Compact hydraulic power pack type HK 24

Nominal power 0.55 kW

Fan cooled, for continuous and intermittent service; single circuit pump

For higher power demand see HK 34(8), HK 33(8) D 7600-3
HK 4.., HKF 4.. D 7600-4

Delivery flows: 0.46 ... 2.77 lpm
Operating pressure: 700 ... 200 bar

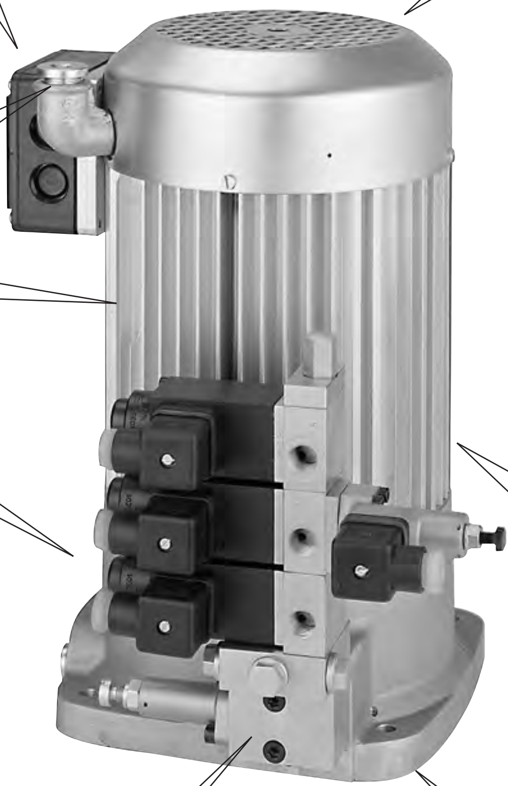
1. General description and information

Terminal box with cable gland M20x1.5. Six pin terminal strip enables the customer to connect either in ⋎-mode (standard) for 3 x 400V 50 Hz or △-mode for 3 x 230V 50 Hz. Additional terminal strip for optional float switch or temperature switch.

Two different designs are available for the filler neck; There is also a screen filter 0.4 x 0.22 installed in the bearing housing.

Fluid level gauge with Max./min. - marking

Bottom housing section with radial piston pump for pressure ranges up to 700 bar and stator (shrunken in) as well as armature of the drive motor.
Drive motor lay-out for 3~400/230V 50 Hz △⋎ (IEC 38) as standard, nominal power 0.55 kW. Further nom. voltages possible e.g. for 500V 50 Hz, 220V 60 Hz.



Top cover (bearing carrier) with upper bearing of the shaft, oil filler neck (see fluid fill-up) breather, leads connection stator winding → terminal enclosure (see there). Fan shroud with largely dimensioned fan wheel. The complete upper section is also available rotated by 3x90° in relation to the bottom section.
The fan shroud directs the stream of air, which is created by the fan wheel, through the ribs and thereby ensures an intensive heat dissipation to the surroundings.
These compact hydraulic power packs are therefore suitable for the VDE 0530 operating modes S1 (continuous operation) in the range of the nominal power as well as S6 (permanent running with idle sequences). Thereby approx. up to 1.8 of the nom. power rating can be employed. S3 (intermittent service) is also possible. The cooling effect of the large finned surface is also very good at standstill of the motor.

Finned tubular tank with fluid level gauge (Plexiglas tube) and alternatively with temperature switch. It is connected via a press fit with the bottom housing where the stator shrunk in. This helps to conduct the generated heat from the armature to the cooling fins.

Connection pedestal with one pressurized oil outlet and reflow inlet port.
Prepared for the mounting of connection blocks for ongoing pressure and reflow pipes or with directly mounted directional valve banks (illustrated).

The pump section is easily accessible from the underside after removing the bottom cover, e.g. for maintenance.

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2. Type coding, main data

Order example: **HK 24 T /1 M - H 1,08 - A1/400 - BWH F1 - F H5 R - 1 - 1 - G 24** 3~230/400V 50 Hz

Directional valve bank acc. to D 7470 B/1, see als sect. 5.5

Motor voltage

Connection block, see sect. 5.5

Table 1a: Versions for motor and tank

	Codings	Filling volume approx. (l)	Usable filling volume approx. (l)	Motor, nominal power 400V Y 230V △ 50 Hz (kW)	460V Y 265V △ 60 Hz (kW)
Basic type and size	**HK 24**	2.77	0.85	0.55	0.66
Optional equip-ment	Temperature switch 1)	**T**	NC-contact		
	Additional cover of the blower housing to protect it from coarse contamination	**R**			
Top part with breather, terminal enclosure etc., see section 4	Standard	**/1**	See dimensional drawing in sect. 4		
	Rotated anti-clock-wise	**/2**	90°		
		/3	180°		
		/4	270°		
Oil filler neck	Standard with filler hole G 1/2	no coding			
	With filler reducer G 1 1/4	**M**			

Symbol acc. to the order example

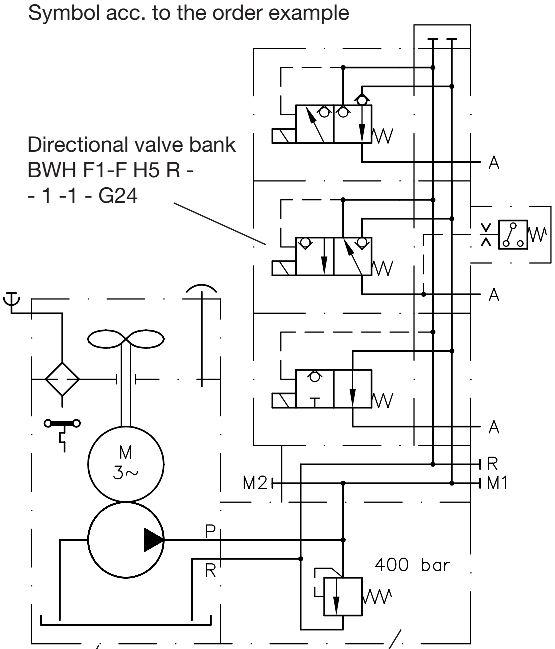
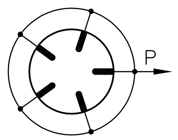


Table 1b: Pump section

H	Coding for radial piston pump			Piston diameters (mm)					
				4	5	6	7	8	9
5-cyl. pump	Delivery flow coding			**0,46**	**0,70**	**1,08**	**1,39**	**1,77**	**2,27**
	Geom. displacement V_g		(cm³/U)	0.31	0.49	0.71	0.96	1.26	1.59
	Delivery flow Q_{Pu} 2)		50 Hz	0.43	0.67	0.95	1.3	1.7	2.16
	(lpm)		60 Hz	0.52	0.80	1.14	1.56	2.04	2.59
	Permissible	p_1	(bar)	600	400	280	200	150	115
	pressure			Continuous operation S1 3)					
		p_{max}	(bar)	700	570	380	290	220	170
				No-load/load operation S6-10 min with approx. 30% LD 3)					

1) It is not possible to install a float switch (fluid level monitoring) like with bigger versions (type HK(F) 4.. acc. to D 7600-4 and HK 3.. acc. to D 7600-3) due to spatial restrictions.

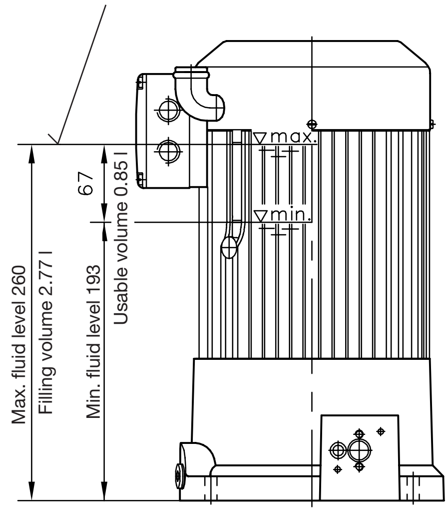
2) Reference value refering to a nominal speed of 1410 rpm with mains frequency 50 Hz or 1750 rpm with mains frequency 60 Hz. Delivery flow reduction due to speed drop of the motor in the range of p_{max}, see also sect. 5.1.
The delivery flow coding can be regarded as a rough reference value for the flow at mains frequency 50 Hz.

3) An inertia excess temperature of approx. 50 K can be expect with the max. permissible pressure mentioned in the tables 1b, if p_1 is not exceeded in continuous operation S1 and the indicated load periods are apparent in the load/no-load operation S6-10 min. This temperature usually will be considerably lower in the practical case, see also section 5.4.
These temperature figures do apply to usual operation, taking into consideration the unavoidable losses due to back pressure in pipes and valves. Additional losses caused by flow control valves, pressure control valves, orifices etc. may lead to a higher inertia excess temperature, depending on the time involved.

3. Further characteristic data

3.1 General information

Nomenclature	Constant delivery pump
Design	Valve controlled radial piston pump, 5 cylinders
Direction of rotation	Arbitrary for radial piston pumps (version H..), delivery flow direction remains the same.
Mass (weight)	approx. 13 kg
Installed position	Only vertically standing
Fastening	Four bore holes ∅9 on the bottom side, see also section 4
Pipe connection	Depending on the connection block, see section 5.5 P ..... Pressurized oil outlet G 1/4 or G 3/8 G.. = (BSPP) R ..... Reflow port G 1/4 or G 3/8 A, B .. Consumer ports if directional valve banks are mounted, see also the pamphlets mentioned in section 5.5, G 1/4 or G 3/8
Ambient temperature	-40 ... +60°C
Filling and usable volumes	Do not exceed the max. fluid level (see marking), because the remaining volume is required when the fluid temperature rises.



The specific usable filling volume is 0.12 l per 10 mm of fluid level drop. The motor outline (winding overhang) is no longer oil immersed if the fluid level drops below the min. marking. Any further drop will result in no considerable volume gain as the bottom interior is occupied by functional parts.

3.2 Hydraulic data

Pressure range	Delivery side (outlet ports P...) depending on pump design and delivery flow, see sect. 2, table 1b.
Pressure fluid	Hydraulic oil conforming DIN 51514 part 1 to 3: ISO VG 10 to 68 conform. DIN 51519. Viscosity range: Viscosity during start min. approx. 4; max. approx. 1500 mm²/s opt. service: approx. 10 ... 500 mm²/s Also suitable are biologically degradable pressure fluids type HEES (Synth. Ester) at service temperatures up to approx. +70°C. Electrically hazardous: Any fluid types containing water must not be used (short-cut).
Temperature	Ambient: approx. -40 ... +60°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.

3.3 Electric data

Motor		For 3-phase mains, 4-poles, stator shrunk into the pump housing	
Nom. voltage	(V)	400/230 Y △	460/265 Y △
Mains frequency	(Hz)	50	60
Rev. rating	(min^{-1})	1390	1670
Output	(kW)	0.55	0.66
Current	(A)	1.6 / 2.8	1.5 / 2.5
Start current ratio	(I_A/I_N)	4.4	5.0
Power factor	(cos φ)	0.75	0.8
Protection classification		IP54	IP54

Permissible voltage ranges

Mains: 50 Hz ±10% U_N (like IEC 38)
Mains: 60 Hz ±5% U_N

Reduced voltage will cause a performance drop (≙ reduced p_{max}).

Reference value: $p_{oper} \approx 0.85\, p_{max} \frac{U_{actual.}}{U_N}$

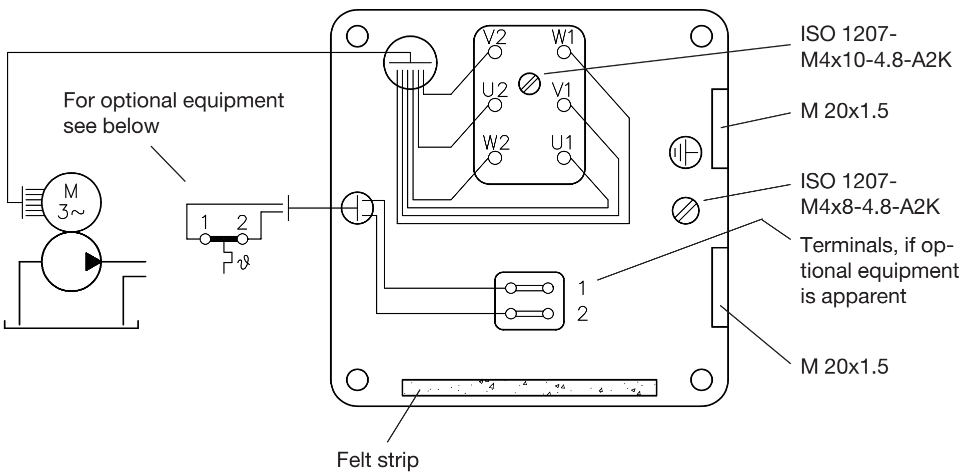
Example:

$U_{actual.}$ = 400V 60Hz
U_N = 460V 60Hz

$$p_{oper\ max} = 0.85\, p_{max} \cdot \frac{400V}{460V} \approx 0.7\, p_{max}$$

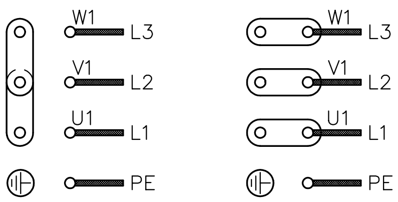
Circuitry ex-works

Terminal box at the pump housing



Circuitry customer furnished

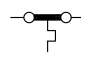
Mains 3 ~ 400V
Y-circuitry
(state of delivery)



Mains 3 ~ 230V
△ -circuitry

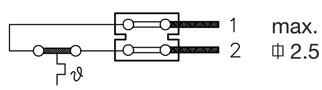
Optional equipment

Temperature switch:
A signal is triggered above a housing temperature of approx. 80°C. NO-contact



Max. voltage .... 250V 50 and 60 Hz
Nom. current (cos φ ~ 0.6) .... 1.6 A
Max. voltage with 6 ... 24V DC........... 1.5 A (cos φ = 1)

Electr. connection:
HK 24 **T**
The temperature switch T is always connected to 1-2.

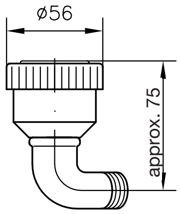


Attention:
The temperature switch may also be retrofitted.

4. Unit dimensions

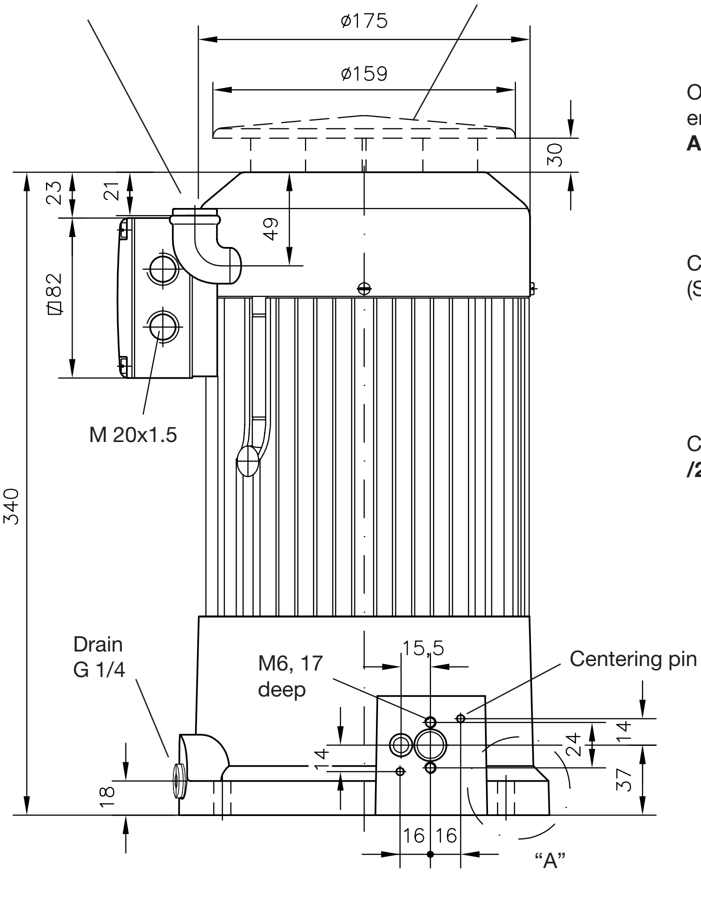
All dimensions are in mm and are subject to change without notice!

Basic unit:
For the dimensions of the different connection blocks, see the corresponding pamphlets listed in sect. 5.5



G 1 1/4 - filler neck reducer HK 24/..**M**

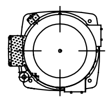
G.. = (BSPP)



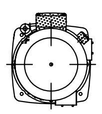
Orientation of the upper part of the pump with terminal enclosure

Attention: The 4 terminal box positions include the complete upper part (finned tube) and the oil level gauge.

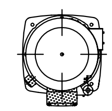
Coding **/1** (Standard)



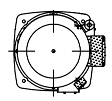
Coding **/4**



Coding **/2**



Coding **/3**

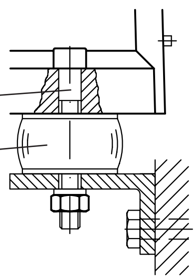


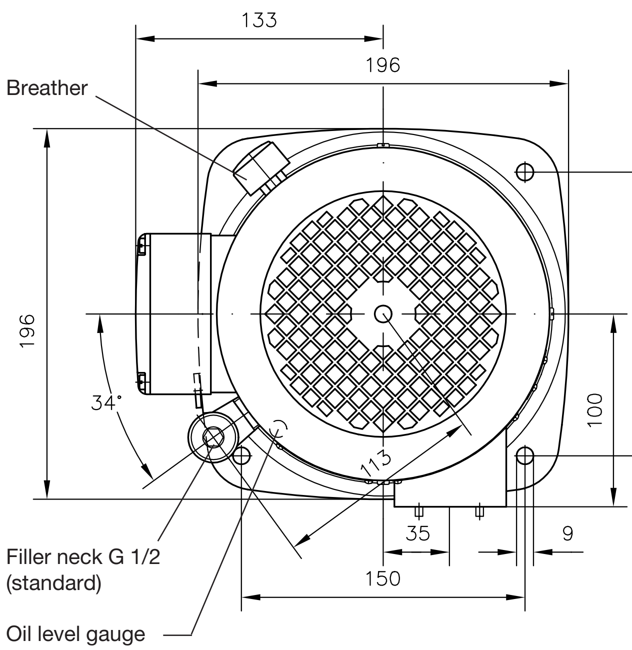
Detail A:

Installation example

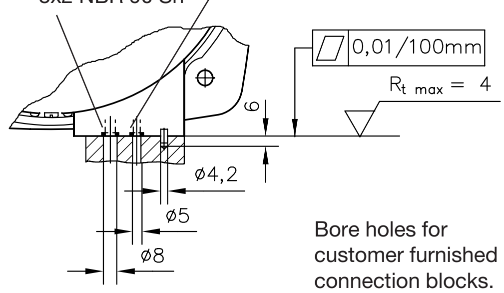
M 8 x 25

Silentbloc
Ø 40x30 / M8 (65 Sh),
also see sect. 5.4





O-Rings:
10x2 NBR 90 Sh
8x2 NBR 90 Sh



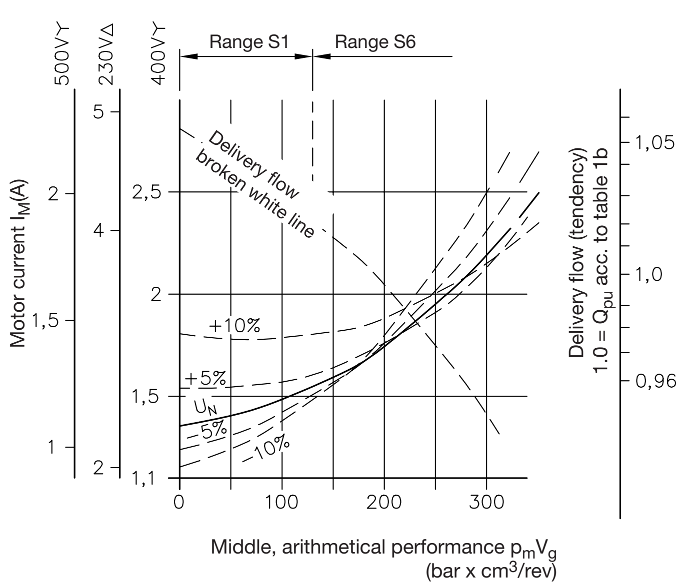
Bore holes for customer furnished connection blocks.

5. Appendix

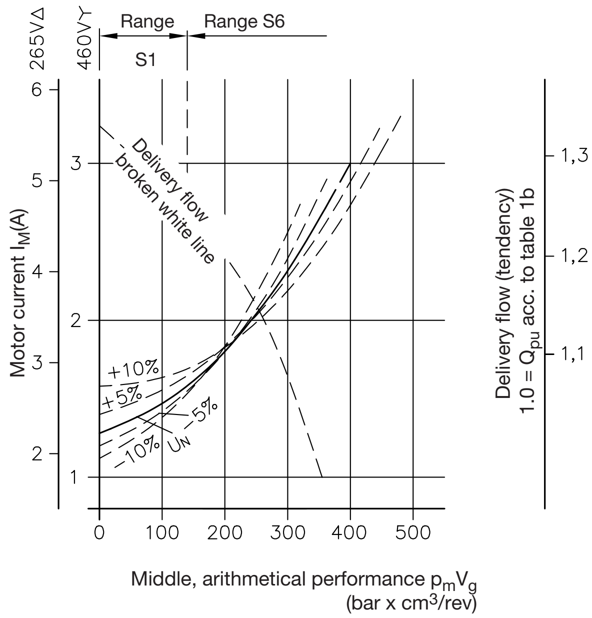
5.1 I_M - p_B - Q_{Pu} - characteristics

The current consumption of the motor depends strongly on its load. The nominal figures of sect. 3.3 apply strictly to one operating point only. The pumps may be operated continuously up to the max. pressure p1 stated in table 1b. Up to 1.8s of the nominal power of the motor can be exploited during load / no load operation. The increased heat built-up under these conditions gets intensively radiated during the idle periods (also see sect. 5.4).

Operating voltage 400/230/500V 50 Hz Y△



Operating voltage 460/265V 60 Hz Y△



The product of pV_g (bar · cm^3/rev) is laid off as abscissa in these curves. This makes a rough consideration possible for the current and the delivery flow to be expected, which is sufficient under most conditions.

5.2 Motor protection circuitries and EMC

5.2.1 Protective motor switches

S1-operation: (for pressure $\leq p_1$)
The bimetallic switch should be set for the corresponding current, required to achieve the adjusted pressure of the pressure limiting valve (see I_M-$(pV)_{calc.}$- curve sect. 5.1), however not higher than the nom. current IN. This motor protection covers only a possible mechanical blockade of the motor. The pressure limiting valve responses at pressure overload, without a rise beyond the corresponding motor current I_M. The pump would run on and on, resulting in an overheat after a certain time like any other hydraulic power pack of classic construction would do. Such a pressure overload can occur either due to overload of a consumer or start against a stop. This can be immediately identified as the consumer movement stops and also the idle signal would be missing (idle circulation valve doesn't open in the idle periods). A permanent pressure monitoring via a pressure gauge helps to identify such a malfunction. It is therefore recommended to use a pressure switch for self-supervisioning of the idle periods especially for automatic, not permanently manned systems.

S6-operation: (for pressure $\leq p_{max}$)
In most cases it is sufficient, to set the response current to approx. (0.85...0.9) of I_N. This makes sure that on one hand the bimetallic switch does not trigger too early during normal operation but on the other hand the oil temperature doesn't rise too high due to a prolonged response time after the pressure limiting valve is in action. Malfunctions during idle circulation mode, like described for S1-operation, are more reliably and immediately detected by idle supervisioning.
It has to be taken into account that these notes for adjustment only represent very coarse reference values and perhaps must be corrected a little during a definite test run of the system. This might occur e.g. if the actually required performance of the pump (in S6-operation) is higher than calculated. Too early triggering of the bimetallic switch will be caused as the temperature of the system would be higher after prolonged operation than anticipated thereby reducing the response period of the switch.

5.2.2 Temperature switch (acc. to sect. 3.3)

This is an optional monitoring device, which will cut-off the pump if the fluid temperature rises over 80°C due to any malfunction.

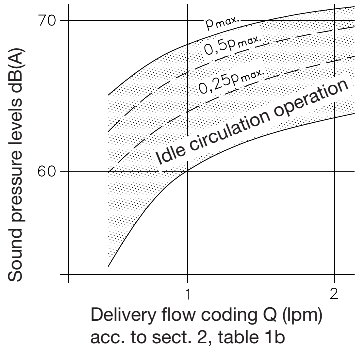
Examples: A pump is running too long against the pressure limiting valve at a unmanned system because the signal for idle circulation was not released. The response period will be too long due to the low current consumption.
The ambient temperature is too high, because it was not considered during lay-out of the system or it occurs unintended.
Too much heat is generated in the system because of additional throttle losses caused by flow control valves, pressure reducing valves, orifices etc.
Attention: The temperature switch will trigger only after the oil temperature is risen above approx. 95°C.

5.2.3 Notes to ensure EMC (Electromagnetic compatibility)

The compact hydraulic power packs of HAWE are excluded from the EMC-regulation 89/336/EEC as they are no turn-key devices. We recommend to use the interference suppressors type 23140, 3 · 400 VAC 4 kW 50-60 Hz of Murr-Elektronik in D-71570 Oppenweiler, if any interferences should occur.

5.3 Running noise

The sound pressure level ranges shall serve to estimate the running noise to be expected. They approximately delimit the spreads recognizable during measuring.
Rigid mounting on a surface capable of resonance (e.g. welded or thin-wall machine stands) may significantly amplify or conduct the operation noise level. We recommend to mount the compact hydraulic power pack via silentblocs e.g. ∅40x30, 65 Shore (see specifications of the measuring conditions).



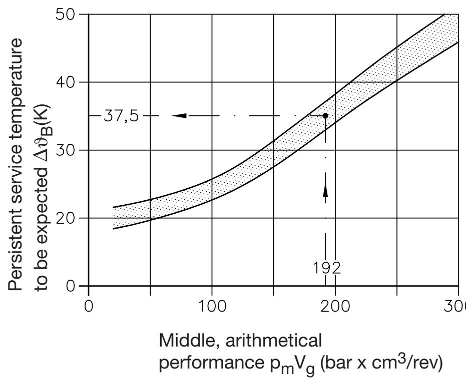
Measuring conditions:
Work room, interference level approx. 50 dB(A); Measuring point 1m above the floor;
1 m object clearance, pump fixed with 4 silentblocs ∅40x30 65 Shore (Messrs. silentblocs No. 20291/V).

Measuring device:
Precision sound pressure level measuring instrument DIN IEC 651 Kl. I

Viscosity of the oil: Approx. 60 mm²/s

5.4 Heat built-up

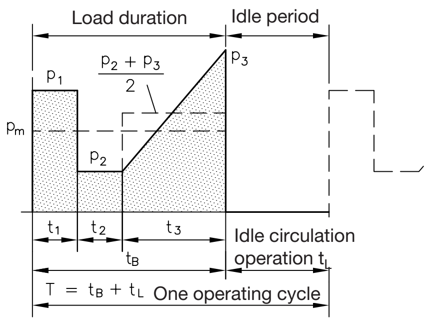
The persistent service temperature is reached after approximately one hour of operating time.
Influence-factors: Pressure distribution during the load duration (middled pressure), share of the idle period, additional throttle losses, exceeding usual figures of back pressure for pipes and valves (pressure reducing valves, flow control valves, throttling valves, or throttles). These influences only have to be taken into account if they are effective for a longer period within the operating cycle (load duration).
The two most essential parameter, middled performance of the pump and load duration per operating cycle are usually sufficient for a rough re-check of the expected persistent fluid service temperature.
The curves below supply a rough guideline how far the persistent service temperature $\Delta\vartheta_B$ of the compact hydraulic power packs will settle above the ambient temperature ϑ_U.



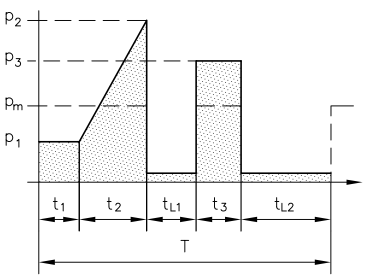
$$\boxed{\vartheta_{\text{fluid B}} = \Delta\vartheta_B + \vartheta_U}$$

The $\Delta\vartheta_B$ - $p_m V_g$ -curves below supply a rough guideline how far the persistent service temperature of the compact hydraulic power packs will settle above the ambient temperature, only covering usual figures of back pressure for pipes and valves.
The persistent service temperature will settle higher if additional throttle losses occur caused by e.g. pressure reducing valves, flow control valves, throttling valves, throttles or periodical start against the pressure limiting valve.

Working cycle



Calculation example:



Given:
Pressure profile simplified down to easy geometric shape with cycle period T laid-off as abscissa

Selected pump HK 24 - H1.39 with geom. displacement $V_g = 0.96$ cm³/rev

Pressure	Time
p_1 = 160 bar	t_1 = 25s
p_2 = 320 bar	t_2 = 5s
p_3 = 280 bar	t_3 = 10s
(p_{L1} = 0 bar)	t_{L1} = 5s
(p_{L2} = 0 bar)	t_{L2} = 10s
	T = 55s

$\vartheta_{\text{fluid B}}$ (°C) = Persistent service temperature of the oil filling
$\Delta\vartheta_B$ (K) = Excess temperature after applied load, diagram
ϑ_U (°C) = Ambient temperature in the installation area of the compact hydraulic power pack.
p_m (bar) = Calculated, middled pressure per cycle during the load duration $t_B = t_1 + t_2 + t_3 + \ldots$

$$p_m \text{ (bar)} = \frac{1}{t_B}\left(p_1 \cdot t_1 + p_2 \cdot t_2 + \frac{p_2 + p_3}{2} \cdot t_3 + \ldots\right)$$

$p_m V_g$ (bar · cm³/U) = Middled performance
with V_g = geometric displacement acc. to the tables in sect. 2
%BD (-) = Relative load duration per operating cycle,

$$\%BD = \frac{t_B}{t_B + t_L} \cdot 100$$

Calculated:
Middled pressure during the load duration $t_B = t_1 + t_2 + t_3 = 40$s

$$p_m = \frac{1}{t_B}\left(p_1 \cdot t_1 + \frac{p_1 + p_2}{2} \cdot t_2 + p_3 \cdot t_3\right) =$$

$$= \frac{1}{40}\left(160 \cdot 25 + \frac{160 + 320}{2} \cdot 5 + 280 \cdot 10\right) = 200 \text{ bar}$$

Middle value for pump performance $p_m V_g = 200 \cdot 0.96 = 192$ bar · cm³/rev

Relative load duration $\%BD = \frac{t_B}{T} \cdot 100 = \frac{40}{55} \cdot 100 = 72.72.. \approx 73\%$

Resulting in $\Delta\vartheta_B \approx 37$ K from the $\Delta\vartheta_B$ - $p_m V_g$ - curve
This means, that the persistent service temperature of the compact hydraulic power pack at an ambient temperature $\vartheta_U = 20$°C will be approx. (37) + 20 = 57°C (under the pre-defined conditions and uninterrupted cycles)

5.5 Connection blocks

The compact hydraulic power packs acc. to section 2 only represent the basic versions. They will be ready for operation only after installation of appropriate connection blocks. Table 2a below lists various connection blocks and the corresponding pamphlets which cover more detailed information as well as order examples. The connection blocks acc. to D 6905 A/1 and D 6905 C are used most commonly.

Table 2a: Connection blocks, overview

G.. = (BSPP)

Pamphlet	Coding	Port threads ISO 228/1 (BSPP)	Pressure range from ... to (bar) [1]	Flow (lpm)	Integrated functional elements: Pressure limiting valve	Integrated functional elements: Idle circulation valve	Integrated functional elements: Reflow filter	Brief notes to the connection block	Suitable directional valve banks for direct mounting [1]
D 6905 C	**C5** **C6**	G 1/4 G 3/8	700 700	12 28	no no	no no	no no	Simple connection block	No possibility for mounting
D 6905 B	**B../...-...**	G 1/4	450 (700)	8 ... 25	jes	no	no	For single acting lifting or clamping devices [1] [2]	
D 6905 A/1	**A1/..** to **A4/..**	G 1/4	(0) ... 700 in steps	12	jes	no	no	Most frequently used connection block with pressure limiting valve	(1a) (1b)
	AS(V)1/.. to **AS(V)4/..**	G 1/4	(0) ... 450 in steps	18	jes	jes	no	With idle circulation valves acc. to D 7490/1	(1a) (1b)
	AL11(12)..	G 1/4	51 ... 350 in steps	12	jes [3]	jes [3]	no	Automatic idle circulation [4] (accumulator charging valve)	(1a)
	A..F../.. **AS..F../..** **AM..F../..** **AK..F../..**	G 1/4	(0) ... 700 in steps dep. on type	15 ... 33 dep. on filter size	jes [4]	jes [5]	jes	With reflow filters 12 µm nom. 50% / 30 µm abs., see [5]	(2)
	AP1.. and **AP3..**	G 1/4	5 ... 700	20	jes	jes [7]	no	Proportional pressure limiting valve	(1a) (1b)
D 6905 TÜV	**AX14..** a. **AX3..**	G 1/4	80 ... 450	6 ... 10	jes	no	no	Pressure limiting valve with unit approval	
D 7230	**SKC11..** to **SKC14..**	G 1/4 and G 3/8	200 .. 400 [8]	12 ... 20	jes	jes [9]	no	Integrated directional spool valve	Add-on spool valves acc. to D 7230-1
D 7450	**SWC1**	G 1/4	315	12	jes	jes [9]	no	Integrated directional spool valve	Add-on spool valves acc. to D 7450

Table 2b: Additional intermediate blocks enabling arbitrary activation of a reduced pressure limitation lower than the main pressure

Pamphlet	Coding	Port threads ISO 228/1	Pressure range from ... to (bar)	Integrated functional elements [10] and brief description	Ongoing pipe connection
D 6905 A/1	**V1/..** to **S4/..**	---	..450	Pressure limiting valve and 2/2-way directional valve connected in series and acting as a by-pass P → R	Only via directly mounted directional valve banks (1a) (1b)

1) It should be kept in mind that the directional valve banks which can be directly mounted may have a max. permissible pressure below 700 bar.

2) Pumps type HK should be used for intermittent service only

3) Hydraulic cut-off function acts as pressure limitation also. Directional spool valve banks are not ideally suited, because their always apparent leakage would provoke permanent activation.

4) Depending on type also with additional proportional pressure limiting valve

5) Idle circulation valve acc. to D 7490/1 with AS..., acc. to D 7470A/1 with AK... and AM...

6) Directional spool valve banks type SWR...are not ideally suited for mounting onto blocks type AL11(12), because their always apparent leakage would provoke permanent activation. This effect could be minimized by using an accumulator.

7) May be used as idle circulation valve, if the prop. solenoid is deenergized (approx. 5 bar)

8) Depending on actuation and flow pattern

9) For directional spool valves with internal connection P→R in idle position

10) Pressure limiting valves acc. to D 7000 E/1, 2/2-way directional valves acc. to D 7490/1, optional with additional check valve acc. to D 7445

(1a)	BWN(H) 1F...	acc. to	D 7470 B/1	
	BWH 2F...	acc. to	D 7470 B/1	
	BVZP 1F...	acc. to	D 7785 B	
(1b)	VB01(11)F...	acc. to	D 7302	
	SWR(P) 1F...	acc. to	D 7450	
			D 7470 B/1	
	SWR 2F...	acc. to	D 7451	
(2)	BWN(H) 1F...	acc. to	D 7470 B/1	
	BWH 2F...	acc. to	D 7470 B/1	
	BVZP 1F...	acc. to	D 7785 B	
	VB01(11)F...	acc. to	D 7302	
	SWR(P) 1F...	acc. to	D 7450	[6]
			D 7470 B/1	[6]
	SWR 2F...	acc. to	D 7451	[6]

6. Additional information

6.1 Declaration of incorporation according to Machinery Directive 2006/42/EC (see page 10)

6.2 Declaration of conformity according to Low-Voltage Directive 2006/95/EC (see page 11)

6.3 UL-compliant stators

The following stator types are UL-compliant.
UL reference: E 68554
- HK 2.

HAWE Hydraulik SE

HAWE Hydraulik SE
Postfach 80 08 04, D-81608 Munich, Germany

Munich, 01/07/2013

Declaration of Incorporation within the meaning of the Machinery Directive 2006/42/ EC, appendix II, No.1 B

Compact hydraulic power pack type HK(L) and HKF
acc. to our **pamphlet D 7600-2, D 7600-3 and D 7600-4**
(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 transmit-tedin 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

HAWE Hydraulik SE
Dept. MARKETING
Streitfeldstraße 25
D-81673 München

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)

9998 5909 00

Europäische Aktiengesellschaft (SE) • Sitz der Gesellschaft: München • USt ID Nr: DE180016108 • Registergericht München HRB 174760
Vorstand: Karl Haeusgen, Martin Heusser, Wolfgang Sochor, Markus Unterstein • Vorsitzender des Aufsichtsrats: Joachim Gommlich
Hypo-Vereinsbank München, 1780008454 (BLZ 700 202 70), IBAN DE53 7002 0270 1780 0084 54, BIC HYVEDEMMXXX
Commerzbank München, 150623700 (BLZ 700 400 41), IBAN DE56 7004 0041 0150 6237 00, BIC COBADEFFXXX
Baden-Württembergische Bank, 2368049 (BLZ 600 501 01), IBAN DE90 6005 0101 0002 3680 49, BIC SOLADEST
Bayerische Landesbank, 203693428 (BLZ 700 500 00), IBAN DE86 7005 0000 0203 6934 28, BIC BYLADEMMXXX

Zertifiziert nach
DIN EN ISO 9001
DIN EN ISO 14001

HAWE Hydraulik SE

HAWE HYDRAULIK

HAWE Hydraulik SE
Postfach 80 08 04, D-81608 Munich, Germany

Munich, 01/07/2013

Declaration of conformity within the meaning of European Directive 2006/95/EC, electrical equipment designed for use within certain voltage limits

We, HAWE Hydraulik SE,
headquartered at: D-81673 Munich, Streitfeldstraße 25
take sole responsibility for the following declaration that the product

Compact hydraulic power pack types HK(L) and HKF
according to our publication D 7600-2, D 7600-3 and D 7600-4
(the current issue of each respective publication),
to which this declaration refers, complies with the following standards or normative documents:

DIN EN 60 034 (IEC 34 - DIN VDE 0530)
DIN VDE 0110

If a change is made to the product that has not been agreed in writing with the manufacturer, this declaration shall become void.

HAWE Hydraulik SE

A. Nocker

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

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