



Wands & Manifolds for Microplates

V&P produces a wide variety of wands and manifolds to [aspirate](#) or [dispense](#) sterile media, assay buffers and other liquids into standard or deep well microplates. We also make manifolds to [evaporate](#) liquids. The wands and manifolds are constructed of rugged clear [polycarbonate*](#) or polypropylene (black or white) and stainless steel tubes. The single bore wands are autoclaveable and come with either tapered or female luer ends. For sterile dispensing in 96, 96 deep well, 384 and 1536 well microplates see our [Dispensing Manifold page](#). We also offer polypropylene wands (black) which are organic solvent resistant. The photo to the right illustrates just a few of our total collection. Please scroll down the page to see a description of our complete collection of single bore wands and manifolds.



The polycarbonate* **manifolds** are not autoclaveable and have female luer connectors. We also offer polypropylene manifolds (black) which are autoclaveable and resistant to organic solvents like DMSO. The manifolds have been developed for 24, 48, 96 and 384 well microplates as well for Gen-Probe assay plates and vials. It is very easy to attach these manifolds to an aspiration line by simply cutting off the finger tangs of a 1 to 3 ml plastic syringe then slipping your vacuum line over the syringe barrel and connecting the female Luer on the manifold to the syringe nozzle. We also make custom manifolds for aspirating deep well plates and micro-centrifuge tubes.



It is very easy to attach these manifolds to an aspiration line by simply cutting off the finger tangs of a 1 to 3 ml plastic syringe then slipping your vacuum line over the syringe barrel and connecting the female Luer on the manifold to the syringe nozzle as shown in the photo on the right. Another solution is to use Male Luer Lok fittings to connect to the hose system.



We are now providing male Luer Lok fittings with 3 different sized hose barb connectors (5/32" - 4 mm, 3/16" - 4.75 mm and 1/4" - 6.25 mm) at no extra charge with each Luer Lok equipped manifold and wand we sell. We do everything we can to make it easy for our customers.



[Click here](#) for a list of published articles that cite using the products on this page.

[Download Video](#)
([mpeg movie- 22.0MB](#))

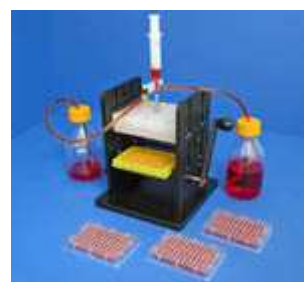
VP 177AD

We make several different styles of dispensing manifolds for microplates. The economy version shown on the right is compatible with 96 standard and 96 deep well microplates. It is capable of dispensing sterile media. Follow this link for more information about the [VP 177AD](#) system.



VP 178BJD

The VP 178BJD dispensing manifold shown on the right is mounted in the VP 179A jig for precise X, Y and Z location. This system provides a simple and stable platform that is capable of filling 96, 96 deep well and 384 well microplates. It is capable of dispensing sterile media. Follow this link to the [VP 178BJD](#) for more information.



VP 195J

The VP 195J Multi-Spense dispensing manifold is shown on the right filling a 96 deep well microplate. The plate is manually moved between the two dispensing wands. This system provides a simple and stable platform that is capable of filling 96, 96 deep well and 384 well microplates. It is capable of dispensing sterile media. Follow this link to the [VP 195J](#) for more information.



VP 178A

We make several different styles of aspirating manifolds for microplates. The economy version shown on the right is compatible with 96 standard and 96 deep well microplates and is adjustable in the X axis only. Follow this link for more information about the [VP 178A](#) system.



VP 177A

The Z adjustable economy version shown on the right is compatible with 96 standard and 96 deep well microplates and is adjustable in both Z and X axis. Follow this link for more information about the [VP 177A](#) system.



VP 178BJ

The aspirating manifolds shown on the right are all designed to be mounted in the VP 179A jig for precise and adjustable X, Y and Z location. This system provides a simple and stable platform that is capable of aspirating 96, 96 deep well and 384 well microplates. Follow this link to the [VP 178BJ](#) for more information.



Center to Center spacing of needles

The center to center needle spacing of the wands and manifolds accommodate all, 96, 384 and 1536 microwell plates as these plates are built to the SBS standards of 9 mm, 4.5 mm and 2.25 mm center to center spacing. Unfortunately the center to center well spacing on the 24 and 48 well microplates varies between manufactures. Please check your plate's center to center spacing to make sure it is compatible with the 24 and 48 Manifolds' spacing we offer.



20 Well Plates:

VP 182DP-1

5 channel manifold, 19 gauge needles,
65 mm long, 15 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



VP 182DP

5 channel manifold, 19 gauge needles,
65 mm long, 15 mm center to center spacing
Polypropylene barrel

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



24 Well Plates:

VP 182

6 channel manifold, 19 gauge needles,
19 mm long, 20 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 182C

6 channel manifold, 19 gauge needles,
49 mm long, 20 mm center to center spacing for COSTAR 3524 plates

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 182D

4 channel manifold, 19 gauge needles,
49 mm long, 20 mm center to center spacing for COSTAR 3524 plates

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 182E

6 channel manifold with female luer,
19 gauge needles, 14 mm long, 20 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 182F

6 channel manifold, 19 gauge needles,
65 mm long, 20 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



48 Well Plates:

VP 181

6 channel manifold, 19 gauge needles,
19 mm long, 13.4 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 188

8 channel manifold with female luer, 19 gauge needles,
19 mm long, 13.4 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 188A

8 channel manifold with female luer,
19 gauge needles, 49 mm long,
13.1 mm center to center spacing, for COSTAR 3548 plates

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 188B

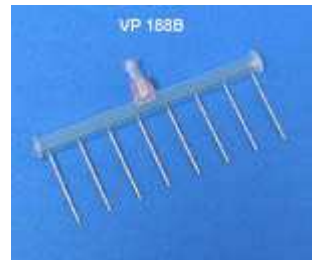
8 channel manifold with female luer,
19 gauge needles, 32 mm long,
13.4 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

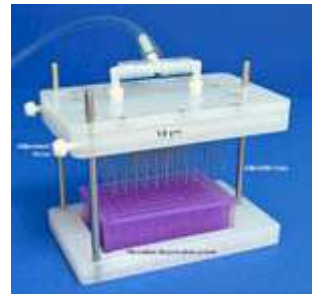
[Care for Polycarbonate Wands and Manifolds](#)



96 Well Plates:

[VP 177](#)

96 channel evaporation manifold with adjustable Z height,
19 gauge needles, 42 mm long, 9 mm center to center spacing



[VP 177A](#)

96 channel aspiration manifold with adjustable Z height,
19 gauge needles, 42 mm long, 9 mm center to center spacing



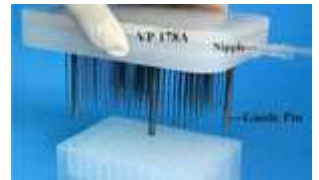
[VP 177AD](#)

96 channel dispense manifold with adjustable Z height,
19 gauge needles, 42 mm long, 9 mm center to center spacing



[VP 178A](#)

96 channel aspiration manifold with fixed Z height,
19 gauge needles, 42 mm long, 9 mm center to center spacing



VP 178BJ

96 channel aspiration manifold jig compatible,
20 gauge needles, 14 mm long, 9 mm center to center spacing



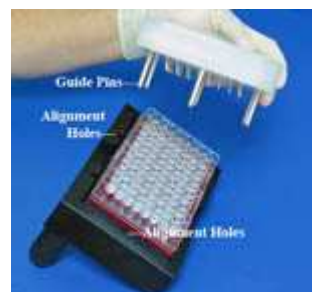
VP 178BJD

96 channel dispense manifold jig compatible,
20 gauge needles, 14 mm long, 9 mm center to center spacing



VP 178D

96 angled channel aspiration manifold with fixed Z height,
19 gauge needles, 12.6 mm long, 9 mm center to center spacing



VP 178J

96 channel aspiration manifold jig compatible,
19 gauge needles, 42 mm long, 9 mm center to center spacing



VP 178JD

96 channel dispense manifold jig compatible,
19 gauge needles, 42 mm long, 9 mm center to center spacing



VP 178EJ

96 angled channel aspiration manifold jig compatible,
19 gauge needles, 12.6 mm long, 9 mm center to center spacing



VP 180

8 channel manifold with female luer,
19 gauge needles, 14 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Product Report](#)

[Care for Polycarbonate Wands and Manifolds.](#)



****NEW****

VP 180A

8 channel manifold with female luer,
19 gauge needles, 30 mm long, 9 mm center to center spacing
used in [BD Cytometric Bead Array assay](#)

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds.](#)



****NEW****

VP 180B

8 channel manifold with female luer,
19 gauge needles, 63.5 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

VP 180I

8 channel wand,
19 gauge needles, 7 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Manifolds](#)

VP 183

4 channel wand,
20 gauge needles, 14 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

VP 184

8 channel wand,
20 gauge needles, 14 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Product Report](#)
[Care for Polycarbonate Wands and Manifolds](#)

VP 185-1

12 channel wand,
20 gauge needles, 14 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

VP 185L-1

12 channel wand with female luer,
21 gauge needles, 11 mm long, 9 mm center to center spacing
for use on the [Multi-Spense system](#).

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

****NEW****

VP 185LA

12 channel wand with female luer,
20 gauge needles, 11 mm long, 9 mm center to center spacing
overall wand length = 130 mm (short version)

This wand was designed to fit into the smallest possible space unlike the VP 185-1 and VP 185L shown above, this wand has an overall wand length of only 130 mm.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

****NEW****

[VP 185BP](#)

12 channel wand for aspirating organic solvents from Deep Well Microplates,
Polypropylene barrel 19 gauge needles, 46 mm long, 9 mm center to center spacing
***** Solvent resistant**

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polypropylene Manifolds](#)

[VP 187](#)

12 channel manifold with female luer,
19 gauge needles, 14 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



[VP 187A](#)

12 channel [manifold for deep well plates](#) with female luer,
19 gauge needles, 35 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



[VP 187B](#)

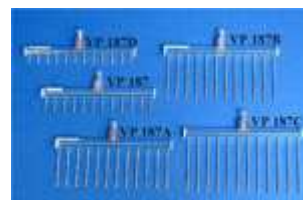
12 channel [manifold for deep well plates](#) with female luer,
19 gauge needles, 44 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



****NEW****

[VP 187BP](#)

12 channel manifold for deep well plates with female luer,
19 gauge needles, 30 mm long, 9 mm center to center spacing
*** Solvent resistant

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



[VP 187C](#)

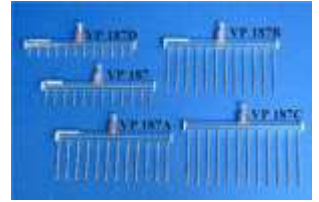
12 channel [manifold for deep well plates](#) with female luer,
19 gauge needles, 49 mm long, 9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



****NEW****

[VP 187D](#)

12 channel manifold for aspirating supernatants from round bottom plates,
19 gauge needles, 7 mm long, 9 mm center to center spacing

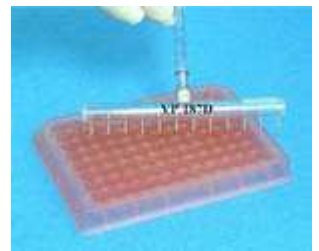
Used in the [BD Biosciences Cytokine Flow Cytometry of PBMCs Protocol](#).

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



384 Well Plates:

[VP 179BJ](#)

384 channel aspiration manifold, jig compatible,
23 gauge needles, 13 mm long, 4.5 mm center to center spacing



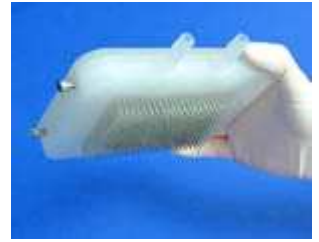
[VP 179BJD](#)

384 channel dispense manifold, jig compatible,
23gauge needles, 13 mm long, 4.5 mm center to center spacing



[VP 179CJ](#)

384 channel aspiration manifold, jig compatible,
20 gauge needles, 13 mm long, 4.5 mm center to center spacing



VP 186L-1

24 channel wand with female luer,
21 gauge needles, 11 mm long, 4.5 mm center to center spacing
for use on the [Multi-Spense system](#)

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



****NEW****

[VP 186LP](#)

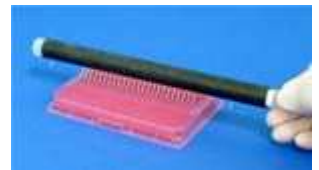
24 channel polypropylene wand with female luer,
21 gauge needles, 11 mm long, 4.5 mm center to center spacing
for use on the [Multi-Spense system](#)

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 189L

16 channel wand with female luer,
21 gauge needles, 11 mm long, 4.5 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Product Report](#)
[Care for Polycarbonate Wands and Manifolds](#)



VP 189LP

16 channel manifold for dispensing or aspirating organic solvents (DMSO) to or from 384 Well Microplates, with a 17.18 mm O.D. Polypropylene barrel and 19 gauge tubes 11 mm long. 4.5 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 189M

16 channel manifold with female luer,
20 gauge needles, 14 mm long, 4.5 mm center to center spacing

Also included with each of our female Luer Lok manifolds and wands are 3 male Luer Loks each with different diameter hose barb. The photo on the right illustrates how easy it is to attach our manifolds and wands to tubing of various diameters.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Product Report](#)

[Care for Polycarbonate Wands and Manifolds](#)

1536 Well Plates:

VP 191L

48 channel wand with female luer, 23 gauge needles, 11 mm long, 2.25 mm center to center spacing for use on the [Multi-Spense system](#)

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 190P

32 channel wand for aspirating DMSO from 1,536 well Microplates. 32 needles on 2.25 mm centers with a 17.18 mm O.D. polypropylene barrel. 23 gauge stainless steel needles 7 mm long.

Organic solvent resistant

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



Test Tube Racks:

*****NEW*****

VP 175A - Gen-Probe Rack Dispensing Manifold

10 channel manifold, 19 gauge needles, 9 mm long, on 14 mm centers to dispense liquid to Gen-Probe Racks.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



*****NEW*****

VP 175D - Gen-Probe Rack Dispensing Manifold

8 channel manifold, 16 gauge (Thin Wall - O.D. = 1.65 mm, I.D. = 1.35 mm) 9.6 mm long on 20mm center to center spacing. Channels placed on 4 degree angle to dispense liquid to Gen-Probe Racks.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



Aspiration Manifolds For Deep Well Microplates

VP 187A

12 channel, 19 gauge, 9 mm center to center spacing manifold was designed to aspirate supernatants from different manufactured deep well plates after centrifugation. The 35 mm long channels reach nearly to the bottom of most deep well plates and are perfect for aspirating supernatants.

CV Transfer Results from [Product Report](#)

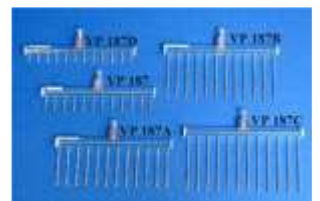
Non-Contact Dispense: CVs < 5%

VP 187B

12 channel, 19 gauge, 9 mm center to center spacing manifold was designed to aspirate supernatants from different manufactured deep well plates after centrifugation. The 44 mm long channels reach the bottom of most deep well plates and are perfect for aspirating supernatants.
9 mm center to center spacing

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



VP 187C

12 channel, 19 gauge, 9 mm center to center spacing manifold was designed to aspirate supernatants from deep well plates after centrifugation. The 49 mm long channels will reach the bottom of most deep well plates. If it doesn't, we will make a longer one for you. We can also make a manifold whose channels do not reach the bottom and therefore do not disturb a centrifuged pellet during aspiration.

The VP 187A, VP 187B and VP 187C may also be used with our adjustable slider [VP 187S](#) to vary the length of the stainless steel tubes and provided a manifold of the exact length for your application

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

Aspiration Manifold for standard round bottom microplates

VP 187D

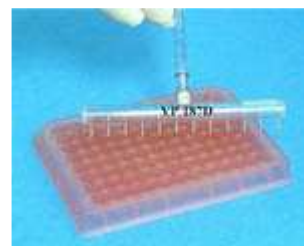
12 channel, 19 gauge manifold, 9 mm center to center spacing with channels 7 mm long was designed to aspirate supernatants after the centrifugation of cells to the bottom of the wells. This aspiration manifold is used in the [BD Biosciences Cytokine Flow Cytometry of PBMCs Protocol](#).

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



Aspiration Manifold and adjustable slider for deep well microplates

VP 180A

8 channel, 19 gauge, 30 mm long, 9 mm center to center spacing manifold was designed to aspirate supernatants from deep well plates after centrifugation without disturbing the pellet. The 30 mm long channels will not reach the bottom of many deep well plates thereby preventing accidental aspiration of the pellet. If it doesn't, we will make a longer or shorter one for your unique application. This manifold is recommended and used in [BD Cytometric Bead Array assay](#)

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)



VP 180B

8 channel, 19 gauge, 63.5 mm long, 9 mm center to center spacing manifold was designed to aspirate from Innovative [Microplate's super deep well plates](#). The 63.5 mm long channels will reach the bottom of the wells and will work on both the 96 and 48 well microplates. If your application is to remove supernatant after centrifugation without disturbing the pellet we show you how to make your own shim for the manifold to keep the channels from going into the pellet - see photo below.

The VP 180A and VP 180B may also be used with our adjustable slider [VP 180S](#) to vary the length of the stainless steel tubes and provided a manifold of the exact length for your application

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polycarbonate Wands and Manifolds](#)

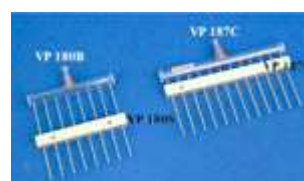


VP 180S and VP 187S

The **VP 180S** and the **VP 187S** are adjustable sliders that allow you to easily adjust the length of the tubing that goes into the well. They are far superior and more flexible than using the shim system described above. Two nylon set screws on each slider allow you to move the slider to any height on the tubes and then lock it into position.

Many of our customers came to us requesting manifolds with different tubing lengths so they could aspirate the wells of microplates without disturbing the pellets of centrifuged cells or other material. As you can see from all the manifolds we sell this was a rapidly growing business, but we would hear complaints that they were too long or too short even though we made them to the customer's specifications. We felt an adjustable slider system would solve this problem and would be a better way to meet this growing demand. The **VP 180S** and **VP 187S** give the bench scientists virtually infinite adjustability that can be done in your lab to meet your changing applications. They are designed for 8 and 12 channel manifolds or wands respectively.

The VP 180S and VP 187S are 9 mm tall so when placed on a manifold or wand they will shorten the apparent length of the tubes by 9 mm, so keep this in mind when selecting a manifold or wand. It is best to use these adjustable sliders with the longest tubes for the greatest range of adjustable lengths. The best choices are the eight tube VP 180B with 65 mm long tubes (adjustable between 56 and 0 mm) and the twelve tube VP 187BP-60 with 60 mm long tubes (adjustable between 51 and 0 mm).



*****NEW*****

Organic Solvent Resistant Manifolds and Wands

VP 180P and VP 180PB

VP 180P - 8 channel manifold for dispensing or aspirating organic solvents (DMSO) to or from 96 Well Microplates, with a 17.18 mm O.D. Polypropylene barrel and 19 gauge tubes, 14 mm long, and 9 mm center to center spacing.

The **VP 180PB** is the same format but the tubing is 61 mm long and is used with the VP 180S adjustable slides to make the aspiration tubes what ever length you want them to be. You no longer have to worry about accidentally aspirating your precious pellet. *** Solvent resistant

These new designs were made possible by the machinists at V&P finding a new way to attach a threaded female Luer fitting to the middle of the polypropylene barrel. Thus opening the way for a new line of polypropylene manifold style aspirators and dispensers.

This manifold style is also autoclaveable

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polypropylene Manifolds](#)

VP 180PA and VP 180PB

The **VP 180PA** is the same format as the VP 180P but the tubing is 30 mm long, 9 mm center to center spacing for aspirating deep well microplates.

The **VP 180PB** is the same format but the tubing is 61 mm long and is used with the [VP 180S](#) adjustable slides to make the aspiration tubes what ever length you want them to be. You no longer have to worry about accidentally aspirating your precious pellet.

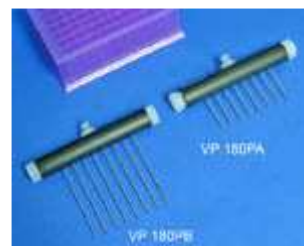
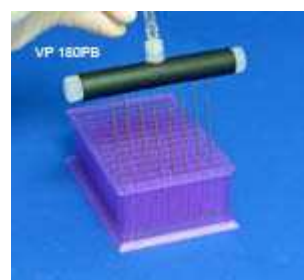
CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%



Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 182DP

5 channel manifold, 19 gauge needles,
65 mm long, 15 mm center to center spacing
Polypropylene barrel

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 185BP

12 channel wand for dispensing or aspirating organic solvents (DMSO) to or from Deep Well Microplates, with a 17.18 mm O.D. Polypropylene barrel 19 gauge needles, 46 mm long, 9 mm center to center spacing **Solvent resistant**

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 187BP

12 channel manifold for dispensing or aspirating organic solvents (DMSO) to or from 96 Well Microplates, with a 17.18 mm O.D. Polypropylene barrel and 19 gauge tubes 30 mm long, 9 mm center to center spacing.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 187BP-60

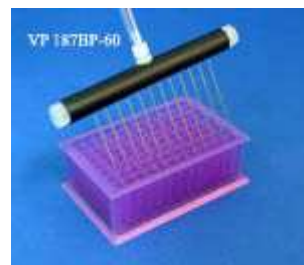
12 channel manifold for dispensing or aspirating organic solvents (DMSO) to or from 96 Well Microplates, with a 17.18 mm O.D. Polypropylene barrel and 19 gauge tubes 60 mm long, 9 mm center to center spacing.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 186LP

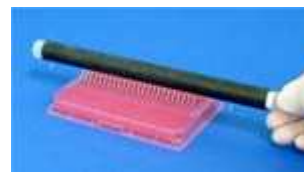
24 channel wand for dispensing or aspirating organic solvents (DMSO) to or from 384 well microplates, with a 17.18 mm O.D. Polypropylene barrel, 21 gauge needles, 11 mm long, 4.5 mm center to center spacing with two locating pins for use on the [Multi-Spense system](#) *Solvent resistant*

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 189LP

16 channel manifold for dispensing or aspirating organic solvents (DMSO) to or from 384 Well Microplates, with a 17.18 mm O.D. Polypropylene barrel and 19 gauge tubes 11 mm long, 4.5 mm center to center spacing.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

[Care for Polypropylene Manifolds](#)



VP 190P

Organic solvent resistant wand for dispensing or aspirating DMSO to or from 1,536 well Microplates. 32 needles on 2.25 mm centers with a 17.18 mm O.D. polypropylene barrel. 23 gauge stainless steel needles 7 mm long.

CV Transfer Results from [Product Report](#)

Non-Contact Dispense: CVs < 5%

Technical Documents:

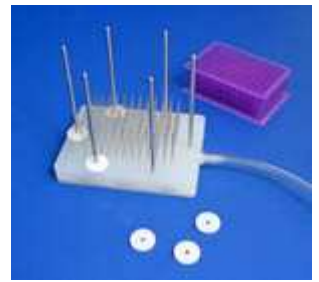
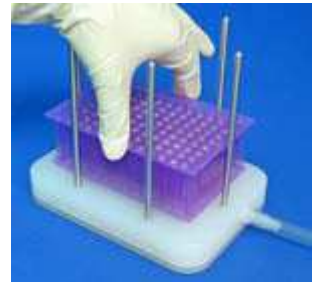
[Care for Polypropylene Manifolds](#)



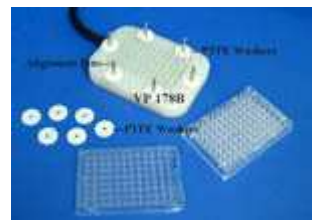
96 Deep Well Microplate Washing Manifold

VP 178 & VP 178B

The price of deep well microplates has many laboratories washing and reusing the microplates over and over. One of our customers asked us to make a washing manifold that could be used in the final deionized water rinse. These manifolds are resistant to acids, bases and organic solvents as they are made with a rugged polypropylene body, stainless steel guide pins and stainless steel tubing. The guide pins form a cage and guide the microplate over the tubes so the alignment of the plates with the tubes is a snap. This manifold has also been modified to be used for aspirating ([VP 177A](#)) ([VP 178A](#)) and dispensing ([VP 177AD](#)) ([VP 178JD](#)) ([VP 178BJD](#))



One of our customers asked us to make a washing manifold that could be used to remove unbound reagents from a monolayer of cells grown on two different microplates each with a different well depth. Our solution was to modify a VP 178 using shorter alignment pins and shorter tubing. The result is the **VP 178B**. By using washers of different thicknesses the height difference between the two plates is easily accommodated. These manifolds are resistant to acids, bases and organic solvents as they are made with a rugged polypropylene body, stainless steel guide pins and stainless steel tubing. The guide pins form a cage and guide the microplate over the tubes so the alignment of the plates with the tubes is a snap.



This manifold has also been modified to be used for aspirating ([VP 178D](#)) and dispensing ([VP 178BJD](#))

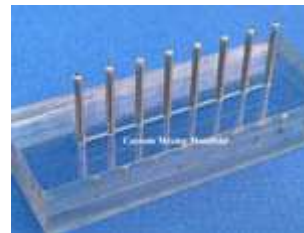


96 Tube Washing Manifold, tube length 45 mm, OD = 1.06 mm, ID = 0.66 mm, 19 gauge, 9 mm center to center spacing	VP 178
96 Tube Washing Manifold, tube length 7 mm, OD = 1.06 mm, ID = 0.66 mm, 19 gauge, 9 mm center to center spacing	VP 178B

Custom Mixing Manifolds

The custom manifold on the right was made for a customer who wanted a miniature mixing chamber with multiple channels and the capability to flush it out. A principle concern was to minimize dead volume loss of precious reagents. Note that the two end tubes (flush and drain) have an ID of 0.89 mm while the precious reagent tubes have an ID of only 0.25 mm. All the tubes are connected by a common micro-groove in the polycarbonate base.

Just one illustration of the ingenuity of our machinists.



Liquid Dispensing:

VP 121

Cornwall Repeating Syringe, designed for transfer of measured repeat doses up to 5 ml. Complete with Cornwall Luer-Lok syringe, metal pipetting holder, filling outfit, including automatic valve, metal sinker and 20" of rubber tubing.



VP 121-1

The VP 121-1 is a new, low cost repeating syringe. With a dispense volume of up to 10mL, you can fill plates accurately and with ease.



Wands and Manifolds Chemical Resistance Compatibility

Made of Polycarbonate

Polycarbonate is not compatible with organic solvents such as DMSO and alcohols. These solvents especially in combination with UV light cause the polycarbonate to develop small cracks.

A table of [polycarbonate chemical resistance](#) is found at this link.

Courtesy of

http://k-mac-plastics.net/data%20sheets/polycarbonate_chemical_resistance.htm

Wands can be autoclaved to sterilize them, manifolds and wands can be chemically sterilized by flushing with 10% bleach, then rinsed well with sterile distilled water.

Made of Polypropylene

Polypropylene is autoclaveable or can be sterilized with a 10% bleach solution. Polypropylene is compatible with organic solvents such as DMSO and alcohols and can be safely used to aspirate or dispense organic solvents.

A table of [polypropylene's chemical resistance](#) is found at this link.

Needle/Tube Gauge Chart

NEEDLE/TUBE GAUGE CHART		
GAUGE	OD	ID
14 gauge	0.081" (2.06 mm)	0.063" (1.6 mm)
16 gauge Thin Wall	0.065" (1.65 mm)	0.053" (1.35 mm)
19 gauge	0.042" (1.07 mm)	0.027" (0.69 mm)
20 gauge	0.0355" (0.90 mm)	0.0235" (0.60 mm)
21 gauge	0.032" (0.81 mm)	0.020" (0.51 mm)
22 gauge	0.028" (0.71 mm)	0.015" (0.39 mm)
23 gauge	0.025" (0.64 mm)	0.013" (0.33 mm)

Legend of Wands and Manifolds

20 Well Block

Part #	Type	# of Channels	Needle Gauge	Needle Length	Description
VP 176	evaporation manifold	20	19	38 mm	20 tube gas evaporation manifold
VP 182D	manifold	5	19	65 mm	5 channel manifold
VP 182DP	manifold	5	19	65 mm	5 channel polypropylene manifold

24 Well Plates

Part #	Type	# of Channels	Needle Gauge	Needle Length	Needle Spacing (center to center)	Description
VP 182	manifold	6	19	19 mm	20 mm	6 channel manifold
VP 182C	manifold	6	19	49 mm	20 mm	6 channel manifold for COSTAR 3524 plates

48 Well Plates

Part #	Type	# of Channels	Needle Gauge	Needle Length	Needle Spacing (center to center)	Description
VP 181	manifold	6	19	19 mm	13.4 mm	6 channel manifold
VP 188	manifold	8	19	19 mm	13.4 mm	8 channel manifold with female luer with female luer
VP 188A	manifold	8	19	49 mm	13.1 mm	8 channel manifold with female luer for COSTAR 3548 plates
VP 188B	manifold	8	19	32 mm	13.4 mm	8 channel manifold with female luer with female luer

96 Well Plates

Part #	Type	# of Channels	Needle Gauge	Needle Length	Description
VP 177	evaporation manifold	96	19	42 mm	96 channel evaporation manifold with adjustable Z height
VP 177A	aspiration manifold	96	19	42 mm	96 channel aspiration manifold with adjustable Z height
VP 177AD	dispense manifold	96	19	42 mm	96 channel dispense manifold with adjustable Z height
VP 178A	aspiration manifold	96	19	42 mm	96 channel aspiration manifold with fixed Z height
VP 178BJ	aspiration manifold	96	20	13 mm	96 channel aspiration manifold jig compatible
VP 178BJD	dispense manifold	96	20	13 mm	96 channel dispense manifold jig compatible
VP 178D	aspiration manifold	96	19	12.6 mm	96 angled channel aspiration manifold with fixed Z height
VP 178J	aspiration manifold	96	19	42 mm	96 channel aspiration manifold jig compatible
VP 178JD	dispense manifold	96	19	42 mm	96 channel dispense manifold jig compatible
VP 178EJ	aspiration manifold	96	19	12.6 mm	96 angled channel aspiration manifold jig compatible
VP 180	manifold	8	19	14 mm	8 channel manifold with female luer

VP 180A	manifold	8	19	30 mm	8 channel manifold with female luer, used in BD Cytometric Bead Array assay
VP 180B	manifold	8	19	63.5 mm	8 channel manifold with female luer
VP 180I	manifold	8	19	7 mm	8 channel manifold with female luer
VP 180P	manifold	8	19	14 mm	8 channel polypropylene manifold with female luer
VP 180PA	manifold	8	19	30 mm	8 channel polypropylene manifold with female luer
VP 180PB	manifold	8	19	61 mm	8 channel polypropylene manifold with female luer
VP 183	wand	4	20	14 mm	4 channel wand
VP 184	wand	8	20	14 mm	8 channel wand
VP 185-1	wand	12	20	14 mm	12 channel wand
VP 185L	wand	12	21	11 mm	12 channel wand with female luer, for use on the Multi-Multi-Multi-Spense system .
VP 185LA	wand	12	20	11 mm	12 channel wand with female luer, overall wand length = 130 mm (short version)
VP 185BP	wand	12	19	46 mm	12 channel wand for aspirating organic solvents from Deep Well Microplates, Polypropylene barrel *** Solvent resistant
VP 187	manifold	12	19	14 mm	12 channel manifold with female luer
VP 187A	manifold	12	19	35 mm	12 channel manifold for deep well plates with female luer
VP 187B	manifold	12	19	44 mm	12 channel manifold for deep well plates with female luer
VP 187BP	manifold	12	19	30 mm	12 channel manifold for deep well plates with female luer *** Solvent resistant
VP 187BP-60	manifold	12	19	60 mm	12 channel manifold for deep well plates with female luer *** Solvent resistant
VP 187C	manifold	12	19	49 mm	12 channel manifold for deep well plates with female luer
VP 187D	manifold	12	19	7 mm	12 channel manifold for aspirating supernatants from round bottom plates, Used in the BD Biosciences Cytokine Flow Cytometry of PBMCs Protocol .

384 Well Plates

Part #	Type	# of Channels	Needle Gauge	Needle Length	Description
VP 179BJ	aspiration manifold	384	23	13 mm	384 channel aspiration manifold, jig compatible
VP 179BJD	dispense manifold	384	23	13 mm	384 channel dispense manifold, jig compatible
VP 179CJ	aspiration manifold	384	20	13 mm	384 channel aspiration manifold, jig compatible
VP 186L	wand	24	21	11 mm	24 channel wand with female luer, for use on the Multi-Spense system
VP 186LP	wand	24	21	11 mm	24 channel polypropylene wand with female luer, for use on the Multi-Spense system ***Organic solvent resistant
VP 189L	wand	16	21	11 mm	16 channel wand with female luer
VP 189LP	manifold	16	19	11 mm	16 channel polypropylene barrel, 19 gauge tubes, 11 mm long, 4.5 mm center to center spacing ***Organic solvent resistant
VP 189M	manifold	16	20	13 mm	16 channel manifold with female luer, 20 gauge needles, 13 mm long

1536 Well Plates

Part #	Type	# of Channels	Needle Gauge	Needle Length	Description
VP 191L	wand	48	23	11 mm	48 channel wand with female luer, for use on the Multi-Spense system
VP 190P	wand	32	23	7 mm	32 channel wand for aspirating DMSO from 1,536 well Microplates. 32 needles on 2.25 mm centers with a 17.18 mm O.D. polypropylene barrel. 23 gauge stainless steel needles 7 mm long. ***Organic solvent resistant

Test Tube Rack Dispensing Manifolds

Part #	Type	# of Channels	Needle Gauge	Needle Length	Description
VP 175A	manifold	10	19	9 mm	10 channel manifold on 14 mm centers to add liquid to Gen-Probe Racks
VP 175D	manifold	8	16 TW	9.6 mm	8 channel manifold on 20 mm centers to add liquid to Gen-Probe Racks

Tel:03-9039999 Fax:03-9039090
e-mail :degroot@degroot.co.il www.degroot.co.il