

hydratight

Portable Boring Bars



Because ensuring a leak-free solution is critical. It has to be Hydratight.

For more than 100 years, Hydratight has provided world-class bolted joint solutions, assessing and managing joints to ensure leak-free start-ups. Today, we continue to set international standards in joint integrity—but we're so much more than just a bolting and on-site machining company.

Because even the tiniest leak can be costly and time consuming to repair, we manage every joint on a project for leak-free start-ups and production, which in turn removes the threat of environmental impact caused by unsafe joints. Safety continues to be the most important aspect of our business. We are a global organisation making a real difference to the industries and communities we work in, committed to improving safety, operational efficiency and uptime.

Because you require the support of an innovative partner committed to your success, we not only offer unrivalled service on a global scale, including customer training and software development; but also design and manufacture quality tools and equipment for bolted joint solutions to the highest standards. Our certified teams are dedicated to working closely with you, assessing and managing every joint on your project to prevent leaks from ever occurring, year in, year out.

Because you value safety and reliability, we work to ISO 9001, ISO 14001 and OHSAS 18001 standards in everything we produce, from manufacturing torque and tension bolting equipment to mechanical connectors, from in-situ service to creating custom solutions in line with client specifications.

It means that whenever you need a complete joint integrity solution, whichever industry sector you're in, you can rely on us to get it 100% right first time, every time. **This is why it has to be Hydratight.**



Engineering Driven Safety Focused Solutions



Hydratight Portable Boring Bars

For over 90 years Hydratight's portable line boring equipment has provided the power generation, mining and off-road equipment industries with technically advanced solutions to their line boring requirements. Hydratight's 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 rigid design and accuracy of Hydratight's boring bar line has earned it the reputation for excellence on both large and small boring applications.

Our line is comprised of two machines that cover an impressive 38 mm–1625.6 mm (1.5"–64") diameter boring range standard, with up to 2438 mm (96") 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.

Rigid Feed Screw Machine – 8200 Boring Bar System

The 8200 rigid feed screw driven portable line boring system is capable of boring from 152.4 mm–1625.6 mm (6"–64") in diameter and with bar lengths of up to 7.3 m (24'). Custom boring/facing heads are available up to 2438 mm (96") 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.

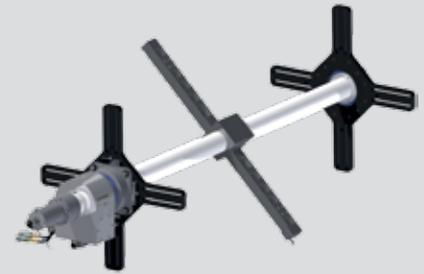
The 8200 System enables large work pieces to be line bored on-site with unprecedented accuracy, versatility, productivity and operator safety.

Pull-Pull Machine – 2250P Boring Bar

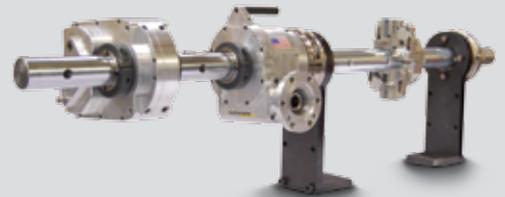
The 2250P push-pull boring bar machine is capable of on-site repair from 38.1 mm–609.6 mm (1.5"–24") in diameter. It is rugged, compact, easy to use and affordable.

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

The 2250P is a cost effective, lightweight and versatile tool for line and blind boring. Optional bore welding system and facing heads are available.



8200 Boring Bar System
Bores 152 mm–1625.6 mm (6"–64")
Optional max: 2438 mm (96")



2250P Boring Bar
Bores 63.5 mm–609.6 mm (2.5"–24")
Optional min: 38 mm (1.5")

8200 Boring Bar System

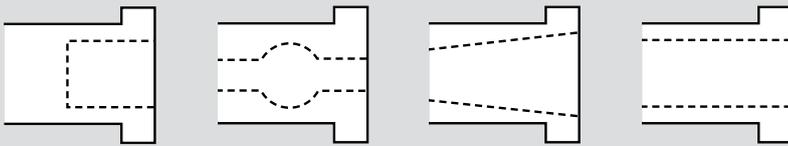
The 8200 Boring Bar System enables large work pieces to be line bored on-site with unprecedented accuracy and versatility to maximise productivity and operator safety. No other portable line boring system can match the 8200 Boring Bar for smooth boring, accurate alignment, easy set-up and large diameter capacities.

The 8200 Boring Bar System is the largest of the Hydratight 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. The system can be configured horizontally, vertically or inclined within a work piece and fits conveniently in limited space.

Three standard models are available to finish bores from 152 mm–1,625.6 mm (6"–64") in diameter. Boring bars are available in lengths up to 7.3 m (24'). A unique coupling arrangement is available for easy extension to meet special length requirements.

The drive assembly and main bearings slide onto the boring bar and are easily fixed at any point on the bar. The boring heads are split for easy installation and removal, and the facing arm may be substituted for smooth, accurate facing operations without further modifications to the overall system.

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



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"	20'	7.5 HP	6"	40"	7	70	563 ft-lb	0–1.5"	20"
	Metric	101.6 mm	6.1 m	5.59 kW	152.4 mm	1016 mm	7	70	763.3 Nm	0–38.1 mm	508 mm
8206	Std	6"	24'	10 HP	9"	48"	10	58	900 ft-lb	0–1.5"	20"
	Metric	152.4 mm	7.32 m	7.46 kW	228.6 mm	1219.2 mm	10	58	1220.2 Nm	0–38.1 mm	508 mm
8208	Std	8"	24'	15 HP	12"	64"	3	30	2100 ft-lb	0–1.5"	12"
	Metric	203.2 mm	7.32 m	11.19 kW	304.8 mm	1625.6 mm	3	30	2847.2 Nm	0–38.1 mm	304.8 mm



The Boring Bar 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 secure 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
- One-piece precision bar hardened to 50–55 Rockwell C
- 3-axis CNC control



Rotational drive and axial feed assemblies



Dual arm bearing support



Intermediate bearing support

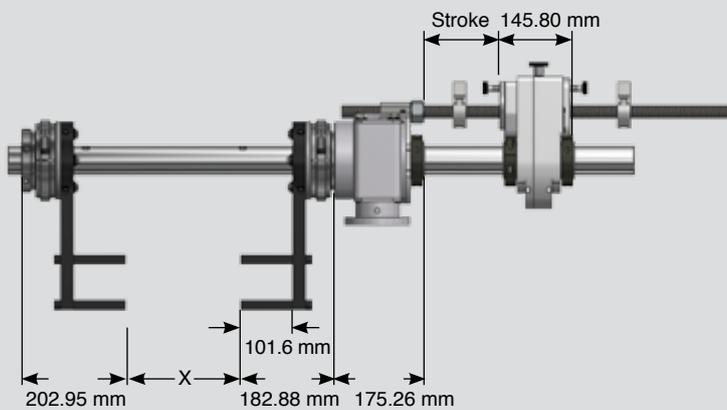
2250P Boring Bar

Designed specifically for covering a range from 63.5 mm–609.6 mm (2.5"–24") diameter, in lengths up to 3.66 m (12'), the 2250P Boring Bar strengthens an already significant offering of Hydratight boring bar solutions.

Many of the design elements of this Boring Bar have been pulled from the larger capacity, field-proven 8200 series of machines. A key area of this design transfer is the rotational drive unit. This assembly uses a 5:1 double enveloping worm gear which provides 25% more cutting torque than any other boring bar within its class. This robust assembly has hydraulic, pneumatic and electric drive options allowing the 2250P to be configured to meet most any boring/facing application.

Features

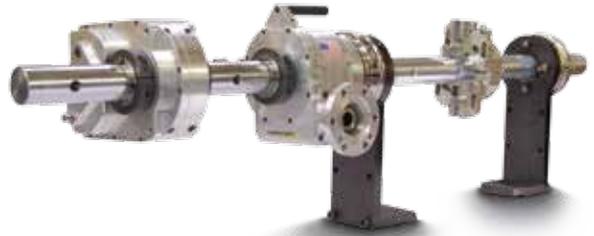
- Rotational drive unit using a 5:1 double enveloping worm gear which provides 25% more cutting torque than any other boring bar within its class.
- Available with bar lengths from 1.22 m–3.66 m (4'–12') with 12.7 mm (1/2") broached tooling holes every 152.4 mm (6").
- Multiple end mount options available. Each support is fitted with a spherical bearing which allows for up to 5° of bar alignment and up to 6.35 mm (0.25") of radial adjustment.
- Axial feed, rotational drive, boring heads and facing/grooving head assemblies can be mounted at any point along the bar.



Bar length calculation: 706.88 mm + desired stroke + work dimension (x) = necessary bar length

Boring Bar		Std - in	Metric - mm
Bar Diameter	Standard	2.25	57.15
	Optional	1.25 & 1.75	31.75 & 44.45
Bar Length	Min	48	1219.2
	Max	144	3657.6
Tool Spacing		6	152.4
Cutting Tool	Standard	0.5	12.7
	Optional	0.38	9.53

Axial Stroke		Std - in	Metric - mm
Standard		12.0	304.8
Optional		24.0 & 36.0	609.6 & 914.4
Feed Rate		0–0.019/rev	0–0.0483/rev



Optional Accessories

- Additional heads are available which provide a range from 114.3 mm–609.6 mm (4.5"–24") diameter; and are equipped with a fine radial adjustment allowing for quick and accurate setting of tool position.
- An optional facing/grooving head is available which covers a range from 57.2 mm–533.4 mm (2.25"–21") diameter. The cutter head is advanced using a cam tripper which actuates the cutter over an increased surface range.
- Universal bearing supports increase range of mounting options in tight spaces.
- Intermediate supports are available to assure a ridged set-up. Supports are available in two sizes covering a range of 147.3 mm (5.8") up to 660.4 mm (26").
- A bore welding system capable of covering the entire 2250P machining range is also available.
- Centring cones quickly align the bar and bore.

Machining Range		Std - in	Metric - mm
Boring Heads 2.25" Bar	Bar Mount	2.5–5.0	63.5–127.0
	Small	4.5–8.0	114.3–203.2
	Medium	6.38–12.5	162.1–317.5
	Large	10.0–24.0	254.0–609.6
Boring Heads 1.75" Bar	Bar Mount	2.0–4.5	50.8–114.3
	Boring Head	4.5–10.0	114.3–254.0
Boring Heads 1.25" Bar	Bar Mount	1.5–4.0	38.1–101.6
	Boring Head	4.0–8.5	101.6–215.9
Facing/Grooving		2.5–21.0	63.5–533.4
Swing Dia.		19.1	485.14
Feed Rate		0–0.024/rev	0–0.61/rev

Intermediate Supports		Std - in	Metric - mm
Large Support	Min	8.0	203.2
	Max	26.0	660.4
Small Support	Min	5.75	146.1
	Max	12.5	317.5

Universal Bearing Support		Std - in	Metric - mm
Mounting Range	Min	3.1	79.4
	Max	10.0	254.0
Slot Adjustment		2.0	50.8

Alignment Cones		Std - in	Metric - mm
Standard	Small	2.5–9.0	63.5–228.6
	Large	6.0–12.0	152.4–304.8
Optional	1-3/4 Bar	2.0–8.0	50.8–203.2
	1-1/4 Bar	1.5–7.0	34.93–127.0



Boring heads



Facing heads



Alignment cones



Intermediate supports

hydratight®

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

Email us at: solutions@hydratight.com
Or find your local representative at:
hydratight.com/contact

Hydratight provides support through strategic service centres, and in additional locations worldwide through channel partners.

