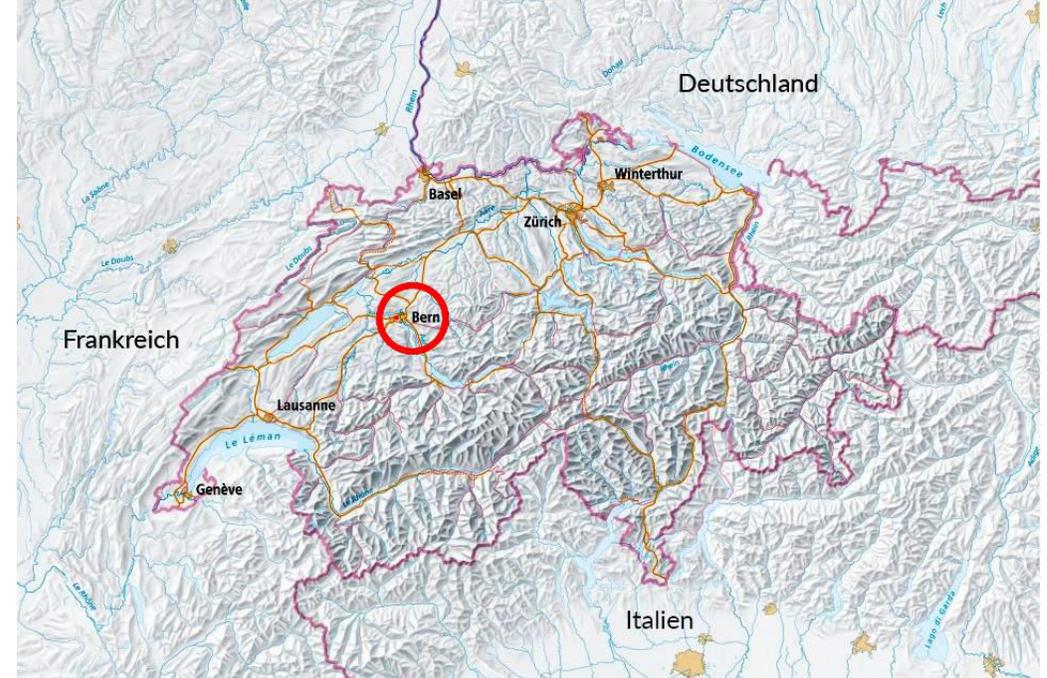


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HYDRAULICS INC

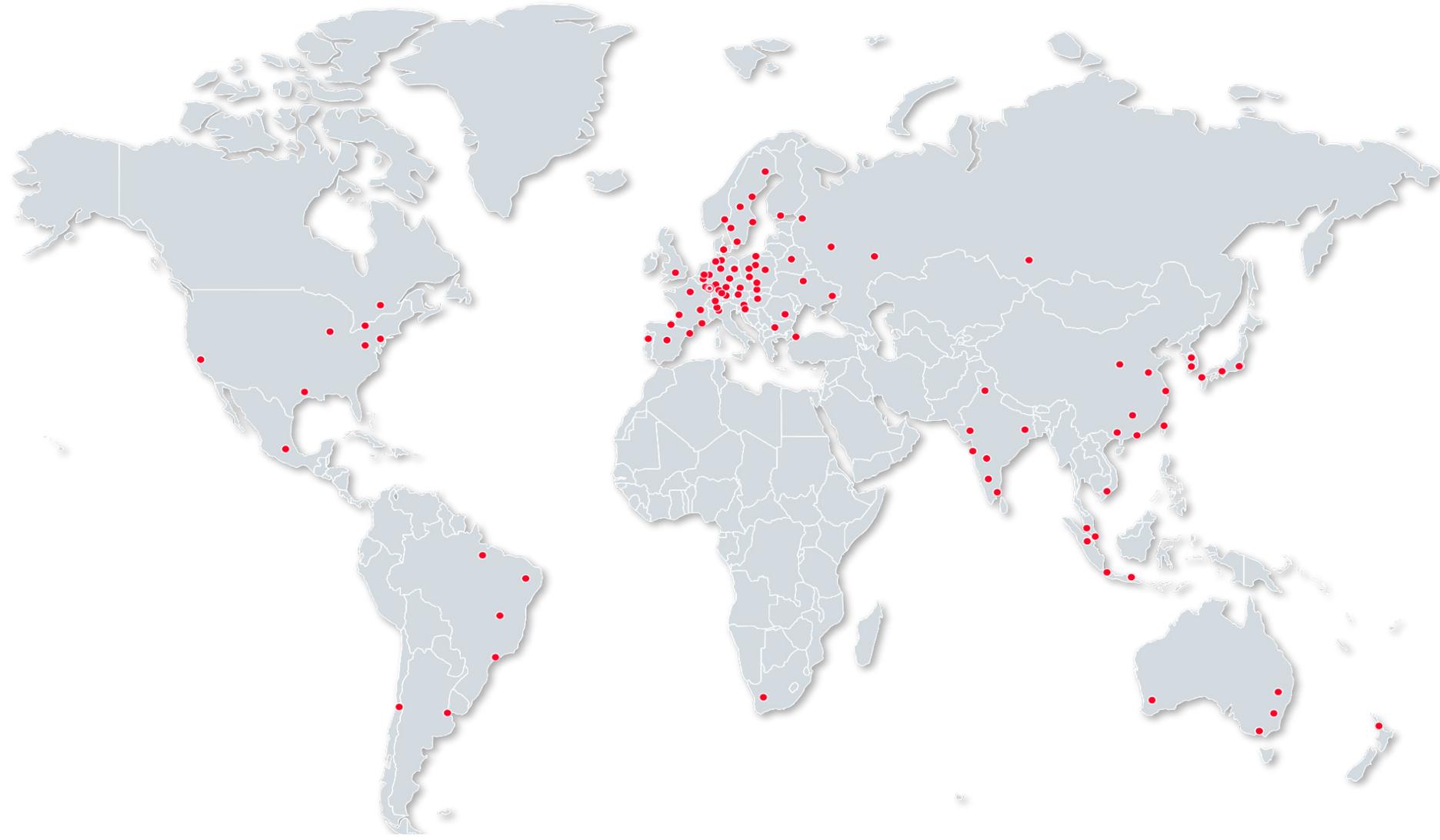
lifcohydraulics.com
1-800-895-4326

BIERI
HYDAC INTERNATIONAL





- Founded in 1950
- 70 employees
- Development, manufacturing and production on site in Bern
- Part of the HYDAC GROUP since 2011



- About BIERI
- Product overview and applications
- Value proposition

Cartridge directional poppet valve BIERI WS700/WS1000

| | |
|--------------------|-------------------|
| Operating pressure | up to 1000 bar |
| Max. flow rate | 25 l/min |
| Porting | NG 6 or Cartridge |

- 2/2 NO or NC and 3/2 poppet tight (bidirectional) screw-in cartridge
 - 700 bar and 1000 bar version available
 - High operational safety and reliable switching
 - Various voltage and plug options available
- High duty cycles and extended lifespan
- All connections can be loaded to the maximum operating pressure
 - High corrosion protection
 - HFC version on request



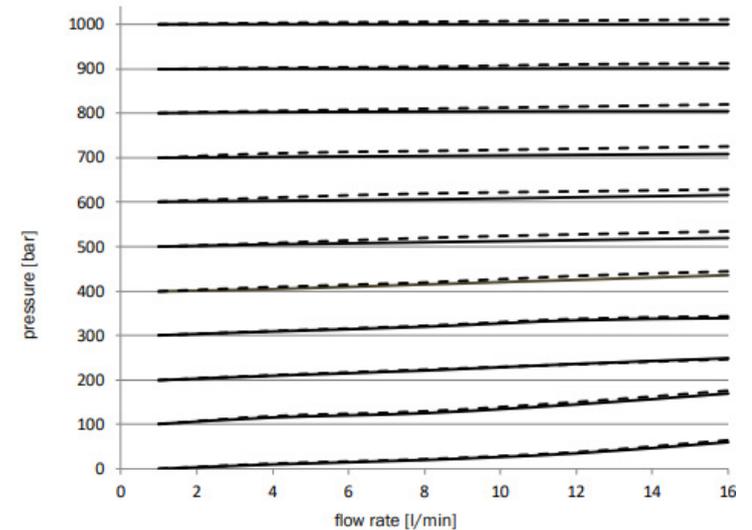


Track clamping system

Cartridge pressure relief valves BIERI DB700/DB1000

| | |
|--------------------|-------------------|
| Operating pressure | up to 1000 bar |
| Max. flow rate | 25 l/min |
| Porting | NG 6 or Cartridge |

- 700 bar and 1000 bar version available
- Direct operated
- Poppet style
- Stable control behaviour thanks to damping piston
- High degree of pressure stability
- Flat characteristics
- Safe function
- Fully relievable





Special Forces

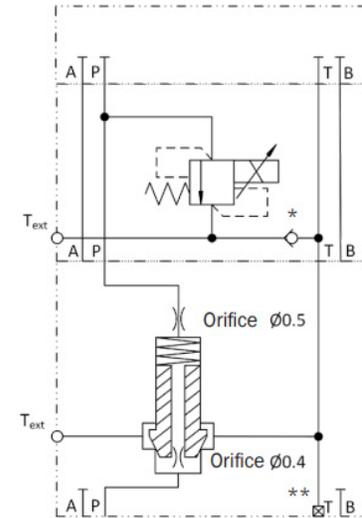
Model 3036

Proportional pressure relief valves BIERI PDB-6i

| | |
|---------------------------|---------------------------|
| Operating pressure | up to 1000 bar |
| Nominal pressure ranges | 315 / 400 / 550 / 700 bar |
| flow rate direct operated | up to 8 l/min |
| flow rate pilot operated | up to 25 l/min |
| Porting | NG6 |



- Low friction, direct force transmission to the valve needle
- Directly operated with wide useful range
- Pilot operated for high flow rate
- High degree of pressure stability
- Linear pressure-current characteristic
- External tank connection option with automatic disconnection of the directly operated valve from the system tank line
- 700 bar and 1000 bar version available
- Poppet style
- Various voltage and plug options available





Torque wrenches

| | |
|--------------------|--------------------|
| Operating pressure | up to 300 bar |
| Displacement | 0.012 ccm/rev |
| | 0.06 l/min |
| | 0.016 U.S gpm |
| rotation speed | 100 up to 5000 rpm |
| Temperature range | -20°C to 180°C |
| Vibrations | up to 50G |

- Improved reliability even in rough conditions
- Extended lifespan and low noise emission
- Very high and constant volumetric efficiency on a wide speed and pressure range
- Low noise emissions
- Customized solution on request



Micro-axial piston pumps BIERI AKP30

| | |
|--------------------|---|
| Operating pressure | up to 300 bar |
| Displacement | 0.012 or 0.016 ccm/rev 0.06 l/min or 0.08 l/min 0.016 U.S gpm or 0.02 U.S gpm |
| rotation speed | 100 up to 5000 rpm |
| Temperature range | -20°C to 180°C |
| Vibrations | up to 50G |

- Improved reliability even in rough conditions
- Extended lifespan and low noise emission
- Very high and constant volumetric efficiency on a wide speed and pressure range
- Low noise emissions
- Customized solution on request





Deep hole drilling

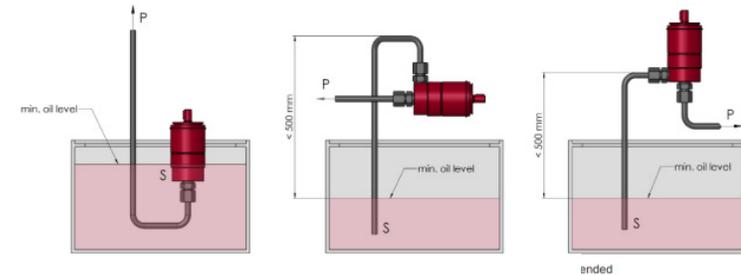
M... 2026

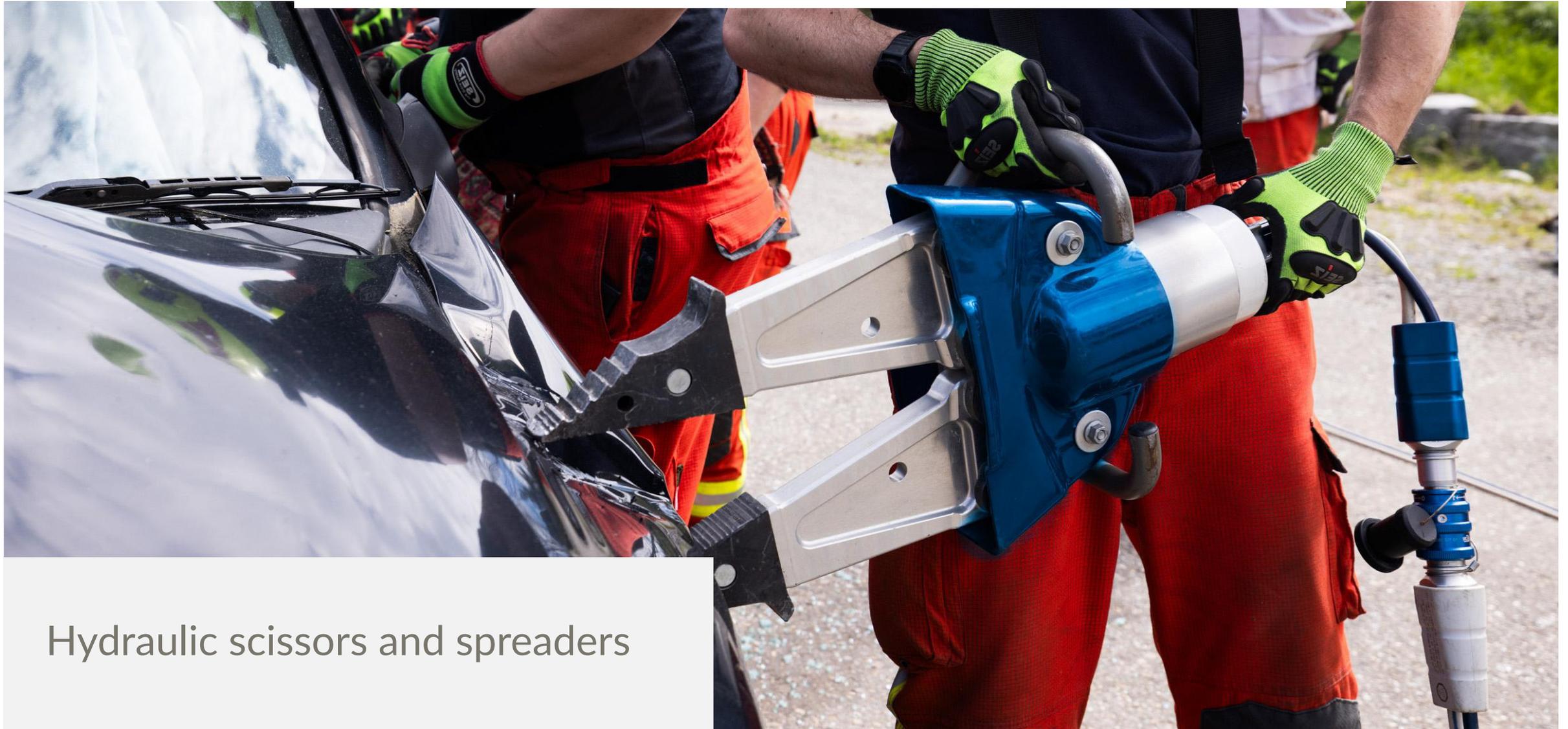
Micro-axial piston pumps BIERI AKP103/105

| | |
|---------------------|--|
| Operating pressure | up to 500 bar |
| Displacement | 0.1 or 0.3 ccm/rev 0.5 l/min or 1.5 l/min 0.13 U.S gpm or 0.40 U.S gpm |
| Max. rotation speed | 100 up to 5000 rpm |
| Size (excl. shaft) | ø50 mm x 82 mm |



- Improved reliability even in rough conditions
- Extended lifespan and low noise emission
- Very high and constant volumetric efficiency on a wide speed and pressure range
- Low noise emissions
- Customized solution on request
 - Optionally version with suction pressure up to 5 bar
 - Optionally version with displacement 0.016 ccm/rev

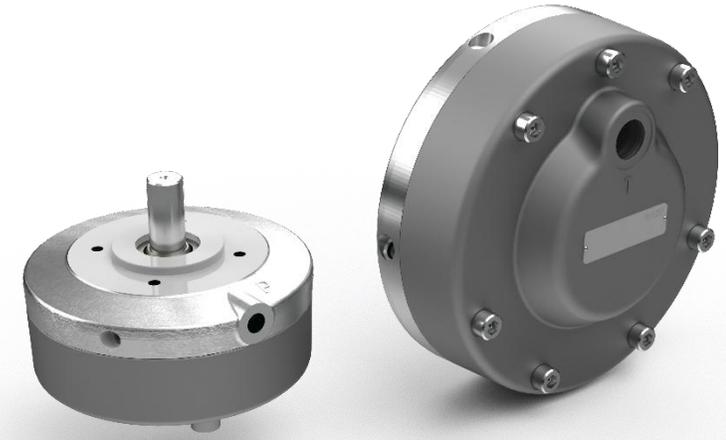




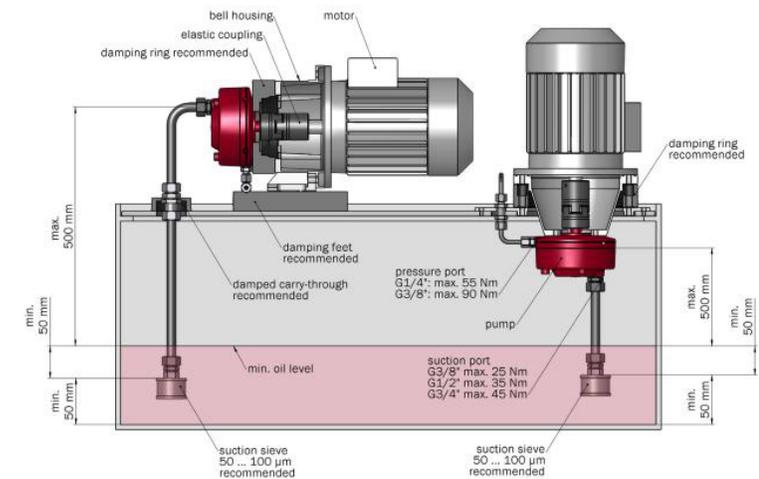
Hydraulic scissors and spreaders

radial piston pumps BIERI BRK (700 and 1000)

| | |
|-------------------------|------------------------------|
| Max. operating pressure | up to 1000 bar |
| Displacement volume | 0.24 to 8.14 ccm/rev |
| | 0.86 l/min to 16.3 l/min |
| | 0.23 U.S gpm to 4.31 U.S gpm |
| Rotation speed | 200 to 3600 1/min |

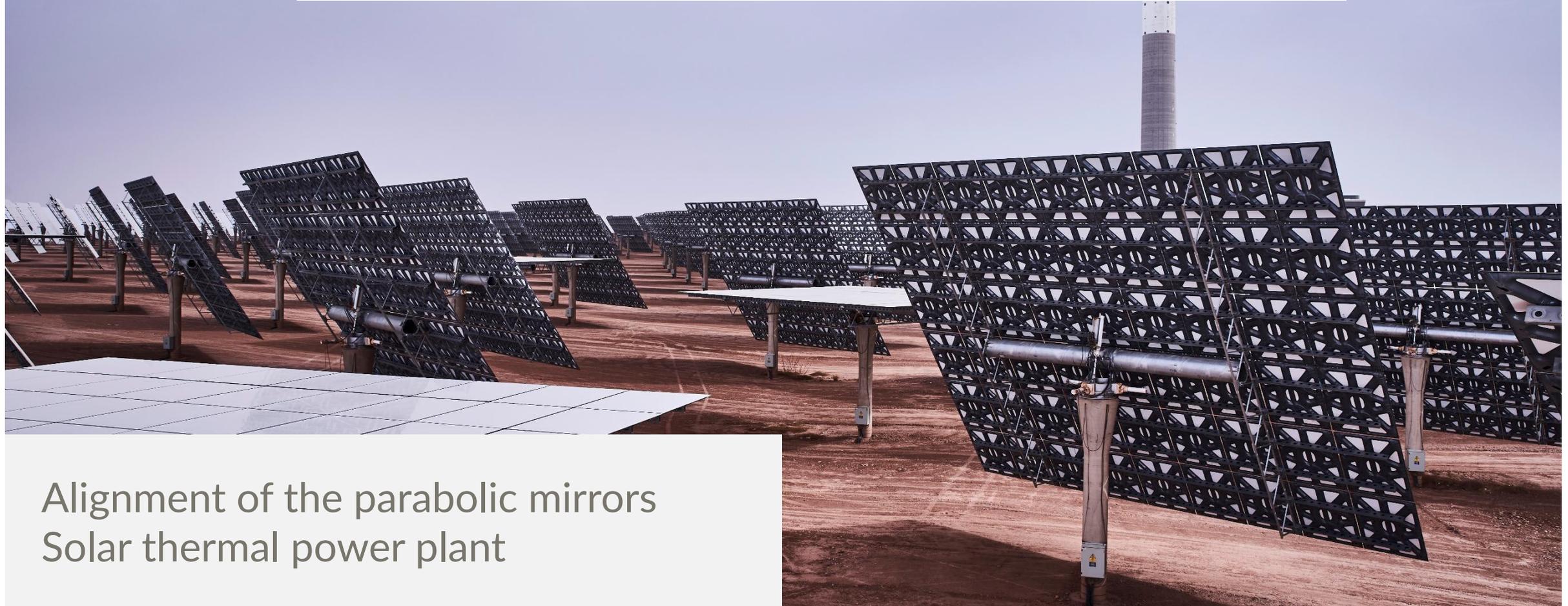


- Bellhousing and coupling available from HYDAC
- 700 bar and 1000 bar version available
- Optionally version with suction pressure up to 5 bar or 10 bar
- High volumetric efficiency
- Self-venting and self-priming
- Low pulsation
- Long operating lifetime
- Use clock wise (CW) and counter clock wise (CCW)
- Customized solutions on request



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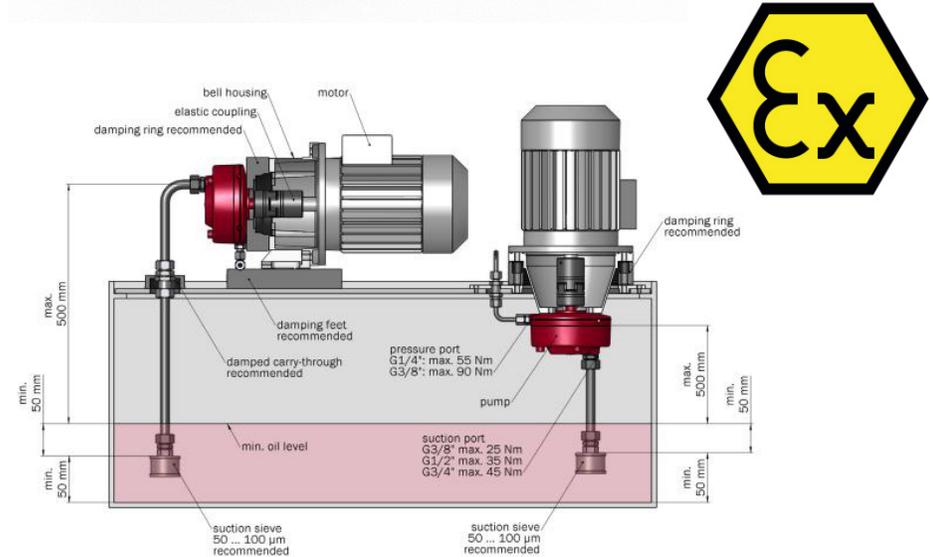
Alignment of the parabolic mirrors
Solar thermal power plant

2026
radial piston pumps BIERI SRK

| | |
|-------------------------|---------------------------|
| Max. operating pressure | up to 700 bar |
| Displacement volume | 0.47 to 6.33 ccm/rev |
| | 0.85 l/min to 11.39 l/min |
| rotation speed | 1800 1/min |



- Bellhousing and coupling available from HYDAC
- Special design for high demanding applications with enhanced surface treatments compare to BRK
- Optionally with ATEX
- Optionally version with suction pressure up to 5 bar or 10 bar
- High volumetric efficiency
- Self-venting
- Self-priming
- Low pulsation
- Long operating lifetime
- Use clock wise (CW) and counter clock wise (CCW)
- Customized solutions on request



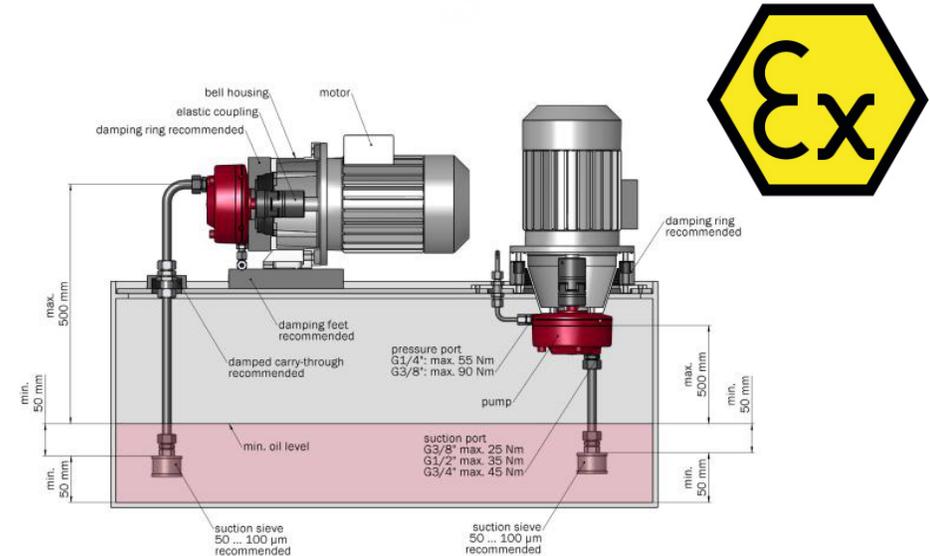
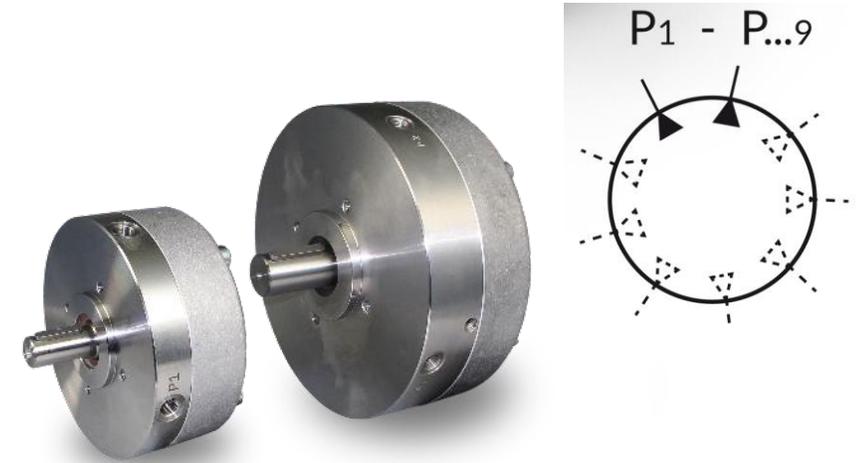


Overcurrent protection device

2026
radial piston pumps **BIERI MRK**

| | |
|---------------------|------------------------------|
| operating pressure | up to 700 bar |
| displacement volume | 0.16 to 3.62 ccm/rev |
| | 0.32 l/min to 7.24 l/min |
| | 0.09 U.S gpm to 1.91 U.S gpm |
| Pressure outlet | up 9 outlets |
| rotation speed | 2000 1/min |

- Bellhousing and coupling available from HYDAC
- Multi-outlet radial piston pump with up to 9 high pressure outlets
- Outlets with different displacements in the same pump possible on request
- Optionally with ATEX
- Optionally version with suction pressure up to 5 bar or 10 bar
- High volumetric efficiency
- Self-venting and self-priming
- Long operating lifetime
- Low pulsation (depending on selected version)
- Use clock wise (CW) and counter clock wise (CCW)
- Customized solutions on request



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Bridge relocation

radial piston pumps BIERI HRK

operating pressure

up to 700 bar

displacement volume

0.12 to 0.34 ccm/rev

0.43 l/min to 1.22 l/min

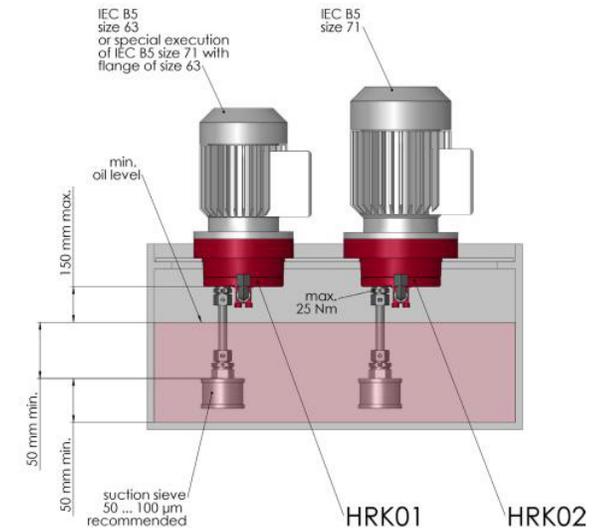
0.11 U.S gpm to 0.32 U.S gpm

rotation speed

3600 1/min



- With hollow shaft for direct assembly of motor without bell housing and coupling
- With 1 or 2 pumping elements
- High volumetric efficiency
- self-venting
- self-priming
- Long operating lifetime
- Low pulsation (depending on selected version)
- Use clock wise (CW) and counter clock wise (CCW)
- Customized solutions on request



Low pressure cycle mode

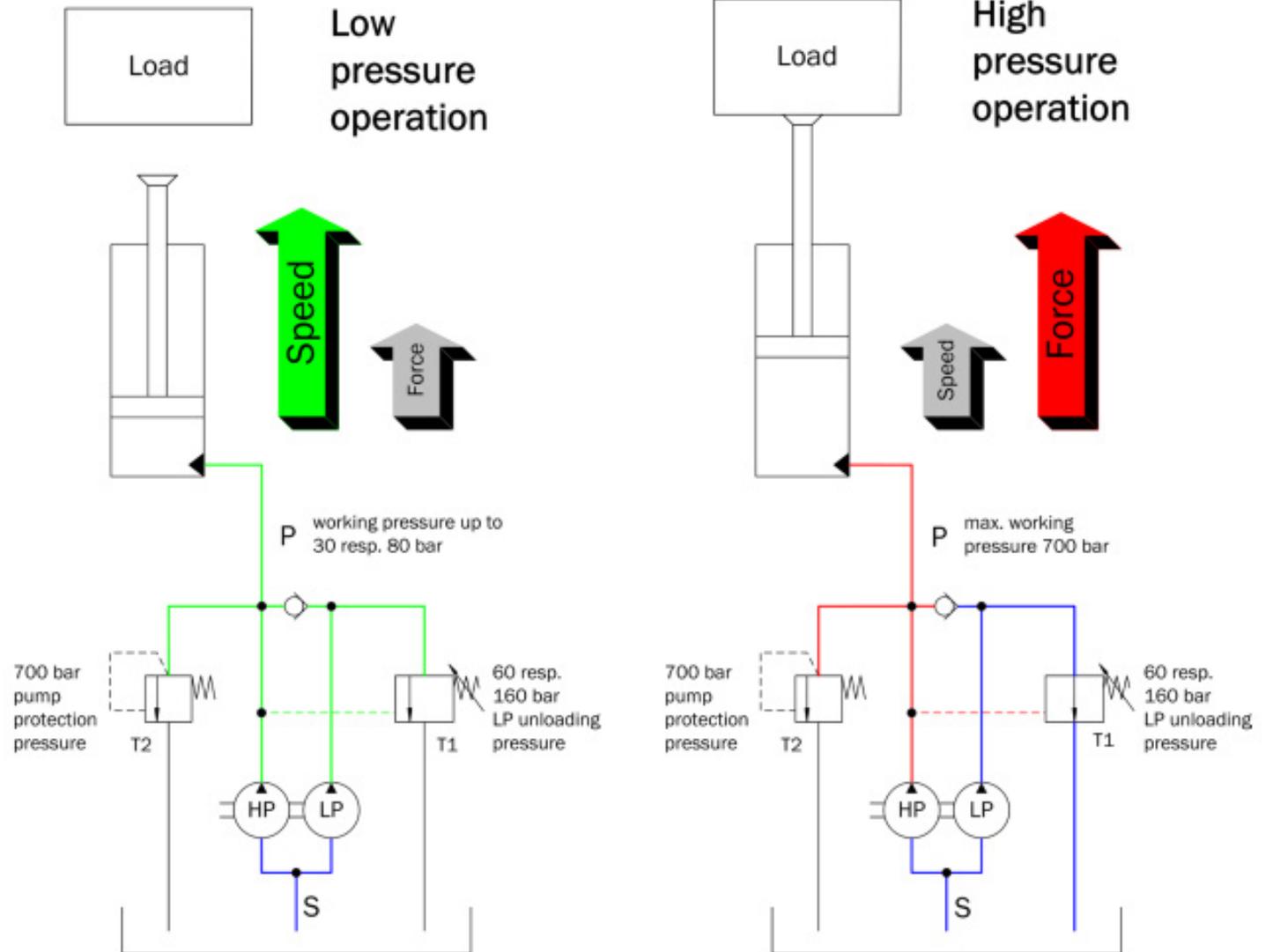
High-pressure (piston pump) and low-pressure (piston pump) pumps deliver fluid to the consumer, creating the high-speed gear.

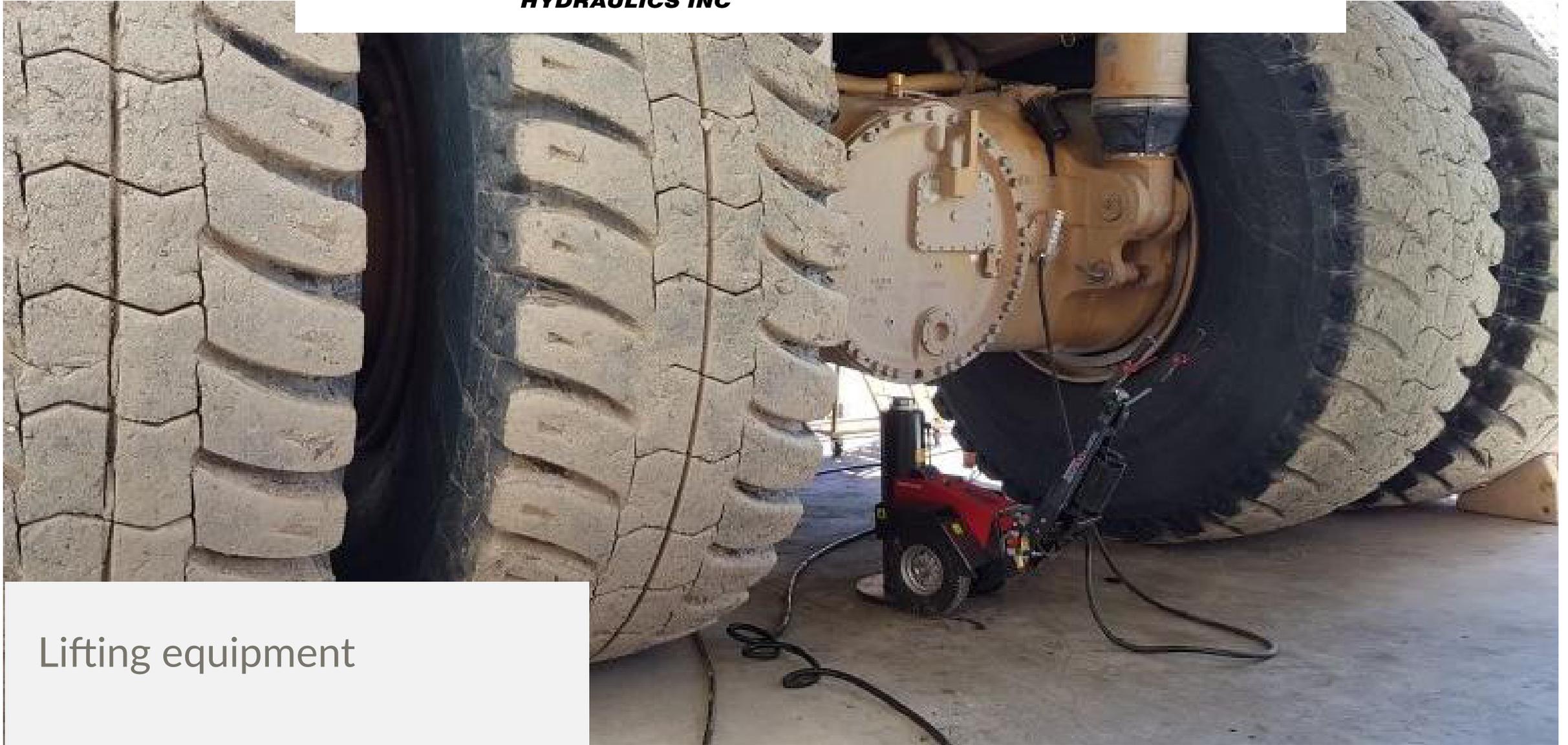
High pressure cycle

After reaching the set pressure in shut-off valve T1, the low-pressure circuit is directed into the tank.

The high-pressure circuit delivers the fluid to the consumer and is protected by safety valve T2.

In high-pressure mode, only the displacement of the high-pressure pump is being used.





Lifting equipment

radial piston pumps BIERI SKPI

Low pressure circle (LP)

up to 100 bar

4.5 to 14 ccm/rev

2.38 U.S gpm to 7.40 U.S gpm

high pressure circle (HP)

up to 700 bar

0.47 to 2.71 ccm/rev

0.25 U.S gpm to 1.43 U.S gpm

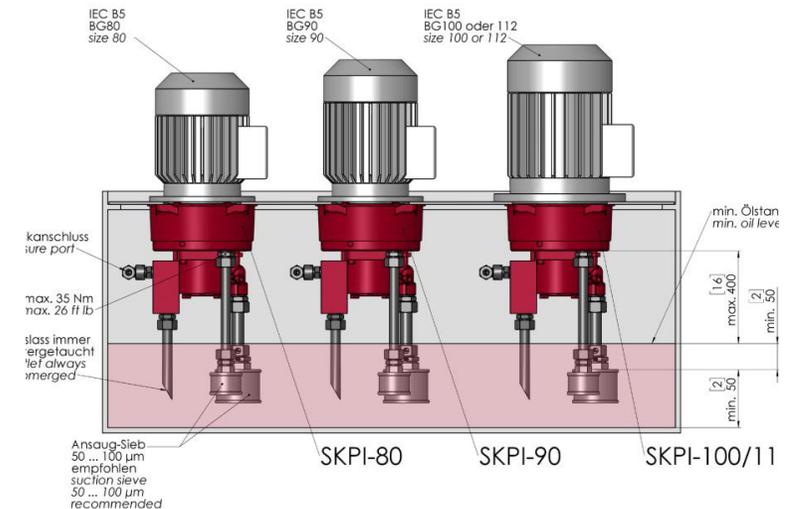
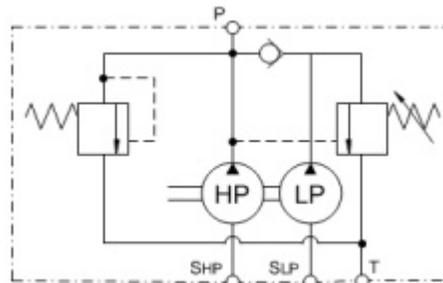
Max. rotation speed

up to 2000 1/min



- With hollow shaft for direct mounting of motor
 - No need for bell housing and coupling
- high flow rates in the low pressure range by gear pump elements
 - Incl. integrated low-pressure unloading valve
- low flow rates in the high pressure range by piston elements
 - Incl. Integrated fail safe valve
- Low weight due to compact design
- High volumetric efficiency
- Self-venting

- Self-priming
- Use clock wise (CW)
- Customized version on request



Low pressure cycle mode

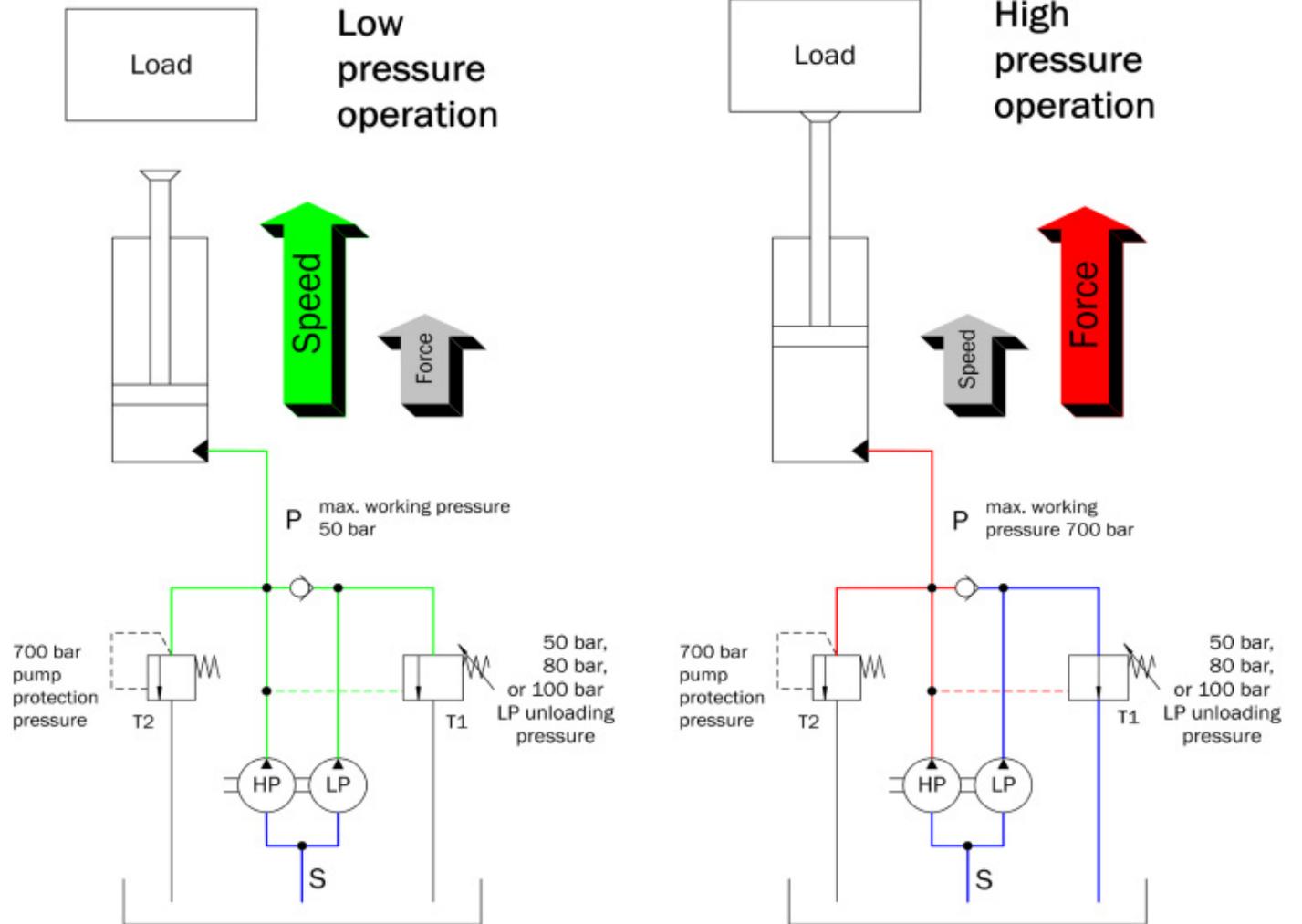
High-pressure (piston pump) and low-pressure (gear pump) pumps deliver fluid to the consumer, creating the high-speed gear.

High pressure cycle

After reaching the set pressure in shut-off valve T1, the low-pressure circuit is directed into the tank.

The high-pressure circuit delivers the fluid to the consumer and is protected by safety valve T2.

In high-pressure mode, only the displacement of the high-pressure pump is being used.



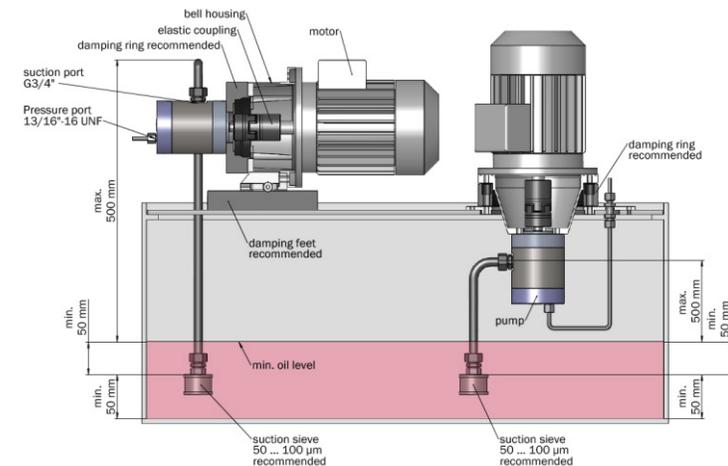


Rail alignment for welding preparation

Micro-axial piston pumps BIERI AKP110

| | |
|-------------------------|----------------------------|
| Max. operating pressure | up to 1050 bar / 15000 psi |
| Displacement volume | 1.68 / 2.11 / 2.32 ccm/rev |
| | 3.02 / 3.80 / 4.18 l/min |
| | 0.80 / 1.00 / 1.11 U.S gpm |
| Max. rotation speed | 1800 1/min |
| Size (excl. shaft) | ø110 mm x 145.4 mm |

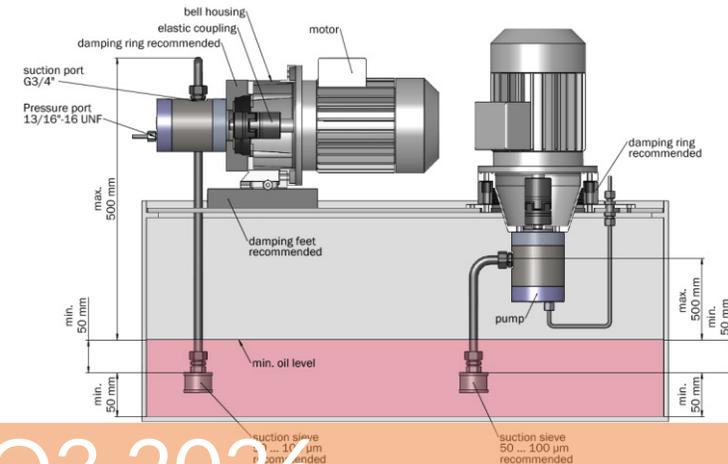
- Designed for low lubrication and low viscosity fluid
- AISI316L corrosion protection for outer parts
- ATEX certification
- No additional lubrication necessary
- Low weight (9.5 kg) due to compact design
- Low noise emissions
- Released for HFC fluids:
 - Castrol Transaqua HT2
 - Mac Dermid Oceanic HW443
 - Further fluids on request
- HFDR stands for a class of highly flame-resistant hydraulic fluids



Micro-axial piston pumps BIERI AKP160

| | |
|-------------------------|---|
| Max. operating pressure | up to 1050 bar / 15000 psi |
| Displacement volume | 4.21 / 6.30 / 8.39 ccm/rev 7.58 / 11.34 / 15.1 l/min 2.00 / 3.00 / 4.00 U.S gpm |
| Max. rotation speed | 1800 1/min |

- Designed for low lubrication and low viscosity fluid
- AISI316L corrosion protection for outer parts
- ATEX certification
- No additional lubrication necessary
- Low weight due to compact design
- Low noise emissions
- Released for HFC fluids:
 - Castrol Transaqua HT2
 - Mac Dermid Oceanic HW443
 - Further fluids on request



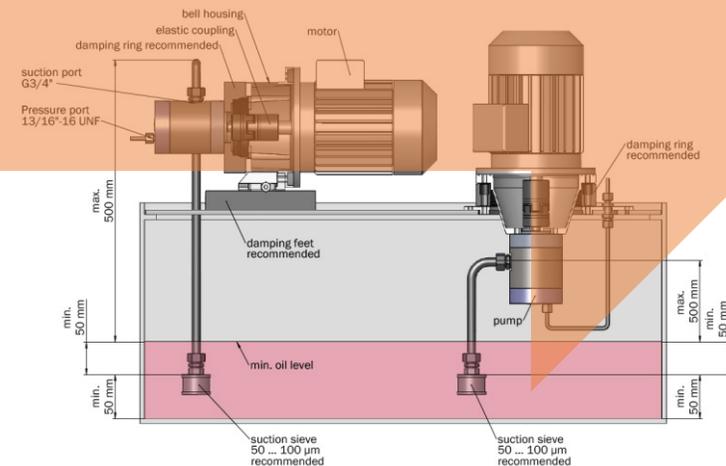
Planned market launch in Q3 2026

Micro-axial piston pumps BIERI AKP50

| | |
|-------------------------|---|
| Max. operating pressure | up to 1050 bar / 15000 psi |
| Displacement volume | 0.1 / 0.3 ccm/rev 0.6 ccm/rev limited on 700 bar |
| Max. rotation speed | 5000 1/min (targeted) |



- Designed for low lubrication and low viscosity fluid
- Low weight due to compact design
- AISI316L corrosion protection for outer parts
- No additional lubrication necessary
- Low noise emissions
- Released for HFC fluids:
 - Castrol Transaqua HT2
 - Mac Dermid Oceanic HW443
 - Further fluids on request



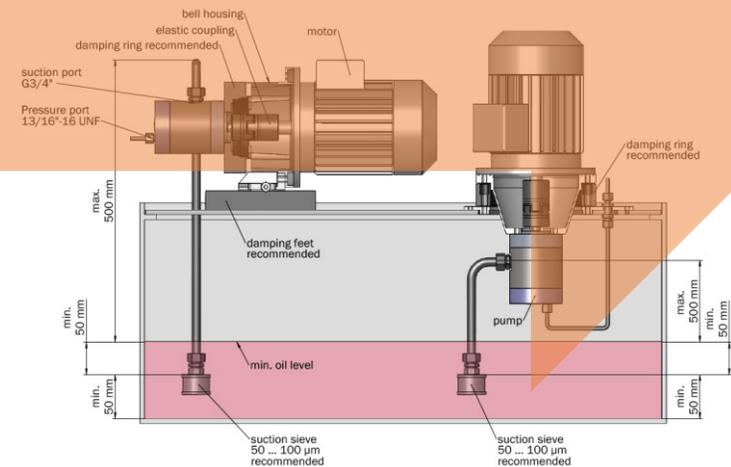
Micro-axial piston pumps BIERI AKP80

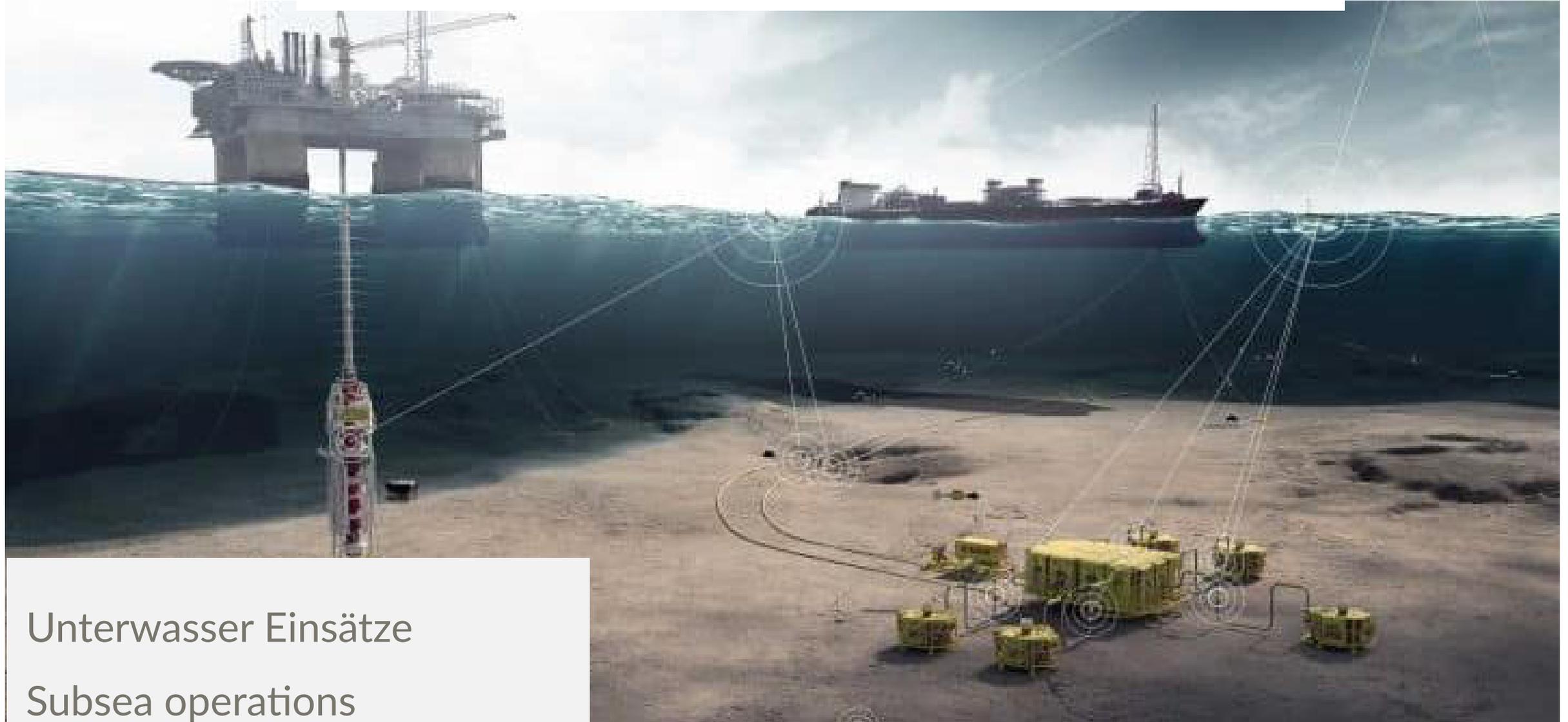
| | |
|-------------------------|---|
| Max. operating pressure | up to 1050 bar / 15000 psi |
| Displacement volume | 0.6 / 1.0 ccm/rev 1.7 ccm/rev limited on 700 bar |
| Max. rotation speed | 5000 1/min (targeted) |



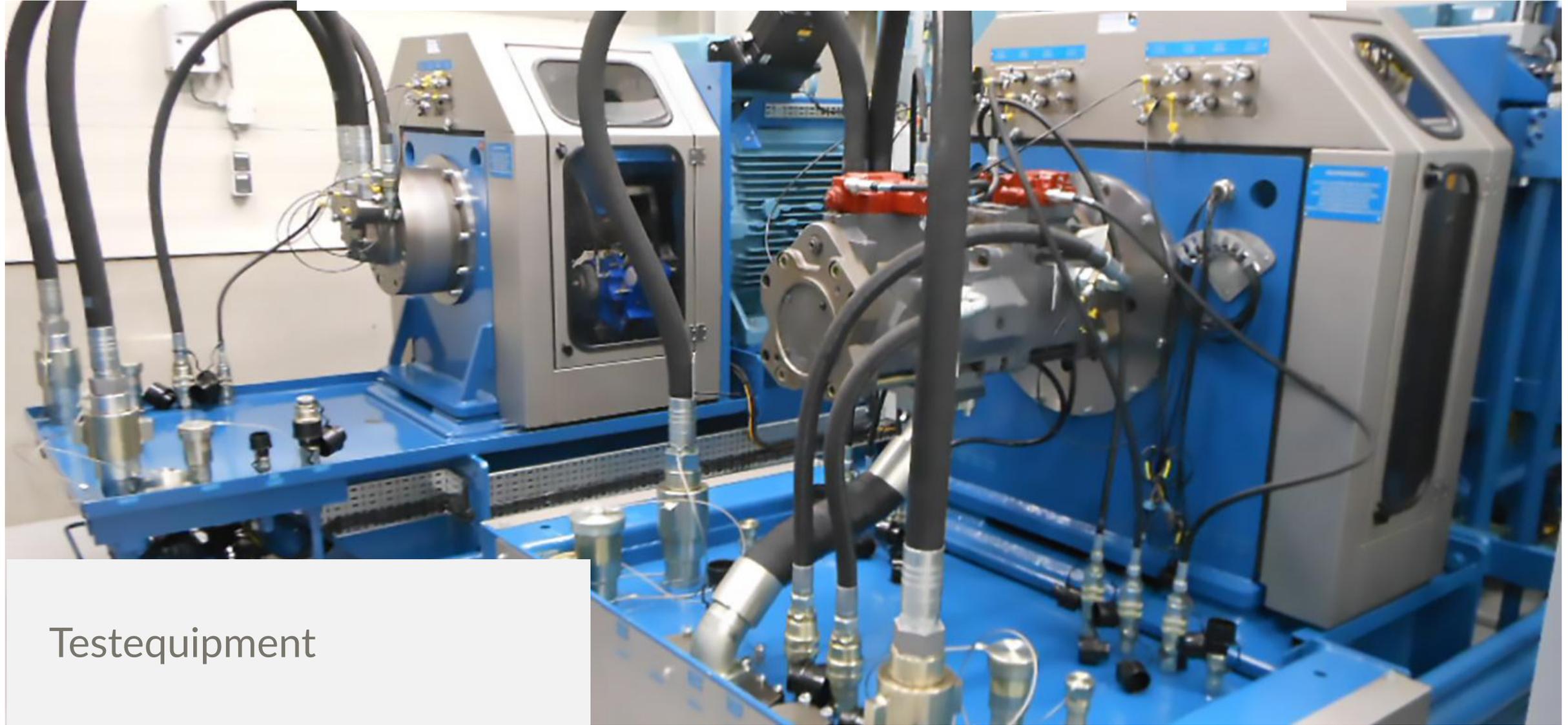
Planned market launch in Q4 2026

- Designed for low lubrication and low viscosity fluid
- AISI316L corrosion protection for outer parts
- No additional lubrication necessary
- Low weight due to compact design
- Low noise emissions
- Released for HFC fluids:
 - Castrol Transaqua HT2
 - Mac Dermid Oceanic HW443
 - Further fluids on request





Unterwasser Einsätze
Subsea operations

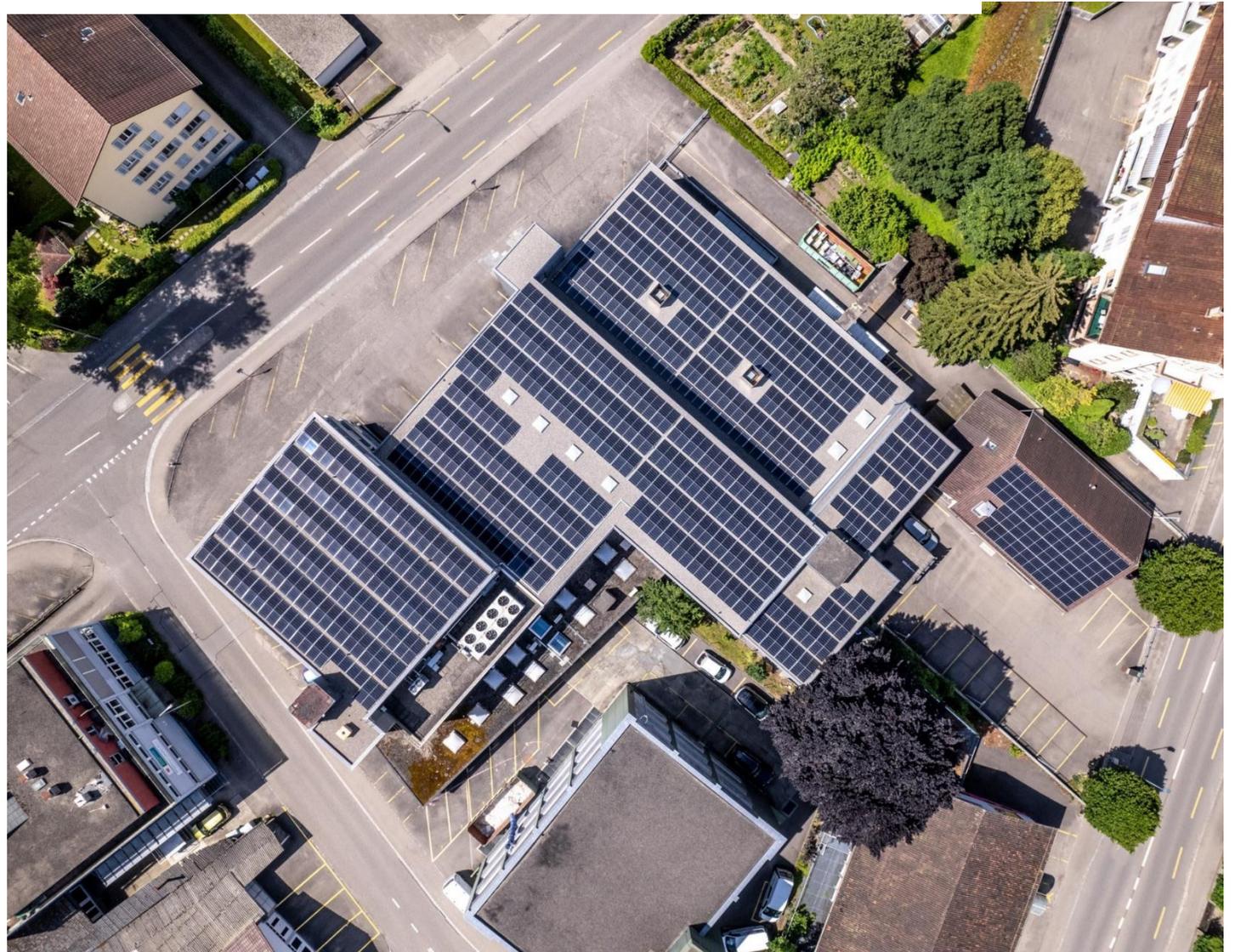


Testequipment



Aviatik Testequipment

- Highest quality and reliability
- Customer-oriented approach
- Technical expertise and advice at the highest level
- Market leader in the field of high-pressure and micro-hydraulics
- Sustainability thanks to durable products



Unique selling propositions of our high-pressure components and systems

- High pressure up to 1,000 bar in the smallest space
- Highest quality “Made in Switzerland”
- Customized solutions on request
- Many years of experience and expertise in complex systems
- Reliable customer service and straightforward processing

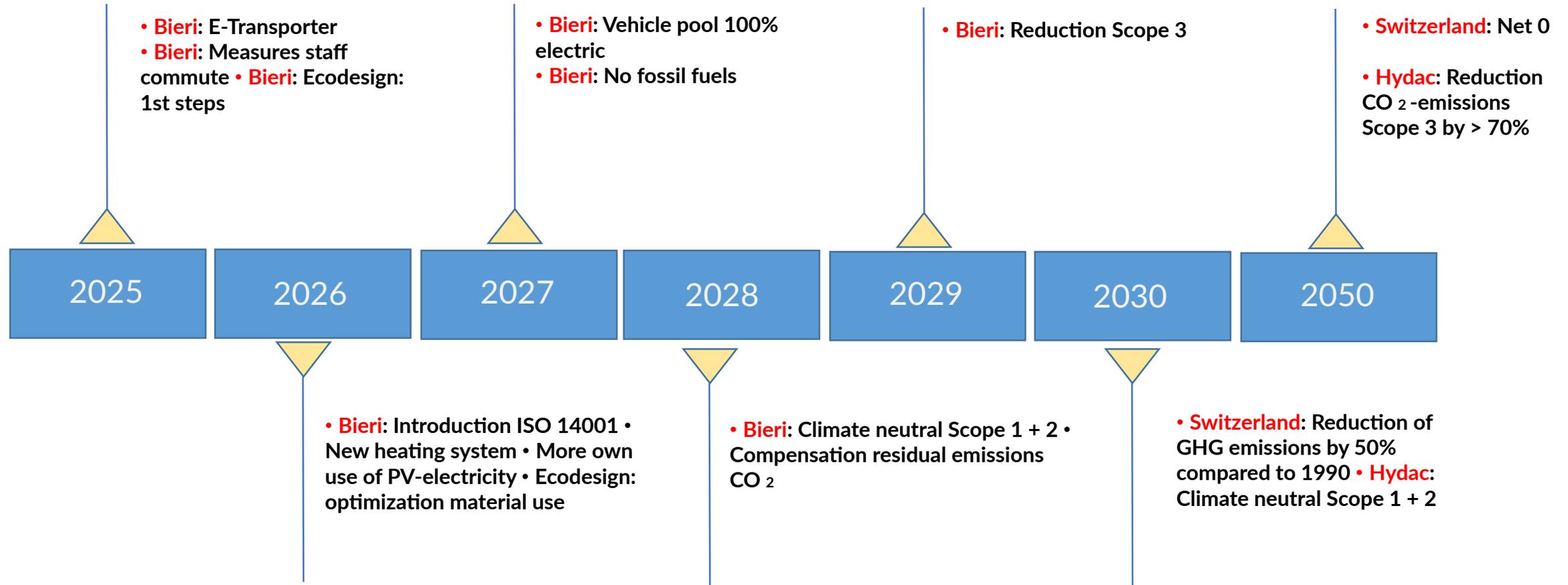


Scope 1: own direct emissions (processes at the company site, emissions from energy sources at the site such as natural gas and fuels, operation of furnaces, own vehicle fleet...)

Scope 2: indirect emissions from purchased energy (electricity, steam, district heating or cooling)

Scope 3: all indirect emissions that occur along the value chain: both upstream (e.g., employees' commute, purchased goods and services...) and downstream (e.g., use of products, waste treatment, processing of sold products, transport and distribution...)

Timeline Net-0 Bieri Hydraulik AG 2025 - 2050



Thank you for your attention !

BIERI
HYDAC INTERNATIONAL