



Selection Guide For Automated Glass Cutting

Fletcher-Terry's Matched Component Technology

Quality. Service. Dependability. Value.
Experts in Glass Cutting
Since 1868.



The Fletcher-Terry Company, LLC



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Since 1868, Fletcher-Terry has revolutionized advanced cutting solutions for numerous global industries. Fletcher's innovations have rewarded the company with over 90 patents including the "original" glass cutting wheel, the first vertical glass cutting machine and the "wide-track" all carbide cutting wheel. Today, with a distribution network to 60 countries worldwide, we are proud to serve the glass

production and fabrication, sign & graphic, picture framing and retail hardware markets, while continuing to provide advanced cutting methods and outstanding global customer service support.

Staying one step ahead of your material cutting, scoring and trimming needs has made us a global leader in the industries we serve.

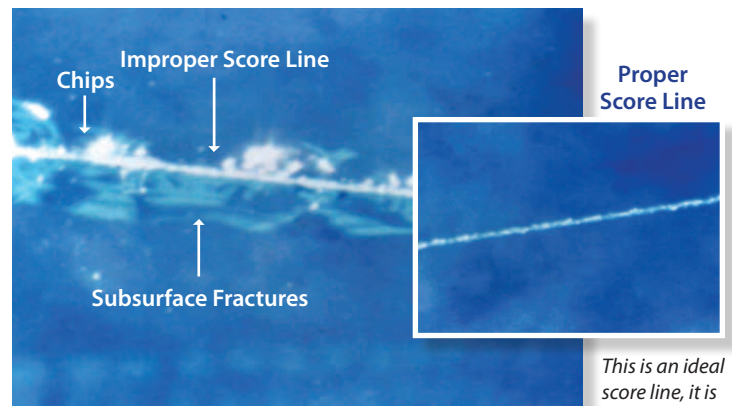
Glass Cutting... Where Science Meets Art

Glass cutting, as it commonly referred to, is not cutting at all. What actually takes place is a "score" or very high shear on the glass surface. The lighter the score, the better break-out which reduces scrap and waste.

Fletcher-Terry's application approach is to examine, evaluate and provide effective process methods for gaining the optimum glass score for easy break-out and quality edge results. We will review all the critical components of glass cutting and recommend the right solution for your process whether it's a float or fabrication plant.

Fletcher's total solution approach is geared towards the goal of 100% glass production and fabrication yields through the use of our matched component technology. Fletcher's engineered approach will minimize your process control variables and maintain effective glass scoring.

Top Surfaces of Scored Glass



This is an improper score line, it is too heavy. One can see the subsurface fractures just below the surface with a 10x magnifying lens.

This is an ideal score line, it is very light and free of glass particles.

Fletcher's Matched Component Technology

Fletcher-Terry will analyze your specific glass cutting requirements and guide you in selecting the proper cutting solution for your application.

The selection process for building the right solution for your production requirements is based on the following steps...

1 Wheel and Axle Selection based on Glass Thickness

2 Wheel Holder Selection – Fletcher's plastic, metal, M1 or ATF Inserts

3 OEM Machinery Pillar Post Selection – Fletcher's integrates with all major machinery manufactures – **Bando, Bavelloni, Billco, Bottero, Bystronic, GED, Glaston, Grenzebach, Hegla, Lisec, Olbricht, Tamglass, & others.**

4 Product Packaging – Select from Fletcher's market exclusive **Angle I.D.**™ packaging options.

* Patent pending



End Result –

*Building your solution system through
Fletcher's Matched Component Technology*

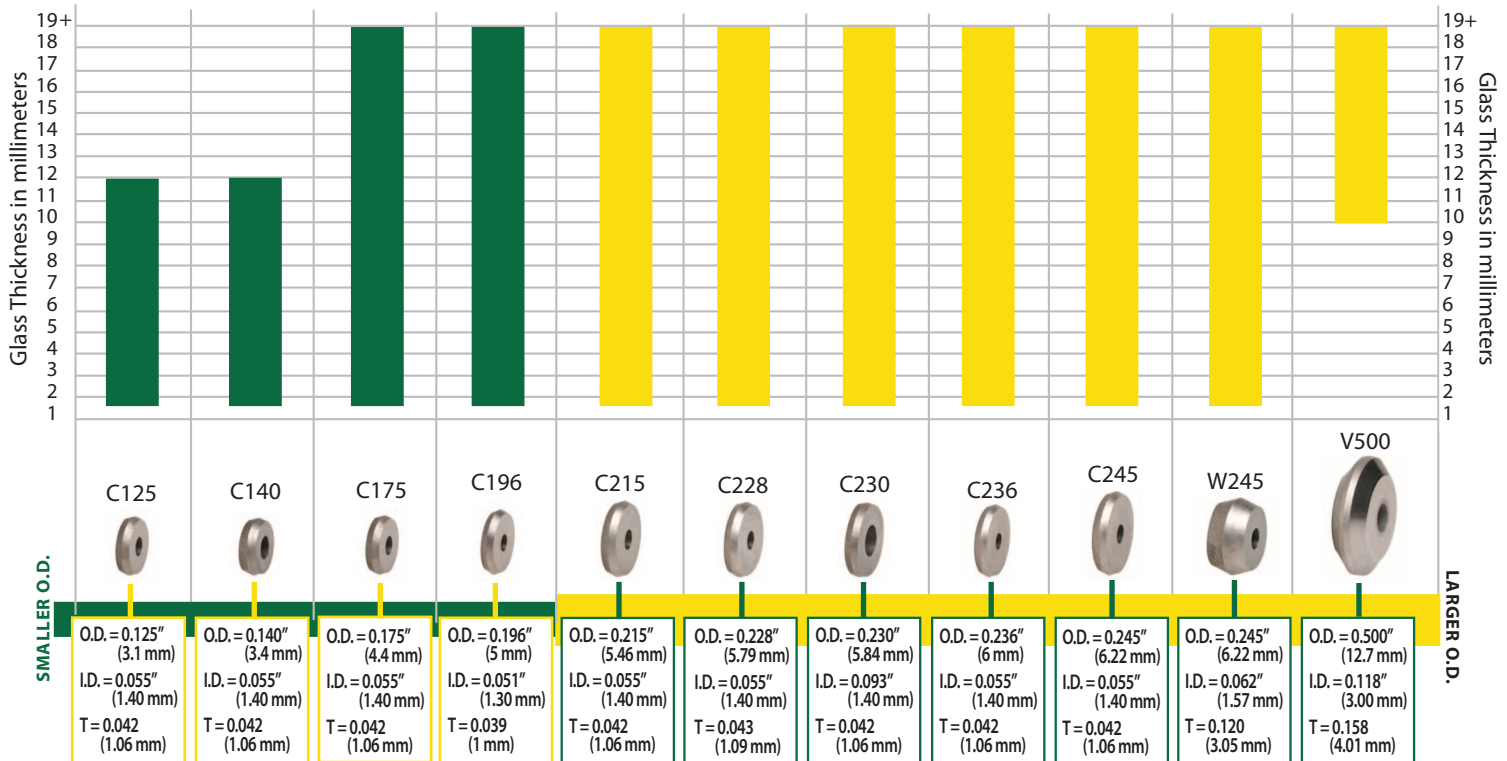
Carbide Cutting Wheels

Wheel
Guide



Fletcher-Terry scoring wheels are machined from specially formulated micrograin tungsten carbide – a material that was developed exclusively for Fletcher-Terry. This fine particle carbide composition gives each wheel extraordinary strength and resilience. Our formula also ensures that the cutting properties of our wheels remain consistent, which means superior edge quality for your end product.

- O.D. Selection:** The first step in the selection process is to determine the **outside diameter** (see figure 1 below) of the wheel, based on the thickness of the glass. Smaller O.D.'s provide for finer adjustments, larger O.D.'s provide extended life.

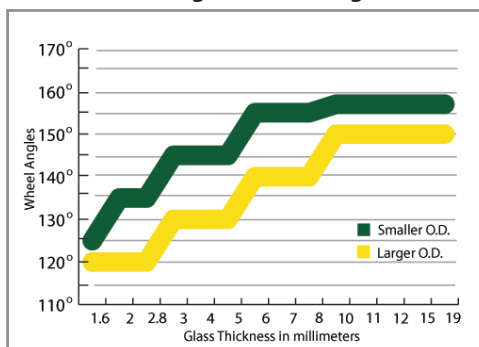


- I.D. Selection:** The second step is to determine the **inside diameter**. (see I.D. section of matrix above)

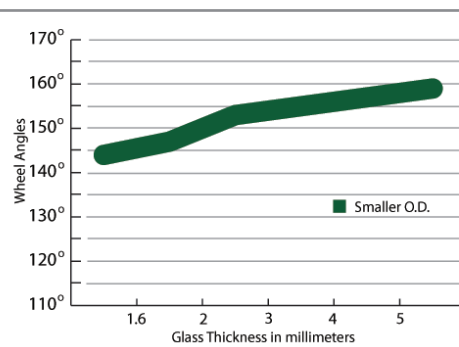
- Angle Selection:** Determine **type of cut**. Straight line or Shape (Radius Small vs. Large). Using the corresponding chart below, select the appropriate angle.

Shape Cutting Small vs. Large Radius

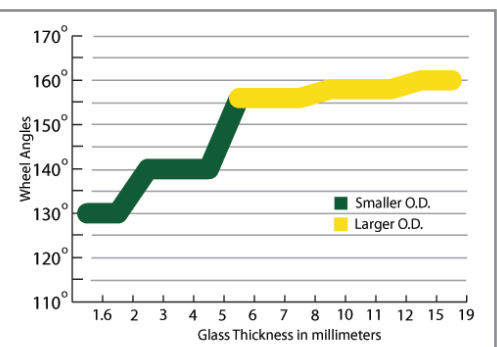
Straight Line Cutting



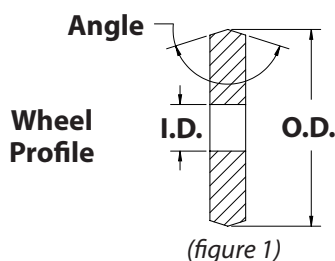
Radius of .25" (6.4 mm) - 4" (102 mm)



Radius of 5" (6.4 mm) (127 mm) +



- FINISH:** **RG (Regular Grind)** most versatile grind, used for both straight and shape cutting; **CR (Course Grind)** used for tube cutting and for irregular surface cutting; **PL (Polished)** used for very thin and specialty glass cutting.



Order as follows:

O.D. - I.D. - Angle - Finish

Wheel Outside Diameter
Wheel Inside Diameter

(RG) (PL) (CR)
Wheel Angle

Example:

C245 - 055 - 134 - RG

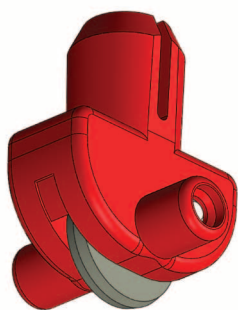
"Quick Change" Plastic Carbide Wheel Units

Our color-coded "Quick-Change" Carbide Wheel Units are lightweight and the colors help you quickly determine the correct wheel angle.



Each of Fletcher-Terry's wheel units *include*:

One carbide cutting wheel and one carbide axle. The axle maximizes cutting wheel life by providing a durable support for the wheel. Our units fit **Bottero** and **Grenzebach** glass cutting equipment.



- Minimize your change out time with Fletcher-Terry's quick change units. Change one component versus three - all in one package for ease of use
- Our "Quick-Change" Carbide Wheel Units are manufactured with wheel diameters of 0.196" (5 mm), 0.215" (5.5 mm) and 0.236" (6 mm)

Color-Coded "Quick Change" Carbide Wheel Units

Colors based on wheel angles for easy identification



"Quick Change" Metal Carbide Wheel Units

Our Metal Carbide Wheel Units feature our exclusive micrograin tungsten carbide cutting wheels with carbide or steel axles seated in a heavy duty metal clip. Metal wheel units slide into the pillar post and compress to the exact dimensions of the wheel slot with their spring tempered design. Their superior construction also helps eliminate pillar post slot wear – when the wheel unit is changed, any accumulated glass chips collected in the pillar post wheel slot are automatically cleared, reducing friction wear.



Glass Thickness	C175 (4.44 mm)	C215 (5.46 mm)	C245 (6.22 mm)
.04"/1 mm – .06"/1.5 mm	124°	120°	114°
.08"/2 mm – .09"/2.5 mm	128°	124°	120°
.12"/3 mm – .16"/4 mm – .19"/5 mm	140°	134°	128°
.23"/6 mm – .32"/8 mm	152°	145°	140°
.39"/10 mm – .49"/12 mm	154°	152°	145°
.63"/16 mm – .75"/19 mm	160°	154°	152°
.87"/22 mm – 1.00"/25 mm		160°	154°
1.24"/32 mm			154°

ATF and M1 Wheel Inserts

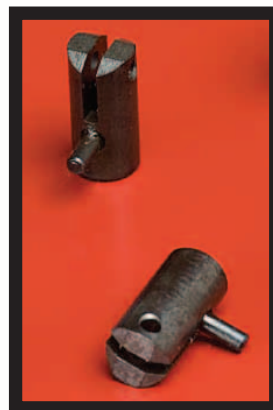
Our specially designed wheel inserts provide convenience and superior quality. Made from hardened steel, they're easy to remove and replace, yet extremely durable.

Many different designs of pillar post are available to accept both ATF and M1 wheel inserts. Special design applications can also be accommodated.

The industry known "ATF" was design and patented by Arthur Terry Fletcher.



ATF Wheel Inserts:
Fletcher-Terry's patented ATF inserts are known worldwide as state-of-the-art. Our ATF wheel insert's proprietary "positive lock" capability guarantees the insert will not jar loose even under extreme shock or impact.



M1 Wheel Inserts:
Our M1 wheel inserts feature a bayonet stem that makes it easy and quick to mount into a pillar post. They're designed to use standard wheels and accept ACI-054-180 carbide axles.

Fletcher's ATF

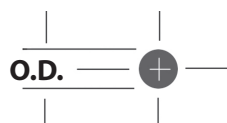
Ref. #	Description
125001900	0.055 (1.4 mm) wheel I.D. (C175,C215,C245 carbide wheels)
125002000	0.062 (1.6 mm) wheel I.D. (C175,C215,C245 carbide wheels)
125002400	0.055 (1.4 mm) wheel I.D. (C165,C228 carbide wheels)
125002800	0.062 (1.6 mm) wheel I.D. (W245 carbide wheels)
125002900	0.062 (1.6 mm) wheel I.D. (C175,C215,C245 carbide wheels)
125003600	0.093 (2.4 mm) wheel I.D. (C230 carbide wheels)

Fletcher's M1

Ref. #	Description
125004001	(C162, C221, C228 carbide wheels)
125004002	(C175,C215,C245 carbide wheels)
125004004	(C162, C228 carbide wheels)
125004006	(C125, C140 carbide wheels)

(All M1 inserts have 0.055" (1.4 mm) wheel I.D.)

Carbide Axles

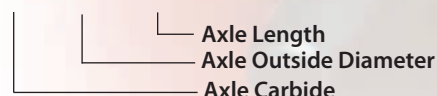


Order as follows:

ACI – O.D. – A.L.

Example:

ACI – 054 – 180



Carbide Axles: Fletcher-Terry precision ground tungsten axles are available in outside diameters of 0.054" (1.37 mm) and 0.062" (1.57 mm) in six different lengths: 0.118" (2.99 mm), 0.180" (4.57 mm), 0.201" (5.10 mm), 0.250" (6.35 mm), 0.265" (6.73 mm) and 0.335" (9.39 mm)

Customers requiring axles of special lengths or outside diameters should contact Fletcher-Terry.



Pillar Posts & Wheel Holders

After you have identified your cutting wheel O.D., angle and insert, the next step in **Fletcher's Matched Component Technology** is the selection of the proper pillar post. The step by step process below provides the key decision points that guide you in making the right selection.

Fletcher manufactures over **150** different configurations and will design a pillar post to meet your production requirements.

What you need to know when ordering?

MACHINE TYPE - **Ba** (Bando); **Bav** (Bavelloni); **Bi** (Billco); **BO** (Bottero); **By** (Bystronic); **GED** (GED); **GI** (Glaston); **Gr** (Grenzebach); **He** (Hegla); **Li** (Lisec); **OI** (Olbricht); **Ta** (Tamglass); **OTH** (other)
(see images of Machine Types at bottom of this page)

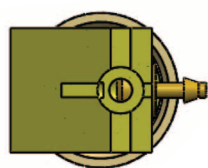
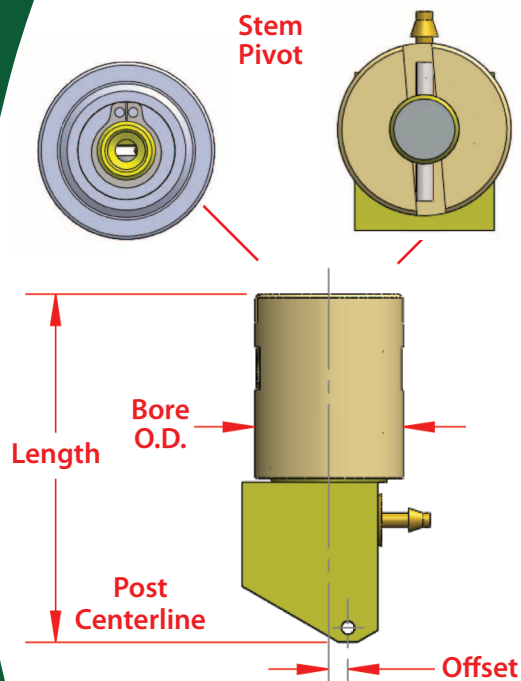
BORE O.D. - Measurement in **inches** or **mm** of **INSIDE Diameter** of **machine** **OR** **Post OUTSIDE Diameter** (0.760", 0.623") ; NA if unsure

LENGTH - **Length** of Post needed ; NA if unsure

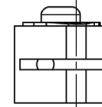
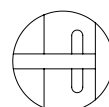
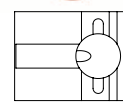
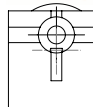
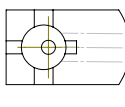
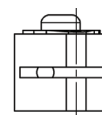
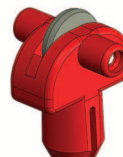
OFFSET - Distance from wheel centerline to post centerline
Standards: 0.080" (2.0 mm) - Pattern Cutting
0.125" (3.2 mm) - Faster Straight Line Cut (Sitter Bridge)
0.250" (6.4 mm) - Faster Straight Line Cut (Float Line Cross Cut)

SWIVEL TYPE - Allows cutting head to travel with least amount of resistance. **Standards:** 9° ; 18° (normal cutting) ; 90° shape cutting; 360° shape cutting) **Self Aligning** (SA) **OR** **Self Centering** (SC)

INSERT TYPE - **ATF** **M1** **PC** **METAL** **NONE**
(axle held in post stem)



INSERT TYPE
(Wheel Holder)



MACHINE

BORE O.D.

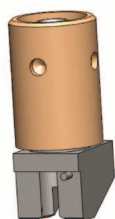
LENGTH

OFFSET

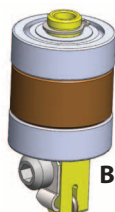
SWIVEL TYPE

INSERT

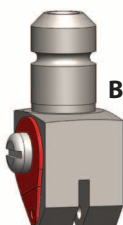
MACHINE TYPES



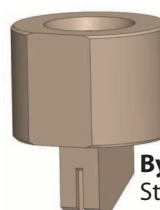
Gr & BO
(Grenzebach)
(Bottero)



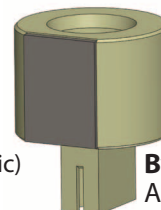
Ba (Bando)



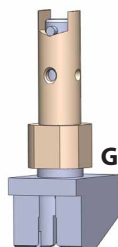
Bi (Billco)



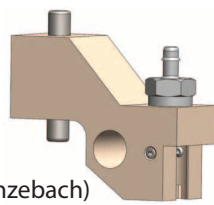
By (Bystronic)
Steel



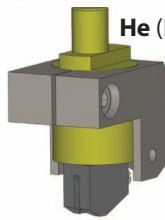
By (Bystronic)
Aluminium



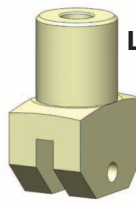
GED (GED)



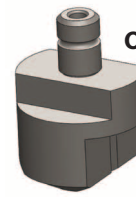
Gr (Grenzebach)



He (Hegla)



Li (Lisec)



OI (Olbricht)



ColorPAC Fletcher's packaging solutions offer the benefits of easy component identification, customized package labeling and improved product inventory control through the use of blister or colored tube packaging.

Our convenient packaging is designed to effectively package Fletcher's line of carbide cutting wheels, inserts, clip units and axles.

- Individually perforated for easy separation from master blister card
- Peel away corner for component removal reducing the risk of lost components
- 25 individually packaged components on each card – packages in 100 piece master shipper ready for customer's inventory storage
- Seal tight blister packaging to individually hold cutting wheels, axles, clip units & inserts

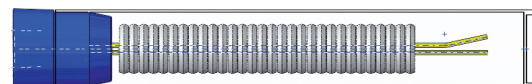


ColorCAP Fletcher offers the colorized tube cap* used to package our full range of carbide cutting wheels. The assortment of angles is color coded providing quick and accurate wheel identification; eliminating the possibility of using the wrong angle on the production line.

The top of the cap is also marked with the wheel angle in case the wheel holding pin is separated from the plastic tube.

This completes Fletcher-Terry's Matched Component Technology Solution.

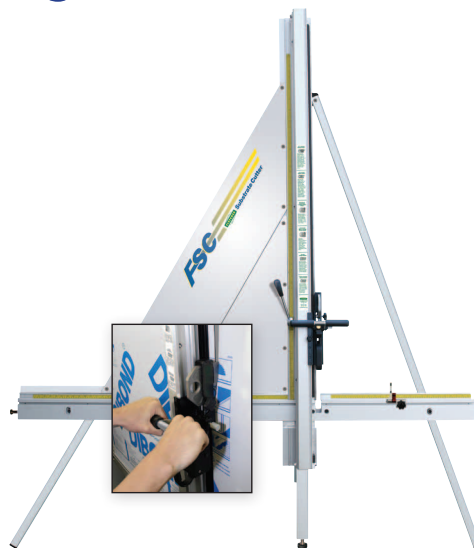
* Patent pending



Multi-Material Cutting Machines & Hand Glass Cutters



Wall-Mounted Glass Cutter



Fletcher's FSC Substrate Unit

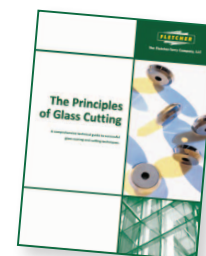
Free Standing Cutting Machine



Handheld Glass Cutters

Companies around the world trust Fletcher's Glass Cutting Technology. Continued advances in wheel, post, axle, unit, and packaging technology ensures performance, reliability and customer satisfaction.

Please request a copy of Fletcher's white paper, "The Principles of Glass Cutting" An excellent Component Selection, Training and Trouble Shooting Guide.





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Since 1868.*

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