



# P2/P3 Series High Pressure Mobile Pump Installation Manual

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## 1. Safety advices before installation and setup

|   |  |
|---|--|
| <p><b>Wear the correct safety equipment!</b></p>  |  |
| <p><b>Need help with installation? Please contact us.</b></p> <p><b>Parker Hannifin Manufacturing Germany GmbH &amp; Co KG</b><br/>Pump and Motor Division Europe<br/>Neefestraße 96<br/>09116 Chemnitz, Germany<br/>Tel: +49 (0)371 - 3937 - 0<br/>Fax: +49 (0)371 - 3937 - 488</p> <p>Email: <a href="mailto:eP2-Support.PMD145@parker.com">eP2-Support.PMD145@parker.com</a></p> |  |

### Warning User responsibilities:

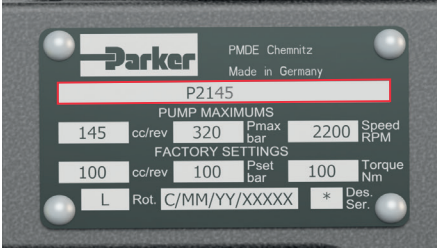
Failure or improper selection or improper use of the products described herein or related items cause death, personal injury and property damage!

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigations by users having technical expertise.

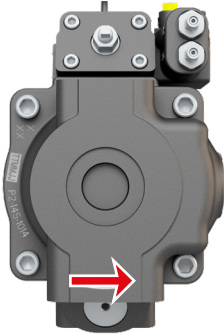
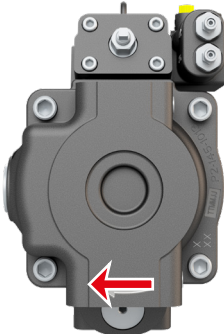
The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintainance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided by Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide the component or system options based upon data or specifications provided by the user. The user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably uses of the components or systems.

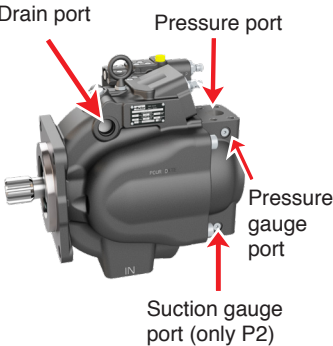
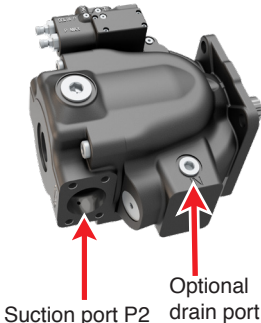
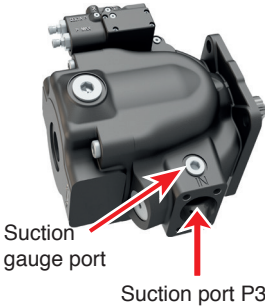
## 2. Check model code

|  |  |   |
|--|--|---|
|  |  | Nameplate of the pump.<br>Compare with your paper work. |
|--|--|---|

## 3. Check rotation of the pump

|   |  |
|---|--|
|  <p>Clockwise rotation (right)</p> |  <p>Counter clockwise rotation (left)</p> |
|---|--|

## 4. Suction, pressure, drain line connection

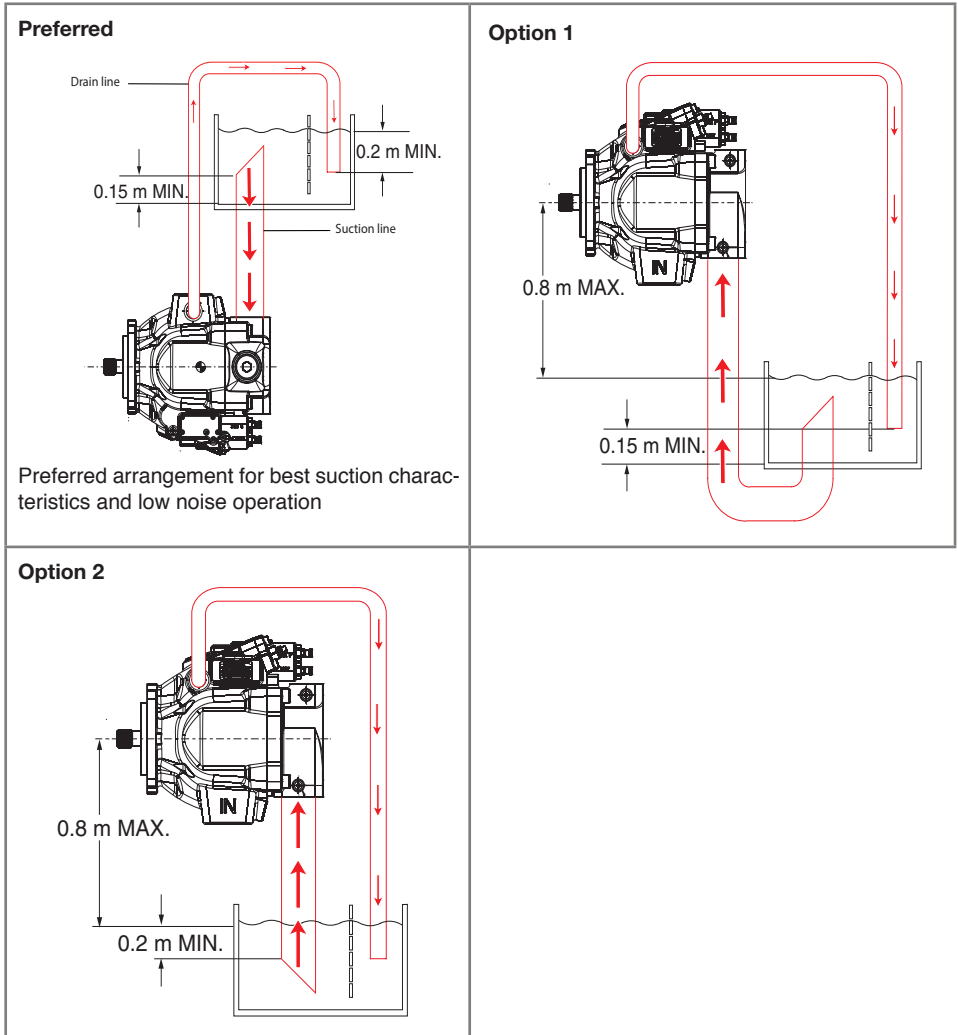
|  |  |   |
|--|--|---|
| <b>P2/P3</b><br> <p>Drain port</p> <p>Pressure port</p> <p>Pressure gauge port</p> <p>Suction gauge port (only P2)</p> | <b>P2</b><br> <p>Suction port P2</p> <p>Optional drain port</p> | <b>P3</b><br> <p>Suction gauge port</p> <p>Suction port P3</p> |
|--|--|---|

## 5. Connect the hoses

A suction hose with 45° inlet is recommended to reduce the suction resistance. Ensure that always the highest drain port will be used.

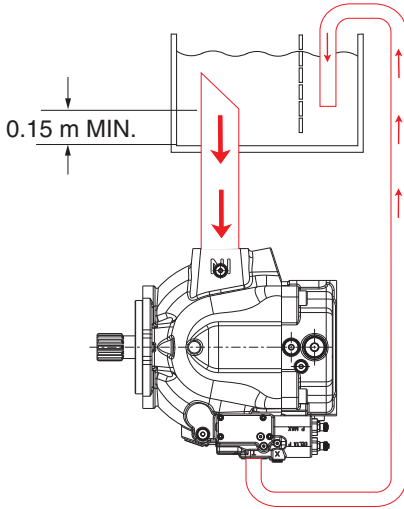
|                             | P2                                     | P3                                     |
|-----------------------------|--|--|
| Minimum pump inlet pressure | $p_{in \text{ min}} = 0,8 \text{ bar}$ | $p_{in \text{ min}} = 0,8 \text{ bar}$ |
| Maximum pump inlet pressure | $p_{in \text{ max}} = 10 \text{ bar}$  | $p_{in \text{ max}} = 1 \text{ bar}$   |

### 5.1 P2-Pump



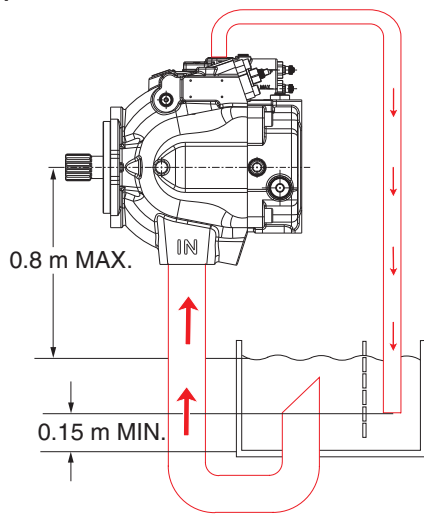
## 5.2 P3-Pump

### Preferred

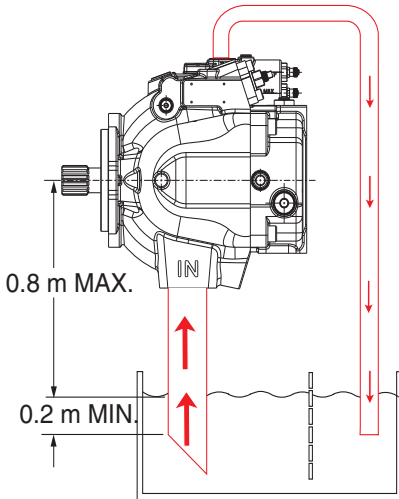


Preferred arrangement for best suction characteristics and low noise operation

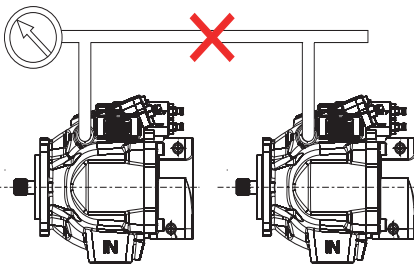
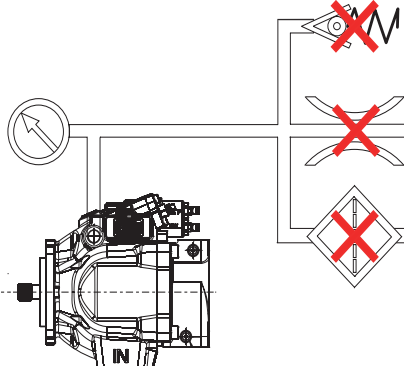
### Option 1






### Option 2



### 5.3 Warning - Please avoid

|  |  |
|--|--|
|  <p>Don't combine drain lines.<br/>Maximum continuous case pressure:<br/><math>p_{case} = 0,5 \text{ bar}</math><br/>Maximum intermittent peak case pressure:<br/><math>p_{case} = 2 \text{ bar}</math></p> |  <p>Do not restrict drain line.<br/>A restricted drain line can damage the pump.</p> |
|--|--|

### 6. Start up

|   |  |   |
|---|--|---|
|  <p>Check all connections for tight fit.</p> |  <p>Fill up oil via upper drain port.</p> |  <p>Start up with zero pressure until pump is full with oil.</p> |
|---|--|---|

## 7. Hydraulic fluid

### 7.1 Recommended Fluids

- Standard mineral oils
- Premium hydraulic fluids / HLP oils
- Biodegradable hydraulic fluids
- Synthetic hydraulic fluids
- Fire resistant fluids

Remark:

Maximum system pressure reduced to 210 bar for water based fluids.  
Bearing life time reduced to 25 % by using water based fluids.

### 7.2 Fluid quality

Recommendation for maximized component life and reliability:  
Class 21 / 18 / 14 according to ISO 4406

### 7.3 Viscosity range

Minimum viscosity for short periods: 10 mm<sup>2</sup>/s (cSt)  
Normal operating viscosity: 15 – 40 mm<sup>2</sup>/s (cSt)  
Maximum viscosity for short periods: 1000 mm<sup>2</sup>/s (cSt)

## 8. Temperature

Seal option can be found in digit 19 of part number. Please check name plate.

|                                    |                |
|------------------------------------|----------------|
| N/D - NBR seals, FPM shaft seal(s) | -25 to +90 °C  |
| B/Q - NBR seals, NBR shaft seal(s) | -40 to +90 °C  |
| V/T - FPM seals, FPM shaft seal(s) | -25 to +115 °C |

### Remark:

Check hydraulic fluid specification for chemical resistance of seal material.  
Check temperature range of seal material and compare with maximum system and ambient temperature.

The highest fluid temperature will be at the drain port of the pump (up to 20°C higher than the reservoir).