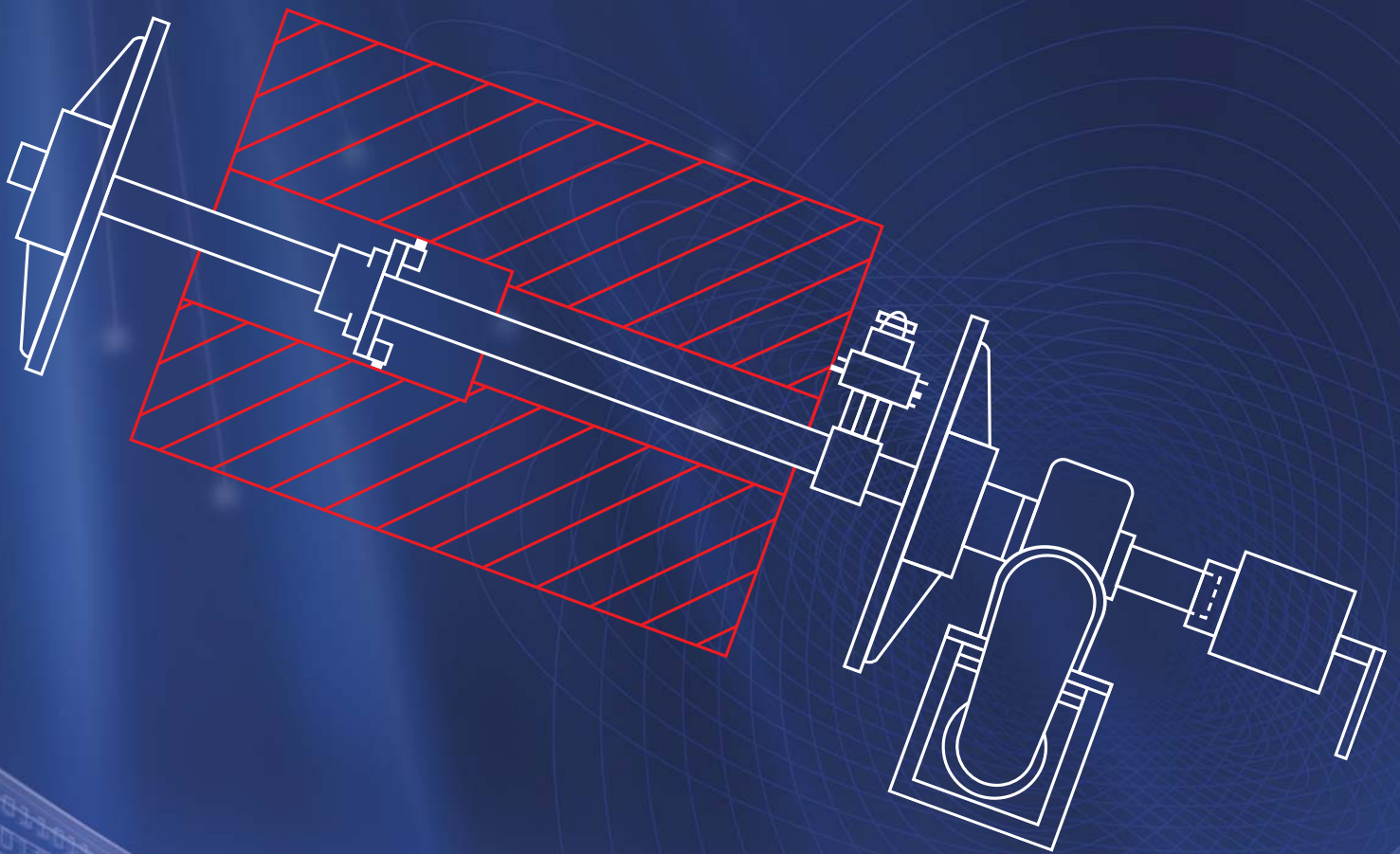


# B<sup>◎</sup>REMaster

PORTABLE LINE BORING TOOLS



**hydratight**

# Who we are

## One Company, Total Support, Complete Solutions

Over many years Hydratight has provided world class bolted joint solutions and continues to set international standards in joint integrity for our customers on a global scale.

### One Company

Hydratight works in partnership with the world's leading OEMs using the latest computer technology and market leading development facilities. We continue to push back the boundaries of technology to provide fast, accurate and reliable solutions to critical assembly problems.

Our people are the key to our success – Hydratight's staff is qualified, competent, innovative and able to work closely with customers to ensure a total understanding of their requirements.

### One Company - Total Support

Totally committed to safety and quality, all Hydratight products and services are designed, manufactured and carried out within a management system in accordance with ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety)

### One Company - Total Support - Complete Solutions

Hydratight's extensive bolting and machining services include:

- Torque and tension in-situ bolting equipment
- On-site portable machining equipment
- Product sales, rental and technical support
- Product service and training
- Custom design and tool production

### Our Machining Brand

Hydratight's DL Ricci brand of portable machining solutions serves many industries, with a primary focus in the power generation field. Hydratight is an OEM that offers these patented tools through sales, rental or with on-site technical support as well as custom fabrication. Hydratight's DL Ricci machining line-up includes tools that cut and bevel pipe, machine shafts, bore, grind, mill, face end-prep, heat-treat and more. Hydratight offers facilities around the globe, with 24/7 access to these portable machining solutions.



## Engineering Driven Safety Focused Solutions



INVESTOR IN PEOPLE

# DL Ricci BOREMaster

For over 90 years BOREMaster portable line boring equipment has provided the shipbuilding, power generation, mining and off-road equipment industries with technically advanced solutions to their line boring requirements. The DL Ricci BOREMaster range of machines represents the most advanced technology for on-site boring capability, incorporating leading engineering and cutting edge features for safe, reliable and accurate cutting.

The BOREMaster's rigid design and accuracy has earned it the reputation for excellence on both large and small boring applications.

The BOREMaster series is comprised of eight machines that cover an impressive 1.5" – 96" (38mm – 2438mm) diameter boring range standard, with up to 155" (3937mm) optional.

The range includes both push-pull and screw driven feed types. These two styles cover an expanded range of on-site boring applications including mining and construction equipment, turbine machinery, hydroelectric power and ship building.

## BOREMaster Rigid Feed Screw Machines

The BOREMaster rigid feed screw driven portable line boring machines are capable of boring from 4" – 96" (102mm – 2438 mm) in diameter and with bar lengths of up to 26ft (7.9 meters). Custom boring/facing heads are available up to 155" (3937mm) diameter and a unique coupling arrangement is available for easy extension, to meet special length requirements. This proven design allows the support bearings to be securely attached to the boring bar, providing a rigid, vibration-free set-up.

### BOREMaster 8200

The 8200 system enables large work pieces to be line bored on-site with unprecedented accuracy, versatility, productivity and operator safety.

### BOREMaster 2500

The unique design of the 2500 model provides quick set-up and precision control by incorporating the axial feed and bar rotation in a single gear box.

## BOREMaster Push-Pull Machines

The BOREMaster push-pull machines are capable of on-site repair from 1.5" – 9" (38mm – 229mm) in diameter, with custom extended heads reaching to 16" (406mm). They are rugged, compact, easy to use and affordable.

Their rigid and operator friendly design enables an inexperienced operator to machine a smooth, accurate bore with the same precision as an experienced veteran.

### BOREMaster 2000P

A cost effective, lightweight and versatile tool for line and blind boring. Optional bore welding system and facing heads are available.

### BOREMaster 1250PM

The affordable BOREMaster 1250PM's compact and rugged design is capable of repairing bores from 1.5" – 6" (38mm – 152mm) in diameter with unprecedented ease.



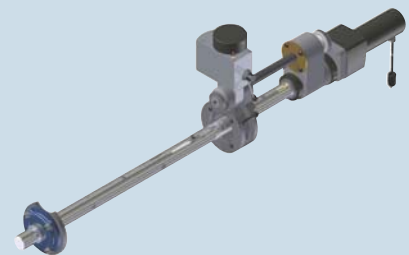
## BOREMaster 8200

Bores 6" – 155" (152mm – 3937mm)



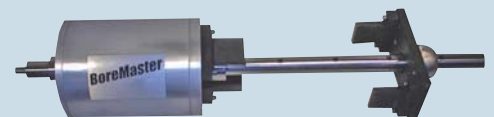
## BOREMaster 2500

Bores 4" – 96" (102mm – 2438mm)



## BOREMaster 2000P

Bores 1.5" – 9" (38mm – 229mm)



## BOREMaster 1250PM

Bores 1.5" – 6" (38mm – 152mm)

# BOREMaster 8200

The BOREMaster 8200 system enables large work pieces to be line bored on-site with unprecedented accuracy and versatility to maximize productivity and operator safety.



8204 Electric Drive Assembly



Two-Axis Position Control



Modular Boring Head



Custom Designs

The BOREMaster 8200 series is the largest of the Hydratight DL Ricci portable line boring machines. Its advanced technology, rigid design and operator friendly controls make it ideal for precision machining steam turbines, hydro turbines, boiler feed pumps, wicket gate rudder posts, large mining equipment and many other on-site boring applications.

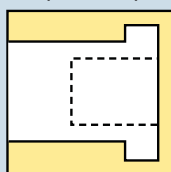
Five standard models are available to finish bores from 4" – 96" (101mm – 2438mm) in diameter. Boring bars are available in lengths up to 26ft (7.9 metres). A unique coupling arrangement is available for easy extension to meet special length requirements.

The BOREMaster 8200 line boring range is available with manual or two-axis programmable position controls. These user friendly controls enable the BOREMaster to accurately machine straight, tapered and spherical bores as well as face in a single set-up. Programs are menu-driven, requiring only simple keypad entry of machining parameters without requiring any programming experience.

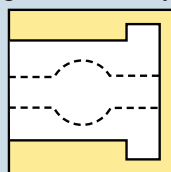
The BOREMaster components are engineered for durability and operator safety. Each component contributes its unique advantages to enhance the smooth operation of the complete boring system.

## Features & Benefits

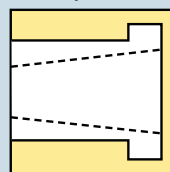
- Electric or hydraulic drives provide variable speed and constant cutting torque throughout the entire speed range
- Self-aligning bearings – secures to the boring bar with split tapered sleeves for vibration free cutting
- Modular boring head provides flexibility and rapid setup
- Electronic axial feed improves quality and productivity by providing rapid tool positioning and on-the-fly feed rate adjustments



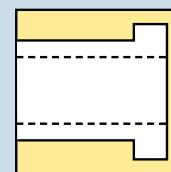
Blind Boring



Spherical Boring



Taper Boring

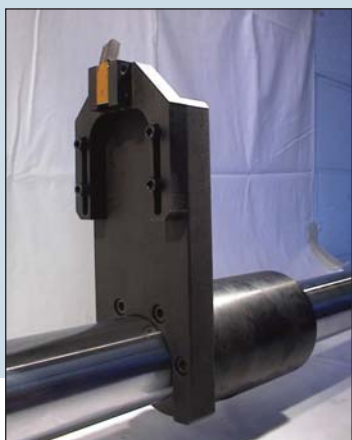


Straight Boring

| Model | Unit   | Bar Dia. | Max Bar Length | Electric Drive | Boring Range |          | RPM |     | Cutting Torque | Axial Feed Rate IPM |         |
|-------|--------|----------|----------------|----------------|--------------|----------|-----|-----|----------------|---------------------|---------|
|       |        |          |                |                | Min          | Max      | Min | Max |                | Feed                | Rapid   |
| 8204  | Std    | 4"       | 20ft           | 7.5Hp          | 6"           | 40"      | 7   | 70  | 563ft-lb       | 0-1.5"              | 20"     |
|       | Metric | 101.6mm  | 6.1m           | 5.59Kw         | 152.4mm      | 1016mm   | 7   | 70  | 763.3Nm        | 0-38.1mm            | 508mm   |
| 8206  | Std    | 6"       | 24ft           | 10Hp           | 9"           | 48"      | 10  | 58  | 900ft-lb       | 0-1.5"              | 20"     |
|       | Metric | 152.4mm  | 7.32m          | 7.46Kw         | 228.6mm      | 1219.2mm | 10  | 58  | 1220.2Nm       | 0-38.1mm            | 508mm   |
| 8208  | Std    | 8"       | 24ft           | 15Hp           | 12"          | 64"      | 3   | 30  | 2100ft-lb      | 0-1.5"              | 12"     |
|       | Metric | 203.2mm  | 7.32m          | 11.19Kw        | 304.8mm      | 1625.6mm | 3   | 30  | 2847.2Nm       | 0-38.1mm            | 304.8mm |
| 8210  | Std    | 10"      | 24ft           | 20Hp           | 15"          | 80"      | 2.4 | 24  | 3500ft-lb      | 0-1.5"              | 12"     |
|       | Metric | 254mm    | 7.32m          | 14.91Kw        | 381mm        | 2032mm   | 2.4 | 24  | 4745.4Nm       | 0-38.1mm            | 304.8mm |
| 8212  | Std    | 12"      | 20ft           | 25Hp           | 18"          | 96"      | 2   | 20  | 5250ft-lb      | 0-1.5"              | 12"     |
|       | Metric | 304.8mm  | 6.1m           | 18.64Kw        | 457.2mm      | 2438.4mm | 2   | 20  | 7118Nm         | 0-38.1mm            | 304.8mm |

# BOREMaster 2500

The BOREMaster 2500 is a versatile, portable line boring system. Despite its compact size the BOREMaster 2500 is a real work horse. Its rigid design provides smooth, accurate bores from 4" – 26" (101mm – 660mm) in diameter with unprecedented ease.

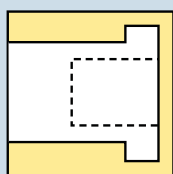


The 2500 model utilizes a rigid, feed screw design to feed the cutting tool along the boring bar. This proven design allows the support bearings to be securely attached to the boring bar, ensuring a vibration-free set up. This method of feeding allows for long accurate bores to be machined onsite in a single set-up, with more stability and accuracy than less rigid push-pull boring systems.

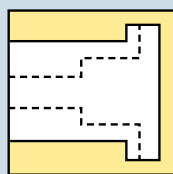
Since every line-boring job is different, the BOREMaster 2500 includes a modular designed boring head which has the flexibility to fit any boring application from 4" – 26" (101mm – 660mm) in diameter. For even greater versatility, the cutting tool can be positioned on either end of the boring hub.

## Features & Benefits

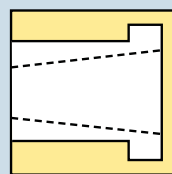
- Rigid bar assembly – reduces vibration and improves cut quality
- 2.5" (64mm) diameter chrome plated boring bar – provides stable, accurate bores
- Easy to set up – fewer attachments and simplified adjustments
- Rigid feed screw design - long bores on each set-up
- Fits into tight spaces – the cutting head travels, not the bar
- Axial cam feed – improved surface finish
- On-the-fly feed and speed changes – reduces down time by extending the life of the cutting tool
- Hydraulic and electric drive options
- Optional facing head
- Optional taper boring head



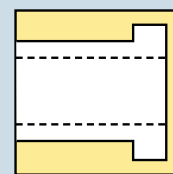
Blind Boring



Facing and Boring



Taper Boring

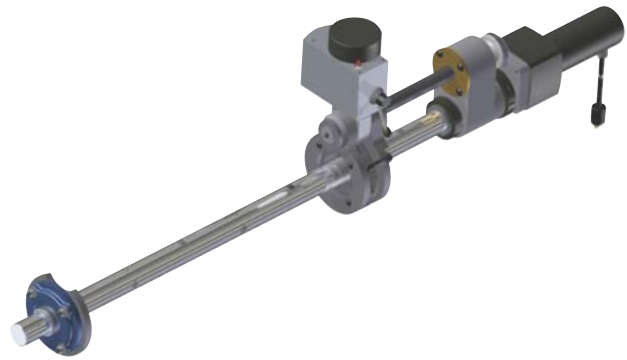


Straight Boring

| 2500                  |     | Unit Measurement |              |
|-----------------------|-----|------------------|--------------|
|                       |     | Std              | Metric       |
| Bar Length            | Min | 48"              | 1219.2mm     |
|                       | Max | 144"             | 3657.6mm     |
| Bore Diameter         | Min | 4"               | 101.6mm      |
|                       | Max | 26"              | 660.4mm      |
| Bar Diameter          |     | 2.5"             | 63.5mm       |
| Feed Rate             |     | 0-0.013in/rev    | 0-0.33mm/rev |
| Bar Speed (hydraulic) |     | 32-120rpm        | 32-120rpm    |
| Cutting Torque        |     | 116.7ft-lb       | 158.2Nm      |

# BOREMaster 2000P

A cost effective, lightweight and versatile tool for line and blind boring. An optional bore welding system and facing heads are available.

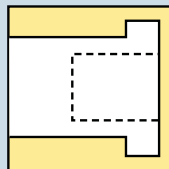


The BOREMaster 2000P boring bar offers a cost effective boring tool for line and blind boring and facing applications. This lightweight and low maintenance tool offers machining versatility in an economical and easy to use package. Rugged and powerful, for a variety of on-site machining applications, this portable boring bar features set-up cones for speed and accuracy in set-up.

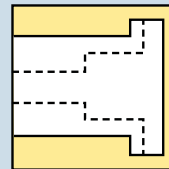
Applications for the 2000P boring bar include: line boring, facing and trepanning on valve bodies, loaders, excavators, bulldozers, crushers, pavers, paper mills and pump repair.

### Features & Benefits

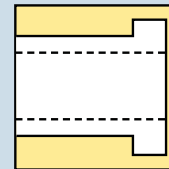
- Quick tooling set-up and precision boring makes the 2000P model the boring bar of choice for a variety of applications
- Our modular design allows the drive unit and alignment mounts to attach almost anywhere
- Electric motors provide smooth, trouble free cutting
- Optional 4ft (1.2m), 6ft (1.8m) or 8ft (2.4m) bar lengths
- The entire bar slides within the mounting system
- Optional radial facing head attachment available



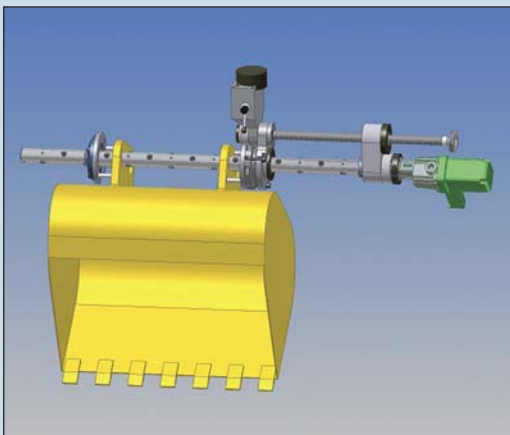
Blind Boring



Facing and Boring



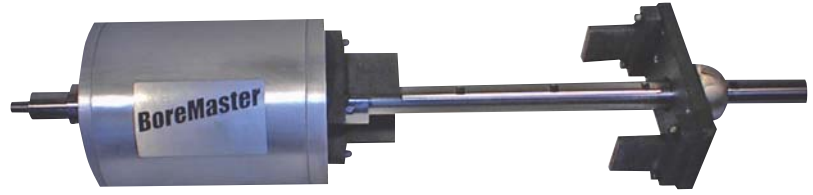
Straight Boring



| 2000P          |     | Unit Measurement |             |
|----------------|-----|------------------|-------------|
|                |     | Std              | Metric      |
| Bar Length     | Min | 48"              | 1219.2mm    |
|                | Max | 96"              | 2438.4mm    |
| Bore Diameter  | Min | 2.06"            | 52.3mm      |
|                | Max | 16"              | 406.4mm     |
| Bar Diameter   |     | 2"               | 50.8mm      |
| Axial Stroke   |     | 8.5"             | 215.9mm     |
| Feed Rate      |     | 0-13in/min       | 0-330mm/min |
| Bar Speed      |     | 0-230rpm         | 0-230rpm    |
| Cutting Torque |     | 6-18ft-lb        | 8.13-24.4Nm |

# BOREMaster 1250PM

The affordable BOREMaster 1250PM's compact and rugged design is capable of repairing bores from 1.5" – 6" (38mm – 152mm) in diameter with unprecedented ease.



Step 1: Center the boring bar



Step 2: Secure to the work



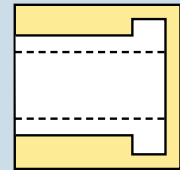
Step 3: Attach the drill and start boring

At the heart of the 1250PM is the unique automatic axial feed and micrometer adjustable tooling. The automatic feed enables operators across a range of skill levels to machine smooth and accurate bores with exceptional precision. The axial feed assembly automatically feeds the boring bar a fixed 0.0025" (0.0635mm) per bar revolution, so you never have to worry about overfeeding.

The optional micrometer adjustable tool setter allows the depth of cut to be set to within 0.0005" (0.0127mm). Easy to use functionality is not the only strength of the 1250PM - it also boasts a lightweight design, making it highly portable.

### Features & Benefits

- It is the lightest, most compact unit on the market
- Performs conventional line boring and stub boring
- Easy to set-up – micrometer adjustable tooling
- Diameters from 1.5" – 6" (38mm – 152mm)
- Fixed feed rate of 0.0025" (0.0635mm) per revolution



Straight Boring

### OPTIONS:

4" – 6" (102mm – 152mm)  
Diameter Boring Head



Provides smooth, accurate bores over 4" (102mm) in diameter

Micrometer Adjustable Tooling



Accurately sets the depth of cut

| 1250PM                    |     | Unit of Measurement |              |
|---------------------------|-----|---------------------|--------------|
|                           |     | Std                 | Metric       |
| Bar Length                | Min | 48"                 | 1219.2mm     |
|                           | Max | 96"                 | 2438.4mm     |
| Bore Diameter             | Min | 1.5"                | 38.1mm       |
|                           | Max | 6"                  | 152.4mm      |
| Bar Diameter              |     | 1.25"               | 31.75mm      |
| Axial Stroke              |     | 2"                  | 50.8mm       |
| Feed Rate                 |     | 0.0025in/rev        | 0.0635mm/rev |
| Bar Speed*                |     | 200rpm              | 200rpm       |
| Tool Spacing              |     | 4"                  | 101.6mm      |
| Cutting Torque (@200rpm)* |     | 30ft-lb             | 40.7Nm       |

# hydratight®

*Global Standards Local Delivery*

Our global network means you can rely on the right people, products and services wherever you are in the world.

Email us at: [solutions@hydratight.com](mailto:solutions@hydratight.com)

Or find your local representative at:

[hydratight.com/contact](http://hydratight.com/contact)

