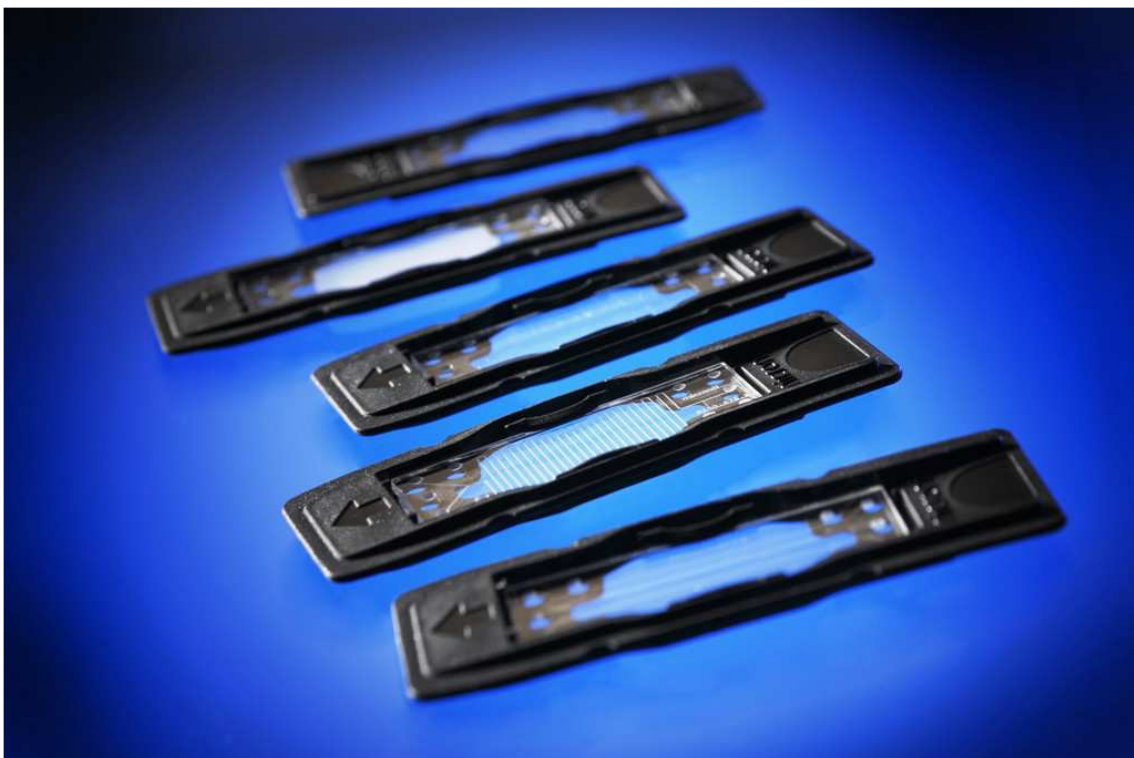


micronit

M I C R O F L U I D I C S

MICROFLUIDIC RESEARCH PRODUCTS



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FLUIDIC CONNECT

A USER-FRIENDLY LAB-ON-A-CHIP PLATFORM

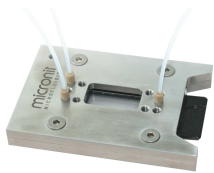

The lab-on-a-chip platform Fluidic Connect offers a user-friendly way of creating your own lab-on-a-chip setup within minutes of time. The microfluidic chips within the platform enable micro reaction, cell analysis, droplet generation and many more. The chipholder are durable and robust and compatible with standard laboratory equipment such as syringe pumps and upright and inverted microscopes.

Use Fluidic Connect for your lab-on-a-chip experiments and reduce your time to obtain results!

Key features of Fluidic Connect:

- User-friendly, leak-free connections
- Chemically inert materials
- Large chip viewing area
- Compatible with upright and inverse microscopes
- Building block in a modular system
- Standard and custom chips available



	Fluidic Connect 4515	Fluidic Connect PRO	
Chipholders			
Sealing Mechanism	Slide 'n Connect	Load 'n Seal	
Chipholder Material	Stainless Steel	Aluminium	
Dimensions (L, W, H)	80 x 55 x 9.5 mm	128 x 85,4 x 20 mm	
Max. Operating Temperature	80°C (Teflon), 50°C (Fused Silica),	100°C	
Max. Operating Pressure	100 bar	10 bar	
Sealing Material	PEEK, FEP	Perlast (FMKM)	
Compatible Chip Thickness	1.1 – 2.0 mm	1.1 – 2.0 mm	
Compatible Chip Sizes	15 x 45 mm	15 x 15 mm 15 x 30 mm 15 x 45 mm 15 x 60 mm 15 x 90 mm	30 x 30 mm 30 x 45 mm 30 x 60 mm 30 x 90 mm 25 x 75 mm*
Compatible Tubing	1/16 inch OD Teflon 375 µm OD Fused Silica	1/16 inch OD Teflon, Stainless Steel, PEEK	

*) Microscope Slide Format

FLUIDIC CONNECT 4515 CHIP HOLDER

The basic tool for lab-on-a-chip experiments. Fluidic Connect 4515 is a user-friendly chip holder providing leak-free fluidic connections. It enables to work safely under high pressure (up to 100 bar / 1450 psi). Includes inverter frame, for use on upright microscopes, and user manual.

Special Features:

- Easy chip handling thanks to polymer cartridge
- High pressure connections
- Low dead-volume connections
- Electrical connections
- Compatible with all standard Fluidic Chips
- Compatible Fluidic PRO 45 x 15 mm custom chips



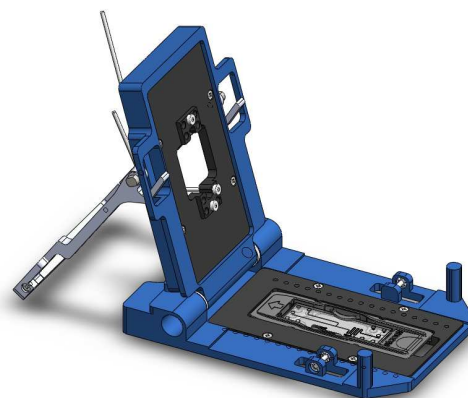
Product Code	Description	Additional Information	Price
	Chipholder		
FC_FC4515	Fluidic Connect 4515 Chipholder		€ 975
	Connection Kits		
FC_TF_KIT	Teflon Connection Kit; Contains five meter capillaries (1/16" OD, 250 µm ID), five ferrules and nuts.	Resistant to high temperatures, chemically resistant, ideal for low friction requirements.	€ 135
FC_FS_KIT	Fused Silica Connection Kit; Contains five meter capillaries (375 µm OD, 150 µm ID), five ferrules and nuts	Ideal for low dead volume (20-90 nl) connections and thin bottom chips. Chemically resistance	€ 285
FC_SS_KIT	Stainless Steel Connection Kit; contains five pieces of 50 cm tubing (1/16" OD, 250 µm ID), five ferrules and nuts	Ideal for high pressure experiments where a solid connection is required.	€ 175
FC_EL_KIT	Electrical Connection Kit; contains five cables with a nut and probe (OD=0.76 mm) with banana plug connector. Maximum voltage 30V (DC), and 60V (AC).	Makes easy connections to on-chip electrodes.	€ 155
FC_CO_KIT	Tubing to Pump Connection Kit; contains luer-lock adaptors and unions for 375 µm OD fused silica, 1/16 inch teflon or stainless steel tubing.	Connects the tubing to your pump or other tubing.	€ 95
	Replacement Kits		
FC_NP_KIT	5 Nanoport Nuts and Ferrules	Compatible with the FC_FS_KIT)	€ 195
FC_FB_KIT	5 Flat-bottom Nuts and Ferrules	Compatible with the FC_TF_KIT and FC_SS_KIT)	€ 95

FLUIDIC CONNECT PRO CHIP HOLDER

The Load 'n Seal design assures tight connections without the possibility of breaking precious microfluidic chips. By cleverly making use of inserts the holder can easily be adapted to chips of different sizes and thicknesses. It is even capable of connecting multiple chips at one time.

Special Features:

- Fast, easy, and robust fluidic connections
- Future proof thanks to replaceable inserts
- Holder defined sealing to prevent chip cracking
- Simultaneous connection of multiple chips
- Large chip viewing area possible
- Compatible with upright and inverted microscopes
- Suitable for resealable flowcells
- Able to connect chips from 15 x 15 mm up to 30 x 90 mm



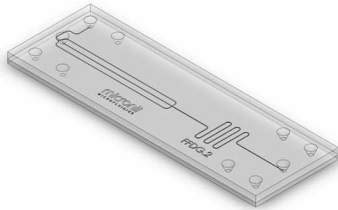
Product Code	Description	Additional Information	Price
	Chipholder		
FC_PRO_CH	Fluidic Connect PRO Chipholder	(excluding inserts)	€ 1250
FC_PRO_CH_C	Custom Fluidic Connect PRO Chipholder	Custom Colour and Engraved Logo (excluding inserts)	€ 1500
	Inserts		
FC_PRO_IN_4515	Fluidic PRO 4515 Inserts for standard 15 x 45 mm Micronit chips	1 x top inserts + 1 x bottom insert + adaptors for thin bottom chips	€ 250
FC_PRO_IN_15	Fluidic PRO 15 Inserts for 15 mm wide chips	2 x top insert + 2 x bottom insert + adaptors for thin bottom chips	€ 250
FC_PRO_IN_30	Fluidic PRO 30 Inserts for 30 mm wide chips	2 x top insert + 2 x bottom insert + adaptors for thin bottom chips	€ 250
FC_PRO_IN_7525	Fluidic PRO 7525 Inserts for microscope slides	1 x top insert + 1 x bottom insert	€ 250
FC_PRO_IN_C	Fluidic PRO Custom Inserts for chips from 15 x 15 mm to 30 x 90 mm	Custom made inserts, top and bottom set	€ 475
	Connection Kits		
FC_PRO_TF_KIT	Teflon Connection Kit; contains five meter capillaries (1/16" OD, 250 µm ID), five nuts.	Resistant to high temperatures, chemically resistant, ideal for low friction requirements.	€ 135
FC_CO_KIT	Tubing to Pump Connection Kit; contains luer-lock adaptors and unions for 1/16 inch teflon or stainless steel tubing.	Connects the tubing to your pump or other tubing.	€ 95
	Replacement Kits		
FC_PRO_FFKM_KIT.05	Pack of 5 FFKM (Perlast) perfluoroelastomer nuts	Re-usable, excellent chemical resistance, excellent steam resistance, high temperature resistance, FDA, USP Class VI and 3A compliant	€ 95
FC_PRO_FFKM_KIT.10	Pack of 10 FFKM (Perlast) perfluoroelastomer nuts		€ 150

FLUIDIC CHIPS

All the chips are made of borosilicate glass and are delivered in a polymer (PP) cartridge of 75 x 25 mm which is compatible with the Fluidic Connect 4515 chip holder and the Fluidic Connect PRO chip holder.



DROPLET GENERATOR CHIPS

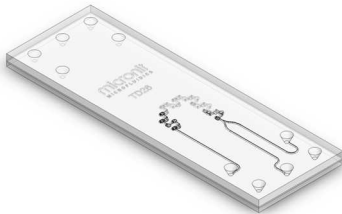
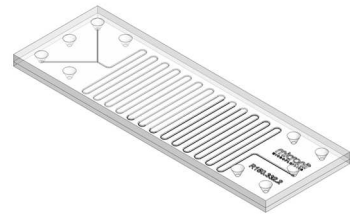


Microfluidic droplet generators are excellent tools for generating highly reproducible microsized droplets with much higher precision and repeatability compared to conventional methods. Two designs are available; a focussed flow and a T-shaped design. Typical droplet sizes are 10-70 micrometer in diameter.

Uncoated droplet generators are suitable for making oil-in-water droplets. The hydrophobic coated droplet generators are suitable for making water-in-oil droplets.

MICROREACTOR CHIPS

Micronit offers 3 different standard microreactor configurations. The microreactor chips have two inlets and one outlet. Two fluids can be injected separately and will mix by diffusion, without turbulence. The chemical reaction time of the fluids is determined by the pressure or the channel length. The FC_R50.332.3 has a thin 145 micrometer bottom plate making it suitable for confocal microscopy.

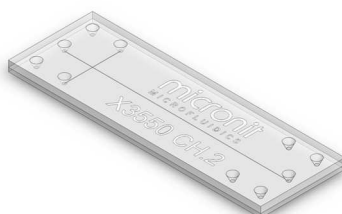
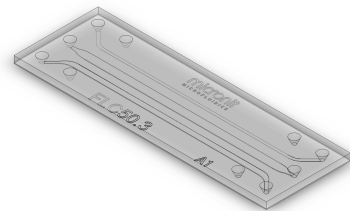


MICROMIXER CHIPS

Triple layer chips offering very short mixing times, ideally mixed conditions and efficient mixing even at low pressures. Use the tear-drop mixer for mixing of fluids with low Reynolds numbers ($Re < 100$) and the swirl mixer for high Reynolds numbers ($Re > 50$).

FLOWCELLS

These thin bottom flowcells are ideal for experiments such as cell, particle or DNA imaging. The thin 145 micrometer bottom plate of the FC_FL50.3 making it suitable for confocal microscopy.



CROSS CHANNEL CHIPS

Microfluidic chips with two channels crossing each other. Also suitable for focused flow applications or droplet generation. The FC_X3550CH.3 has a thin 145 micrometer bottom plate making it suitable for confocal microscopy.

COMBINATION PACKS

Do you want to test different chips? These combination packs are an efficient solution to start your microfluidics experiments with different microfluidic chips.

	Product Description	Contains	Number of Chips	Price
FC_MRPACK_2	Microreactor Pack	2 x FC_R150.332.2_PACK 2 x FC_R150.676.2_PACK	12	€ 595
FC_DGPACK_2	Droplet Generator Pack	1 x FC_FFDG.2_PACK 1 x FC_TSDG.2_PACK	4	€ 560
FC_DGPACK_C_2	Droplet Generator Pack Coated	1 x FC_FFDG.2_C_PACK 1 x FC_TSDG.2_C_PACK	4	€ 895
FC_MXPACK_2	Micromixer Pack	1 x FC_SW11_PACK 1 x FC_TD26_PACK	4	€ 560
FC_TBPACK_2	Thin Bottom Chip Pack	1 x FC_R50.332.3_PACK 1 x FC_FLC50.3_PACK 1 x FC_X3550.3_PACK	9	€ 785
FC_FCPACK_2	Fluidic Chip Pack	1 x FC_TSDG.2_PACK 1 x FC_R150.332.2_PACK 1 x FC_TD26_PACK 1 x FC_X3550CH.2_PACK	10	€ 895

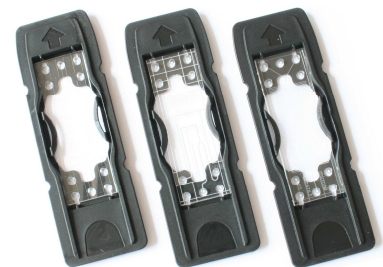
FLUIDIC PRO

Micronit Microfluidics BV does not only offer standard products, but also customized microfluidic chips. An affordable way of ordering custom chips compatible with your Fluidic Connect chip holder is to have them developed according to the Fluidic PRO prototyping service. A few design guidelines will reduce the cost and speed up the delivery time.

The Fluidic PRO prototyping service allows your microfluidic designs to be manufactured in a class 100 cleanroom by professionals. Fluidic PRO enables you to stay focussed on your research. It saves you time both in design and lab hours, speeds up your research, makes you more productive and allows you to publish sooner.

Fluidic PRO offers maximum freedom through a wide range of possibilities.

- Customized designs
- Glass or fused silica
- Wide range of channel depths and widths
- Thick- or thin-bottom chips, suitable for confocal microscopy
- Integrated electrodes
- Up to 4 different designs per batch
- Small batches starting with only 12 chips



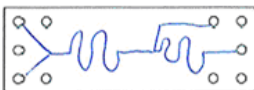
With 10 years of experience in microfluidic chip manufacturing for science and industry, Micronit is the perfect partner to outsource your microfluidic chip needs.

Standard options include;

- Single depth etched
- Single depth etched with thin bottom
- Single depth etched with electrodes
- Double depth etched
- Fused silica single depth etched
- Single depth powderblasted

How to proceed?

- Make up to 4 different designs of a desired channel layout. These can be presented as CAD designs but simple sketches or just wording is also fine.
- Contact the Micronit Microfluidics BV sales team to discuss your requirements and receive a quotation.
- After you have placed the order our microfluidics design experts will transform your designs to CAD designs. We will send the designs back to you for a final check, and after your approval we will start processing.
- After 3 to 4 weeks, you will receive your chips and you can start your research.



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MICROFLUIDICS



CHIP ELECTROPHORESIS

CHIP ELECTROPHORESIS KIT

EOF KIT 9015

EOF Kit 9015 is an on-chip electrophoresis kit suitable for applications requiring electro-osmotic flow (EOF) in combination with optical or fluorescence detection. The kit enables to carry out capillary electrophoresis experiments based on EOF.

The kit contains 2 glass microchips, a chip holder and high voltage cables. The bottom of the holder is open, making it possible to put it on an inverted microscope for optical inspection or detection.

CE Chips

The EOF kit 9015 is compatible with all Micronit standard CE chips without integrated electrodes. Standard, the kit is supplied with one chip X3550 and one chip T8050.

High Voltage

Four high voltage leads are permanently attached onto the chip holder. The cables are supplied with SHV-BNC plugs, that can be connected directly to a high voltage sequencer or compatible high voltage power supply. The integrated safety interlock switch ensures that the high voltage sequencer cannot be started without the cover placed on the holder



Dimensions (without cables)	127 x 85.5 x 28 mm, suitable for use with microscopes accepting microtiterplates
Materials	Stainless steel bottom plate, POM cover block
Wetted materials	POM (black) Viton Platinum Borosilicate glass (CE chip)
Max. continuous operating temp.	80 °C
Capacity of the wells	300 µl
Min. volume required in the wells	20 µl
Maximum separation voltage	6 kV

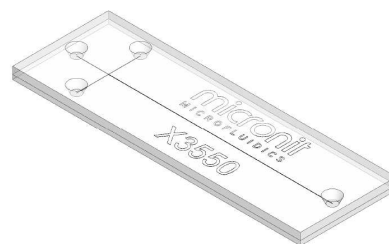
Product Code	Description	Price
EOF9015	Capillary Electrophoresis Kit	€ 2,950

The EOF9015 Capillary Electrophoresis Kit is compatible with standard Micronit CE microfluidic chips and with customized chips in the Fluidic PRO platform.

CAPILLARY ELECTROPHORESIS CHIPS

SHORT CHANNEL CE CHIPS

Capillary Electrophoresis (CE) Chips with either double T or cross injection. Separation length of 35 mm.



	Type of Injection	Separation Length (mm)	Channel Width (µm)	Channel Depth (µm)	Quantity per pack	Price
CH_T3550_PACK	Double T	30	50	20	3	€ 225
CH_X3550_PACK	Cross	30	50	20	3	€ 225

LONG CHANNEL CE CHIPS

Capillary Electrophoresis (CE) Chips with either double T or cross injection. Separation length of 80 mm.



	Type of Injection	Separation Length (mm)	Channel Width (µm)	Channel Depth (µm)	Quantity per pack	Price
CH_T8050_PACK	Double T	80	50	20	2	€ 250
CH_X8050_PACK	Cross	80	50	20	2	€ 250

MICROREACTORS

MILLILITER REACTOR

Microreactor technology (MRT) or flowchemistry is an upcoming technology in the pharmaceutical industry and fine-chemistry. The excellent mass- and heat-transfer properties of microreactors give this technology many advantages over batchwise chemistry:

- Higher yield and selectivity
- Inherently safer processes
- Straight forward scaling-up
- Continuous production possible
- Improved reactor control
- Enables new chemistry



CONNECTION FRAME 1507

The connection frame 1507 is compatible with microreactors of 15 cm x 7 cm. The connection block is made of high grade durable stainless steel (Hastelloy) to prevent corrosion. The aluminium frame protects the glass reactor during use in the lab. It can easily be connected to peripheral equipment such as HPLC pumps or syringe pumps with Connection Kit 1507.

Operating range (pressure)	0 - 10 bar / 0 - 145 psi
Maximum working temperature	max 80 °C (teflon connections)
Dimensions	15 x 7.5 x 2 cm
Material	connection block: Stainless steel frame: Aluminium

Product Code	Description	Price
MR_FRAME_1507	Connection Frame 1507	€ 995

CONNECTION KITS 1507

Contains five meter teflon tubing (1/4" - 28 UNF), five ferrules, and five nuts. The force necessary to tighten the fittings is regulated by the nuts themselves this prevents over tightening.

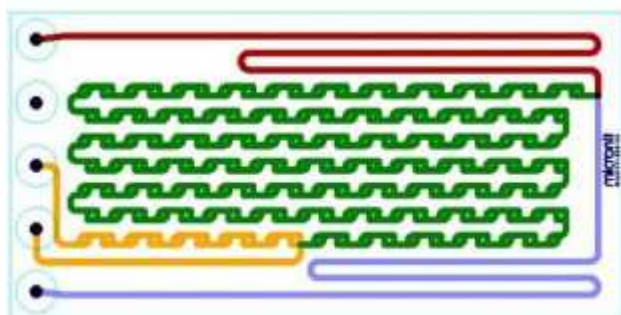


Product Code	Description	Price
FC_KIT_TF	Connection Kit (1507)	€ 150

MICROREACTOR 1507

The Microreactor 1507 features two inlets for reagents and one for a quench. When the quench is not in use it can be blocked. Static split and recombine structures facilitate mixing at low Reynolds numbers creating almost instant mixing and excellent heat and mass transfer.

Product Code	Operating Pressure (bar)	Internal Volume (ml)	Channel Width (mm)	Channel Depth (mm)	Price
FC_1507.4_MXQ_01	10	2.4	1.5	1.1	€ 1500



WELL-PLATES

ALL-GLASS WELL PLATES

All-glass well plates on microscope slide format. (1 x 3 inch). The spacing is equal to that of a 384 well plate making it compatible with standard pipetting equipment and readers.

The well plates are chemical resistant and optical clear.



	Number of wells	Well depth (mm)	Well Volume (µl)	Array spacing (mm)	Quantity per pack	Price
CH_MPG48.1	48	2	12	4.5	10	€ 510