



## HYDRACELL *description*

*HydraCell Fasteners are an outstanding new development in hydraulic tensioning, offering users a simple hydraulic nut which both applies tensile load to bolts or studs and simultaneously locks itself onto the thread.*

*This revolution in fastening now means that the benefits of hydraulic tensioning can be extended to applications where cost considerations previously excluded their use. The HydraCell is extremely resistant to the loosening effects of vibration.*

*HydraCell Fasteners are installed by hand and charged with fluid pressure to activate the tensioning and gripping mechanism. Retensioning and load checking of bolts can be achieved in seconds by snapping on the coupling and recharging to pressure.*

## HYDRACELL *applications*

The ease of use and minimal cost of the HydraCell against other methods make it the ideal choice for applications such as:

- Cement kilns
- Coal breakers
- Ore mills
- Mining screens
- Rock crushers
- Materials conveyors
- Railway equipment
- Materials handling equipment

## HYDRACELL *features*

The design of the HydraCell features a radical departure from convention in that the force generated by the introduced pressure acts directly onto the shaft and thread of the bolt, making it part of the hydraulic mechanism, and therefore locking it into a fixed position.

The HydraCell provides the following advantages:

- Reduces maintenance down time
- Improves safety on the job
- Is user-friendly – fast to fit and remove
- Requires little physical effort
- Resists extreme vibration through the unique gripping action of the polymer and deformable thrust washer
- Withstands harsh operating conditions
- Provides low-cost, yet highly effective tensioning

# HYDRACELL *operation*

The HydraCell nut is screwed to clamp the joint either by hand or other means such as an air wrench and socket applied to the crown of the device.

To apply the remainder of the recommended load, a pressure gun is then connected to the nipple. When a pressurising medium is introduced through the nipple, the polymeric insert behaves as a fluid across the entire annulus area to force the thrust washer against the face of the joint, eliminating any gap through which material might extrude. At the same time, the polymer forces itself against the shaft and thread of the bolt to effectively lock the bolt, joint face and itself together. This action provides a strong grip to resist vibration.

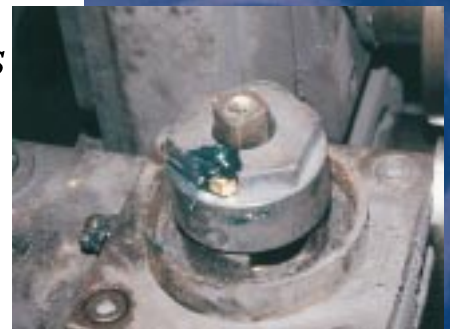
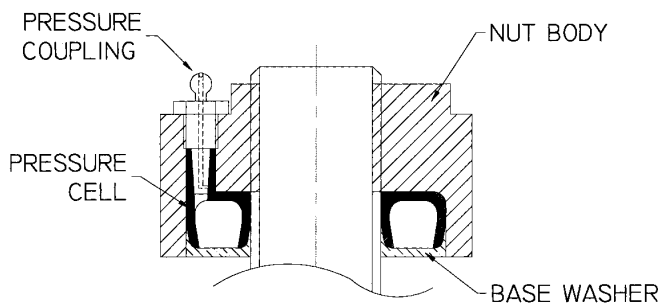
Pressure is retained in the cell by the non-return function of the hydraulic coupler. The tension in the bolt can be checked easily by simply repressurising to that recommended.

Removal is simple and achieved by first removing the hydraulic pressure coupling from the HydraCell body. This relieves the internal pressure, allowing the HydraCell Fastener to be easily unscrewed from the thread.



# HYDRACELL *technical specifications*

*HydraCell Fasteners do not have seals in the conventional sense; they have instead the unique function of preventing extrusion by eliminating any gap where the material might be forced.*



HYDRACELL FASTENER DIMENSIONS								
METRIC Model No.	IMPERIAL Model No.	Thread	Cell I.D. (mm)	Cell O.D. (mm)	Force (kN)	Major O.D. (mm)	Height (mm)	
PCM20 PHM20	PCI012	3/4"UN	20	34	59.4	38	26	
	PHI012	3/4"UN	20	42	107.2	48	26	
		M20x2.5	20	34	59.4	38	26	
		M20x2.5	20	42	107.2	48	26	
		M24x3	24	42	93.3	48	30	
		M24x4	24	52	167.2	58	30	
PCM30 PHM30	PCI100	1"UN	25.5	42	87.5	48	32	
	PHI100	1"UN	25.5	52	161.4	58	32	
		1.1/8"UN	30	52	141.7	58	36	
		PHI102	1.1/8"UN	30	62	231.3	70	36
		M30x3.5	30	52	141.7	58	36	
		M30x3.5	30	62	231.3	70	36	
PCM36 PHM36	PCI104	1.1/4"UN	32	52	132.0	58	38	
	PHI104	1.1/4"UN	32	62	221.6	70	38	
		M36x4	36	62	200.2	70	44	
		M36x4	36	75	340.1	84	44	
PCM42 PHM42	PCI108	1.1/2"UN	38.5	62	185.6	70	46	
	PHI108	1.1/2"UN	38.5	75	325.5	84	46	
		M42x4.5	42	75	303.4	84	54	
		M42x4.6	42	88	469.9	98	54	
PCI110 PHI110	PCI110	1.5/8"UN	42	75	303.4	84	54	
	PHI110	1.5/8"UN	42	88	469.9	98	54	

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