

LEADING THE
WAY IN
HORIZONTAL
DIRECTIONAL
DRILLING
PRODUCTS

CENTURY
PRODUCTS, INC.



A REVOLUTIONARY DESIGN

Century Products takes you beyond the rock with a revolutionary design in Hole Openers. A precision-machined solid body is welded to a hardened shaft. Arm and cone assemblies are machined from solid aircraft quality steel heat-treated to an extreme 50 HRC hardness. They are then lowered into place and welded for superior strength. It is this revolutionary design that enables the replacement of arms and cones for continued use.

*The LARGEST
and LONGEST
river crossing
accomplishment in
North America used
Century Products'
Hole Openers.*



IN HOLE OPENERS...

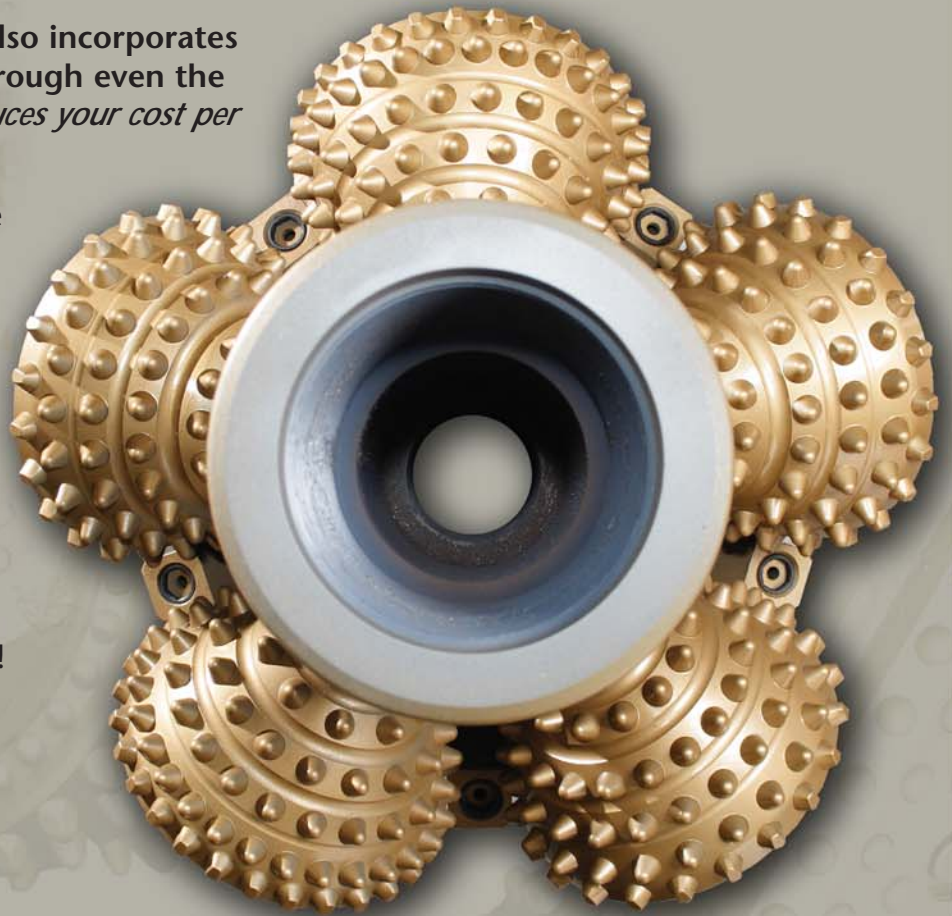
This revolutionary design, which also incorporates larger cones and bearings, cuts through even the toughest conditions – *and still reduces your cost per foot when drilling rock.*

The design features not only provide greater cutting action with larger carbide inserts, but also:

- Eliminate the need for extra reaming passes with larger cones.
- Extend the bearing and seal life with reduced cone revolutions.
- Allow increased load capacities due to larger bearings.

Hole Openers – taken to a new level!

Available in a wide range of sizes to meet your most demanding needs!



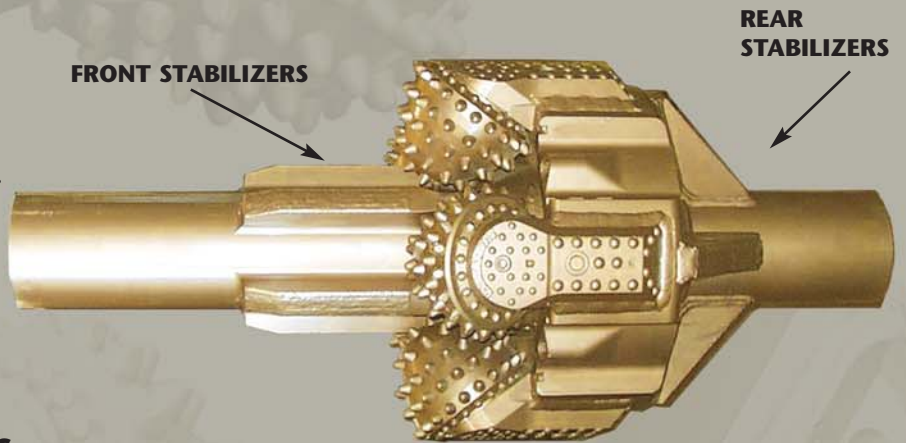
Sizes & Specs

Size (Inches/mm)	Min. Pilot Size/ First Ream (Inches/mm)	Number of Cones Per Hole Opener	Typical Cone Size
26 660	10-5/8 270	5	16
27 686	12-1/4 311	5	16
28 711	12-1/4 311	5	16
30 762	12-1/4 311	5	22/16
34 863	14-3/4 374	5/6	22/16
36 914	17-1/2 444	5/6	22/16
42 1067	26 660	5/6	26/22
48 1219	32 813	6/7	26/22
54 1371	38 965	6/8	26/22
62 1575	46 1168	6/8	26/22

FEATURES & OPTIONS

STABILIZERS

Front stabilizers may be added to facilitate centering the hole opener in the bore hole. Rear stabilizers are **standard** for increased strength and easy removal of unit from the bore hole. Hard facing is **standard** on all stabilizers.

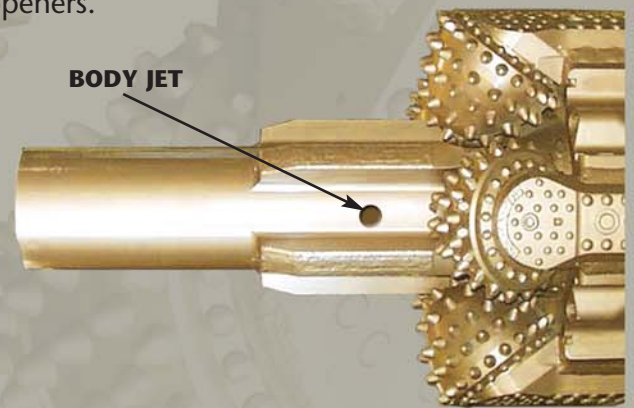


JETS



JETS

Along with the standard jets found in between each arm assembly, jets may be incorporated either ahead or behind the body. This body jet enhances the hole cleaning ability at the face or assists cutting removal in the rear. Jet sizes are available from 7–30 (32nds). All jets are made of carbide material, **standard** on our hole openers.



CUTTER CONFIGURATIONS

TCI (Tungsten Carbide Inserts) are available in C-2 through C-9.

THREAD SIZES

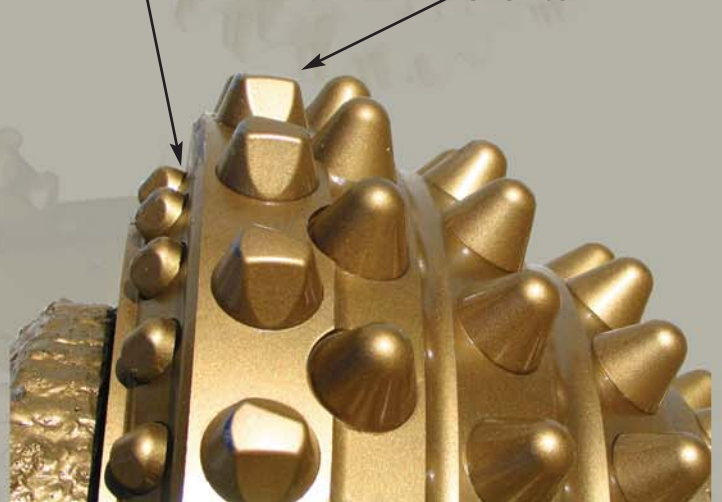
All available box X box or box X pin.

GAGE PROTECTION

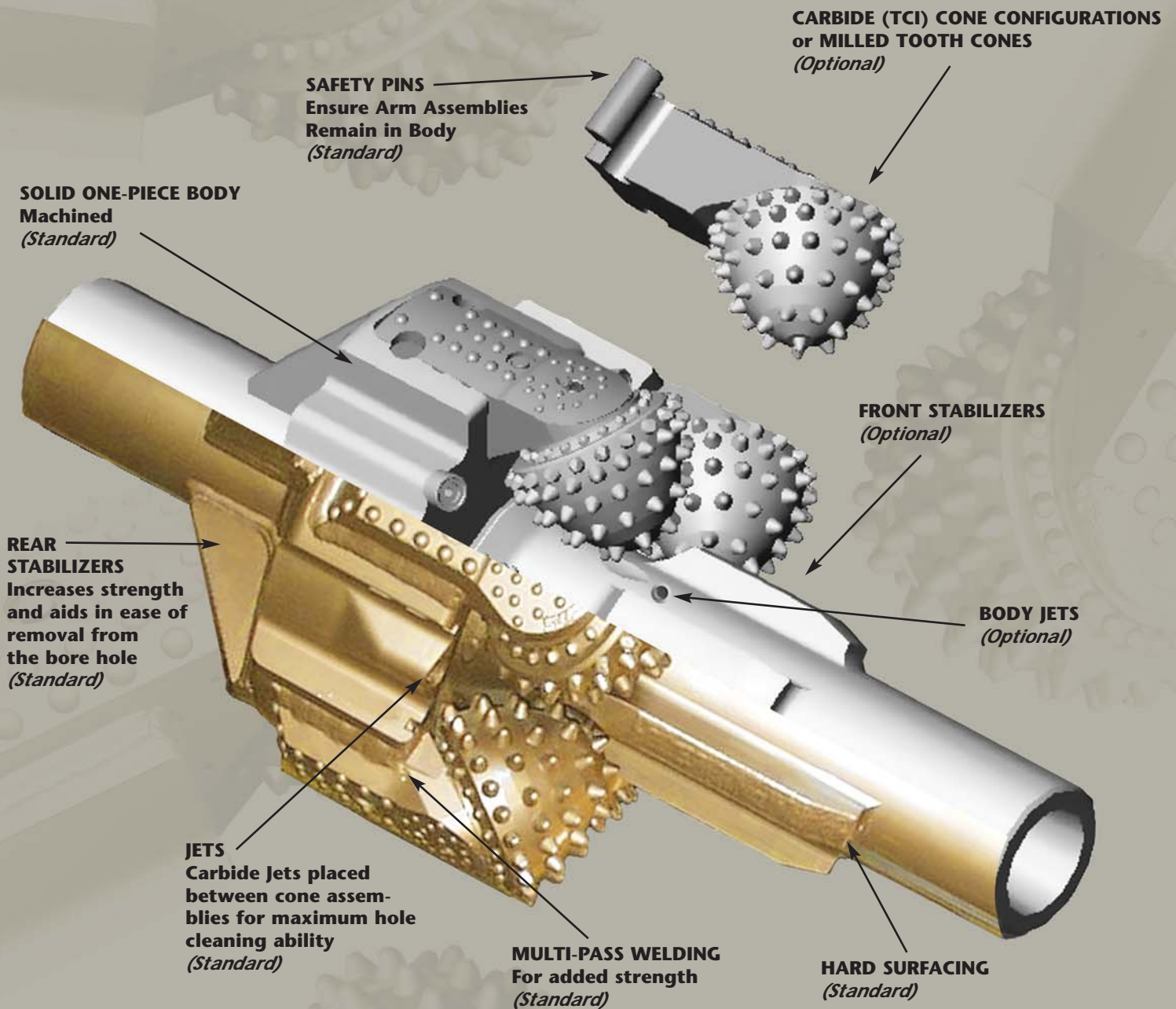
Our gage protection has double the number of tungsten carbide inserts that actively cut the gage diameter. In directional drilling applications, accelerated gage wear and side loads can significantly affect both seals and bearing life. Gage protection is **standard** on all our hole openers.

GAGE PROTECTION

GAGE ROW



ENGINEERED DRAWING



HIGH-SPEED ROLLER BEARING SYSTEM

Century Products utilizes a high-energy roller bearing system in Hole Openers 26 inches and larger. Dual silver-plated floating thrust bearings are utilized to reduce the coefficient of friction and dissipate heat under high rotary loads. The roller bearings are machined with extremely close tolerance and matched at assembly.

COMPENSATION SYSTEM

Each Hole Opener bit comes equipped with a sealed, self compensating lubrication system. This durable and reliable cap-vented design employs only one seal, caged on three sides by steel, and is compressed upon installation. This results in a positive, three-sided singular seal. The rubber diaphragm has a tensile strength of 3,000 P.S.I. and 575% elongation. This superior material ensures constant equalization under the most demanding downhole conditions.

FLY CUTTERS

Fly Cutter Openers

Engineered for maximum performance with Century's exclusive "Cutter Block" design.

Features–

- Sizes from 20" (508mm) to 72" (1829mm).
- Heavy 2" thick front cutter ring.
- Replaceable nozzle posts.

All with our double row of cutting teeth for exceptional penetration rates.



Our patent pending Cutter Blocks are machined from solid, abrasion resistant steel. A pre-cut gusset slot with optimal angle and double row of teeth increases penetration rates. Superior strength is obtained from the single, solid bar design.

Replacement Cutter Blocks

Century's Cutter Blocks can be used on new or existing hole openers!



The NEW Cutter Block Design–

- Available in custom cut lengths.
- Reduces replacement costs of individual blocks and teeth to a single bar.
- Allows for customer replacement of Cutter Block in the field with 100% accuracy of teeth angle.

These features all result in significant cost savings!



SWIVELS & TRI-CONE™ BITS

*For Horizontal Directional Drillings
Most Demanding Jobs...*

CENTURY PRODUCTS DELIVERS!

Maxi Swivels

When reliability is the only option, our Gold Standard Swivels deliver!

With our proprietary double sealing system, machined from solid 4145 pre-hardened steel, our swivels feature—

- The ability to be power greased to expel degraded grease.
- Clevis ears twice as thick as the competitions.
- Capacities up to 1.5 million pounds.

Tri-Cone™ Bits

No jobs too tough for Century's Tri-Cone™ Bits. Whether you are in the need for tougher carbide inserts or soft milled tooth configurations, we can deliver just the right Tri-Cone™ Bit to enhance your drilling operation.

Our affiliations with the largest producers of Tri-Cone™ Bits allows us the ability to provide the perfect bit for any formation you encounter.



CORPORATE PHILOSOPHY

Three key components have been
the driving force of Our Corporate Philosophy:

Quality, Service and Integrity

Century Products will provide the highest Quality
products available through superior Customer Service,
with our promise of satisfaction – Guaranteed!

The utmost level of Integrity will be the forefront of
every business relationship we establish.

Quality, Service, Integrity–
The Key Components of Our Success
and Your Satisfaction.



CENTURY
PRODUCTS, INC.

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Since our beginning in
1982, Century Products
has evolved into a full-
service provider of HDD
tools and drilling fluids.

Moving forward in the
industry, Century Products
embarked on a plan to
provide a revolutionary
design in Hole Openers.
Century Products is proud
to have revolutionized the
rock-reaming world with
the strongest and most
technologically advanced
Hole Opener to date. This
new concept epitomizes
the very best in material,
workmanship and
engineering.

You can count on
Century Products to take
you beyond the rock!