Bolz Block

# Selection sheet for electro hydraulic powerpack

Product group

Power units

| EHPP | (01) DA | (02) 18 | (03) 04 | (04) S21 | (05) M | (06) A | (07) 4 | (08) 0 | (09) Z01 | 01 |
|---|---|---|---|---|---|---|---|---|---|---|
| Elektric Hydraulic Power Pack up to 150 bar | funktion type | flow rate pump | tank volume**** | engine type | minimess | oil type | junction box | junction box cover | additional options | customer index |

| | |
|---|---|
| **DA** | **Double acting** |
| **SA** | **Single acting** |

| | |
|---|---|
| **18** | **0,18ccm/rotation** |
| 25 | 0,25ccm/rotation |
| 32 | 0,32ccm/rotation |
| 40 | 0,40ccm/rotation |

| | |
|---|---|
| 03 | 0,3 liter |
| **04** | **0,4 liter** |
| 09 | 0,9 liter |
| 14 | 1,4 liter |

| | |
|---|---|
| **ZB2143Klemmdeck** | **0** |
| ZB2386 (high version) | H |

| | |
|---|---|
| ZB3141 (2 holes) | 2 |
| ZB3122 (1 holes) | 1 |
| **ZB3252 (4 holes)** | **4** |

| | |
|---|---|
| **with HLP 32** | **A** |
| with HLP 46 | B |
| with bio | C |

| | |
|---|---|
| without Minimess | 0 |
| **with Minimess** | **M** |

## Motortable for Double Acting und Single Acting Power Pack´s

| Frequency | Size | Voltage | Phase | Pole | Power | Speed | largest pump** | Qmax*** | Special | Marking |
|---|---|---|---|---|---|---|---|---|---|---|
| 50 Hz/ 60 Hz | S= BG56 | 230V/ 276V | 1 phasig | 2 polig | 0,18 kW/ 0,21 kW | 2650U/min/ 3180U/min | 0,18 ccm/U | 0,48 l/min | | **S21** |
| | | | | | | | | | Thermosensor | S22 |
| | | | | 4 polig | 0,15 kW/ 0,18 kW | 1380U/min/ 1656U/min | 0,32 ccm/U | 0,44 l/min | | **S41** |
| | | | | | | | | | 4 Braids | S42 |
| | | | | | | | | | Thermosensor | S43 |
| | | 230V/ 400V 275V/ 480V | 3 phasig | 4 polig | 0,25 kW/ 0,28 kW | 1330U/min/ 1590U/min | 0,4 ccm/U | 0,53 l/min | | **S44** |
| | | | | | | | | | Thermosensor | S45 |
| | | 120 V/ 144 V | 1 phasig | 4 polig | 0,15 kW/ 0,18 kW | 1360U/min/ 1630U/min | 0,26 ccm/U | 0,42 l/min | | **S46** |
| | E= BG63 | 230V/ 400V 275V/ 480V | 3 phasig | 2 polig | 0,18 kW/ 0,21 kW | 2825U/min/ 3390U/min | 0,18 ccm/U | 0,54 l/min | T4 | F24 |
| | | | | | 0,18 kW/ 0,21 kW | 2825U/min/ 3390U/min | 0,18 ccm/U | 0,54 l/min | T6 | F26 |
| | | | | 4 polig | 0,15 kW/ 0,18 kW | 1360U/min/ 1630U/min | 0,32 ccm/U | 0,42 l/min | T4 | F44 |
| | | | | | 0,15 kW/ 0,18 kW | 1360U/min/ 1630U/min | 0,32 ccm/U | 0,42 l/min | T6 | F46 |
| | | 120 V/ 144 V | 3 phasig | 2 polig | 0,18 kW/ 0,21 kW | 2825U/min/ 3390U/min | 0,2 ccm/ U | 0,54 l/min | T6 | F16 |

The second value in the columns Voltage, Power and Speed refers to a connection with a mains frequency of 60 Hz

On request we also offer a version with 24VDC.

An auxiliary capacitor is supplied for single phase motors.

S = Standard motor, pressed, small size

E = Flanged motor with adaptation block explosion proof

* Bold printed = fast delivery time

** largest possible pump at approx. 150 bar

*** Qmax at approx. 150 bar

**** Optional special tank up to 3 liters possible (only relevant for single acting units)

| Special blocks | Marking |
|---|---|
| without special block | Z01 |
| | |
| ZB2206 DA as distance block | B01 |
| ZB2206 SA as distance block | B02 |
| ZB2206 as distance block with pressure switch hole | B03 |
| ZB2206 as distance block with throttle function | B04 |
| ZB2385REV001 for wall mounting | B05 |
| ZB2329 for piping and pressure switch connection | B06 |
| ZB2631 adapter plate for larger connection pattern | B07 |
| | |
| ZB3468 intermediate plate with permanent control [1] | B31 |
| ZB3470 intermediate plate DA to SA | B32 |

[1] B31 is only to be used with an S1 continuous motor.
For further information please contact us.

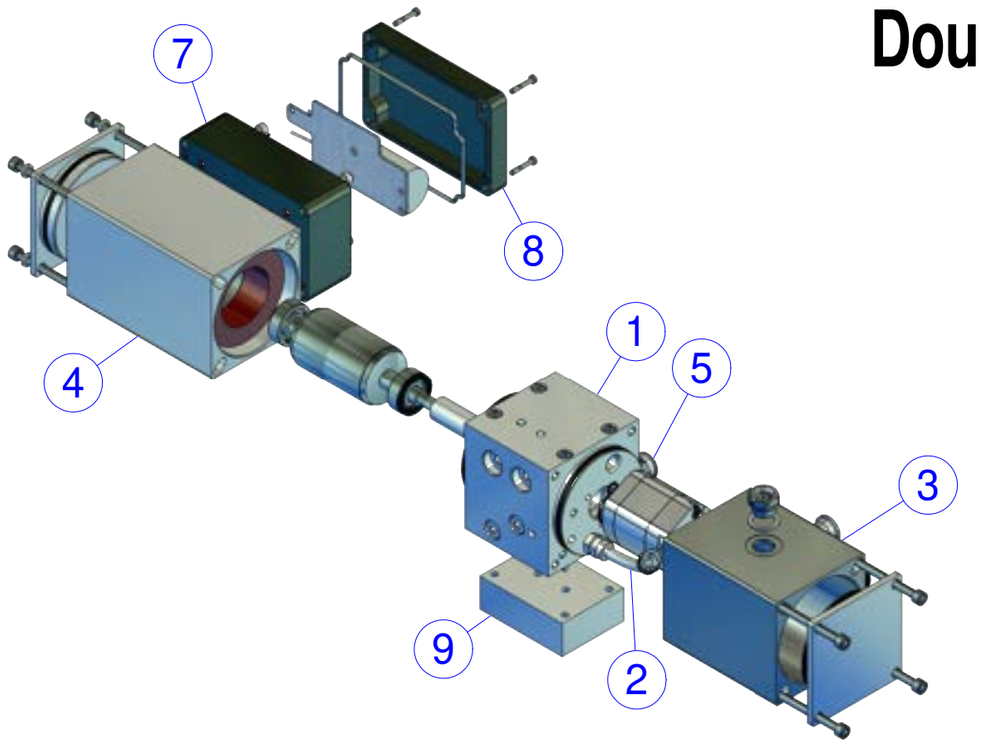
Bolz Block

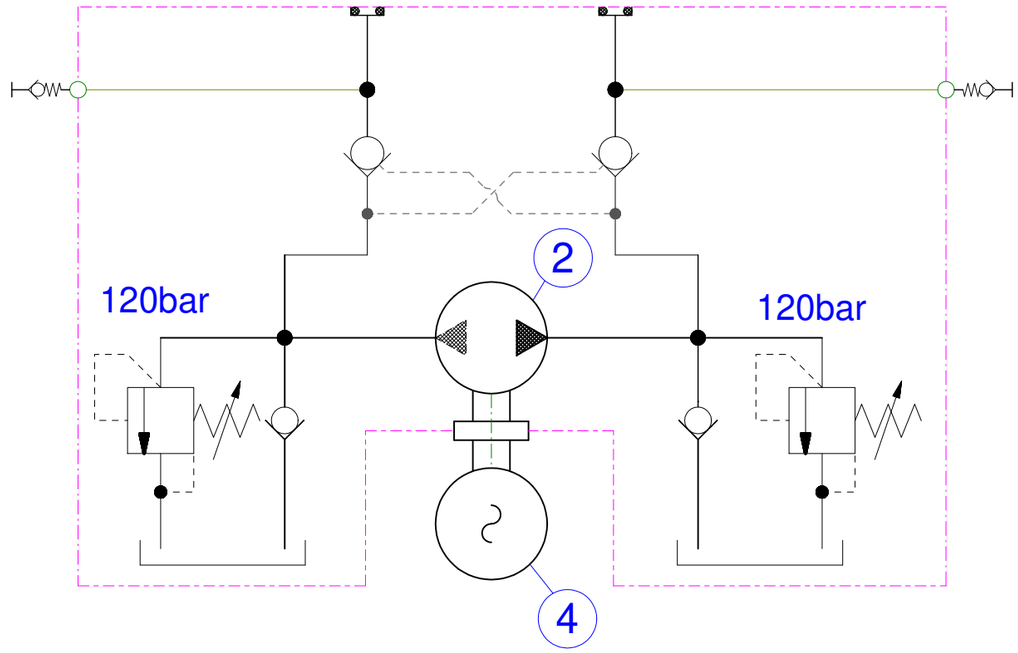
# (01) Functiontype for Single and Double Acting Power Packs

Product group

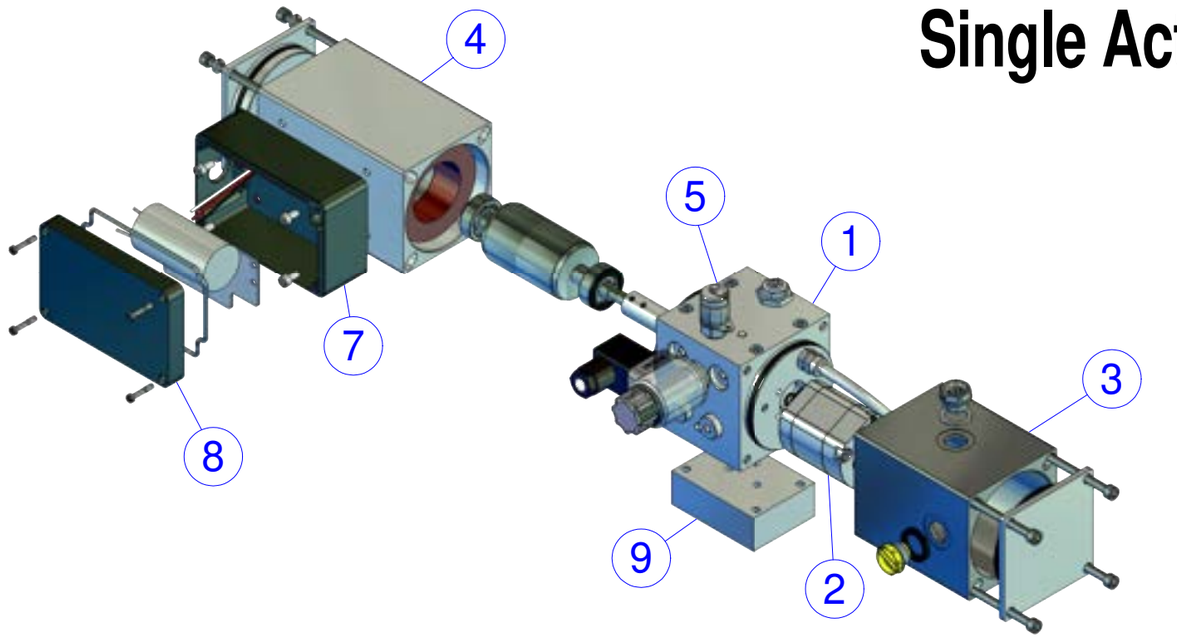
Power units

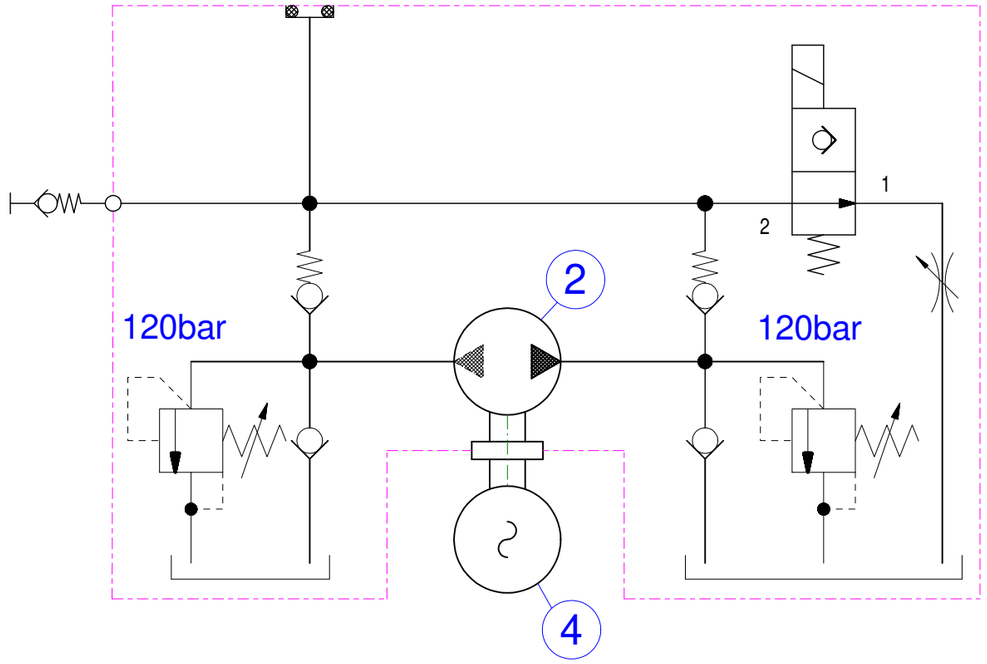
## Double Acting




## Single Acting

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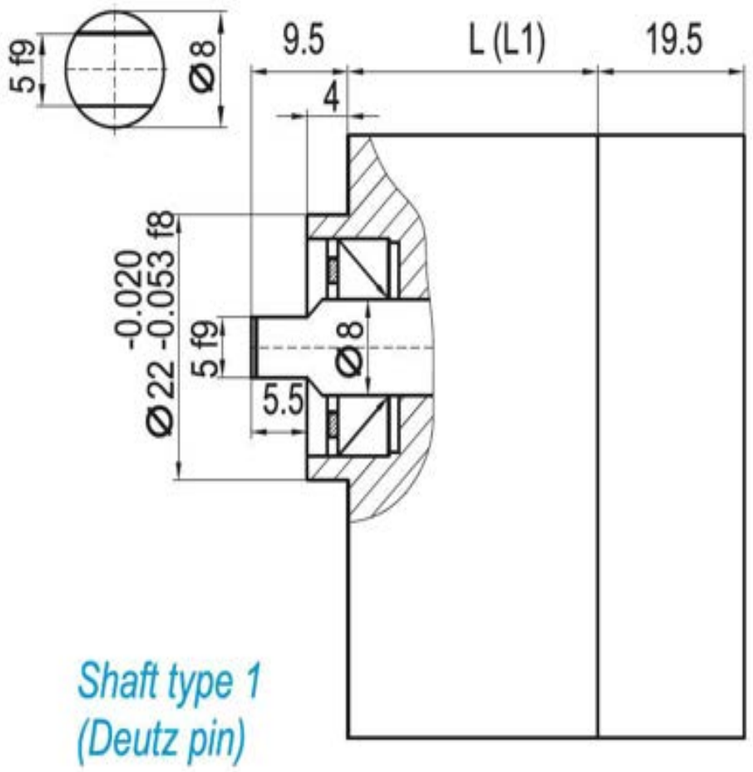
## Codificare - *Codification:*

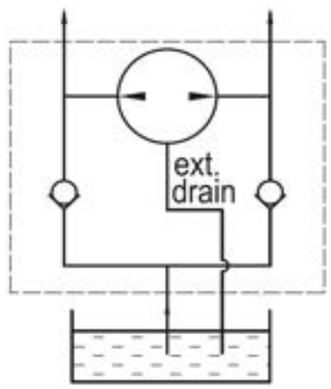
| BHP05 | — | Vg ($cm^3$/rot) *($cm^3$/rev)* | — | Ax antrenare *Driving shaft* | — | Corp *Body* | — | Capac *Cover* | — | Sens *Rotation* |
|---|---|---|---|---|---|---|---|---|---|---|
| BFHP05 | | 0.2 | | 1 Cep Deutz *Deutz pin* | | BHP05 fără flanşă fixare *without fastening flange* | | 5 cu drenaj extern *with external drain* | | B Bidirecţional *Bidirectional* |
| | | 0.26 | | | | OU 2x Ø5.8 poziţie a-a aspiraţie - refulare frontală *2x Ø5.8 position a-a front inlet - outlet* | | | | |
| | | 0.32 | | | | | | | | |
| | | 0.4 | | | | | | | | |

BHP05-0.8-10U5-B; BHP05-0.4-10V5-B




*Shaft type 1*
*(Deutz pin)*

| Vg ($cm^3$/rot) *(ccm/rev)* | L (mm) | L1 (mm) | $\eta_v$ (%) | $\eta_m$ (%) |
|---|---|---|---|---|
| 0.2 | 23.9 | 25.9 | 73 | 46 |
| 0.26 | 24.3 | 26.3 | 75 | 48 |
| 0.32 | 24.7 | 26.7 | 76 | 52 |
| 0.4 | 25.3 | 27.3 | 78 | 55 |

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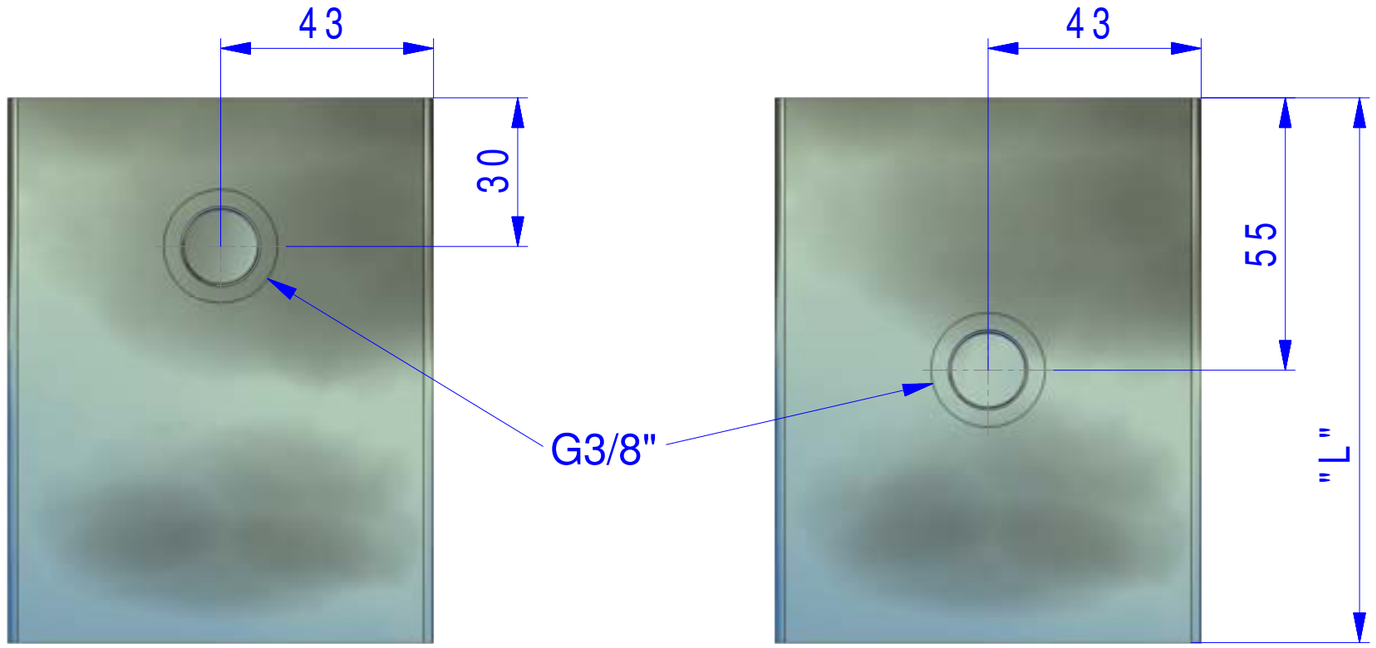
# (03) Oil tank

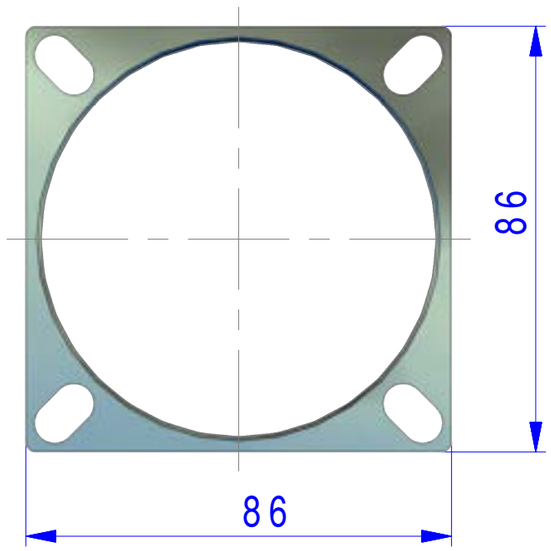
Product group

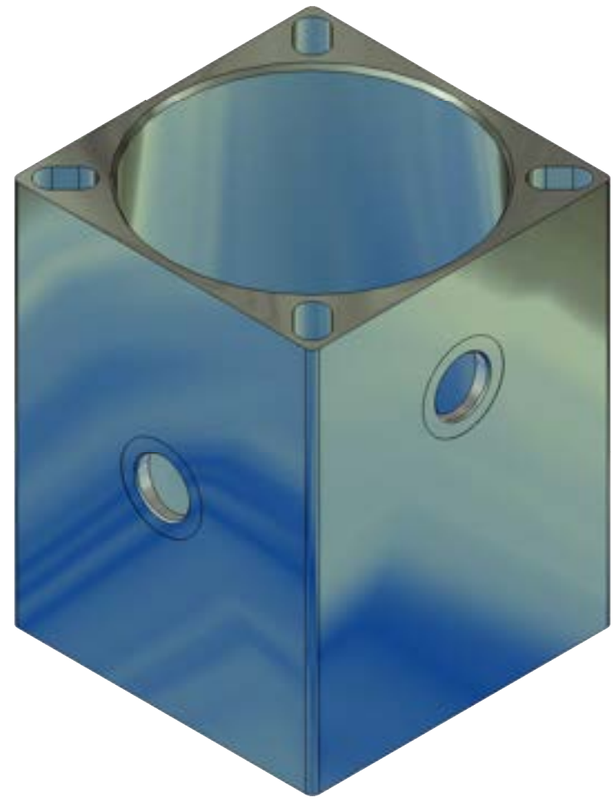
Power units




measure "L" for different usable volumes

| | | | |
|---|---|---|---|
| **03** | 0,3 L | = | 90mm |
| **04** | 0,4 L | = | 110mm |
| **09** | 0,9 L | = | 220mm |
| **14** | 1,4 L | = | 330mm |



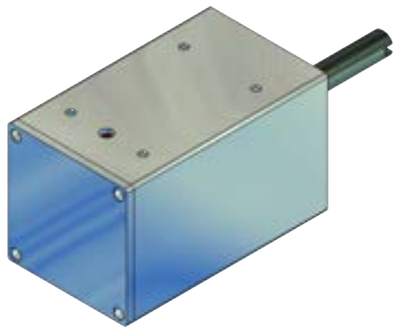
Bolz Block

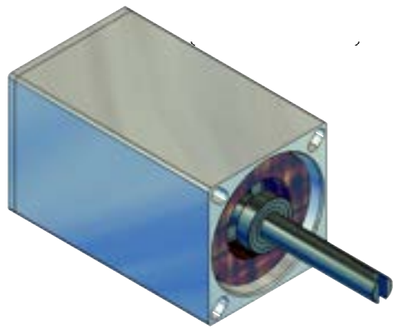
# (04) Engine type

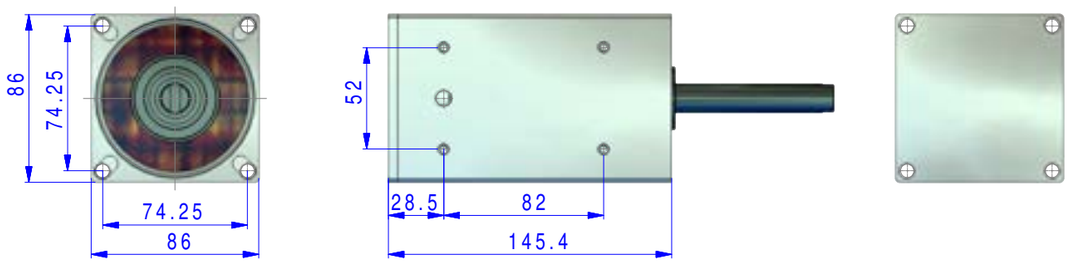
Product group

Power units

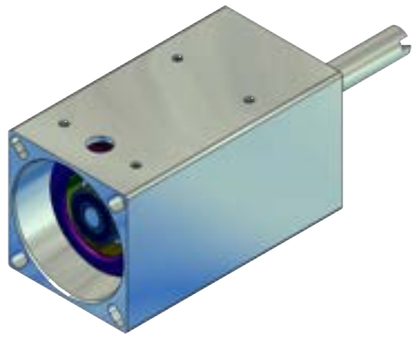
## engine type "**S**" 0,15 kW and 0,18 kW

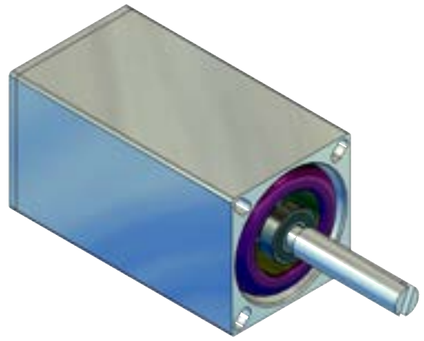


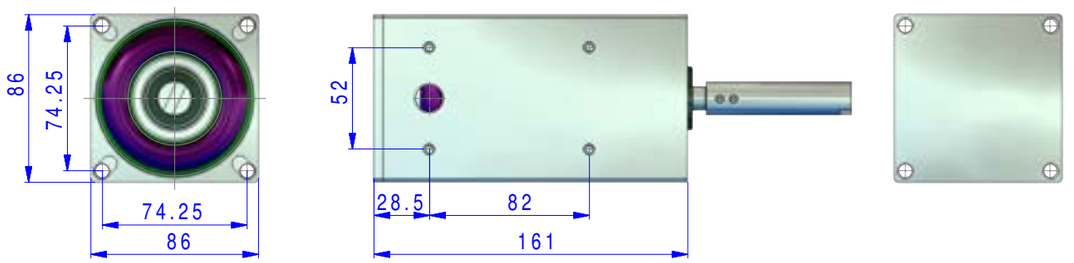




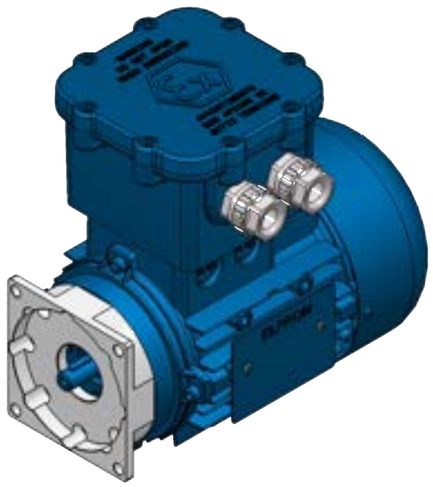

## engine type "**S**" 0,25 kW

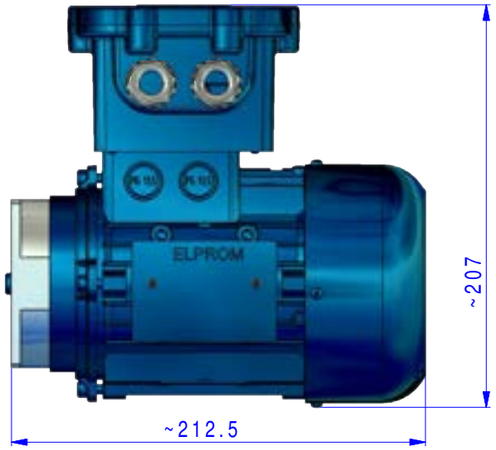


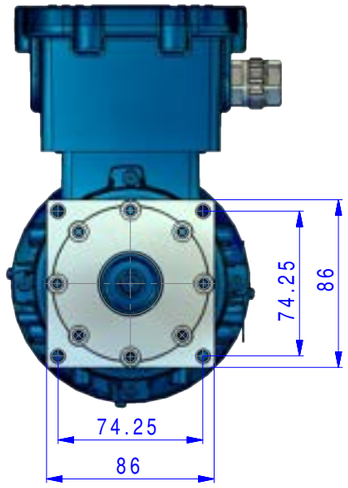





## engine type "**E**"




If the motor rests on the drive, use ZB2206 as an additional option.

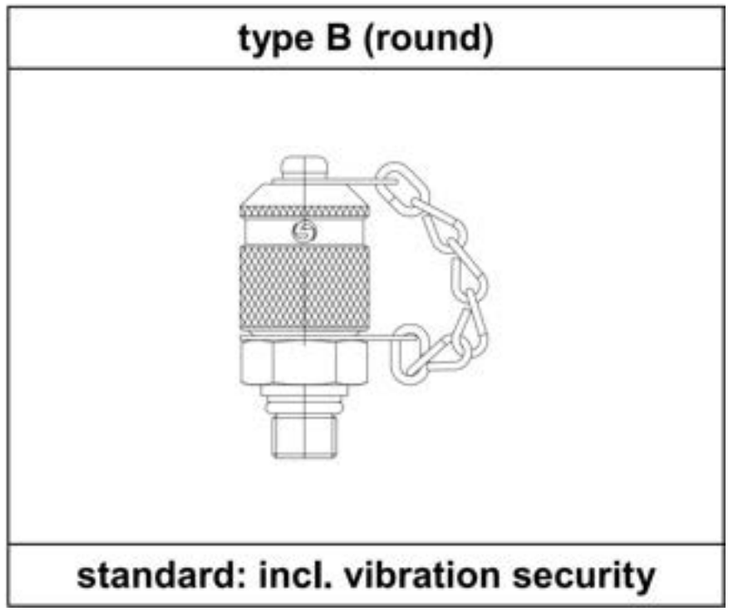
| G | PN | SW | h | sealing | part number (NBR) |
|---|---|---|---|---|---|
| G1/4" | 630 | 19 | 37 | soft sealing type 3 | 1-906-29-11-600-CF |

Application:
Couplings are applied for the monitoring and control pressure as well as the ventilation. The advantages of this system are - among other - connection at system pressure level, the easy connection to measurement control and switching devices, the leakproof connection and the integrated vibration security of the metal cap.

Media:
Hydraulic oils and mineral based fluids.
(Please check compatibility of seal material.)

Materials:
Metal parts: Steel, Stainless steel upon request
Seals: NBR (-20 °C to +100 °C)
FKM (-20 °C to +200 °C) upon request
EPDM (-40 °C to +150 °C) upon request
Hose: Polyamide (-35 °C to +100 °C) upon request

Surface:
Zinc nickel, transparent, CrVI-free




Pressure:
Maximum working pressure (PN) of the test couplings - 630 bar, at 4-fold security.
Connection under pressure up to 400 bar. For the union pieces please observe the instructions given by the corresponding producer.

A= with HLP 32

B= with HLP 46

C= with bio

## CLASSIC HAMDIR UM HVLP Range

Universal hydraulic oil mineral oil based free of zinc and ash ISO VG 15, 32, 46, 68 HVLP

**Description**

**CLASSIC HAMDIR UM HVLP** oils are type HLP high-quality EP hydraulic oils according to DIN 51 524, part 2 with extremely high viscosity index. This type of hydraulic oil is classified as a HVLP hydraulic oil according to DIN 51 524 part 3.

**CLASSIC HAMDIR UM HVLP** oils are primarily used in hydraulic units with hydrostatic drives that are exposed to high thermal alternating stress. They are also suitable for use in hydraulic systems where, due to the design, the hydraulic pumps and motors require hydraulic oils with exceptionally good viscosity temperature behaviour that contain wear-reducing additives.

**CLASSIC HAMDIR UM HVLP** oils can be used in both hydrostatic and hydrodynamic units for which manufacturers prescribe the use of high-VI hydraulic oils. As they are also suitable for hydraulic systems that are exposed to normal stress levels, they enable you to streamline your oil stock. Due to their additives, the products can also be used as CLP lubricating oils according to DIN 51 517 part 3, for gear and recirculating lubrication.

**Properties**

- excellent viscosity temperature behaviour
- good wear protection thanks to highly effective wear reducing EP additives
- excellent corrosion protection
- great durability
- no damage to conventional sealing materials
- low foaming tendency
- good demulsification capacity
- free of zinc and ash

A B

**Product data**

| Properties | Unit | UM 15 HVLP* | UM 32 HVLP* | UM 46 HVLP* | UM 68 HVLP* |
|---|---|---|---|---|---|
| Density 15 °C | kg/l | 0.855 | 0.868 | 0.873 | 0.878 |
| Viscosity 40 °C | mm²/s | 15.0 | 32.0 | 46.0 | 68.0 |
| Viscosity 100 °C | mm²/s | 3.8 | 6.4 | 8.6 | 11.2 |
| Viskosity index | | 147 | 159 | 151 | 157 |
| Pour point | °C | -45 | -40 | -40 | -35 |
| Flash point (COC) | °C | 180 | 190 | 200 | 210 |

* are average values and may vary in the framework of the standard.

**Quality level**

DIN 51 524 part 3

**Performance**

FZG > 12

## PLANTOSYN 3268 ECO

**Environmentally friendly, HVI multigrade hydraulic fluid based on synthetic esters (HEES), universally applicable, rapidly biodegradable according to OECD 301 B > 60%, awarded with the „European Ecolabel (EEL)“, non water pollutant**

**Typical data:** C

| Product name | PLANTOSYN 3268 ECO | | |
|---|---|---|---|
| **Properties** | **Unit** | | **Test method** |
| ISO VG | | 46 | DIN 51519 |
| Kinematic viscosity | | | DIN EN ISO 3104 |
| at – 20 °C | mm²/s | 1550 | |
| at 0 °C | mm²/s | 340 | |
| at 40 °C | mm²/s | 47 | |
| at 100 °C | mm²/s | 9.5 | |
| Viscosity index | - | 191 | DIN ISO 2909 |
| Density at 15 °C | kg/m³ | 920 | DIN 51757 |
| Colour | ASTM | 1.0 | DIN ISO 2049 |
| Flashpoint (Cleveland Open Cup) | °C | 300 | DIN ISO 2592 |
| Pourpoint | °C | - 45 | DIN ISO 3016 |
| Neutralisation number | mgKOH/g | 1.1 | DIN 51558-1 |
| Air release at 50 °C | Minutes | 5 | DIN ISO 9120 |
| Water content | mg/kg | < 500 | ISO 12937, ISO 6296 |
| Copper corrosion (3 h, 100 °C) | Degree of corrosion | 1 | DIN EN ISO 2160 |
| Steel corrosion | Degree of corrosion | 0-A | DIN ISO 7120 |
| FZG A/8,3/90 | Failure load stage | 12 | DIN ISO 14635-1 |
| Vickers pump test (Vickers V105C) | | | DIN 51389-2 |
| weight loss - vanes | mg | < 30 | |
| weight loss - ring | mg | < 120 | |
| Effect on sealing materials: | | | ISO 6072 |
| HNBR, 1008 h, 80 °C: | | | |
| - change of Shore-A hardness | Shore | - 3.2 | |
| - relative volume change | % | + 5.5 | |
| FPM AK 6, 1008 h, 80 °C: | | | |
| - change of Shore-A hardness | Shore | + 1.1 | |
| - relative volume change | % | + 0.4 | |

Bolz Block

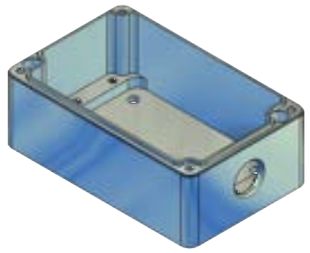
# (07) Junction box

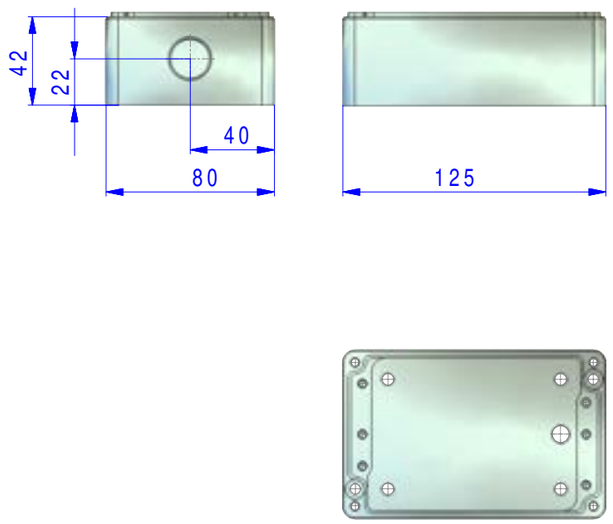
Product group

Power units

**1**
ZB3122

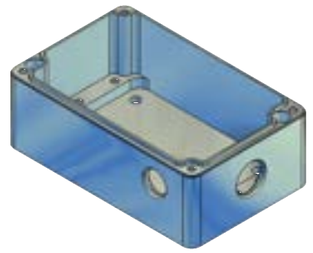
1x M20x1,5 at side

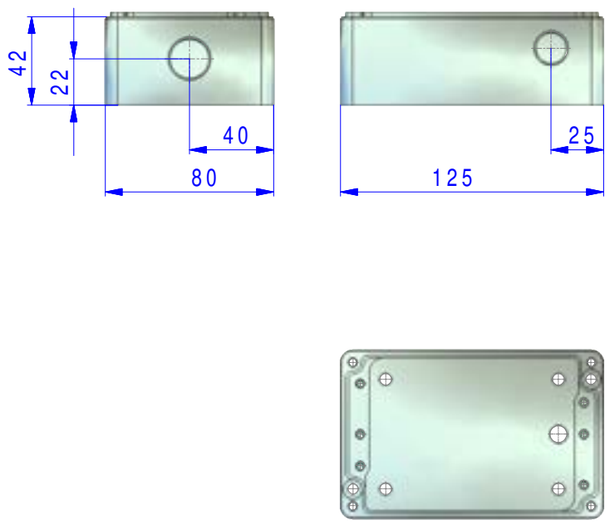





**2**
ZB3141

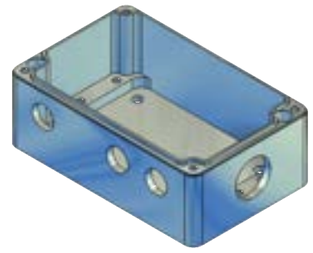
1x M20x1,5 at side
1x M16x1,5 at front side

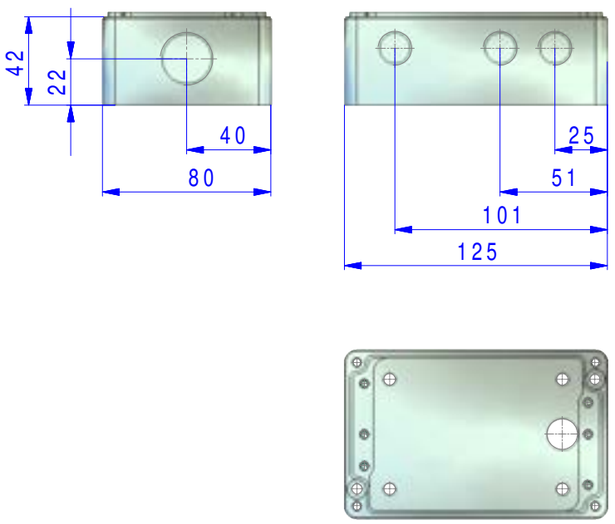





**4**
ZB3252

1x M25x1,5 at side
3x M16x1,5 at front side



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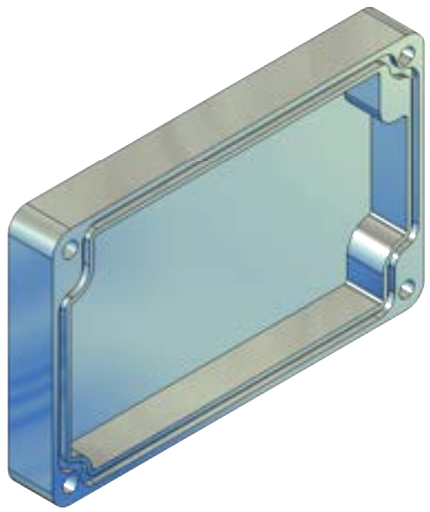
Bolz Block

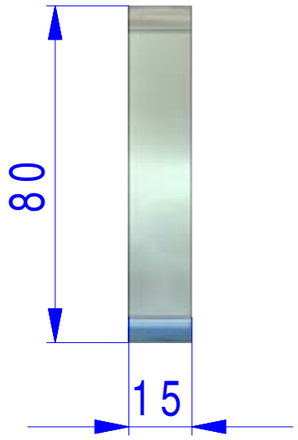
# (08) Junction box cover

Product group

Power units

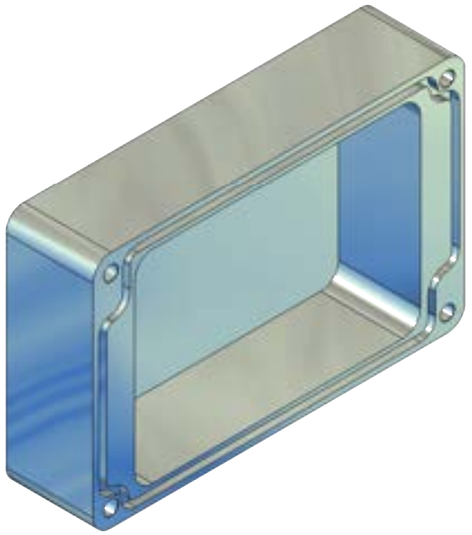
## 0
ZB2143Klemmkastendeckel

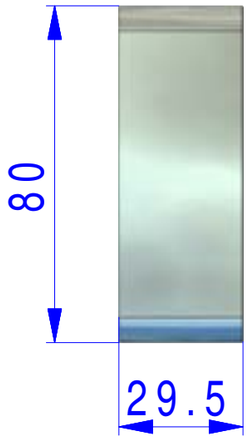






## H
ZB2386 (high version)







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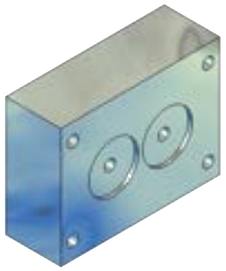
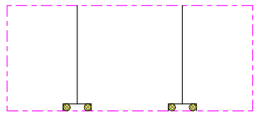
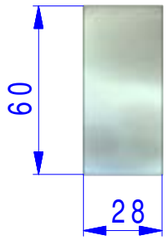
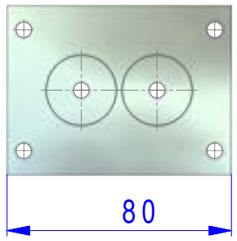


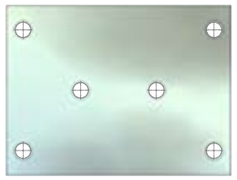
## B01
ZB2206

hydraulic circuit diagram

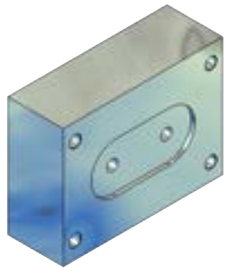




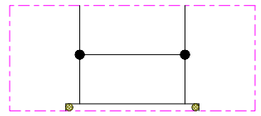



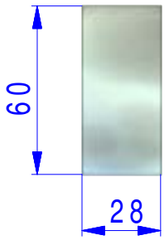
Spacer block for DA units.
To be used with BG63 motors

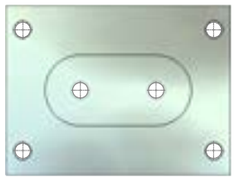


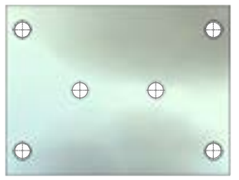
## B02
ZB2206 SA

hydraulic circuit diagram

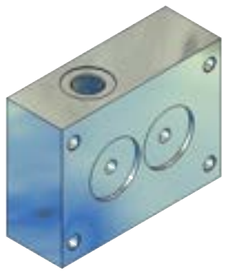




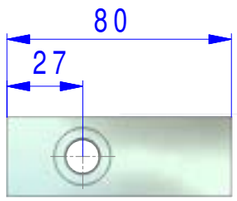





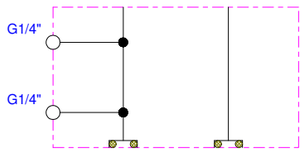
Spacer block for SA units.
To be used with BG63 motors

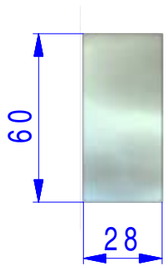


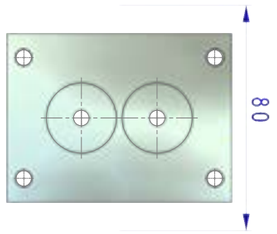
## B03
ZB2206 DS

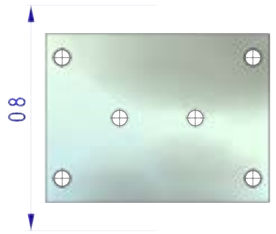


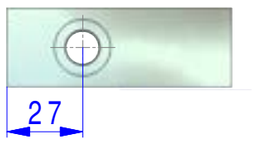

hydraulic circuit diagram



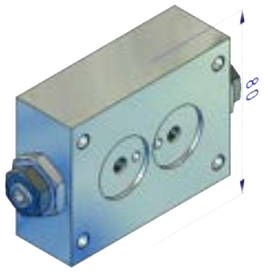



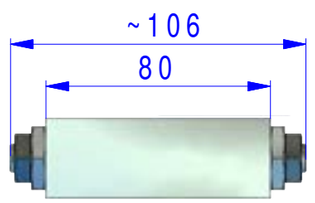



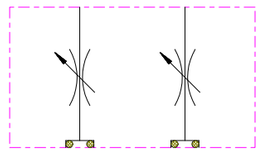

Distance block for DA units.
To be used with BG63 motors
with 2 connections G1/4"

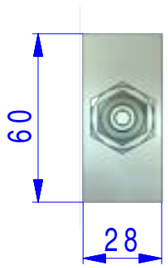



## B04
ZB2206 Drossel




hydraulic circuit diagram







Distance block for DA aggregates.
To be used with BG63 motors
with additional throttle functions

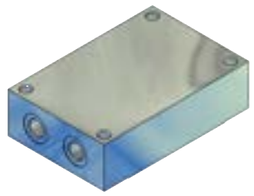
Bolz Block

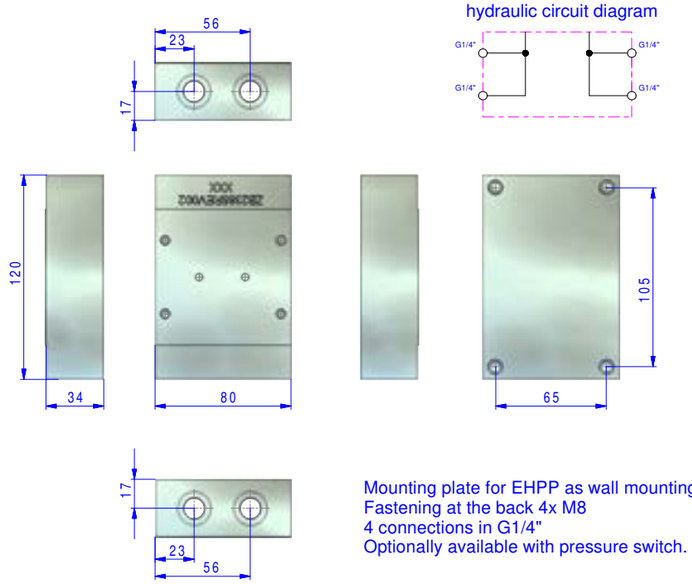
# (09) Additional options

Product group

Power units

## B05
ZB2385REV002



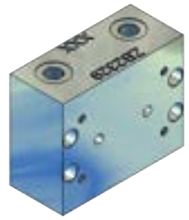


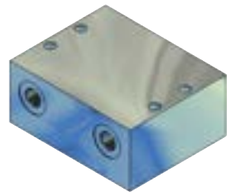

hydraulic circuit diagram

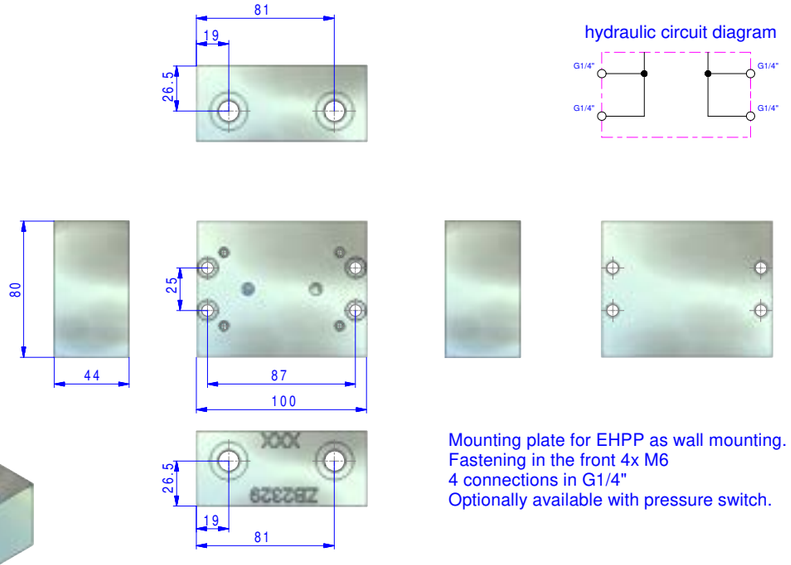



Mounting plate for EHPP as wall mounting.
Fastening at the back 4x M8
4 connections in G1/4"
Optionally available with pressure switch.

## B06
ZB2329





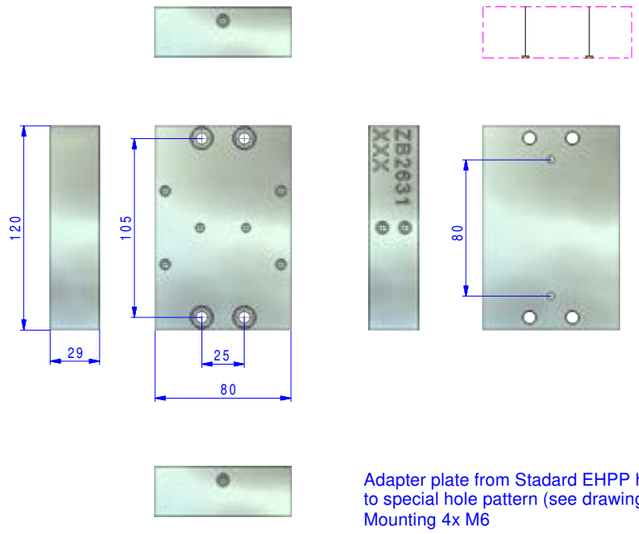



hydraulic circuit diagram




Mounting plate for EHPP as wall mounting.
Fastening in the front 4x M6
4 connections in G1/4"
Optionally available with pressure switch.

## B07
ZB2631




hydraulic circuit diagram



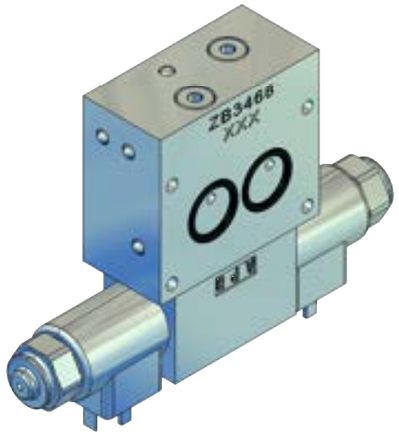
Adapter plate from Stadard EHPP hole pattern
to special hole pattern (see drawing).
Mounting 4x M6

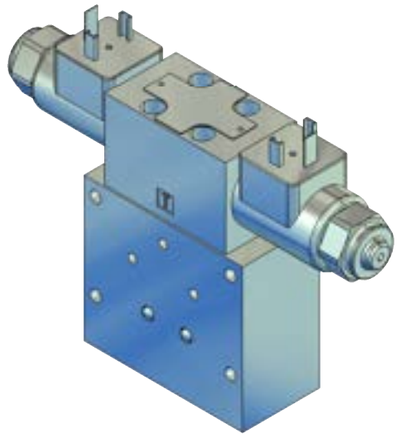
Bolz Block

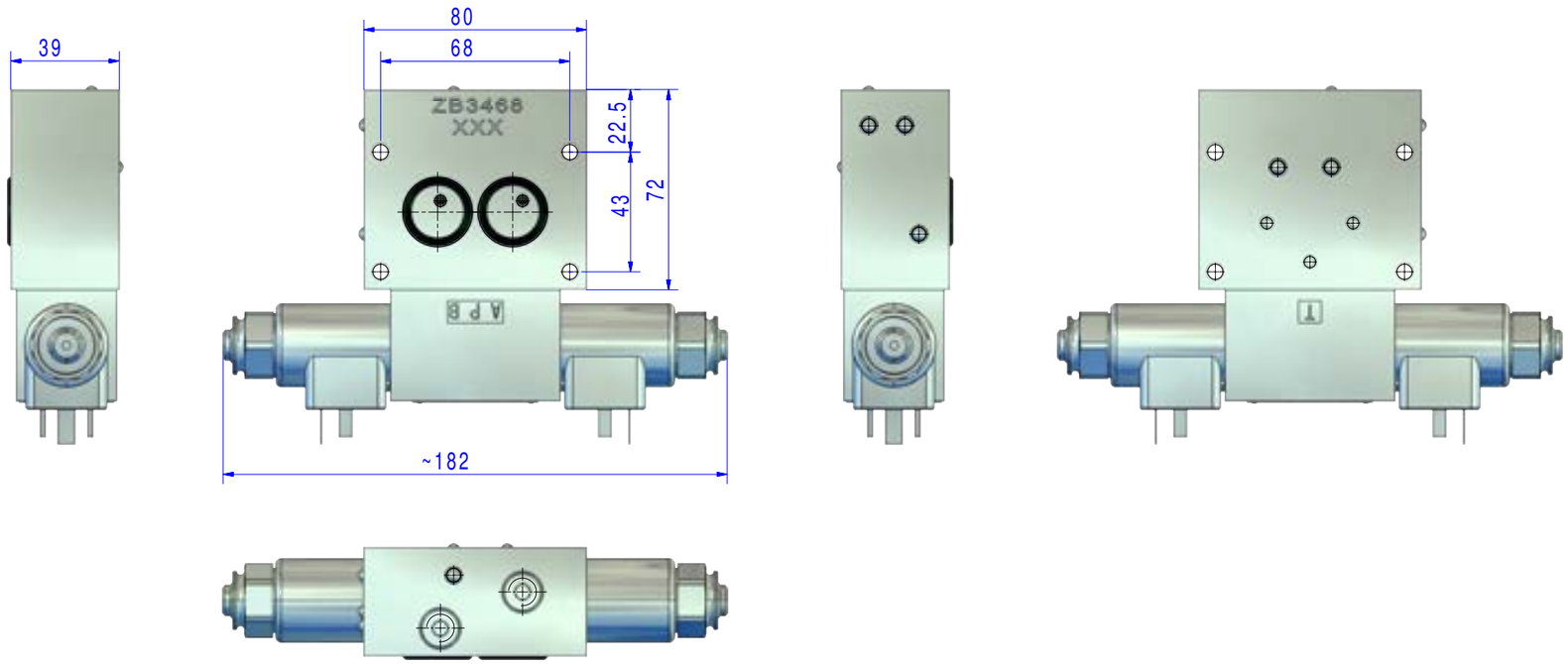
# 09_EHPP_intermediate plate B31

Productgroup

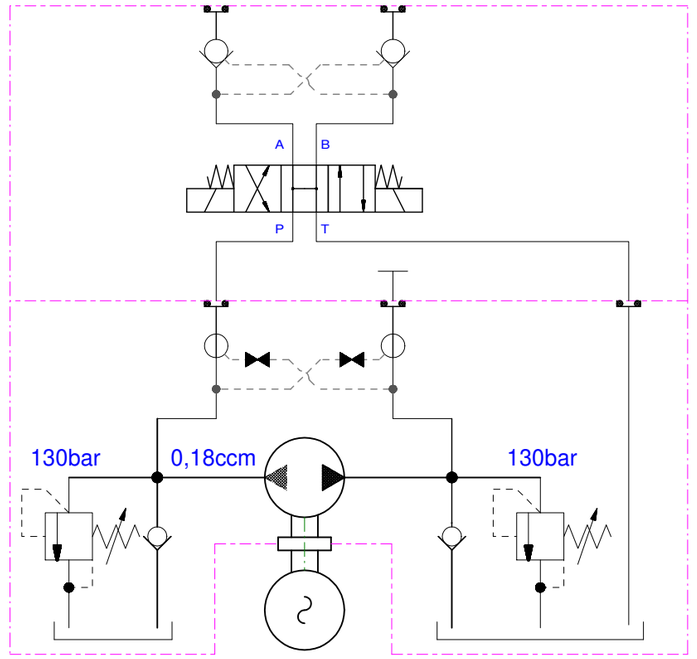
Power units






## hydraulic circuit diagram with EHPP




## Description

Intermediate plate for controllable drive.
A flange motor in BG63 with S1 operation is required.
The central flange must have an additional tank bore.
The pilot operated check valves are replaced by M8x1 plugs in the central flange.

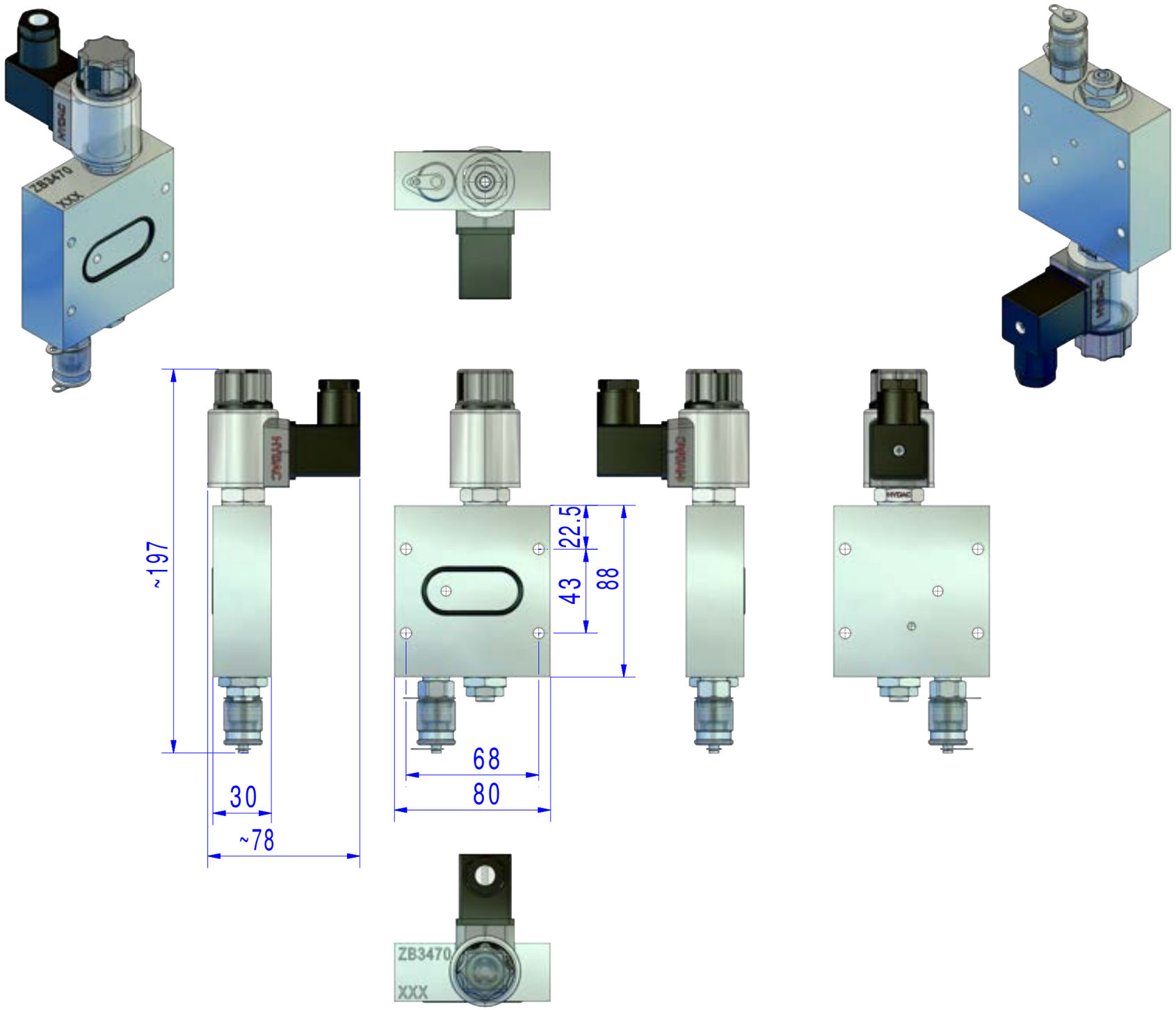
This intermediate plate is used to control an actuator permanently.

Bolz Block

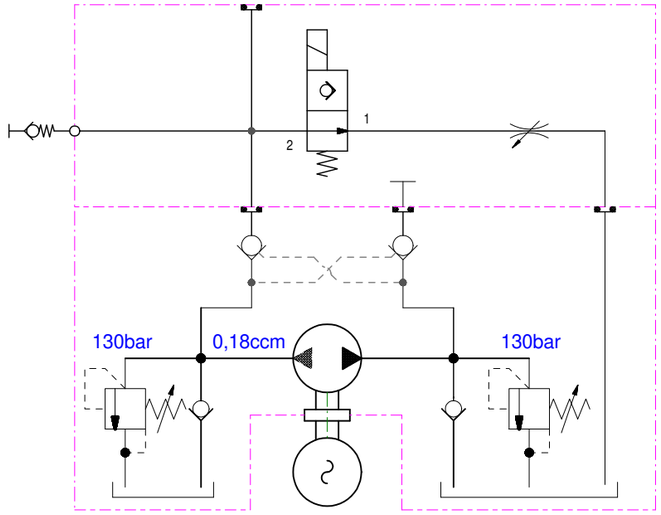
# 09_EHPP_intermediate plate B32

Produktgruppe

Aggregate




## hydraulic circuit diagram with EHPP




## Description

This intermediate plate can be used to turn a double acting power unit into a single acting power unit.

The prerequisite ist that a central flange with tank bore is used.
To do this, the M6x1 plug must be removed from the unit.
Attention: Oil may leak out

Further precautions are not necessary.