

Precision Wedge levelling Elements
for long bed and precision machinery

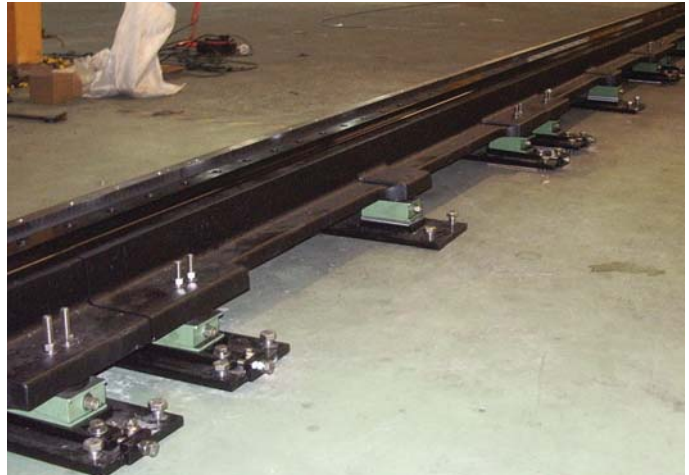
 **Farrat**

MAM-Wedge levelling Elements-11a

*Roll grinding machine installed on
Freestanding Wedge Levelling Elements
(WL-LE)*



*Aircraft NDT testing rig installed on Bolt
Through Precision Levelling Elements
(WLT-LE) with Spheriseats (SPS).*



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Precision Wedge Levelling Elements

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Farrat Precision Levelling Elements (WL-LE)

WL-LEs provide a system of installation of large or heavy equipment which require a very rigid connection to their foundations and which also require very accurate alignment for satisfactory performance; for example machines which are subjected to significant changes in load distribution during operation. Farrat Precision Wedge Levelling Elements (WL-LE) can be used for supporting and levelling machinery and equipment during construction, erection and operation.

WL-LEs are the same basic form as standard Wedgemount but the top and bottom faces are precision machined to provide an accurate, rigid support for maximum stiffness.

Use Farrat Precision Levelling Elements where all or some of the following criteria are required:

- Rigid machine to foundation integration.
- Precision adjustment to obtain very fine alignment.
- Systemised heavy machine installation.
- A very high degree of machine bed stiffness (by conversion of support points from pivot support to a virtually fixed or built-in support).
- A very tight connection between the machine and floor without distortion of the machine bed. The tighter the connection the more the concrete will integrate itself with the machine thus increasing the reinforcing effect of the concrete.
- Facility to carry out subsequent readjustments to alignment to correct foundation settlements and movements which may occur from time to time.
- Support for machines which are subjected to significant changes in load distribution during operation.

Typical Applications

- Levelling and supporting heavy components on machine tool tables.
- Long bed machinery.
- Large boring and milling machines.
- Grinding machines.
- Transfer machines.
- Rolling mills.
- Gas turbines.
- Large compressors.
- Nuclear reactors.
- Buildings and structures.

Where WL-LEs do not provide sufficient load bearing capacity or machine anchoring you may wish to consider Farrat Levelators.

Wedge Levelling Elements (WL-LE)

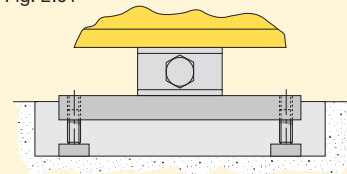
WL-LEs are supplied as:

- Freestanding (WL-LE & WLF-LE)
- Bolt-on (WLB-LE)
- Bolt-through (WLT-LE).

For machines without strong dynamic forces Freestanding mounts can also be used in conjunction with holding down bolts located alongside the mounts (see Figures 2.02 and 2.03).

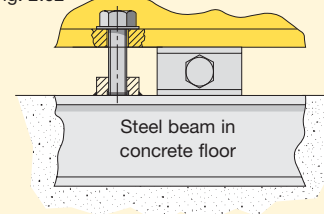
For machines with strong dynamic forces which have to be rigidly bolted down, such fixing methods can introduce bending moments and stresses around the support which can distort the machine base. In such cases we recommend bolt through mounts (WLT-LE) or Levelators.

Fig. 2.01



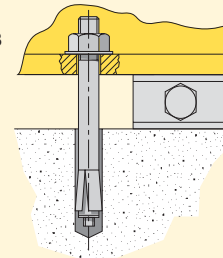
Steel plate grouted into floor pocket

Fig. 2.02



Steel beam in concrete floor

Fig. 2.03



Spheriseats All WL-LEs can be supplied with optional Spheriseats (SPS) which can be placed on the WL-LE units to take up complex angles between the floor and machine base (see back page for further information).

Possible installation arrangement with Spheriseats

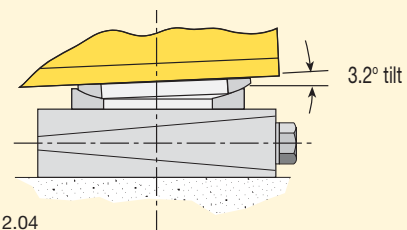
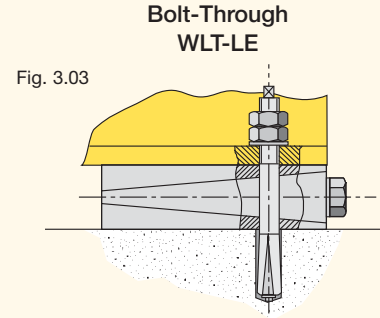
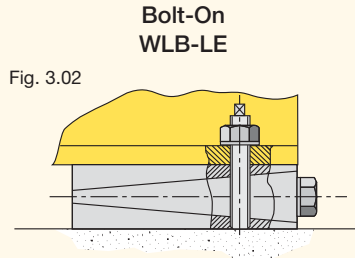
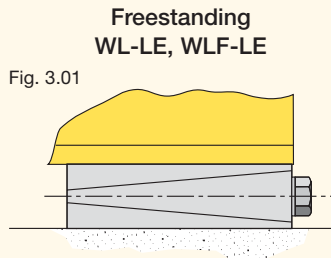
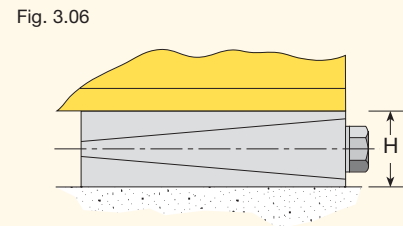
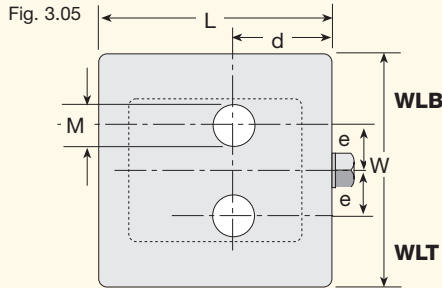
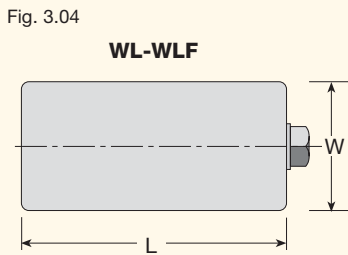


Fig. 2.04

Farrat Precision Wedge Levelling Elements are available in a number of forms:



Farrat Precision Wedge Levelling Element Dimensions



Precision Wedge Levelling Elements (WL-LE) - Maximum Load per Mount and Dimensions

Model			Maximum Load /Mount (kg)	Length L (mm)	Width W (mm)	Mid Position Height H (mm)	Height Adjustment +/- (mm)	Bolt On / Bolt Through holes				Unit Mass (kg)	Appropriate Spheriseat (SPS) Optional
Freestanding	Bolt on	Bolt through						d (mm)	e (mm)	WLB Thread	WLT Hole dia (mm)		
WLF 1-LE	WLB 1-LE	WLT 1-LE	3,000	115	80	40	5	45	17	M12	14	2.60	SPS080
WLF 1-LE-AL (Aluminium with SS Lead Screw)			3,000	115	80	40	5					0.95	SPS080
WL 2-LE			3,000	150	75	40	5					3.20	SPS080
WLF 2-LE	WLB 2-LE	WLT 2-LE	4,000	115	115	46	6	50	24	M16	18	3.50	SPS110
WL 3-LE			6,000	200	95	46	6					5.25	n/a
WLF 3-LE	WLB 3-LE	WLT 3-LE	7,000	150	150	46	6	60	24	M20	22	6.90	SPS150
WL 5-LE			9,000	250	115	70	9					13.50	SPS110
WL 55-LE	WLB 55-LE	WLT 55-LE	12,000	200	200	72	10	97	27	M20	22	14.35	SPS150
WL 6-LE	WLB 6-LE	WLT 6-LE	14,000	200	250	72	10	95	27	M20	22	18.00	SPS150
WL 7-LE	WLB 7-LE	WLT 7-LE	25,000	250	330	70	9	125	117	M24	26	33.10	SPS150

WLB Screw Assemblies (SN)

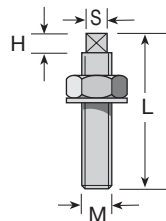
Material: Zinc Plated Mild Steel, All Dimensions mm

Thread	M	M12x1.75	M16x2	M20x2.5	M24x3
	S	8	11	13	18
H	10	10	10	10	
	L	100	100	100	100
		150	150	150	-

Order Example: SN M16x2x100

Alternative screw lengths are available on request

Fig. 3.07

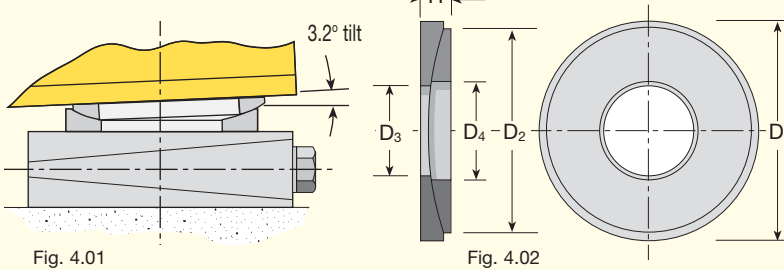


Order Examples

WL2-LE	Freestanding Wedge Levelling Element
WLB 1-LE + 1-SN M12x1.75x100	Bolt-on Wedge Levelling Element with one (1) Bolt on screw per mount
WLB 2-LE + 2-SN M16x2x150	Bolt-on Wedge Levelling Element with two (2) Bolt on screws per mount
WLB 3-LE	Bolt-on Wedge Levelling Element with no Bolt on screws

Spheriseats (SPS)

Spheriseats (SPS) can be placed on top of the WL-LE units to take up complex angles (from floor irregularities etc) between the floor and the machine. This is important to ensure a full, secure seating and to relieve any stresses which could build up in the machine base.

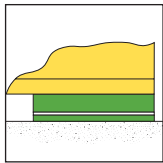
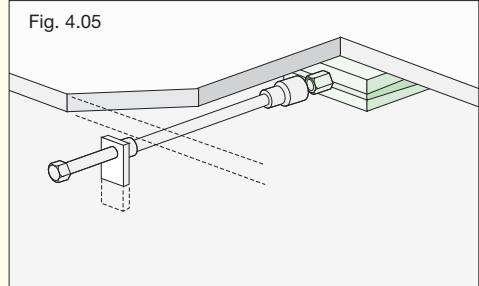
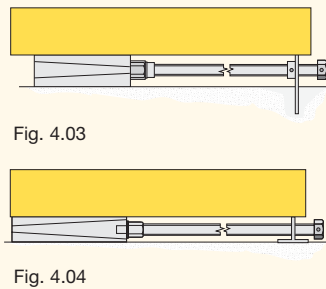


Spheriseats - SPS					
Produced from Grade 220M07 Chemically Blackened Mild Steel. (Can be case hardened on request)					Max angle of tilt
Type	D1	D2	D3	D4	
SPS080	80	80	49	58	18
SPS110	110	110	70	81	24
SPS150	150	150	80	95	30

Alternative dimensions of D3 and D4 can be made to order.

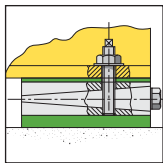
Screw Extenders (SX-WL)

Screw Extenders are used where Wedgemounts need to be placed inwards of the outer edge where access to the adjustment bolt is restricted. They are made to order according to customer requirements depending on the length and the Wedgemount type.



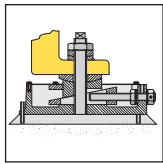
Anti Vibration Materials

Farrat Manufacture a wide range of elastomeric anti vibration materials to suit all applications.



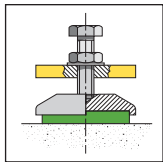
Wedgemounts (WL, WLF, WLB, WLT)

Height adjustable machine mounts based on screw driven three part machined cast iron wedges fitted with various types of vibration damping material.



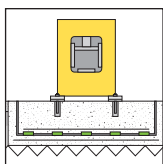
Levelators

Precision levelling units and machine to foundation integrators. Levelators provide a highly accurate way of installing precision machinery on concrete or steel foundations.



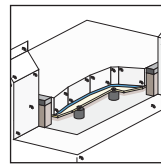
Jackmounts (JCM, JRM, JSM, JMS)

General purpose machine mounts. Different anti vibration versions depending on applications.



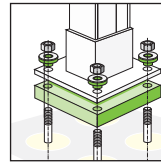
Isolated Foundations

Shock and vibration isolation for machine foundations and structures.



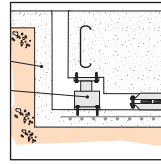
Acoustic Floating Floors

Used in commercial and industrial buildings to provide acoustic and vibration isolation to and from noisy areas.



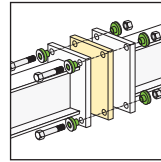
Acoustic Structural Bearings

Precision isolation of building structures and structural elements. Made to order elastomeric bearing pads to suit individual client requirements.



Coil Spring and Visco-elastic Damper Systems

Low frequency precision isolation systems for building structures and industrial equipment



Thermal Break Connection Plates and Washers

High performance yet economical thermal insulators used between flanged connections of internal and external steelwork and concrete to prevent thermal / cold bridging.