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Mincon  
1st for Durability,  
Reliability &  
Performance

## MINCON HDD Drilling Range

### MINCON HDD Pilot Hammer Range

- MINCON HDD30
- MINCON HDD40
- MINCON HDD50
- MINCON HDD60
- MINCON HDD70
- MINCON HDD90



"The Driller's Choice Worldwide"

Mincon.com



## The Mincon HDD Story

In 2002 Mincon, in collaboration with leading industry professionals, started design and manufacturing of a range of pneumatically powered horizontal directional drilling systems to service the trenchless utility industry. Since then the tools have become the benchmark for steerable drilling systems in medium to hard rock where conventional directional drilling systems struggle.

The Mincon Hard Rock Range offers the most complete line of steerable hammer systems on the market, covering pilot holes from 3 1/2" (89mm) to 9 1/4" (235mm) the tools can be used on mini class HDD machines to large Pipeline Class machines. With the Mincon Hard Rock Support Station and hosing any conventional HDD machine can be converted for rock drilling. The sonde carriage can be easily adapted to your existing locating equipment.

Utilizing "high Frequency Cycle" technology Mincon hammer systems provide many benefits to the contractor. Small chip production and faster material removal from the bit face keeps the bore hole cleaner and reduces the possibility of getting stuck. With less vibration to the drill string you ensure less wear and tear to the rig and locating sonde. Steering capabilities are greatly improved and in head to head tests against other competitor manufacturers the Mincon Hard Rock systems out steered in dirt, cobble and solid rock.

Mincon offers the revolutionary Pull Reamer system. Once the pilot hole has been drilled, the pilot hammer and sonde is removed and the Mincon Pull Reamer is attached to the drill string. The Pull Reamer is then drawn back towards the drill machine and the system is capable of hammer reaming from 7" (178mm) to a maximum of 14" (356mm). This innovative reaming method is the fastest way to ream a rock bore and is vastly superior to conventional methods in all rock conditions.

The philosophy at Mincon is to provide "World Class" products, training, service and support. We like to think that we are with you from beginning to end. The Mincon Hard Rock Horizontal Directional Drilling Range are the only systems available that can offer the contractor the peace of mind that comes with superior performance, reliability, innovation and complete support. Be wary of imitators that promise the world but just can't deliver.

## Mincon HDD Pilot Hammer System Features

The Mincon range of HDD Pilot Hammers is designed around proven technology to perform at the top end of the performance scale compared to other tools on the market. While providing the most complete range of pilot hammers, Mincon also provides their world class design and technology including:

- Dual steering point design incorporating slanted drill bit and 2° bent sub provides more responsive steering capabilities while transitioning in and out of rock formations.
- High frequency hammer cycle transmits less vibration that can be detrimental to sensitive electronics. Rock formations fracture into smaller pieces which are easier to flush out of the bore hole. Less Stress Transmits to pipe joints and gearbox assembly reducing maintenance requirements to drill. Provides the most effective steering in any pneumatically powered HDD system.
- High pressure/high volume compressed air powers drilling operations and requires minimal torque and feed pressure loads on drill machine increasing overall life of drill.
- Shorter body design compared to competitive models allows for easier steering in the bore hole and less rotational stresses on hammer body.
- Existing locating electronics (DCI, Subsite, or WIRELINE) can be used with no additional cost to the contractor.
- Support Station delivers compressed air mixed with a water/polymer (5-9 gal/min) and rock drill oil (2-4 pints/hr) to operate the drilling cycle resulting in minimal environmentally friendly clean up. Can be used on environmentally sensitive locations using Mincon Envirosafe RDO biodegradable rock drill oil.

HDD Hard Rock Drilling Systems Include:

- Complete Hammer
- Sonde Carriage
- 4 x Safety Whip Checks
- 20 Foot High Pressure Air Hose
- 30 Foot High Pressure Air Hose
- 40 Foot Clear Water Supply Hose
- Support Station
- Mincon Wireless Valve Controller
- 2 x HDD Drill Bits
- Sonde Alignment Tool
- Sonde Torque Wrench
- 4 x air couplers

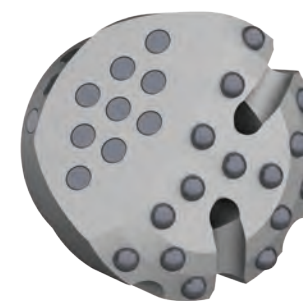


## S P E C I F I C A T I O N S

Mincon HDD Hammer Model		Mincon HDD30	Mincon HDD40	Mincon HDD50	Mincon HDD60	Mincon HDD70	Mincon HDD90
Hammer Outside Diameter	Metric	77mm	85mm	103mm	124mm	146mm	194mm
	Imperial	3.03"	3.35"	4.06"	4.88"	5.75"	7.63"
Hammer Length (Less Drill Bit)	Metric	1495mm	1867mm	2007mm	2057mm	1951mm	1946mm
	Imperial	58.9"	73.5"	79"	81"	76.8"	76.6"
Backhead Spanner Flat Size	Metric	64mm	82mm	96mm	115mm	134mm	184mm
	Imperial	2.5"	3.23"	3.78"	4.53"	5.28"	7.23"
Drill Bit Shank Type		HDD30	HDD40	HDD50	HDD60	HDD70	HDD90
Backhead Thread		2 3/8" A.P.I. Reg Pin	2 3/8" A.P.I. Reg Pin	2 3/8" A.P.I. Reg Pin	3 1/2" A.P.I. Reg Pin	3 1/2" A.P.I. Reg Pin	4 1/2" A.P.I. Reg Pin
Pilot Bit Size	Metric	89mm	108mm	133mm	159mm	190mm	235mm
	Imperial	3.5"	4.25"	5.25"	6.25"	7.5"	9.25"
Hammer Weight (Less Bit)	Metric	35.8 Kgs	49.4 Kgs	81.8 Kgs	137 Kgs	158.6Kgs	327.5 Kgs
	Imperial	79 Lbs	109 Lbs	180 Lbs	302 Lbs	349 Lbs	722 Lbs
Piston Weight	Metric	4.1 Kgs	3.6 Kgs	7.7 Kgs	15 Kgs	20 Kgs	39.1 Kgs
	Imperial	9 Lbs	8 Lbs	17 Lbs	33.6 Lbs	44 Lbs	86 Lbs
Bent Sub to Hammer Stand Off	Metric	0.75mm	0.75mm	0.75mm	0.75mm	0.75mm	0.75mm
	Imperial	0.030"	0.030"	0.030"	0.030"	0.030"	0.030"
Recommended Min Air Package < 250ft <sup>1</sup>	Metric	177 l/s @ 17.2Bar	189 l/s @ 17.2Bar	354l/s @ 24.1Bar	425 l/s @ 24.1Bar	425 l/s @ 24.1Bar	519l/s @ 24.1Bar
	Imperial	370cfm @ 250psi	400cfm @ 250psi	750cfm @ 350psi	900cfm @ 350psi	900cfm @ 350psi	1100cfm @ 350psi
Recommended Min Air Package > 250ft <sup>1</sup>	Metric	236 l/s @ 24.1Bar	330 l/s @ 24.1Bar	425l/s @ 24.1Bar	519 l/s @ 24.1Bar	519 l/s @ 24.1Bar	590l/s @ 24.1Bar
	Imperial	500cfm @ 350psi	700cfm @ 350psi	900cfm @ 350psi	1100cfm @ 350psi	1100cfm @ 350psi	1250cfm @ 350psi

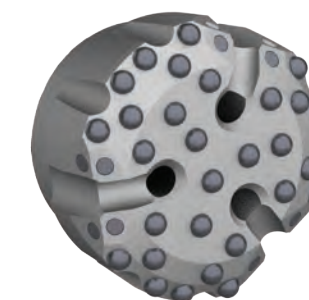
<sup>1</sup> Drilling conditions and project specifications may require larger air package to be used. Maximum operating pressure of 500 PSI

## PILOT BIT HEAD CONFIGURATIONS



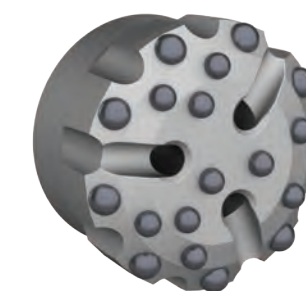
STANDARD SLANT

The Standard Slant Pilot Bit offers the most aggressive steering ability. Best suited for jobs with significant steering and when transitioning in and out of rock formations.



MULTI-POINT SYMETRICAL SLANT

The Patented Multi-Point Symmetrical Slant Pilot Bit offers the best of both worlds with steering capabilities at the bit face and significantly more gauge row strength and protection. Best suited for jobs with less aggressive steering and where long runs in solid rock are anticipated.



STANDARD CONVEX

The Standard Convex Pilot Bit offers the best gauge row strength and protection. Best suited for jobs with little steering and long straight runs in hard rock formations.



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