

entraînement

# MOTEURS LINEAIRES SANS FER

**m o t i o n**  
*la force de la gamme !*



**transtechnik**  
servomécanismes

## Tecnotion presents its full range of UC-motors

Tecnotion's linear UC-motors are based upon the ironless principle. They stand out for their great dynamics and for the fact that they show no 'cogging'.

For the production of the UC-motors, Tecnotion applies the unique knowledge and manufacturing techniques the company has developed in close cooperation with its partners within the Philips organisation. The result is a range of high quality and very reliable linear motors which are available on competitive conditions.

**Now available with 1m flexcable.**



Very small and lightweight coil unit

## Specifications

	Symbol	Unit	UC 3	UC 6
Motor type, max. voltage ph-ph			3-phase synchronous Ironless, 60Vdc	
Peak Force (temp. rise 20°C/s) magnet @25°C	Fp	N	36	72
Peak Current	Ip	Arms	3.1	6.2
Continuous force * coils @80°C	Fc	N	10	20
Maximum Continuous Current coils @80°C	Ic	Arms	0.87	1.75
Max. Continuous Power loss All coils	Pc	W	13	26
Maximum speed @60Vdc	vmax	m/s	5	5
Motor Force Constant	K	N/Arms	11.4	11.4
Back EMF phase-phase peak	Bemf	V / m/s	9.3	9.3
Motor Constant coils@25°C	S	N <sup>2</sup> /W	9.2	18.3
Magnet Pitch NN	τ	mm	16.5	
Resistance per phase coils@25°C	Rf	Ω	4.7	2.4
Induction per phase	Lf	mH	0.75	0.38
Electrical time constant coils@25°C	τe	ms	0.16	0.16
Thermal Resistance	Rth	°C/W	3.6	1.8
Motor Attraction Force	Fa	N	0	
Length of Coil unit	L	mm	34	67
Weight of Coil unit Ex cable	M	gr	31	62
Weight of Cable	m	gr/m	7.0	
Temperature Sensor			None	

\* Depends on application: cooling surface, air speed and ambient temperature.

This leaflet gives you the UC's vital technical data. For additional information, please contact

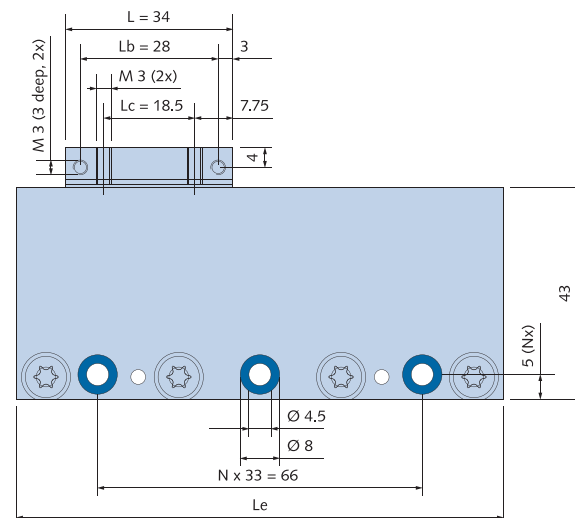
### Tecnotion BV

Marketing & Sales Department  
 P.O.Box 23, 7600 AA Almelo  
 The Netherlands  
 Tel. +31 (0)546 536300  
 Fax +31 (0)546 536310  
 sales@tecnotion.com  
 www.tecnotion.com

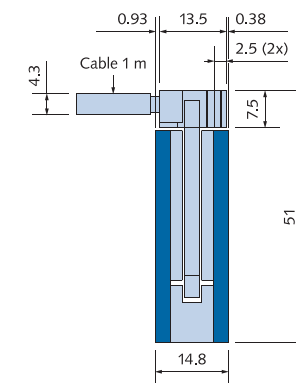
### Dimensions Magnettracks

	66 mm	99 mm	264 mm
<b>Le</b>	66 mm	99 mm	264 mm
<b>M4 bolts</b>	2	3	8
<b>Mass</b>	3.2 kg/m		

Magnetplates can be butted together.



	UC 3	UC 6
L	34	67
Lb	28	59
Lc	18.5	51.5



## **Tecnotion presents its full range of UM-motors**

Tecnotion's linear UM-motors are based upon the ironless principle. They stand out for their great dynamics and for the fact that they show no 'cogging'.

For the production of the UM-motors, Tecnotion applies the unique knowledge and manufacturing techniques the company has developed in close cooperation with its partners within the Philips organisation.

The result is a range of high quality and very reliable linear motors which are available on competitive conditions.



## Specifications

	Symbol	Unit	UM 3		UM 6		UM 9		UM 12		
			N	S	N	S	N	S	N	S	
Motortype, max. voltage ph-ph			3-phase synchronous Ironless, 300Veff								
Peak Force (temp. rise 20°C/s) magnet @25°C	Fp	N	100		200		300		400		
Peak Current	Ip	Arms	2.8	5.0	5.5	10.0	8.3	15.0	11.0	20.0	
Continuous force* coils @110°C	Fc	N	22..29		44..58		66..87		88..116		
Maximum Continuous Current coils @110°C	Ic	Arms	0.8	1.5	1.6	2.9	2.4	4.4	3.2	5.8	
Max. Continuous Power loss All coils	Pc	W	47		95		142		190		
Maximum speed @300V	vmax	m/s	10	18	10	18	10	17	10	16	
Motor Force Constant	K	N/Arms	36.3	19.9	36.3	19.9	36.3	19.9	36.3	19.9	
Back EMF phase-phase peak	Bemf	V / m/s	30	16	30	16	30	16	30	16	
Motor Constant coils@25°C	S	N <sup>2</sup> /W	24		48		71		95		
Magnet Pitch NN	τ	mm	30								
Resistance per phase coils@25°C	Rf	Ω	18.5	5.5	9.3	2.8	6.2	1.8	4.6	1.4	
Induction per phase	Lf	mH	6	1.8	3	0.9	2	0.6	1.5	0.4	
Electrical time constant coils@25°C	τe	ms	0.35		0.35		0.35		0.35		
Thermal Resistance	Rth	°C/W	1.8		0.90		0.60		0.45		
Motor Attraction Force	Fa	N	0								
Length of Coil unit	L	mm	78		138		198		258		
Weight of Coil unit Ex cable	M	gr	84		162		240		318		
Weight of Cable	m	gr/m	80								
Temperature Sensor			PTC 1kΩ and KTY 21								

\* Depends on application: cooling surface, air speed and ambient temperature.

# TECNOTION®

This leaflet gives you the UM's vital technical data. For additional information, please contact

### Tecnotion BV

Marketing & Sales Department

P.O.Box 23, 7600 AA Almelo

The Netherlands

Tel. +31 (0)546 536300

Fax +31 (0)546 536310

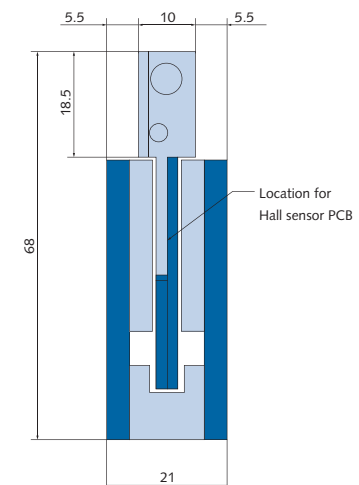
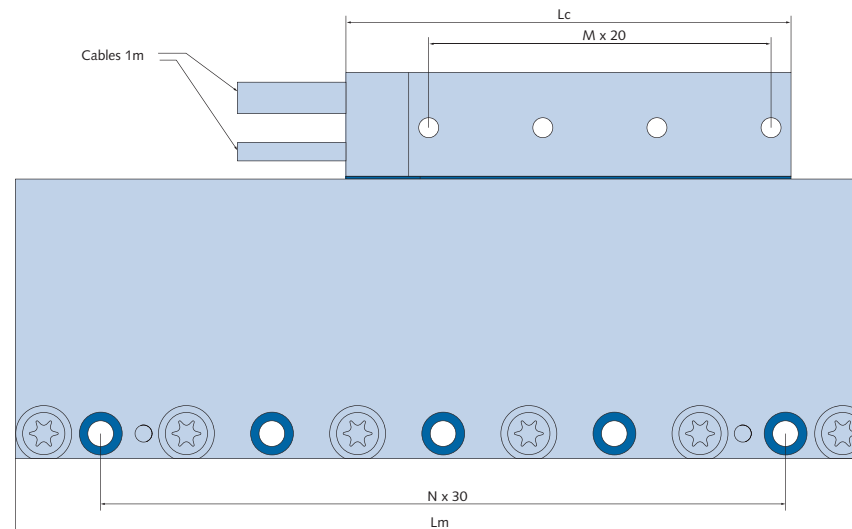
sales@tecnotion.com

www.tecnotion.com

### Dimensions Magnettracks

Le	90 mm	120 mm	390 mm
M4 bolts	3	4	13
Mass	4.8 kg/m		

Magnetplates can be butted together.



## **Tecnotion presents its full range of UL-motors**

Tecnotion's linear UL-motors are based upon the ironless principle. They stand out for their great dynamics and for the fact that they show no 'cogging'.

For the production of the UL-motors, Tecnotion applies the unique knowledge and manufacturing techniques the company has developed in close cooperation with it's partners within the Philips organisation.

The result is a range of high quality and very reliable linear motors which are available on competitive conditions.



## Specifications

	Symbol	Unit	UL 3		UL 6		UL 9		UL 12		
			N	S	N	S	N	S	N	S	
Motortype, max. voltage ph-ph			3-phase synchronous Ironless, 300Veff								
Peak Force (temp. rise 20°C/s)	magnets	Fp	240		480		720		960		
Peak Current		Ip	3.5	8.7	7.1	17.5	10.6	26.2	14.1	34.9	
Continuous force*	coils @110°C	Fc	35..70		70..140		105..210		140..280		
Maximum Continuous Current	coils @110°C	Ic	1.03	2.55	2.06	5.1	3.09	7.6	4.1	10.2	
Max. Continuous Power loss	All coils	Pc	67		134		200		270		
Maximum speed	@300V	vmax	5	12	5	12	5	12	5	12	
Motor Force Constant		K	68	27.5	68	27.5	68	27.5	68	27.5	
Back EMF phase-phase peak		Bemf	55.5	22.5	55.5	22.5	55.5	22.5	55.5	22.5	
Motor Constant	coils@25°C	S	97		195		290		390		
Magnet Pitch NN		$\tau$	42		42		42		42		
Resistance per phase	coils@25°C	Rf	15.9	2.6	8.0	1.28	5.3	0.85	4.0	0.64	
Induction per phase		Lf	13	2.0	6.5	1.0	4.2	0.7	3.2	0.5	
Electrical time constant	coils@25°C	$\tau_e$	0.8		0.8		0.8		0.8		
Thermal Resistance	internal	Rth	1.3		0.65		0.43		0.32		
Motor Attraction Force		Fa	0		0		0		0		
Length of Coil unit		L	106		190		274		358		
Weight of Coil unit	Ex cable	M	250		470		690		910		
Weight of Cables		m	90		90		90		105		
Temperature Sensor			PTC 1k $\Omega$ and KTY 21								

\* Depends on application: cooling surface, air speed and ambient temperature.

# TECNOTION®

This leaflet gives you the UL's vital technical data. For additional information, please contact

### Tecnotion BV

Marketing & Sales Department

P.O.Box 23, 7600 AA Almelo

The Netherlands

Tel. +31 (0)546 536300

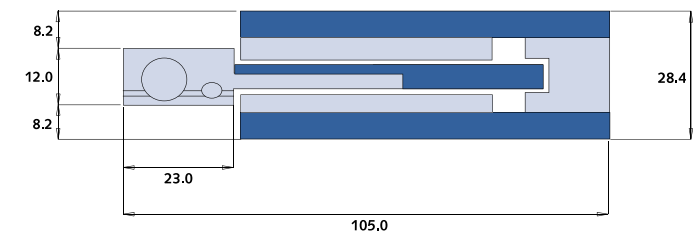
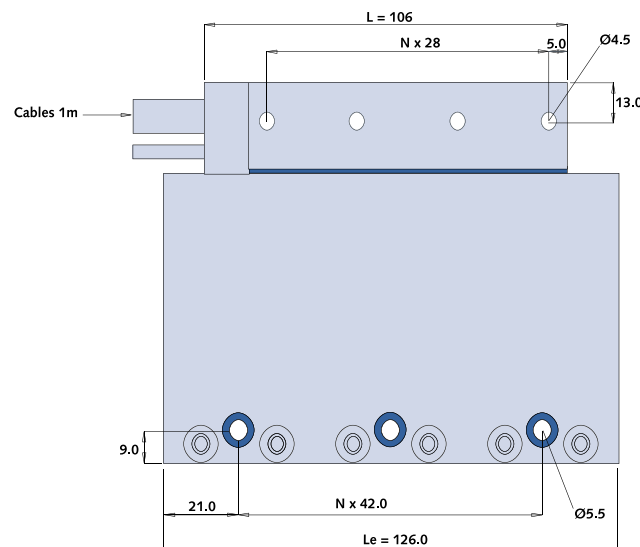
Fax +31 (0)546 536310

sales@tecnotion.com

www.tecnotion.com

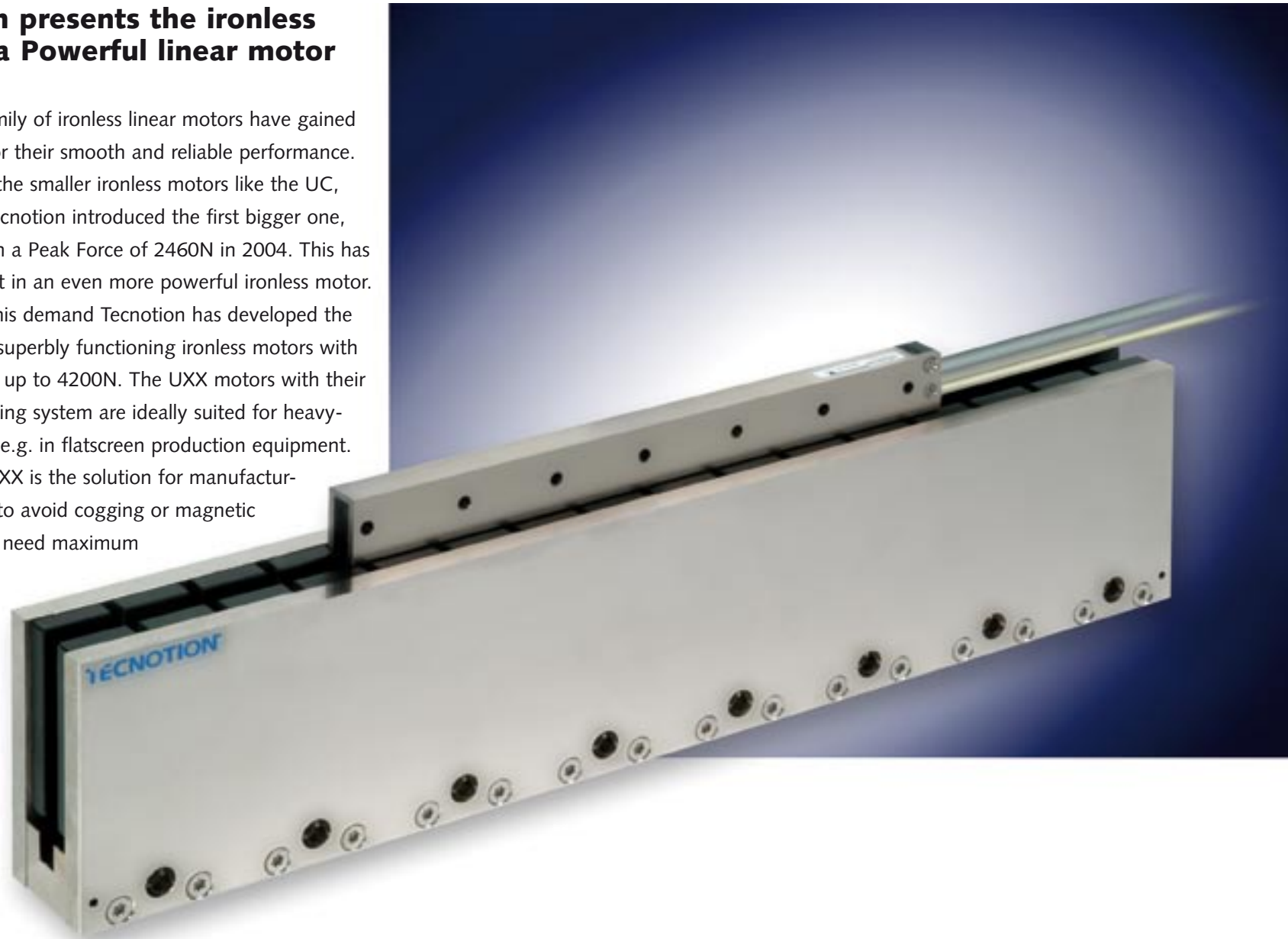
### Dimensions Magnettracks

Le	126 mm	168 mm	210 mm	546 mm
M5 bolts	3	4	5	13
Mass	11.2 kg/m			
Magnetplates can be butted together.				



## **Tecnotion presents the ironless UXX Extra Powerful linear motor**

Tecnotion's family of ironless linear motors have gained a reputation for their smooth and reliable performance. In addition to the smaller ironless motors like the UC, UM and UL Tecnotion introduced the first bigger one, the UX 12 with a Peak Force of 2460N in 2004. This has created interest in an even more powerful ironless motor. In answer to this demand Tecnotion has developed the UXX range of superbly functioning ironless motors with Peak Forces of up to 4200N. The UXX motors with their controlled cooling system are ideally suited for heavy-duty purposes e.g. in flatscreen production equipment. In short, the UXX is the solution for manufacturers who want to avoid cogging or magnetic influences and need maximum power in their production processes.



## Specifications

	Symbol	Unit	UXX 3		UXX 6		UXX 9		UXX 12		UXX 18
			N	S	N	S	N	S	N	S	N
Motortype, max. voltage ph-ph			3-phase synchronous Ironless, 300Veff								
Peak Force (temp. rise 20°C/s) magnet @25°C	Fp	N	700		1400		2100		2800		4200
Peak Current (temp. rise 20°C/s) magnet @25°C	Ip	Arms	5.6	13.9	11.3	28	16.9	42	22.6	56	34
Continuous Force* coils @110°C	Fc	N	67..141		134..282		201..423		268..564		402..846
Maximum Continuous Current coils @110°C	Ic	Arms	1.14	2.80	2.27	5.6	3.4	8.4	4.5	11.2	6.8
Maximum Continuous Power Loss all coils	Pc	W	82		165		247		330		494
Maximum speed @300V	vmax	m/s	2.7	6.6	2.7	6.6	2.7	6.6	2.7	6.6	2.7
Motor Force Constant motor @25°C	K	N/A	124	50.3	124	50.3	124	50.3	124	50.3	124
Back EMF phase-phase peak	Bemf	Vdc / m/s	101	41	101	41	101	41	101	41	101
Motor Constant	S	N <sup>2</sup> /W	323		647		970		1293		1940
Magnet Pitch NN	τ	mm	57		57		57		57		57
Resistance per phase coils @25°C	Rf	Ω	15.8	2.6	7.9	1.29	5.3	0.86	4.0	0.65	2.6
Induction per phase	Lf	mH	28	4.6	14	2.3	9	1.5	7	1.2	4.7
Electrical Time Constant coils @25°C	τe	ms	1.8		1.8		1.8		1.8		1.8
Thermal Resistance	Rth	°C/W	1.04		0.52		0.35		0.26		0.17
Thermal Time Constant minimum	τth	s	156		156		156		156		156
Motor Attraction Force	Fa	N	0		0		0		0		0
Length of Coilunit	L	mm	134		248		362		476		704
Weight of Coilunit Ex. cables	M	kg	0.55		0.95		1.35		1.75		2.55
Weight of Cables	m	gr/m	180		180		180		180		180
Temperature Sensors			PTC 1kΩ and KTY 21								

\* Depends on application: use of watercooling, cooling surface, air speed and ambient temperature.

This leaflet gives you the UXX's vital technical data. For additional information, please contact

### Tecnotion BV

Marketing & Sales Department

P.O.Box 23, 7600 AA Almelo

The Netherlands

Tel. +31 (0)546 536300

Fax +31 (0)546 536310

sales@tecnotion.com

www.tecnotion.com

### Dimensions Magnetyokes

Le	114 mm	171 mm	456 mm
M6 bolts	2	3	8
Mass	24 kg/m		

Magnetyokes can be butted together.

