

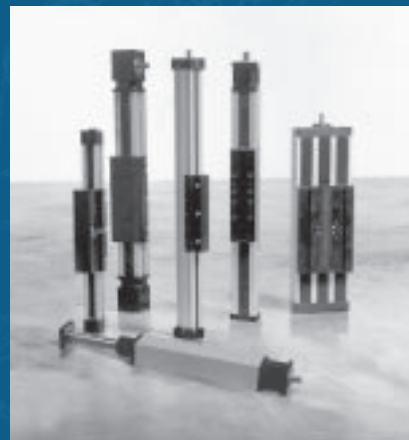


*SPEEDLine®*



*VARIOLine™*

Positioning >> Lifting >> Traversing >> Transporting >> Palletizing >> Moving



Precision Technology USA, Inc. **WIESEL™**

Superior performance. Superior design.™



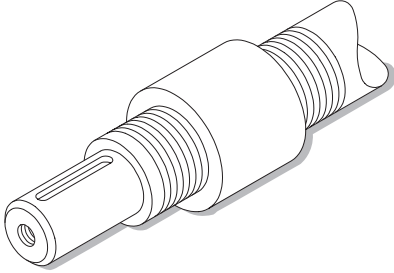
**PRECISION**  
TECHNOLOGY  
The Art of Linear Thinking™

# Selection of linear drive units

The best solution for every application

**Drive**

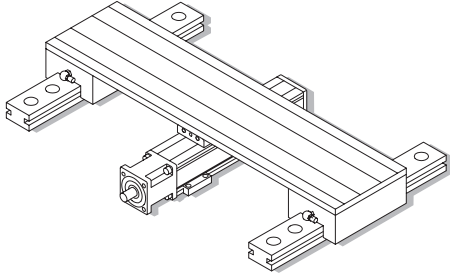
**Ball screw**



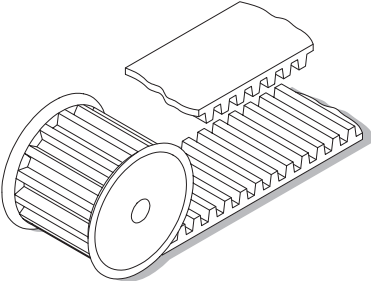
Fx up to 12 kN <sup>1)</sup> (2698 lbf)  
 Rep. up to ± 0.01 mm <sup>1)</sup> (0.0004 in)  
 v up to 2.5 m/s <sup>1)</sup> (8.2 ft/s)  
 a up to 20 m/s<sup>2</sup> <sup>1)</sup> (65 ft/s<sup>2</sup>)

**Guide system/load**

**External**

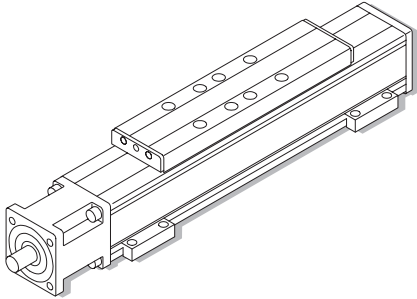


**Toothed belt drive**



Fx up to 5 kN <sup>1)</sup> (1124 lbf)  
 Rep. up to ± 0.05 mm <sup>1)</sup> (0.002 in)  
 v up to 10 m/s <sup>1)</sup> (33 ft/s)  
 a up to 40 m/s<sup>2</sup> <sup>1)</sup> (131 ft/s<sup>2</sup>)

**Internal**

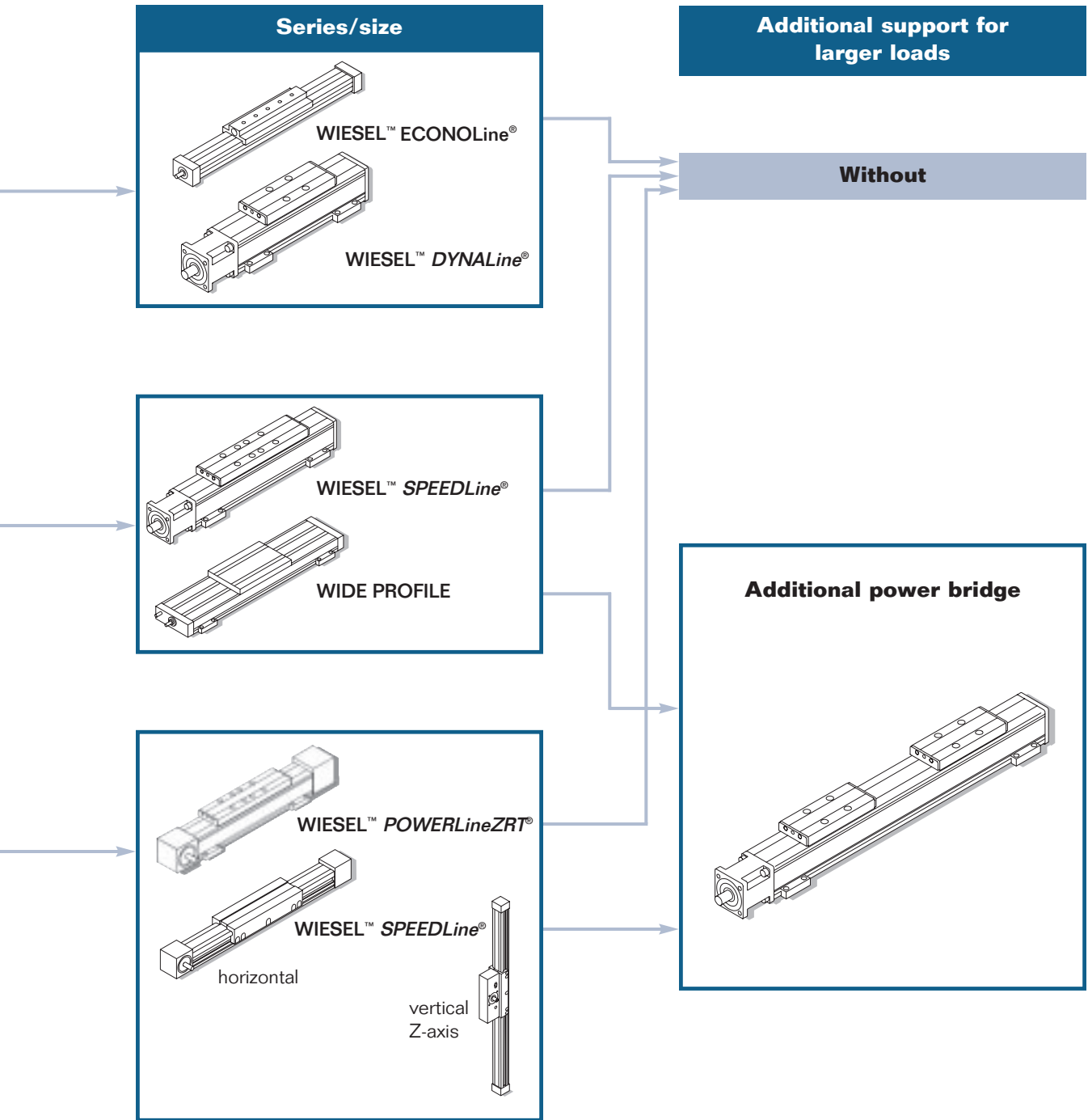


## WIESEL™ Manager/CAD-data

Get the WIESEL™ Manager software package for the selection and planning of all Precision Technology USA, Inc. linear drive units as well as our CAD-data. Click to [www.pt-usa.net](http://www.pt-usa.net) or send the order form on page 102. Also benefit from technical consultation service.

**Notes:** Fx -Feed force  
 Rep.-Repeatability  
 v -Linear speed  
 a -Acceleration

<sup>1)</sup> The performance values of the respective sizes can be found on page 12.



# Summary of performance data, additional options and accessories

## Summary of performance data

Type	Profile-cross-section [mm]	Drive element <sup>1)</sup>	Lead [mm] Stroke per revolution [mm/rev.]	Feed force F <sub>x</sub> [N]	Repeatability <sup>4)</sup> [mm]	Linear speed [m/s]	Load <sup>2)</sup> F <sub>z</sub> [N]	Other loads and moments			
								F <sub>y</sub> [N]	M <sub>x</sub> [Nm]	M <sub>y</sub> <sup>3)</sup> [Nm]	M <sub>z</sub> <sup>3)</sup> [Nm]
WH40	40x40	ZRT <sup>1)</sup> 10 AT5	100	315	± 0.05	3.0	600	450	10	30	30
WH50	50x50	ZRT <sup>1)</sup> 16 ATL5	120	670	± 0.05	6.5	730	415	16	87	50
WH80	80x80	ZRT <sup>1)</sup> 32 ATL10	200	2700	± 0.05	10	2100	882	75	230	100
WH120	120x110	ZRT <sup>1)</sup> 50 ATL10	260	5000	± 0.05	10	9300	4980	500	930	500
WHZ50	50x50	ZRT <sup>1)</sup> 16 ATL5	120	670	± 0.05	6.5	730	415	16	87	50
WHZ80	80x80	ZRT <sup>1)</sup> 32 ATL5	200	1480	± 0.05	10	2100	882	75	230	100
WM40	40x40	KGT <sup>1)</sup> ø 12 mm	5	1000	± 0.01	0.25	600	450	10	30	30
WM60-370 ZRT	60x60	ZRT <sup>1)</sup> 20 ATL5	120	850	± 0.05	2.5	1400	1400	50	100	100
WM60-370	60x60	KGT <sup>1)</sup> ø 20 mm	5/20/50	2800	± 0.02	2.5	1400	1400	50	100	100
WM60	60x60	KGT <sup>1)</sup> ø 20 mm	5/20/50	4000	± 0.01	2.5	2000	2000	100	200	200
WM60-500	60x60	KGT <sup>1)</sup> ø 20 mm	5/20/50	4000	± 0.01	2.5	2000	2000	100	200	200
WM80-370 ZRT	80x80	ZRT <sup>1)</sup> 25 AT10	170	1470	± 0.05	2.5	2100	2100	150	180	180
WM80 ZRT	80x80	ZRT <sup>1)</sup> 25 AT10	170	1470	± 0.05	2.5	3000	3000	300	300	300
WM80-370	80x80	KGT <sup>1)</sup> ø 25 mm	5/10/20/50	3500	± 0.02	2.5	2100	2100	150	180	180
WM80	80x80	KGT <sup>1)</sup> ø 25 mm	5/10/20/50	5000	± 0.01	2.5	3000	3000	350	300	300
WM120	120x120	KGT <sup>1)</sup> ø 32 mm	5/10/20/40	12000 <sup>5)</sup>	± 0.01	2.0	6000	6000	500	600	600
WV60	60x60	KGT <sup>1)</sup> ø 20 mm	5/20/50	4000	± 0.01	2.5	–	–	–	–	–
WV80	80x80	KGT <sup>1)</sup> ø 25 mm	5/10/20/50	5000	± 0.01	2.5	–	–	–	–	–
WV120	120x120	KGT <sup>1)</sup> ø 32 mm	5/10/20/40	12000 <sup>5)</sup>	± 0.01	2.0	–	–	–	–	–

<sup>1)</sup> KGT = Ball screw

ZRT = Toothed belt drive

<sup>2)</sup> All maximum forces and moments given refer to the center/top of the power bridge.

<sup>3)</sup> Increase of admissible values possible by long or additional power bridge.

<sup>4)</sup> Refers to the average positioning variation according to VDI/DGQ 3441.

<sup>5)</sup> At 40 mm lead max 8000 N.

## Unit conversions

<b>Length:</b>	1 m=1000 mm=39.37 inches 1 inch=25.4 mm
<b>Force:</b>	1 N=0.225 lbf 1 lbf=4.45 N
<b>Moment of Force:</b>	1 Nm=0.738 lb · ft=8.85 lb · inches 1 lb · ft=1.36 Nm

<b>Geometrical moment of inertia:</b>	1 m <sup>4</sup> =10 <sup>12</sup> mm <sup>4</sup> =2.4025 x 10 <sup>6</sup> in <sup>4</sup>
<b>Mass moment of inertia:</b>	1 kg · m <sup>2</sup> =10 <sup>4</sup> kg · cm <sup>2</sup> =0.738 lb · ft · s <sup>2</sup>
<b>Mass:</b>	1 kg=2.2 lb