



# NEXUS for the ARCH

Engineered for the most demanding Aortic Region

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ENDOSPAN® 

# THE **NEXUS® PLATFORM** IS A BIMODULAR SYSTEM PURPOSEFULLY ENGINEERED TO PERFORM SAFELY IN THE **DEMANDING ENVIRONMENT OF THE AORTIC ARCH**

## OPTIMIZED BLOOD FLOW WITH INTEGRATED BRANCH DESIGN

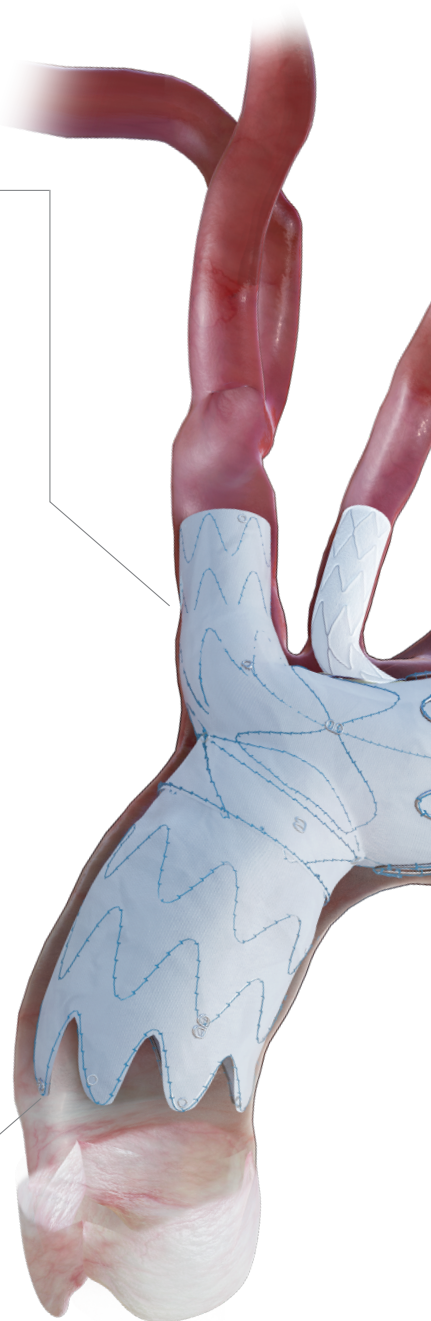
Optimize flow by maximizing the cross-sectional area, ensuring integrated blood flow, reducing turbulence, and promoting efficient hemodynamics to lower cardiac workload.<sup>1,2</sup>

## THE NEXUS® PLATFORM IS A BIMODULAR SYSTEM DESIGNED TO MIMIC THE ASCENDING AND ARCH ANATOMY

Ascending component is designed with a long outer curve and short inner curve to match the anatomical design for conformability. The arch component, featuring an integrated branch, is designed to align with the natural arch anatomy.<sup>3</sup>

## STENTS INWARDLY BENT TO MINIMIZE WALL STRESS

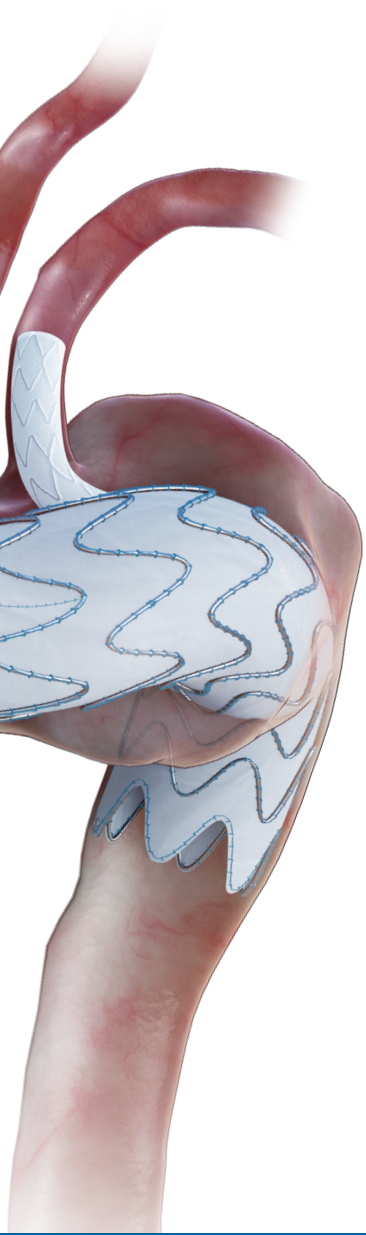
Tips of the stents oriented along the outer curve of the ascending aorta are bent inwardly and is designed to provide a less traumatic interface between the stent graft and the aortic wall.<sup>3</sup>



—  
The  
**NEXUS**  
Family

COMMERCIALLY AVAILABLE





## INNER BRANCH DESIGN FOR CAROTID AND/OR SUBCLAVIAN\*

The inner branch is designed to provide sealing zones for the covered stent. Its retrograde design allows for transfemoral introduction of all components while supporting future reinterventions from the supra-aortic vessels.<sup>3,4</sup>

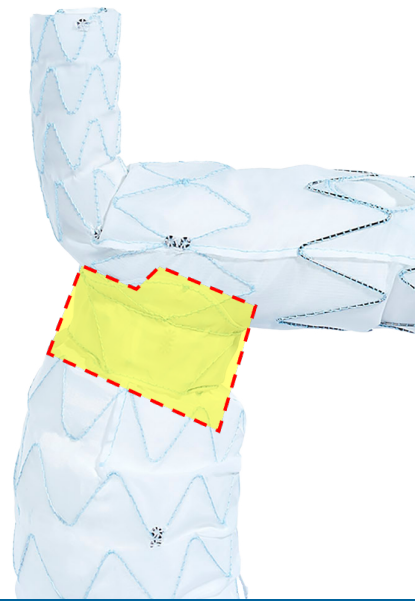


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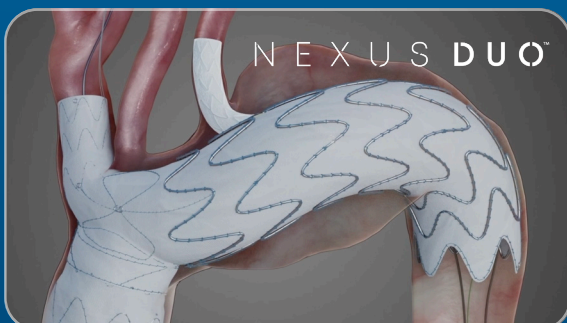
MODULE  
SEPARATION  
RESISTANCE<sup>3</sup>

## DOCK & LOCK TECHNOLOGY

Two distal struts with locking latches open inside the dock providing mechanical fixation to create a 24mm sealing length with a 20% oversize.<sup>3</sup>



CUSTOM MADE 4 WEEKS



CUSTOM MADE 4 WEEKS



\*For custom-made NEXUS DUO and TRE only



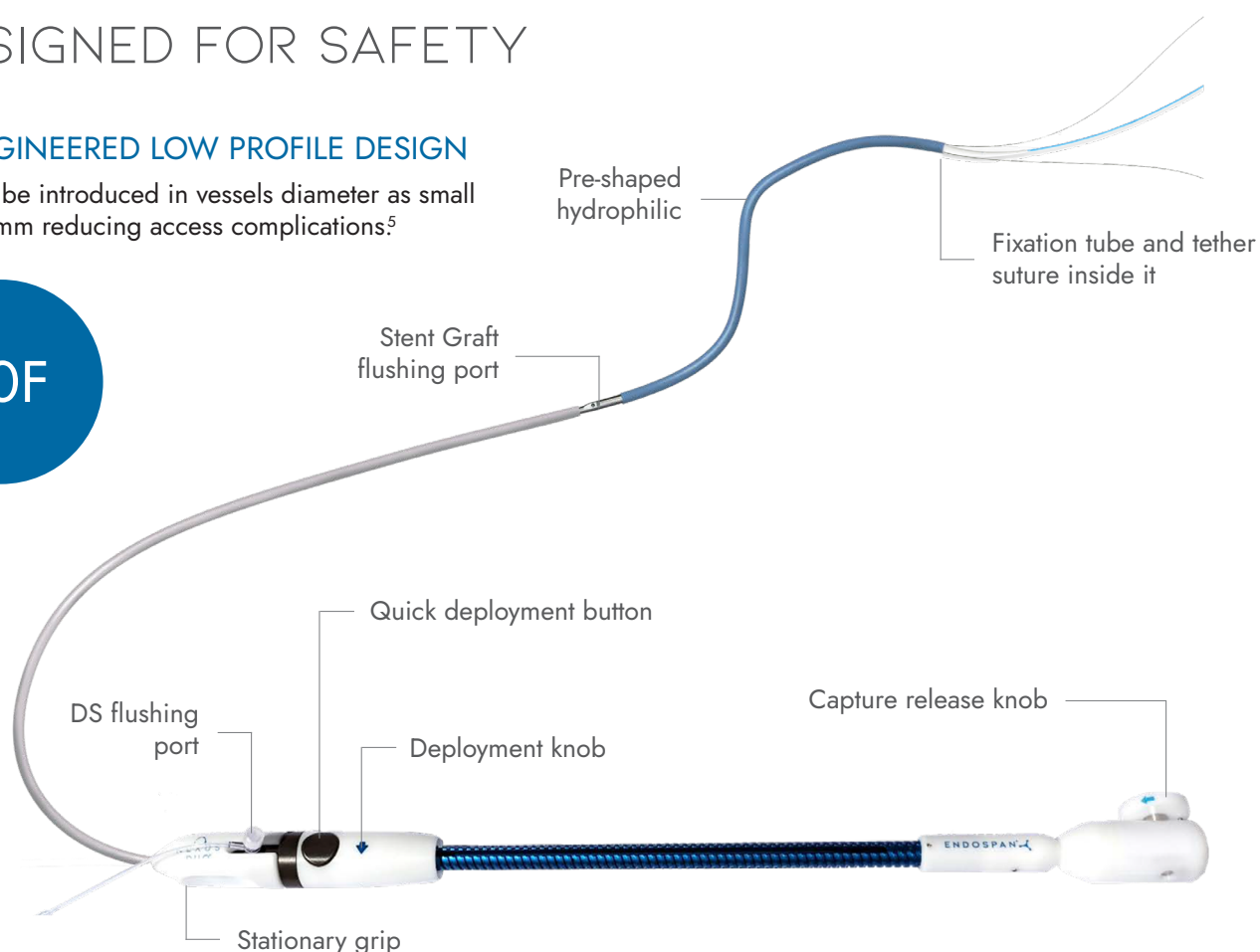
# NEXUS® DELIVERY SYSTEM

## DESIGNED FOR SAFETY

### ENGINEERED LOW PROFILE DESIGN

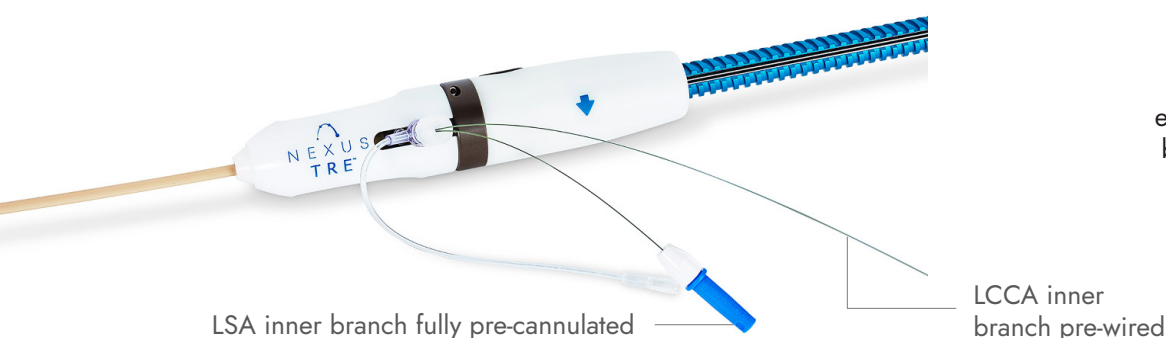
Can be introduced in vessels diameter as small as 7mm reducing access complications.<sup>5</sup>

20F

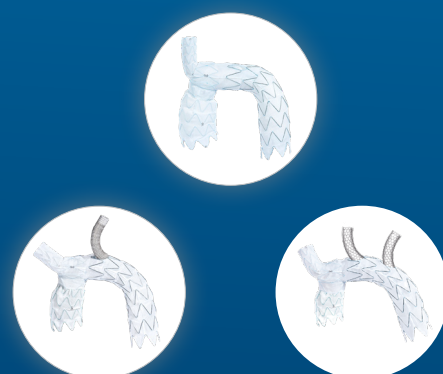


### PRE-CANNULATED INNER BRANCHES FOR EASY ACCESS\*

Preloaded Guide Wires ensures access to the inner branch of the stent graft to reduce manipulation and time of intervention.



	NEXUS	NEXUS DUO/TRE	Competition
Femoral	<b>20F</b>	<b>20F</b>	<b>24-26F</b>
RCCA			<b>14F</b>
LCCA			<b>14F</b>
RSA	<b>7F</b>	<b>7F</b>	



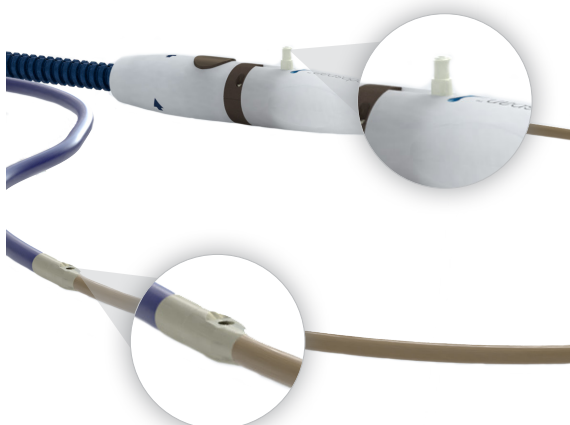
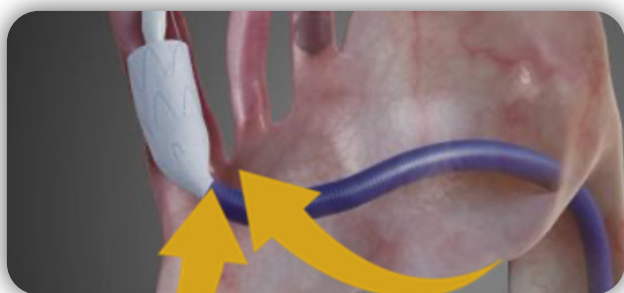


## PRE-SHAPED CATHETER TO MINIMIZE ARCH MANIPULATION

Designed to follow the natural curves of the aortic arch to reduce manipulation and improve stent conformability during deployment.<sup>6,7</sup>

## PURPOSEFULLY DESIGNED INNOVATIVE DEPLOYMENT SEQUENCE TO REDUCE EMBOLIC RISK

Unique deployment sequence, designed to protect the BCA from embolic debris that could go to the brain.



## AIR EMBOLISM REDUCTION THROUGH ADVANCED DUAL FLUSHING PORTS

The dual flushing ports in the delivery system are designed to maximize air removal from the sheath, a risk factor for stroke.<sup>8,9</sup>



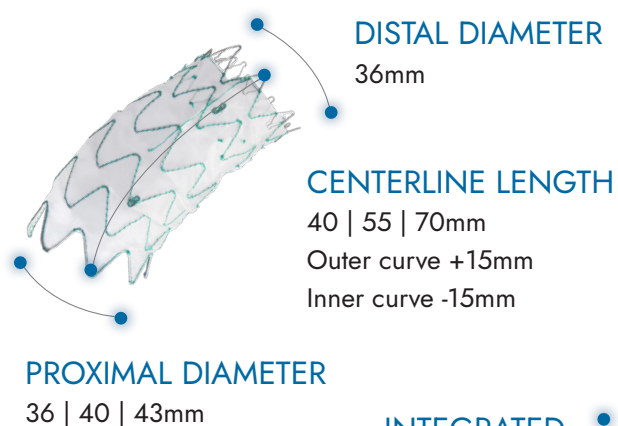
**NEXUS is the lowest profile Arch Stent, designed to be delivered<sup>10</sup> completely transfemoral which may reduce the risk of stroke compared to neck access.**

20F

# NEXUS<sup>®</sup> PLATFORM

## SIZES OVERVIEW

### ASCENDING STENT GRAFT



**INTEGRATED BRANCH**  
D. 14 | 17 | 20mm  
L. 20 | 30 | 40mm

**RETROGRADE INNER BRANCH**  
10mm diameter 20mm length  
Radial orientation: Custom  
BCT-Branch distance: Custom

**BODY LENGTH**  
180mm

**DOCK DIAMETER**  
30mm

### ARCH STENT GRAFT

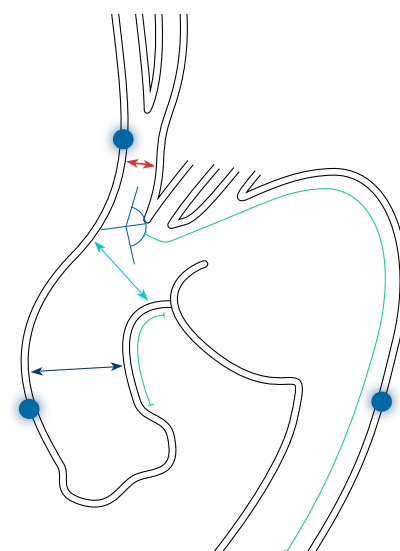
**DISTAL DIAMETER**  
32 | 36 | 40 | 44mm

Device available in all diameter and length combinations for both Ascending and Arch

## NEXUS ANATOMICAL

### INDICATIONS

	Diameter	Landing zone length
Brachiocephalic trunk	11.5-19mm	≥ 20mm BCT – Aortic arch take off angle ≥ 125°
Ascending aorta	30* ≤ $\phi$ < 40 mm	≥ 30mm
Descending aorta	26 ≤ $\phi$ < 40mm	≥ 30mm
Access vessels	Iliac or femoral artery suitable for <b>20F</b> sheath RAA suitable for <b>7F</b> sheath	



\*Implants of the 36mm Ascending Curved Stent Grafts in previously implanted surgical grafts, can be implanted in minimum internal diameter of 26mm.

## REFERENCES

1. T.M. van Bakel et al. A computational analysis of different endograft designs for Zone 0 aortic arch repair. *European Journal of Cardio-Thoracic Surgery* 54 (2018) 389–396
2. Haulon S et al. Endovascular arch replacement with an endoprosthesis with three inner branches. *Ann Cardiothorac Surg*. 2018 May;7(3):431-433. doi: 10.21037/acs.2018.04.07. PMID: 30155423; PMCID: PMC6094006.
3. Data on File.
4. Katsargyris A, Marques de Marino P, Mufty H, Pedro LM, Fernandes R, Verhoeven ELG. Early Experience with the Use of Inner Branches in Endovascular Repair of Complex Abdominal and Thoraco-abdominal Aortic Aneurysms. *Eur J Vasc Endovasc Surg*. 2018 May;55(5):640-646. doi: 10.1016/j.ejvs.2018.01.024. Epub 2018 Mar 12. PMID: 29545020.
5. Barbanti M, Binder RK, Freeman M, Wood DA, Leipsic J, Cheung A, Ye J, Tan J, Toggweiler S, Yang TH, Dvir D, Maryniak K, Lauck S, Webb JG. Impact of low-profile sheaths on vascular complications during transfemoral transcatheter aortic valve replacement. *EuroIntervention*. 2013 Dec;9(8):929-35. doi: 10.4244/EIJV9I8A156. PMID: 24035884.
6. D'Onofrio A, Lachat M, Mangialardi N, Antonello M, Schelzig H, Chaykovska L, Hill A, Holden A, Lindsay T, Ten Tan K, Orrico M, Ronchey S, Greener GE, Hayes P, Lorenzoni G, Gerosa G, Planer D. Three-year follow-up of aortic arch endovascular stent grafting with the Nexus device: results from a prospective multicentre study. *Eur J Cardiothorac Surg*. 2022 Dec 2;63(1):ezac561. doi: 10.1093/ejcts/ezac561. PMID: 36484696.
7. Stéphan Haulon, MD, PhD; Jarin Kratzberg, PhD; Julien Guihare, MD, PhD; and Dominique Fabre, MD, PhD Current Status of Arch Branch Technology Initial experience with arch branch device technology and considerations for optimizing operator technique and future iterations of these devices. November 2018 <https://evtoday.com/articles/2018-nov/current-status-of-arch-branch-technology>
8. Cao L, Zhang H, Ge Y, Guo W. Avoiding Stroke in Patients Undergoing Endovascular Aortic Arch Repair: JACC Review Topic of the Week. *J Am Coll Cardiol*. 2023 Jul 18;82(3):265-277. doi: 10.1016/j.jacc.2023.04.053. PMID: 37438011.
9. Rohlfes, F. et al. Air Embolism During TEVAR: Carbon Dioxide Flushing Decreases the Amount of Gas Released From Thoracic Stent-Grafts During Deployment. *Journal of Endovascular Therapy* 24, 84–88 (2017).
10. Association of upper extremity and neck access with stroke in endovascular aortic repair. Plotkin, Anastasia et al. *Journal of Vascular Surgery*, Volume 72, Issue 5, 1602 - 1609.

ENDOSPAN® 

**CAUTION: Investigational Device – Limited by United States Law to Investigational Use. Outside of the United States device availability is subject to local regulations and guidelines.**

Custom made devices are specifically made in accordance with a written prescription of any person authorised by national law by virtue of that person's professional qualifications; which gives (1) specific design characteristics provided under that person's responsibility and (2) is intended for the sole use of a particular patient exclusively to meet their individual conditions and needs. Custom made devices are not available in the US and availability is subject to local regulatory approval.