



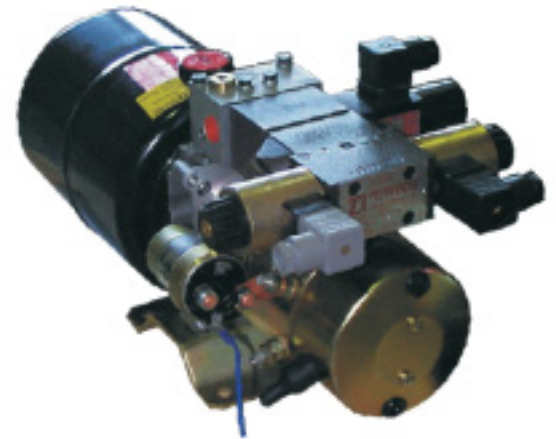
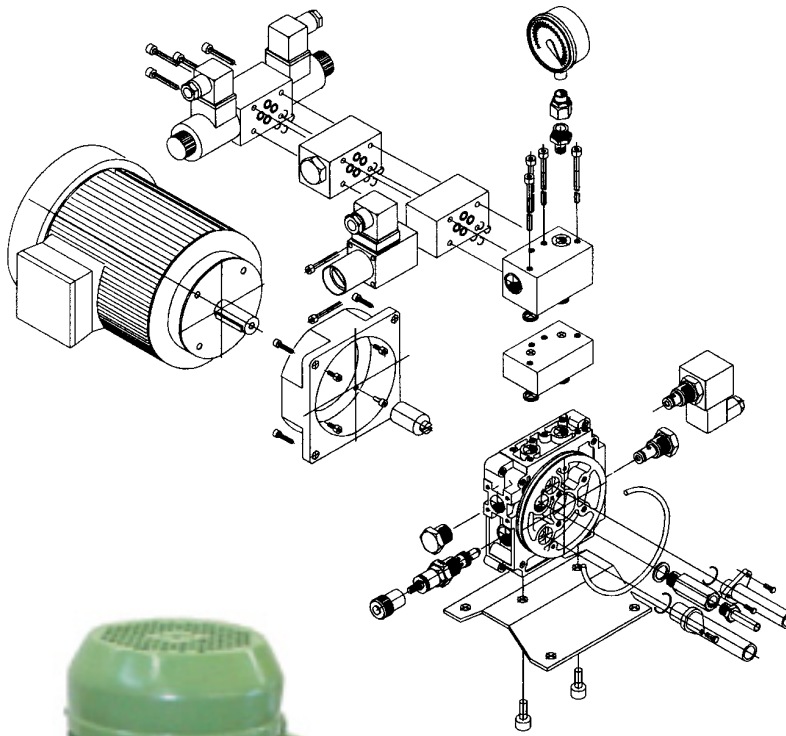
hydropa®
ÖLHYDRAULIK



DAS ZEICHEN DER HYDROPA GRUPPE

Mini Power Packs

*AC-, DC- and
three-phase motors*



*Theoretical flow from
0,25 cm³ up to 7,8 cm³ / revolution*

*Working pressure
up to 250 bar*

hydropa®
ÖLHYDRAULIK

Characteristics Mini Power Pack



Small and Lightweight
the characteristic of these mini power packs

Electrical motors

DC 0,35 - 3,0 kW
Three-phase current 0,12 - 3,0 kW
AC 0,12 - 2,2 kW

External gear pumps

from 0,25 up to 7,8 cm³ /revolution

Oil tanks from 1 up to 25 l

Working pressure up to 250 bar
(Standard 150 bar)

Duty cycle : Intermittend service

General data

Design Compact power unit
Mounting position horizontal (H1) = Mounting " below " (Standard)
(H2) = Mounting " lateral "
or vertical (V*)
Temperature range from -25° C up to 80° C (reduced torque at higher temperatures)
Threaded connection P and T up to ZP2,6 = G 1/4 (G 3/8 on request)
from ZP3,2 = G 1/4 or G 3/8 (ZT1)
A and B = G 3/8 (G 1/4 on request)
Mounting 2 x M10 female thread or mounting foot (ZT 7)

Hydraulical data

Pump type External gear pump
Flow volume 0,25 - 0,45 - 0,56 - 0,76 cm³ / revolution [Group 0,5]
1,2 - 1,7 - 2,2 - 2,6 - 3,2 - 3,8 - 4,3 - 6,0 - 7,8 cm³ / revolution [Group 1,0]
Constant / Maximum pressure 150 / 250 bar
Pressure fluid HLP Mineral oil
Tank volume 1, 2, 3, 5, 6, 7, 8, 12, 14 and 25 litres (Steel)
13 litres (Aluminium)

Electrical data

Driven motor DC-, three-phase or AC-motor
Protection class IP 10 - IP 54, ISO F
Nominal voltage 12 and 24 Volt (DC)
230 / 400 Volt (three-phase current)
230 Volt (AC)

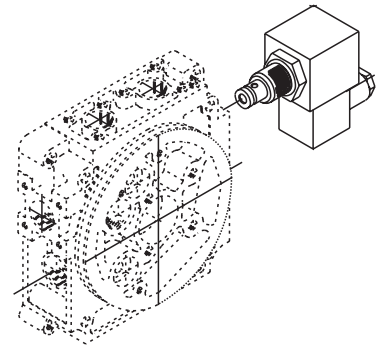
■ ex stock

How to order

e.g.	KL - ■ - ZP ■ - B ■ / □ - E ■ (■) / ■ - ZT ■ - DB ■ / ■ (□) - SEV ■ - ■						
	KL - 3(G3/8)/HSM - ZP 2,6 - BH 08 - EDK (1,1) / 2 - ZT 2 - DB 1 / 200 (150) - H 1						
Standard design Page 3 and 4	Gear pump Page 4	Oil tank /* only necessary when using following tanks: BV 7, BV 13A, BV14 and BV 25 Page 5	Electrical motor Page 6 and 7	Additional equipments no indication = no additional equipment Page 8	Pressure relief valve no indication (***) = no setting pressure Page 9	Overcentre valve no indication = no overcentre valve function Page 9	Mounting position Page 10

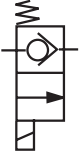

Standard design KL - 1 - *

With lowering valve -
Electro - solenoid



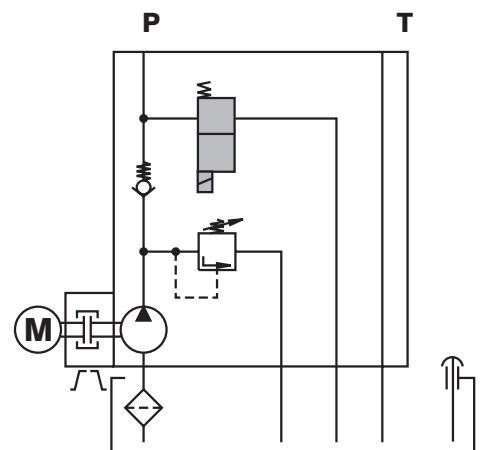
Insulation class : F (VDE 0580)
Protection class acc. DIN 40050 : IP 65
relative duty cycle : 100 %
Nominal flow : max. 22 l / min

0 - position : closed

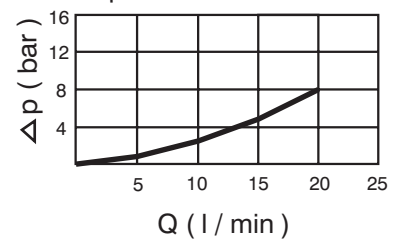
<i>without</i> emergency operation 	G12 Volt	A	<i>with</i> emergency operation 	P
	G24 Volt	B		Q
	W24 Volt , 50 Hz	C		R
	W110 Volt , 50 Hz	D		S
	W220 Volt , 50 Hz	E		T
	24 Volt , 50 / 60 Hz	CY		RY
	110 Volt , 50 / 60 Hz	DY		SY
	220 Volt , 50 / 60 Hz	EY		TY

* Y - Type with rectifier plug

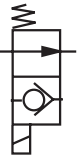
Circuit diagram



Δp - Q Characteristics

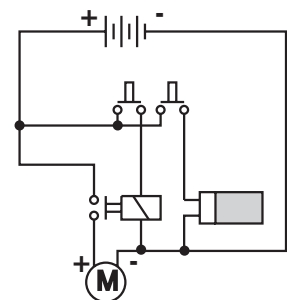


0 - Position : open

	G12 Volt	F	Poppet valve for <i>pressureless flow</i> for additional valve mounting (continuation of model code see KL-3)	F3..
	G24 Volt	G		G3..
	24 Volt , 50 / 60 Hz	LY		LY3..
	110 Volt , 50 / 60 Hz	MY		MY3.
	220 Volt , 50 / 60 Hz	NY		NY3.

* Y - Type with rectifier plug

Electric circuit

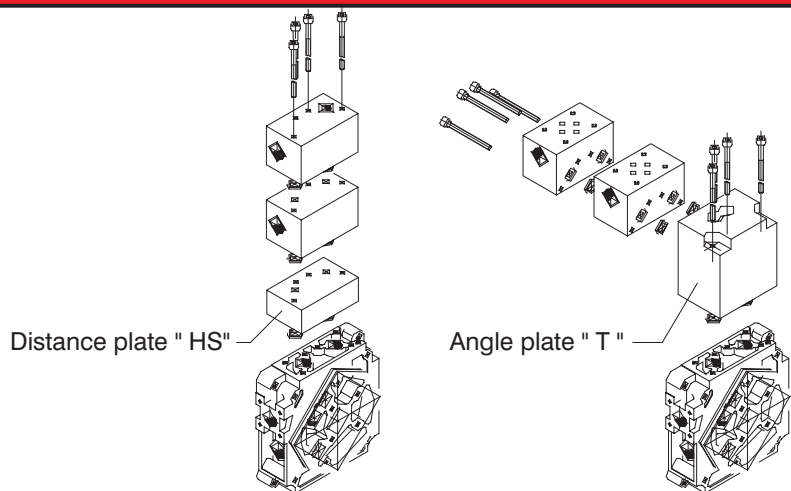


¹⁾ Hand lever operation for lowering valve or starting relays on request (KL - 2)

Standard design KL - 3 - * (**) / *

Multiple control

Modular valves and directional control valves see brochure 4.03/D



Mounting configuration acc. DIN 24340-A6 resp. CETOP 3
Mounting possibility for max. 4 functions

Mounting configuration for valve size NG4 in preparation

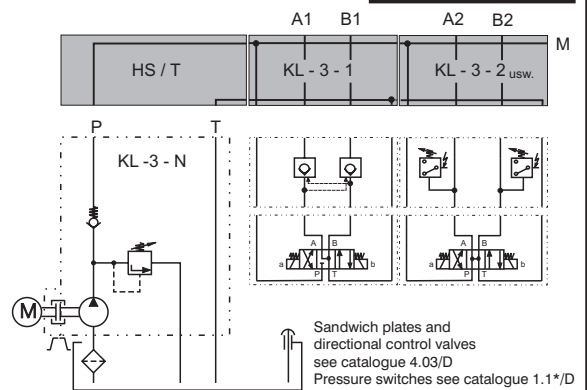
4 Functions	A, B = G 3/8 ^{2.)}	4 (G 3/8)		Angle plate^{3.)} T	M For multiple controls <i>Standard</i> G 1/4
3 Functions	A, B = G 3/8 ^{2.)}	3 (G 3/8)			
2 Functions	A, B = G 3/8 ^{2.)}	2 (G 3/8)			
1 Function	A, B = G 3/8 ^{2.)}	1 (G 3/8)			
Pressure station P, T = G 1/4 ^{1.)}		N		Distance plate from motor size 80 HS	Possibility for pressure gauge connection see additional equipment

Ordering example:

2 Functions and electrical motor size 90

KL - 3 - **2 (G 3/8)** / **HSM** - ...

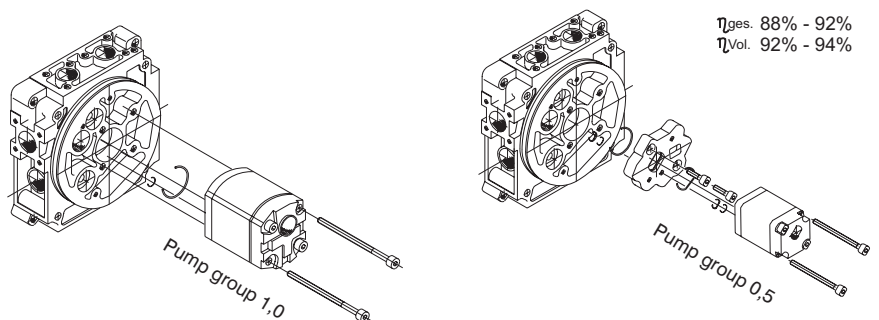
Circuit diagram



- 1.) G 3/8 see additional equipment
- 2.) G 1/4 available on request
- 3.) necessary for 3 or 4 functions and 7 l tank

External gear pump ZP *

Group 0,5	0,25 cm ³ / rotation	ZP	0,25
	0,48 cm ³ / rotation	ZP	0,48
	0,57 cm ³ / rotation	ZP	0,57
	0,76 cm ³ / rotation	ZP	0,76
Group 1,0	1,2 cm ³ / rotation	ZP	1,2
	1,7 cm ³ / rotation	ZP	1,7
	2,2 cm ³ / rotation	ZP	2,2
	2,6 cm ³ / rotation	ZP	2,6
	3,2 cm ³ / rotation	ZP	3,2
	3,8 cm ³ / rotation	ZP	3,8
	4,3 cm ³ / rotation	ZP	4,3
	6,0 cm ³ / rotation	ZP	6,0
7,8 cm ³ / rotation	ZP	7,8	



$\eta_{ges.}$ 88% - 92%
 $\eta_{Vol.}$ 92% - 94%

Clockwise rotation

Oil tanks B * ** / *

Nominal volume [Litres]	Mounting position ^{1.)}			Mounting position ^{1.)} vertical V
	horizontal	H	vertical	
1		BH 01	Inclusively pipe bend Tank dimensions see left	BV 01
2		BH 02	Inclusively pipe bend Tank dimensions see left	BV 02
3		BH 03	Inclusively pipe bend Tank dimensions see left	BV 03
5		BH 05	Inclusively pipe bend Tank dimensions see left	BV 05
6		BH 06	Inclusively pipe bend Tank dimensions see left	BV 06
7	—	—		BV 07 / * ^{2.)}
8		BH 08	Inclusively pipe bend Tank dimensions see left	BV 08
12		BH 12	Inclusively pipe bend Tank dimensions see left	BV 12
14	—	—		BV 14 / * ^{2.)}
25		BH 25 ^{2.)}		BV 25 / * ^{2.)}

Aluminium tank	13 litres		BV 13A / * ^{2.)}
	Strengthened welded flange for mounting in <i>different</i> tanks		

- 1.) Related to the position of the electrical motor
 2.) Filling plug with dip stick - *Standard* -
 3.) Possibility to refit temperature switch or level switch (TS / NS) is given

Position of the pressure connection resp. valve configuration ... / *

Indication *only* for BV 7 , BV 13A , BV 14 and BV 25

4.) Not available for BV 13 A

2 ^{4.)}	3	4	5

Electrical motor

E * * (* *) / *

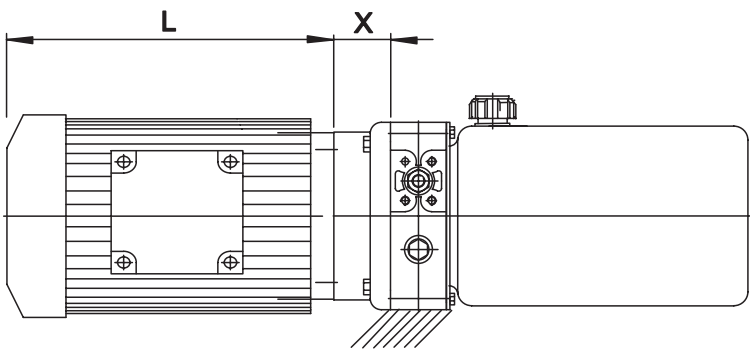
3-phase current E D

Asynchronous 3-phase motor with squirrel cage rotor, enclosed construction, external ventilation, 230/400 V - 50 Hz, 4 poles, 1500 rpm, IP55, B14-small flange, ISO F

Alternative current AC E W

1-phase motor with operation capacitor and raised initial torque
4 poles, 1380 rpm, IP44, B14 small flange, ISO F

Type	Size	L [mm]	Power	Type	Size	L [mm]
ED G (0,12) / *	63	189	0,12 kW	EW G (0,12) / *	63K4	174
ED G (0,18) / *	63	189	0,18 kW	EW G (0,18) / *	63G4	192
ED H (0,25) / *	71	208	0,25 kW	EW H (0,25) / *	71K4	203
ED H (0,37) / *	71	208	0,37 kW	EW H (0,37) / *	71G4	221
ED J (0,55) / *	80	234	0,55 kW	EW J (0,55) / *	80K4	229
ED J (0,75) / *	80	234	0,75 kW	EW J (0,75) / *	80G4	257
ED K (1,1) / *	90S	247	1,1 kW	EW K (1,1) / *	90L4	278
ED K (1,5) / *	90L	272	1,5 kW	EW K (1,5) / *	90LX4	308
ED L (2,2) / *	100L	301	2,2 kW	EW L ((2,2)) ¹⁾ / *	90LX2	
ED L (3,0) / *	100L	301	3,0 kW			

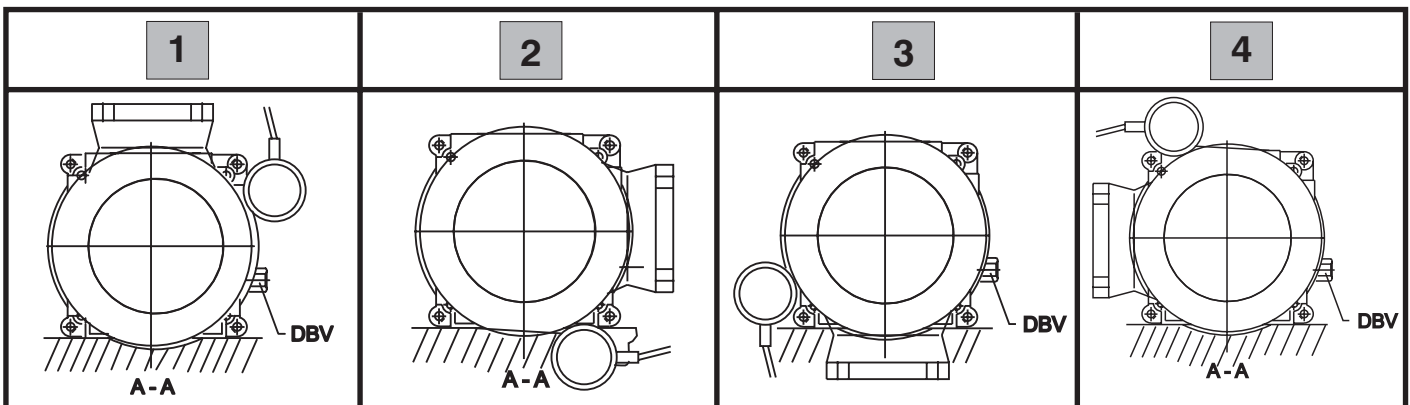


1) 2 - poles, 2800 rpm
Operation only after consultation

Motor flange for

Size	R63	L71	M80	N90	P100
X [mm]	19,5	19,5	30,5	40,5	75,0

Position of the terminal box . . . / *



Electrical motor

E * * (* *) / *

Direct Current E G

12 and 24 Volt

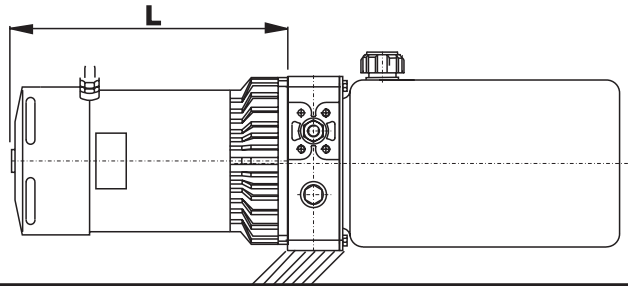
Anti-clockwise rotation - standard

different versions

available with cooler and/or thermo switch

Duty cycle, resting minutes and current consumption can be calculated from us.

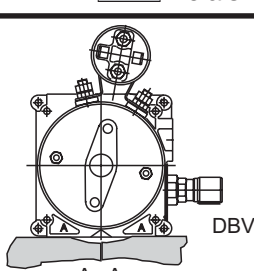
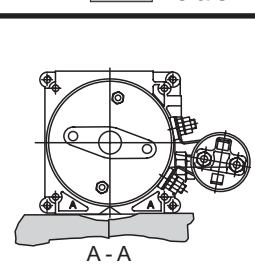
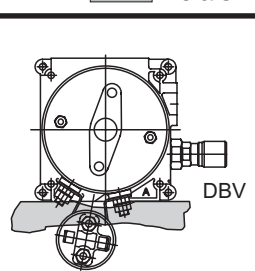
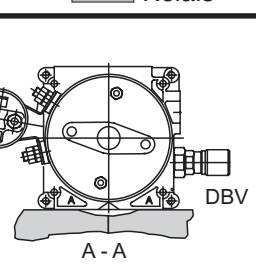
1.) Direction of rotation: reversible (Standard: anti-clockwise rotation)



Power	Motor type G12 Volt					
	- Standard -	L	- with cooler -	L	- with thermo switch -	L
0,35 kW	EG AW _{1,)} (0,35) / *	135	—		—	
0,7 kW	EG AU _{1,)} (0,7) / *	162	—		—	
1,5 kW	EG AA (1,5) / *	173	EG EA (1,5) / *	219	—	
			EG EJ (1,5) / *			219
1,6 kW	EG EB (1,6) / *	160	—		EG EG (1,6) / *	160
2,0 kW	EG C (2,0) / *	176	—		—	

Power	Motor type G24 Volt					
	- Standard -	L	- with cooler -	L	- with thermo switch -	L
0,8 kW	EG AV _{1,)} (0,8) / *	162	—		—	
2,0 kW	EG AB (2,0) / *	173	EG ED (2,0) / *	219	—	
			EG EI (2,0) / *			219
2,2 kW	EG EC (2,2) / *	160	—		EG EH (2,2) / *	160
2,5 kW	EG D (2,5) / *	176	—		—	
3,0 kW	EG AH (3,0) / *	208	EG AO (3,0) / *	264	EG AP (3,0) / *	208

Position of the relais resp. the poles . . . / *

1 Relais	2 Relais	3 Relais	4 Relais
			
5 only poles	6 only poles	7 only poles	8 only poles

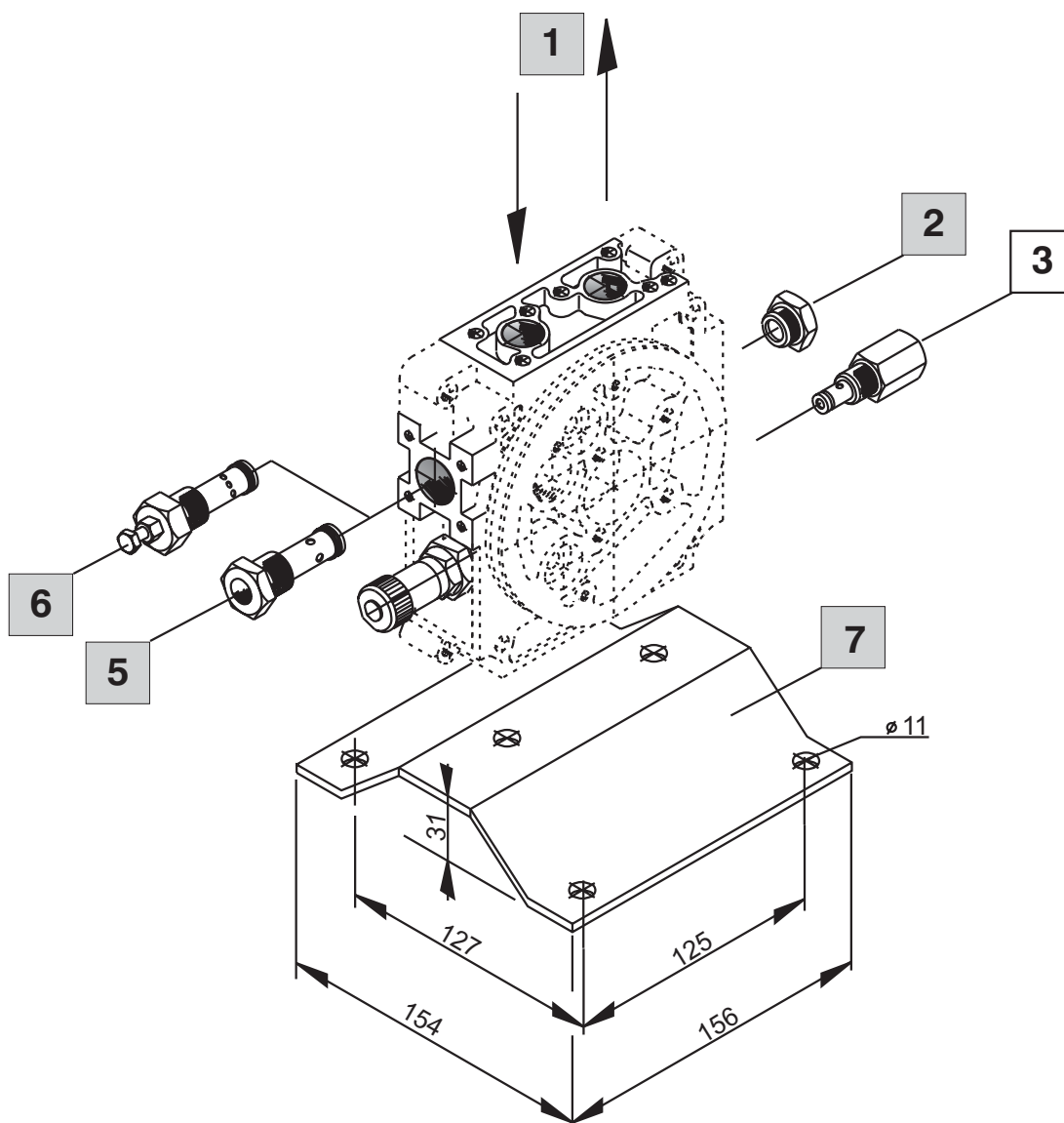
Additional equipment ZT *

P and T - connection G 3/8 ^{1.)}	ZT	1
Additional pressure connection (for e.g. pressure gauge) G 1/4 ^{2.)}	ZT	2
Additional pressure connection with check valve G 1/4 ^{2.)}	ZT	3
Additional drain plug G 1/4	ZT	5
Overcentre valve <i>Constructions see overcentre vavle SEV *</i>	ZT	6
Mounting foot	ZT	7

1.) only for units *without* valve mounting

ZP3,2 and bigger in stock

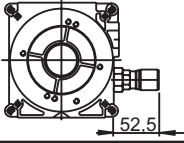
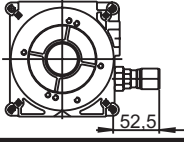
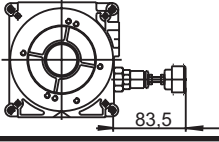
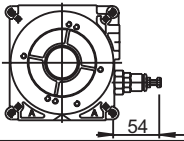
2.) Not available for KL-1 - type

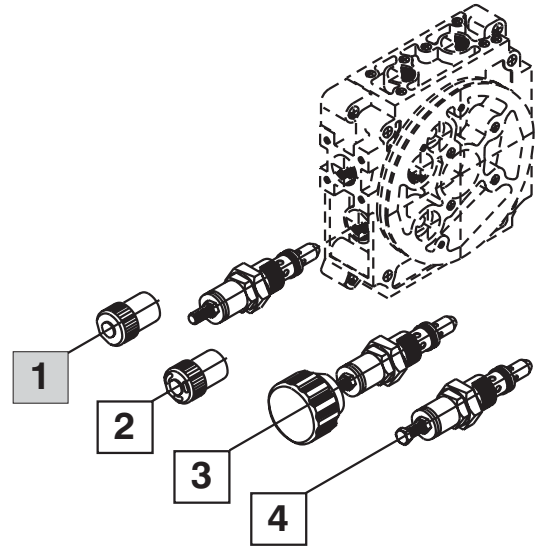


Pressure relief valve DB

* / *** (***)

Construction

adjustable with protection cap		DB	1
sealed		DB	2
with hand wheel		DB	3
with counter nut		DB	4



Pressure range

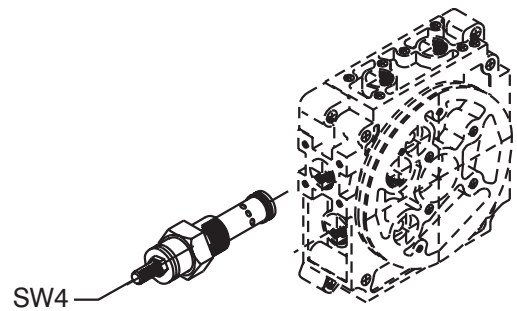
20 - 110 bar	100
50 - 210 bar	200
150 - 310 bar	300

Requested pressure setting (***)
150 bar -Standard

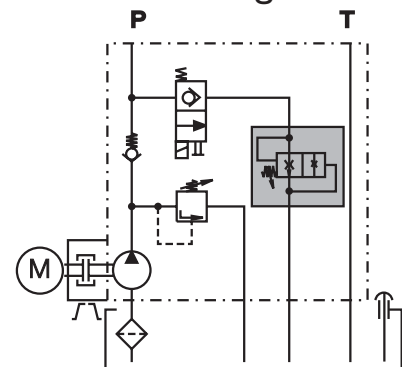
Overcentre valve SEV

* *

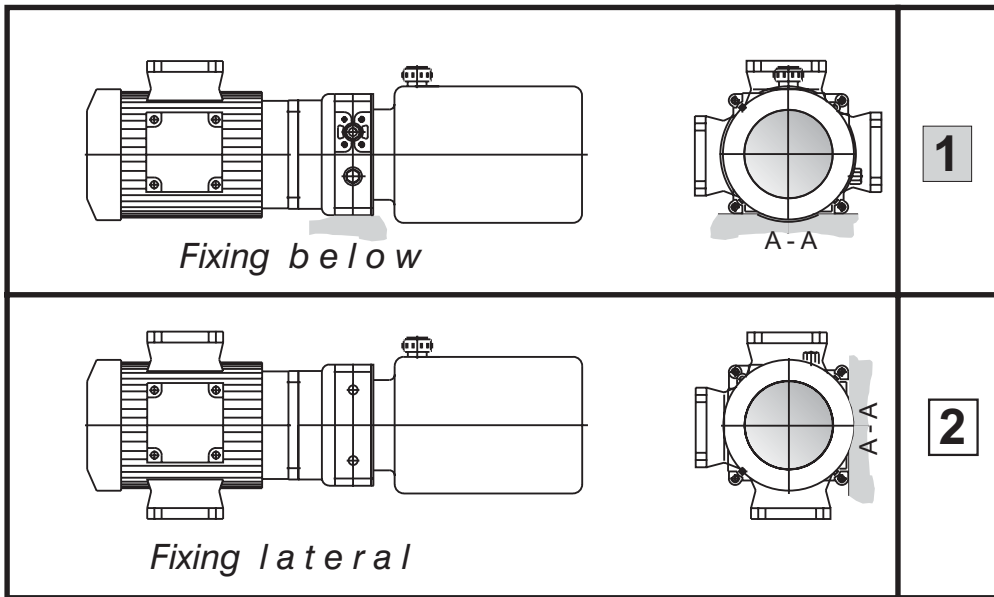
	Setting range	
Series 1 <small>- Discontinued model -</small>	3 - 4 l / min	SEV 4 A
	5 - 7 l / min	SEV 7 B
	8 - 11 l / min	SEV 11 C
Series 2 <small>- edition 10/98 -</small>	2 - 5 l / min	SEV 05 B5
	5 - 10 l / min	SEV 10 B6
	10 - 16 l / min	SEV 16 B7
Series 3 <small>- In preparation -</small>	2 - 4 l / min	SEV 04 B8
	4 - 8 l / min	SEV 08 B9
	8 - 14 l / min	SEV 14 B0



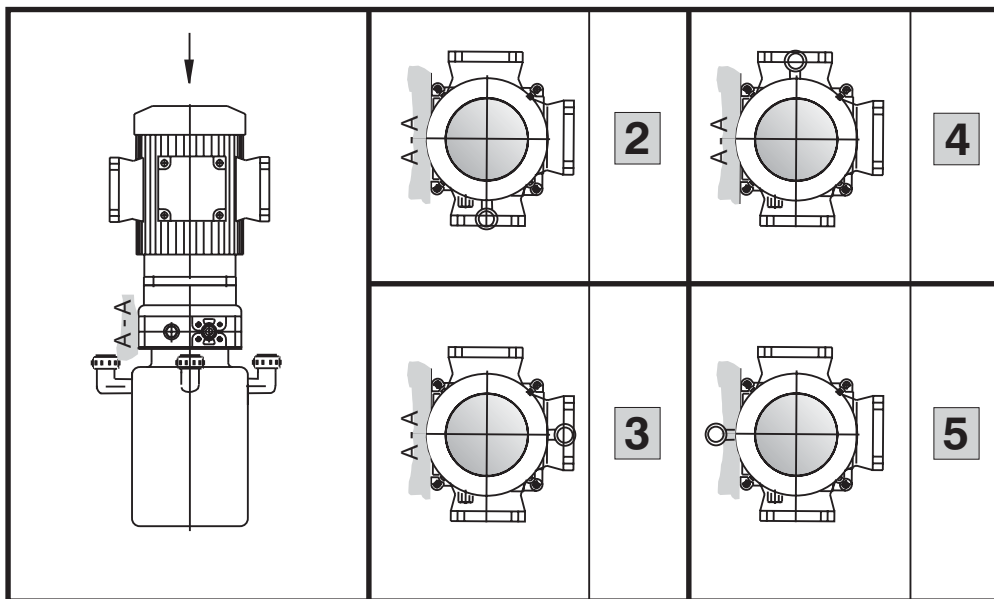
Circuit diagram



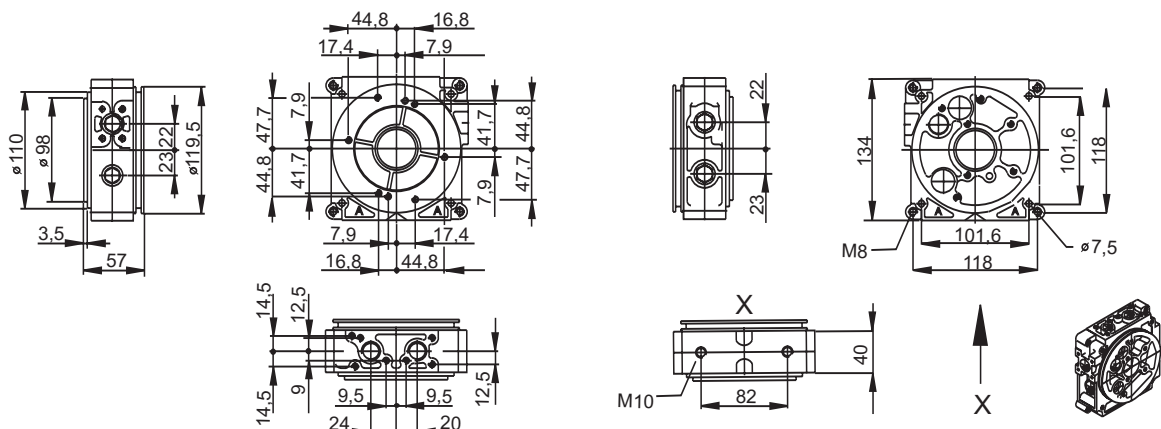
Mounting position horizontal **H** *



Mounting position vertical **V** *



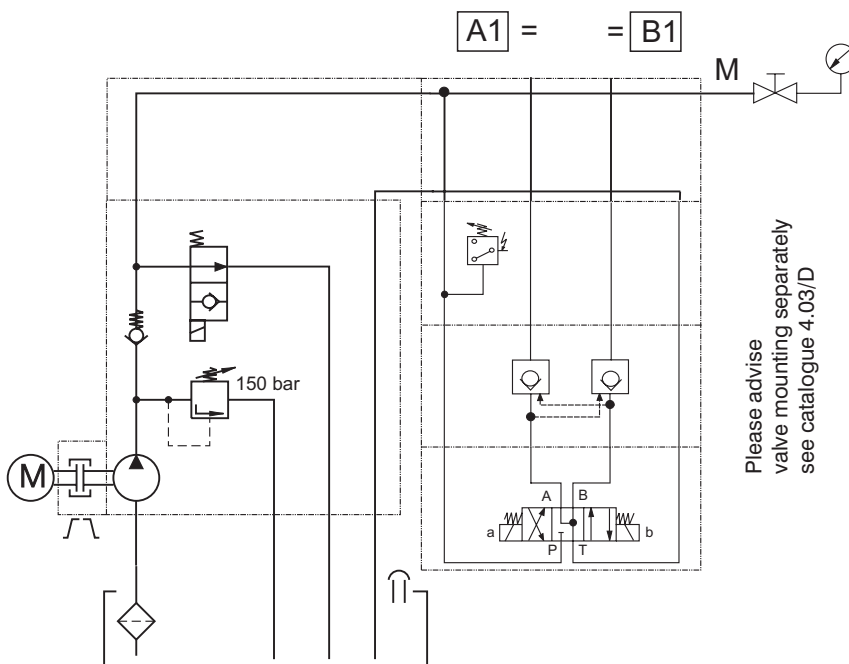
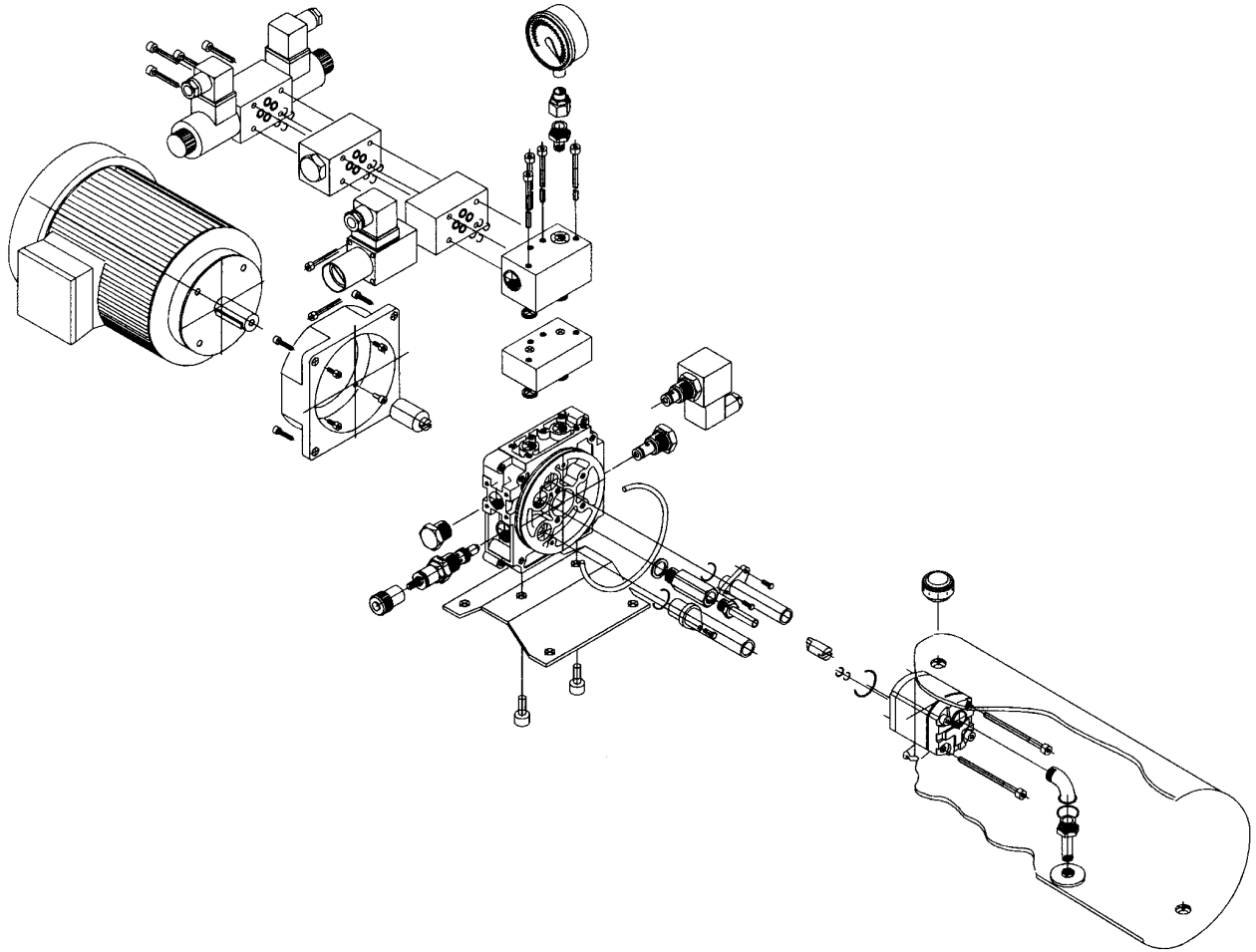
Dimensions of the main flange



Your Mini Power Pack

Example :

KL - 1 - G 3 - 1 (G 3/8) / HSM - ZP 2,6 - BH08 - EDK (1,1) / 2 - ZT 7 - DB1/200 (150) - H1



Please advise
valve mounting separately
see catalogue 4.03/D

Duty cycle : intermittend
service
Mounting position : horizontal
Fixing : below

hydropa® 58456 Witten-Germany
OLHYDRAULIK Telefon: 02302/7012-0
Telefax: 02302/7012-47

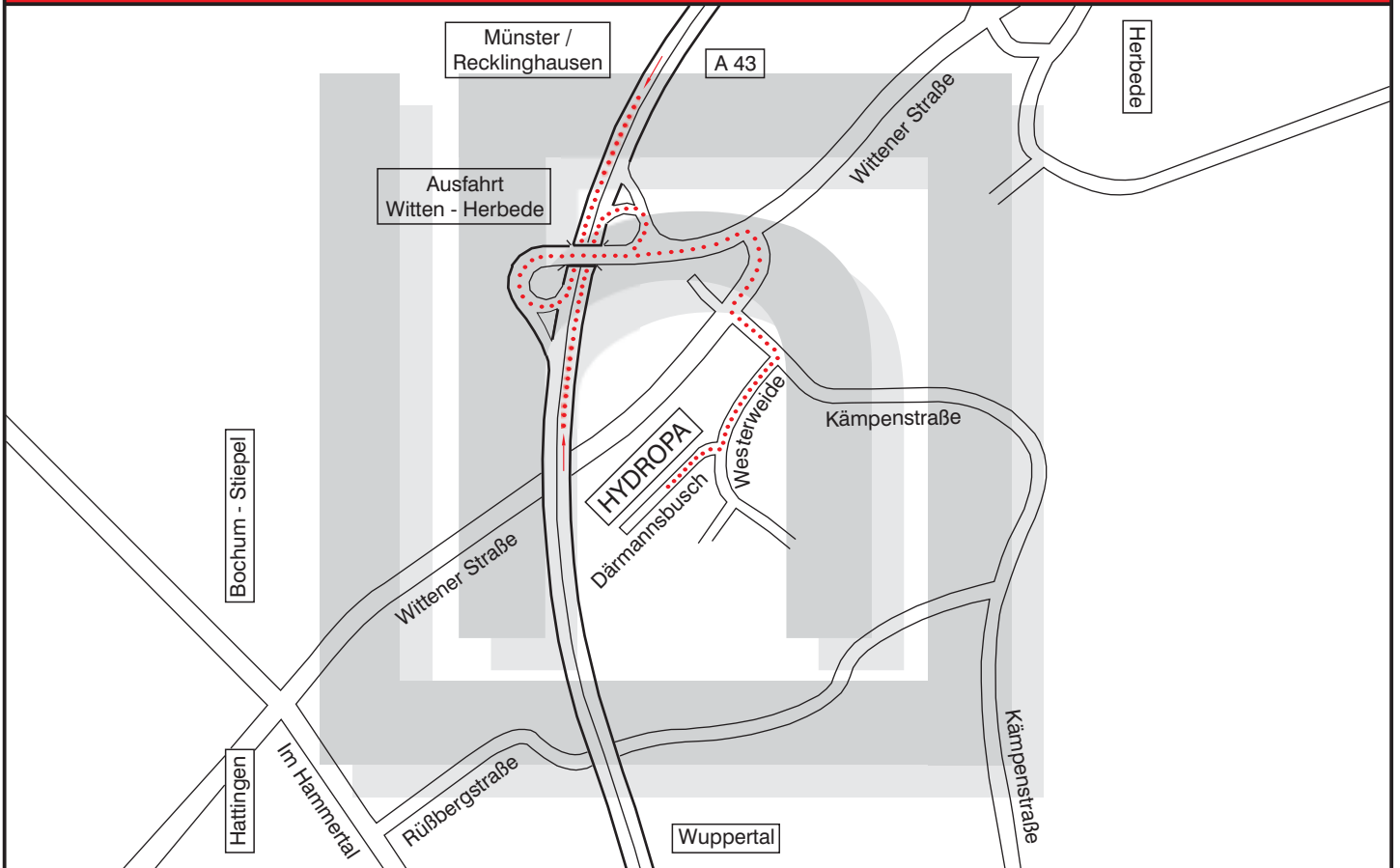
Mini Power Pack

Type KL - 1 - G 3 - 1 (G 3/8) / HSM - ZP 2,6 - BH08 -
EDK (1,1) / 2 - ZT 7 - DB1/200 (150) - H1

Order No. 31.xxxx Model 10/98

Q ca. 3,5 l/min. P_{max} 150 bar

Wie Sie uns finden! How to find us!



Anlagen / Power Packs

Druckschalter / Pressure Switches

Pumpen / Pumps



Blockventile / Blockvalves

Zylinderwerk / Cylinder manufacturing company - A.K.R.-Maschinenbau



Die hydropa®- Gruppe

Innovativer Systempartner der Industrie - kompetent - flexibel - qualitätsorientiert !
Innovative systempartner of the industry - competent - flexible - quality oriented !

hydropa®
 GmbH & Cie. KG

Därmannsbusch 4, D-58456 Witten (Herbede)
 Postfach / P.O. Box 31 65, D-58422 Witten (Herbede)
 Telefon / Telephone (0 23 02) 70 12-0, Telefax (0 23 02) 70 12-47
 Internet: www.hydropa.de - E-Mail: info@hydropa.de

hydropa®
 GmbH & Cie. KG

Änderungen im Sinne des technischen Fortschrittes vorbehalten! / Rights of alteration reserved in sense of technical development!