

Port-a-Patch Accessories and Add-ons

For quotations and orders email:
orders@nanion.de

External Perfusion/Temperature Control

The External Perfusion System for the Port-a-Patch is comprised of a computer controlled magnetic pinch valve panel and a dedicated flow chamber. Up to eight different solutions can be handled by the perfusion panel. Solutions can either be switched manually or via the software. The latter allows synchronization of data acquisition with solution exchange, as well as tagging of the collected traces with relevant information such as compound and concentration applied. Temperature Control is also available in combination with the External Perfusion System enabling a stable maintenance of elevated temperatures.



Order Number	Product	Details
02 1001	External Perfusion with Laminar Flow Chamber	including: <ul style="list-style-type: none"> - Valve Control Panel (with analog, digital and USB-port) - Perfusion System starter kit with 50 ml syringes, Reagent Kit, tubing, connectors, waste bottle etc. - Stand with syringe holder - Laminar Perfusion Chamber - Manifold with accessories
03 1002	Temperature Control without Perfusion system	including: <ul style="list-style-type: none"> - Perfusion Canulla with heater and sensor - Chamber Upgrade including resistive heating element - Temperature Control Software for on-the-fly visualization of applied temperature

Internal Perfusion

Nanion's planar patch clamp chips offer the unique possibility to perfuse the intracellular side of the membrane. This aspect is exploited with the Internal Perfusion System for the Port-a-Patch. Up to eight different solutions can be perfused inside the cell, allowing dose response analysis of compounds acting on the cytosolic portion of the ion channel. Second messengers and metabolites can also be added internally to investigate how ion channel function is affected. Solutions are exchanged within seconds, and the ion channel modulation can be continuously monitored during the solution exchange.



Ordner Number	Product	Details
02 2001	Internal Perfusion with Perfusion system	including: <ul style="list-style-type: none"> - Valve Control Panel (with analog and digital USB-ports) - Internal Perfusion Chamber with housing - Internal Perfusion starter kit: electrodes, Reagent Kit, tubings and other accessories - Perfusion System starter kit with 50 ml syringes, Reagent Kit, tubing, connectors, waste bottle etc. - Stand with syringe holder
02 2002	Internal Perfusion System w/o Perfusion System	including: <ul style="list-style-type: none"> - Internal Perfusion Chamber with housing - Internal Perfusion starter kit: electrodes, Reagent Kit, tubings and other accessories * Only compatible with Nanion's Perfusion System

Low Capacitance holder

The Low Capacitance Holder for the Port-a-Patch has been developed to reduce the capacitance of the recording system, thereby increasing the temporal resolution and the signal-to-noise ratio. This reduction in capacitance is critical for experiments requiring increased resolution, e.g. recordings of small conductance ion channels with fast gating properties in a planar lipid bilayer or in the cell attached mode. The capacitance of the whole system including a bilayer on the chip is approximately 2.5 pF, compared to 6.5 pF for the standard Port-a-Patch. This corresponds to Irms values of 400 fA compared to 1.1 pA (gain: 1000 mV/pA, bandwidth: 3 kHz) for the Low Capacitance Holder and the standard Port-a-Patch.



Order Number	Product	Details
01 1012	Ultra-low noise add-on for the Port-a-Patch	including HEKA EPC-10 headstage

Microscope slide kit

Nanon offers the Port-a-Patch Microscope Slide developed for the simultaneous visualization and patch clamp recording of the cell. Fluorescence measurements using an upright microscope can therefore be combined with current recordings.



Order Number	Product	Details
01 1010	Port-a-Patch Microscope Slide Kit	- 3 Port-a-Patch Microscope Slides - 1 Electrode set, adaptors and cabling
01 1011	Port-a-Patch Microscope Slide	1 Port-a-Patch Microscope Slide

Kits and spare parts

Order Number	Product	Details
08 1005	Port-a-Patch Spare Part Kit	<ul style="list-style-type: none"> 2 NPC®-1 chip holders 2 External electrodes 4 Internal electrodes Silver wire Bleach and sand paper Spare tubing for Suction Control
08 1003	Port-a-patch Electrode Service Kit	<ul style="list-style-type: none"> 10 external electrodes 10 internal electrodes Silver wire Bleach and sand paper
08 1020	Electrode Service Kit for Low Noise Unit	<ul style="list-style-type: none"> - 10 pairs of electrodes (internal and external) - 10 o-rings - 1 tubing (length ~0.5 m; silicone ID 2 mm, OD 4 mm)
02 1003	Laminar Flow Chamber Kit	<ul style="list-style-type: none"> - Laminar Flow Perfusion Chamber - Manifold and accessories
05 1002	Vesicle Prep Pro Electrode Kit	<ul style="list-style-type: none"> 1 pair of ITO slides and O-rings
08 1004	Technical Service Kit Perfusion System	<ul style="list-style-type: none"> - tubing set pinch valve - waste removal lid including tubing - spare part set: manifold, nozzle, manifold plugs, O-rings and vacuum grease
08 1013	3m silver wire	
05 1004	Vesicle Prep Pro Formation Chamber	

Reagent Kits

Order Number	Product	Details
08 1001	Reagent Kit Port-a-Patch standard	1x blue Cryo Box: 81 Vials: 27x External standard, 18x Seal, 18x Internal K, 18x Internal Cs
08 1016	Reagent Kit Port-a-Patch to be specified by customer	Specified by customer
08 1019	Reagent Kit Perfusion System standard, external	1x Rack (20x 50ml): 12x External standard, 8x Seal
02 1003	Reagent Kit Perfusion System standard, internal	1x Rack (20x 50ml): 10x Internal CS, 10x Internal K
08 1015	Reagent Kit Perfusion System to be specified by customer	Specified by customer
08 1006	Reagent Kit Vesicles for Port-a-Patch	1 red cryo box: 81 vials 18x 200 mM KCl, pH 7, 18x 200 mM KCl, pH 4, 18x 200 mM NaCl, pH 7, 18x 200 mM NaCl, pH 4, 7x 1M Sorbitol, 1 mM EGTA, pH 7, 1x GUVs, 1x 100 mM HCl
05 1003	Vesicle Prep pro GUV Kit	5 vials x 500 µl GUVs (separate preparations) 13 x 100 mM HCL, 9 x 1 M Sorbitol, 1 mM EGTA, 2 mM Hepes/ KOH pH 7, 13 x 200 mM KCl, 10 mM Hepes/ KOH, pH 7, 14 x 200 mM KCl, 10 mM Hepes/ KOH, pH 4

NPC®1 chips

Standard chips for bilayer and patch clamp recordings. Minimum order 100 pieces.



Order Number	Product
06 1101	NPC®-1 patch clamp chips 1-2 MOhm
06 1102	NPC®-1 patch clamp chips 2-3.5 MOhm
06 1103	NPC®-1 patch clamp chips 3-5 MOhm
06 1104	NPC®-1 patch clamp chips 5-10 MOhm
06 1105	NPC®-1 patch clamp chips 8-12 MOhm
06 1106	NPC®-1 patch clamp chips 10-15 MOhm

Service

Order Number	Product	Details
08 2002	Port-a-Patch Service Contract	Annually including: Complementary experimental support Complementary PatchControl® updates
09 1002	Platform-Specific Training (Beginner - Advanced Level) at Nanion's Premises	Platform specific training with own choice of platform, add-ons, cells, assay by electrophysiologists at Nanion. Charge per day
09 1003	Platform Specific Training at Customer's Premises	Platform specific training with own choice of platform, add-ons, cells and assay by Nanion electrophysiologist onsite by customer. Daily charge + coverage of travel expenses
08 1027	Port-a-Patch, refurbishment	component: TO BE SPECIFIED renewed warranty on refurbished parts: 6 months