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FIRE FIGHTING VEHICLE BASED ON SCANIA G460 6X4

Chassis

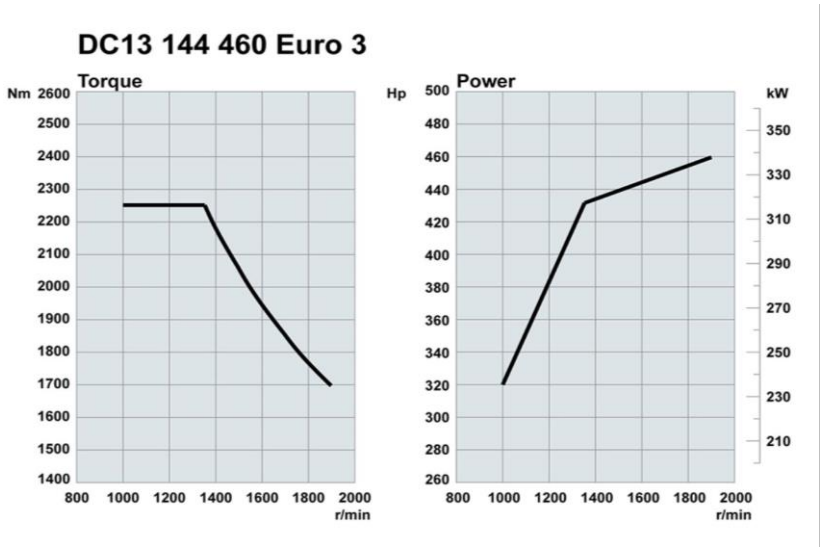
The vehicle is built on an Scania G 460 HZ 6 x4 chassis with turbo-charged 460 HP Diesel engine. The chassis is completely tropicalized with extra rigid package XT for driving in hard terrain. Chassis comes from Zwolle factory in Niederland.

Model : Scania G 460 HZ	Axles 8.5 t + 2 x 10.5 t
Drive : 6x4	Tires : 13 R22.5 (twin)
Engine power 460 hp	Batteries 230 Ah
Engine emission EURO-3	Alternator charge 150 A
Gearbox : Automatic	Fuel tank : min 315 L

Vehicles has vertical exhaust behind the cab with extra air filter for engine.

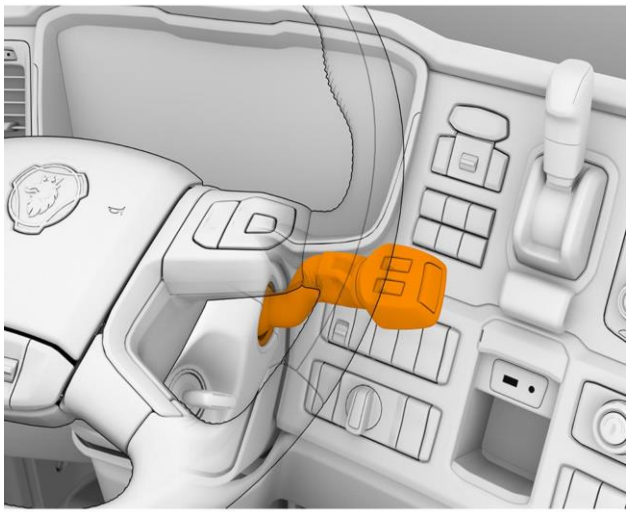
Engine curve

Fuel : Diesel
Engine volume 13 litres
Emission level Euro 3
Engine type DC13 144 460 hp Eur 3
Turbocharger duty class special
Crankcase ventilation type open
Crankcase gas cleaning centrifugal
Oil level indication with



Transmission

Gearbox	GRS905
Gearbox type	automatic
Gear selector position	steering wheel
Gearbox oil cooler	with
Opticruise	with
Clutch pedal	none



Chassis cabin :

Standard cab **CG17L**, corrosion-protected, suitable for driver and 1 crew members. Available is 3rd seat in the middle. The cabin forms an entirely closed unit and is provided on each side with two large entrance doors, front hinged, with manual operated windows. Large left and right rear mirror. Driver's seat is equipped with headrest and safety-belt and adjustable horizontally and vertically. Passenger seats are equipped with headrest and safety-belt. Interior paneling out of non-splintering material; cabin with ceiling lights automatically coming on when the doors are being opened. Windscreen and side windows are in safety glass. Floor of driver's cabin covered with a rubber mat. The entire cabin is hydraulically tiltable upwards in order to gain easy access to engine and gearbox for major repairs. Factory-fitted air conditioning system is provided.

The instruments provided in the cab include:

Speedometer with kilometer counter and tripmeter.
Revolution counter.
Coolant temperature gauge.
Fuel gauge.
Air pressure gauge.
Front and rear fog lights warning lamps.
Hazard warning light.
Direction indication warning light.
Oil- and air pressure "low" warning light.
Battery charge warning light.
Parking brake "engaged" warning light.
Coolant temperature "high" warning light.
Switch and controls for emergency lights, siren and P.A. system.
Control light and buzzer for open doors and shutters.
Control light for PTO engagement.

Cabin will have 3rd seat added in the middle. There will be provision for portable radios (wiring) station and personal belongings of the crew.

Warning lights & P.A system

The vehicle will be marked in a special way to distinguish it from ordinary vehicles

2 pcs blue LED warning lights mounted on the cab
2 pcs blue LED lights mounted on the front hood
2 pcs blue LED light mounted on the side of the superstructure.
2 pcs blue LED light mounted on the back of the superstructure.

1 Siren/public-address system with vehicle amplifier, loudspeaker and microphone. The microphone contains the volume adjuster; the P.A. system overrides the audible warning system by only pushing the volume regulator of the microphone. The minimum output of the P.A.-system is 100 watt.

All lamps are secured against the mechanical damage.

Body Lights

Superstructure is equipped with lights mounted on the upper side of the vehicle designed to illuminate the working area within radius of 3 meters which ensures the comfort of the work even during the night time.

Superstructure

Producer : SSV
Origin : Poland

Superstructure is made from three modules mounted on the off-road subframe.

a) Equipment compartment [front]
b) Water – foam tank [middle section]
c) Pump compartment [rear section[

Example vehicles with three modules

Superstructure design

All materials used for the construction of the superstructure are completely new and free of defects. Very close attention is paid to the choice of the different materials and the anti-corrosive treatment. The bodywork of the vehicle is made of aluminum profiles, critical areas are in closed steel tubing and anti-corrosion treated hot-galvanized steel panels. The steel profiles have been treated internally against rust by means of a special injection wax. The whole body has been treated and professionally painted to give the vehicle a high resistance against rust. Underneath the vehicle an undercoat has been sprayed.

The body/tank/fire-fighting module reduces maintenance, servicing and even major item replacement to simple operations. The cab and body/tank/firefighting module can be easily lifted clear of the chassis for repair or replacement.

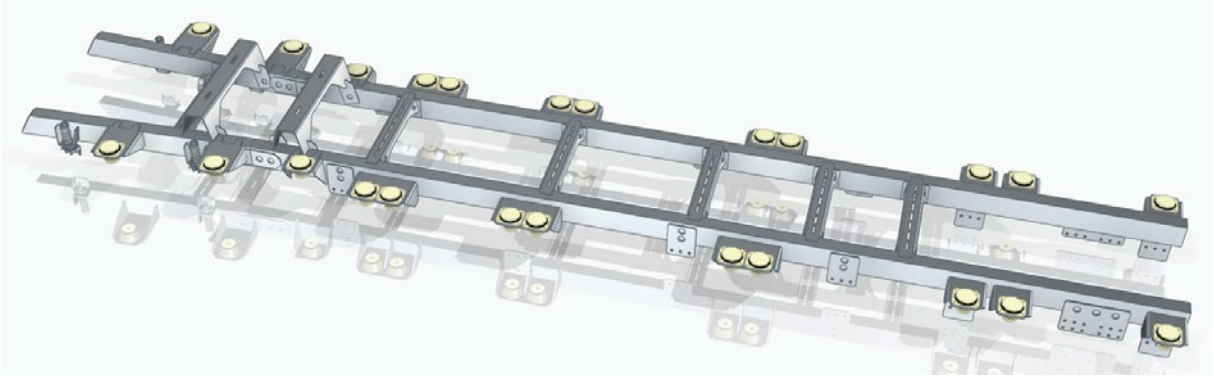
The roller shutters

The roller shutters [2+2+1] are made of light alloy double profiled units, which are fixed together by means of a synthetic joint. This synthetic profile is self-lubricating and resists extreme temperature changes. All roller shutters are water- and dust tight. Equipment and materials are fixed in such a way that damage or blocking of the roller

Producer : AluShutter (Truck Door Service)
Origin : Niederland

Subframe :

A channel section steel sub frame is fitted to ensure even weight distribution of the superstructure over the length of the chassis rails. The design and mounting method allows the chassis to flex independently from the sub frame without damaging the bodywork. All additional mountings and bracketry are fixed directly to the sub frame and treated to ensure low maintenance and maximum corrosion resistance. Subframe in hot zinc protection.



Equipment compartment [front]

The large transverse locker is positioned centrally behind the chassis cabin. It has access from each side and of the vehicle. The locker houses the rescue accessories mounted on the fixed and height adjustable shelves. Construction made from made of aluminum profiles, critical areas are in closed steel tubing. Sheeting made from aluminum, external painted interior anodized. Floor made from stainless steel sheets with proper drainage. Access provide by foldable non slip step below the locker.

Water and foam tank [middle compartment]

The **water tank** is made from high quality material (GRP). Baffles are fitted internally to minimize water surge during braking or cornering. A manhole with 450mm dia. hinged filler lid with saddle bar and clamp is provided on top of the tank for internal inspection. A large overflow pipe prevents pressure/vacuum build up during filling/pumping operations and discharges clear of chassis components at low level. The tank to pump pipe work is of adequate size to support the rated output of the fire pump. A large capacity sump permits maximum discharge of the rated usable capacity while the vehicle is parked on level ground. A 50mm manual valve is fitted to the sump to allow complete drainage of the tank.

The **foam tank** is manufactured as an integral part of the water tank from the same high quality material. The interior of the foam tank if constructed from GPR is finished with a resin rich layup, to ensure compatibility with all known foam concentrates. A vent/vacuum prevents pressure/vacuum build up during filling/pumping operations and discharges into the decanting tray. The foam tank pipe work is of adequate size to support all the pumping operations simultaneously. A 38mm valved tank drain/filler connection is provided at low level at the side of the vehicle, complete with, strainer and blank cap.

Water tank volume : 13 500 Liter. **Foam tank volume** : 1 000 Liter.

- Tank contents are indicated on screens, located on the cab and rear control panels.
- On the left and right side are located hydrants inlets closed with ball valve,

Pump compartment locker [rear]

The large transverse locker is positioned centrally behind the water tank. It has access from each side and rear of the vehicle The locker houses the water-foam accessories mounted on the fixed and height adjustable shelves. Construction made from made of aluminum profiles, critical areas are in closed steel tubing. Sheeting made from aluminum, external painted interior anodized. Floor made from stainless steel sheets with proper drainage. Access provide by foldable non slip step below the locker.



Superstructure roof [general]

To give access to the roof of the appliance, a stable ladder with non-slip steps is fitted at the rear of the vehicle. The necessary protection plates and safety rails are provided. The roof is covered with aluminum cheered non-slippery plates of appropriate thickness either painted anti slip surface.. Roof is bordered by a gallery either side bodies .

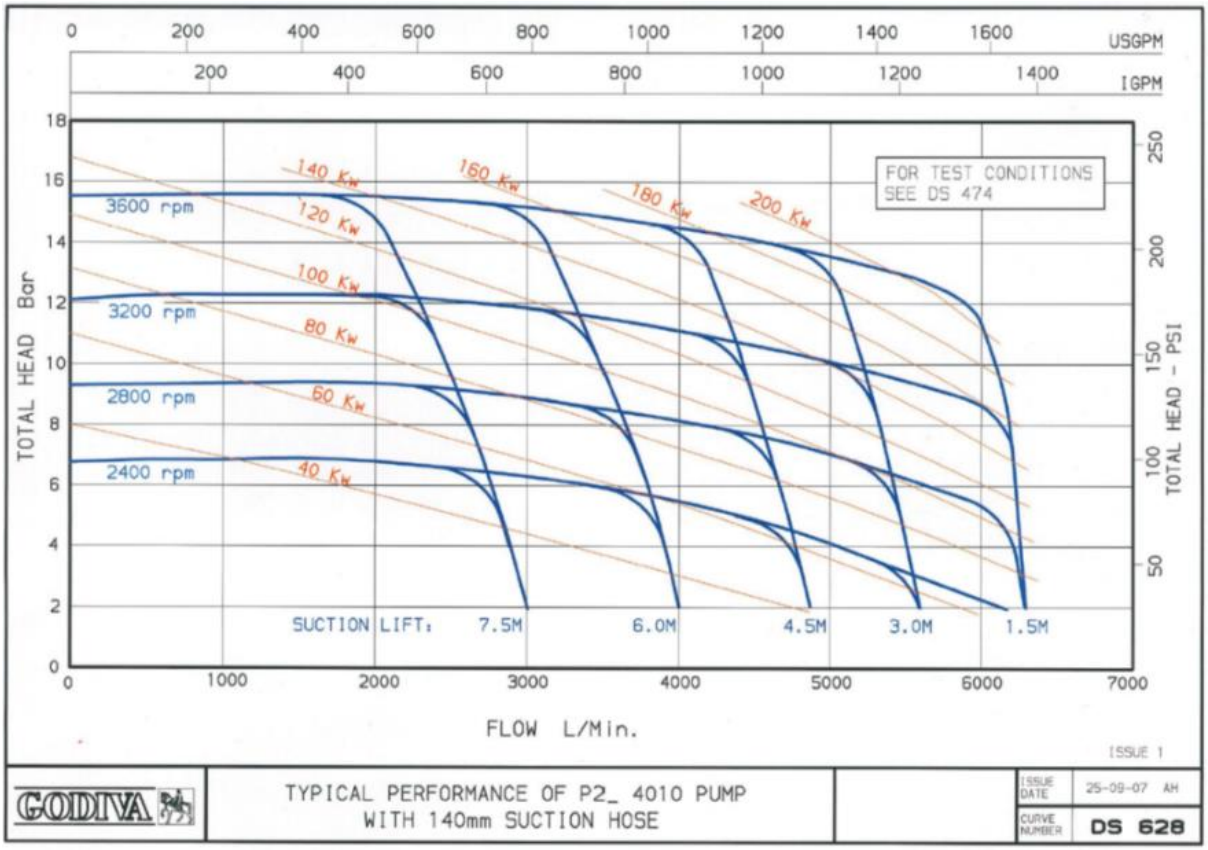
Pump system

In the rear part of the vehicle is located pump compartment with easy access by the user

Model : P2A 4010
Type : two stage pump
Producer : Godiva UK
Origin : United Kingdom
Performance low pressure : 4000 l/min – 10 bar
Performance high pressure 400 l/min – 40 bar

The Godiva Prima is United Kingdom designed pump for rear vehicle mounting. It is a twin stage centrifugal design, featuring for low pressure impellers on one stainless steel shaft to provide simultaneous multi-pressure operation.

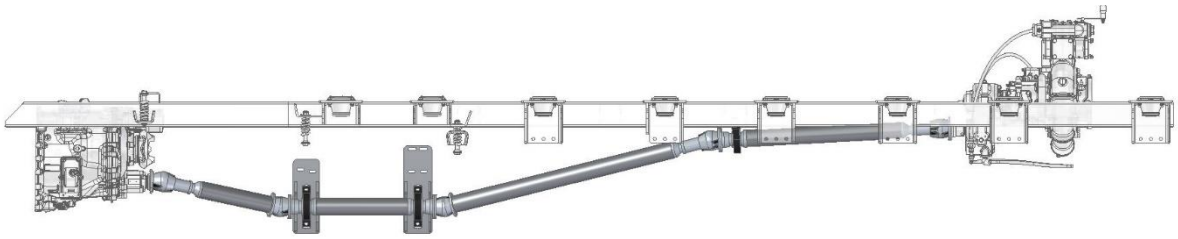
Performance curve



Pump drive

The pump is shaft driven from the power take off which is mounted on the transmission.

Producer : Bakkeren Nederland
Origin : Nederland



Pump Outfit

1 Suction inlet, 5,5” diameter, with shut-off quarter turn butterfly valve and fixed and blank cap. The connections are of British standard (BS)type. Inlet provided at the rear central.

1 Delivery manifold with the following outlets:

4 Low pressure delivery outlets 2 1/2", 2 at the rear left and 2 at the rear right side of the vehicle. These low pressure outlets are fitted with shut-off quarter turn valves and BS couplings and caps in light alloy.

1 Low pressure outlet with shut-off valve for the monitor located on the roof of the pump compartment.

1 High pressure outlet to the hose reels.

Pump Controls

Pump operation panel is located in the rear locker above the pump :

- Engine start/stop and PTO engage buttons
- Engine status (coolant temp, oil press) warning lights
- Manual foam system control panel (selection of 1-6%)
- Pump pressure gauge
- Pump vacuum gauge
- Pump high pressure (manual)
- Engine speed control
- Water tank contents LED indicator
- Foam tank contents LED indicator

Panel controlled illumination of all interior and exterior night lighting

Roof monitor

A manual water- and foam monitor, equipped with a foam aspirating tube, is installed on top of the pump compartment, at the rear of the vehicle, and can be operated from the vehicle roof. The monitor is suitable for plain water and for both AFFF and FP foam agents. Monitor is capable to traverse horizontally by 360 degrees, to be elevated by 80 degrees from the horizontal, and to be depressed by 50 degrees, which is largely sufficient for all types of interventions. The capacities of the roof monitor are 1200 – 3200 liter per minute water/foam mixture at 8 to 10 bars. The monitor is manually operated from the monitor platform.

Producer : PAMET
Model DWP 32

If needed monitor can be mounted on custom made extension for better ergonomic.

High-pressure handline

A high-pressure handline hosereel is provided, fitted in the rear compartment next to the pump compartment, holding min 60 meters diameter DN20 rubber hose, equipped with multi-purpose hand control branch pipe. Hose reel is suitable for water and water/foam production. The hose is interior and exterior rubber coated and has a test pressure of approx. 110 bars.The hose length is winded on an appropriate hose reel.

Producer : PAMET
Model DWP 32
Origin : Poland

High-pressure handline

The reel is equipped with a friction brake in order to keep the reel in position. The reel is so designed that one single operator can remove the hose from any position in the 170 degrees sector. Appropriate guide rollers, with ball bearings, chromium plated, are provided. Unwinding is executed manually. Rewinding is done with the help of an electric engine. In case of electric failure, rewinding can be done manually by means of a convenient worm-gear system. The hose is equipped with a multipurpose high pressure water nozzle designed for the discharge of water, or low expansion AFFF foams, with a capacity up to 250 liters/minute at 40 bars pressure. The flow is controlled by means of a manually operated shut-off ball valve.

Producer and model : PAMET DWP 16/24/32
Origin : Poland

Control panel at driver cabin

In the driver cabin a control panel for operation and control of the superstructure is mounted at the original dashboard with an individual adjustable bracket. The control panel is visible from driver and co-driver. The following list of functions is only an example and it will be adjusted accordingly to the equipment of the vehicle.

Recharging unit

The vehicle is equipped with a system for recharging the batteries on site from an external 230 volt supply via weatherproof type plug and socket arrangement.

Producer : Victron Energy B.V
Origin : Netherlands

A warning light is provided on the dashboard in clear view of the driver to show when the vehicle is connected to an external electrical supply. All electrical circuits will be fused separately suitably indicated and grouped into a common fuse box.

Radio Facilities

A fixed Motorole DM4600 transceiver/receiver type will be provided within the cab, supplied via a 12 volt electrical supply through an approved voltage dropper. The entire electrical system is screened for use of wireless system.

Scania XT package

Carrying more than a hundred years of experience, the Scania XT range stands ready to take on the toughest challenges. Scania's XT range can be tailored to withstand challenging surroundings, securing uptime and boosting productivity, in order for you to run a profitable operation. The XT range comes with a series of powerful features. Driving a XT truck indicates true strength and is a sign of robustness and power.

STEEL BUMPER

The XT bumper provides excellent protection for the components at the front of the vehicle, reducing unwanted downtime and costly cab and chassis repairs while improving mobility with a greater attack angle. Front Underrun Protection (FUP) and Automatic Emergency Braking (AEB) can also be specified.

TOWING DEVICE

The readily-accessible tow pin at the front provides a 40-tonne towing capacity, the strongest on the market. It enables the vehicle to be quickly pulled out of trouble, even without unloading its cargo.

ROBUST MIRRORS

The robust XT mirrors have a rugged, ribbed surface that is scratch-resistant, helping the mirrors retain their good looks over time.

Package XT include also following feathures

HIGH AIR INTAKE

The high air intake is designed to supply the engine with the cleanest air possible. Suitable for dusty environments, the high air intake is available for the complete engine range, including the 16-litre, and comes in two versions – Standard and Heavy Duty.

FOLD-OUT SERVICE STEP

The fold-out service step in the bumper, together with grab handles in the front, ensures safe, non-slip climbing. Grab handles are integrated in the cab front, enabling easy access to the windscreen - saving time when transitioning from off-road to on-road driving.

HEADLAMP PROTEC-TION

When driving in rough surroundings, having dependable lights that do not break makes a big difference. The Scania XT is fitted with headlamp protection and integrated fog lamps in the bumper.

ANTI-ROLL BAR

The three-piece anti-roll bar at the front of the cab enables quicker access to the cooler and the auxiliary equipment fitted in front of the engine.

Paintwork and Labelling

Paintwork of the complete vehicle
Chassis: chassis black RAL 9005
Mudguards and bumper in front orig. chassis, black
Superstructure cabin red RAL 3000
Superstructure red, RAL 3000
roller shutters aluminum colored

Documentation and spare parts

Chassis manuals:

1 Operation Manual,	Hard Copy
1 Lubrication schedule,	Hard Copy (integrated in Operation Manual)
1 Maintenance book,	Hard Copy
1 Service book,	Hard Copy
1 Data card,	Hard Copy

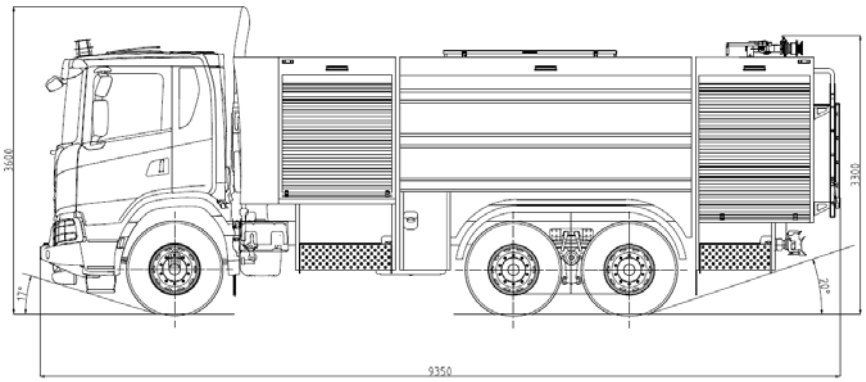
Superstructure manuals :

Operation manual in English, Hard Copy.
Service and Maintenance manual in, Hard Copy.
Check-list in English (Poster type), for daily and periodical service and maintenance.
Illustrated spare part catalogue in English, CD ROM.
All manuals are supplied in a moisture proof plastic pouch, where feasible.
Spares: Upon request, we will gladly submit a detailed quotation for spare parts for several years of operation.

General dimensions

Wheelbase	3 900 mm
Overall length	9 500 mm approx.
Overall width	2 550 over body
Overall height	3 300 mm over monitor approx.
Approach angle	17° (25° without under fender protection bar)
Departure angle	20°

Ilustrative drawing



Illustrative photo