

hp**bio**
technology in cardiac
and cerebral protheses

Porcine Pericardium Bioprosthesis

Cardiac Valve – BPS model

technology for life





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Cardiac Valve – BPS model

Hpbio is a Brazilian company of Bioengineering with 30 years experience on Research and Development of cardiac valves. The profile design and the precision on the technique of construction of the BPS model of bovine pericardium valve assure the highest grade of reliability.

Advanced manufacturing process



The multiperforated polyacetal stent ensures plain flexibility and features a stainless steel ring used as a radiologic marker. The stent is covered with special polyester to allow perfect endothelization.



The pericardium membrane is selected by thickness uniformity after shrinkage test, elasticity and tension evaluation. A unique pericardium membrane is utilized for the construction of the tree cusps. The membrane is shaped in tridimension silicone mold before the glutaraldehyde fixation to equalize the tensions. The suture on the stent with standard technique ensures a high-quality and absolutely uniform product.



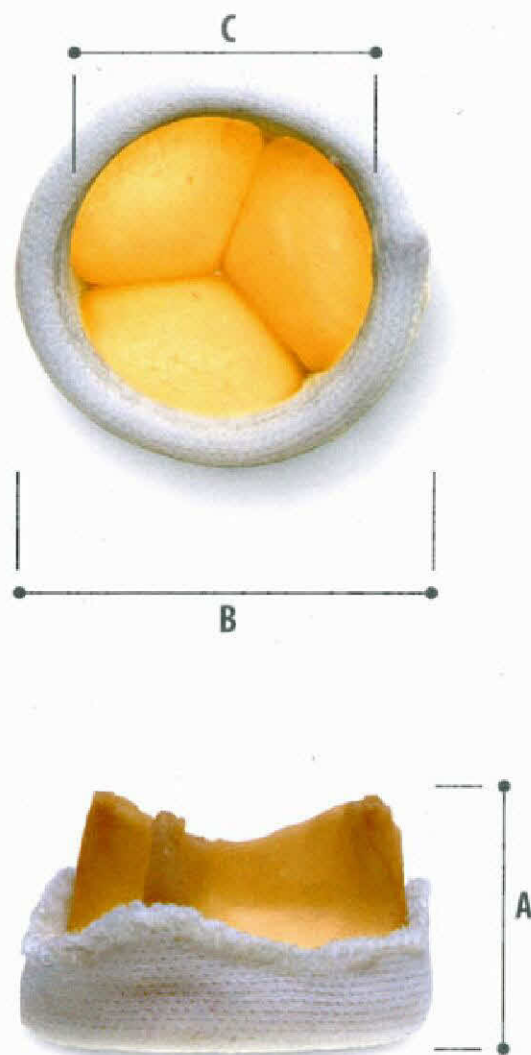
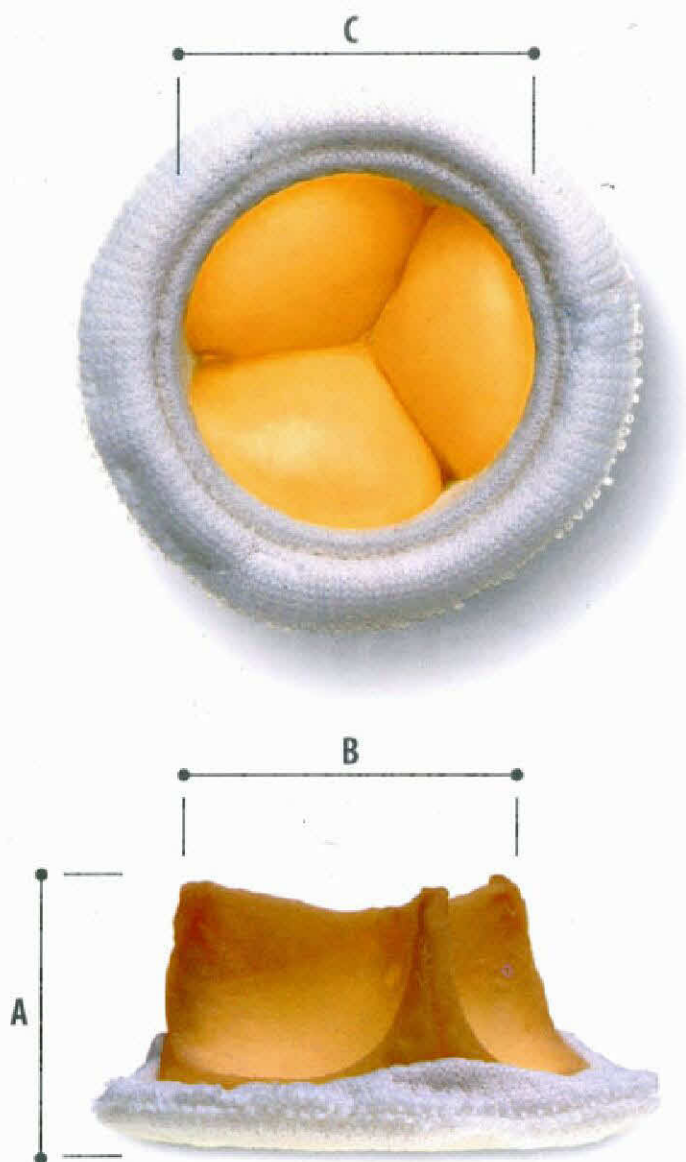
The membrane is fixed in purified glutaraldehyde 0.2% and prepared according to Carpentier's proposition (1984)¹: calcification may be reduced by decreasing of phosphate content in the tissue and by blocking the calcium with magnesium uptake and surfactant substances.



Dimensions

Mitral Valve – BPS model

Aortic Valve – BPS model



Mitral Valve – BPS model

Aortic Valve – BPS model

		Size	Catalog N°	A	B	C
Infantile		17	VMB 17	9	17	12
		19	VMB 19	9	19	14
		21	VMB 21	9	21	16
		23	VMB 23	10	23	18
		25	VMB 25	11	25	20
		27	VMB 27	12	27	22
Adult		29	VMB 29	13	29	24
		31	VMB 31	14	31	26
		33	VMB 33	15	33	28
		35	VMB 35	16	35	30

		Size	Catalog N°	A	B	C
		17	VBA 17	9	17	12
		19	VBA 19	9	19	14
		21	VBA 21	9	21	16
		23	VBA 23	10	23	18
		25	VBA 25	11	25	20
		27	VBA 27	12	27	22
		29	VBA 29	13	29	24

References:

1. Carpentier et al. Technics for prevention of calcification of valvular bioprosthesis. *Circulation* 70 (suppl 1): 165-168, 1984.
2. Magalhães, et al. Eight-years experience with the HP bovine pericardium bioprosthesis. Abstract presented at XLIX Cardiology Brazilian Society Congress, Belo Horizonte, MG; Brazil 1993.



Features and benefits

The valve has horizontal commissures and its inner surface is covered with pericardium to reduce the possibility of haemolysis and thrombus formation. The valve is packed in 4% buffered formaldehyde with surfactant substances which conserve and guarantee the product sterilization.

The suture ring is made of polyester woven fabric with marks which act as orientation for surgical stitches. The ring is horizontal in the mitral model and curved vertical in the aortic model.

Excellent hydrodynamic



Hydrodynamic performance in pulsatile flow apparatus developed at Hpbio

The valve shows very good mobility and total cusps opening with several flows. It's due to excellent improvement of the valve orifice in relation to the external diameter and low profile

Clinical Experience

The Hpbio pericardium valve has been used for 20 years with clinical observation (over 1233 years/patient)

Freedom from structural valve deterioration at 8 years²



Survival of aortic and mitral patients at 8 years²

