MecLev®

MECHANICAL LEVELLING

BROCHURE

ADJUSTABLE • SELF LEVELLING • ECONOMICAL • RE-USABLE

Version 1.0

www.meclev.com

MECLEV® (MECHANICAL LEVELLING)

The MecLev® is an adjustable and re-usable steel mounting chock, that can be used for mounting all types of rotating or critically aligned machinery. The MecLev® is a mechanical stiff chock that is very easy to install and makes machinery alignment more simple, accurate and quick! The self-levelling feature (spherical top part adjust itself to the correct angle when installing the element) in combination with height adjustment, helps eliminate the risk of soft foot problems underneath your machinery!

WHY USE MECLEV® INSTEAD OF EXISTING SOLUTIONS?

- MecLev® elements help to align and re-align your machinery quick and accurate
- MecLev® guarantees fast and simple elimination of soft foot under your machinery
- MecLev® elements eliminate time consuming and expensive machining of steel chocks
- MecLev® elements eliminate the extra work required when installing epoxy resin chocks
- MecLev® elements are re-usable
- MecLev® elements are self-levelling
- MecLev® elements can handle angular difference between machine foot and foundation up to 4°
- MecLev® offers the highest adjustable range on the market for adjustable chocks
- MecLev® offers the highest rated load on the market for adjustable chocks
- MecLev® offers the best mechanical properties on the market for adjustable chocks
- MecLev® elements are designed by people with more than 25 years of field experience

Years of field experience, combined with the newest calculation methods have resulted in an exceptional design with already proven success, making MecLev® the best adjustable chock design on the market.

STRONG DESIGN

The MecLev® range consists of 10 different elements, based on most commonly used foundation bolt sizes in various configurations. The standard MecLev® elements covers the whole range from M12 up to M72 sized bolts.

Dependable calculation and field test methods, resulted in elements that offer you not only the highest load ratings compared to other available adjustable chocks on the market, but also the most compact design while offering the highest adjustment range.

The unique high mechanical stiffness properties results in as good as zero deformation when exposed to extreme high pressures. This makes alignment of your machinery more fast and easier than ever.
The high load rating properties makes the MecLev® appropriate for mounting even the heaviest applications with no risk of failure. (plastic deformation, cracks etc.)

MecLev®

STANDARD SURFACE TREATMENT

All standard steel MecLev® elements are treated with a QPQ treatment (Quench Polish Quench), which gives the elements its gunmetal look. The element parts are individually treated to achieve the highest quality.
The QPQ treatment gives the MecLev® some important mechanical benefits:

- High resistance against corrosion;
- High resistance against metal fatigue;
- High wear resistance;
- Low surface roughness, Ra0,5.
  (results in smooth running parts!)

As an extra protection against corrosion and debris in the thread, we advise you to treat the elements with tectyl or similar protective product to increase the elements lifecycle to a maximum.

BUTTRESS THREAT DESIGN

The MecLev® elements are provided with an so called DIN metric buttress thread type. This type of thread is specially designed to withstand large axial forces. The MecLev® thread design results in an high mechanical stiff and strong chock.

MOUNTING YOUR MACHINERY WITH MECLEV® ADJUSTABLE CHOCKS

MecLev® elements are specially designed to make mounting of your machinery simple, quick and reliable. The MecLev® elements offer you the highest mechanical stiffness, largest adjusting range and most compact solution on the market for mechanical chocks.

Working with MecLev® elements can help you save time and reduce costs occurring from working with conventional steel chocks. It eliminates repeating re-alignments and the need for time consuming ''mill and shim'' methods to get your machinery aligned. Compared to epoxy resin chocks, time can be saved because MecLev® elements requires no damming work and curing times.

The spherical top part and height adjustable middle part of the MecLev® ensures that the elements can be installed in many configurations, since height and angular differences between mounting surfaces are no problem. Since MecLev® offers you the highest adjustment range in the industry, elements can be installed easier and in more configurations than ever.

Many year of field experience is used to design this enhanced mechanical chock that will help you to reduce costs and make machinery alignment for numerous applications a less difficult job!

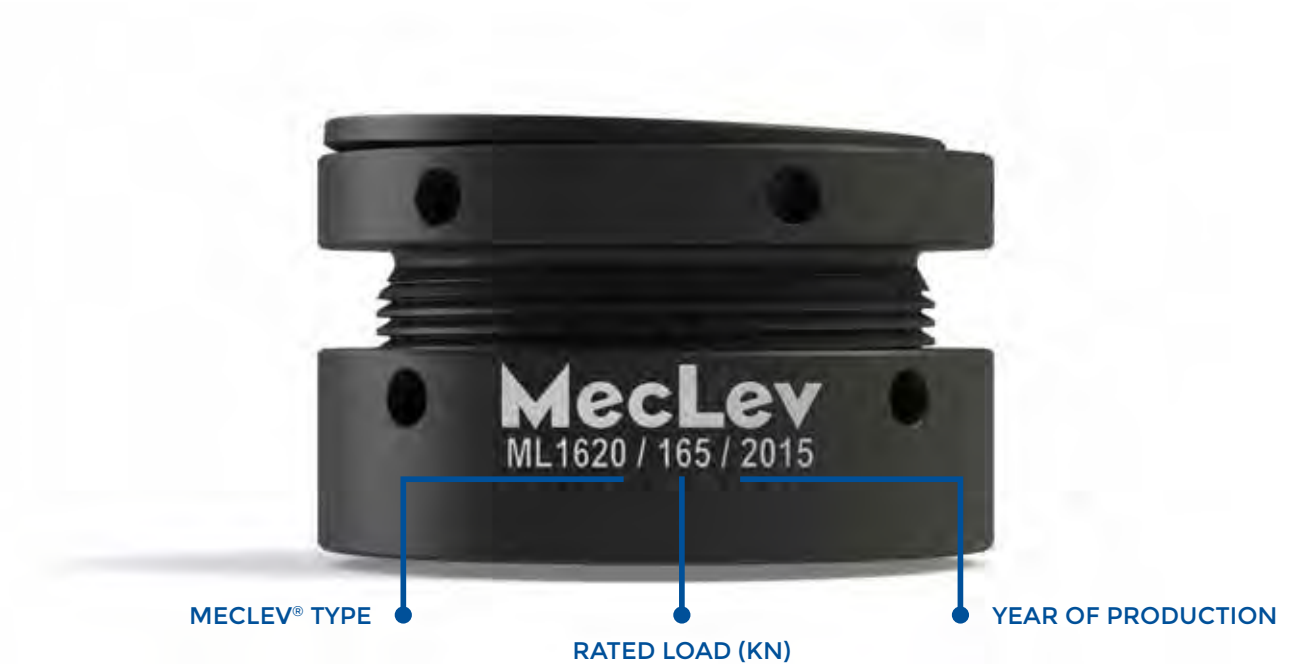
Parts MecLev®

MOUNTING YOU MACHINERY CAN NOW BE DONE IN 5 STEPS

1. Align your machinery with a jacking device like adjustment bolts or hydraulic jacks
2. Put the MecLev® elements in place
3. Release the jacking devices
4. Tighten the foundation bolts to required torque
5. Check the alignment and perform a soft foot check

MECLEV® TYPE MARKING

For quick and simple identification, each MecLev® is marked with type identification, rated load and year of production.



MOUNTING KITS

Since a mechanical chock on its own might not be enough to mount your machinery properly, Meclev® offers you the option to order complete mounting kits. These kits may include:

- Meclev® elements
- Adjusting tools
- Additional bottom rings /extended bottom parts
- Foundation bolts
- 42CrMo4 Spherical Extension Sleeves / 42CrMo4 extension sleeves
- Fitting bolts
- Nuts /castle locknuts
- Side stoppers / collision chocks
- Bolt torque calculations
- Plan approval certificate of the classification of your choice

Fitting bolts

Spherical Extension Sleeve

Collision chocks

SELECTING YOUR MECLEV®

Selecting the right Meclev® for your application is an easy task. Verify the mounting bolt size of your application and choose the corresponding size Meclev® with help of the below table. To check if the dimensions and mechanical properties of the elements are acceptable for your application, take note of the following issues;

- Is the element high enough? (New installation?, calculate with nominal height element!)
- Will the bottom ring of the element be fully supported?
- Is there enough distance between the foundation bolts (pitch) to place the elements?
- Will at least 75% of top part be supported by the machine foot?
- Will the load not exceed the maximum load rating of the selected element?

When the installation height is an issue, it is possible to reduce or extend the height of the MecLev®. Please visit our website (www.meclev.com), or contact your local MecLev® dealer for more information about the various possibilities.

TYPE APPROVALS

Meclev elements are produced according to the highest European standards. If required, they can be delivered with type approval certificates from all major marine and offshore certification agencies. For more information and details, please contact one of the companies mentioned below.

MORE DETAILED INFORMATION AND MOUNTING INSTRUCTIONS?

Please visit our website (www.meclev.com) or contact your local MecLev® dealer!

MECLEV® SELECTION TABLE

MecLev size	Bolt size	Tightening torque	Bolt size	Tightening torque	Bolt size	Tightening torque	Minimal height	Nominal height	Maximum height	Minimum reduced height	Maximum extended height	Bolt hole	Outside diameter	Key holes	Pitch	Rated load	Weight
-	M	Nm	M	Nm	M	Nm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kN	Kg
ML-1216	12	81	14	129	16	200	30,0	34,0	38,0	23	55	17	55	5	2	120	0,5
ML-1620	16	200	18	287	20	405	35,0	41,5	48,0	23	75	21	75	6	2	165	1,1
ML-2024	20	405	22	556	24	698	40,0	46,5	53,0	28	95	25	95	8	2	245	2
ML-2430	24	698	27	1033	30	1402	45,0	53,0	61,0	30	115	31	115	8	2	320	3,3
ML-3036	30	1402	33	1898	36	2439	50,0	58,0	66,0	35	130	37	130	8	2	500	4,6
ML-3642	36	2439	39	3159	42	3904	55,0	63,0	71,0	40	150	44	150	8	2	700	6,7
ML-4248	42	3904	45	4876	48	5897	60,0	68,0	76,0	45	180	50	180	10	2	955	10,5
ML-4856	48	5897	52	7579	56	9454	70,0	79,0	88,0	53	210	60	210	10	3	1265	16,8
ML-5664	56	9454	60	11729	64	14119	75,0	84,0	93,0	58	220	66	220	10	3	1490	19,6
ML-6472	64	14119	68	*	72	*	80,0	89,0	98,0	63	240	74	240	10	3	1840	27,5

TIGHTENING TORQUE ACCORDING VDI 2230

- Thread friction = Bearing area friction = 0.15 (light oiled)
- Maximum % Yield in bolt material= 75%
- Dimension hexagon head bolt according: ISO4014:1999 Hexagon head bolts - Product grades A and B
- Dimension thread according: DIN13-1 :1999-11 General purpose ISO metric screw threads - Nominal sizes for 1 mm to 68 mm diameter coarse pitch threads
- Bolt material class 8.8 according: ISO898-1:1999 Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread
- Check minimum required bolt elongation (>0.25mm) in combination with specified tightening torque, bolt elongation is increased with MecLev® Spherical Extension Sleeves
- For bolt sizes >M64 please contact your MecLev® dealer

When none of the elements suits your application, please contact MecLev® for a tailor made solution!

SOUNDOWN
FOR PEACE AND QUIET

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