



S U M M I T M E D I C A L

HiVac™ 7

BONE CEMENT MIXING
AND DELIVERY



BONE CEMENT MIXING
AND DELIVERY SYSTEMS



HiVac™ 7

BONE CEMENT MIXING AND DELIVERY SYSTEM

Easy to use HiVac™7 helps theatre staff to produce high quality cement; critical to long-term joint survivorship.

Simple, easy to use

HiVac™7 combines excellent ergonomics with a positive feel as the cement is delivered. HiVac™7 has few components and is simple to assemble.

Clear mixing tube

HiVac™7 features a clear tube permitting an unclouded view of the cement during mixing. This offers peace of mind to the user as mix quality can be visually assessed prior to delivery.

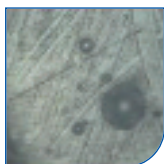
Coloured mixing rod snap point

The coloured indicator ensures that after mixing the rod snap point is easily identifiable.

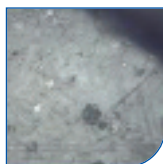
Optimum vacuum

Research suggests [1] that the optimum vacuum for mixing bone cement is around 550mmHg. If the vacuum applied during mixing is too low then significant levels of porosity may remain. However if the vacuum level is very high the final cement may suffer from excessive shrinkage and the formation of micro cracks which may lead to fatigue failure under loading.

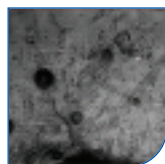
Radiographs of cement mixed in the same device at different vacuum levels [1].



Vacuum=0mmHg
no cracks



Vacuum=550mmHg
no cracks



Vacuum=650mmHg
cracks seen

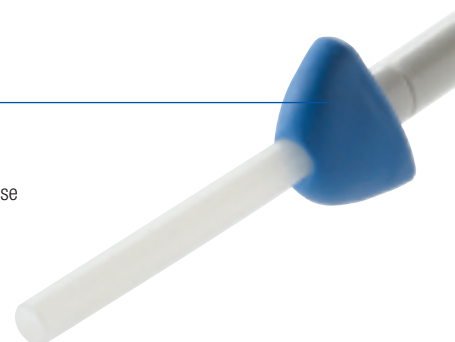
In addition, research [2] suggests that excessive cement shrinkage can lead to the formation of voids at the cement - stem interface.

Vacuum mixing and charcoal filter

Once the cement components have been added HiVac™7 limits fumes to a level significantly lower than COSHH guidelines [3].

Femoral Pressuriser

- Good pressurisation is proven to improve longevity of implant [4]
- Suitable for all sizes of femur; minimal stockholding, maximum convenience
- Easy to fit
- Minimal femoral intrusion
- Removable extension collar to improve visibility during procedure
- Latex-Free and Phthalate-Free



Femoral pressuriser suits most femurs and is designed to minimise cement occlusion from the proximal end during filling.



HiVac™7 is available in two sizes for mixing up to 120g of bone cement.

HiVac™7 CEMENT MIXING QUANTITIES

	40g	80g*	120g*
HiVac™7 (Code C701/CP701)	•	•	–
HiVac™7 Triple-Mix (Code C703)	•	•	•



Mixing rod slides smoothly within the mixing chamber and features a coloured indicator to allow the snap point to be clearly visible.

Clear mixing tube enables theatre staff to view the quality of cement during mixing.

Narrow delivery syringe

HiVac™7's narrow delivery tube provides the surgeon with precise control over cement extrusion and the potential to generate increased delivery pressures.

All Summit Medical products are supported by comprehensive in-service training and a range of support materials.

With HiVac™7, a high quality bone cement mix is achievable without vigorous mixing; high quality cement is produced with a slow, steady mixing technique.



AmberFlex

- Bio-resorbable cement restrictor
- Porcine derived material: no osteolysis forming polythene
- Flexible fins make AmberFlex suitable for a wide range of medullary canals
- Use in conjunction with Summit Medical's fixed-rod instrumentation and Femoral Pressuriser to allow effective pressurisation [5]
- Latex-Free

REFERENCES

1. Dunne N.J, Orr J.F, Mushipe M.T, Eveleigh R.J, 2002. The relationship between porosity and fatigue characteristics of bone cement. *Biomaterials* 24 (2003) 238-245.
2. Bishop NE, Ferguson S and Tepic S, 1996. Porosity reduction in bone cement at the cement-stem interface. *J Bone Joint Surgery*, 78B (3); 349-356.
3. Cary R, Morris L, Cocker J, Groves J and Ogunbiyi A, 1995, Methylmethacrylate: Criteria document an occupational exposure limit: Health and Safety Executive.
4. Malchau H, Herberts P, Söderman P & Odén A, 2000. Update from the Swedish National Hip Arthroplasty Registry 1979-1998.
5. Bulstra et al 1996: Femoral Canal Occlusion with a Resorbable Restrictor in THR.

* To mix 80g of Simplex™*** use Triple-Mix C703.

** To mix 120g of Simplex™*** use HiVac MultiMix.
Contact Summit Medical for details.

*** Simplex is a registered trademark of the Stryker Corporation.

PRODUCT ORDER CODES

CODE	DESCRIPTION	BOX QTY
C701	Single HiVac™7 Pack	10
CP701	Single HiVac™7 with Pressuriser	10
C702	Double HiVac™7 Pack	10
C703	HiVac™7 Triple Mix Single Pack	5
C800	HiVac™7 Delivery Syringe	20
CB900	HiVac™7 Combination Hip Pack	5
H550	HiVac™7 Footpump	1
H759	Cement Delivery Gun	1
H759L	Cement Delivery Gun - Triple Mix	1
P721	Femoral cement pressuriser	10
AF08	8mm Bio-resorbable cement restrictor	1
AF10	10mm Bio-resorbable cement restrictor	1
AF12	12mm Bio-resorbable cement restrictor	1
AF14	14mm Bio-resorbable cement restrictor	1
AF18	18mm Bio-resorbable cement restrictor	1
H724	AmberFlex Instrumentation Set	1
ST724	Sterilisation Tray	1

OTHER PRODUCT RANGES FROM THE SUMMIT MEDICAL GROUP :

- ORTHOPAEDIC IMPLANTS
- SOFT TISSUE SURGERY

- BLOOD MANAGEMENT
- WOUND DRAINAGE / THEATRE DISPOSABLES

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