

Unibroach® Annular Cutters

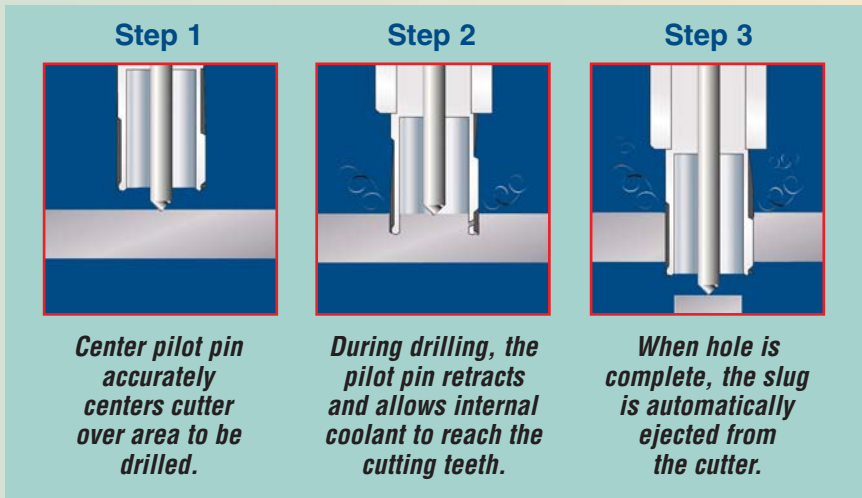
Faster and more accurate than twist drilling



Unibroach® cutters are made of hardened, high-speed tool steel and precision ground with up to 16 teeth for fast drilling

CS Unitec's Unibroach® Annular Cutters drill a burr-free finished hole by cutting only the material around the periphery of the hole. This forms a solid slug which automatically pops out.

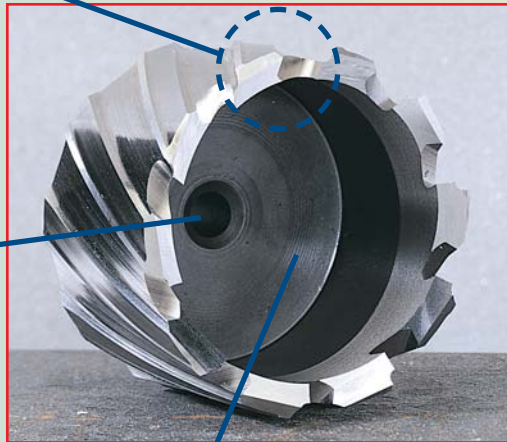
- Less time and energy are consumed per hole
- Faster feed rates are achieved with more cutting teeth and less tool wear
- Lighter, less powerful drilling equipment can be used
- Able to drill holes which are difficult or impossible to do accurately with conventional twist drill tooling – with no predrilling or stepdrilling required



Double-action tooth geometry cuts, splits and ejects chips more efficiently,

- increasing cutting speed
- reducing tooth load
- minimizing tool wear
- lengthening cutter life

Center hole for pilot pin accurately aligns the cutter, allows for internal lubrication and removes the slug.



Engineered with a tapered inner wall for smooth, easy slug ejection.

Perfect drilling to close tolerances without runout. The result: a burr-free finished hole.



Unibroach® Annular Cutters



Less Friction = Less Heat = More Holes!
Increase tool life and achieve faster feed rates

ARMOR-PLATED Unibroach™ Cutters – TiAIN

ARMOR-PLATED Unibroach™ Cutters, at 90Rc hardness, are the state-of-the-art in hole cutting technology. They multiply service life, reduce cost and increase productivity.



- 3 to 4 times longer tool life with TiAIN coating
- Drill with less friction and more power
- Withstands higher working temperatures – up to 1480°F (800°C)
- Dry drilling or lubricating with water simplifies working conditions and cleanup*
- Prevents cold weld – metal chips do not adhere to the cutter
- Ideal for structural steel and hard metal
- 3/4" dia. shank (1 1/4" dia. shank available)

* After the TiAIN coating is worn, lubricate with cutting oil



ARMOR-PLATED Unibroach™ cutters are available in the following sizes:

- 1" drill depth – $\varnothing 7/16"$ to $\varnothing 5"$
- 2" drill depth – $\varnothing 7/16"$ to $\varnothing 5"$
- 3" drill depth – $\varnothing 3/4"$ to $\varnothing 5"$

- 3/4" shank is standard for cutters up to 3" dia.
- Metric cutters available on request
- See our price list for part numbers

Unibroach® High-Speed Steel (HSS) Cutters



Annular Cutters are the standard hole-making drills in the industry. Ideal for heavy-duty use on-site or in the shop, our HSS Unibroach™ cutters are available in the following sizes:

- 1" drill depth – $\varnothing 7/16"$ to $\varnothing 5"$
- 2" drill depth – $\varnothing 7/16"$ to $\varnothing 5"$
- 3" drill depth – $\varnothing 3/4"$ to $\varnothing 5"$

- Metric cutters available on request
- See our price list for part numbers



3/4" dia. shank. Also available with 1 1/4" dia. shank.

* HSS Cutters must be used with lubricant. See page 21 for CS Unitec lubricants and cutting oil.

- CNC precision ground for fast penetration, accuracy and long life
- Drill holes 3 times faster than twist drills
- Produce reamed-quality burr-free holes and solid slugs
- Reduce machine size and weight
- Cutting edges are resharpenable
- Eliminate time-consuming, costly pilot holes and step drilling

CNC-ground flutes run the length of the cutter for efficient chip clearance. This increases drilling productivity and decreases cutter breakage.

Unibroach® Stack Cutters are available in diameters from $7/16"$ to $1 1/8"$ in 1", 2" and 3" depths. Drill multiple layers of steel without stopping to remove the center slug. Please contact us or consult our price list for more information.

Unibroach® Annular Cutters

High-speed drilling – on the job site or in the shop

Unibroach® Tungsten Carbide-tipped (TCT) Cutters



- Metric cutters available on request
- See our price list for part numbers

- Use high-speed RPM for best results and faster holemaking
- Ideal for drilling steel with rust or paint
- Will outlast High-speed Steel cutters
- Leaves a burr-free finished hole
- Available in all sizes (fractional and metric)
- $\frac{3}{4}$ " or $1\frac{1}{4}$ " shank

Available in the following sizes:

- 1" drill depth – $\varnothing \frac{5}{8}$ " to $\varnothing 2$ "
- 2" drill depth – $\varnothing \frac{11}{16}$ " to $\varnothing 5$ "
- 3" drill depth – $\varnothing \frac{13}{16}$ " to $\varnothing 2$ "

Unibroach® Cobalt Cutters



- $\frac{3}{4}$ " shank is standard for cutters up to 3" dia.
- Metric cutters available on request
- See our price list for part numbers

- Unibroach® Cobalt Cutters are made with 5% cobalt to increase resistance to wear
- Excellent results when drilling high-tensile steel and difficult-to-machine materials
- Available with TiAlN coating upon request
- Available for hole sizes up to 5" dia.



Unibroach® Large-diameter Hole Cutting

Drill perfect holes up to 5" diameter without runout

- Standard with $\frac{3}{4}$ " or $1\frac{1}{4}$ " shank diameters
- More cutting teeth to distribute the load evenly
- Increase tool life and achieve faster feed rates
- Use on milling machines, drill presses, CNC and other equipment
- A solid slug has a higher value for scrap metal
- Available in HSS, Cobalt, TCT and ARMOR-PLATED Unibroach™



Unibroach® Cutter Kits

Kits include one each: $\frac{9}{16}$ ", $\frac{11}{16}$ ", $\frac{13}{16}$ ", $\frac{15}{16}$ ", $1\frac{1}{16}$ " (for cutter depth of 1" or 2"), pilot pin and plastic case

Lubricants

Coolant extends the life of cutting tools!

ProLube™ Ideal for cutting steel, stainless steel and hard metals

Your cutting tools will work cooler, longer and more efficiently with ProLube™ Lubricants from CS Unitec.

- Prolong tool life by reducing friction and wear
- Unique composition provides excellent adhesion to cutting tools for maximum lubrication
- Corrosion inhibitor
- Non-toxic



ProLube Liquid
Water soluble 16:1
CS 7010-504
1 gal. bottle



ProLube Paste
CS 7030-712
12 oz. tub

Cutting Oil



[Part No. IBO.20Q (quart); IBO.20G (gallon)]

- High-alloy cutting oil for heavy removal of metal, including stainless steel
- Chlorine-free (MSDS on bottle)
- Not necessary to dilute with water

Upgrade your drill's cooling system: see page 23 for arbors with automatic cooling.



Power Assist

The Power Assist is a standard capstan, designed with delayed torque transfer. This decreases the load on both cutter and drilling machine, allowing the machine to maintain max. RPM under full load

- Reduces drilling time
- Prevents cutter breakage
- Extends lifespan of cutter/drill bit
- Extends life of machine



Power Assist Capstan

- 030E.0048 – Included with ECO-30
- 020.0330 – Power Assist for ECO-32 and ECO-50 machines
- 020.0336 – Power Assist for ECO-80, ECO-100 and ECO-130 machines
- 020.0063 – Power Assist with wrench mechanism for ECO-32 and ECO-50 machines
- 020.0064 – Power Assist with wrench mechanism for ECO-80, ECO-100 and ECO-130 machines



Power Assist Wrench Mechanism

Accessories



Pilot Pins for Cutters

- Milled channel efficiently supplies internal lubrication to cutting teeth
- Available for cutter diameters ranging from $7/16"$ to $5"$ and $1"$, $2"$, $3"$ and $4"$ depth of cut
- See price list for part numbers

Drill Chucks for Straight Shank Twist Drills

- Two capacities: $1/2"$ and $3/4"$
- Four chucks and adapters to fit all magnetic drills:
 - A) **IBK-17** – $1/2"$ chuck for ECO-32 and ECO-32T
 - B) **IBK-18** – $1/2"$ chuck with $3/4"$ shank for AIRBOR™ and HB-4400 (fits all drills with $3/4"$ arbor bore)
 - C) **IBK-21** – $3/4"$ chuck with MT3 shank for ECO-80AK and ECO-100/3AK
 - D) **IBK-22** – $3/4"$ chuck with MT2 shank for ECO-50 and ECO-50T



Tapping Tools, Tap Collets and Tapping Chucks



- Manufactured from high-quality HSS to ASA Standard (or DIN 376 for metric)
- Ideal for CS Unitec's portable drilling and tapping machines and other drills

Tap collets fit magnetic drills with $3/4"$ arbor bore. They are available for taps $1/4"$ through $3/4"$. They hold standard USA taps conforming to ASA.



*Model No. **GSW.222** quick-change tapping chuck with MT2 connection, complete with flexible collet to tap $5/16"$ to $5/8"$. For use with ECO-50T magnetic drill.*

*Model No. **GSW.830** tapping chuck utilizes two variable clamp collets to tap $3/8"$ to $1 1/8"$. It is the least expensive system if you will tap more than 4 sizes. **GSW.830** has an MT3 connection. For use with ECO-100 magnetic drill.*



*Variable clamp collets for use in tap chuck No. **GSW.830***

*Model No. **VSP.160** variable clamp collet fits shanks $3/8"$ – $5/8"$.*

*Model No. **VSP.230** variable clamp collet fits shanks $5/8"$ – $7/8"$.*



Accessories

Arbors for Annular Cutters



Manual Cooling



Automatic Cooling



Extended Length



Keyless Arbor with Automatic Cooling

Keyless cutter arbors allow fast, no-tools changeover for 3/4" dia. shank annular cutters.

IMC.2Q – Morse Taper No. 2

IMC.3Q – Morse Taper No. 3

- Can be used on any magnetic drill stand, drill press or shop equipment with a Morse Taper intake of No. 2, No. 3 or No. 4
- Available for Annular Cutter shank sizes of 3/4" or 1 1/4" Weldon
- Available for automatic internal cooling or manual cooling

MC.2 – Morse Taper No. 2
3/4" arbor bore
manual cooling

IMC.20 – Morse Taper No. 2
3/4" arbor bore
automatic cooling

MC.3 – Morse Taper No. 3
3/4" arbor bore
manual cooling

IMC.30 – Morse Taper No. 3
3/4" arbor bore
automatic cooling

MC.4 – Morse Taper No. 4
3/4" arbor bore
manual cooling

IMC.30/32 – Morse Taper No. 3
1 1/4" arbor bore
automatic cooling

82° and 90° Countersinks

- Manufactured of HSS with 5% cobalt
- 3/4" Weldon shank

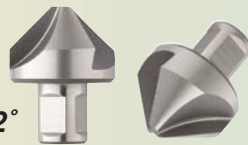
Countersink hole sizes:

SCE 20 from 3/8" to 1 1/2" / 82°

SCE 30 from 5/8" to 2" / 82°

SCE 40 from 3/8" to 1 1/2" / 90°

SCE 50 from 5/8" to 2 1/8" / 90°



Twist Drills with 3/4" Weldon Shank

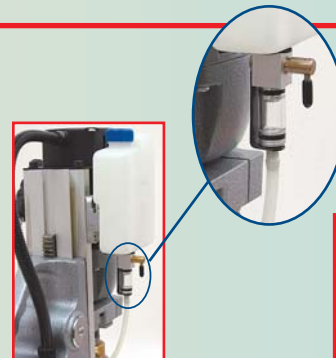
- Manufactured of high-speed steel
- Same 3/4" connection as Annular Cutters
- Bit diameters from 1/4" to 3/8"



Cooling System

The cooling system on all our drills has been upgraded for easier use. The coolant reservoir is quickly and easily attached to the magnetic drill via a new magnet system. The coolant flow is measurable and easily monitored through a clear cylinder.

The hose connecting the reservoir to the spindle has also been upgraded. It is now equipped with a wear-resistant mechanical locking system that securely fastens the hose to the arbor.



Accessories

Extensions for Annular Cutters Extra-long holders extend stroke of drills



*3/4" Weldon Shank
(2 Flats)*
6" length (p/n 7-9-906)
12" length (p/n 7-9-912)



- Drill difficult-to-reach areas
- Extend cutter reach over the side or through an existing hole*

3 Flats

** Hole diameter must be larger than 1 5/16" to accommodate width of extension*



R8



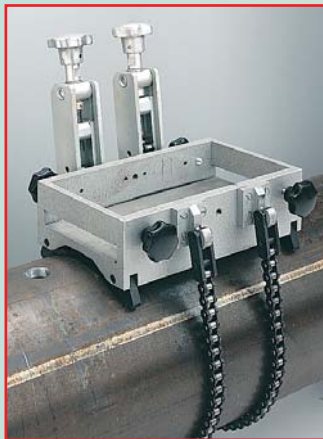
3 Flats for Geared Chucks x 3/4" arbor



MT2 or MT3 x 3/4" arbor

Pipe Clamp Saddle System

Ensures safe, secure drilling of pipes and tubular material



Ideal for a wide variety of pneumatic, hydraulic or electric drills

- Quick clamping feature for fast setup on pipes up to 20" dia. and larger
- For use on steel, stainless steel and other materials
- Chain tensioner secures saddle to pipe in any position, while four independent steel feet automatically adjust to pipe contour
- Larger sizes available with optional extension chain*

	Model PAK-100	Model PAK-200
	<i>For models ECO-30/3P, ECO-32, ECO-32T and MDM-40</i>	<i>For models AB-4300-2, ECO-50, ECO-80, ECO-100/3, ECO-40 AUTO and HB-4400</i>
Pipe OD	3 1/4" to 10" dia.	6" to 20" dia.
Maximum Magnet Dimensions	6 5/8" L x 3 5/16" W	9" L x 4 3/8" W
Weight	14 lbs.	23 lbs.

* For larger pipe sizes, order 39" extension chain, Part No. PAK-CHAIN