

HZ cylinder shown above, HZS shown on Page 2

HyperCyl (HZ) & (HZS) Rapid Cycle unit – Power Stroke ONLY

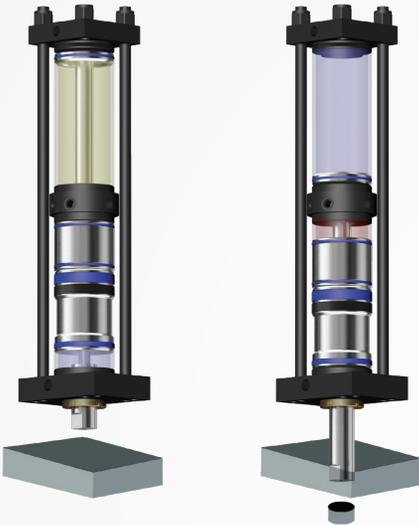
Self-contained system ideally suited for a wide range of High Speed, High Force yet short stroke Assembly and Forming applications. Self-Contained system with a small profile for simple machine mounting.

The HZ or HZS requires a single pneumatic valve for operation, making them an ideal choice for an efficient, high force, high speed cylinder with adaptable usage.

- Power Strokes up to 4.00" [50mm] using 0.25" increments for HZS, and up to 1.50" Power Stroke for HZ
- Perfect for Stamping, coining, marking, high-speed punching where strokes are short and force is high
- 670 lbs. – 40,000 lbs. [2.9kN – 177.9kN] using up to 100 PSI [6.9 bar] shop air.
- Add the IntelliCyl™ option for Force & Distance monitoring
- Other options – Non-Rotate, Pneumatic Port positions 1-4, Rod Extensions, Rod thread pattern (male or female), ELT auto power stroke sensor, BSPP or "G" pneumatic porting (not available on 1-Ton & 2-Ton units), Pressure Switches, Remote Pressure Block (PB-1), NFPA mounting available on request.

STROKE SEQUENCE

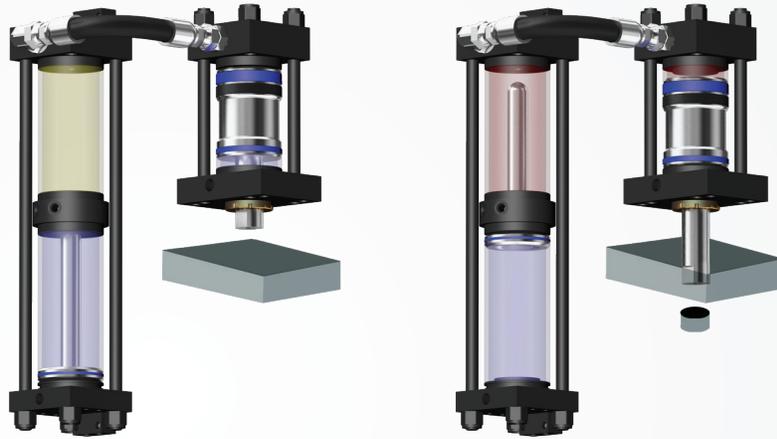
HZ



Cylinder Retracted

Power Stroke

HZS



Cylinder Retracted

Power Stroke

ADVANTAGES

-  **Total Air/Oil Separation** – Supply air is isolated from the internal reservoir, providing high speed operation and ability to function in any position.
-  **Convenience of air with force of hydraulics.** Less maintenance, less mess and less noise pollution than hydraulics, higher forces than pneumatic. Can directly replace existing hydraulic systems with the HZS.
-  **Energy Efficient** – **HyperCyl** uses approximately 1/4 of the air required for multi-piston air cylinders. **HyperCyl** uses approximately 1/2 the energy per hour versus hydraulics
-  **No stored energy.** Many safety systems require no stored energy in a product during e-stop. **HyperCyl** has no internal springs, which can break.
-  **HyperCyl Options** – Stroke Limiter (HZS only), pressure switches, gage kits, Rod Locks, P.O. Checks, LVDT and/or load cell (IntelliCyl™), force/distance monitoring with **HyperView-Press**.
-  **No External Adjustments** - Standard **HyperCyl** units require no external adjustments that can adversely affect unit performance.
-  **Limited Lifetime Manufacturers Warranty.** Enough said.

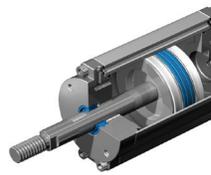
APPLICATIONS/USES

HZ cylinder shown intensified.



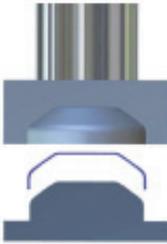
Assembly

- Press to a position
- Press to sensor
- Press to force



Insertion

- Seal, bearings
- Pistons, plugs
- Ball joints, rings



Forming

- Press and hold a constant force
- Press to shape
- Press to position
- Press to thickness



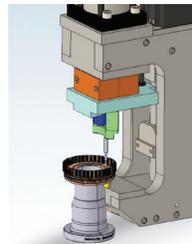
Riveting

- Upset rivet to a force
- Upset rivet to a position
- Upset rivet to a relative dimension of the part
- Upset rivet to a functionality specification



Press to Shoulder

- Press to force
- Press to position
- Press to force/distance using signature analysis



Piercing/Punching/Shearing

- Plastic
- Steel
- Aluminum
- Cast

Applications listed are but a sampling of what we can offer. There are numerous applications requiring medium to high forces NOT listed here to which a HyperCyl can be used including replacing hydraulic cylinders & pneumatic cylinders. Contact the factory for more details.



-LTI, -LT, -LC



PAF Coupling



PAQ Quick-Change Coupling



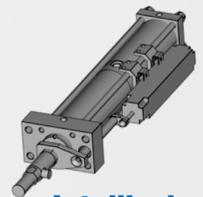
-AL Rod Lock



**-TSL Stroke Limiter
(for HZS only)**



-NR Non Rotate



Intellicyl



HZ

Size/Tonnage	Working Ratio (Force per PSI)	Service Ratio (Hydraulic per PSI)	*Approach Force per PSI (Lbs.)	*Retract Force per PSI (Lbs.)	(1) Volume / CF (complete cycle)	Min Force Lbs. (@ 30 PSI)	Max Force Lbs. (@ 100 PSI)
HZ-1	22.34 : 1	7.11 : 1	3.14	2.35	47.848 / 0.0277	670	2,234
HZ-2	54.54 : 1	11.11 : 1	4.90	4.11	96.024 / 0.0556	1,636	5,454
HZ-4	87.62 : 1	10.56 : 1	8.29	6.81	164.107 / 0.0949	2,628	8,762
HZ-8	158.86 : 1	12.64 : 1	12.56	10.81	285.234 / 0.165	4,765	15,886
HZ-10	259.63 : 1	13.22 : 1	19.63	16.49	460.482 / 0.2665	7,788	25,963
HZ-15	314.16 : 1	16.00 : 1	19.63	16.49	513.076 / 0.2969	9,424	31,416
HZ-20	387.85 : 1	19.75 : 1	19.63	16.49	578.941 / 0.335	11,636	38,785

Note: (1) Air consumption values for 4.00" Total and 0.50" Power stroke. Multiply CF by cycles per minute for total CFM usage.

HZS

Size/Tonnage	Working Ratio (Force per PSI)	Service Ratio (Hydraulic per PSI)	*Approach Force per PSI (Lbs.)	*Retract Force per PSI (Lbs.)	(1) Volume / CF (complete cycle)	Min Force Lbs. (@ 30 PSI)	Max Force Lbs. (@ 100 PSI)
HZS-1	22.34 : 1	7.11 : 1	3.14	2.35	47.848 / 0.0277	670	2,234
HZS-2	54.54 : 1	11.11 : 1	4.90	4.11	96.024 / 0.0556	1,636	5,454
HZS-4	87.62 : 1	10.56 : 1	8.29	6.81	164.107 / 0.0949	2,628	8,762
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HZS-20	387.85 : 1	19.75 : 1	19.63	16.49	578.941 / 0.335	11,636	38,785

Note: (1) Air consumption values for 0.50" Power stroke. Multiply CF by cycles per minute for total CFM usage.