

# HAMMERHEAD®

STATIC PIPE BURSTING SYSTEMS



**HAMMERHEAD®**  
TRENCHLESS EQUIPMENT

# CRISIS: WORLDWIDE DETERIORATING INFRASTRUCTURE

## THE STATE OF THE INFRASTRUCTURE

On an international scale, water, sewer, gas and other utilities are in need of replacement. Most are located in congested urban areas, under buildings, roadways or expensive landscape, and are surrounded by other utilities. Worldwide, many systems have exceeded their useful life, have deteriorated and are in need of replacement.

## WATER AND GAS LINES

Some systems are under capacity due to population growth. Many dilapidated systems are encrusted reducing capacity and pressure. Water systems that are corroded and leak, experience as much as a 40 percent loss of precious treated water into the ground. A small hole of only 1/4" can leak more than 3,000 gallons (11,356 l) of water per day.

## SEWER LINES

Offset pipes, root intrusion and crowned and cracked pipes are causing system backups. Frequently, systems are under capacity due to urban expansion. Infiltration and inflow (often from rain) are taxing treatment plant capacities - increasing treatment costs and creating outflows of untreated sanitary sewage into lakes and streams.

Replacement by traditional open-trench methods is often not a viable or cost effective alternative.

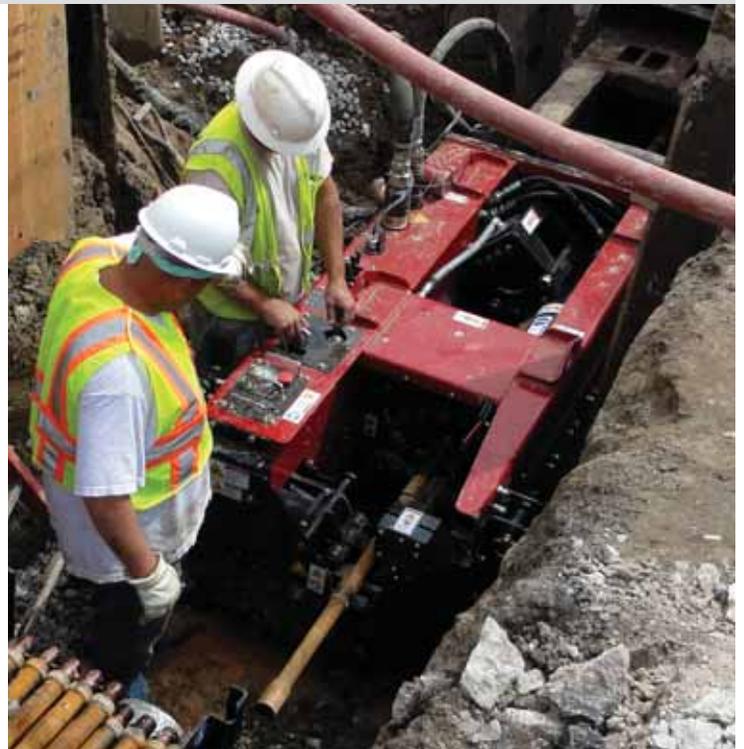


# SOLUTION: PIPE BURSTING, PROVEN METHOD OF REPLACEMENT

## PIPE BURSTING ADVANTAGES:

- Proven replacement method that follows the existing utility path.
- Significant risk reduction in potential damage to adjacent utilities.
- Preferred trenchless technology for increasing pipe flow and diameter.
- Reduction in social and economic impact.
- Only rehabilitation method that installs new pipe of the same or larger diameter in the same path.
- Major reduction in engineering and design costs associated with utility reconstruction or relocation.
- Potential for increased flow rates with minimal increase in pipe diameter.

HammerHead is a proud member of the IPBA (International Pipe Bursting Association). Go to [www.ipbaonline.org](http://www.ipbaonline.org) to find project specifications, process articles and information about membership.

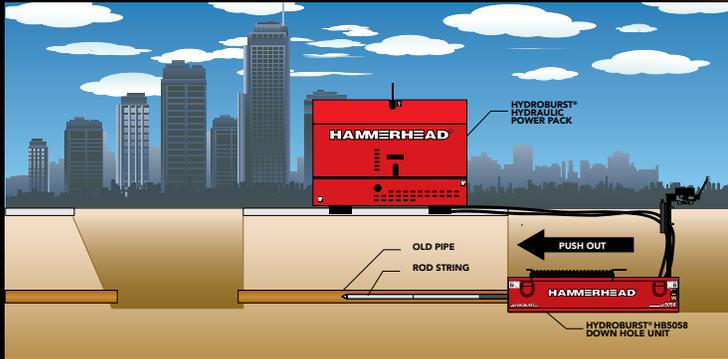


Traditional open cut methods have inherent social, economic and political costs and disrupt traffic patterns

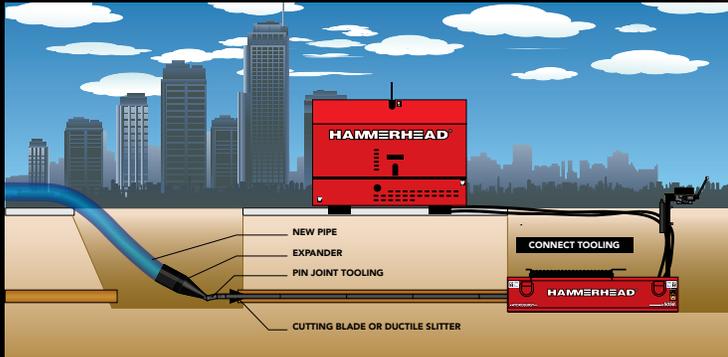


Pipe Bursting can reduce excavation on most projects up to 85%, decreasing costs associated with site restoration.

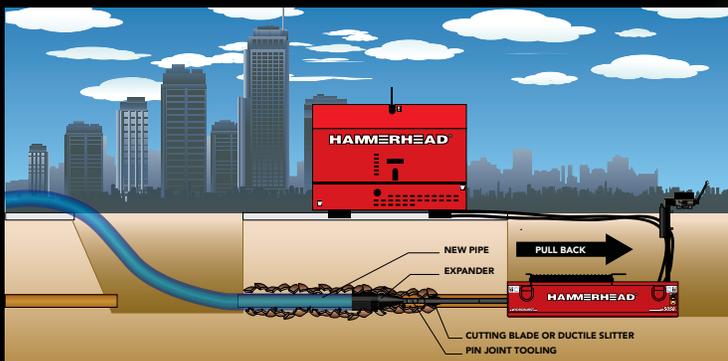
# STATIC PIPE BURSTING PROCESS



**Payout Rod**—payout the rod down the existing pipe. 350 feet of rod can be pushed out in approximately one hour. Rods can pass through sweeping bends in pressure pipe systems.



**Attach to Tooling**—attach bursting blades or ductile splitter to the rod end. HDPE pipe is attached to an expander which is between 20–29% larger than the outside diameter of the pipe being installed.



**Pull Back Product**—during pull back, old pipe is fractured or split and pushed out into the surrounding soil. The new pipe is installed simultaneously. Pullback operation takes approximately one hour to install 350 feet of pipe.



Pipe bursting water mains in Cape Canaveral, Florida with the HydroBurst® HB125.



# STATIC BURSTING SYSTEMS FOR GAS AND WATER REPLACEMENT.

Pipe bursting water mains in Reims, France with the HydroBurst HB5058.

# HYDROBURST®

# HB3038 & HB5058

## COMPACT AND EFFICIENT

These compact and highly efficient machines are simple to set up, easy to operate and requires a small pit for the machine. Featuring quick replacement jaw inserts, on board pressure gauges and an auto rod grip and release feature.

Slitting accessories are readily available to burst and split the toughest of pipes and repair clamps including ductile iron and steel.

## UNITES EFFICIENCY WITH PRODUCTIVITY

High productivity leads to increased profits. HB5058 systems are designed with production in mind. In average soil conditions, a 400 foot job takes as little as two hours to complete including rod payout and pullback. Pin joints simplify all tooling connections and further increases production.

## PREFERRED SYSTEM FOR REPLACEMENT OF GAS & WATER

Static pipe bursting is the preferred method for the replacement of gas and water mains. With use of proper methods and tooling, water mains can be installed and put in use the same day. This eliminates the need for temporary bypass lines and further enhances your bottom line.

## TOUGH & LOW WEIGHT RODS

Heat treated alloy resulting in a tough, low weight rod with an API style joint. This proven design handles thrust loads encountered when pushing around sweeping bends, through encrusted and collapsed lines and long burst lengths.



## PIPE BURSTING FACTS: INCREASE YOUR FLOW RATES!

### Water System Estimated Flow Rate Comparison†

Cast Iron Pipe	AC Pipe	New DIPS HDPE SDR11 Pipe	New DIPS HDPE SDR17 Pipe
4" ID = 96 gpm	4" ID = 109 gpm	4" = 113 gpm, 6" = 234 gpm	4" = 132 gpm, 6" = 272 gpm
6" ID = 217 gpm	6" ID = 247 gpm	6" = 234 gpm, 8" = 405 gpm	6" = 272 gpm, 8" = 472 gpm
8" ID = 340 gpm	8" ID = 388 gpm	8" = 405 gpm, 10" = 606 gpm	8" = 472 gpm, 10" = 705 gpm
10" ID = 511 gpm	10" ID = 583 gpm	10" = 606 gpm, 12" = 857 gpm	10" = 705 gpm, 12" = 997 gpm
12" ID = 723 gpm	12" ID = 824 gpm	12" = 857 gpm	12" = 997 gpm

†Estimates based on flow estimate formula  $Q = 2.449VD^2$  (where Q = gpm, V = velocity in ft/min, D = I.D. of HDPE DIPS pipe) Velocity calculated at a nominal 3 ft/sec (city mains operating at 2 - 3 ft/sec). Pressure drop per 1000' ranges from .32 psi/100' for 4" pipe to .10 psi/100' for 12" pipe.

Over the next twenty years, in the US alone, an estimated one trillion dollars is required to replace its utility infrastructure.



The pipe bursting method has replaced millions of feet of sewer, water and gas mains and services worldwide.



# PRODUCTIVE, COMPACT 100 TON STATIC PIPE BURSTING SYSTEM.

Replacement of sewer main in Madison, Wisconsin with the HydroBurst HB100.

# HYDROBURST® HB100

## POWERFUL, COMPACT AND VERSATILE DESIGN

Designed with the contractor in mind, the HydroBurst HB100 has the muscle to replace pipes up to 16" (400 mm) yet compact enough to efficiently replace pipes as small as 4" (100 mm).

The versatility of the HB100 allows you to bid a wide range of pipe bursting projects in sewer, water and gas. Slitting accessories are readily available to burst and split the toughest of pipes and repair clamps including ductile iron and steel.

## UNMATCHED PRODUCTION

Designed with production in mind, in average soil conditions, a 400' (122 m) job takes as little as two hours to complete from rod payout to pipe pullback.

Features like the rod lock vise provide constant tension on the pipe string and shoring, increasing production by eliminating rod rebound. On-board rod storage increases production and efficiency on the jobsite.

## SIMPLE OPERATION

The redesigned controls set a new standard for ease of operation in high tonnage static machines. Only two levers control all pipe bursting functions making the HB100 easy to operate.

## TOUGH & LOW WEIGHT RODS

The HB100 features a heat treated alloy resulting in a tough, low weight rod with an API style joint. This proven design handles thrust loads encountered when pushing around sweeping bends, through encrusted and collapsed lines and long burst lengths.

## EXCLUSIVE OPTIONS ENHANCE PRODUCTIVITY

Optional equipment includes a rod spinner that quickly makes and breaks rod joints and increases overall production.

As conditions change during a burst, optional hydraulic leveling jacks can be adjusted to keep the machine on grade and aligned with the existing utility without having to stop the burst and re-shore or level the machine.



## WHAT IS PRECHLORINATION?



The pre-chlorination method has been an industry standard in the UK and is rapidly gaining acceptance in North America. The pre-chlorination method is guided by AWWA standards for chlorinating and pressure testing HDPE water mains.

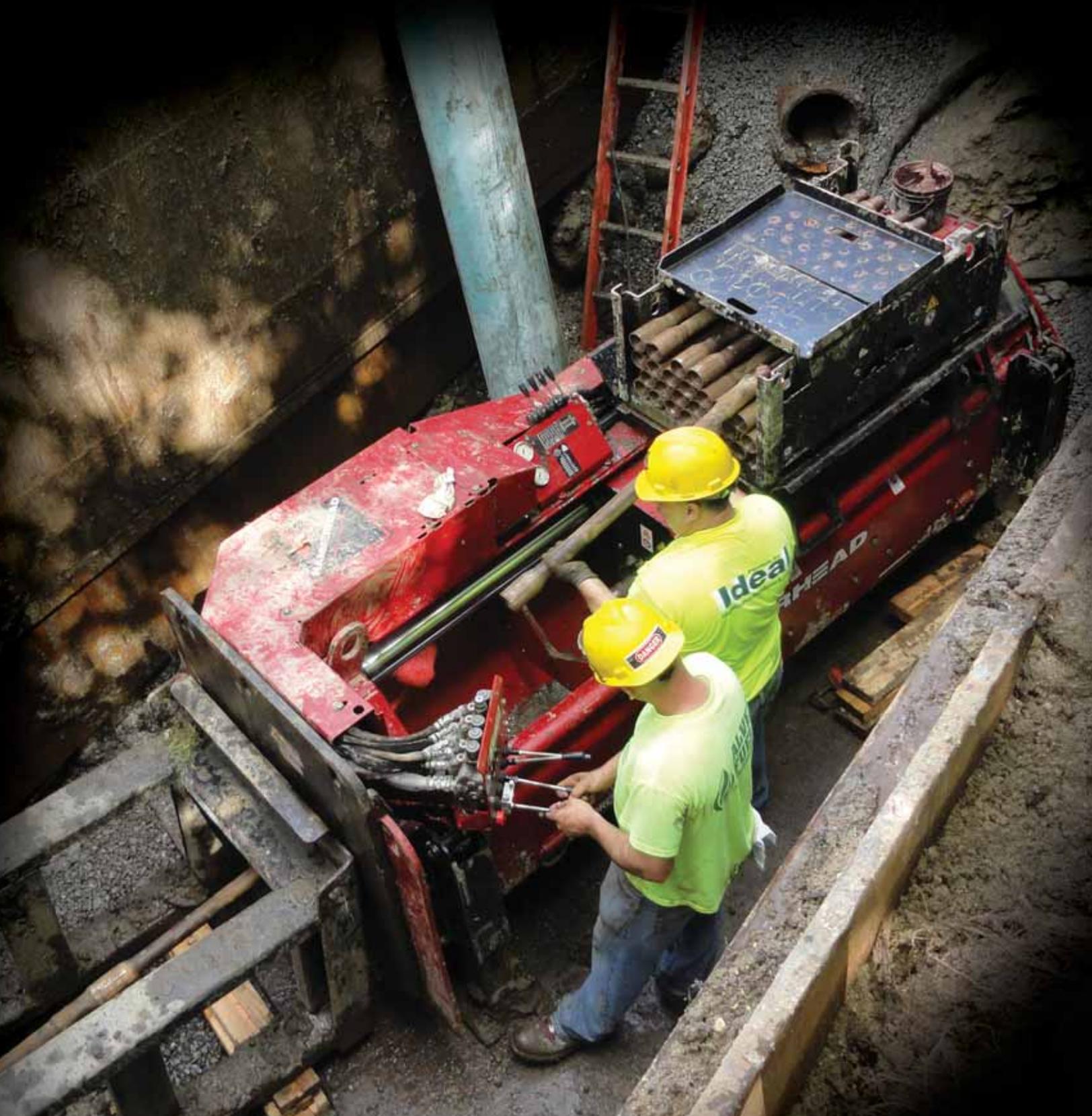
What is the difference? The HDPE water main is chlorinated, pressure tested and sealed prior to installation. Once the new HDPE pipe passes bacterial and pressure testing, it can be installed via pipe bursting.\*

\*Please refer to AWWA standards for HDPE chlorination and pressure testing specifications.

HammerHead is committed to being your partner in trenchless. That's why we provide free project consultations. Call today!



Interested in renting? HammerHead has several rental depots across the United States and Canada. Call for a quote.



# 125 TONS OF RELIABLE POWER FOR THE TOUGHEST OF JOBS.

Sewer main replacement in Hartland, Wisconsin with the HydroBurst HB125.

# HYDROBURST® HB125

## RELIABLE POWER FOR TOUGH JOBS

The HydroBurst HB125 static Pipe Bursting system is designed for the contractor who wants ONE machine versatile enough to replace 6" (150 mm) to 20" (500 mm) diameter pipe, in water, gas and sewer markets. Slitting accessories are readily available to burst and split the toughest of pipes and repair clamps including ductile iron and steel.

## UNITES BRUTE FORCE WITH PRODUCTIVITY

The HB125 was designed with production in mind. In average soil conditions, a 400 foot job takes as little as three hours to complete including rod payout and pullback.

Features like the rod lock vise provide constant tension on the pipe string and shoring, increasing production by eliminating rod rebound. On-board rod storage increases production and efficiency on the job site.

## EXCLUSIVE FEATURES ENHANCE PRODUCTIVITY

The standard automated rod spinner quickly makes and breaks rod joints and increases overall production.

As conditions change during a burst, hydraulic leveling jacks can be adjusted to keep the machine on grade and aligned with the existing utility without having to stop the burst and re-shore or level the machine. The rear hydraulic stabilizer makes quick work of rear shoring.

## LIGHTEST & TOUGHEST RODS IN CLASS

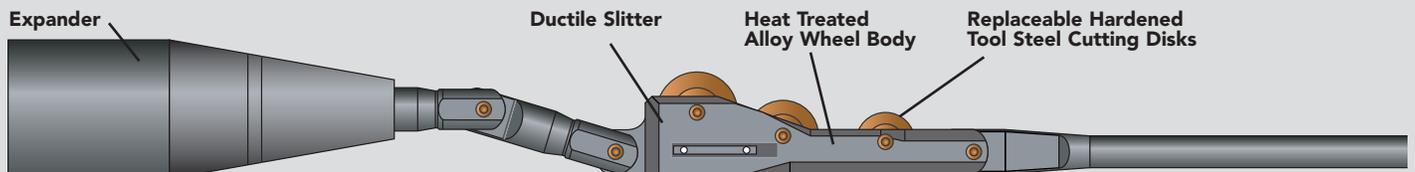
The HB125 features the lightest rods in machine class with heat treated alloy rod that features an API style joint. This proven design handles thrust loads encountered when pushing around sweeping bends, through encrusted and collapsed lines and long burst lengths.

## ROTATIONAL TORQUE ASSIST

HammerHead is the only manufacturer of pipe bursting machines that combine thrust and rotational torque during payout which allows you to push, rotate and drill with HDD drill bits through collapsed and encrusted utilities.



## SLITTERS FOR DUCTILE IRON, STEEL AND TOUGH REPAIR CLAMPS.



Specially designed slitters are available in 2" (50 mm) - 12" (300 mm) and feature hardened tool steel cutting disks that are durable and can slice through non-fracturable pipe such as ductile iron, steel and PVC while reducing required tonnage. The first cutting disk pre-slits the pipe, the second slits or bursts the pipe and the third cutting disk cuts through bells, repair clamps and bolted style cast couplers.



# THE MOST PRODUCTIVE HIGH TONNAGE PIPE BURSTING MACHINE.

Sewer main replacement in Spring Valley, Illinois with the HydroBurst HB175.

# HYDROBURST® HB175

With 50 more tons of pulling force than its predecessor, the new HYDROBURST HB175 has the muscle to replace potable water, sewer and gas lines as large as 24" (600 mm) yet the versatility to replace pipes as small as 8" (200 mm).

## UNITES BRUTE FORCE WITH PRODUCTIVITY

High productivity leads to increased profits. The HB175 was designed with production in mind. In average soil conditions, a 400 foot job takes as little as two hours to complete including rod payout and pullback. Features like the rod lock vise prevent production loss from rod rebound. Standard rod spinner and onboard rod storage make bursting with the HB175 a one man operation.

## HYDRAULIC STABILIZERS

As conditions change during a burst, seven hydraulic leveling, lateral and rear jacks can be adjusted to keep the machine on grade and aligned with the existing utility without having to stop the burst and re-shore or level the machine.

## PROVEN ROD DESIGN

The HB175 features a lightweight heat treated alloy rod with an API style joint. This proven design handles thrust loads encountered when pushing around sweeping bends, through encrusted and collapsed lines and long burst lengths.

## ROTATIONAL TORQUE ASSIST

HammerHead is the only manufacturer of pipe bursting machines that combine thrust and rotational torque during payout which allows you to push, rotate and drill with HDD drill bits through collapsed and encrusted utilities.

## REPLACE DUCTILE IRON & STEEL

When coupled with the line of HammerHead Ductile Slitters, the HB175 can burst even the toughest host pipes including ductile iron and steel.

## WHY USE HAMMERHEAD TORQUED JOINT RODS?

HydroBurst HB100, HB125 & HB175 Pipe Bursting systems feature an API style threaded joint and heat treated alloy rod that has been proven in the oil fields and directional drilling for decades under thrust, pullback and bend radii conditions.

### DURABILITY FOR LONG LIFE

A torqued joint rod string lends itself to the ability to handle thrust loads encountered when pushing around sweeping bends, through encrusted lines, line collapses and long burst lengths.

**CAUTION:** Other "loose joint" designs can buckle if not supported by the host pipe.

Typically when contractors look to purchase a static pipe bursting system, burst lengths of 400' (122 m) to 800' (244 m) are common and the cost and life of the rod weighs heavily in the cost of the equipment package. The nature of a round rod design lends itself to economical



manufacturing costs which can be passed on to the contractor allowing for more competitive bidding and less equipment investment without compromising quality, durability and performance when compared to other rod concepts that use "loose joint" designs.

### ROTATION ABILITY

Bending torque is placed on the rod string when loads are applied by sweeping bends or unaccounted for internal pipe conditions. In addition, rotational torque can be applied when the burst head, blade or cutter follows a pipe fracture. As compared to a loose joint system, threaded round rod systems have the advantage of being unaffected by these torque loads since the rods can be gripped at any location or orientation.

**CAUTION:** In a "loose joint" system, any torque induced in the rod string during pull back has the potential to jam the pullback machine.



HydroBurst® Rod Design: Proven API style thread, torqued joint design provides a uniform rod string.

## CHOOSE THE RIGHT SYSTEM FOR YOUR NEXT PROJECT

<b>DOWNHOLE UNITS</b>					
	<b>HB3038</b>	<b>HB5058</b>	<b>HB100</b>	<b>HB125</b>	<b>HB175</b>
Pipe replacement range – in (mm)	2 – 6 (50 – 150)	2 – 8 (50 – 200)	4 – 16 (100 – 400)	6 – 20 (150 – 500)	8 – 24 (200 – 600)
Max. pulling force – tons (t)	38 (34.5)	50 (45.4)	98 (88.9)	125 (113.4)	173 (156.9)
Rig Size L/W/H – in (m)*	60/20/12 (1.52/0.51/0.30)	65/22/13 (1.65/0.56/0.33)	72/35/34* (1.83/0.89/0.86)	125/47/42–58** (3.18/1.19/1.07–1.47)	130/52/41.5–57.5** (3.30/1.32/1.05–1.46)
Minimum Pit Size† L/W/H – in (m)	80/20/7 (2.03/0.51/0.18)	85/22/7 (2.16/0.56/0.18)	90/53/14.5* (2.29/1.35/0.37)	125/65/18 (3.18/1.65/0.46)	130/70/17.5 (3.30/1.78/0.44)
Weight – lb (kg)	762 (345)	928 (421)	3,138 (1,423)*	7,500 (3,402)	8,700 (3,946)
Max. Shuttle Speed***	18 seconds	22 seconds	16 seconds	19 seconds	22 seconds
Spindle/Spinner Torque – ft/lb (N-m)	n/a	n/a	250 (339)	800 (1,085)	800 (1,085)
Rotational Speed (RPM)	n/a	n/a	n/a	250	250
On-Board Rod Storage – ft (m)	n/a	n/a	150 (45.7)	100 (31)	100 (31)
Rod Spinner	n/a	n/a	Optional	Standard	Standard
Vertical Stabilizers	n/a	n/a	Optional hydraulic	Standard hydraulic	Standard hydraulic
Rear Stabilizer	n/a	n/a	Standard manual	Standard hydraulic	Standard hydraulic
Lateral Stabilizers	n/a	n/a	n/a	n/a	Standard hydraulic
<b>RODS</b>					
Rod Weight – lb (kg)	OPT A. 27.0 (12.2) OPT B. 17.2 (7.8)	OPT A. 35.0 (15.9) OPT B. 17.2 (7.8)	27.0 (12.2)	42.0 (19)	60.0 (27.2)
Rod Diameter – in (mm)	OPT A. 1.75 (45) OPT B. 1.38 (35)	OPT A. 2.00 (50) OPT B. 1.38 (35)	2.25 (57)	2.75 (70)	3.5 (89)
Rod Length – in (m)	OPT A. 39.38 (1.00) OPT B. 39.38 (1.00)	OPT A. 39.38 (1.00) OPT B. 39.38 (1.00)	35.44 (0.90)	39.4 (100)	39.4 (100)
<b>POWER PACKS</b>					
Model Number	PP3000	PP3000	PP4000	PP4500	PP4500
Engine Manufacturer	Kubota	Kubota	Kubota	Kubota	Kubota
Cooling System	Water cooled	Water cooled	Water cooled	Water cooled	Water cooled
Engine – HP (kw)	21.5 (16)	21.5 (16)	73 (54.4) @ 2,300 RPM	73 (54.4) @ 2,300 RPM	73 (54.4) @ 2,300 RPM
Pump Flow – gpm (L/min)	26 (118)@3,000 RPM	26 (118)@3,000 RPM	45.5 (207) @ 2,300 RPM	45.5 (207) @ 2,300 RPM	45.5 (207) @ 2,300 RPM
Hyd. Pressure Max – psi (bar)	3,000 (207)	3,000 (207)	4,060 (280)	4,500 (310)	4,500 (310)
Rig Size L/W/H – in(m)	52.3/23.5/41.5 (1.33/0.60/1.05)	52.3/23.5/41.5 (1.33/0.60/1.05)	82.5/56.0/64.5 (2.10/1.42/1.64)	82.5/56.0/64.5 (2.10/1.42/1.64)	82.5/56.0/64.5 (2.10/1.42/1.64)
Weight – lb (kg)	690 (313)	690 (313)	3,200 (1,451)	3,300 (1,497)	3,300 (1,497)

\*Specification(s) do not include any optional accessories. \*\*Maximum height when vertical stabilizers are fully extended. \*\*\*Shuttle speeds: no load, approximately 1 meter of rod. †Minimum pit depth as indicated is below host pipe center line.

## BUYING OR RENTING, CALL US FOR A QUOTE TODAY. PREPARE TO BE IMPRESSED.

When you rent bursting and ramming equipment, the cost of freight to your jobsite can be a large expense of the equipment rental. HammerHead has rental locations throughout North America putting the equipment you need closer to your job site. Reduce the freight...reduce your cost of renting!

## CALL 800.331.6653 FOR A FREE PROJECT CONSULTATION TODAY.

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