Chip Compatibility Guide

Overview of chip formats supported by the modular integration concept of **VitroFlow**

Chamber Overview

The chamber uses a modular **inlay system** to securely hold microfluidic chips of different geometries.



1 Upper inlay part
2 Chip Slot
3 Lower inlay part
4 Base

Each chip is fixed between two custom-designed inlays:

Lower inlay
Provides the primary chip support and alignment

Upper inlay
Presses the chip into position and ensures mechanical stability

Together, the inlays hold the chip firmly in place when inserted into the chamber base.

A key advantage of this design is its **flexibility**: The inlays can be freely designed and adapted to accommodate different chip geometries, channel layouts, or tubing connections.

Chip Integration

Chip formats can be evaluated for integration into the VitroFlow platform through a modular customization process. Depending on the chip geometry and fluidic interfaces, individual adaptations and technical testing may be required.

1 Dimension Check

The chip dimensions are evaluated. Chips with standard microscope slide dimensions typically fit directly into the standard chamber base.

2 Inlay Design

Custom upper and lower inlays are designed to match the chip geometry and fluidic interfaces.

3 Manufacturing

The inlays are manufactured. Typical design-to-delivery time is approximately one month.

4 Tubing Requirements

Information about tubing diameter, connectors, and inlet/outlet positions is required to ensure proper integration.

Note: *The chip formats listed in this guide represent potential integration options based on their design and the modular architecture of the VitroFlow platform. Listing does not imply that a chip has been physically integrated, technically tested, or biologically validated. Compatibility and any required adaptations are assessed individually for each chip format and application.*

1 Ibidi GmbH

Product name	Article / Catalog No.
µ-Slide I Luer	80176
sticky-Slide I Luer	80168
µ-Slide I Luer 3D	87176
µ-Slide I	80106
µ-Slide VI 0.1	80666
µ-Slide VI	80606
µ-Slide VI 0.4 Bioinert	80600
sticky-Slide VI 0.4	80608
µ-Slide VI - Flat	80626
µ-Slide VI 0.4 µ-Pattern ibiTreat, cir500, pit1000, hex	83613
µ-Slide VI 0.4 µ-Pattern ibiTreat, sqr30, pit75, hex	83611
µ-Slide VI 0.4 µ-Pattern ibiTreat, cir200, pit600, hex	83612
µ-Slide VI 0.4 µ-Pattern ibiTreat, lin20, pit170	83614
µ-Slide III 3D Perfusion	80376
µ-Slide Spheroid Perfusion	80350
sticky-Slide Tissue Engineering	80238
µ-Slide Tissue Engineering	80236
µ-Slide ibiPore SiN	85226-S
µ-Slide Chemotaxis	80326
sticky-Slide Chemotaxis	80328
µ-Slide III 3in1	80316

Listed chip formats are candidates for integration and have not necessarily undergone individual technical verification.

Product name	Article / Catalog No.
µ-Slide y-shaped	80126
Smart Slide	80816
Custom µ-Pattern ibiTreat	Varies by configuration

2 MicrofluidicChipShop

Product name	Article / Catalog No.
Straight Channel Chip, H 150 µm, W 2500 µm channel Fluidic 268	10001849
Straight channel chip, H 350 µm, W 2100 µm channel Fluidic 561	10000535
Straight channel chip, H 700 µm, W 1250 µm channel Fluidic 558	10000541
Straight channel chip, H 700 µm, W 2400 µm channel Fluidic 556	10000565
Straight channel chip, H 350 µm, W 2775 µm channel Fluidic 560	10000571
Straight Channel Chip, H 100 µm, W 100 µm channel Fluidic 157	10001810
Straight Channel Chip, W 2910 µm, H 100 µm channel Fluidic 431	10001811
Straight Channel Chip , H 20 µm, W 20 µm channel Fluidic 143	10001807
Straight Channel Chip , H 100 µm, W 100 µm channel Fluidic 144	10001815
Straight Channel Chip , H 50 µm, W 50 µm channel Fluidic 145	10001814
Straight Channel Chip , H 200 µm, W 200 µm channel Fluidic 156	10001816
Meander Chip, Fluidic 708	10001976
Meander Chip, Fluidic 243	10000011
Meander Chip, Fluidic 65	10000007
Cross-Shaped Channel Chip, W 80 µm, H 80 µm channel, Fluidic 161	10001860

Product name	Article / Catalog No.
Cross-Shaped Channel Chip, W 50 µm, H 50 µm channel, Fluidic 160	10001866
H-Shaped Channel Chip, H 75 µm, W 75-300 µm co-flow, Fluidic 164	10001851
Straight Channel Chip, H 20 µm, W 800 µm channel Fluidic 180	10001819
Straight Channel Chip, H 200 µm, W 1000 µm channel Fluidic 138	10001818
Straight Channel Chip, H 100 µm, W 200 µm channel Fluidic 142	10001812
Straight Channel Chip, H 200 µm, W 1000 µm channel Fluidic 152	10001813
Straight Channel, Fluidic 620	10001884
Straight Channel, Fluidic 527	10000437
Straight Channel Chip, Fluidic 625	10000767
Sorting and Flow Focusing Chip, Fluidic 386	10001824
Sorting and Flow Focusing Chip, Fluidic 283	10001822
Sorting and Flow Focusing Chip, Fluidic 1102	10001913
Sorting and Flow Focusing Chip, Fluidic 381	10001823
Straight Channel Chip, H 100 µm, W 500 µm channel Fluidic 1412	10001920
Cross-Shaped Channel Chip, W 50 µm, H 50 µm channel, Fluidic 160	10001866
Channel array chip, Fluidic 1340	10002056
Splitter Chip, Four to eight fractions, Fluidic 532	10001328
Splitter Chip, Two to four fractions, Fluidic 1537	10001987
Straight channel chip, H 200 µm, W 1500 µm channel, Fluidic 1023	10002046
Sorting and Flow Focusing Chip, Fluidic 1557	10001997
Adhesive Straight Channel Chip, H 200+140 µm, W 1000 µm channel, Fluidic 138	10000313
Adhesive Straight Channel Chip, H 150+140 µm, W 2500 µm channel, Fluidic 268	10000376

Product name	Article / Catalog No.
Adhesive Waste Chamber Chip, Double Channel Fluidic 272	10001870
Self-Sealing Chip, Reversible sealing, Fluidic 745	10001054
Volume Test Chip, With one channel, Fluidic 1474	10002059
Straight Channel Chip, H 80 µm, W 2000 µm channel Fluidic 1666	10002146
Volume Test Chip, with three channels, Fluidic 1475	10002060
Metrics Golden Standard Chip, Fluidic 1575	10002162
Cell trap chip II, Single cell monitoring, Fluidic 1022	10002075
Assay Chip, Piercing elements at the interfaces, Fluidic 638	10001213
Channel Interaction Chip, Cell-cell interaction and more, Fluidic 98	10001345
Chamber Interaction Chip, Direct chamber interconnection, Fluidic 688	10001055
Chamber Interaction Chip, Indirect chamber interconnection, Fluidic 737	10001059
Crossflow membrane chip, Organ-on-Chip and more Fluidic 480	10000284
Adhesive Cross-Flow Membrane Chip, Organ-on-Chip and more, Fluidic 653	10002210
Cross-Flow Membrane Chip, Organ-on-Chip and more Fluidic 653	10001561
Cross-Flow Membrane Chip, Multi-Organ-on-Chip Fluidic 747	10001018
Cross-Flow Membrane Chip, 3D printing application Fluidic 1754	10002206
Cross-Flow Membrane Chip, With Luer and Mini Luer interfaces, Fluidic 568	10001200
Cross-Flow Membrane Chip, Gravitiy-driven flow option, Fluidic 694	10002043
Cross-Flow Membrane Chip, Large membrane interaction area, Fluidic 846	10001122
Reaction Chamber Chip, Various chamber volumes/depths, Fluidic 621	10001886
Cross-Flow Membrane Chip, 3D Printing application, Fluidic 1754	10002257

Product name	Article / Catalog No.
Reaction Chamber Chip, Various chamber volumes/depths, Fluidic 622	10001888
Reaction Chamber Chip, 20 µl chamber volume Fluidic 584	10001294
Reaction Chamber Chip, 2.5 µl chamber volume Fluidic 843	10001264
Reaction Chamber Chip, 5 µl chamber volume, Fluidic 750	10001037
Reaction Chamber Chip, 10 µl chamber volume, Fluidic 585	10001268
Reaction Chamber Chip, 50 µl chamber volume Fluidic 842	10001031
Reaction Chamber Chip, 20 µl chamber volume Fluidic 559	10000560
Reaction Chamber Chip, 50 µl chamber volume Fluidic 557	10000577
Reaction Chamber Chip, 27 µl chamber volume Fluidic 1003	10001326
Reaction Chamber Chip, 20 µl chamber volume Fluidic 478	10001882
Reaction Chamber Chip, Various chamber volumes/depths, Fluidic 1100	10001505
Reaction Chamber Chip, Various chamber volumes/depths, Fluidic 1101	10001507
Rhombic Chamber Chip, 120 µl chamber volume Fluidic 172	10001820
Rhombic Chamber Chip, 100 µl chamber volume Fluidic 221	10001808
Rhombic Chamber Chip, 250 µl chamber volume Fluidic 194	10001809
Rhombic Chamber Chip, 500 µl chamber volume Fluidic 844	10001907
Rhombic Chamber Chip, 500 µl chamber volume Fluidic 845	10001909
Rhombic Chamber Chip, 6 µl chamber volume Fluidic 132	10001821
Rhombic Chamber Chip, 10 µl chamber volume Fluidic 439	10001880
Rhombic Chamber Chip, 20 µl chamber volume Fluidic 131	10001876
Rhombic Chamber Chip, 24 µl chamber volume Fluidic 133	10001874

Product name	Article / Catalog No.
Reaction Chamber Chip, 50 µl chamber volume Fluidic 1066	10001485
Shallow Chamber Chip, 44 µl chamber volume Fluidic 1273	10001682
Reaction Chamber Chip, Various chamber volumes Fluidic 134	10001853
Reaction Chamber Chip, 20 µl chamber volume Fluidic 1068	10002076
Reaction Chamber Chip with pre-heating Channel 30 µl chamber volume, Fluidic 992	10001339
Barrier Chamber Chip, 7 µm barrier height Fluidic 1329	10002089
Chamber Chip with Pipetting Interface, Various chamber depths, Fluidic 1495	10002063
Split chamber chip, Ten fractions Fluidic 516	10001445
Split Chamber Chip, Three fractions Fluidic 1060	10002047
PCR Chamber Chip, Splitter Unit, With dead-end air reservoirs, Fluidic 675	10000783
PCR Chamber Chip, Splitter Unit, With dead-end air reservoirs, Fluidic 683	10000786
Reaction Chamber Chip, Interconnected chambers Fluidic 753	10001266
Multi-Directional Chamber Chip, 200 µm to 1000 µm chamber height, Fluidic 1805	10002263
Herringbone Mixer, Mixing and NP production Fluidic 187	10000019
3D Serpentine Mixer, Effective mixing of up to 3 fluids Fluidic 1079	10001477
Pearl-Chain Mixer, Passive mixing on chip Fluidic 658	10001532
Stir bar mixer, Active micromixing Fluidic 286	10001803
Snowman Mixer, Dilute preloaded 5 µl sample Fluidic 1108	10001502
Finger Pump Mixer, Enhanced pearl-chain mixer Fluidic 999	10001330
Herringbone mixer, Mixing and NP production Fluidic 1460	10001931
Baffle Mixer, Mixing and NP production Fluidic 1676	10002153

Product name	Article / Catalog No.
Tesla Mixer, Channel variation Fluidic 1677	10002165
Phaseguide mixer, Passive mixing on chip Fluidic 533	10000553
Micro Vortex Mixer, Mixing of 2 fluids Fluidic 640	10001899
Micro Vortex Mixer, Mixing of 2 fluids Fluidic 641	10001901
Micro Vortex Mixer, Mixing of 2 fluids Fluidic 642	10001911
Herringbone Multiplex Mixer, Mixing and NP production, Fluidic 1826	10002278
Droplet Generator with Single Cross, 10 µm to 30 µm nozzles, Fluidic 947	10001972
Droplet Generator with Single Cross, 50 µm to 80 µm nozzles, Fluidic 440	10000040
Droplet Generator with Single Cross, 80 µm nozzles Fluidic 912	10001985
Droplet Generator with Single Cross, 38 µm nozzles Fluidic 537	10000466
Droplet Generator with Double Cross, 38 µm nozzles Fluidic 536	10000433
Droplet Generator with Double Cross, 100 µm nozzles Fluidic 1032	10001334
Droplet Generator with Double Cross, 70 µm nozzle Fluidic 162	10000005
Droplet Generator with Double Cross, 140 µm nozzle Fluidic 163	10000006
Droplet Generator with Storage Units, 74 µm nozzle Fluidic 488	10000510
Droplet Generator with Storage Units, 82 µm nozzle Fluidic 719	10000751
Droplet Generator, Various designs on one chip Fluidic 285	10000175
Droplet Generator with Monitoring Chamber, 50 µm and 60 µm nozzles, Fluidic 1114	10001753
Droplet Generator with Monitoring Chamber 70 µm and 80 µm nozzles, Fluidic 1147	10001754
Droplet Generator with Double Cross 60 to 80 µm nozzles, Fluidic 1480	10002061

Product name	Article / Catalog No.
Droplet Generator with Double Cross, 50 µm nozzles Fluidic 1505	10002065
Droplet Generator with Single Cross, 150 µm to 300 µm nozzles	10002173
Multinozzle Droplet Generator, 26 parallel 20 µm nozzles, Fluidic 1582	10002137
Droplet Generator with Double Cross, 20 µm and 40 µm nozzles, Fluidic 1755	10002214
Simultaneous Droplet Generator, 20 µm to 50 µm nozzles, Fluidic 1751	10002220
Slow Motion Droplet Generator, 11 µm to 44 µm nozzles, Fluidic 1750	10002218
Droplet generator with monitoring chambers 20 µm to 50 µm nozzles, Fluidic 1749	10002203
Droplet Generator with Monitoring Channel, 60 µm to 120 µm nozzles, Fluidic 1789	10002255
Overflow Cell Culture Chip, For suspension cells/constructs, Fluidic 1600	10002156
Scaffold/3D Culture Integration Chip, Open chip, incl. pressure sens. Tape, Fluidic 1380	10002235
Chamber Interaction Chip, Triple co-culture option Fluidic 782	10002048
C. elegans chip, Organism-on-a-Chip Fluidic 1417	10001859
Zebrafish Chip, Organism-on-a-Chip Fluidic 1371	10001775
Spheroid chip, Spheroid-on-Chip Fluidic 1407	10002013
Diffusion Mixer, Mixing up to 4 fluids by diffusion Fluidic 186	10000075
2D Gradient Generator, Single outlet Fluidic 1166	10001572
Weir-filter chip, 5 µm to 20 µm slits Fluidic 220	10000499
Spiral Sorter Chip, Label-free cell and particle sorting Fluidic 382	10001825
Pillar Chip, Particle sieving and more Fluidic 261	10001817
Open Membrane Chip, Direct access to membrane areas, Fluidic 219	10001069
Plasma Generation Chip, For on-chip analysis Fluidic 973	10001338

Product name	Article / Catalog No.
Plasma Generation Chip, Round and rhombic footprint Fluidic 783	10000981
Plasma Generation Chip, Two rhombic membranes Fluidic 1113	10001525
Plasma Generation Chip, Four round membranes Fluidic 200	10000021
Gradient Generator Chip, Multiple outlets Fluidic 1287	10001737
Filtration and Separation Chip, 8 filtration chambers Fluidic 1332	10001837
Filtration Chip, 4 filtration chambers Fluidic 398	10000022
Field-flow fractionation chip, Fluidic 120	10000334
Field-flow fractionation chip, Fluidic 159	10000296
Gradient Generator Chip, Single outlet Fluidic 1744	10002197
Assay Chip, For metering, mixing and detection Fluidic 429	10000373
Assay chip, For magnetic bead-based assays Fluidic 490	10001981
Trapping chamber chip, 40 µm barrier height Fluidic 1190	10001630
Spiral sorter chip, Blood separation and particle sorting, Fluidic 1775	10002240
Sensor Integration Mixer Chip, Flat sensor integration area, Fluidic 1762	10002236
Sensor integration chip, Basic sensor platform Fluidic 864	10001351
Sensor Integration Chip, Basic sensor platform II Fluidic 1005	10001353
Sensor Integration Chip, Multifunctional sensor platform, Fluidic 862	10001355
Sensor Integration Chip, Large sensor integration area Fluidic 1004	10001358
Sensor Integration Chip, Large sensor integration area II, Fluidic 1012	10001359
Sensor Integration Chip, Turning Valve Sensor Platform I, Fluidic 673	10000795

Product name	Article / Catalog No.
Basic Fiber Sensor Chip Pre- and post-chamber sensor integration	10001500
Sensor Integration Chip Turning valve sensor platform II	10002080
Fiber Sensor Integration Chips Four in-line sensors	10002024
Fiber Sensor Integration Chip Cell culture chambers	10002074
Sensor Integration Chip Turning Valve Sensor Platform 2	10002223
Turning valve test chip Valving strategy evaluation	10000183
Membrane valve chip Fluidic 1367	10002097
Assay Chip Fluidic path control	10000374
Turning Valve Distribution Chip Two independent valve units	10002182
Blister Test Chip 50 µl and 100 µl blister volume	10001305
Blister Test Chip 250 µl blister volume	10001307
Blister Test Chip 500 µl blister volume	10000979
Plasma Generation Chip Four round membranes	10000242

3 Beonchip

Product name	Article / Catalog No.
Be-Flow Standard	N/A
Be-Transflow Standard	N/A
Be-Doubleflow Standard	N/A
Be-Gradient Standard	N/A

4 Dynamic42

Product name	Article / Catalog No.
Biochip BC005	BC005
Biochip BC002	BC002
Biochip BC003	BC003
BC002 with O2-Sensors	N/A
BC002 with TEER Sensors	N/A

5 Micronit

Product name	Article / Catalog No.
Flow cell chip 1.5mm width (uncoated)	11003164
Flow cell chip 1.5mm width (coated)	11006338
Flow cell chip 0.5mm width (uncoated)	11003196
Flow cell chip 0.5mm width (coated)	11006345
Flow cell chip variable width 175um bottom (uncoated)	11003133
Flow cell chip variable width 175um bottom (coated)	11006327
Thin bottom flow cell, 75x25mm, 100 µm	3536
Thin bottom flow cell, 75x25mm, 50µm	3545
H-shaped flow channel, Channel Width 350µm	11003577
H-shaped flow channel, Channel Width 120µm	11003578
Serpentine 45x140µm, 350mm	11003040
Serpentine 140x250µm, 500mm	11003033

Product name	Article / Catalog No.
Serpentine 20x50µm, 342mm	R50.332.3
Cross channel chip	X3550CH.3
Enhanced Oil Recovery (EOR) chip – random network	42005557
Enhanced Oil Recovery (EOR) chip - Uniform network	42005552
Enhanced Oil Recovery (EOR) chip - Physical Rock network	42005587

6 Materize

Product name	Article / Catalog No.
Custom design chip	Varies by configuration

7 AIM Biotech

Product name	Article / Catalog No.
idenTx 3 Chip	DAX-1

8 Enplas

Product name	Article / Catalog No.
Custom design chip	Varies by configuration

9 Epigem

Product name	Article / Catalog No.
Custom design chip	Varies by configuration

10 Pythia Biotech

Product name	Article / Catalog No.
Tumor Microenvironment (TME) Chip	N/A

Note

In addition to the standard chip formats listed here, further chip variants with different pin layouts as well as plate-based solutions can be implemented in our systems. The integration of such formats is typically carried out within the scope of a small development project.

If you are using chip or vessel formats that are not included in this list, please feel free to contact us - **we will be happy to evaluate the feasibility and support the implementation.**

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