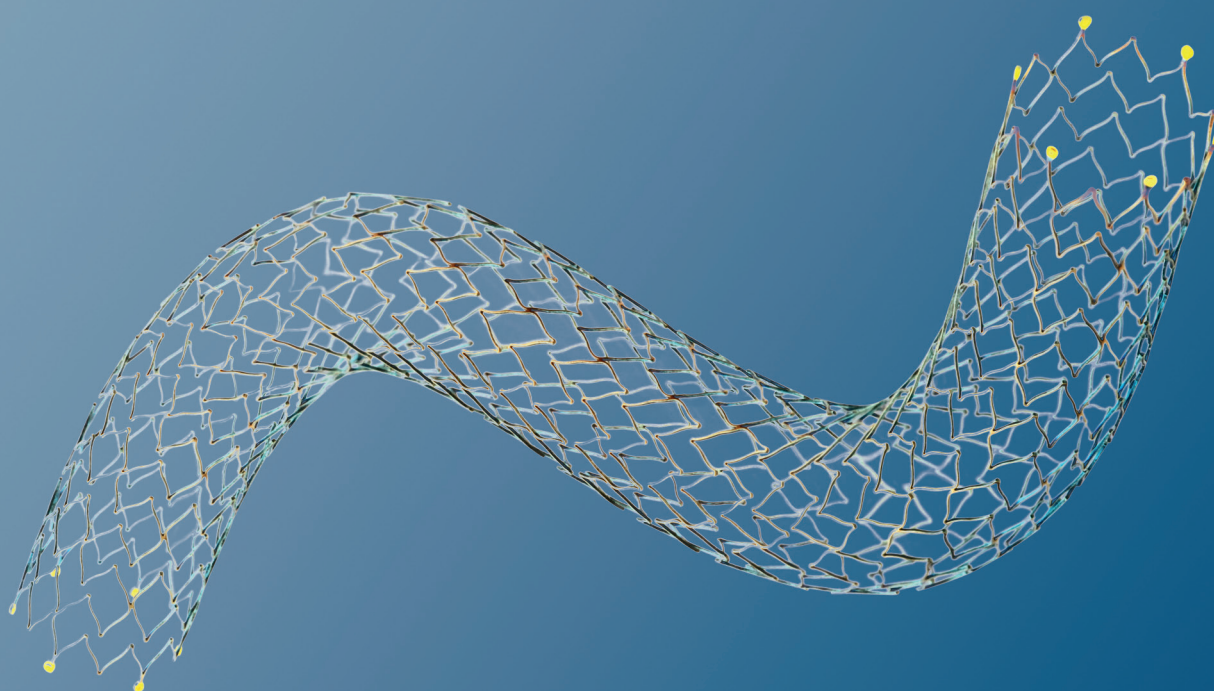
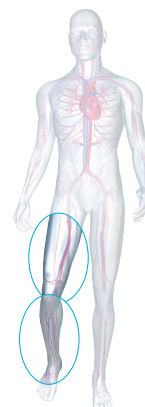


Astron Pulsar

Self-Expanding Stent/0.018"/OTW

Indicated for femoral and infrapopliteal artery



- S-articulating connecting bars and peak-to-valley design for multi-directional flexibility
- Segmented stent design with thin struts for lower chronic outward force
- Pull-back delivery system for simple stent deployment
- Low profile 4F delivery system with 3.6F proximal shaft for contrast injection with device in sheath

Astron Pulsar

Simplicity by design

Being a relatively mobile artery, the SFA requires a stent that conforms to the natural vessel movement and provides sufficient support in complex, long lesions that are often difficult to cross. Astron Pulsar is a stent designed for SFA with high multi-directional flexibility on a low-profile delivery system.

Clinically proven in mid-term follow-up (24 months)

Pulsar stents in shorter lesions

- 4EVER¹ trial. ALL 4.3 cm; PP 76.2 %; FTLR 82.3 %
- REAP² trial. ALL 5.2 cm; PP 68.0 %; FTLR 86.2 %

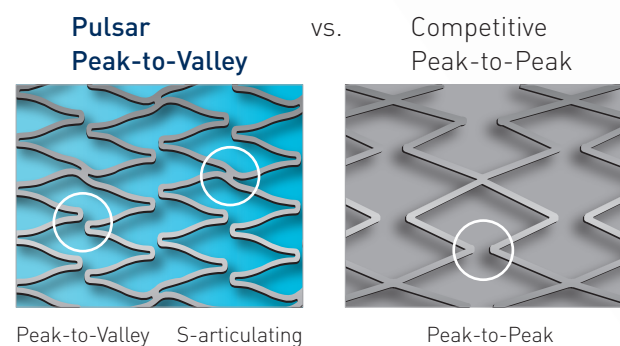
Pulsar stents in combination with Drug-Coated Balloon (DCB)

- DEBAS³ trial. ALL 18.8 cm; PP 88.2 %; FTLR 91.0 %*

* DEBAS uses Pulsar-18 stent, another member of the Pulsar family with similar stent characteristics.

Stent designed for SFA

- Peak-to-valley design and **S-articulating connecting bars** provide multi-directional flexibility and avoid fish-scaling in mobile vessel architecture.
- A **segmented stent design** with thin struts provides low Chronic Outward Force (COF)⁴ sufficient to maintain vessel scaffolding even in calcified lesions (4EVER trial¹). High COF has been shown to result in higher rates of neointimal hyperplasia.^{5,6,7}
- Ideal for shorter lesions, spot-stenting or combination therapy with DCB.



¹ 4EVER trial. Bosiers. M. 24m results presented CIRSE 2013; Deloose K. 24m results presented LINC 2014

² Acín. F. et al. Astron Pulsar Nitinol stent in the femoropopliteal sector. Técnicas Endovasculares 2010; 13: 3203-3211

³ DEBAS trial. Mwipatayi P. 24-month results presented VEITH 2015

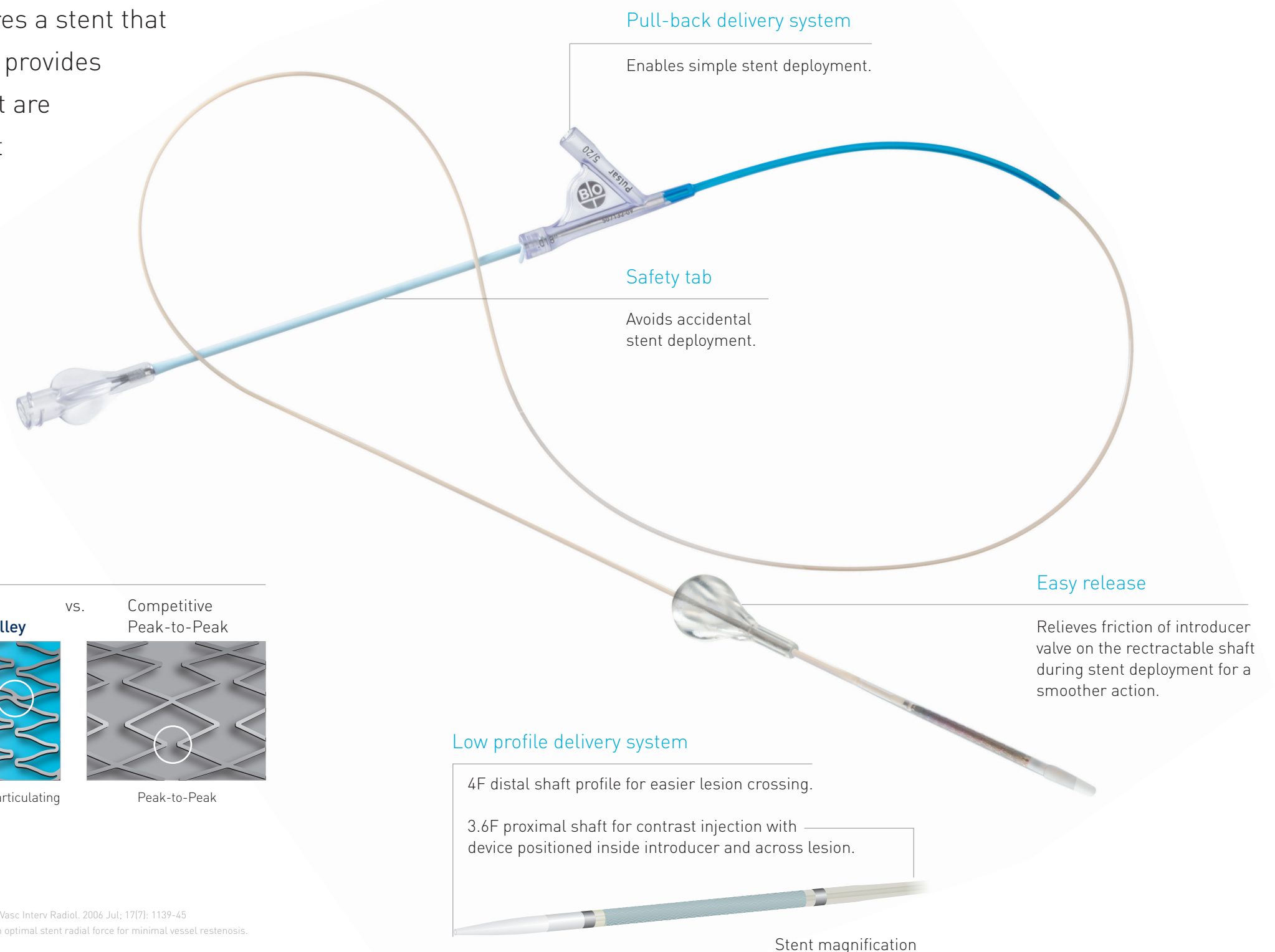
⁴ BIOTRONIK data on file

⁵ Ballyk PD. Intramural stress increases exponentially with stent diameter: a stress threshold for neointimal hyperplasia. J Vasc Interv Radiol. 2006 Jul; 17(7): 1139-45

⁶ Freeman JW, Snowhill PB, Noshier JL. A link between stent radial forces and vascular wall remodeling: the discovery of an optimal stent radial force for minimal vessel restenosis. Connect Tissue Res. 2010 Aug; 51(4): 314-26

⁷ Zhao HQ, Nikanorov A, Virmani R, Jones R, Pacheco E, Schwartz LB. Late stent expansion and neointimal proliferation of oversized Nitinol stents in peripheral arteries. Cardiovasc Intervent Radiol. 2009 Jul; 32(4): 720-6

Stent designed to achieve radial force and flexibility required by SFA



Astron Pulsar

Self-Expanding Nitinol Stent/0.018"/OTW

Technical Data	Stent
Catheter type	OTW
Recommended guide wire	0.018"
Stent material	Nitinol
Strut thickness	155 µm
Stent coating	proBIO (Amorphous Silicone Carbide)
Stent markers	6 gold markers each end
Sizes	ø 4 - 7 mm; L: 20 - 80 mm
Proximal shaft	3.6F, hydrophobic coating
Usable length	70 cm (ø 5.0 - 7.0 mm) 72 cm (ø 4.0 mm, L: 60 - 80 mm) 75 cm (ø 4.0 mm, L: 20 - 40 mm) 120 cm (ø 5.0 - 7.0 mm) 130 cm (ø 4.0 mm, L: 60 - 80 mm) 135 cm (ø 4.0 mm, L: 20 - 40 mm)

Ordering Information	Stent ø (mm)	Catheter length 70 - 75 cm Stent length (mm)				
		20	30	40	60	80
	4.0	358939	358940	358941	359347	359680
4F	5.0	349267	349268	349269	349270	358942
	6.0	349275	349276	349277	349278	358943
	7.0	-	349283	349284	349285	349286

Stent ø (mm)	Catheter length 120 - 135 cm Stent length (mm)				
	20	30	40	60	80
4.0	358944	358945	358946	359346	359681
5.0	349271	349272	349273	349274	358947
6.0	349279	349280	349281	349282	358948
7.0	-	349287	349288	349289	349290

Astron Pulsar is part of the BIOTRONIK **4F** Solutions portfolio, including:

- Introducer Sheath: **Fortress** ■ Guide Wires: **Cruiser, Cruiser-18** ■ Balloons: **Passeo-14, Passeo-18**
- Stents: **PRO-Kinetic Energy Explorer, Pulsar-18**

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