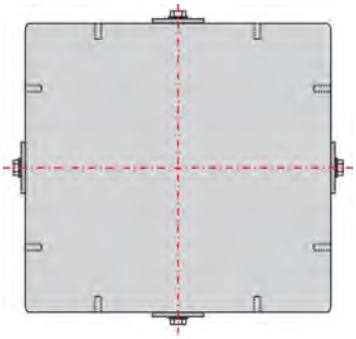
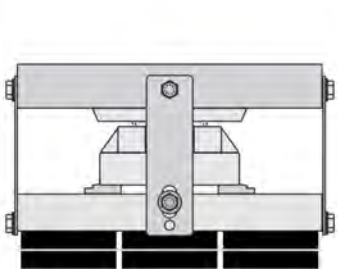
Foundation Design Guidelines for

MXLP Micro/Level® Isolators





Vibro/Dynamics Technologically Advanced Machinery Mounting Systems are an investment in productivity and efficiency. To realize the full potential of your investment, familiarize yourself with these instructions and use them as a reference during the installation.

The way that your machine is installed has a significant effect on its performance. The four conditions required for a good machine installation and best performance are:

- **Machine bed in one plane (level)**
- **Precise alignment and parallelism of machine structure**
- **Proper support**
- **Effective control of vibration.**

Vibro/Dynamics Isolators make it possible to accomplish all of these steps to an ultra-high degree of precision and to do so very quickly. When the machine is fine-tuned and leveled, the machine will produce high quality parts with minimum wear and tear on dies and machine components. Downtime, noise, and vibration will be reduced, and productivity and efficiency will be increased.

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FOUNDATION DESIGN GUIDELINES FOR MXLP MICRO/LEVEL® ISOLATORS

Incorporating the following information early into your foundation design allows you to take full advantage of the productivity and efficiency enhancing capabilities of Vibro/Dynamics Machinery Installation Systems.

Determining Pit or Foundation Dimensions

1. **Foundation piers must be poured so that the press is at its desired elevation. Isolator target height must be taken into account. See Isolator Specification Sheet for target height dimension. The isolator is shipped at its mid-range adjustment. Isolator height range is ± one inch from the target height dimension.**

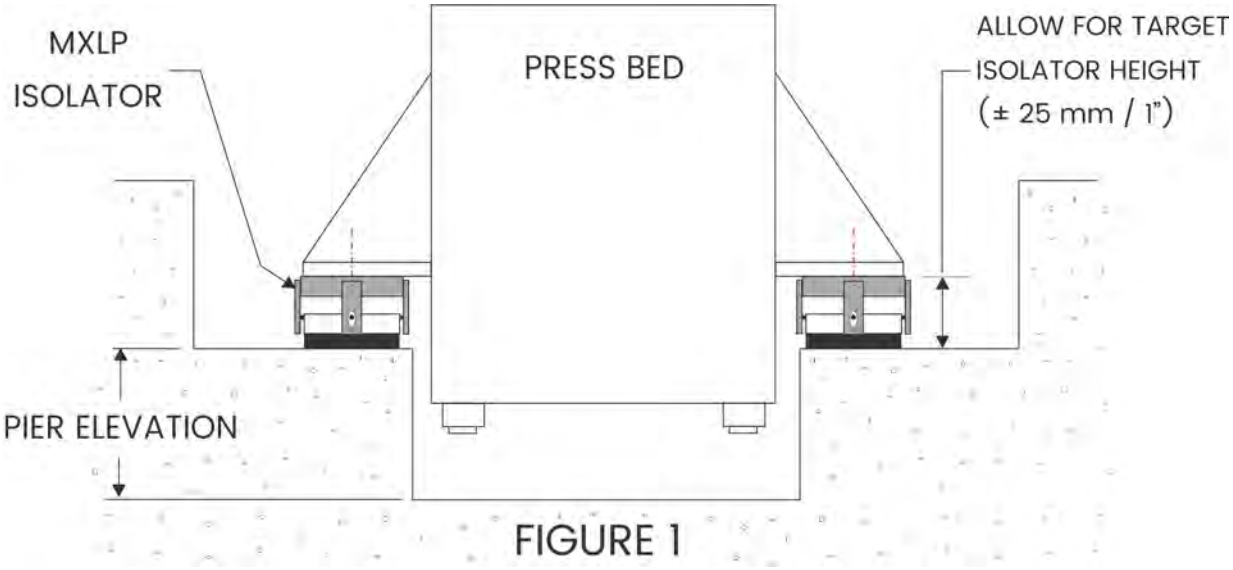

FIGURE 1

2. **The concrete surface under the isolator should be level and have a trowel finish. The foundation pier should be large enough, so the isolator does not overhang. There should not be any holes, cracks, or lumps in the area directly under the isolator. Remove all loose concrete, grout, chips, oil, grease, and water from the press foot and concrete surface that will support the isolator.**

3. **The difference in elevation between foundation piers should not exceed 0.25 inch (6 mm). See Figure 2. The leveling feature in Vibro/Dynamics Isolators will compensate for any remaining difference.**

4. **The slope of the foundation pier level under the isolator should not exceed 2° (0.42 inch/foot or 35mm/m).**

5. **The flatness of the foundation pier under the isolator should not exceed ±1/16 in. (±1,6mm).**

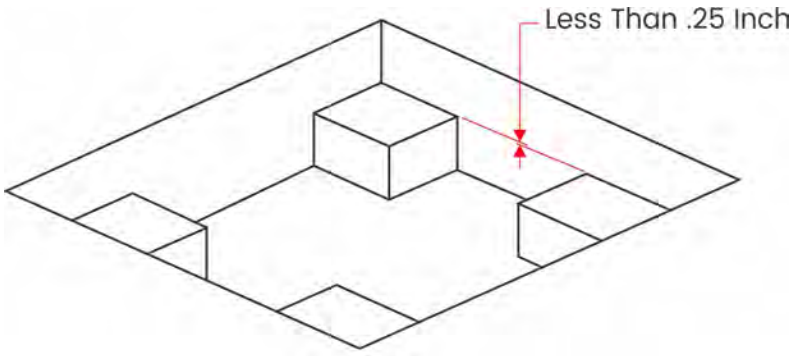

Figure 2

6. **Clearance should be provided in either the X or Y direction to allow for the installation and removal of the isolator and access to make leveling adjustments to the isolator. See Figure 3 and Table 1.** ***Note: It may be possible to remove the isolator by moving it toward the center of the press and then into a pit but providing clearance around the isolator is the absolute preferred method.***

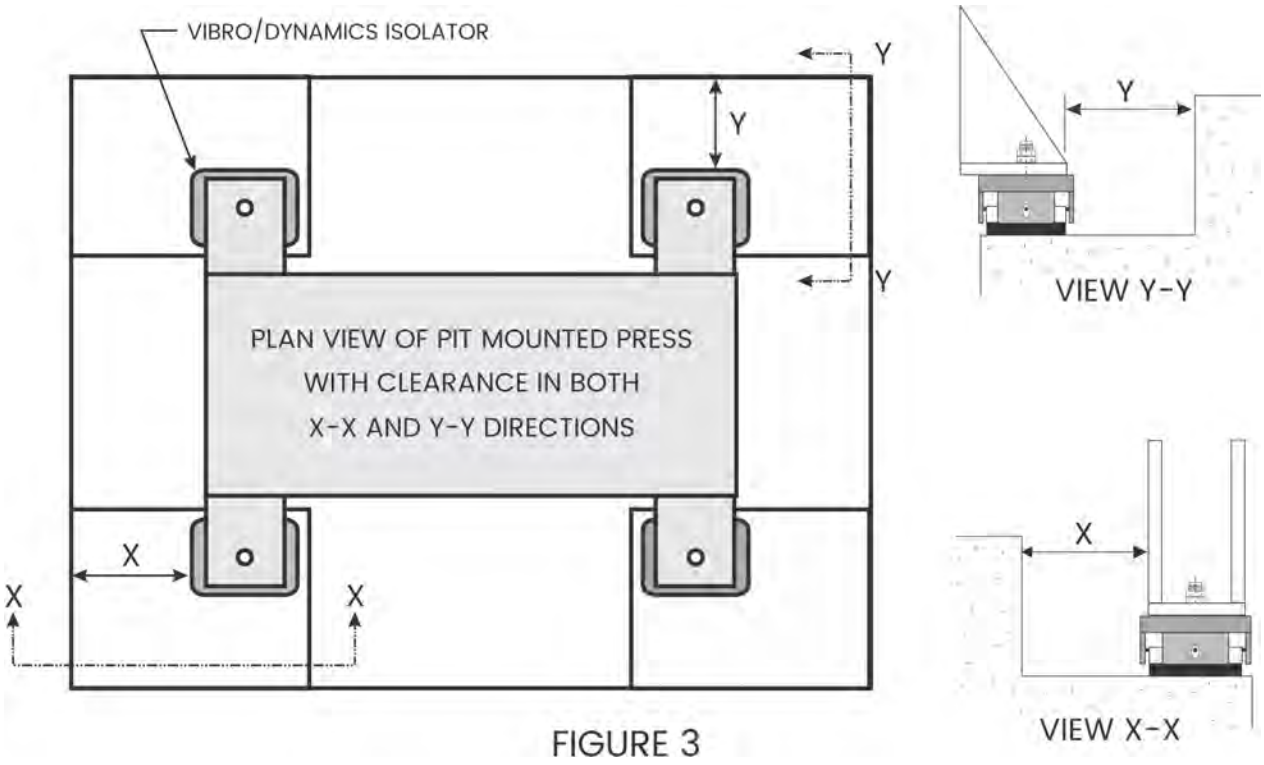

FIGURE 3

TABLE 1

ISOLATOR MODEL	DIMENSION "X" (Minimum)	DIMENSION "Y" (Minimum)	LIFTING HOLE SIZE
24MXLP & 25MXLP	24" (610 mm)	18" (457 mm)	5/8-11 UNC
30MXLP & 31MXLP	35" (889 mm)	18" (457 mm)	1-8 UNC
33MXLP & 34MXLP	33" (838 mm)	24" (610 mm)	1-8 UNC
35MXLP & 36MXLP	35" (889 mm)	33" (838 mm)	1-8 UNC
44MXLP & 46MXLP	46" (1168 mm)	33" (838 mm)	1-8 UNC

Note:
All MXLP isolators have lifting holes in the side of the isolator housing. The number of holes and location vary depending on the isolator model. Hoist rings, or eyebolts of sufficient strength, are to be supplied by the customer.

Additional Considerations

7. **There should not be any solid connections between the machine and the foundation or building structure. Flexible connections are recommended for all plumbing and electrical conduit. Floor plates, walkways, railings, feeds, rolling bolster rails, etc. should *not* be attached to *both* the machine and the floor, foundation or building. Rigid connections will "short-circuit" isolation effectiveness. See Figures 4 and 5 below.**

Additional Preparation for Presses with Rolling Bolsters

8. **If the press is going to be equipped with a rolling bolster, special consideration should be given to the installation of the support beams/rail that span between the floor and the press bed. Rigid connections will cause the transfer of vibration and shock into the surrounding area, causing a "short-circuit" in isolator effectiveness. Also, make sure that the foundation floor and *not* the press structure supports all floor plates and decking.**

One of the following methods, shown in Figures 4 & 5, should be used. Either method will allow the press to move slightly up and down during operation and not restrict leveling adjustments.

Method One (Figure 4)

- **Cantilevered rolling bolster beams/rails are bolted and grouted into the floor across from the press bed and bolster plate. They span the distance from the edge of the foundation pit to the edge of the press bed. The cantilever length should be as short as possible. There should be a gap (2 mm / 1/16" min.) between the cantilevered beam and the edge of the bed and the cantilevered beam and the supporting shelf to eliminate any rigid contacts.**
- **As the rolling bolster rolls over the cantilevered beam, it deflects slightly until the shelf below supports it. The elevation of the beam/rail should be adjusted accordingly.**
- **The end of the beam/rail can also be supported by a vertical beam supported by the foundation pit or floor similar to the floor plate and decking recommendation shown in Figure 4.**
- **Beams connected to the foundation and not the press should be used to support all decking and floor plates.**

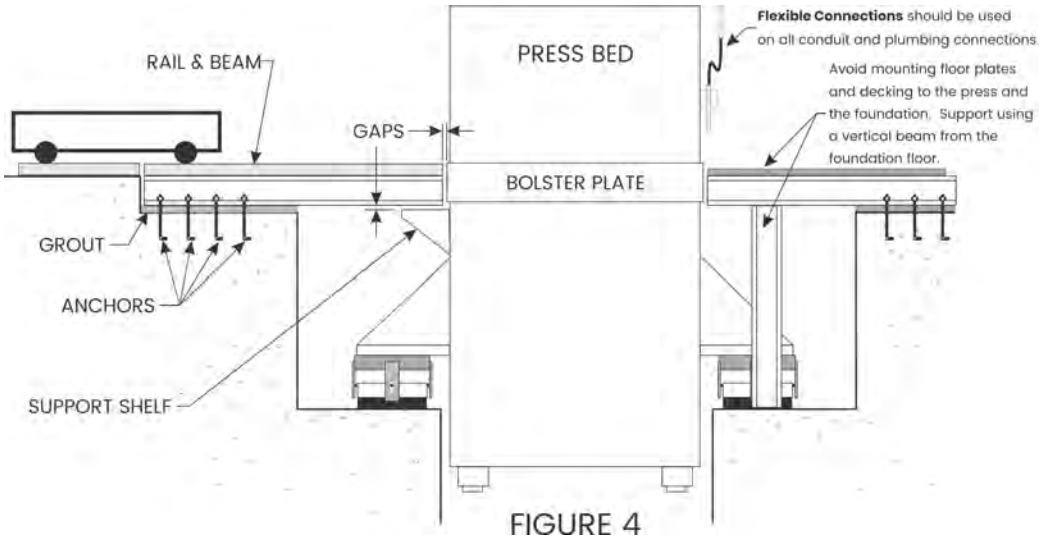

FIGURE 4

Method Two (Figure 5)

- **In this method, each rolling bolster beam is divided into two. One section is anchored to the floor and the other is designed to float with the press. The ends of the floating sections are supported by pivot points located at the edge of the pit and on the press, bed as shown in Figure 5. The beam/rails are restricted from moving horizontally using guide pins and clearance holes or stops welded on the support shelf to contain the sides of the beam/rails.**
- **The mating ends of the rails are diagonally cut (see View C-C) to minimize the gap as the rolling bolster wheel travels across the split.**
- **All floor plate and decking should be supported by the foundation and *not* by the press.**

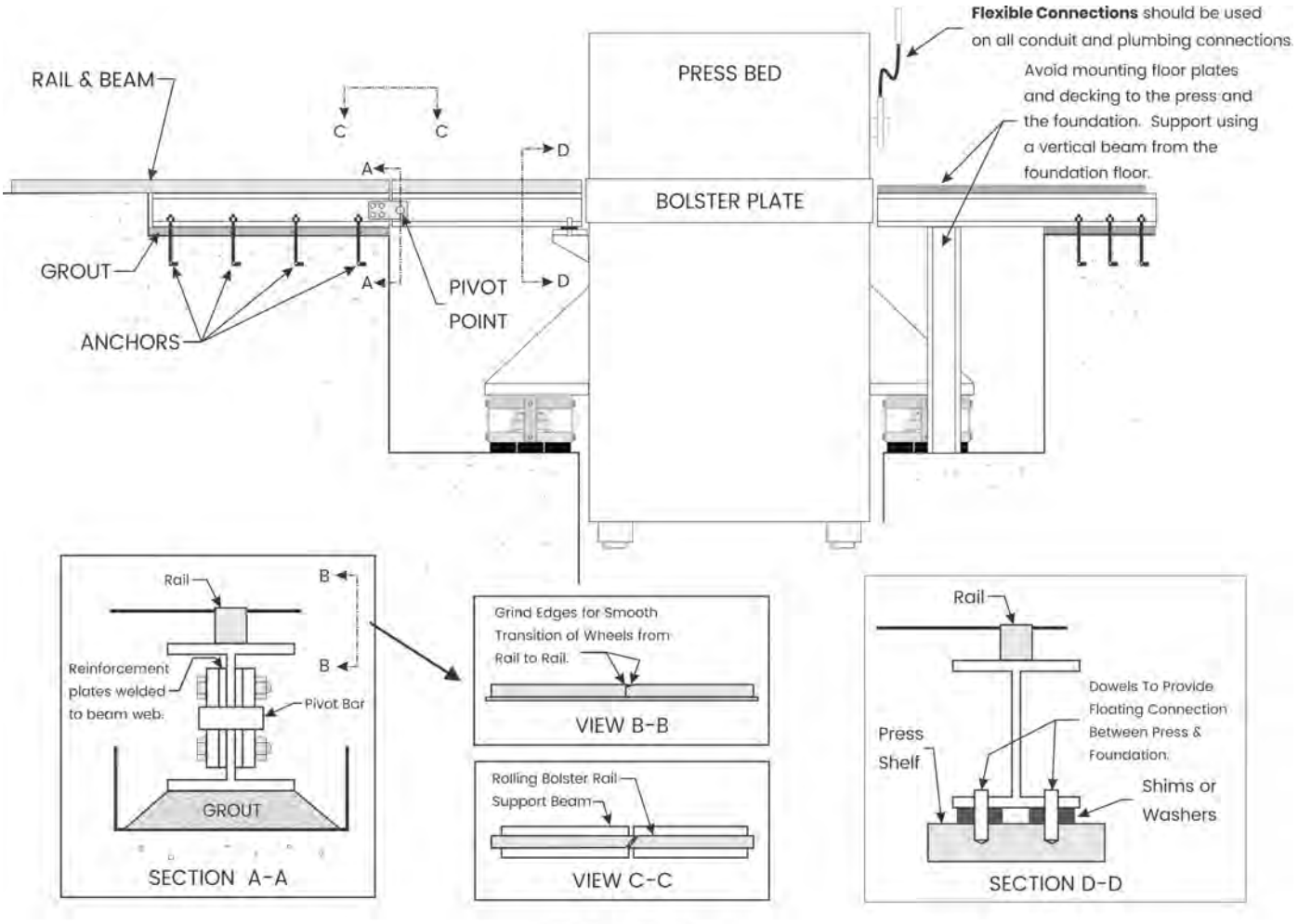

FIGURE 5

Call or write for assistance:

VIBRO/DYNAMICS LLC
2443 Braga Drive, Broadview, IL 60155-3941
E-Mail: vibro@vibrodynamics.com

1-800-842-7668 USA only
1-708-345-2050 Tel.
1-708-345-2225 Fax