



WM60Z

Belt Drive, Ball Guide, Short Carriage

- » Ordering key - see page 185
- » Accessories - see page 117
- » Additional data - see page 173

General Specifications

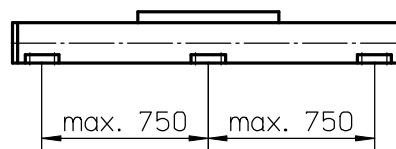
Parameter	WM60Z
Profile size (w × h) [mm]	60 × 60
Type of belt	20 ATL 5
Carriage sealing system	plastic cover band
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Carriage Idle Torque, (M_{idle}) [Nm]

Input speed [rpm]	Idle torque [Nm]
150	1,6
600	2,5
1250	3,0

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



A mounting clamp must be installed at least every 750 mm to be able to operate at maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

Performance Specifications

for Units with Single Short Carriage (S)¹

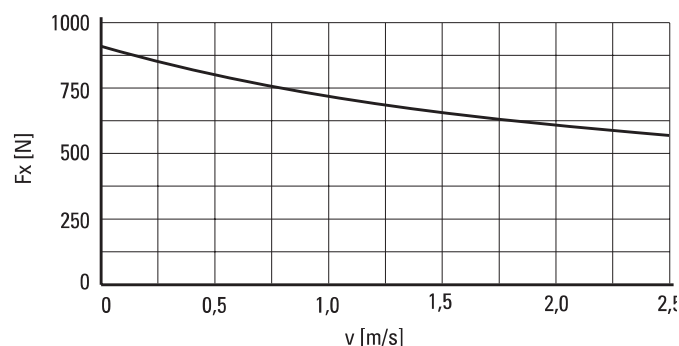
Parameter		WM60Z
Stroke length (S_{max}), maximum	[mm]	4000
Total length (L_{tot}), maximum	[mm]	4420
Linear speed, maximum	[m/s]	2,5
Acceleration, maximum	[m/s ²]	20
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	1250
Operation temperature limits	[°C]	0 – 80
Dynamic load (F_x), maximum	[N]	850
Dynamic load (F_y), maximum	[N]	1400 ²
Dynamic load (F_z), maximum	[N]	1400
Dynamic load torque (M_x), maximum	[Nm]	25
Dynamic load torque (M_y), maximum	[Nm]	50
Dynamic load torque (M_z), maximum	[Nm]	50
Drive shaft force (F_{rd}), maximum ³	[N]	150
Input/drive shaft torque (M_{ta}), maximum	[Nm]	17
Pulley diameter	[mm]	38,20
Stroke per shaft revolution	[mm]	120
Weight	[kg]	
of unit with zero stroke		4,30
of every 100 mm of stroke		0,45
of each carriage		1,25

¹ See next page for deviating values of units with other carriage types.

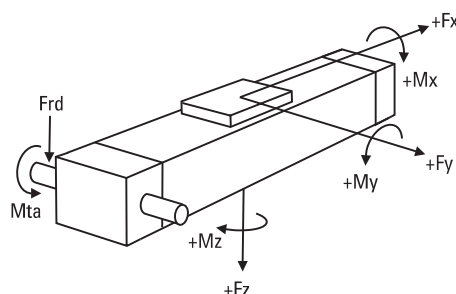
² See diagram Force F_x .

³ Only relevant for units without RediMount flange.

Force F_x as a Function of the Speed



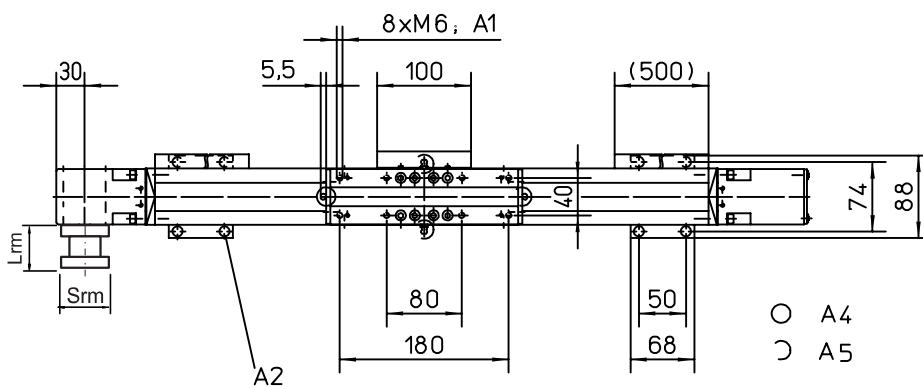
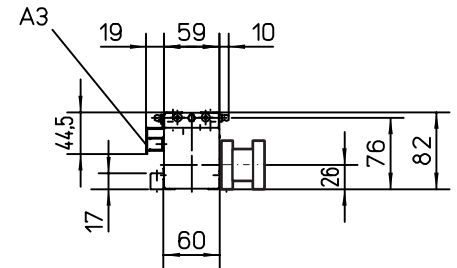
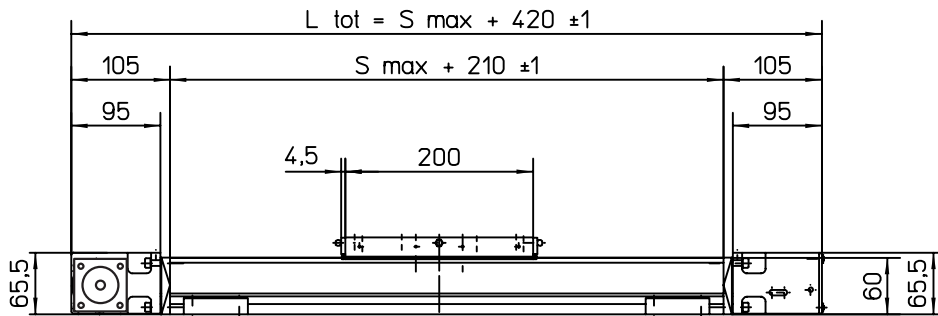
Definition of Forces



WM60Z

Belt Drive, Ball Guide, Short Carriage

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



RediMount Flange Specifications		
Parameter	Min	Max
Flange length (Lrm) [mm]	83	145
Flange square (Srm) [mm]	90	200
Flange weight * [kg]	5,64	

* Max. weight including coupling and fastening screws

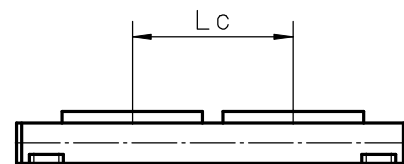
- A1: depth 11
- A2: socket cap screw ISO4762-M6×20 8.8
- A3: ENF inductive sensor rail kit (optional - see page 150)
- A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
- A5: can be changed over to one of three alternative lubrications points by the customer

Performance Specifications

for Units with Double Short Carriage (Y)

Parameter	WM60Z
Stroke length (Smax), maximum [mm]	3745
Total length (L tot), maximum [mm]	4420
Minimum distance between carriages (Lc) [mm]	255
Dynamic load (Fy), maximum [N]	2800
Dynamic load (Fz), maximum [N]	2800
Dynamic load torque (My), maximum [Nm]	L c ¹ × 1,4
Dynamic load torque (Mz), maximum [Nm]	L c ¹ × 1,4
Force required to move second carriage [N]	18
Total length (L tot) [mm]	Smax + 420 + Lc

¹ Value in mm





WM80Z

Belt Drive, Ball Guide, Standard Carriage

- » Ordering key - see page 185
- » Accessories - see page 117
- » Additional data - see page 173

General Specifications

Parameter	WM80Z
Profile size (w × h) [mm]	80 × 80
Type of belt	25 AT 10
Carriage sealing system	plastic cover band
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Performance Specifications

for Units with Single Standard Carriage (N)¹

Parameter		WM80Z
Stroke length (S _{max}), maximum	[mm]	5400
Total length (L _{tot}), maximum	[mm]	5990
Linear speed, maximum	[m/s]	2,5
Acceleration, maximum	[m/s ²]	20
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	885
Operation temperature limits	[°C]	0 – 80
Dynamic load (F _x), maximum	[N]	1470
Dynamic load (F _y), maximum	[N]	3000 ²
Dynamic load (F _z), maximum	[N]	3000
Dynamic load torque (M _x), maximum	[Nm]	150
Dynamic load torque (M _y), maximum	[Nm]	300
Dynamic load torque (M _z), maximum	[Nm]	300
Drive shaft force (F _{rd}), maximum ³	[N]	600
Input/drive shaft torque (M _{ta}), maximum	[Nm]	40
Pulley diameter	[mm]	54,11
Stroke per shaft revolution	[mm]	170
Weight	[kg]	
of unit with zero stroke		11,2
of every 100 mm of stroke		0,8
of each carriage		3,4

¹ See next page for deviating values of units with other carriage types.

² See diagram Force F_x.

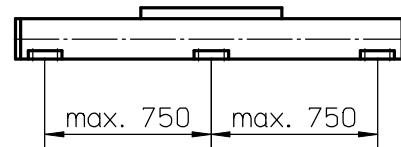
³ Only relevant for units without RediMount flange.

Carriage Idle Torque, (M_{idle}) [Nm]

Input speed [rpm]	Idle torque [Nm]
150	6,5
450	7,7
885	9,3

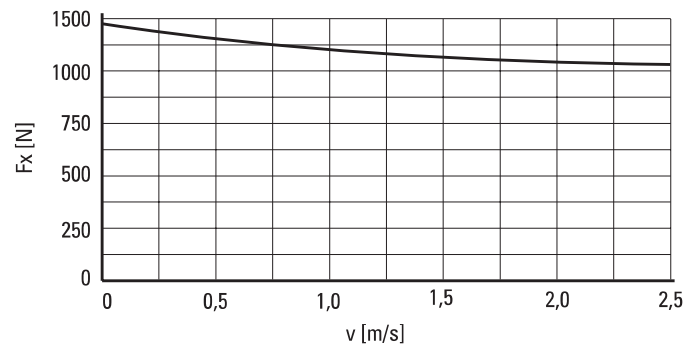
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile

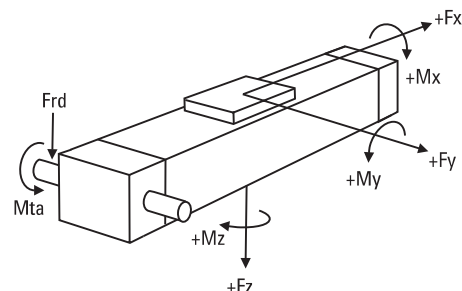


A mounting clamp must be installed at least every 750 mm to be able to operate at maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

Force F_x as a Function of the Speed



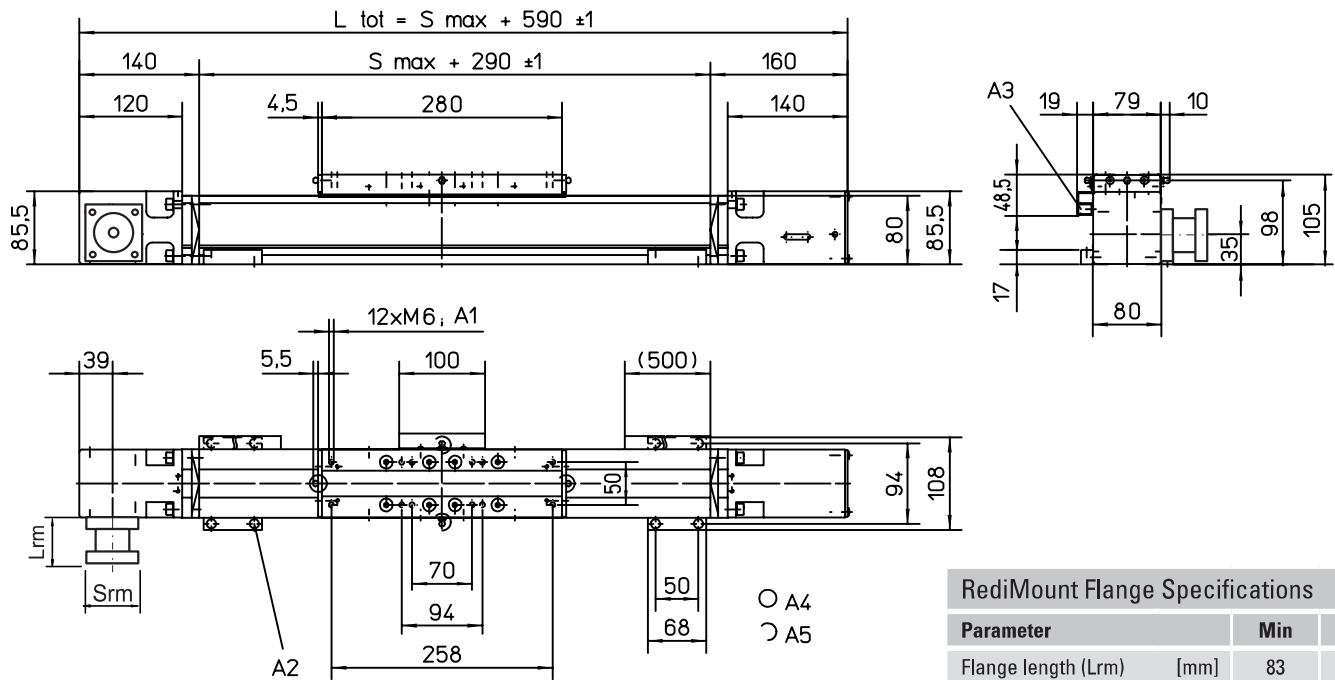
Definition of Forces



WM80Z

Belt Drive, Ball Guide, Standard Carriage

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



- A1: depth 12
- A2: socket cap screw ISO4762-M6×20 8.8
- A3: ENF inductive sensor rail kit (optional - see page 150)
- A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
- A5: can be changed over to one of three alternative lubrications points by the customer

Parameter	Min	Max
Flange length (Lrm) [mm]	83	145
Flange square (Srm) [mm]	90	200
Flange weight * [kg]	5,64	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Single Long Carriage (L)

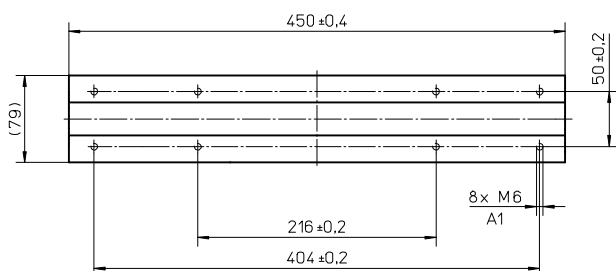
Parameter	WM80Z
Stroke length (Smax), maximum [mm]	5400
Total length (L tot), maximum [mm]	6160
Carriage length [mm]	450
Dynamic load torque (My), maximum [Nm]	750
Dynamic load torque (Mz), maximum [Nm]	750
Weight [kg]	5,1

Performance Specifications

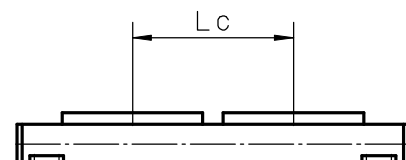
for Units with Double Standard Carriage (Z)

Parameter	WM80Z
Stroke length (Smax), maximum [mm]	5040
Total length (L tot), maximum [mm]	5990
Minimum distance between carriages (Lc) [mm]	360
Dynamic load (Fy), maximum [N]	6000
Dynamic load (Fz), maximum [N]	6000
Dynamic load torque (My), maximum [Nm]	L c ¹ × 3
Dynamic load torque (Mz), maximum [Nm]	L c ¹ × 3
Force required to move second carriage [N]	25
Total length (L tot) [mm]	Smax + 590 + Lc

¹ Value in mm



A1: depth 12 mm





WM80Z

Belt Drive, Ball Guide, Short Carriage

- » Ordering key - see page 185
- » Accessories - see page 117
- » Additional data - see page 173

General Specifications

Parameter	WM80Z
Profile size (w × h) [mm]	80 × 80
Type of belt	25 AT 10
Carriage sealing system	plastic cover band
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Performance Specifications

for Units with Single Short Carriage (S)¹

Parameter		WM80Z
Stroke length (S _{max}), maximum	[mm]	5500
Total length (L _{tot}), maximum	[mm]	5990
Linear speed, maximum	[m/s]	2,5
Acceleration, maximum	[m/s ²]	20
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	885
Operation temperature limits	[°C]	0 – 80
Dynamic load (F _x), maximum	[N]	1470
Dynamic load (F _y), maximum	[N]	2100 ²
Dynamic load (F _z), maximum	[N]	2100
Dynamic load torque (M _x), maximum	[Nm]	68
Dynamic load torque (M _y), maximum	[Nm]	135
Dynamic load torque (M _z), maximum	[Nm]	135
Drive shaft force (F _{rd}), maximum ³	[N]	600
Input/drive shaft torque (M _{ta}), maximum	[Nm]	40
Pulley diameter	[mm]	54,11
Stroke per shaft revolution	[mm]	170
Weight	[kg]	
of unit with zero stroke		9,2
of every 100 mm of stroke		0,8
of each carriage		2,1

¹ See next page for deviating values of units with other carriage types.

² See diagram Force F_x.

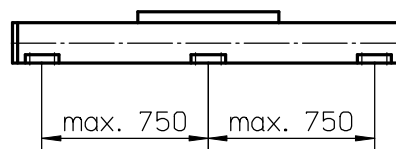
³ Only relevant for units without RediMount flange.

Carriage Idle Torque, (M_{idle}) [Nm]

Input speed [rpm]	Idle torque [Nm]
150	4,0
450	5,4
885	6,2

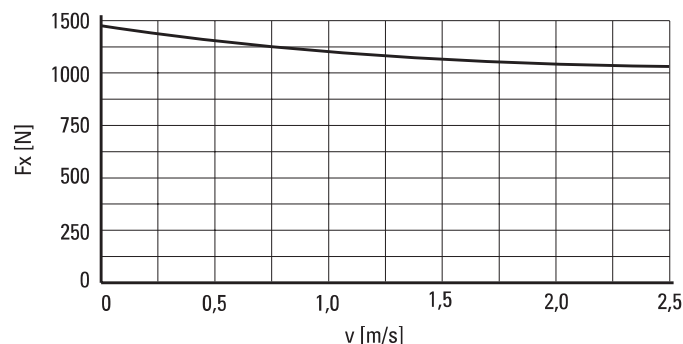
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile

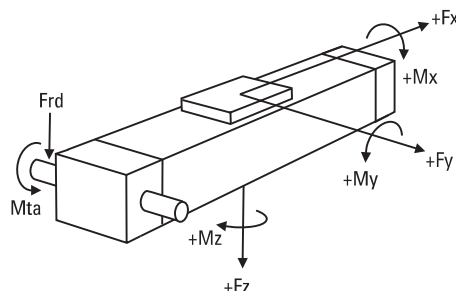


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Force F_x as a Function of the Speed



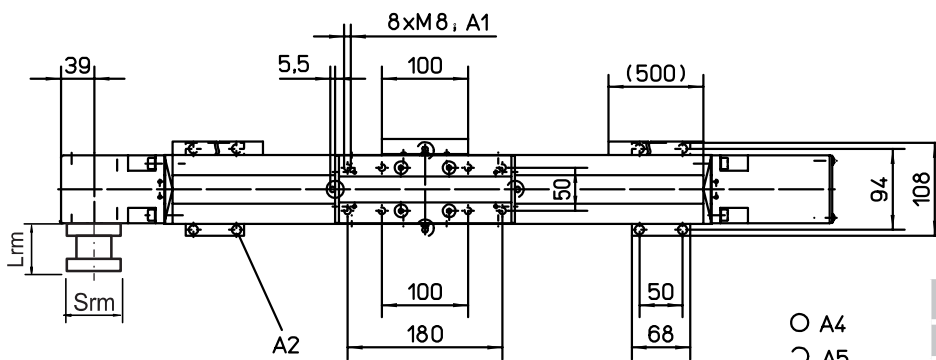
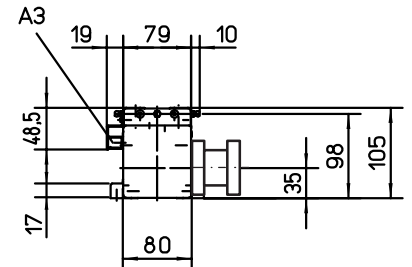
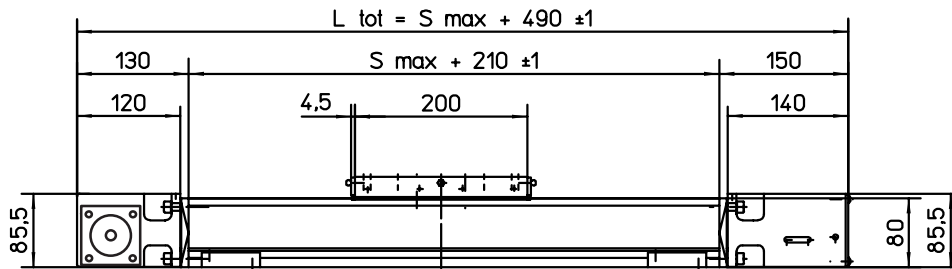
Definition of Forces



WM80Z

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Dimensions	Projection	Online Sizing & Selection!
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- A1: depth 12
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- A3: ENF inductive sensor rail kit (optional - see page 150)
- A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
- A5: can be changed over to one of three alternative lubrications points by the customer

RediMount Flange Specifications

Parameter	Min	Max
Flange length (Lrm) [mm]	83	145
Flange square (Srm) [mm]	90	200
Flange weight * [kg]	5,64	

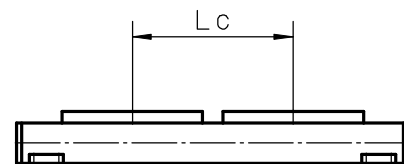
* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Short Carriage (Y)¹

Parameter	WM80Z
Stroke length (Smax), maximum [mm]	5220
Total length (L tot), maximum [mm]	5990
Minimum distance between carriages (Lc) [mm]	280
Dynamic load (Fy), maximum [N]	4200
Dynamic load (Fz), maximum [N]	4200
Dynamic load torque (My), maximum [Nm]	Lc' × 2,1
Dynamic load torque (Mz), maximum [Nm]	Lc' × 2,1
Force required to move second carriage [N]	22,5
Total length (L tot) [mm]	Smax + 490 + Lc

¹ Value in mm



Ordering Keys

Linear Motion Systems with Belt Drive and Ball Guides

WM60Z, WM80Z

1	2	3	4	5	6	7	8
WM06Z	LX	AG5	-01400	-01755	H	L	0400

1. Type of unit

WM06Z = WM60Z unit
 WM08Z = WM80Z unit

2. Transmission type

LX = inline style, directly coupled, RediMount flange
 SX = inline style, directly coupled, no RediMount flange

3. RediMount motor ID code

vww = alphanumeric motor code for suitable RediMount flange when motor is known
 999 = RediMount code used when motor is unknown
 XXX = for units without RediMount flange

4. Maximum stroke (Smax)

- xxxxx = distance in mm

5. Total length of unit (L tot)

- yyyyy = distance in mm

6. Drive shaft / RediMount flange configuration¹

- A = shaft on left side without key way
- B = shaft on right side without key way
- C = shaft on left side with key way or RediMount
- D = shaft on right side with key way or RediMount
- E = shaft on left side without key way, shaft on right side with key way or RediMount
- F = shaft on left side with key way or RediMount, shaft on right side without key way
- G = shaft on left side without key way, shaft on right side for encoder
- H = shaft on left side for encoder, shaft on right side without key way
- I = shaft on left side with key way or RediMount, shaft on right side for encoder
- J = shaft on left side for encoder, shaft on right side with key way or RediMount
- L = shaft on left and right side without key way
- M = shaft on left side with key way or RediMount, shaft on right side with key way
- N = shaft on left side with key way, shaft on right side with key way or RediMount
- W = hollow shaft on both sides with clamping unit

7. Carriage configuration²

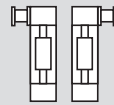
- N = single standard carriage
- S = single short carriage
- L = single long carriage
- Z = double standard carriages
- Y = double short carriages

8. Distance between double carriages (Lc)

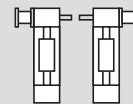
0000 = always for single carriages
 zzzz = distance in mm

¹ See below for the definition of shafts.

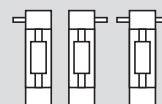
Left, right or both sides with shafts with RediMount



Left or right with RediMount and other side a shaft without RediMount



Left or right without RediMount



² See table below for available combinations of units and carriage types.

Type of unit	Available carriage types				
	N	S	L	Z	Y
WM06Z		x			x
WM08Z	x	x	x	x	x

Note! for ordering of options type EN, ES, KR, RT, ADG and MGK, see accessory index on page 131.