A wide range of high-quality laser Doppler probes allows the study of microcirculation in almost any organ or tissue. All probes are designed for PeriFlux 6000, PeriFlux System 5000 and PeriFlux System 4000. Please contact Perimed for custom-designed probes, or probes compatible with older PeriFlux laser Doppler models.

All probes contain a silica fiber with a core diameter of 0.125 mm for flexibility and bending radius, and are reinforced with Kevlar® for increased strength. Standard fiber separation is 0.25 mm (available from 0.15 to 1.2 mm). Fiber optic cable length is 2.75 m. Perimed probes can be sterilized and disinfected.

Various probe holders, double-sided tape and microtips are available.
SKIN PROBES

Skin probes are used for blood perfusion measurements on intact, breached or compromised skin, both in research and clinical routine. The probes are fixed to the skin with a specific probe holder and double-sided tape strips.

PROBE 404-1
Suturable Angled Probe
Multi-purpose low profile probe (one returning fiber). Especially suited for SPP. Can also be used invasively.

PROBE 407
Small Straight Probe
Multi-purpose probe. The soft, flexible design of the fiber line reduces the influence of artifacts from moving subjects. For reproducible skin perfusion measurements without any temperature provocation, it is important to maintain a constant skin temperature. Perimed’s heat controlled units enable easy stabilization of the local skin temperature when a temperature-controlled room is not available. Typical temperature setting is 32 - 33 °C. For toe pressure on patients with cold ischemic feet, the temperature should be set to 40 °C.

PROBE 408
Large Straight Probe
Multi-purpose probe for skin measurements. The support of the probe is designed to fit into a micromanipulator or laboratory stand for exact positioning. The tip (diameter 0.45 mm) may be introduced directly into the tissue or in a biopsy channel of an endoscope (measurements in the trachea, stomach, intestine or colon). Probes with disposable microtips are available for measurement in muscle.

PROBE 457
Small Angled Thermostatic Probe
A combined laser Doppler and thermostatic probe for simultaneous blood perfusion measurement and local heat provocation. The probe is water tight and may be kept in water for several hours.

PROBE 450
Thermostatic Probe Holder
For local heating combined with blood perfusion measurement with probes 408 and 413. Insert the probe into the center hole of the thermostatic probe holder. Probe 408 requires an additional distance ring. The thermostatic probe holder is fixed to the skin with double-sided tape.

SKIN PROBES WITH HEATING CAPABILITY

Skin perfusion is strongly dependent on skin temperature. For reproducible skin perfusion measurements, the skin temperature has to be controlled and monitored. For this reason, Perimed offers laser Doppler probes with heating capability, which are fixed to the skin with double-sided tape. The PF 450 Thermostatic Probe Holder can be combined with selected skin probes to allow for local heating when using these probes.

Local heating can be used for heat provocation, and the reactive hyperemia following the heat provocation is monitored by the PeriFlux instrument. Typical temperature setting is 42 - 44 °C. The microcirculatory response to the heat indicates the vascular capacity of the tissue. Such measurements can be used to determine the viability of tissue with impaired microcirculation and may be valuable when evaluating wound healing potential/amputation level in patients with peripheral arterial disease (PAD) or to study endothelial dysfunction.

For reproducible skin perfusion measurements without any temperature provocation, it is important to maintain a constant skin temperature. Perimed’s heat controlled units enable easy stabilization of the local skin temperature when a temperature-controlled room is not available. Typical temperature setting is 32 - 33 °C. For toe pressure on patients with cold ischemic feet, the temperature should be set to 40 °C.

PROBE 402
Needle Probe
For acute invasive measurements. The tip (diameter 0.45 mm) may be introduced directly into the tissue to the desired depth, or inserted through a 22 G/0.6 I.D. cannula. Tissue: Invasively in most organs and tissues

PROBE 403
Stainless Steel Probe
The support of the probe is designed to fit into a micromanipulator or laboratory stand for exact positioning. Convenient for measurements on animal organs. Tissue: Surface of inner organs

PROBE 404-1
Suturable Angled Probe
Multi-purpose low profile probe (one returning fiber). Especially suited for SPP.

PROBE 407
Small Straight Probe
Multi-purpose probe. The soft, flexible design of the fiber line reduces the influence of artifacts from moving subjects.

PROBE 411
Needle Probe for Micromanipulator
The support of the probe is designed to fit into a micromanipulator or laboratory stand for exact positioning. The tip is thin (0.45 mm) for easy penetration of tissue. For acute invasive measurements such as animal brain.

Tissue: Invasively in most organs and tissue

PROBE 418
Master Probe
Can easily be connected to disconnected from a microtip.

Use microtips MT B500-OL120 or MT B500-OL240.

Tissue: Invasive measurements in soft tissue or on mouse skull during MCA occlusion

INVASIVE PROBES

Perimed laser Doppler probes allow blood perfusion measurements in almost any tissue or organ, invasive or non-invasive, depending on application. Many probes are used with micromanipulators or laboratory stands, or can be inserted through the biopsy channels of an endoscope (measurements in the trachea, stomach, intestine or colon). Probes with disposable microtips are available for measurement in muscle.
PROBE HOLDERS, MICROTIPS & TAPE

PROBE HOLDERS FOR PROBE 407

PH 07-4
Tape Fixated Probe Holder
For measurements on skin, particularly small areas like toes and fingers.
Diameter 10 mm, Height 4.5 mm

PH 07-5
Small Tape Fixated Probe Holder
Similar to PH 07-4, but more suitable for small fingers and toes.
Diameter 5 mm, Height 4.5 mm

PH 07-6
Glueable Dental Probe Holder
The low, smooth profile allows the probe holder to be glued onto teeth and left in place for extended periods, to enable repeated measurements on the same vascular bed.
Diameter 4 mm, Height 2.5 mm

PH 07-7
Low Profile Probe Holder
Similar to PH 07-5. For rat stroke model. Please contact Perimed for “Instructions for use”.
Diameter 5 mm, Height 2.5 mm

PH 07-8
Suturable Probe Holder
Similar to PH 07-4, but with five pre-drilled holes (diameter 1 mm) for sutures. Suitable for flaps or fingers.
Diameter 10 mm, Height 4.5 mm

MICROTIPS

For measurements in tissue with probe 418.
0.5 mm PMMA (polymethylmethacrylate) core and fluorine polymer cladding. Available in standard lengths of 120 mm and 240 mm.
Microtips are useful for invasive measurements in muscle, for example, and can be inserted into the tissue through a 22 G/0.6 I.D. cannula. For mouse skull, the microtips should be glued to the surface.
Microtips can be sterilized or disinfected.

MT B500-OL120    Straight Microtip (120 mm)
MT B500-OL240    Straight Microtip (240 mm)

DOUBLE-SIDED TAPE

PF 105-1
Double-sided Tape Ring
For probe holders PH 08 and PF 450.
Outer Diameter 38 mm, Inner Diameter 9 mm

PF 105-3
Double-sided Tape Strip
For probe holders PH 07-4 and PH 07-5, and probes 404 and 457.

OTHER PROBE HOLDERS

PH 08
Probe Holder
For probe 408.
Diameter 34 mm, Height 12 mm

PH 13
Probe Holder
For probe 413.
Diameter 34 mm, Height 12 mm