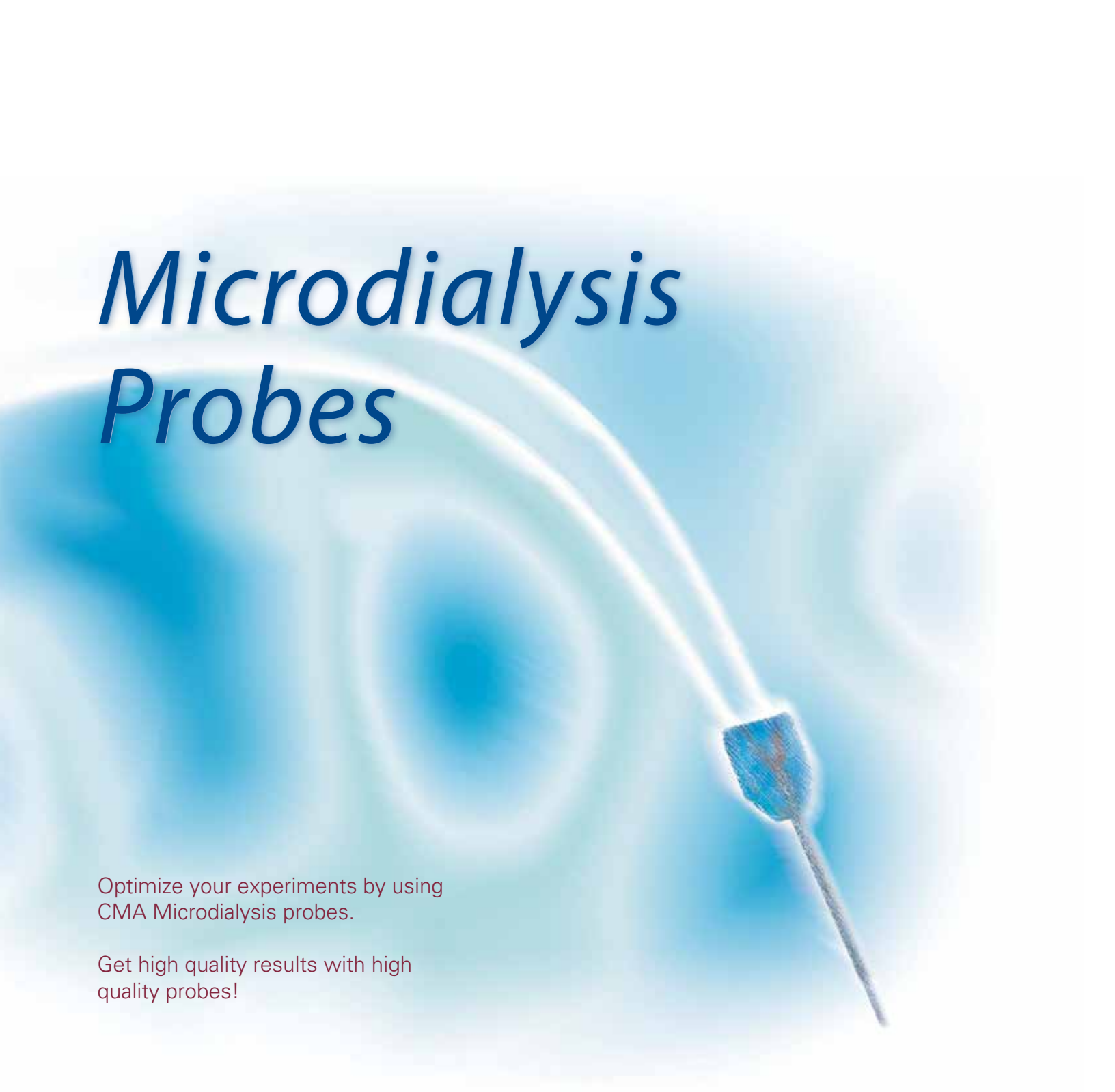
# Microdialysis Probes



Optimize your experiments by using CMA Microdialysis probes.

Get high quality results with high quality probes!

cma

a division of **Harvard Bioscience, Inc.**

## CMA 7 Microdialysis Probe

### Ideal for CNS in Mice

- Ideal for CNS Microdialysis in mice and very small animals.
- Small areas of the brain or spinal cord.
- Ideal for chronical implantation.
- Directly mounted Inlet and outlet tubing.
- Available metal free and β-irradiated.

**CMA 7 Microdialysis probe, 3/pkg**

**Cuprophane, 6kDa cut-off**

| Standard | Ref. No. | β-irradiated | Ref. No. | Metal Free | Ref. No. |
|---|---|---|---|---|---|
| 1 mm | CMA P000082 | 1 mm | CMA 8010681 | 1 mm | CMA 8010771 |
| 2 mm | CMA P000083 | 2 mm | CMA 8010682 | 2 mm | CMA 8010772 |

**Polyethersulfone (PES), 55kDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012411 |
| 2 mm | 8012412 |

β-irradiated and Metal free probes Available as Custom Probes

**Polyethersulfone (PES), 500kDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012421 |
| 2 mm | 8012422 |

β-irradiated and Metal free probes Available as Custom Probes

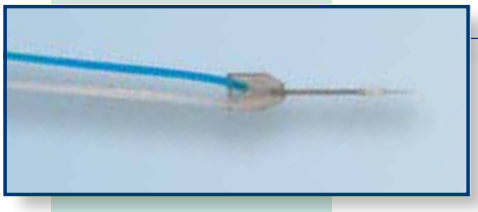
**Polyethersulfone (PES), 2MDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012423 |
| 2 mm | 8012424 |

β-irradiated and Metal free probes Available as Custom Probes

**NEW probes for big molecules!**

| Membrane Material, Cut-off | Cuprophane, 6kDa | Polyethersulfone , 55kDa | Polyethersulfone , 500kDa, 2MDa |
|---|---|---|---|
| Membrane Length | 1 and 2 mm | 1 and 2 mm | 1 and 2 mm |
| Membrane Diameter | 0.24 mm | 0.26 mm | 0.28 mm |
| Stainless Steel Shaft Diameter | 0.40 mm | 0.40 mm | 0.40 mm |
| Shaft Length | 7 mm | 7 mm | 7 mm |
| Inlet Internal Volume | 0,06 µL | 0,06 µL | 0,06 µL |
| Outlet Internal Volume | 0.3 µL | 0.3 µL | 0.3 µL |
| 200 mm Inlet Tubing (blue) | 3.5 µL | 3.5 µL | 3.5 µL |
| 200 mm Outlet Tubing (transp.) | 3.5 µL | 3.5 µL | 3.5 µL |



## CMA 8 Microdialysis Probe

### Ideal for CNS in Mice, larger molecules

- Ideal for CNS Microdialysis in mice and very small animals.
- 20kDa and 100kDa membranes.
- Can be used for larger molecule studies.
- Metal free and β-irradiated options available as custom made probes

**CMA 8 Elite Microdialysis probe, 3/pkg**

**Polyarylethersulfone (PAES), 20kDa cut-off**

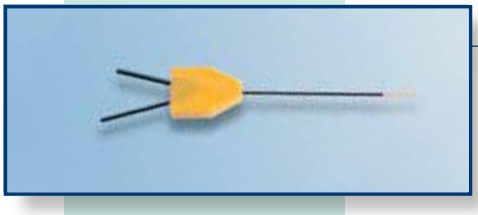
| Standard | Ref. No. |
|---|---|
| 1 mm | CMA 8012201 |
| 2 mm | CMA 8012202 |

**CMA 8 High Cut-Off Microdialysis probe, 3/pkg**

**Polyethersulfone (PES), 100kDa cut-off**

| Standard | Ref. No. |
|---|---|
| 1 mm | CMA 8012301 |
| 2 mm | CMA 8012302 |

| Membrane Material, Cut-off | Polyarylethersulfone, 20kDa | Polyethersulfone , 100kDa |
|---|---|---|
| Membrane Length | 1 and 2 mm | 1 and 2 mm |
| Membrane Diameter | 0.5 mm | 0.5 mm |
| Stainless Steel Shaft Diameter | 0.4 mm | 0.4 mm |
| Shaft Length | 7 mm | 7 mm |
| Inlet Internal Volume | Negligible | Negligible |
| Outlet Internal Volume | 0.3 µL | 0.3 µL |
| 200 mm Inlet Tubing (blue) | 3.6 µL | 3.6 µL |
| 200 mm Outlet Tubing (transp.) | 3.6 µL | 3.6 µL |



## CMA 11 Microdialysis Probe

### Ideal for CNS in Rats, discrete brain regions

- Ideal for CNS Microdialysis in rats or small animals.
- Small diameter for discrete areas of the brain or spinal cord.
- High spatial resolution.
- Minimal tissue damage.

**CMA 11 Microdialysis probe, 3/pkg**

**Cuprophane, 6kDa cut-off**

| Standard | Ref. No. | β-irradiated | Ref. No. | Metal Free | Ref. No. |
|---|---|---|---|---|---|
| 1 mm | CMA 8309581 | 1 mm | CMA 8011001 | 1 mm | CMA 8011081 |
| 2 mm | CMA 8309582 | 2 mm | CMA 8011002 | 2 mm | CMA 8011082 |
| 3 mm | CMA 8309583 | 3 mm | CMA 8011003 | 3 mm | CMA 8011083 |
| 4 mm | CMA 8309584 | 4 mm | CMA 8011004 | 4 mm | CMA 8011084 |

**Polyethersulfone (PES), 500kDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012511 |
| 2 mm | 8012512 |
| 3 mm | 8012513 |
| 4 mm | 8012514 |

β-irradiated and Metal free probes Available as Custom Probes

**NEW probes for big molecules!**

**Polyethersulfone (PES), 500kDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012521 |
| 2 mm | 8012522 |
| 3 mm | 8012523 |
| 4 mm | 8012524 |

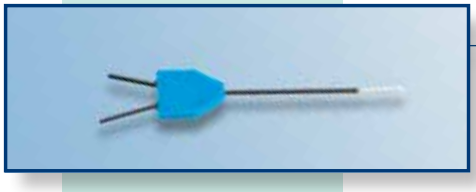
β-irradiated and Metal free probes available as Custom Probes

**Polyethersulfone (PES), 2MDa cut-off NEW!**

| Standard | Ref.No. |
|---|---|
| 1 mm | 8012525 |
| 2 mm | 8012526 |
| 3 mm | 8012527 |
| 4 mm | 8012528 |

β-irradiated and Metal free probes available as Custom Probes

| Membrane Material, Cut-off | Cuprophane, 6kDa | Polyethersulfone , 55kDa | Polyethersulfone , 500kDa, 2MDa |
|---|---|---|---|
| Membrane Length | 1,2,3 and 4 mm | 1,2,3 and 4 mm | 1,2,3 and 4 mm |
| Membrane Diameter | 0.24 mm | 0.26 mm | 0.28 mm |
| Stainless Steel Shaft Diameter | 0.40 m | 0.40 m | 0.40 m |
| Shaft Length | 14 mm | 14 mm | 14 mm |
| Inlet Internal Volume | 0,1 µL | 0,1 µL | 0,1 µL |
| Outlet Internal Volume | 1 µL | 1 µL | 1 µL |



## CMA 12 Microdialysis Probe

### Ideal for CNS in Rats, large molecules

- Ideal for CNS Microdialysis in rats or small animals.
- Ideal for chronic implantation.
- Can be used for larger molecule studies.
- Available metal free.

**CMA 12 Elite Microdialysis probe, 3/pkg**

**Polyarylethersulfone (PAES), 20kDa cut-off**

| Standard | Ref. No. |
|---|---|
| 1 mm | CMA 8010431 |
| 2 mm | CMA 8010432 |
| 3 mm | CMA 8010433 |
| 4 mm | CMA 8010434 |

| Metal Free | Ref. No. |
|---|---|
| 1 mm | CMA 8011201 |
| 2 mm | CMA 8011202 |
| 3 mm | CMA 8011203 |
| 4 mm | CMA 8011204 |

**CMA 12 High Cut-Off Microdialysis probe, 3/pkg**

**Polyethersulfone (PES), 100kDa cut-off**

| Standard | Ref. No. |
|---|---|
| 1 mm | CMA 8309661 |
| 2 mm | CMA 8309662 |
| 3 mm | CMA 8309663 |
| 4 mm | CMA 8309664 |

| Metal Free | Ref. No. |
|---|---|
| 1 mm | CMA 8011221 |
| 2 mm | CMA 8011222 |
| 3 mm | CMA 8011223 |
| 4 mm | CMA 8011224 |

| Membrane Material, Cut-off | Polyarylethersulfone, 20kDa | Polyethersulfone , 100kDa |
|---|---|---|
| Membrane Length | 1,2,3 and 4 mm | 1,2,3 and 4 mm |
| Membrane Diameter | 0.5 mm | 0.5 mm |
| Stainless Steel Shaft Diameter | 0.64 mm | 0.64 mm |
| Shaft Length | 14 mm | 14 mm |
| Inlet Internal Volume | Negligible | Negligible |
| Outlet Internal Volume | 0.3 µL | 0.3 µL |

## CMA 7, CMA 8, CMA 11, CMA 12 Guide Cannula

### Matched Guide Cannulae

CNS studies in conscious animals can be performed by implanting intracerebral guide cannula with dummy probes several days ahead of an experiment

- When ready, the dummy probe can easily be exchanged for the microdialysis probe
- Guide use allows longer post-surgical recovery
- Silicone coating prevents sticking
- Simple press-fit design to easily set probe
- Can be mounted to a stereotaxic instrument using a standard probe clip

| | 3/pkg | 30/pkg |
|---|---|---|
| **CMA 7 Guide Cannula** | **CMA P000137** | **CMA P000138** |
| **CMA 8 Guide Cannula** | **CMA 8012310** | **CMA 8012311** |
| **CMA 11 Guide Cannula** | **CMA 8309017** | **CMA 8309018** |
| **CMA 12 Guide Cannula** | **CMA 8309024** | **CMA 8309025** |
| **CMA 7 Guide β-irradiated** | **CMA 8010683** | **CMA 8010684** |
| **CMA 11 Guide β-irradiated** | **CMA 8011031** | **CMA 8011032** |
| **CMA 7 Guide Metal Free** | **CMA 8010773** | **N/A** |
| **CMA 11 Guide Metal Free** | **CMA 8011085** | **N/A** |
| **CMA 12 Guide Metal Free** | **CMA 8011205** | **CMA 8011206** |

| **Membrane** | CMA 7 | CMA 8 | CMA 11 | CMA 12 |
|---|---|---|---|---|
| **Shaft length (mm)** | 5 | 5 | 5 | 5 |
| **Shaft OD (mm)** | 0.58 | 0.63 | 0.58 | 0.86 |
| **Shaft Material** | Polyanid | Polyanid | Polyanid | Polyurethane |
| **Dummy pin Material** | Stainless Steel | Stainless Steel | Stainless Steel | Stainless Steel |
| **Dummy pin Metal Free Material** | PI | N/A | PI | PEEK |

*The guide cannula is coated with silicon on the inside in order to prevent sticking of a dummy or a probe*

## CMA 20 Microdialysis Probe

### Designed for dialysis in blood vessels and peripheral tissues

- Flexible probe for peripheral tissues
- Ideal for dialysis in moving soft tissues (muscle, heart, skin and adipose tissue) as well as in blood, vitreous fluid of the eye, synovial fluid etc.
- Can be used for large molecule studies.
- Soft, non-metallic construction.
- Introducers and split tubing are included.

**CMA 20 Elite Microdialysis probe, 3/pkg**

**Polyarylethersulfone (PAES), 20kDa cut-off**

| Standard | Ref No. |
|---|---|
| **4 mm** | **CMA 8010435** |
| **10 mm** | **CMA 8010436** |

**CMA 20 High Cut-Off Microdialysis probe, 3/pkg**

**Polyethersulfone (PES), 100kDa cut-off**

| Standard | Ref No. |
|---|---|
| **4 mm** | **CMA 8309670** |
| **10 mm** | **CMA 8309671** |

| **Membrane Material, Cut-off** | Polyarylethersulfone, 20kDa | Polyethersulfone , 100kDa |
|---|---|---|
| **Membrane Length** | 4 and 10 mm | 4 and 10 mm |
| **Membrane Diameter** | 0.50 mm | 0.50 mm |
| **Polyurethane Shaft Diameter** | 0.77 mm | 0.77 mm |
| **Shaft + Membrane Length** | 24 mm | 24 mm |
| **Inlet Internal Volume** | 1.4 µL | 1.4 µL |
| **Outlet Internal Volume** | 3.2 µL (4 mm)<br>2.6 µL (10 mm) | 0.3 µL (4 mm)<br>2.6 µL (10 mm) |
| **200 mm Inlet Tubing (blue)** | 3.6 µL | 3.6 µL |
| **200 mm Outlet Tubing (transp.)** | 3.6 µL | 3.6 µL |

## CMA 30 Linear Microdialysis Probe

### Ideal for peripheral tissues

- Ideal for peripheral tissues (skin, muscle, heart, adipose tissue, liver eye, pancreas) as well as spinal cord and tumors.
- Soft and flexible construction and easy implantation using the included introducer .
- Consists of tubing in which the middle part has a window with a membrane of 6 kDa cut-off. A thin part of the tubing remains along the membrane to increase the stability of the construction.
- The inlet has a Luer Lock connector which can be attached to a single use syringe or removed in order to use with a glass syringe with a fixed needle.
- Can be sterilized in its package with ethylene oxide.

**CMA 30 Linear Microdialysis probe, 4/pkg**

**Cuprophane, 6kDa Cut-Off**

| **Standard** | **Ref No.** |
|---|---|
| **10 mm** | **CMA 8010460** |

| | |
|---|---|
| **Membrane Material, Cut-off** | Cuprophane, 6kDa |
| **Membrane Length** | 10 mm |
| **Membrane Diameter** | 0.24 mm |
| **Tubing Material** | Polymide |
| **Tubing ID/OD** | 0.28/0.38 mm |
| **Inlet Lengths** | 250 mm |
| **Outlet lengths** | 250 m |
| **Double Tubing Material** | Polyurethane |
| **Double Tubing OD** | 0.63 mm |
| **Double Tubing Length** | 12 mm |

## CMA 31 Linear Microdialysis Probe

### Ideal for peripheral tissue, large molecules

- Ideal for sampling larger molecules in peripheral tissues (skin, muscle, heart, adipose tissue, liver eye, pancreas) as well as spinal cord and tumors.
- Soft and flexible construction and easy implantation using the included introducer.
- Consists of tubing in which the middle part has a window with a membrane of 55 kDa cut-off. A thin part of the tubing remains along the membrane to increase the stability of the construction.
- The inlet has a Luer Lock connector which can be attached to a single use syringe or removed in order to use with a glass syringe with a fixed needle.
- Can be sterilized in its package with ethylene oxide.

**CMA 31 Linear Microdialysis probe, 4/pkg**

**PES, 55 kDa cut-off**

| **Standard** | **Ref No.** |
|---|---|
| **10 mm** | **CMA 8010631** |

**PES, 500 kDa cut-off NEW!**
**Available as Custom Probes**

**PES, 2MDa cut-off NEW!**
**Available as Custom Probes**

**NEW probes for big molecules!**

| | |
|---|---|
| **Membrane Material, Cut-off** | Polyethersulfone, 55kDa |
| **Membrane Length** | 10 mm |
| **Membrane Diameter** | 0.26 mm |
| **Tubing Material** | Polymide |
| **Tubing ID/OD** | 0.12/0.19 mm |
| **Inlet Lengths** | 350 mm |
| **Outlet lengths** | 100 mm |
| **Double Tubing OD** | 0.63 mm |
| **Double Tubing Length** | 12 mm |

# Custom Made Probes & Guides

## For all occasions when standard probes are not adequate

- A variety of styles and sizes are available and should be chosen according to the physiochemical characteristics of recovered molecules, various organs, and biological species.
- Customer specified style, shaft length, membrane type, membrane length.

| | 3 pkgs | 4-10 pkgs | >10 pkgs |
|---|---|---|---|
| CMA 7 Probe Custom Made | CMA 8010391 | CMA 8010392 | CMA 8010393 |
| CMA 8 Probe Custom Made | CMA 8012401 | CMA 8012402 | CMA 8012403 |
| CMA 11 Probe Custom Made | CMA 8010394 | CMA 8010395 | CMA 8010396 |
| CMA 12 Probe Custom Made | CMA 8010397 | CMA 8010398 | CMA 8010399 |
| CMA 20 Probe Custom Made | CMA 8010400 | CMA 8010401 | CMA 8010402 |
| CMA 30 Probe Custom Made | CMA 8010498 | CMA 8010499 | CMA 8010500 |
| CMA 31 Probe Custom Made | CMA 8012406 | CMA 8012407 | CMA 8012408 |

| | 3 pkgs | 30 pkgs |
|---|---|---|
| CMA 7 Guide Custom Made | CMA 8010313 | CMA 8010314 |
| CMA 8 Guide Custom Made | CMA 8012404 | CMA 8012405 |
| CMA 11 Guide Custom Made | CMA 8309029 | CMA 8309030 |
| CMA 12 Guide Custom Made | CMA 8309008 | CMA 8309009 |

## Optional Accessories

| | |
|---|---|
| CMA 11 & 12 Clip | CMA 8309013 |
| CMA 7 & 8 Clip | CMA P000136 |
| CMA Probe Shaft Clip | CMA 8309003 |
| FEP Tubing 1 m | CMA 3409501 |
| FEP Tubing 1m x 10/pkg | CMA 8409501 |
| Tubing Adaptors, 10/pkg | CMA 3409500 |
| Tubing Adaptors, Linear Probe 10/pkg | CMA 8010464 |
| Trephine Drill Bits, 2/pkg | CMA 8011158 |
| Anchor Screw Drill Bits, 3/pkg | CMA 8003264 |
| Anchor Screws, 100/pkg | CMA 7431021 |
| Screw Driver for Anchor Screws | CMA 8309673 |
| Perfusion Fluid T1 5 mL, 10/pkg | CMA P000034 |
| Perfusion Fluid CNS 5 mL, 10/pkg | CMA P000151 |
| CMA/20 Split Tubing, 10/pkg | CMA 8309019 |

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