



DEALERS & IMPORTERS OF POWER PLANTS & ALLIED MACHINERY

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1 x 15 MW BRAND NEW Condensing type Steam Turbine Generator Set :

Main technical data:

Turbine Model	N15-3.43//435
Generator Model	QFW-15-4
Speed (turbine/generator)	6000/1500rpm
Rate Output	15000KW 11000V 50HZ
MCR output	15000KW
Rate Inlet Steam	4.0 Mpa 435°C 65.45t/h
Exhaust steam	0.0079Mpa 41.18°C 53.905t/h
BFW temperature	150°C

Cooling water in	27°C 3500t/h Max.33
Power source	AC 415V 220V 50HZ, DC 110V

Main Technical Design Features:

Turbine Type	: Condensing Turbine
Turbine Design Modular	: MTD30C
Standard Applied	: EN60045 and/or CSN080030 and/or IEC 45
Noise level	: <90dB(A)
Turbine Rotor	: Mono-block
Turbine Stages	: 1A+10P
Gearbox	: AGMA design SF1.3
Couplings	: non-lubricated steel laminated flexible
Main Oil Pump	: Screw pump
Turbine Control	: Electron WOODWARD 505
System control and interlock	: OMRON PLC
Over-speed trip	: SKODA Hydraulic
Rotor displacement measuring	: PREDITECH (two points)
Vibration measuring	: PREDITECH (two points)
Main Condenser	: HEI design 1300m2 with HSn70-1 tubes
Generator	: NANYANG, China
Exciting type	: Brushless Self Excite with PMG
Cooling type	: CACW
Insulation Class	: F
Protection	: IP54

Suggestion for Supplying Scope:

The turbine generator set is delivered completely equipped with accessories and auxiliary devices. The STG mechanical part delivery split in individual function

groups covers following:

Turbine

Condensing steam turbine from the inlet flange of the main stop valve up to the generator, with the coupling bolts and nuts and up to the exhaust branch for the weld connection with the condenser duct, including:

- Turbine proper and Gear box with base-plate and couplings
- The main steam stop valve and control valves hydraulic operated.
- The turning gear with the electrical-motor.
- Gland steam pipe near the turbine
- The rupture safety membrane.
- Exhaust hood spray system
- Drain system with expander
- Oil pipe beside the turbine proper

Oil System

- Main oil tank 8m³ with oil vapor extraction fan
- Lubricating oil coolers 2×100%
- Main oil pump (on the low speed gear box shaft) 1 No.
- Auxiliary (start-up) pump (AC motor driven) 1 No.
- Auxiliary lube oil pump (AC motor driven) 1 No.
- Emergency oil pump (DC motor driven, screw type) 1 No.
- Oil full capacity duplex filter for lubrication oil
- Oil full capacity duplex filter for governing oil
- Spring loaded throttling valve for lube oil
- Oil piping with valves and pressure gauges within oil station

Ejector and condensers

- Main condenser.
- The gland steam condenser.
- The vent steam condenser with extraction ejector
- The water ejectors with AC water pumps (2X100%).

- LP heater

Instrumentation

- Local Instrumentation and junction box
- Local gauge panel with emergency push button
- Special cables complete to local junction box
- One(1) pieces of WOODWARD CPC
- Turbine control panel with WOODWARD 505 governor
- Turbine supervisory panel with PLC and HMI.
- MCC panel

Generator

- Brushless Generator 15000KW 50HZ 11000V 0.8PF
- Exciting panel with two channels Digital AVR
- Air Coolers (water cooled, copper tubes)

Electric panels

- Generator control and metering panel
- Incoming VCB Panel
- CT/PT Panel
- NGR panel
- Generator protection relay panel
- DC panels with battery 150AH

Others

- Pressure regular valves for gland steam system
- Condensate extracting pumps
- Condensate regular valves for hot-well level
- Quick-closed valves for bleeding steam pipe lines
- Foundation bolts and shims.
- Special tools and erection jigs, lifting device for casing and rotor and

transport stand for the rotor. The set of special wrenches for turbine assembly and the checking shaft.

- Specified spare parts for commissioning and two years operation.

Major Terminal Points

- a) Inlet steam - at inlet flange of Emergency Stop Valve
- b) Bleeding steam – at the inlet flange of the turbine
- c) Drains – connected to the flash tank, local drains to be connected to nearest drain trench.
- d) Aux cooling water – at individual consumer
- e) Instrument air – at individual consumer
- f) Power cabling- at the respective motor terminal
- g) Power evacuation – At the generator terminals
- h) Instrument cabling – at the junction box
- i) Aux steam 12bar 250 deg C at consumer points.

Excluding Items

- Lube oil
- Steam blow out device, target plates
- Steam and water pipes
- Oil pipe between oil station and turbine generator set
- Power/control/instrumentation cables between equipments
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Services

- Design including engineering layout
- Manufacture
- Shop testing and inspection
- Packing and sealing for transport and storage
- C&F delivery
- Documentation including operating and maintenance manual
- Supervision for erection and commissioning

PRODUCT IMAGES :



REPORT