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Mechanik und Antriebstechnik GmbH

Hydraulic Power Console HDF1500 + HDF2000 + HDF2500



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## Hydraulic Power Console HDF1500 + HDF2000 + HDF2500

### General Description

The Hydraulic Power Consoles HDF1500 + HDF2000 + HDF2500 serve the operation of tensioning cylinders for lock and loosening of screw connections.

The Factory preset Maximum working pressure is indicated on the nameplate as follows: HP max. 1500 bar (as an example). Maximum, a working pressure of up to 1500 bar/HDF1500, 2000 bar/HDF2000 or 2500bar/HDF2500 can be preset.



**Attention: All hydraulic equipment such as hoses and tools that are connected to the Console must be designed and approved for the working pressure indicated on the nameplate! Failure to comply can result in serious damage or injury!**

the pressure will be generated in two steps:

1. The electric motor coupled with the radial piston pump produces a flow with a maximum pressure of 230 bar. The maximum pressure is regulated by an adjustable pressure relief valve and controlled by the 4/3-Way Solenoid Valve.
2. The oil flow generated by the radial piston pump is amplified by the booster with a ratio of 7:1 / 10:1 / 13:1, so a working pressure of up to 1500bar / 2000 bar / 2500 bar will be generated. The pressure gauge shows the actual working pressure.

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## Hydraulic Power Console HDF1500 + HDF2000 + HDF2500

### Technical Data :

#### Motor

Type 1 Phase asynchronous Motor  
Power 0,75 kW

#### Hydraulic-Pump

Type Radial piston Pump  
Output 1,25 cm<sup>3</sup>/1 to 230 bar

#### Pressure Booster

Type Reciprocating piston Pump  
Gain-factor HDF1500: 7:1 / HDF2000: 10:1 / HDF2500: 13:1  
Max. Pressure HDF1500: HDF2000: 2000 bar / HDF2500: 2500 bar

#### Solenoid Valve

Type 4/3-directional-valve electromagnetic actuated  
Flow max. 25 l/min  
Max. Pressure 215 bar

#### Pressure Adjustment Valve

Type Spring loaded Ball-Valve, adjustable  
Flow max. 25 l/min  
Max. Pressure 200 bar  
Adjustment ca. 10 – 230bar

#### Gauge

Type Tube Manometer, Glycerine filled  
Scale 100 mm  
Display HDF1500: 0-2000bar / HDF2000: 0-2000 bar / HDF2500: 0-2500 bar  
Precision Kl. 1,0

#### Dimensions and Weight

Dimensions L x B x H 45 x 32 x 43 cm  
Weight 37,5 kg (with hydraulic fluid)

#### Hydraulic Fluid

Capacity 5 Liter  
Viscosity HLP32, HLP46

#### Noise Level

82 db(A)

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### Hydraulic Power Console HDF1500 + HDF2000 + HDF2500

#### Operation

##### Before Initial Operation

- Carry out a visual inspection before each start-up.
- Check remote control, mains plug and all cables for damage.
- Check hose couplings, hoses<sup>1)</sup> and hydraulic tensioning tools<sup>1)</sup> for damage.  
  
<sup>1)</sup>not included in delivery
- Hose couplings, hoses and hydraulic tensioning tools must be designed for the maximum Working pressure that is indicated at the nameplate of the Console.
- Hose couplings, hoses and hydraulic torque tools with lower operating pressures are not permitted to be connected to the hydraulic device!
- Check the entire machine, fluid reservoir, motor, manometer and for damage such as ruptures or leaks.
- Have damaged parts replaced by qualified technicians before operation.
- Check hose couplings for dirt.
- Clean soiled hose couplings before operation.
- Check the fluid level; the level must be up to the middle of the oil sight glass.
- If need be, top up hydraulic fluid.
- Set up the hydraulic device on a level, horizontal surface so that it is prevented from falling over or falling down.
- Connect the hydraulic device with the hoses and with the hydraulic tensioning tool.
- Power supply connections: (delivery with earthed pin plug). In the event of modification to the mains connection, protection against shock must be guaranteed by installing a protective earth system.
- The hydraulic device must not be operated without the hoses and the hydraulic torque tool connected up!
- Connect the hydraulic device to the electricity supply.

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### Operating the Machine

- Switch on the motor by switching the toggle switch (1/0).
- Pressure building: By pressing the "Up" button during the motor is running.
- Pressure Hold: If no button is pressed, the pressure is maintained. The motor can be turned off during the pressure hold function.
- Pressure reduction: By pressing the "Down" button during the motor is running.

### Pressure Adjustment

- Place the hydraulic tensioning tool on the screw, accordance with the instructions of the manufacturer
- Turn the adjustment screw on the pressure adjustment valve counterclockwise until finger tight
- Switch on the motor, press and hold the "Up" button
- Rotate slowly the adjusting screw of the pressure adjustment valve clockwise to increase the pressure. The current system pressure is displayed on the gauge.
- After reaching the working pressure, the setting must be secured by tightening the wing nut on the pressure adjustment valve.

### Tightening or loosening bolts

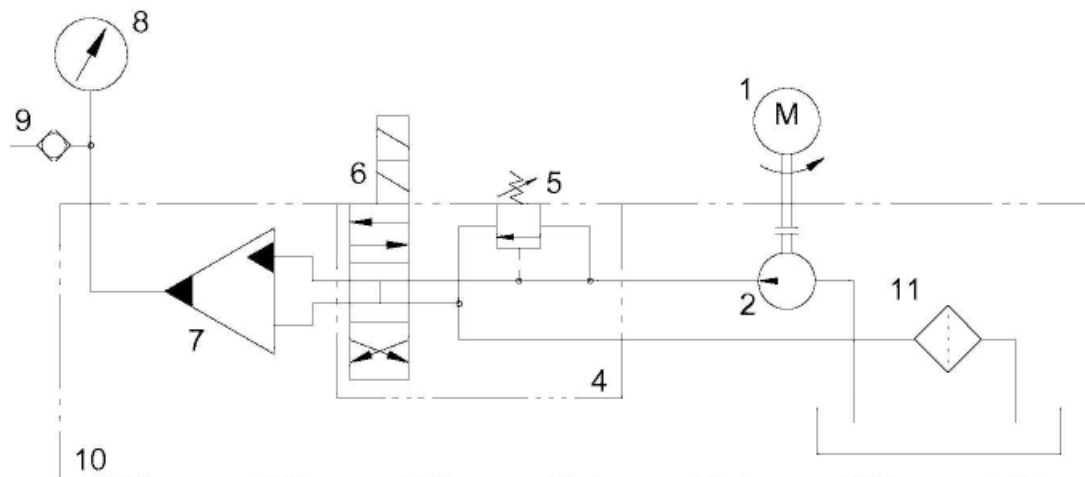
- Working with the tool system is in accordance with the instructions of the tensioning tool manufacturer

### Shut Down

- Press the "Down" button during the motor is running to relieve the pressure in the system
- Switch off the motor with the toggle switch on the remote control
- Turn the adjustment screw on the pressure adjustment valve all the way anti-clockwise.
- Disconnect the hydraulic tools and hydraulic hose
- Disconnect the hydraulic device to the electricity supply

Hydraulikschaltplan  
Hydraulic Schematic

HDF1500 + HDF2000 + HDF2500



- 1 Electric Motor
- 2 Radial Piston Pump
- 4 Manifold
- 5 Pressure Regulating Valve
- 6 4/3-Way Solenoid Valve
- 7 Pressure Booster
- 8 Gauge
- 9 Hose Coupling
- 10 Oil Tank
- 11 Oil Filter

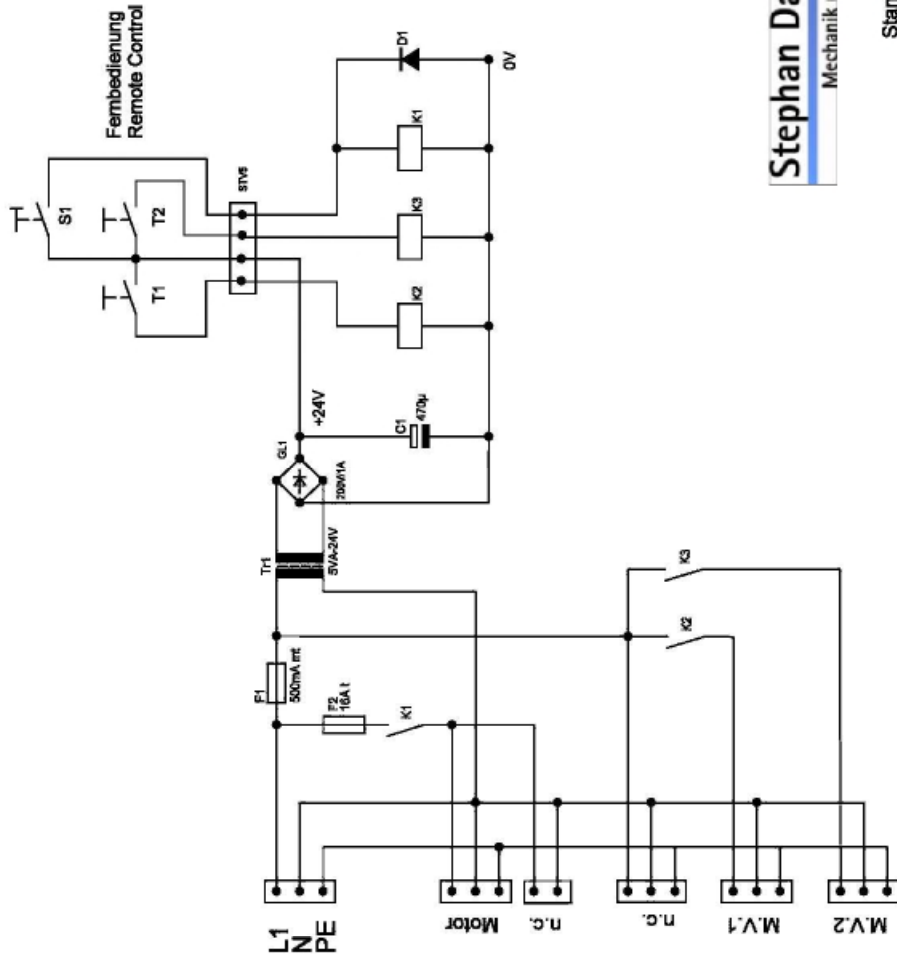
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Elektroschaltplan  
Electrical Schematic

HDF1500 + 2000 + 2500



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Stand 08.02.2017

**EG-Konformitätserklärung nach Maschinenrichtlinie 2006/42/EG Anhang II 1.A**  
**EC declaration of conformity for machinery directive 2006/42/EC Annex II 1.A**

Der Hersteller  
*the manufacturer*

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erklärt hiermit, dass folgende Produkte  
*declares that the following products*

Produktbezeichnung: **Hydraulikaggregat**  
*Product name: Hydraulic power unit*

Typenbezeichnungen/Seriennummern: HDF1500-750-115V / 745xxx  
*Type-denomination/Serialnumbers: HDF1500-750-230V / 737xxx*  
HDF2000-750-115V / 744xxx  
HDF2000-750-230V / 738xxx  
HDF2000-1100-400V / 748xxx  
HDF2500-750-115V / 746xxx  
HDF2500-750-230V / 739xxx

allen einschlägigen Bestimmungen der oben genannten Richtlinie sowie den weiteren angewandten Richtlinien (nachfolgend) - einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen - entspricht.  
*all relevant provisions of the above Directive and the other applied guidelines (below) - meets - including the changes for this time period.*

Folgende weitere EU-Richtlinien wurden angewandt:  
*The following further EU directives have been applied:*

EMV-Richtlinie 2004/108/EG  
*EMC Directive 2004/108/EC*

Folgende harmonisierte Normen wurden angewandt:  
*The following harmonized standards apply:*

DIN EN ISO 12100:2011-3      Sicherheit von Maschinen  
*Safety of machinery*

DIN EN ISO 4413:2011-04      Fluidtechnik - Allgemeine Regeln und sicherheitstechnische Anforderungen an Hydraulikanlagen und deren Bauteile  
*Fluid power - General rules and safety requirements for hydraulic systems and their components*

Name und Anschrift der Person, die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen:  
*Name and address of the person who is authorized to compile the technical documentation:*

**Dipl.-Ing. Stephan Dahlmann**  
**Beuler Höhe 11; 45525 Hattingen**

Ort / Location Hattingen  
Datum / Date: 16.05.2018



(Unterschrift / *Signature*)  
Dipl.-Ing. Stephan Dahlmann, Geschäftsführer / *CEO*