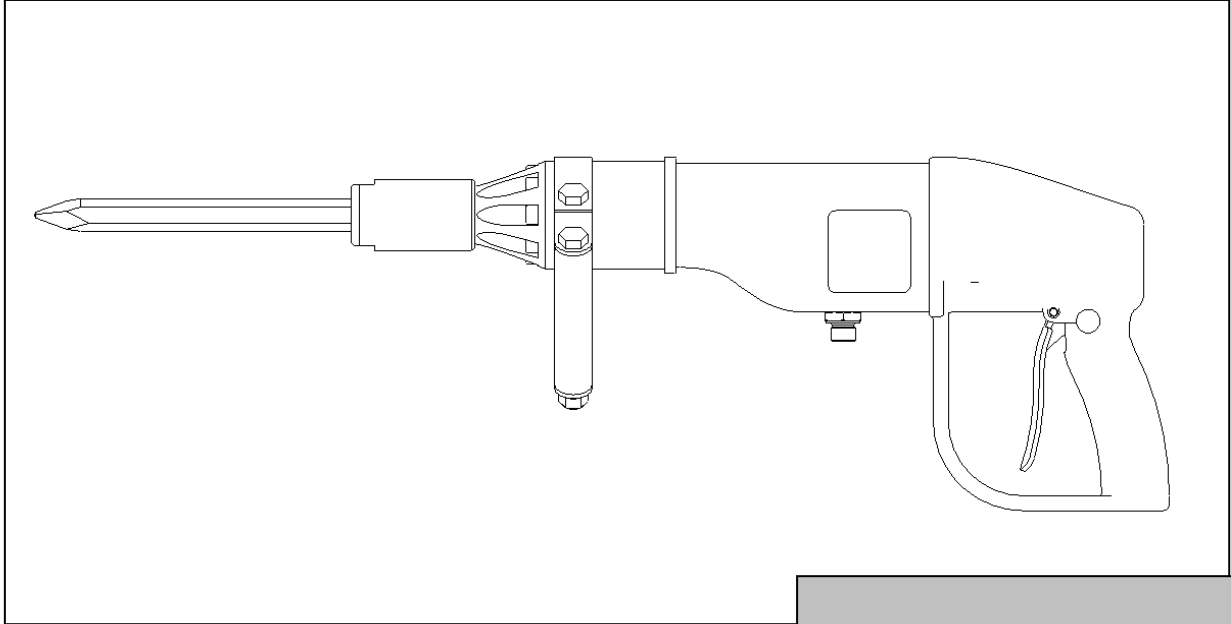


Operating Manual



HH10/HH10RV Hydraulic Breaker

HH10 from serial No. 1451
HH10RV from serial No. 2741

Revised 30.08.2011



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Prior to Operation

We thank you for choosing a HYCON breaker.

To ensure smooth operation and long-lasting performance of your new breaker, 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 breaker.

Best regards
HYCON A/S

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Safety Precautions

- Only use the breaker in accordance with the local working regulations on allowed working time based on breaker vibration level. Working with the breaker longer than prescribed may damage the operator. Please refer to the chapter about vibrations, page 4.
- In case of horizontal breaking or breaking above the head, always be aware of material falling down.
- 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 breaker when connected to the powerpack.
- Always use correct tool
- Always use approved hoses. Contact your dealer, if necessary. Mount the hoses correctly – "P" and "T" are marked on the breaker.
- The operator must make sure that there are no persons nearby when he starts breaking. Flying pieces of broken material can cause severe injury.
- 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 breaker, but always maintain a good footing and keep your balance.
- The operator must be properly trained in using the breaker or under supervision of a qualified instructor.
- The operator must always use protective goggles, earplugs, hard hat and shoes when operating the breaker.
- Never use the breaker close to electric cables. 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 breaker.

- Inspection or cleaning of the breaker, change of tool or disconnection of hoses may never be done while the breaker is connected to the powerpack, as unintentional activation of the breaker can cause severe damage.
- Always connect hoses to the breaker before starting the powerpack. Be sure that all couplings are tight.
- The breaker may not be operated if the oil temperature is above 70 C°. Operation at higher temperatures may result in the breaker 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 breaker not in use should always be kept in a safe and dry place.
- Try not to do a job with a breaker which is too small for the job.
- Keep the tool sharp for maximum breaker performance. Make sure that the tool is sharp-pointed and not round.
- The breaker may never be operated without tool, or without being held against the working surface, as this may result in overload of the breaker.
- Always make sure that the breaker 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 breaker. If this is not done, there is a risk of damage to the quick release couplings or the hydraulic system getting superheated.

Oil Flow and Pressure

Your new HYCON breaker 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 breaker, meaning that the lifetime of your new HYCON breaker will not be as expected, and that your service and repair costs will be too high.

It is important to check that the breaker 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 6 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 breaker 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. Hand-held electric, pneumatic and hydraulic breakers belong to this category.

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

It is therefore important to manufacturers of handheld breakers that they offer breakers 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.

Therefore, your new HYCON breaker is designed in a way that gives a low vibration level, even though the performance is high.

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

Starting Instructions

START

- Insert tool
- Connect hoses – clean couplings before connection
- Set the power source on "ON"
- Press the trigger lever down towards the handle
- Always work at right angles to the material, and only break pieces of a size that makes the material break quickly. If it does not break quickly, either the breaker is too small for the job, or you try to break too large pieces.

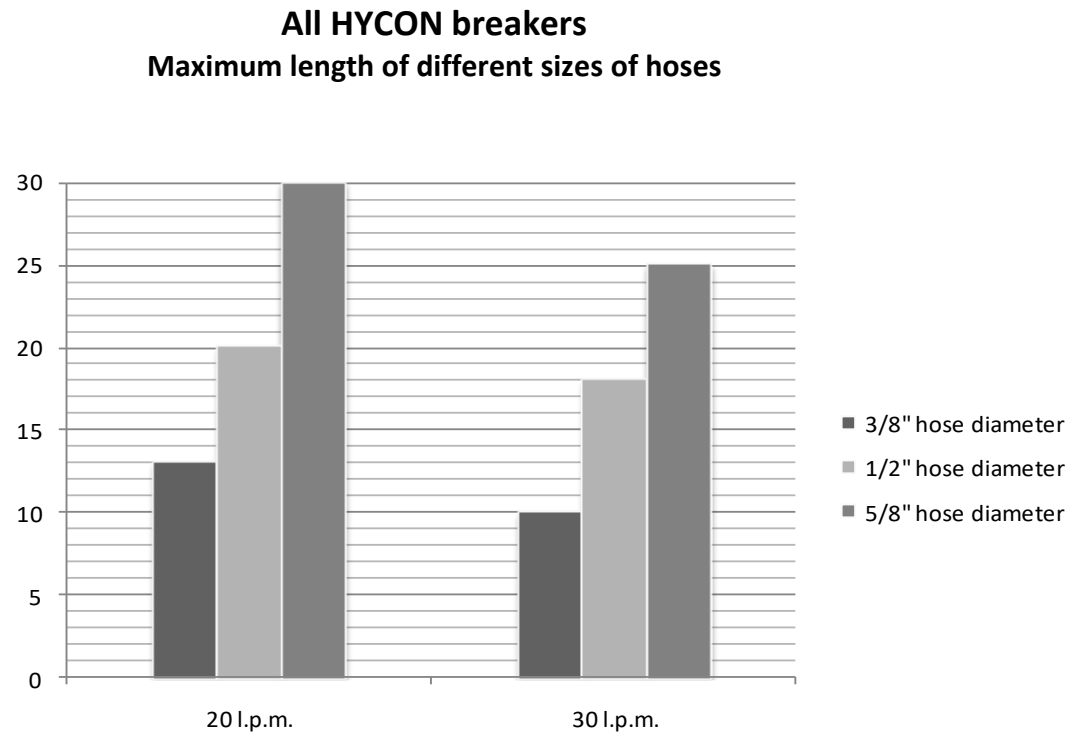
STOP

- Let go of the trigger lever

Technical Data

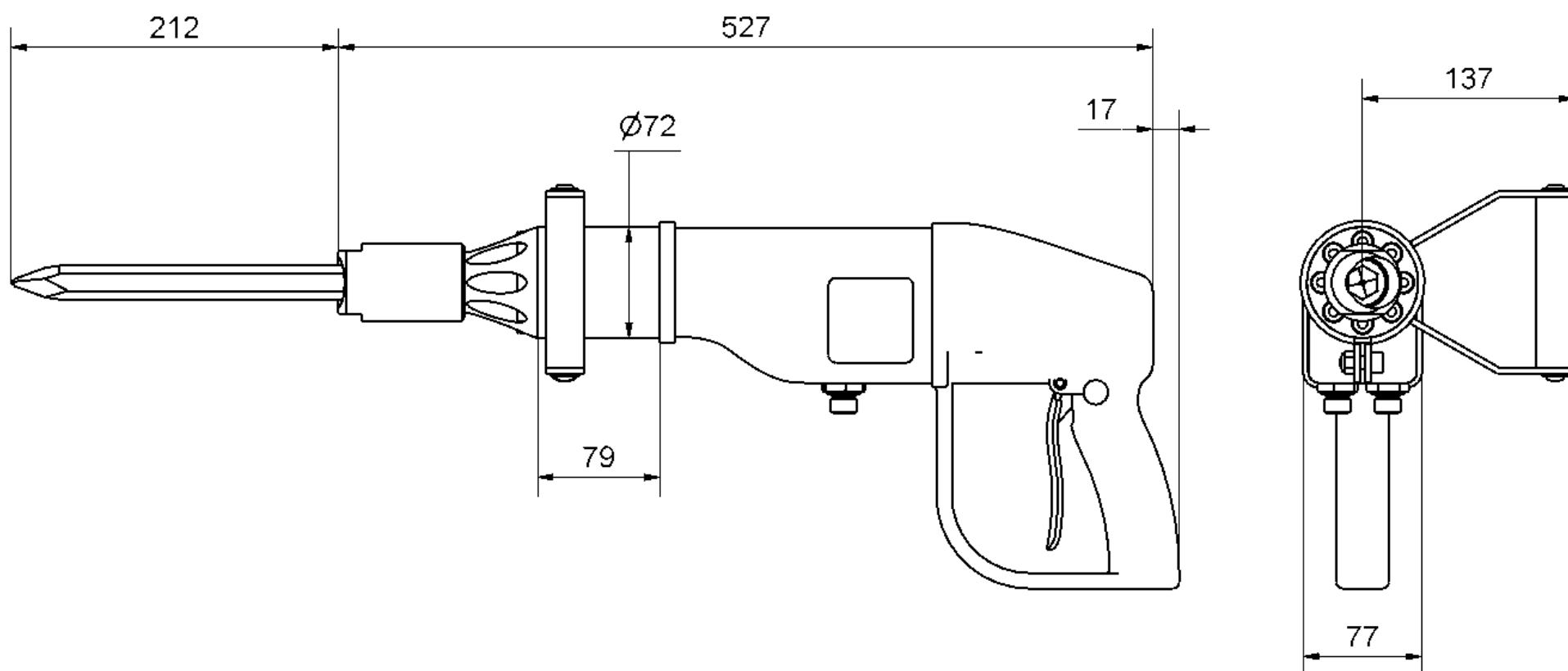
Weight breaker	9.9 kg
Service weight incl. moil point and hoses	12.7 kg
EHTMA category	C
Oil flow	20 l.p.m. (5.3 g.p.m.)
Working pressure nominal	100 bar (1450 psi)
Max. setting pressure relief valve	160 bar (2320 psi)
Max. return pressure	15 bar (220 psi)
Blow frequency	2100 1/min.
Blow energy	22 Joule
Max. oil temperature	70° C
Accumulator charging pressure	40 bar (580 psi)
Cooling capacity needed	2 kW
Vibration level 3 axis (ISO 20643)	9.6 m/s ² (140 dB)
Uncertainty (K)	1.4 m/s ² (123 dB)
Sound pressure level L_{PA} 1 m	93 dB
Sound power level L_{WA} guaranteed	105 dB
Tool size standard	19x50 mm

Performance Chart



Pressure from power pack: 150 bar., Flow: 20 l.p.m., zero elevation, 2 set couplings per 10 m hose.

Dimensions



Connection to Hydraulic Power Sources

The breaker 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 breaker the absolute best working conditions.

It is important that the breaker is not subjected to an oil supply and a working pressure beyond its design capability. Please refer to the ID-tag on the breaker in case of doubt.

Check the oil supply 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 flow.

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. ½")
- 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 breaker 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 breaker 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".

Underwater tools

The HH10 is also found in an underwater version and when used underwater we recommend some more cleaning to avoid the tool is aggressive corroded due to the constant water/saltwater contamination.

1. Disconnect the tool from the power pack when finished with the job.
2. Rinse the tool with fresh water immediate after.
 - a. For all tools with a plastic cover, there are holes made for easy cleaning of the internal parts and avoid water is trapped inside.
3. Ensure that all water is out of the tool.
4. Spray all parts with a water dispersal spray – E.g. Liqui Moly – Marine Multi-spray.

Oil Types

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

Ambient temperature range	Below 10°C 50°F	10 ... 30°C 50 ... 86°F	Above 30°C 86°F
Recommended oil viscosity grade	VG 32	VG 46	VG 68

Recommended oil cleanliness	ISO 4406 /19/16 / NAS 1638 10
Permitted viscosity	cSt 15 – 1000
Recommended viscosity	cSt 20 – 40
Viscosity index	Minimum 100
Oil temperature area	°C /°F -20 to 70 / -4 to 158

If using biodegradable oil, we recommend the use of oil based on rapeseed. 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

HH10 hydraulic breaker

(service weight 12.7 kg)

and

HH10RV hydraulic breaker

(service weight 12.7 kg)

From Serial No. 1451

From Serial No. 2741

are manufactured in conformity with the EC Directives 2006/42/EC and 2000/14/EC.

Notified Body 1585:

AkustikNet A/S
Frederikssundsvej 179 B
DK-2700 Brønshøj
Denmark

Measured sound power level: 102 dB

Guaranteed sound power level: 105 dB

HYCON A/S
Juelstrupparken 11
DK-9530 Støvring
Denmark

A handwritten signature in blue ink, appearing to read "Martin Møller".

Martin Møller
Managing Director

21.01.2021

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.