User Manual

Hot Tap Drill

Model: HTD

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Notices and Warnings

Before you use this product, please read all of this manual, including the notes and instructions. The manufacturer cannot be held liable for any damage which occurs as a result of noncompliance with this manual.

Do not tamper with device. Should the device be tampered with in any manner other than a procedure which is described and specified in this manual, the warranty is cancelled and the manufacturer is exempt from liability.

The product is designed exclusively for the described application. Use of this product in conditions not specified in this manual or, contrary to the instructions provided by the manufacturer, is considered improper handling of the product and will void your warranty. The manufacturer will not be held liable for any damages resulting from improper use of the product.

This manual should be read carefully by relevant personnel and the end user**.** This manual should be kept with the product and be made available as needed. **Once you install or use the product, you accept that you have read, understood and complied with this manual**.

CAA Sensors endeavours to make the content of this manual correct, but is not responsible for omissions or errors and the consequences caused. If in doubt or if you have any questions regarding this manual or the product, please contact CAA Sensors.

Warnings

Ignoring warnings can lead to serious injury and/or cause damage!

When handling, operating or carrying out maintenance on this product, personnel must employ safe working practices and observe all local health & safety requirements and regulations.

Improper operation or maintenance of this product could be dangerous and result in an accident causing damage to machinery or injury or death.

The manufacturer cannot anticipate every possible circumstance which may represent a potential hazard. The warnings in this manual cover the most common potential hazards and are therefore not all-inclusive. If the user employs an operating procedure, an item of equipment or a method of working which is not specifically recommended by the manufacturer they must ensure that the product will not be damaged or made unsafe and that there is no risk to persons or property.

NEVER CHANGE ORIGINAL COMPONENTS WITH ALTERNATIVES.

Compressed Air Safety

Any contact with quickly escaping air or bursting parts of the compressed air system can lead to serious injuries or even death.

- Do not exceed the maximum permitted operating pressure.
- Wear suitable PPE including face/eye and hearing protection
- Only use pressure rated installation materials and parts.
- Avoid getting hit by escaping air or bursting parts.
- Do not use this product in explosive areas.

Cleaning

To clean the drill it is recommended to use a clean, dry cloth. For stubborn marks, use distilled water or isopropyl alcohol only.

The chip collector should be emptied before and after using the hot tap drill.

About Hot Tapping

A hot tap drill is a universal tool that allows you to manually install a connection point on pressurised or unpressurised pipes.

A typical hot tap requires a:

- the hot tapping drill
- tapping saddle / clamp,
- ball valve.

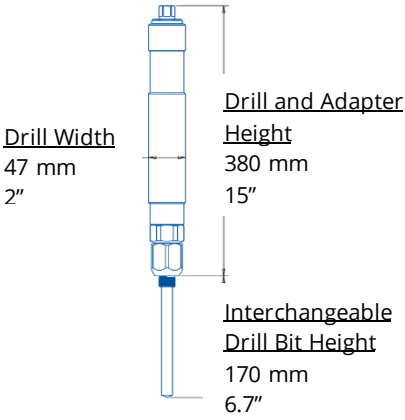
Hot tapping takes approximately 30 to 60 minutes, depending on the size of the hole and the pipe material.

Note: Hot tapping can be dangerous and should be performed by experienced technicians only. Care should be taken when using the hot tap drill and appropriate personal protection equipment (PPE) should be worn.

CAA Sensors hot tap drill is designed to prevent contamination from the drilling process entering into the pipework when used on pressurised pipework. As the drill bit starts to pierce the pipe, air pressure forces loose particles back through an exhaust chamber in the drill's body where the chips are captured. This process ensures that no contamination enters the pipework when working on pressurized pipes.

Key Features of the Hot Tap Drill

- Can be operated under pressure
- Maximum operating pressure up to 20 bar (290 psi)
- Innovative structural design to avoid the bit getting stuck or broken
- Maximum drilling depth up to 200 mm (7.87")
- 4 interchangeable drill bit sizes:
  - 8.5 & 14.5 & 19.5 & 24.5 mm
  - 0.33" & 0.57" & 0.77" & 0.96"



Specifications

Drill Depth	Up to 200 mm Up to 7.87”		
Drill Diameters	8.5 & 14.5 & 19.5 & 24.5 mm (interchangeable) 0.33” & 0.57” & 0.77” & 0.96” (interchangeable)		
Corresponding Ball Valves	1/4” & 1/2” & 3/4” & 1”		
Operating Pressure	20 bar 290 psi		
Operating Temperature	-50°C to +200°C -58°F to +392°F		
Drill Bit Material	Cobalt-containing high-performance high-speed steel HSS / E		
Main Body Shell Material	Aluminium		
Dimensions	Drill and Adapter 380 mm x 47 mm x 47 mm 15” x 2” x 2”	Drill Bit 170 mm long 6.7” long	Socket Wrench 250 mm x 60 mm x 45 mm 9.8” x 2.4” x 1.8”
Weight	2.6 kg 5.7 pounds		
Warranty Period	12 Months		

Hot Tap Drill Kit

Each hot tap drill kit comes with:

- ✓ Carry Case
- ✓ Drill, Wrench, Pin and Chip collector
- ✓ Your choice of drill bits and adaptors

Hot tap tool

PLUS

Chip collector

PLUS

Wrench / Handle

PLUS

Your choice of drill bits and adaptors

For 1/4” ball valve

For 1/2” ball valve

For 3/4” ball valve

For 1” ball valve

Using the Hot Tap Drill

WARNING! Hot tapping can be dangerous.

Notes:

- Do not use this product in explosive areas.
- Use only pressure-resistant installation materials when using the product.
- Please observe national regulations before/during installation and operation.
- Wear suitable PPE including face/eye protection and hearing protection when using the hot tap drill

Hot Tapping Steps

Step 1 – Assemble hot tap drill

Step 2 – Attach hot tap saddle / clamp / hoop and ball valve to pipe

Step 3 – Attach hot tap drill to ball valve

Step 4 – Drill hole

Step 5 – Remove and clean hot tap drill

Tools and Equipment needed

(not included with Hot Tap Drill kit)

Hot tap saddle / clamp with a 1/4" or 1/2" or 3/4" or 1" threaded head

Ball valve

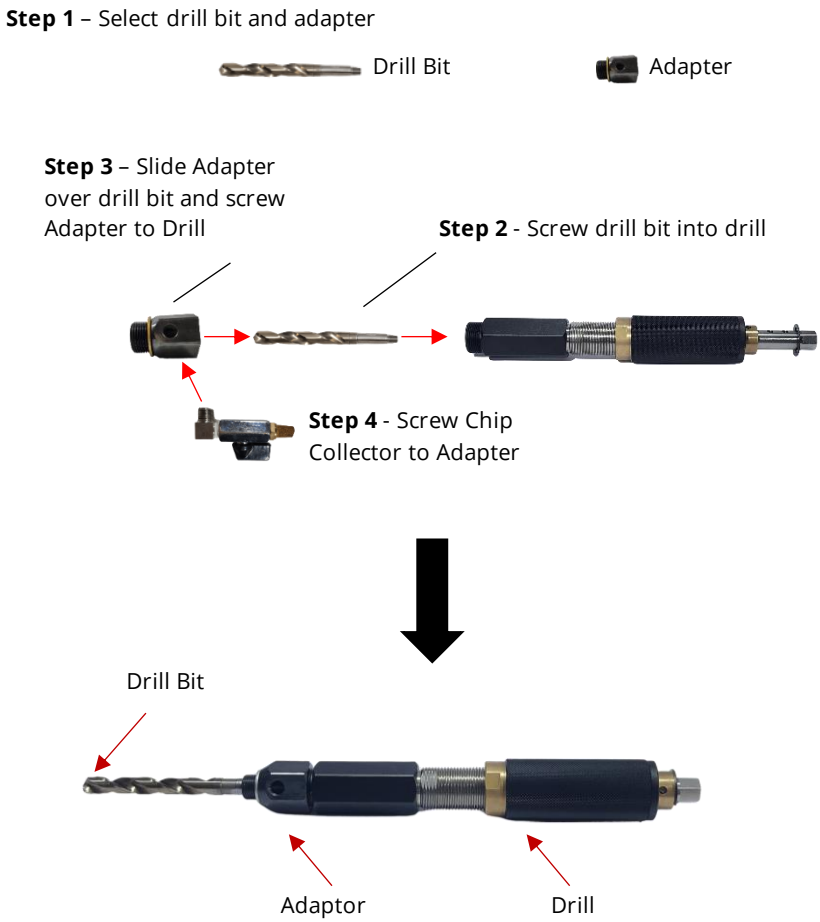
Thread Tape

Reducing Bush (Optional)

Step 1 - Assemble hot tap drill

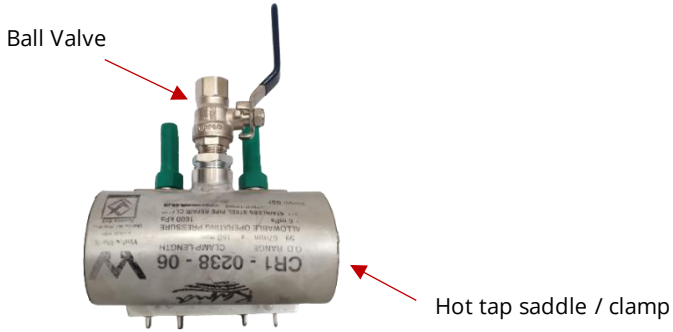
Assemble the hot tap drill:

1. Select the appropriate drill bit size and corresponding adaptor
2. Screw the drill bit into the tool
3. Slide the adaptor over the drill bit and screw it onto the tool
4. Screw the chip collector into the adapter.
    - If necessary, empty metal shavings out of the chip collector before attaching.



Step 2 – Attach hot tap saddle and ball valve to pipe

- Find a location on the pipe that meets the installation requirements for the sensor you want to install. Ensure the minimum straight pipe distances and sensor orientation requirements are met. Refer to the relevant sensor user manual for installation requirements.
    - Also make sure you have enough distance around the pipe to install/ remove the hot tap drill and sensor.
- Clean the pipe to provide a better seal for the hot tap saddle.
- Attach a hot tap saddle / clamp / hoop with a threaded head directly on the pipe.
- Attach a ball valve to the hot tap saddle.
    - Use thread tape or sealant to ensure that the seal is intact.
    - If needed, use a reducing bush to fit the ball valve to the hot tap saddle.



NOTE: Hot tap saddle / clamp and ball valve are not included with the hot tap kit. These items are available for purchase separately. Refer to the CAA Sensors website: https://www.caasensors.com

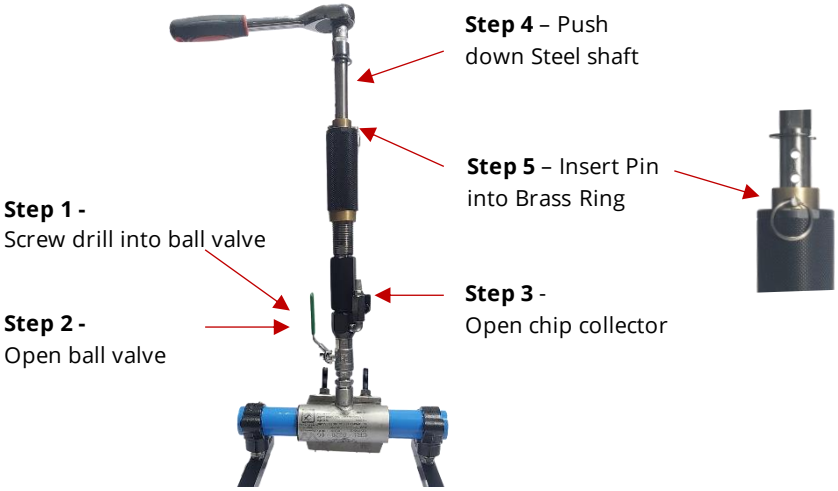
Step 3 – Attach hot tap drill to ball valve

- Unwind / unscrew knurled part of drilling tool.

- Pull steel shaft back to withdraw the drill bit inside the drilling too
    - If the drill bit doesn't retract far enough, unwind the knurled part some more

Attach hot tap drill to ball vale

1. Screw the drill into the ball valve.
2. Open the ball valve
3. Open the chip collector valve
4. Push steel shaft down until drill bit touches the pipe
5. Insert the pin into the brass ring (above knurled part of drilling tool). Ensure the pin comes out the other side
    - You may need to adjust knurled part of drilling tool to insert pin. The hole in the steel shaft must align with the hole on the brass ring.



Step 4 – Drill hole

- Wear suitable PPE including face/eye and hearing protection when using the hot tap drill
- Turn the housing clockwise until the drill bit touches the outer wall of the pipe, you will feel a slight resistance. Ensure there is only slight pressure on the drill bit.
- Attach the wrench to the top of the tool
- While holding the body of the tool, turn the wrench in a clockwise direction to start drilling.
- Turn the wrench between two and three complete turns before adjusting the body of the tool.
- Turn the body of the tool clockwise very slightly (no more than 1/8 of a turn). This increases the pressure on the drill bit. Repeat the previous step.
- Continue repeating the previous two steps until the hole is drilled through the wall of the pipe.
- As the drill tip begins to pierce the pipe, you will begin to hear a hissing sound from the chip collector. **NOTE**: this does not mean the hole is completed, you will need to continue until the drill bit is completely through the wall of the pipe. When this has occurred, you will notice lower resistance when adjusting the body of the tool clockwise.

Step 5 – Remove drill and clean

- **When the drill bit is completely through the wall of the pipe**: turn the body of the tool counter-clockwise to retract the drill bit from the pipe.
- Remove pin from brass ring.
- Remove / unscrew the drilling tool from the ball valve
  - Ensure the drill bit is kept stationary during this operation. Do not allow it to turn counter-clockwise as this may result in damage to the drill bit or allow it to unscrew from the tool.
- Once the drill bit has been extracted far enough, you will be able to close the ball valve.
- Close the ball valve.
- Remove the entire tool from the valve.
- Blast the ball valve by opening and closing it two or three times quickly. This will ensure no chips are left under the valve.
  - Ensure you are wearing eye/face and hearing protection when doing this. Warn anyone in the area of the sudden noise.
- Dismantle the drill and adaptor from the tool and clean out any chips within the tool body.
- Unscrew the sintered cap filter on the side of the dismantled drill and pour out the metal shavings.

Metal shavings / chips

Warranty

CAA Sensors provides a 12-month warranty for the hot tap drill kit. The warranty covers material and workmanship under the stated operating conditions from the date of delivery. Please report any findings immediately and within the warranty time.

If faults occur during the warranty period CAA Sensors will repair or replace the defective unit, without charge for repair labour and material costs but there is a charge for other services such as labour to remove or reinstall the instrument, transport, and packing. Warranty repairs do not extend the period of warranty.

The following damage is excluded from this warranty:

- Improper use and non-adherence to the user manual.
- Use of unsuitable accessories.
- External influences (e.g. damage caused by vibration, damage during transportation, excess heat or moisture).

The warranty is cancelled when one of the following situations occurs:

- The user opens the hot tap drill without a direct request written in this manual.
- Repairs or modifications are undertaken by third parties or unauthorized persons.
- The serial number has been changed, damaged or removed.

Other claims, especially damage occurring on the outside of the instrument (eg dents, marks), are not included unless responsibility is legally binding.

Need help?

Contact your local dealer.

Alternatively, contact CAA Sensors via:

Phone: +61 494 095 632

WhatsApp: +61 494 095 632

E-mail: sales@caasensors.com

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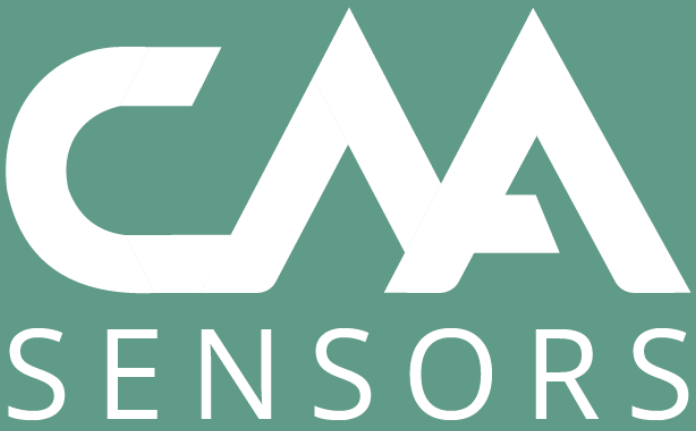

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