

Hand pump type CH

Product documentation



Operating pressure p_{\max} : 300 bar
Displacement volume $V_{\text{stroke max}}$: 8.3 cm³/stroke



© by HAWE Hydraulik SE.

The reproduction and distribution of this document, as well as the use and communication of its contents to others without explicit authorization, is prohibited.

Offenders will be held liable for the payment of damages.

All rights reserved in the event of patent or utility model applications.

Brand names, product names and trademarks are not specifically indicated. In particular with regard to registered and protected names and trademarks, usage is subject to legal provisions.

HAWE Hydraulik respects these legal provisions in all cases.

HAWE Hydraulik cannot provide individual guarantees that the stated circuits or procedures (including in part) are not subject to the intellectual property rights of third parties.

Printing date / document generated on: 23.09.2022

Table of Contents

1	Overview of hand pump type CH.....	4
2	Available versions.....	5
2.1	Basic type and size.....	5
3	Parameters.....	7
3.1	General data.....	7
3.2	Pressure and volumetric flow.....	7
4	Dimensions.....	9
4.1	Hand pump CH 08 P, CH 08 P-S.....	9
4.2	Hand pump CH 08 PG, CH 08 PG-S.....	10
4.3	Hand pump CH 08 G-AS.....	11
5	Installation, operation and maintenance information.....	12
5.1	Intended use.....	12
5.2	Assembly information.....	12
5.3	Operating instructions.....	12
5.4	Maintenance information.....	13

1 Overview of hand pump type CH

Hand pumps are a type of hydraulic pump. They generate a volumetric flow manually.

The hand pump type CH is single acting. It draws hydraulic fluid in when the hand lever is moved in one direction and discharges it when the hand lever is moved in the opposite direction.

The hand pump type CH is available for pipe connection and manifold mounting.

Features and advantages

- Sturdy design
- Corrosion-resistant
- Zero-leakage pressure connection

Intended applications

- Marine
- Mining equipment
- Wind turbines
- Fixture construction



Hand pump type CH

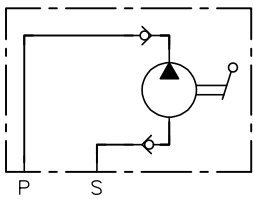
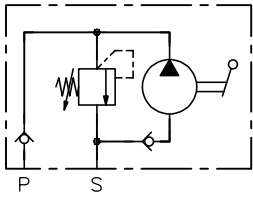
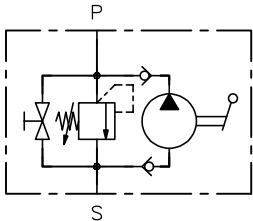
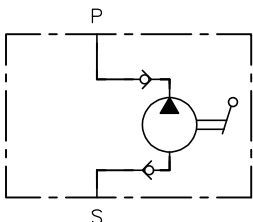
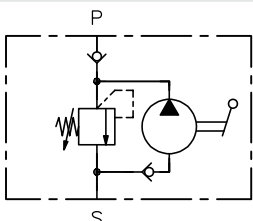
2 Available versions

Ordering example

CH 08 G-AS	-200
	Pressure setting Pressure range: 50 - 300 bar

2.1 "Basic type and size"

2.1 Basic type and size

Type	Displacement volume $V_{\text{Stroke max}}$ (cm ³ /stroke)	Pressure p_{max} (bar)	Additional functions	Circuit symbol
Manifold mounting				
CH 08 P	8,3	300	without	
CH 08 P-S			Pressure-limiting valve (tool adjustable)	
Pipe connection				
CH 08 G-AS	8,3	300	Pressure-limiting valve (tool adjustable) and drain valve	
CH 08 PG		300	without	
CH 08 PG-S		250	Pressure-limiting valve (tool adjustable)	

i INFORMATION

- Stroke: Hand lever from one end position into the other and back again
- Suction port able to bear up to 150 bar
- Pressure on connection S acts through the pump via connection P up to the connected consumer or to the directional valve connected between. The hand lever is pressed into the end position.

i INFORMATION

Position of pressure-limiting valve

- **Type CH 08 P-S, CH 08 PG-S:**
 - The pressure-limiting valve is located downstream of the check valve on the pump side.
 - The pressure-limiting valve protects against excessively high pressure that could be caused by the pump.
 - It does not offer protection if the pressure increases in the P line, caused e.g. through temperature increase.
- **Type CH 08 G-AS:**
 - The pressure-limiting valve is located upstream of the check valve on the pump side.
 - It provides protection if there is a pressure increase due to the pump or from the P line.

3 Parameters

3.1 General data

Designation	Hand pump
Design	Open, single-acting
Model	Pipe connection or manifold mounting
Material	Steel; nitrided valve housing, electro-galvanised sealing nuts and connection block, hardened and ground functional inner parts CH 08 P, CH 08 P-S, CH 08 G-AS: Pump housing: Nickel-zinc coating hardened V2A CH 08 PG, CH 08 PG-S: Pump housing: Aluminium, surface anodised
Tightening torque	310 Nm (at 250 bar)
Installation position	As desired Setting up: Keep suction lines short Set up oil tank at the same level or higher than the suction ports. This prevents drainage of the suction line at rest.
Ports/connections	<ul style="list-style-type: none"> ▪ P = Pressure connection ▪ S = Suction port
Hydraulic fluid	Hydraulic fluid, according to DIN 51 524 Parts 1 to 3; ISO VG 10 to 68 according to DIN ISO 3448 Viscosity range: 4 - 1500 mm ² /s Optimal operating range: approx. 10 - 500 mm ² /s 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 <u>21/18/15...19/17/13</u>
Temperatures	Environment: approx. -40 to +80 °C, hydraulic fluid: -25 to +80 °C, pay attention to the viscosity range. Start temperature: down to -40 °C is permissible (take account of the start viscosities!), as long as the steady-state temperature is at least 20 K higher during subsequent operation. Biologically degradable hydraulic fluids: note manufacturer specifications. With consideration for the seal compatibility, not above +70°C.

3.2 Pressure and volumetric flow

Operating pressure	<ul style="list-style-type: none"> ▪ $p_{\max} = 300$ bar ▪ Suction port $p_s < 150$ bar
Displacement volume	$V_{\text{Stroke max}} = 8.3 \text{ cm}^3/\text{stroke}$
Static overload capacity	Pressure connection P: approx. $2x p_{\max}$ (600 bar)

Weight

Type

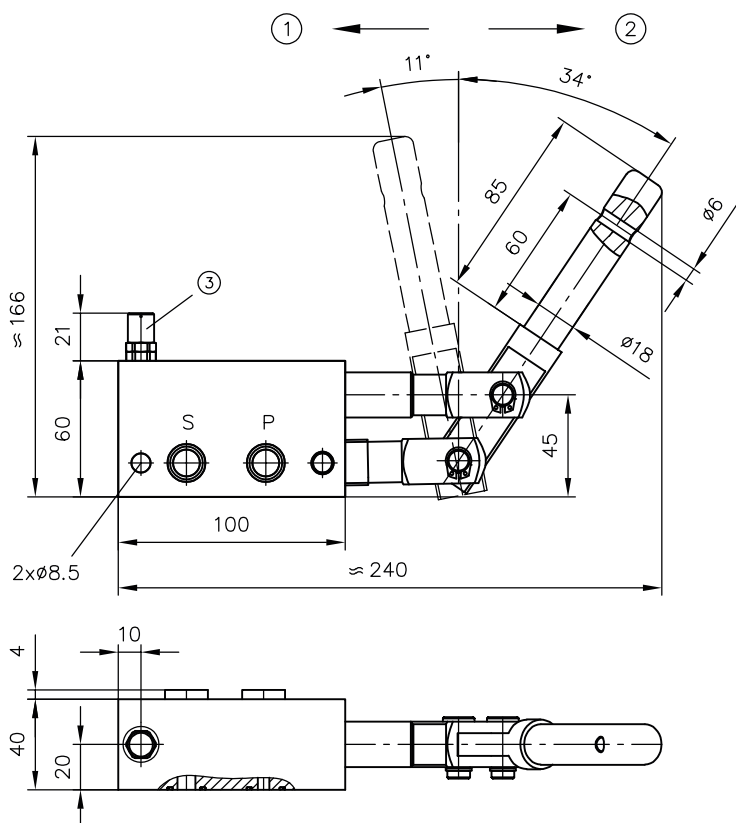
CH 08 P	= 2.3 kg
CH 08 P-S	= 2.4 kg
CH 08 G-AS	= 3.0 kg
CH 08 PG	= 1.7 kg
CH 08 PG-S	= 1.8 kg

4 Dimensions

All dimensions in mm, subject to change.

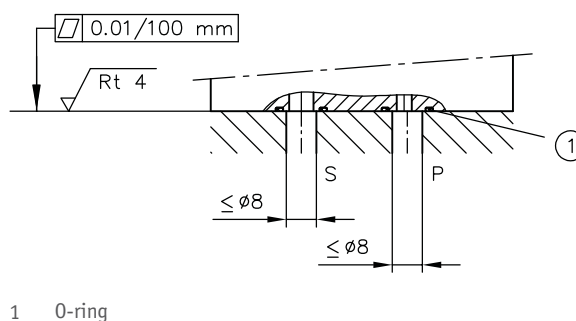
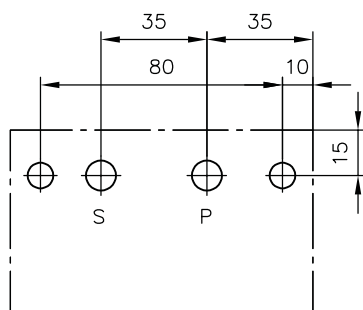
4.1 Hand pump CH 08 P, CH 08 P-S

CH 08 P
CH 08 P-S



- 1 Delivery
- 2 Suction
- 3 Pressure-limiting valve, only for type CH 08 P-S

Hole pattern of the base plate



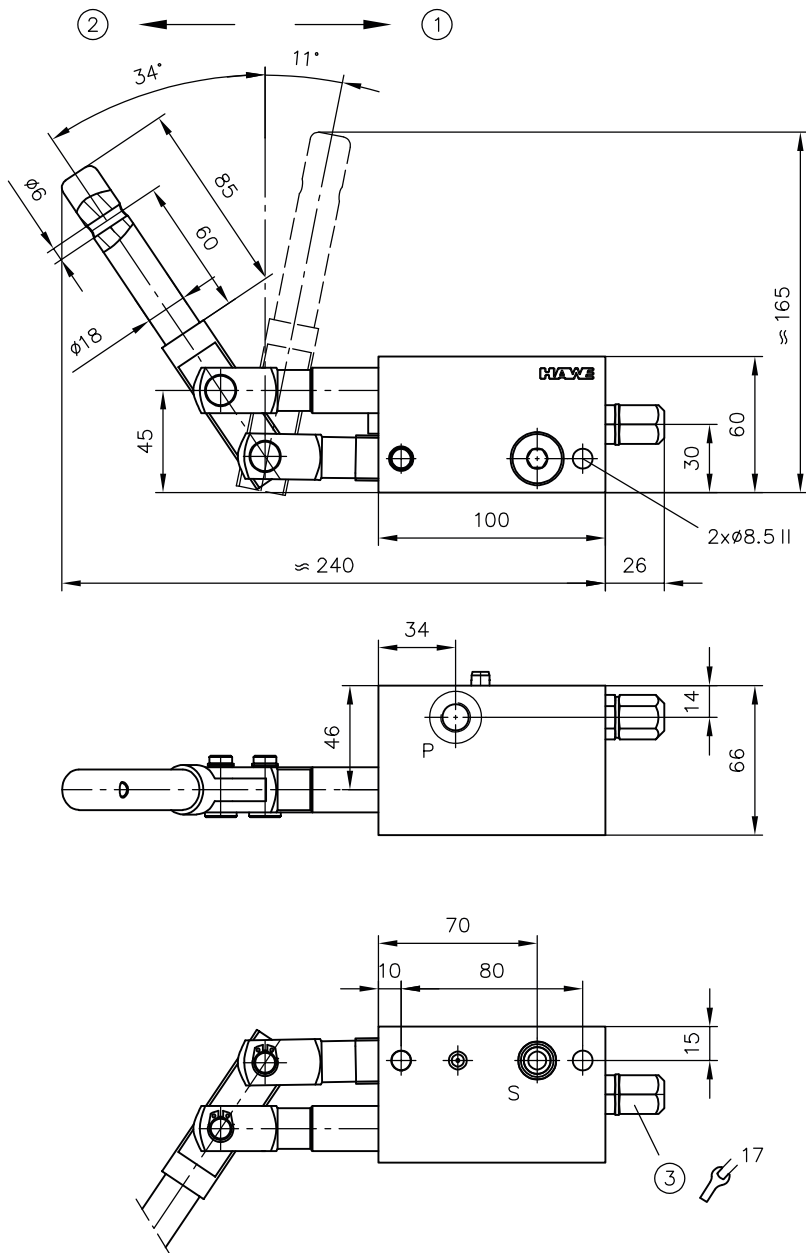
Sealing of the ports:

	O-ring NBR 90 Sh
P, S	14x1.6

INFORMATION
O-rings are included in scope of delivery.

4.2 Hand pump CH 08 PG, CH 08 PG-S

CH 08 PG
CH 08 PG-S



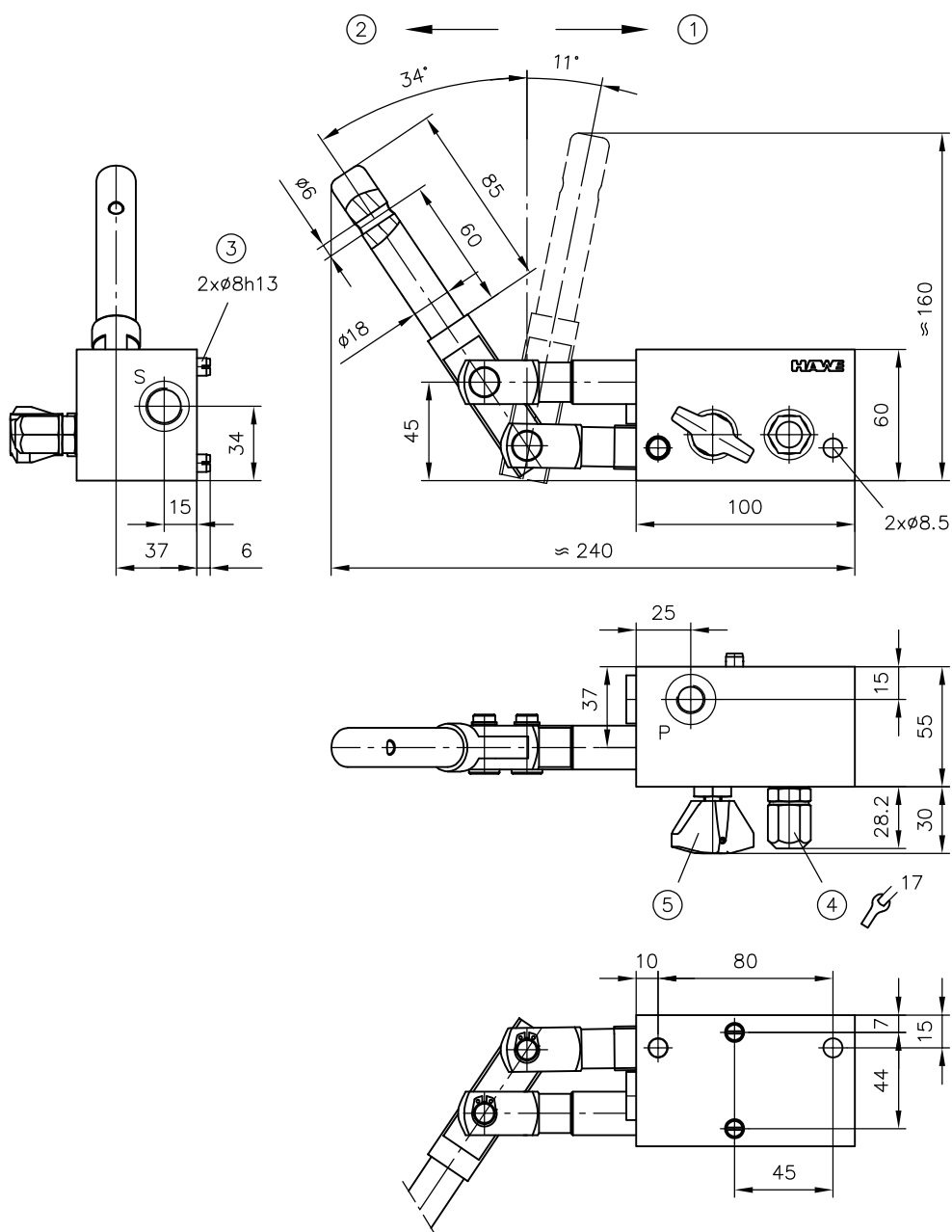
- 1 Delivery
- 2 Suction
- 3 Pressure-limiting valve, only for type CH 08 PG-S

Connections (ISO 228-1)

S	Ø8
P	G 1/4

4.3 Hand pump CH 08 G-AS

CH 08 G-AS



- 1 Delivery
- 2 Suction
- 3 Centring pin
- 4 Button for pressure setting
- 5 Drain valve

Connections (ISO 228-1)

S	G 3/8
P	G 1/4

Observe the document B 5488 "General operating instructions for assembly, commissioning, and maintenance."

5.1 Intended use

This product is intended exclusively for hydraulic applications (fluid technology).

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

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 specialist personnel.
- ▶ The product must only be operated within the specified technical parameters described in detail in this document.
- ▶ All components must be suitable for the operating conditions when using an assembly.
- ▶ The operating instructions for 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 disassembly (in particular in combination with hydraulic accumulators).

DANGER

Sudden movement of the hydraulic drives when disassembled incorrectly

Risk of serious injury or death

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

5.3 Operating instructions

Observe product configuration and pressure/flow rate.

The statements and technical parameters in this document must be strictly observed.

The instructions for the complete technical system must also always be followed.

NOTICE

- ▶ 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.

CAUTION

Overloading components due to incorrect pressure settings.

Risk of minor injury.

- Pay attention to the maximum operating pressure of the pump, valves and fittings.
- Always monitor the pressure gauge when setting and changing the pressure.

Purity and filtering of the hydraulic fluid

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

Examples of fine contamination include:

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

! NOTICE

New hydraulic fluid from the manufacturer may not have the required purity.

Damage to the product is possible.

- ▶ Filter new hydraulic fluid to a high quality when filling.
- ▶ Do not mix hydraulic fluids. Always use hydraulic fluid that is from the same manufacturer, of the same type, and with the same viscosity properties.

For smooth operation, pay attention to the cleanliness level of the hydraulic fluid (cleanliness level [see Chapter 3, "Parameters"](#)).

Additionally applicable document: [D 5488/1](#) Oil recommendations

5.4 Maintenance information

Check regularly (at least once a year) by visual inspection whether the hydraulic connections are damaged. If external leakages are found, shut down and repair the system.

Clean the surface of the device regularly (at least once a year) (dust deposits and dirt).

References

Additional versions

- Manual pump type H, HD and HE: D 7147/1
- Compact hydraulic power pack type CPU: D 8010 CPU

(The CH hand pump can be installed directly on a variant of the CPU-type compact hydraulic power pack. Type on request.)

