# HAWE HD 20 P hand pump, 20 cm³/stroke

Manufacturer: HAWE Hydraulik

Manufacturer part number / published order designation: HD 20 P

Published model: HD 20 P

## About this compilation

Prepared by Hydmaster from selected manufacturer documentation. Original technical pages follow without cropped drawings, rewritten data or altered units. This cover and index are Hydmaster editorial material, not a manufacturer-issued exact-execution datasheet.

Coverage: selected pages relevant to the identified size and configuration. Other options or neighbouring models retained on an original page apply only where explicitly identified.

## Execution notes and conditions

Bottom A/S/AS optional-function diagram is not this base None execution; use top manifold drawing only.

## Source-page index

Source page numbers below are physical pages of each complete original PDF. The original printed page labels and technical content remain unchanged. Compiled page numbers count this cover/index.

## Source A: Hawe H Hd He Hand Pumps

| Original pages | Compiled pages | Relevant content |
|---|---|---|
| 5-7 | 2-4 | Exact basic-type row: pressure, displacement, action and mounting. Published execution: HD 20 P.; Additional-function compatibility confirms the unmodified base None option.; Default seal/fluid compatibility and optional FKM/ATEX restrictions. |
| 9 | 5 | Fluid, viscosity, cleanliness, temperature, installation and mass requirements. |
| 12 | 6 | HE/HD manifold mounting and sealed interfaces; the lower optional A/S/AS illustration is not selected. |
| 14-16 | 7-9 | Intended use and manufacturer installation/assembly instructions.; Operating, pressure/flow configuration and maintenance instructions.; Suction-line and reservoir-position planning requirements. |

# 2 Available versions, main data

## 2.1 Single pump

**Order coding examples:**

| | | | | |
|---|---|---|---|---|
| H 25<br>HD 30 P<br>HE 4 | S | - 400 | - PYD | -EX |

- -EX: ATEX "Table 4"
- - PYD: Sealing specification "Table 3"
- - 400: Pressure specification (bar) for version with pressure-limiting valve "Table 2"
- S: Additional function "Table 2"
- H 25 / HD 30 P / HE 4: Basic type and size "Table 1"

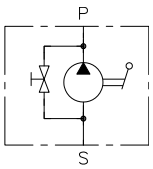
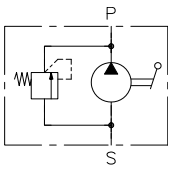
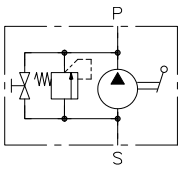
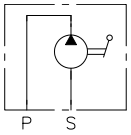
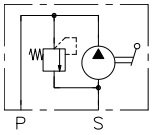
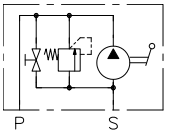
**Table 1 Basic type and size**

| Basic type and size | Pressure $p_{max}$ (bar) in P | Displacement volume $V_{stroke}$ ($cm^3$) | Actuation torque (Nm) | Function, design |
|---|---|---|---|---|
| **Pipe connection** | | | | |
| H 16 | 350 | 6 | 270 | single-acting, open,<br>suction port loadable (≤ 150 bar) |
| H 20 | 220 | 9.4 | | |
| H 25 | 150 | 14.7 | | |
| HE 3 | 800 | 3 | 250 | single-acting, closed |
| HE 4 | 600 | 4 | | |
| HD 13 | 350 | 13 | 250 | double-acting, closed |
| HD 20 | 220 | 20 | | |
| HD 30 | 150 | 30 | | |
| HD 301 | 150 | 30 | | double-acting, closed,<br>suction port loadable (≤ 150 bar) |
| **Manifold mounting** | | | | |
| H 16 P | 350 | 6 | 270 | single-acting, open |
| H 20 P | 220 | 9.4 | | |
| HE 4 P | 600 | 4 | 250 | single-acting, closed |
| HD 13 P | 350 | 13 | 250 | double-acting, closed |
| HD 20 P | 220 | 20 | | |
| HD 30 P | 150 | 30 | | |

**NOTE**

- Possible combinations with additional function, see "Table 2"
- Pressure at S acts through the pump via P to the connected consumer or the directional valve connected between. The hand lever is pushed into an end position.

## Table 2 Additional function

| Basic type and size | Additional function | | | |
|---|---|---|---|---|
| | None | Drain valve | Pressure-limiting valve | Drain valve and pressure-limiting valve |
| | -- | A | S | AS |
| **Pipe connection** | | | | |
| H 16 | ● | | | |
| H 20 | ● | | | |
| H 25 | ● | | | |
| HE 3 | ● | | ● | |
| HE 4 | ● | ● | ● | ● |
| HD 13 | ● | ● | ● | ● |
| HD 20 | ● | ● | ● | ● |
| HD 30 | ● | ● | ● | ● |
| HD 301 | | | ● | |
| |  |  |  |  |
| **Manifold mounting** | | | | |
| H 16 P | ● | | | |
| H 20 P | ● | | | |
| HE 4 P | ● | | ● | |
| HD 13 P | ● | | | ● |
| HD 20 P | ● | | | |
| HD 30 P | ● | | | |
| |  | |  |  |

**NOTE**

**For version HD 301 please note:**

- For versions ...S and AS, the pressure at the suction port is added to the factory-set pressure.

Pressure-limiting valve type S only available fixed.

Check valves are installed in ports P and S.

 © HAWE Hydraulik SE

## Table 3 Sealing specification, for sealing with medium contact

| Coding | Comment |
|---|---|
| **No designation** | Series, seals from NBR or AU, e.g. for mineral oil and HEES (synthetic ester) |
| **PYD** | Seals from FKM |

**NOTE**
For the seal specification coding -PYD, the maximum operating pressure is limited to 250 bar.

## Table 4 Explosion-proof version (ATEX)

| Order coding | Certified according to | Classification / marking | Declaration of conformity | Operating and maintenance manual(s) | Permissible ambient temperature |
|---|---|---|---|---|---|
| **...-EX** | **ATEX EU** | Group II, category 2, 3:<br>Ex II 2 G Ex h IIC T4 Gb<br>Ex II 2 D Ex h IIIC T135°C Gb | On request | B ATEX | -20°C...+40°C |

**ATEX classification as per:**

- DIN EN ISO 80079-36:2016-12
- DIN EN ISO 80079-37:2016-12

# 3 Parameters

## General data

| | |
|---|---|
| **Designation** | Hand pump |
| **Design** | Piston pump |
| **Model** | Pipe connection, manifold mounting |
| **Material** | Pump housing zinc-nickel coated<br>steel; zinc-nickel coated valve housing, hardened and ground functional inner parts |
| **Installation position** | Single pump: arbitrary<br>Version with mounted oil tank: vertical |
| **Ports** | **P** = Pressure connection<br>**S** = Suction port |
| **Hydraulic fluid** | Hydraulic oil: according to part 1 to 3;<br>ISO VG 10 to 68 according to DIN ISO 3448<br>Viscosity limits: min. approx. 4, max. approx. 1500 $mm^2/s$<br>opt. operation approx. 10... 500 $mm^2/s$.<br>Also suitable for biologically degradable hydraulic fluids type HEPG (polyalkylene glycol) and HEES (synthetic ester) at operating temperatures up to approx. +70°C. |

**Cleanliness level**

| ISO 4406 | NAS 1638 | SAE T 490 |
|---|---|---|
| 20/17/14...18/15/12 | 11 ... 6 | 5 ... 3 |

| | |
|---|---|
| **Temperatures** | Ambient: approx. -40 ... +80°C, Fluid: -25 ... +80°C, Note the viscosity range!<br>Permissible temperature during start: -40°C (observe start-viscosity!), as long as the service temperature is at least 20K higher for the following operation.<br>Biologically degradable pressure fluids: Observe manufacturer's specifications. By consideration of the compatibility with seal material not over +70°C.<br>Please note restriction with ATEX-compliant version! Surrounding area: -20 ....+40°C |

## Weight

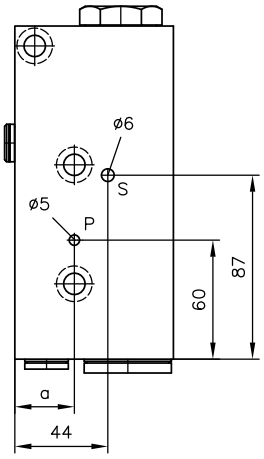
**Type**

| | |
|---|---|
| H | = 3.1 kg |
| HD, HE | = 4.8 kg |

**Tank**

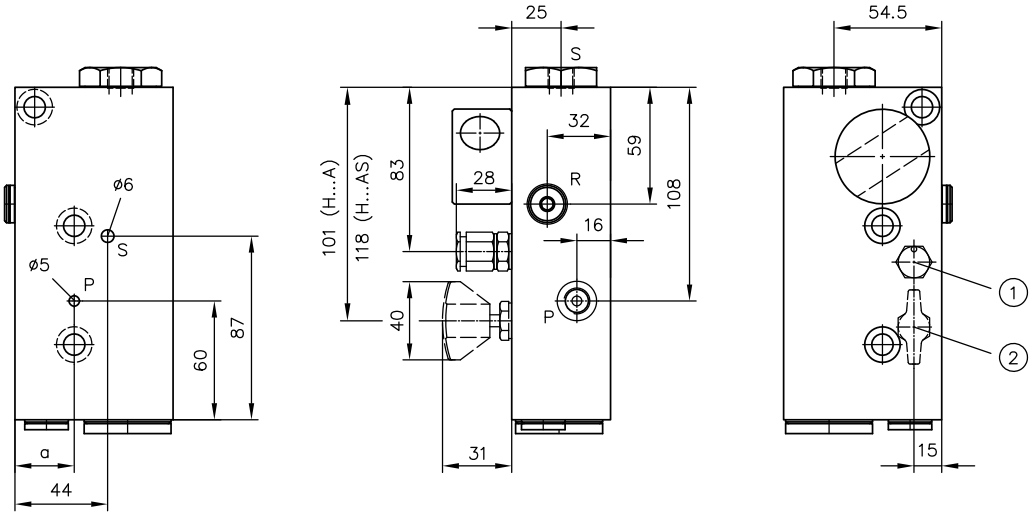
| | |
|---|---|
| K 0,35 | = + 0.2 kg |
| K 0,5 | = + 0.49 kg |

## Type HE, HD, manifold mounting




| Type | a |
|---|---|
| HE | 14.5 |
| HD | 30 |

## Type HE, HD, with additional function (A, S, AS)




1 Pressure-limiting valve
2 Drain valve

Ports P and S are sealed for the manifold mounting versions.

 © HAWE Hydraulik SE

# 5 Assembly, operation and maintenance recommendations

## 5.1 Intended use

This pump is intended exclusively for use in hydraulic applications (fluid technology).

The user must observe the safety measures and warnings in this documentation.

**Essential requirements for the product to function correctly and safely:**

- All information in this documentation must be observed. This applies in particular to all safety measures and warnings.
- The product must only be assembled and put into operation by qualified personnel.
- The product must only be operated within the specified technical parameters. The technical parameters are described in detail in this documentation.
- All components must be suitable for the operating conditions in the event of application in an assembly.
- The operating and maintenance manual of the components, assemblies and the specific complete system must also always be observed.

If the product can no longer be operated safely:

1. Remove the product from operation and mark it accordingly.

✓ It is then not permitted to continue using or operating the product.

## 5.2 Assembly information

The product must only be installed in the complete system with standard and compliant connection components (screw fittings, hoses, pipes, fixtures etc.).

The product must be shut down correctly prior to dismounting (in particular in combination with hydraulic accumulators).

⚠ **DANGER**

**Risk to life caused by sudden movement of the hydraulic drives when dismantled incorrectly!**

Risk of serious injury or death.

- Depressurise the hydraulic system.
- Perform safety measures in preparation for maintenance.

 © HAWE Hydraulik SE

## 5.3 Operating instructions

**Note product configuration and pressure / flow rate**

The statements and technical parameters in this documentation must be strictly observed.
The instructions for the complete technical system must also always be followed.

**NOTE**

- Read the documentation carefully before usage.
- The documentation must be accessible to the operating and maintenance staff at all times.
- Keep documentation up to date after every addition or update.

### Purity and filtering of the hydraulic fluid

Fine contamination can significantly impair the function of the hydraulic component. Contamination can cause irreparable damage.

**Examples of fine contamination include:**

- Metal chips
- Rubber particles from hoses and seals
- Dirt due to assembly and maintenance
- Mechanical debris
- Chemical ageing of the hydraulic fluid

**NOTE**
New hydraulic fluid from the manufacturer does not necessarily have the required level of purity.
The hydraulic fluid must be filtered during filling.

Pay attention to the cleanliness level of the hydraulic fluid to maintain faultless operation.
(Also see cleanliness level in Chapter 3, "Parameters").

Additionally applicable document: D 5488/1 Oil recommendations

## 5.4 Maintenance information

Conduct a visual inspection at regular intervals, but at least once per year, to check if the hydraulic connections are damaged. If external leakages are found, shut down and repair the system.

In relation to the drive (lever mechanism), there is a difference between a closed design and an open design.

In the closed design, it is inside the housing (suction chamber) and is lubricated by the oil without requiring maintenance.

In open version it is outside; occasional maintenance (cleaning and greasing) is recommended.

Clean the device surface of dust deposits and dirt at regular intervals, but at least once per year.

# 6 Other information

## 6.1 Functional safety

The MTTFd values as described in B 5488 ISO apply.

## 6.2 Planning information

Setting up:

1. Keep suction line short.
2. Set up oil tank at the same level or higher than the suction ports.

✓ Suction lines do not run empty when idle.


© HAWE Hydraulik SE