

AU Instruction for use

POWERTEX



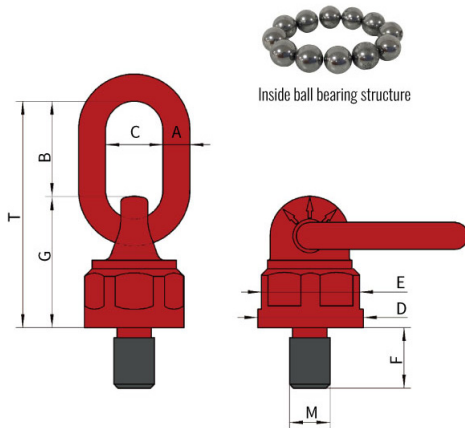
Lifting Point with ball bearing link LPB

User Manual



POWERTEX Lifting point with ball bearing link LPB Instruction for use (AU) (Original instructions)

Data and dimensions POWERTEX LPB



DIMENSIONS & TORQUE

Model	Thread M (mm)	F (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)	T Nm	Torque Nm
LPB-M8	M8 x 1.25-6g	12	12	44	30	40	37	46	98	10-40
LPB-M10	M10 x 1.5-6g	19	12	44	30	40	37	46	98	10-40
LPB-M12	M12 x 1.75-6g	19	12	44	30	40	37	46	98	15-40
LPB-M16	M16 x 2.0-6g	31.8	12	44	30	40	37	46	98	45-130
LPB-M20	M20 x 2.5-6g	38.1	20	67	40	70	64.3	76	160	100-170
LPB-M24	M24 x 3.0-6g	38.1	20	67	40	70	64.3	76	160	190-280
LPB-M30	M30 x 3.5-6g	50	22	95	51	79	74	91	206	270-600
LPB-M36	M36 x 4.0-6g	54	22	95	51	79	74	91	206	270-600
LPB-M42	M42 x 4.5-6g	63	26	108	65	93	85	100.5	230.5	350-800
LPB-M48	M48 x 5.0-6g	68	26	108	65	93	85	100.5	230.5	350-800
LPB-M56	M56 x 5.5-6g	84	32	120	70	105	95	132	278	350-900
LPB-M64	M64 x 6.0-6g	95	32	120	70	105	95	132	278	500-1000

Load diagram LPB

Working temperature -40° up to $+200^{\circ}\text{C}$ without reduction of WLL.

Note: The product is marked with the lowest WLL from the chart. In straight vertical lifting in the centerline of the bolt the WLL is allowed to be higher than the marked general WLL.

Australia WLL - based on AS 3776 & AS 3775
(Included angle)

Loading



Load angle	0°	90°	0°	90°	60°	90°	120°	Asymmetric
Load factor	1	1	2	2	1.73	1.41	1	1

Model	Working Load Limit WLL (t)							
LPB-M8	0.6	0.4	1.2	0.8	0.69	0.56	0.4	0.4
LPB-M10	0.9	0.6	1.8	1.2	1.0	0.85	0.6	0.6
LPB-M12	1.2	0.7	2.4	1.4	1.2	1.0	0.7	0.7
LPB-M16	2.6	1.5	5.2	3	2.6	2.1	1.5	1.5
LPB-M20	4	2.5	8	5	4.3	3.5	2.5	2.5
LPB-M24	7	4	14	8	6.9	5.6	4	4
LPB-M30	10	6	20	12	10.4	8.5	6	6
LPB-M36	15	10	30	20	17.3	14.1	10	10
LPB-M42	17	13	34	26	22.5	18.3	13	13
LPB-M48	18	14	36	28	24.2	19.7	14	14
LPB-M56	28	20	56	40	34.6	28.2	20	20
LPB-M64	28	20	56	40	34.6	28.2	20	20

WARNING

The work with lifting devices and equipment must be well planned, organised, and executed to prevent hazardous situations. In accordance with national statutory regulations lifting devices and equipment must only be used by someone well familiar with the work and having theoretical and practical knowledge of safe use. Before the equipment is used, the instruction manual must be read. It contains important information about how the equipment will work in a safe and correct way. Failure to follow the regulations of this instruction may cause serious consequences such as risk of injury. Apart from the instruction manual we refer to existing national regulations that may supersede these instructions.

General description

POWERTEX LPB Lifting points are intended to be used as lifting equipment to be mounted directly to the load in order to lift it or used as parts of a lifting assembly like lifting beam, lifting sling etc. LPB have a ball bearing swivel allowing it to rotate also under load. POWERTEX LPB lifting points meet all relevant requirements of the Machinery Directive 2006/42/EC and its latest amendments and relevant requirements of EN1677-1 and AS3776.

Use in adverse environments

Temperature's effect on working load limit (WLL): Account should be taken to the temperature that can be reached in service. POWERTEX LPB lifting points can be used in temperatures between -40°C and +200°C without reduction of the working load limits.

Acidic conditions: High strength lifting components should not be used either immersed in acidic solutions or exposed to acid fumes. For the same reason they must not be hot dip galvanized or exposed to electrolytic finishing without permission from the manufacturer.

Chemical affects: Consult with your distributor in case the products are to be exposed to chemicals especially combined with high temperatures.

Hazardous conditions: In particularly hazardous conditions including offshore activities, lifting of a person, and lifting of potentially dangerous loads such as molten metals, corrosive materials or fissile materials, the degree of hazard should be assessed by a competent person and the working load limit adjusted accordingly.

Use temperature range

-40 up to +200°C without reduction in WLL

+200 up to +300°C allowed with 10% reduction in WLL

+300 up to +400°C allowed with 25% reduction in WLL

Marking

POWERTEX LPB lifting points are generally marked with:

- Working Load Limit (WLL) e.g. WLL 0,4t
- Manufacturer's symbol e.g. POWERTEX or PX.
- Model name – Size e.g. LPB-M8
- Traceability code e.g. F2 (indicating a particular batch).
- Conformity marks CE + UKCA

Material and finish

POWERTEX LPB lifting points are forged from high strength alloy steel and parts are electro-static powder painted. Welded links are proof load tested 2,5 x WLL. Other load bearing parts are crack detection tested.

Selection

Select the type of lifting point, thread size and working load limit suitable for the particular application. If extreme circumstances, vibrations or shock loading may occur, this must be taken into account when selecting the correct lifting point.

Before first use

Ensure that the lifting points delivered corresponds to the order and that certificate and Declaration of Conformity is made available. Keep a register of all lifting equipment and make sure they are regularly checked to be fit for use.

Assembly and use

If any of these check points is not met the lifting point should not be used:

- Check that all markings are legible.
- Check there are no defects such as wear, deformation, cuts, nicks, gauges, cracks, corrosion or other visible defects that could affect the safety.

Ensure that the WLL of the lifting point is sufficient for the load to be lifted, see WLL chart. The lifting point shall be screwed tightly to the structure or load using a torque wrench. If risk of vibrations etc one should consider Loctite or other means of securing. Ensure after mounting that the lifting point can rotate and pivot freely without any obstructions in the intended angles of use. Tapped holes must be deep enough to allow the bottom of the lifting point to be supported by the contact surface. The threaded hole must be made perpendicular to the contact surface and the contact surface needs to be plane and dimensioned to accommodate the lifting point.

Recommended minimum thread lengths of different materials in relation to the metric thread diameter:

- 1 x M for steel
- 1,25 x M for cast iron
- 2 x M for aluminum alloys
- 2,5 x M for aluminum-magnesium alloys

When mounted, position the link so it can be connected directly to the lifting machine or to intermediate lifting equipment to perform the lifting operation.

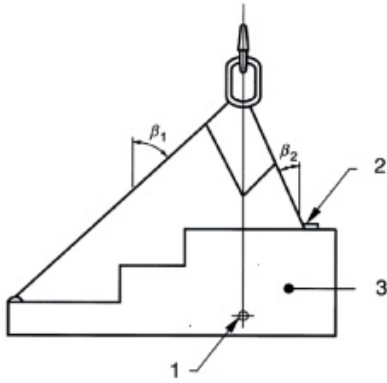
Safety when lifting

Working load limit of the lifting equipment must never be exceeded. Hands and other parts of the body should be kept away to prevent injury as the slack is taken up. The load should be raised slightly without shock and a check made to ensure that it is secure and assumes the position intended. Lifting personnel must be aware of the risks of swinging and tilting loads. Never allow persons or body parts under hanging load. Do not allow persons to ride on the load while the load is being lifted. The landing site should be well prepared. It should be ensured that the ground or floor is of adequate strength to take the load. It should also be ensured that there is adequate access to the landing site and that it is clear of any unnecessary obstacles and people. The load should be landed carefully ensuring that body parts are kept clear. Ensure the stability of the load when landed before removing the lifting equipment.

Center of gravity

To avoid swinging or rotation of the load it is important to position the lifting points symmetrically above the center of gravity of the load:

- For a 1-point lift the attachment point should be arranged vertically above the center of gravity.
- For a 2-points lift the attachment points should be arranged on each side of and above the center of gravity.
- For a 3- and 4-points lift the attachment points should be arranged symmetrically in a plane around and above the center of gravity. It is preferable that the distribution should be equal and that the attachment points are above the center of gravity.

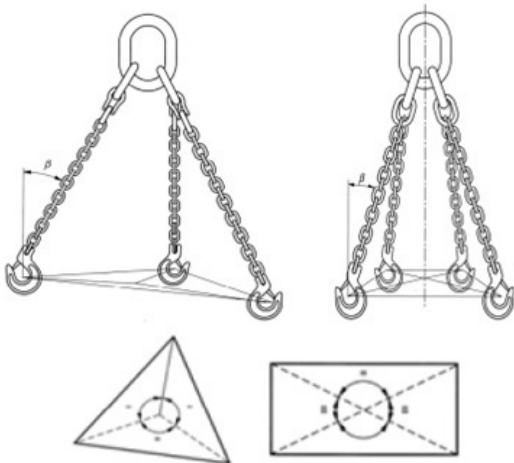


1. Centre of gravity
2. High tension in this leg
3. Load P

Load symmetry

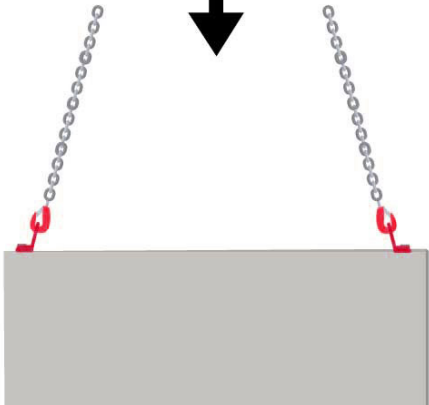
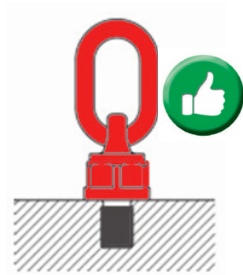
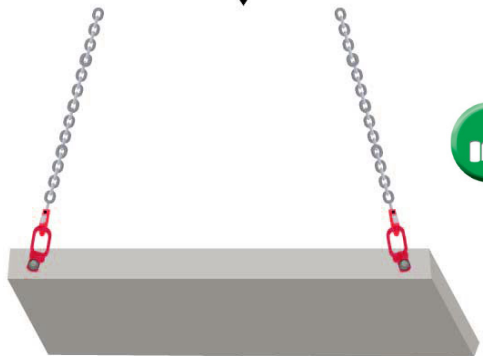
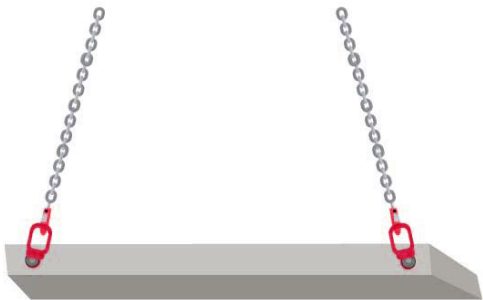
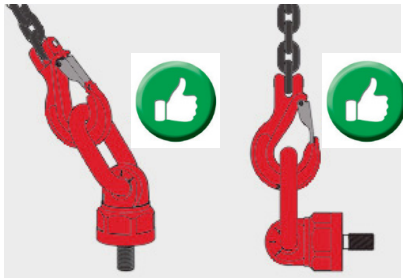
Working load limits (WLL) for the different configurations have been determined on the basis that the loading is symmetrical. This means that when the load is lifted the lifting points are symmetrically disposed in a plane and subtend the same angles to the vertical.

In the case of 2-, 3- and 4- leg chain slings, if the legs subtend different angles to the vertical the greatest tension will be in the leg with the smallest angle to the vertical. In the extreme case, if one leg is vertical, it will carry the entire load. When a sling is not symmetrically loaded each leg and lifting point shall be rated to the full load which is to be lifted, or it is considered as an engineered lift and a specialist to assess the lifting arrangement. According to AS3775 multileg slings shall be rated as two legs support the load and the other legs help to balance.



Symmetry of loading

Allowed use / Forbidden use



Storage of lifting points

When not in use lifting points should normally be kept on a properly designed rack. They should not be left lying on the ground where they may be damaged. If it is likely that the products will be out of use for some time they should be cleaned, dried, and protected from corrosion, e.g. lightly oiled.

Inspection and maintenance

Daily inspection

During service the lifting points are subjected to conditions that may affect their safety. It is therefore necessary to complete daily checks and ensure that the lifting points are safe for continued use. The lifting point should be withdrawn from service and referred to a competent person for thorough examination if any of the following is observed before each use:

- Check that all markings are legible.
- Check there are no defects such as wear, deformation, cuts, nicks, gauges, cracks, corrosion or other visible defects that could affect the safety.
- Check that the ball bearing swivel can rotate easily and do not have excessive play.
- Ensure that the WLL of the lifting point is sufficient for the load to be lifted.
- Ensure that the lifting point is screwed tightly to the structure and that the lifting point can rotate and pivot freely without any obstructions in the angles of use.

Thorough examination

A thorough examination should be carried out by a competent person at intervals not exceeding twelve months. This interval should be less were deemed necessary in the light of service conditions. Records of such examinations should be maintained.

The products should be thoroughly cleaned to be free from oil, dirt and rust prior to examination. Any cleaning method which does not damage the parent metal is acceptable. Methods to avoid are those using acids, overheating, removal of metal or movement of metal which may cover cracks or surface defects.

Adequate lighting should be provided to detect any signs of wear, distortion or external damage.

Components that are worn, deformed, cracked, visibly distorted, severely corroded or have deposits which cannot be removed should be discarded and replaced. Minor damage such as nicks and gouges may be removed by careful grinding or filing. The surface should blend smoothly into the adjacent material without abrupt change of section. The complete removal of the damage should not reduce the thickness of the section at that point to less than the manufacturer's specified minimum dimensions or by more than 10% of nominal thickness of the section. Check condition of the threaded bolt. Check that the ball bearing swivel can rotate easily and do not have excessive play.

Repair: Use only original spare parts.

End of use / Disposal

The lifting points shall be sorted / scrapped as general steel scrap.

Disclaimer

We reserve the right to modify product design, materials, specifications or instructions without prior notice and without obligation to others.

If the product is modified in any way, or if it is combined with a non-compatible product/component, we take no responsibility for the consequences regarding the safety of the product.

EC Declaration of conformity

SCM Citra OY

Aessorinkatu 3-7

20780 Kaarina, Finland

www.powertex-products.com

hereby declares that POWERTEX product as described above is in compliance with EC Machinery Directive 2006/42/EC.

UK Declaration of conformity

SCM Citra OY

Aessorinkatu 3-7

20780 Kaarina, Finland

www.powertex-products.com

hereby declares that the POWERTEX product as described above is in compliance with the Supply of Machinery (Safety) Regulations 2008.

Marking

The POWERTEX lifting points LPB are **CE** and **UKCA** marked.



User Manuals

You can always find the valid and updated User Manuals on the web.
The manual is updated continuously and valid only in the latest version.

NB! The English version is the Original instruction.

The manual is available as a download under the following link:
www.powertex-products.com/manuals



Product compliance and conformity



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