



Industrial Hydraulics

**HIGH PRESSURE &
MICRO
Hydraulic Solutions**

Industries and Applications

For any application where space is limited and intelligent solutions are in demand, we are your competent partner for HIGH PRESSURE & MICRO hydraulics.

From components to systems.

Mobile Hydraulics



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BIERI Newsletter Jan 2018

BIERI
HYDAC INTERNATIONAL

successful mission of BIERI products,
in line construction with flexible pipes

Joining technology for plastic pipes



▪ step 1: sliding on connection sleeve



▪ step 2: crimping of sleeve



▪ BIERI high pressure system: customised compact power unit BKA

Description of application

Connection of flexible composite pipes. These pipes are installed e.g. in construction of oil pipelines. Installation of such pipes made out of composite material instead of steel saves time and money as fusion welding can be avoided. Merging of the pipe ends is effected in two steps:

1. The sleeve will be slid on the two pipe ends which shall be linked together by two double acting cylinders at max. 210 bar
2. Crimping of the sleeve onto the two pipes by six radial orientated single acting cylinders at max. 630 bar

Challenge

For this application a drive unit for pressure supply of the hydraulic cylinders is necessary which enables a safe and reliable operation and simple and error-proof use. An additional requirement is the capability of the power unit to be used under rough daily conditions at the construction site.



▪ HYDAC return filter integrated in valve control



▪ Cable remote to activate motor and valve control

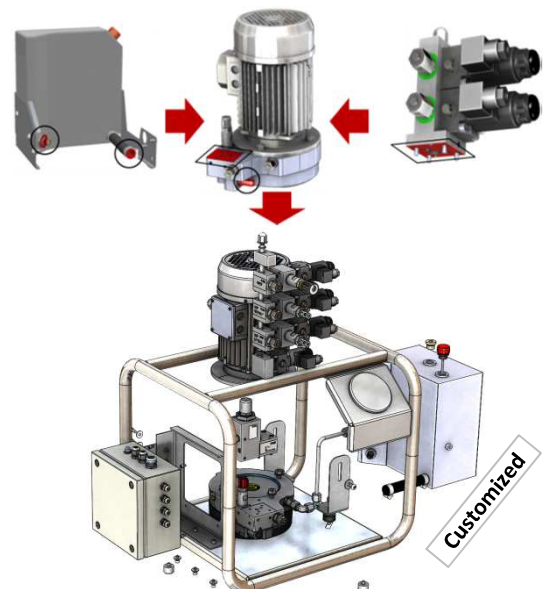
Our solution

Drive unit based on modular and versatile **BIERI compact power unit (BKA)** equipped with the following, partly customised additional equipment:

- Valve control system – NG4
- Strong frame made out of welded steel tube
- In-frame integrated ground support plate for installation of the power unit
- Oil tank made out of stainless steel sheet
- Gauge 0 – 1000 bar in control panel for visual display of pressure supplied by pump
- Return filter 10 µm with contamination indicator
- Electrical control in switch cabinet, attached to the frame
- Cable remote control with pushbutton panel
- Control unit wired with valves and motor, ready-to-use

From system

To power unit



Customized



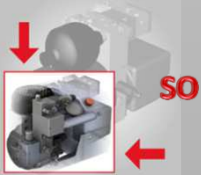
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For any application where space is limited and intelligent solutions are in demand, we are your competent partner for HIGH PRESSURE & MICRO hydraulics.

From components to systems, our solutions contribute to:

Space-Optimization



Multi-Functionality



Energy-Efficiency



Sustainability-Reliability



BKA

Compact hydraulic power unit → 700 bar
The answer to high pressure applications with system



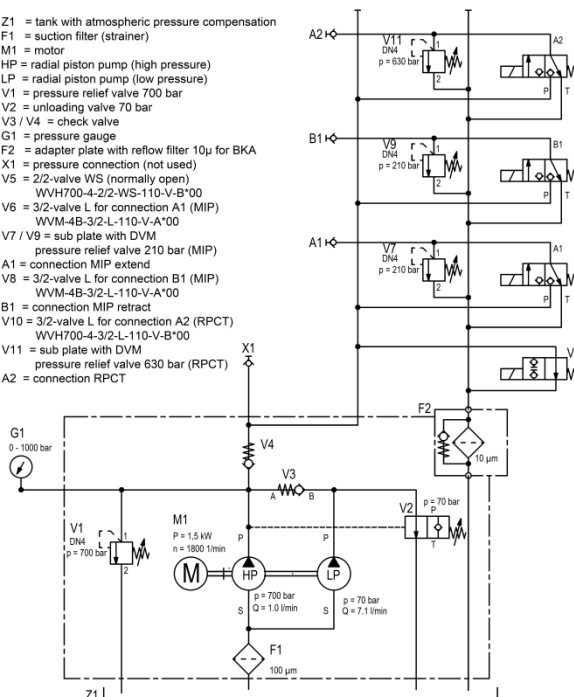
From application



To realisation

- Two stage power unit with unpressurized circulation, seated way valves and reflow filter

Z1 = tank with atmospheric pressure compensation
 F1 = suction filter (strainer)
 M1 = motor
 HP = radial piston pump (high pressure)
 LP = radial piston pump (low pressure)
 V1 = pressure relief valve 700 bar
 V2 = unloading valve 70 bar
 V3 / V4 = check valve
 G1 = pressure gauge
 F2 = adapter plate with reflow filter 10µ for BKA
 X1 = pressure connection (not used)
 V5 = 2/2-valve WS (normally open)
 WVH700-4-2/2-WS-110-V-B*00
 V6 = 3/2-valve L for connection A1 (MIP)
 WVM-4B-3/2-L-110-V-A*00
 V7 / V9 = sub plate with DVM
 pressure relief valve 210 bar (MIP)
 A1 = connection MIP extend
 V8 = 3/2-valve L for connection B1 (MIP)
 WVM-4B-3/2-L-110-V-A*00
 B1 = connection MIP retract
 V10 = 3/2-valve L for connection A2 (RPCT)
 WVH700-4-3/2-L-110-V-B*00
 V11 = sub plate with DVM
 pressure relief valve 630 bar (RPCT)
 A2 = connection RPCT



Description

Drive unit based on the BIERI compact power unit (BKA) with the following equipment:

- 1x 2/2 dump valve
- 3x 3/2-valve for controlling the hydraulic tools
- pressure relief valve 700 bar as a part of the pump
- 3x pressure relief 210 bar / 630 bar, positioned directly at the pressure connections
- unloading valve from low pressure to high pressure

Technical data

- p 700 bar HP / 210 bar LP
- Q/HP 1 l/min
- Q/LP 7,1 l/min
- n 1800 rev/min
- P 1.5 kW
- U 1-ph (230 V – 60 Hz)
- Duty cycle: S3
- V capacity 9.5 l - useable 7 l
- dimensions: 556 x 456 x 473 mm
- weight approx. 60 kg

Systems integration

Due to its modular concept the BKA provides various options combined with compact dimensions. You can integrate a valve control system and have the choice of several reservoirs, filters and accumulators as well as an electric control.

Features → advantages

- External air cooled motor:
 - Less heating of oil
- Identical interface for electric motors from 0.55 kW up to 2.2 kW:
 - multiple variations
- Multi-functional valve-interface:
 - Enables installation of a single dump valve directly on the implementation of a valve stack using a flat adapter plate.
- Oil tank beside motor:
 - Superior ratio of the effective volume to the filling capacity
- Simple design:
 - Easy to maintain



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