

DSW

SOLUTIONS



NET ZERO SOLUTIONS

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UNBEATABLE SAVINGS

Just How Much
Can Be Saved?



**Pure
Momentum**

Unbeatable Efficiency. Unmatched Simplicity

LIFT ENERGY WASTE ENDS HERE.

Our intelligent ventilation system seals the ventilation grill in the lift shaft/motor room, eliminating the open window effect that drains energy up the shaft. This drastically reduces energy loss while constantly monitoring the lift shaft environment for unsafe conditions - all in a failsafe package. And for complete passenger protection, our optional smoke detection takes lift safety to the next level.



RegenMaster

Intelligent Recovery. Maximum Efficiency


TRANSFORM LIFT EFFICIENCY FOREVER.

Our revolutionary energy recovery system is a game changer. State-of-the-art-technology captures braking energy, diverting it from wasteful resistors into high-performance super-capacitors for exclusive reuse by the lift. This groundbreaking energy recycling slashes lift power usage up to 70%. Intelligent optimisation allows sustainability to reach new heights.

KEY FEATURES




The **PureMomentum** system significantly reduces energy loss from the lift which typically occurs during its normal day to day activity.

 **SUITABLE FOR NEW OR EXISTING ELEVATORS:**

Simple installation with very low maintenance costs. Completely independent from the controller manufacturer, no interference with existing electronics.

 **UNMATCHED SIMPLICITY:**


Simple, straight forward installation in only a couple of hours. Instant savings.

 **SAVE ENERGY : SAVING UP TO 7% OF A BUILDING'S TOTAL HEATING COSTS.**


EN81 Standards requires suitable shaft ventilation, however at the same time this provokes significant energy loss.




The **RegenMaster** recovers and stores the energy generated by the lift which is then automatically returned during the next consumption trip or used to support the VF drive's standby mode.

 **SUITABLE FOR NEW OR EXISTING ELEVATORS:**

Simple installation, just a two-wire connection to any VF drive. Completely independent from manufacturer, no interference with existing electronics.

 **MAXIMUM EFFICIENCY:**

2 wire connectivity means installation is completed in less than 30 minutes whilst boasting 98% efficiency.

 **SAVE ENERGY : SAVING UP TO 70%.**

Every elevator requires electricity, however significant savings can be made via energy recovery. Consumption and costs will both decrease.

REDUCE CO² EMISSIONS:

BOOST YOUR NET ZERO INITIATIVE.

CONTACT US TO SEE JUST HOW MUCH CAN BE SAVED!

PRODUCT SUMMARY

	PureMomentum	RegenMaster
Physical arrangement:	Controller in machine room or headroom. Wireless interface to lift car top transmitter. Optional smoke alarm. Plug & play wiring to motorised vent.	Mounted adjacent to controller either in machine room or headroom. 1 or various units.
Application range:	Any elevator shaft with ventilation at the top or within top drive machine room.	Any geared or gearless elevator with a VF drive and no existing regenerative system.
Connectivity:	Standalone system wired to volt free building fire alarm interface and/or controller.	2 wires directly to DC Bus on VF drive.
Installation time:	1-2 hours for basic system and 4-5 hours for full smoke alarm shaft system.	Less than 30 minutes.
Application range:	Retro fit and new elevators.	Retro fit and new elevators.
Future modernisation:	Yes – can be retained and re-used.	Yes – can be retained and re-used.
Product lifespan:	15 years.	Over 50 years.
Energy saving calculation:	Germany energy institute. Internal + external temperature. Air flow velocity through elevator shaft. Cross sectional area of landing door gaps as well as ventilation grill m2 area. Earth's acceleration (intensity of gravity).	ISO-25745-2-(9).
Means of monitoring:	Lift Vision monitoring device can be installed first. 4G connectivity.	3 phase in-line meter monitoring with 4G connectivity or interface with controller to monitor:
Maintenance:	Practically nothing on the base system just general shaft cleanliness. System 1 has a review on the 8th year.	Practically nothing, only general shaft/MR cleanliness.



Pure
Momentum

Unbeatable Efficiency. Unmatched Simplicity

Controlled shaft ventilation providing an exemplary eco-balance for your building.

An opening in the elevator shaft is required for safe smoke discharge, pressure levels and ventilation due to heat dissipation. However, if this remains permanently open, considerable heat and power spent on heating and cooling the building are lost.

Pure Momentum optimised shaft ventilation solution combines energy efficiency and safety in one intelligent system.



Pure Momentum
Unbeatable Efficiency. Unmatched Simplicity

TYPICAL BUILDING SCENARIO:

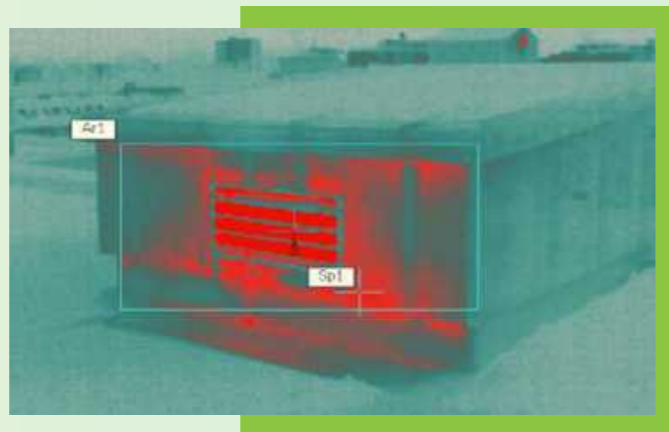
- EN81 regulations require ventilation.
- EN81.1/2 requested 1% of the elevator horizontal shaft surface area.
- Expensive heating bills.

CONSEQUENCES - OPEN WINDOW EFFECT:

- There is a permanent opening at the top of the elevator shaft or inside the machine room.
- Heated or cooled air flows through the gaps in the elevator landing doors and leaves the building creating a chimney effect.

FACTORS TO CONSIDER:

- Internal and external temperatures.
- Month of the year.
- Shaft height.
- Elevator door size and configuration.
- Existing vent size.
- Type of heating system.
- Heating price.
- Vent position.



Pure Momentum
Unbeatable Efficiency. Unmatched Simplicity

1 | VENTILATION ELEMENT:

- Side or top mounted, with or without a machine room.
- Numerous formats and sizes available including extra slim.
- Prevents energy loss due to uncontrolled escape of heated air.

2 | SYSTEM CONTROLLER:

- Stand-alone central unit with temperature sensor and extended connection options.
- Together with the transmitter, regulates the air quality in the lift shaft and car.

3 | SMOKE DETECTION:

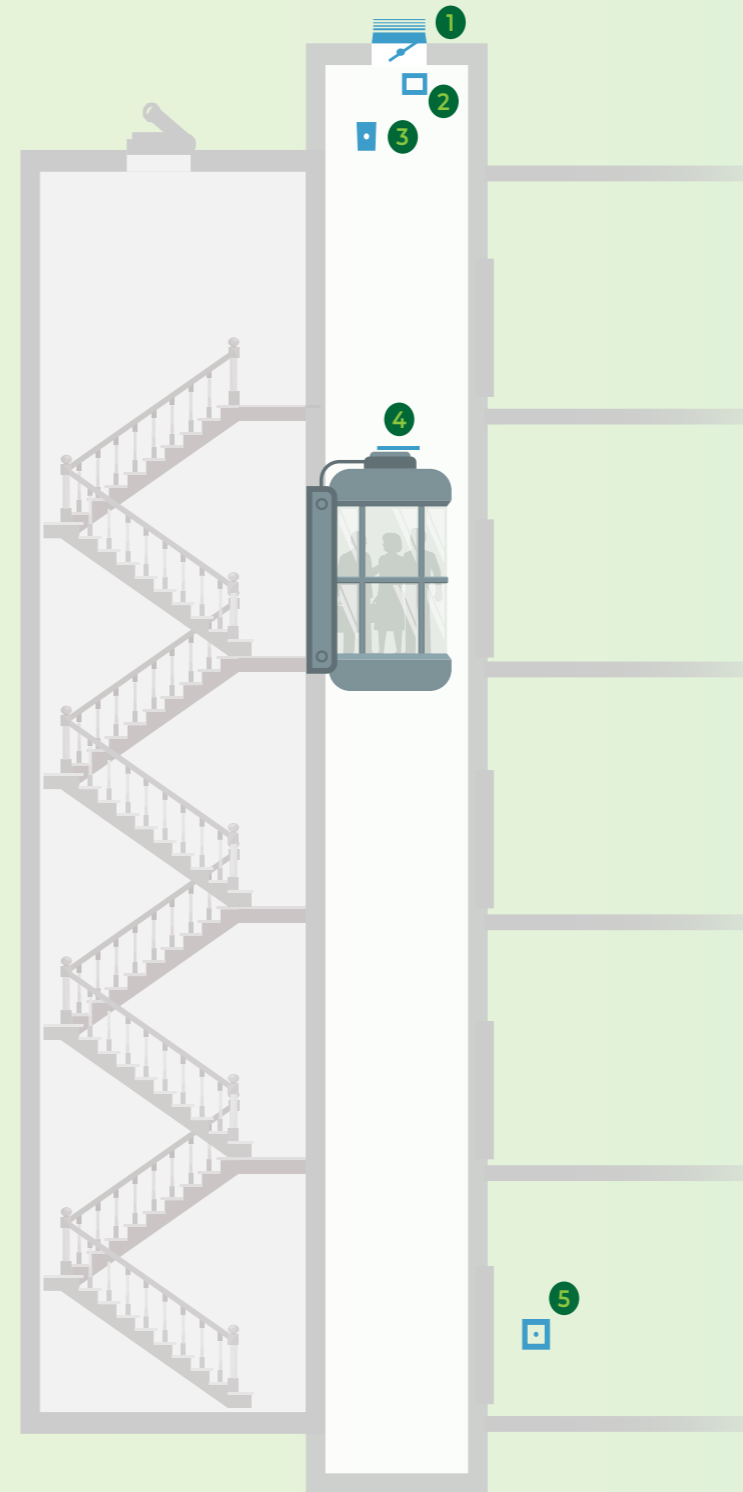
- Throughout the entire shaft.
- Signal transmission to controller.

4 | CO2 LIFT STATUS TRANSMITTER:

- Integrated temperature, CO2 and acceleration sensors.
- Monitor trips and emergencies.

5 | MANUAL TRIGGER SWITCH:

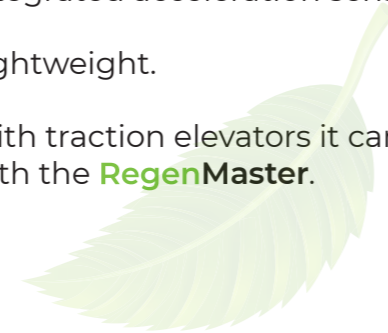
- Optional.
- Manual triggering of a ventilation or smoke extraction command and system status display.



UNBEATABLE EFFICIENCY UNMATCHED SIMPLICITY



- DIN EN 12101-10, ISO 21927-9 & CE Compliant.
- Patented technology.
- Operating temperature: -5 °C to +40 °C.
- Working range: Shafts up to 200m high.
- Suitable for single and group elevator shafts.
- Programmed direct from the factory.
- Easy commissioning by connecting the 230 V plug.
- BMS / Fire alarm connectivity.
- Fail-safe design with automatic triggering as standard.
- Suitable for Fire Fighting and Evacuation lifts whilst also facilitating period checks as per LEIA guidance.
- Calculations in accordance with ISO standards.
- Wireless radio transmission.
- Integrated acceleration sensor.
- Lightweight.
- With traction elevators it can be installed with the **RegenMaster**.



Calculations are based on:
0,09c kWh/unit. CO²: 0,202 kg/kWh.
Internal temperature: 20 °C.



CASE STUDY : 1

MRL ELEVATOR | 5 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 630kg.



Overall shaft height: 18,000mm.



2PSO doors: 900 x 2000mm.

Savings:



683 € per annum.



7,589 kWh per annum.



1,533 kg CO² per annum.

CASE STUDY : 2

MRL ELEVATOR | 9 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 1600kg.



Overall shaft height: 27,000mm.



2PSO doors: 1300 x 2000mm.

Savings:



1.775 € per annum.



19,739 kWh per annum.



3,987 kg CO² per annum.

Calculations are based on:
0,09c kWh/unit. CO²: 0,202 kg/kWh.
Internal temperature: 20 °C.



CASE STUDY : 3

MRL ELEVATOR | 9 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 2700kg.



Overall shaft height: 32,500mm.



4PSO doors: 1600 x 2100mm.

Savings:



2.009 € per annum.



22,736 kWh per annum.

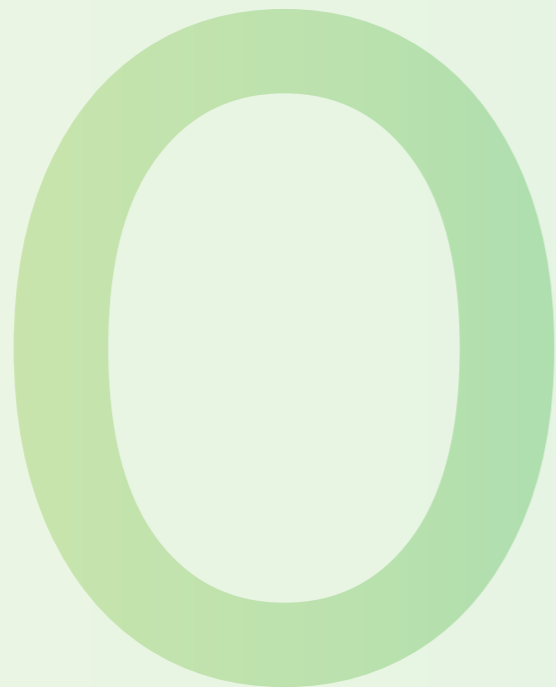


4,952 kg CO² per annum.

Calculations are based on:
0,09c kWh/unit. CO²: 0,202 kg/kWh.
Internal temperature: 20 °C.



ACHIEVE YOUR **NET ZERO** TARGETS



Increase energy efficiency, save money whilst also protecting the environment.

Promote sustainable building concepts.
Improve your overall lift usage classification.

SEEKING GROWTH, PROFIT, AND PURPOSE?



At DSW Solutions, we're spearheading two vital initiatives: eco-friendly lift modernisations and business growth for our clients.

While the lift industry has lagged in adopting environmentally sustainable practices, we're leading the charge. Our modernisation solutions help lift systems consume less energy, curtail emissions, and lighten environmental impact.

But sustainability isn't our only goal. We also enable our clients to expand their business and improve profitability. With expert guidance, we help streamline operations, reduce costs, and position companies for lasting success.

DSW Solutions is ready to bring the lift industry into a clean, prosperous future. Join us as we raise businesses and our planet to new heights.

ECO-FRIENDLY PROFITS

We show you how sustainability boots your bottom line.



GREEN GAINS

We help you implement sustainability initiatives that are good for the planet and good for business.



Drive sustainability and savings to new heights with RegenMaster.

The energy generated by a lift with a traditional regenerative drive is returned to the grid however the RegenMaster system actually stores that energy and returns it to the lift itself.

The future of self-sufficient, sustainable lifts is here. RegenMaster transforms power usage through ingenious energy retention technology. Step into the next generation of lift energy management now.



RegenMaster

Intelligent Recovery. Maximum Efficiency

SUPERCAPACITORS, A FORCE TO BE RECKONED WITH

- Product lifespan ≥ 59 years.
- Bi-directional high-efficiency DC/DC converter with incorporated supercapacitor storage modules.
- Exclusively via a DC link connection to the VF drive, RegenMaster is capable of automatically storing generated energy in the supercapacitors to then return it when there is a consumption requirement.
- Supercapacitor modules offer better power density and cycling features than batteries.
- Supercapacitors require no maintenance.
- Height x Width x Depth (496.5 x 264.5 x 190mm).
- Weight: 13kg.
- IP Grade : IP2X CE Compliant.
- CO2 during manufacturing: only 360kg.
- Calculations in accordance with ISO 25745-2: Energy performance of lifts, escalators and moving walks — Part 2: Energy calculation and classification for lifts (elevators).

	RegenMaster x1	RegenMaster x1	RegenMaster x n (linkable)
For Power	Up to 15KW	Up to 30KW	Up to 15KW x n
Stored Energy	60000Ws	120000Ws	60000Ws x n
Nominal Power	6300Ws	12600Ws	6300Ws x n
Efficiency	Up to 98%	Up to 98%	Up to 98%
Standby	<2W	<2W	<2W

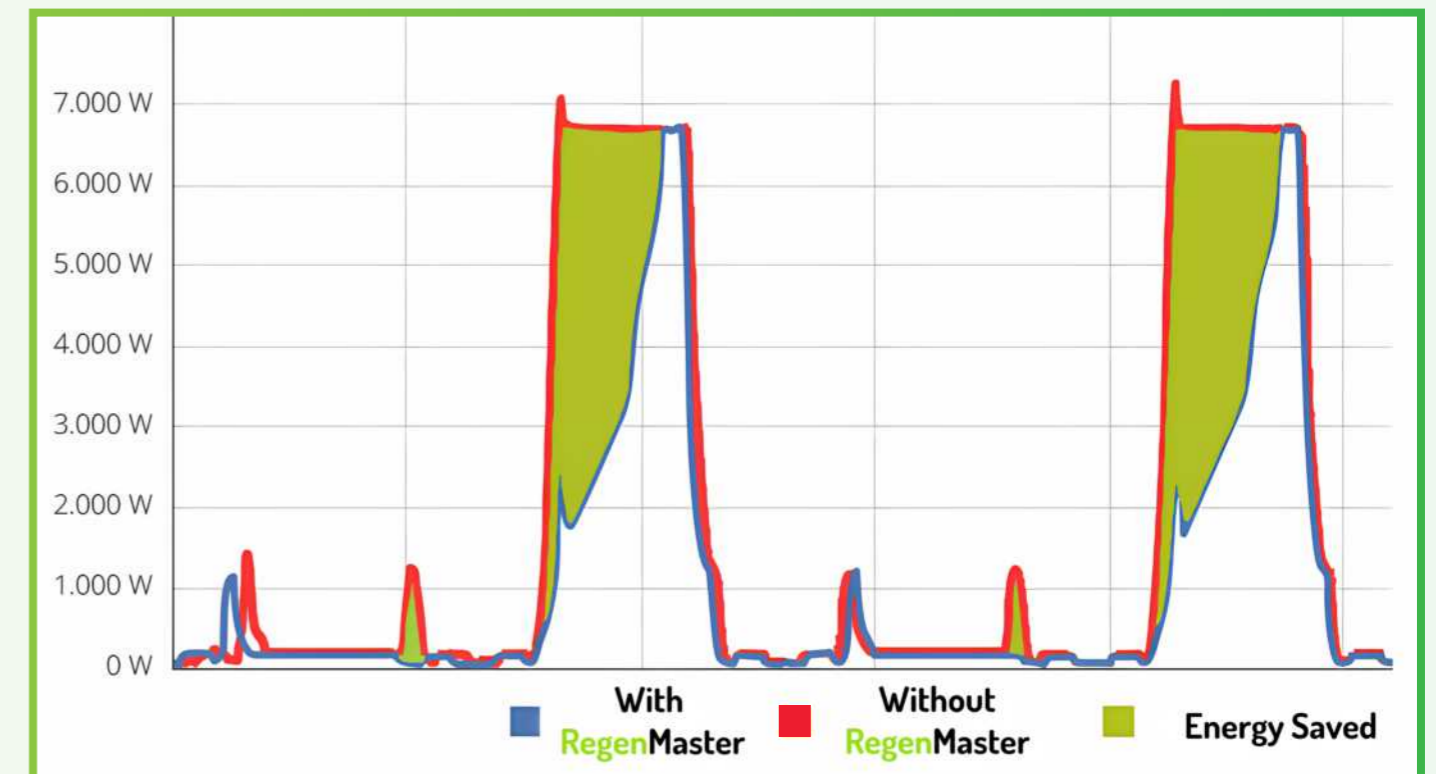
SELF-CHARGING LIFTS

DO YOU WANT TO SAVE UP TO 70% OF YOUR ELEVATOR ENERGY?

- We store the braking energy generated by the motor and then return it to the elevator for future consumption.
- Energy savings of up to 70% can be achieved whilst having no harmonic distortion and no added stand-by consumption.

INCREDIBLE 98% EFFICIENCY

- If the lift generates 10Wh in one trip, we manage to store 98%, i.e. 9.8Wh in the supercapacitors and when we return it, 98% of those 9.8Wh, i.e. 9.6Wh, would reach the lift.



CASE STUDY : 1

MRL ELEVATOR | 7 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 630kg.



Trips per day: 800.



Speed: 1,6m/s.

Savings:



262 € per annum.



772,76 kWh per annum.



156,10 kg CO² per annum.

CASE STUDY : 2

MRL ELEVATOR | 9 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 1000kg.



Trips per day: 800.



Speed: 1,6m/s.

Savings:



588 € per annum.



1,729.87 kWh per annum.



349,43 kg CO² per annum.



Calculations are based on:
0,34c kWh/unit. CO2: 0,202 kg/kWh.



Calculations are based on:
0,34c kWh/unit. CO2: 0,202 kg/kWh.



Calculations are based on:
0,34c kWh/unit. CO2: 0,202 kg/kWh.



CASE STUDY : 3



MRL ELEVATOR | 20 FLOORS | SINGLE ENTRY.

Specifications:



Duty load: 1600kg.



Trips per day: 1000.



Speed: 2m/s.

Savings:



2.502 € per annum.



7,359.87 kWh per annum.



1,486.69 kg CO2 per annum.

THE SUSTAINABLE LIFT MODERNISATION

Specialists

INNOVATING TODAY, IMPROVING TOMORROW

DSW solutions was born with the aim to offer innovative business solutions for the lift industry. Whether you are looking to support your client's net zero targets, grow your business, or improve overall competitiveness, our team operates globally providing a intuitive approach to all of your modernisation projects. Our energy-saving products not only reduce carbon emissions but also provide a new revenue stream for your business!

Our goal is simple: inspire the industry, improving the daily lives of many people whilst securing our future through energy efficient solutions.

Daniel Williamson

DANIEL STEPHEN WILLIAMSON

JUST HOW MUCH CAN BE SAVED?



SAMPLE SAVINGS TABLES:

Vent size:	0,03m2 Shaft Vent			
Door Configuration:	2PSO 900mm x 2000mm			
Speed:	1m/s			
Trips per day:	800			
Arrangement:	Gearless			
Duty Load (kg):	630kg			
Gas price kWh (€)	0,09			
Electric price kWh (€)	0,34			
Number of floors:	Pure Momentum kWh savings:	Pure Momentum Financial saving per annum:	RegenMaster kWh savings:	RegenMaster Financial saving per annum:
2	4418	€397,62	292,71	€99,52
3	5751	€517,59	392,23	€133,36
4	6758	€608,22	404,78	€137,63
5	7589	€683,01	551,97	€187,67
6	8315	€748,35	699,16	€237,71
Speed	1,6m/s			
7	8965	€806,85	772,76	€262,74
8	9563	€860,67	919,95	€312,78
9	10120	€910,80	1030,35	€350,32

SAMPLE SAVINGS TABLES:

Vent size:	0,04m2 Shaft Vent			
Door Configuration:	2PSO 900mm x 2000mm			
Speed:	1m/s			
Trips per day:	800			
Arrangement:	Gearless			
Duty Load (kg):	1000kg			
Gas price kWh (€)	0,09			
Electric price kWh (€)	0,34			
Number of floors:	Pure Momentum kWh savings:	Pure Momentum Financial saving per annum:	RegenMaster kWh savings:	RegenMaster Financial saving per annum:
2	5168	€465,12	491,44	€167,09
3	7094	€638,46	658,53	€223,90
4	8573	€771,57	679,59	€231,06
5	10150	€913,50	864,93	€294,08
6	10817	€973,53	1081,17	€367,60
Speed	1,6m/s			
7	11737	€1.056,33	1297,4	€441,12
8	1257	€1.131,39	1513,64	€514,64
9	13339	€1.200,51	1729,87	€588,16

SAMPLE SAVINGS TABLES:

Vent size:	0,06m2 Shaft Vent			
Door Configuration:	2PCO 1300 x 2000mm			
Speed:	1m/s			
Trips per day:	800			
Arrangement:	Gearless			
Duty Load (kg):	1600kg			
Gas price kWh (€)	0,09			
Electric price kWh (€)	0,34			
Number of floors:	Pure Momentum kWh savings:	Pure Momentum Financial saving per annum:	RegenMaster kWh savings:	RegenMaster Financial saving per annum:
2	6849	€616,41	822,06	€279,50
3	9808	€882,72	1101,56	€374,53
4	12173	€1.095,57	1136,79	€386,51
5	14114	€1.270,26	1498,5	€509,49
6	15768	€1.419,12	1808,53	€614,90
Speed	1,6m/s			
7	17223	€1.550,07	2170,24	€737,88
8	18268	€1.644,12	2531,95	€860,86
9	19739	€1.776,51	2893,66	€983,84

SAMPLE SAVINGS TABLES:

Vent size:	0,086m2 Shaft Vent			
Door Configuration:	2PCO 1400 x 2000mm			
Speed:	1m/s			
Trips per day:	800			
Arrangement:	Gearless			
Duty Load (kg):	2500kg			
Gas price kWh (€)	0,09			
Electric price kWh (€)	0,34			
Number of floors:	Pure Momentum kWh savings:	Pure Momentum Financial saving per annum:	RegenMaster kWh savings:	RegenMaster Financial saving per annum:
2	7864	€707,76	1313,52	€446,60
3	11958	€1.076,22	1760,12	€598,44
4	15512	€1.396,08	1816,42	€617,58
5	18544	€1.668,96	2311,8	€786,01
6	21156	€1.904,04	2889,75	€982,52
Speed	1,6m/s			
7	23453	€2.110,77	3467,7	€1.179,02
8	25957	€2.336,13	4045,65	€1.375,52
9	27361	€2.462,49	4623,6	€1.572,02

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DSW
SOLUTIONS

UPLIFTING ELEVATOR
BUSINESSES GLOBALLY

ENERGY SAVING DEVICES
ADVANCED UPS SYSTEMS
EVACUATION/FIREFIGHTING POWER SUPPLIES
ENERGY MONITORING DEVICES
REMOTE MONITORING
DOOR MODERNISATIONS
COMPLETE ENTRANCES
GEARED & GEARLESS MACHINES
CONTROLLER UPGRADES
SPARE PARTS
MAGIC MIRRORS
ACCESS SOLUTIONS
BACK TO GUIDE MODERNISATIONS

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