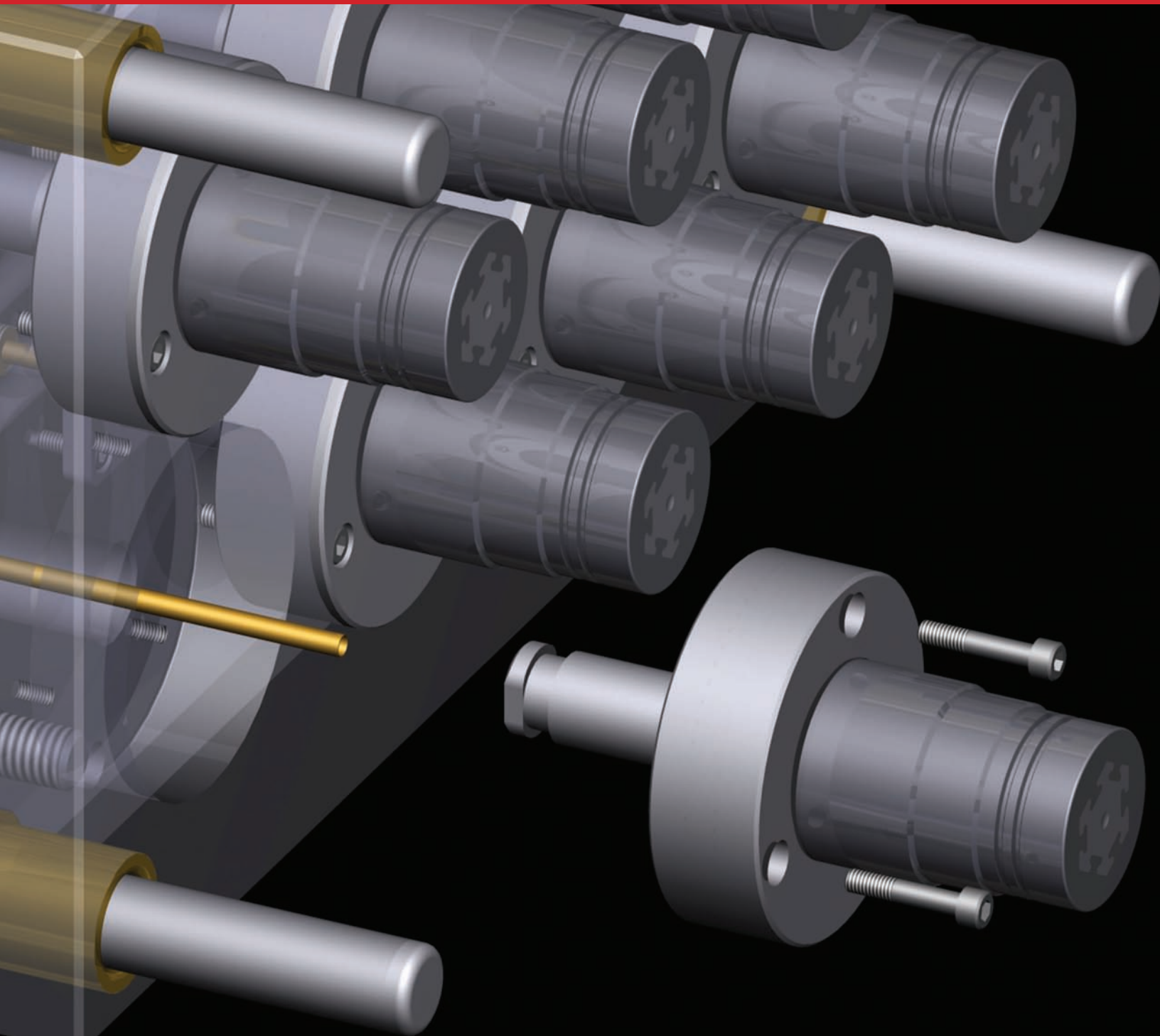




ROEHR
TOOL CORPORATION

Dove Tail Collapsible Cores



Freedom From Past Limitations

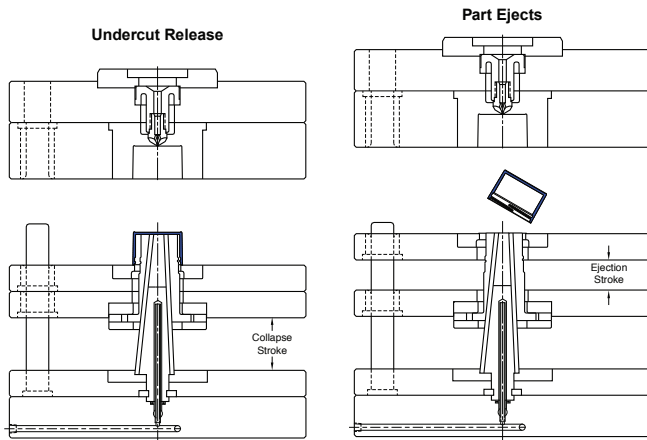
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Simplified Mold Design

The DT Collapsible Core is a positive, mechanically actuated collapsible core that eliminates complex gear and rack approaches, resulting in a simpler mold and a faster cycle time.

The maintenance advantage is dramatic due to a patented quick-lock feature that allows removal and servicing of the core unit while the mold is still in the press.

The DT Core's compact design allows for shorter stack height, tighter cavity spacing, and also creates opportunities for use in slides or on the stationary side of the mold.



DT Cores use a simple two-stage ejection design.

Other advantages of the DT Core include:

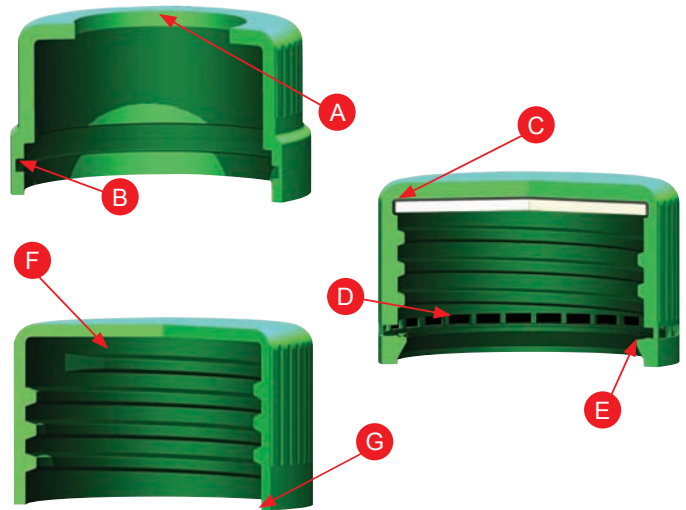
- Faster cycle time
- Mechanical operation
- Serviceable while in the press
- Center cooling channel provided
- Four standard sizes available
- Customs available from 7mm-200mm diameters
- Collapse amount: 5% to 7% per side
- Materials are A2 (1.2363) and D2 (1.2379) hardened steel



A patented quick-lock feature enables fast and easy removal of DT Cores from the mold while it is still in the press.

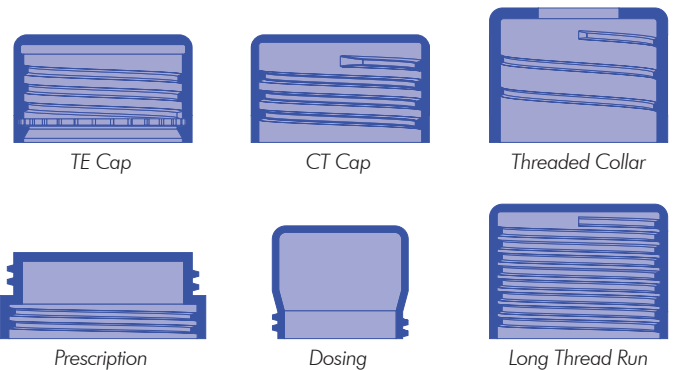
Improved Part Design

DT Cores offer a variety of ways to improve on part design, resulting in additional cost savings over the life of the tool. Following are some proven examples.



- A** Solid shut-offs
- B** O-ring groove
- C** Retention features for liners, inserts, and more are possible
- D** Slots, holes or tamper evident serrations are possible
- E** Strong, reliable snap fit designs
- F** Threads only where you need them, allowing for better steel conditions
- G** Thinner wall sections possible because anti-rotation feature is not needed

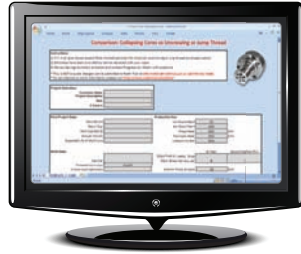
DT Cores offer advantages to a wide range of industries including Plumbing, Irrigation, Electrical, and Medical. Below are examples of closures molded for the Packaging industry.



Mold Rebuilds

DT Collapsible Cores offer a unique opportunity to revisit older tooling designs and rebuild or refurbish the molds for maximum production efficiency and profitability.

- Breathe new life into old unscrewing molds
- Convert to DT Cores through replacement mold or back half rebuild
- Do the Math... Let Roehr Tool help you calculate the ROI for your next project at www.roehrtool.com/Math



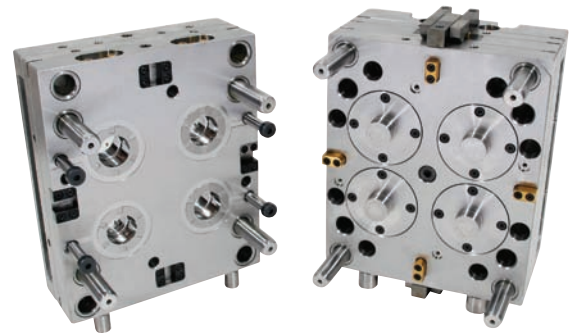
- Ideal for clean room production - no hydraulics or lubrication needed
- Faster cycle time with better part quality.



Standard Tool Designs

The DT Collapsible Core is ideal for use with "kit style" tooling because of its user friendly, compact design.

- Exclusive 1 to 4 Cavity ProtoBridge Tooling allows for various types of caps to be prototyped within a standard "kit" when used with DT Cores
- Pre-engineered production tool designs are also available for the mold engineer's convenience.



1 to 4 Cavity ProtoBridge Mold

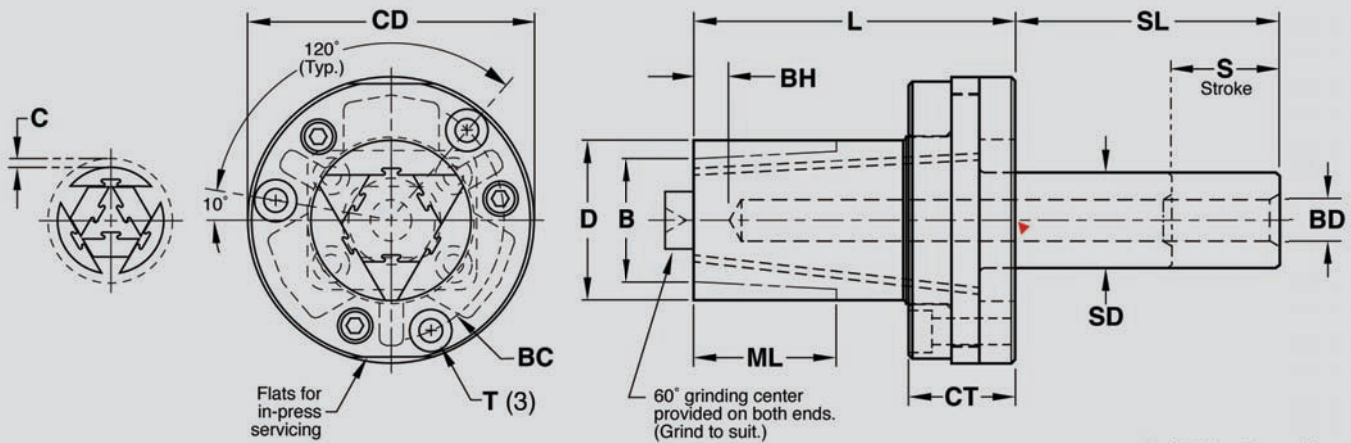
Custom Core Design

In addition to the standard DT Core sizes available off-the-shelf, Roehr can provide custom solutions for any requirement.

Recently, Roehr Tool was tasked with the challenge of creating a custom 10mm DT Core, specially designed for the medical devices industry. The advantages of this smaller DT Core include:

- A deeper, full diameter undercut for reliable fit with a mating part

Catalog Offering



Note: All dimensions and tolerances are in millimeters.

► CAD insertion point

CATALOG NUMBER	D Maximum Outer Diameter	B Minimum Inner Diameter +3°/Side	ML Maximum Molding Length	C Maximum Collapse	CD Carrier Diameter +0.00 -0.05	CT Carrier Assembly Thickness ± 0.05	L Core Length +0.01 -0.00	SL Shaft Length	SD Shaft Diameter +0.00 -0.02	BD Cooling Hole Diameter	BH Distance to Cooling Hole	BC Mounting Screw Bolt Circle	T Mounting Screws	S Maximum Collapse Stroke
DT18	21	17	22	1.1	53	21	60	60	16	6	6	40	M5 x 25	34
DT28	33	25	28	1.6	60	22	67	60	20	8	8	47	M5 x 25	38
DT38	42	33	43	2.1	76	28	85	60	25	10	10	60	M6 x 35	54
DT48	54	42	50	2.4	98	37	104	70	30	12	12	78	M8 x 40	62

CASE STUDY: MOLD-RITE PLASTICS

Mold-Rite Plastics, Inc. was contemplating whether to refurbish or replace an old 48-cavity unscrewing mold that was manufacturing a viable and in demand 24mm cap.

After learning about DT Collapsible Cores, Mold-Rite was able to do the math and see the cost advantages of replacing the 20-year-old mold with one utilizing new technology that would run faster and simpler, with less maintenance and downtime. The results and cost savings were dramatic:

Original Mold	New DT Core Mold
48 cavity	24 cavity
24-second cycle	10-second cycle
7,200 pcs/hr	8,640 pcs/hr
300 ton machine	200 ton machine

Roehr Engineering Manager Dave Helenius said, "There are no longer any racks or gears, and no hydraulic core pull. Instead, the DT Cores are easier to install and the mold is easier to set up in

"Everything went very smoothly and the overall results speak for themselves."

the press. All of these factors add up to a much simpler 'open-shut' tool and ease of maintenance."

"The technical support was excellent," said Phil Titherington, senior design engineer and toolroom manager at Mold-Rite. "We learned proper handling, disassembly and assembly of the cores, as well as installation of the cores into the mold base. Everything went very smoothly and the overall results speak for themselves."



With DT Cores, no hydraulics or external core pull mechanisms are required.

CASE STUDY: A-1 TOOL

A-1 Tool was awarded a mold build involving four inserts with different threads that had to have the ability to be interchanged while the mold remained in the press.

Knowing that traditional unscrewing methods would never work, A-1's president, Geoff Luther, and Alfonso Arciniegas, Project Manager, contacted Roehr and found that DT Cores were the perfect solution.

"Not only were we faced with three different types of threads, but also different sizes," explained Arciniegas. "We're talking a 2-inch buttressed opening and a vent opening with a large pitch. The DT Core made it possible by simplifying the tool design, and it saved our customer money on the tool build."

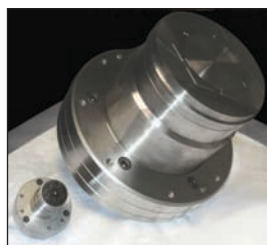
"We built a tool for our customer that's easier to run and it saved us from having to work with different sizes and types of threads."

"We were impressed that we were able to pull a much deeper undercut compared to other, more traditional styles of collapsing cores," added Luther. "Plus, having cooling capability in them was great. We were happy to see how well they cooled at the transfer to the individual segments. We were also amazed with the technical support and the finished product."

CASE STUDY: SCHAEFER MOLD

Schaefer Mold was asked to build two new, single cavity molds for a proprietary product molded using polycarbonate.

"The size of the part and complexity of the design made it impossible to run unscrewing or jump thread. However, the features of the new DT Cores were a perfect fit," said Schaefer's Design Engineer, Barry Francisco. "Our initial project required a 4.00" diameter DT Core. The



Pictured above is the 6.00" diameter DT Core utilized by Schaefer Mold.

"Utilizing the DT Core definitely helped us to simplify the mold design for a complex part."

second mold was more challenging and required a 6.00" diameter DT Core to mold a part that is 7.50" in diameter.

"Utilizing the DT Core definitely helped us to simplify the mold design for a complex part," he concluded. "Additionally, the robust segmented DT Cores versus the spring steel core design makes the tool run with less maintenance and fewer rejected parts."