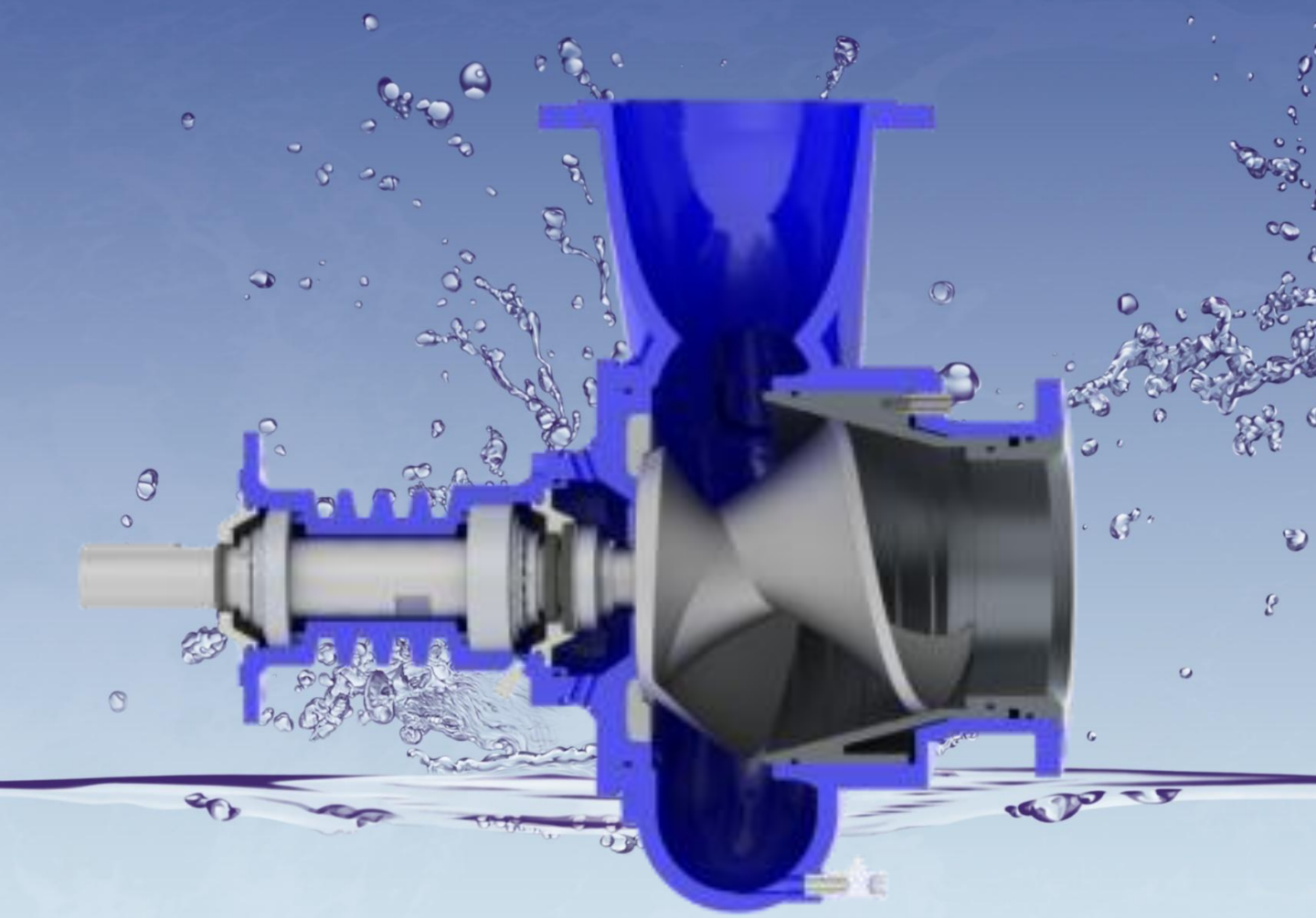
SIP-SERIES

NPSHr



impulse®
Dewatering Technologies

Impossible to live without water

SIP-SERIES – NPSHr & Suction Lift

The SIP Series screw impeller pumps are designed for mobile applications such as construction drainage, sewage bypass, and dewatering where suction conditions vary per project. Standard NPSHr (Net Positive Suction Head required) values are not published for these pumps.

NPSHr for Mobile Pump Applications

Impulse does not provide NPSHr values, as they are not of practical relevance for this application. The SIP Series consists of mobile pump units that operate under highly variable pumping conditions. Because these pumps are not typically used in fixed installations, NPSHr and NPSHa values do not provide meaningful or reliable guidance.

Practical Field Guidance

Instead of NPSHr curves, the SIP Series uses practical suction lift guidelines based on field testing and operational experience. Recommended operational guideline: Keep suction lift < 5 meters whenever possible.

Above 4-5 meters suction lift by full flow: Cavitation will generally occur. Cavitation does not prevent the pump from functioning. Cavitation may increase wear on impellers and wear plates. Cavitation does not cause immediate pump failure. SIP pumps are mechanically capable of operating under cavitation conditions, and this behavior is considered acceptable for the intended mobile applications. This wear characteristic is normal and manageable

Usage Recommandation for Rental Applications

For rental or temporary pumping jobs:

- Users should be informed when operating above 4 - 5 meters suction lift
- It is recommended to apply a rental surcharge due to increased wear exposure

This policy ensures:

- Proper user awareness
- Fair compensation for accelerated wear
- Better fleet maintenance control

Positioning Recommendation

To reduce cavitation, operators are advised to: - Position the pump closer to the water source when possible - Minimize suction hose length - Avoid unnecessary restrictions in the suction line
These actions improve hydraulic conditions and reduce component wear.

Conclusion

The SIP Series is designed for robust mobile operation where cavitation may occur without functional limitations. Standardized NPSHr values are not published because they do not provide meaningful or reliable guidance for mobile pump units. Practical suction lift limits and wear considerations offer more value to professional users than laboratory-based ISO NPSHr curves.