

## ZIEGLER – TLF 28/60-10

Water/Foam

### 000 Major components

- 200 MERCEDES BENZ Chassis 2035 4x2 Actros
- 210 MERCEDES BENZ Crew cabine 1+1+4
- 220 ZIEGLER Equipment locker superstructure ALPAS
- 500 ZIEGLER Firefighting pump FPN 10-2000-2H
- 521 ZIEGLER Body/ground protection
- 530 ZIEGLER Rapid intervention unit
- 540 ALCO Roof water/foam turret HH365 / APF 2.5-C
- 550 ZIEGLER Water tank 6.000 lit.
- 551 ZIEGLER Foam tank 1.000 lit.
- 560 ZIEGLER Foam mixing system ZPV 200
- 711 AKRON Light mast pole



*Illustration vehicle*

**SA**

Additional equipment against additional costs

## 150 Information signs / labelling

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### In General:

**Control elements:** are marked by pictures or clear signs  
**Tire pressure:** is stated in black above all wheels  
**Maker's name plate:** at the driver's door a maker's name plate, 105x74 mm, according to DIN 825 is mounted.

### Labelling:

The labels is in **english** language.

## 160 Painting

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Paintwork of the complete vehicle:

1 **Paintwork in red, RAL 3000**  
(superstructure and cabin)

Type of paint of superstructure:  
1 **structural paint**

Paintwork of front bumpers:  
1 **Original colour of chassis**

Paintwork of mudguards in front:  
1 **Original colour of chassis**

Paintwork of rims:

1 **Original colour of chassis**

### Further paintwork:

1 **Greasing spots in yellow, RAL 1016**

1 **Equipment lockers inside in silver, RAL 9006**

1 **Roller shutters**, aluminium coloured

1 **Cavity coating**

Lower area of the superstructure

1 **Undercoating:**

The lower side of the equipment locker superstructure is provided with durable undercoating

## 200 MERCEDES BENZ Chassis 2035 4x2 Actros

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**Make:** MERCEDES-BENZ  
**Type:** MB 2035 4x2 ACTROS  
with short cab 1+1, F07

**Drive:** on road 4x2

**Wheel base:** 4.500 mm

**Engine:** V-6-cyl.- Diesel engine OM 501 LA, MX2  
-Engine version, Euro 2, MS0  
-PSM, body and trailer CAN, ISO 11992, EM8  
-with engine brake with constantly open throttle valve  
-air intake from rear, MG8

**Output:** **260 kW/354 HP** at 1.800 1/min

**Gearbox:** MB Transmission G 210-16, GC3

**P.t.o.:** **NA 125-10b, with i = 1,52/1,84 x nMot for FP, NF1**  
gear oil cooling, N55

**Brake unit:** EG disk brake unit with ABS, BB0  
Compressed air dryer, heated, B65

**Electrical system:**

vehicle voltage 24 V,  
batteries 2 x 12 V/165 Ah  
generator 28 V / 80 A  
fog searchlights, L16  
Reversing warning device, JW0  
Power windows for driver's / co-driver's door, FE5

**Fuel tank:** 400 l, KS4

**Tire equipment:** 12 R 20 (7x),  
6 + 1 spare-wheel.  
**With spare-wheel holder on the roof (Ziegler).**

**Other:** Deletion, rear underride guard (EC), C95  
Cab rear wall, straight, F24  
Speedometer, J10  
Cruise control, MD9  
Deletion, immobiliser (transponder), FW2  
Fold-up seat, co-driver, SF0  
First aid kit, Y10  
Tool kit, Y20  
1 wheel chocks, Y27  
Tyre inflating hose, 25 m, Y35  
Hazard warning triangle, Y44  
Warning lamp, Y45  
Fire-fighting vehicle, Z27  
Vehicle, for right-side traffic, ZZ3

**BAI steel crew cab length 1680mm, KFCJ**  
**4 seats at rear wall with seat belts and brackets for**  
**BA,KSFK Driver's cab painted in red, RAL 3000**

Permissible weights:

total weight	20.500 kg, TS6
front axle	7.500 kg
rear axle	13.000 kg

## 210 MERCEDES BENZ Crew cabine 1+1+4

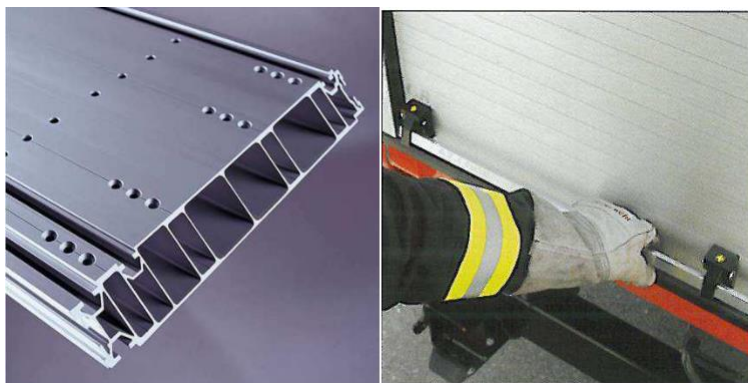
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- 1 The crew cab consists of the original **MB double cab** with **4 doors**. Single seats for driver and co-driver, with head rests and three-point automatic safety belts.  
In the rear area of the crew cab **an original seat bench, in driving direction**, with through seat upholstery and head rests for 4 crew is mounted, with tool box below.  
All seats in driving direction are provided with automatic safety belts and head rests.  
The seat bench is provided with **4 integrated brackets for compressed-air breathing apparatus** and for this reason these apparatus can be put on during slow drive (MB).

## 220 ZIEGLER Equipment locker superstructure ALPAS

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The modular superstructure consists of three parts. In the front part, after the driver's cab an **equipment locker** is provided where the equipment is stored. The equipment locker is shut by **2 dust- and water-tight ZIEGLER AZ shutters**.



After the equipment locker the **extinguishing agent tank** is mounted elastically (rubber metal bearings) on the assembly frame. The lateral wall of the tank is also the external wall (tank superstructure).

**A second equipment locker** is positioned behind the water tank (instead platform) The pump unit, the quick-intervention unit and additional equipment is installed inside this locker. The equipment locker is shut by **3 dust- and water-tight ZIEGLER AZ shutters**.

The equipment lockers consists of a solid aluminium panelling system with light structural profiles (**ALPAS**).

Thanks to the connection of the aluminium elements by drop-forged parts a very high flexural strength and an extremely high torsion strength is provided.

The roof is glued with aluminium padded plate.

The equipment locker floors and partially the partitions and shelves are made from aluminium double padded plate.

Between front and rear axle left-hand side and right-hand side below the superstructure each one tread is mounted.

The equipment locker lighting is automatically done by magneto switches.

The fire-fighting equipment is safely and practically stored in slides and drawers in the equipment lockers, on the roof and in the driver's cab.

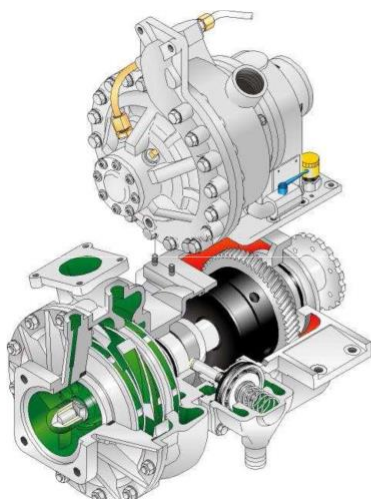
The inside installation is **variable** done via an **aluminium profile rail system**.

The roof can be walked-on and is provided with an **aluminium roof screen**. Access to the roof via an ascending ladder at the rear of the vehicle, **right-hand side**.

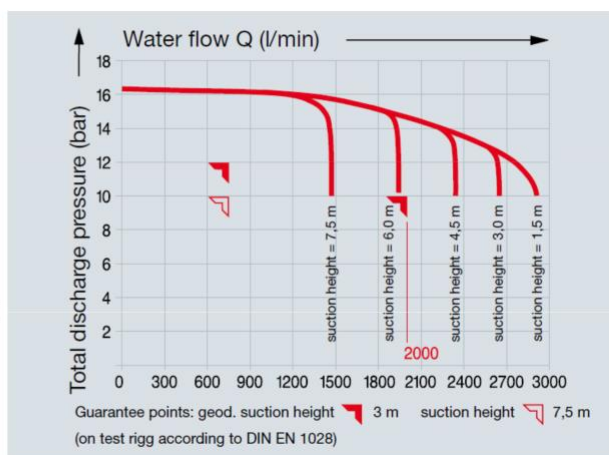
### Further equipment of the superstructure:

- 5 **AZ-LOCK Equipment lockers**, instead of standard
- 5 **AZ Shutters, lockable**
- 1 **Bracket for scaling ladder, 4 sections**, on roof of superstructure, left-hand side
- 1 **Bracket for suction hoses**, on roof of superstructure, right-hand side

## 500 ZIEGLER Firefighting pump FPN 10-2000-2H



a



b



Figure 1: *Illustration pump (a) and QH diagram (b)*

Dual stage centrifugal fire pump FPN 10-2000-2H

The low pressure pump is in conformity with DIN 14420 respectively EN 1028

**Output:**      **nominal output:**    **2.000 l/min at 10 bar** and 3 m suction height  
                  **max. output:**            **2.800 l/min at 10 bar** and tank operation

**Materials:**    castings (impeller, pump cover, pump housing) are made from sea-water resistant light metal alloy.  
                  Pump shaft, split water rings are made from corrosion-resistant steel.  
                  Drain cocks are made from brass

**Priming unit:** by automatic priming system **ZIEGLER - TROKOMAT – PLUS**

**Advantages:** the centrifugal fire pump and its components are very solid and extremely reliable.

Insensitive against dirt water.

Insensitive against frost since the centrifugal fire pump can be quickly and completely drained.

No foreign agents are necessary for the priming unit

**Drive:**            by the vehicle engine via a joint shaft line from the p.t.o. of the gearbox.

**Installation:** in the rear of the vehicle

**Control:**        all switchings for pump operation are made at the pump operator's stand at the centrifugal fire pump.

Switching on of the centrifugal fire pump is made in the driver's cabin by **standard p.t.o. switching** (chassis).

**Configuration low pressure pump:**

- 1      central suction inlet with BSS 4" tight coupling and blank cap, lockable, via butterfly valve, rear side in the pump bay
- 1      tank suction line, DN 125, lockable, without butterfly valve
- 4      delivery outlets BSS 2,5" female with tight coupling and blank cap, lockable, each 2 left-hand side and right-hand
- 1      tank filling line, DN 32, for filling of the water tank via centrifugal fire pump, lockable
- 1      delivery outlet, DN 80, to turret, lockable directly at turret
- 1      delivery outlet, DN 50 to body/ground protection unit, remote-controlled lockable
- 1      delivery outlet, DN 32 to quick-intervention, lockable
- 1      feed water line, DN 32, lockable
- 1      flush line, DN 32, lockable
- 2 drain cocks at the centrifugal fire pump

## 520 Pipings

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All pipings being in contact with foam are **corrosion-resistant**. Partially, the pipings are **hot-galvanized pipes**, nondeformable **rubber hoses** and nondeformable **plastic hoses**.

**Type of couplings: british BSS**



## 521 ZIEGLER Body/ground protection

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The body/ground protection unit is consisting of 2 front **nozzles** and 2 **nozzles** below the vehicle with a total output of approx. 400 l/min at 10 bar. The body/ground protection unit is used for protecting the rear and front wheels against ground fires.

### **Front spray nozzles:**

At the front side **2 foam pattern spray nozzles** are provided. The foam fan pattern spray nozzles are mounted and have a throw of approx. 5 m as well as a width of throw of 6 m.

### **Rear spray nozzles:**

At the rear side **2 foam pattern spray nozzles** are provided and they are connected with the front nozzles through a joint extinguishing agent feed line.

Opening respectively shutting of the body/ground protection nozzles is made from the control panel in the driver's cab. All nozzles are activated simultaneously.

## 530 ZIEGLER Rapid intervention unit

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### **Quick-intervention unit low pressure**

**Installation:** right-hand side, rear

**Type:** one GRP hose reel with brake being connected with the centrifugal fire pump.  
The reel is **suitable for taking 50 m** nondeformable

delivery hose **DN 25** with coupled multi-purpose branchpipe.

Coiling of the delivery hose is made by hand crank.

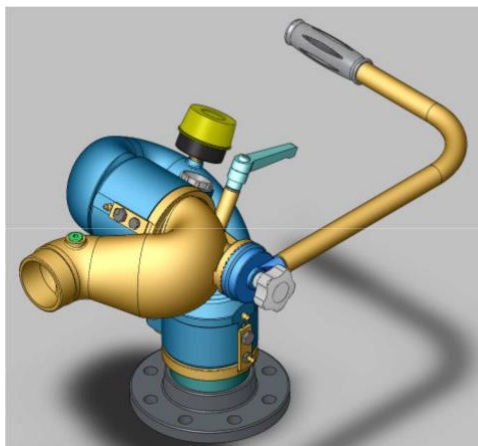


### Equipment of Quick-Intervention Unit:

- 1 Non-deformable delivery hose, 50 m, S25 (see equipment list)
- 1 Multi-purpose branchpipe C (see equipment list)
- 1 Roll-type window for quick-intervention reel

## 540 ALCO Roof water/foam turret HH365 / APF 2.5-C

- 1 **roof turret ALCO HH365**  
water turret with adjustable swivelling lever and clamping device for horizontal and vertical movement. Water operation by a multiple gallonage nozzle with infinite adjustment from full jet to spray jet.



**Output:** water approx. 2.000 l/min at 8 bar  
**Throw:** water: approx. 50 m  
**Adjustment and**



- swivel range:** horizontally infinitely 360 degrees  
vertically -15 degrees until +70 degrees  
(dependent on superstructure)
- Installation:** on the roof of the rear equipment locker
- Operation:** manual shut-off flap extinguishing agent

- 1 turret ALCO HH 365, **hinged type**
- 1 **Foam pipe SW 16**, for turret ALCO HH365
- Output:** foam approx. 1.600 l/min at 8 bar

## 550 ZIEGLER Water tank 6.000 lit.

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The water tank is designed as tank superstructure.  
Lateral wall = external wall

**Capacity:** usable **approx. 6.000 l (+/- 4%)**

**Material:** GRP, corrosion-resistant

**Manhole cover:**

1x dia. 500 mm, with snap closure

**Access:** via roof of superstructure

**Baffles:** transverse, the transverse walls are removable

**Filling lines:** 1x line with **2x 2,5" male** tight coupling and blank cap **and non-return valve**, for filling via hydrant, lockable, in the pump bay  
1x line DN 32 for filling via centrifugal fire pump, lockable  
1x pressure gauge in the hydrant filling line

**Suction line:** 1x line DN 125, lockable

**Overflow:** 1x line with pressure relief valve

1x aeration and deaeration unit

**Draining:** 1x shut-off cock at suction sump, can be operated from the pump operator's stand

**Tank level:** 1x electric indication at the pump operator's stand

## 551 ZIEGLER Foam tank 1.000 lit.

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The foam tank is integrated in the water tank.

**Capacity:** usable **approx. 1.000 l (+/- 4%)**

**Material:** GRP with UV-resistant lining

**Manhole cover:**

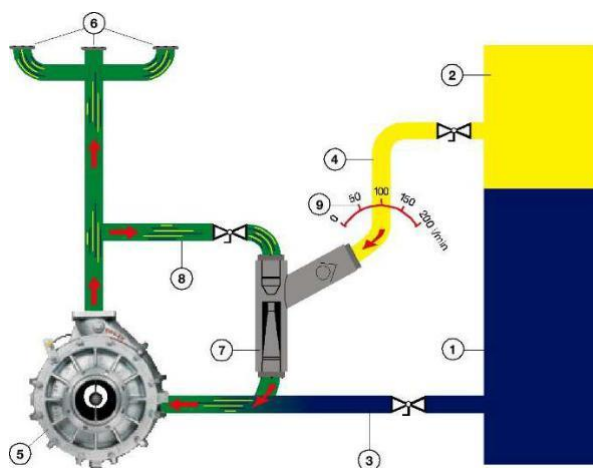
1x dia. 500 mm, with snap closure

**Access:** via roof of the superstructure

- Filling line:** 1x filling respect. draining connection, DN 19, lockable
- Suction line:** 1x suction connection to proportioning unit, DN 50, lockable
- Overflow:** 1x line DN 40  
1x aeration and deaeration unit
- Tank level:** 1x electric indication at the pump operator's stand

## 560 ZIEGLER Foam mixing system ZPV 200

- 1 **Foam proportioning unit**  
A **ZIEGLER pump proportioner ZPV 200** is installed in the pump unit. The max. admixible foam agent quantity is approx. 200 l/min., i.e. at a delivery rate of 2800 l/min up to approx. 7 % foam agent can be mixed to the extinguishing water.  
The foam compound is sucked from the tank and mixed with the extinguishing water of the centrifugal fire pump according the injector pump principle.  
Via a control cock at the ZIEGLER pump proportioner the suction quantity of the foam agent is adjustable.
- 1 **Foam agent external suction connection**  
1x DN 40 with tight coupling and blank cap 1,5" male, lockable



## 650 Control system

- 1 **Pump control panel BKT (small type),** provided with:
 

Rpm adjustment	+/- (electrical)
Contents indication	water
Contents indication	foam

Pressure gauge -1 bar up to 25 bar  
Pressure gauge 0 bar up to 25 bar  
Rpm meter + working hour recorder



## 700 Power supply

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- 1 Charging plug socket A 16 at driver's entrance **outside**

## 710 Lighting

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- 1 **Spotlight** (Hella art. no. 123243) in front right-hand side at driver's cab, with rigid searchlight support
- 1 **Roof lighting**
- 4 **Lighting** (Hella 102118) for equipment lockers and pump bay
- 2 **Original chassis rear lights** at the superstructure, rear side, below at superstructure
- 2 **Three-chamber rear lights** at the superstructure, rear side, on top

## 711 AKRON Light mast pole

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- 1 **Push-up telescopic light-mast pole** Akron Extenda Lite, type ELSS-19DC-PS-SM4 with 1 spotlight LED Akron SceneStar ELS-19DC 10-36V, 220 W  
**Execution:** The light-mast is **rigidly** fitted in the front part of the superstructure. It is **pushed-up and pivoted manually from the ground**.  
The spotlight is switched on in the driver's cab.

## 720 Signalling unit

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- 2 **Round beacon lights**, RKL B2, red, on driver's cab, with metal protection
- 1 **Acoustic signalling unit**, Bosch, 2-tone unit

## 740 Controls

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- 2 **Control lights** in the driver's cab for round beacon light and signalling unit
- 1 **Control light** in driver's cab for started centrifugal fire pump
- 1 **Control light** in the driver's cab for opened equipment lockers

## 800 Equipment and brackets

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- 1 **brackets** for equipment (see equipment list)
- 1 **Storage for delivery hoses** on the plastic frame



## 900 Other vehicle equipment

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- 1 Shackle holders at the rear with shackles for a trailer load corresponding with the permissible weight of the vehicle