

Hand pump type CH

Product documentation



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



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Hand pumps are a type of hydraulic pump. They generate a flow rate manually. The hand pump type CH is single acting. It draws oil 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 benefits:

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

Intended applications:

- Marine
- Mining equipment
- Wind turbines
- Fixture construction

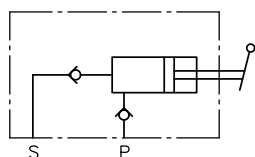


Hand pump type CH

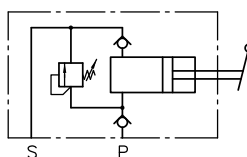
2 Available versions, main data

Circuit symbol:

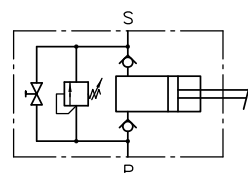
CH 08 P



CH 08 P-S



CH 08 G-AS



Order coding example:

CH 08 G-AS

-200

Pressure setting Pressure range: 50 to 300 bar

Basic type and size Table 1 Basic type and size

Table 1 Basic type and size

| Type | Description | Displacement volume $V_{\text{Stroke max}}$ (cm ³ /stroke) | Pressure p_{max} (bar) | Additional functions |
|------------|-------------------|---|---------------------------------------|---|
| CH 08 P | Manifold mounting | 8.3 | 300 | None |
| CH 08 P-S | | | | Pressure-limiting valve (tool adjustable) |
| CH 08 G-AS | Pipe connection | | | Pressure-limiting valve (tool adjustable) and drain valve |

i NOTE

- 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 NOTE

Position of pressure-limiting valve

- **Type CH 08 P-S:**
The pressure-limiting valve is located after the check valve on the pump side.
The pressure-limiting valve protects against pressure that is too high, which could be caused by the pump.
It does not offer protection against an increase in pressure in the P line, caused by e.g. a temperature increase.
- **Type CH 08 G-AS:**
The pressure-limiting valve is located before the check valve on the pump side.
It provides protection both for pressure increases through the pump as well as coming from the P line.

General information

| | |
|------------------------------|---|
| Designation | Hand pump |
| Design | Open, single-acting |
| Model | Pipe connection or manifold mounting |
| Material | Steel; nitrided valve housing, electrogalvanised sealing nuts and connection block, hardened and ground functional inner parts Pump housing: Nickel-zinc coating hardened V2A |
| Installation position | As desired Setting up: Keep suction line short. Set up oil tank at the same level or higher than the suction ports. This prevents drainage of the suction line at rest. |
| Actuation torque [Nm] | 310 Nm (at 250 bar) |
| Ports | P = pressure connection S = suction port |
| Hydraulic fluid | Hydraulic oil: according to part 1 to 3; ISO VG 10 to 68 according to DIN ISO 3448 Viscosity limits: min. approx. 4, max. approx. 1500 mm ² /s opt. operation 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 <hr/> 21/18/15...19/17/13 |
| Temperatures | Ambient: approx. -40 ... +80°C, Fluid: -25 ... +80°C, Note the viscosity range! Permissible temperature during start: -40°C (observe start-viscosity!), as long as the service temperature is at least 20K higher for the following operation. Biologically degradable pressure fluids: Observe manufacturer's specifications. By consideration of the compatibility with seal material not over +70°C. |

Pressure and flow rate

| | |
|---------------------------------|--|
| Operating pressure | $p_{\max} = 300 \text{ bar}$ Suction port $p_s < 150 \text{ bar}$ |
| Displacement volume | $V_g = 8.3 \text{ ccm}$ |
| Static overload capacity | Pressure connection P: approx. $2 \times p_{\max}$ (600 bar) |

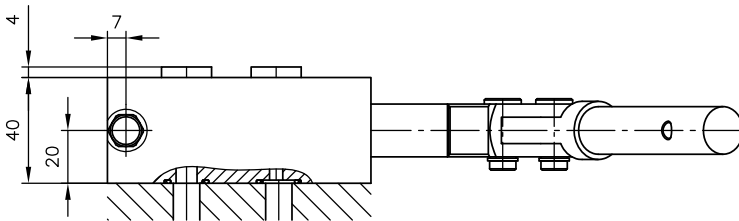
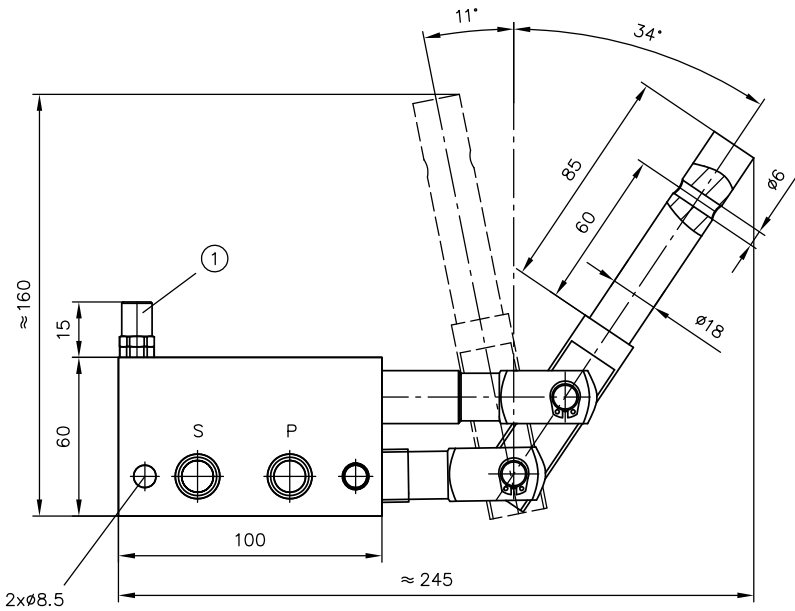
Weight**Type**

| | |
|------------|----------|
| CH 08 P | = 2.3 kg |
| CH 08 P-S | = 2.3 kg |
| CH 08 G-AS | = 3.0 kg |

4 Dimensions

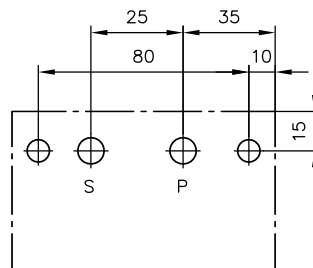
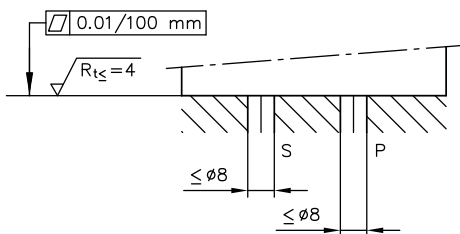
All dimensions in mm, subject to change.

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



1 Pressure-limiting valve, only for type CH 08 P-S

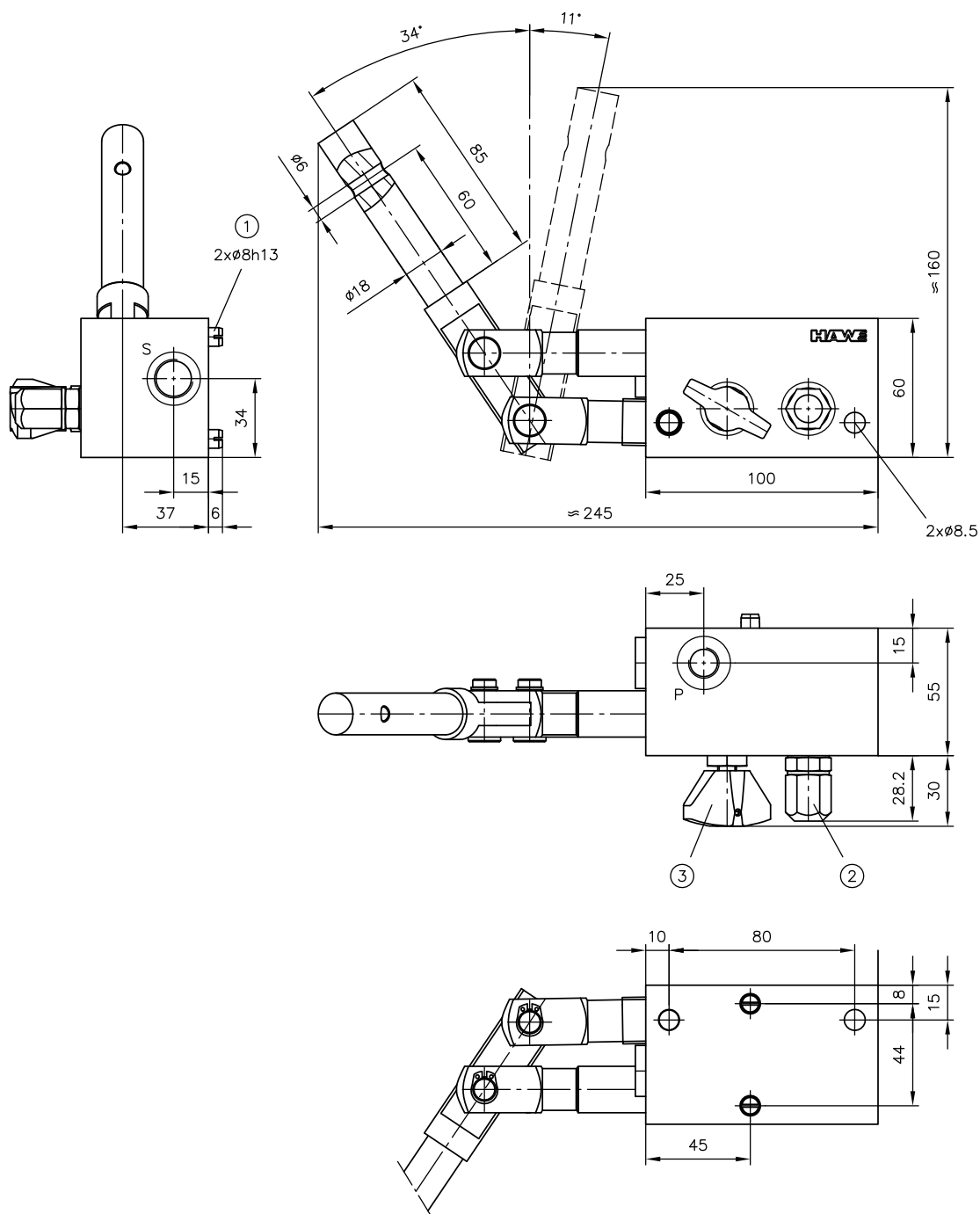
Base plate hole pattern



Sealing of the ports:

| | O-ring |
|------|--------|
| P, S | 14x1.6 |

4.2 Hand pump CH 08 G-AS



- 1 Centring pin
- 2 Knob for drain valve
- 3 Pressure setting

Port (ISO 228-1) (BSPP)

| | |
|---|-------|
| S | G 3/8 |
| P | G 1/4 |

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 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.
- 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 dismantling (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.

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.

i 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

i NOTE

Fresh hydraulic fluid from the drum does not always have the highest degree of purity. Under some circumstances the fresh hydraulic fluid must be filtered before use.

Adhere to the cleanliness level of the hydraulic fluid in order to maintain faultless operation.
(also see cleanliness level in [Chapter 3, "Parameters"](#)).

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

5.4 Maintenance information

For hand pump type CH, the drive (lever mechanism) is outside the housing (suction chamber). As such, occasional cleaning and lubrication is necessary.

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.

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

Further information

Additional versions

- Manual pump type H, HD and HE: D 7147/1