

THE CHOICE

PULSATION DAMPENER TECHNOLOGY USED IN DRILLING TODAY

CONTINENTAL EMSCO PD55/A

A low-pressure, gas-charged pulsation dampener with a bell-shaped bladder.

..... Two Variants



Standard - Features a grate at the bottom of the dampener and a bladder with a solid rubber base extending to the grate when charged.

Modified - Doesn't have a grate but uses an adapter plate with a conical surface and a bladder with a metal plug molded into the base that extends to the adapter plate, sealing the vessel when charged.



Pros

- Cost-effective
- Readily available
- Lightweight
- Small footprint



Cons

- Isn't scalable with advancing pressure requirements
- Requires nitrogen gas charge
- A potential safety hazard when gas cylinders aren't clean
- Prone to burrs and pits, causing premature bladder failure

HYDRIL K20

Fitted with a diamond-shaped bladder and functions like a PD55/A

Knockoff Models: Chinese KB75, Matco M20, PPC PD20



Pros

- Multiple pressures available
- Made from forged steel
- Readily available
- Lightweight
- Small footprint



Cons

- Poorly designed conical surface in adapter plate leads to bladder chatter, shortening bladder service life
- Requires nitrogen gas charge
- A potential safety hazard when gas cylinders aren't clean
- Gas-charged bladder failure increases downtime due to maintenance

HYDRIL PASAAFE R120

A multiple pressure rated, reactive spring pulsation dampener, it functions by choking the vessel discharge port to retain pumped media and reduce pulsations.

Knockoff Models: Matco SP140, PPC DR130



Pros

- Multiple pressures available
- Readily available
- Made from forged steel
- Flow through dampener
- No gas charging required



Cons

- Very expensive - Ranging from \$55K to \$100K per dampener
- Very heavy - Ranging from 8,400 lbs to 15,600 lbs per dampener
- Significant footprint issues - Required room needed ranges from 81" to over 102"
- Needs regular draining and flushing to maintain needed volumes to work

SIGMA'S CHARGE FREE DAMPENER™

10,000 PSI rated pulsation dampener that uses both compression and kinetic energy exchange.



Pros

- Accommodates next wave of pressure requirements
- Delivers exceptional pulsation control and increased MWD signal detection utilizing Sigma's Charge Free Conversion Kit
- Lightest 10,000 PSI drilling dampener on the market
- Made with forged steel
- Easy and worry-free maintenance
- No gas charging required
- Readily available
- Corrosion-resistant surfaces
- Hidden fasteners
- Compact - 25" OD

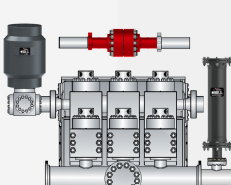


Cons

- Not a flow through dampener

SIGMA'S CHARGE FREE DAMPENING SYSTEM™

10,000 PSI rated advanced multi-staged pulsation control system designed for maximum performance and cost savings.



Pros

- All the advantages of the Charge Free Dampeners with the added benefits of a Charge Free Suction Stabilizer and an Acoustic Assassin. Sigma's Charge Free Dampening System is the most advanced complete pump performance system.



Cons

- None known

When it comes to mud pump performance, you need to make the right pulsation dampener decision. Consult with a Sigma Drilling Technologies expert today to discuss your company needs.



Sigma Drilling Technologies

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