In a conventional damper design, a series of holes becomes blocked when the piston is run into the cylinder house. This results in short-time peak forces each time a new hole is blocked. In contrast, the Kvenna EMT damper design is based on a continuous damping element. This results in a continuous and smooth damper reaction with good control of the reaction force.

A given Kvenna EMT damper can be easily adjusted for a broad range of module sizes by exchanging the damping element. This results in cost-effective production as there is only a single inexpensive component that can be custom-tailored while all other components (housing, piston, refill system) are of standard size.

The Kvenna EMT damper can be easily dismantled and retro-fitted on-site with a different damping element if unforeseen deviations in the weight measurement or landing speeds need to be accounted for.

No welded components are used in the Kvenna EMT damper design. This gives good control of the material properties (no heat affected zone), surface finish (simplified NDT requirements) and dimensional control (no residual weld stresses).
GENERAL INFORMATION

DESIGN BENEFITS

- Cost effective product
- Compact
- New Technology - Smooth damping characteristics
- Self-charging System
- Operation Friendly
- Environmentally Friendly
- LEAN Designed to Customer Requirements

TYPICAL TECHNICAL DATA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Water Depth:</td>
<td>3000m</td>
</tr>
<tr>
<td>Damping Force Range pr. cylinder:</td>
<td>2 to 250 tonnes</td>
</tr>
<tr>
<td>Manifold weight submerged</td>
<td>3 – 900 tonnes</td>
</tr>
<tr>
<td>Design Life</td>
<td>0-25 years</td>
</tr>
</tbody>
</table>

Cathodic Protection and/or Insulation
Kvenna EMT damper design is based on a continuous damping element. This results in a continuous and smooth damper reaction with good control of the reaction force. Below you can see a typical Damping Curve for one of our Soft Landing Cylinders.