

APPLICATION	<p>Vertical - only transportation of goods with defined stopping levels; for very varied applications within the industry (maintenance, storage etc).</p> <p>The term 'platform' refers to industrial elevators which by definition do not have cabins or controls on the platform itself; however, they must have walls or protective barriers around the edge which define the loading surface.</p> <p>There are various types and options depending on the loads to be lifted, the total height to be reached, the useful surface area required and the available accesses to the same. Other, more specific, requirements may include: point or distributed loads, the use of trolleys, the type of user and traffic.</p>
REGULATIONS	<p>The platforms are designed in accordance with the Directive 98/37/CE which was redacted by European Parliament on June 22nd 1988 council. This directive is related to the legislative approximation of the states members in what refers to machines.</p> <p>Elevators marked CE may be marketed in any country belonging to the European Economic Community.</p>
TYPE HO	<p>1 runner structure, by calibrated elevator rails. 1 cylinder</p> <p>Optional supply of cushioned stop triggered by rupture of suspension devices.</p>
<i>LOAD</i>	100 Kg to 500 Kg; Minimum 200 Kg/m ²
<i>TRAVEL</i>	Up to 12 metres (2:1). Contact us for longer travelling distances
<i>SPEED</i>	0.1, 0.2 or 0.3 m/s.
<i>POWER</i>	See page 10.
<i>POWER SUPPLY</i>	<p>230 V ± 5% Single-phase, 50/60 Hz (up to 2.0 Kw)</p> <p>230 V ± 5% Three-phase, 50/60 Hz.</p> <p>400 V ± 5% Three-phase, 50/60 Hz.</p> <p>Other voltages available</p>
<i>HANGING</i>	By chains
<i>DIMENSIONS</i>	See page 10 for maximum dimensions; contact us for larger ones.
<i>SHAFT AND PIT</i>	See page 10 for minimum dimensions required; contact us for smaller ones.
EH TYPE - 1 COLUMN	1 runner structure, 1 cylinder
<i>MODELS</i>	EH-500 (I-section IPE 100 as rails) and EH-1500 (I-section IPE 160 as rails)
<i>LOAD</i>	100 Kg to 2000 Kg ; Minimum 200 Kg / m ²
<i>TRAVEL</i>	Up to 12 metres (2:1), possibility of up to 24 metres (4:1 hanging by ropes)
<i>SPEED</i>	0.1 m/s or 0.2 m/s
<i>POWER</i>	See page 11

POWER SUPPLY 230 V \pm 5% single-phase, 50/60 Hz (up to 2 HP)
230 V \pm 5% three-phase, 50/60 Hz.
400 V \pm 5% three-phase, 50/60 Hz.
Other voltages possible.

HANGING By **ropes** or **chains**

DIMENSIONS See page 11 for maximum dimensions, consult us for larger ones.

SHAFT AND PIT See page 11 for maximum dimensions, consult us for smaller ones

EH/DC TYPE 2 runner structures, 2 cylinders

- 2 COLUMNS -

MODELS Facing columns: EH/DC-1000 (rails: I-section IPE 100), EH/DC-3000 and EH/DC-5000 (rails: I-section IPE 160).
Columns on the same side: EH/DCL-3000 (rails: I-section IPE 160).

LOAD 1000 Kg to 5000 Kg ; Minimum 200 Kg / m². Consult us for larger loads.

TRAVEL Up to 12 metres (2:1)
Possibility of up to 24 metres for loads of up to 3000 Kg (4:1 hanging by ropes)

SPEED **0.1** m/s or **0.2** m/s

POWER See pages 12 and 13

POWER SUPPLY 230 V \pm 5% three-phase, 50/60 Hz.
400 V \pm 5% three-phase, 50/60 Hz.
Other voltages possible.
Y-D starting - optional must be ordered -

HANGING By **ropes** or **chains**

DIMENSIONS See pages 12 and 13 for maximum dimensions, consult our technical departament for larger ones.

SHAFT AND PIT See pages 12 and 13 for maximum dimensions, consult us for smaller ones

TYPE EH/4C 4 runner structures, 2 cylinders.

- 4 COLUMNS

The platform is suspended on all four corners by chains.
Motion transmission to points opposite the cylinders is achieved by a chain system whose ends are fixed to the rails and run alongside the bottom part of the platform by means of a pinion set; this system is known as pantographs.

LOAD 4000 Kg to 10,000 Kg; Minimum 200 Kg/m². Contact us for greater loads.

TRAVEL Up to 12 metres (2:1). Contact us for longer travelling distances.

SPEED **0.1** m/s or **0.2** m/s

POWER See page 14.

POWER SUPPLY 230 V ± 5% Three-phase, 50/60 Hz.
 400 V ± 5% , 50/60 Hz.
 Other voltages available.
 Optional Y-D starter available on request

HANGING By **chains**

DIMENSIONS See page 10 for maximum dimensions; contact us for larger ones.

SHAFT AND PIT See page 10 for minimum dimensions required; contact us for smaller ones.

TYPE OF DRIVE Hydraulic indirect acting elevator with reeving ratio 2:1 or 4:1

CYLINDER Single acting cylinder with internal catch, with safety valve if pipe is broken connected directly to the cylinder.
 Possibility of rupture valve with progressive closing and external adjustment - optional, must be ordered .
 Plunger formed by a solid, chromium - plated piston rod. Steel Fe 510 C.
 Jacket formed by a tube of the appropriate thickness. DIN 2391 tube with BK finish, St-52 steel.

POWER UNIT Pumping unit with external asynchronous motor (1500 rpm) and gear driven pump. Up to 16 l/min with EVH-22 electrovalve. From 22 l/min with AH-1VS valve block.
 Includes non-return valve, pressure relief valve, down flow adjusting valve and manual lowering button.
 Possibility of ordering:
 -Shut-off valve
 -Pressure gauge
 -Maximum pressure switch (overloading)

PIPING **Rigid**, tubes as per DIN 2391, material steel St-37.4 (NBK) -
 -3 m standard for EH model and 6 m standard for EH/DC and EH/4C models.-
Flexible, hydraulic hoses with double metallic mesh, tested with couplings fitted – optional on demand -

ROPES EH -500: 2 ropes Ø8 , format 6x19+1, breaking force 34.8 kN (1770 N/mm²)
 EH -1500: 2 ropes Ø10 , format 6x19+1, breaking force 54.4 kN (1770 N/mm²)
 EH/DC -1000: 4 ropes Ø8 , format 6x19+1, breaking force 34.8 kN (1770 N/mm²)
 EH/DC -3000: 4 ropes Ø10 , format 6x19+1, breaking force 54.4 kN (1770 N/mm²)
 Safety ropes of the same characteristics.
 For model EH-1500 and loads of 2.000 Kg. Suspension will be by chains.

CHAINS Single roller chains in accordance with DIN 8187
 HO: 2 chains ½", 18.0 kN break force (300 Kg)
 2 chains ¾", break force 29.0 kN (400 Kg)
 EH-500: 2 chains ¾", break force 29.0 kN
 EH-1500: 2 chains 1", break force 60.0 kN or 1¼", break force 95.0 kN (2000 Kg)
 EH/DC-1000: 4 chains ¾", break force 29.0 kN
 EH/DC-3000: 4 chains 1", break force 60.0 kN
 EH/DC-5000: 4 chains 1¼", break force 95.0 kN
 EH/4C: (P+Q;Total passenger's weight plus load to be lifted. Estim. weight =165 Kg /m²)
 2 chains 1½", break force 160.0 kN (P+Q 8500Kg.)
 2 chains Fleyer 6x6, break force 315.0 kN (P+Q 15700 Kg.)

Safety cables with the features indicated in the previous section, except the following models:

EH/DC-5000: 4 cables Ø12, format 6x37+1, break force 93.5 kN (1770 N/mm²)

EH/4C:

4 cables Ø12, format 6x37+1, break force 93.5 kN (1770 N/mm²) (P+Q 8500Kg.)

4 cables Ø14, format 6x37+1, break force 127.0 kN (1770 N/mm²) (P+Q 15700 Kg.)

**ENVISAGED
INSTALLATION
CONDITIONS**

The shaft should be closed by brickwork or a sufficiently resistant rib mesh. Doors with mechanical and electrical locks must be installed at all entrance points. The button panels will be located in such a way as to make it impossible to operate the elevator from the loading platform.

**CONTROL
USE**

Button panels on each floor allowing the elevator to be called from or sent to all service levels. Each buttons panel is fitted with a STOP switch for emergency use; on disengaging the STOP switch the elevator remains immobile until a new command is given.

During loading operations the door leaf contact (electric lock) cancels calls from other service levels so as to avoid involuntary movement of the platform and the risk that this would involve.

In case of power failure there will be a manual descent button fitted in the hydraulic power unit so that the lift descends to the level of the next floor down.

Simple automatic control via relays using 24V direct current; ready to operate a retractable cam as device working door locks. With circuit breaker (automatic switch and temperature relay to protect the motor). Possibility of control for automatic landing doors, of the type articulated of hydraulic.

SAFETY SYSTEMS

As safety conditions regarding the installation it is envisaged that there will be doors in the entrances and the shaft will be closed; similarly, the platform floor will be non-slip.

The electrics and, therefore, the controls work on 24V direct current, as an electrical safety measure.

The safety devices incorporated into the elevator itself are:

- Safety ropes with safety contacts
- End of upper run
- Safety valve against pipe breaking connected directly to the cylinder
- Rupture valve with progressive closing and external adjustment – optional on demand .
- Protecting walls on the load platform – optional, must be ordered
- Chain loosening device in HO model
- Instant cushioned stop in HO model (optional on request)

SAFETY ROPES In each rails column two ropes or chains are used as suspension elements, with two other safety ropes parallel to these which do not support any weight as they are fixed by compression springs.

In the event that any of the suspension elements should break the load would be supported by the safety ropes, thereby activating the electric safety contacts and breaking the current to the elevator.

END OF UPPER RAIL Electric safety contact switched on by the differential head of the cylinder. It is located in the upper section of the guiding, so that it directly cuts off power before the cylinder reaches the its mechanic buffer.

SAFETY VALVE AGAINST PIPE BREAKING In case of a breakage in the piping which links the power unit and the cylinder, the cylinder itself is equipped with a safety valve which blocks the leakage of oil from the cylinder when the descent flow increases above a value. The closing is instantaneous, the external valve adjustment is not allowed.

RUPTURE VALVE Optional extra for safety valve. In case of a breakage in the hydraulic piping a rupture valve can be supplied.

This valve, like the safety valve, blocks the leakage of oil from the cylinder when it detects a certain fall in pressure in the rupture valve due to an increase in the flow of descent. This stops the elevator. The valve closes gradually the oil way in order to avoid a sharp desecelation; in the other hand it allows a external adjustment of the tripping flow.

PLATFORM PROTECTIONS Protecting walls or barriers around the edge of the platform in such a way as to define the loading surface avoiding the possible collision of the load with the structure of the shaft. They would also prevent the load from penetrating the guiding elements of the elevator.
It's not necessary mobile protection at the landing.

LOOSENING OF CHAINS Standardised safety device only for HO model.
In case of rupture or loosening of one of the suspension chains, an electric contact will be switched on, by means of a compression spring, automatically cutting off power and rendering the elevator out of service.

CUSHIONED STOP Standardized safety device only in HO platforms.
Instant cushioned stop triggered by rupture or loosening of suspension devices.

OPTIONAL FEATURES

Optional elements to be supplied if ordered:

- Rupture valve
- Shut-off valve in the power unit
- Flexible hose
- Retractable cam
- Electrics pre-fitted

Other optional devices or elements:

- Automatic re-levelling device
- Anti-creep device (Pawl device)
- Platform protecting walls
- Special button panels
- Lateral guiding

*RE-LEVELLING
DEVICE*

Automatic device which repositions the platform at floor-level whenever it drops as a result of loading or rises above floor-level on unloading. Such unevenness is due to the compression of the oil, temperature induced variations in the oil's density, damaged cables etc; it would be the equivalent in lifts of an electrical anti-creep system.

There are 2 types: **Normal** and **Advanced**.

Normal: The speed of levelling is equal to the platform's rated speed. It is recommended for platforms with a speed of 0.1 m/s and loads of up to 2000 Kg; if the speed were 0.2 m/s the movement would be too sudden. Control is achieved by means of a series of additional contacts in each floor.

Advanced: The speed of levelling is approximately equal to 0.04 m/s, so the operation is smooth. A hydraulic power unit with two pumping units is envisaged so that the rated speed is achieved with the addition of the 2 flows and the speed of levelling to the operation of the small group; likewise, the automatic device is controlled by means of a series of additional contacts.

It is recommended for those platforms which are to be loaded by trolley and of those which have a travel greater than 10 metres – large amount of oil be used in the cylinders or reeving ratio 4:1

In the EH/DC-5000 and EH/4C model the advanced re-levelling device is included as standard.

*ANTI-CREEP
DEVICE*

Mechanical devices, bolts, which cause the anchoring of the elevator at floor-level preventing the platform from lowering due to leaks, oil compression etc. The platform is guaranteed to be perfectly in line with the floor, taking into account the corresponding supports on the guide rails. The equivalent in lifts would be a pawl device.

This device are only available for model using I-section IPE 160 as guide rails (EH-1500, EH/DC-3000 and EH-5000) and for model EH/4C.

Platform elevators operating with this device have to be envisaged jointly with advanced re-levelling system so that the speed with which the platform rests on the supports is smooth avoiding sudden crashes of the supports.

The positioning of the bolts is carried out automatically by the control of the elevator.

There are two types depending on the mode of operation: **Electric** and **Hydraulic**.

Electric: Driven by a coil connected to a 230V DC electricity supply which move the support bolt to the back, the return is carried out by means of a compressed spring. The maximum specified load for each one is 15 kN.

Hydraulic: Driven by a double acting cylinder. A hydraulic power unit, installed under the platform, is needed to move the cylinders. The maximum specified load for each one is 40 kN.

Its use is recommended when people are going to enter the platform during loading operations and when perfect alignment is required.

For the EH type 2 units will be supplied, for the EH/DC and EH/4C type 4 units will be supplied so that the platform is perfectly supported.

PROTECTIONS Barriers or walls around the edge of the platform which define the loading surface. Their anticipated height is 1.2 m or 1.8 m. The protections occupy 30 mm of the edge of the specified platform surface

There are 3 types:

- **Tubular:** Handrail with a distance between tubes of less than or equal to 250 mm. and 150 mm high skirting board.
- **Sheet of corrugated steel:** Solid surface, made of corrugated steel which gives it the necessary rigidity.
- **Sheet of smooth steel :** Solid surface, tubular structure with folded sheet pieces.

**OPTIONAL
BUTTON PANELS** Button panels with a bolt key to restrict use of the platform.
Button panels with luminous indicators (in use, platform ready, etc).

**LATERAL
GUIDING** Additional set of rollers attached to the frame and supported by the internal flap of the guiding rail. In models EH-1500 and EH/DC-3000 where the platform side parallel to the guiding has a considerable length, we recommend the installation of an additional guiding system so as to avoid excessive wear of the rail's flap due to uneven loads.
Standard in models EH/DCL and EH/DC-5000. Not available for model EH-500.

INSTALLATION

**FIXING
THE GUIDE RAILS** Anchorages are supplied to fix the guide rails to the walls of the shaft using adjustable brackets. These should be soldered to the guide rails. For the anchorages to be securely fixed the wall must be made of concrete or solid bricks.

In the case of walls made of hollow bricks there will have to be built-in metallic sections to allow the guide rails to be soldered. If the wall is accessible from the other side a wall-passer can be used.

The reaction forces on the guide rails supports are specified in the assembly instructions.

**HYDRAULIC
INSTALLATION** All the necessary piping and couplings are supplied to carry out hydraulic installation. In the case of rigid pipes, this is maleable enough to form any necessary bends, which is why elbow couplings to connect tubes are not supplied

**ELECTRIC
INSTALLATION** Landing button-panels are water-proof type (IP-65) and it is anticipated that they will be fitted on the wall; button panels have to be installed in such a way as to make it impossible to operate them from inside the platform.

Wiring will be make in accordance with the Low Tension Directive or with the harmanized standard EN 60204-1. A stop switch and an external protection system must be installed.

MACHINE ROOM It is envisaged that the hydraulic power unit shall be positioned no more than 10 metres from where oil inlet to the cylinder; consult us if a greater distance is required. To calculate the cables from the supply, external switch and thermic protection previous to the control panel see the values of current in figure 9

Dimensions of the power unit: see figure 8

Dimensions of the electric control board :

- Standard: 300 (width) x 400 (height) x 150 (depth)
- Advanced re-llevelling and / or anti-creep devices: 300 (w) x 500 (h) x 150 (d)
- Advanced re-llevelling and / or anti-creep devices (10 HP): 300 (w) x 500 (h) x 200 (d)

SHAFT CLOSING LANDING DOORS The shaft should be closed by brickwork or a sufficiently resistant rib mesh in order to avoid dangers due to falling and associated with moving parts
Doors with mechanical and electrical locks must be installed at all entrance points; the lock will be laterally operated and placed in the bottom part of the door frame, so that the ramp or retractable cam operating the lock was fitted in the edge of the platform floor.

SUPPLY

GUIDE RAILS ASSEMBLY The rails columns are supplied in one piece for travel up to 4.5 metres. For longer distances the guide rails are supplied in 2 parts. Consult us if guide rails in more than 2 sections are required.

The sling, cylinder and traction system (cables or chains and pulley assembly) are supplied pre-fitted to the rail column, or in the lower section when appropriate.

PLATFORM The loading platform is supplied ready to be screwed to the sling. Similarly, it is supplied with a handle or hook to make handling easier.
For 1 column platforms (EH), load platforms will always be supplied in one single piece.
For EH/DC and EH/DCL models, platforms will be supplied in a single piece of up to 2300 mm. From larger sizes, they will be supplied in two pieces. Please let us know whether you need one or two pieces.

HYDRAULIC POWER UNIT Consisting of the equipment described in previous paragraphs, this is supplied after testing its operation and ensuring that its sealing components are right.

ACCESSORIES BOX Includes the electrical control board, electrical hose and wire for electrical connections, shaft contacts, button panels, hydraulic material, brackets and anchorages and other materials depending on the optional specifications.

OIL The necessary oil for the power unit is supplied in separate containers in the appropriate volume. Kind of oil, ISO HM-46.

VARIATIONS

PLATFORM WITH REVERSED SLING If it is desirable that the guide rails do not protrude beyond the upper service level, with only the platform at floor level, what we call a reversed platform, in which the sling, guide rails assembly and suspension remain below the actual platform, can be supplied. If this is the case a deeper pit will be required (see figures 4 and 5).

A trap door could also be supplied which would close the top of the shaft and which would be activated by protections installed in the platform itself. Other solution to close the top of the shaft would be leaving the platform stationary at the top level, in this case the platform would be supplied with anti-creep devices.

FLAMEPROOF PLATFORM If the platform is to be installed in a place where there is a risk of explosion the control is carried out by a pneumatic system (button panels, limit switches, safety contacts) for which a compressor or a supply of 6-8 bar compressed air will be needed.

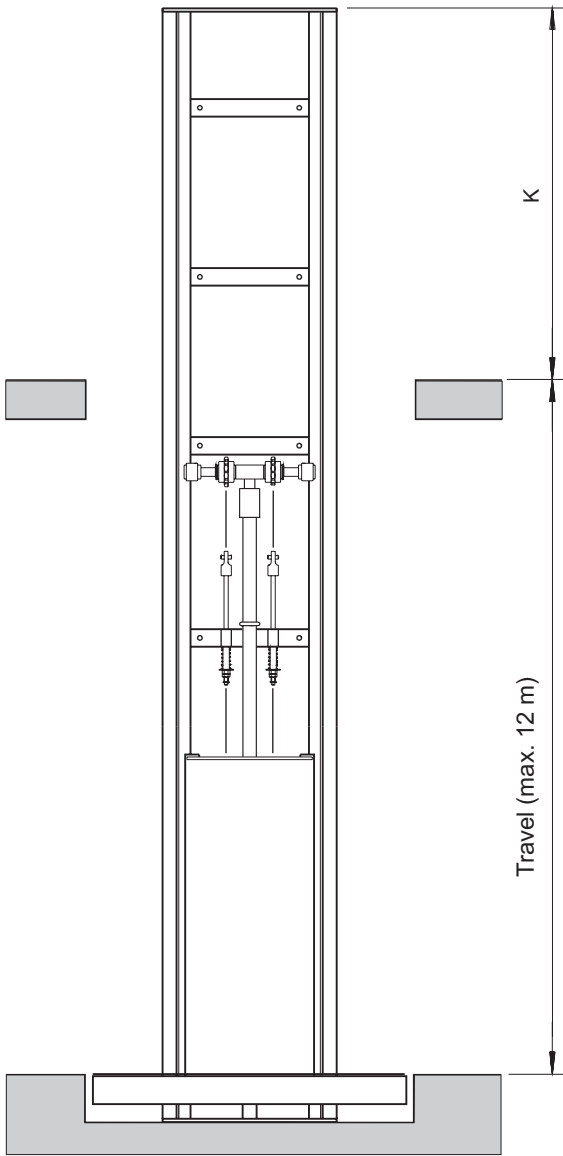
The motor and the electric control board are intended to be installed outside the area where there is a risk of explosion; if this is not possible a flameproof motor could be supplied along with a similarly flameproof casing for the electric control board.

The connections between the control board and the motor would be made in the factory using appropriate glands and couplings.

WATERPROOF The electric material used for stop switches and safety contacts is watertight (IP-65)
All platform structures (rails, load platform, etc) are galvanized for greater resistance to oxidation.
The platform floor should be stainless steel, since the usual paint layer is bound to disappear from use.

STAINLESS FINISH If the platform is to be used in the food industry the platform floor can be supplied in stainless steel along with the barriers which define its limits.
The platform's resistant structures can be supplied zinc-coated. (Consult us).

Figura 1. Platform of HO model
 Minimum dimensions of shaft
 Maximum power installed
 Tank



Load (Kg)	A min.	A max.	B max.	K max.
100	550	2000	1300	1300
200	550	2000	1300	1300
300	550	2000	1300	1300
400	550	2000	1000	1800
500	550	2000	1000	1800

Load (Kg)	Power máx. (KW)			Tank (Liters)
	v = 0.1 m/s	v = 0.2 m/s	v = 0.3 m/s	
100	0.37	0.75	1.10	20
200	0.55	1.10	1.50	20/40
300	0.75	1.50	2.20	20/40
400	0.75	1.50	2.20	20/40
500	1.10	2.20	3.00	20/40

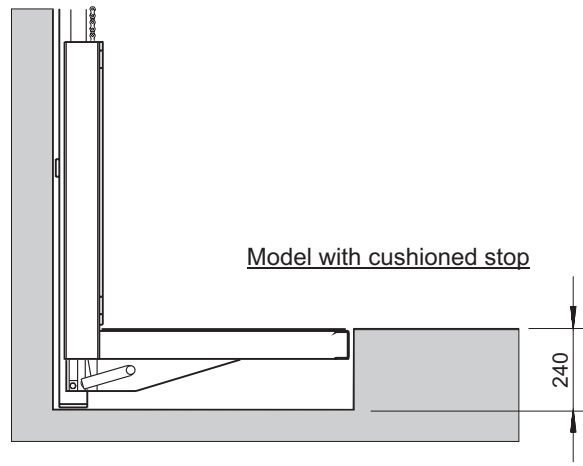
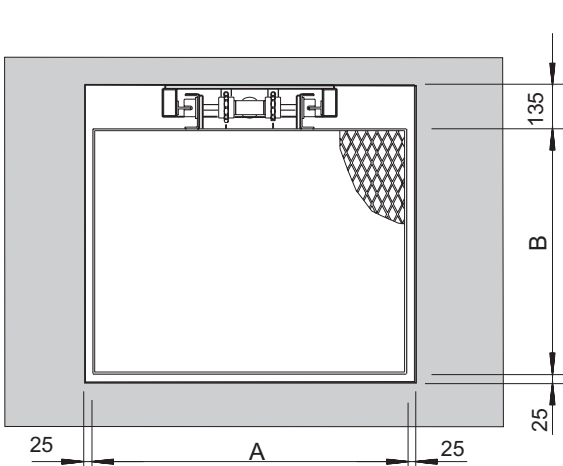
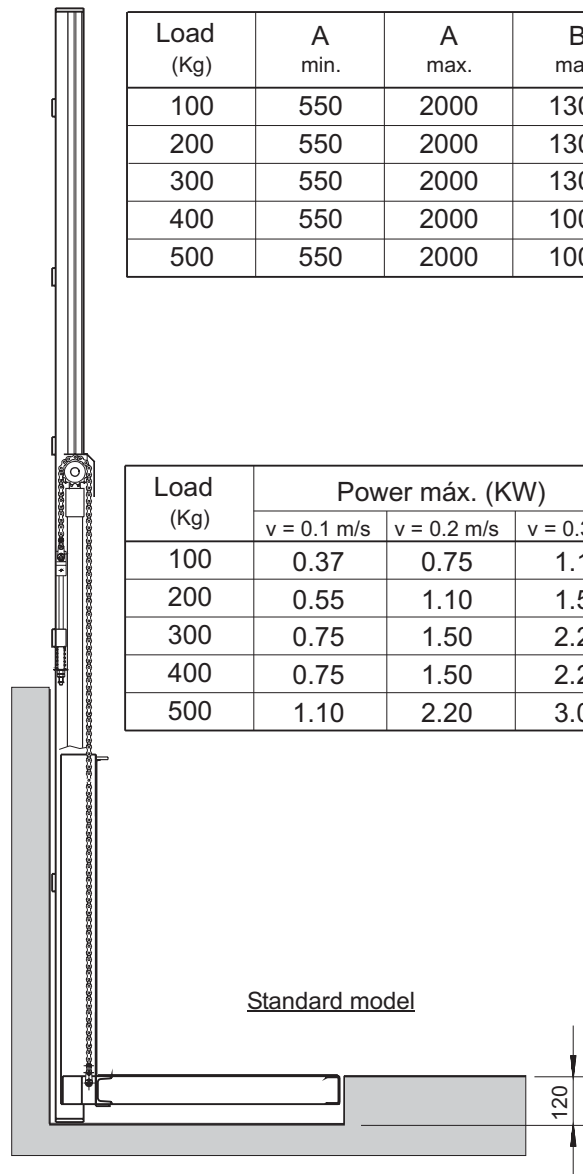


Figure 2. 1 column platform lifts
 Minimum shaft dimensions
 Required power
 Tank

Model	Load (Kg)	A min.	A max.	B max.	H	D min.	K max.	Motor power (kW)		Tank (liters)
								v = 0.1 m/s	v = 0.2 m/s	
EH-500	100	950	2100	1400	200	230	1170	0.55	1.10	20
	200	950	2100	1400	200	230	1170	0.75	1.50	20/40
	300	950	2100	1400	200	230	1170	0.75	1.50	20/40
	400	950	2100	1400	200	230	1170	1.10	2.20	20/40
	500	950	2100	1400	200	230	1170	1.10	2.20	20/40
	750	950	2100	1500	200	300	1600	1.50	3.00	20/40
EH-1500	1000	1250	2800	2000	250	380	2120	2.20	4.00	40/100
	1500	1250	2800	2000	250	380	2120	3.00	5.50	40/100
	2000	1250	2800	2000	250	380	2120	4.00	7.50	40/100

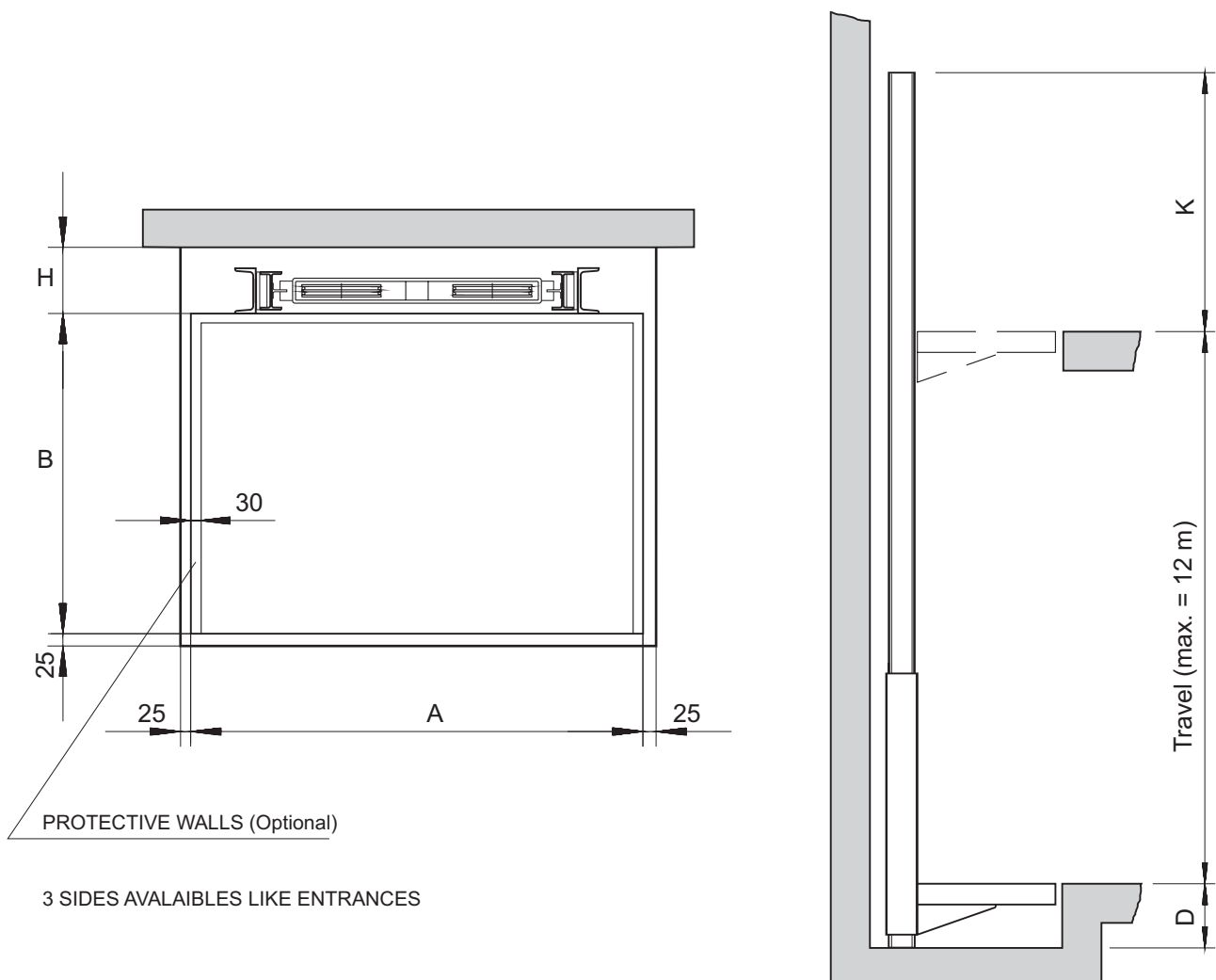
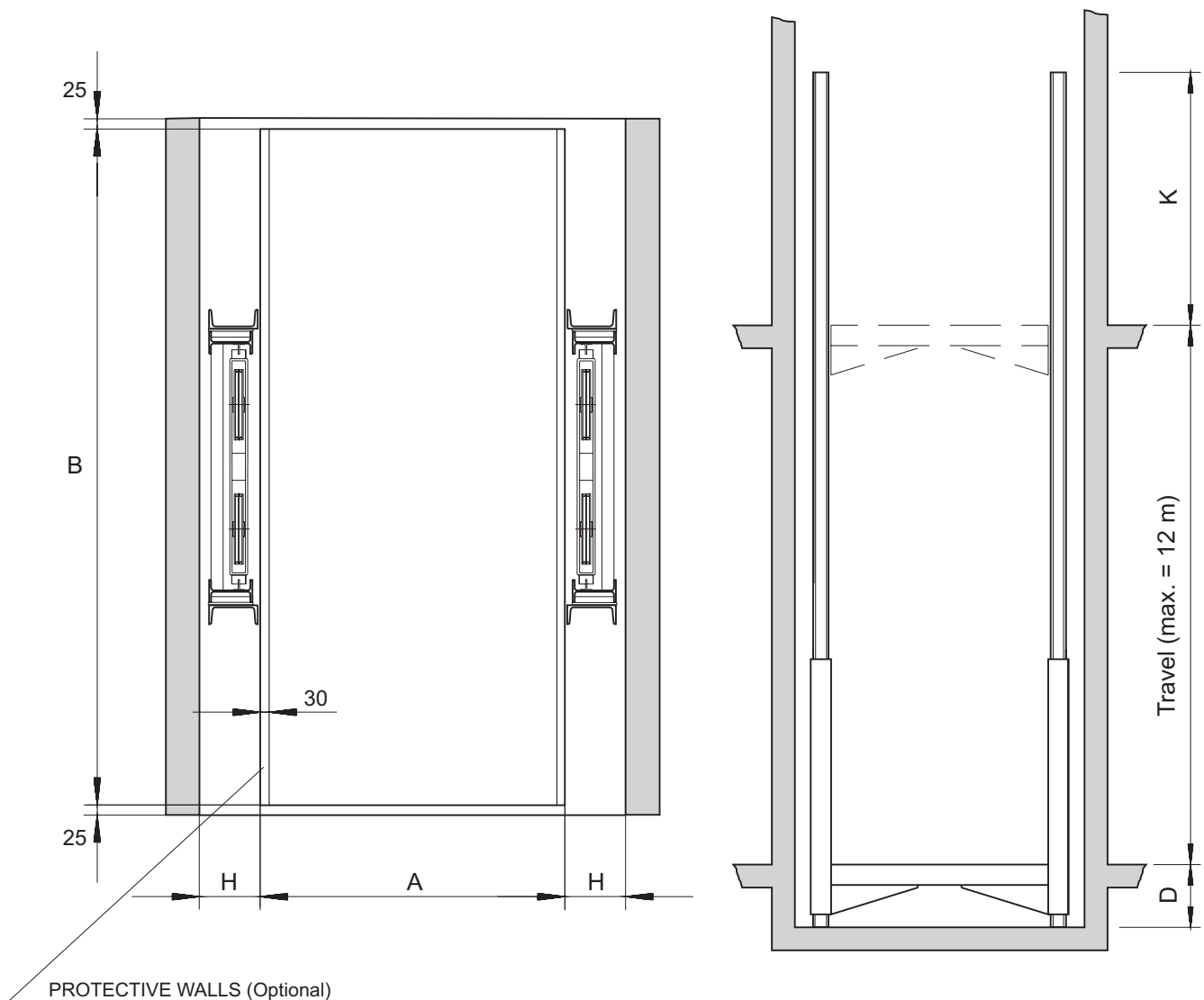


Figure 3. 2 opposite columns platform lift
 Minimum shaft dimensions
 Required power
 Tank

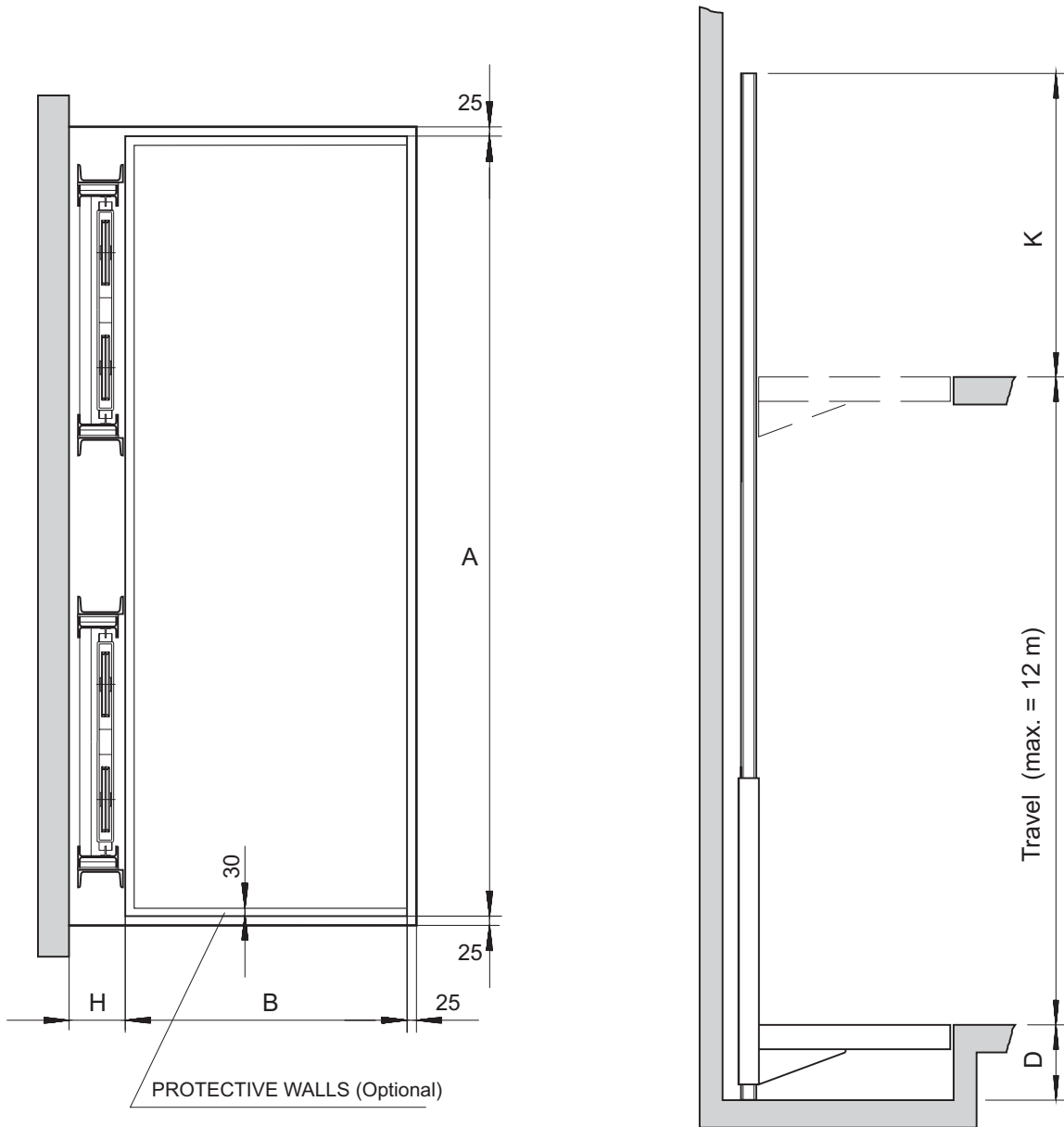
Model	Load (Kg)	A max.	B min.	B max.	H	D min.	K max.	Motor power (kW)		Tank (liters)
								v=0.1 m/s	v=0.2 m/s	
EH/DC-1000	1000	2000	1200	3000	200	350	1600	2.20	4.00	40
	1500	2000	1200	4000	200	350	1600	3.00	5.50	40/100
EH/DC-3000	2000	2500	1500	6000	250	700	2200	5.50	11.00	40/100
	3000	3000	1500	6000	250	700	2200	7.50	15.00	40/100/200
EH/DC-5000	4000	3000	1500	6000	250	700	2500	9.5 (4.0+5.5)	15.0 (4.0+15.0)	40/100/200
	5000	3000	1500	6000	250	700	2500	11.0 (5.5+5.5)	20.5 (5.5+15.0)	40/100/200



2 SIDES AVAILABLE LIKE ENTRANCES

Figure 4. 2 adjacent columns platform lift
 Minimum shaft dimensions
 Required power
 Tank

Model	Load (Kg)	A min.	A max.	B max.	H	D min.	K max.	Mot. power (kW)		Tank (liters)
								v=0.1 m/s	v=0.2 m/s	
EH/DCL-3000	2000	3200	5500	2500	250	700	2200	5.50	11.0	40/100
	3000	3200	5500	2500	250	700	2200	5.50	15.0	40/100/200



3 SIDES AVAILAIBLES LIKE ENTRANCES

Figure 5. Platform lift model EH/4C
 Minimum shaft dimensions
 Required power
 Tank

Model	Load (Kg)	A max.	B min.	B max.	D min.	K max.	Motor power (kW)		Tank (liters)
							v=0.1 m/s	v=0.2 m/s	
EH/4C-5000	4000	3500	4500	7000	700	1200	13.0 (5.5+7.5)	20.5 (5.5+15.0)	100/200
	5000	3500	4500	7000	700	1200	13.0 (5.5+7.5)	24.0 (5.5+18.5)	
	6000	3500	4500	7000	700	1400	14.5 (5.5+9.0)	27.5 (5.5+22.0)	
EH/4C-10000	8000	4000	4500	9000	700	1400	18.5 (7.5+11.0)	37.5 (7.5+30.0)	
	10000	4000	4500	9000	700	1400	24.0 (9.0+15.0)	41.0 (11.0+30.0)	

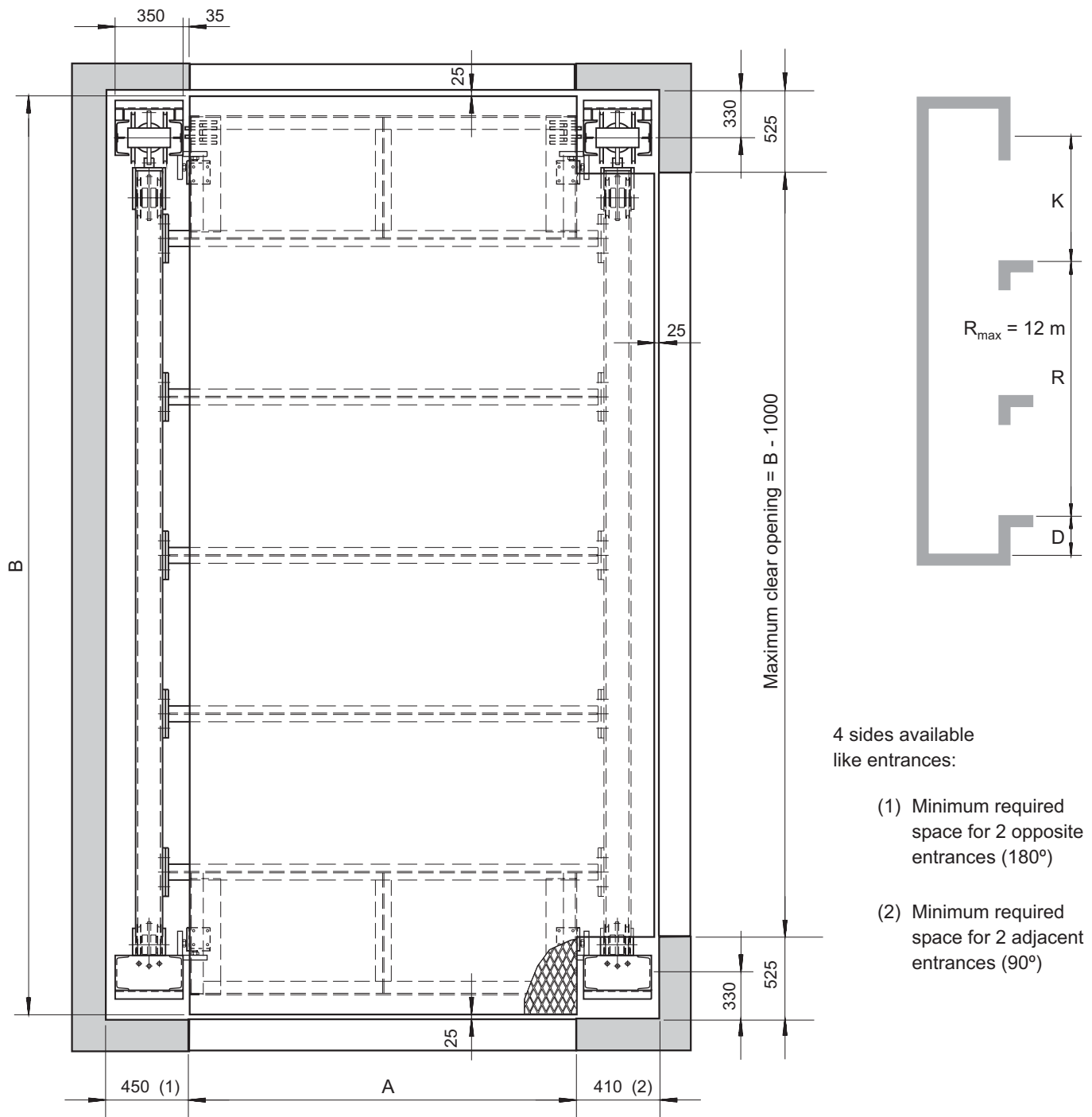


Figure 6. 1 column platform lift with reversed carframe
 Minimum shaft dimensions

Model	Load (Kg)	A min.	A max.	B max.	H	D min.
EH-500i	100	950	2100	1400	200	900
	200	950	2100	1400	200	900
	300	950	2100	1400	200	900
	400	950	2100	1400	200	900
	500	950	2100	1400	200	900
	750	950	2100	1500	200	900
EH-1500i	1000	1250	2800	2000	250	1400
	1500	1250	2800	2000	250	1400
	2000	1250	2800	2000	250	1600

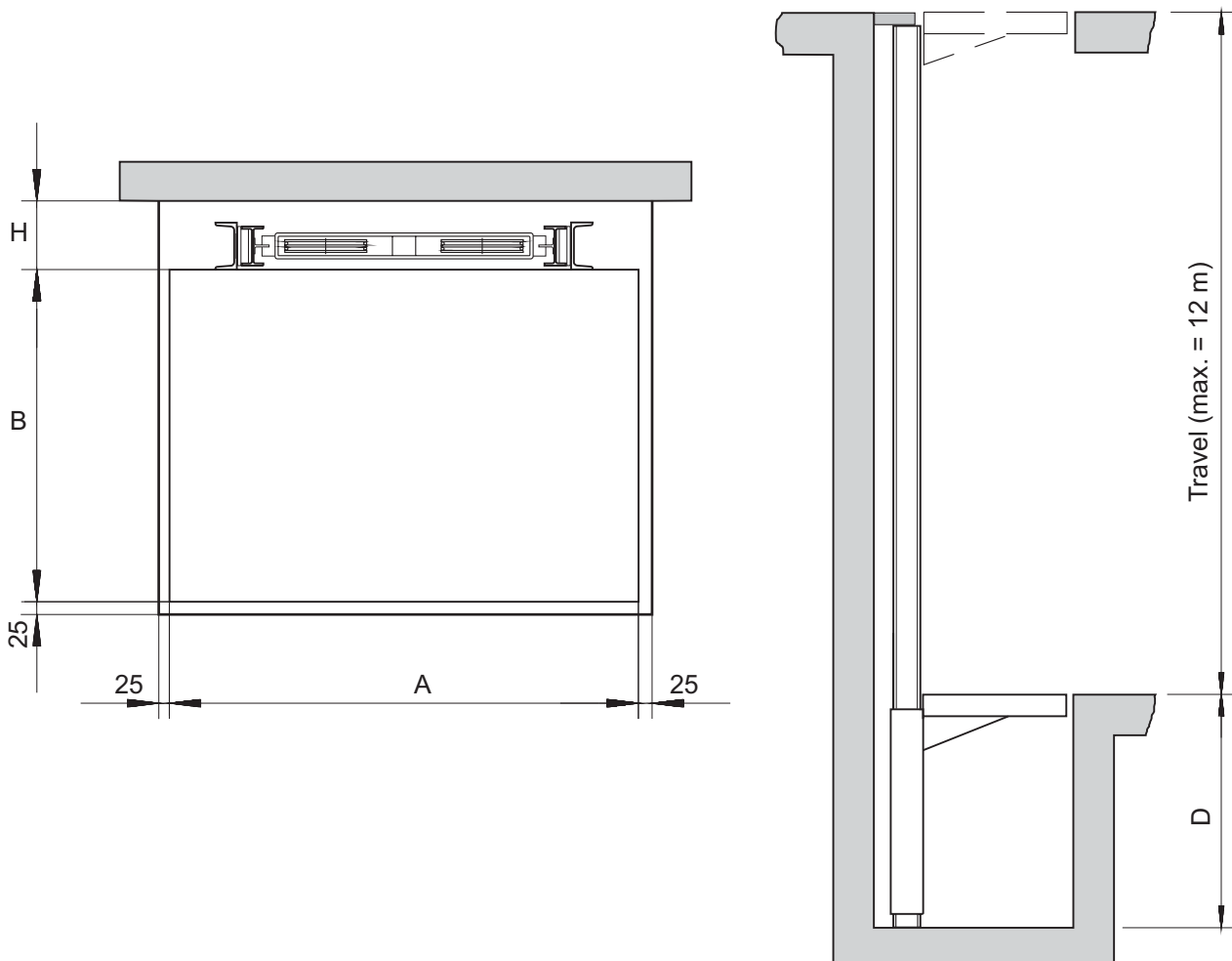


Figure 7. 2 opposite columns platform lift with reversed carframe
 Minimum shaft dimensions

Model	Load (Kg)	A max.	B min.	B max.	H	D min.
EH/DC-1000i	1000	2000	1200	3000	200	800
	1500	2000	1200	4000	200	800
EH/DC-3000i	2000	2500	1500	5000	250	1400
	3000	3000	1500	5000	250	1400
EH/DC-5000i	4000	3000	1500	4500	250	1600
	5000	3000	1500	4500	250	1600

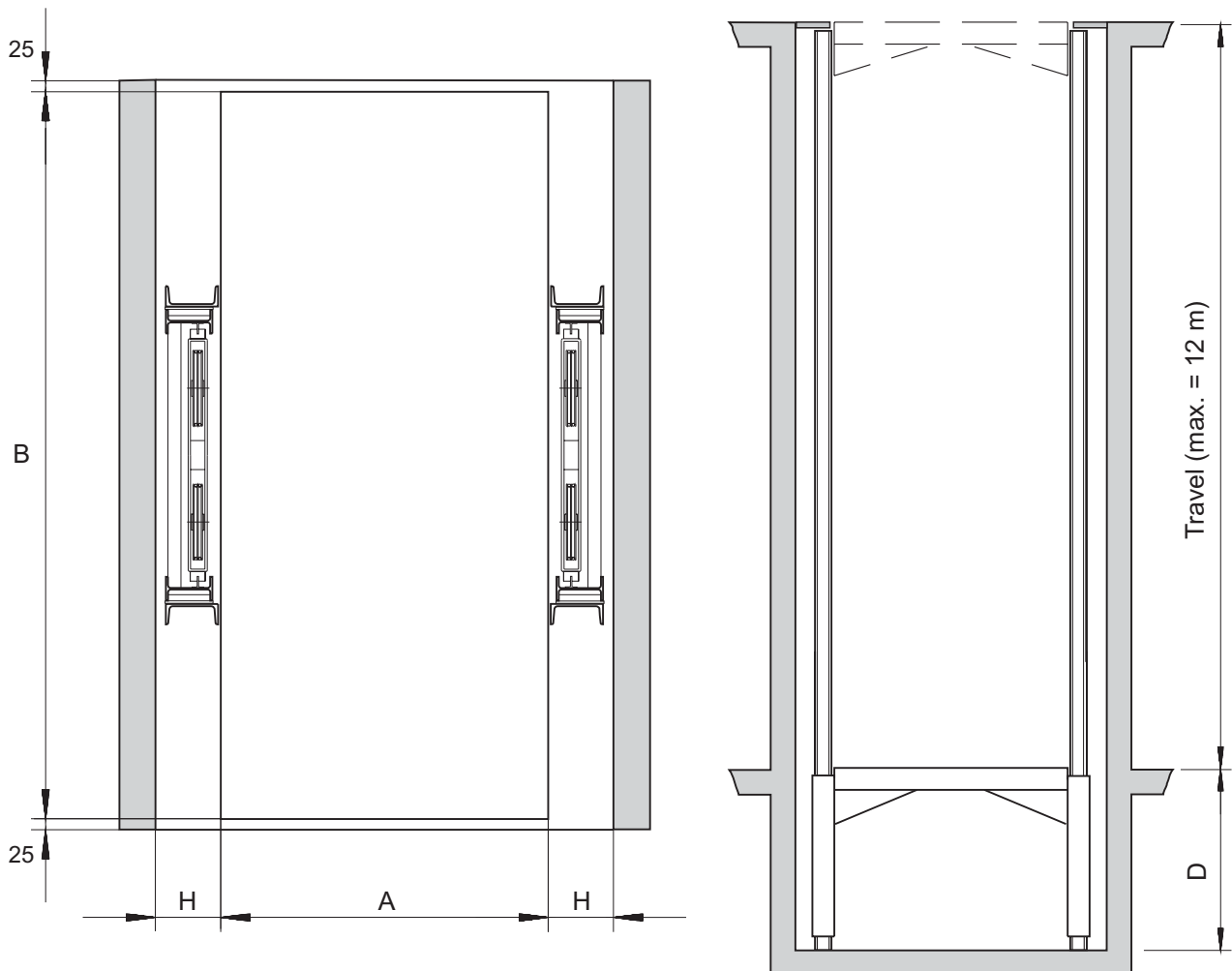
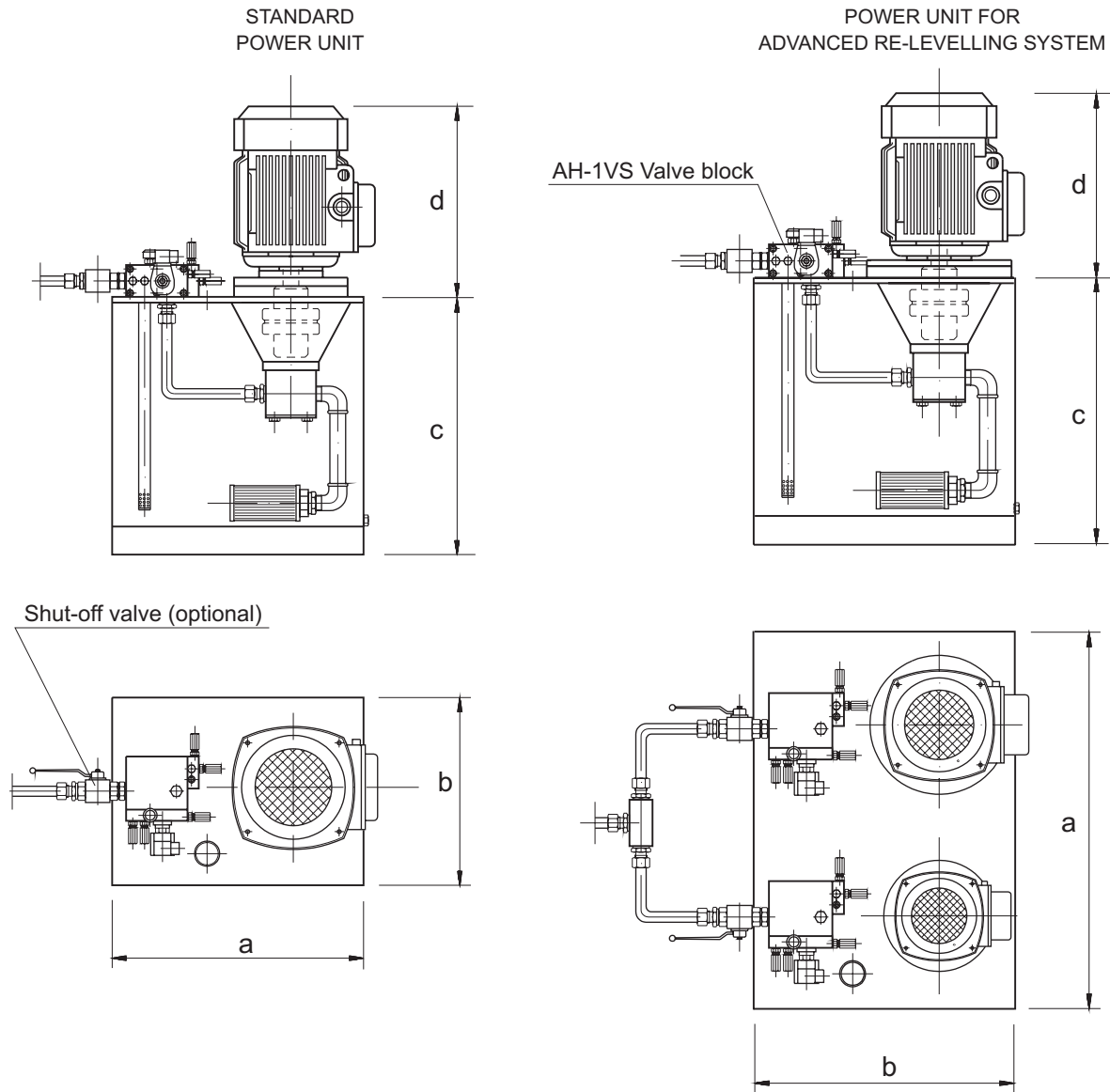


Figure 8. Size of hydraulic power unit



Motor power (kW)	d
0.37	220
0.55 - 0.75	245
1.1 - 1.5	280
2.2 - 3.0	310
4.0	310
5.5 - 7.5	380
9.2	415
11.0	495
15.0	540

Tank	a	b	c
20 liters	350	245	290
40 liters	455	355	445
100 liters	670	445	445
200 liters	705	605	710

Figure 9. Cylinders
Pumps
Motors

Cylinders		
pistón	ext. jacket	Thickness of jacket
35	50	5.0
40	60	5.0
50	70	5.0
60	80	5.0
70	90	5.0
80	108	8.0
100	127	7.5
120	152	8.0

Pump flow (l / min.)
3
5
7.5
9
12
16
22
27
35
45
54
66
84

Single phase motors			
Power	Nomina C.I	Starting C.	cos
1.0 CV	6.3 A	19.0 A	0.85
1.5 CV	7.1 A	23.5 A	0.93
2.0 CV	9.8 A	36.5 A	0.92
3.0 CV	14.5 A	48.0 A	0.92

3-Phase motors							
Power kW (CV)	Power factor cos	Nominal Current (A)		Starting Current (A)			
		230 V ()	400 V (Y)	230 V	400 V	Y- 230 V	Y- 400 V
0.37 (0.5)	0.69	1.9	1.1	7.8	4.5	2.6	1.5
0.55 (0.75)	0.73	2.5	1.5	10.1	5.8	3.4	1.9
1.1 (1.5)	0.81	4.5	2.6	22.5	13.0	7.5	4.3
1.5 (2.0)	0.79	6.0	3.5	30.0	17.3	10.0	5.8
2.2 (3.0)	0.81	8.4	4.8	45.9	26.4	15.3	8.8
3.0 (4.0)	0.81	11.3	6.5	62.0	35.6	20.7	11.9
4.0 (5.5)	0.80	15.0	8.6	104.7	60.2	34.9	20.1
5.5 (7.5)	0.83	19.3	11.1	141.0	81.0	47.0	27.0
7.5 (10)	0.83	25.8	14.8	203.4	116.9	67.8	39.0
9.2 (12.5)	0.85	31.0	17.8	226.1	129.9	75.4	43.3
11.0 (15)	0.81	37.4	21.5	250.6	144.1	83.5	48.0
15.0 (20)	0.84	49.6	28.5	337.2	193.8	112.4	64.6
18.5 (25)	0.84	60.9	35.0	426.3	245.0	142.1	81.7
22.0 (30)	0.83	71.3	41.0	499.4	287.0	166.5	95.7
30.0 (40)	0.83	97.4	56.0	652.8	375.2	217.6	125.1