0.12	0.19	0.18	0.17	0.16
X <sub>q</sub> QUAD. AXIS REACTANCE	2.26	2.10	1.95	1.70	2.74	2.61	2.43	2.28
X'' <sub>q</sub> QUAD. AXIS SUBTRANSIENT	0.32	0.29	0.27	0.24	0.38	0.37	0.34	0.32
X <sub>L</sub> LEAKAGE REACTANCE	0.04	0.04	0.03	0.03	0.05	0.05	0.04	0.04
X <sub>2</sub> NEGATIVE SEQUENCE	0.22	0.21	0.19	0.17	0.27	0.26	0.24	0.23
X <sub>0</sub> ZERO SEQUENCE	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03

REACTANCES ARE SATURATED

VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED

T' <sub>d</sub> TRANSIENT TIME CONST.	0.13s
T'' <sub>d</sub> SUB-TRANSTIME CONST.	0.01s
T' <sub>do</sub> O.C. FIELD TIME CONST.	2.14s
T <sub>a</sub> ARMATURE TIME CONST.	0.02s
SHORT CIRCUIT RATIO	1/X <sub>d</sub>