pozzani®

Water treatment products

# Submersible Pumps

# CONTENTS



## SUBMERSIBLE PUMPS

Pozzani have designed a range of hydraulic propulsion submersible pumps to efficiently extract water from deep boreholes or to pump water between different locations.

## DOMINATION INDEX

**BHP - 2 - SCR - 055 - 40**

| Borehole Pump | Pump Diameter (inches) | Pump Type (ie, screw) | Motor Power | Electric cable length (m) |
|---|---|---|---|---|

## ⚠ WARNING ⚠

Serious or fatal electrical shock may result from failure to connect the motor control enclosures. Metal plumbing, and wire no smaller than motor cable wires. To reduce risk of electrical shock, disconnect power before working on or around the water system. Do not use motor in swimming area.

CE

# SCREW AUGER PUMPS

Screw auger pumps are designed for pumping water from boreholes or wells. They usually consist of a long, spiral screw that turns and lifts the water up the borehole to the surface. They are commonly used in areas with low yields or where other types of pumps are not feasible. They are well-suited for pumping water from sandy or fine-grained soils. In such soils, installing a gravel pack can be challenging and may not yield the desired results. In these situations, a screw auger pump is often a more effective solution.

One of the greatest benefits of a screw auger pump is its simple design. The screw is usually made of steel or plastic and is easy to replace if it gets damaged. The pump doesn't require a lot of maintenance and can be easily cleaned or repaired if needed. This makes it a cost-effective option for many people.

The output of a screw auger pump is also typically low, making them ideal for low-yield well situations. These pumps work best with a small, constant flow of water and can produce large quantities of water over an extended period.

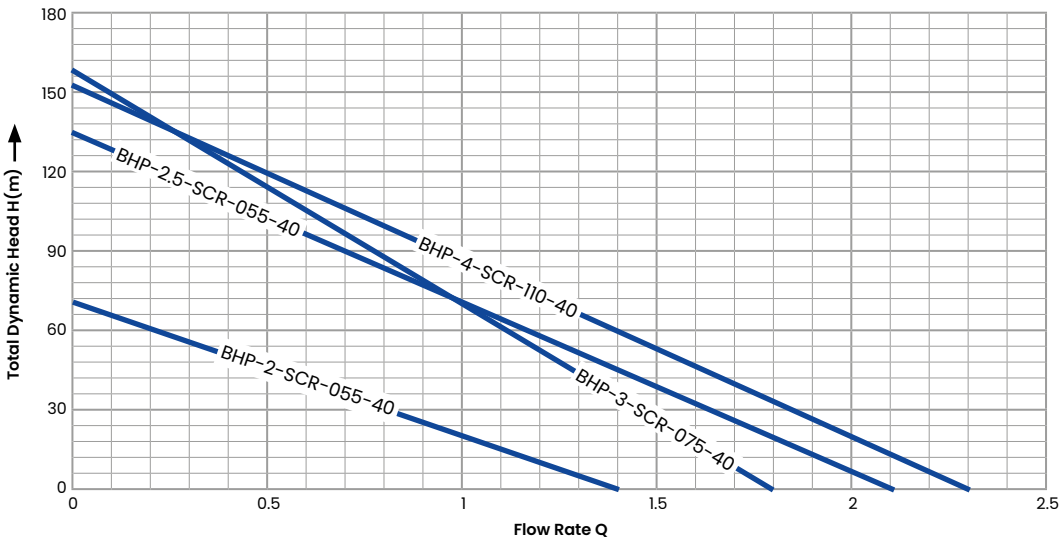
## Advantages

- **Self-Priming:** One of the biggest advantages is that the screw pump is self-priming. Because of the axial design, the pump can easily draw the liquid through the suction inlet without a separate priming mechanism.
- **Low maintenance:** Screw pumps have fewer moving parts, which means less opportunity for wear and tear. As a result, they require less maintenance and have fewer unplanned downtimes.
- **Handles liquids and solids:** Screw pumps can handle liquids and some solids, without clogging or damaging the pump.

## Disadvantages

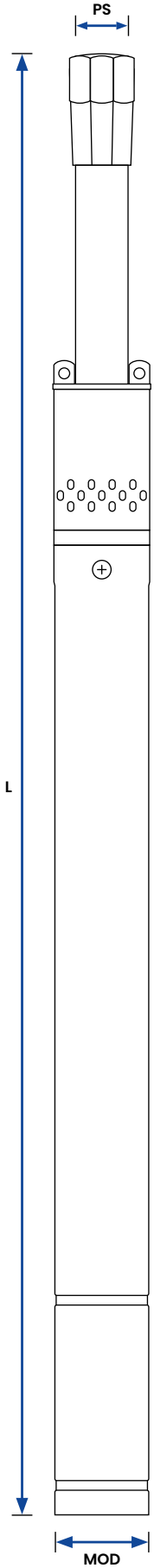
- **Limited flow range:** Screw pumps are best suited for low to moderate flow rates. High flow rates can cause some issues with cavitation, which can damage the pump and decrease efficiency.
- **Not suitable for viscous liquids:** Screw pumps are not suitable for high-viscosity liquids, as the water can cause excessive wear and tear on the screws.
- **Requires specific setup:** Screw pumps require special installation techniques, such as proper alignment, and correct feed and discharge head pressures in order to function properly. Failure to do so can result in reduced pump life and performance.

## Hydraulic Data



# Screw Auger Pump

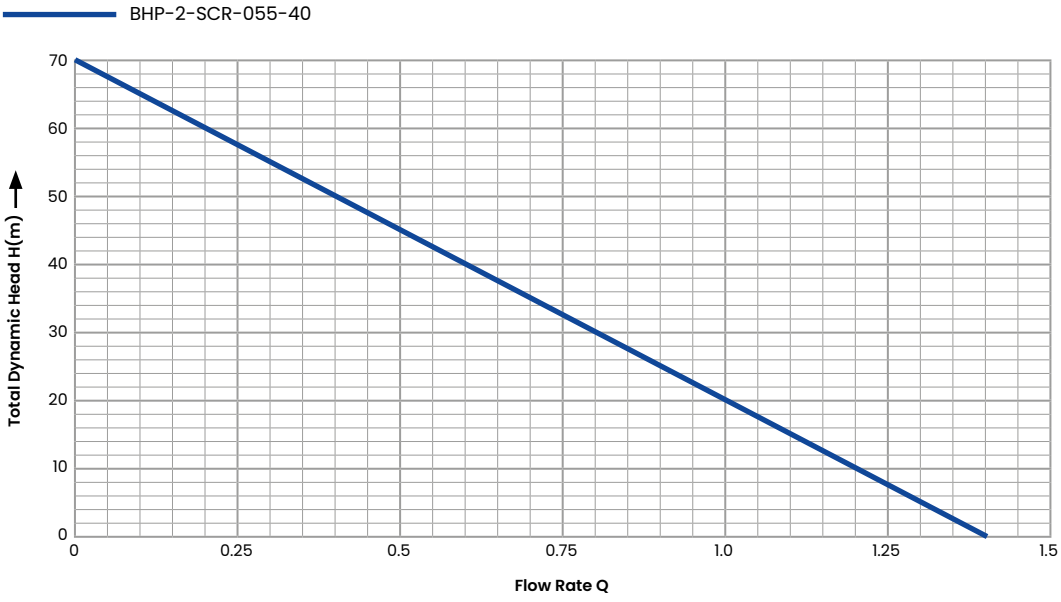
## BHP-2-SCR-055-40




## Technical Data

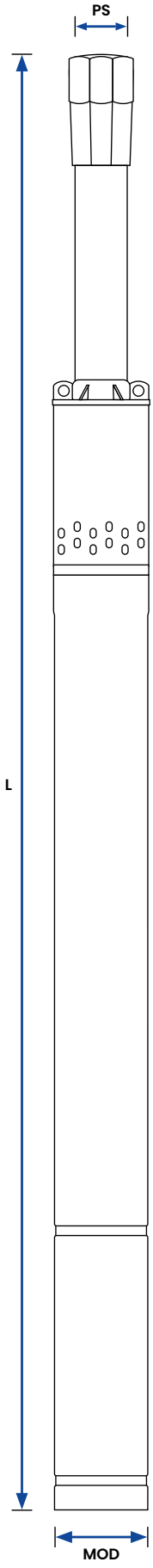
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571-01-0003 | |
| **Motor Power** | 0.55 kW | 0.75 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 4 A | |
| **Capacity** | Hmax 70 m | |
| | Qmax 1.4 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 19 mm | Ø ¾" |
| **Maximum Outside Diameter (MOD)** | Ø 51 mm | Ø 2" |
| **Length (L)** | 744 mm | 29¼" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 6.8 kg | 15 lb |

## Hydraulic Data



# Screw Auger Pump

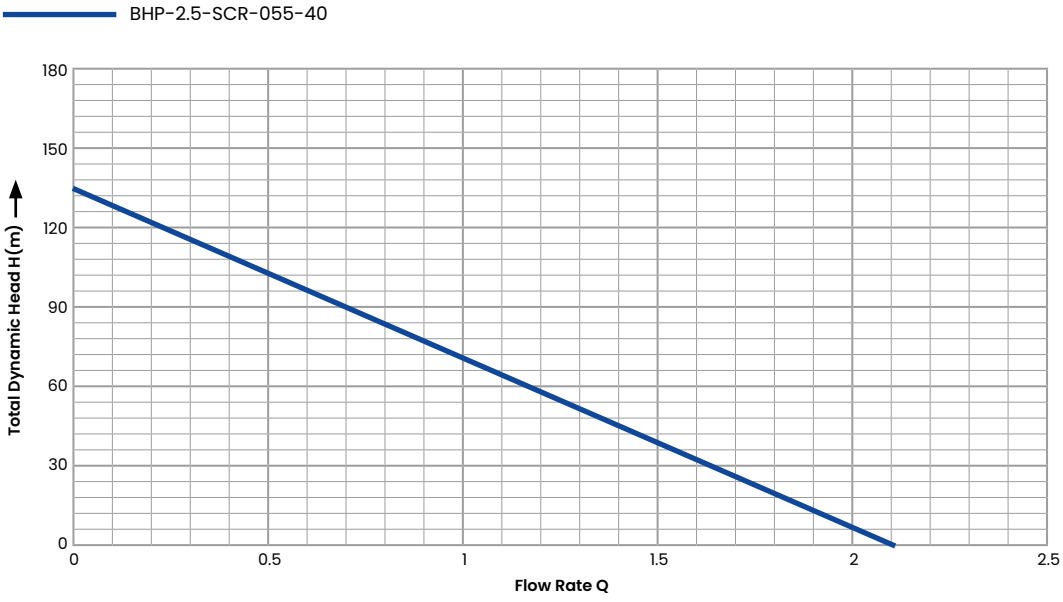
BHP-2.5-SCR-055-40




## Technical Data

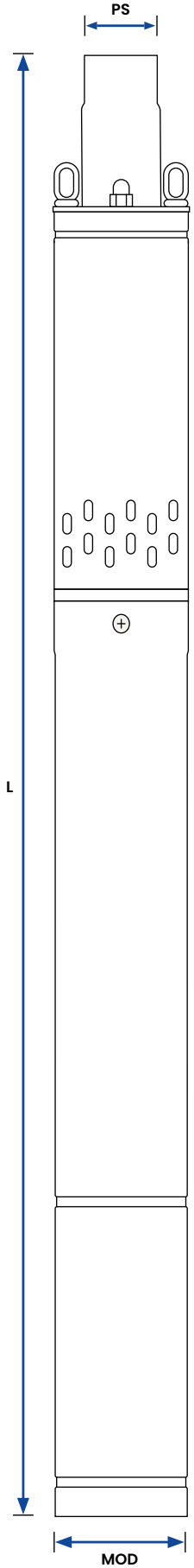
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571-02-0030 | |
| **Motor Power** | 0.55 kW | 0.75 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 4.6 A | |
| **Capacity** | Hmax 100 m | |
| | Qmax 2.1 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 25.4 mm | Ø 1" |
| **Maximum Outside Diameter (MOD)** | Ø 65 mm | Ø 2½" |
| **Length (L)** | 733 mm | 28⅞" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 11.6 kg | 25.6 lb |

## Hydraulic Data



# Screw Auger Pump

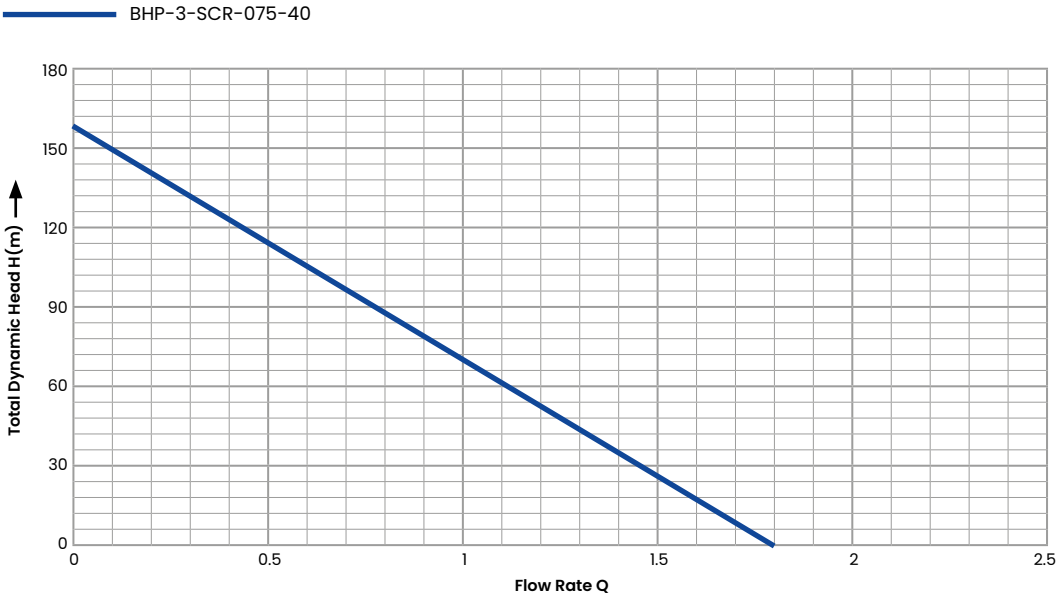
BHP-3-SCR-075-40




## Technical Data

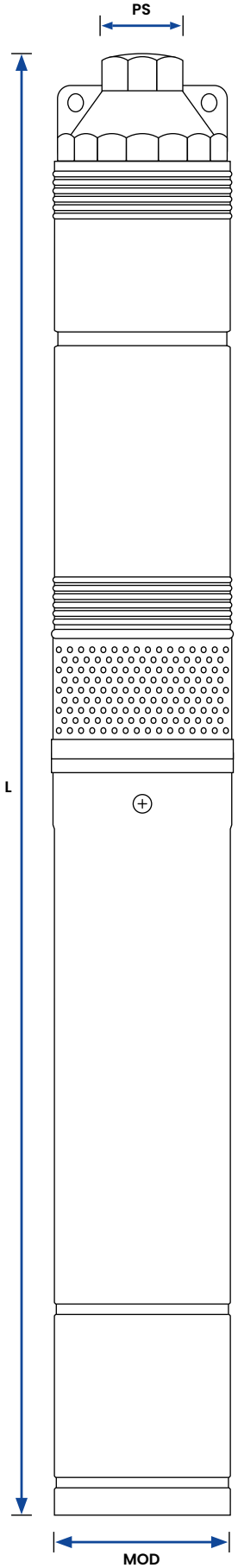
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571-03-0042 | |
| **Motor Power** | 0.75 kW | 1 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 5.8 A | |
| **Capacity** | Hmax 120 m | |
| | Qmax 1.8 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 25.4 mm | Ø 1" |
| **Maximum Outside Diameter (MOD)** | Ø 76 mm | Ø 3" |
| **Length (L)** | 687 mm | 27" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 12.9 kg | 28.4 lb |

## Hydraulic Data



# Screw Auger Pump

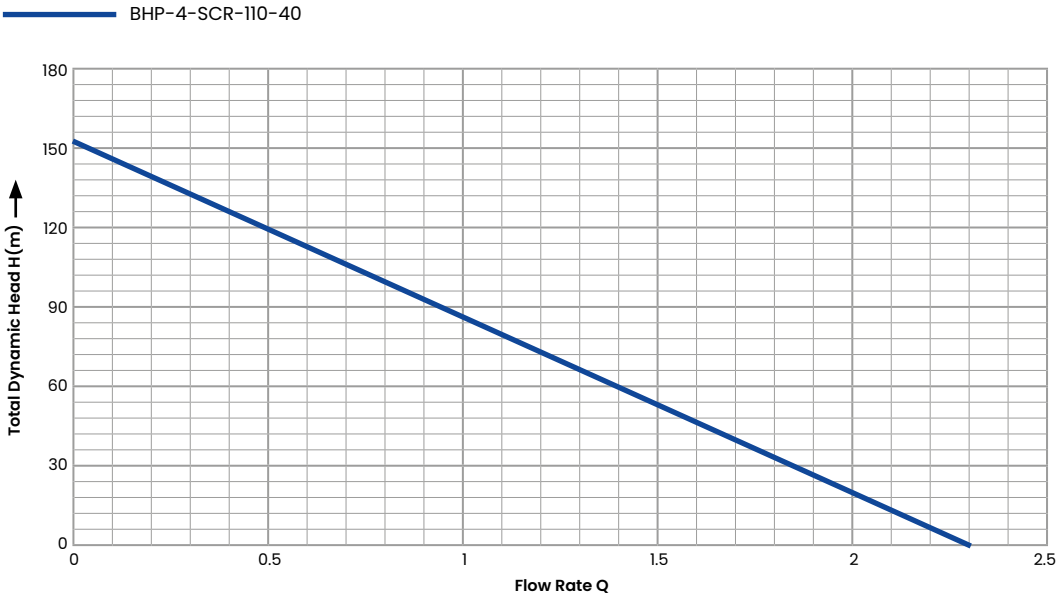
## BHP-4-SCR-110-40




## Technical Data

| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571-04-0014 | |
| **Motor Power** | 1.1 kW | 1.5 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 6.3 A | |
| **Capacity** | Hmax 140 m | |
| | Qmax 2.3 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 25.4 mm | Ø 1" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 665 mm | 28⅛" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 16.7 kg | 36.8 lb |

## Hydraulic Data



# MULTI STAGE IMPELLER PUMPS

Multi-stage impeller pumps are centrifugal pumps that use multiple impellers arranged in a series configuration to generate high pressures and flows in a variety of applications. These pumps are commonly used in various industries to pump water in high-pressure or high-flow applications.

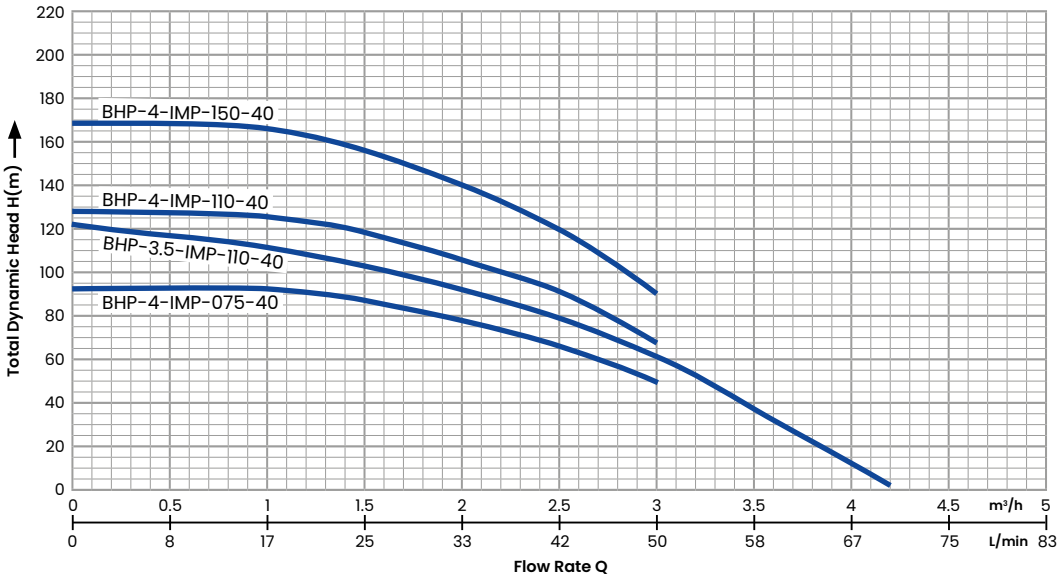
The main advantage of multi-stage impeller pumps over other types of pumps is their ability to generate high pressure or high flow rates using a single pump. They can achieve a much higher head and flow rate than other types of pumps, such as positive displacement pumps, in applications where high discharge pressure, high flow rate or both are required. The impellers can be arranged in series or parallel depending on the desired flow rate and pressure.

Multi-stage impeller pumps are usually made of high-quality materials such as stainless steel, bronze, or alloy, which make them highly durable and resistant to wear and tear. They can operate for extended periods of time and require very low maintenance.

Multi-stage impeller pumps are ideal for use in applications that require a high discharge pressure or flow rate. They are common in industrial processes where liquids need to be transferred or circulated. Multi-stage impeller pumps are commonly used in commercial and residential well systems.

## Hydraulic Data

### IMP

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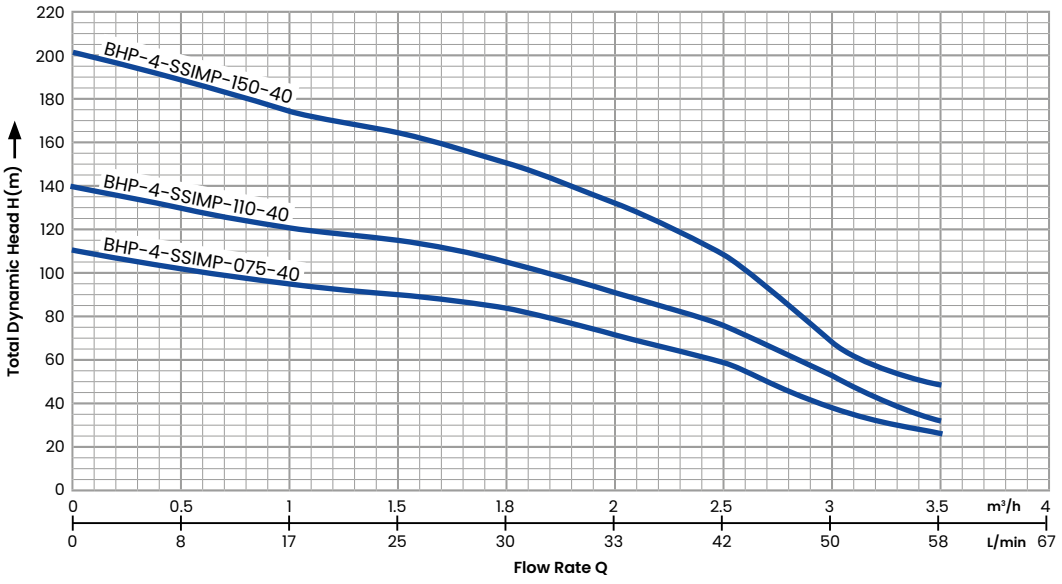



## Advantages

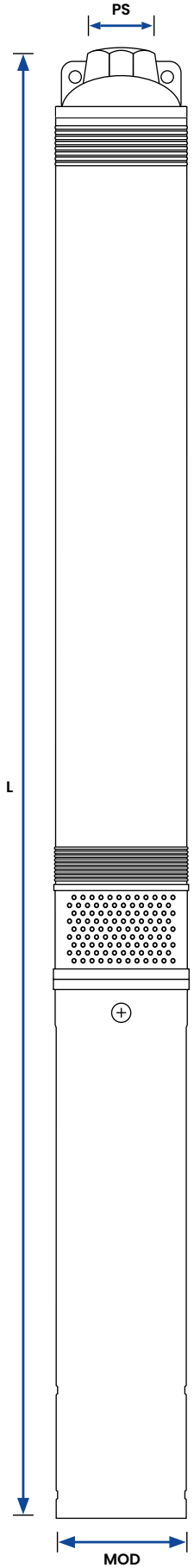
- **High pressure:** Due to its multiple stages, the pump can produce high pressure, making it suitable for applications requiring high head.
- **Energy efficiency:** Multi-stage impeller pumps are generally more energy efficient than single-stage pumps, especially when pumping water at high pressures.
- **Compactness:** Multi-stage impeller pumps are usually more compact in size than other pumps with comparable pumping capacities, making them suitable for applications where space is limited.
- **Stable operation:** Due to its high-pressure capability, multi-stage impeller pumps are more stable in operation and less prone to cavitation.

## Disadvantages

- **Higher cost:** Multi-stage impeller pumps are more expensive than single-stage pumps due to their complex design and construction.
- **Maintenance:** Multi-stage impeller pumps require regular maintenance to ensure that performance is not compromised over time.
- **Increased complexity:** Multi-stage impeller pumps have a more complex design and require more sophisticated control systems, which increases their overall complexity.

# Multi Stage Impeller Pump

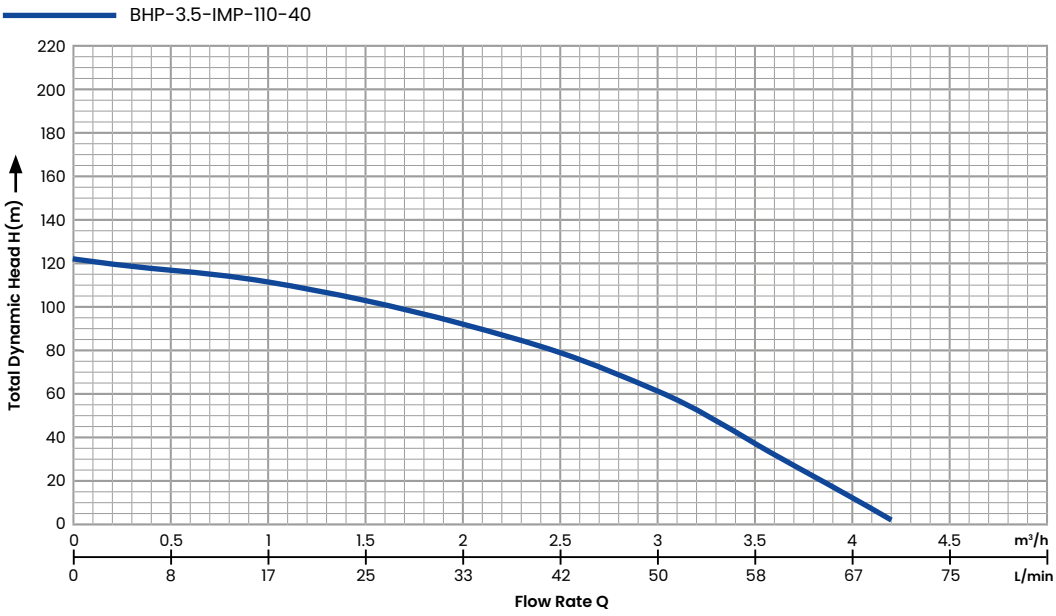
BHP-3.5-IMP-110-40




## Technical Data

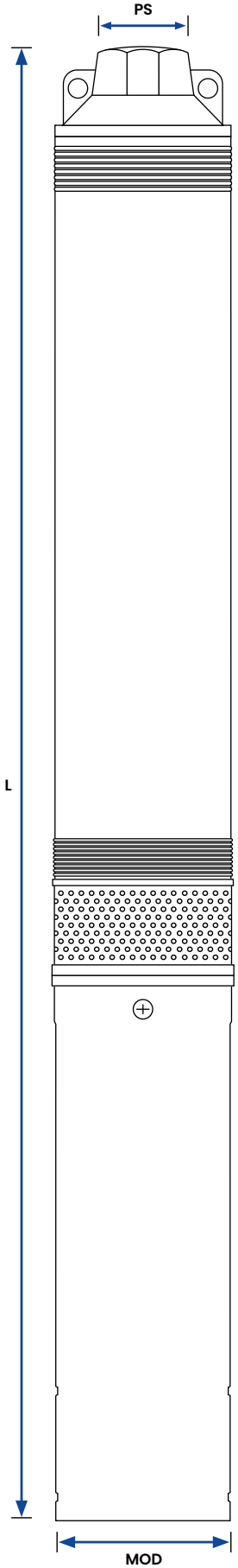
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | | |
| **Motor Power** | 1.1 kW | 1.5 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 7.7 A | |
| **Capacity** | Hmax 122 m | |
| | Qmax 4.2 m³/h | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 89 mm | Ø 3½" |
| **Length (L)** | 1156 mm | 45½" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 20 kg | 44.1 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

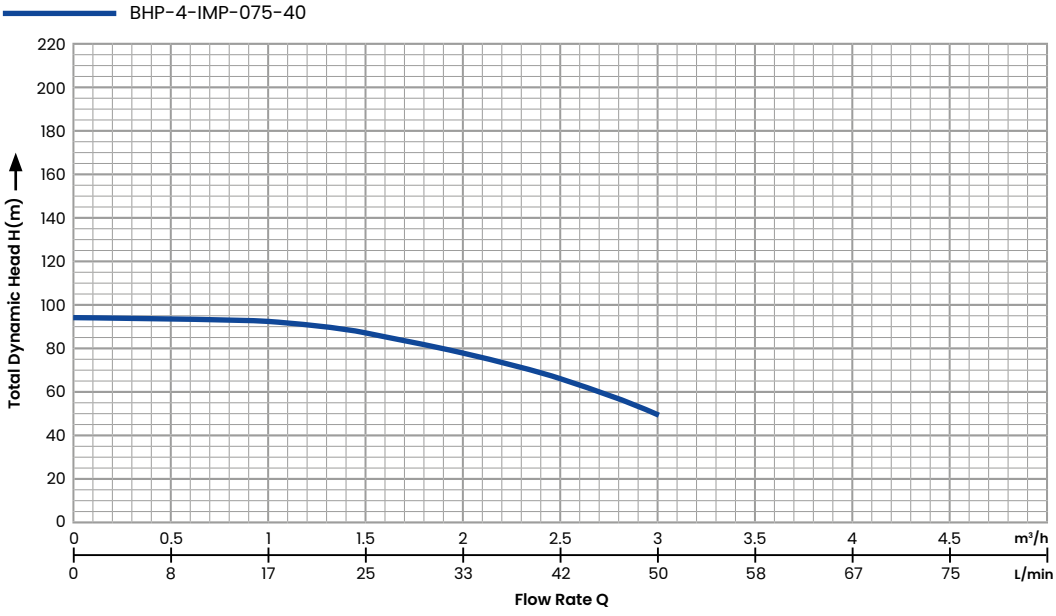
BHP-4-IMP-075-40




## Technical Data

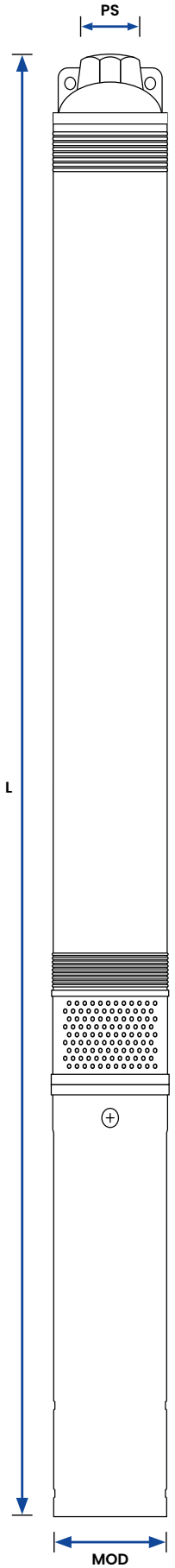
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571080010 | |
| **Motor Power** | 0.75 kW | 1 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 6.5 A | |
| **Capacity** | Hmax 95 m | |
| | Qmax 4.5 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 910 mm | 35⅞" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 16.9 kg | 37.3 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

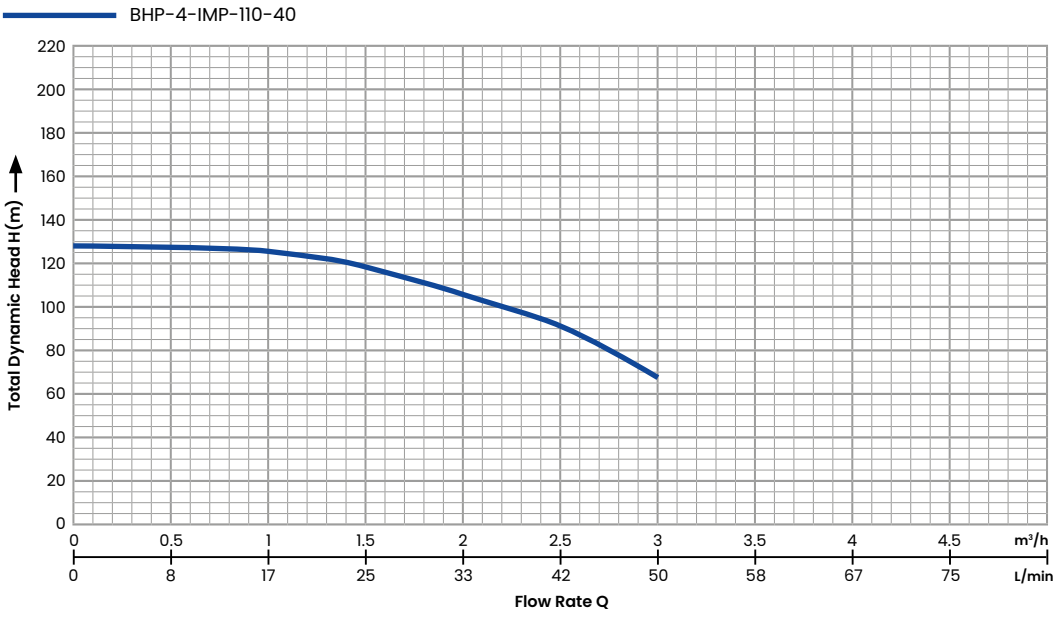
BHP-4-IMP-110-40




## Technical Data

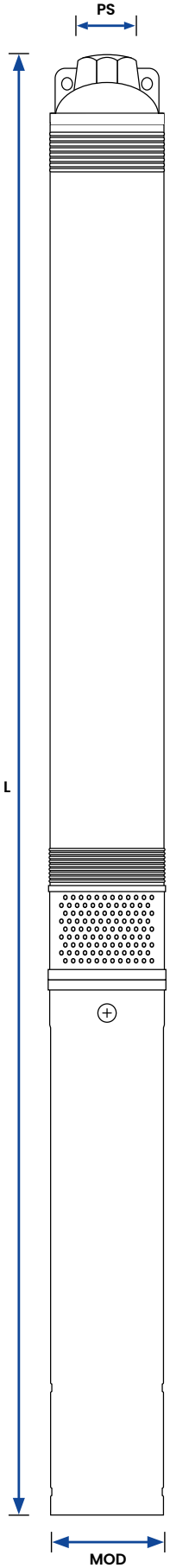
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571090005 | |
| **Motor Power** | 1.1 kW | 1.5 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 8.8 A | |
| **Capacity** | Hmax 132 m | |
| | Qmax 4.5 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 1120 mm | 44⅛" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 18.7 kg | 41.2 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

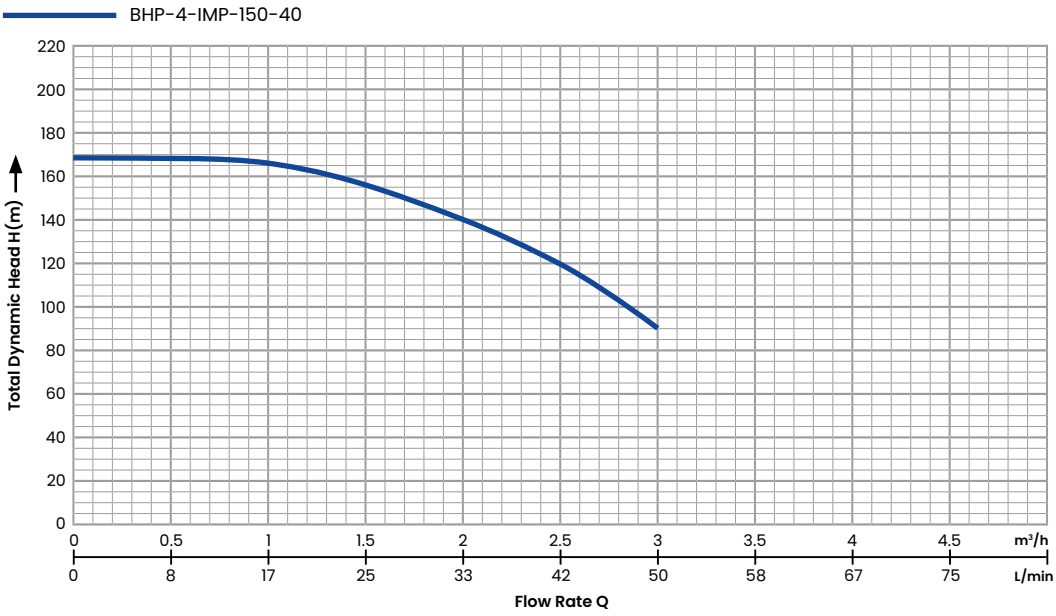
BHP-4-IMP-150-40




## Technical Data

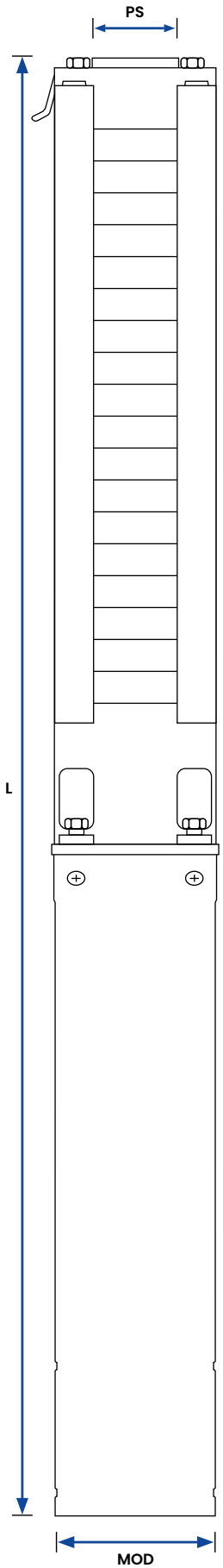
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571100004 | |
| **Motor Power** | 1.5 kW | 2 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 10.8 A | |
| **Capacity** | Hmax 170 m | |
| | Qmax 4.5 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 1318 mm | 35⅞" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 24.3 kg | 53.6 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

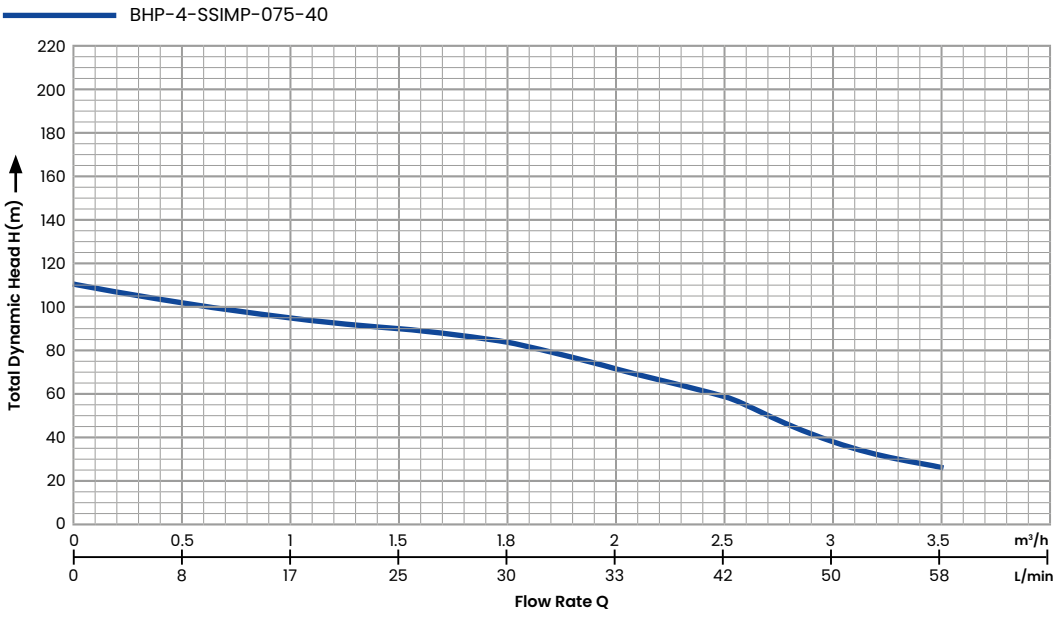
BHP-4-SSIMP-075-40




## Technical Data

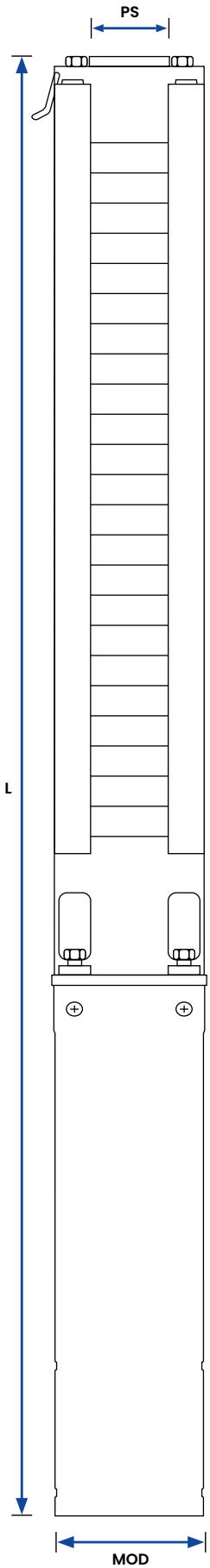
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571110005 | |
| **Motor Power** | 0.75 kW | 1 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 6.5 A | |
| **Capacity** | Hmax 108 m | |
| | Qmax 4 $m^3/h$ | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 867 mm | 34⅛" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 17.4 kg | 38.4 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

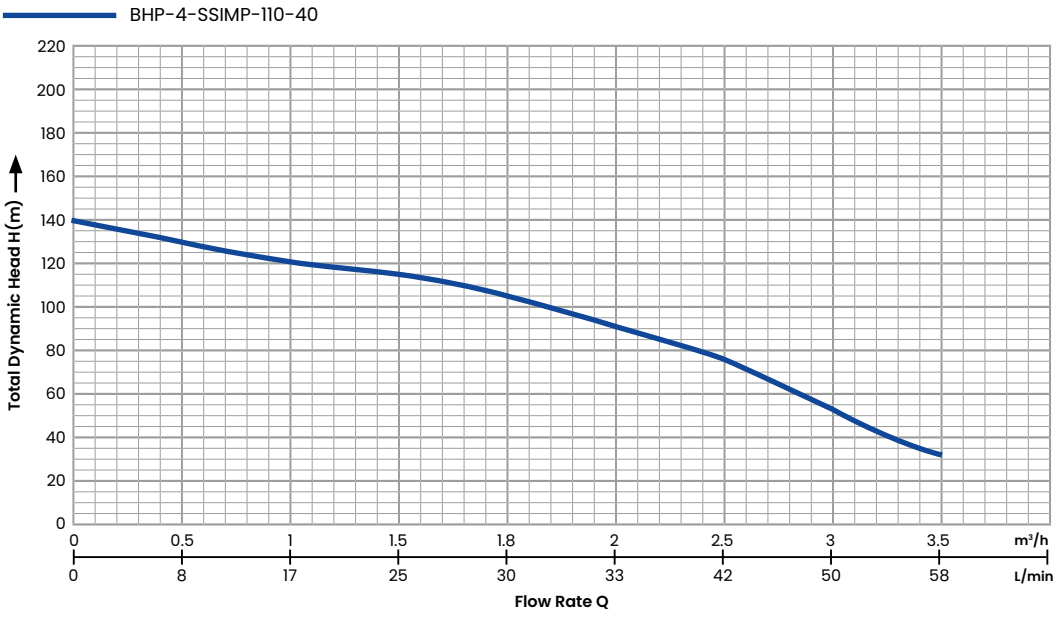
BHP-4-SSIMP-110-40




## Technical Data

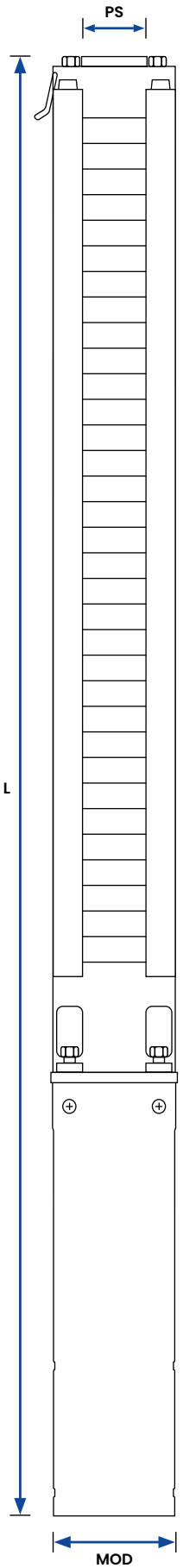
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571120009 | |
| **Motor Power** | 1.1 kW | 1.5 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 6.5 A | |
| **Capacity** | Hmax 138 m | |
| | Qmax 4 m³/h | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 1047 mm | 41¼" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 21.2 kg | 46.7 lb |

## Hydraulic Data



# Multi Stage Impeller Pump

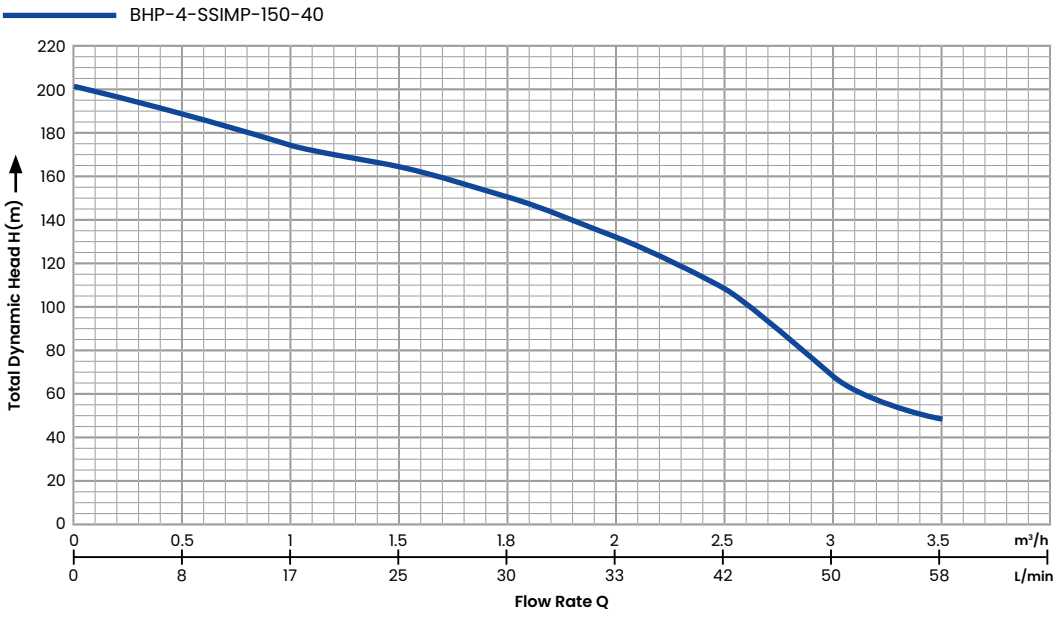
BHP-4-SSIMP-150-40




## Technical Data

| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571130001 | |
| **Motor Power** | 1.5 kW | 2 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 10.8 A | |
| **Capacity** | Hmax 198 m | |
| | Qmax 4 m³/h | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 32 mm | Ø 1¼" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 1287 mm | 50⅝" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 26.5 kg | 58.4 lb |

## Hydraulic Data



# PERIPHERAL IMPELLER PUMPS

Peripheral impeller pumps, also known as turbine pumps or regenerative pumps, are unique in their design and functionality. These pumps are widely used in various applications where high pressure or moderate flow rates are required, such as in the food and beverage industry, air conditioning systems, and small-scale domestic water supply.

The primary advantage of peripheral impeller pumps is their ability to generate high discharge pressures, making them suitable for situations where pumping against high resistance is necessary. These pumps achieve high pressures by utilising the centrifugal force generated by a peripheral impeller that rotates within a close-fitting ring channel or pump chamber. This design allows the impeller to transmit energy to the water repeatedly as it circulates within the ring channel, resulting in increased pressure.

Peripheral impeller pumps are commonly found in domestic water supply systems, irrigation systems, and small-scale industrial applications. Their ability to generate high pressure makes them well-suited for boosting water pressure in buildings or transferring water over long distances.

In summary, peripheral impeller pumps offer the advantage of high-pressure capability, compact size, and cost-effectiveness. They are suitable for applications that require moderate flow rates combined with high discharge pressures. However, their lower flow rate and inability to handle abrasive water may limit their usability in certain situations.

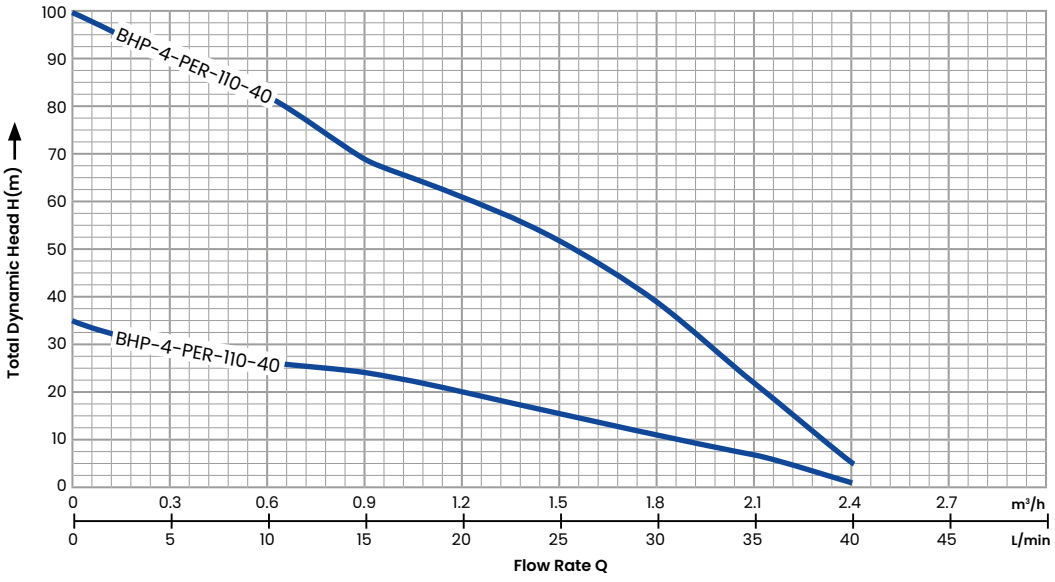
## Advantages

- **High pressure:** Peripheral impeller pumps can generate high pressures at low flow rates, making them suitable for applications that require high head and low flow rate.
- **Energy efficient:** Peripheral impeller pumps are generally more energy efficient than other types of pumps, especially at low flow rates.
- **Compact size**: Peripheral impeller pumps are usually small in size, making them suitable for applications with limited space.
- **Self-priming:** Peripheral impeller pumps are self-priming, meaning they can automatically remove air from the system and start pumping liquid.

## Disadvantages

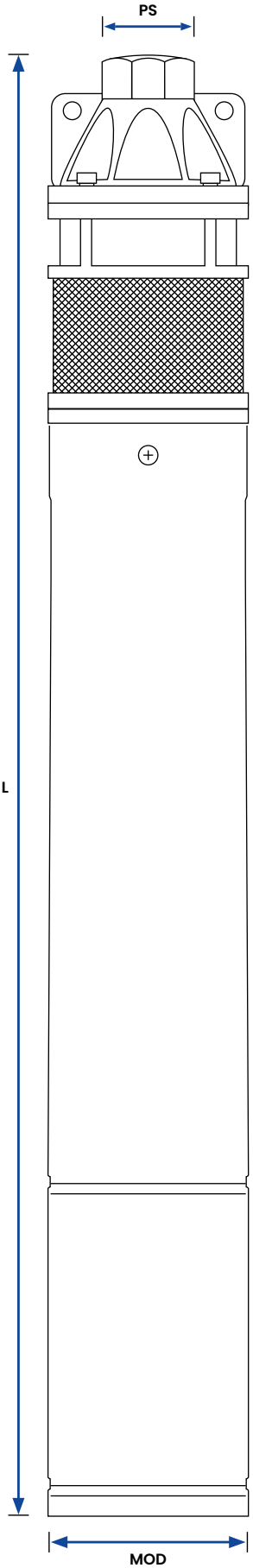
- **Limited flow rate:** Peripheral impeller pumps are not designed for high flow rates and are best suited for low flow rate applications.
- **Limited application:** Peripheral impeller pumps are typically not suitable for applications where high flow rates are required.
- **Limited viscosity range:** Peripheral impeller pumps are not suitable for pumping highly viscous liquids, as they can easily clog or become damaged.
- **Limited solid handling capability:** Peripheral impeller pumps are not suitable for handling abrasive or solid-laden water, as they can damage the pump.


## Hydraulic Data



# Peripheral Impeller Pump

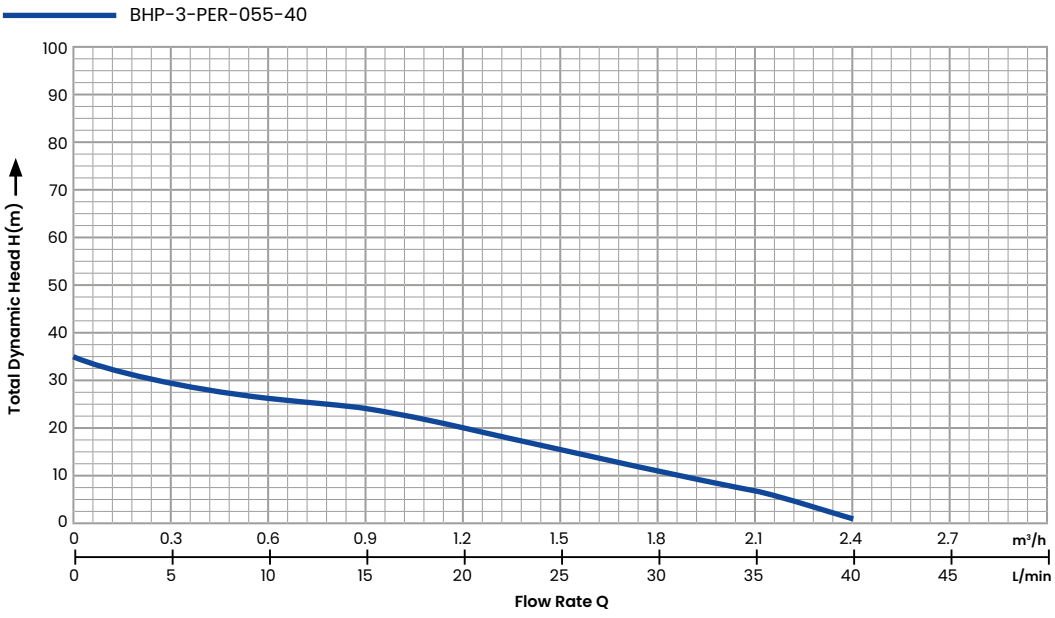
BHP-3-PER-055-40




## Technical Data

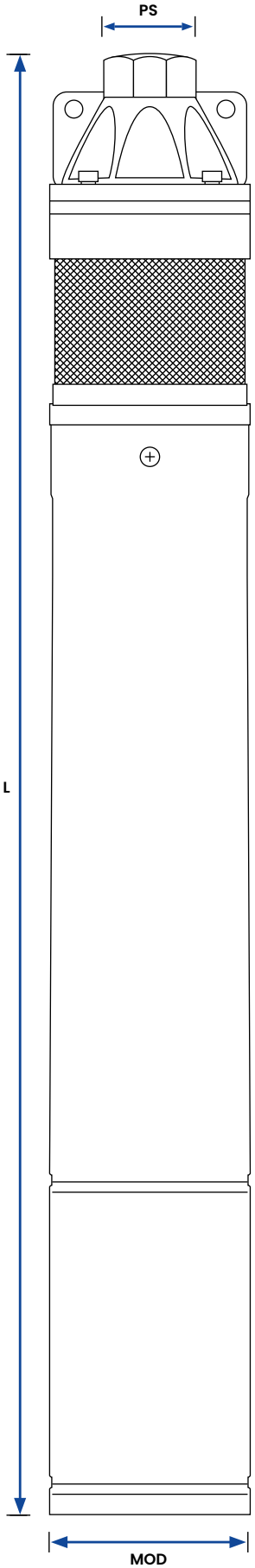
| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571050014 | |
| **Motor Power** | 0.55 kW | 0.75 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 3.5 A | |
| **Capacity** | Hmax 38 m | |
| | Qmax 2.4 m³/h | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 25.4 mm | Ø 1" |
| **Maximum Outside Diameter (MOD)** | Ø 76 mm | Ø 3" |
| **Length (L)** | 577 mm | 22¾" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 11.8 kg | 26 lb |

## Hydraulic Data



# Peripheral Impeller Pump

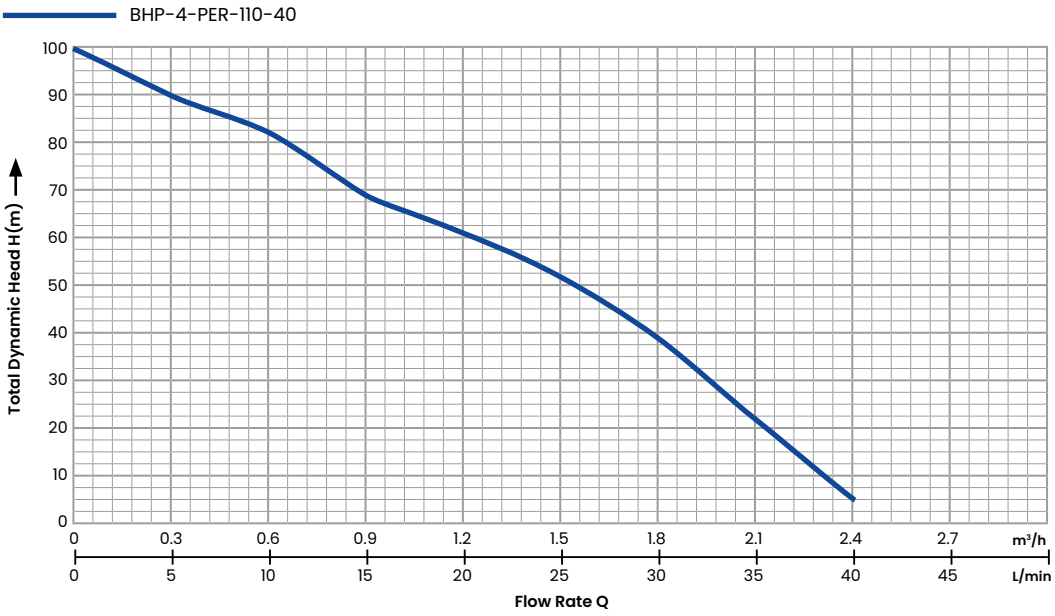
BHP-4-PER-110-40




## Technical Data

| | | |
|---|---|---|
| **Insulation Class** | B | |
| **Protection Grade** | IP 68 | |
| **Material** | Steel / Stainless Steel | |
| **Motor** | Single Phase | |
| **Serial Number** | PZ0571060011 | |
| **Motor Power** | 1.1 kW | 1.5 HP |
| **Voltage** | 220 VAC | 50 Hz |
| **Current** | 8.8 A | |
| **Capacity** | Hmax 100 m | |
| | Qmax 2.8 m³/h | |
| **rpm** | 2850 | |
| **Highest Liquid Temperature** | 35°C | 95°F |
| **Outlet – Port Size (PS)** | Ø 25.4 mm | Ø 1" |
| **Maximum Outside Diameter (MOD)** | Ø 102 mm | Ø 4" |
| **Length (L)** | 600 mm | 23⅝" |
| **Cable Length** | 40 m | 131 ft 2¾" |
| **Weight (including electric cable)** | 17 kg | 37.5 lb |

## Hydraulic Data



# Notes

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