Due to substantial investigations and measurements in practical operation, the following approximate values can be presumed:

1. Pump motor adapter with dampening flange: 3 to 6 dB(A)
2. Dampening bar VSM: 3 to 4 dB(A)
3. Pump motor adapter with dampening flange and dampening bar VSM: 6 to 8 dB(A)

The maximum values can be achieved when it is possible to reduce the resonances in the power unit with the aid of a dampening element, these resonances might arise, because the main exiting frequency of the hydraulic pump corresponds to the natural frequency of machine parts with large surfaces.

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**DAMPENING FLANGE**

The flexible dampening flange renders possible and efficient structure-borne noise separation directly at the hydraulic pump.

*Average expected reduction of airborne noise: 3 - 6 dB(A)*

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**DAMPENING BAR**

The flexible dampening bar prevents the transmission of structure-borne noise between pump/motor and aggregate.

*Average expected reduction of airborne noise: 3 - 4 dB(A)*

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**DAMPENING FLANGE and DAMPENING BAR**

Both dampening flanges and dampening bars render possible and optimum of structure-borne noise dampening of pump and motor.

*Average expected reduction of airborne noise: 3 - 4 dB(A)*
ABOUT THE DAMPENING FLANGE

- Locked vulcanized design - not bolted together
- High weight loading possible (with multiple pumps)
- Excellent dampening properties
- Excellent resistance against ozone and oil
- Integral sealing lip - no additional sealing required
- Fully machined to most SAE 2 & 4 bolt and ISO 2 & 4 bolt mounting flanges
- Easily bolts to LDI Dampening Flange Adapter
- Can be mounted horizontally or vertically
- Furnished as complete assembly only

**NOTE:** Special pump and metric flanges also available - Consult factory.

### SELECTING A DAMPENING FLANGE

The first step in selecting a dampening flange is to insure that the torque required by your pump does not exceed the maximum rating of the dampening flange. The torque required by the pump is determined by the pump displacement and maximum operating pressure. This information is typically available from the pump Manufacturer’s Website. Once this maximum torque is known, it cannot exceed the nominal torque rating of the dampening flange in the chart below. The maximum torque in the chart below is what the pump will require at start up but generally, this is not an issue. If in doubt, compare the motor torque at stall with the maximum torque in the chart. As long as the motor torque at stall is less than the maximum value in the chart, there should be no issues.

<table>
<thead>
<tr>
<th>Dampening Flange</th>
<th>D150</th>
<th>D190</th>
<th>D230</th>
<th>D260</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Torque Rating (lb in)</td>
<td>638</td>
<td>4425</td>
<td>7080</td>
<td>9956</td>
</tr>
<tr>
<td>Maximum Torque Rating (lb in)</td>
<td>2213</td>
<td>13275</td>
<td>21240</td>
<td>29869</td>
</tr>
</tbody>
</table>

### DAMPENING FLANGE FOR A HORIZONTAL INSTALLATION

To select the proper dampening flange for your application, you will need to know the weight of your pump and the distance from the mounting flange to the location of the pump weight (center of gravity). This information is available from the pump Manufacturer.

If the location of the center of gravity is not known, a reasonable approximation can be determined by assuming it is 2/3 the total length of the pump from the mounting flange.

The maximum pump weight for each of the dampening flanges is given in the chart at the top of the following page. Also in the chart is the maximum distance from the mounting flange that the maximum pump weight can be located at. As the distance to the center of gravity of the pump goes beyond the maximum distance in the chart, the allowable weight of the pump decreases. Note that even if the distance to the center of gravity of the pump is LESS than shown in the chart, the maximum weight of the pump cannot exceed that shown in the chart.

Dimensions and specifications are subject to change without notice. Not all items are Made-To-Stock, contact us for availability.
Also shown in the below chart is the maximum movement (weight multiplied by distance) that each of the dampening flanges is rated for. The chart at the top of the following page will quickly narrow down the choices of acceptable dampening flanges.

<table>
<thead>
<tr>
<th>Dampening Flange for Vertical Installation Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dampering Flange</td>
</tr>
<tr>
<td>Maximum Pump Weight (lb)</td>
</tr>
</tbody>
</table>

For other center distances Lx the permissible load may be calculated.

If you choose to calculate whether or not your pump is acceptable for the dampening flange you have selected, simply take the weight of the pump and multiply it by the distance from the mounting flange to the pump’s center of gravity (a moment) and compare it to the maximum moment listed in the chart. If your calculated moment does not exceed the moment in the chart, you have selected an appropriate dampening flange.

An alternate method of confirming your selection would be to use the appropriate graph below once you’ve tentatively selected a dampening flange. To do so, simply locate the curve on the graphs for your flange selection. Next, on the vertical axis, locate the weight of your pump and make a horizontal line. From where your horizontal line intersects the curve for your flange, drawn a vertical line all the way to the bottom axis which is the maximum distance from the dampening flange that pump weight can be applied. Compare the distance to the center of gravity of your pump to that value. As long as the distance to the center of gravity of your pump is LESS than the distance shown where your vertical line meets the horizontal axis, your pump selection is valid.

You are now ready to order your dampening flange from LDI Industries.