

# TECNOGEN

**YANG DONG GENSETS SERIES**

**DATA SHEET AYD49**

**39 KW STAND BY**

**35 KW PRIME**



**TECNO GENERACION SAC**

**Lima - Perú**

**Powered by**  
**Yangdong Y4105D**  
**35kw at 60Hz, 220V**



## General feature:

- ◆ Assembled by Yangdong diesel engine and Aosif alternator.
- ◆ Three filters as standard, fuel and water separator as optional.
- ◆ Radiator and fan with safety guard.
- ◆ Single bearing alternator IP 23, Insulation Class H.
- ◆ Heavy duty steel as base frame and 8hrs operation base fuel tank.
- ◆ Automatic control panel and 3 poles circuit breaker, internal cable.
- ◆ 12V or 24V battery, battery wires.
- ◆ Battery charger and float battery charger as standard supply scope.
- ◆ Optional soundproof canopy, ATS, synchronization panel, movable trailers.

## Genset Main Technical Data:

Genset Model	AYD49
Prime Power	35KW / 44KVA
Standby Power	39KW / 49KVA
Frequency/Speed	60Hz/1800rpm
Standard Voltage	220V
Phases	Three phases, four wires
Manufacturer	Xiamen AOSIF Engineering LTD.

(1) PRP: Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO8528-1. A 10% overload capability is available for a period of 1 hour within 12-hour period of operation. In accordance with ISO 3046-1.

(2) ESP: The Standby Power Rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

# AYD49 Technical Data



## Engine Data:

Manufacturer	Yangdong
Model	Y4105D
Engine speed	1800rpm
Type	Vertical, water, cooling ,four stroke
Combustion chamber type	Direct injector
Number of cylinder	4
Bore * Stroke	105*118mm
Compression ratio	18:01
Total displacement(L)	4.1L
Firing order	1-3-4-2
Rated power(KW)	45KW
Min specific fuel consumption at full load(g/kW.h)	≤232g/kWh
Steady state speed regulation	≅5%
Intake type	Natural Aspiration

## ALTERNATOR Specifications:

Manufacturer	Xiamen AOSIF Engineering LTD.
Model	AA-30-4
Output power	36KW
AVR model	SX460
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude	≤ 1000 m
Overspeed	2250RPM
Number of Pole	4
Exciter type	Self-excited
Insulation class	H
Protection	IP23
Voltage regulation	±1%
Total harmonics (THD)	at no load <3%, on load<2%
Wave form : NEMA = TIF	< 50
Bearing	single
Coupling	Direct

## ALTERNATOR GENERAL DATA:

- ◆ operate either 50Hz or 60Hz.
- ◆ standard enclosure IP23, but IP44, IP55 for option
- ◆ insulation class H.
- ◆ Shunt excitataion systems.
- ◆ AREP or PMG system for options.
- ◆ automatic voltage regulator
- ◆ single bearing alternator
- ◆ Stator grease insulation covered
- ◆ Rotator and excitation high polymer
- ◆ Resist the corruption oil and acid
- ◆ Rotator balance is in accordance with BS5625 standard 12.5
- ◆ High-quality lubrication sealed long-time bearing
- ◆ Rotator silicon steel close tight

## AYD49 Technical Data

### OTHER ALTERNATOR DATA:

#### REACTANCES (%) - TIME CONSTANTS (ms): CLASS : H / 400 V

<b>Kcc</b>	Short-circuit ratio	0.48
<b>Xd</b>	Direct axis synchronous reactance unsaturated	261
<b>Xq</b>	Quadrature axis synchronous reactance unsaturated	156
<b>T'do</b>	Open circuit time constant	803
<b>X'd</b>	Direct axis transient reactance saturated	16.2
<b>T'd</b>	Short circuit transient time constant	50
<b>X''d</b>	Direct axis subtransient reactance saturated	8.1
<b>T''d</b>	Subtransient time constant	5
<b>X''q</b>	Quadrature axis subtransient reactance saturated	11.5
<b>Xo</b>	Zero sequence reactance unsaturated	0.88
<b>X2</b>	Negative sequence reactance saturated	9.82
<b>Ta</b>	Armature time constant	8

#### OTHER DATA - CLASS : H / 400 V

<b>io</b>	No load excitation current (A) (SHUNT/AREP)	0.51/0.79
<b>ic</b>	Full load excitation current (A) (SHUNT/AREP)	1.77/2.71
<b>uc</b>	Full load excitation voltage (V) (SHUNT/AREP)	29.9/19.3
<b>ms</b>	Recovery time( $\Delta U = 20\%$ trans.)	< 500ms
<b>Kva(Shunt)</b>	Motor start. ( $\Delta U = 20\%$ sust.) or ( $\Delta U = 50\%$ Transient)	67.7
<b>Kva(AREP)</b>	Motor start. ( $\Delta U = 20\%$ sust.) or ( $\Delta U = 50\%$ Transient)	76.1
<b>%</b>	Transient dip (rated step load) SHUNT / PF : 0,8 LAG	16.2
<b>%</b>	Transient dip (rated step load) AREP / PF : 0,8 LAG	13.7
<b>W</b>	No load losses	762
<b>W</b>	Heat rejection	3371

### AOSIF Circuit breaker specification:

	Manufacturer	Delixi group Co., Ltd.
	Brand	Delixi
	Model	CDM1-100L/3300-63
	Capacity	63amp
	Voltage	400V

### AOSIF Starting Battery specification:

	Battery Voltage	12V
	Battery Capacity	36aH
	Quantity	1 pcs
	Battery type	Free maintenance, sealed lead-acid type



# AYD49 Technical Data

## Control system:



## Deepsea 6120

### Auto start and stop control panel

Deepsea 6120 is an auto mains failure controller for single generator, it can monitor and protect the generator working all the time. it has a LCD display which clearly shows the status of the engine. this controller include seven inputs and six outputs. This controller can also be programmed using the front panel or by using DSE configuration Suite PC software.

#### Parameters:

This controller can provide Generator frequency, Under/over speed, Generator volts, Generator current, Engine oil pressure, Engine coolant temperature, Flexible fuel level, Hours run counter, Battery volts, Fail to start/stop, Emergency Stop. Failed to reach loading voltage/frequency, Charge fail, Loss of magnetic pick-up signal, Low DC voltage, CAN diagnostics and CAN fail/error, Mains volts 3 phase, Mains frequency, AMF indications

#### Protection:

- ◆Low Oil Pressure
- ◆High water Temperature
- ◆High voltage and low voltage
- ◆Overspeed

- ◆Volt adjuster and frequency adjuster.
- ◆Emergency stop
- ◆Fail to start

#### Features:

- ◆Protection: Automatic start/stop, load transfer and alarming of generator;
- ◆CAN and magnetic pick-up versions.
- ◆PC and front panel configurable
- ◆4 digital inputs and 3 analogue inputs.
- ◆6 outputs(4 configurable on magnetic pick-up, 6 configurable on Canbus version).
- ◆3 phase generator and mains voltage monitoring.
- ◆remote start on or off load.
- ◆advanced metering capability.
- ◆test button.
- ◆protected solid state outputs.
- ◆transfer between mains and generator power.
- ◆user-friendly set-up and button layout.
- ◆multiple engine parameters are monitored simultaneously.
- ◆module can be configured to suit individual applications.
- ◆IP 65 rating offers advanced resistance to water ingress when gasket is fitted.



- ① Power switch
- ② Lamp switch
- ③ Power indicator
- ④ Operation buttons
- ⑤ LCD display



Open type



## **AJD49 Technical Data**

### **AOSIF Soundproof Enclosure Specification:**

AOSIF silent generator is designed by professional acoustic engineers based on 12 years experience.

- ★ multi-way air intake and exhaust guarantee the power performance of the generator.
- ★ large-scale impedance combined type silencer effectively reduce noise of the generator.
- ★ internal high performance rubber damper and flexible materials reduce vibration.
- ★ Base mounted fuel tank supports the generator running for 8 hours.
  
- ★ Cold steel materials of the canopy.
- ★ Best powder paint.
- ★ Zinc plated and Corrosion resistance.
- ★ Elegant appearance and reliable quality.
- ★ Stainless steel locks and hinges.
- ★ Access to all weather conditions.
- ★ Fireproof, waterproof and dustproof.
- ★ High quality soundproof materials could efficiently reduce noise.
- ★ Big base fuel tank in the frame guarantee sufficient diesel supply.
- ★ 180° revolvable and disassemble door for easy maintenance.
- ★ Concave lockable access door for easy operation and indefectible.
- ★ Lights inside of the canopy for maintenance.



- ★ Transparent viewing window make the control panel clear at a glance.
- ★ Emergency stop button mounted on the canopy exterior for urgency.
- ★ Cooling fluid injection hole is kept on the ceiling crust.
- ★ Pipe of lube oil and cooling fluid is mounted on the bottom of generator for easy let.
- ★ Fuel fill and battery can easy be accessed by lockable door.
- ★ Cooling fan and battery are fully guarded.
- ★ Heat insulation of exhaust smoke system inside the canopy.
- ★ Forkman slot is for choice.
- ★ Lifting ear is mounted in the base frame.

# AYD49 Technical Data

## Supply scope

### 1. Standard supply scope:



- ① Auto Control Panel
- ② Main Circuit Breaker
- ③ Cooling Radiator
- ④ Base Frame
- ⑤ Filter
- ⑥ Starting Motor

### 2. Optional supply scope:



Contact your local distributor for more information:



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