

Diesel – Elektro – Aggregat

Typ PSE 600P /12 PK 605kVA

As stationary genset equipped as follows:

Engine

Water-cooled, maintenance friendly, smooth running PERKINS industrial diesel engine, through brand new engine technology clear under EG rules. Type 3012 TG ISO – Primepower ICNX to DIN 6271 by 1500 r/pm. 530 kW.

This data expect the net engine output without every other drives appropriate DIN 6271 / ISO 3046/1 at intake air temperature of 300 K(27°C), air pressure 100 kPa (1000mbar) and relative atmospheric humidity of 60 %.

Standards

Burning system:	Four stroke- diesel, direct injection with turbocharger
Cylinder:	12 cylinder in V-form
Coolant system:	Water circulation cooling through superior radiator for a maximum ambient temperature of 45°C.
Lubrication system:	Oil pressure circulation through gear pump
Displacement:	26,11 liters
Bore / stroke:	135.00/152.00
Injection:	axial starter motor 24 Volt
Fuel consumption at:	100 % load = 132,1l/h = 189 g/KW/h 75 % load = 106,2l/h = 187 g/KW/h 50 % load = 73,5l/h = 194 g/KW/h

Coolant system

At base frame mounted radiator, for tropical conditions and a ambient temperature of 45 ° Celsius inclusive overpressure valve overfill pipe, filling cap an coolant drain. The fan is direct driven from the engine.

Alternator

The alternator appropriates VDE 0530 rule. Electronic synchronous alternator brushless. self-regulated, isolated, ventilator cooled with ICO 6 cooling system, water protected IP 23. The isolation appropriates DIN 50010 and VDE 0530 with high performance bearings in grease for maintenance free running after international standards.

Manufacturer::	Ansaldo
Alternator Type	M7B 400 SA
Power: "A"	550,00 KVA ≈ 797,50 Ampere
Power: "A"	440 kW
Power:....."B"	605,00 kVA ≈ 877,25 Ampere
Power: "B"	484KW
Power factor:	cos. phi 0,8
Voltage.:	400 Volt
Voltage tolerance:	± 1,5%
Frequency:	50 Hertz
Rpm:	1.500
Isolation:	IP 23
Radio disturb:	"N" to VDE 0875
Form	B 5/B 20 to DIN 52950

Base frame:

The whole genset is mounted on baseframe made out of steel. Lifting hook are special build to move the set with crane. Engine and alternator connected direct together with SAE – Connector, so that there is no possibility for a wrong setting also after a lot of running hours.

Protections

Radiator fan, belt drive and engine alternator are complete protected against personal injury. The radiator is protected with an net, so that a damage is not possible. The whole set is certified ACC. to CE 96 Norm.

Vibration damping

To avoid vibration flexible bearings (Vibration dampers) are mounted between engine and alternator. This vibration dampers are made out of high resistant rubber material.

Battery set 24 Volt

Maintenance free high performance starter batteries are mounted at the genset base frame. The battery are calculated after VDE regulation for 3 starts by ambient temperature of 0° Celsius. The batteries are dry preloaded and 100 % recycable.

Engine pre heating

A part of the engine pre system is build into the switching cabinet with circuit breaker and protects. The switches allows the engine heater to switch of while engine is running. The engine heater has an power of 2 kilowatts. The heater is equipped an thermostat so the an over heating of the engine is not possible.

Full automatic emergency switching cabinet

Stand cabinet:	passed as 1 field
Dimension:	L x W x H 800 x 2000 x 400 mm
Power part:	NH1 – cutter 1.000 A, Current changer
Short circuit strength:	Is = 45kA, Ip= 45 kA
Battery voltage:	24 V
Ambient temperature:	0 ...45°C
Regulation:	VDE 0100, VDE 0108
Stand cabinet type:	Rittal PS 4804
Water protection:	IP 54
Colour:	RAL 7032
Equipment:	Wiring diagram bag and cabinet light
Cable pour in:	Top or less, PG – screwing

Function:

- ☐ Operation without net
- ☐ Stand by operation
- ☐ Automatic test run under load
- ☐ Net parallel operation
- ☐ Power regulation at net parallel operation
- ☐ Voltage- / Cos phi – regulation

Power part:

1 pcs.	Alternator input
	NH 1 – Load cut switch 1.000 A
2 pcs	Load cut switch 500 A
	NH00 – Load cut switch 500 A
1 pcs	Connecting system 1.000 A

Control box:

Automatic engine-/alternator control AMG , Manufact.. Leonhard as follows:

- ☐ Dimension: 144 x 144 mm
- ☐ Mains voltage: 400 V, 50 Hz
- ☐ Current changer connection: x/5A
- ☐ DC voltage: 24 V DC
- ☐ 16 digital failure come in announcements, Operation - /Stand by- current

- ☐ 7 Relay outcomings for announcements
- ☐ alpha numeric indication of the measurements
- ☐ Digital indication for failure
- ☐ Alternator overload observation
- ☐ Power observing
- ☐ Power output counter
- ☐ Operation hour- and starting counter
- ☐ Maintenance and service hour counter
- ☐ Battery voltage observation
- ☐ Synchronisation from alternator – and net power switch
- ☐ Bach power observation
- ☐ Net over- and under frequency observation 3 – phase
- ☐ Net over- and under frequency observation 1- phase
- ☐ Vector observation
- ☐ Frequency regulation
- ☐ Genset constant power regulation
- ☐ Cos – phi- regulation
- ☐ Net come in regulation incl. Zero load regulation
- ☐ Current changer for net current L1 : x/5A
- ☐ Automatic set up – and in by normal operation an net parallel operation with net come in regulation
- ☐ 1 analogue outlet 0/4 ... 20 mA for the output of various values, e. g. machine performance
- ☐ 1 analogue outlet 0/4...20mA to pre-set nominal performance value. Alternatively, the nominal performance value can be directly adjusted at the AMG 2.
- ☐ 4 analogue inlets (1 x 0...20 mA, 2xPt100, 1x PC) for display and controlling purposes
- ☐ serial interface CAN bi-directional, for data exchange between several control units, remote display and setting of parameters via PC or PC and modem.
- ☐ More functions can be offered optional

Indication:

All electric setting are shown digital by the AMG 2

Operation outside AMG2:

1 pcs

emergency stop switch

Reports:

Potential free changer 5A wired at connection:

1 pcs
1 pcs
1 pcs
1 pcs
1 pcs

"Genset stand by"
"Reserve current operation"
"Net in operation"
"Fault"
"Genset running"

Digital come in for remote panel:

1 pcs
1 pcs

"Genset start"
"Genset stop"

Analogue in and out:

1 pcs

1 pcs

Analogue come in (0,4 ... 20 mA), potential bound:
target value genset in net operation, 0 ... 100 %
Analogue come out (0/4...20 mA) potential bound:
parametrierbar. Z. B. Power value genset, 0...100 %

Signal equipment:

1 pcs. Piezo-horn (105db) VDC in cabinet door

Others:

1 pcs. Battery charger, 10A, IU – line automatic fast load, Battery voltage observation over AMG2

1 pcs. Control for electronic speed governor, 230 V, Speed set switch

Documentation

1 Operation manual for the whole genset
1 Operation manual for the engine
1 Wiring diagram
1 Maintenance plan
1 Operation manual for the alternator
1 Parts book for the engine
1 Warranty book

Testing

In front of the delivery every genset will be tested under full load conditions (test run for 4 hours) All failures are simulated under normal conditions how ever possible. Test run protocol possible.