CUMSA

INNOVATIVE SOLUTIONS
FOR YOUR MOLDS

A WORLD OF ENDLESS POSSIBILITIES

ZC COLLAPSIBLE CORE

THE MOST ADVANCED SOLUTION TO DEMOLD INTERNAL THREADS & UNDERCUTS

UNDERCUTS

EN

KEY BENEFITS

READY TO INSTALL, OPTIMIZED CONSTRUCTION

Supplied as a complete assembly, minimizing additional machining and assembly work. Custom-designed to meet the specific part and mold requirements.

COMPACT DESIGN

Helps reduce the space required inside the mold. In multi-cavity molds, the compact design also allows for reduced spacing between components.

SHORTER CYCLE TIMES

Unlike unscrewing molds, CUMSA's collapsible cores allow demolding to start before the part fully solidifies because the core collapses away from the undercut during ejection. This reduces cooling requirements and shortens overall cycle times by approximately 33%.

SIMPLE MAINTENANCE

Easy construction and integrated safety features facilitate handling and maintenance.

LONG SERVICE LIFE

Available in standard and DLC-coated versions.

PRODUCT OVERVIEW

A custom-engineered collapsible core designed to demold complex undercuts, threads and other negative geometries in injection-molded parts.

Each core is individually designed according to the part geometry & project requirements and supplied ready to install.

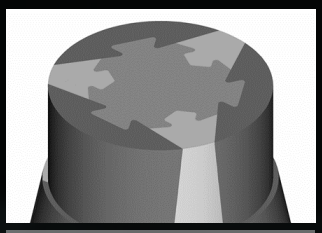
Suitable for single-cavity and multicavity molds.

PLAY

Configurations & Size Range

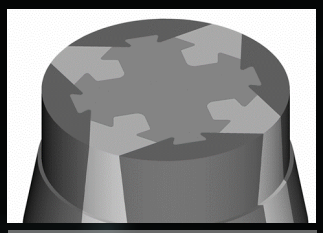
The required configuration depends on the diameter, depth and geometry of the feature to be released.

The different combinations of the segments allow demolding parts from ø6mm to ø 400mm.



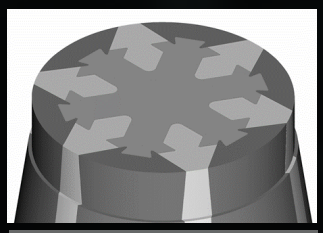
6 segments

The standard solution. Can make undercuts up to 12% of its diameter.



8 segments

It can create undercuts of up to 14% of its diameter. It can also go up to 23% if the mold has a double-ejection system.

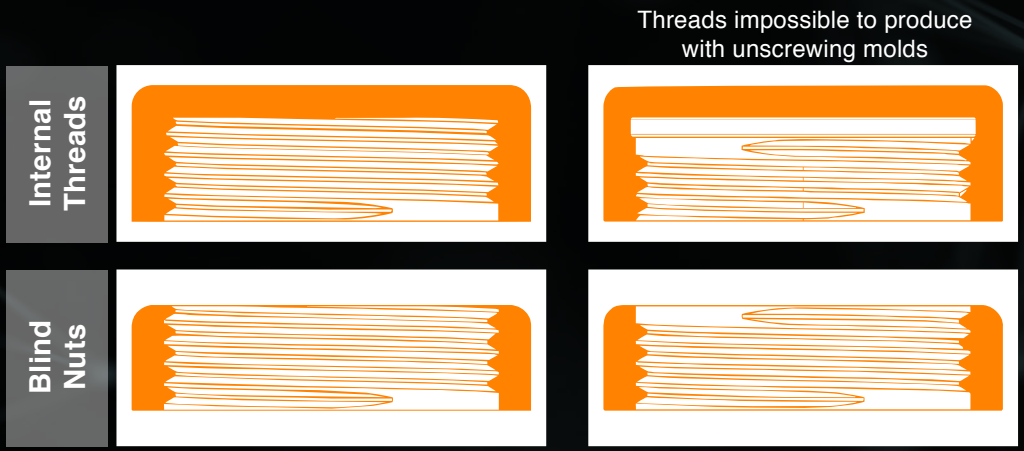


12 segments

Best suited for special solutions. It can make undercuts up to 14% of the diameter.

Possible Geometries

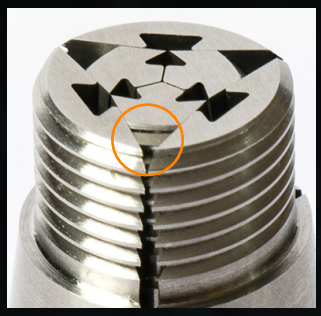
This allows for typical usages such as internal threads and blind nuts, which are open on both sides.



We love challenges! Send us your project and we'll find a way to make it real.

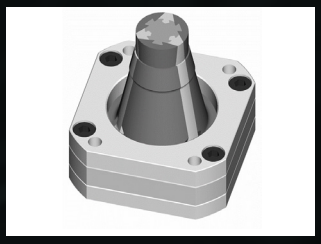
SYSTEM FEATURES

Integrated Safety Stop

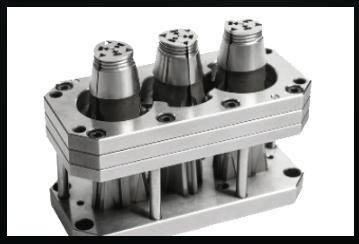


- Integrated into the corners of each collapsible segment.
- Prevents possible segment to segment collision eliminating the risk of damage when fully opened or in case of overtravel.

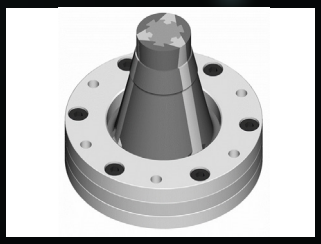
Retaining Rings System



Square Format



Stackable Format



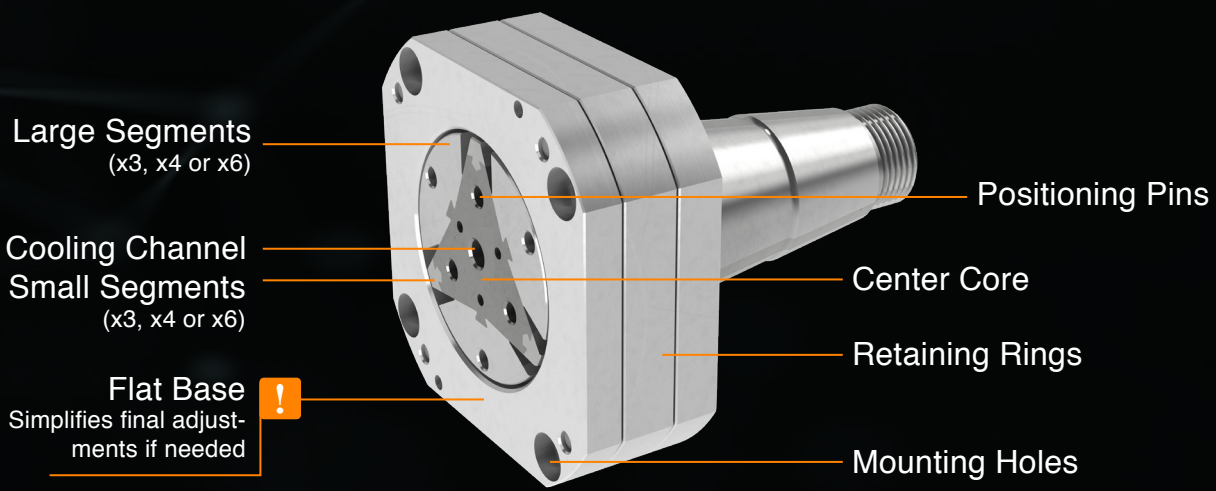
Round Format

Retaining rings can be supplied with square, stackable or round formats, depending on the available space and mounting requirements.

The square format is the most common, and comes with 4 mounting holes. The round format can be done with 3 or 6 mounting holes.

The stackable option allows several collapsible cores to share a common retaining ring, minimizing the space needed in the mold, and reducing its overall size.

Collapsible Parts



MATERIALS & SURFACE TREATMENTS

Materials

Middle Core:	Segments:	Retaining Rings:	Need other materials?
1.2379 53±1 HRC	1.2343 51±1 HRC	1.2344 49±1 HRC	Please consult!

Surface Treatments & Lifetime:

Maximum working speed: **100mm/sec.**

SUITABLE FOR APPLICATIONS OF UP TO	DESIGNED FOR APPLICATIONS OF UP TO
500.000 CYCLES	1 MILLION CYCLES
Standard	**DLC Coating**

The DLC coating provides high hardness and a low coefficient of friction, helping to:

- Extend core service life
- Reduce resin adhesion
- Protect against corrosion caused by exhaust gases
- Recommended for high temperature molds

APPLICATION EXAMPLES

From automotive components to medical devices, electrical housings and consumer products, CUMSA collapsible cores enable the production of complex components with internal undercuts and intricate geometries across a wide range of industries.

Typical applications include:

Automotive · Electrical & Electronics · Food & Packaging · Medical Technology · Furniture Sanitary & Plumbing · Fittings · Toys · Control & Regulation Systems · and many more.

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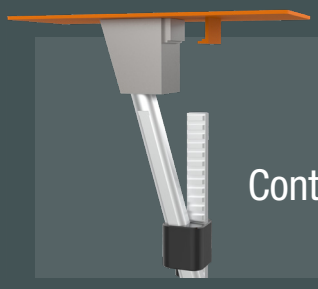

NEED HELP INCORPORATING CUMSA PRODUCTS?

Contact our team at technical@cumsa.com for a free project consultation.