



## Report EC type-examination

Report belonging to EC type-examination certificate no. : NL12-400-1002-074-08  
 Date of issue of original certificate : July 19, 2012  
 Concerns : Lift  
 No. and date of revision : 1; October 22, 2012  
 Requirements : Lifts Directive 95/16/EC.  
 Standard: EN81-1:1998+A3:2009  
 Project no. : P120037-03, P120037-07

### 1. General specifications

Name and address manufacturer : Kleemann Group  
 Kilkis Industrial Area  
 P.O Box 25  
 P.C. 61 100 Kilkis, Greece  
 Description of lift : Gearless traction lift without machine room  
 and reduced pit and headroom  
 Type : Atlas RPH N  
 Address of examined lift : Kleemann Group  
 Kilkis Industrial Area  
 P.O Box 25  
 P.C. 61 100 Kilkis, Greece  
 Date / data of examination : March – July 2012, October 2012  
 Examination performed by : W.Visser

### 2. Description lift

#### General:

The Kleemann Atlas RPH N is a traction lift with a 2:1 suspension system that is built without a separate machine room (MRL). The car is centrally suspended and guided. The gearless traction machine which is applied is depending on the load. The traction machine and in some cases the governor are supported by a frame that is mounted in the top of the well and secured with specially designed wall plates.

The power switches, the fuses and the controller including functions for inspection and rescue operation are mounted in a cabinet.

This cabinet is mounted in or in the vicinity of one of the landing doorframes, at one of the two upper floors. If the travel of the car is more than 30 m, an intercom is provided for two-direction communication between the car and the control panel.

When for maintenance or inspection entrance to the car roof is necessary, a foldable balustrade of 700 mm height at least on machine side provides a safe working area.

The car can be built with a single entrance or a double entrance oriented opposite to each other.

In case of insufficient clearances; to reduce the risk of crushing by the car and to detect any persons under or on top of the car several measures are taken. . In that case opening any landing door with an emergency triangular key the lift is put out of the automatic control. Even after the landing door is closed, the lift stays out of service. To restart the normal drive of the carrier a reset through the use of a switch in the control cabinet is needed together with a manual reset of the bi-stable safety contact ( in case of semi automatic doors ) on the triangular emergency opening device of the landing door. Also manually operated safety props have to be put in the safe position when accessing the dangerous zones.

Landing doors are manually operated, self closing, swing doors, two or three panel telescopic doors or two, four or six panels central opening doors.

Carrier doors are 2 sided foldable doors, two or three panel telescopic doors or two, four or six panels central opening doors.

The minimum pit depth is 370 mm and the lift has a headroom of minimum 2900 mm.

The main characteristics of the Atlas RPH N lift are given in table 1, table 2 and general drawings in annex 1 and annex 2. Other rated loads are also possible between 320 and 750 kg.

#### **Unintended Car Movement Protection (UCMP):**

For the considered lift, with the machine brake acting on the same shaft as the traction sheave and having built in redundancy, the brake can only open and the inverter can only energize the hoisting motor if the safety chain is closed.

In absence of a door safety bypassing device and a re-levelling function with open doors, the Unintended Car Movement Protection (UCMP) relies on the exclusion of an unintended car movement applying the machine brake as described above. The braking force must be guaranteed. A relevant Risk Analysis is provided and found in order.

This means that also in this case both brake elements must be monitored by switches which are checked by the inverter or controller prior to start. These switches are pre-set and therefore guard excessive wear of the brake elements. A fault during monitoring leads to a UCM fault in the controller and is stored in a non volatile memory.

#### **Ascending Overspeed Protection (AOP):**

The machine brake is used as ascending overspeed protection. The machine brake is triggered by the overspeed governor contact in case of overspeed upwards.

## 2.1 Lift data

**Table 1: Main characteristics of Atlas RPH N lift.**

Rated load	kg	320	≤450	≤630	≤750
Rated speed	m/s	≤1.6			
Max. car area	m <sup>2</sup>	0,94	1,30	1,66	1,90
Max. # persons		4	6	8	10
Min/max car weight	kg	330/600	500/850	580/800	590/700
Door type		telescopic single side or central opening doors hinged semi-automatic doors			
Number of car entrances		1 entrance or 2 entrances at 180°			
Maximum no. of stops		16			
Maximum no. of accesses		32			
Maximum travel	m	45			
Minimum headroom	mm	2900			
Minimum pit height	mm	370 (with a telescopic apron)			
Machine type 1 Brake		SM160.20 ERSVAR15-02 2110 N	SM160.30 ERSVAR15-02 2110 N	SM160.30 ERSVAR15-02 2110 N	SM160.30 ERSVAR15-02 2110 N
Machine type 2 Brake		-	-	SM160.40A ERSVAR07 SZ 300	SM160.40A ERSVAR07 SZ 300
Controller type		Kleemann Lisa / Kleemann Serial			
Drive type		Ziehl Abegg Zetadyn 3C / Yaskawa L1000A			
Diameter overspeed governor rope	mm	6 or 6,5			
- Min. braking load	kN	19,0			
Rope manufacturer - type -diameter -min braking load	mm mm kN	Drako STXØ4 4 12,6			
Number of ropes		7	10-12	12	12
Traction sheave diameter -α, groove, γ	mm °	160 180, V-groove, 40-45-50			
Car guide rails type 1	mm	75/62/10			
-Max bracket distance	mm	2000			
Car guide rails type 2		89/62/16			
-Max bracket distance		2500			
Counterweight guide rails	mm	50/50/5 75/62/10			
Max bracket distance	mm	2500			

## 2.2 Summary of applicable safety components

The following table lists the allowed safety components with their certificate number which may be used in the Atlas RPH N lift within their application range.

Component	Manufacturer; type	Certificate no.
Landing door locking device	Gea Zita; EØ 1 A/B	LF/A-C-1047/04
	Gea Zita; EØ 2 A/B	LF/A-C-1044/03
	Klefer-Tecnolama; PRC2-40/10	ATV 699 – ATV 530/1
	Klefer-Tecnolama; PRC2-50/11	ATV 702 – ATV 484/3
	Klefer-Tecnolama; PRC4-40/10	ATV 701 – ATV 533/1
	Klefer-Tecnolama; PRC4-50/11	ATV 704 – ATV 487/4
	Klefer-Tecnolama; PRC6-50/11	ATV 705 – ATV 488/3
	Tecnolama; 265/11/50	02/09-009/PR/R
	Tecnolama; 210/10/40	01/09-009/PR/R
	Tecnolama; PRC6-40/10	ATV 534/1
	Tecnolama; PRI1-50/11,PRD1-50/11	ATV 483/3
	Tecnolama; PRI2-40/10,PRD2-40/10	ATV 531/1
	Tecnolama; PRI2-50/11,PRD2-50/11	ATV 485/3
	Tecnolama; PRI3-40/10,PRD3-40/10	ATV 532/1
	Tecnolama; PRI3-50/11,PRD3-50/11	ATV 486/3
	Electromechanicas, 104 S	ATI/LD-VA/M184/09
Elektrometal, D (TD)	TAE-SC/00/005 DL	
Car safety gear	Wittur; USG 25 P	TUV-A-AT-1/07/117 CEFV
Ascending safety device	Warner ERS VAR 15-02, 2110N	ABV 777/4
	Warner ERS VAR 07 SZ 300	ABV 819
PU Buffers	Elastogran; 1251	08/208/AP005/1251
	Elastogran; 1651	08/208/AP005/1651
	Elastogran; 1002	08/208/AP005/1002
	Elastogran; 1303	08/208/AP005/1303
	Elastogran; 080080	44 208 06 338893 100
	Elastogran; 125080	44 208 06 343067 100
	Elastogran; 165080	44 208 06 343068 100
	Elastogran; 100160	44 208 06 343070 100
	Elastogran; 130220	44 208 06 343071 100
	Acla; 300411	08/208/AP002/300411
	Acla; 300416	08/208/AP002/300416
	Acla; 300401	08/208/AP001/300401
Hydraulic Buffers	Thyssen; 01B	APV 002/003
	Thyssen; 01C	
	Hebei Dongfang Fuda Machinery; YH52/175	BSI-LB-516943
Overspeed governor	Dynatech , VEGA	ATI/LD-VA/M155A-3/11
	Jungblutt, HJ200	TUV-A-AT-1/11/248TSA3

### 2.3 Applied other certified components

Component	Manufacturer, type	Certificate no.
Suspension ropes	Drako STX Ø 4	G 461
Controller - Main PCB	Kleemann, Lisa Kleemann, Serial	0920892613/5 / 0671 LF/A-C-1188/11
Door bridging PCB	Schneider, Lisa 10-10 Schneider, Lisa 10-A3	0920892613/5 / 0671 NL11-400-1002-135-03
	Kleemann, GL-2LEV	LF/A-C-1188/11
	Kleemann, SB-ZONE	LF/A-C-13007/12
UCMP system	Kleemann, UCMP for traction lifts with gearless drive models ATLAS 1:1, ATLAS 2:1N, ATLAS RPH 2:1N, ATLAS 2:1-L, ATLAS GIGAS 2:1N, ATLAS SUPER GIGAS 4:1.	NL12-400-1002-074-05 Rev.2
UCMP means	Warner ERS VAR 15-02, 2110N	ESV 777/4
	Warner ERS VAR 07 SZ 300	ESV 819

## 3. Examinations and tests

The examination covered a check whether compliance with the Lift Directive 95/16/EC is met, if possible based on the harmonized product standard EN 81-1 :1998 + A3:2009. Issues not covered by or not complying these Standard are directly related to the above mentioned essential requirements based on the risk assessment, where applicable with the aid of harmonized A-and B-standards, such as EN 60204-1.

The examination included:

- Examination of the technical file (See annex 2):
- Check of performed calculations according to EN 81-1.
- Examination of the representative model in order to establish conformity with the technical file.
- Inspections and tests to check compliance with the requirements.

## 4. Results

After the final examination the installation and the technical file were found in accordance with the requirements. The functional tests passed without remarks. The load tests passed without remarks and did not lead to permanent deformations or loss of stability.

## **4.1. Calculations**

Calculations of the car guide rails and counterweight guide rails are made on the basis of EN 81-1 requirements. Additional calculations were made for the counterweight frame, machine support frame, drive shaft and the buffer support structure. The calculations were checked and found in order.

There has been given special attention to the fact that it should be possible to conduct final inspections without the need of checking calculations.

This means that, where possible, system limits are given such as maximum car mass and maximum bracketing distance for the guide rails.

### **4.1.1. Guide rail calculations**

The calculations are made according to EN 81-1 Annex G.

The calculations take into account the additional loads introduced by the machine.

The information stated in the model description enables final inspections without the need of a calculation check. The maximum bracket span for each allowed type of guide rail is stated in the model description. Deviating of the indicated maximum bracket distances is possible if additional calculations according to EN 81-1 are made and approved.

### **4.1.2. Traction**

The calculations are made according to EN 81-1 Annex M and found in order.

The minimum and maximum required mass of the car is indicated in the model description. The information stated in the model description enables final inspections without the need of a traction calculation check.

### **4.1.3. Suspension rope safety factor**

All relevant factors have been considered and lead to the maximum allowed car mass and car dimensions as stated in the model description.

The information stated in the model description enables final inspections without the need of a calculation check.

## **4.2. Measurements**

### **4.2.1. Current measurements**

Current measurements were done to check proper balancing. The final result was ok.

### **4.2.2. Speed measurements**

The following speed measurements, using testloads, have been performed:

- nominal speed
- inspection drive speed

All measurements were within the set values according to paragraph 12.6 (nominal speed), paragraph 14.2.1.3. (inspection drive speed)) of EN 81-1.

### **4.2.3. Insulation resistance measurements**

On the following circuits, insulation resistance measurements have been performed:

- Motor circuit

- Safety circuit
- Car lighting circuit

The measured values of the single lines, and of parts of lines, as well as their summation, were significantly higher than the required values in the standard EN 81-1, par 13.1.3.

## 5. Conditions

On the EC type-examination certificate the following conditions apply:

General:

- Nominal load : 320- 750 kg
- Nominal speed : 1,6 m/s
- Max travel : 45 m
- Max number of stops : 16
- Motor and brakes must be energized according to the requirements of EN 81-1:1998+A3:2009 clause 12.4 & 12.7 while the used contactors must fulfill the requirements of EN 81-1:1998+A3:2009 clause 13.2.
- This EC type certification does not include approval for fire-fighting purposes according to EN 81-72.
- Installation and usage of the Atlas RPH N in an explosive atmosphere is ruled out by the manufacturer.

Control cabinet:

- The controller must be located in a separate and lockable cabinet, next to the one of the two upper landing doors. It must be able to close and lock this door without the use of a key. Opening can only be done with the use of a key.
- The control panel shall be protected against splashing water and shall have a protection degree IPX3, the electrical equipment inside the control panel shall have a protection degree IP2X.
- The cabinet shall be located in an area which is suitably protected against all weather conditions, such as rain, including the working area ( min. 500 x 700 mm) in front of the cabinet.
- Unrestricted access to the controller must be ensured. Therefore the controller can not be located in private premises without additional measures.
- The control panel shall not be located in areas where interference with public can be expected to lead to dangerous situations.
- If the controller is installed outside, the effect of high and low temperatures and the influences on the lift system must be examined separately.
- In front of the control panel a horizontal free space of 70 cm is required. In case the space in front of the control cabinet shall allow the passing of public this minimum horizontal free space needs to be 1.20 m. In specific situations for instance if wheelchairs have to pass by, this value might need to be enlarged to 1,55 m. The essence is that in any case a free horizontal space of 70 cm is guaranteed. In addition, depending on the frequency of passing



public and the nature of activities on site, the use of a fence guarding the working area might be needed.

- The light intensity in front of the opened control panel shall be 200 lux.
- A LED display must be installed in the control cabinet as a level indicator including identification of car movement and car travelling direction.
- An emergency powered rescue drive must be supplied in the cabinet .

#### Machine:

- The light intensity in front of the machine and inverter shall be 200 Lux.
- The machine used is equipped with a non-adjustable brake. This brake is considered by its manufacturer as a maintenance free brake. The machine itself needs only visual inspections. The maintenance work foreseen to be performed from the car roof is not likely to cause any unexpected movement of the car Changing of the machine or the brake is considered repair work and not maintenance work. For that reason the car is not equipped with any mechanical blocking device to keep it in position to perform maintenance. ( EN 81-1:1998 + A3:2009 paragraph 6.4.3 )
- Considering the location of the machine at the side in the top of the well, nib guards or other additional protections for the traction sheave are not required.

#### Rope system:

- The rope system of the Atlas RPH N deviates from various EN 81-1 articles. The nominal diameter of the ropes is 4.0 mm instead of the demanded 8.0 mm and the traction sheave has a diameter of 160 mm. The rope terminations consist of a wedge socket with one rope clamp that is mounted such that it prevents that the wedge can leave the socket. Because of the risks involved with the deviations of the standard, both the suspension rope systems have been type approved by a Notified Body. The drive system of the Atlas RPH N meets all conditions set in the report of both certifications.

#### Pit :

- For entrance of the pit, in case the depth is over 500 mm, a vertically fixed ladder shall be present to reach the pit floor from the landing. When this is not possible, a not permanently fixed ladder can be used under several conditions:
  - It must be possible to place the not permanently fixed ladder in an operational position angle of approximately 70° to the horizontal.
  - Additional requirements for this ladder are that it can be stored either against the wall of the well or on a support attached to the guide rail within a reach of 0.70 m or it is stored on the pit floor under the condition that it is connected to a chain in order to lift it from the landing position.
  - The ladder shall be connected irremovably to the pit.
  - The ladder shall comply with EN 81-1, paragraphs 6.2.2.c and d.

#### Car :

- The car roof is accessible, foreseen with inspection drive and required foldable handrails, according to 5.6.2 of EN 81-21:2009.

- In case hinged landing doors are used; the levers of the locking devices of the landing doors shall be protected to avoid manipulation from inside the carrier.
- In case of low pit where the car apron does not fulfil the requirements of EN81-1 it must fulfil the requirements of EN81-21:2009 art.5.8.2. C. The telescopic apron must be of sufficient strength according to EN81-21:2009 art.5.8.1. The telescopic apron is always fully extended and is only retracted in case the apron hits the well pit floor. In case the retracted apron does not extend anymore the lift will stop and prevent further operation as soon as a limit switch at maximum 1000 mm above the bottom landing is passed with a not fully extended apron. During this 1000 mm travel the safety contact on the apron is bridged by a safety system or a forced bi-stable safety contact. An additional locking of the car doors is not required when all other relevant requirements regarding this locking are met.

Re-levelling with open doors or pre-opening of doors:

When the option re-levelling with the doors open or pre-opening of doors is provided, the following items will have to be checked during final inspection:

- The maximum length of the zones is 100 mm. It must fulfil the requirements of EN 81-1 and the conditions of the UCMP certificate NL12-400-1002-074-05.
- The magnets which define the re-levelling or pre-opening zone, shall be bonded to prevent movement with open doors outside the allowed zone.

Well:

- Local requirements may demand an emergency light on the car roof or top of the well.
- A two way communication device shall allow contact with the rescue service and shall be designed and constructed such, that it will function even without the normal power supply. This provision shall be there both on the car roof and on the bottom of the car so that it can be reached when trapped in the pit.
- A temperature between +5°C and + 40°C must be ensured in the lift well

According to LD 95/16/EC annex I, section 2.2, the lift must be designed and constructed to prevent the risk of crushing when the car is in one of its extreme positions. However, in specific cases, other appropriate means may be provided to avoid this risk.

It should be noted that, Liftinstituut issues an EC type-examination certificate for a lift design with means to prevent the crushing risk other than permanent free space or refuge. That is why Liftinstituut clearly states that the installation of a lift according to the EC type-examination certificate is permitted only in cases where the requirement for free space or refuge is impossible to fulfill and where prior approval has been granted by the Member State where the lift is to be installed according to the national procedure, if any.

Conditions due to possible reduced free space beneath the carrier. ( deviation from art 5.7.2 of EN 81-1):

- Additional contacts must be installed on the bottom landing door checking if the door is manually opened by means of a triangular key.

- When the bottom landing doors are manually opened by means of a triangular key, the safety system and so normal operation of the installation is cut off. Furthermore the overspeed governor is pre-tripped and therefore ready to engage the safetygear due to any unexpected car movement.
- After entering the well pit a safety prop, with sufficient height, has to be installed in its blocking position. This leads to the activation of a visual alarm and opening the safetyline due to safety switches.
- The safety prop is foreseen with a buffer, suitable for the nominal load and speed, according to EN81-21.
- The clearance between bottom of the car and the pit floor is with the safety prop in position 1500mm minimum.
- After leaving the pit, putting the prop back in their non-safety position, resetting the bi-stable additional contact on the unlocking device ( in case of semi-automatic doors ) and closing of the landing door, the installation can only regain normal operation after reset by using the reset switch inside the control cabinet. This is only possible with a closed safety chain. The used contactors are guarded in a so called safety circuit.
- A power failure may not reset the above described safety system
- When the reset switch remains activated an electric safety device prevents normal operation.

Conditions due to possible reduced free space above the carrier. ( deviation from art 5.7.1 of EN 81-1):

- Additional contacts must be installed on all landing doors checking if a door is manually opened by means of a triangular key.
- When the landing doors are manually opened by means of a triangular key, the safety system and so normal operation of the installation is cut off. Furthermore the overspeed governor is pre-tripped and therefore ready to engage the safetygear due to any unexpected car movement.
- Only inspection drive will be possible as soon as the safety prop beneath the counterweight is installed in its blocking position. This leads to the activation of a visual alarm.
- The safety prop is foreseen with a buffer, suitable for the nominal load and speed.
- Inspection drive upwards will be cut off when the car passes the inspection limit switch in upwards direction, before the downwards moving counterweight hits the buffer of the safety prop.
- The safety prop must guarantee a vertical clearance of 1200 mm minimum above the car roof when its buffer is fully compressed.
- After leaving the car roof, putting the inspection drive in the normal drive position, resetting the bi-stable additional contact on the unlocking device ( in case of semi-automatic doors ) and closing of the landing door, the installation can only regain normal operation after the counterweight safety pitprop is put back in drive position and also this bi-stable additional contact on the unlocking device ( in case of semi-automatic doors ) of the bottom landing door has been reset and the door closed. Finally normal operation is reset by

using the reset switch inside the control cabinet. This is only possible with a closed safety chain. The used contactors are guarded in a so called safety circuit.

- A power failure may not reset the above described safety system
- When the reset switch remains activated an electric safety device prevents normal operation.

Warnings in case of reduced clearances:

- A striking sign must be attached to the car roof stating: *Access only allowed when inspection drive is selected and safety prop below cwt is in position.*
- A striking sign must be attached to the car roof stating: *Caution! Reduced clearances during normal operation.*
- A striking sign must be attached in the well pit stating: *Access only allowed when safety prop under car is in position.*
- A striking sign must be attached to the well pit stating: *Caution! Reduced clearances during normal operation.*
- All these warnings must also be present inside the control cabinet.

Documents:

- A technical file, a user manual, a maintenance manual and an electrical diagram must be present at the lift.
- When the option re-levelling with the doors open is provided, the following items will have to be present at the installation to be checked during final inspection:
  - Detailed field test instructions regarding UCMP must be present in one of the following documents “Kleemann KL-UCMP Traction-Examination and Tests before putting into service”
    - “Gearless Machine Ziehl-Abegg / Lift Drive Zetadyn / Serial controller” or,
    - “Gearless Machine Ziehl-Abegg / Lift Drive Zetadyn / Lisa controller” or,
    - “Gearless Machine Ziehl-Abegg / Lift Drive Yaskawa / Serial controller” or,
    - “Gearless Machine Ziehl-Abegg / Lift Drive Yaskawa / Lisa controller”.
  - An additional calculation shall be done to check whether the deceleration and stopping distance is within the limits as required by EN 81-1:1998+A3:2009. The calculation method to be used is “Kleemann Calculations for UCM-A3, stopping with Machine Brake”. For each installation the calculations shall be checked and approved.

## 6. Conclusions

Based upon the results of the EC type-examination Liftinstituut B.V. issues an EC type-examination certificate.

The EC type-examination certificate is only valid for products which are in conformity with the same specifications as the type certified product. The EC type-examination

certificate is issued based on the requirements that are valid at the date of issue. In case of changes of the product specifications, changes in the requirements or changes in the state of the art the certificate holder shall request Liftinstituut B.V. to reconsider the validity of the EC type-examination certificate.

In any case the certificate holder shall request Liftinstituut B.V. for a review of the validity of the EC type-examination certificate, taking into account the current product specifications, current requirements and current state of the art, every 5 years.

## 7. CE marking and EC Declaration of conformity

Every product that is placed on the market in complete conformity with the examined type must be provided with a CE marking according to annex III of the Directive under consideration that conformity with eventually other applicable Directives is proven. Also every product must be accompanied by an EC declaration of conformity according to annex II of the Directive in which the name, address and Notified Body identification number of Liftinstituut B.V. must be included as well as the number of the EC type-examination certificate.

Prepared by:

Certification decision by:

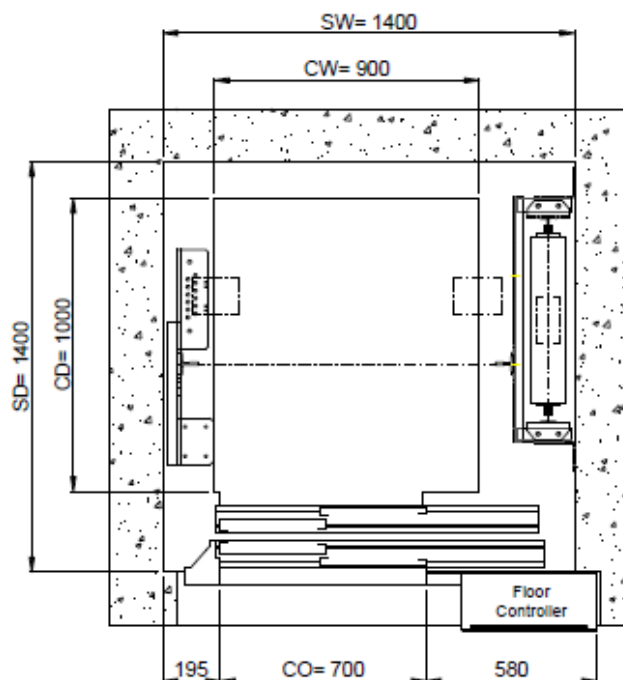


W.Visser  
Senior Specialist  
Liftinstituut B.V.

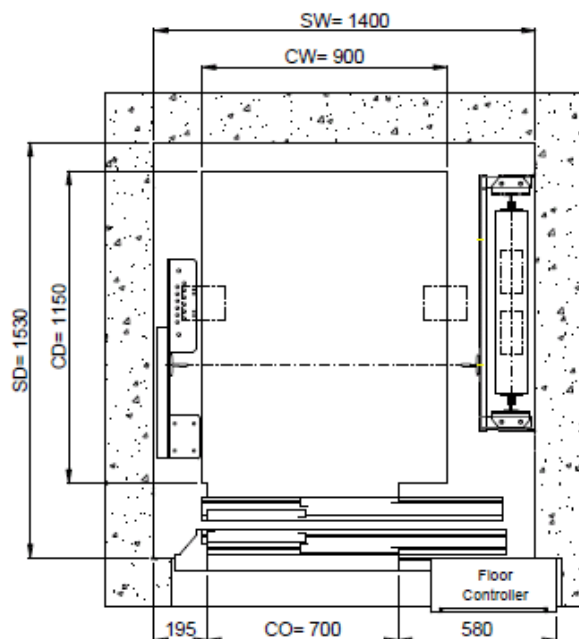
# Annexes

Annex 1 : Atlas RPH N ( dimensions are not absolute )

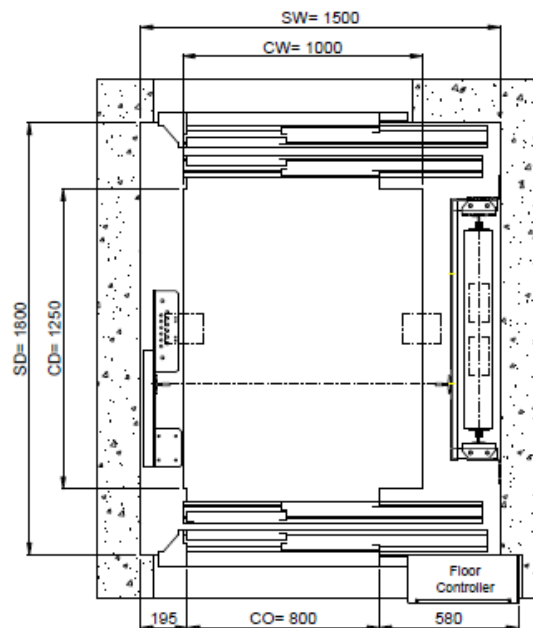
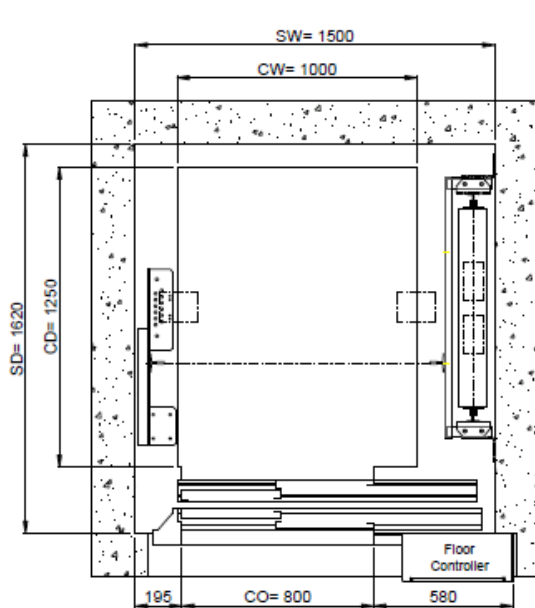
## ATLAS 2:1 -RPH (300 Kg / 4 Persons / Available car area 900x1000) Side-opening doors



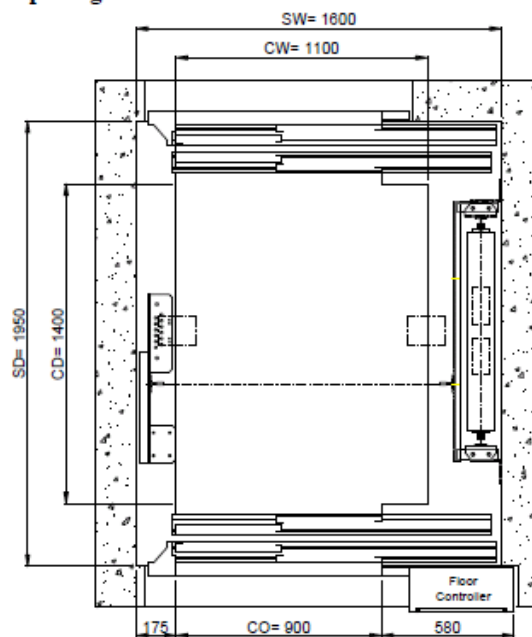
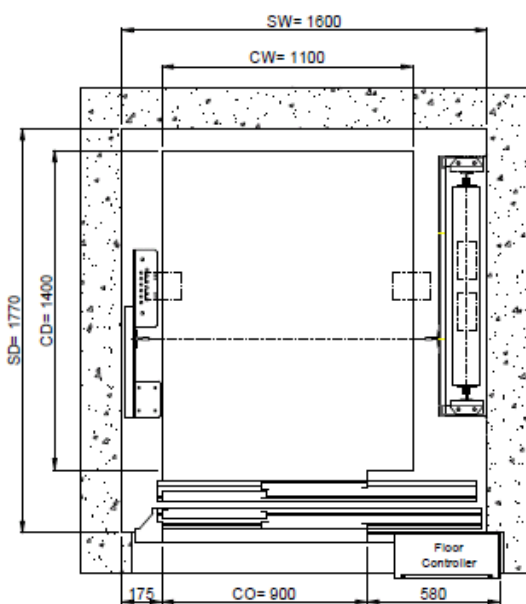
## ATLAS 2:1 -RPH (375 Kg / 5 Persons / Available car area 900x1150) Side-opening doors



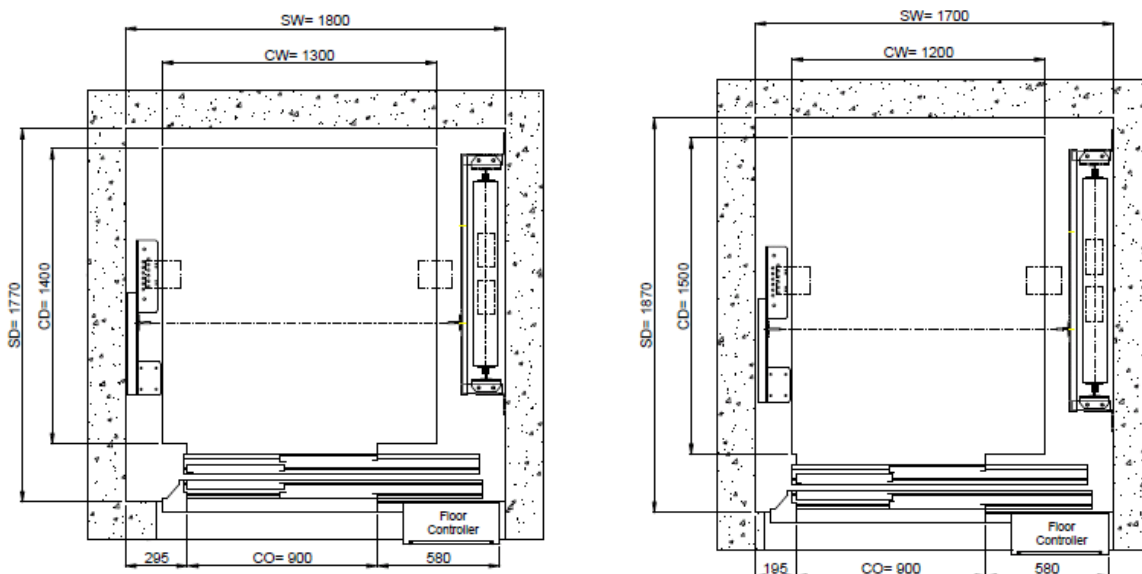
**ATLAS 2:1 -RPH (450 Kg / 6 Persons / Available car area 1000x1250)**  
**Side-opening doors**



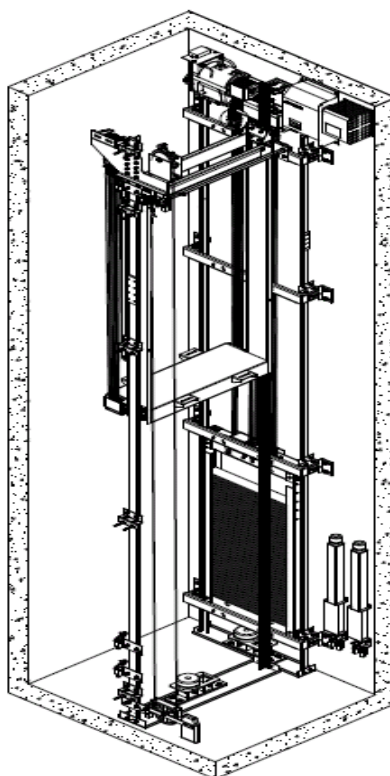
**ATLAS 2:1- RPH (630 Kg / 8 Persons / Available car area 1100x1400)**  
**Side-opening doors**



**ATLAS 2:1-RPH ( 750Kg / 10 Persons / Available car area 1300x1400, 1200x1500)  
Side-opening doors**



**Annex 1b : Overview of complete installation**





**Annex 2 : Documents of the Technical File which were subject of the examination**

<b>title</b>	<b>document number</b>	<b>date</b>
Results of tests		14-06-2012
Operation instructions	V14-2012	29-05-2012
Installation instructions	V1.7-2011	05-04-2012
Planning data	V1.0-2010	29-01-2010
RA > no Block device	V1	05-04-2012
RA > reduced clearances	7.3.2-2 ver1.0	29-05-2012
RA > DOM system	V1	16-07-2012
RA > CWT screen	7.3.2-2 ver1.0	18-07-2012
Stopping distance calcs ( UCM )	5.5.3-13	05-04-2012
Atlas RPH N Buckling calcs	V1	10-04-2012
Atlas RPH N Ropes calcs	42092015-42092025	01-12-2009
Atlas RPH N Machine beam calcs	V1	16-07-2012
EI diagram Serial-Zetadyn	V1	12-04-2012
EI diagram Serial-Yaskawa	V1	12-04-2012
EI diagram Lisa-Zetadyn	V1	12-04-2012
EI diagram Lisa-Yaskawa	V1	12-04-2012

**Annex 3 : Overview of previous revisions of certificate(s) and report(s)**

**REVISIONS OF CERTIFICATE**

<b>Rev.:</b>	<b>Date</b>	<b>Summary of revision</b>
-	July 19, 2012	Original
1	October 22, 2012	Including SB-ZONE

**REVISIONS OF REPORT, BELONGING TO THE CERTIFICATE**

<b>Rev.:</b>	<b>Date</b>	<b>Summary of revision</b>
-	July 19, 2012	Original
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