WIESEL™ *POWERLine*®
with toothed belt drive
The best ideas make it simple for you.

The new WIESEL™ *POWERLine*® ZRT combines the high dynamics of the toothed belt drive with the powerful, fully integrated ball bearing guide of the *POWERLine*® system. The patented cover strip protects the guide system safely against dirt. The version 370 offers an attractive price reduction with its shorter guide system and the reduced length of the power bridge. So the *POWERLine*® ZRT brings higher dynamics to the tasks of engineering and handling.
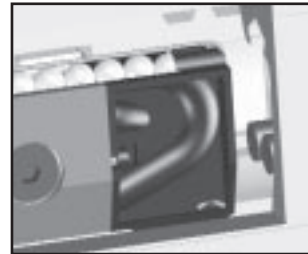

Toothed belt
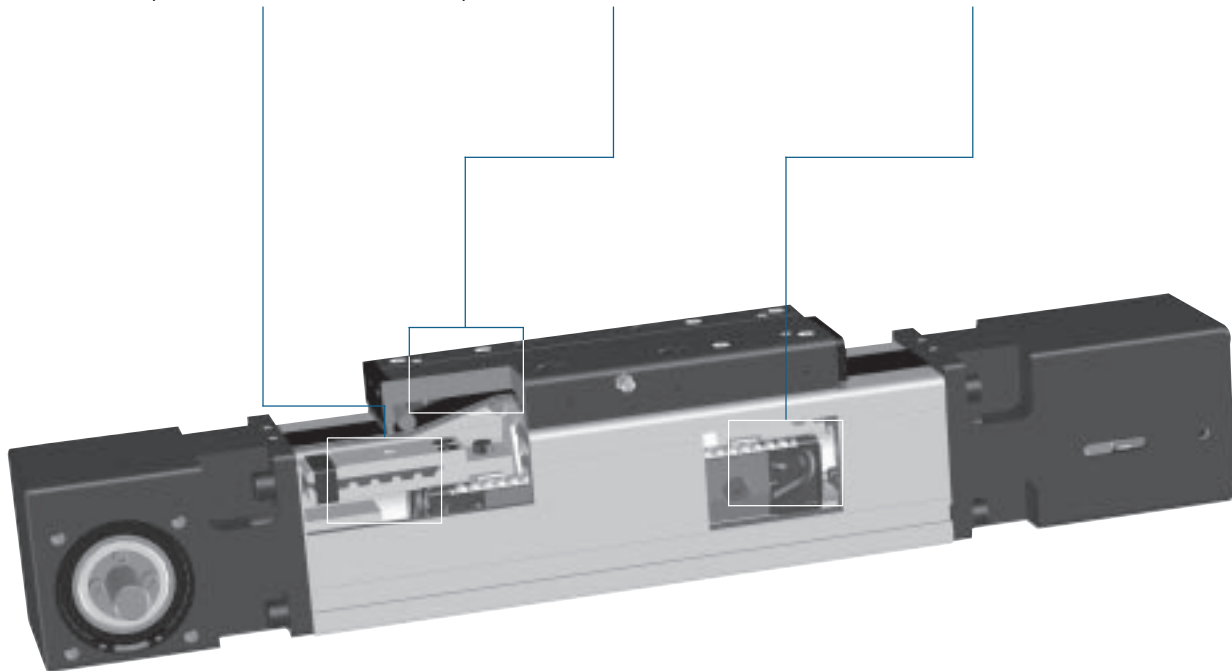The integrated toothed belt allows high dynamics and precision.

Patented cover strip
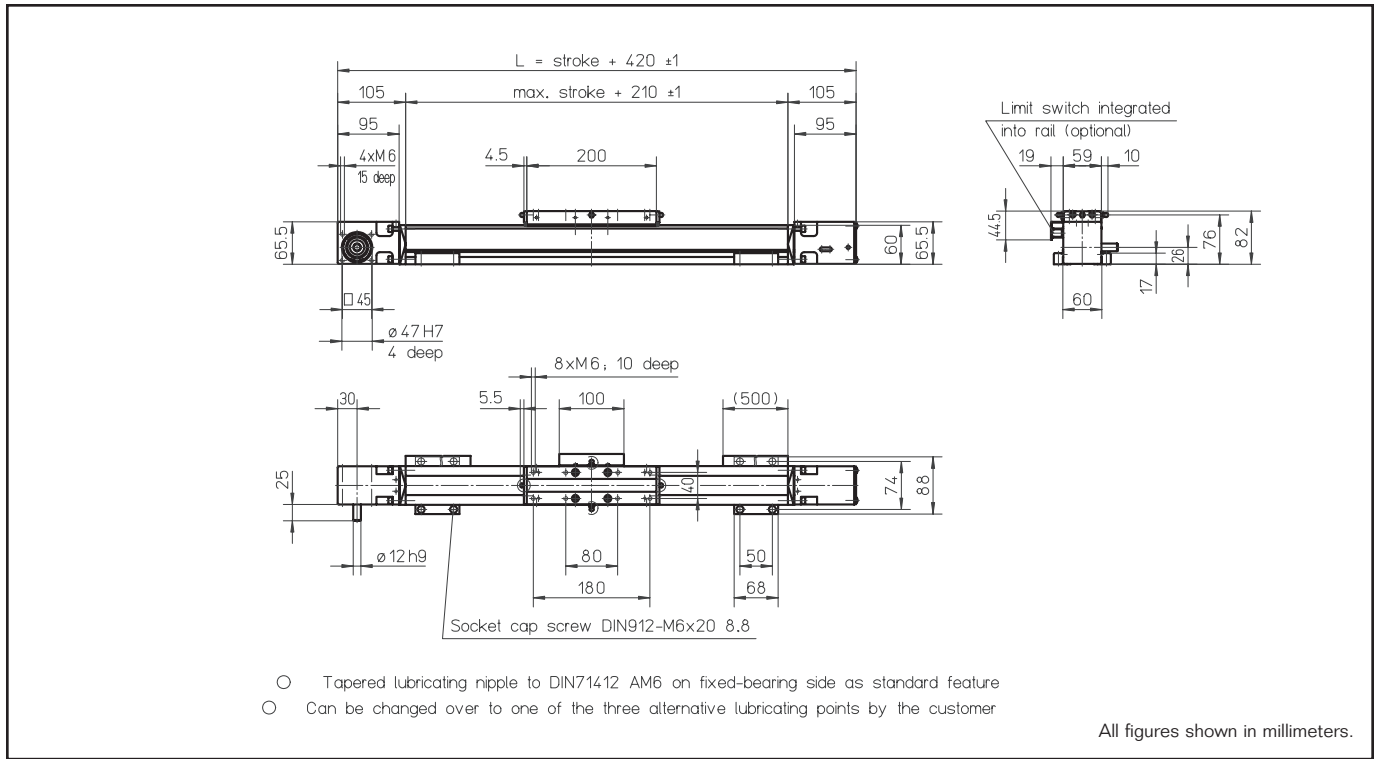The patented, self-adjusting cover strip is a reliable protection from dirt.

Integrated guide system
The integrated ball-bearing guide absorbs heavy forces and moments.

WIESEL™ *POWERLine*® WM60 – 370 ZRT

with toothed belt drive and integrated linear short ball-bearing guide system
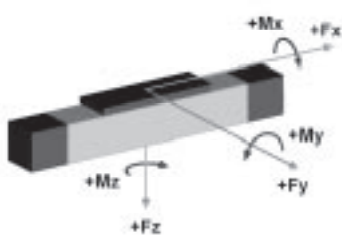

L = stroke + 420 ±1
max. stroke + 210 ±1

Limit switch integrated into rail (optional)

4 x M6 15 deep

ø 47 H7 4 deep

8 x M6; 10 deep

ø 12 h9

Socket cap screw DIN912–M6x20 8.8

○ Tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
○ Can be changed over to one of the three alternative lubricating points by the customer

All figures shown in millimeters.

Technical data

Linear speed: . . . . .max. 2.5 m/s
Repeatability: . . . .± 0.05 mm
Acceleration: . . . . .max. 20 m/s²
Drive element: . . . . .Toothed belt 20ATL5
Diameter: . . . . .38.20 mm
Stroke per revolution: . . . . .120 mm
Stroke length: . . . . .4000 mm
Length of power bridge: . . . . .200 mm
Geometrical moment of inertia: . . .ly 5.62 x 10⁵ mm⁴
                                                   lz 5.94 x 10⁵ mm⁴

Weights
Basic unit with zero stroke: . . . . .4.30 kg
100 mm stroke: . . . . .0.45 kg
Power bridge with carriage: . . . . .1.25 kg
Provided: . . . . .4 pieces KAO mounting brackets

Idle torques [Nm]

Rotational speed [rpm]	M$_{idle}$ [Nm]
150	1.6
600	2.5
1250	3.0

Execution of drive shafts
(Detailed description see pg 100)
Other executions on request.

AZ1 AZ2 AZ6

Unit conversions

Length:
1 m=1000 mm=39.37 inches
1 inch=25.4 mm

Force:
1 N=0.225 lbf
1 lbf=4.45 N

Moment of Force:
1 Nm=0.738 lb • ft=8.85 lb • inches
1 lb • ft=1.36 Nm

Geometrical moment of inertia:
1 m⁴=10¹² mm⁴=2.4025 x 10⁶ in⁴

Mass moment of inertia:
1 kg • m²=10⁴ kg • cm²=0.738 lb • ft • s²

Mass:
1 kg=2.2 lb

Loads and load moments

Load	dynam. [N]
Fx drive[1]	850
Fy	1400
+/- Fz	1400

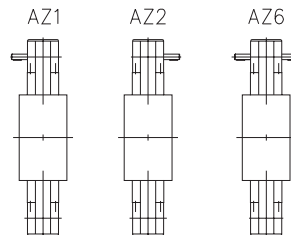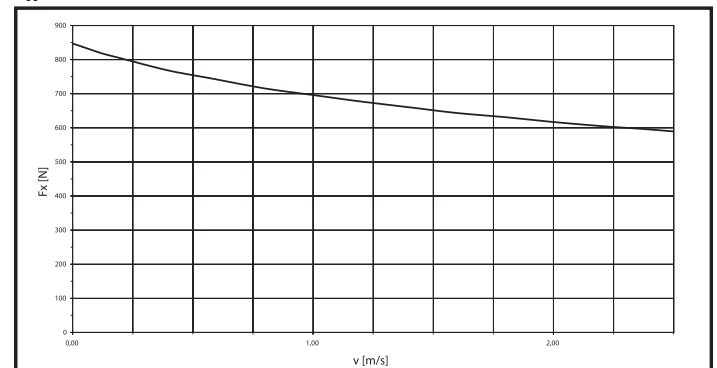| Load moment	dynam. [Nm]
Mx	25
My[2]	50
Mz[2]	50

1) Depending on the speed, see respective chart.
2) Increase of the admissible values by the use of a long power bridge or additional free-sliding power bridge (pages 62 and 63).
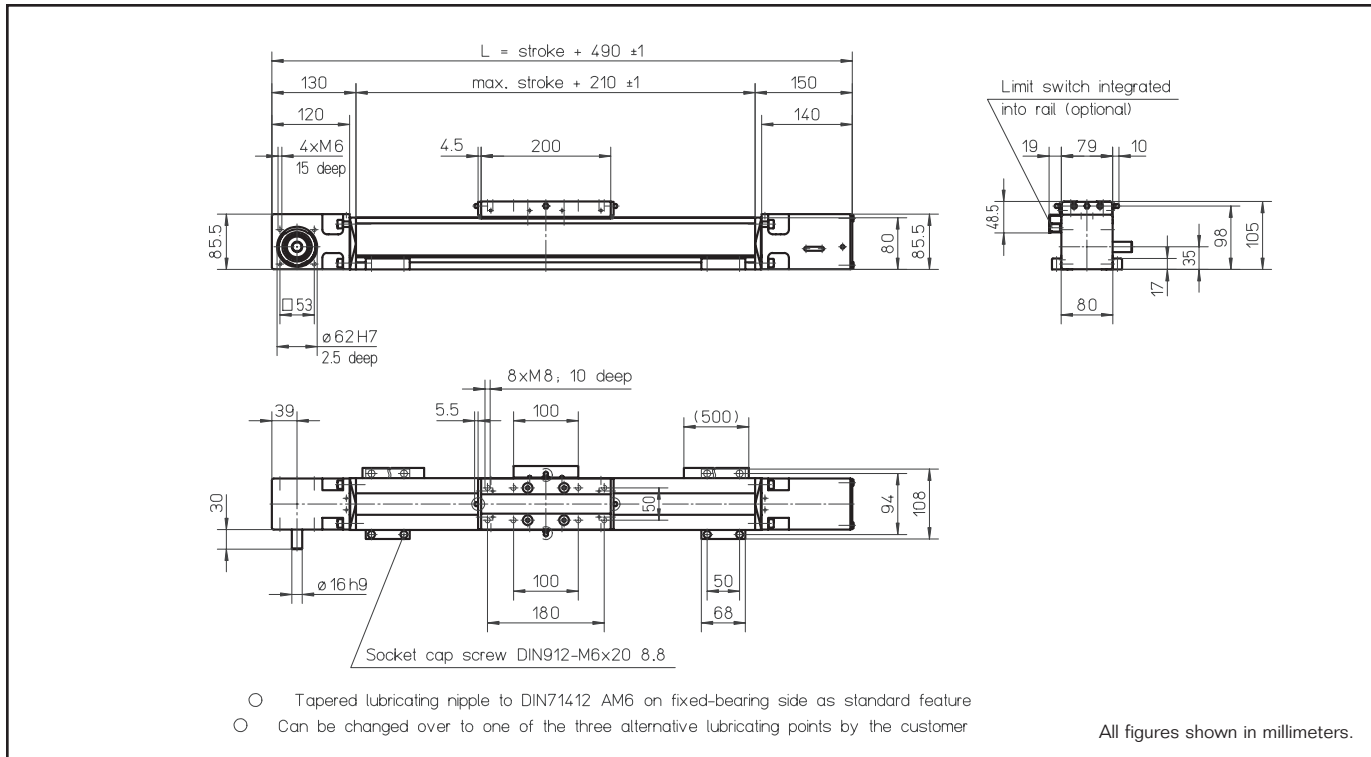
F$_x$ over the linear speed

WIESEL™ *POWERLine*® WM80 – 370 ZRT

with toothed belt drive and integrated linear short ball-bearing guide system

L = stroke + 490 ±1
max. stroke + 210 ±1

Limit switch integrated into rail (optional)

○ Tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
○ Can be changed over to one of the three alternative lubricating points by the customer

All figures shown in millimeters.

Technical data

Linear speed: . . . . .max. 2.5 m/s
Repeatability: . . . .± 0.05 mm
Acceleration: . . . . .max. 20 m/s²
Drive element: . . . . .Toothed belt 25AT10
Diameter: . . . . .54.11 mm
Stroke per revolution: . . . . .170 mm
Stroke length: . . . . .5500 mm
Length of power bridge: . . . . .200 mm
Geometrical moment of inertia: . . .ly 1.89 x 10⁶ mm⁴
lz 1.97 x 10⁶ mm⁴

Weights
Basic unit with zero stroke: . . . . .9.20 kg
100 mm stroke: . . . . .0.80 kg
Power bridge with carriage: . . . . .2.10 kg
Provided: . . . . .4 pieces KAO mounting brackets

Idle torques [Nm]

Rotational speed [rpm]	M$_{idle}$ [Nm]
150	4.0
450	5.4
885	6.2

Execution of drive shafts
(Detailed description see pg 100)
Other executions on request.

AZ1 AZ2 AZ6

Unit conversions

Length:
1 m=1000 mm=39.37 inches
1 inch=25.4 mm

Force:
1 N=0.225 lbf
1 lbf=4.45 N

Moment of Force:
1 Nm=0.738 lb • ft=8.85 lb • inches
1 lb • ft=1.36 Nm

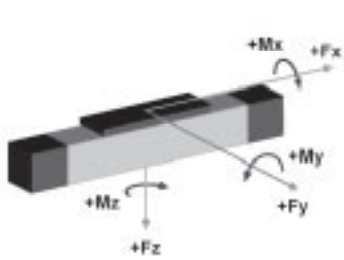**Geometrical moment of inertia:**
1 m⁴=10¹² mm⁴=2.4025 x 10⁶ in⁴

Mass moment of inertia:
1 kg • m²=10⁴ kg • cm²=0.738 lb • ft • s²

Mass:
1 kg=2.2 lb

Loads and load moments

Load	dynam. [N]
Fx drive[1]	1470
Fy	2100
+/- Fz	2100

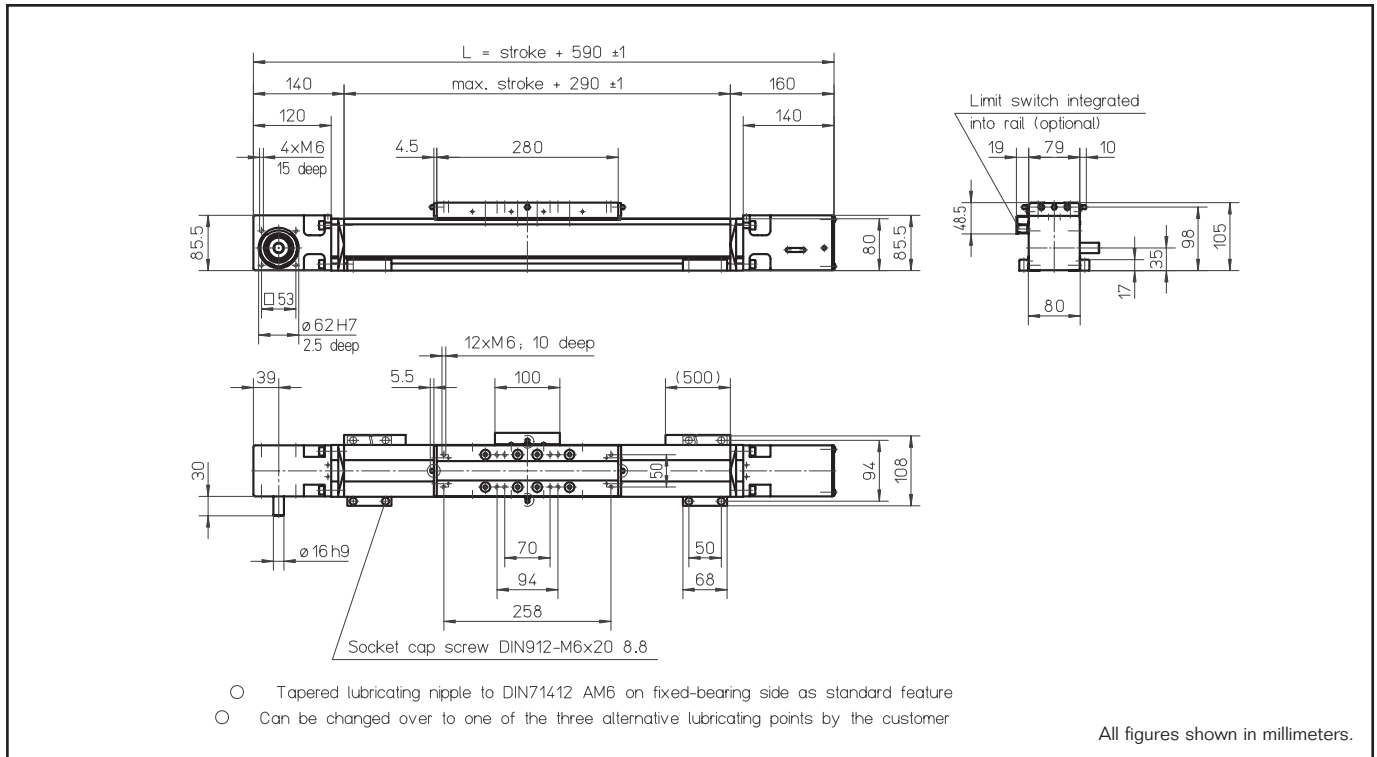| Load moment	dynam. [Nm]
Mx	68
My[2]	135
Mz[2]	135

F$_x$ over the linear speed

1) Depending on the speed, see respective chart.
2) Increase of the admissible values by the use of a long power bridge or additional free-sliding power bridge (pages 62 and 63).

WIESEL™ *POWER*Line® WM80 ZRT
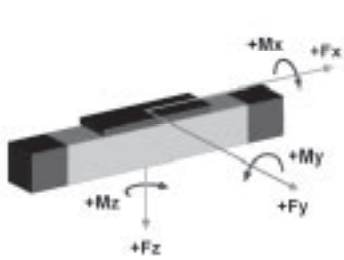## with toothed belt drive and integrated linear ball-bearing guide

L = stroke + 590 ±1
max. stroke + 290 ±1

Limit switch integrated into rail (optional)

Socket cap screw DIN912–M6x20 8.8

○ Tapered lubricating nipple to DIN71412 AM6 on fixed–bearing side as standard feature
○ Can be changed over to one of the three alternative lubricating points by the customer

All figures shown in millimeters.

Technical data

Linear speed: . . . . .max. 2.5 m/s
Repeatability: . . . .± 0.05 mm
Acceleration: . . . . .max. 20 m/s²
Drive element: . . . . .Toothed belt 25AT10
Diameter: . . . . .54.11 mm
Stroke per revolution: . . . . .170 mm
Stroke length: . . . . .5400 mm
Length of power bridge: . . . . .280 or 450 mm
Geometrical moment of inertia: . . .ly 1.89 x 10⁶ mm⁴
                                                        lz 1.97 x 10⁶ mm⁴

Weights
Basic unit with zero stroke: . . . . .11.20 kg
100 mm stroke: . . . . .0.80 kg
Power bridge with carriage: . . . . .3.40 kg
Provided: . . . . .4 pieces KAO mounting brackets

Idle torques [Nm]

Rotational speed [rpm]	M_idle [Nm]
150	*)
450	*)
885	*)

*) values in determination

Execution of drive shafts
(Detailed description see pg 100)
Other executions on request.

AZ1   AZ2   AZ6

Unit conversions

Length:
1 m=1000 mm=39.37 inches
1 inch=25.4 mm

Force:
1 N=0.225 lbf
1 lbf=4.45 N

Moment of Force:
1 Nm=0.738 lb · ft=8.85 lb · inches
1 lb · ft=1.36 Nm

Geometrical moment of inertia:
1 m⁴=10¹² mm⁴=2.4025 x 10⁶ in⁴

Mass moment of inertia:
1 kg · m²=10⁴ kg · cm²=0.738 lb · ft · s²

Mass:
1 kg=2.2 lb

Loads and load moments

Load	dynam. [N]
Fx drive[1]	1470
Fy	3000
+/- Fz	3000

Load moment	dynam. [Nm]
Mx	150
My[2]	300
Mz[2]	300

F_x over the linear speed

1) Depending on the speed, see respective chart.
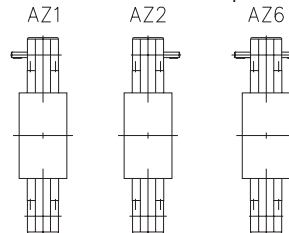2) Increase of the admissible values by the use of a long power bridge or additional free-sliding power bridge (pages 62 and 63).