DRAC® 2 SL

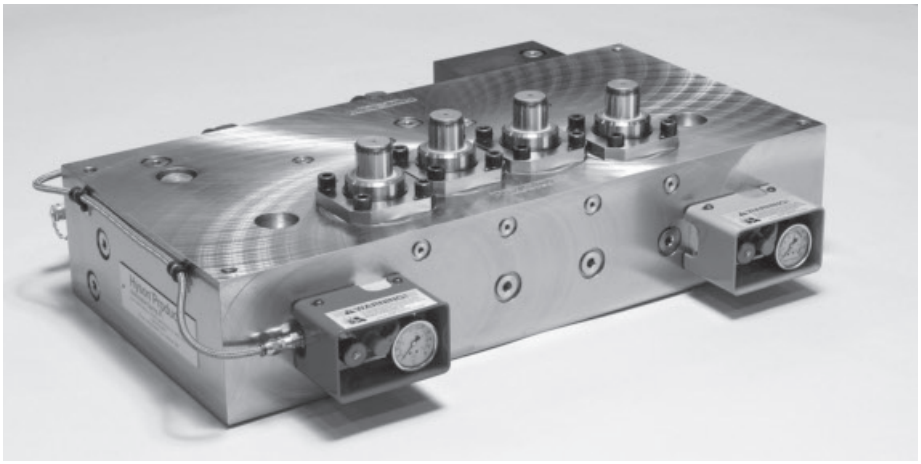
Soft Lock Delayed Return System

One of Hyson Products' controllable manifold systems, the DRAC® 2 Soft Lock Delayed Return System is engineered for use in metal stamping applications that require a delayed return of the pressure pad. It is a nitrogen manifold system with delay cylinders that operate as normal nitrogen gas cylinders, providing force on the pad in the die. The DRAC® 2 Soft Lock Delayed Return System is designed for both upper and lower applications.

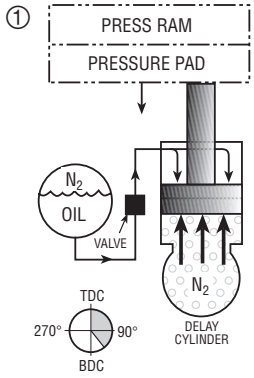
The DRAC® 2 Soft Lock Delayed Return System offers these advantages and more!

- Consistent forming pressure
- No valves to adjust
- No need for external tanks and hoses
- Minimal pad springback
- User-adjustable dwell time
- User-adjustable speed return
- Multiple actions from a single action press
- Reduction of redraw operations

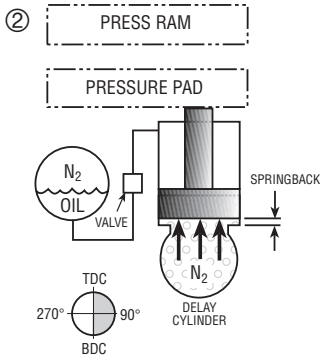
To find out how controllable manifold system technology can improve the efficiency, flexibility, and reduce stress-related downtime in your metal stamping operations, contact Hyson Products today at 800-876-4976 or 440-526-5900!



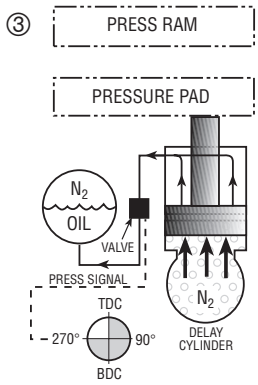
How It Works



As press ram comes down, oil from prime cylinder is pumped into top side of delay cylinder.



Just after tdc, valve closes automatically, trapping oil on top side of delay cylinder, keeping delay piston and pressure pad in lockdown position with minimal amount of springback.



At customer-determined point in press stroke, a press signal opens valve, allowing delay cylinder to extend.

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Designing a DRAC® 2 Soft Lock Delayed Return System

This example is provided as a guideline only. To determine actual system dimensions, complete the application data sheet and return to Hyson Products' Customer Service Department.

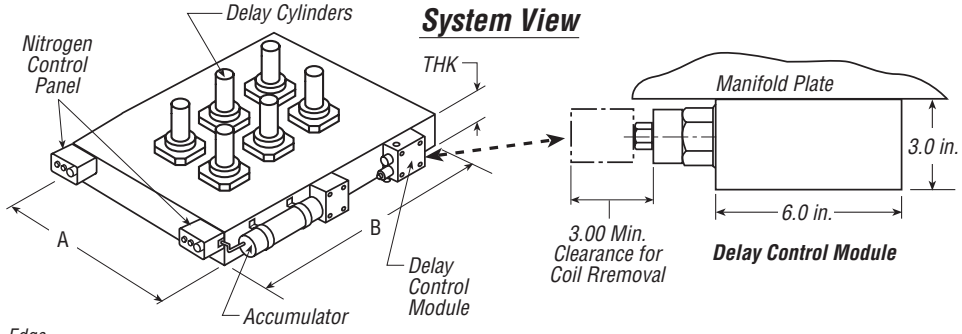
Design Sequence:

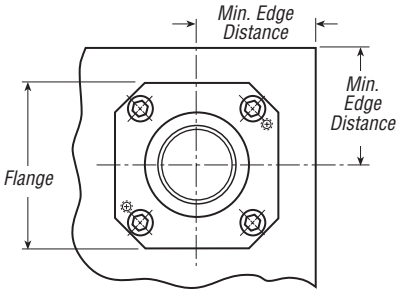
1. Min. number of cylinders = forming tonnage required divided by cylinder force divided by 0.88.
2. Min. manifold volume = number of cylinders x cylinder force x cylinder stroke x volume factor (see Table A).
3. Manifold thickness = 88.9 mm (3.50 in.) + cylinder stroke. Min. thickness is 152.4 mm (6.0 in.).
4. Manifold volume divided by manifold thickness = A x B (see System View).
5. Manifold volume is calculated in mm^3 or in^3.

Table A - Volume Factor

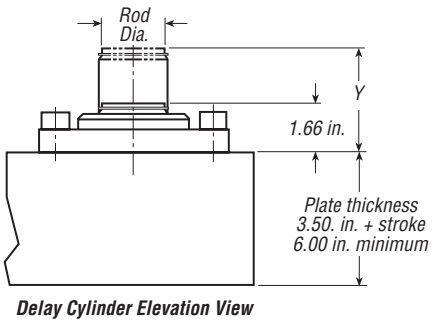
Cylinder Force \ Stroke	12.7 mm *0.5 in.*	25.4 mm *1.0 in.*	50.8 mm *2.0 in.*	76.2 mm *3.0 in.*	101.6 mm *4.0 in.*	127.0 mm *5.0 in.*	152.4 mm *6.0 in.*	177.8 mm *7.0 in.*	203.2 mm *8.0 in.*
22.2 kN *2.5 Ton*	31,900 *440*	18,850 *260*	10,295 *142*	9,063 *125*	9,643 *133*	10,150 *140*	10,513 *145*	10,875 *150*	11,165 *154*
53.4 kN *6.0 Ton*	22,765 *314*	14,065 *194*	8,265 *114*	7,250 *100*	7,758 *107*	8,120 *112*	8,483 *117*	8,773 *121*	8,990 *124*

System View





Delay Cylinder Plan View



Delay Cylinder Elevation View

Table B - Delay Cylinder Standard Dimensions

Cylinder size	Min. center distance	Flange	Min. edge distance	Rod diameter	Y Height
22.2kN	108.0 mm	101.6 mm	76.2 mm	38.1 mm	42.2 mm + stroke
2.5 Ton	*4.25 in.*	*4.00 in.*	*3.00 in.*	*1.50 in.*	*1.66 in. + stroke*
53.4kN	171.5 mm	165.1 mm	88.9 mm	60.5 mm	42.2 mm + stroke
6.0 Ton	*6.75 in.*	*6.50 in.*	*3.50 in.*	*2.38 in.*	*1.66 in. + stroke*

Note: All dimensions are nominal unless tolerance is stated. Data shown are typical. Actual data for any particular unit may vary from those shown here.

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