
2015 Product Catalog

Cardiopulmonary

MAQUET
GETINGE GROUP



Table of contents

Oxygenators	
QUADROX-i	4
QUADROX-iR	8
QUADROX-iD	10
Reservoirs	
Cardiotomy Reservoirs	12
VKMO	13
Venous Hardshell Cardiotomy Reservoir	14
Filter	
QUART Arterial Filter	16
Hemoconcentrators	17
Pre-bypass Filter	18
VBt 160 Venous Bubble Trap	19
Extracorporeal Life Support Systems	
CARDIOHELP System	20
HLS Set Advanced	23
PLS Set	24
Cardiac Intervention Set – CI Set	25
Organ Donor Perfusion Set – ODP Set	26
MECC-i with CARDIOHELP-i	27
Centrifugal Pump System	
ROTAFlow Centrifugal Pump	28
ROTAFlow System	30
MECC with ROTAFlow System	31
Cardiac Rhythm Management	
MYWIRE Temporary Pacing Electrodes	32
Heart-Lung Machine and Accessories	
HL 20 Heart-Lung Machine	34
BMU 40 Blood Monitoring Unit	35
Flexible LED Lamp	36
Blood Temperature Control Devices	
Heater-Cooler Unit HCU 40	37
Further Accessories	
Temperature Probe	40
Gas Filter	40
Tubing Lines	41
ECC Accessory Lines	42
Tubing Organizers	44
PLEGIOX	45
Tubing Sets - Cardioplegia	46
Tubing Sets - Hemoconcentrators	49
Tubing Sets - Intellipacks	50
Transfer Bags	51
Holders / Clamps	53
Transport Systems	59
SPRINTER CART	61

Oxygenators

Reservoirs

Filter

Extracorporeal Life Support Systems

Centrifugal Pump System

Cardiac Rhythm Management

Heart-Lung Machine and Accessories

Blood Temperature Control Devices

Accessories

Holder / Clamps

Transport

SPRINTER CART

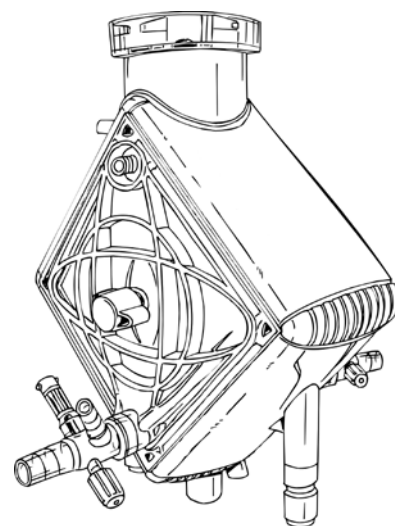
Oxygenators

QUADROX-i Adult

QUADROX-i Adult oxygenators were designed with versatility and customization in mind: The QUADROX-i system is modularly built to enable simple, customer-specific adjustment – for perfectly customized perfusion solutions. Due to the integrated filter, perfusionists and patients benefit in several ways: minimal priming volume, minimal contact of blood with foreign surfaces and an extremely compact design. All QUADROX-i oxygenators are equipped with a microporous membrane and can be used with Isoflurane and Sevoflurane. Due to this modularity, Maquet can always offer the best solution – with the highest levels of performance, safety and reliability.

QUADROX-i Adult comes with SOFTLINE Coating as a standard. BIOLINE Coating is optionally available.

Product	Type	Article No.
QUADROX-i Adult w/ SOFTLINE Coating	HMO 70000	70103.1745
QUADROX-i Adult w/ Filter and SOFTLINE Coating	HMO 71000	70103.1746
QUADROX-i Adult w/ BIOLINE Coating	BE-HMO 70000	70104.1182
QUADROX-i Adult w/ Filter and BIOLINE Coating	BE-HMO 71000	70104.0832
Packaging Unit		
4 pcs./box, single sterile packed		
Accessories	Type	Article No.
Holder for QUADROX-i Adult and Small Adult oxygenators	016062	70102.2009
Manifold sampling line 2.5 x 4.1 mm	P-0942	70106.6879
Technical Data	HMO 70000	HMO 71000
Recommended blood flow rating	0.5 – 7l/min	0.5 – 7l/min
Priming volume	215 ml	335 ml
Gas exchange surface area	1.8 m ²	1.8 m ²
Heat exchange surface area	0.4 m ²	0.4 m ²
Arterial filter surface area	–	430 cm ²
Arterial filter pore size	–	40 µm
Connections		
Blood inlet and outlet	3/8"	3/8"
Recirculation	1/4"	1/4"
Venous sampling port	Luer lock	Luer lock
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen type	1/2" Hansen type
Dia-connector with valve	Yes	Yes
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



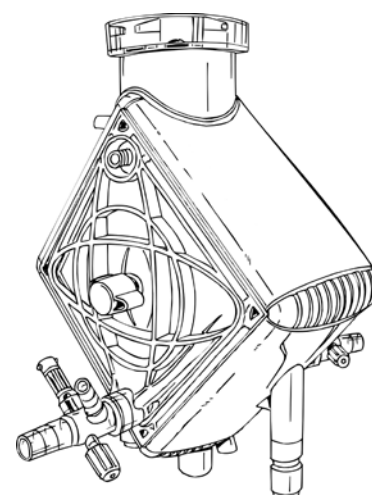
Oxygenators

QUADROX-i Small Adult

An oxygenator for small adult patients with a high performance reserves and a significant reduction in priming volume. Based on the well-known and well-established QUADROX technology, the QUADROX-i oxygenators are available both with and without an integrated arterial filter. The ease of priming, very high gas and heat exchange and very low pressure drop characteristics of all QUADROX-i oxygenators make them an ideal choice for adult and smaller patients. The QUADROX-i Small Adult comes with SOFTLINE Coating as a standard, providing more safety.

As an option, it is also available with BIOLINE Coating.

Product	Type	Article No.
QUADROX-i Small Adult w/ SOFTLINE Coating	HMO 50000	70103.6026
QUADROX-i Small Adult w/ Filter and SOFTLINE Coating	HMO 51000	70103.6027
QUADROX-i Small Adult w/ BIOLINE Coating	BE-HMO 50000	70104.1202
QUADROX-i Small Adult w/ Filter and BIOLINE Coating	BE-HMO 51000	70104.1205
Packaging Unit		
4 pcs./box, single sterile packed		
Accessories	Type	Article No.
Holder for QUADROX-i Adult and Small Adult oxygenators	016062	70102.2009
Manifold sampling line 2.5 x 4.1 mm	P-0942	70106.6879
Technical Data	HMO 50000	HMO 51000
Recommended blood flow rating	0.5 – 5 l/min	0.5 – 5 l/min
Priming volume	175 ml	295 ml
Gas exchange surface area	1.3 m ²	1.3 m ²
Heat exchange surface area	0.3 m ²	0.3 m ²
Arterial filter surface area	–	430 cm ²
Arterial filter pore size	–	40 µm
Connections		
Blood inlet and outlet	3/8"	3/8"
Recirculation	1/4"	1/4"
Venous sampling port	Luer lock	Luer lock
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen type	1/2" Hansen type
Dia-connector with valve	Yes	Yes
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



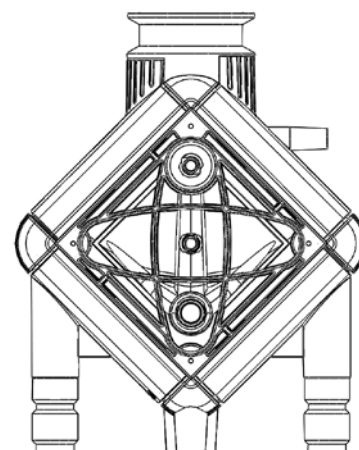
Oxygenators

QUADROX-i Pediatric

An oxygenator especially designed for infants and children. With its high performance reserve and its wide blood flow range of up to 2.8 l/min it provides safety and flexibility. With a static priming volume of only 81 ml it is extremely efficient. The integrated arterial line filter adds only 18 ml of priming volume and still provides a separate pre and post filter de-airing possibility for even more safety in case air accidentally gets into the system. The ease of priming and the outstanding heat exchange performance and very low pressure drop characteristics of all QUADROX-i oxygenators make them an ideal choice for pediatric patients.

As all other QUADROX-i oxygenators, the QUADROX-i Pediatric oxygenator is available both with and without an integrated arterial filter. QUADROX-i Pediatric comes with SOFTLINE Coating as a standard and is optionally also available with BIOLINE Coating.

Product	Type	Article No.
QUADROX-i Pediatric w/ SOFTLINE Coating	HMO 30000	70104.7005
QUADROX-i Pediatric w/ Filter and SOFTLINE Coating	HMO 31000	70104.7006
QUADROX-i Pediatric w/ BIOLINE Coating	BE-HMO 30000	70104.8597
QUADROX-i Pediatric w/ Filter and BIOLINE Coating	BE-HMO 31000	70104.8598
Packaging Unit		
4 pcs./box, single sterile packed		
Accessories	Type	Article No.
Holder combination for pediatric and neonatal oxygenators	016061 & HKHZ 19	70104.8947 & 70104.7495
Manifold sampling line 1.5 x 2.5 mm	P-0943	70106.7347
Technical Data	HMO 30000	HMO 31000
Recommended blood flow rating	0.2 – 2.8 l/min	0.2 – 2.8 l/min
Priming volume	81 ml	99 ml
Gas exchange surface area	0.8 m ²	0.8 m ²
Heat exchange surface area	0.15 m ²	0.15 m ²
Arterial filter surface area	–	55 cm ²
Arterial filter pore size	–	33 µm
Connections		
Blood inlet and outlet	1/4"	1/4"
Recirculation	Luer lock	Luer lock
Venous sampling port	Luer lock	Luer lock
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen type	1/2" Hansen type
Dia-connector with valve	No	No
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



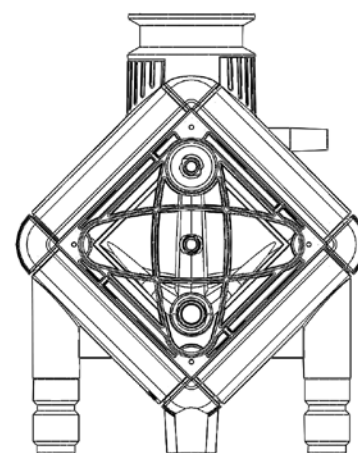
Oxygenators

QUADROX-i Neonatal

An oxygenator especially designed for the smallest and most vulnerable patients – newborn babies. With its high performance reserve and its wide blood flow range of up to 1.5 l/min it provides safety and flexibility. Having a static priming volume of 40 ml including the arterial line filter, it is the smallest combination of oxygenator and filter currently available. The ease of priming and the outstanding heat exchange performance and very low pressure drop characteristics of all QUADROX-i oxygenators make them an ideal choice for all neonatal patients. As all other QUADROX-i oxygenators, the QUADROX-i Neonatal oxygenator is available both with and without an integrated arterial filter.

QUADROX-i Neonatal comes with SOFTLINE Coating as a standard and is optionally also available with BIOLINE Coating.

Product	Type	Article No.
QUADROX-i Neonatal w/ SOFTLINE Coating	HMO 10000	70104.6979
QUADROX-i Neonatal w/ Filter and SOFTLINE Coating	HMO 11000	70104.7003
QUADROX-i Neonatal w/ BIOLINE Coating	BE-HMO 10000	70104.8599
QUADROX-i Neonatal w/ Filter and BIOLINE Coating	BE-HMO 11000	70104.8600
Packaging Unit		
4 pcs./box, single sterile packed		
Accessories	Type	Article No.
Holder combination for pediatric and neonatal oxygenators	016061 & HKHZ 19	70104.8947 & 70104.7495
Manifold sampling line 1.5 x 2.5 mm	P-0943	70106.7347
Screw-on adapter 1/4" x 3/16"	09844-s	70105.1389
Technical Data	HMO 10000	HMO 11000
Recommended blood flow rating	0.2 – 1.5 l/min	0.2 – 1.5 l/min
Priming volume	38 ml	40 ml
Gas exchange surface area	0.38 m ²	0.38 m ²
Heat exchange surface area	0.07 m ²	0.07 m ²
Arterial filter surface area	–	20 cm ²
Arterial filter pore size	–	33 µm
Connections		
Blood inlet and outlet	1/4" reducible to 3/16"	1/4" reducible to 3/16"
Recirculation	Luer lock	Luer lock
Venous sampling port	Luer lock	Luer lock
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen type	1/2" Hansen type
Dia-connector with valve	No	No
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



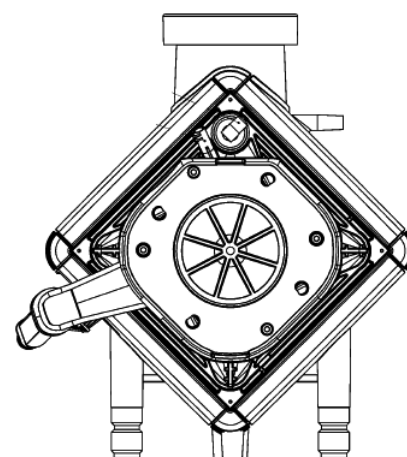
Oxygenators

QUADROX-iR Adult

The QUADROX-iR Adult oxygenator is available both with and without an integrated arterial filter. The QUADROX-iR HMO 70100 is a hollow fiber membrane oxygenator with a microporous membrane, heat exchanger, and integrated centrifugal pump. The blood enters the housing via the inlet connector, is accelerated in the centrifugal pump and pumped to the oxygenator's prechamber. In the prechamber the blood is distributed while any air is removed and diverted upward. A de-airing membrane is used to facilitate priming, de-airing, and the elimination of air during perfusion. The blood is temperature adjusted and oxygenated in the first chamber. The second chamber solely serves for oxygenation purposes and the elimination of any carbondioxide.

The QUADROX-iR HMO 71100 is additionally equipped with an integrated arterial filter. After the second chamber the blood passes the filter unit before it reaches the arterial outlet. Large amounts of air can be removed via the 3-way de-airing valve. The QUADROX-iR Adult oxygenator comes with BIOLINE Coating as a standard and is optionally also available with SOFTLINE Coating.

All QUADROX-iR oxygenators are suitable for use with Isoflurane and Sevoflurane.



Product	Type	Article No.
QUADROX-iR Adult w/ BIOLINE Coating	BE-HMO 70100	70104.7656
QUADROX-iR Adult w/ Filter and BIOLINE Coating	BE-HMO 71100	70104.7664
QUADROX-iR Adult w/ SOFTLINE Coating	HMO 70100	70105.2755
QUADROX-iR Adult w/ Filter and SOFTLINE Coating	HMO 71100	70105.2767
Packaging Unit		
3 pcs./box, single sterile packed		
Technical Data	HMO 70100	HMO71100
Recommended blood flow rating	0.5 – 7 l/min	0.5 – 7 l/min
Priming volume	273 ml	400 ml
Gas exchange surface area	1.8 m ²	1.8 m ²
Heat exchange surface area	0.4 m ²	0.4 m ²
Arterial filter surface area	–	430 cm ²
Arterial filter pore size	–	40 µm
Connections		
Blood inlet and outlet	3/8"	3/8"
Recirculation	1/4"	1/4"
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen coupling	1/2" Hansen coupling
Dia-connector with valve	Yes	Yes
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)

Oxygenators

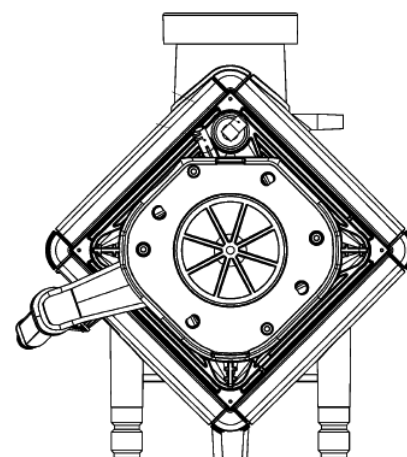
QUADROX-iR Small Adult

The QUADROX-iR Small Adult oxygenator is available both with and without an integrated arterial filter. The QUADROX-iR HMO 50100 is a hollow fiber membrane oxygenator with a microporous membrane, heat exchanger, and integrated centrifugal pump. The blood enters the housing via the inlet connector, is accelerated in the centrifugal pump and pumped to the oxygenator's prechamber. In the prechamber the blood is distributed while any air is removed and diverted upward. A de-airing membrane is used to facilitate priming, de-airing, and the elimination of air during perfusion. The blood is temperature adjusted and oxygenated in the first chamber. The second chamber solely serves for oxygenation purposes and the elimination of any carbondioxide.

The QUADROX-iR HMO 51100 is additionally equipped with an integrated arterial filter. After the second chamber the blood passes the filter unit before it reaches the arterial outlet. Large amounts of air can be removed via the 3-way de-airing valve.

The QUADROX-iR Small Adult oxygenator comes with BIOLINE Coating as a standard and is optionally also available with SOFTLINE Coating. All QUADROX-iR oxygenators are suitable for use with Isoflurane and Sevoflurane.

Product	Type	Article No.
QUADROX-iR Small Adult w/ BIOLINE Coating	BE-HMO 50100	70104.7874
QUADROX-iR Small Adult w/ Filter and BIOLINE Coating	BE-HMO 51100	70104.7876
QUADROX-iR Small Adult w/ SOFTLINE Coating	HMO 50100	70105.2772
QUADROX-iR Small Adult w/ Filter and SOFTLINE Coating	HMO 51100	70105.2774
Packaging Unit		
3 pcs./box, single sterile packed		
Technical Data	HMO 50100	HMO 51100
Recommended blood flow rating	0.5 – 5 l/min	0.5 – 5 l/min
Priming volume	240 ml	360 ml
Gas exchange surface area	1.3 m ²	1.3 m ²
Heat exchange surface area	0.3 m ²	0.3 m ²
Arterial filter surface area	–	430 cm ²
Arterial filter pore size	–	40 µm
Connections		
Blood inlet and outlet	3/8"	3/8"
Recirculation	1/4"	1/4"
Arterial sampling port	Luer lock	Luer lock
Gas inlet	1/4"	1/4"
Gas outlet	3/8"	3/8"
Arterial temperature probe	YSI	YSI
Water inlet and outlet	1/2" Hansen coupling	1/2" Hansen coupling
Dia-connector with valve	Yes	Yes
De-airing	Hydrophobic de-airing membrane/Luer lock	Hydrophobic de-airing membrane/Luer lock
Material		
Gas exchange fiber	Polypropylene (PP)	Polypropylene (PP)
Heat exchange fiber	Polyurethane (TPU)	Polyurethane (TPU)
Filter	–	Polyester (PET)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



Oxygenators

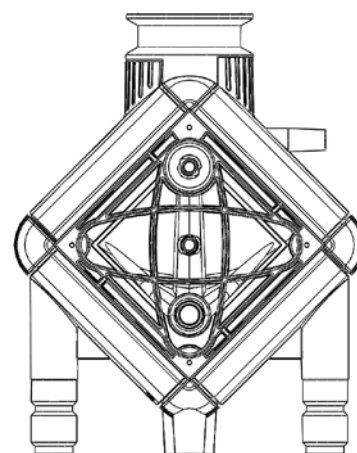
QUADROX-iD Pediatric

An oxygenator especially designed for neonatal and pediatric ECLS applications. With its high performance reserve and its wide blood flow range of up to 2.8 l/min it provides safety and flexibility. With a static priming volume of only 81 ml including the integrated heat exchanger it is extremely efficient. The QUADROX-iD Pediatric incorporates a plasma-tight PMP membrane. It is the only pediatric oxygenator worldwide which can be used up to 30 days.

The ease of priming and the very low pressure drop are typical characteristics of all QUADROX-i oxygenators. This makes it the ideal choice for both neonatal and pediatric ECLS.

The QUADROX-iD Pediatric is available with BIOLINE Coating only.

Product	Type	Article No.
QUADROX-ID Pediatric w/ BIOLINE Coating	BE-HMOD 30000	70104.7041
Packaging Unit		
1 pcs./box, single sterile packed		
Accessories	Type	Article No.
Holder combination for pediatric and neonatal oxygenators	016061 & HKHZ 19	70104.8947 & 70104.7495
Technical Data		
Recommended blood flow rating	0.2 – 2.8 l/min	
Priming volume	81 ml	
Gas exchange surface area	0.8 m²	
Heat exchange surface area	0.15 m²	
Connections		
Blood inlet and outlet	1/4" reducible to 3/16"	
Recirculation	Luer lock	
Venous sampling port	Luer lock	
Arterial sampling port	Luer lock	
Gas inlet	1/4"	
Gas outlet	3/8"	
Water inlet and outlet	1/2" Hansen type	
Dia-connector with valve	No	
De-airing	Hydrophobic de-airing membrane / Luer lock	
Material		
Gas exchange fiber	Polymethylpentene (PMP)	
Heat exchange fiber	Polyurethane (TPU)	
Housing	Polycarbonate (PC)	



Reservoirs

Venous Hardshell Cardiotomy Reservoir

The new generation of venous hardshell cardiotomy reservoirs with unique functions enabled by a revolutionary design can be used for adults and small adults. The special conical shape combines optimal flow dynamics with superb interior visibility. Outstanding elimination of microbubbles and the minimal operating volume as well as dynamic hold-up volume are reduced to a minimum. Rotatable suction connector module and venous inlet connector allow individual positioning. These venous hardshell cardiotomy reservoirs provide an excellent, safe handling due to optimized ergonomics.

VHK 71000 reservoirs are optionally available with SOFTLINE Coating or BIOLINE Coating.

Venous Hardshell Cardiotomy Reservoir 4.2 l

Product	Type	Article No.
Venous hardshell cardiotomy reservoir 4.2 l	VHK 70000	70106.2604
Venous hardshell cardiotomy reservoir 4.2 l, vacuum-tight	VHK 71000	70106.2605
Venous hardshell cardiotomy reservoir 4.2 l, vacuum-tight, w/ SOFTLINE Coating	BO-VHK 71000	70106.3858
Venous hardshell cardiotomy reservoir 4.2 l, vacuum-tight, w/ BIOLINE Coating	BE-VHK 71000	70106.3859
Packaging Unit		
1 pc./box, sterile		
Accessories	Type	Article No.
Holder for adult and small adult venous hardshell cardiotomy reservoirs, to be used with HKH 3050 or 016061 or HKH 1100	HKH 7000	70106.4360
Technical Data		
Max. volume capacity	4.2 l	4.2 l
Max. blood flow combined	7 l/min	7 l/min
Cardiotomy filtration	5 l/min	5 l/min
Connections		
Venous inlet connector	1 x 1/2"	1 x 1/2"
Suction connections	6 x 1/4", reducible to Luer lock	6 x 1/4", reducible to Luer lock
Luer lock, filtered	6 x Luer lock	6 x Luer lock
Luer lock, unfiltered	1 x Luer lock	1 x Luer lock
Luer lock at the venous inlet	2 x Luer lock	2 x Luer lock
Connection for VAVD (VAC)	–	1 x 1/4", angled
De-airing port (VENT)	–	1 x 1/4", angled, with slits
Recirculation connector	1 x 1/4"	1 x 1/4"
Quick Prime connection	1 x 1/4"	1 x 1/4"
Outlet connector	1 x 3/8"	1 x 3/8"
Negative/positive pressure relief valve	–	Opens at > +33 mbar (+25 mmHg) and < -150 to -250 mbar (-113 to -188 mmHg)
Material		
Defoamer	Polyurethane (PU)	Polyurethane (PU)
Filter	Polyester (PET), Polypropylene (PP)	Polyester (PET), Polypropylene (PP)
Housing	Polycarbonate (PC)	Polycarbonate (PC)



Oxygenators with reservoir

VKMO

A **VKMO** is a **standard combination** of venous hardshell cardiotomy reservoir and QUADROX-i oxygenator. In the VKMO the oxygenator is connected to the bottom of the reservoir. The box contains a separately packed sampling line. In the adult and small adult VKMO, a 1/4" line is connected to a port at the arterial outlet and ends in a Y-piece. One branch of the Y-piece can be connected to the cardioplegia line, the other branch is meant for recirculation. They also contain an adaptation line to be connected to the dia-connector. The pediatric VKMO comes with an additional adapter piece to upsize a 1/4" tube to 3/8". All VKMO boxes contain tight caps in order to seal the reservoir in case of VAVD or autotransfusion use.

Adult

Description	Type	Article No.
HMO 70000 + VHK 71000	VKMO 70000	70106.4523
HMO 70000 + BO-VHK 71000	BO-VKMO 70000	70106.4562
BE-HMO 70000 + BE-VHK 71000	BE-VKMO 70000	70106.4563
HMO 71000 + VHK 71000	VKMO 71000	70106.3877
HMO 71000 + BO-VHK 71000	BO-VKMO 71000	70106.4565
BE-HMO 71000 + BE-VHK 71000	BE-VKMO 71000	70106.4567
HMO 70000 + VHK 70000	VKMO 78000	70106.4525

Small Adult

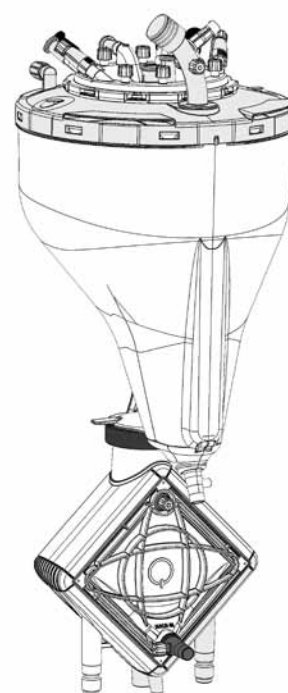
Description	Type	Article No.
HMO 50000 + VHK 71000	VKMO 50000	70106.4518
HMO 50000 + BO-VHK 71000	BO-VKMO 50000	70106.4519
BE-HMO 50000 + BE-VHK 71000	BE-VKMO 50000	70106.4520
HMO 51000 + VHK 71000	VKMO 51000	70106.4526
HMO 51000 + BO-VHK 71000	BO-VKMO 51000	70106.4570
BE-HMO 51000 + BE-VHK 71000	BE-VKMO 51000	70106.4571
Accessories	Type	Article No.
Holder for adult and small adult venous hardshell cardiotomy reservoirs, to be used with HKH 3050 or 016061 or HKH 1100	HKH 7000	70106.4360

Pediatric

Description	Type	Article No.
HMO 30000 + VHK 31000	VKMO 30000	70105.0111
HMO 30000 + BO-VHK 31000	BO-VKMO 30000	70105.3454
BE-HMO 30000 + BE-VHK 31000	BE-VKMO 30000	70105.3445
HMO 31000 + VHK 31000	VKMO 31000	70104.9185
HMO 31000 + BO-VHK 31000	BO-VKMO 31000	70105.3455
BE-HMO 31000 + BE-VHK 31000	BE-VKMO 31000	70105.3448

Neonatal

Description	Type	Article No.
HMO 10000 + VHK 11000	VKMO 10000	70105.0109
HMO 10000 + BO-VHK 11000	BO-VKMO 10000	70105.3443
BE-HMO 10000 + BE-VHK 11000	BE-VKMO 10000	70105.3451
HMO 11000 + VHK 11000	VKMO 11000	70104.9279
HMO 11000 + BO-VHK 11000	BO-VKMO 11000	70105.3444
BE-HMO 11000 + BE-VHK 11000	BE-VKMO 11000	70105.3453
Accessories	Type	Article No.
Premium holder for pediatric and neonatal VKMOs	HKH 6000	70104.9004



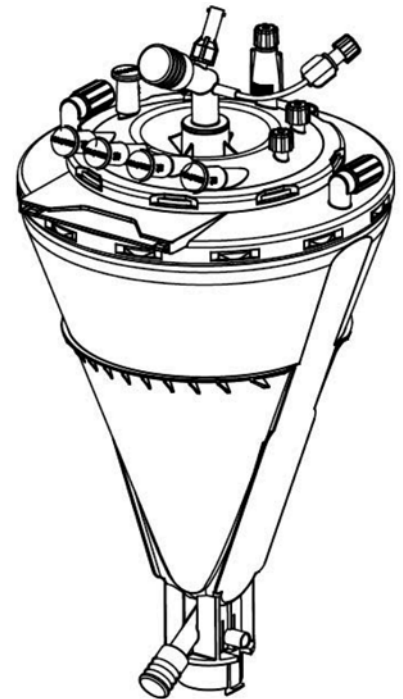
Reservoirs

Pediatric Venous Hardshell Cardiotomy Reservoir

A **hardshell reservoir especially designed** for the QUADROX-i Pediatric. Its unique cone-shaped design provides higher resolution in terms of high blood levels at low volume. In its venous part the VHK 31000 incorporates a unique calotte mechanism to optimize air elimination in the venous blood stream. In addition, it effectively prevents from vortexing even at very low blood levels and high flow rates. Its innovative hybrid cardiotomy filter combines outstanding filter performance with an extremely low dynamic hold-up volume. The entire reservoir as well as the connector lid and the venous inlet are all separately rotatable, providing a maximum of flexibility. The VHK 31000 can be used for vacuum-assisted venous drainage and can also be employed post-operatively as drainage container and autotransfusion reservoir.

Pediatric venous hardshell cardiotomy reservoirs are available with SOFTLINE Coating, BIOLINE Coating and uncoated.

Product	Type	Article No.
Pediatric venous hardshell cardiotomy reservoir, uncoated	VHK 31000	70104.8595
Pediatric venous hardshell cardiotomy reservoir w/ SOFTLINE Coating	BO-VHK 31000	70105.1432
Pediatric venous hardshell cardiotomy reservoir w/ BIOLINE Coating	BE-VHK 31000	70105.1428
Packaging Unit		
1 pc./box, sterile		
Accessories	Type	Article No.
Premium holder pediatric / neonatal oxygenators with reservoir	HKH 6000	70104.9004
Adapter for mounting VHK 11000/31000 to HKH 6000	HKHZ 23	70105.1004
Separate holder bracket for VHK 11000/31000	HKHZ 18	70104.8997
J-Pole for premium holder for VKMO	HKHZ 24	70105.0007
Adapter line 3/8" x 1/4"	09814-s	70105.1453
Technical Data		
Max. volume capacity	1700 ml	
Recommended blood flow rating	0.2 – 2.8 l/min	
Pore size venous filter	64 µm	
Pore size cardiotomy filters	Volume filter: 40 µm, screen: 40 µm	
Minimum operating volume	30 ml	
Connections		
Venous blood inlet	3/8"	
Suction inlets	4 x 1/4"	
Sampling, etc.	Flexible Luer lock	
Pump outlet	1/4"	
Quick prime	1/4"	
De-airing	1/4" with slit	
VAVD port	1/4"	
Material		
Defoamer	Polyurethane (PU)	
Filter	Polyester (PET)	
Housing	Polycarbonate (PC)	



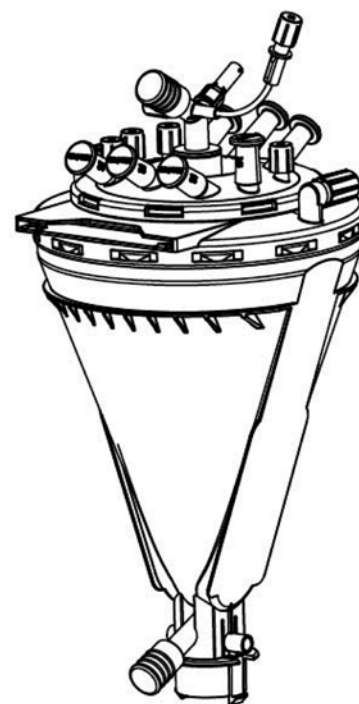
Reservoirs

Neonatal Venous Hardshell Cardiotomy Reservoir

A **hardshell reservoir especially designed** for the QUADROX-i Neonatal. Its unique cone-shaped design provides higher resolution in terms of high blood levels at low volume. In its venous part the VHK 11000 incorporates a unique calotte mechanism to optimize air elimination in the venous blood stream. In addition, it effectively prevents from vortexing even at very low blood levels and high blood flow rates. Its innovative hybrid cardiotomy filter combines outstanding filter performance with an extremely low dynamic hold-up volume. The entire reservoir as well as the connector lid and the venous inlet are all separately rotatable, providing a maximum of flexibility. The VHK 11000 can be used for vacuum-assisted venous drainage and can also be employed post-operatively as drainage container and autotransfusion reservoir.

Neonatal venous hardshell cardiotomy reservoirs are available with SOFTLINE Coating, BIOLINE Coating and uncoated.

Product	Type	Article No.
Neonatal venous hardshell cardiotomy reservoir, uncoated	VHK 11000	70104.8596
Neonatal venous hardshell cardiotomy reservoir w/ SOFTLINE Coating	BO-VHK 11000	70105.1430
Neonatal venous hardshell cardiotomy reservoir w/ BIOLINE Coating	BE-VHK 11000	70105.1425
Packaging Unit		
1 pc./box, sterile		
Accessories	Type	Article No.
Premium holder pediatric/neonatal oxygenators with reservoir	HKH 6000	70104.9004
Adapter for mounting VHK 11000/31000 to HKH 6000	HKHZ 23	70105.1004
Separate holder bracket for VHK 11000/31000	HKHZ 18	70104.8997
J-Pole for premium holder for VKMO	HKHZ 24	70105.0007
Screw-on adapter 1/4" x 3/16"	09844-s	70105.1389
Technical Data		
Max. volume capacity	800 ml	
Recommended blood flow rating	0.2 – 1.5 l/min	
Pore size venous filter	64 µm	
Pore size cardiotomy filters	Volume filter: 40 µm, screen: 33 µm	
Minimum operating volume	15 ml	
Connections		
Venous blood inlet	1/4", reducible to 3/16"	
Suction inlets	3 x 3/16" and 3 x 1/4"	
Sampling, etc.	Flexible Luer lock	
Pump outlet	1/4", reducible to 3/16"	
Quick prime	1/4"	
De-airing	1/4" with slit	
VAVD port	1/4"	
Material		
Defoamer	Polyurethane (PU)	
Filter	Polyester (PET)	
Housing	Polycarbonate (PC)	



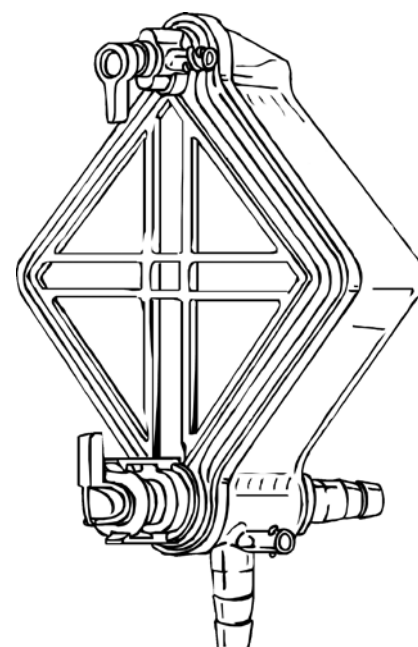
Arterial Filter

QUART

The QUART arterial filter combines easy handling, effective elimination of air bubbles and particles as well as improved visibility. The construction principle of the QUART increases the efficiency and brings maximum safety to the patient. In just two simple steps the QUART is de-bubbled – first the pre-filter chambers, then the post-filter chambers. Exhausting tapping of the filter belongs to the past. Due to the integrated StandBy-Pass there is no need for an additional by-pass line. This reduces the priming volume and dead water zones. In the unlikely event of a blocked filter one simple step is enough to bypass the filter.

The QUART arterial filter is available with SOFTLINE Coating, BIOLINE Coating and uncoated.

Product	Type	Article No.
QUART arterial filter, uncoated	HBF 140	70100.4263
QUART arterial filter w/ SOFTLINE Coating	BO-HBF 140	70103.2033
QUART arterial filter w/ BIOLINE Coating	BE-HBF 140	70100.2652
Packaging Unit		
8 pcs./carton, single sterile packed; 432 pcs./pallet		
Accessories	Type	Article No.
Holder, rigid arm	HKH 4021	70100.4487
Purge line	P-0820	70100.5173
Technical Data		
Filter pore size	40 µm	
Filter surface area	570 cm ²	
Priming volume	180 ml	
Max. blood flow	7 l/min	
Connections		
Inlet	3/8"	
Outlet	3/8"	
De-airing	Luer lock	
Inlet pressure monitoring	Luer lock	
Material		
Filter	Polyester (PET)	
Housing	Polycarbonate (PC)	



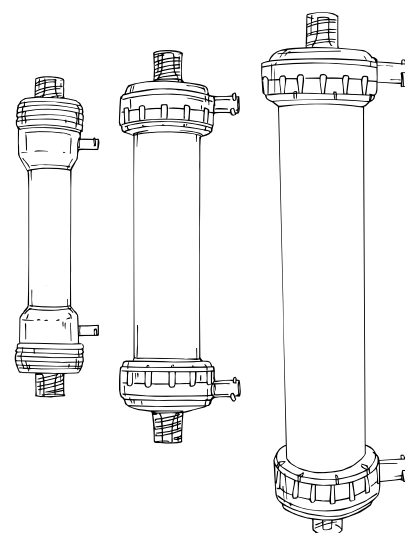
Hemoconcentrators

BC 20 plus, BC 60 Plus, BC 140 Plus

The membrane in the no-rinse hemoconcentrators is a biocompatible membrane that does not contain stabilizing glycerol. The highly stable polyarylethersulphone fiber material separates plasma water and low molecular weight solutes from cellular components and plasma proteins.

Hemoconcentrators from Maquet do not need to be rinsed before use, thus enabling easy integration in the extracorporeal circuit after priming at any time during perfusion and provide perfect ultrafiltration performance with minimal priming volumes.

Product		Type	Article No.
Hemoconcentrator BC 20 plus		BC 20 plus	70102.9558
Hemoconcentrator BC 60 plus		BC 60 plus	70100.2500
Hemoconcentrator BC 140 plus		BC 140 plus	70100.2497
Packaging Unit			
BC 20 plus: 10 pcs., BC 60 plus BC 140 plus: 20 pcs., single sterile packed			
Accessories		Type	Article No.
Basic holder for hemoconcentrators		HKH 4200	70103.3556
Clamp for BC 20 plus		HKHZ 15	70103.3568
Clamp for BC 60 plus		HKHZ 25	70105.1721
Clamp for BC 140 plus		HKHZ 14	70103.3566
Hemoconcentrator set incl. BC 20 plus		P-0420	70100.5144
Hemoconcentrator set incl. BC 60 plus		P-0410	70100.5143
Hemoconcentrator set incl. BC 140 plus		P-0400	70100.5142
Technical Data	BC 20 plus	BC 60 plus	BC 140 plus
Membrane surface area	0.22 m²	0.65 m²	1.35 m²
Priming volume	17 ml	51 ml	102 ml
Connections			
Blood inlet/outlet	Male dia-connector	Male dia-connector	Male dia-connector
Filtrate outlet	Female Luer lock (small)	Female Luer lock (large)	Female Luer lock (large)
Material			
Membrane	Polyarylethersulfone (PAES)	Polyarylethersulfone (PAES)	Polyarylethersulfone (PAES)
Housing	Polycarbonate (PC)	Polycarbonate (PC)	Polycarbonate (PC)



Filter

Pre-bypass Filter

The **Pre-bypass Filter** with a high-efficiency 0.2 micron filter is designed for the filtration and removal of fine particulate matter and bacterial contaminants from cell-free priming solutions. The fluid pathway is nonpyrogenic and sterile.

Pre-Bypass Filter sterile

Product	Type	Article No.
Pre-bypass Filter sterile	Outlet: 1/2" without vent	70102.4637
Pre-bypass Filter sterile	Outlet: 1/2" with vent	70102.3821
Pre-bypass Filter sterile	Outlet: 3/8" without vent	70103.1291
Pre-bypass Filter sterile	Outlet: 3/8" with vent	70103.1288
Packaging Unit		

sterile: 20 pcs./box, single packed

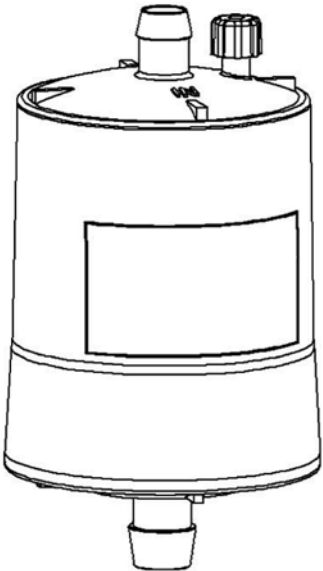
Pre-Bypass Filter non-sterile

Product	Type	Article No.
Pre-bypass Filter non-sterile	Outlet: 1/2" without vent	70102.1039
Pre-bypass Filter non-sterile	Outlet: 1/2" with vent	70102.1040
Pre-bypass Filter non-sterile	Outlet: 3/8" without vent	70103.1084
Pre-bypass Filter non-sterile	Outlet: 3/8" with vent	70103.1086
Packaging Unit		

sterile: 20 pcs./box, single packed

Technical Data	
Inlet	3/8"
Flow direction	Outside-in
Membrane configuration	Pleated
Membrane pore size	0.2 µm
Membrane surface	Approx. 820 cm²
Maximum flow rate	6 l/min
Maximum pressure	1 bar
Material	

Housing	Polypropylene (PP)
Sealing	Silicone (SI)
Membrane material	Polyethersulfone (PES)
Membrane support layers	Polyester (PET)



Venous bubble trap

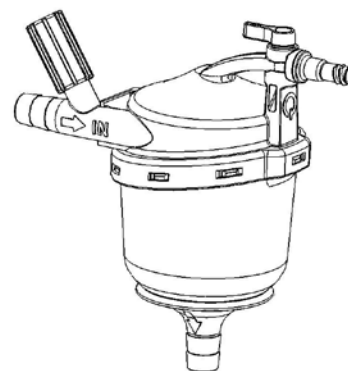
VBT 160

The VBT 160 venous bubble trap is a dynamic bubble trap with a concept that optimizes bubble elimination: blood is directed smoothly and gently into and through the bubble trap. The use of centrifugal flow and bubble buoyancy principles results in active and efficient bubble removal. The unique bubble trapping principles are the result of outstanding Maquet development and engineering.

The unique de-airing function of both sides of the internal 175 µm mesh screen enables the perfusionist to handle and eliminate trapped air rapidly and reliably. With this bubble trap Maquet is thus contributing significantly to increased perfusion and patient safety. It is designed for minimized ECC systems, in particular for the MECC System.

The VBT 160 venous bubble trap is available with BIOLINE Coating, SOFTLINE Coating and uncoated.

Product	Type	Article No.
VBT 160 venous bubble trap w/ BIOLINE Coating	BE-VBT 160	70103.0118
VBT 160 venous bubble trap w/ SOFTLINE Coating	BO-VBT 160	70103.1264
VBT 160 venous bubble trap uncoated	VBT 160	70102.9805
Packaging Unit		
8 pcs./carton, single sterile packed; 448 pcs./pallet		
Accessories	Type	Article No.
Holder, rigid arm	HKH 4100	70102.9835
Technical Data		
Maximum blood flow rate	7 l/min	
Maximum permissible overpressure	500 mbar (375 mmHg)	
Maximum permissible vacuum	- 500 mbar (-375 mmHg)	
Screen pore size	175 µm	
Screen surface	35.5 cm²	
Open screen surface	46 %	
Total filling volume	160 ml	
Blood inlet and outlet connector	3/8"	
Additional inlet connector	1/4"	
Deaeration	LLf	
Material		
Housing	Polycarbonate (PC)	
Filter fabric	Polyester (PET)	
Filter material	Polypropylene (PP)	



CARDIOHELP System

CARDIOHELP-i

The **CARDIOHELP System is the world’s smallest portable heart-lung support system** designed to treat and to transport patients needing extended respiratory and/or circulatory support. It is ideal for use in intensive care units, cardiac catheter laboratories, operating rooms and emergency rooms.

The CARDIOHELP System consists of the following components:

- CARDIOHELP-i, incl.
 - CARDIOHELP Device
 - CARDIOHELP Software
 - CARDIOHELP Emergency Drive
 - Cables and sensors
- Holders
- Optional sensors
- CARDIOHELP equipment

The central component of the CARDIOHELP System (CARDIOHELP device) is an integrated drive and control unit in the form of a compact, functionally designed unit that the various disposables can be attached to.

The CARDIOHELP System is almost instantly ready to use. Furthermore, it is designed with user-friendliness in mind, meaning that a single turn knob and a touch screen are all that nursing staff, physicians, and perfusionists are required to operate.

The CARDIOHELP System with software step 2 and its respective hardware accessories and disposables makes available new therapy options using extra-corporeal circulation and incorporates improved usability and additional safety.

CARDIOHELP-i (with software version “step 2”)*

Product	Article No.
CARDIOHELP-i (with software version “step 2”)*	70104.8012
Including:	– Software application for thApps: va-ECLS, vv-ECLS, VAD, MECC, PALP – Flow-/bubble sensor for 3/8" x 3/32" tubing, length 0.9 m – CARDIOHELP Emergency Drive (without holder) – Connection cable disposable, 16 pins, length 0.21 m – USB memory stick – Venous probe with connection cable for HLS Set Advanced and MECC-i Sets, length 0.23 m (S_vO₂, Hb, Hct, T_{Ven})

Country kit must be ordered separately (see System Flow Chart).

*Information about the software version will be identified via the corresponding country kit.



Accessories	Type	Article No.
CARDIOHELP Drive Adapter		70105.5204
- CARDIOHELP Drive Adapter to connect the ROTASSIST centrifgal pump 2.8/9.9 to CARDIOHELP-i - Necessary for use of the CARDIOHELP System together with ROTASSIST Set 9.9/2.8, ECLS Set 2.8 or PALP Set		
Flow-/bubble sensor for 1/4" x 3/32" tubing	FBS 1/4" x 3/32" L0.9	70105.5448
- Length: 0.9 m - Necessary for use of the CARDIOHELP System together with ROTASSIST Set 9.9/2.8, ECLS Set 2.8 and/or PALP Set		
Connection cable for venous probe	CC-VP L0.55	70105.6873
- Length: 0.55 m - Necessary for use of the CARDIOHELP System together with ROTASSIST Set 9.9/2.8, ECLS Set 2.8 or PALP Set		
Connection cable for ROTASSIST Set 2.8/9.9	CC-R L0.46	70105.5626
- Length: 0.46 m - Necessary for connecting the ROTASSIST Set 9.9/2.8 to CARDIOHELP-i		
Connection cable ECLS Set 2.8/PALP Set ("Y"-cable)	CC-P-R L0.46	70105.6875
- Length: 0.46 m - Necessary for connecting the ECLS 2.8 or PALP module via the ROTASSIST 2.8 disposable to CARDIOHELP-i - Not appropriate for ROTASSIST 9.9/2.8 (VAD) alone		
PALP disposable holder; holder to connect the PALP module to CARDIOHELP-i	HKH 8891	70106.2599
Temperature probe, TPO-D L1.8 Adult; Sensor size: 3.2 x 45.0 mm (0.13" x 1.8")	TPO-D L1.8	70105.4562
Temperature probe, TPO-D L1.8 Pediatric; Sensor size: 2.4 x 35.0 mm (0.1" x 1.34")	TPO-D L1.8 Pediatric	70105.4563
Bubble sensor for 3/8" x 3/32" tubing	BS 3/8 x 3/32 L1.7	70105.5720
Bubble sensor for 3/8" x 1/16" and 1/4"x 3/32" tubing	BS 3/8 x 1/16-1/4 x 3/32 L1.7	70105.5721
Medex Transducer Kit 960 LogiCal		70104.9184
Medex MX 960 LogiCal transducer holder		70102.0721
Medex MX 960 LogiCal pressure dome		70102.2744
Capacitive level sensor kit		70104.9490
Level sensor pad, 100 pcs		70102.2208
CARDIOHELP Emergency Drive (without holder)		70104.8002
CARDIOHELP Emergency Drive holder for standard rail, 10 x 25 mm	HKH 9101-R	70104.9304
CARDIOHELP Emergency Drive holder for mast	HKH 9101-M	70104.8006
SPRINTER CART / SPRINTER CART XL		See SPRINTER CART /SPRINTER CART XL

CARDIOHELP System

CARDIOHELP-i

Accessories	Type	Article No.
Heater Unit HU 35		See Heater Unit HU 35
CARDIOHELP holder for mast (diameter 38 mm)	HKH 9102-M	70104.9584
Adapter for mast Ø 33 mm H45		70103.3314
Adapter for mast Ø 30 mm H45		70105.1531
Accessories for transportation		See Transport Systems
Battery calibration unit		70105.4127
Equipotential bonding cable, 1.0 m		70105.5328
Equipotential bonding cable, 2.0 m		70105.5348
Equipotential bonding cable, 3.0 m		70105.5349
Equipotential bonding cable, 6.0 m		70105.5350
Technical Data		
Dimensions (H x W x D)	Safety bar closed: 315 x 255 x 427 mm Safety bar open: 455 x 255 x 427 mm	
Weight	Approx. 11,5 kg	
Display	Touch screen, LCD with background lighting, 5.7", 640 x 480 pixels	
Sensors	4 x external pressures, 3 x internal pressures, 2 x external temperatures, 2 x internal temperatures, 1 x venous oxygen saturation, 1 x hemoglobin, 1 x hematocrit, 1 x flow sensor with integrated bubble sensor, 1 x bubble sensor, 1 x level sensor	
Operating voltage range	11 – 28 Volt DC, 100 – 240 Volt AC/ 50 – 60 Hz	
Interfaces for	1 x USB for memory stick, 1 x USB for external data recording, 1 x connection for alarm output (ward call), Ethernet connection*, external drive*, remote interface*, ECG signal*	
Battery operation time	90 min (fully charged)	

*For future use, not supported by current software so far.

Extracorporeal Life Support

HLS Set Advanced

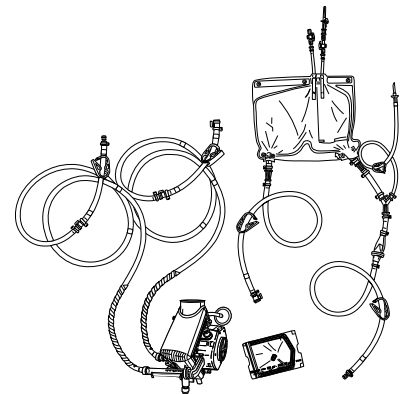
Integration is taken even further in the premium extracorporeal life support product line – HLS Set Advanced. In addition to pressure and temperature sensors, this is the world's first disposable product where a high-tech sensor is also integrated for measuring the important parameters of venous oxygen saturation (S_{vO_2}), hematocrit (Hct), and hemoglobin (Hb) plus venous temperature (T_{ven}). So far, these parameters could only be measured with an external blood analyzer or a sensor positioned in the extracorporeal tubing.

Both sets, HLS Set Advanced 5.0 and 7.0, come with BIOLINE Coating and can be used in emergency medicine as they are designed for transport and a usage up to 30 days in combination with HLS cannulae with BIOLINE Coating.

HIT Set Advanced 5.0/7.0:

Both sets are specially designed for patients with an allergy to heparin and come with SOFTLINE Coating. They can be used for up to 5 days with HLS cannulae with SOFTLINE Coating.

Product	Type	Article No.
HLS Set Advanced 5.0 w/ BIOLINE Coating for up to 30 days use	BE-HLS 5050	70104.8127
HIT Set Advanced 5.0 w/ SOFTLINE Coating for up to 5 days use	BO-HLS 5050	70104.9135
HLS Set Advanced 7.0 w/ BIOLINE Coating for up to 30 days use	BE-HLS 7050	70104.7753
HIT Set Advanced 7.0 w/ SOFTLINE Coating up to 5 days use	BO-HLS 7050	70104.9134
Packaging unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
HLS cannulae		see Catheters and Cannulae Product Catalog
Holder for priming bag	HKH 8870	70104.9375
Technical Data	BE-HLS 5050	BE-HLS 7050
Oxygenation membrane surface area	1.3 m ²	1.8 m ²
Heat exchanger surface area	0.3 m ²	0.4 m ²
Priming volume HLS Module Advanced	240 ml	273 ml
Priming volume HLS Set Advanced with 2 x 2.3 m tube length	570 ml	600 ml
Speed of centrifugal pump	max. 5.000 U/min	max. 5.000 U/min
Blood flow rate	0.5 – 5 l/min	0.5 – 7 l/min
Material		
Tubes	DEHP-free polyvinyl chloride (PVC)	DEHP-free polyvinyl chloride (PVC)
Priming set components	DEHP-containing polyvinyl chloride (PVC)	DEHP-containing polyvinyl chloride (PVC)



Extracorporeal life support

PLS Set

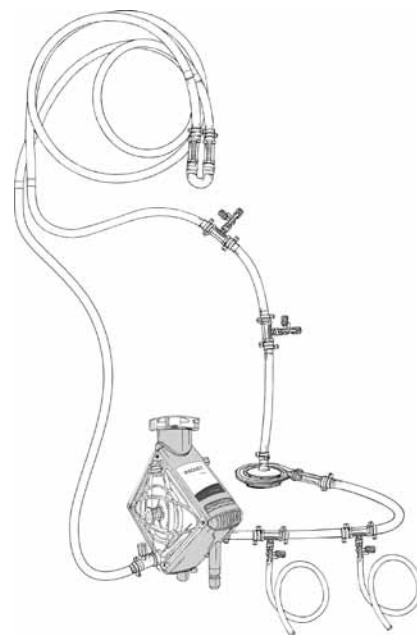
The **PLS Set, powered by the ROTAFLOW System**, is designed for respiratory and circulatory support for applications up to 14 days in combination with HLS cannulae with BIOLINE Coating. The PLS Set consists of the ROTAFLOW centrifugal pump, the PLS-i oxygenator and tubing with BIOLINE Coating. The high level of performance of the oxygenator and pump guarantees safe assistance. The low resistance of the PLS-i oxygenator and the high efficiency of the ROTAFLOW centrifugal pump reduces blood damage to a minimum. The HIT Set PLS Plus is specially designed for patients with an allergy to heparin to be used up to 5 days with HLS cannulae with SOFTLINE Coating. PLS Set Plus and HIT Set PLS Plus are modified for hemofiltration or CRRT connection. Change in set: between pump and oxygenator two additional connectors with Luer lock have been implemented to connect the lines for hemofiltration or CRRT.

The PLS Sets are a part of the PLS System which additionally consists of:

- ROTAFLOW ICU console*
- ROTAFLOW Drive
- ROTAFLOW Emergency Drive
- Holder
- HLS cannulae

*Or ROTAFLOW console upgraded with an ICU Kit.

Product	Type	Article No.
PLS Set w/ BIOLINE Coating for up to 14 days use	BE-PLS 2050	70102.7818
PLS Set Plus w/ BIOLINE Coating for up to 14 days use	BE-PLS 2051	70105.0310
HIT Set PLS Plus w/ SOFTLINE Coating for up to 5 days use	BO-PLS 2051	70105.0311
HLS cannulae		see Catheters and Cannulae Product Catalog
ROTAFLOW ICU console		see
ROTAFLOW Drive		Centrifugal Pump
ROTAFLOW Emergency Drive		System
Heater Unit HU 35		see Heater Unit HU 35
Packaging Unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
SPRINTER CART		see SPRINTER CART/ SPRINTER CART XL
Holder for PLS-i oxygenator (rotary)	HKH 7900	70103.1554
PLS Set		
Total priming volume	585 ml	
Blood flow rate	0.5 – 7 l/min	
PLS Set		
Gas exchange surface area	1.8 m ²	
Heat exchange surface area	0.4 m ²	
Water connectors	1/2" Hansen coupling	
Housing material	Polycarbonate (PC)	
Fiber material for gas exchange	Polymethylpentene (PMP)	
Fiber material for water flow	Polyurethane (TPU)	
ROTAFLOW Centrifugal Pump		
Surface	190 cm ²	
Housing material	Polycarbonate (PC)	



Cardiac intervention

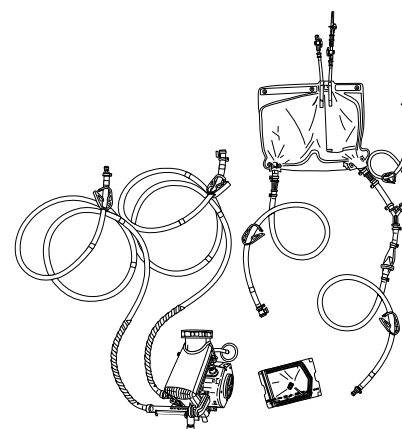
CI Set

The CI Set is the set of choice for short-term extracorporeal life support prior to or during cardiological interventions, e.g. high-risk PCI (percutaneous coronary intervention) in catheterization laboratories or hybrid operating rooms.

The set incorporates the QUADROX-iR with an integrated centrifugal pump and a microporous membrane and is driven by CARDIOHELP-i. The venous probe head measures the important parameters of venous oxygen saturation (S_{VO_2}), hematocrit (Hct), and hemoglobin (Hb) plus venous temperature (T_{Ven}). External pressure sensors can be attached.

This set is uncoated with the exception of the oxygenator which comes with SOFTLINE Coating. The CI Set can be used for up to 6 hours.

Product	Type	Article No.
CI Set for up to 6 hours use	CIS 95400	70106.3646
Packaging Unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
HLS cannulae		see Catheters and Cannulae Product Catalog
Bubble sensor for 3/8" x 3/32" tubing	BS 3/8 x 3/32 L1.7	70105.5720
Holder for priming bag	HKH 8870	70104.9375
Technical Data		
Oxygenation membrane surface area	1.8 m ²	
Heat exchanger surface area	0.4 m ²	
Priming volume QUADROX-iR	273 ml	
Priming volume of the CI Set with tubing	appr. 600 ml	
Speed of centrifugal pump	max. 5,000 U/min	
Blood flow rate	0.5 – 7 l/min	
Size of blood inlet and outlet connectors	3/8"	
Size of water connectors (oxygenator)	1/2" Hansen coupling	
Measuring cell for venous parameters	see CARDIOHELP System Instructions for Use	
Material		
Tubes	DEHP-free polyvinyl chloride (PVC)	
Priming set components	DEHP-containing polyvinyl chloride (PVC)	
Coating	Tubing uncoated, oxygenator with SOFTLINE Coating	



Organ Donor Perfusion Set

ODP Set

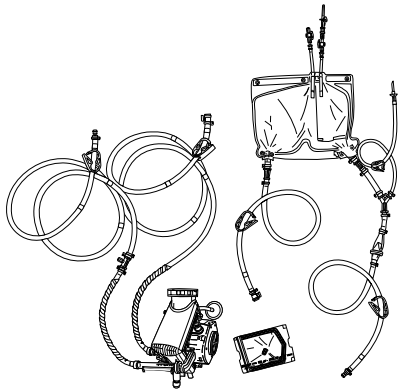
The ODP Set has been specially developed for perfusion of in-situ organs after cardiac death.

The set incorporates the QUADROX-iR with an integrated centrifugal pump and a microporous membrane and is driven by CARDIOHELP-i.

The venous probe head measures the parameters of venous oxygen saturation (S_{VO_2}), hematocrit (Hct), and hemoglobin (Hb) plus venous temperature (T_{Ven}). External pressure sensors and an external level sensor can be attached.

This set is coated with SOFTLINE Coating and can be used for up to 6 hours.

Product	Type	Article No.
ODP Set w/ SOFTLINE Coating for up to 6 hours use	BO-ODPS 95401	70106.3647
Packaging Unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
HLS cannulae		see Catheters and Cannulae Product Catalog
Bubble sensor for 3/8" x 3/32" tubing	BS 3/8 x 3/32 L1.7	70105.5720
Holder for priming bag	HKH 8870	70104.9375
Technical Data		
Oxygenation membrane surface area	1.8 m ²	
Heat exchanger surface area	0.4 m ²	
Priming volume QUADROX-iR	273 ml	
Priming vol. of the ODP Set with tubing	appr. 600 ml	
Speed of centrifugal pump	max. 5,000 U/min	
Blood flow rate	0.5 – 7 l/min	
Size of blood inlet and outlet connectors	3/8"	
Size of water connectors (oxygenator)	1/2" Hansen coupling	
Measuring cell for venous parameters	see CARDIOHELP System Instructions for Use	
Material		
Tubes	DEHP-free polyvinyl chloride (PVC)	
Priming set components	DEHP-containing polyvinyl chloride (PVC)	
Coating	SOFTLINE Coating	



Minimized Extracorporeal Circulation

MECC-i with **CARDIOHELP-i**

Minimized extracorporeal circulation (MECC) with the **CARDIOHELP** Life Support System makes ECLS for cardiopulmonary support during open heart surgery less stressful for the patient than with a conventional heart-lung machine. With the compact, integral design of the **QUADROX-iR** oxygenator-pump module, the priming volume and blood surface contact are kept as small as possible. Combined with the exceptionally small pressure drop plus the **BIOLINE** Coating of the disposable, trauma is minimized.

The **MECC-i** System consists of the following components:

- **MECC-i** Set, consisting of
 - **QUADROX-iR** Small Adult or Adult oxygenator with microporous membran with or without integrated filter
 - **VBT 160** venous bubble trap
 - Tubing
- Cannulae of choice
- **CARDIOHELP-i**
- Holder

The new **Quadrox-iR** is the latest innovation for **MECC-i**. The real integration of a centrifugal pump into an oxygenator and the possibility to have an integrated arterial filter make the **QUADROX-iR** outstanding and the next step for **MECC**.

MECC-i with **CARDIOHELP-i**

Product	Article No.	
MECC-i Set with integrated filter for up to 6 hours use	Please ask your Maquet representative for order details	
MECC-i Set without integrated filter for up to 6 hours use	Please ask your Maquet representative for order details	
Cannulae	see Catheters and Cannulae Product Catalog	
CARDIOHELP-i	see Extracorporeal Life Support Systems	
Packaging Unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
Holder for VBT 160 venous bubble trap, rigid arm	HKH 4100	70102.9835
SPRINTER CART / SPRINTER CART XL		see SPRINTER CART / SPRINTER CART XL
Heater Unit HU 35/ heater-cooler unit HCU 40		see Blood Temperature Control Devices
MECC-i Set		
Priming volume	Approx. 550 ml	
Blood flow rate	0.5 – 7 l/min	
QUADROX-iR Small Adult / Adult		
Gas exchange surface area	1.3 m ² /1.8 m ²	
Heat exchange surface area	0.3 m ² /0.4 m ²	
Priming volume	240 – 400 ml	
VBT 160 Venous Bubble Trap		
Maximum blood flow rate	7 l/min	
Screen surface	35.5 cm ²	
Screen pore size	175 µm	



Centrifugal pump system

ROTAFLOW Console

The ROTAFLOW console operates independently as a stand-alone console with its own battery back-up and power supply. It also perfectly complements the HL 20 product line.

Stand-alone console features:

- Integrated flow and bubble sensors in the ROTAFLOW Drive
- LPM mode for convenient flow-controlled pumping
- Low-level operation
- Integrated battery back-up of 90 min
- Large four-digit alphanumeric displays for flow and speed
- Proven user-interface

Maximum Flexibility: The ROTAFLOW stand-alone console can be fully integrated into the HL 20 heart-lung machine. In this configuration, all HL 20 supervising units will control and monitor parameters like pressure, bubble and low-level sensors. No additional cables have to be connected and the centrifugal pump system runs quietly and smoothly on safe, low voltage power supplied by the console. Due to its compact size and low weight, the ROTAFLOW pump module can easily be removed from and reinstalled onto the console of the HL 20 simply by lifting or placing the unit according to guide pins.

One Cable – Three Functions: The unique set-up of the ROTAFLOW Drive incorporates a flow sensor, bubble detector and power supply in one advanced unit. The blood flow is measured by using a precise ultrasonic transit time technique, without costly disposable flow probes and time consuming settings. The flexible swivel-joint bracket ensures shorter tubing lengths and an ideal positioning. Due to its unique cooling system the ROTAFLOW Drive has no dirt catching cooling ribs. The smooth and plane surface makes it ideal for quick and easy cleaning.

Product	Article No.
ROTAFLOW console	see System Flow Chart *
ROTAFLOW ICU console	see System Flow Chart *
ROTAFLOW Drive	70102.2161
ROTAFLOW Emergency Drive	70102.2162

*Article No. according to corresponding country kit.

Accessories	Article No.
ICU Kit RFC, 100 – 115 V	70104.5742
ICU Kit RFC, 200 – 240 V	70104.5743
Level simulator	70105.2605
Capacitive level sensor	70101.0855
Level sensor pad, 100 pcs	70102.2208
Ultrasonic contact cream	70102.2754
SPRINTER CART/SPRINTER CART XL	see SPRINTER CART/SPRINTER CART XL

Technical Data	
RPM speed	max. 5000 rpm
Flow rates	0 ... 9.9 l/min
Supply voltage (stand-alone)	100/115/230/240; 50/60 Hz, 220 VA
Supply voltage (HL 20)	+24 V, 200 VA
Dimensions console (W x H x D)	179 x 243 x 385 mm
Dimensions Drive w/o holder	102 x 150 mm
Dimensions Emergency Drive	102 x 270 mm
Weight console	Approx. 14.4 kg
Weight Drive	Approx. 3.2 kg
Weight Emergency Drive	Approx. 2.2 kg
Battery operation time	min. 90 min (fully charged)
Serial output interface	RS232
Flow- /bubble sensor (integrated in ROTAFLOW Drive)	Ultrasound



Centrifugal Pump

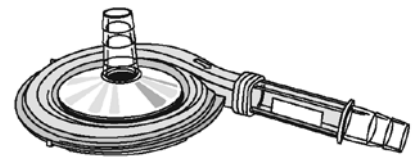
ROTAFLOW RF-32

The **ROTAFLOW RF-32 centrifugal pump** comes with high biocompatibility for improved, gentle blood handling in extracorporeal circulation.

The centrifugal blood pump has a spinning rotor with flow channels which moves the incoming blood in rotary motion, directing it through a spiral housing to the outflow port. The rotor of the ROTAFLOW centrifugal pump is suspended by a permanent magnetic field. The one point sapphire bearing and the low priming volume combined with the spiral flow channel which is continuously increasing towards the outlet assure a smooth blood handling and hydraulic optimised blood flow.

The ROTAFLOW centrifugal pump is an ideal blood pump because it has no shaft or seals. SOFTLINE Coating and BIOLINE Coating are optionally available.

Product	Type	Article No.
ROTAFLOW centrifugal pump uncoated	RF-32	70100.5308
ROTAFLOW centrifugal pump w/ SOFTLINE Coating	BO-RF-32	70103.2035
ROTAFLOW centrifugal pump w/ BIOLINE Coating	BE-RF-32	70100.2804
Packaging Unit		
10 pcs./carton, single sterile packed		
MECC Set		
Priming volume	32 ml	
Surface	190 cm ²	
Diameter of rotor	50 mm	
Flow rate	0 – 9.9 l/min	
Maximum pressure	750 mmHg	
Connections		
Blood in- and outlet	3/8"	
Material		
Housing, rotor, connector	Polycarbonate (PC)	
Calotte	Polyethylene (PE)	
Ball	Sapphire (Al ₂ O ₃)	



Minimized Extracorporeal Circulation

MECC with ROTAFLOW Sytem

Maquet's state-of-the-art MECC System replaces the generic concept of a closed, compact minimized extracorporeal circulation system. It is a minimized set of disposables, catheters and cannulae as well as hardware – a truly integrated solution reduced to essential components.

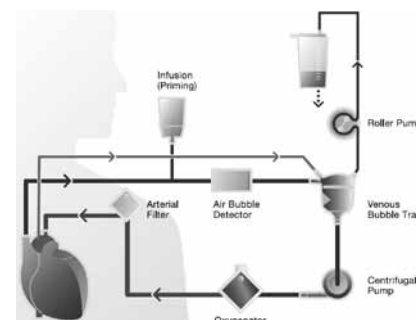
The standard MECC System consists of the following components:

- MECC Set, consisting of
 - QUADROX-i Small Adult or Adult oxygenator with microporous membrane with or without integrated filter
 - ROTAFLOW centrifugal pump
 - VBT 160 venous bubble trap
 - Tubing
- Cannulae of choice
- ROTAFLOW System
- Holder

The MECC Set comes with BIOLINE Coating.

MECC with ROTAFLOW System

Product	Article No.	
MECC Set with integrated filter for up to 6 hours use	Please ask your Maquet representative for order details	
MECC Set without integrated filter for up to 6 hours use	Please ask your Maquet representative for order details	
Cannulae	see Catheters and Cannulae Product Catalog	
ROTAFLOW console	see Centrifugal Pump System	
ROTAFLOW Drive		
ROTAFLOW Emergency Drive		
Packaging Unit		
1 pc./box, single sterile packed		
Accessories	Type	Article No.
Holder for QUADROX-i Adult and Small Adult oxygenators	016062	70102.2009
Holder for VBT 160 venous bubble trap, rigid arm	HKH 4100	70102.9835
SPRINTER CART / SPRINTER CART XL		see SPRINTER CART / SPRINTER CART XL
Heater Unit HU 35 / heater-cooler unit HCU 40		see Blood Temperature Control Devices
MECC Set		
Priming volume	Approx. 550 ml	
Blood flow rate	0.5 – 7 l/min	
QUADROX-i Small Adult / Adult		
Gas exchange surface area	1.3 m² / 1.8 m²	
Heat exchange surface area	0.3 m² / 0.4 m²	
Priming volume	175 – 335 ml	
ROTAFLOW Centrifugal Pump		
Priming volume	32 ml	
Surface area	190 cm²	
VBT 160 Venous Bubble Trap		
Blood flow rate	7 l/min	
Screen surface	35.5 cm²	
Screen pore size	175 µm	



Temporary Pacing Electrodes

MYWIRE

MYWIRE temporary pacing electrodes are employed for the temporary stimulation of the heart by means of an external pacemaker. MYWIRE temporary pacing electrodes come with round bodied needles (thoracic needle with trocar tip, myocardial needle with round tip). The thoracic needles are flattened in the middle of the needle. It makes it much easier to take with a forceps. In contrast to hollow-bodied needles, the MYWIRE round bodied needles have no punch effect.

The MYWIRE connection system combines easy handling with maximum protection for the patient.

References:

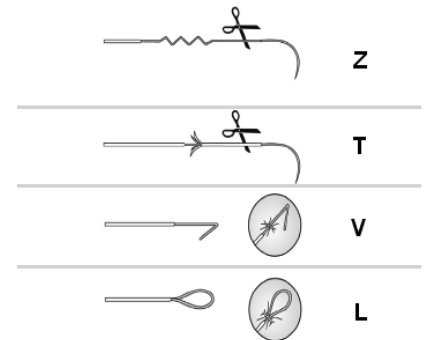
Myocardial needle: DR20 (3/8 curved round-bodied needle, 20 mm arc length)
 Myocardial needle: HR26 (1/2 curved round-bodied needle, 26 mm arc length)
 Thoracic needle: DR90 (3/8 curved round-bodied needle, 90 mm arc length)
 Thoracic needle: DR110 (3/8 curved round-bodied needle, 110 mm length)
 Thoracic needle: GR90 (straight round-bodied needle, 90 mm length)

Unipolar

Product	Article No.	Myocardial Needle	Anchoring System	Length	Thoracic Needle
MYWIRE 1	70101.7047	DR20	Z	60 cm	DR90
MYWIRE 16	70102.0435	DR20	Z	200 cm	DR90
MYWIRE 24	70102.6077	HR26	Z	60 cm	GR90
MYWIRE 2	70101.7048	DR20	T	60 cm	DR90
MYWIRE 21	70102.3235	DR20	T	200 cm	DR90
MYWIRE 11	70101.7057	–	V	60 cm	DR90
MYWIRE 14	70101.7104	–	L	60 cm	DR90
MYWIRE 15	70101.7105	–	L	200 cm	DR90

Packaging Unit

20 pcs. (4 cartons w/ 5 pcs. each), sterile packed

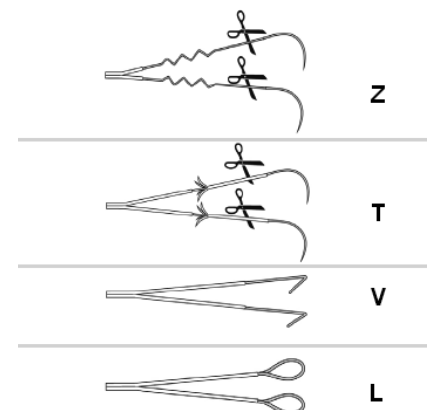


Bipolar

Product	Article No.	Myocardial Needle	Anchoring System	Length	Thoracic Needle
MYWIRE 7	70101.7053	DR20	Z	60 cm	DR90
MYWIRE 8	70101.7054	DR20	Z	200 cm	DR90
MYWIRE 28	70104.1004	DR20	Z	60 cm	GR90
MYWIRE 26	70102.8293	HR26	Z	200 cm	GR90
MYWIRE 9	70101.7055	DR20	T	60 cm	DR90
MYWIRE 10	70101.7056	DR20	T	200 cm	DR90
MYWIRE 23	70102.3394	DR20	T	250 cm	DR90
MYWIRE 29	70104.5017	DR20	T	60 cm	GR90
MYWIRE 30	70105.0076	DR20	T	200 cm	GR90
MYWIRE 12	70101.7058	–	V	60 cm	DR90
MYWIRE 13	70101.7103	–	V	200 cm	DR90
MYWIRE 27	70103.0739	–	L	200 cm	DR90

Packaging Unit

20 pcs. (4 cartons w/ 5 pcs. each), sterile packed



Temporary Pacing Electrodes

MYWIRE

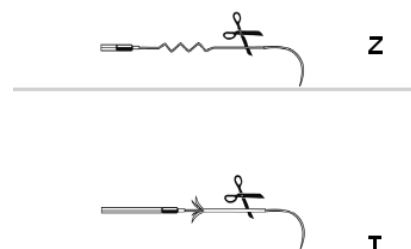
Bipolar with myocardial needle and electrode jacket (H)

Product	Article No.	Myocardial Needle	Anchoring System	Length	Thoracic Needle
MYWIRE 3	70101.7049	DR20	Z	60 cm	DR90
MYWIRE 4	70101.7050	DR20	Z	200 cm	DR90
MYWIRE 5	70101.7051	DR20	T	60 cm	DR90
MYWIRE 6	70101.7052	DR20	T	200 cm	DR90
MYWIRE 17 (white)	70102.0614	DR20	T	200 cm	DR90
MYWIRE 18 (blue)	70102.0615	DR20	T	200 cm	DR90
Mywire 19	70102.2382	DR20	T	220 cm	DR90
MYWIRE 42*	70104.5503	DR20	T	200 cm	DR90

Packaging Unit

20 pcs. (4 cartons w/ 5 pcs. each), sterile packed

*Bipolar with protective tube (HS)

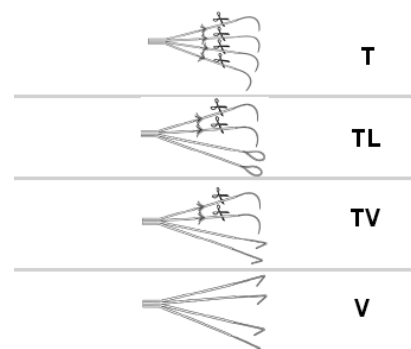


Quadripolar

Product	Article No.	Myocardial Needle	Anchoring System	Length	Thoracic Needle
MYWIRE 51	70102.8358	DR20	T	200 cm	DR90
MYWIRE 53	70103.2203	DR20	TL	200 cm	DR90
MYWIRE 54	70103.3288	DR20	TV	200 cm	DR90
MYWIRE 55	70103.2207	DR20	V	200 cm	DR90

Packaging Unit

20 pcs. (4 cartons w/ 5 pcs. each), sterile packed



Double Bipolar

Product	Article No.	Myocardial Needle	Anchoring System	Length	Thoracic Needle
MYWIRE 61	70104.5504	DR20	T	200 cm	DR90

Packaging Unit

20 pcs. (4 cartons w/ 5 pcs. each), sterile packed



Z: Zigzag anchor
V: V Hook anchor
T: Tines anchor
L: Loop anchor

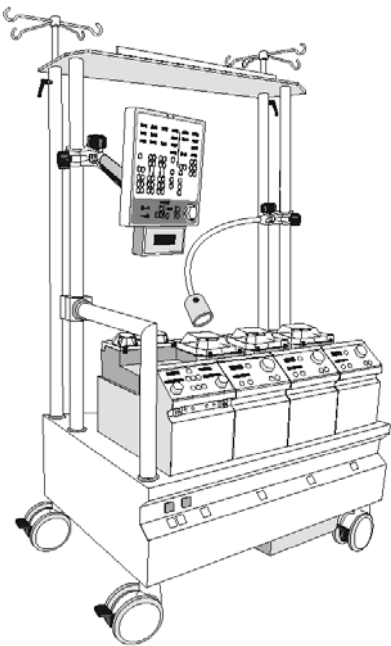
Heart-Lung Machine

HL 20

The HL 20 perfusion system features a new dimension of user friendliness, safety and simplicity to meet the increasing demands imposed on a modern heart-lung machine. HL 20 is a complex high-tech concept reduced to the essentials for the benefit of both patient and perfusionist.

For more details please use the System Flow Chart.

Product	Type	Article No.
VARIO FLEX, 4-pump console	706187	70104.3253
VARIO FLEX, 5-pump console	706189	70104.3266
VARIO SINGLE, 4-pump console	706193	70104.3261
VARIO SINGLE, 5-pump console	706199	70104.3306
VARIO TWIN, 4-pump console	706195	70104.3262
VARIO TWIN, 5-pump console	706197	70104.3267



Blood Monitoring Unit

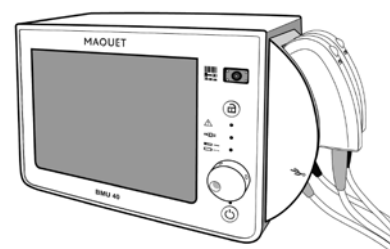
BMU 40

The BMU 40 blood monitoring unit is an inline monitoring device for continuous measurement of vital blood parameters during extracorporeal circulation. The measuring values are oxygen partial pressure (pO_2) and temperature (T_{Art}) on the arterial side as well as oxygen saturation (SO_2), hemoglobin (Hb), hematocrit (Hct), and temperature (T_{Ven}) again on the venous side. The values are displayed on a 10.4" touch screen monitor, offering enough space for a clear arrangement of measuring values, display, and control elements.

Due to a unique barcode calibration system in the BMU 40, time-consuming and costly calibration procedures using calibration gases belong to the past. In order to minimize any measuring tolerances while the heart-lung machine is in use, the calibration data of the BMU 40 sensors and the BMU 40 cells are pre-set by Maquet and encoded in a label. This label is read in directly before use, using a barcode scanner integrated into the BMU 40. This feature in conjunction with the latest sensor technology allows for excellent measuring precision.

The BMU 40 blood monitoring unit comes with an arterial and venous probe, and USB memory stick.

Product	Type	Article No.
BMU 40 blood monitoring unit	BMU 40	70104.0852
Accessories		Article No.
BMU cell 1/2" (10 pcs. per box)		70104.0804
BMU cell 3/8" (5 pcs. per box)		70104.0844
BMU cell 1/4" (5 pcs. per box)		70104.0845
BMU sensor 3/8" (10 pcs. per box)		70104.0849
BMU sensor 1/4" (5 pcs. per box)		70104.0850
BMU sensor 3/16" (5 pcs. per box)		70104.0851
Transport case		70104.3438
Holder, 6 mm, incl. assembling plate and screws		70104.3406
Holder, 100 mm, incl. assembling plate and screws		70104.3405
Holder, 200 mm, incl. assembling plate and screws		70104.3404
Printer incl. USB interface		70104.3403
Paper roll for printer (5 pieces per box)		70104.5354
Ink cartridge (red) for printer		70104.5353
Ink cartridge (black) for printer		70104.5352
Technical Data		
Dimensions (W x H x D)	385 x 235 x 170 mm incl. probe heads	
Weight	Approx. 5 kg	
Power supply	100 – 240 V, 50/60 Hz (60 VA)	
Battery runtime	Approx. 60 minutes	
Resolution	800 x 600 Pixel	
Update frequency	Arterial every three seconds, venous every six seconds	
Interfaces	2 x serial RS-232 port for data input and data output, 1 x USB port for data export on USB flash disk, 1 x USB port for printer connection	
Available sizes for BMU sensors	3/8", 1/4" and 3/16"	
Available sizes for BMU cells	1/2", 3/8" and 1/4"	



Accessories for Heart-Lung Machine

Flexible LED Lamp

This LED lamp is designed especially for the use in the operating room. It is a water resistant lamp with a smooth and easy to clean surface. The LED itself is protected by a shatter-proof glass. The lamp needs no cooling fins due to the very low 6 W power consumption and resulting low heat emission. Therefore, the environment as well as tubing, circuit components and blood are not exposed to heat from the lamp source.

The light can be dimmed in three steps according to different requirements. Maquet offers two lengths of the LED goose neck arm – 200 mm and 400 mm. This flexible arm can be mounted anywhere on a mast of the HL 20 and the lamp can be plugged into the 24 V socket of the Maquet heart-lung machine consoles.

Product		Article No.
Flexible LED lamp, 200 mm goose neck arm		70104.3269
Flexible LED lamp, 400 mm goose neck arm		70104.3270
Technical Data		
	Flexible LED lamp 200 mm goose neck arm	Flexible LED lamp 400 mm goose neck arm
Power consumption	6 W	6 W
Operating voltage range	22 – 28 VDC/19VAC	22 – 28 VDC/19VAC
Operating temperature	- 20°C up to + 40°C	- 20°C up to + 40°C
Measurements	200 mm	400 mm
Dim regulation steps	3	3
Light color	Natural white	Natural white
Angle of reflected beam	30° C	30° C
Operating mode	Qualified for continuous operation	Qualified for continuous operation
Material		
Housing	Aluminum (anodized), borosilicate glass	Aluminum (anodized), borosilicate glass



Heater-Cooler Unit

HCU 40

Maquet's heater-cooler unit HCU 40 is the most advanced heater-cooler system available today. It delivers very precise, fast and independent regulation of both patient and cardioplegia circuit temperatures – intuitively controllable with a color touch screen display. The control unit can be individually positioned on the HCU 40 or the mast of any heart-lung machine. No additional remote control is necessary.

The HCU 40 has an exceptional cooling capacity through its fast ice-building technique using highly effective cooling plates and a powerful compressor. The ice provides an initial cooling effect that is significantly higher than hypothermia units only operating with a compressor for refrigeration. The ice-making method results in reduced patient cooling times, more accuracy, and faster water temperature changes. In most cases, the HCU 40 can be operated without a running compressor, thereby eliminating noise and draft from the compressor and the fan which in turn results in a more silent operation.

The large capacity heaters facilitate smooth and precise electronic control. This technique optimizes the efficiency and minimizes patient re-warming time. The automatically controlled mixing valve and the separated tank enable very fast switching from cooling to heating and back to cooling again.

Key features include unique pressure and flow control, effective fast priming and automatic de-airing as well as quick emptying of water circuits after use.

The hypo-/hyperthermia device includes an integrated UV lamp for water decontamination to prevent the growth of algae, fungi, mould, bacteria and other micro organisms in the internal water circuit.

Furthermore, it is possible to connect two external temperature sensors to the cooling and warming therapy units and the control unit. This allows operation with automatically controlled temperature gradients for physiologically optimized cooling and heating.

HCU 40 – Benefits at a glance:

- Independent temperature control of the patient and cardioplegia via separated water circuits
- Up to three external devices (oxygenator heat exchanger, warming/cooling blankets and cardioplegia heat exchanger) can be used simultaneously
- Fast and accurate temperature adjustment due to the split tank and automatically controlled mixing valve
- Reduced patient cooling times due to the exceptional cooling capacity of the highly effective ice-building system
- Silent operation as most cases can be done without a running compressor
- Independent and precise flow and pressure control of the circuits offer the possibility to place the unit outside the OR
- Minimized patient rewarming time due to the outstanding heating capacity and intelligent electronic management
- Gradient mode for physiologically optimized heating and cooling
- Proven patient safety and operating reliability ensured by the sophisticated electrical safety concept
- Convenient handling due to the user-friendly, flexible control unit with VGA touch screen display
- Extremely short set-up time due to fast priming and automatic de-airing
- Effective water decontamination by an integrated UV lamp
- Polished stainless steel cabinet – easy to clean and damage resistant
- Easy to maneuver using smooth running castor wheels with foot-lever operated brakes
- Hansen quick couplings coded with pictographs for fast and clear connection of oxygenator and cardioplegia heat exchangers
- Convenient and effective emptying of external devices

Heater-Cooler Unit

HCU 40



Product	Article No.
Heater-cooler unit HCU 40, 200 – 240 V*	70104.3269
Heater-cooler unit HCU 40, 110 – 120 V*	70104.3270
*Including:	
– Control unit (CU), including holder and mast for fixation	
– CAN cable 7-pin, CC-CU-P7 L1.0 for control unit, 1 m	
– Hose set, 1/2", patient circuit, 2 x 6 m, with already connected Hansen couplings angled or straight (preferred type must be chosen)	
– Hose set, 3/8", cardioplegia circuit, 2 x 6 m, with already connected Hansen couplings angled or straight (preferred type must be chosen below)	
– Bypass hose, 1/2", for patient circuit, 1 m (for diagnoses)	
– Bypass hose, 3/8", cardioplegia circuit, 1 m (for diagnoses)	
– 2x cleaning connectors	
– Emptying hose	
– Mixing bottle for dissolving disinfectant	
Country kit must be ordered separately (see System Flow Chart).	
Accessories	Article No.
Hansen coupling kit, straight, 1/2"	70105.6417
Hansen coupling kit, angled, 1/2"	70105.6428
Hansen coupling kit, straight, 3/8"	70105.6424
Hansen coupling kit, angled, 3/8"	70105.6413
Second control unit (CU) as a backup unit (Note: Only 1 CU can be connected to the HCU 40)	70106.4331
Control unit holder kit	70106.4646
HCU 40 control unit mast/hose holder	70106.4645
HCU control – CAN cable 7-pin, CC-CU-P7, 7 m	70105.6663
HCU control – CAN cable 7-pin, CC-CU-P7, 10 m	70105.6665
HCU control – CAN cable 7-pin, CC-CU-P7, 15 m	70105.6666
HCU 40 USB cable, Type A – Type B, 3 m	70103.2668
HCU 40 USB cable, Type A – Type B, 5 m	70103.2669
Temperature probe, TPO-D L1.8 Adult Sensor size: 3.2 x 45.0 mm (0.13" x 1.8")	70105.4562
Temperature probe, TPO-D L1.8 Pediatric Sensor size: 2.4 x 35.0 mm (0.1" x 1.34")	70105.4563
Hose set, 1/2", for patient water circuit, 2 x 6 m**	70106.2417
Hose set, 1/2", for patient water circuit, 2 x 10 m	70105.6420
Hose set, 1/2", for patient water circuit, 2 x 15 m	70105.6421
Hose set, 3/8", for cardioplegia water circuit, 2 x 6 m**	70106.2418
Hose set, 3/8", for cardioplegia water circuit, 2 x 10 m	70105.6432
Hose set, 3/8", for cardioplegia water circuit, 2 x 15 m	70105.6433
Bypass hose set, 1/2", for patient circuit, 1 m**	70106.2415
Bypass hose set, 3/8", for cardioplegia circuit, 1 m**	70106.2416
Emptying hose**	70105.6403
Cleaning connector**	70102.9306
Disinfectant (Clorina)	70105.6725
Mixing bottle for dissolving disinfectant	70105.6952
Warming/cooling blanket (Gaymar) Adult Size: 25" x 69" (64 cm x 175 cm)	70102.8756
Warming/cooling blanket (Gaymar) Pediatric Size: 25" x 69" (64 cm x 91 cm)	70102.8757
HCU 40 blanket connection kit, 6 m	70105.6381
HCU 40 blanket connection kit, 9 m	70106.2180
Extra pressure reducer for warming/cooling blanket	70105.6186
Equipotential bonding cable, 1.0 m	70105.5328
Equipotential bonding cable, 2.0 m	70105.5348
Equipotential bonding cable, 3.0 m	70105.5349
Equipotential bonding cable, 6.0 m	70105.5350

**Note: This item is included in the heater-cooler unit HCU 40 110 – 120 V and 200 – 240 V.

Technical Data	
Control range	1.0° C to 40.5° C
Setting resolution	0.1° C
Temperature measurement accuracy	± 0.3° C
Temperature display range	-9.5° C to 59.5° C
Cooling system	Compressor refrigeration, ice-making
Tank volume	28 l
Ice supply	15 kg
Initial cooling capacity	6350 kJ
Continuous cooling performance of the compressor	4867 kJ/h (1352 W)
Heating system	Electrical heaters
Heating capacity	2 x 3000 W (230 V; 16 A); 2 x 1500 W (110 V; 16 A)
Circulation system	Pressure pumps
Flow capacity, patient water circuit	18.5 l/min (50 Hz), 22.0 l/min (60 Hz) at zero pressure head (adjustable)
Flow capacity, cardioplegia circuit	9.5 l/min (50 Hz), 11.0 l/min (60 Hz) at zero pressure head (adjustable)
Maximum pressure, patient water circuit	1.5 bar (50 Hz), 2.0 bar (60 Hz) Pressure alarm limit (safety cut-off) adjustable 0.6 bar to 2.0 bar
Maximum pressure, cardioplegia water circuit	1.0 bar (50 Hz), 1.5 bar (60 Hz) Pressure alarm limit (safety cut-off) adjustable 0.4 bar to 1.5 bar
Mains, high voltage	200, 208, 220, 230 and 240 V
Mains, low voltage	110, 115 and 120 V
Frequency	50 and 60 Hz
Power tolerance	± 10 %
Mains fuse	20 A
Current limitation options, 200 to 240 volt	10, 12, 13 and 16 A
Current limitation options, 110 to 120 volt	16 A
Maximum power consumption	1760 VA (110 V/16 A), 1840 VA (115 V/16 A), 1920 VA (120 V/16 A), 3000 VA (200 V/15 A), 3200 VA (200 V/16 A), 3330 VA (208 V/16 A), 3520 VA (220 V/16 A), 2760 VA (230 V/12 A), 2990 VA (230 V/13 A), 3680 VA (230 V/16 A), 2880 VA (240 V/12 A), 3600 VA (240 V/15 A), 3840 VA (240 V/16 A)
Noise level (in 3 m distance)	40.4 dB (50 Hz), 44.3 dB (60 Hz), (patient water and cardioplegia water pump on, compressor off) 44.8 dB (50 Hz), 46.8 dB (60 Hz), (patient water and cardioplegia water pump on, compressor on)
Dimensions (H x W x D)	1133 x 508 x 703 mm (880 x 508 x 688 mm excl. CU/holder)
Weight, empty	Approximately 154 kg
Cabinet material	Polished stainless steel
Display of user interface	Color LCD with LED backlight and VGA resolution (640 x 480 px)
Hose connections	6 metal quick connectors (patient water circuit: 1/2", cardioplegia water circuit 3/8")
UV lamp – operating current	425 mA
UV lamp – power	14 W
UV lamp – rated life	9000 h

Further Accessories

Accessories

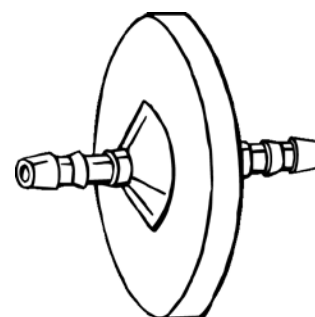
Temperature Probe

Product	Type	Article No.
Temperature connector LL female	P-0395	70100.5140
Packaging unit	20 pcs./carton, single sterile packed	
Connections	LL female	
Material	Polycarbonate	



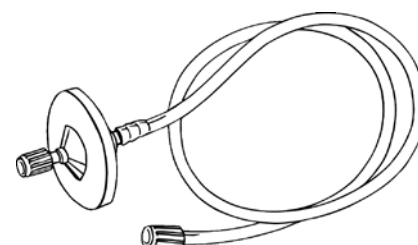
Gas Filter

Product	Type	Article No.
Gas filter	2000/20S	70106.3507
Packaging unit	20 pcs./carton, single sterile packed	



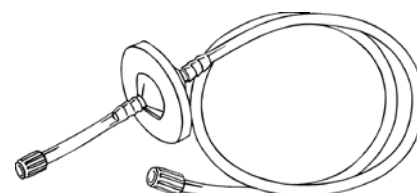
Gas Filter Line 1000 mm: The gas filter line consists of a 1000 mm long green PVC tubing (1/4" x 1/16"). A gas filter is connected to one tubing end. Both tubing ends are protected by vented caps.

Product	Type	Article No.
Gas filter line, 1000 mm	P-0850	70100.5177
Packaging unit	20 pcs./carton, single sterile packed	



Gas Filter Line 1100 mm: Same gas filter line with gas filter as P-0850, but with a total length of 1100 mm long PVC tubing. The gas filter is connected in the tubing length ratio of 100 : 1000. Both tubing ends are protected by vented caps.

Product	Type	Article No.
Gas filter line, 1100 mm	P-0851	70100.5178
Packaging unit	20 pcs./carton, single sterile packed	



Tubing Lines

PVC or Silicone

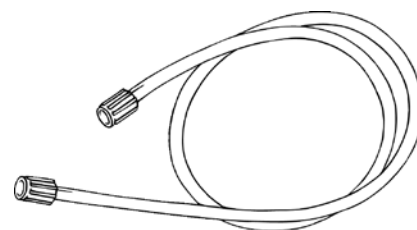
Tubing PVC - the tubing lines are made of crystal clear PVC, 75 Shore. Tubing ends are provided with blue, vented protective caps.

Product	Type	Article No.	Inner Ø x Wall thickness	Length
Tubing PVC	P-1431-0501	70100.5244	3/16" x 3/16"	500 mm
Tubing PVC	P-1431-1001	70100.5245	3/16" x 3/16"	1000 mm
Tubing PVC	P-1431-1501	70100.5246	3/16" x 3/16"	1500 mm
Tubing PVC	P-1431-2001	70100.5247	3/16" x 3/16"	2000 mm
Tubing PVC	P-1400-0501	70100.5231	1/4" x 1/16"	500 mm
Tubing PVC	P-1400-1001	70100.5232	1/4" x 1/16"	1000 mm
Tubing PVC	P-1400-1501	70100.5233	1/4" x 1/16"	1500 mm
Tubing PVC	P-1400-2001	70100.5234	1/4" x 1/16"	2000 mm
Tubing PVC	P-1402-0501	70100.5236	3/8" x 3/32"	500 mm
Tubing PVC	P-1402-1001	70100.5237	3/8" x 3/32"	1000 mm
Tubing PVC	P-1402-1501	70100.5238	3/8" x 3/32"	1500 mm
Tubing PVC	P-1402-2001	70100.5239	3/8" x 3/32"	2000 mm
Tubing PVC	P-1404-0501	70100.5240	1/2" x 3/32"	500 mm
Tubing PVC	P-1404-1501	70100.5242	1/2" x 3/32"	1500 mm
Tubing PVC	P-1404-2001 *	70100.5243	1/2" x 3/32"	2000 mm

Packaging Unit

*20 pcs./carton, single sterile packed

*10 pcs./carton, single sterile packed



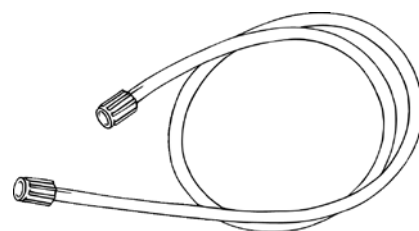
Tubing Silicone - the tubing lines are made of silicone. Tubing ends are provided with blue, vented protective caps.

Product	Type	Article No.	Inner Ø x Wall thickness	Length
Tubing Silicone	P-1300-0501	70100.5210	1/4" x 1/16"	500 mm
Tubing Silicone	P-1300-1001	70100.5211	1/4" x 1/16"	1000 mm
Tubing Silicone	P-1300-1501	70100.5213	1/4" x 1/16"	1500 mm
Tubing Silicone	P-1300-2001	70100.5214	1/4" x 1/16"	2000 mm
Tubing Silicone	P-1301-0501	70100.5215	3/8" x 3/32"	500 mm
Tubing Silicone	P-1301-1001	70100.5216	3/8" x 3/32"	1000 mm
Tubing Silicone	P-1301-1501	70100.5217	3/8" x 3/32"	1500 mm
Tubing Silicone	P-1301-2001	70100.5218	3/8" x 3/32"	2000 mm
Tubing Silicone	P-1302-0501	70100.5219	1/2" x 3/32"	500 mm
Tubing Silicone	P-1302-1001	70100.5220	1/2" x 3/32"	1000 mm
Tubing Silicone	P-1302-1501	70100.5221	1/2" x 3/32"	1500 mm
Tubing Silicone	P-1302-2001	70100.5222	1/2" x 3/32"	2000 mm
Tubing Silicone	P-1323-1001 *	70100.5224	1/2" x 1/8"	1000 mm
Tubing Silicone	P-1348-0501	70100.5227	1/8" x 1/16"	500 mm
Tubing Silicone	P-1348-1001	70100.5228	1/8" x 1/16"	1000 mm

Packaging Unit

*20 pcs./carton, single sterile packed

*10 pcs./carton, single sterile packed

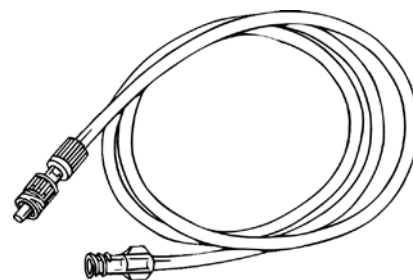


Further Accessories

ECC Accessory Lines

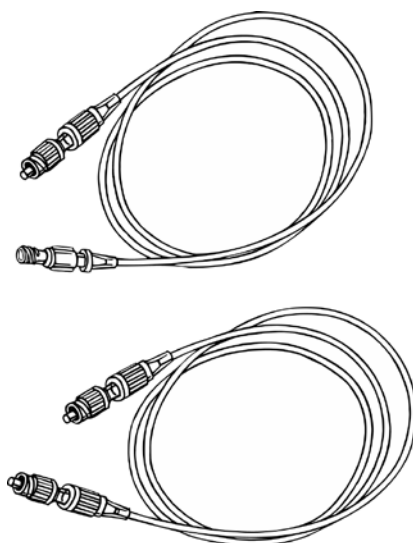
Shunt/Extension line: This line is made of a 4.3 x 1.3 mm PVC tube with LL male or LL female connectors, with vented protective caps.

Product	Type	Article No.
Shunt/extension line LL female/LL male, length: 300 mm	P-5000-0356	70100.5248
Shunt/extension line LL female/LL male, length: 600 mm	P-5000-0656	70100.5250
Shunt/extension line LL female/LL male, length: 900 mm	P-5000-0956	70100.5253
Shunt/extension line LL female/LL male, length: 1200 mm	P-5000-1256	70100.5255
Shunt/extension line LL male/LL male, length: 300 mm	P-5000-0366	70100.5249
Shunt/extension line LL male/LL male, length: 600 mm	P-5000-0666	70100.5251
Shunt/extension line LL male/LL male, length: 900 mm	P-5000-0966	70100.5254
Shunt/extension line LL male/LL male, length: 1200 mm	P-5000-1266	70100.5256
Packaging unit		
20 pcs./carton, single sterile packed		

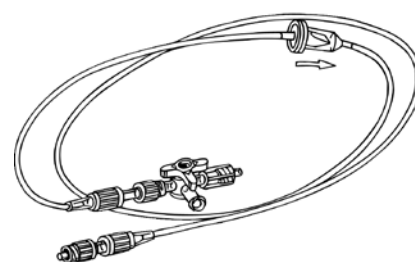


Standard Pressure Monitoring Lines: The pressure monitoring lines are made of a 1.5 x 2.5 mm, 87 Shore PVC tubing. The tubing ends are provided with LL male or LL female connections and protected with vented caps.

Product	Type	Article No.
Gas filter line, length: 1100 mm	P-0851	70100.5178
Standard pressure monitoring line, LL female/LL male, length: 300 mm	P-5047-0356	70100.5257
Standard pressure monitoring line, LL female/LL male, length: 600 mm	P-5047-0656	70100.5259
Standard pressure monitoring line, LL female/LL male, length: 900 mm	P-5047-0956	70100.5261
Standard pressure monitoring line, LL female/LL male, length: 1200 mm	P-5047-1256	70100.5263
Standard pressure monitoring line, LL male/LL male, length: 300 mm	P-5047-0366	70100.5258
Standard pressure monitoring line, LL male/LL male, length: 600 mm	P-5047-0666	70100.5260
Standard pressure monitoring line, LL male/LL male, length: 900 mm	P-5047-0966	70100.5262
Standard pressure monitoring line, LL male/LL male, length: 1200 mm	P-5047-1266	70100.5264
Packaging unit		
20 pcs./carton, single sterile packed		



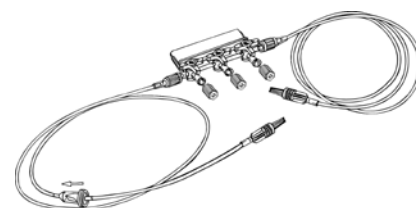
Purge Line for Arterial Blood Filter: The purge line is made of a 2.5 x 4.1 mm PVC tubing with a one-way valve on ratio 900 : 100 mm. Tubing ends are fitted with a red 3-way stopcock and a LL male connector.



Product	Type	Article No.
Purge line for arterial blood filter	P-0820	70100.5173
Packaging unit		
20 pcs./carton, single sterile packed		

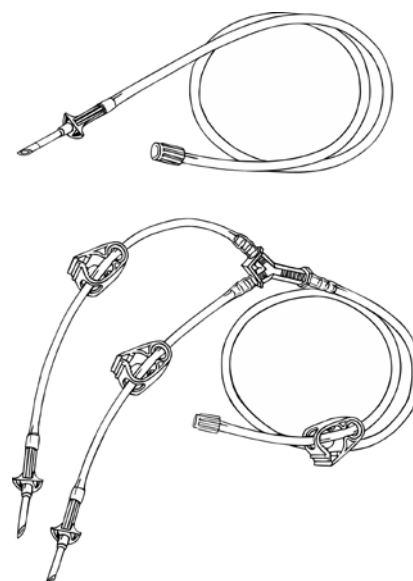
Sampling Manifold: The one-way valve is connected with the red side of the manifold. A 1000 mm long PVC tubing line with an inner diameter of 2.5 mm and outer diameter of 4.1 mm is attached to both ends of the manifold. The end of each line is equipped with a LL male connection.

Product	Type	Article No.
Sampling manifold with 3 stopcocks	P-0940	70100.5192
Packaging unit		
20 pcs./carton, single sterile packed		
Accessories	Type	Article No.
Holder for manifold sampling line	HKH 7300	70100.4494



Standard Quick Prime Lines: The quick prime lines fitting 1/4" connectors or Luer lock are made of PVC tubing. They optionally come in different tubing diameters and are equipped with a vented plastic spike with a protective cap.

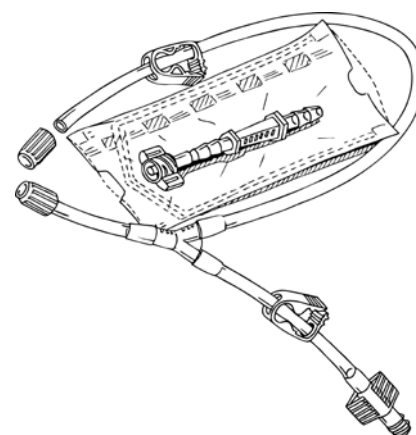
Product	Length	Type	Article No.
Standard quick prime line, single spike, 1/4"	1000 mm	P-1165	70101.7727
Standard quick prime line, single spike, LL male	1000 mm	P-1170	70101.7730
Standard quick prime line, double spike, 1/4"	750 mm	P-1175	70101.7735
Standard quick prime line, double spike, 1/4"	1250 mm	P-1180	70101.7736
Packaging unit			
20 pcs./carton, single sterile packed			



Recirculation Line with Adapter: The recirculation lines are made of PVC tubing (1/4" x 1/16"), with a glued-on Y-connector and a female dia-connector with red tight protective cap. Additionally, they come with 2 white Halkey Roberts clamps and a vented protective cap on the free tubing end. Adapters with a male dia-connector for a 1/4" connector are also included. The adapters are separately packed. The recirculation line P-0950 comes with an additional 1/4" tubing connector at the end, including a blue gas vented protective cap. Total length is 600 mm.

The recirculation line with adapter is an accessory part for the oxygenator with reservoir (open system).

Product	Type	Article No.
Recirculation line with adapter, 550 mm	P-0970	70100.5197
Recirculation line with adapter, 600 mm	P-0950	70100.5194
Packaging unit		
20 pcs./carton, single sterile packed		



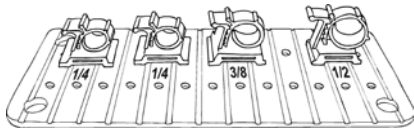
Further Accessories

Tubing Organizers

The tubing organizers from Maquet are made of punched thermoplastic polyurethane elastomer (TPU) plates and come in 180 x 80 x 1.5 mm size with rounded corners. All plates come with 4 holes in the corners. The individual tubing clips are made of polyamide (PA) and are riveted onto the plate, ensuring a secure tubing fixation. This product is available in a variety of configurations and can be tailored according to individual customer requests (customized version). Clips are available in the following sizes: 3/16", 1/4", 3/8" and 1/2".

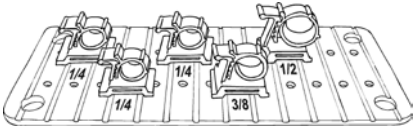
Tubing Organizer with 4 clips

Product	Type	Article No.
Holders for 1/4" – 1/4" – 3/8" – 1/2" tubing	JSK 04	70100.4985
Packaging unit		
sterile: 20 pcs./carton, single packed; also available unsterile in bulk: 50 pcs./PE-bag		



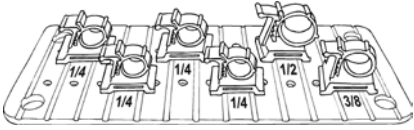
Tubing Organizer with 5 clips

Product	Type	Article No.
Holders for 1/4" – 1/4" – 1/4" – 3/8" – 1/2" tubing	JSK 05	70100.4986
Packaging unit		
sterile: 20 pcs./carton, single packed; also available unsterile in bulk: 50 pcs./PE-bag		



Tubing Organizer with 6 clips

Product	Type	Article No.
Holders for 1/4" – 1/4" – 1/4" – 1/4" – 1/2" – 3/8" tubing	JSK 06	70100.4987
Packaging unit		
sterile: 20 pcs./carton, single packed; also available unsterile in bulk: 50 pcs./PE-bag		



Cardioplegia Heat Exchanger

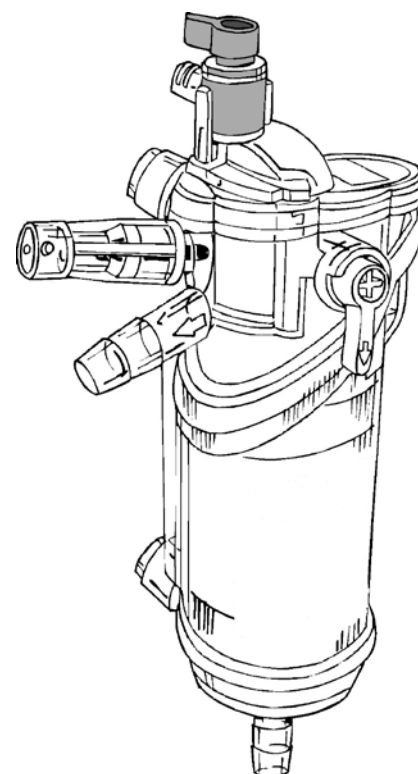
PLEGIOX

The **PLEGIOX cardioplegia heat exchanger** is designed to temper blood and cardioplegic solutions.

Thanks to its construction, PLEGIOX offers excellent efficiency and reliable performance. De-airing is ensured by a bubble trap and filter integrated in the upper part of the device. Each PLEGIOX comes with a 100 cm purge line with a one-way valve. The heat exchanger is equipped with an integrated bypass stopcock for performing a hot shot at the end of a bypass.

A temperature range from 1°C to 41°C is recommended. PLEGIOX is also available with SOFTLINE Coating and BIOLINE Coating.

Product	Type	Article No.
PLEGIOX cardioplegia heat exchanger, uncoated	CHX 30	70103.2522
PLEGIOX cardioplegia heat exchanger w/ SOFTLINE Coating	BO-CHX 30	70103.4981
PLEGIOX cardioplegia heat exchanger w/ BIOLINE Coating	BE-CHX 30	70103.6144
Packaging Unit		
8 pcs./carton, single sterile packed; 250 pcs./pallet		
Accessories	Type	Article No.
Holder	HKH 5100	70103.3644
Technical Data		
Maximum blood flow	1 l/min	
Priming volume	31 ml	
Surface area	0.13 m ²	
Maximum blood inlet pressure	1 bar	
Maximum water inlet pressure	2 bar	
Filter pore size	150 µm	
Connections		
Blood inlet	1/4"	
Blood outlet	1/4"	
De-airing port	Luer lock	
Water compartment	1/2" Hansen	
Material		
Housing	Polycarbonate (PC)	
Heat exchange fiber	Polyurethane (TPU)	
Sealing material	Polyurethane (PU)	



Tubing Sets

Cardioplegia Sets

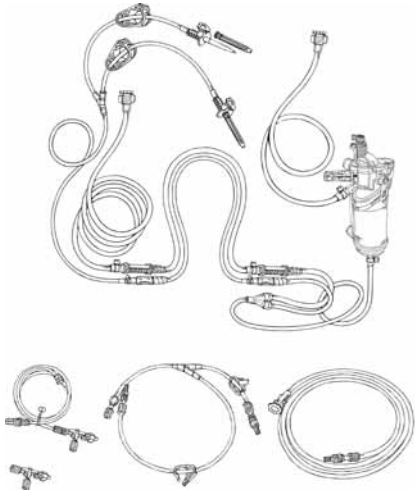
The cardioplegia accessory line can be manufactured to meet individual customer specifications.

Blood Cardioplegia Set 4:1

The standard blood cardioplegia set consists of:

- Double plastic spikes with vent
- Silicone pump tubing 1/4" x 1/16"
- Silicone pump tubing 1/8" x 1/16"
- PLEGIOX cardioplegia heat exchanger
- Purge line with one-way valve and 3-way stopcock
- Table line

Product	Type	Article No.
Blood cardioplegia set 4:1	P-0201	70103.4747
Packaging unit		
10 pcs./carton, single sterile packed		

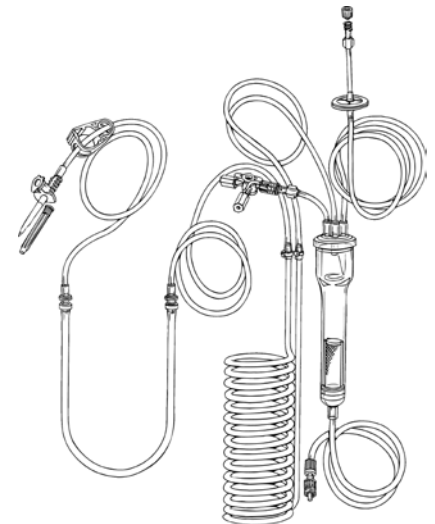


Cardioplegia Set crystalloid with cooling coil

This standard cardioplegia set for crystalloid cardioplegia consists of:

- Plastic spike with vent
- White Halkey Roberts clamp
- Silicone pump tubing 1/4"
- Stainless steel cooling coil
- Drip chamber
- Venting line with 3-way stopcock
- Pressure line with pressure filter
- Table line

Product	Type	Article No.
Cardioplegia set crystalloid with cooling coil	P-0100	70100.5115
Packaging unit		
20 pcs./carton, single sterile packed		

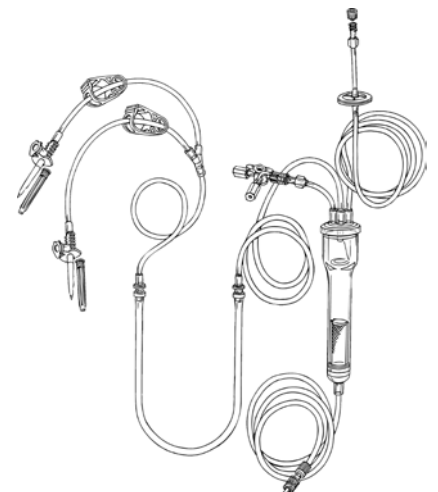


Cardioplegia Set crystalloid without cooling coil

This standard cardioplegia set for crystalloid cardioplegia consists of:

- Double plastic spike with vent
- White Halkey Roberts clamps
- Silicone pump tubing 1/4"
- Drip chamber
- Venting line with 3-way stopcock
- Pressure line with pressure filter
- Table line

Product	Type	Article No.
Cardioplegia set crystalloid without cooling coil	P-0150	70100.5117
Packaging unit		
20 pcs./carton, single sterile packed		



Further Accessories

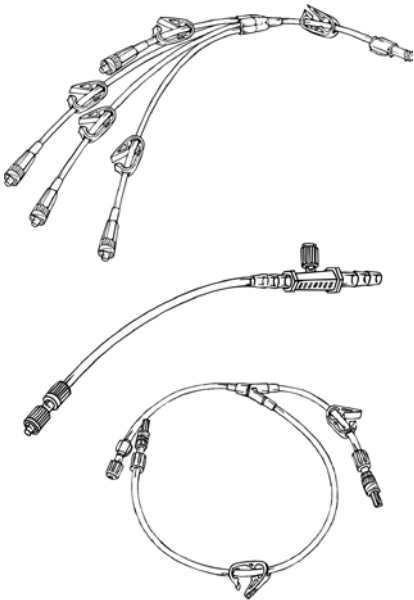
Cardioplegia Accessories

Cardioplegia Adapters

Product	Type	Total length	Connection	Article No.
4-fold adapter with white Halkey Roberts clamps	P-0370	500 mm	LL male and LL female	70100.5138
Straight cardioplegia adapter	P-0340	200 mm	LL male and connector 3/16" x 1/4" LL	70100.5133
Y-cardioplegia adapter with white Halkey Roberts clamps	P-0355	500 mm	LL male and LL female	70100.5135
4-fold adapter with white Halkey Roberts clamps	P-0370	500 mm	LL male and LL female	70100.5138
Straight cardioplegia adapter	P-0340	200 mm	LL male and connector 3/16" x 1/4" LL	70100.5133
Y-cardioplegia adapter with white Halkey Roberts clamps	P-0355	500 mm	LL male and LL female	70100.5135

Packaging Unit

20 pcs./ carton, single sterile packed



Drip Chamber with Spike

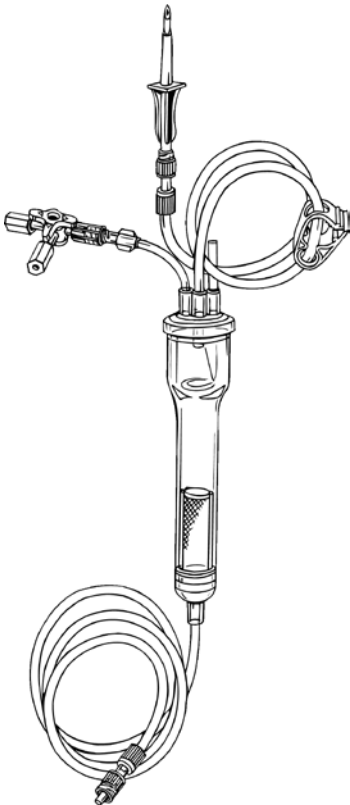
This standard set consists of:

- Plastic spike and white Halkey Roberts clamp
- Drip chamber with 200 µm filter
- Venting 3-way stopcock
- Tubing material PVC, 75 Shore

Product	Type	Article No.
Drip chamber with spike, standard set	P-0250	70100.5125

Packaging unit

20 pcs./ carton, single sterile packed



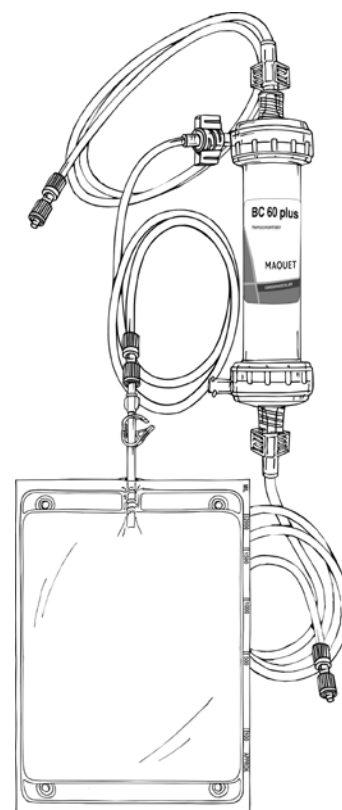
Tubing Sets

Hemoconcentrator Set

The standard hemoconcentrator set consists of:

- No-rinse hemoconcentrator
- Inlet and outlet lines, PVC tubing (4.33 x 1.3 mm),
L = 1000 mm with connections LL male and white protective caps
- Filtrate line, PVC tubing (4.33 x 1.3 mm), L = 1000 mm
- 2000 ml volume waste bag

Product	Type	Article No.
Hemoconcentrator set incl. BC 140 plus	P-0400	70100.5142
Hemoconcentrator set incl. BC 60 plus	P-0410	70100.5143
Hemoconcentrator set incl. BC 20 plus	P-0420	70100.5144
Packaging unit		
10 pcs./carton, single sterile packed		



Tubing Sets

Complete Tubing Sets

With more than twenty years of experience, Maquet produces high-quality tubing sets for extracorporeal circulation, according to customer specifications. Maquet supplies all necessary components needed in tubing sets, whether it is a quick prime line or a complete, pre-connected tubing set.

INTELLIPACK 1

Generally used for Permanent Life Support (PLS) and Heart Lung Support (HLS) Sets as well as for small MECC Sets and small sets without a hardshell reservoir. Two types of fully molded inserts are used to ensure that all oxygenator versions can be securely and safely fixed within the tray. The space at the bottom of the tray is used to accommodate the ROTAFLOW centrifugal pump, QUART arterial filter and the VBT 160 venous bubble trap. Like the oxygenator inserts, these component inserts are ultrasonically welded. The table tray is positioned in the upper level, keeping the packaging very compact.

INTELLIPACK 2

Due to the multi-level configuration, INTELLIPACK 2 is used for non pre-connected sets or sets with short and small line connections. The table tray, tubing, QUART arterial filter, and the ROTAFLOW centrifugal pump are positioned at the bottom of the tray. Specially molded inserts keep these components securely and safely in place. Using a special insert, the oxygenator and hardshell reservoir are firmly positioned in the mid-level area while the cardioplegia set is placed on top. There are two types of mid- and top-level inserts, covering all oxygenator versions.

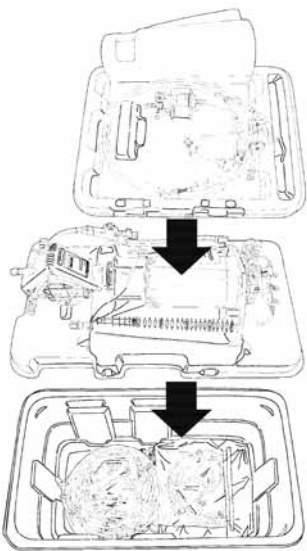
INTELLIPACK 3

The INTELLIPACK 3 is used for pre-connected tubing sets. With inserts that are welded in place, the QUADROX-i Adult family and the QUADROX-i Neonatal and Pediatric oxygenators are securely and safely positioned in the tray.

INTELLIPACK PLEGIOX

This tray is only used for cardioplegia sets. The PLEGIOX cardioplegia heat exchanger is securely positioned using a specially molded insert that is welded in place. Due to its design, this insert not only protects the PLEGIOX, but also ensures that tubing connected to the PLEGIOX remains free from kinks.

All INTELLIPACK trays use a Tyvek peel cover to ensure sterility and ease of access. The type of set will be printed on the peel cover.



INTELLIPACK

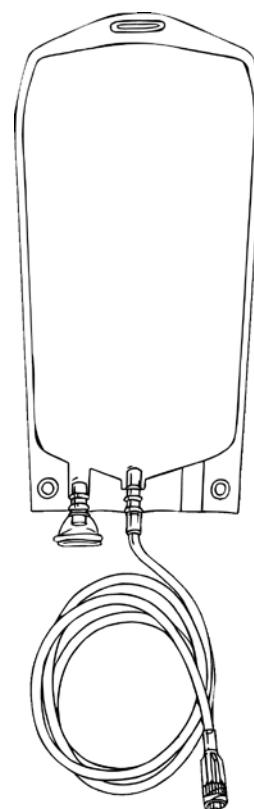
Product	Type	Article No.
INTELLIPACK 1, 570 x 360 x 260 mm	IP 1	70104.5545
INTELLIPACK 2, 755 x 450 x 320 mm	IP 2	70104.5548
INTELLIPACK 3, 785 x 590 x 255 mm	IP 3	70000.7535
INTELLIPACK PLEGIOX, 400 x 400 x 90 mm	IP PLEGIOX	70104.3118

Further Accessories

Transfer Bags

Transfer bags are available in various sizes and versions. Volumes of 600, 1000 and 2000 ml take care of the varying blood volume during and after perfusion. Big blood volumes which may occur during perfusion can be stored in a transfer bag without the need of a separate reservoir. All transfer bags are made of PVC and have one integrated spike port, plus two separate accesses for a great variety of connections. Moreover, the transfer bags can be used to store residual blood from the perfusion system or for returning the drainage blood.

Product	Type	Article No.		
Transfer bag, max. volume capacity 600 ml	HB 600	70100.4260		
Transfer bag, max. volume capacity 1000 ml (50 pcs./carton)	HB 1000	70100.4246		
Transfer bag, max. volume capacity 1000 ml (25 pcs./carton)	HB 1000 1/4	70100.4247		
Transfer bag, max. volume capacity 2000 ml	HB 2000	70100.4256		
Packaging Unit				
50 pcs./carton, single sterile packed; exception: HB 1000 1/4": 25 pcs./carton				
Technical Data	HB 600	HB 1000	HB 1000 1/4	HB 2000
Max. volume capacity	600 ml	1000 ml	1000 ml	2000 ml
PVC tube	3.0 x 0.55 x 1200 mm	3.0 x 0.55 x 1200 mm	1/4" x 1/16" x 1200 mm	3.0 x 0.55 x 1200 mm
Connection	Luer lock, male	Luer lock, male	Luer lock, male	Luer lock, male
Connections				
Suction ports	1/4"	1/4"	3/8"	1/4"
Quick prime	3/8"	3/8"	3/8"	3/8"
Filtered	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock
Non-filtered	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock	2 x 1/4" or Luer lock
Outlet	3/8"	3/8"	3/8"	3/8"
Material				
Bag	PVC	PVC	PVC	PVC

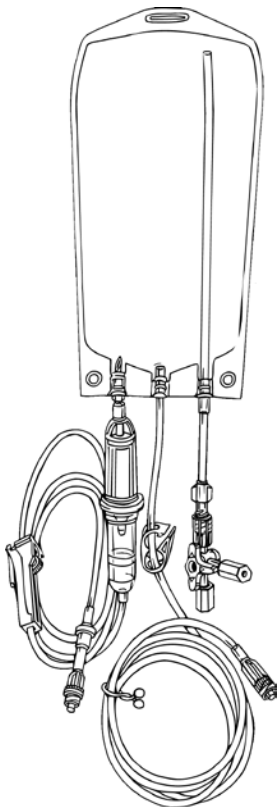


Further Accessories

Transfer Bags with Standpipe

Transfer bags with transfusion system facilitate the rapid reinfusion of re-covered blood. The inside tube enables easy de-airing as well as rapid connection to another transfer bag in case of increasing volumes. The different transfer bags can also be used as priming bags within various systems.

Product	Type	Article No.
Transfer bag with standpipe, max. volume capacity 1000 ml	HMB 1000	70100.4733
Transfer bag with standpipe, max. volume capacity 2000 ml	HMB 2000	70100.4735
Packaging unit		
50 pcs./carton, single sterile packed		
Technical Data	HMB 1000	HMB 2000
Max. volume capacity	1000 ml	2000 ml
	Standpipe	Standpipe
Connection	Connection to 3-way stopcock	Connection to 3-way stopcock
PVC tube	3.0 x 0.55 x 3000 mm	3.0 x 0.55 x 3000 mm
Connection	Luer lock	Luer lock
Transfusion system	Male pre-connected	Male pre-connected
Material		
Bag	PVC	PVC



Further Accessories

Holders / Clamps

Holder for open systems

Product	Type	Article No.
Holder for adult and small adult venous hardshell cardiotomy reservoirs (VHK 70000, VHK 71000, VKMO 70000, VKMO 71000, VKMO 78000, VKMO 50000, VKMO 51000), to be used with HKH 3050 or 016061 or HKH 1100	HKH 7000	70106.4360

Packaging unit

1 pc./carton

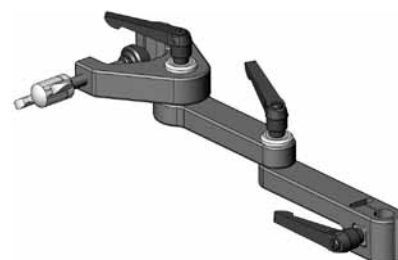


Holder for open systems

Product	Type	Article No.
Holder arm (for HKH 7000), 2-joint	HKH 3050	70102.9233

Packaging unit

1 pc./carton

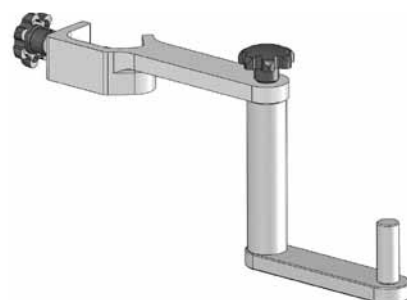


Holder for open systems

Product	Type	Article No.
Holder arm (for HKH 7000)	016061	70104.8947

Packaging unit

1 pc./carton

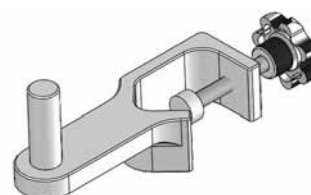


Holder for open systems

Product	Type	Article No.
Holder short for holder HKH 7000 for Intensive Care Unit	HKH 1100	70106.3120

Packaging unit

1 pc./carton

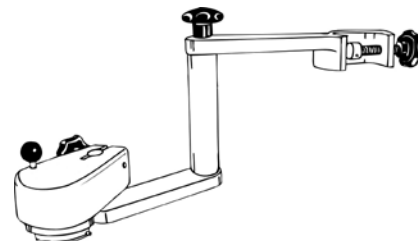


Further Accessories

Holders / Clamps

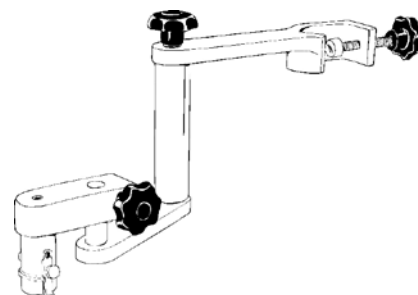
Holder for open systems

Product	Type	Article No.
Holder for QUADROX-i Adult and Small Adult oxygenators (HMO 50000, HMO 51000, HMO 70000, HMO 71000)	016062	70102.2009
Packaging unit		
1 pc./carton		



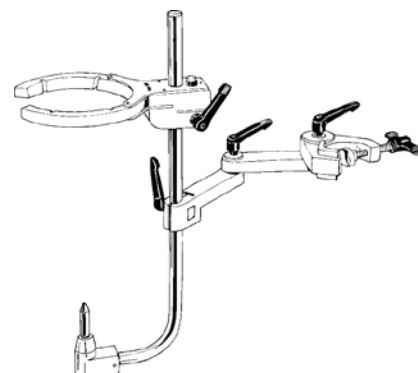
Holder for open systems

Product	Type	Article No.
Holder combination for pediatric and neonatal oxygenators (HMO 10000, HMO 11000, HMO 30000, HMO 31000, BE-HMOD 30000, ECLS Set 2.8, ECLS HIT Set 2.8)	016061 + HKHZ 19	70104.8947 + 70104.7495
Packaging unit		
1 pc./carton		



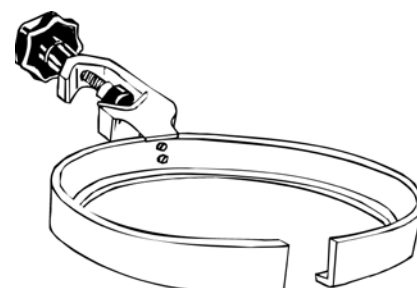
Holder for open systems

Product	Type	Article No.
Premium holder for pediatric and neonatal oxygenators with reservoir (VKMO 10000, VKMO 11000, VKMO 30000, VKMO 31000)	HKH 6000	70104.9004
Packaging unit		
1 pc./carton		



Holder for Cardiotomy and Autotransfusion Reservoirs

Product	Type	Article No.
Holder for cardiotomy reservoirs (HC 2811, HC 2821, HC 2822, HC 2831) and autotransfusion reservoirs (AR 28040, AR 28150)	HKH 1000	70100.4461
Packaging unit		
1 pc./carton		



Further Accessories

Holders / Clamps

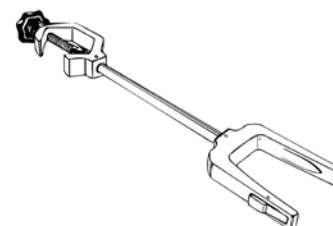
Holder for Venous Softbag Reservoirs

Product	Type	Article No.
Holder for venous softbag reservoirs JVR 1900	HKH 3950	70102.6657
Packaging unit		
1 pc./carton		



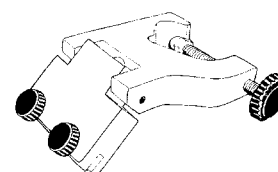
Holder for QUART Arterial Filter

Product	Type	Article No.
Holder for QUART arterial filter, rigid	HKH 4021	70100.4487
Packaging unit		
1 pc./carton		



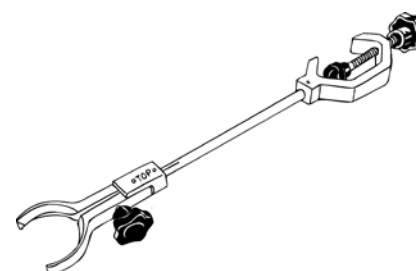
Holder for Manifold

Product	Type	Article No.
Holder for manifold with 3 stopcocks	HKH 7300	70100.4494
Packaging unit		
1 pc./carton		



Holder for VBT 160 Venous Bubble Trap

Product	Type	Article No.
Holder for VBT 160 venous bubble trap, rigid arm	HKH 4100	70102.9835
Packaging unit		
1 pc./carton		

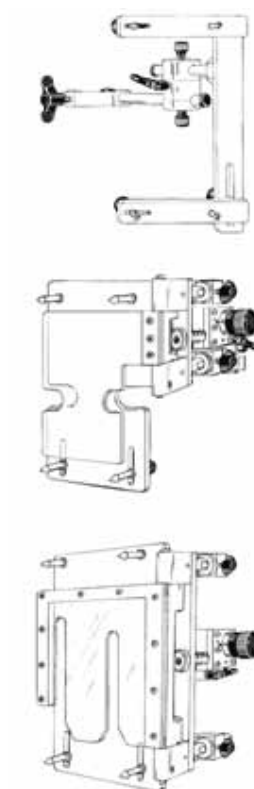


Further Accessories

Holders / Clamps

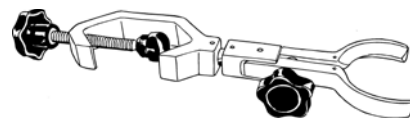
Holder for Venous Softbag Reservoirs

Product	Type	Article No.
Holder for venous softbag reservoirs JVR 650 series and JVR 800 series	HKH 3800	70100.4482
Holder for venous softbag reservoirs JVR 650 series with plates	HKH 3710	70100.4479
Holder for venous softbag reservoirs JVR 800 series with plates	HKH 3810	70100.4483
Packaging unit		
1 pc./carton		



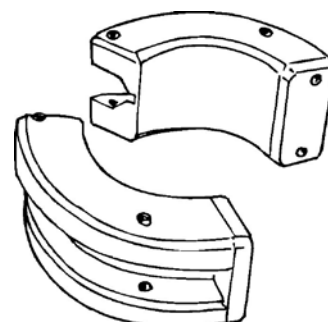
Holder for Hemoconcentrators

Product	Type	Article No.
Basic holder for hemoconcentrators BC 20 plus, BC 60 plus, BC 140 plus	HKH 4200	70103.3556
Packaging unit		
1 pc./carton		



Clamps for Hemoconcentrator

Product	Type	Article No.
Additional clamp for hemoconcentrator BC 140 plus	HKHZ 14	70103.3566
Additional clamp for hemoconcentrator BC 60 plus	HKHZ 25	70105.1721
Additional clamp for hemoconcentrator BC 20 plus	HKHZ 15	70103.3568
Packaging unit		
1 pc./carton		



Clamps to be used with HKH 4200

Further Accessories

Holders / Clamps

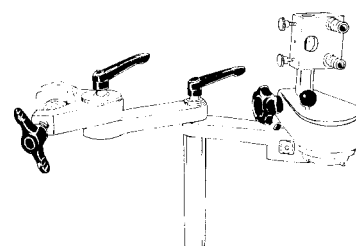
Holder for PLEGIOX Cardioplegia Heat Exchanger

Product	Type	Article No.
Holder for PLEGIOX cardioplegia heat exchanger CHX 30	HKH 5100	70103.3644
Packaging unit		
1 pc./carton		



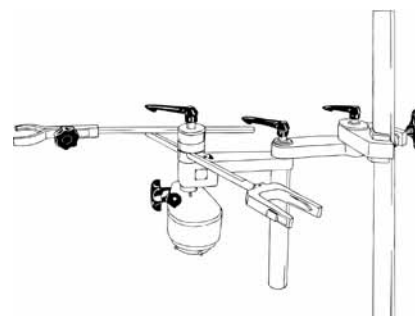
Holder for PLS Set

Product	Type	Article No.
Holder for PLS-i oxygenator (rotary) (BE-PLS 2050, BE-PLS 2051, BO-PLS 2050, BO-PLS 2051)	HKH 7900	70103.1554
Packaging unit		
1 pc./carton		



Holder for MECC System

Product	Type	Article No.
MECC full flex holder for MECC System	HKH 7800	70103.0133
Packaging unit		
1 pc./carton		



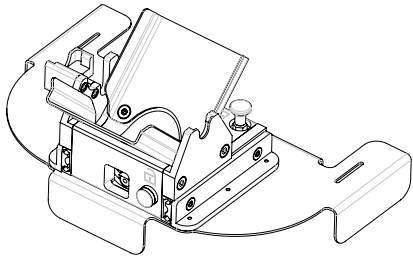
Further Accessories

Holders / Clamps

Disposable Holder PALP

Necessary to connect the PALP module with the lower guard of the CARDIOHELP-i.

Product	Type	Article No.
PALP disposable holder	HKH 8891	70106.2599
Fixation Velcro-kit (20 pcs.)		70106.5411



Holder for the CARDIOHELP System

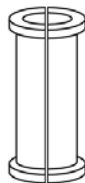
Product	Picture no.	Type	Article No.
CARDIOHELP holder for mast (diameter 38 mm)	1*	HKH 9102-M	70104.9584
Mast adapter for mast mounting, diameter 33 mm, height 45 mm	2*	D33 H45	70103.3314
Mast adapter for mast mounting, diameter 30 mm, height 45 mm	3*	D30 H45	70105.1531
CARDIOHELP Emergency Drive holder for standard rail, 10 x 25 mm	4	HKH 9101-R	70104.9304
CARDIOHELP Emergency Drive holder for mast	5	HKH 9101-M	70104.8006

*The appropriate mast adapter shown in picture 2 and 3 is required to be used with the CARDIOHELP holder for mast if you use a mast with 33 mm or 30 mm diameter.

Note: An Emergency Drive holder is mandatory if the CARDIOHELP-i is used on a SPRINTER CART/SPRINTER CART XL.



1



2

3



4

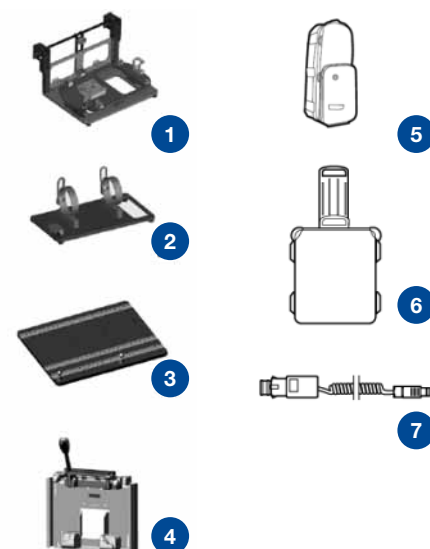


5

Transport Systems for **CARDIOHELP** System

For more details regarding transport please see Transport Guideline (70105.2209).

Product	Picture no.	Type	Article No.
CARDIOHELP mobile holder – Transport holder for air transport and ambulance. Infusion pole and CARDIOHELP protection cover included	1	HKH 8860	70105.0897
Gas bottle holder for helicopter	2	HKH 8880	70105.0901
Base plate for helicopter	3	HKH 8850	70104.5411
Wall holder for ambulance	4	HKH 8820	70104.5366
Backpack for gas bottle	5		70105.1507
Transport case for CARDIOHELP	6		70105.1373
Power supply cord DC – car socket	7		70104.8805

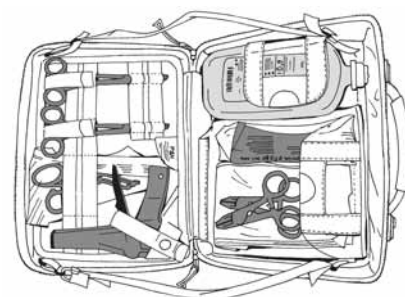


CARDIOHELP Emergency Kit: The CARDIOHELP Emergency Kit is an accessory bag especially designed for critical situations during ECLS treatment. It holds selected sterile tubing set components, clamps, scissors, tubing ties, a tie gun and an emergency priming line. In addition, there is enough room for priming solution.

All components can be safely placed in this zippered softshell bag.

Product	Article No.
CARDIOHELP Emergency Kit*	70106.5333

*Please note that the CARDIOHELP Emergency Kit is delivered without any content.



Transport Systems

for CARDIOHELP System

Trolley Transport System: The trolley transport system includes three carrying cases to safely transport the CARDIOHELP System. The set can be used for keeping the CARDIOHELP System on call at the hospital or for transporting the system to another hospital. The three carrying cases can be attached to one another and can be carried as a backpack or wheeled. Each piece can also be carried individually. All cases come with straps to be securely fastened in emergency vehicles or helicopters.

1. Wheeled carrying case to transport the CARDIOHELP-i, the HKH 8860 holder and the HKH 9101 Emergency Drive Holder (dimension: 430 x 690 x 460 mm).
2. Carrying case for two HLS Sets. The case size is adjustable and can be reduced to fit just one HLS Set (dimensions: 400 x 600 x 530 mm).
3. Carrying case for 8 cannulae and 4 insertion kits to transport HLS cannulae in different sizes and necessary accessories to connect the patient to the ECLS System (dimensions: 210 x 400 x 900 mm).

Product	Article No.
Trolley transport system	70105.5857
Technical Data	
Service life	10 years
Materials	Polyester fabric with PVC coating on both sides
Finish	Coated on both sides/high gloss
Blood inlet pressure	1 bar
Water inlet pressure	2 bar
Filter pore size	150 µm
Dimensions (W x H x D)	
Trolley	430 x 690 x 460 mm
Bag for HLS Sets	400 x 600 x 530 mm
Bag for HLS cannulae	210 x 400 x 900 mm
Weights	
Trolley	7 kg (weight when empty)
Bag for HLS Sets	2 kg (weight when empty)
Bag for HLS cannulae	1.65 kg (weight when empty)
Ambient conditions	
Temperature	-30 – 70°C
Relative humidity	30 – 75% (no condition)

Only available as a set!



1



2



3

Further Accessories

SPRINTER CART

The stable and compact **SPRINTER CART** has been developed as a workstation for extracorporeal support devices and applications for the use in the operating room and intensive care unit as well as for patient transport. With its four large smooth running, electrically conductive wheels equipped with foot-lever operated parking brakes and the practical handles, the workstation can be easily and conveniently moved throughout the hospital environment. The workstation is individually configurable with a top shelf for the ROTAFLOW console or with a shelf for the CARDIOHELP-i. The second optional shelf of the **SPRINTER CART** can be used to store any additional material. The heater unit HU 35 can be placed on the third

shelf. The **SPRINTER CART** is equipped with one handle due to the space needed to operate the **CARDIOHELP-i**. A second optional handle bar is available for the convenient transport of the **ROTAFLOW** console. The additional bar can easily be mounted on the **SPRINTER CART** with a special fixation system. A medical isolating transformer for all electrical devices can be placed on the base shelf of the **SPRINTER CART**. The transformer kit is available in two versions with different power supplies: 230 V and 115 V. The isolation transformer reduces leakage currents of the equipment when connected to a multiple socket outlet. For further electrical safety, the workstation has an equipotential bonding pin.

Product	Article No.
SPRINTER CART	70104.7813
Material	
Materials	Stainless steel, zinc, PA, PUR, PE, brass, dimethacrylate ester
Dimensions (W x H x D) and weight	
Dimensions	596 x 998 x 744 mm
Weight	28 kg
4 x corner pole masts	Ø 30 mm
4 x standard rails	25 x 10 mm
Hyperthermia device (maximal)	200 x 390 x 300 mm
Infusion pole mast	223 x 1200 (min) – 2050 (max) x 223 mm
Gas bottle holder (2 parts)	124 x 120 mm, 202 x 200 mm
Permissible gas bottles	Diameter: max. 146 mm, volume 2–5 l
Accessories	
Top shelf kit CARDIOHELP-i	70104.7816
Top shelf kit for ROTAFLOW console	70104.7815
Fixed tray for additional storage	70105.3322
Second handle with fixation system (only mountable together with the top shelf for the ROTAFLOW console)	70104.8739
Medical isolating transformer kit 230 V, 50/60 Hz, supply/output	70104.7817
Medical isolating transformer kit 115 V, 50/60 Hz, supply/output	70104.7818
Cable for transformer, with C13 + C14 plug/socket, 1 m (cable to connect an electrical device mounted on the SPRINTER CART with the isolating transformer). Note: Two of these cables are included in the medical isolating transformer kit.	70104.8167
Fixation system for Heater Unit HU 35	70104.8574
Infusion pole mast (height adjustable)	70103.3599
Gas bottle holder (without gas bottle)	70104.0809
EGB 40 electronic gas blender	70104.6211
MGB mechanical gas blender	70104.5119
Sechrist gas blender	70101.0888
Holder for PLS-i oxygenator (rotary, HKH 7900)	70103.1554



Further Accessories

SPRINTER CART XL

The stable and compact SPRINTER CART XL has been developed as a workstation for extracorporeal support devices and applications for the use in the operating room and intensive care unit as well as for patient transport. With its four large smooth running, electrically conductive wheels equipped with foot-lever operated parking brakes and the practical handles, the workstation can be easily and conveniently moved throughout the hospital environment.

The modular-built SPRINTER CART XL is a bigger version of the SPRINTER CART offering more valuable space for different devices. The cart is individually configurable with a special top shelf for the ROTAFLOW console or with a top shelf kit for the CARDIOHELP-i allowing convenient and fast fixation as well as detachment of these devices.

The cart is basically equipped with one handle, accessory bar and height reduced poles on the rear side for the convenient and comfortable operation of CARDIOHELP-i with the connected HLS module. However, for the convenient transport of the ROTAFLOW console a second optional handle bar is available, which can be mounted easily with a special fixation system. With the second handle, the cart can be pushed or pulled from two sides. Together with the top shelf for the ROTAFLOW console, the cart can be equipped with a fixed tray for additional storage.

The heater unit HU 35 or other, bigger hyperthermia devices can be placed on the height adjustable and extendable shelf kit of the multifunctional workstation. With the included railing system, a heater unit can be pulled or pushed conveniently in two adjustment steps on the shelf. This extendable shelf system allows the heater unit to be moved to access the water filling opening.

On the base shelf of the cart an optional medical isolating transformer can be placed for all electrical devices mounted on the SPRINTER CART. The transformer kit is available in two versions with different power supplies: 230 V and 115 V. For further electrical safety, the workstation has an equipotential bonding pin.



Product	Article No.
SPRINTER CART XL (Base Unit)	70105.4184
Material	
Materials	Stainless steel, zinc, PA, PUR, PE, brass, dimethacrylate ester
Dimensions (W x H x D) and weight	
Dimensions	646 x 1116 x 844 mm
Weight	37 kg
4 x corner pole masts	Ø 30 mm
4 x standard rails	25 x 10 mm
Permissible hyperthermia device (maximal)	230 x 470 x 432 mm
Infusion pole (height adjustable)	223 x 1200 (min) – 2050 (max) x 223 mm
Gas bottle holder (2 parts)	124 x 120 mm, 202 x 200 mm
Permissible gas bottles	Diameter: max. 146 mm, volume 2–5 l

Accessories	
Top shelf kit for CARDIOHELP-i	70105.3386
Top shelf kit for ROTAFLOW console	70105.3393
Fixed tray for additional storage	70105.3398
Second handle with fixation system	70105.3716
Medical isolating transformer kit 230 V, 50/60 Hz, supply/output	70104.7817
Medical isolating transformer kit 115 V, 50/60 Hz, supply/output	70104.7818
Connector cable for transformer with IEC C13 + C14 plug/socket, 1 m	70104.8167
CARDIOHELP-i	see Extracorporeal Life Support Systems
CARDIOHELP Emergency Drive holder for mast system	70104.8006
ROTAFLOW console	see Centrifugal Pump System
Heater Unit HU 35	see Heater Unit HU 35
Shelf kit for hyperthermia devices (e.g. HU 35)	70105.4144
Infusion pole (height adjustable)	70103.3599
Gas bottle holder	70104.0809
EGB 40 electronic gas blender	70104.6211
MGB mechanical gas blender	70104.5119
Sechrist gas blender	70101.0888
Holder for PLS-i oxygenator (rotary, HKH 7900)	70103.1554

Conversion Table – Inches and Millimeters

Inches	Millimeters
1/16"	1.59 mm
3/32"	2.38 mm
1/8"	3.18 mm
3/16"	4.76 mm
1/4"	6.35 mm
3/8"	9.53 mm
1/2"	12.70 mm



This catalog 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.

Copyright

All rights reserved. No part of this publication may be duplicated, adapted, or translated without prior written permission, except under the terms of the copyright laws.

© Copyright Maquet Cardiopulmonary GmbH

Trademarks

The following brand names are registered trademarks of Maquet Cardiopulmonary GmbH, or trademarks pending registration: BIO-LINE Coating, SOFTLINE Coating, BMU 40, Maquet CARDIOHELP, Intellipack, MECC System, MYWIRE, PLEGIOX, QUADROX-i, QUART, ROTAFLOW, ROTASSIST, thApps.

All other trademarks are property of their respective owners.

MAQUET
GETINGE GROUP

Manufacturer

Maquet Cardiopulmonary GmbH
Kehler Str. 31
76437 Rastatt, Germany
Phone: +49 7222 932-0
Fax: +49 7222 932-1888
info.cp@maquet.com

www.maquet.com

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.