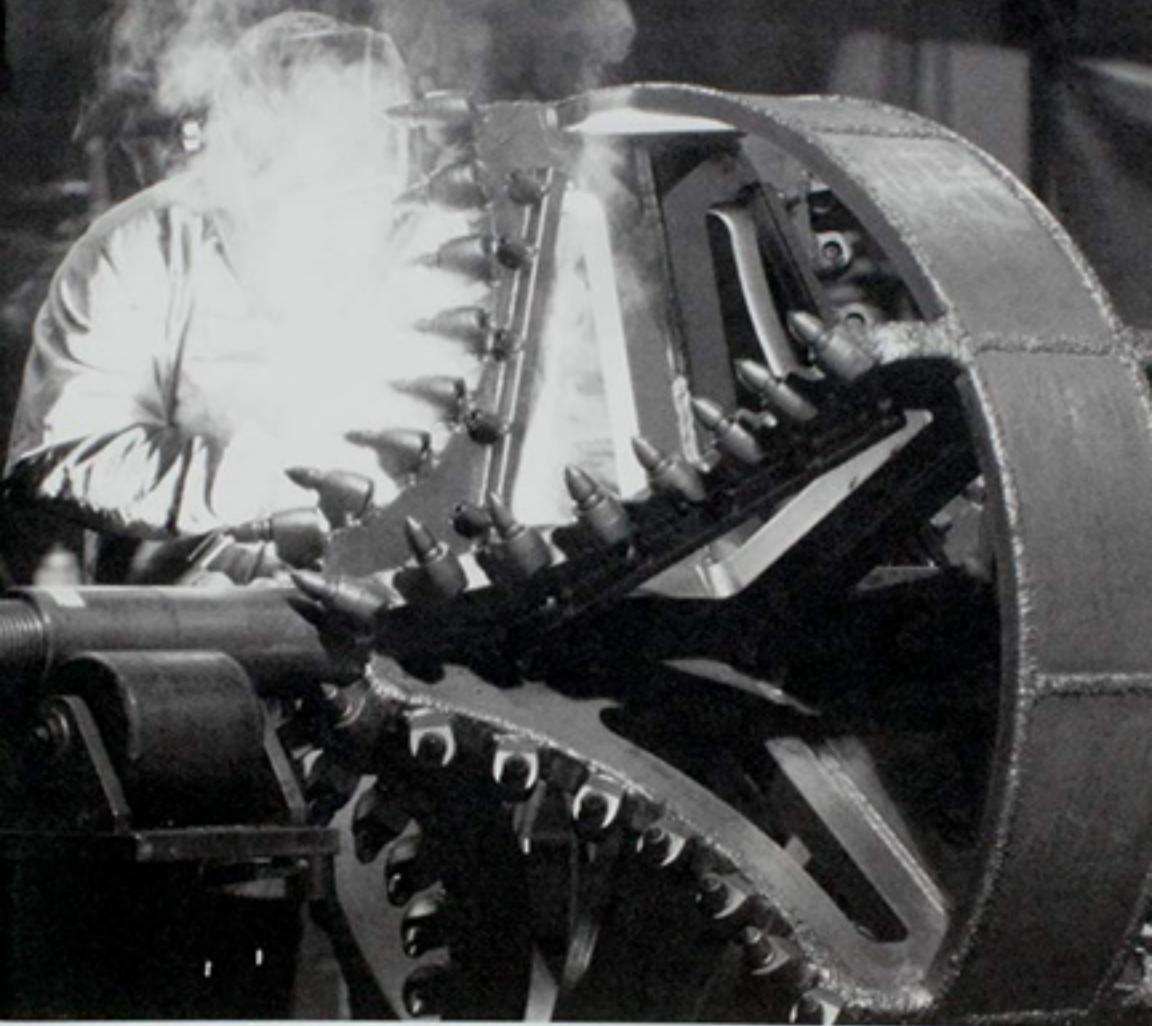


STRAIGHTLINE
PROFESSIONAL DRILLING SOLUTIONS



REAMER CATALOG

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STRAIGHTLINE
PROFESSIONAL DRILLING SOLUTIONS

1816 E. Wasp Rd, Hutchinson, KS 67501 | 800.654.3484

STRAIGHTLINE®

Produce Profitable Solutions In All Ground Conditions.

THE RIGHT REAMER - AVAILABLE FOR EVERY DRILL.

StraightLine® Reamers are available in diameters from 4 to 96 inches and are built on eight shaft sizes, ranging from 2 to 9½ inches (2, 3, 3½, 4¼, 5, 6¼, 8, and 9½ inches). Choose from 80 common HDD thread types, with new connections added as needed.

STRAIGHTLINE® CUSTOM REAMERS:

USE OUR EXPERIENCE TO ENHANCE YOUR PROFITS.

Consistently making a profit in the fast-changing HDD industry isn't easy. That's why StraightLine® specialists can be found working alongside contractors in the field, identifying solutions and more importantly learning what it takes to drill profitably.

StraightLine® has been in the directional drilling industry from the beginning and the application of that time, energy and experience shows in our superior tool design. Regardless of the make or model of your rig, you can boldly Fear No Ground with the StraightLine custom reamer design team. We can engineer, fabricate and even deliver to your job site, the reamer you need to produce money-making bores - fast!

TABLE OF CONTENTS

CYCLONE REAMER.....	1
FLY-CUTTER REAMER.....	2
STEEP-TAPERED FLY-CUTTER REAMER	3
WINGED REAMER.....	4
RADIAL FLOW REAMER.....	5
RHINO REAMER.....	6
TRI-ACTION REAMER.....	7
ALL-TERRAIN REAMER.....	8
HOLE OPENER REAMER.....	9
REVERSE RADIAL FLOW REAMER.....	10
BARREL REAMER.....	11
MAXI BARREL REAMER.....	12
MAXI FLY-CUTTER REAMER.....	13

CYCLONE REAMER

OUR CYCLONE REAMER IS THE UNDISPUTED CHAMPION IN STICKY CLAY.

Independent wing groups, steep wing angles and extremely low torque requirements contribute to the overwhelming success of this tool. In sands, loams and sticky clays, the StraightLine® Cyclone is designed to lower your cost per foot and generate a strong return on your investment.

GROUND CONDITIONS:

Sands, Loams & Sticky Clays.

SHAFT SIZE: 2 1/2" - 6 1/2"

SIZE RANGE: 8" - 24"

FEATURES

Independent wing groups
(3 wing groups on 8" & 10" reamers;
4 wing groups on reamers 12" and larger)

Soil shear passages on all wing
segments 10" and larger

Steep wing angles

Heavy duty Carbide teeth & hard
surfacing on the wing edges

Replaceable fluid ports located along
the edges of the wings

BENEFITS

Wing groups do not overlap so sticky
clays cannot build a bridge and ball up

Reduction in surface area, limits clay
build up and reduces clays to fines

Further prohibits sticky clays clinging to
the wings

Aggressive cutters help reduce sticky
clays to fines, while hard surfacing
dramatically reduces tool wear

Lowers the torque on the drill string and
makes efficient use of the drilling fluid



FLY-CUTTER REAMER

AVAILABLE IN 3, 4 AND 5-WING DESIGNS, DEPENDING ON THE DIAMETER OF THE REAMER.

Key features include a centralizing ring with large carbide cutters placed along the length of the wings, hard surfacing along the leading edges of wings, and replaceable fluid ports positioned along the rear of each wing to presoak the path of the oncoming cutters. All of this adds up to a low-mass, low-torque tool that accomplishes more footage with less effort.

GROUND CONDITIONS: Loams, Light Aggregates & Shale.

SHAFT SIZE: 3" - 5"

SIZE RANGE: 12" - 48"

FEATURES

Open body design

Long shallow cutting wings

Centralizing ring

Large carbide cutters positioned along the length of the wings

Replaceable fluid ports located along the low pressure side of each wing to presoak the path of the oncoming cutters

Leading edge of wings feature carbide impregnated hard surfacing

BENEFITS

Low-mass/low-torque tool that allows more work to be accomplished with less effort

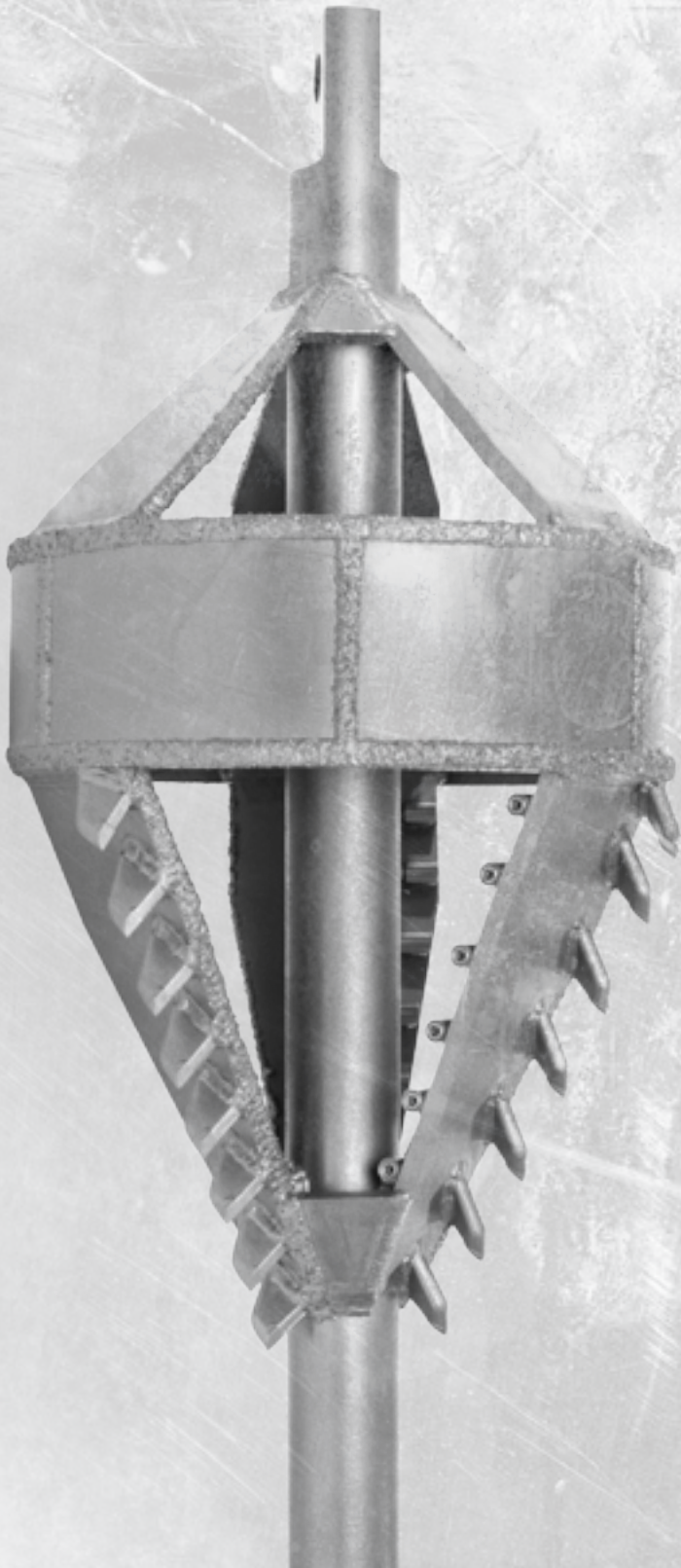
Delivers smooth stable cutting action

Helps the tool run true in the bore hole

Delivers aggressive cutting and long tool life

Delivers super efficient mixing of soil and fluid

Extends tool life



STEEP-TAPERED FLY-CUTTER REAMER

AVAILABLE IN 3, 4 AND 5-WING DESIGNS DEPENDING ON THE DIAMETER OF THE REAMER.

This open-bodied reamer features steep tapered wings with two rows of large carbide cutters and a heavy-duty centralizing ring for added toughness in hard ground and with larger drill rigs.

The Heavy duty centralizing ring supports two rows of large carbide cutters positioned along the length of each wing. Hard surfacing is applied to the leading edge of the wings and replaceable fluid ports are found along the rear of each wing to presoak the path of the oncoming cutters, resulting in highly efficient mixing and smooth cutting action.

GROUND CONDITIONS: Loams, Aggregates, Shale & Limestone.

SHAFT SIZE: 3" - 6 1/2"

SIZE RANGE: 12" - 54"

FEATURES

Open body design

Steep cutting wings

2-rows of large carbide cutters positioned along the length of the wings

Centralizing ring

Replaceable fluid ports located along the rear of each wing to presoak the path of the oncoming cutters

Leading edge of wings feature carbide impregnated hard surfacing

BENEFITS

Low-mass/low-torque tool that allows more work to be accomplished with less effort

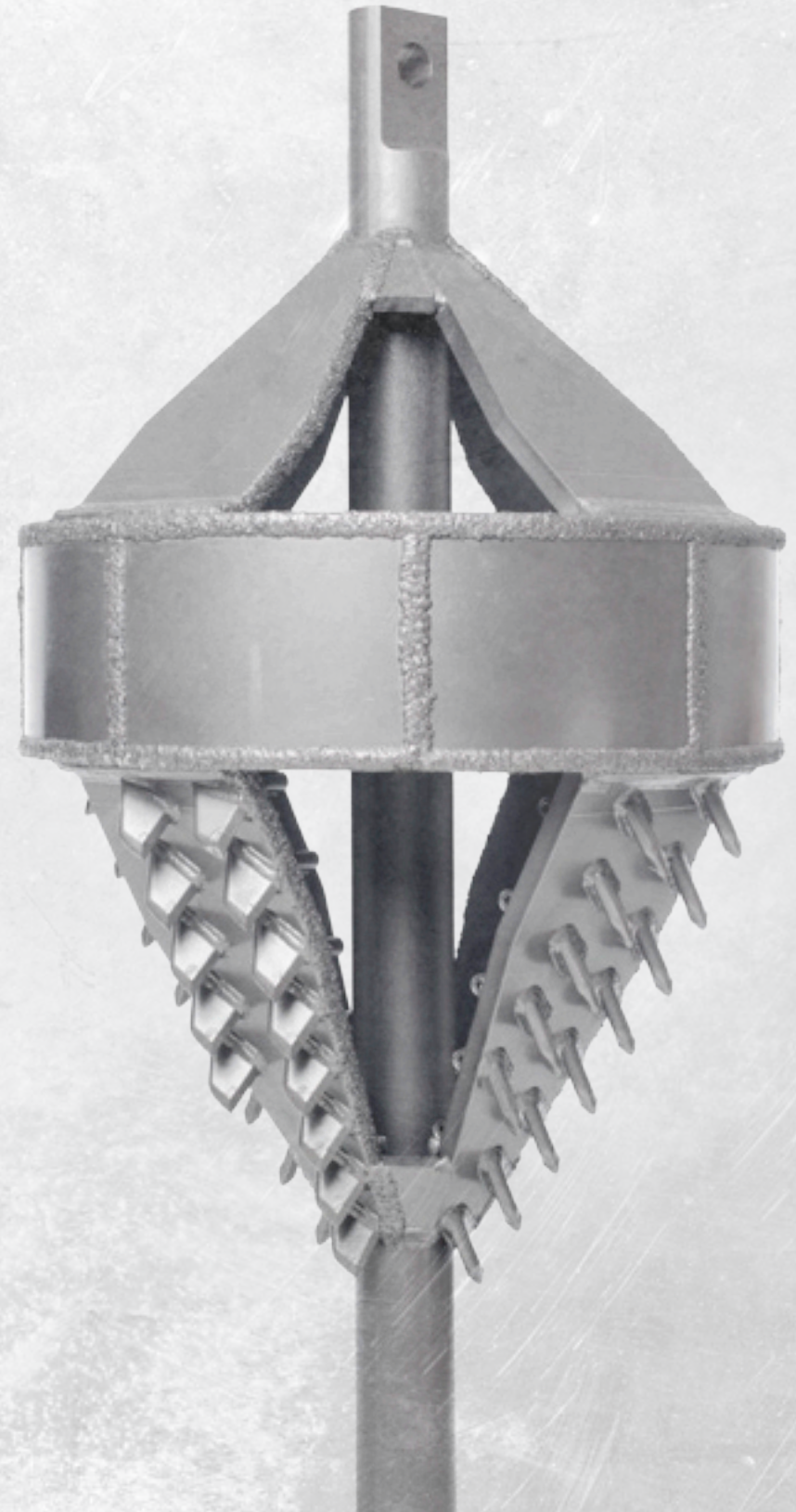
Heavier design delivers aggressive cutting action


Delivers aggressive cutting and long tool life

Helps the tool run true in the bore hole

Delivers super efficient mixing of soil and fluid

Extends tool life





I'm bragging about your reamers...
They are built heavy duty. Your reamer
stood up and completed a tough 100'
bore when another from the big boys
couldn't... theirs got plumb worn-out.

CHRIS WILLIS

Kajacs Contractors
Poplar Bluff, Mo

WINGED REAMER

AVAILABLE IN 3, 4, 5 & 6-WING DESIGNS DEPENDING ON THE DIAMETER OF THE REAMER.

With large carbide cutters and carbide hard surfacing on the edges, the StraightLine® Winged Reamer features double slope wings with a low-mass, open body design that delivers exceptional toughness and unmatched efficiency in cutting and mixing. The result is more work with less wear and tear on your drill and drill string. In addition, fluid ports along the rear perimeter of each wing, aid in presoaking the path of the oncoming cutters.

GROUND CONDITIONS:

Non-compactible conditions including Sands, Aggregates, Shale and Limestone.

SHAFT SIZE: 3" - 6 1/2"

SIZE RANGE: 10" - 48"

FEATURES

Open body design

Double slope wing design

Large carbide cutters positioned along the length of the wings

Replaceable fluid ports located along the rear of each wing to presoak the path of the oncoming cutters

Leading edge of wings feature carbide impregnated hard surfacing

BENEFITS

Low-mass/low-torque tool that allows more work to be accomplished with less effort

Provides exceptional toughness and improved mixing

Delivers aggressive cutting and long tool life

Perimeter fluid placement delivers efficient mixing of soil and fluid

Extends tool life

RADIAL FLOW REAMER

EXTREMELY VERSATILE DESIGN DELIVERS EXCELLENT PERFORMANCE IN SANDS AND LOAMS TO LIGHT AGGREGATES AND SANDSTONE.

This compact reamer design combines precise carbide placement and efficient fluid delivery to effectively reduce torque on the drill string, increase productivity and reduce wear. Key features include independent path carbide cutters coupled with redundant carbide cutters on wing edges, presoaking fluid jets, compact body for confined spaces and low torque design for effective use with all drill sizes.

GROUND CONDITIONS:

Sand, Loam, Light Aggregates & Sandstone.

SHAFT SIZE: 2" - 4 1/4"

SIZE RANGE: 6" - 24"

FEATURES

Each carbide cutter follows independent paths

Redundant carbide cutters on wing edges

Fluid jets are positioned along the edges of the wing to presoak the path of the oncoming cutters

Compact design

Low torque requirement

BENEFITS

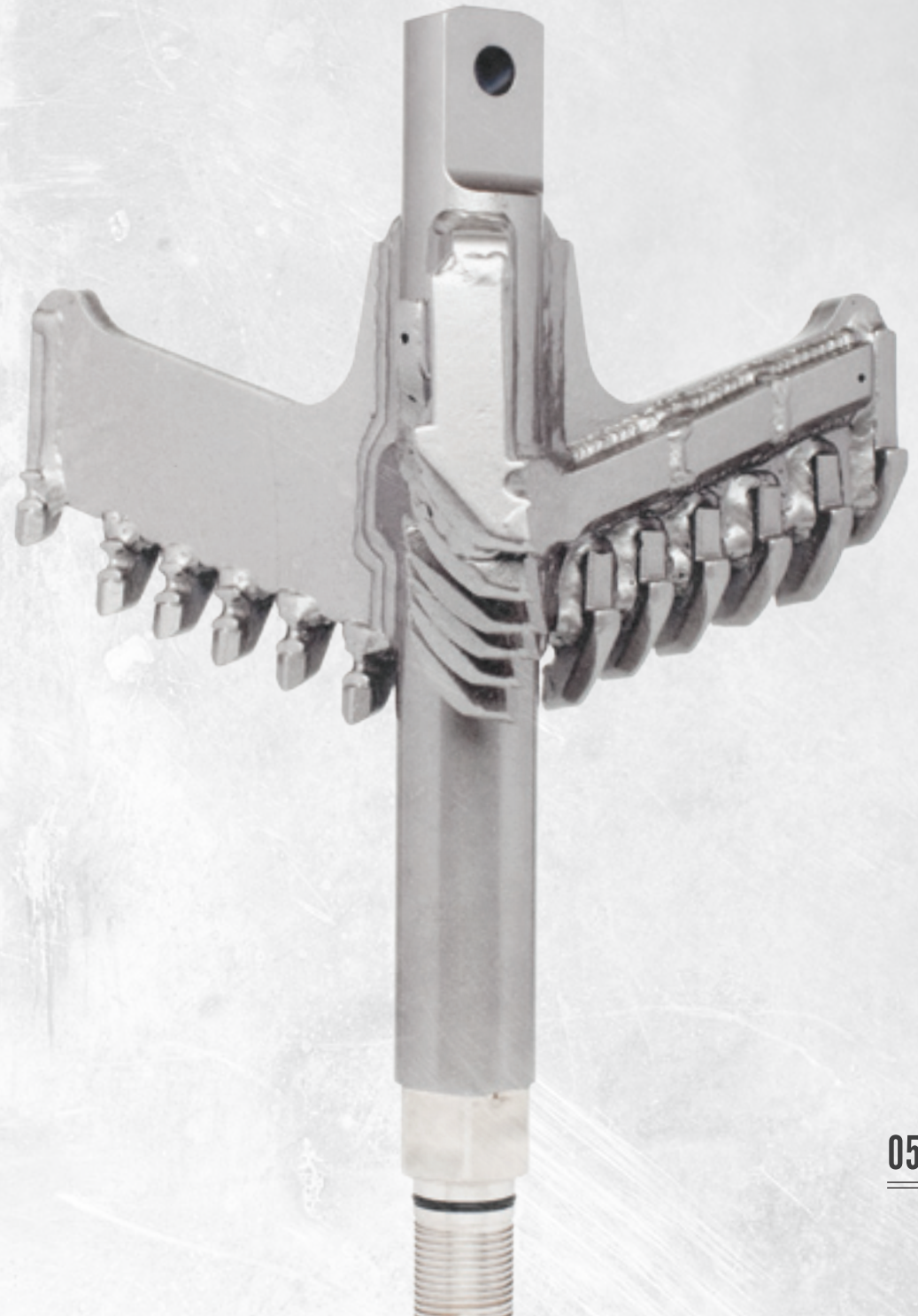
Cutters engage the entire bore face for efficient cutting

Provides wear resistance to the wings outer edges and extends tool life

Efficient fluid placement lowers torque on the drill string and enhances mixing of the cuttings

Makes it easy to install and remove in confined spaces

Extends the drill rig capabilities



RHINO REAMER

A VERSATILE ALL-IN-ONE TOOL THAT CUTS, MIXES, AND PACKS IN ONE EASY STEP.

The Rhino features large carbide cutters, positioned over the length of the body, to over cut and allow drilling fluid to pass by the reamer. All leading edges are protected with hard surfacing and the strategically placed fluid ports are completely replaceable.

GROUND CONDITIONS:

Loams, Clays, Hardpan and Small Aggregates.

SHAFT SIZE: 2" - 4 1/4"

SIZE RANGE: 6" - 20"



FEATURES

Multi-purpose tool with an emphasis on cutting

3-rows of large carbide cutters positioned along the tapered portion of the body

Replaceable fluid ports located along the taper of the tool

Packing bell packs the cuttings

Optional built-in swivel

BENEFITS

Combines cutting, mixing and packing into a single tool

Delivers aggressive cutting and long tool life

Delivers efficient fluid placement and improves mixing of soil and fluid

Facilitates utility installation

Keeps the overall tool short so that it's easy to handle

StraightLine puts in the same built-in
swivel...so they're interchangeable... which
can really save you in a pinch...

DUSTIN BECK

Utility Services Group, Inc.
Camp Hill, PA



TRI-ACTION REAMER

THE TRI-ACTION IS DESIGNED TO CUT, PULVERIZE AND FORM THE WALL.

The long tapered compaction style body with three relief flutes allow cuttings, small aggregates and drilling fluid to pass through the reamer. The leading edge of each flute is hard surfaced and the replaceable jets and carbide cutters maximize performance and tool life.

GROUND CONDITIONS:

Loams, Clays, Hardpan, Aggregates and Rock formations up to 15,000 PSI.

SHAFT SIZE: 3" - 4 1/4"

SIZE RANGE: 6", 8" & 10"

FEATURES

Long tapered spiral body

Heavy duty carbide teeth

Leading edges are protected by carbide impregnated hard surfacing

Replaceable fluid ports located in each flute

Optional built-in swivel

BENEFITS

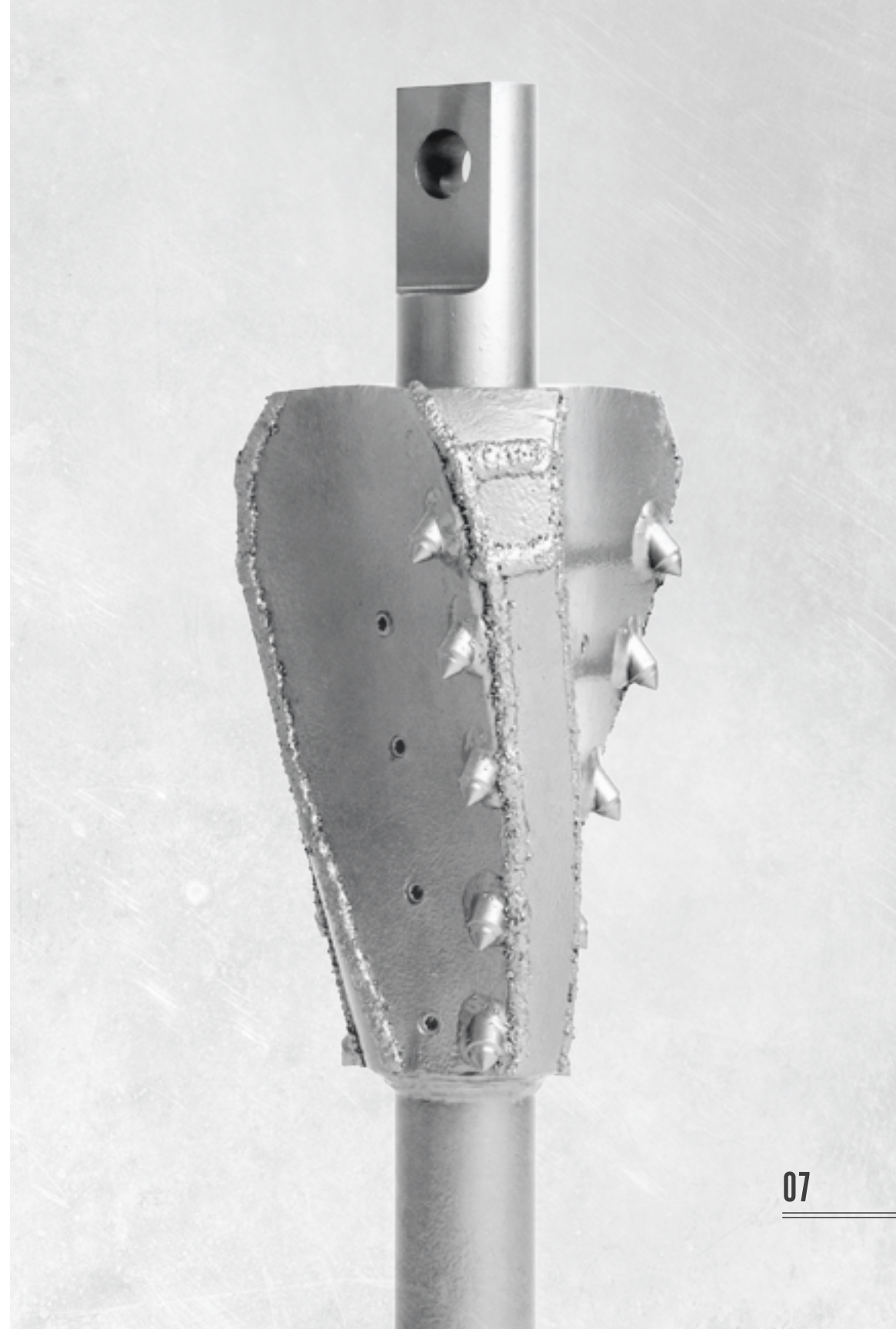
Promotes smooth cutting action

Delivers aggressive cutting action and extends service life

Extends service life

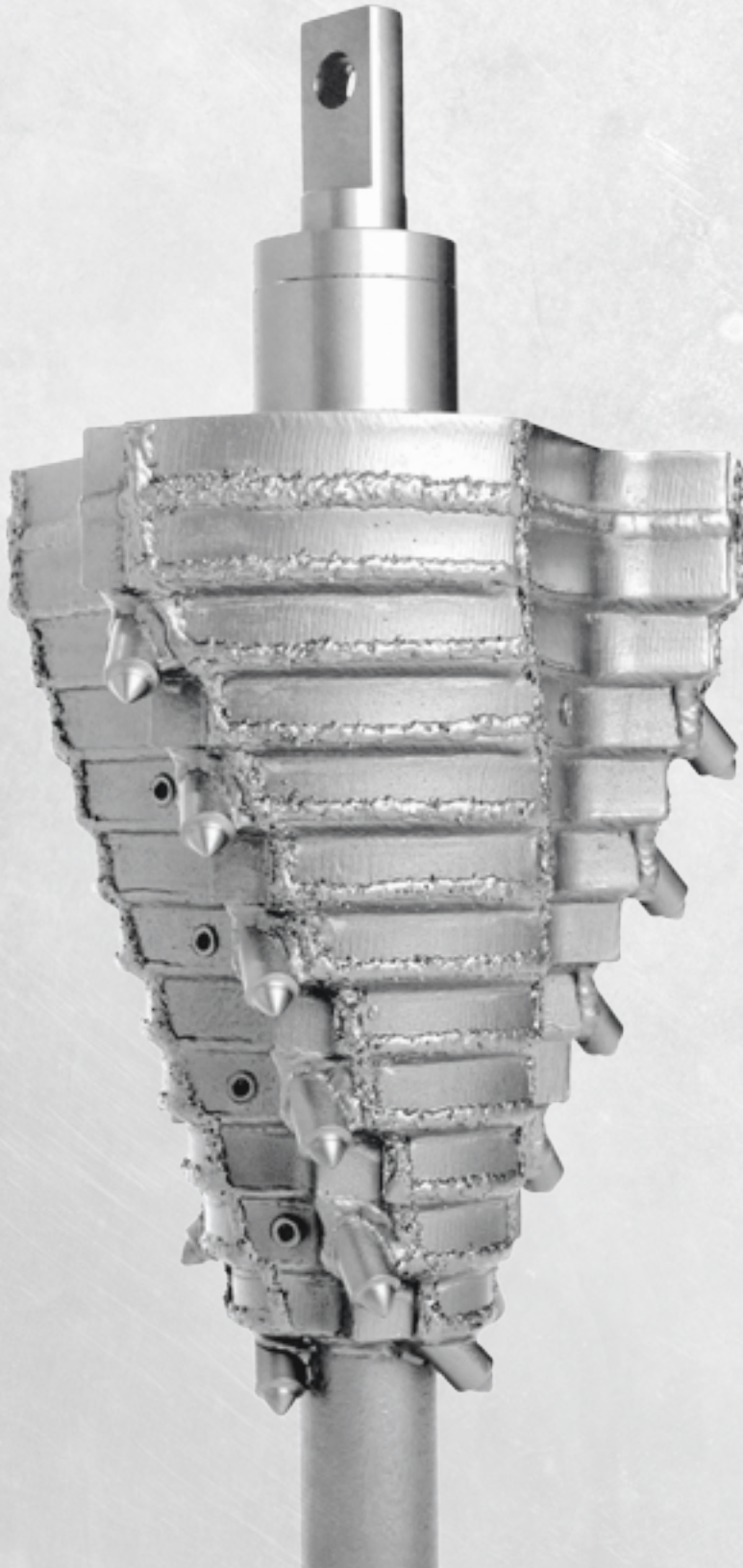
Easy to adjust fluid placement to maximize drilling performance

Built-in design engineered to prohibit the swivel from tipping to the side as backwards pressure is applied to the tool.



StraightLineHDD®

ALL-TERRAIN REAMER



THE HEAVY CONSTRUCTION OF THE ALL-TERRAIN REAMER MAKES IT SIMPLY THE TOUGHEST, MOST DURABLE FLUTE AVAILABLE ON THE MARKET TODAY.

This tool cuts, pulverizes and forces the remaining pieces into the formation wall. Constructed from steel plate and fully welded, the StraightLine® All-Terrain Reamer features aggressive spiraling flutes which allow cuttings, small aggregates and drilling fluids to pass by the body. Replaceable jets facilitate precise mud flow and placement, while extra heavy duty carbide cutters and extensive hard surfacing on all wear surfaces provide maximum performance and tool life.

GROUND CONDITIONS:

Clay, Hardpan, Aggregate and Rock formations up to 20,000+ PSI.

SHAFT SIZE: 2" - 9 1/2"

SIZE RANGE: 8" - 48"

FEATURES

Constructed from fully welded steel plate segments

Aggressive spiraling flutes

Heavy duty carbide teeth

All welds and cutting edges are protected by carbide impregnated hard surfacing

Replaceable fluid ports are located in the bottom of each flute

Optional built-in swivel

BENEFITS

Provides unequalled service life

Delivers smooth cutting action and provides relief for cuttings and drilling fluid to pass by the body

Delivers aggressive cutting action and extends service life

Extends the service life of the tool

Easy to adjust fluid placement to maximize drilling performance

Keeps the overall tool short so that it's easy to handle

HOLE OPENER REAMER

HOLE OPENERS DELIVER SMOOTH CUTTING IN SOLID FORMATIONS FROM SHALE TO GRANITE.

Designing the proper Hole Opener for a given situation takes expertise and experience - StraightLine® has both. Hole Openers are classified as a custom product - designed and built on a job by job basis. With variables such as cutter selections, Mill Tooth or Tungsten Carbide Insert (TCI) cutters, new or premium re-run condition cutters, size and quantity of cones, front and/or rear stabilizers, StraightLine's® knowledgeable staff will help guide you through the process of specifying the best tool for the job.

GROUND CONDITIONS:

Solid non-compactable formation from Caliche to Granite.

SHAFT SIZE: 3" - 9 1/2"

SIZE RANGE: 10" - 60"

FEATURES

Constructed from premium cones to match the formation

Each tool is designed specifically to the customer requirement

Proper cone spacing, minimizing the distance between the cones individually, and the distance to the shaft.

Push back cone provides a tapered surface to push against.

Cones are sized specifically to the pilot bore and the reamer size.

BENEFITS

Provides unequaled service life

Maximum production is delivered through tool design for the ground condition

Facilitates less torque and allows pressure to be equally spread across the cone face.

Creates a surface that does not bind if the reamer is pushed backwards.

Maximizes bearing life and promotes proper edge protection



StraightLine® listened to us and customized a tool specific for our ground conditions and pull-back. It worked great. I will be buying more.

DAVID BROOKS

Brooks Construction
Burden, Kansas



StraightLineHDD®

REVERSE RADIAL FLOW REAMER

BI-DIRECTIONAL CUTTING, EXTREME TOUGHNESS AND A COMPACT, OPEN BODY DESIGN.

The success of the RRF centers around its low-mass / high-strength core that enables this extreme tool to perform well in sands, aggregates, and light rock. The open body design delivers exceptional mixing while the extra heavy wing segments gain incredible footage through some of the toughest ground conditions. The compact design allows for ease of installation and extraction in confined spaces. Precise carbide placement coupled with perimeter drilling fluid displacement provides the operator with unmatched versatility, making the StraightLine® Reverse Radial Flow Reamer one of the most popular large diameter tools in the industry.

GROUND CONDITIONS:

Loams, moderate aggregates, clays, shale and light rock formations.

SHAFT SIZE: 4" - 10"

SIZE RANGE: 16" - 72"

FEATURES

Bi-directional

Replaceable conical carbide cutters

Centralizing ring

Perimeter flow fluid jets

Low mass

BENEFITS

Facilitates cutting backwards out of the hole

Extends service life. Excellent field serviceability

Helps reamer run centered in the bore

Presoaks the path of oncoming cutters

Low mass allows the tool to be short and efficient in large diameters

BARREL REAMER

BARREL REAMER STABILIZES TUNNEL AND EASES UTILITY INSTALLATION.

A versatile tool, featuring a relatively flat face lined with rows of carbide cutters, the StraightLine® Barrel Reamer cuts and opens the hole at a slightly larger diameter, than that of its solid body. Commonly used in soft formations, the tool is also often utilized as a stabilizer when pulling larger reamers, fly cutters or hole openers and is regularly down hole when installing final product.

SHAFT SIZE: 3" - 9½"

SIZE RANGE: 12" - 48"

FEATURES

Full diameter compaction

Long full diameter body

Large conical carbide cutters

Critical wear areas feature carbide impregnated hard surfacing

Replaceable fluid ports positioned along the face of the tool

Helixed wear bars with carbide impregnated hard surfacing

BENEFITS

Eases utility installation

Centralizes reamer and the utility in the hole during pullback

Maximizes cutting performance

Extends tool life

Provides operator mud flow and placement control

Provides protection for the fluid ports



MAXI BARREL REAMER



THE MAXI-BARREL REAMER STABILIZES THE TUNNEL EASING PRODUCT INSTALLATION.

All the versatility of the Barrel Reamer, with heavier weight construction; Maxi Barrel Reamers are constructed from material up to 50% greater than a standard barrel. StraightLine engineers had longevity in mind, with the incorporation of replaceable conical carbide cutters and replaceable carbide jets in the added value design. This tool is effective in sealing formation walls and stabilizing large reamers, fly cutters and hole-openers. The Maxi Barrel is regularly used for pulling back large final product, utilizing its design to open the hole with its long, solid body.

SHAFT SIZE: 4 1/4" - 9 1/2"

SIZE RANGE: 24" - 96"

FEATURES

Full diameter compaction

Long full diameter body

Replaceable conical carbide cutters

Critical wear areas feature carbide impregnated hard surfacing

Replaceable carbide jets

BENEFITS

Eases utility installation

Centralizes reamer and the utility in the hole during pullback

Maximizes cutting performance and extends tool life

Extends tool life

Minimizes erosion and allows operator to precisely manage output flow and pressure

MAXI FLY-CUTTER REAMER

THE MAXI-FLY CUTTER HANDLES BIG TORQUE TO TACKLE A VARIETY OF CONDITIONS FROM SAND TO LIMESTONE.

This tool is a 3-wing design that features three large cutting surfaces and three equal sized spoil passage areas. The Maxi-Fly features extra heavy-duty construction; wing structures are constructed using ¾" or 1" plate depending on tool size that are then welded to the 1" thick centralizing ring to form a tool that is capable of handling the torque and pullback of today's Maxi-Rigs. The centralizing ring helps the reamer run true in the bore hole; shallow wing angle facilitates smooth cutting in large diameter holes; replaceable conical carbide cutters for maximum performance and tool life; and replaceable carbide jets deliver precise fluid placement.

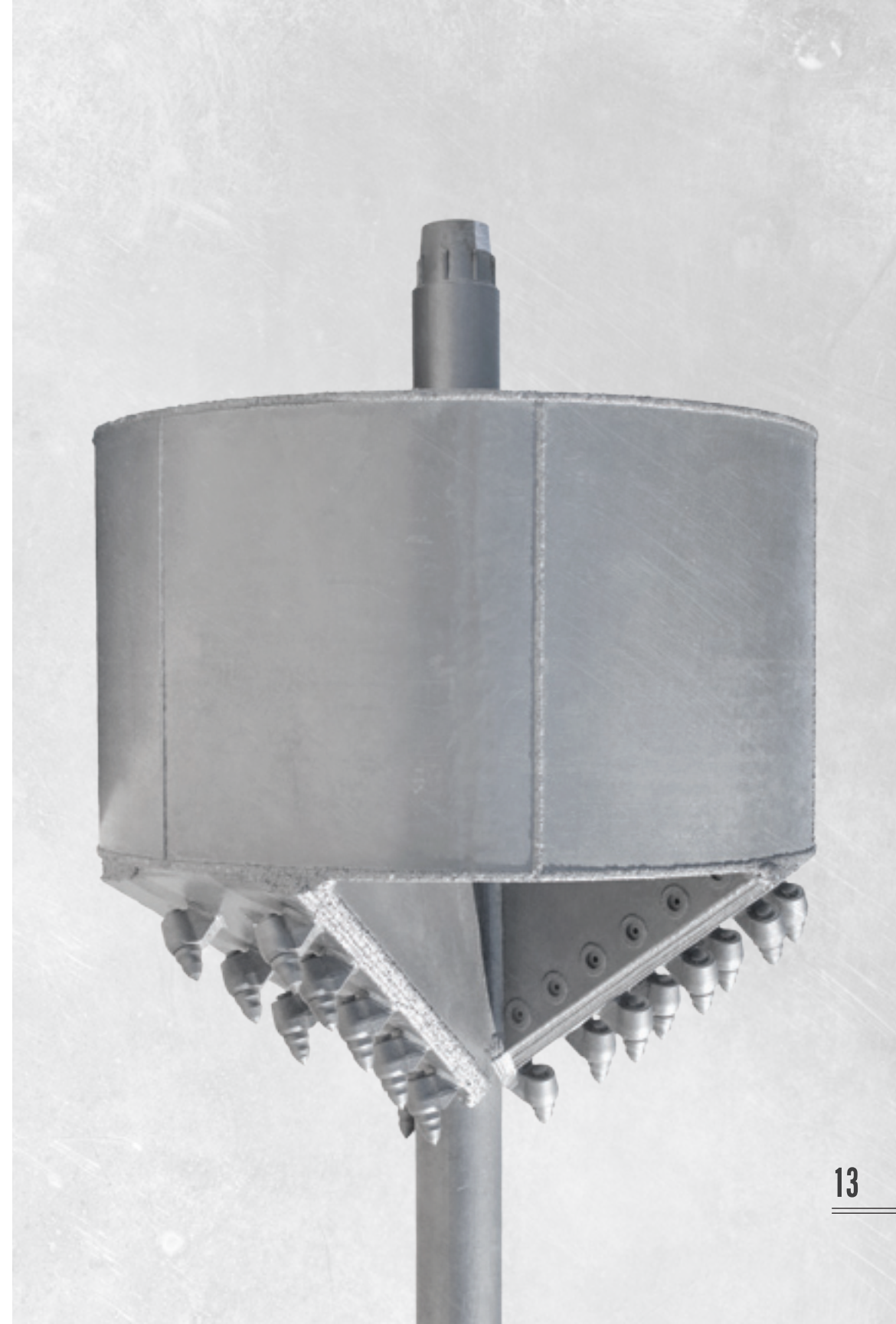
SHAFT SIZE: 3" - 5"

SIZE RANGE: 24" - 96"

FEATURES

BENEFITS

Semi open body design	exceptional cutting and mixing qualities
Extra heavy-duty box type construction	Delivers long service life
Extra wide centralizing ring	Helps reamer run true in the bore hole
Precise carbide placement and shallow wing angles	Facilitates smooth cutting in large diameter holes
Large replaceable conical carbide cutters	Delivers excellent cutting performance and maximizes tool life
Reamer edges feature carbide impregnated hard surfacing	Extends tool life
Replaceable carbide jets	Minimizes erosion and allows operator to precisely manage output flow and pressure





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