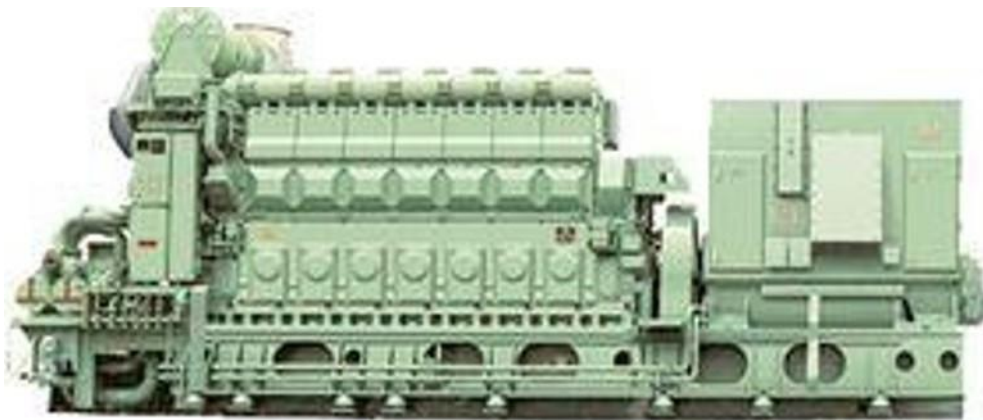


## Commercial offer

### DIESEL/HFO 18V32/40 Basic MAN

Gross electrical output approx. 9,0 MW  
double fuel



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## 1 INTRODUCTION

Dear Customer,

We are pleased to be given the opportunity to submit this budgetary proposal for power generation equipment and services for a compact modular double fuel power plant according to the scope of supply described in this proposal.

**The general compilation consists of 37 new units of MAN Diesel engines 18V32/40, never installed, manufactured at MAN-GERMANY.** The gross electrical output of this plant is approximately 9 MW each specified at the generator terminals. The offered engines are designed for firing by Gas or HFO/Diesel. **In this offer the auxiliary is listed for 1 unit, so the descriptions refer to 1 unit only.** All engines are equipped with brand **new ABB** generators

Based on the limited information available the price is of budgetary nature. Price is based on several assumptions that need to be confirmed/updated before a firm contract offer can be made.

## 2 PERFORMANCES

Preliminary performance data

Gross Electrical Power: 9 kWe, specified at the generator terminals \*

Gross Heatrate: 7,832 kJ/kWh, specified at the generator terminals\*

\* Given at +25°C, 30% RH and 100masl ambient conditions with  $\pm 0\%$  tolerance, 11kV generator voltage, Gas Methane Number >80, LHV >30MJ/Nm<sup>3</sup>, Gas pressure min 5 bar(g), Power Factor 0,8

Refer to Exhibit D for detailed performance figures. Kindly note that we provide performance figures with 0% tolerance.

## 3 SCOPE OF SUPPLY

Based on the limited information available the scope of supply offered is given at a general level as described below. Refer to the scope of supply list attached.

**All units are available for immediate delivery!**

**Scope typically including:**

Basic engineering of the plant  
Detailed design of all MAN supplied equipment  
Generating sets & automation/control system  
Auxiliary equipment needed for the power generation  
Medium voltage & Low voltage switchgears  
Technical advisors for assistance during installation  
Technical advisors for assistance during commission  
Training on site  
Plant operating manuals

**Scope typically excluding:**

- All civil material & work
- installation and supervision
- All site management and site offices
- Piping material, cables & tanks
- Exhaust gas emission cleaning equipment (if required)
- Switchyard and step-up transformers
- Any other work or services not mentioned here

## 4 PRICE

The sales price for equipment and services according to the enclosed scope of supply is consisting of equipment supply and related services from abroad.

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## 5 PAYMENT TERMS

- 50 %      Signature of the contract (down payment)
- 50 %      At notification of readiness of dispatch (approx. 20 days)

## 6 DELIVERY TERMS

Delivered FCA Europe in accordance with ICC INCOTERMS 2020 edition

## 7 DELIVERY TIME

Delivery time will be conditional to equipment available in stock or production capacity.

The equipment is to prior sale and at availability the equipment will be ready for shipment from location approx. 20 days after the date of receipt of advance payment.

## 8 INSPECTION AND RESERVATION

### INSPECTION

The equipment can be inspected after signing of the NCNDA, proof of financing and payment of 250,000 EURO per unit. The payment will be refunded if the engines cannot be shown. In the event of purchase, it will be offset against the purchase price. Does the customer not buy for reasons we are not responsible for the amount is lost and will not be refunded.

**RESERVATION** A reservation for 3 months is possible against payment of 600,000 EURO per unit. Should the customer decide against the purchase during this period, the payment is completely lost and will not be refunded; at purchase it will be offset.

## 9 WARRANTY PERIOD

The warranty period with respect to the Equipment begins at the delivery of the engines and ends twelve (12) months from the date of the performance test certificate or eighteen (18) months from the date of the delivery of the engines, whichever first occurs.

## 10 VALIDITY

This Budgetary proposal is valid for twenty (20) days from the document creation date.

**Offer with reservation of error - subjects to prior sale!**

## 11 ATTACHMENTS

### 1 unit **9 MW Generator Set**

**Manufacturer MAN Diesel & Turbo, type 18V32/40 - 4 stroke, unused**  
**Each unit consists of motor, generator, rack / base-frame**

#### **Motor:**

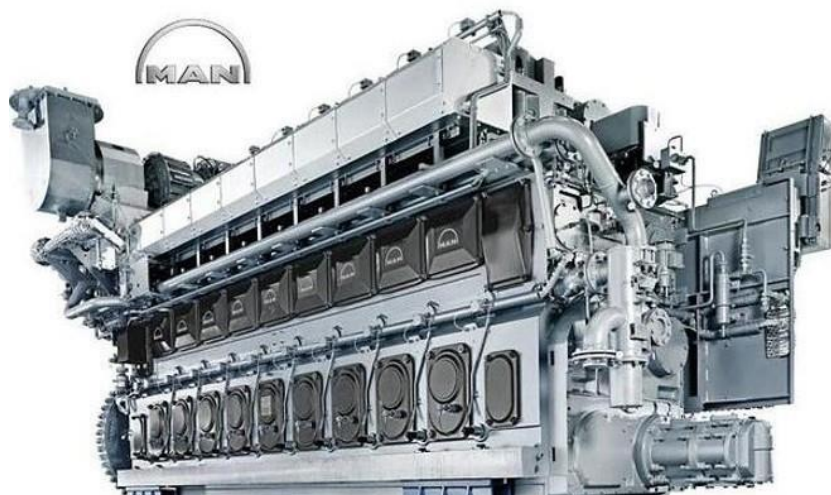
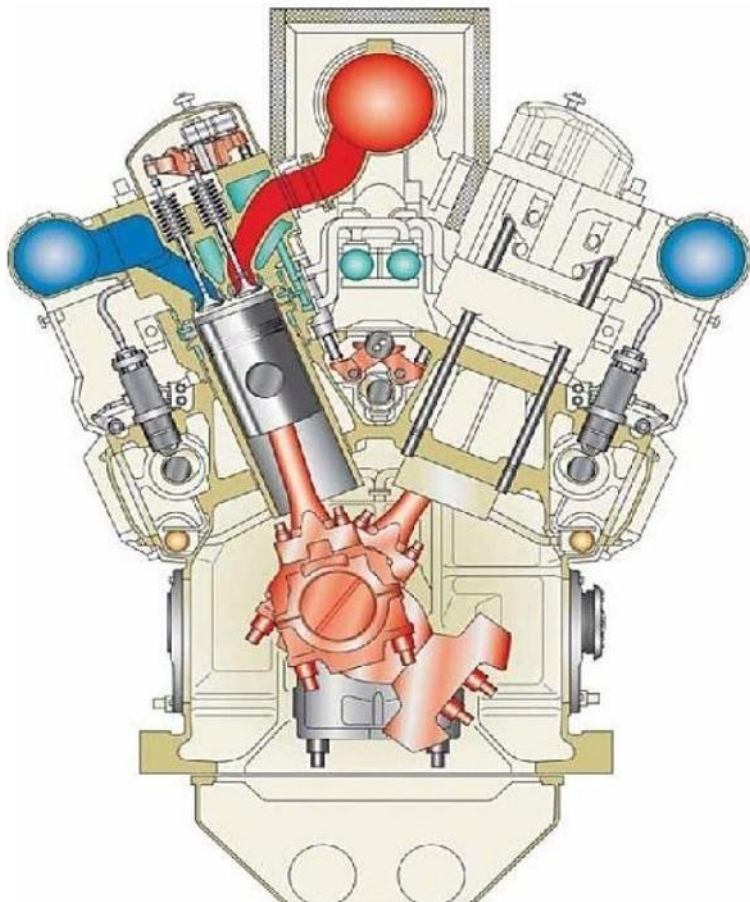
Speed	750/720 rpm
Power at crankshaft	9,000 kWm
Emission	WB 19 98
Power-to-weight ratio (MCR)	
In-line engine	11.3 - 12.7 kg/kW
V-engine	9.4 - 10.2 kg/kW
Cylinder output (MCR) at 750/720*) rpm	500 kW
Cooling	
Cylinder cooling	Fresh water
Charge-air cooler (two-stage)	Fresh water
Fuel injector cooling	Fresh water, only when running on
HFO	
Start ing method	Compressed air

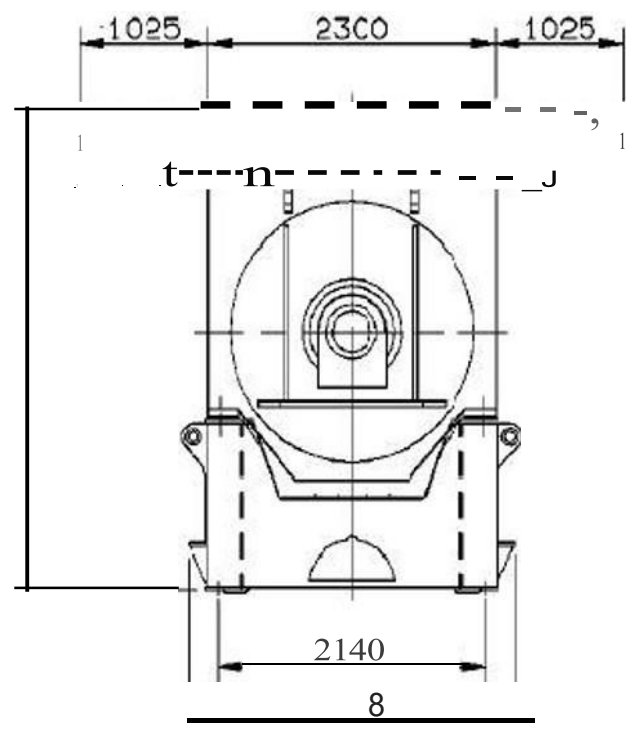
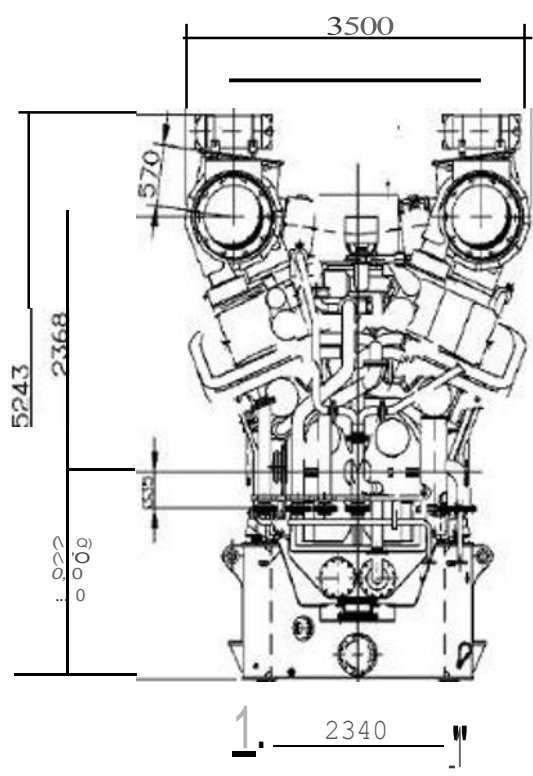
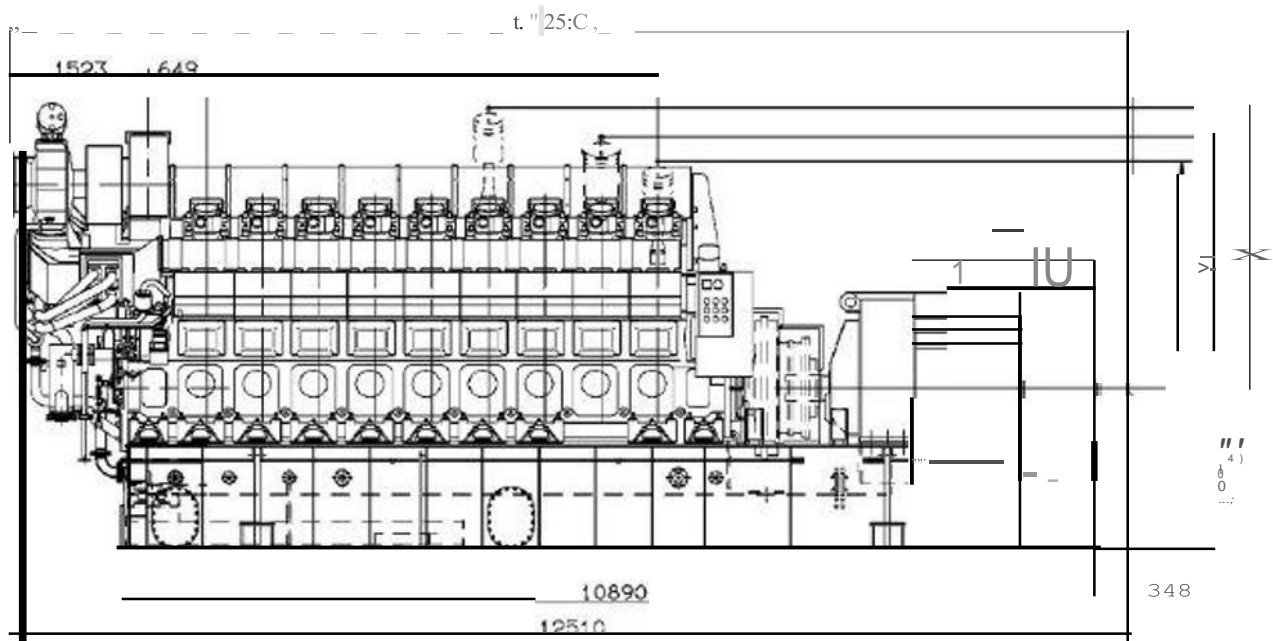
#### **Genera tor:**

	50 Hz or 60 Hz
Voltage	11kv /13.8
Output approx.	10,940 kVA
Alternator efficiency	97,24%

#### **Generator-Unit:**

Continuous power output	8,752 kWel
Specific fuel consumption	at 100% load 190,35 g/kWel
lube oil consumption	(+ 20% tolerance) 4,5 kg/h
Weight	per Unit 151 ton
Parameters according to	ISOcondition

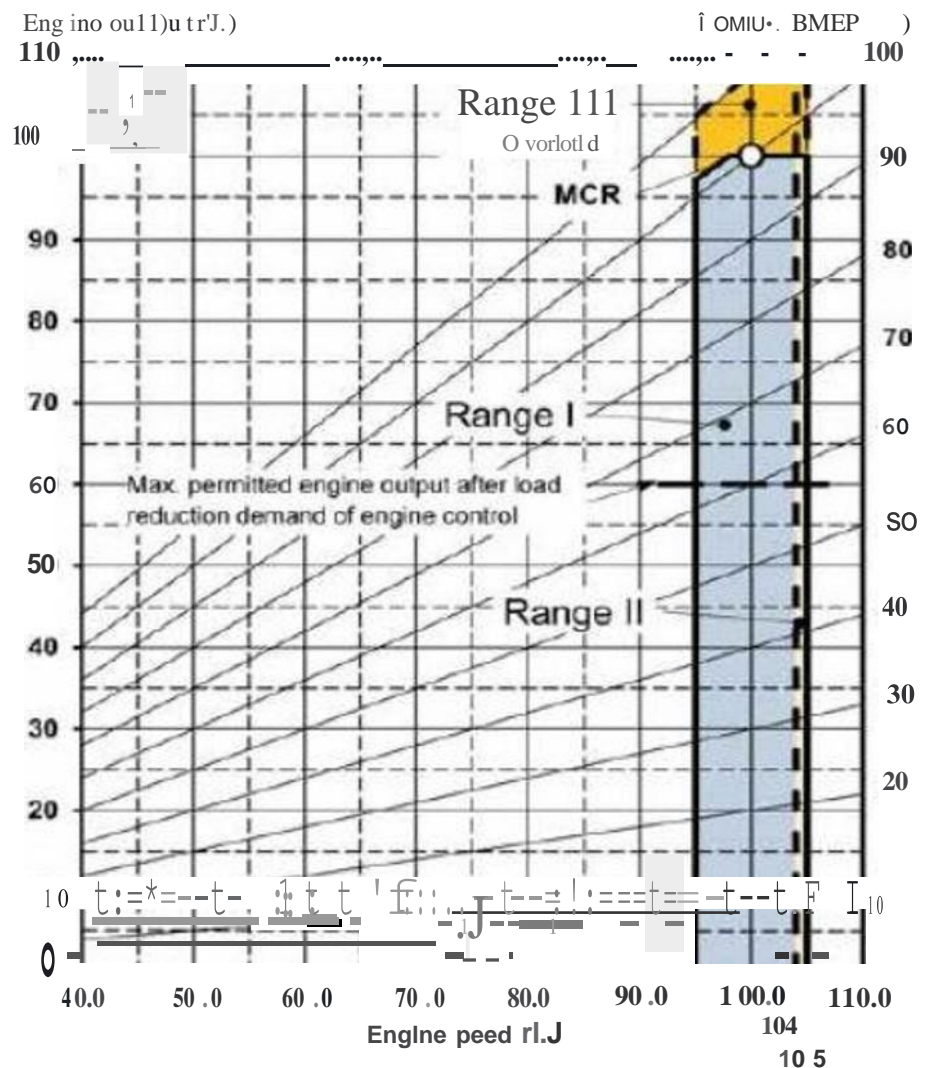






## GenSet operation

### Operatinic ranoe for Genset/elec1ric propulsion



MAN

18V 32/40

Fuel consumption

MCR

According to ISO  
3046 / 1 (reference  
condition s)

According to ISO  
3046 / 1 (on the site)

Heavy fuel oil

183+5%

g/kWh

Diesel oil / MDO

185+5%

g/kWh  
g/kWh

Lubricating oil consumption

5.4 Kg/h

## **Installation and Maintenance Equipment**

Roll-off equipment - Gas /HFO/OIESEL engine including ABB generator  
Maintenance equipment  
Gore lifting equipment  
Semi-gantry crane (not included)  
Auxiliary gearbox support  
Installation tool kit comprising of a cabinet containing common hand tools  
Holding down fixings - GT and driven unit package  
Holding down fixings - off-package equipment  
Selection of paints for site repairs

## **Drawings and Documentation**

Standard set of certified information and approval drawing in English language  
Existing drawings are to be reviewed and issued with relevant modifications or a project specific cover  
Operator manual - English language - CD only  
Maintenance manual - English language - CD only  
Driven unit manual - English language - CD only

## **Packing and Delivery**

### **Packing**

Packing and preservation to suit destination and transport method

### **Delivery terms**

Delivered FCA Europe in accordance with ICC INCOTERMS 2020 edition

### **Spares**

Commissioning equipment and tools  
Commissioning spares

## **Quality Assurance**

Contract QA Program  
Material Record Book (MRB) - quality assurance and as built records - English language

## **Subjects to prior sale - errors and omissions excepted!**

### **For Your attention!**

These power plant gensets, as described, can just be purchased from us exclusively from the local storage site.  
The complete offer consists of 37 units with an electrical capacity according to ISO of 9 **MW** each.  
The gensets can also be acquired individually tailored, if needed.  
However, individual components cannot be purchased from the closed units.  
Upon request, we will transport the gensets to the new customer site and fully assemble them, undertake commissioning by MAN, and provide the sets with a new factory warranty.  
To this end, an EPC contract can be concluded with the customer upon request.  
A corresponding contract proposal will be provided to the customer after confirmed purchase interest with payment guarantee via LOI.  
Subsequently, a reservation deposit of 500,000 EUR is to be deposited against our invoice.  
Afterwards, the following payment schedule applies based on delivery progress:  
    50% before packing and setup to the customer's fuel requirements.  
    50% at notification of readiness of dispatch.  
The payment terms are non-negotiable, as this is a special offer by the private owner.  
We are available at any time for further questions and details.  
We reserve the right to sell in the meantime.  
The facility is considered reserved only upon receipt of payment for our reservation invoice.