



**CARDIAMED**

**EASY TO IMPLANT**



**FREELY ROTATING**  
**LEAFLETS AND HOUSING ARE**  
**SOLID PYROLYTIC CARBON**



# LEAFLETS ROTATE WITH **EVERY** HEARTBEAT



**360°**  
**ROTATING**  
**LEAFLETS**



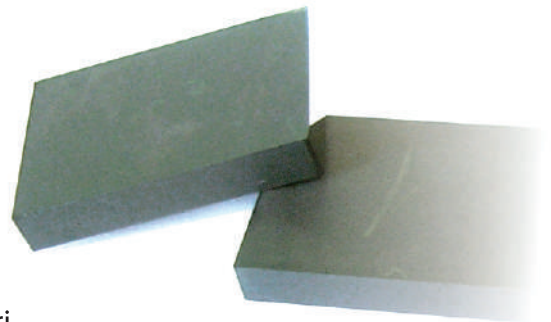
## A UNIQUE DESIGN

### **PRODUCED TO PERFECTION**

Over the past decade, the CardiaMed valve has shown its performance, with over **100,000** implants worldwide. Its distinguishing design with freely rotating and aerodynamically shaped leaflets made of solid pyrolytic carbon, assures resistance to wear and thrombosis. During surgery the easily rotating leaflets as well as the soft sewing cuff make it easier to implant the CardiaMed valve.

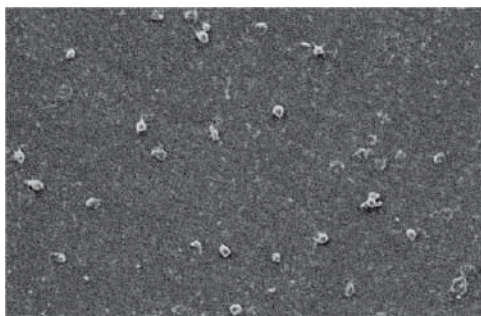
## INCREASED WEAR RESISTANCE AND **RESISTANCE TO THROMBOSIS**

Essential in the design of the CardiaMed valve, was the surgeons' request to use solid pyrolytic carbon for both the leaflets and the housing of the valve instead of a thin carbon coating. CardiaMed produces the Solid Pyrolytic Carbon in-house. The solidity and isotropy of this nanocomposite allows manufacturing of valve parts with 1 micron precision, without compromising the strength of the material. The solidity of the leaflets and housing prevents variable thickness of the material that occurs with carbon coating. The CardiaMed valve provides unmatched strengths and durability. The unmatched smoothness of the surface lowers the risk of thrombosis.

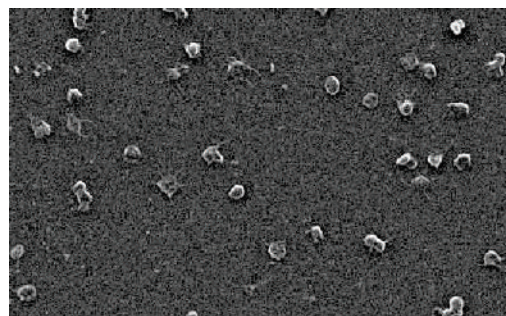


**100% CARBON**

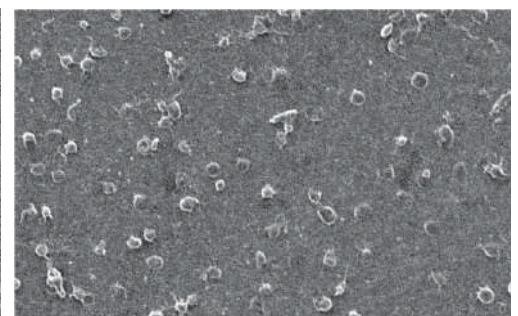
### **Lower Relative index of Platelet adhesion (RIPA) compared with other prosthetic heart valves.**



**CardiaMed**  
RIPA 0,44±0,11



**Brand X**  
RIPA 0,75±0,19



**Brand Y**  
RIPA 1,03±0,45



## HEMODYNAMIC SHAPE

The design of the CardiaMed heart valve eliminates the traditional pivots of bi-leaflet mechanical heart valves. The use of solid pyrolytic carbon enabled more complex 3D shapes.



Frequently thromboses of mechanical heart valves are related to the pivoting area. By eliminating the traditional hinges,

**WASHING PROBLEMS HAVE  
BECOME A THING OF THE PAST**

**Prof G.J. van Nooten**

*"Personally, I feel that the Achilles' heel of any mechanical valve is the pivot area – if there is a good flow in the pivot area, then you have a low thrombogenic valve".*

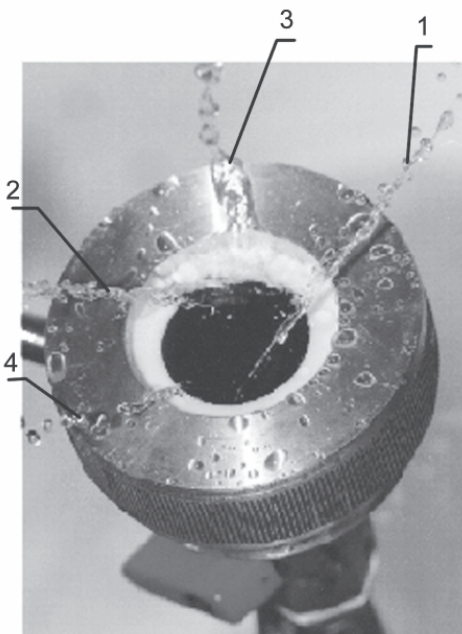
Source: *The Journal of Heart valve Disease*

## CONTROLLED BACKFLOW

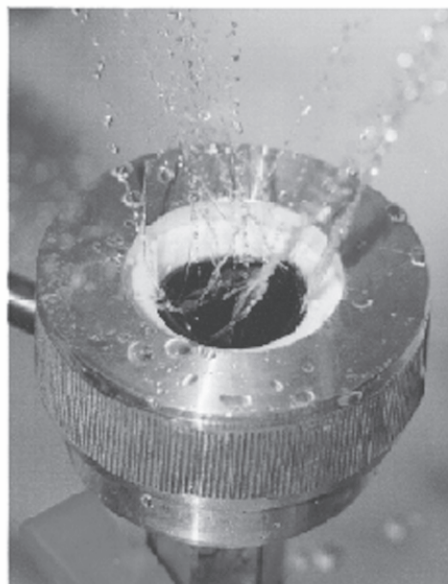
The optimised hemodynamic profile of the leaflets:

- Creates a smoothly spreading blood flow
- Prevents blood flow turbulence
- Assures rapid valve opening and closure with an opening angle of the leaflet of 85 degrees
- Soft closing of the leaflets, reducing noise.

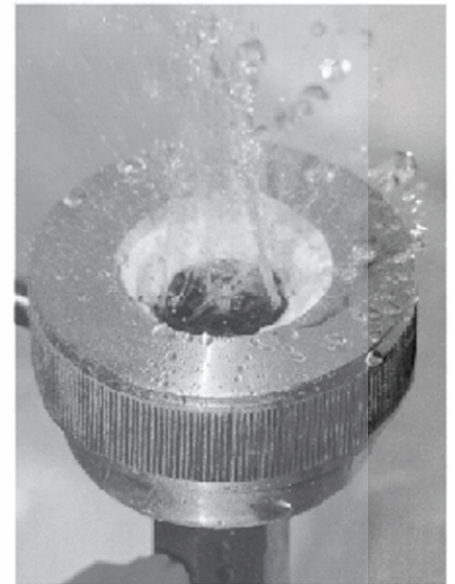
The back-flow of the CardiaMed valve has been a major part in the design of the valve. The valve generates a controlled regurgitant blood flow that consists of 4 powerful, intended and controlled jet streams.



CardiaMed



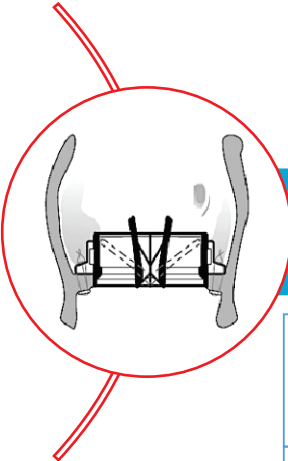
Brand X



Brand Y

# AORTIC

## BASIC DIMENSIONS SUPRA-ANNULAR



Valve designation	Sewing Cuff	Tissue annulus (Mounting Diameter)	External Sewing Diameter	Orifice Diameter	Profile Height (Open)	Profile Height (Closed)	Depth of Interposition in Ventricle	Height of Interposition in Aorta	Effective Orifice Area (in cm <sup>2</sup> )
ADM.17-1Su	Standard	17,4	24,0	14,6	11,1	7,5	1,3	6,2	1,2
ADM.17-RSu	Reduced	17,3	22,1	14,6	11,1	7,5	2,5	5,0	1,2
ADM.19-1Su	Standard	19,4	26,0	16,6	12,2	8,3	2,5	5,8	1,5
ADM.19-RSu	Reduced	19,3	24,2	16,6	12,2	8,3	2,9	5,4	1,5
ADM.21-1Su	Standard	21,4	28,0	18,3	13,5	9,5	2,4	7,1	1,8
ADM.21-RSu	Reduced	21,4	26,3	18,3	13,5	9,5	3,4	6,1	1,8
ADM.23-1Su	Standard	23,4	31,0	20,3	14,5	9,8	2,2	7,6	2,2

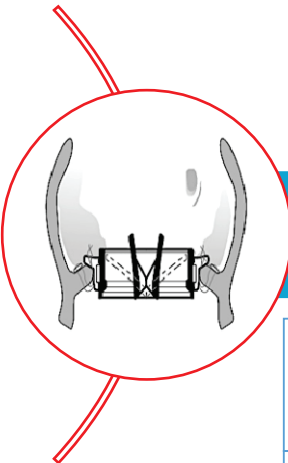
### Features of valve modification

1. Enlarged orifice area.
2. Minimal interposition of prosthesis in ventricle.

### Indications for use

1. Narrow fibrous ring.

## BASIC DIMENSIONS INTRA-SUPRA-ANNULAR



Valve designation	Sewing Cuff	Tissue annulus (Mounting Diameter)	External Sewing Diameter	Orifice Diameter	Profile Height (Open)	Profile Height (Closed)	Depth of Interposition in Ventricle	Height of Interposition in Aorta	Effective Orifice Area (in cm <sup>2</sup> )
ADM.19-1In	Standard	19,5	24,0	14,6	11,1	7,5	3,3	4,2	1,2
ADM.19-RIn	Reduced	19,2	23,0	14,6	11,1	7,5	3,5	4,0	1,2
ADM.21-1In	Standard	21,5	26,0	16,6	12,2	8,3	4,2	4,1	1,5
ADM.21-RIn	Reduced	21,2	25,0	16,6	12,2	8,3	4,2	4,1	1,5
ADM.23-1In	Standard	23,3	28,0	18,3	13,5	9,5	5,0	4,5	1,8
ADM.23-RIn	Reduced	23,4	27,0	18,3	13,5	9,5	4,5	5,0	1,8
ADM.25-1In	Standard	25,3	31,0	20,3	14,5	9,8	4,2	5,6	2,2
ADM.27-1In	Standard	27,3	33,0	22,1	15,4	10,5	4,2	6,3	2,6
ADM.29-1In	Standard	29,3	35,5	24,1	16,6	11,5	4,3	7,2	3,0

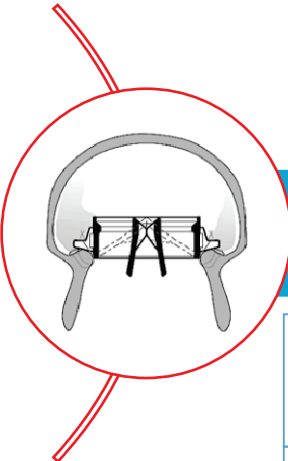
### Features of valve modification

1. Minimal interposition in aortic crown.
2. Versatility of sewing cuff for use in aortic or mitral position.

### Indications for use

1. Low location of coronary artery ostia.
2. Enlarged fibrous ring.
3. Prophylaxis of fistulas.
4. Use of knotted suturing.

## BASIC DIMENSIONS SUPRA-ANNULAR POSITION



Valve designation	Sewing Cuff	Tissue annulus (Mounting Diameter)	External Sewing Diameter	Orifice Diameter	Profile Height (Open)	Profile Height (Closed)	Depth of Interposition in Ventricle	Height of Interposition in Aorta	Effective Orifice Area (in cm <sup>2</sup> )
MDM.25-1Su	Standard	25,2	36,5	22,1	15,4	10,5	1,8	8,7	2,6
MDM.27-1Su	Standard	27,2	38,5	24,1	16,6	11,5	2,2	9,3	3,0
MDM.29-1Su	Standard	29,2	40,5	24,1	16,6	11,5	3,1	8,4	3,0
MDM.31-1Su	Standard	31,2	42,5	24,1	16,6	11,5	3,4	8,1	3,0
MDM.33-1Su	Standard	33,2	44,5	24,1	16,6	11,5	3,4	8,1	3,0

### Features of valve modification

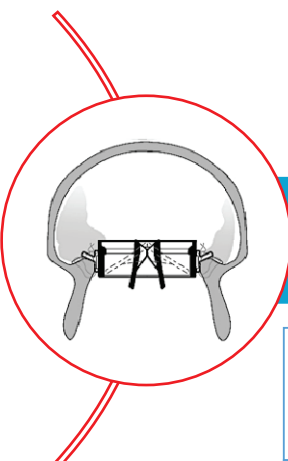
1. Wide soft sewing cuff.
2. Minimal interposition of prosthesis in ventricle.

### Indications for use

1. Preservation of heart valve leaflets.
2. Protection from cut through of suturing.
3. Closure of fibrous ring defects.
4. Atraumatic suturing.

**SIZES RANGING FROM 17 TO 33**  
**ALWAYS AN OPTIMAL CHOICE OF SEWING CUFF.**

## BASIC DIMENSIONS INTRA-SUPRA-ANNULAR POSITION



Valve designation	Sewing Cuff	Tissue annulus (Mounting Diameter)	External Sewing Diameter	Orifice Diameter	Profile Height (Open)	Profile Height (Closed)	Depth of Interposition in Ventricle	Height of Interposition in Aorta	Effective Orifice Area (in cm <sup>2</sup> )
MDM.25-1In	Standard	25,5	34,0	20,3	14,5	9,8	3,2	6,6	2,2
MDM.27-1In	Standard	27,5	36,0	22,1	15,4	10,5	3,9	6,6	2,6
MDM.29-1In	Standard	29,5	38,0	24,1	16,6	11,5	4,8	6,7	3,0
MDM.31-1In	Standard	31,5	39,0	24,1	16,6	11,5	4,8	6,7	3,0
MDM.33-1In	Standard	33,5	41,0	24,1	16,6	11,5	4,8	6,7	3,0

### Features of valve modification

1. Even interposition in ventricle and atrium.
2. Versatility of sewing cuff for use in aortic or mitral position.

### Indications for use

1. Prophylaxis of fistulas.
2. Enlarged fibrous ring.
3. Use of knotted suturing.

## EVERYTHING YOU NEED, ALWAYS AT HAND

Every CardiaMed heart valve is accompanied with the necessary sterile, disposable accessories, placed in the box:

- 2 handles
- 2 corresponding sizers
- a tester

Therefore all **required accessories are always available** sterile, eliminating the dependence on additional sizers and handles. The tester enables proper investigation of the free rotation of the leaflets, without the risk of damaging the surface of the valve.

Auxiliary sets with sizers and handles are available upon request, providing a case with 96 sterile sizers and required handles.



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**'STERILE SIZERS AT  
HAND - EVERY TIME'**