

# BZ Hydraulic Locking Cylinder



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For use in Plastic Injection Molds  
& Die Casting Molds

Ideal for molds with side actions,  
slides or core pulls

# BZ Hydraulic Locking Cylinder

- Simplifies mold design & improves design flexibility - saving design time & effort
- Simplifies and reduces mold machining - saving machining time & effort
- Eliminates angle pins, heel blocks, slide retainers, and associated components

# BZ Hydraulic Locking Cylinder

- Reduces number of mold components
  - saving assembly/maintenance time & effort
- Smaller mold bases and stack heights are frequently possible - reducing material costs
- Shorter mold open/close strokes and shorter stack heights, may permit the usage of smaller presses - reducing molding costs

# BZ Hydraulic Locking Cylinder

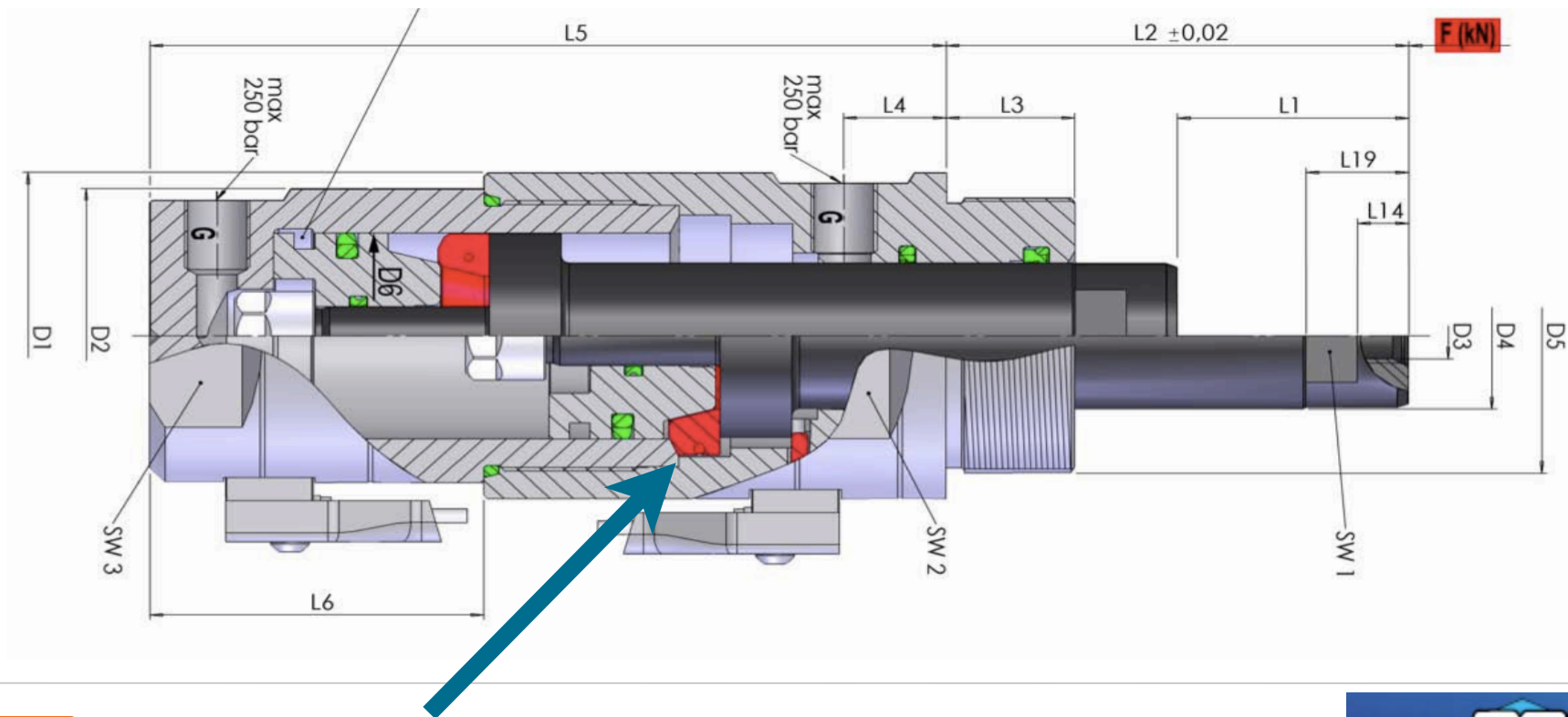
- Slides and cores may be moved independently of mold open/close movement
- This can lead to shorter cycle times
- Retracting slide or core during the cooling cycle, allows molder to minimize shrink onto slides and cores, which may reduce distortion around through holes - improving molded part quality

# BZ Hydraulic Locking Cylinder

- Some mold designs use (2) non-locking Hydraulic Cylinders
- This simplifies the design relative to designs that use angle pins
- However, it is still necessary to design a wedge or heel block that is actuated by a second non-locking Hydraulic Cylinder
- With a Locking Hydraulic Cylinder only (1) Locking Hydraulic Cylinder is necessary

# BZ Hydraulic Locking Cylinder

- Engineered with large robust locking segments
- in testing - Center Rod fails before segments!!!



# BZ Hydraulic Locking Cylinder

- Robust cam-finger design & engineering withstands heavy loads in compact package
- Robust design & engineering, and precision manufacturing, ensure long life & precision operation, with minimal maintenance
- All heat treating is performed in-house



# BZ Hydraulic Locking Cylinder

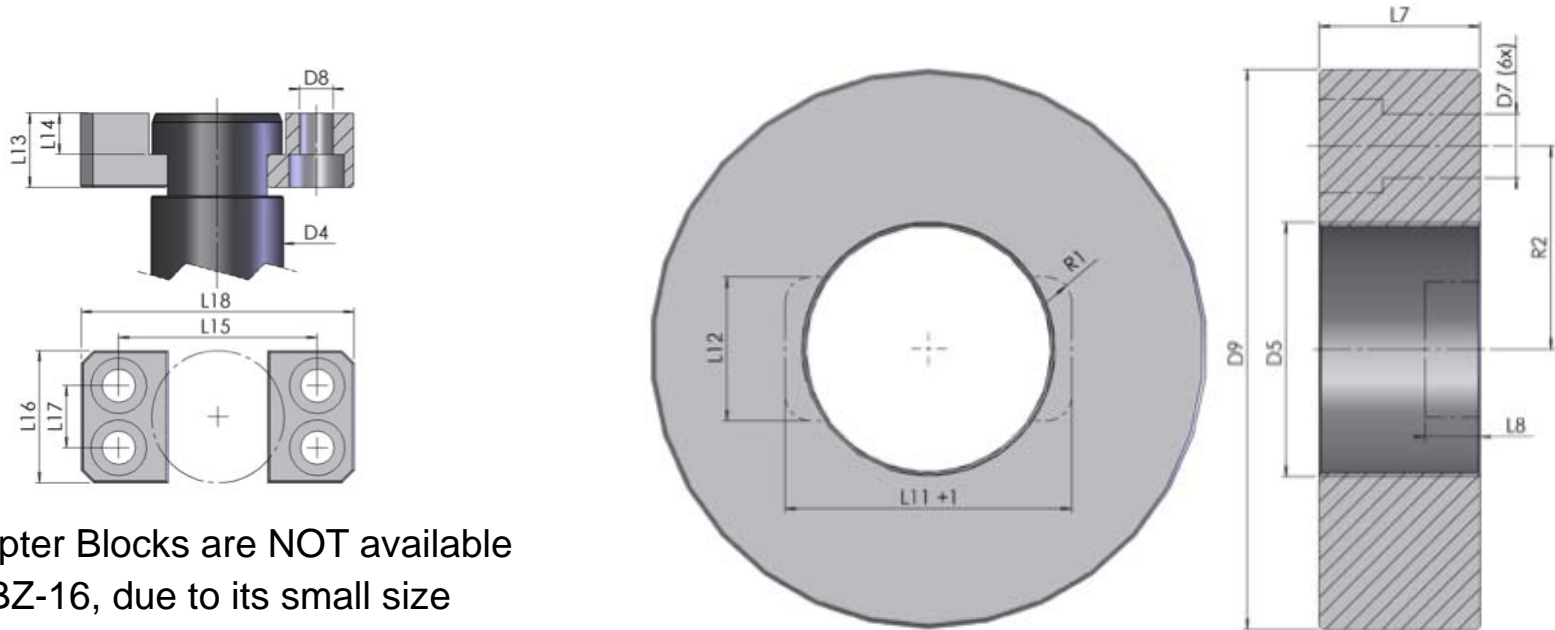
- Preloading is possible for use with molded parts having through holes on their sides
- May be actuated, in both directions - completely independent of mold movements
- Rated to 120oC with standard switches
  - rated to 180oC with high-temp switches

# BZ Hydraulic Locking Cylinder

- Available in (7) standard diameters
  - each diameter is available in (2) standard stroke lengths
- Custom strokes are readily available
  - shorter strokes use a stroke limiter
    - 1-2 week lead time, nominal extra cost
- Special sizes & custom products available

# BZ Hydraulic Locking Cylinder

- Mounting accessories are included
  - Anti-Torque Blocks prevent slide or core from rotating
  - Mounting Ring simplifies installation



Adapter Blocks are NOT available for BZ-16, due to its small size

# BZ Hydraulic Locking Cylinder

- Mounting Ring height may be reduced for final fit of Rod length (L2) during mold installation
- It is the mold builder's responsibility to ensure the Hydraulic Locking Cylinder and all attached slides and/or cores are in proper alignment and remain so during actuation and during molding

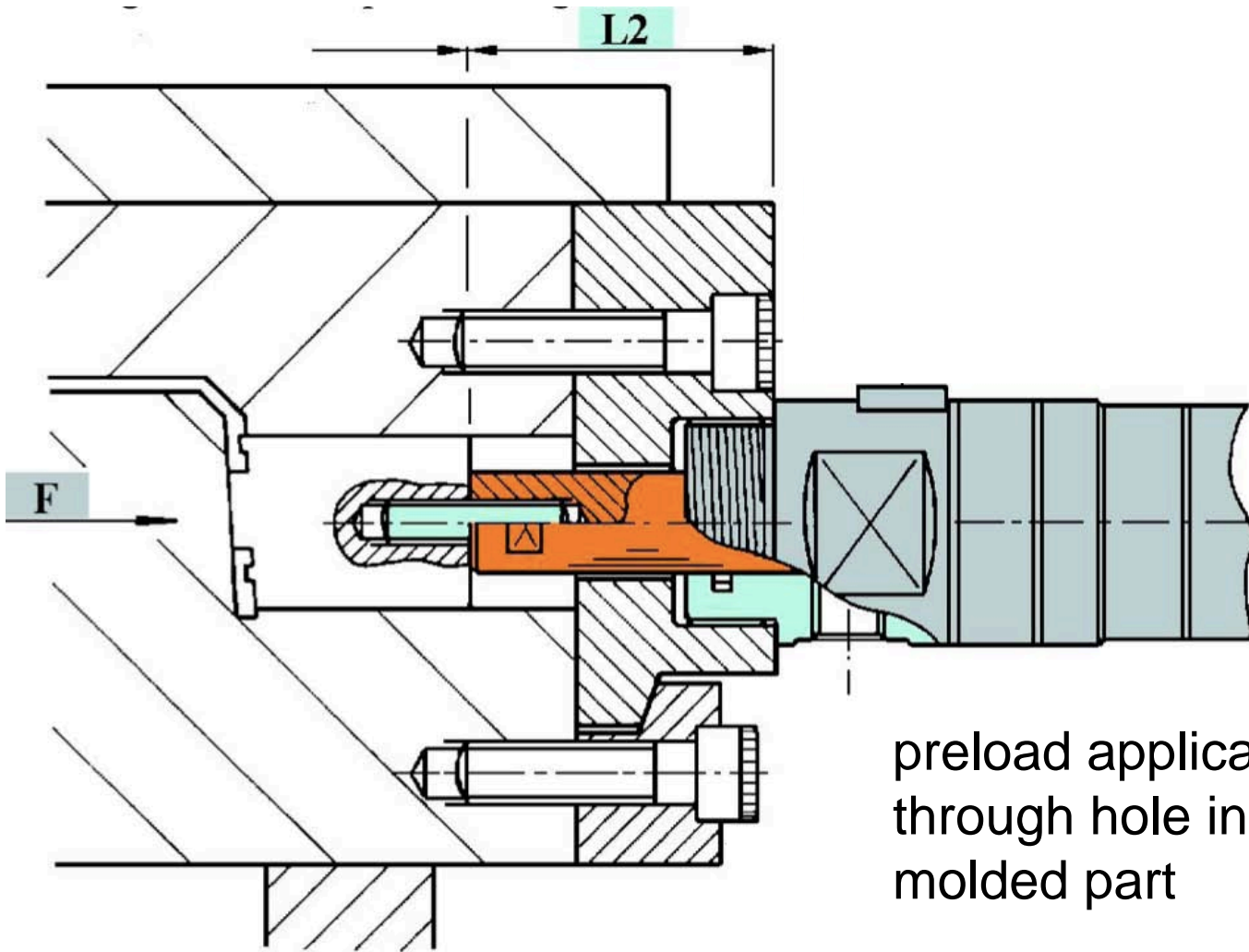
# BZ Hydraulic Locking Cylinder

- It is the mold builder's responsibility to ensure an adequate number and size of bolts are used to secure Hydraulic Locking Cylinder to the mold
- Designs that actuate more than (1) slide or core with (1) Hydraulic Locking Cylinder are possible
- It is the mold builder's responsibility to ensure that any mounting frames that are utilized and are able to withstand forces applied to them
  - HMM Solutions Inc will review mold designs and provide recommendations based upon our experience, but final responsibility remains with mold builder and/or designer

# BZ Hydraulic Locking Cylinder

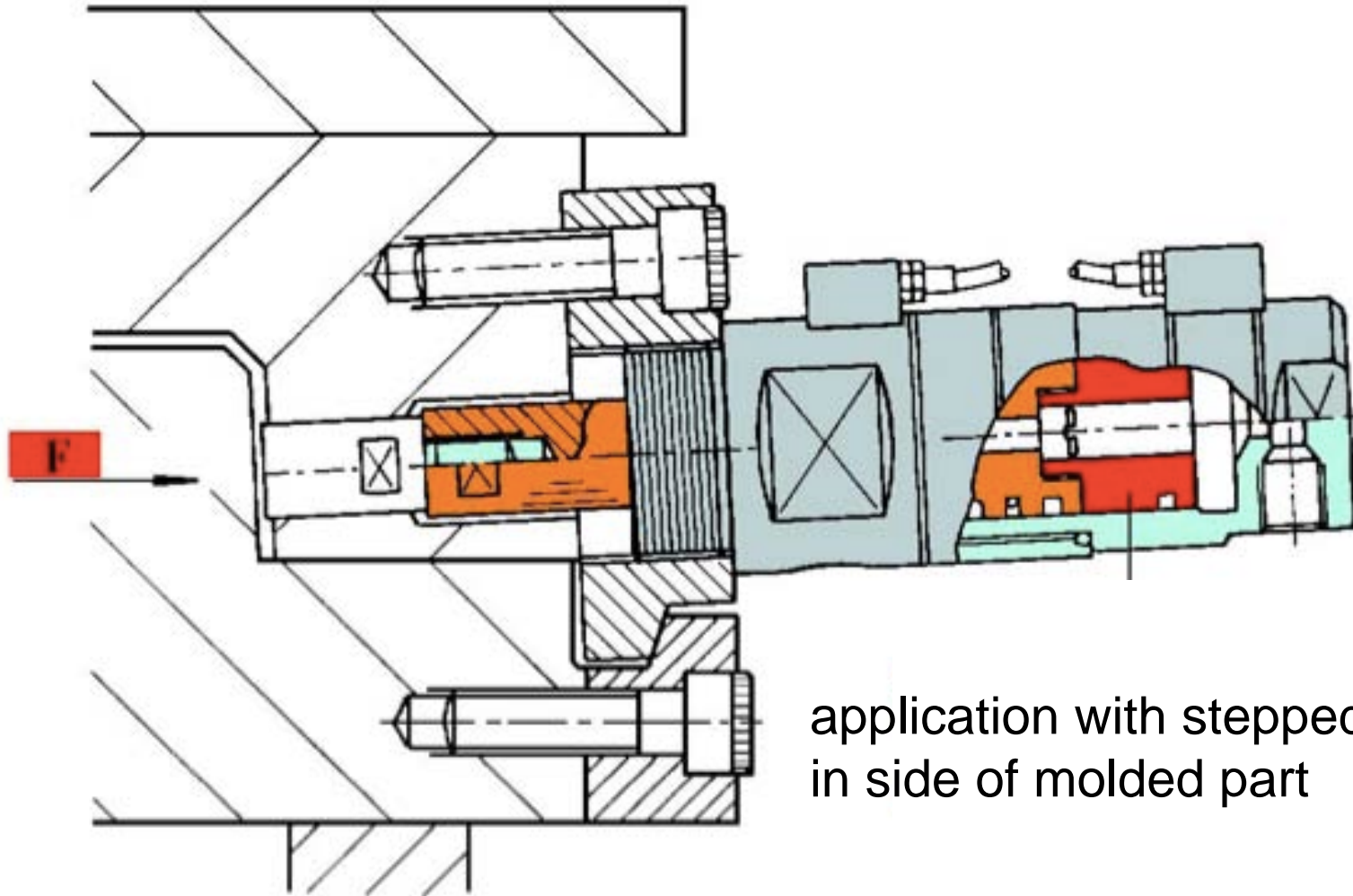
- BZ Hydraulic Locking Cylinder must achieve full forward & full back positions for proper operation
  - Sensors confirm full forward & full back
- To maintain segments in locked position a minimum of 60bar (860PSI) hydraulic pressure must be maintained when in full forward position
- Force calculations must include pre-loads & retraction forces

# BZ Hydraulic Locking Cylinder



preload application with  
through hole in side of  
molded part

# BZ Hydraulic Locking Cylinder

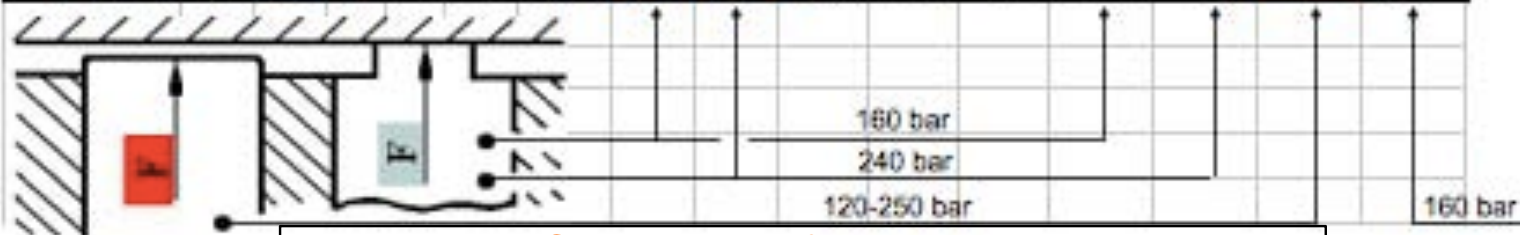


application with stepped hole  
in side of molded part



# BZ Hydraulic Locking Cylinder

Art. Nr.	L1	L2	L3	L4	L5	L6	V	V	SW1	SW2	SW3	F(KN)	F(KN)	F(KN)	F(KN)
BZ-16-20	20	45	15	12	90	30	0.12	0.18	12	30	30	35	40	80	4
-40	40	65			110	50	0.20	0.27							
BZ-20-30	30	60	18	14	115	47	0.12	0.18	14	38	41	50	70	100	6
-60	60	90			145	77	0.20	0.27							
BZ-25-35	35	70	20	15	125	51	0.08	0.12	18	46	41	65	90	130	8
-70	70	105			160	86	0.10	0.15							
BZ-32-45	45	90	25	20	155	65	0.12	0.17	24	55	50	110	150	200	12
-90	90	135			200	110	0.15	0.20							
BZ-42-50	50	105	32	24	185	71	0.10	0.15	32	75	65	160	220	280	17
-100	100	155			235	121	0.15	0.20							
BZ-50-60	60	130	42	26	216	78	0.20	0.25	41	90	80	300	400	500	32
-120	120	190			276	138	0.25	0.35							
BZ-60-75	75	155	50	36	260	100	0.20	0.25	50	110	95	400	600	700	43
-150	150	230			335	175	0.25	0.35							
BZ-75-100	100	200	60	55	335	120	0.30	0.35	65	130	120	550	850	1000	67



Stepped Hole

Through Hole  
with Preload

Compression of Rod  
at 160/240 bar,  
for use with Preload

Force still available  
after Preload has  
been applied

Pulling Force

# Contact Info

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