

# WITH SQM **GEARLESS** LIFT MOTOR **GET STRONGER**

Comfortable ride, quiet operation and high energy saving



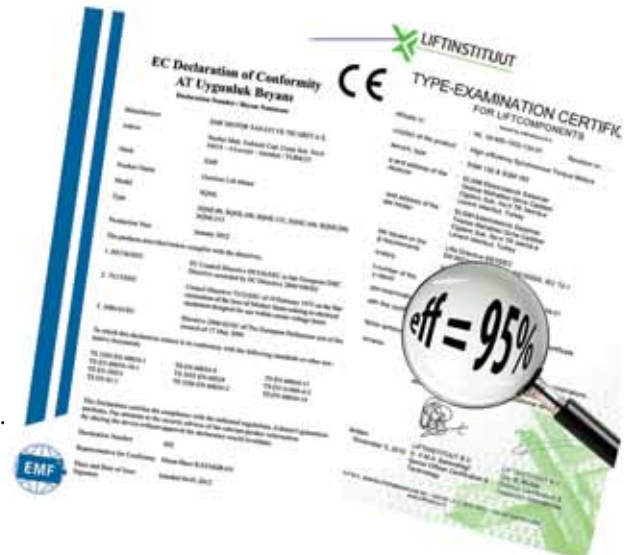
- Stable and smooth speed
- Quiet operation
- Energy saving
- High lift riding comfort





## Why the EMF Gearless Lift Motor?

- The EMF Gearless Lift Motor uses the patented LiProKa\* Motor Principle.
- The EMF Gearless Lift Motor has **by far the highest efficiency**.
- The very high pole number makes the motor dynamic and the controllability is excellent.
- The motor also shows excellent performance at starting and stopping.
- The special mechanical brake works quietly No noise.
- The motor with LiProKa Motor Principle has very compact design.
- Thanks to the low torque of inertia, the need for starting current is minimal.
- There is constant torque over the whole speed range.
- The very low torque ripples enables an excellent lift ride comfort.
- The motor stays always cold thanks to the high efficiency. It is therefore suitable for use in hot areas.
- LiProKa is the highest point in German motor technology.



## The German and Turkish cooperation motors have an excellent torque speed diagram

- EMF** has by far the highest efficiency...
- EMF** makes you feel the lift riding comfort...
- EMF** works quietly and does not disturb...

## SQML Code Systems

SQML	132	-	12	21	H	10	063	-	2	E	2	066
Lift Motor Type for 2:1	Motor Size		Stator Length	Traction Sheave Diameter	Hand Release Option	Cabin Speed	Max. Load		Thermal Protection	Feedback	Voltage	Number of Poles

Lift Motor Type	SQML (SQML lift motor)
Motor Size:	100 132 160 200
Stator Length:	Stator package length/mm/10 10 (100 mm) 12 (120 mm) 14 (140 mm) 16 (160 mm) 20 (200 mm) 24 (240 mm) 30 (300 mm)
Traction Sheave	16 (160 mm) 21 (210 mm) 24 (240 mm) 32 (320 mm) 40 (400 mm)
Hand Release Option	H (with hand release) X (without hand release)
Cabin Speed for 2:1	Cabin Speed(m/s)x10 6 (0.6 m/s) 10 (1 m/s) 16 (1.6 m/s) 20 (2 m/s) 25 (2.5 m/s) exp. for 1.6 m/s: 16
Max. Load for 2:1:	Max. Load (kg)/10 (3 digits) 032 (320 kg) 040 (400 kg) 048 (480 kg) 063 (630 kg) 080 (800 kg) 100 (1000 kg) 125 (1250 kg) 160 (1600 kg) 200 (2000 kg) 250 (2500 kg) exp. for 400 kg 040
Thermal Protection:	1(PT100) 2(Thermistor) 3(PT100+Thermistor)
Feedback:	S(SinCos) E(EnDat)
Voltage:	1 (230V) 2 (400V) 3 (480V)
Number of Poles:	Number of poles (3 digits) 066 (66 poles) 068 (68 poles) 088 (88 poles) exp. For 68 poles 068

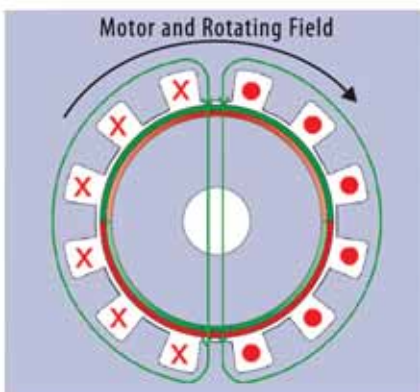
## The new LiProKa Motor Principle

The stator of the LiProKa motor is almost similar to the conventional motor. Permanent magnets are glued to the inner side of the stator. The rotor is made of laminated steel and looks like a gearwheel.

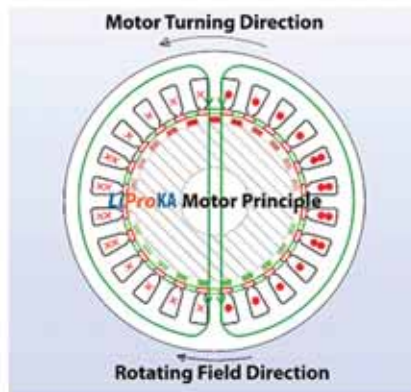
When the motor is supplied with zero voltage and frequency, magnetic flux which magnetizes the motor, is formed. When the frequency is increased, the rotating field starts to turn.

The two magnetic systems, permanent magnets and magnetization created by the rotating field, start to pull and push each other over the whole circumference.

The rotor turning direction is opposite to the rotating field and the rotor turns much slower than the rotating field. The permanent magnets and motor geometry define the speed reduction ratio.



Inside of conventional motor 2 poles



**EMF** Inside of the motor with LiProKa Motor Principle 2 poles wound

\* **LiProKa** contains the names of the people who contributed significantly in the successful development of this motor: Dr. Ing. Jürgen Lindner, Dip. Ing. Michael Prokopp and the Kayakiran Family.

## SQML 100 - Compact

- SQML 100 Gearless Lift Motor provides high torque with it's unrivaled small body.
- It is the perfect solution for lift applications up to 630 kg.
- SQML Gearless Lift Motor is a patented new technology, which is unique and operates with a different motor principle.

### SQML 100 Our smallest for your comfort...

**EMF** Energy saving, comfortable and quiet...

## SQML 132 - Unique

- SQML 132 Gearless Lift Motor stands at with it's compact structure, steady operation and high efficiency.
- The most suitable carrying capacity of this body is 800 kg.

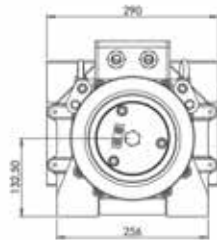
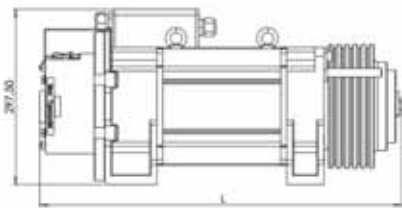
### SQML 132 for your comfort...

**EMF** Powerfull and quiet...

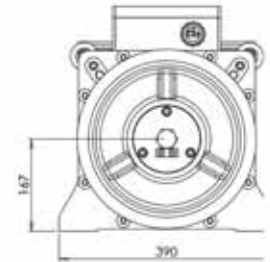
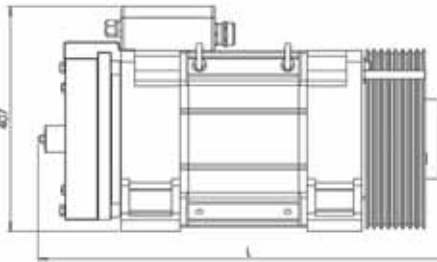
## Standard Specifications

- EMF** Mechanical Brake
- EMF** Traction Sheave
- EMF** Endat Encoder (ECN 413)
- EMF** Brake Position Switch
- EMF** Klixon Winding Temperature Switch
- EMF** Cable Terminal Box
- EMF** Rope Protection Kit

### SQML 100



### SQML 132



SQML 100 & 132

Lift Motor Type	Max. Payload (kg)	Suspension	Max. Axle Load (kg)	Traction Sheave $\Phi$ and Rope Values (mm)	Ride Speed (m/sec)			Nominal Power (kW)			Nominal Current (A)			Efficiency (%)			Weight (kg)	L (mm)
SQML 100-14	320	2:1	1700	210 / 5 x $\Phi$ 6,5	0,6	1	1,6	1,7	2,9	4,6	7,0	12,2	18,0	84	86	88	122	560
SQML 100-14	400	2:1	1700	210 / 5 x $\Phi$ 6,5	0,6	1	1,6	1,7	2,9	4,6	7,0	12,2	18,0	84	86	90	122	560
SQML 100-20	480	2:1	1700	210 / 5 x $\Phi$ 6,5	0,6	1	1,6	2,1	3,4	5,5	7,4	12,9	18,0	89	90	91	144	620
SQML 100-20	630	2:1	1700	210 / 6 x $\Phi$ 6,5	0,6	1	-	2,5	4,2	-	11,2	18,0	-	87	88	-	144	620
SQML132-10	400	2:1	1900	320 / 6 x $\Phi$ 8	0,6	1	1,6	1,7	2,9	4,6	6,5	10,4	15,5	75	76	84	170	590
SQML132-12	480	2:1	1900	320 / 6 x $\Phi$ 8	0,6	1	1,6	2,0	3,4	5,4	7,0	12,0	18,5	76	80	86	175	610
SQML132-12	630	2:1	1900	210 / 8 x $\Phi$ 6,5	0,6	1	1,6	2,6	4,3	6,9	7,8	13,2	21,0	86	88	90	170	620
SQML132-14	800	2:1	1900	210 / 8 x $\Phi$ 6,5	0,6	1	-	3,3	5,5	-	11,0	18,0	-	82	88	-	175	640
SQML132-16	800	2:1	1900	210 / 8 x $\Phi$ 6,5	-	-	1,6	-	-	8,2	-	-	24,5	-	-	92	180	660

Please contact us for different values.

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## SQML 160 - Energetic

- SQML 160 Gearless Lift Motor has unrivaled with its carrying capacity up to 1.250 kg and its high efficiency.



### SQML 160 for your comfort...

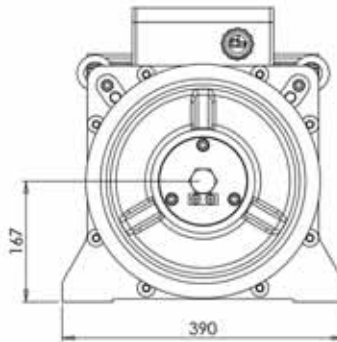
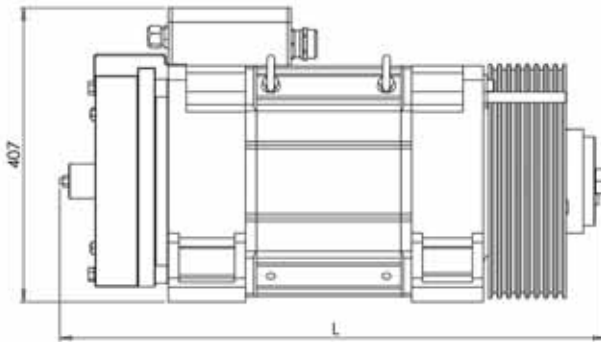
**EMF** Saves energy...



### Standard Specifications

- EMF** Mechanical Brake
- EMF** Traction Sheave
- EMF** Endat Encoder (ECN 413)
- EMF** Brake Position Switch
- EMF** Klixon Winding Temperature Switch
- EMF** Cable Terminal Box
- EMF** Rope Protection Kit

SQML 160



Lift Motor Type	Max. Payload (kg)	Suspension	Max. Axle Load (kg)	Traction Sheave $\Phi$ and Rope Values (mm)	Ride Speed (m/sec)	Nominal Power						Nominal Current			Efficiency				Weight (kg)	L (mm)						
						(kW)		(A)		(%)																
SQML160-12	630	2:1	2800	320 / 8 x $\Phi$ 8	0,6	1	1,6	-	-	2,6	4,3	6,8	-	-	7,7	13,1	21,1	-	-	84	86	87	-	-	284	624
SQML160-16	630	2:1	2800	320 / 8 x $\Phi$ 8	-	-	2	2,5	-	-	-	8,5	10,6	-	-	-	22,0	24,5	-	-	91	91	-	-	300	664
SQML160-12	800	2:1	2800	240 / 9 x $\Phi$ 6,5	0,6	1	-	-	-	3,3	5,5	-	-	-	9,6	16,7	-	-	-	87	88	-	-	-	270	645
SQML160-16	800	2:1	2800	320 / 8 x $\Phi$ 8	0,6	1	-	-	-	3,3	5,5	-	-	-	9,6	16,7	-	-	-	86	88	-	-	-	286	715
SQML160-16	800	2:1	2800	240 / 9 x $\Phi$ 6,5	-	-	1,6	-	-	-	-	8,8	-	-	-	-	22,6	-	-	-	91	-	-	-	298	721,5
SQML160-20	800	2:1	2800	320 / 8 x $\Phi$ 8	-	-	1,6	2	2,5	-	-	8,8	11,0	13,8	-	-	23,0	27,0	34,6	-	-	94	95	95	332	755
SQML160-16	1000	2:1	2800	240 / 9 x $\Phi$ 6,5	0,6	1	1,6	-	-	4,1	6,8	10,9	-	-	11,4	19,7	31,0	-	-	88	90	90	-	-	298	720
SQML160-16	1000	2:1	2800	320 / 8 x $\Phi$ 8	0,6	1	-	-	-	4,1	6,8	-	-	-	13,9	24,0	-	-	-	82	86	-	-	-	300	725
SQML160-20	1000	2:1	2800	320 / 8 x $\Phi$ 8	-	-	1,6	-	-	-	-	10,8	-	-	-	-	32,0	-	-	-	93	-	-	-	332	765
SQML160-16	1250	2:1	2800	240 / 9 x $\Phi$ 6,5	0,6	1	-	-	-	5,1	8,5	-	-	-	16,3	28,2	-	-	-	85	88	-	-	-	298	720
SQML160-20	1250	2:1	2800	240 / 9 x $\Phi$ 6,5	-	-	1,6	-	-	-	-	13,3	-	-	-	-	38,0	-	-	-	94	-	-	-	332	760

Please contact us for different values.

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## SQML 200 - Stronger

- SQML 200 Gearless Lift Motor is ahead of its competitors by far with its carrying capacity up to 2.500 kg and its efficiency up to 98%.
- SQML 200 for a more comfortable life.

## SQML 200 Our biggest for your comfort...

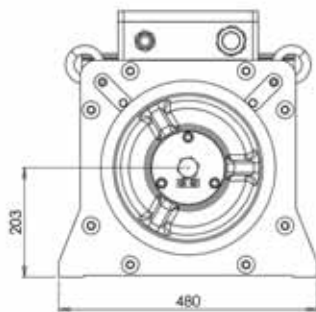
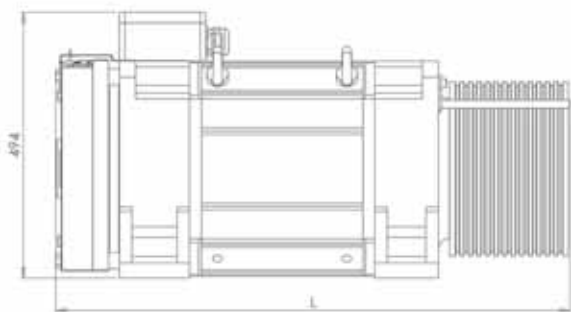
**EMF** Power, comfort, energy saving and quiet operation...

## Standard Specifications

- EMF** Mechanical Brake
- EMF** Traction Sheave
- EMF** Endat Encoder (ECN 413)
- EMF** Brake Position Switch
- EMF** Klixon Winding Temperature Switch
- EMF** Cable Terminal Box
- EMF** Rope Protection Kit



SQML 200



Lift Motor Type	Max. Payload (kg)	Suspension	Max. Axle Load (kg)	Traction Sheave $\Phi$ and Rope Values (mm)	Ride Speed (m/sec)			Nominal Power (kW)			Nominal Current (A)			Efficiency (%)			Weight (kg)	L (mm)								
					-	-	-	-	-	-	-	-	-	-	-	-										
SQML200-24	1000	2:1	5500	320/13 x $\Phi$ 8	-	-	2	-	-	-	13,3	16,6	-	-	32,0	37,0	-	-	96	96	629	850				
SQML200-20	1250	2:1	5500	320/13 x $\Phi$ 8	0,6	1	-	-	5,2	8,6	-	-	14,2	24,5	-	-	93	95	-	-	585	850				
SQML200-24	1250	2:1	5500	320/13 x $\Phi$ 8	-	-	1,6	-	-	-	13,6	-	-	-	35,6	-	-	96	-	-	660	890				
SQML200-30	1250	2:1	5500	400/10 x $\Phi$ 10	-	-	-	2,5	-	-	-	-	20,5	-	-	-	51,5	-	-	-	96	625	890			
SQML200-30	1250	2:1	5500	320/13 x $\Phi$ 8	-	-	2	-	-	-	-	-	17,0	-	-	-	39,0	-	-	-	97	-	720	950		
SQML200-24	1600	2:1	5500	320/13 x $\Phi$ 8	0,6	1	-	-	6,4	10,6	-	-	17,9	31,0	-	-	94	95	-	-	620	850				
SQML200-24	1600	2:1	5500	400/10 x $\Phi$ 10	0,6	1	-	-	6,5	10,8	-	-	21,4	37,0	-	-	90	93	-	-	625	890				
SQML200-30	1600	2:1	5500	320/13 x $\Phi$ 8	-	-	1,6	2	-	-	16,6	20,8	-	-	42,7	52,0	-	-	96	96	-	620	850			
SQML200-30	1600	2:1	5500	400/10 x $\Phi$ 10	-	-	1,6	2	2,5	-	16,8	21,0	26,3	-	48,0	59,0	76,0	-	-	95	96	96	625	890		
SQML200-30	2000	2:1	5500	400/10 x $\Phi$ 10	0,6	1	1,6	2	2,5	7,8	13,0	20,8	26,0	32,5	25,1	43,5	68,0	79,0	104,0	90	93	94	95	96	625	890
SQML200-30	2000	2:1	5500	320/13 x $\Phi$ 8	0,6	1	1,6	2	-	7,9	13,1	21,0	26,3	-	21,7	37,6	58,0	72,0	-	93	94	95	96	-	660	890
SQML200-30	2500	2:1	5500	320/13 x $\Phi$ 8	0,6	1	1,6	2	-	9,8	16,3	26,0	32,5	-	31,6	54,8	84,0	105,0	-	91	94	95	96	-	720	950

Please contact us for different values.

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## SQML Gearless Lift Motor - 1 : 1 Solutions

LiProKa Motor Principle offers the most comfortable lift ride even at 1 : 1 suspension.

### SQML for your economy...

**EMF** Power, comfort, energy saving and quiet operation...

# 1 : 1

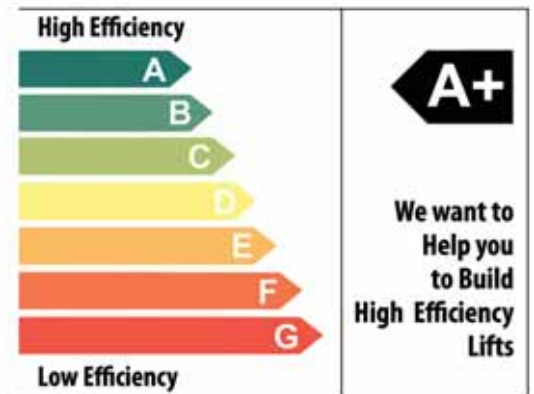
Lift Motor Type	Max. Payload (kg)	Suspension	Max. Axle Load (kg)	Traction Sheave $\Phi$ and Rope Values (mm)	Ride Speed			Nominal Power		Nominal Current		Efficiency (%)		Weight (kg)	L (mm)			
					(m/sec)			(kW)		(A)								
SQML132-10	320	1:1	1900	210/8 x $\Phi$ 6,5	-	1	1,6	-	2,1	3,4	-	7,4	12,0	-	78	82	160	600
SQML160-12	450	1:1	2800	320/8 x $\Phi$ 8	-	1	1,6	-	2,9	4,7	-	12,1	18,5	-	78	82	284	624
SQML160-12	480	1:1	2800	240/9 x $\Phi$ 6,5	-	1	1,6	-	3,3	5,2	-	11,2	17,0	-	84	85	270	624
SQML160-16	600	1:1	2800	320/8 x $\Phi$ 8	-	1	1,6	-	3,9	6,3	-	17,4	24,5	-	77	83	300	725
SQML160-12	630	1:1	2800	240/9 x $\Phi$ 6,5	-	1	1,6	-	4,3	6,9	-	18,5	23,4	-	77	82	270	685
SQML200-20	800	1:1	5500	320/13 x $\Phi$ 8	-	1	1,6	-	5,3	8,5	-	17,3	27,2	-	91	94	585	850
SQML200-20	1000	1:1	5500	320/13 x $\Phi$ 8	-	1	1,6	-	6,4	10,2	-	24,0	37,6	-	89	92	585	850

## SQML 80 - The pocket size of Hercules

- EMF** Smallest in its class
- EMF** Carrying capacity from 320 kg to 630 kg
- EMF** Ride speed from 0.3 m/sec to 1.6 m/sec

## SQML 315 - Our Giant

- EMF** Biggest and strongest in its class
- EMF** Carrying capacity from 2.000 kg to 5.500 kg
- EMF** Ride speed from 1 m/sec to 6 m/sec



### Options

- PT 100 Temperature Sensor
- SinCos - Encoder
- RTW-01 Hand Release



Please contact us for different values.

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## SQML 220 V Monophase Series - GREEN MOTION\*

● SQML-220V Series Gearless Lift Motors can be used at places, where 3-phase supply is not available. Thanks to the LipProKa motor principle SQML is operating with the same performance even at very low speed like 0,3 m/sec.

- \* When used with a battery system, the lift is not affected by power failures and continues to operate with the same efficiency and comfort.
- \* SQM Lift Motor stores the regenerative energy in batteries and achieves an even lower power consumption. Energy saving is more than 50%.
- \* SQML- 220V Series motors are unique thanks to their high efficiency and mono-phase operating capability.

### SQML For your comfort

**EMF** Energy saving and quiet



# 220 V

## SQML Gearless Lift Motor - 220 V Solutions

LiProKa Motor Principle offers the most comfortable lift ride even at very low speeds.

Lift Motor Type	Max. Payload (kg)	Suspension	Max. Axle Load (kg)	Traction Sheave Ø and Rope Values (mm)	Ride Speed*			Nominal Power			Nominal Current			Efficiency			Weight (kg)	L (mm)
					(m/sec)			(kW)			(A)			(%)				
SQML100-14	320	2:1	1700	210/5 x Ø 6,5	0,6	1	-	1,7	2,9	-	12,7	22,0	-	84	86	-	122	560
SQML100-14	400	2:1	1700	210/5 x Ø 6,5	0,6	1	-	1,7	2,9	-	12,7	22,0	-	84	86	-	122	560
SQML132-10	400	2:1	1900	320/6 x Ø 8	0,6	1	-	1,7	2,9	-	11,5	18,5	-	74	80	-	160	590
SQML100-20	480	2:1	1700	210/5 x Ø 6,5	0,6	1	-	2,1	3,4	-	13,5	21,0	-	89	90	-	144	620
SQML132-12	480	2:1	1900	320/6 x Ø 8	0,6	1	-	2,0	3,4	-	13,5	22,0	-	80	82	-	175	610
SQML160-10	630	2:1	2800	320/8 x Ø 8	0,6	-	-	2,6	-	-	17,5	-	-	84	-	-	268	624
SQML160-16	630	2:1	1900	320/8 x Ø 8	-	1	1,6	-	4,3	6,8	-	21,0	32,0	-	90	91	300	684
SQML160-16	800	2:1	2800	320/8 x Ø 8	0,6	1	-	3,3	5,5	-	22,0	30,2	-	86	89	-	300	725
SQML160-20	800	2:1	2800	240/9 x Ø 8	-	-	1,6	-	-	8,8	-	-	37,0	-	-	96	332	724
SQML160-20	1000	2:1	2800	320/8 x Ø 8	0,6	1	-	4,1	6,9	-	27,3	35,0	-	88	91	-	335	765
SQML200-20	1000	2:1	5500	320/13 x Ø 8	-	-	1,6	-	-	10,6	-	-	45,0	-	-	96	585	850
SQML160-16	1250	2:1	2800	240/9 x Ø 8	0,6	-	-	5,1	-	-	31,0	-	-	85	-	-	300	725
SQML160-16	1250	2:1	2800	320/8 x Ø 8	-	1	-	-	8,5	-	-	32,0	-	-	83	-	300	725

# 220 V & 1:1

SQML132-10	320	1:1	1900	210/8 x Ø 6,5	-	1	1,6	-	2,1	3,4	-	13,5	21,0	-	78	84	160	600
SQML160-12	450	1:1	2800	320/8 x Ø 8	-	1	-	-	2,9	-	-	21,0	-	-	77	-	284	720
SQML160-12	480	1:1	2800	240/9 x Ø 6,5	-	1	-	-	3,3	-	-	18,5	-	-	84	-	270	680
SQML160-16	600	1:1	2800	320/8 x Ø 8	-	1	-	-	3,9	-	-	28,0	-	-	76	-	300	765
SQML160-16	630	1:1	2800	240/9 x Ø 6,5	-	1	1,6	-	4,3	6,9	-	26,7	32,0	-	84	87	298	765

\* Please contact us for ride speed 0,3 m/sec.

Please contact us for different values.

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**EMF**<sup>®</sup>

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1<sup>st</sup> Machine and Accessories Manufacturing  
Technologies R&D Project Market  
Industrialist Category 2012  
**Grand Prize**



Istanbul Chamber of Industry  
Energy Efficient Product  
**Jury Honourable Mention 2011**