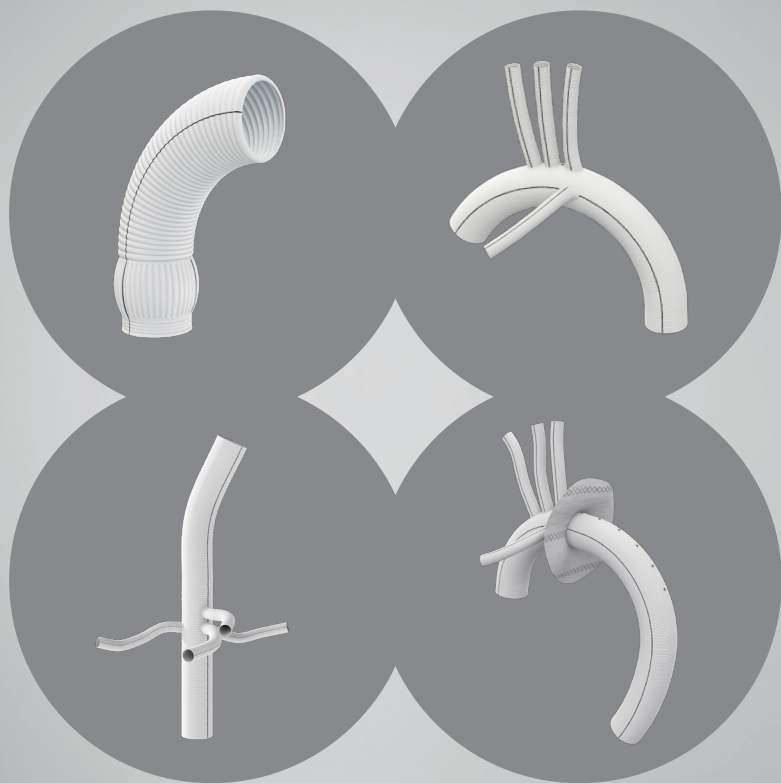




Gelweave™

Aortic Surgical Grafts

 **TERUMO**
Aortic

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Gelweave™ Valsalva

- Aortic graft design for valve sparing or Bentall procedures
- Closely matches aortic root anatomy¹
- Mimics natural response of the sinuses of Valsalva²
- Potential for,
 - increased valve leaflet longevity³
 - reduced tension on the coronary arteries⁴



BORE SIZE mm	MAXIMUM SKIRT DIAMETER mm	USABLE LENGTH cm	SKIRT LENGTH mm	COLLAR LENGTH mm	CATALOGUE NUMBER
16	21	15	16	10	730016ADP
18	24	15	18	10	730018ADP
20	26	15	20	10	730020ADP
22	28	15	22	10	730022ADP
24	32	15	24	10	730024ADP
26	34	15	26	10	730026ADP
28	36	15	28	10	730028ADP
30	38	15	30	10	730030ADP
32	42	15	32	10	730032ADP
34	44	15	34	10	730034ADP

Gelweave™ Ante-Flo & Extra Length Ante-Flo with Offset Branch

- Antegrade flow made easy by the side branch for,
 - minimised circulatory arrest time and earlier patient re-warming⁵
 - lower risk of neurological deficits⁶
 - reduced chance of perfusing aortic false lumen⁵
- Convenience and graft integrity maintained



BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	40 x 1 @ 15	734020/8
22	40 x 1 @ 15	734022/8
24	40 x 1 @ 15	734024/8
26	40 x 1 @ 15	734026/8
28	40 x 1 @ 15	734028/8
30	40 x 1 @ 15	734030/8
32	40 x 1 @ 15	734032/8
34	40 x 1 @ 15	734034/8

BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
22	50 x 1 @ 15	735022/8S
24	50 x 1 @ 15	735024/8S
26	50 x 1 @ 15	735026/8S
28	50 x 1 @ 15	735028/8S
30	50 x 1 @ 15	735030/8S
32	50 x 1 @ 15	735032/8S

- Perfusion side branch diameter 8mm.

Perfusion side branch diameter 8mm.

Also available with,

- 20cm usable length body section -
Cat Nos. 732022/8 to 732034/8.
- 10mm diameter perfusion side branch -
Cat Nos. 734020/10 to 734034/10 & 732022/10 to
732034/10.

Gelweave™ Pre-curved Graft & Pre-curved Ante-Flo

- Unique pre-curved design
- Antegrade flow made easy by the perfusion side branch may offer,
 - reduced incidence of temporary neurological deficits⁷
 - preventive effect against embolic stroke⁷
 - potential for reduced operating time⁸
- Designed to closely match aortic arch anatomy
- Potential for reduced kinking



BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
22	50 x 1 @ 15	735022ST/8A
24	50 x 1 @ 15	735024ST/8A
26	50 x 1 @ 15	735026ST/8A
28	50 x 1 @ 15	735028ST/8A
30	50 x 1 @ 15	735030ST/8A
32	50 x 1 @ 15	735032ST/8A
34	50 x 1 @ 15	735034ST/8A

BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
22	50	735022ST
24	50	735024ST
26	50	735026ST
28	50	735028ST
30	50	735030ST
32	50	735032ST
34	50	735034ST

- Perfusion side branch diameter 8mm.

Gelweave™ Plexus

- Branch design
- Antegrade flow made easy by the perfusion side branch may offer,
 - reduced incidence of temporary neurological deficits⁷
 - preventive effect against embolic stroke⁷
 - potential for reduced operating time⁸
- Convenience and graft integrity maintained



BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	40 x 4 @ 15	73201088/8
22	40 x 4 @ 15	73221088/8
24	40 x 4 @ 15	73241088/8
26	40 x 4 @ 15	73261088/8
28	40 x 4 @ 15	73281088/8
30	40 x 4 @ 15	73301088/8
32	40 x 4 @ 15	73321088/8
34	40 x 4 @ 15	73341088/8

- Perfusion side branch diameter 8mm.
- Arch branch diameters 10 x 8 x 8mm.
- Also available with a 10mm perfusion side branch - Cat Nos. 73201088/10 to 73341088/10.

Gelweave™ Siena

- Primarily indicated for first stage elephant trunk procedures
- Radiopaque markers facilitate second stage endovascular repair
- The collar compensates for diameter mismatch between distal aorta and graft, reducing tension on the distal anastomosis and potential for aneurysm rupture before second stage repair⁹
- Side branch permits antegrade perfusion



Gelweave™ Siena
Straight



Gelweave™ Siena
Ante-Flo



Gelweave™ Siena
Plexus

BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	50	735020RM
22	50	735022RM
24	50	735024RM
26	50	735026RM
28	50	735028RM
30	50	735030RM
32	50	735032RM
34	50	735034RM

BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	50 x 1 @ 15	735020/8RM
22	50 x 1 @ 15	735022/8RM
24	50 x 1 @ 15	735024/8RM
26	50 x 1 @ 15	735026/8RM
28	50 x 1 @ 15	735028/8RM
30	50 x 1 @ 15	735030/8RM
32	50 x 1 @ 15	735032/8RM
34	50 x 1 @ 15	735034/8RM

BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	50 x 4 @ 15	73201088/8RM
22	50 x 4 @ 15	73221088/8RM
24	50 x 4 @ 15	73241088/8RM
26	50 x 4 @ 15	73261088/8RM
28	50 x 4 @ 15	73281088/8RM
30	50 x 4 @ 15	73301088/8RM
32	50 x 4 @ 15	73321088/8RM
34	50 x 4 @ 15	73341088/8RM

- Perfusion side branch - diameter 8mm
- Also available with a 10mm perfusion branch
- Cat Nos. 735020/10RM - 735034/10RM

- Branches - bore sizes 10 x 8 x 8mm - length 15cm
- Perfusion side branch offset at 30° in a horizontal plane to the body of the graft - diameter 8mm
- Also available with a 10mm perfusion side branch - Cat Nos. 73201088/10RM - 73341088/10RM

For all designs:

- Graft proximal end to collar 20cm. Collar to graft distal end 30cm.
- Relaxed distance between the radiopaque markers 2cm.

Gelweave™ Lupiae

- Debranching graft design - facilitates creation of suitable landing zone^{10, 11}
- Radiopaque markers facilitate 2nd stage endovascular repair¹¹
- Enables individual arch vessel reconstruction¹²
- The perfusion side branch minimises cardiopulmonary and circulatory arrest times¹⁰



BODY		BRANCHES		CATALOGUE NUMBER
BORE SIZE mm	USABLE LENGTH cm	BORE SIZE mm	USABLE LENGTH cm	
20	40	10/10/8/10	40/30/30/30	734020CX4RMS
22	40	10/10/8/10	40/30/30/30	734022CX4RMS
24	40	10/10/8/10	40/30/30/30	734024CX4RMS
26	40	10/10/8/10	40/30/30/30	734026CX4RMS
28	40	10/10/8/10	40/30/30/30	734028CX4RMS
30	40	10/10/8/10	40/30/30/30	734030CX4RMS
32	40	10/10/8/10	40/30/30/30	734032CX4RMS
34	40	10/10/8/10	40/30/30/30	734034CX4RMS

Gelweave™ Trifurcate Arch Graft

- Shortens hypothermic circulatory arrest times¹³
- Minimises cerebral ischaemia¹⁴
- No touch technique - reduces the risk of embolisation¹⁴
- Minimises adverse outcomes¹³
- Complements first stage elephant trunk repair¹³



BORE SIZE mm		USABLE LENGTH cm	CATALOGUE NUMBER
BODY	BRANCHES		
12	8	20x2@10	732012/8 x 2
12	10	20x2@10	732012/10 x 2
14	8	20x2@10	732014/8 x 2
14	10	20x2@10	732014/10 x 2

Gelweave™ Coselli Thoracoabdominal Graft

- Sequential artery reattachment and restoration of blood flow¹⁵
- Eliminates aortic patch pseudoaneurysm formation¹⁵
- No tension and early haemostasis¹⁵

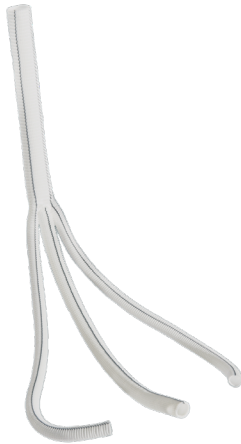


BORE SIZE mm	USABLE LENGTH cm	CATALOGUE NUMBER
20	60x4@10	732010108/8S4
22	60x4@10	732210108/8S4
24	60x4@10	732410108/8S4
26	60x4@10	732610108/8S4
28	60x4@10	732810108/8S4
30	60x4@10	733010108/8S4

- Branch dimensions,
 - upper pair (superior mesenteric & coeliac arteries) 10mm diameter
 - lower pair (renal arteries) 8mm diameter

Gelweave™ Thoracoabdominal Trifurcate

- Sequential visceral and renal artery replacement¹⁶
- Allows for short visceral, renal and spinal ischaemic times¹⁶
- Offers low rates of end organ ischaemic damage and paraplegia¹⁶



BODY	BORE SIZE mm		TOTAL USABLE LENGTH cm	CATALOGUE NUMBER
	CENTRAL BRANCH	LATERAL BRANCHES		
12	7	6	75	731206/7
14	7	7	75	731407/7
16	7	8	75	731608/7

- Graft body usable length 45cm.
- Branch usable length 30cm.

References

1. De Paulis R. et al. (2000) 'A New Aortic Dacron Conduit for Surgical Treatment of Aortic Root Pathology', *Italian Heart Journal*, 1(7), pp. 457-463.
2. De Paulis R. et al. (2001) 'Opening and Closing Characteristics of the Aortic Valve After Valve-Sparing Procedures Using a New Aortic Root Conduit', *The Annals of Thoracic Surgery*, 72, pp. 487-94.
3. De Paulis R. et al. (2002) 'Analysis of Valve Motion After the Reimplantation Type of Valve-Sparing Procedure (David I) with a New Aortic Root Conduit', *The Annals of Thoracic Surgery*, 74, pp. 53-57.
4. Luca Weltert. et al. (2009) 'Re-creation of a sinuslike graft expansion in Bentall procedure reduces stress at the coronary button anastomoses: A finite element study', *The Journal of Thoracic and Cardiovascular Surgery*, 137, pp. 1082-1087.
5. Ehrlich M. et al. (1994) 'Operative Management of Aortic Aneurysms Using Profound Hypothermia & Circulatory Arrest', *International Congress on Thoracic & Thoracoabdominal Aneurysm*, pp. 23-26.
6. Ehrlich M. et al. (1997) 'The Use of Profound Hypothermia and Circulatory Arrest in Operations on the Thoracic Aorta', *European Journal of Cardiothoracic Surgery*, 11, pp. 176-181.
7. Shiya N. et al. (2000) 'Surgical Management of Atherosclerotic Aortic Arch Aneurysms Using Selective Cerebral Perfusion: 7-Year Experience in 52 Patients', *European Journal of Cardiothoracic Surgery*, 17, pp. 266-271.
8. Adachi H. et al. (1997) 'Usefulness of a New Branched Sealed Graft for the Replacement of the Aortic Arch', *Japanese Journal for Artificial Organs*, 26 3, pp. 624-628.
9. Neri E. et al. (2004) 'The "Elephant Trunk" Technique Made Easier', *The Annals of Thoracic Surgery*; 78: 17-8.
10. Marullo AGM. et al. (2010) 'Hybrid Aortic Arch Debranching with Staged Endovascular Completion in DeBakey Type I Aortic Dissection', *The Annals of Thoracic Surgery*, 90, pp. 1847-53.
11. Esposito G. et al. (2012) 'Mid-term Results of the Lupiae Technique in Patients with DeBakey Type I Acute Aortic Dissection', *European Journal of Cardio-Thoracic Surgery*, 1-7.
12. Esposito G. et al. (2015) 'Hybrid Repair of Type A Acute Aortic Dissections with the Lupiae Technique: Ten-year results', *The Journal of Thoracic and Cardiovascular Surgery*, 149, pp. S99-S104.
13. Strauch JT. et al. (2004) 'Technical Advances in Total Aortic Arch Replacement', *The Annals of Thoracic Surgery*; 77, pp. 581-590.
14. Spielvogel D. et al. (2003) 'Aortic Arch Reconstruction Using a Trifurcated Graft', *The Annals of Thoracic Surgery*, 75, pp. 1034-1036.
15. Kokotsakis J. et al. (2009) 'Thoracoabdominal Aneurysm Repair using a Four-Branched Thoracoabdominal Graft: A Case Series', *Cases Journal*, 2, p. 7144.
16. Ballard J. et al. (2002) 'Type III and IV Thoracoabdominal Aortic Aneurysm Repair: Results of a Trifurcate/Two Graft Technique', *Journal of Vascular Surgery*, 36.

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