

# Operating Manual

## HPD Hydraulic Post Driver

From serial No. 10467

Revised 19.08.2013

### Prior to Operation

We thank you for choosing a HYCON Post Driver.

To ensure smooth operation and long-lasting performance of your new post driver, we recommend you to study this operating manual carefully and pay special attention to the chapters about

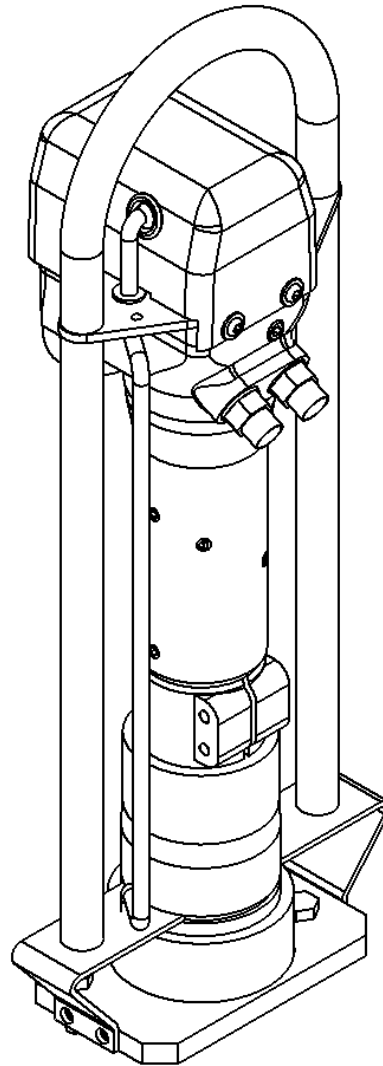
### Safety and Service Precautions

and

### Oil Flow and Pressure

We hope you will be satisfied with your new HYCON post driver.

Best regards  
**HYCON A/S**



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# Contents

	<b>Page</b>
Safety Precautions.....	2
Oil Flow and Pressure .....	4
Vibration Level .....	4
Starting Instructions .....	5
Technical Data .....	7
Performance Chart .....	8
Connection to Hydraulic Power Sources.....	9
Service and Maintenance .....	9
Trouble Shooting.....	10
Oil Types .....	11
EC-Declaration of Conformity.....	12
Warranty Terms .....	13
Spare Parts List.....	14

## Safety Precautions

- Only use the post driver in accordance with the local working regulations on allowed working time based on post driver vibration level. Working with the post driver longer than prescribed may damage the operator. Please refer to the chapter about vibrations, page 4.
- A fine jet of oil at pressure can penetrate the skin. It is therefore important never to use your fingers to check for oil leaks and never to hold your face close to suspected leaks – use a piece of cardboard instead. If oil has penetrated the skin, you should get medical treatment immediately.
- Never leave the post driver when connected to the powerpack.
- Always use correct adaptor when ramming a post into ground.
- Before connecting the post driver to the power source, always check that the adaptor is firmly secured in order to prevent damaging post and injure operator.
- Always use approved hoses. Contact your dealer, if necessary. Mount the hoses correctly – the valve housing is marked with "P" and "T".
- The operator must make sure that there are no persons nearby when he starts using the post driver.
- The operator must pay extra attention and show caution when working in difficult working areas, such as slopes and other dangerous nature of the ground. Do not reach too far with the post driver, but always maintain a good footing and keep your balance.
- The operator must be properly trained in using the post driver or under supervision of a qualified instructor.
- The operator must always use protective goggles, earplugs, hard hat and shoes when operating the post driver.
- Prior to operation, check whether there are hidden or buried cables in the ground.
- Never wear loose clothing as it may get entangled in the moving parts of the post driver.
- Inspection or cleaning of the post driver, change of adaptor or disconnection of hoses may never be done while the post driver is connected to the powerpack, as unintentional activation of the post driver can cause severe damage.
- Always connect hoses to the post driver before starting the powerpack. Be sure that all couplings are tight.
- The post driver may not be operated if the oil temperature is above 70 C°. Operation at higher temperatures may result in the post driver getting warmer than normal and the operator risks getting burnt on it.
- To avoid all personal injury and damage to material, all repair, maintenance and service work must be carried out by authorized or properly trained persons only.

# IMPORTANT

- A post driver not in use should always be kept in a safe and dry place.
- Try not to do a job with a post driver which is too small for the job.
- Keep the adaptor in good condition for maximum driving performance.
- The post driver may never be operated without adaptor, or without being held against the pole end, as this may result in overload of the post driver.
- Always make sure that the post driver labels and warning signs are legible.
- Always use hoses, couplings and spares as such recommend by HYCON A/S.
- Repairs may only be carried out by experienced personnel.
- Make sure that all couplings are cleaned before connection.
- Always disconnect the hydraulic circuit before connecting or disconnecting the post driver. If this is not done, there is a risk of damage to the quick release couplings or the hydraulic system getting overheated.

## **Oil Flow and Pressure**

Your new HYCON post driver is designed for a certain oil flow, working pressure and maximum pressure. A too high oil flow and/or a too high pressure results in overload of the post driver, meaning that the lifetime of your new HYCON post driver will not be as expected, and that your service and repair costs will be too high.

It is important to check that the post driver is not supplied with an oil flow beyond its design capacity, that the working pressure is correct and that the maximum allowed pressure is not exceeded.

On page 7 you will find a complete survey of the technical data, and on page 9 there is a guide to connection to hydraulic power sources and how to ensure that the post driver is not overloaded.

## **Vibration Level**

There are many examinations about the risk of contracting the so-called "white fingers" disease as a consequence of the use of tools with high vibration level.

To reduce the risk of injury, a number of guidelines for maximum daily use have been laid down. The risk is minimized if you stay below maximum of daily use.

It is therefore important to manufacturers of handheld post drivers that they offer post drivers with a low vibration level.

At HYCON, we attach great importance to the protection of our customers in the form of a very low vibration level.

If you wish to obtain further information about the guidelines for maximum daily use, please contact us.

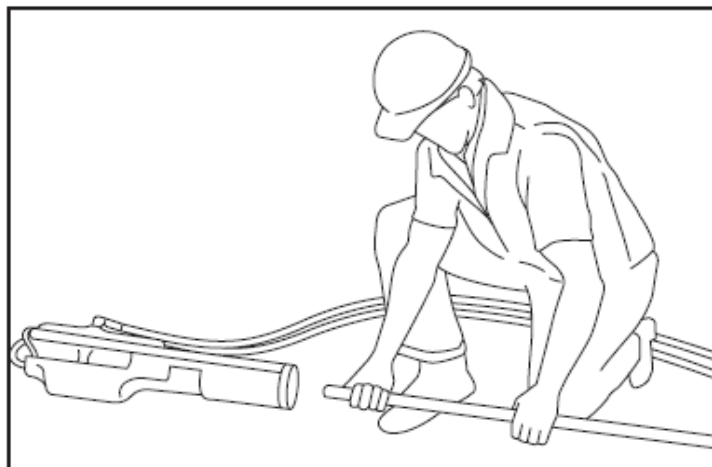
# Starting Instructions

## START – NO REMOTE

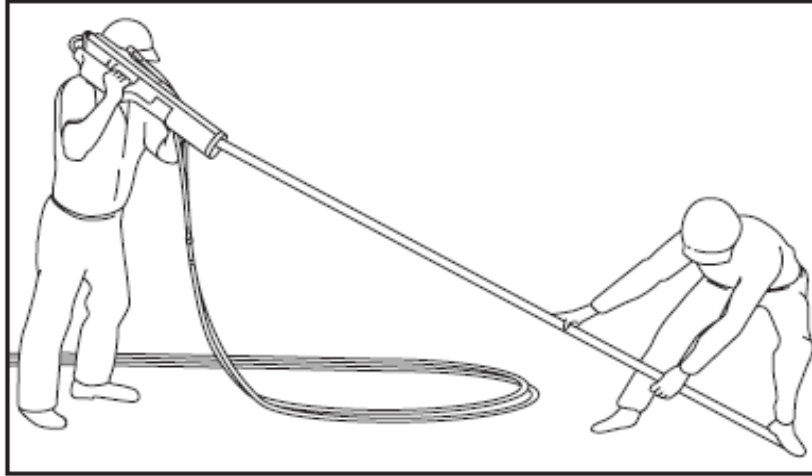
- Mount adaptor designed for the post
- Connect hoses – clean couplings before connection
- Set the power source on "ON"
- Press the trigger lever towards the handle
- Always hold the post driver at right angle towards the post

## START – WITH REMOTE

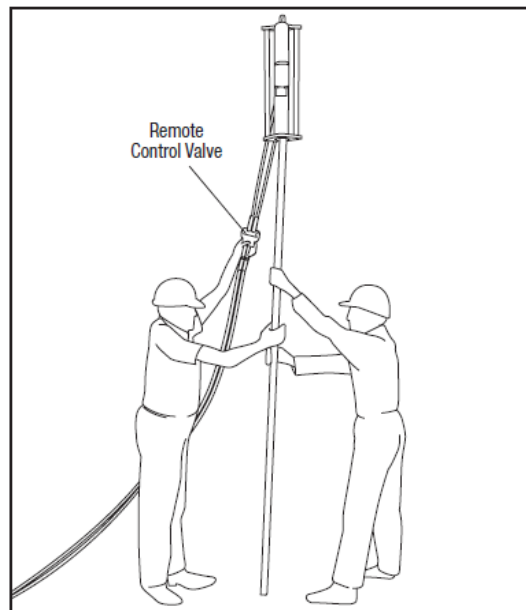
- Mount adaptor designed for the post
- Connect hoses – clean couplings before connection
- Set the power source on "ON"
- Slide the post into the driver as shown in fig. 1



- Lift the post and driver to a vertical position as shown in fig. 2



- To start the post driver move the control valve to the ON-position. Fig 3



## **STOP**

- Let go of the trigger lever or move the control valve to OFF-position
- Turn off the hydraulic oil flow before disconnecting the post driver

## Technical Data

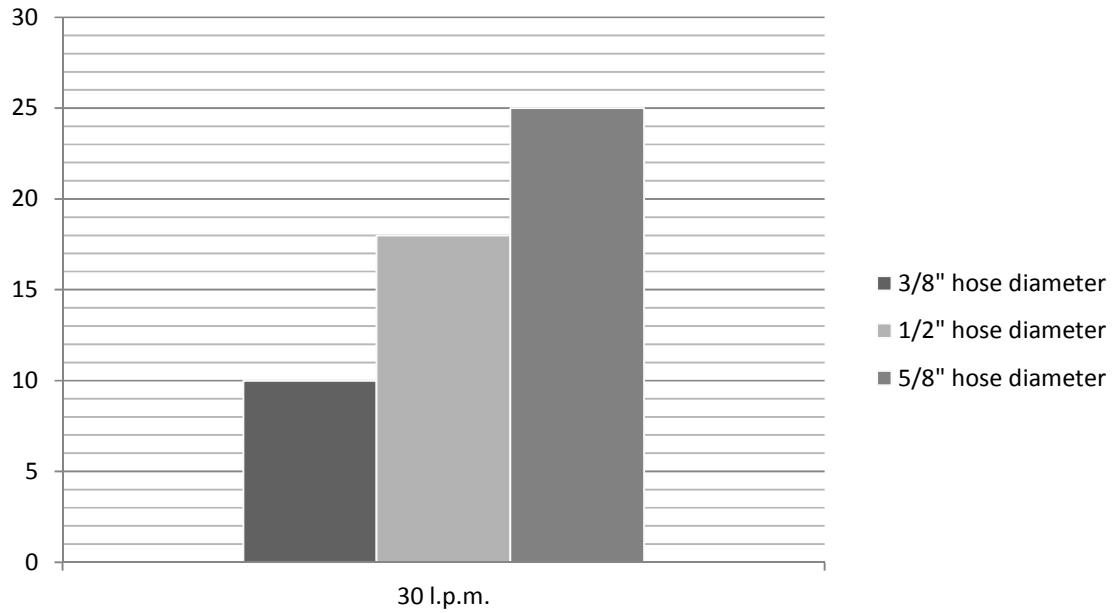
		<b>Post Driver</b>
		30 l.p.m.
<b>Weight Post Driver</b>	kg	29
<b>Service weight incl. adaptor and hoses</b>	kg	31
<b>EHTMA category</b>		D
<b>Oil flow</b>	l.p.m. (g.p.m.)	30 (8)
<b>Working pressure</b>	Bar (psi)	120 (1750)
<b>Max. setting pressure relief valve</b>	Bar (psi)	160 (2300)
<b>Max. return pressure</b>	Bar (psi)	15 (220)
<b>Blow frequency</b>	1/min.	1380
<b>Blow energy</b>	Joule	95
<b>Max. oil temperature</b>	C°	70
<b>Accumulator charging pressure</b>	Bar (psi)	50 (730)
<b>Cooling capacity needed</b>	kW	3
<b>Vibration level 3 axis (ISO 20643)</b>	m/s <sup>2</sup> (dB)	9.4 (139)
<b>Uncertainty (K)</b>	m/s <sup>2</sup> (dB)	1.4 (123)
<b>Sound pressure level (L<sub>PA</sub>) 1 m</b>	dB	96
<b>Sound power level (L<sub>WA</sub>) guaranteed</b>	dB	108
<b>Adaptor size</b>	mm	Depending on post
<b>Largest adaptor possible</b>		
Round		Max. ø95 mm
Square		Max. 67x67 mm
Hexagon		Max. 82 mm



# Performance Chart

## HYCON Post Driver

Maximum length of different size hoses.



Pressure from power pack: 150 bar., Flow: 30 l.p.m., zero elevation, 2 set couplings per 10 m hose.

## Connection to Hydraulic Power Sources

The post driver can be connected to various hydraulic power sources, such as excavators, trucks, loaders, tractors etc., and of course HYCON powerpacks, the design of which ensures your new HYCON post driver the absolute best working conditions.

It is important that the post driver is not subjected to an oil flow and a working pressure beyond its design capability. Please refer to the ID-tag on the post driver in case of doubt. Check the oil flow and the working pressure by means of test equipment. The test equipment should comprise a pressure gauge, a flow meter and a valve for adjustment of the pressure.

Make sure that:

- the oil flow is not too high
- the working pressure is not too high
- the return pressure is not too high
- the pressure relief valve is not set higher than 160 bar
- the internal diameter of the hoses is sufficient (min. 1/2")
- all couplings are clean
- the power source is equipped with an oil filter of min. 25 Micron

Hoses with too small internal diameter and/or defect couplings cause the post driver to work with incorrect working pressure. Your dealer can help you check this.

If the output of the power source is too high:

- the power source must be adjusted to correct output
- or you can choose to mount a HYCON oil flow divider to protect the post driver against overload
- or you can choose one of our HYCON powerpacks. Your dealer can guide you in choosing the right powerpack.

In case of doubt, please contact your dealer or HYCON A/S.

## Service and Maintenance

Service/Maintenance	Daily	Weekly	Yearly
Check couplings and clean carefully	X		
Check hoses	X		
Check accumulator			X

**NB.** At service/repair it is important to mount the hoses correctly. The feed line from the power source must be mounted at "P" and the return line at "T". "P" and "T" are marked on the valve housing.

## Trouble Shooting

Before you start locating faults, check that the oil flow from the power source is correct and that the pressure relief valve is set correctly. Follow the instructions in the workshop manual of the power source.

Problem	Cause	Solution
Post driver does not start, there is <i>no</i> pressure in P-hose	Trigger mechanism does not actuate trigger piston correctly	Dismount top cover, and check and adjust functioning.
Post driver does not start, there <i>is</i> pressure in P-hose	Striking piston is stuck in cylinder	Nose part is tightened too hard. Seizing between cylinder and striking piston. Polish or replace components.
	Defective Q.R. coupling	Check Q.R. coupling
	Oil supply is made to T-connection	Switch pump and tank line
Adaptor cannot get a grip around the post during operation	Adaptor is damaged	Replace parts.
	Wrong adaptor size	Replace adaptor to right size.
Post driver works irregularly	Impurities in hydraulic oil	Replace oil and oil filter
	Oil level in power source too low	Add hydraulic oil
	Wrong adaptor size or worn out anvil	Check
Bad performance	Internal leak	Dismount valve housing and replace O-rings.
	Oil flow from the power source is not correct for the post driver	Check oil flow
	Accumulator pressure too low	Charge with Nitrogen.
	Defective diaphragm	Replace diaphragm
	Defective Q.R. coupling	Check Q.R. coupling
	Return pressure too high	Check power source/hoses
	Hose diameter too small	Check hoses

## Oil Types

The HYCON post driver use standard hydraulic oil, i.e. all types of mineral oil and biodegradable oil, which comply with the following values:

Recommended viscosity	20-40 cSt
Permitted viscosity	15-1000 cSt
Viscosity index	Min. 100
Temperature area	-20° to +70° C

If using biodegradable oil, we recommend the use of oil based on rape. Other types of oil can be aggressive towards the seals. If you are in doubt, please ask your dealer.

# EC-Declaration of Conformity



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We hereby declare that

**HPD post driver, from serial No. 10467**

is manufactured in conformity with the EC Directive 2006/42/EC.

HYCON A/S  
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A handwritten signature in blue ink, appearing to read "Henrik Steen".

Henrik Steen  
Direktør

19.08.2013

## **Warranty Terms**

We grant 12 months warranty from the first date of operation – however, not more than 18 months from the date of delivery.

The warranty applies to faults that can be related to construction and production errors.

Faults caused by incorrect operation, incorrect handling, lack of maintenance or the like, will not be accepted as warranty.

The warranty covers the parts necessary for repair and the suggested average time needed for repair.

For further warranty details, please contact your local dealer.