**Oil hydraulic heavy goods lift for the transportation of passengers and goods**

**Type: Olympus**

**Technical design after directive RL 2014/33/EG and DIN EN 81-20:2014**

This is a tender specification for an example lift system of an OLYMPUS heavy goods lift. All the technical information mentioned here is coordinated. Any change to the listed technical information can have a significant impact and completely change the information.

This tender specification is only an example and can be modified by you and used for an inquiry to us regarding a heavy goods lift.

1. **Technical specifications**

Payload: 8.000 kg (max. 106 Passengers)

Axel load: max. 4.800 kg, forklifts allowed.

Lifting height: 18.500 mm

Lifting speed: 0,35 m/s

Number of stops: 5

Entrances: 6

Arrange of entrance: Through car loading

Cabin width: 3.000 mm

Cabin depth: 5.250 mm

Cabin height: 3.000 mm

Clear door width: 3.000 mm

Cabin- & shaft doors: 6-part Meiller TTK/S telescopic sliding door, central opening

Pawl device: Yes. Under the platform.

1. **Lift shaft**

On-site reinforced concrete shaft with built-in parts according to Lödige plant planning. Installation parts are provided by client. Internal insulation on site possible, if necessary, change the shaft dimensions.

Pit\*: 1.800 mm (\*Reduction possible on request)

Clear-shaft width: 4.230 mm

Clear-shaft depth: 5.760 mm

Clear-head room\*: 4.750 mm (\*Reduction possible on request)

A reduction in dimensions can be selected under "additional options". To reduce the shaft pit or shaft head, a technical check on the part of the construction is always required.

1. **Power unit & supporting elements**

**Power unit**

Direct-acting ALGI hydraulic drive in a low-noise design with a flexibly suspended screw pump including pulsation damper and flanged oil motor. The control block ensures smooth, load-independent driving and exact stopping positions at every stop. The catch-up device automatically compensates the deflection when the load is picked up. Unit with pump-motor sub-oil unit, including oil filling.

* Electronic control block with safety valve
* Soft start to limit the starting currents
* Pressure switch (overload, minimum pressure), hand pump, ball valve, manometer
* Pressure line between the hydraulics, including pipe rupture protection, distributor and connecting line to the unit
* Fine traction motor for energy-efficient catching up and loosening of the pawl device PD

**Supporting elements**

Two indirect precision hydraulic cylinders located on the side of the cabin. The car is raised and lowered indirectly with a 2: 1 ratio via steel cables attached to the side of the cabin.

1. **Connection values & machine room**

**Connection values/drive sizes**

The connected load or drive size of the heavy goods lift OLYMPUS can vary slightly depending on the lifting height, payload and lifting speed. The values given here serve as examples for the technical data listed under point 1. If these differ in your request, a technical clarification and re-determination of the drive size is necessary.

|  |  |  |  |
| --- | --- | --- | --- |
| Lifting height | Lifting speed | Motor output | Nominal current |
| 18.500 mm | 0,35 m/s | 90 kW | 185 A |

**Machine room/ Machine control cabinet**

The machine room is located directly next to the lifting shaft on the lowest level.

Area (W x D): mind. 2.860 mm x 1.900 mm\*

Height: mind. 2.100 mm\*

\* The min. Dimensions of the machine room apply only to the configuration listed here as an example under point 1. If the configuration is changed, the dimensions of the machine room can change significantly. Therefore, a technical check on the part of the construction is always necessary.

The optimal ambient temperature in the machine room and machine cabinet should be between  
+ 15 ° C and 30 ° C. In the elevator shaft, min. 5 ° C.

1. **Elevator doors**

Our elevator doors are from a well-known and high-quality German manufacturer and meet the fire protection requirements of EN 81-58. Our doors are therefore also suitable for installation in fire-resistant shafts in accordance with DIN 4102.

**Product:** Meiller TTK/S Telescopic sliding door

**Cabin doors**

Execution: 6-part, central-opening

Cabin door leaf: Zinc-Magnesium steel plate\*,\*\*

Occupancy/Color: without (Finished painting by others)

Door sill: Full aluminum (max. 10to)

Cabin door engine: Siemens AT 40 TM1-V

Door locking system: Yes

Door apron: 750 mm, galvanized

**Shaft doors**

Execution: 6-part, central-opening

Shaft door leaf: Zinc-Magnesium steel plate\*,\*\*

Shaft door frame: Zinc-Magnesium steel plate\*,\*\*

Occupancy/Color: without (Finished painting by others)

Door sill: Full aluminum (max. 10to)

Door opening on site: according to EN 81-58 circulation max. 60 mm for the clear door opening, circumferential gap on site close after installation

Fire protection: with fire protection according to EN81-58 E120

Other: reinforced continuous threshold angle, primed.

\*) Sheet steel with hot dip coating made of zinc-magnesium as corrosion protection. We recommend an additional coating. Surface is well suited for subsequent painting.

\*\* ) Editing traces may be visible. When painting, a pretreatment must be carried out with a primer! Primed lamellas can show signs of wear, galvanized lamellas can also have streaks or white zinc spots. If you are looking for high-quality optics, a top coat is recommended.

**Door monitoring**

* Light grids between the shaft and the cabin door, Type LT40 after EN81-20
* Closing force limitation via the door drive
* Radar motion detector (IP54) for vestibule monitoring, 1x per shaft access. Arrangement above the shaft doors on the masonry (surface).

1. **Cabin**

Platform: Torsion-rigid steel construction, primed in RAL 7032, without vibration insulation

Cabin floor: The cabin floor consists out of primed steel sheet with a 2K-anti-slip coating. The 2K anti-slip coating is an epoxy resin-based, solvent-free and non-slip coating and is sprinkled with quartz sand with a grain size of 0.3-0.8 mm.

Cabin walls\*: Lamellae construction made of 1.5 mm sheet steel, sendzimir galvanized.

Indents: Lamellae construction made of 1.5 mm sheet steel, sendzimir galvanized.

Deflector strips: Single row of hardwood, 100 x 20 mm, distance bottom edge of cabin floor: 250 mm

Cabin lighting: Square energy-saving LED panels embedded in the cabin ceiling, light color is 840 - neutral white - color temperature 4000 K, power 18 W, 1200 lm

Ventilation: About punches in the side wall slats

Cabin ceiling\*: Slat construction made of sheet steel, sendzimir galvanized, accessible, galvanized hand railing on the cabin ceiling with hand-, knee- and baseboard (hand railing height 1.100 mm)

Cabin tableau: Basically, two cabin tableaus are installed in the heavy goods lift OLYMPUS®. The cabin tables are made of stainless steel and integrated into the side walls of the cabin. Furthermore, a 7" TFT display, door-on button, loading time button and an emergency call buttons are installed as standard.

Cabin frame: in torsion-stifold steel construction, primed in RAL 7032

**\*** Slats can have processing traces, galvanized slats additionally streaks or white zinc stains. If you are entitled to high-quality optics, a finished coating may be recommended.

1. **Electrical equipment**

**Control system**

Our elevator control is designed as a push-button control as standard. Thus, we only store and processed one command or call at a time. The cabin command o'taries over the outside calls. After entering the command or call, it is saved and processed, all further calls are blocked until the end of the journey. The control includes as standard:

* Control part with error memory
* Soft start-up device / current limiter for hydraulic drive
* Safety function against unintentional movement of the car in the stops
* Evacuation control with existing mains voltage, cabin automatically goes to the lowest stop with potential-free notification and parks with open door
* Digital shaft copying according to SIL3
* Evaluation of digital shaft copying
* Power saving mode - Time adjustable, by command the elevator is activated again.
* Emergency call system
* Intercom - engine room, pit, cabin and cabin roof
* Emergency power supply for cabin light, intercom and emergency call system
* 2 potential-free contacts
* Suspension cables, all other electrical cables, control panels, fastening material
* Hand lamp, manhole lighting as LED - light strip
* Emergency horn, cable hand lamp, shaft lighting
* Main switch in the control cabinet (> 63 A with separate housing)

**Automatic ride**

When the destination button is pressed, the elevator automatically moves to the desired destination level. Doors close automatically before the start of the journey and open automatically when they are flush on the target floor.

**Cabin tableau**

In the cabin, a cabin tableau is integrated on each side wall.

**Level tableau**

The level tableaus of the heavy goods lift OLYMPUS® are made of stainless steel and always mounted on the left or right side of the door. The elevator can be picked up or called with hand -held transmitters as a radio remote control or with the call buttons in the level tableaus in each level.

**Emergency call incl. GSM**

Intercom in the car via mobile phone - receiving module incl. antenna. Storage of up to 4 phone numbers possible. The device corresponds to the EN 81-28.

The following building requirements are required:

* Existing mobile network
* Provision of the corresponding SIM Card (no prepaid)
* Assumption of the monthly costs for the required SIM Card

**Pawl device**

Electro-mechanically driven pawl device with transom brackets at every stop on shaft walls. Extension of the elevator control for operation with a mounting device including a fine traction motor for moving out of the mounting device and limit switches for position monitoring.

1. **Technical documentation**

Upon delivery of the lift, you will receive a complete documentation of the system in the form of a test book. The documentation is created by our company's internal solution format. No customer-side equipment regulations are taken into account unless explicitly agreed otherwise.

This test book contains the following documents:

* Technical documentation
  + Description of the lift system
  + Electrical schematic
  + Hydraulic schematic
  + Operating and maintenance instructions (1-fold in English)
  + Descriptions of the lifting components
* CE – Declaration
* Signs
* Acceptance certificate / acceptance protocol
* Health and Safety test report

1. **Additional options (please mark with a cross)**

Various additional options can also be selected for our heavy goods lift OLYMPUS®. If you have any further requests regarding the equipment, just contact us. If you are interested, select the options you want with (X).

**Accesses / elevator doors**

**( ) Telescope sliding doors HD (Heavy Duty) – Heavy version for industry**

Reinforced door brackets, door leaves, tracks, rollers and door leaf guide, central opening 4 or 6-leaf design.

**( ) Slat sliding doors (Cabin- & shaft door)**

Automatic slat sliding doors, centrally opening, cabin and shaft doors: slat surface aluminum powder-coated RAL 9006, door sill / guide profiles made of U-steel, primed. Door frames made of sendzimier galvanized sheet metal as a connection to the opening in the building shell, visible fastening with nail dowels in the wall reveal. Cabin door drive DC-controlled, including door lock. Landing doors do not meet any fire protection requirements!

**( ) Pull switch**

* Pull switch with console for ceiling fastening
* Switch with pull rope 2m long
* Plastic pipe, electrical connection line\* 10m of terminal socket in the shaft

\*) max. cable length 10 m, pitch: 2m. If special fortifications are required due to the construction situation, these must be provided on the construction side.

**( ) Hand remote control system**

The control system of the Olympus is additionally equipped with a radio remote control. The radio remote control can be carried directly in the car. Without leaving the car unnecessarily, the user can request the elevator.

**( ) Key tresor**

Complete. With 3 keys, fuse card: series 600 834 EFEFBF, with wall anchor

Dimensions: 145 x 46 mm

Internal dimensions: 78 x 36 mm

Construction services:

* Core hole bore for key vault
* Installation of the key vault

**( ) Crash protection in the door area**

At the customer's request, individual ram protection measures to avoid damage in the door area are possible.

**( ) Threshold heating**

Self-limiting heating tape for outside landing door sill for safe operation of the elevator system in the frost period.

**Cabin**

**( ) Pawl device**

Electro-mechanically driven pawl device with transom brackets at every stop on shaft walls. Extension of the elevator control for operation with a mounting device including a fine traction motor for moving out of the mounting device and limit switches for position monitoring.

**Cabin floor**

Optionally, further versions of the cabin floor are possible.

( ) Smooth sheet primed RAL 7032

( ) Tear plate V2A

( ) Tear plate aluminum

(X) 2K-Anti slip coating\*

\* Epoxy resin-based, solvent-free and non-slip coating is sprinkled with quartz sand of grit 0.3-0.8 mm.

**( ) Cabin ceiling/walls**

Standard in sendzimir galvanized. Can also be made in V2A on request.

**( ) Platform division (longitudinally divided)**

Cabin platform made in 2 parts. In the event of a difficult construction site situation, provide for storage options and installation in the elevator shaft.

**( ) Painting of the cabin**

If requested by the customer, a complete primer RAL 7032 or painting of the elevator shaft is possible. All common Classic RAL colors are available. The following colors and metallic colors are not possible: 1026, 2005, 2007, 3024, 3026, 1035, 1036, 2013, 3032, 3033, 4011, 4012, 5025, 5026, 6035, 6036, 7048, 8029, 9022, 9023, 9006, 9007. This option also includes painting the elevator car.

**( ) Execution of the elevator doors**

The elevator doors are provided with a zinc-magnesium coating as standard. Further versions are available on request:

* Doors in V2A
* powder coating
* With fire protection according to EN 81-58

All common Classic RAL colors are available.

**( ) Deflector strips**

Made of hardwood, 100x20mm, 1-row or 2-row. The position of the deflector bars in the elevator car can be individually determined. If requested by the customer, further individual impact protection measures are possible to avoid damage in the cabin area.

**( ) Anti-roar of the cabin walls**

With this option, the car walls can be equipped with additional insulation mats. These are attached on the back and ensure that the cabin walls are cleared. The option is particularly recommended for larger cab heights.

**( ) Loading securing system I – Light curtains in the cabin**

Here, an additional light grid can optionally be installed in the cabin in front of the cabin door or rear wall to prevent damage in this area during loading. As soon as the light barrier is activated, a signal tone is emitted and an all-round light in the cabin lights up to indicate that there is a risk of a collision.

**( ) Loading securing system II – For systems with through car loading**

With systems with through-loading (opposite car doors), there is the possibility that both car doors always open when there is a load, even if there is only one access at the respective stop. This option prevents damage to the opposite cabin door from the loading process, e.g. with forklifts.

**Engine**

**( ) Frequency converter**

Frequency control of the elevator system to reduce the starting currents. Two different variants are possible

* P – constant (pressure)
* V – constant (nominal speed)

**( ) Oil cooler**

If higher rated speeds as well as a high number of journeys are required (e.g. from 30 trips per hour) an oil cooler may be required.

* possible heat dissipation from the unit max. 8.5 kW\* (alternatively 13 kW)
* necessary cooling capacity approx. 1.2 kW at 30 trips/h
* maximum cable length 2 m to the unit - height max. 800mm above oil level in the unit
* Room temperature maximum 30° C

\*) Sufficient cross ventilation of the machine room must be ensured on the construction side.

**( ) Tank heater**

If the specified ambient temperature in the engine room cannot be met for any reason, we recommend the use of a tank heater.

* Oil heating, incl. thermostat (700 W / 230 V) in hydraulic unit

**( ) Energy saving options**

Targeted measures can be taken to reduce the amount of energy required for operation. This can e.g. be achieved by using counterweights.

**Planning / Installation**

**( ) Assembly equipment**

Assembly equipment with set-up shoes for dowels for one set-up level in each including delivery and assembly, dismantling and removal.

**( ) Preparation of plant planning**

At the customer's request, a plant planning can be created before the main order is ordered. This includes all relevant information for the implementation of the project or the transfer of the plant. You will receive the costs of plant planning when ordering the main order, fully credited.

The following points are taken into account/presented in the standard plant planning:

* Plant planning is created in Lödige format
* Schematic representation of the elevator shaft
* All elevator components in the shaft
* Raw construction relevant details and interfaces to other trades are presented schematically
* Consideration of thermal insulation in the shaft if necessary
* Load hook
* Door openings and doors
* Verbal reference to smoke-infuser systems
* Acting Forces
* Engine room according to planning guide variant 1 to 5

A change/adjustment of the plant planning is incl. All further changes as well as the presentation of a higher level of detail are subject to a surcharge.

**Lifting shaft**

**( ) Reduced pit**

At the customer's request, the depth of the shaft pit can be reduced with the help of defined and type-tested measures / components. This measure always requires a technical check on the part of our construction, since the pit depends on the shaft head.

**( ) Reduced head room**

At the customer's request, the height of the shaft head can be reduced using defined and type-tested measures / components. A reduction in the shaft head may result in changes to the other shaft dimensions, especially in the shaft pit. Therefore, an internal technical check by our design is always necessary for this option to determine the effect on the planned shaft pit.

**Control system**

**( ) Connection to driverless transport system (AGV)**

If the use of AGVs is planned, then our elevator control can be prepared for such systems after consultation and definition of the interfaces. This enables a fully automatic interaction between the AGV and the elevator. However, inductive AGVS systems are not possible. Due to the variety of AGVS systems, an individual consideration is necessary and should be discussed in a consultation and subsequent technical clarification.

**( ) Key switch or button**

In the outer or inner panel for additional control functions.

**( ) Outside panel for on-site card readers**

External panel without built-in parts and supply voltage, prepared for installing on-site card readers.

**( ) Vehicle detection with special displays for route elevators**

With 2 stops, an automatic trip to the other stop is carried out after the elevator has been picked up. With automated driving commands, this elevator system contributes to the speedy handling of the vehicles and enables an optimal number of trips during peak times. Operating errors and downtimes are also avoided or reduced.

Cabin displays:

"Direction arrow forward / stop / direction arrow back" as light field for vehicle positioning in the car panels.

Entry displays:

Traffic light - red / green, 1x per access to the shaft. Compact traffic light element with 2 active LED domes with a translucent cover, surface-mounted version.

Light barries:

1 Light barriers in the middle of the cabin

3 Light barriers for the entrances (1x for each cabin entrance)

Door monitoring:

Radar motion detector (IP54, surface-mounted) for vestibule monitoring,  
1x per shaft access. Arrangement above the shaft doors on the masonry.

**Service**

**( ) Standard maintenance lift system**

Maintenance cycle: 4x per year

According to DIN13015. Testing of safety functions and system functions, adjustment work, lubrication and cleaning of operational impurities.

Warranty: 2 years

**( ) Full maintenance lift system**

Maintenance cycle: 4x per year

According to DIN13015. Testing of safety and plant functions, adjustment work, lubrication maintenance and cleaning of operational impurities.

Spare parts and repair service (reasons for responsible only by Lödige)

Warranty extension: 5 years