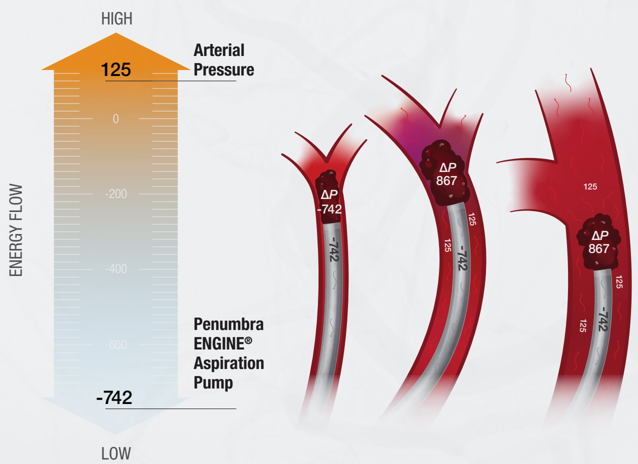

RED®
72
SPEED. SCIENCE. SIMPLICITY.
SILVER LABEL
Penumbra System® · RED 72 SILVER LABEL with SENDit® Technology

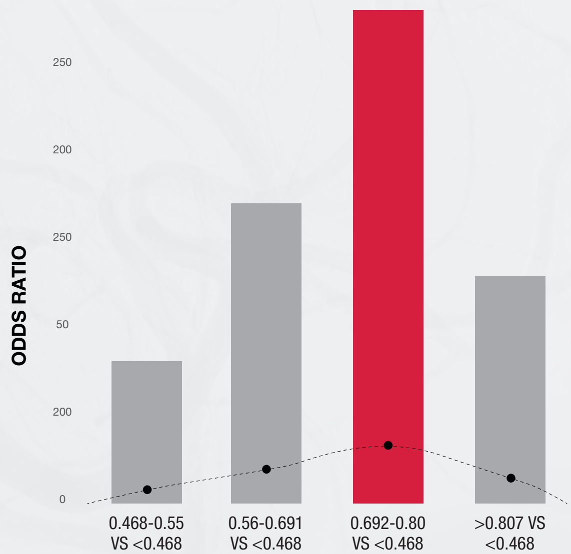
Redefining Success

in stroke care with Science-Based Aspiration Thrombectomy

Science-Based Aspiration Thrombectomy (S-BAT) explores how the fundamental physical laws that govern the universe apply in the setting of aspiration thrombectomy. It characterizes the interaction between catheter size and the absolute difference in pressure between device and blood vessel at the site of the occlusion.

PRESSURE FLOWS FROM HIGH TO LOW





CATHETER-TO-VESSEL DIAMETERS RATIOS

The pressure differential between systolic blood pressure and the aspiration source is critical for an effective thrombectomy procedure.

Data shows that the optimal catheter-to-vessel ID ratio is approximately 70-80%.[1]

Up to half of all acute ischemic strokes are considered LVO, and the size of the average M1 segment is approximately 2.37-2.55 mm.[2,3,4]
RED 72 occupies approximately 72-77% of the average M1.[c]

SCIENCE-BASED S·BAT™ ASPIRATION THROMBECTOMY

To learn more about S-BAT please scan QR code or visit: peninc.info/s-bat

1. Charbonnier G, et al. Reply to "Successful recanalization because of the pressure differential between arterial systolic pressure (Push) and vacuum level created by the vacuum source (Pull)". *J Neuroradiol.* 2024;51(4). doi:10.1016/j.neurad.2024.04.005.
2. Saber H, Froehler MT, Zaidat OO, et al. Variation in vessel size and angiographic outcomes following stent retriever thrombectomy in acute ischemic stroke: STRATIS Registry. *Stroke Vasc. Intervent. Neurol.* 2024;4(3). doi:10.1161/SVIN.123.000978.
3. Mirza, et al. Variability in Intracranial Vessel Diameters and Considerations for Neurovascular Models: A Systematic Review and Meta Analysis. Stroke Vasc Interv Neurol. 2024;4:e001177. DOI: 10.1161/SVIN.123.001177 1
4. Waqas, et al. Large Vessel Occlusion in Acute Ischemic Stroke Patients: A Dual-Center Estimate Based on a Broad Definition of Occlusion Site. Journal of Stroke and Cerebrovascular Diseases, Volume 29, Issue 2,2020,104504, ISSN 1052-3057, https://doi.org/10.1016 j.jstrokecerebrovasdis.2019.104504.
c. Based on Penumbra RED 72 Reperfusion Catheter Inner Diameter.

72
SENDit

DEVELOPED FOR SPEED

RED 72 SILVER LABEL with SENDit Technology

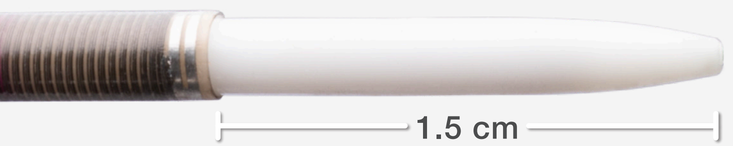
DESIGNED FOR SIMPLICITY

50% More Trackable

than original RED 72 with SENDit Technology[a]

Occupies 99% of Catheter Lumen[b]

Designed for seamless tracking around challenging vessel branches and anatomical tortuosity



Smooth Tapered Tip

1.5 cm tip extension designed for close clot proximity without crossing the occlusion

2.16 mm OD
132 cm Length

.072" ID (1.83 mm)

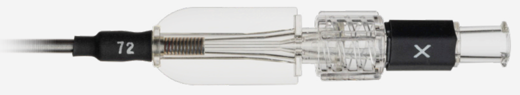
Intentionally Constructed

Intended to occupy approximately 75% of the average M1 vessel to maximize TRF and maintain systolic pressure exposure

Blended Transition Zones

Transition zones and stiffness profiles optimized to support SENDit Technology and enhance flexibility

DRIVEN BY SCIENCE



Pre-loaded with a Single Flush Point

Pre-loaded device intended to simplify tracking technique and reduce prep time by up to 80%[d]

RED 72 SILVER LABEL is available in single, kit, and SENDit Technology configurations.

Intended for use with BENCHMARK™ BMX96® Access System

Advanced stainless steel hypotube design for reliable support and ease of use with SENDit Technology

a. Tests performed and data on file at Penumbra, Inc. Testing evaluated the gram-force (gf) required to push aspiration system to 30 cm displacement in a tortuous glass model using an Instron® machine. Bench test results may not be indicative of clinical performance. Physicians' treatment and technique decisions will vary based on their medical judgment. Individual results may vary depending on patient-specific attributes and other factors. Test systems included the RED 72 with SENDit Technology and RED 72 SILVER LABEL with SENDit Technology.
b. Data on file, Penumbra Inc.
Photographs taken by and on file at Penumbra, Inc. Procedural and operative techniques and considerations are illustrative examples from physician experience. Physicians' treatment and technique decisions will vary based on their medical judgment. Individual results may vary depending on patient-specific attributes and other factors.

Thrombus Removal Force (TRF) = (Catheter Tip Area) × (Vacuum Level)

d. Tests performed and data on file at Penumbra, Inc. Testing performed evaluated 2 variables: 1. Device unpackaging and preparation time and 2. Aspiration catheter tracking time. Bench test results may not be indicative of clinical performance. Physicians' treatment and technique decisions will vary based on their medical judgment. Individual results may vary depending on patient-specific attributes and other factors. The aspiration system includes the respective manufacturer's commercially available guide catheter, delivery or intermediate catheter, and large-bore aspiration catheter. Systems tested include the Stryker® AXS Vecta® Aspiration System, Imperative Care™ Zoom™ Aspiration System, and the Penumbra RED 72 with SENDit Technology Aspiration System.

Catalog Number	Description	Proximal OD (F) (in.)	Distal OD (mm)	Proximal ID (in.)	Distal ID (in.)	Working Length (cm)
Penumbra System						
ASPIRATION KITS						
RED72KIT	RED 72 Reperfusion Catheter + Penumbra Aspiration Tubing	6 (.085)	2.16	.072	.072	132
RED72SDKIT	RED 72 Reperfusion Catheter + SENDit Technology + Penumbra Aspiration Tubing	6 (.085)	2.16	.072	.072	132
RED68KIT	RED 68 Reperfusion Catheter + Penumbra Aspiration Tubing	6 (.084)	2.13	.068	.068	132
RED62SKIT	RED 62 Reperfusion Catheter + Penumbra Aspiration Tubing	6 (.076)	1.93	.062	.062	138
RED43KIT160	RED 43 Reperfusion Catheter 160 cm + Penumbra Aspiration Tubing	5 (.060)	1.52	.043	.043	160
RED43KIT138	RED 43 Reperfusion Catheter 138 cm + Penumbra Aspiration Tubing	5 (.060)	1.52	.043	.043	138
5MAXJETDKIT	Penumbra JET® D Reperfusion Catheter + Penumbra Hi-Flow Tubing	6 (.080)	1.65	.064	.054	138
4MAXCKIT	4MAX® Reperfusion Catheter + Penumbra Hi-Flow Tubing	6 (.080)	1.42	.064	.041	139
3MAXCKIT	3MAX Reperfusion Catheter + Penumbra Hi-Flow Tubing	4.7 (.062)	1.27	.043	.035	160
REPERFUSION CATHETERS						
RED72	RED 72 Reperfusion Catheter	6 (.085)	2.16	.072	.072	132
RED68	RED 68 Reperfusion Catheter	6 (.084)	2.13	.068	.068	132
RED62S	RED 62 Reperfusion Catheter	6 (.076)	1.93	.062	.062	138
RED43160	RED 43 Reperfusion Catheter 160 cm	5 (.060)	1.52	.043	.043	160
RED43138	RED 43 Reperfusion Catheter 138 cm	5 (.060)	1.52	.043	.043	138
5MAXJETD	Penumbra JET D Reperfusion Catheter	6 (.080)	1.65	.064	.054	138
4MAXC	4MAX Reperfusion Catheter	6 (.080)	1.42	.064	.041	139
3MAXC	3MAX Reperfusion Catheter	4.7 (.062)	1.27	.043	.035	160
REVASCULARIZATION DEVICE		Diameter	Device Length	Working Length		
PSR3D	3D Revascularization Device™	4.5 mm	26 mm	20 mm		
DELIVERY MICROCATHETER						
VEL160STR	Velocity® Microcatheter	2.95 (.0387)	.867	.025 (.635)	.025 (.635)	160
SEPARATOR™ DEVICES						
PSF054	5MAX Separator	—	1.14	—	—	175
PSF041	4MAX Separator	—	.89	—	—	175
3MAXS	3MAX Separator	—	.76	—	—	190
ASPIRATION ACCESSORIES						
PMXENGN	Penumbra ENGINE®					
PAPS3	Penumbra ENGINE Canister					

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For the complete Penumbra IFU Summary Statements, please scan QR code or visit: peninc.info/risk

Penumbra