HLS Cannulae

Solutions from tip to tip.

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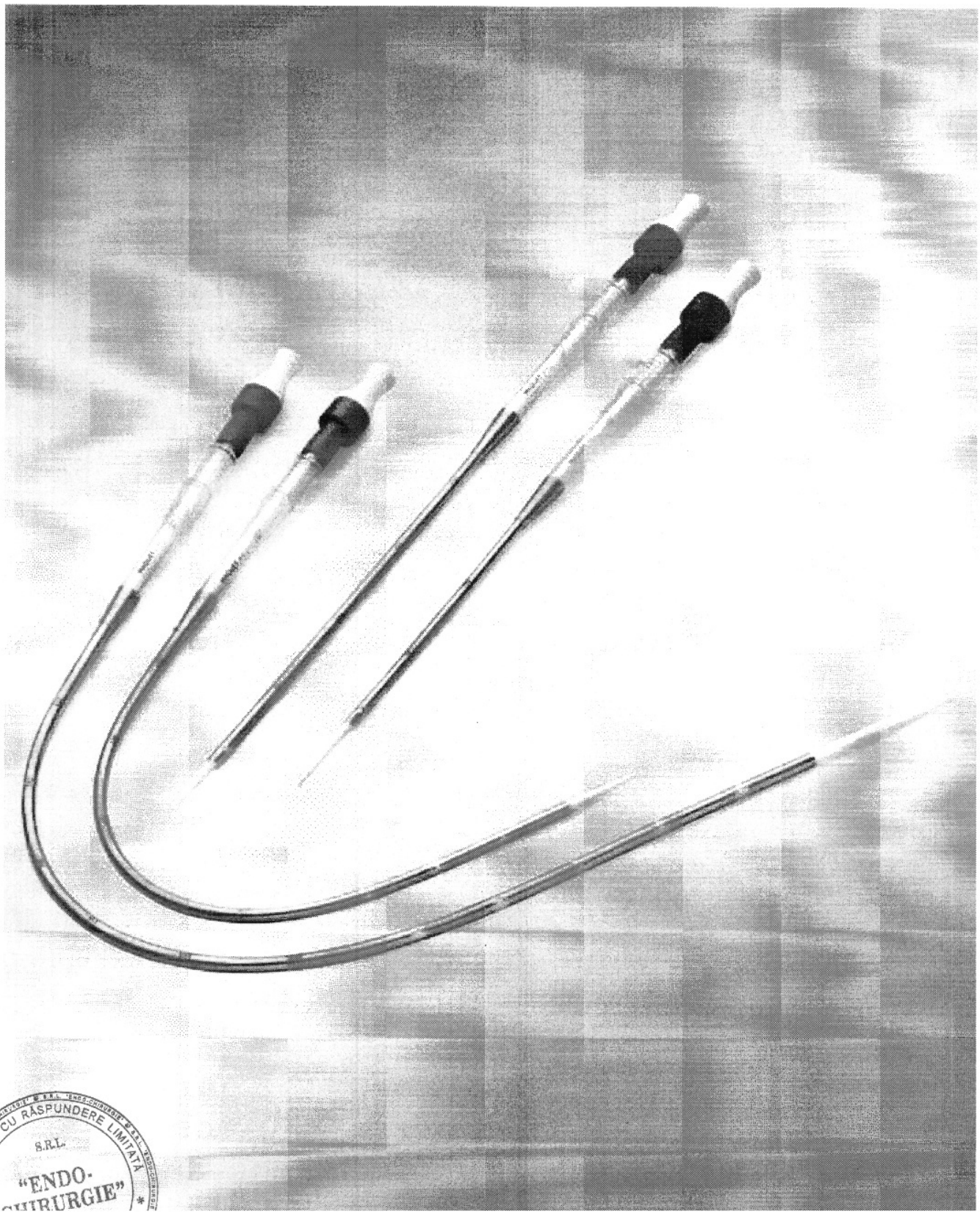


HLS Cannulae
Vessels access becomes easier.

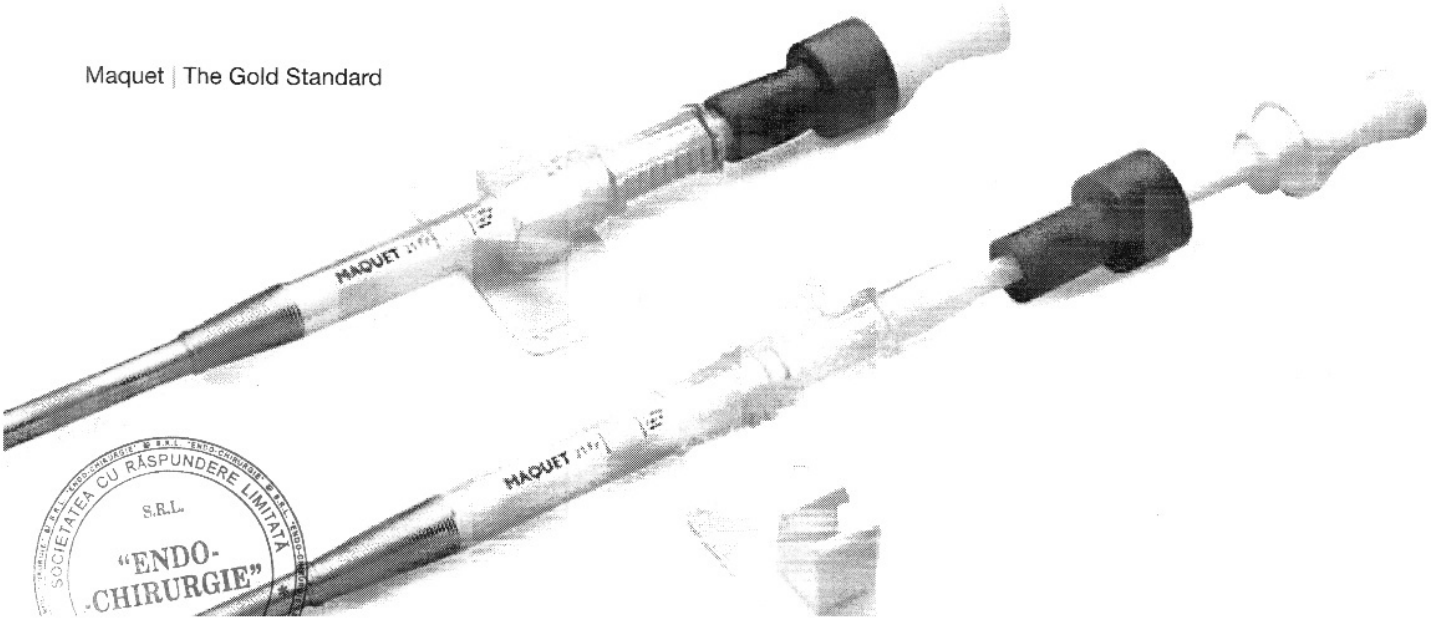
Maquet is an international synonym for innovative and technological advances in operating rooms and intensive care units. Maquet offers state-of-the-art quality products and services for the optimal treatment of patients and the best working conditions. Maquet Cardiovascular has extensive experience in open and beating heart surgery, showing its commitment with continuous innovations.

The product portfolio includes the entire range of perfusion systems, catheters and cannulae as well as extracorporeal life support systems.

Maquet now offers a complete solution not only for cardiac surgery, but also for extended extracorporeal life support – from tip to tip. The HLS cannulae are designed to provide veno-venous and veno-arterial vessel access. They permit easy and reliable connection of peripheral vessels to an extracorporeal circuit.

Cannulae with BIOLINE Coating are available for use in extended respiratory and/or circulatory support.

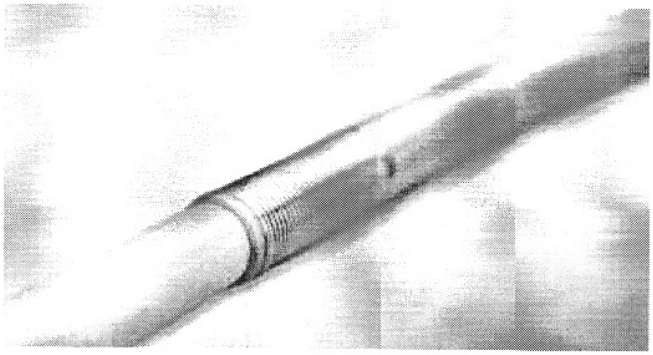
Maquet | The Gold Standard



Standard for single lumen cannulation.
Smooth transition and kink-resistant cannula body.

Maquet's HLS Cannulae can be inserted percutaneously or with a surgical cut-down. Arterial and venous cannulae are available in a choice of sizes and insertion lengths to meet all needs for peripheral cannulation.

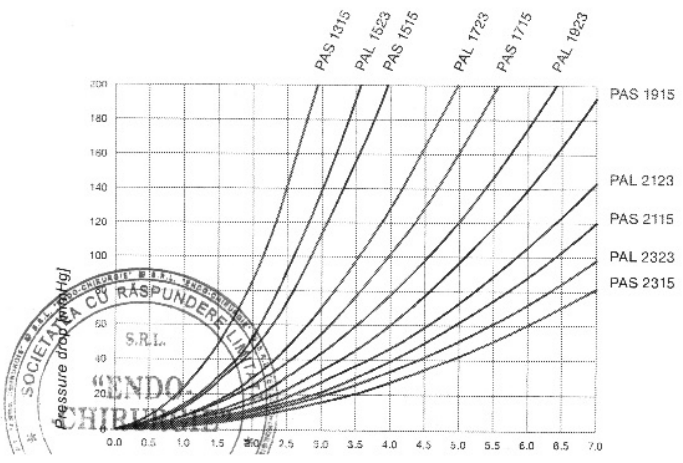
- Cannula bodies in biocompatible polyurethane.
- Reinforced with a flat wire for the thinest wall and highest flow rates.
- Large range of sizes to meet different patient requirements.
- Sizes from 13 Fr. to 29 Fr.
- Different insertion lengths, 15, 23, 38 and 55 cm.
- Locked introducer to keep introducer in place during insertion.
- Optimized transition between introducer and cannula tip.
- Depth marks to control insertion depth.
- Stop-ring defines maximum insertion depth.
- A pair of side holes on every arterial tip.
- Alternating pairs of side holes on every venous cannula.
- Selectively hardened proximal cannula body, preventing kinking after insertion.
- Reinforced side holes to prevent kinking.
- Cannulae can be inserted percutaneously over a 0.038" guidewire.
- Versions with BIOLINE Coating available for improved biocompatibility.
- Extended application time of 30 days in combination with a PLS Set or HLS Set (BIOLINE Coating).



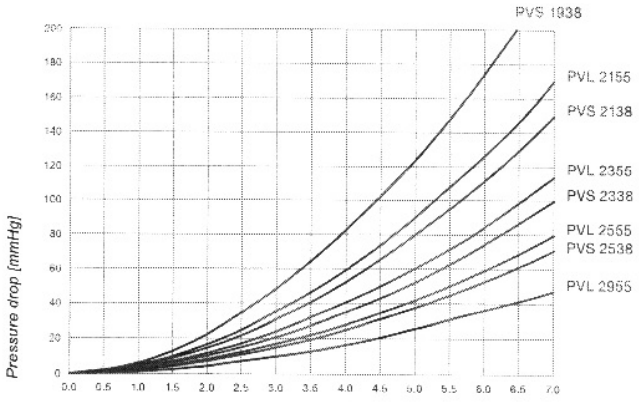
Smooth transition between introducer and cannula tip

Stop-ring defines maximum insertion depth

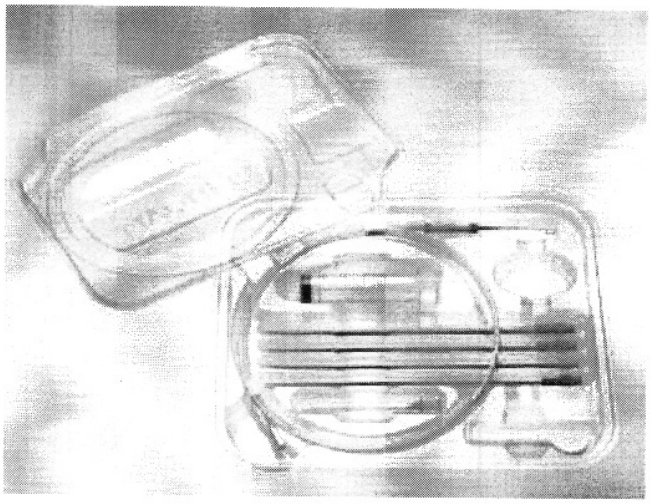
Pressure drop vs. flow for all arterial HLS cannulae



Pressure drop vs. flow for all venous HLS cannulae



Single lumen vessels access becomes easier.
Percutaneous Insertion Kits



For percutaneous access of the HLS cannulae Maquet has developed percutaneous insertion kits:
Two kits with different guidewire lengths are available for arterial and venous peripheral cannulation.

Appropriate components have been chosen:
- 4 multi-step dilators: 10/12 Fr., 12/14 Fr., 14/16 Fr., 16/18 Fr.
- 0.038" x 100 cm with J-tip guidewire for arterial cannulae
- 0.038" x 150 cm with J-tip guidewire for venous cannulae
- Guidewire advancer
- 18 ga. puncture needle
- Mini scalpel blade
- 10 cc syringe
- Additional dilator sizes and guidewires available

Order details arterial HLS cannulae:

Type	Outer Diameter	Insertion Length	Side Holes	Perforation Length	Connector	BIOLINE Coating
PAS 1315	13 Fr. (4.3 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 1315
PAS 1515	15 Fr. (5.0 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 1515
PAS 1715	17 Fr. (5.7 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 1715
PAS 1915	19 Fr. (6.3 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 1915
PAS 2115	21 Fr. (7.0 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 2115
PAS 2315	23 Fr. (7.7 mm)	15 cm	2	1 cm	3/8" LL	BE-PAS 2315
PAL 1523	15 Fr. (5.0 mm)	23 cm	2	1 cm	3/8" LL	BE-PAL 1523
PAL 1723	17 Fr. (5.7 mm)	23 cm	2	1 cm	3/8" LL	BE-PAL 1723
PAL 1923	19 Fr. (6.3 mm)	23 cm	2	1 cm	3/8" LL	BE-PAL 1923
PAL 2123	21 Fr. (7.0 mm)	23 cm	2	1 cm	3/8" LL	BE-PAL 2123
PAL 2323	23 Fr. (7.7 mm)	23 cm	2	1 cm	3/8" LL	BE-PAL 2323

One cannula per carton

Order details venous HLS cannulae:

Type	Outer Diameter	Insertion Length	Side Holes	Perforation Length	Connector	BIOLINE Coating
PVS 1938	19 Fr. (6.3 mm)	38 cm	12	10 cm	3/8"	BE-PVS 1938
PVS 2138	21 Fr. (7.0 mm)	38 cm	12	10 cm	3/8"	BE-PVS 2138
PVS 2338	23 Fr. (7.7 mm)	38 cm	16	10 cm	3/8"	BE-PVS 2338
PVS 2538	25 Fr. (8.3 mm)	38 cm	20	10 cm	3/8"	BE-PVS 2538
PVL 2155	21 Fr. (7.0 mm)	55 cm	20	20 cm	3/8"	BE-PVL 2155
PVL 2355	23 Fr. (7.7 mm)	55 cm	20	20 cm	3/8"	BE-PVL 2355
PVL 2555	25 Fr. (8.3 mm)	55 cm	24	20 cm	3/8"	BE-PVL 2555
PVL 2955	29 Fr. (9.7 mm)	55 cm	32	20 cm	3/8"	BE-PVL 2955

One cannula per carton

Order details percutaneous insertion kits and cannulae accessories:

Type	Guidewire Length	Description	
PIK 100*	100 cm	Percutaneous insertion kit for arterial HLS cannulae	
PIK 150*	150 cm	Percutaneous insertion kit for venous HLS cannulae	
PIK Dilator Set L**		Cannulae accessories: 3 multi-step dilators	Dilator sizes 18/20 Fr., 20/22 Fr., 22/24 Fr.
PIK Dilator S**		Cannulae accessories: 1 multi-step dilator	Dilator size 08/10 Fr.
PIK Guidewire 100**	100 cm	Cannulae accessories: separate guidewires for arterial cannulae	
PIK Guidewire 150**	150 cm	Cannulae accessories: separate guidewires for venous cannulae	

This brochure contains information about products which may be pending regulatory approval to be marketed in your country.
Contact your local Maquet representative for more information.

See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.

MAQUET
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GETINGE GROUP

Getinge Group is a leading global provider of products and systems that contribute to quality enhancement and cost efficiency within healthcare and life sciences. We operate under the three brands of ArjoHuntleigh, Getinge and Maquet. ArjoHuntleigh focuses on patient mobility and wound management solutions. Getinge provides solutions for infection control within healthcare and contamination prevention within life sciences. Maquet specializes in solutions, therapies and products for surgical interventions, interventional cardiology and intensive care.

CERTIFICATE

EN ISO 13485:2012 + AC:2012

DEKRA Certification GmbH hereby certifies that the company

Maquet Cardiopulmonary GmbH

Scope of certification:

Design and manufacturing, distribution and service of medical devices for the scopes heart surgery, intensive care, cardiology, and emergency medicine

Certified location:

Kehler Straße 31, 76437 Rastatt, Germany

(further locations see annex)

has established and maintains a quality management system according to the above mentioned standard. The conformity was adduced with audit report no. 50008-Z6-00.

This certificate is valid from 2017-07-10 to 2020-07-09

Registration No.: 50008-11-02

DEKRA Certification GmbH Stuttgart Handwerkstraße 15

DEKRA

Ruth Delbeck-Bayer
DEKRA Certification GmbH Stuttgart; 2017-06-27

DAkkS
Deutsche
Akkreditierungsstelle
D-ZM-16029-08-00

Annex to the Certificate No. 50008-11-02

Revision status: 0

valid from 2017-07-10 to 2020-07-09

The following locations belong to the certificate above:

	Headquarters	Certified location	Scope of certification
	Maquet Cardiopulmonary GmbH	Kehler Straße 31 D-76437 Rastatt	Design, manufacturing, distribution and service of medical devices for the scopes heart surgery, intensive care, cardiology, and emergency medicine
	Subsidiaries	**Certified locations**	**Scope of certification**
1.	Maquet Cardiopulmonary GmbH	Kehler Straße 31 D-76437 Rastatt	Design, manufacturing, distribution and service of active medical devices for the scopes heart surgery, intensive care, cardiology, and emergency medicine Distribution of non-active medical devices for the scopes heart surgery, intensive care, cardiology, and emergency medicine
2.	Maquet Cardiopulmonary GmbH	Neue Rottenburger Straße 37 D-72379 Hechingen	Design and manufacturing of non-active medical devices for the scopes heart surgery, intensive care, cardiology, and emergency medicine