



# Workholding

**Machining center clamping**  
**Clamping fixtures**  
**Welding fixtures**  
**Fully integrated systems**

Horizontal machining center

Co. Deckel MAHO

Clamping unit

Co. Eckold

Power pack

Co. Seyer Elektromotoren

Paper coating

Co. Pagendam

Grinding machine

Co. Reform Maschinenfabrik

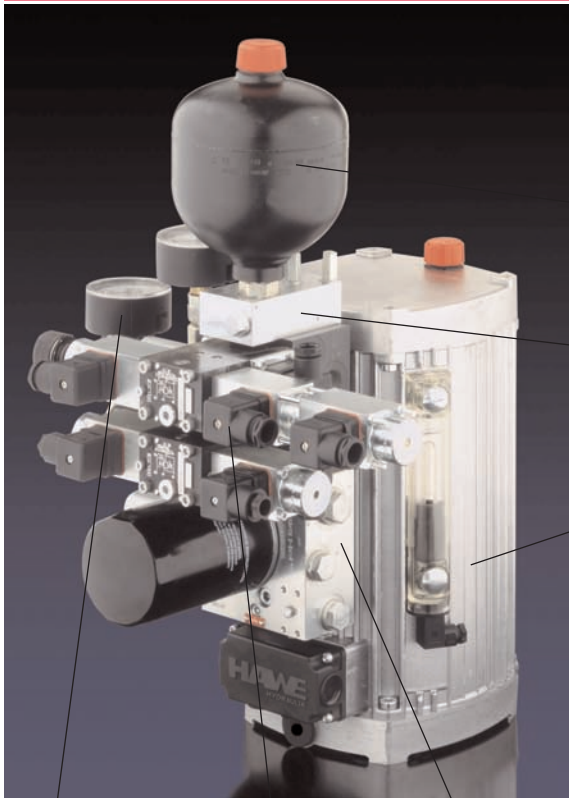


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Extremely compact and modular  
Low energy consumption means minimal heat  
Replacement of components is easy  
All this saves space, energy, and money

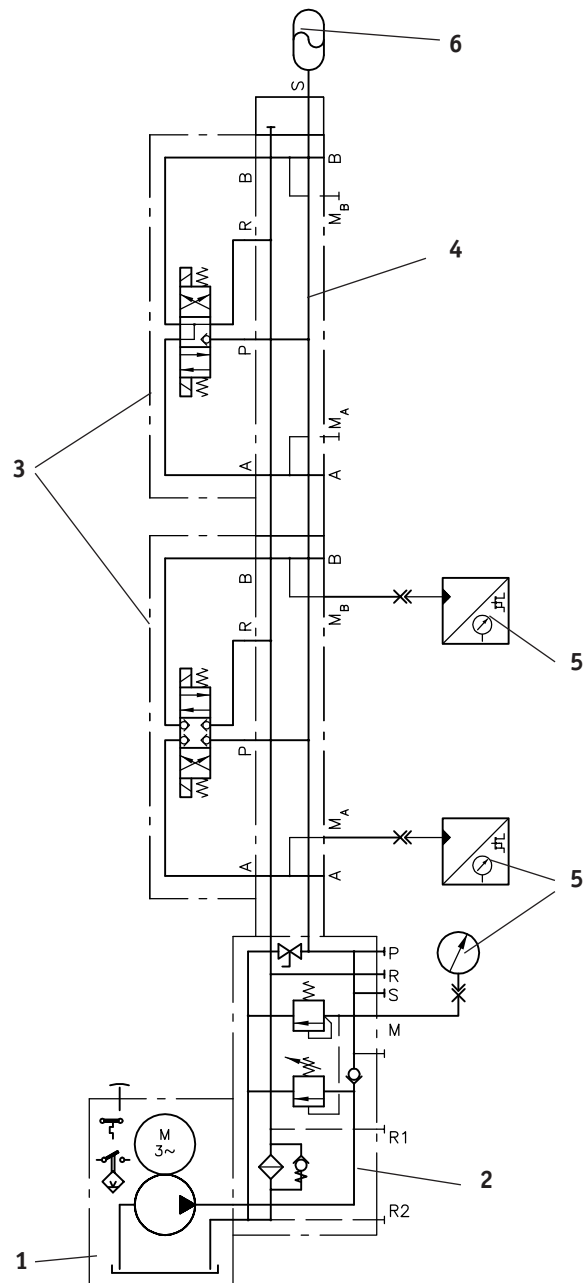
All of this and more for over 50 years

## Turn-key solutions from our modular system



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1. Compact hydraulic power packs
2. Connection block type A
3. Directional valve type NBVP
4. Valve bank system type BA
5. Accessories: pressure gauges, pressure switches, etc.
6. Accumulator type AC



# Typical application



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(Define as a specification using circuit from turn key solution page)

- Define    No. of functions  
            Define each function  
            Duty cycle  
            Power requirement  
            Flow requirement
- Step 1    Select power unit  
Step 2    Select connection block  
Step 3    Select valve bank  
Step 4    Select intermediate plate  
Step 5    Select accessories, gauges and pressure switches, accumulators

## Example

- Project name:                      Tool handling  
1. Function:                      Rotary, dual acting, monitored by pressure switches  
2. Function:                      Positioning, dual acting
- Duty cycle:                      2 sec rotation at 120 bar  
                                        1 sec positioning at 140 bar  
                                        27 sec no handling
- Flow requirement:              1.9 lpm (rotary)  
                                        1.9 lpm (positioning)
- Selected power pack:

| Coding                                                   | Description                                                                                                                                                                           |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KA 24 SK/H 1,81<br>3 x 400 V 50 Hz                       | Compact hydraulic power pack type KA acc. to D 8010, (intermittent duty) vertical mount (S) with float switch (K)<br>flow rate 1.81 lpm at 1360 rpm,<br>motor voltage 3 x 400 V 50 Hz |
| -AL 21 F 2-C/140/150-2                                   | Connection block with switch-off valve acc. to D 6905 A/1,<br>adjustments:<br>max. system pressure:    140 bar<br>switch-off valve:            150 bar                                |
| BA 2<br>-NBVP 16 G-G/3<br>-X 84 G-DG 62<br>-X 84 G-DG 62 | Valve bank type BA acc. to D 7788<br>Function #1<br>3 position 4-way directional seated valve type NBVP acc. to D 7765 N<br>electronic pressure switches at A and B                   |
| -NBVP 16 D-G/3                                           | Function #2<br>3 position 4-way directional seated valve type NBVP acc. to D 7765 N                                                                                                   |
| -80-G24-AC 603/90/3 A                                    | End plate (80) with assembled accumulator (AC 1002) acc. to D 7969                                                                                                                    |
| -X 84 V-9/250                                            | Pressure gauge installed in system pressure port (M)                                                                                                                                  |



## Power packs

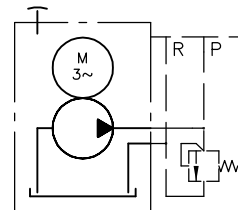


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### Description:

- Ready to use power pack for intermittent service
- Needs to be completed by a connection block
- Pressure setting tool adjustable



| HAWE part No. #    | Motor voltage   | Motor capacity | Pump flow | Pump pressure | Filling volume | Usable volume |
|--------------------|-----------------|----------------|-----------|---------------|----------------|---------------|
| KAW 24-SKT/H 0,93  | 1 ~ 230 V 50 Hz | 0.75 kw        | 0.92 lpm  | 350 bar       | 4.0 liter      | 2.0 liter     |
| KA 24-SK/H 0,93    | 3 ~ 400 V 50 Hz | 0.75 kw        | 0.92 lpm  | 350 bar       | 4.0 liter      | 2.0 liter     |
| KA 24-SK/H 0,93    | 3 ~ 230 V 50 Hz | 0.75 kw        | 0.92 lpm  | 350 bar       | 4.0 liter      | 2.0 liter     |
| KAW 281-SKT/H 1,81 | 1 ~ 230 V 50 Hz | 1.0 kw         | 1.81 lpm  | 350 bar       | 5.0 liter      | 3.0 liter     |
| KA 281-SK/H 1,81   | 3 ~ 400 V 50 Hz | 1.0 kw         | 1.81 lpm  | 350 bar       | 5.0 liter      | 3.0 liter     |
| KA 281-SK/H 1,81   | 3 ~ 230 V 50 Hz | 1.0 kw         | 1.81 lpm  | 350 bar       | 5.0 liter      | 3.0 liter     |

Option

### For more detailed information see

D 8010 Compact power pack type KA

### Option:

S = Fluid level switch (N.O.)

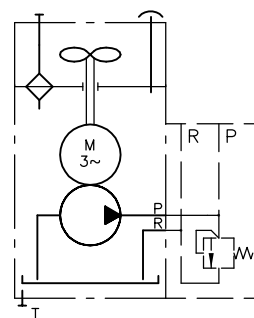
K = Fluid level gauge

T = Temperature switch



### Description:

- Ready to use power pack for continuous and intermittent service
- Needs to be completed by a connection block
- Pressure setting tool adjustable



| HAWE part No. #      | Motor voltage   | Motor capacity | Pump flow | Pump pressure | Filling volume | Usable volume |
|----------------------|-----------------|----------------|-----------|---------------|----------------|---------------|
| HK 24/1-H 1,08       | 3 ~ 400 V 50 Hz | 0.55 kw        | 1.14 lpm  | 350 bar       | 3.0 liter      | 0.8 liter     |
| HK 348 DT/1-H 2,5    | 3 ~ 400 V 50 Hz | 1.10 kw        | 2.45 lpm  | 350 bar       | 6.0 liter      | 3.0 liter     |
| HK 449 DT/1-H 4,2    | 3 ~ 400 V 50 Hz | 2.20 kw        | 4.14 lpm  | 350 bar       | 9.0 liter      | 5.0 liter     |
| HKLW 348 DT/1-H 2,15 | 1 ~ 230 V 50 Hz | 1.50 kw        | 2.06 lpm  | 350 bar       | 6.0 liter      | 3.0 liter     |
| HKL 348 DT/1-H 4,8   | 3 ~ 400 V 50 Hz | 1.50 kw        | 4.85 lpm  | 350 bar       | 6.0 liter      | 3.0 liter     |

Option

### For more detailed information see

D 7600-2 Compact hydraulic power pack type HK 2,  
 D 7600-3 Compact hydraulic power pack type HK 3,  
 D 7600-3L Compact hydraulic power pack type HKL 3,  
 D 7600-4 Compact hydraulic power pack type HK 4 and HKF 4

### Option:

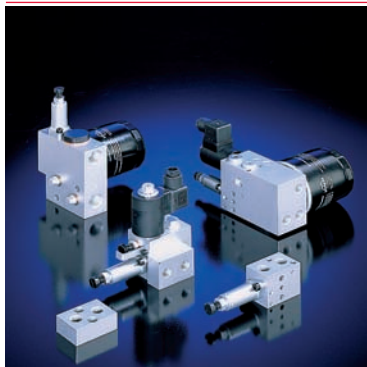
D = Fluid level switch (N.C.)

T = Temperature switch

# Connection blocks



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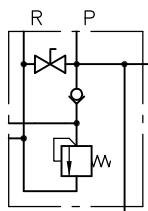
## Description:

- Connection blocks to complete compact hydraulic power packs with pressure limiting valve
- Several additional functions integrated, e.g. idle circulation valves, drain valves or check valves in P
- Pressure setting tool adjustable

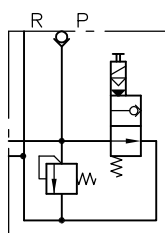
A 1/350



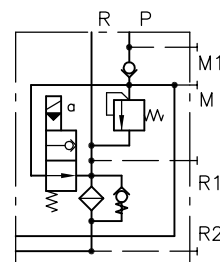
A 38/350



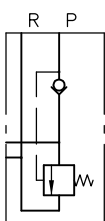
AS 3/350-G24



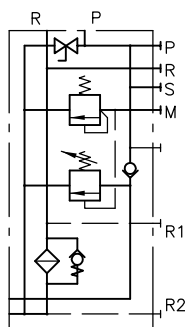
AS 3 F 2/350-G24



AL 11/C 350



AL 21 F 2/C 300/350



| HAWE part No. #       | Feature                                       |
|-----------------------|-----------------------------------------------|
| A 1/(350)             | Standard                                      |
| A 38/(350)            | Drain valve                                   |
| AS 3/(350)-G24        | Idle circulation valve N0                     |
| AS 3 F 2/(350)-G24    | Idle circulation valve N0, return flow filter |
| AL 11/(C 350)         | Shut-off valve                                |
| AL 21 F 2/(C 300/350) | Shut-off valve, return flow filter            |

Replacement filter element  
 6905 117 F2

**For more detailed information see**  
 D 6905 A/1 Connection blocks type A

# Add-on valve bank type BA



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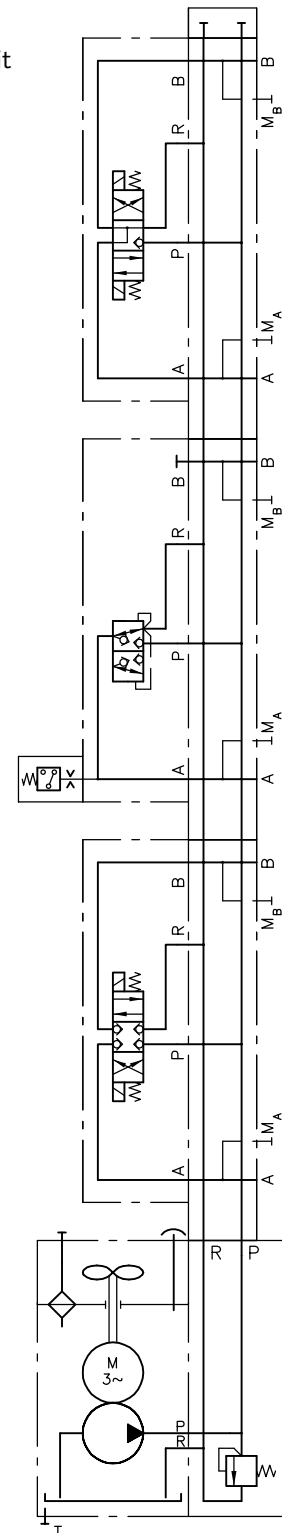
## Description

- Directly mountable to all connection blocks type A
- Sub-plates with NG 6 hole pattern, max. 10 sub-plates combinable
- End-plates with several optional features, e.g. drain valves, pressure switches, accumulator parts
- Tie rods acc. to the number of sub-plates

Example circuit

| HAWE part No. #                                                                                                                                                                                                                                                                    | Symbol                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sub-plates<br><b>BA2-/3</b>                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                 |
| End-plates<br><b>BA2-1</b><br><b>BA2-44/2</b><br><b>BA2-80</b><br><b>BA2-8</b>                                                                                                                                                                                                     | <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <b>-1</b><br/> </div> <div style="text-align: center;"> <b>-4./.</b><br/> </div> <div style="text-align: center;"> <b>-80</b><br/> </div> <div style="text-align: center;"> <b>-8</b><br/> </div> </div> |
| Tie rod kits (incl tie rods, nuts)<br><b>BA Trk 1</b> (M6x208x5)<br><b>BA Trk 2</b> (M6x258x5)<br><b>BA Trk 3</b> (M6x308x5)<br><b>BA Trk 4</b> (M6x358x5)<br><b>BA Trk 5</b> (M6x408x5)<br><b>BA Trk 6</b> (M6x458x5)<br><b>BA Trk 7</b> (M6x508x5)<br><b>BA Trk 8</b> (M6x558x5) |                                                                                                                                                                                                                                                                                                                                 |

For more detailed information see  
 D 7788 Valve bank type BA



# Directional seated valves



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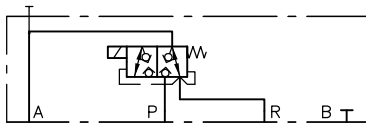
## Description

- Directional seated valves, zero-leak technology
- NG 6 hole pattern
- 2 position 3-way, 2 position 4-way and 3 position 4-way valves
- Several other actuations available e.g. hydraulic, pneumatic, manual

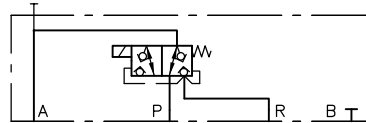
Options for port P, A, B, and T

- Check valves
- Orifices
- Restrictor check valves

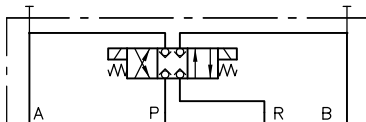
NBVP 16 Z/2-...



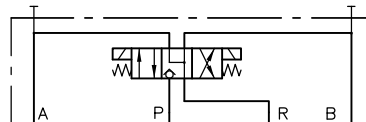
NBVP 16 Y/2-...



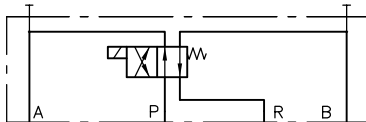
NBVP 16 G-...



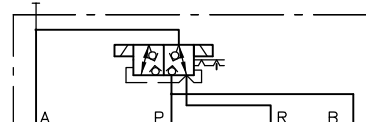
NBVP 16 D-...



NBVP 16 W-...



NBVP 16 ZD-...



| HAWE part No. #  | Max. flow rate | Max. pressure | Supply voltage |
|------------------|----------------|---------------|----------------|
| NBVP 16 Y/2 -G24 | 20 lpm         | 400 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 400 bar       | 230 V AC       |
| NBVP 16 Z/2 -G24 | 20 lpm         | 400 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 400 bar       | 230 V AC       |
| NBVP 16 G -G24   | 20 lpm         | 400 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 400 bar       | 230 V AC       |
| NBVP 16 D -G24   | 20 lpm         | 400 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 400 bar       | 230 V AC       |
| NBVP 16 W -G24   | 20 lpm         | 250 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 250 bar       | 230 V AC       |
| NBVP 16 ZD -G24  | 20 lpm         | 400 bar       | 24 V DC        |
| -WG230           | 20 lpm         | 400 bar       | 230 V AC       |

**For more detailed information see**

D 7765 N Directional seated valves type NBVP

**For high pressure application up to 10,000 psi see**

D 7300 N Directional seated valves type NG

D 7300 Directional seated valves type G

D 7302 Valve banks type VB

# Sandwich plates



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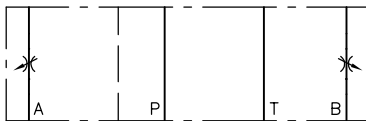
## Description

- Widen the functionality of directional valves with NG 6 hole pattern
- With throttle or throttle check valves
- With pressure reducing valves in P, A, or B

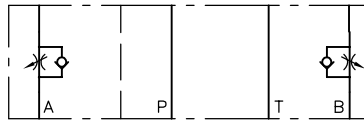
Options for port P, A, B, and T

- Check valves
- Orifices
- Restrictor check valves

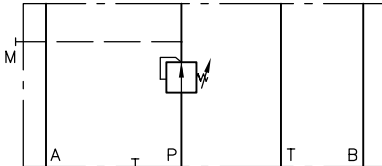
NZP 16 Q 11



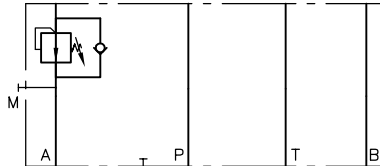
NZP 16 Q 22



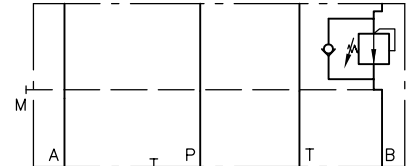
NZP 16 CZ



NZP 16 ACZ



NZP 16 BCZ



| HAWE part No. #                   | Max. flow rate | Pressure range |
|-----------------------------------|----------------|----------------|
| Throttle or throttle check valves |                |                |
| NZP 16 Q 11                       | 50 lpm         | 700 bar        |
| NZP 16 Q 22                       | 50 lpm         | 700 bar        |
| Pressure reducing valve           |                |                |
| NZP 16 CZ-08                      | 12 lpm         | 50 ... 450 bar |
| NZP 16 CZ-1                       | 12 lpm         | 30 ... 300 bar |
| NZP 16 CZ-2                       | 12 lpm         | 20 ... 200 bar |
| NZP 16 CZ-5                       | 12 lpm         | 15 ... 130 bar |
| NZP 16 ACZ-08                     | 12 lpm         | 50 ... 450 bar |
| NZP 16 ACZ-1                      | 12 lpm         | 30 ... 300 bar |
| NZP 16 ACZ-2                      | 12 lpm         | 20 ... 200 bar |
| NZP 16 ACZ-5                      | 12 lpm         | 15 ... 130 bar |
| NZP 16 BCZ-08                     | 12 lpm         | 50 ... 450 bar |
| NZP 16 BCZ-1                      | 12 lpm         | 30 ... 300 bar |
| NZP 16 BCZ-2                      | 12 lpm         | 20 ... 200 bar |
| NZP 16 BCZ-5                      | 12 lpm         | 15 ... 130 bar |

## Bolt kits when sandwich valves are used

| NBVP 16 D, G, DS, J, Q, K, RS, SR, W                 | NBVP 16 R, S, Z, Y                                   |
|------------------------------------------------------|------------------------------------------------------|
| BA 1 SW 01 bolt kit 1 sandwich Q or CZ option        | BA 1 SW 03 bolt kit 1 sandwich Q or CZ option        |
| BA 1 SW 02 bolt kit 1 sandwich ACZ or BCZ option     | BA 1 SW 04 bolt kit 1 sandwich ACZ or BCZ option     |
| BA 2 SW 01 bolt kit 2 sandwich Q + CZ option         | BA 2 SW 04 bolt kit 2 sandwich Q + CZ option         |
| BA 2 SW 02 bolt kit 2 sandwich Q/CZ + ACZ/BCZ option | BA 2 SW 05 bolt kit 2 sandwich Q/CZ + ACZ/BCZ option |
| BA 2 SW 03 bolt kit 2 sandwich ACZ + BCZ option      | BA 2 SW 06 bolt kit 2 sandwich ACZ + BCZ option      |

## For more detailed information see

D 7788 Z Sandwich plates type NZP



## Additional valves



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### Description

- Screw-in type pressure reducing valve
- Zero leakage when closed
- Housing in different designs available, e.g. plate mounting, sandwich plate or pipe mounting
- Pressure setting tool adjustable

| HAWE part No. #                   | Max. flow rate | Pressure range | Symbol            |
|-----------------------------------|----------------|----------------|-------------------|
| Screw-in type Line mounted (BSPP) |                |                | CDK 3...<br>CDR 3 |
| CDK 3-08 CDK 3-08 -1/4            | 12 lpm         | 50 ... 450 bar |                   |
| CDK 3-1 CDK 3-1 -1/4              | 12 lpm         | 30 ... 300 bar |                   |
| CDK 3-2 CDK 3-2 -1/4              | 12 lpm         | 20 ... 200 bar |                   |
| CDK 3-5 CDK 3-5 -1/4              | 12 lpm         | 15 ... 130 bar |                   |

### For more detailed information see

- D 7745 Pressure reducing valves type CDK  
 D 7941 Pressure reducing valves with tracked pressure switch type DK and DZ

## Sequence valves



### Description

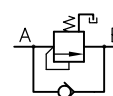
- Available as screw-in type pressure limiting valves or pressure sequence valves
- Screw-in type or for pipe mounting with housing
- Different pressure ranges available
- Pressure setting tool adjustable

| HAWE part No. #                   | Max. flow rate | Pressure range | Symbol           |
|-----------------------------------|----------------|----------------|------------------|
| Screw-in type Line mounted (BSPP) |                |                | CMVZ 2 C-200-3/8 |
| CMVZ 2 C-200 CMVZ 2 C-200-3/8     | 40 lpm         | 0 ... 500 bar  |                  |
| CSVZ 2 C-200 CSVZ 2 C-200-3/8     | 40 lpm         | 0 ... 500 bar  |                  |

### For more detailed information see

- D 7710 MV Pressure valves type CMV(Z) and CSV(Z)

CSVZ 2 C-200-3/8



## Check valves



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### Description

- Zero-leak check valves
- Available as screw-in type, insert or with housing for in-line pipe mounting

| HAWE part No. #             | Max. flow rate | Pressure range | Symbol |
|-----------------------------|----------------|----------------|--------|
| Check valves                |                |                |        |
| RK 0                        | 8 lpm          | 700 bar        |        |
| RK 1                        | 15 lpm         | 700 bar        |        |
| RK 2                        | 20 lpm         | 700 bar        |        |
| ER 13                       | 12 lpm         | 400 bar        |        |
| Pilot operated check valves |                |                |        |
| RHC 1                       | 15 lpm         | 700 bar        |        |
| RHC 2                       | 35 lpm         | 700 bar        |        |
| Restrictor check valves     |                |                |        |
| BC 1-0,6                    | 15 lpm         | 700 bar        |        |
| BC 2-0,8                    | 35 lpm         | 700 bar        |        |
| EBR 14-0,6                  | 12 lpm         | 400 bar        |        |

### For more detailed information see

|          |                                      |
|----------|--------------------------------------|
| D 6969 R | Check valves type RC                 |
| D 7445   | Check valves type RK                 |
| D 7325   | Check valves type ER                 |
| D 7165   | Pilot operated check valves type RHC |
| D 6969 B | Restrictor check valves type BC      |

## Remote mounted manually directional valve



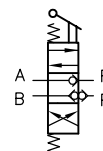
### Description

- 3 position 4-way directional ball seated valves feature zero-leak technology
- Also available as plate mounted version or valve bank
- Different flow pattern available

| HAWE part No. #      | Max. flow rate | Pressure range | Symbol |
|----------------------|----------------|----------------|--------|
| VH 1 G 1 3 pos 4-way | 12 lpm         | 700 bar        | VH 1 G |

### For more detailed information see

|        |                                                 |
|--------|-------------------------------------------------|
| D 7647 | Directional seated valves type VH, VHR, and VHP |
|--------|-------------------------------------------------|



## Pressure switches

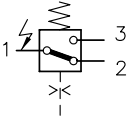
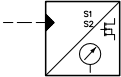


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### Description

- Mechanical or electronic operated pressure switches
- Available as individual component for pipe mounting or as screw-in type
- Can be integrated into a complete power pack unit

| HAWE part No. #                                                 | Pressure range                                      | Symbol                                                                              |
|-----------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| Mechanical pressure switch<br>DG 34<br>DG 35<br>DG 365          | 100 ... 400 bar<br>20 ... 250 bar<br>12 ... 170 bar |  |
| Electronic pressure switch<br>with 2 settings<br>DG 62<br>DG 64 | 0 ... 250 bar<br>0 ... 400 bar                      |  |

### For more detailed information see

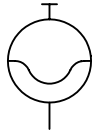
D 5440      Pressure switches type DG 3  
D 5440 F      Electronic pressure switches type DG 6

## Accumulators



### Description

- Accumulators for dampening purpose and/or as support of the pump delivery
- Available as individual component or as integrated part of a power pack unit

| HAWE part No. # | Filling volume      | Max. pressure | Max. filling pressure | Symbol                                                                                |
|-----------------|---------------------|---------------|-----------------------|---------------------------------------------------------------------------------------|
| AC 13-1/4       | 13 cm <sup>3</sup>  | 400 bar       | 250 bar               |  |
| AC 40-1/4       | 40 cm <sup>3</sup>  | 400 bar       | 250 bar               |                                                                                       |
| AC 603/3A       | 600 cm <sup>3</sup> | 350 bar       | 200 bar               |                                                                                       |

### For more detailed information see

D 7571      Miniature hydraulic accumulators type AC  
D 7969      Diaphragm accumulators type AC

# Fittings type X 84



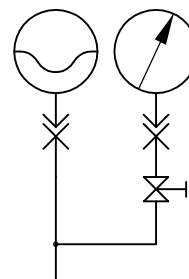
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 info@ehehydraulic.com



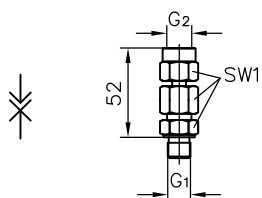
## Description

- For pressure gauges and other hydraulic equipment with tapped journal G 1/4 A (BSPP)

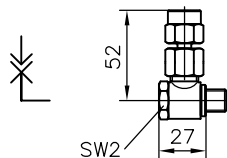
Example circuit



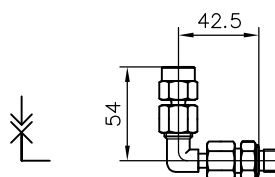
X 84 G



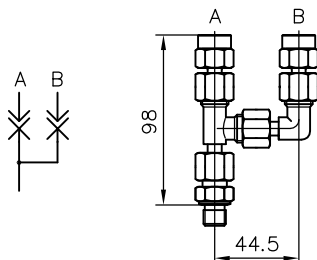
X 84 S



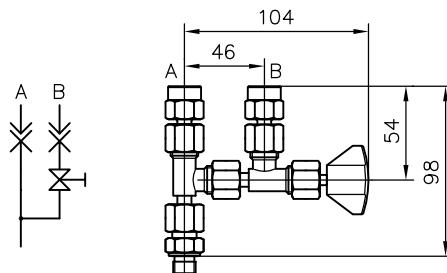
X 84 V



X 84 Y



X 84 U



| Bottom mount gauges | Pressure range |
|---------------------|----------------|
| 9/250               | 250 bar        |
| 9/400               | 400 bar        |
| 9/600               | 600 bar        |
| 9/1000              | 1000 bar       |

For more detailed information see  
 D 7077 Fittings type X 84



**Project name:**

---

**Required functions (names and hydraulic functionality)**

e.g. clamp 1, single acting clamp device

1. Function
2. Function
3. Function
4. Function
5. Function

---

**Pump definition:**

HP requirement

Flow requirement

Duty cycle (value or time-pressure diagramm)

---

**Power pack selection (type coding):**

1. Power pack
2. Connection block
3. Valve bank (directional valves, sandwich plates and sub-plates for each function plus end plate)
4. Accessories



# Custom system solutions from HAWE Hydraulics



## Compact hydraulic power units

types HK, HKLW, and HKL

### HAWE type coding:

**HK 449 DT/1-H 6,0**

- Pump call out
- Pump type (H = radial piston)
- Wiring terminal position
- Accessory options:  
S, D - float switch (S = NO, D = NC)  
T - temperature switch
- Relative reservoir size
- Unit size and motor output power
- Basic unit type:  
HK - 3-phase, vertical design (Size 2, 3, & 4)  
HKL - 3-phase, horizontal design (Size 3)  
HKLW - 1-phase, horizontal design (Size 3)

### Build program overview

#### HK Size 2 D 7600-2

- 3 ~ motor: 0,75 kw
- Flows ranging from 0.4 to 2.2 lpm
- Max. pressure up to 700 bar

#### HK Size 3 D 7600-3

- 3 ~ motor: 1.1 kw
- Flow ranging from 0.9 to 6.6 lpm
- Max. pressure up to 700 bar

#### HKLW Size 3 (horizontal) D 7600-3L

- 1 ~ motor: 1.5 kw
- Flow ranging from 1.2 to 9.8 lpm
- Max. pressure up to 700 bar

#### HKL Size 3 (horizontal) D 7600-3L

- 3 ~ motor: 1.5 kw
- Flow ranging from 1.2 to 9.8 lpm
- Max. pressure up to 700 bar

#### HK Size 4 D 7600-4

- 3 ~ motor: 3.0 kw
- Max. flow: 16.0 lpm
- Max. pressure up to 700 bar

## Base unit order example

Application calls for a 3.2 lpm flow at 140 bar continuous operation.

From the **Pump Call Out**, **Flow**, and **S1 Operation** columns in the “**Base unit configuration**” table, possibilities are:

|                              | Call Out                       | Flow     | S1 Operation |
|------------------------------|--------------------------------|----------|--------------|
| Size 2                       | n/a (all flow choices too low) |          |              |
| Size 3 (vertical)            | 3.6                            | 3.58 lpm | 180 bar      |
| Size 3 (1-phase, horizontal) | 3.35                           | 3.22 lpm | 110 bar      |
| Size 3 (3-phase, horizontal) | 3.35                           | 3.37 lpm | 190 bar      |
| Size 4                       | 2.6                            | 2.70 lpm | 350 bar      |

The Size 2 is too small, and the Size 3 (1-phase, horizontal) has too low a power rating. Any of the other three units, each with a 3 ~ 230/400 V 50 Hz motor, will satisfy the required flow and pressure. In no order of preference, the options are:

Option 1: **HK 34 DT/1-H 3,6**

Option 2: **HKL 348 DT/1-H 3,35**

Option 3: **HK 449 DT/1-H 2,6**



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## Base unit configuration\*



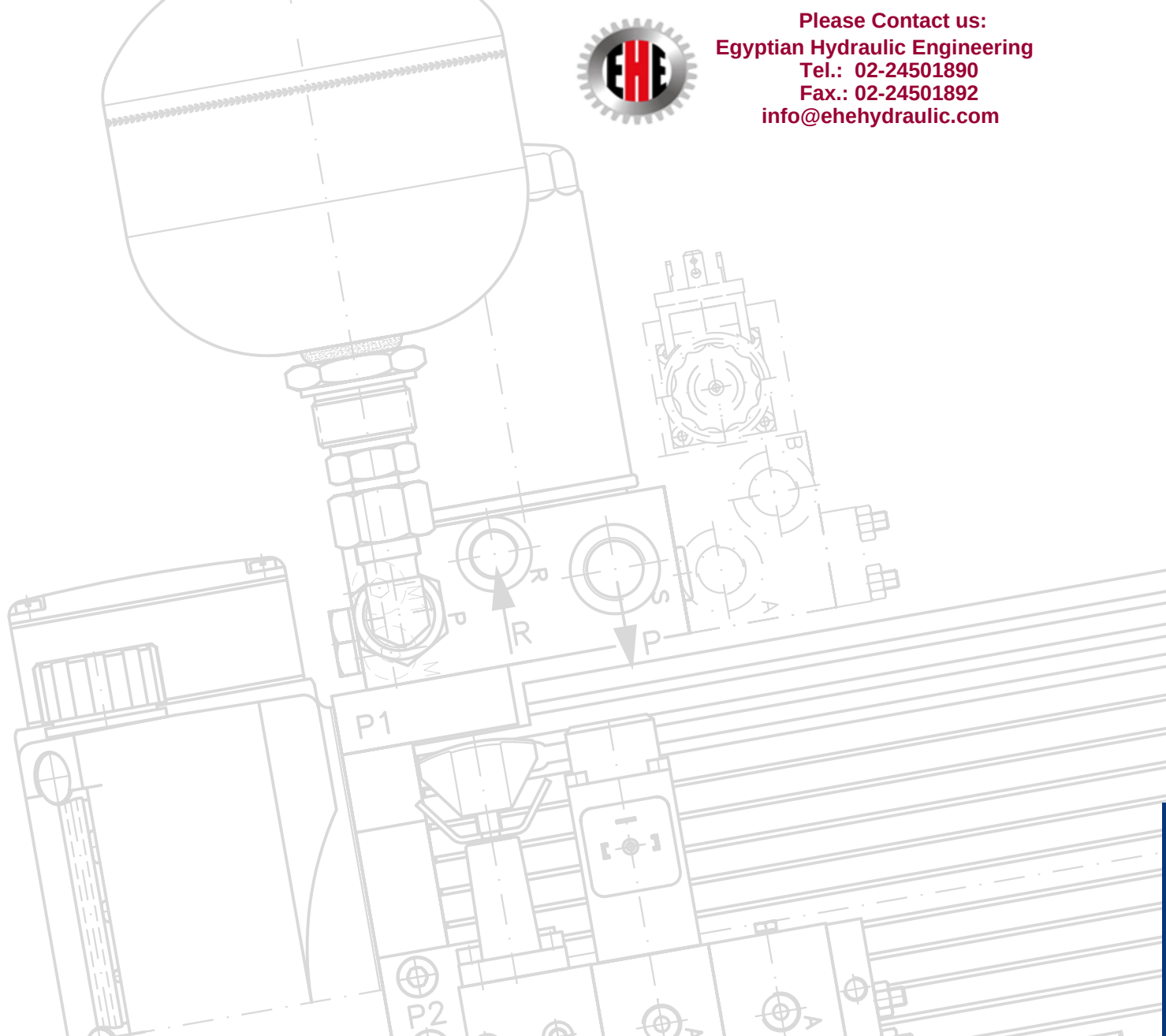
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| Pump Designation                                                                                                                                                                                                                      | Pump flow<br>Call Out                                                  | Operating Pressure<br>S1 (continuous)                                                                  | Maximum Pressure<br>S6 (load/no load)                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>Size 2</b><br>HK 24 /1-H 1,08<br>3 ~ 230/400 V 50 Hz<br>(0.55 kw, 1400 rpm)<br>Approximate filling volume: 2.77 liter<br>Approximate usable volume: 0.85 liter                                                                     | 0.46<br>0.7<br><b>1.08</b><br>1.39<br>1.77<br>2.27                     | 600 bar<br>400 bar<br><b>280</b> bar<br>200 bar<br>150 bar<br>115 bar                                  | 700 bar<br>570 bar<br><b>380</b> bar<br>290 bar<br>215 bar<br>170 bar                                  |
| <b>Size 3</b><br>HK 348 DT/1-H 3,6<br>3 ~ 230/400 V 50 Hz<br>(1.1 kw, 1400 rpm)<br>Approximate filling volume: 6.10 liter<br>Approximate usable volume: 2.90 liter                                                                    | 0.9<br>1.25<br>1.5<br>2.5<br><b>3.6</b><br>4.3<br>5.1<br>5.6<br>6.5    | 700 bar<br>530 bar<br>420 bar<br>260 bar<br><b>180</b> bar<br>150 bar<br>130 bar<br>100 bar<br>100 bar | 700 bar<br>700 bar<br>700 bar<br>440 bar<br><b>300</b> bar<br>260 bar<br>220 bar<br>200 bar<br>170 bar |
| <b>Size 3 (1-phase, horizontal)</b><br>HKLW 348 DT/1-H 2,15<br>1 ~ 230 V 50 Hz<br>(1.5 kw, 1390 rpm)<br>Approximate filling volume: 5.50 liter<br>Approximate usable volume: 2.6 liter                                                | 1.15<br>1.65<br><b>2.15</b><br>3.35<br>4.8<br>5.7<br>6.7<br>7.7<br>8.7 | 300 bar<br>220 bar<br><b>170</b> bar<br>100 bar<br>70 bar<br>60 bar<br>50 bar<br>50 bar<br>40 bar      | 700 bar<br>700 bar<br><b>530</b> bar<br>340 bar<br>230 bar<br>200 bar<br>170 bar<br>150 bar<br>130 bar |
| <b>Size 3 (3-phase, horizontal)</b><br>HKL 348 DT/1-H 4,8<br>3 ~ 230/400 V 50 Hz<br>(1.8 kw, 1410 rpm)<br>Approximate filling volume: 5.5 liter<br>Approximate usable volume: 2.6 liter                                               | 1.15<br>1.65<br>2.15<br>3.35<br><b>4.8</b><br>5.7<br>6.7<br>7.7<br>8.7 | 300 bar<br>220 bar<br>170 bar<br>100 bar<br><b>70</b> bar<br>60 bar<br>50 bar<br>50 bar<br>40 bar      | 700 bar<br>700 bar<br>700 bar<br>560 bar<br><b>390</b> bar<br>330 bar<br>290 bar<br>250 bar<br>220 bar |
| <b>Size 4</b><br>HK 449 DT/1-H 6,0<br>3 ~ 230/400V 50 Hz<br>(2.2 kw, 1410 rpm)<br>Approximate filling volume: 9.8 liter<br>Approximate usable volume: 5.0 liter<br><br>HKF 489 DT/1-H 7,0<br>3 ~ 230/400V 50 Hz<br>(3.0 kw, 1430 rpm) | 1.4<br>2.08<br>2.6<br>4.2<br><b>6</b><br>7<br>8.3<br>9.5<br>10.9       | 630 bar<br>460 bar<br>350 bar<br>220 bar<br><b>150</b> bar<br>130 bar<br>100 bar<br>100 bar<br>80 bar  | 700 bar<br>700 bar<br>650 bar<br>410 bar<br><b>290</b> bar<br>250 bar<br>210 bar<br>180 bar<br>160 bar |

\* Numerous additional configurations available. Consult your local, authorized HAWE distributor for customized system solutions.



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