

# Brief operation manual for pumps type R

acc. to pamphlets D 6010, D 6010 H, D 6010 D and D 6010 DB

## 1. Notes for mounting and initial use

### 1.1 Installation

#### Individual pumps acc. to D 6010 (D 6010 D)

#### Pumps with motor acc. to D 6010 H (D 6010 DB)

When installed outside the tank, these pumps should preferably be positioned beneath or below the min. fluid level as this ensures that a sufficient amount of fluid can flow in automatically via a steadily downwards facing feed line. This makes sure that the pump housing is always filled up with fluid and that no air is dragged into the system. The line connecting pump and tank should be equipped with a tap, easing removal of the pump for maintenance without the necessity of draining the tank.

#### Cover plate versions type R../D... acc. to D 6010 H (D 6010 DB)

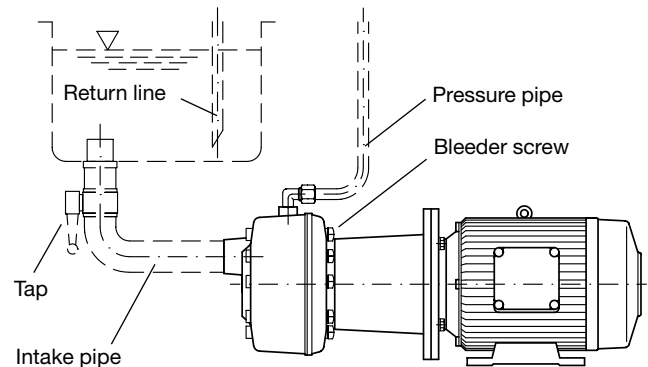
When fitting such coverplate versions onto self-made tanks, these pumps must be located below the min. fluid level to ensure that no air is dragged into the system and that it can be easily bled prior to initial operation (see sect. 1.2) or after a fluid service. The fluid is usually fed to the pump via a sufficiently dimensioned intake piping and screen filter. The fluid level may drop below the pump housing during operation as long as the screen filter is sufficiently immersed in the fluid. Should a self-made tank be very high, resulting in an intake height of more than approx. 0.5 m, a foot valve should be installed in the intake pipe preventing running empty of the pump during prolonged stand-still periods. This is not necessary if the tank is of about the same height as the tanks available from HAWE (see D 6010 H and D 6010 DB).

### 1.2 Initial operation, bleeding

The pump has to be bled prior to initial operation and after every fluid service to prevent intake problems and air to be fed into the hydraulic system

#### Pumps with motor

Loosen, but do not remove the bleeder screw during or after filling the tank and leave it open until fluid without bubbles comes out. Retighten the screw and let the pump run or switch the pump on and off several times in idle circulation mode if possible with your circuitry. Another way is to set the main pressure limiting valve to zero bar, thereby enabling pressureless circulation. Next any air dragged into the system should be removed by operating all functions of the circuitry without load until all cylinders, motors, etc. move steadily and without hesitation. Next the pressure limiting valve has to be reset to the system requirements (monitored by a pressure gauge).



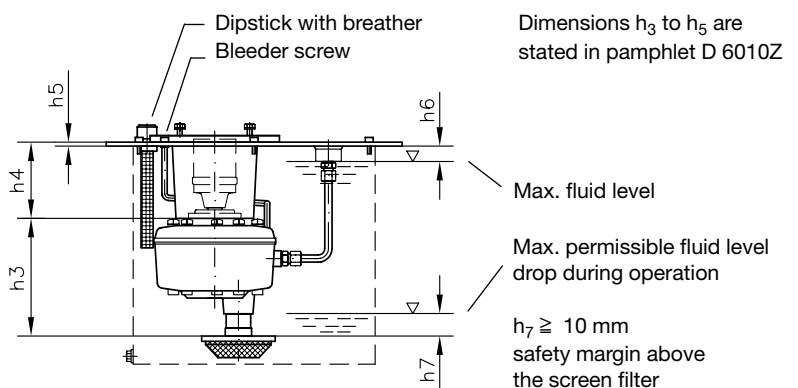
#### Hydraulic power packs

Remove the bleeder screw (located on the cover plate beneath the dipstick or the breather) prior to filling the tank and leave it open until the pump casing is filled up with fluid (wait a few minutes, if necessary). Reinstall and tighten the bleeder screw. This screw is conforming ISO 1207-M 6x6-8.8-A2K with copper seal ring DIN 7603-Cu-A6x10x1). For the procedure for initial operation and after refilling, see above.

The tank should be well-filled during start-up but not absolutely full so as to allow the fluid to expand while reaching operation temperature. This is particularly important with customer furnished tanks. The figures for the minimum distance between cover plate and fluid level (see table below) are to be understood as a guideline.

This distance ( $h_6$ ) is roughly halved if the fluid temperature rises by approx. 50 K.

Cover plate	Tank	Distance $h_6$ above fluid level approx. mm
D 6	B 6	... 15
D 13, D 20	B 13, B 20	... 20
D 30, D 40	B 30, B 40	... 20
D 50...	B 50, B 75	... 30
D 100...	B 100, B 160	... 40
D 250...	B 250, B 400	... 50



Any customer furnished suction line must not show any air leaks (e.g. use cutting edge pipe fittings).

A proper sealant (PTFE-tape, liquid seal, etc.) must be used when pipes / fittings with tapered thread are employed.

## **2. Service**

The pumps type R and the valves being directly mounted onto the hydraulic power pack are almost maintenance free. Only the fluid level should be checked regularly, depending on operation conditions. The fluid should be changed every year as a general rule, but more frequently if tests show aging or contamination.

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## **3. Spare parts**

Repairs (replacing service items) are possible by competent craftsmen. There are spare parts lists available (E 6010.), pls. state your pump type acc. to the label either on the pump or on the cover plate.

München, 01.08.2012

**Declaration of Incorporation within the meaning of the  
Machinery Directive 2006/42/ EC,  
appendix II, No.1 B****Compact hydraulic power pack type R(G), RZ and Z**  
acc. to our pamphlet **D 6010 DB, D 6910 H and D 6820**  
(latest release)

is an incomplete machine (acc. to article 2g), which is exclusively intended for installation or assembly of another machinery or equipment.

The specific technical documents, necessary acc. to appendix VII B, were prepared and are transmitted in electronic form to the responsible national authority on request.

Risk assesment and analysis are implemented according to appendix I of the Machinery Directive.

The dept. MARKETING is authorized to compile the specific technical documents necessary acc. to appendix VII B

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The following basic safety and health protection requests acc. to appendix 1 of below guideline do apply and are complied with:

*DIN EN ISO 4413:2010*

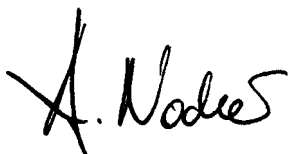
*"Hydraulic fluid power – General rules and safety requirements for systems and their components"*

We assume that the delivered equipment is intended for the installation into a machine.

Putting in operation is forbidden until it has been verified that the machine, where our products shall be installed, is complying with the Machinery Directive 2006/42/ EC.

This Declaration of Incorporation is void, when our product has been modified without our written approval.

HAWE Hydraulik SE



i.A. Dipl.-Ing. A. Nocker (Produktmanagement)