

Vaccon End-of-Arm Tooling

Vaccon's modular End-of-Arm Tooling (EOAT) components offer everything you need to create a complete "wrist-down" EOAT for your material handling operations. The EOAT innovative component design is modular, lightweight, compact, and easy-to-connect. Using EOAT, you can integrate vacuum pumps, vacuum cups, plenums, spring levelers, fittings, and manifolds using simple erector-set connectivity in minimum design time.



Vacuum Plenums & Grippers – Custom Shapes and Materials

Vacuum plenums and grippers are all custom and made in a variety of shapes, sizes and materials including aluminum, stainless steel, Acetal, FDA approved white Acetal and PVC.

See Page 12.4



Spring Levelers/ Level Compensators – VSL Series (1, 2, 3)

When handling sensitive objects such as fruit, Vaccon Spring Levelers feature a soft touch allowing compliance for end-of-arm tools to ensure that all cups make contact.

See Page 12.7



Light Duty Spring Leveler Mounting Brackets – SLBS Series/ SLBF Series

Designed for flexible manufacturing operations, SLBF and SLBS Series mounting brackets attach to the top, sides or bottom of 1" [25mm] and 1.5" [40mm] extrusions.

See Page 12.10



Heavy Duty Spring Levelers/ Level Compensators – SLB40 (2, 3)

Recommended for applications which require lifting heavy loads without deflection, Vaccon Heavy Duty Spring Levelers include a rigid mounting bracket for a strong, solid connection to 1.5" [40mm] extrusions.

See Page 12.14



Adjustable, Fixed Extension Shaft & Mounting Brackets – FEB40 (2, 3)

Adjustable, Fixed Extension Shaft & Bracket is a rigid, non-moving rod that mounts to the top, sides or bottom of 1.5" [40mm] extrusions.

See Page 12.17



Vacuum Cup Locking Angle Joint – CSJ3 Series 3

Handling curved surfaces is easy with Vaccon's Vacuum Cup Locking Angle Joint. The CSJ3 locking angle joints attach to a spring leveler and Vacuum cup providing a full 40° angular movement.

See Page 12.20



Universal Mounting Brackets – Standard, Adjustable, Angled

Universal Mounting Brackets are simple, lightweight connectors that attach Vaccon vacuum pumps, vacuum cups, plenums, spring levelers and manifold blocks to 1" or 1.5" extrusions.

See Page 12.23



Vacuum Cup Mount/ Manifold Block

Simplify your End-of-Arm tooling devices using our dual purpose MB Series - Vacuum Cup Mount/ Manifold Block. (Mounting options for VDF, CDF and DF pumps)

See Page 12.28



Push-to-Connect Fittings

Push-to-Connect (PTC) fittings are a robotic, End-of-Arm tooling component that connects all Vaccon vacuum pumps, cups, and spring levelers to each other or tubing.

See Page 12.32

End-of-Arm Tooling Design Guide



Call Vaccon First!
We will save you time and money.

Here's why.

Robots and robotic tooling help you increase productivity, improve product quality, and reduce costs. The right End-of-Arm Tools (EOAT) can improve both the flexibility and cost effectiveness by working with and complementing the robot. Vaccon designs vacuum tooling using modular components that are compact, lightweight, durable, and easy to assemble. This creates flexible, streamlined End-of-Arm Tooling that works in harmony with the robot.

As experts in vacuum equipment design for manufacturing automation applications, Vaccon helps customers find solutions for their material handling problems by creating new tools, re-designing existing tools or re-building systems. Take advantage of our years of engineering expertise to quickly design, build, and re-tool your robotic EOAT to ensure safe part handling, extend the life of the robot, increase production, and reduce costs.

Work in reverse, design “the tool” first before selecting the robot.

Focus on key aspects of the part to be handled (i.e. weight, porosity, travel distance, desired speed, etc.)

For new applications, we highly recommend that you design the EOAT before selecting the robot. Knowing the load (the combined weight of the part and the EOAT) helps you to choose the optimum robot for the job.

For re-tooling applications when the robot is already in place, carefully consider the load limits of the robot.

Optimum EOAT Design Sequence:

1. Identify the part weight, size, material porosity and surface area for cup placement on the part.
2. Select cups and/or levelers based on accepted Safety Factors (see page 11.3)
3. Select the vacuum pump(s) based on performance and porosity (see page 11.4)
4. Select the Vaccon EOAT components required for your application.
5. Assemble the EOAT *or*
6. Vaccon will design, assemble, test and ship the completed EOAT to you.

Vaccon EOAT Application Engineering Support

Our dedicated application engineers are ready to help you to select the right components or to design, assemble, and test the EOAT. Vaccon customer support provides:

- Experts in vacuum technology
- Experts in manufacturing
- Experts in automation applications
- Experts in pneumatic design
- Free 2D & 3D drawings of all components or build your own using Vaccon's website or CD.



Vaccon End-of-Arm Tooling

All EOAT products are compatible with 1" [25mm] and 1.5" [40mm] extrusions



Vaccon designed, assembled, tested and shipped this new EOAT tool for a Kuka Robot in one day.

Vaccon's modular End-of-Arm Tooling components offer everything you need to create a complete "wrist-down" EOAT for your material handling operations.

The EOAT innovative component design is modular, lightweight, compact, and easy-to-connect. Using EOAT, you can integrate vacuum pumps, vacuum cups, spring levelers, fittings, and manifolds using simple erector-set connectivity in minimum design time.

EOAT Components or Complete EOAT Solutions

You can order EOAT products separately and build your own tooling, or purchase a complete pre-built EOAT solution—fully

configured, plumbed, and tested. EOAT solutions ship assembled using one robot-to-EOAT connection for easy, out-of-the-box installation.

Vaccon Designed, Built, and Tested

Vaccon engineers have years of material handling experience, in every industry from soap to electronics. We have a proven record of identifying customer needs, developing and testing End-of-Arm tools, and delivering projects on time and within budget. Take advantage of our extensive vacuum knowledge to select the proper vacuum pump/cup combination and design your tool. Vaccon will build your tool and test it using your product at our in-house Tech Center, usually within the same day.



Picking and placing packaged rolls, CDF 375H-ST6BX EOAT handles flexible, uneven objects.



Multi-port pump EOAT with multiple manifold blocks and cups for food packaging operation.



VP80-200H-MP and VP20-100H EOAT handle melons in fruit packing plant.

Eliminate the Guesswork: Contact Us!

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Modular Venturi Vacuum Pumps



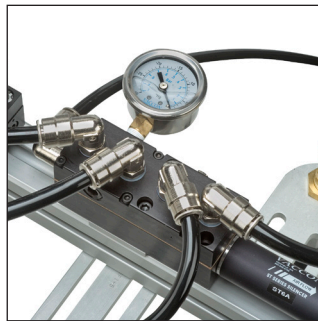
Modular Venturi Vacuum Pumps



Modular Venturi Vacuum Pumps
with Pneumatic Blow-off



Modular Venturi Vacuum Pumps Solenoid
Operated
with Pneumatic Blow-off



Multi-port Venturi Vacuum Pumps



Mid Series Modular Venturi Pumps



Max Series Modular Venturi Pumps

Vacuum Cups



Bellow Cups



Oval Cups



Flat Cups



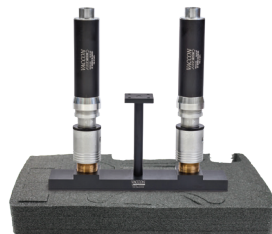
Deep Cups

Vacuum Plenums & Grippers

For more information, please see page 11.37 in the Cups & Fittings section.



Plenum Blocks can be ordered
in any size, shape or material.
Consult factory.

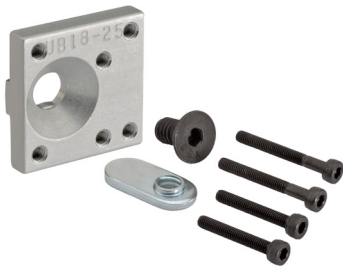


Custom Dual Plenum w/ CDF
1000H picking up foam inserts



Custom Plenum w/ VDF 250 picking
up packages of gum balls

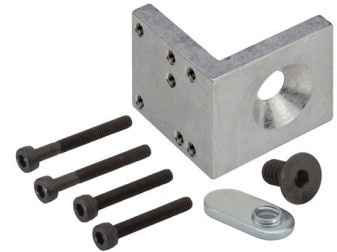
Mounting Brackets for 1" [25mm] Extrusion fits 1/4" [6.5mm] T-slot



Universal Bracket (Fixed) with optional mounting hardware



Universal Bracket (Adjustable) with optional mounting hardware



Angled Universal Bracket with optional mounting hardware

Mounting Brackets for 1.5" [40mm] Extrusion fits 5/16" [10mm] T-slot



Universal Bracket (Fixed) with optional mounting hardware



Universal Bracket (Adjustable) with optional mounting hardware



Angled Universal Bracket with optional mounting hardware

Vacuum Cup Mount/Manifold



MB18-25
For 1" Extrusion Only

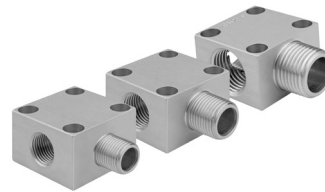


MB14-40

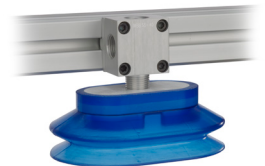
All Female Ports



Male Face Mount MBF14-40 Series



Male Bottom Mount MBB14-40 Series



Male Bottom Mount with Oval Cup

Can be used with Vaccon's VDF, CDF and DF Pumps.
See page 12.28

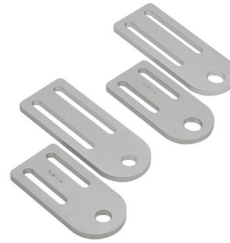
Light Duty Spring Leveler Brackets



Spring leveler brackets and hardware for 1" [25mm] extrusions



Fits VSL1 & 2 Spring Levelers



Spring Leveler Brackets for 1.5" [40mm] extrusions (hardware not shown)



Fits VSL1, 2 & 3 Spring Levelers

Spring Levelers/Level Compensators and Swivel Joint



Spring Levelers
VSL1, 2, & 3 Series



Heavy Duty Spring Levelers
SLB40-2, 3 Series



Adjustable, Fixed Extension Shaft
and Bracket - FEB40-2,3 Series



Vacuum Cup Locking Angle CSJ3
Series shown with Bellows cup

Push-to-Connect Fittings for Vacuum Pumps and Spring Levelers



Male Straight Fittings



Female Straight Fittings



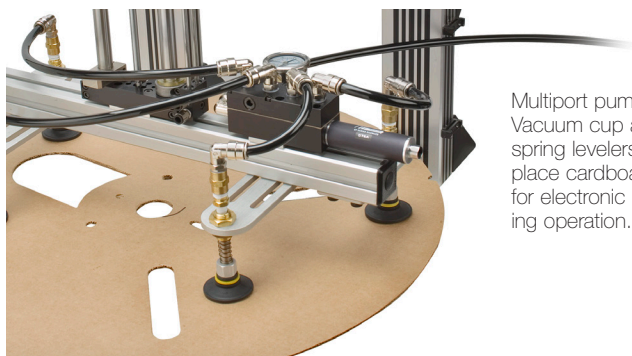
Male Elbow Fittings



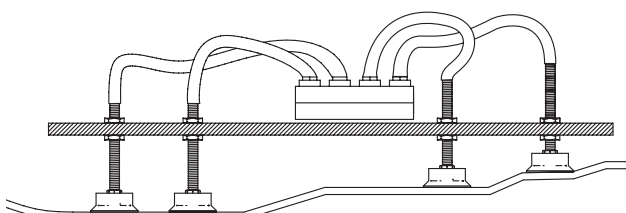
Female Elbow Fittings

Spring Levelers/Level Compensators

VSL Series (1, 2, 3)



Multiport pump/
Vacuum cup and
spring levelers pick and
place cardboard inserts
for electronic packag-
ing operation.



Spring levelers handle uneven surfaces or odd shaped objects

When handling sensitive objects such as fruit, Vaccon Spring Levelers feature a soft touch allowing compliance for end-of-arm tools to ensure that all cups make contact. This is especially important when handling large objects such as sheets of plywood that may be warped and the tool has multiple vacuum cups that must make contact.

For design flexibility, Vaccon offers a large range of sizes and travel lengths 0.2" [5mm] to 3.6" [91mm] to accommodate the necessary over-driving by the lifting mechanism to bring all cups in contact.

Vaccon's Spring Leveler design surpasses the competition. We offer large thru-bores that allow higher vacuum flow to overcome leakage and for rapid evacuation to ensure safe handling operations.

The Series 3 Levelers have high performance bearings that prevent binding from side loading, provide a smooth operation over long strokes and prolong leveler life.

Eliminate the Guesswork: Contact Us!

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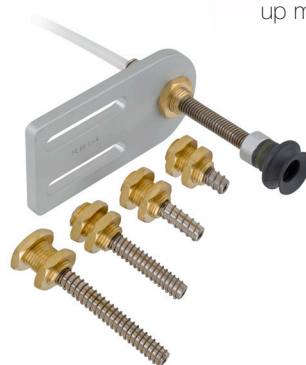
For more information or technical assistance, please call 508-359-7200 or 800-848-8788 or email engineering@vaccon.com

Ideal Applications:

- Automotive automation
- Material handling
- Robotic assembly
- Pick & place
- Sheet feeding
- Removing parts from molds

Benefits/Features:

- Smooth operation – reduces shock to an object that is being lifted
- Lightweight – reduces stress to robotic end effectors
- High flow – maximize performance and holding force for porous objects
- Flexible mounting options for robotic end effectors/End-of-Arm Tooling
- Reduces machine indexing when picking up material from a stack



Spring Leveler
Mounting Bracket with
VSL1 Series Spring
Levelers

Standard Spring Levelers:

- 3 Series
- 12 models
- Nickel plated steel shafts, stainless steel springs and brass mounting nuts

Spring Leveler Options:

- Mounting brackets compatible with 1/4" [6.5mm] T-slot or 5/16" [10mm] T-slot extrusions
- Vacuum cups and vacuum fittings
- Custom materials (FDA approved) and sizes available – consult factory

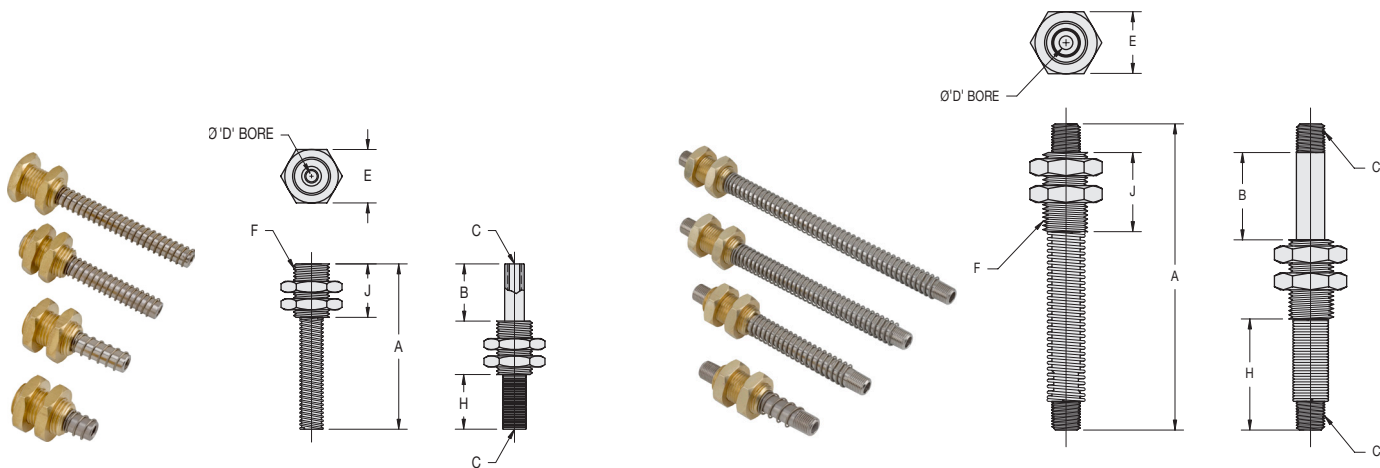
How to Specify:

1. When ordering spring levelers check the "B" dimension for travel range.
2. Please order spring levelers and fittings as separate line items based on part number i.e. VSL1-20.
3. If you would like parts factory assembled, please specify on order "factory assembled."



Spring Levelers/Level Compensators

Spring Levelers: Groups 1, 2, & 3 – VSL1, VSL2 & VSL3



Spring Leveler Group 1

Spring Leveler Groups 2 & 3

Dimensions											
Model #		A	B-Travel	C	D	E	F-Thread	H	J	Thickness	Weight
VSL1-20	in.	1.14	0.20	10-32 F	0.15 [19.0]	0.75 [19.0]	1/2-20 UNF	0.19	0.75 [19.1]	0.43 [10.9]	1.7 oz
I-VSL1-20	mm	29.0	5.1	M5 F				4.8			48g
VSL1-40	in.	1.54	0.40	10-32 F				0.39			1.8 oz
I-VSL1-40	mm	39.1	10.2	M5 F				9.9			51g
VSL1-80	in.	2.32	0.80	10-32 F				0.77			1.9 oz
I-VSL1-80	mm	58.9	20.3	M5 F				19.6			54g
VSL1-120	in.	3.11	1.20	10-32 F				1.16			2.1 oz
I-VSL1-120	mm	79.0	30.5	M5 F				29.5			60g
VSL2-40	in.	2.70	0.40	1/8 NPTM	0.24 [28.0]	0.88 [22.2]	5/8-18 UNF	0.80	1.10 [27.9]	0.72 [18.3]	2.6 oz
I-VSL2-40	mm	68.6	10.1	G1/8 M				20.3			74g
VSL2-120	in.	4.27	1.20	1/8 NPTM				1.57			3.2 oz
I-VSL2-120	mm	108.5	30.5	G1/8 M				39.9			91g
VSL2-200	in.	5.83	2.00	1/8 NPTM				2.33			4.0 oz
I-VSL2-200	mm	148.1	50.8	G1/8 M				59.2			113g
VSL2-280	in.	7.41	2.80	1/8 NPTM				3.11			4.6 oz
I-VSL2-280	mm	188.2	71.1	G1/8 M				79.0			130g
VSL3-120	in.	4.27	1.20	1/4 NPTM	0.31 [7.9]	1.13 [28.6]	7/8-14 UNF	1.17	1.50 [38.1]	1.02 [25.9]	5.9 oz
	mm	108.5	30.5					29.7			117g
VSL3-200	in.	5.83	2.00					1.93			7.3 oz
	mm	148.1	50.8					49.0			207g
VSL3-280	in.	7.41	2.80					2.71			8.7 oz
	mm	188.2	71.1					68.8			247g
VSL3-360	in.	9.00	3.60					3.50			10.1 oz
	mm	228.6	91.4					88.9			286g

Custom Vacuum Spring Levelers - VSL Series

Ideal for OEM engineers and designers

Creative Engineering • Precision Manufacturing • Extensive Application Experience

When off the shelf doesn't work, Vaccon's engineering expertise and manufacturing capabilities can provide custom solutions to your specifications.

Whether it's as simple as modifying a standard product, or more complex requiring new products with precise tolerances, or special materials, Vaccon has the solution.



VP1X-100H vacuum pump with pneumatic blow-off with stainless steel spring leveler.



Our custom made 303 stainless steel spring leveler, Vacuum cup and pump assembly attaches to swivel arm (not shown) for carton erecting application in food industry.

When size, shape, material and performance matter, it's Vaccon Vacuum Pumps.



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12.9

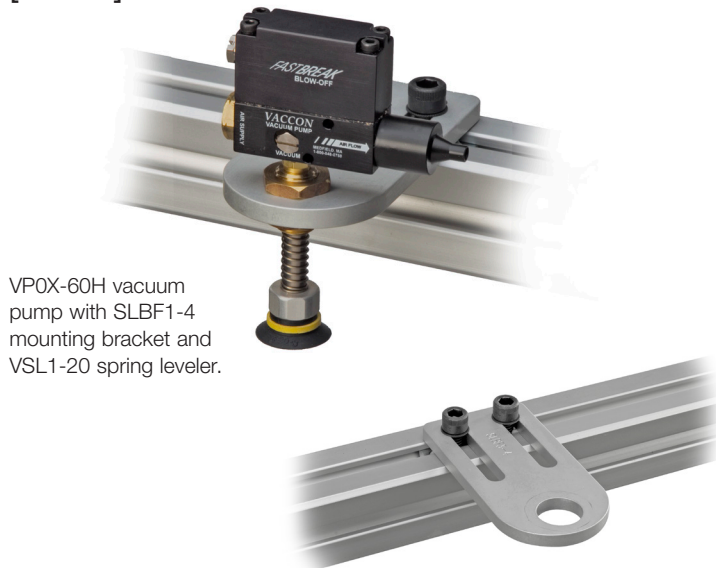
Light Duty Spring Leveler Mounting Brackets

SLBS Series – Mounting brackets for 1”

[25mm] extrusions

SLBF Series – Mounting brackets for 1.5”

[40mm] extrusions



VP0X-60H vacuum pump with SLBF1-4 mounting bracket and VSL1-20 spring leveler.

Quick change brackets for flexible mounting positions

Designed for flexible manufacturing operations, SLBF and SLBS Series mounting brackets attach to the top, sides or bottom of 1” [25mm] and 1.5” [40mm] extrusions.

Easily mounted and adjusted, the Light Duty Spring Leveler Brackets readily rotate, slide or pivot for accurate part alignment. If the part size or process should change, you can reposition the brackets in a matter of seconds.

Using your extrusions or ours, SLBF and SLBS Series mounting brackets connect to our VSL Series Spring Levelers (see page 12.7) and a variety of our venturi vacuum pumps to create a simple, off-the-shelf End-of-Arm device.

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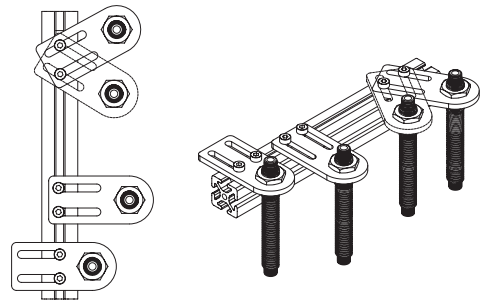
For more information or technical assistance, please call 508-359-7200 or 800-848-8788 or email engineering@vaccon.com

Ideal Applications:

- End-of-arm-Tooling
- Robotic assembly
- Electronics
- Pick & place
- Injection Molding – parts removal

Features/Benefits

- Simple to assemble, modular End-of-Arm Tooling component
- Lightweight – Reduces stress to robotic end effector
- Flexible mounting – Top, sides or bottom of extrusions
- Easily adjusted and repositioned in seconds



Flexible mounting positions

Standard Spring Leveler Brackets:

- 3 Series: Fits VSL1, 2, 3 spring levelers
- 4 Sizes: 2”, 3”, 4” and 5” lengths
- Anodized aluminum

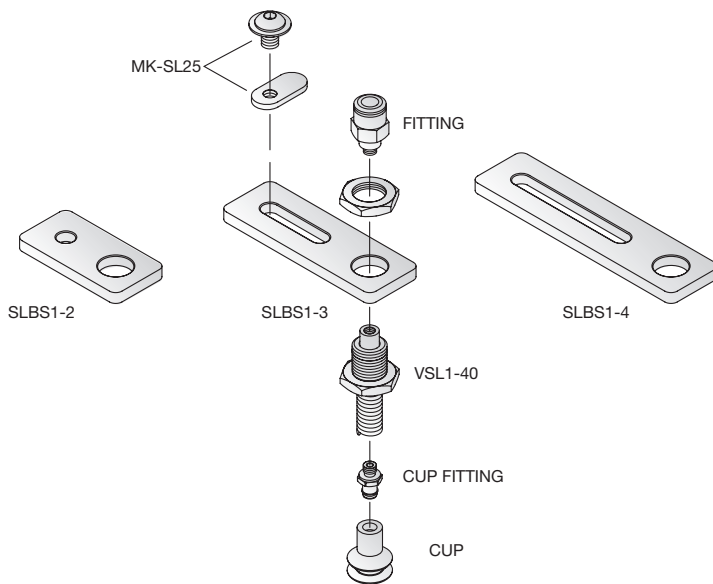
Spring Leveler Bracket Options:

- Spring levelers, vacuum cups and vacuum fittings
- Swivel attachment – Available for Series 3 only
- Mounting hardware: 1/4” [6.5mm] T-slot compatible or 5/16” [10mm] T-slot compatible

Light Duty Spring Leveler Mounting Bracket Assemblies: (Vaccon-supplied or customer-supplied extrusions)

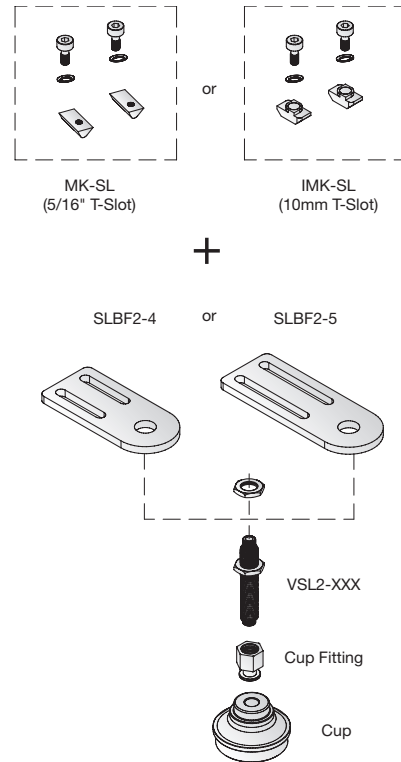
SLBS Series

1" [25mm] extrusion,
1/4" [6.5mm] T-slot compatible



SLBF Series

1.5" [40mm] extrusion,
5/16" [10mm] T-slot compatible



Bracket Model #	Size	For use with Vaccon Spring Levelers
SLBS1-2	2" [50.8mm]	VSL1/I-VSL1-(20, 40, 80, 120)
SLBS1-3	3" [76.2mm]	VSL1/I-VSL1-(20, 40, 80, 120)
SLBS1-4	4" [101.6mm]	VSL1/I-VSL1-(20, 40, 80, 120)
SLBF1-4	4" [101.6mm]	VSL1/I-VSL1-(20, 40, 80, 120)
SLBF1-5	5" [127mm]	VSL1/I-VSL1-(20, 40, 80, 120)
SLBS2-2	2" [50.8mm]	VSL2/I-VSL2-(40, 120, 200, 280)
SLBS2-3	3" [76.2mm]	VSL2 I-VSL2-(40, 120, 200, 280)
SLBS2-4	4" [101.6mm]	VSL2 I-VSL2-(40, 120, 200, 280)
SLBF2-4	4" [101.6mm]	VSL2 I-VSL2-(40, 120, 200, 280)
SLBF2-5	5" [127mm]	VSL2 I-VSL2-(40, 120, 200, 280)
SLBF3-4	4" [101.6mm]	VSL3 I-VSL3-(120, 200, 280, 360)
SLBF3-5	5" [127mm]	VSL3 I-VSL3-(120, 200, 280, 360)
MK-SL25	N/A	Mounting hardware – 1/4" T-slot
MK-SL	N/A	Mounting hardware – 5/16" T-slot
IMK-SL	N/A	Mounting hardware – 10mm T-slot

How to Specify:

Helpful hints:

1. Choose cup size/style based on part size and weight.
2. Choose spring leveler based on stroke length and bore size.
3. Choose bracket based on reach requirement 2", 3", 4" or 5".
4. Choose cup fitting based on thread size that matches spring leveler thread size (10-32F, 1/8 NPTM, 1/4 NPTM).

Please order Spring Level Brackets as separate line item(s) based on part number i.e. SLBF1-4

Please order Spring Levelers as separate line item(s) based on part number i.e. VSL1-20.

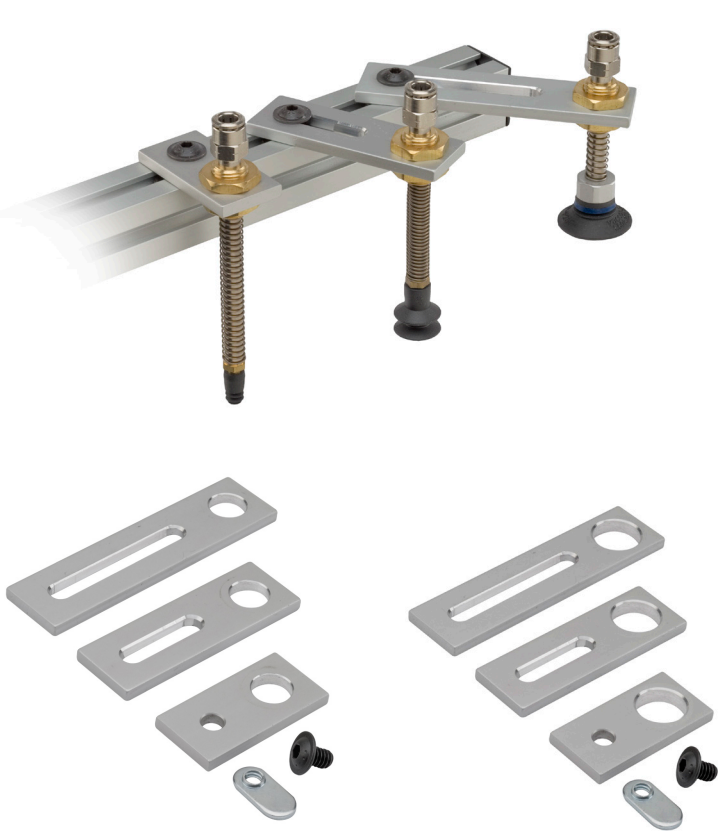
Please order Mounting Hardware as separate line item(s) based on part number i.e. MK-SL

If you would like parts factory assembled, please specify on order "factory assembled."

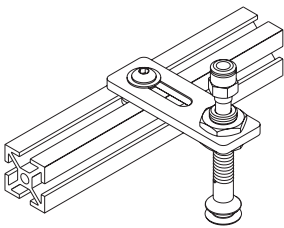
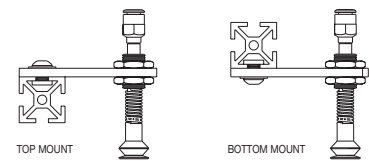


Light Duty Spring Leveler Mounting Brackets

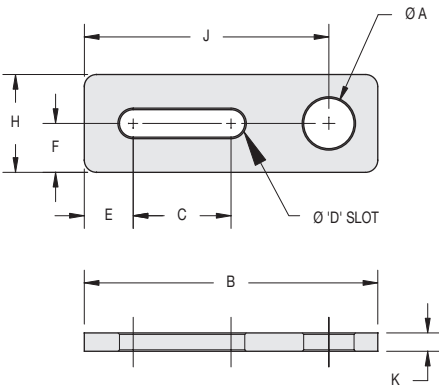
Light Duty Spring Leveler Brackets – Series SLBS Series



SLBS1- (2, 3, 4)
with hardware



Flexible mounting positions

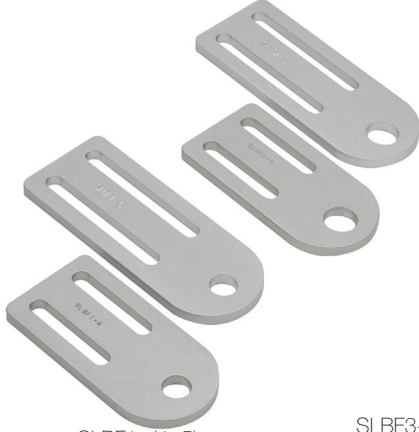


Dimensions											
Model #		A-Dia	B	C	D	E	F	H	J	K	Weight
SLBS1-2	in.	0.51 [13.0]	2.00	0.28	0.28 [7.1]	0.50 [12.7]	0.50 [12.7]	1.00 [25.4]	1.50	0.19 [4.8]	0.5 oz
	mm		50.8	7.1					38.1		14.2g
SLBS1-3	in.		3.00	1.00					2.50		0.8 oz
	mm		76.2	25.4					63.5		22.7g
SLBS1-4	in.		4.00	2.00					3.50		0.9 oz
	mm		101.6	50.8					88.9		25.5g
SLBS2-2	in.	0.64 [16.3]	2.00	0.28					1.50		0.5 oz
	mm		50.8	7.1					38.1		14.2g
SLBS2-3	in.		3.00	1.00					2.50		0.8 oz
	mm		76.2	25.4					63.5		22.7g
SLBS2-4	in.		4.00	2.00					3.50		0.9 oz
	mm		101.6	50.8					88.9		25.5g

Light Duty Spring Leveler Brackets – Series SLBF Series

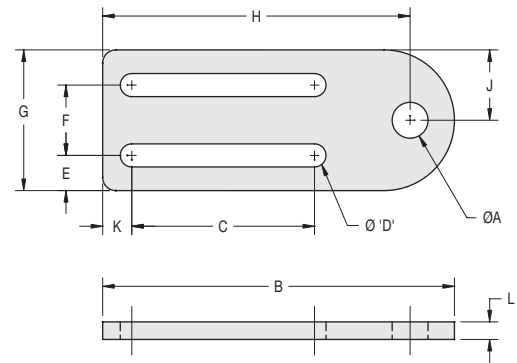


SLBF2- (4, 5)



SLBF1- (4, 5)

SLBF3- (4, 5)



Dimensions													
Model #		A-Dia	B	C	D	E	F	G	H	J	K	L	Weight
SLBF1-4	in.	0.51	4.00	1.60	0.33 [8.3]	0.50 [12.7]	1.00 [25.4]	2.00 [50.8]	3.37	1.00 [25.4]	0.41 [10.4]	0.25 [6.4]	2.8 oz
	mm	13.0	101.6	40.6					85.6				79.4g
SLBF1-5	in.	0.51	5.00	2.60					4.37				2.9 oz
	mm	13.0	127.0	66.0					111.0				82.2g
SLBF2-4	in.	0.64	4.00	1.60					3.37				2.8 oz
	mm	16.3	101.6	40.6					85.6				79.4g
SLBF2-5	in.	0.64	5.00	2.60					4.37				2.8 oz
	mm	16.3	127.0	66.0					111.0				79.4g
SLBF3-4	in.	0.89	4.00	1.60					3.37				2.3 oz
	mm	22.6	101.6	40.6					85.6				65.2g
SLBF3-5	in.	0.89	5.00	2.60					4.37				2.8 oz
	mm	22.6	127.0	66.0					111.0				79.4g

Heavy Duty Spring Levelers/Level Compensators

SLB40 (2, 3) - Mounting brackets compatible with 1.5" [40mm] extrusions, 5/16" [10mm] T-slot



Heavy Duty Spring Levelers lift parts from different horizontal levels or uneven surfaces.

When handling sensitive objects such as fruit, Vaccon Spring Levelers feature a soft touch allowing compliance for end-of-arm tools to ensure that all cups make contact. This is especially important when handling large objects such as sheets of plywood that may be warped and the tool has multiple vacuum cups that must make contact.

Vaccon's Spring Leveler design surpasses the competition. We offer large thru-bores that allow higher vacuum flow to overcome leakage and for rapid evacuation to ensure safe handling operations

For design flexibility, Vaccon offers a large range of sizes and travel lengths 0.2" [5mm] to 3.6" [91mm] to accommodate the necessary over-driving by the lifting mechanism to bring all cups in contact.

Recommended for applications which require lifting heavy loads without deflection, Vaccon Heavy Duty Spring Levelers

include a rigid mounting bracket for a strong, solid connection to 1.5" [40mm] extrusions.

Standard Spring Levelers:

- 2 Series: 1/8" and 1/4" NPT male thread
- 8 Models: Travel lengths from 0.40" to 3.60" [10mm to 91mm]
- Nickel plated steel shafts, stainless steel springs, high performance bearings and aluminum body

Spring Leveler Options:

- Vacuum cups and vacuum fittings
- Swivel attachment – Available for Series 3 only

Ideal Applications:

- End-of-Arm Tooling
- Press load and unload automotive automation
- Robotic assembly
- Pick & place
- Sheet feeding
- Stamping press transfer

Features/Benefits

- Easy to assemble, modular End-of-Arm Tooling components – Minimal design time required
- Durable – Rigid mounting design for heavy, high impact loads
- Smooth operation – Reduces shock to an object that is being lifted
- Lightweight – To maximize robot payload and increase robot speed
- High flow – Maximize performance and holding force for handling porous objects
- Flexible mounting options facilitates End-of-Arm Tooling tool design

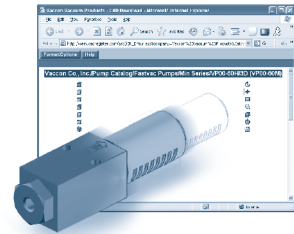
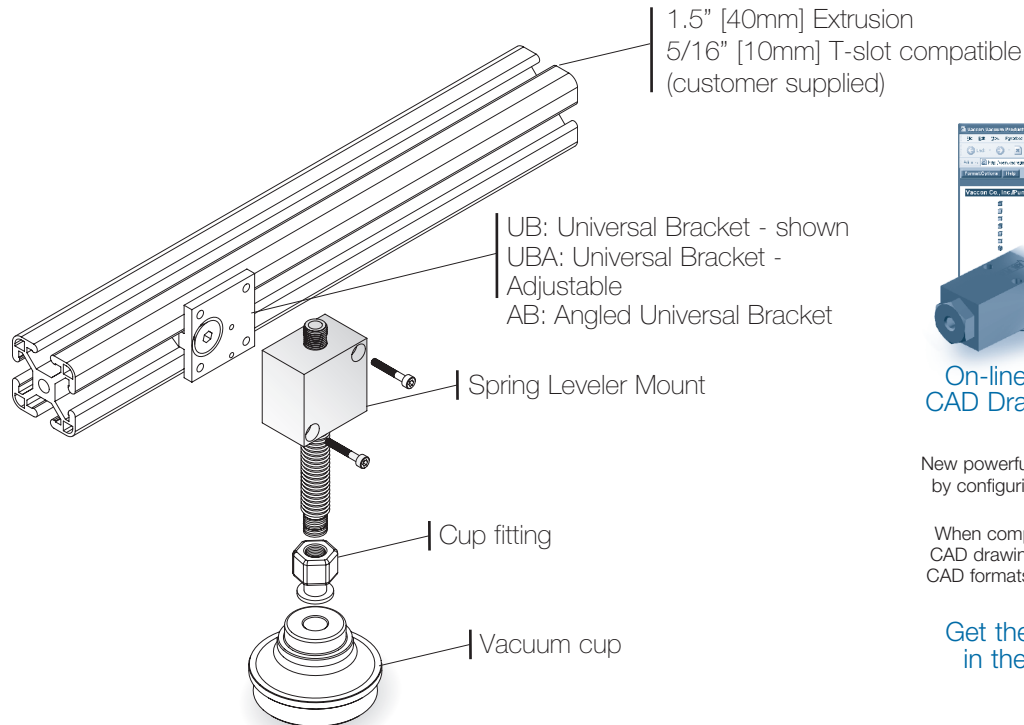
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Heavy Duty Spring Leveler Mounting Assembly



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line.

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design.

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How to Specify:

Part Number Heavy Duty Spring Leveler Mounting Assembly

Series 2

SLB40/I-SLB40-2-40	0.40" [10.16mm] travel, 1/8 NPT male thread
SLB40/I-SLB40-2-120	1.20" [30.48mm] travel, 1/8 NPT male thread
SLB40/I-SLB40-2-200	2.00" [50.80mm] travel, 1/8 NPT male thread
SLB40/I-SLB40-2-280	2.80" [71.12mm] travel, 1/8 NPT male thread

Series 3

SLB40/I-SLB40-3-120	1.20" [10.16mm] travel, 1/4 NPT male thread
SLB40/I-SLB40-3-200	2.00" [30.48mm] travel, 1/4 NPT male thread
SLB40/I-SLB40-3-280	2.80" [50.80mm] travel, 1/4 NPT male thread
SLB40/I-SLB40-3-360	3.60" [71.12mm] travel, 1/4 NPT male thread

When ordering spring levelers check the "B" dimension for travel
range.

Please order spring levelers as separate line items based on part
number i.e. SLB40-2-40

If you would like parts factory assembled, please specify on order
"factory assembled."

To attach Heavy Duty Spring Levelers to extrusions, please see
page 12.23 for Universal Bracket mounting options.



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Heavy Duty Spring Levelers/Level Compensators

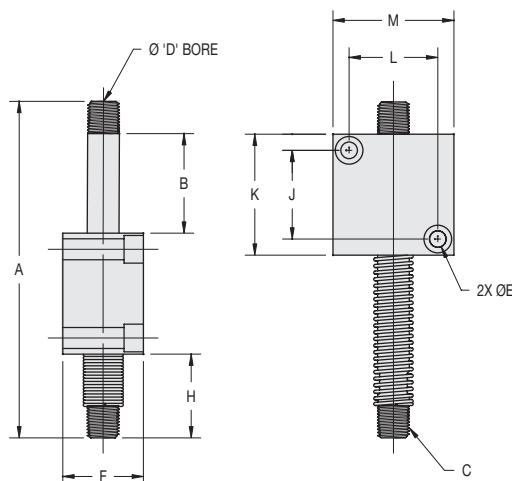
Heavy Duty Spring Levelers – Series SLB40-2, SLB40-3



Series 2
SLB40-2 (40, 120, 200, 280)



Series 3
SLB40-3 (120, 200, 280, 360)



Model # Series 2	Dimensions										Weight
		A	B-Travel	C	D	E	F	H	J, L	K, M	
SLB40-2-40	in.	2.70	0.40	1/8 NPTM	0.24 [6.1]	0.21 [5.2]	1.00 [25.4]	0.40	1.10 [27.9]	1.50 [38.1]	4.7 oz
I-SLB40-2-40	mm	68.6	10.2	G1/8 M				10.2			133.2g
SLB40-2-120	in.	4.27	1.20	1/8 NPTM				1.17			4.7 oz
I-SLB40-2-120	mm	108.5	30.5	G1/8 M				29.7			133.2g
SLB40-2-200	in.	5.83	2.00	1/8 NPTM				1.93			5.3 oz
I-SLB40-2-200	mm	148.1	50.8	G1/8 M				49.0			150.3g
SLB40-2-280	in.	7.41	2.80	1/8 NPTM				2.71			5.9 oz
I-SLB40-2-280	mm	188.2	71.1	G1/8 M				68.8			167.3g

Model # Series 3	Dimensions										Weight
		A	B-Travel	C	D	E	F	H	J, L	K, M	
SLB40-3-120	in.	4.27	1.20	1/4 NPTM	0.31 [7.9]	0.21 [5.2]	1.00 [25.4]	1.17	1.10 [27.9]	1.50 [38.1]	6.9 oz
I-SLB40-3-120	mm	108.5	30.5	G1/4 M				29.7			195.6g
SLB40-3-200	in.	5.83	2.00	1/4 NPTM				1.93			7.9 oz
I-SLB40-3-200	mm	148.1	50.8	G1/4 M				49.0			224.0g
SLB40-3-280	in.	7.41	2.80	1/4 NPTM				2.71			9.9 oz
I-SLB40-3-280	mm	188.2	71.1	G1/4 M				68.8			280.7g
SLB40-3-360	in.	9.00	3.60	1/4 NPTM				3.49			11 oz
I-SLB40-3-360	mm	228.6	91.4	G1/4 M				88.6			311.8g

Adjustable, Fixed Extension Shaft & Mounting Brackets

FEB40 (2, 3) - Mounting brackets compatible with 1.5" [40mm] extrusions, 5/16" [10mm] T-slot



FEB40-3 with bellows Vacuum cup.

Adjustable, Fixed Extension Shaft & Bracket is a rigid, non-moving rod that mounts to the top, sides or bottom of 1.5" [40mm] extrusions. Once the shaft is adjusted to meet a specific height requirement, the bracket is clamped into a fixed position.

Designed for flexible manufacturing operations, the FEB40 Series is easily repositioned by simply loosening 2 collar screws and sliding the shaft up or down to meet the new height requirements. For added adjustability, add an adjustable universal bracket to slide the FEB40 left or right.

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Ideal Applications:

- Injection molding
- Pick & place of irregular shaped parts with large surface height differences

Features/Benefits

- Easy to assemble, modular End-of-Arm tool components – minimal design time required
- Fixed positioning for consistent indexing and part retention
- Rigid mounting design for heavy, high impact loads
- Smooth operation – reduces shock to an object that is being lifted
- Lightweight – to maximize robot payload and increase robot speed
- High flow – maximize performance and holding force for handling porous objects
- Flexible mounting options facilitates End-of-Arm tool design

Standard Adjustable, Fixed Extension Shaft & Bracket:

- 2 Series: 1/8 or 1/4 NPT male
- 8 Shaft Lengths: 0.40" to 6.7" [10mm to 170mm]
- Mounting: Split collar design
- Material: Nickel plated steel shafts and aluminum body

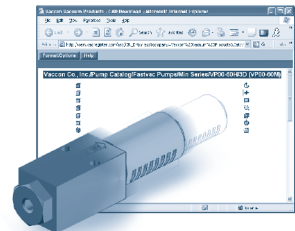
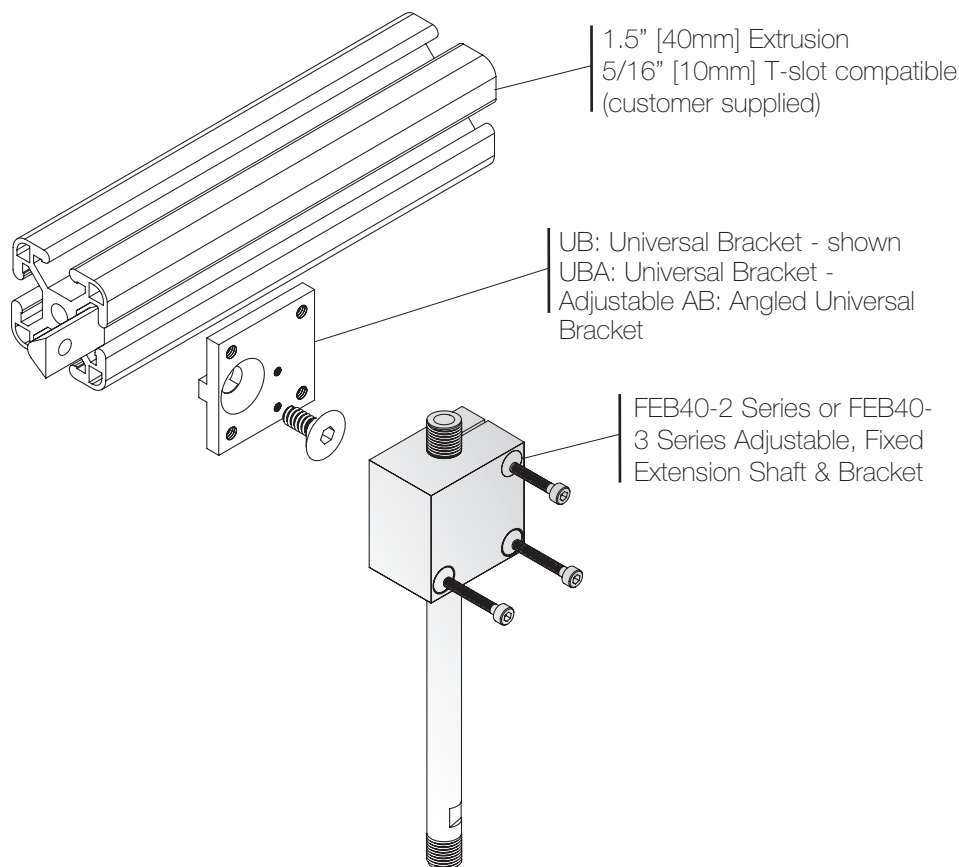
Adjustable, Fixed Extension Shaft & Bracket Options:

- Wide variety of vacuum cups and vacuum fittings
- Universal brackets for easy attachments and adjustable positioning
- Vacuum cup Swivel attachment – available for Series 3 only



Adjustable, Fixed Extension Shaft & Mounting Brackets

Adjustable Fixed Length Extension Brackets: FEB40- (2, 3) – Configurations and Options:



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CAD formats and insert it right into your
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Get the pump you need,
in the format you like!

How to Specify:

Part Number	Adjustable, Fixed Extension Shaft & Brackets
Series 2	
FEB40/I-FEB40-2-40	0.40" [10.16mm] extension length, 1/8 NPT [G1/8] male
FEB40/I-FEB40-2-120	1.97" [50.04mm] extension length, 1/8 NPT [G1/8] male
FEB40/I-FEB40-2-200	3.51" [89.15mm] extension length, 1/8 NPT [G1/8] male
FEB40/I-FEB40-2-280	5.11" [129.8mm] extension length, 1/8 NPT [G1/8] male
Series 3	
FEB40/I-FEB40-3-120	1.97" [50.04mm] extension length, 1/4 NPT [G1/4] male
FEB40/I-FEB40-3-200	3.51" [89.15mm] extension length, 1/4 NPT [G1/4] male
FEB40/I-FEB40-3-280	5.11" [129.8mm] extension length, 1/4 NPT [G1/4] male
FEB40/I-FEB40-3-360	6.70" [170.2mm] extension length, 1/4 NPT [G1/4] male

To specify FEB40, choose part number based on extension length desired, thru bore diameter and thread size on each end of shaft.

Please order FEB40's as separate line items based on part number. i.e. FEB40-2-280. To order metric threads place an "I-" in front of the part number. Example: I-FEB40-2-280.

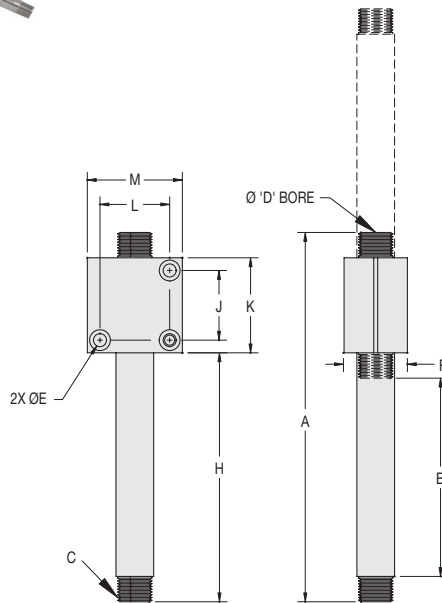
Please order Universal brackets (UB, UBA or AB) as separate line items based on part numbers.

To attach Adjustable, Fixed Extension Shafts & Brackets to extrusions, please see page 12.23 for Universal Bracket mounting options.

Adjustable – Fixed Length Extension Shafts & Brackets



Series 2
FEB40-2- (40, 120, 200, 280)



Series 3
FEB40-3-(120, 200, 280, 360)

Dimensions											
Model # Series 2		A	B	C	D	E	F	H	J, L	K, M	Weight
FEB40-2-40	in.	2.70	0.40	1/8 NPTM	0.24 [6.1]	0.21 [5.2]	1.00 [25.4]	0.80	1.10 [27.9]	1.50 [38.1]	4.7 oz
I-FEB40-2-40	mm	68.6	10.2	G1/8 M				20.3			133.2g
FEB40-2-120	in.	4.27	1.97	1/8 NPTM				2.37			4.7 oz
I-FEB40-2-120	mm	108.5	50.0	G1/8 M				60.2			133.2g
FEB40-2-200	in.	5.83	3.51	1/8 NPTM				3.91			5.3 oz
I-FEB40-2-200	mm	148.1	89.2	G1/8 M				99.3			150.3g
FEB40-2-280	in.	7.41	5.11	1/8 NPTM				5.51			5.9 oz
I-FEB40-2-280	mm	188.2	129.8	G1/8 M				140.0			167.3g

Dimensions											
Model # Series 3		A	B	C	D	E	F	H	J, L	K, M	Weight
FEB40-3-120	in.	4.27	1.97	1/4 NPTM	0.31 [7.9]	0.21 [5.2]	1.00 [25.4]	2.37	1.10 [27.9]	1.50 [38.1]	6.9 oz
I-FEB40-3-120	mm	108.5	50.0	G1/4 M				60.2			195.6g
FEB40-3-200	in.	5.83	3.51	1/4 NPTM				3.91			7.9 oz
I-FEB40-3-200	mm	148.1	89.2	G1/4 M				99.3			224.0g
FEB40-3-280	in.	7.41	5.11	1/4 NPTM				5.51			9.9 oz
I-FEB40-3-280	mm	188.2	129.8	G1/4 M				140.0			280.7g
FEB40-3-360	in.	9.00	6.70	1/4 NPTM				7.10			11 oz
I-FEB40-3-360	mm	228.6	170.2	G1/4 M				180.3			311.8g



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Vacuum Cup Locking Angle Joint

CSJ3 Series 3 - Mounting brackets compatible with 1.5" [40mm] extrusions, 5/16" [10mm] T-slot



CSJ3-14 Vacuum Cup Locking Angle Joint with SLB40-3 Heavy Duty Spring Leveler & Bracket and Vacuum Cup.



CSJ3-38

Ideal Applications:

- Stamping operations (press load and unload)
- Palletizing
- Handling curved and angular objects

Features/Benefits:

- Durable – rugged all steel design
- Full 40° angular / conical movement (20° in each direction)
- Smooth and secure operation – follows contour of object being lifted
- High flow – maximize performance and holding force for handling porous objects
- Flexible mounting options facilitates End-of-Arm Tooling tool design

Handling curved surfaces is easy with Vaccon's Vacuum Cup Locking Angle Joint. The CSJ3 angle joints attach to a spring leveler and vacuum cup providing a 40° angular / conical movement. To control the degree of swivel, simply tighten the collar nut located on top of the angle joint to restrict movement.

Developed in conjunction with Vaccon spring levelers, the CSJ3 angle joint assemblies feature exceptionally large flow paths to safely handle porous objects. Depending on height and tooling requirements, Vacuum Cup Locking Angle Joints are interchangeable with the following Series 3 spring levelers:

VSL3 – Standard spring levelers

SLB40-3 – Heavy duty spring levelers

FEB40-3 – Fixed extension shafts & brackets

Note: The retaining nut must be locked into position to seal.

Standard Vacuum Cup Locking Angle Joint:

- 3 Sizes: 1/4, 3/8, 1/2 NPT male threads – mates to a wide variety of vacuum cup fittings
- 1/4 NPTF top port mates to all the 1/4 NPT Series 3 levelers
- Material: Nickel plated steel, Buna-N O-ring

Vacuum Cup Locking Angle Joint Options:

- Variety of vacuum cups and vacuum fittings
- Custom designs and stainless steel construction available for food and wash-down applications. Consult factory.

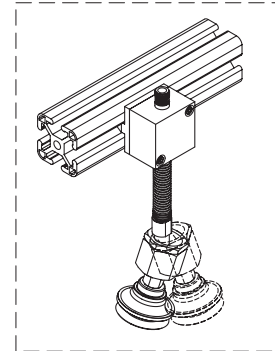
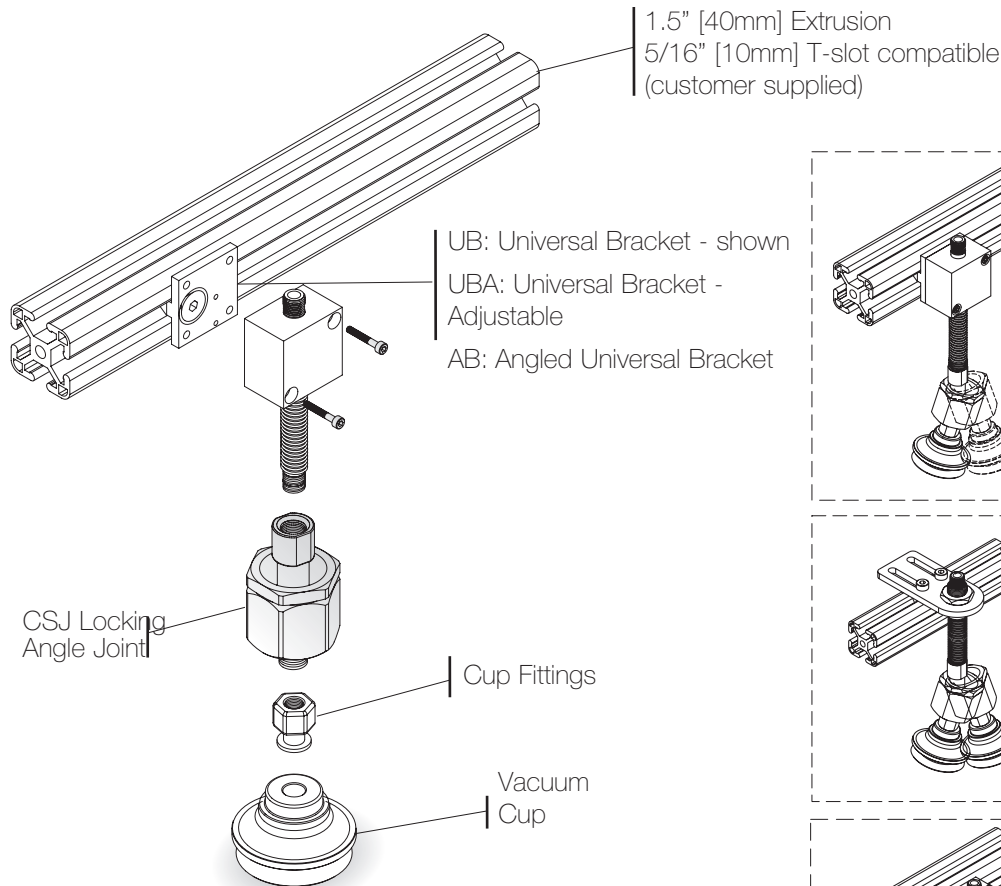
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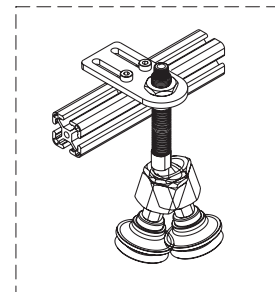
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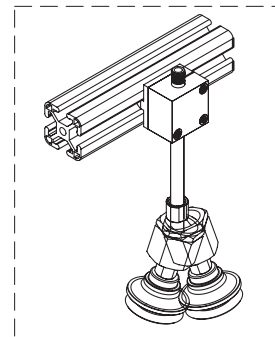
Vacuum Cup Locking Angle Joint: CSJ-3 Series:



SLB40-3 Series:
Heavy Duty
Spring Levelers



VSL3 Series:
Spring Levelers



FEB40-3 Series:
Adjustable,
Fixed Extension
Shaft & Bracket

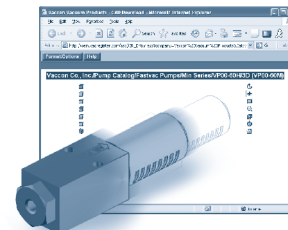
How to Specify:

Part Number Vacuum Cup Locking Angle Joint

CSJ3-14	1/4 NPT – male thread
CSJ3-38	3/8 NPT – male thread
CSJ3-12	1/2 NPT – male thread

Choose the angle joint with the same NPT thread as the vacuum cup fitting.

Order by part number i.e. CSJ3-38



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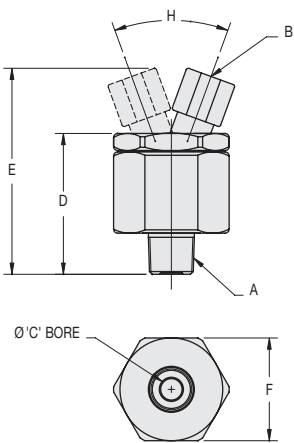
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Vacuum Cup Locking Angle Joint: Series 3 – CSJ-3



Dimensions									
Model #		A Thread	B Thread	C Thru Bore	D	E	F Hex	H Locking Angle	Weight
CSJ3-14	in.	1/4 NPT	1/4 NPT	0.31 [7.9]	1.96	2.90	1.50 [38.1]	40°	11.7 oz
	mm				49.8	73.7			331.7g
CSJ3-38	in.	3/8 NPT			2.06	3.00			12.7 oz
	mm				52.3	76.2			360g
CSJ3-12	in.	1/2 NPT			2.06	3.00			12.7 oz
	mm				52.3	76.2			360g



Universal Mounting Brackets – Standard, Adjustable, Angled

Compatible with 1" [25mm] and 1.5" [40mm] extrusions



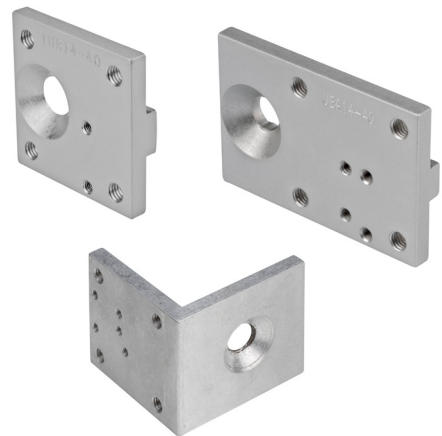
Standard Universal Bracket attaches VP10-100H to extrusion for halogen bulb pick and place operation.



Universal Bracket(Adjustable) with Vacuum cup/Manifold block assembly. See page 12.28 for Vacuum cup/Manifold block.



Angled Bracket holds VP10-60M vacuum pump and cup, with exposed fastening screw for quick and easy adjustments.



UB, UBA, and AB brackets.

Features/Benefits

- 3 Styles – standard, adjustable or angled with simple erector-set connectivity
- Anodized aluminum – lightweight – reduces stress, extends performance and life of robot
- Modular components add design flexibility – adaptable for all EOAT configurations
- Keyed profile for tight fit – non-rotating – strong holding force
- Mounting kit includes hardware to attach products to extrusions
- Angled brackets have optional adjustment knob, consult factory

Universal Mounting Brackets are simple, lightweight connectors that attach Vaccon vacuum pumps, vacuum cups, spring levelers and manifold blocks to 1" or 1.5" extrusions.

Available in 3 models, standard, adjustable or angled, our Universal Brackets are keyed to fit securely in 1/4" [6.5mm] or 5/16" [10mm] T-slots, remain square and increase holding force. Brackets are available with or without mounting hardware.

Standard Universal Bracket: (UB)

The standard UB is a fixed position bracket that is tamper resistant. Once the screw is tightened to the extrusion and a product is mounted to the bracket the fastening screw is now covered and inaccessible to adjust.

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Universal Bracket Adjustable: (UBA)

An elongated version of the standard bracket, the UBA features an exposed fastening screw that enables quick, easy bracket adjustments along the T-slot.

Angled Universal Bracket: (AB)

For operations that require frequent adjustments, the AB models are the easiest to re-position. One side of the bracket holds the vacuum pump, the other side of the bracket attaches to the extrusion enabling the bracket assembly to slide along the T-slot for unlimited adjustments. With the pump located on a 90° angle, the fastening screw is easily accessible at all times. Optional adjustment knobs are available for the AB models.

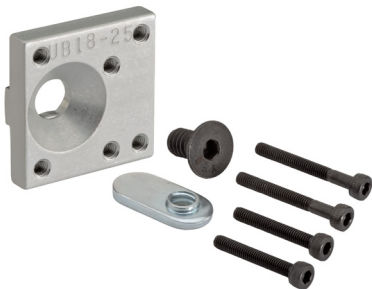


Universal Mounting Brackets - Standard, Adjustable, Angled

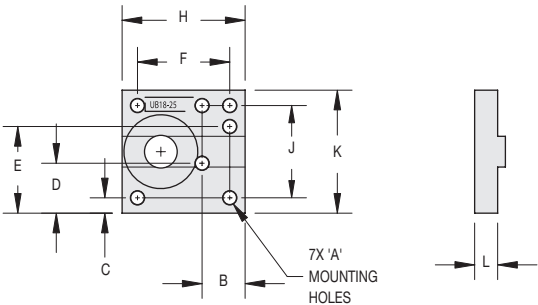
Universal Brackets and Mounting Kits for 1" Extrusions



Bracket only: UB18-25



Bracket & Mounting Kit: MK-UB18-25



Bracket accepts: Vaccon VP00, VP0X, VP10 & VP1X Series pumps and MB18-25 manifold block.

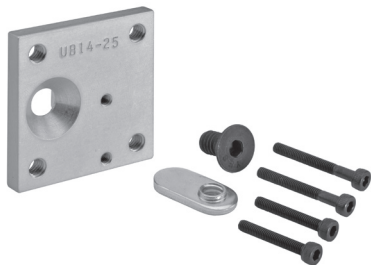
Model #		Dimensions									Weight
		A- Mtg Holes	B	C	D	E	F, J	H, K	L		
UB18-25	Fits 1/4 T-Slot	in	M3 x 0.5	0.35	0.13	0.41	0.70	0.75	1.00	0.19	0.3 oz
	Fits 6.5mm T-Slot	mm		8.9	3.2	10.3	17.8	19.1	25.4	4.7	8.5g

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

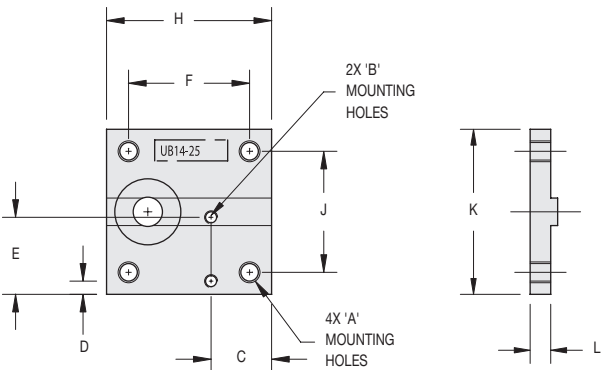
Note 2: Depending on the pump being mounted, it may be necessary to rotate the bracket 180° from diagram shown.



Bracket only: UB14-25



Bracket & Mounting Kit: MK-UB14-25



Bracket accepts all Vaccon VP Series pumps except the VP00/VP0X Series. Fits All MB14 Series manifold blocks. (Allows larger pumps to be mounted to 1" extrusions).

Model #		Dimensions									Weight
			A- Mtg Holes	B- Mtg Holes	C	D	E	F, J	H, K	L	
UB14-25	Fits 1/4 T-Slot	in	10-32	M3 x 0.5	0.55	0.12	0.70	1.10	1.50	0.19	0.7 oz
	Fits 6.5mm T-Slot	mm			14.0	3.0	17.8	27.9	38.1	4.7	19.8g

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

How to Specify:

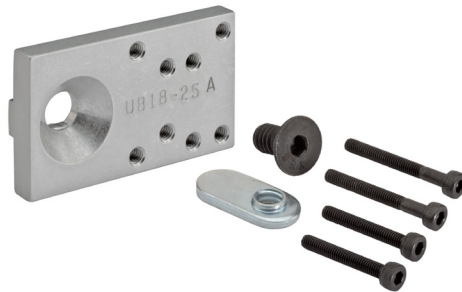
Bracket only: See Model Numbers: i.e. UB18-25

Bracket & Mounting Kit: Add "MK" for mounting kit in front of Model Number i.e. MKUB18-25

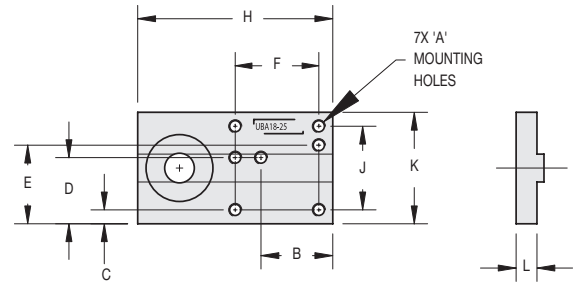
Universal Brackets (Adjustable) and Mounting Kits for 1" Extrusions



Bracket only: UBA18-25



Bracket & Mounting Kit: MK-UBA18-25



Bracket accepts: Vaccon VP00, VP0X, VP01BV, VP10 & VP1X Series pumps and MB18-25 manifold block.

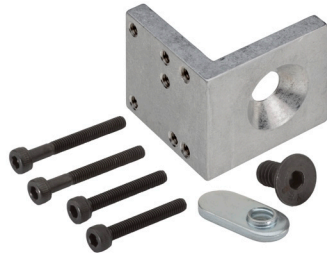
Model #		Dimensions										Weight
			A- Mtg Holes	B	C	D	E	F, J	H	K	L	
UBA18-25	Fits 1/4 T-Slot	in	M3 x 0.5	0.64	0.13	0.60	0.70	0.75	1.75	1.00	0.19	0.5 oz
	Fits 6.5mm T-Slot	mm		16.4	3.2	15.2	17.8	19.1	44.5	25.4	4.7	14.2g

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

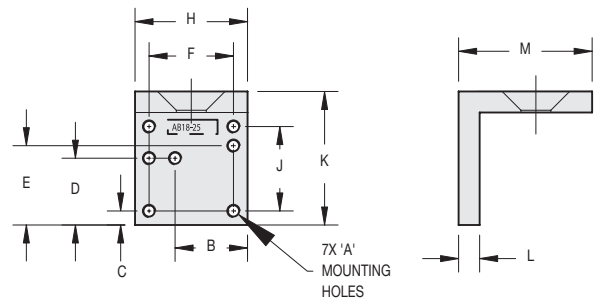
Angled Brackets and Mounting Kits for 1" Extrusions



Bracket only: AB18-25



Bracket & Mounting Kit: MK-AB18-25



Bracket accepts: Vaccon VP00, VP0X, VP01BV, VP10 & VP1X Series pumps and MB18-25 manifold block.

Model #		Dimensions											Weight
			A- Mtg Holes	B	C	D	E	F, J	H	K	L	M	
AB18-25	Fits 1/4 T-Slot	in	M3 x 0.5	0.64	0.13	0.60	0.70	0.75	1.00	1.19	0.19	1.19	0.6 oz
	Fits 6.5mm T-Slot	mm		16.4	3.2	15.2	17.8	19.1	25.4	30.2	4.7	30.1	17.0g

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

How to Specify:

Bracket only: See Model Numbers: i.e. AB18-25

Bracket & Mounting Kit: Add "MK" for mounting kit in front of Model Number i.e. MKAB18-25

Bracket & Mounting Kit with Adjustment Knob: ABKUB14-40



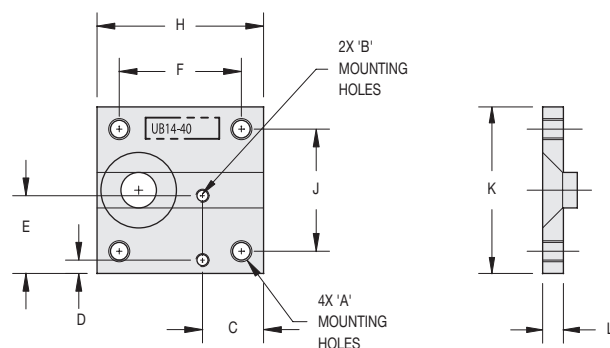
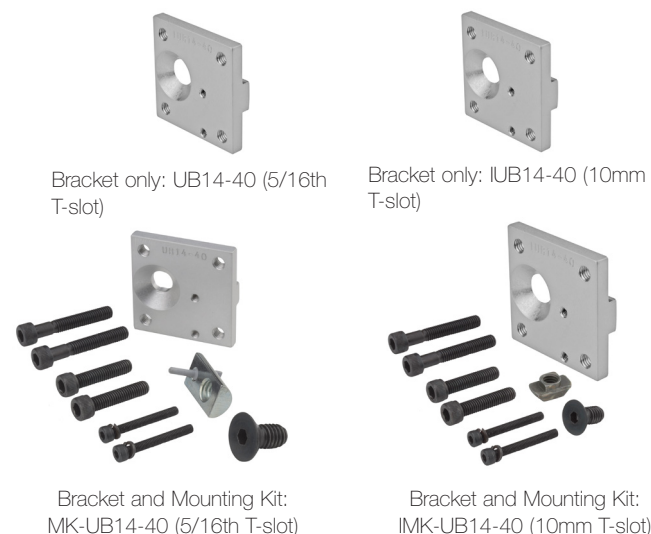
Division of
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Precision
Engineering

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Universal Mounting Brackets - Standard, Adjustable, Angled

Universal Brackets and Mounting Kits for 1.5" Extrusions

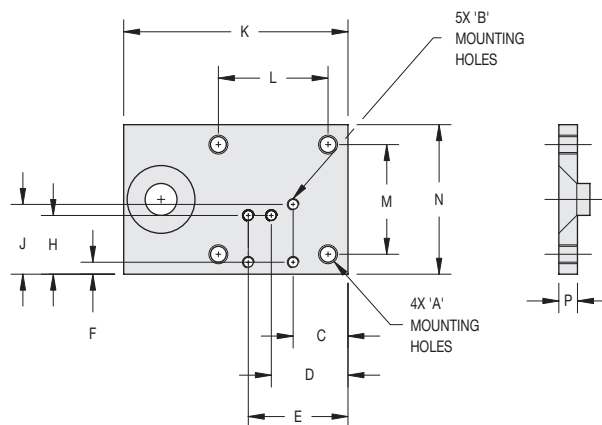
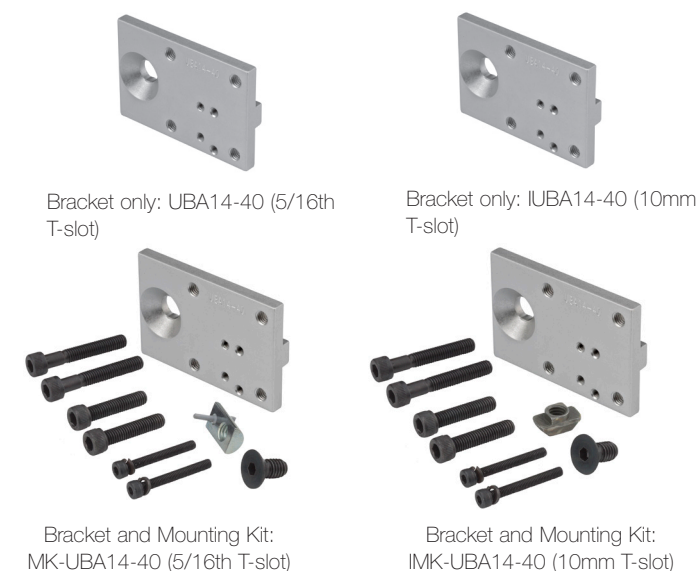


Accepts all VP10 Series pumps and above, and MB14 manifold blocks.

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

Model #			Dimensions								Weight
			A- Mtg Holes	B- Mtg Holes	C	D	E	F, J	H, K	L	
UB14-40	Fits 5/16 T-Slot	in	10-32	M3 x 0.5	0.55	0.12	0.70	1.10	1.50	0.19	0.7 oz
IUB14-40	Fits 10mm T-Slot	mm			14.0	3.0	17.8	27.90	38.10	4.70	19.8g

Universal Brackets (Adjustable) and Mounting Kits for 1.5" Extrusions



Accepts all VP Series pumps and MB14 Cup Mounts.

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

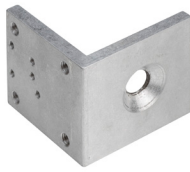
Model #			Dimensions													Weight
			A- Mtg Holes	B- Mtg Holes	C	D	E	F	H	J	K	L	M	N	P	
UBA14-40	Fits 5/16 T-Slot	in	10-32	M3 x 0.5	0.55	0.77	1.00	0.12	0.59	0.70	2.25	1.10	1.10	1.50	0.19	1 oz
IUBA14-40	Fits 10mm T-Slot	mm			14.0	19.5	25.4	3.0	15.0	17.8	57.2	27.9	27.9	38.1	4.7	28.3g

How to Specify:

Bracket only: See Model Numbers: i.e. UB14-40

Bracket & Mounting Kit: Add "MK" for mounting kit in front of Model Number i.e. MKUB14-40

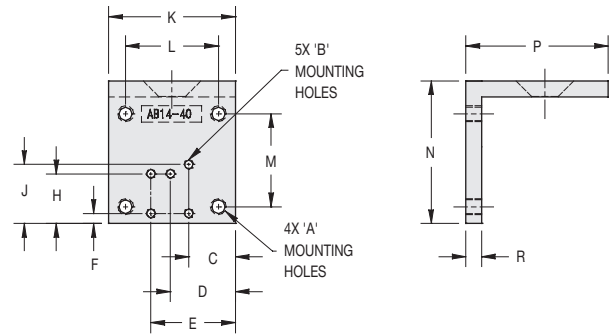
Angled Brackets and Mounting Kits for 1.5" Extrusions



Bracket only: AB14-40



Bracket & Mounting Kit: MK-AB14-40
Available with optional adjustment knob.
See Bracket Construction Sequence below



Accepts all VP Series pumps and MB14 Cup Mounts.

Note 1: Mounting kit includes all hardware to mount pumps and manifold block.

Model #		Dimensions															Weight
			A- Mtg Holes	B- Mtg Holes	C	D	E	F	H	J	K	L	M	N	P	R	
AB14-40	Fits 5/16 T-Slot	in	10-32	M3 x 0.5	0.55	0.77	1.00	0.12	0.59	0.70	1.50	1.10	1.50	1.69	1.69	0.19	1 oz
AB14-40	Fits 10mm T-Slot	mm			14.0	19.5	25.4	3.0	15.0	17.8	38.1	27.9	38.1	42.8	42.8	4.7	28.3g

How to Specify:

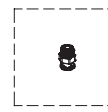
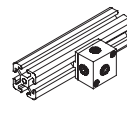
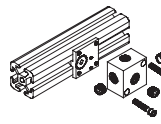
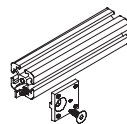
Bracket only: See Model Numbers: i.e. UB14-40

Bracket & Mounting Kit: Add "MK" for mounting kit in front of Model Number i.e. MKUB14-40

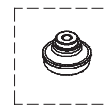
Bracket & Mounting Kit with Adjustment Knob: MK-ABK14-40 (angled brackets only)

Standard, Adjustable & Angled Bracket Construction Sequence:

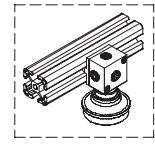
Standard Bracket



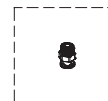
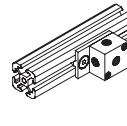
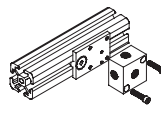
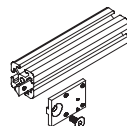
CUP FITTING



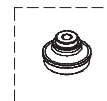
CUP



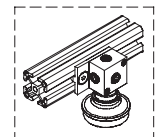
Adjustable Bracket



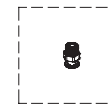
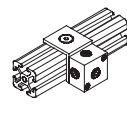
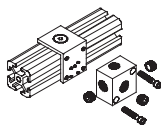
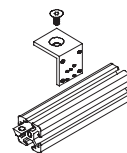
CUP FITTING



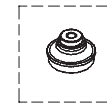
CUP



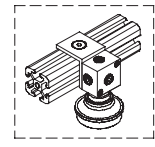
Angled Bracket



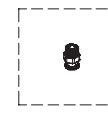
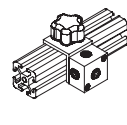
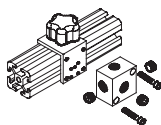
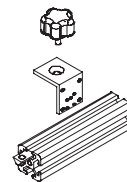
CUP FITTING



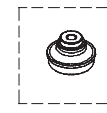
CUP



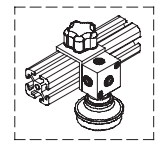
Angled Bracket w/Optional Adjustment Knob



CUP FITTING



CUP



Vacuum Cup Mount/Manifold Block

Combination Cup Mount and Manifold Block Compatible with 1" [25mm] and 1.5" [40mm] extrusions



VP80-200M distributes vacuum to four cup mount/manifold assemblies to pick up corrugated board.



MB14-40 Vacuum cup Mount/Manifold Block

Simplify your End-of-Arm tooling devices using our dual purpose MB Series - Vacuum Cup Mount/Manifold Block. Whether you are mounting vacuum cups to extrusions and/or distributing vacuum to multiple locations, the MB Series streamlines your design with one multi-functional component.

For design and plumbing flexibility, the MB Series features five vacuum ports and three mounting options that easily connect vacuum pumps and cups to 5/16" [10mm] or 1/4" [6.5mm] T-slot extrusions. Extra vacuum ports allow optional accessories to be directly mounted to the manifold block i.e. vacuum gauges or remotely plumbed such as vacuum switches, sensors or blow-off capabilities.

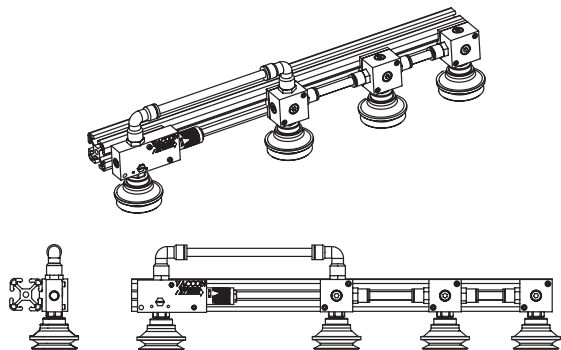
High vacuum flow is critical for handling porous objects. Vaccon offers up to 3/4" NPT ports to ensure high flow paths.

Options:

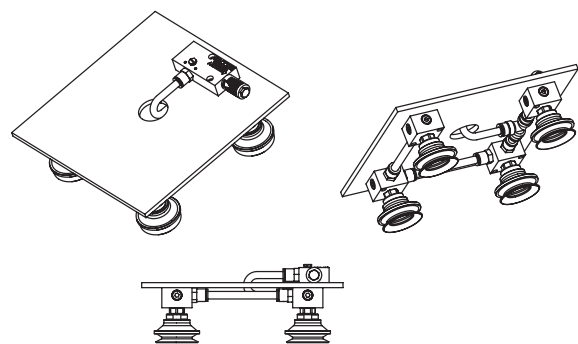
3 Mounting port options: standard, bottom or face mount

9 Models: 1/8 to 3/4 NPT

3 Universal brackets: fixed, adjustable or angled



The Vacuum cup mount/manifold easily connects to the T-slot extrusion using a Universal Bracket (see Page 12.23).



For non T-slot applications, attach the Vacuum cup mount/manifold to the underside of a flat tooling plate head.

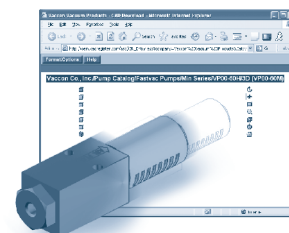
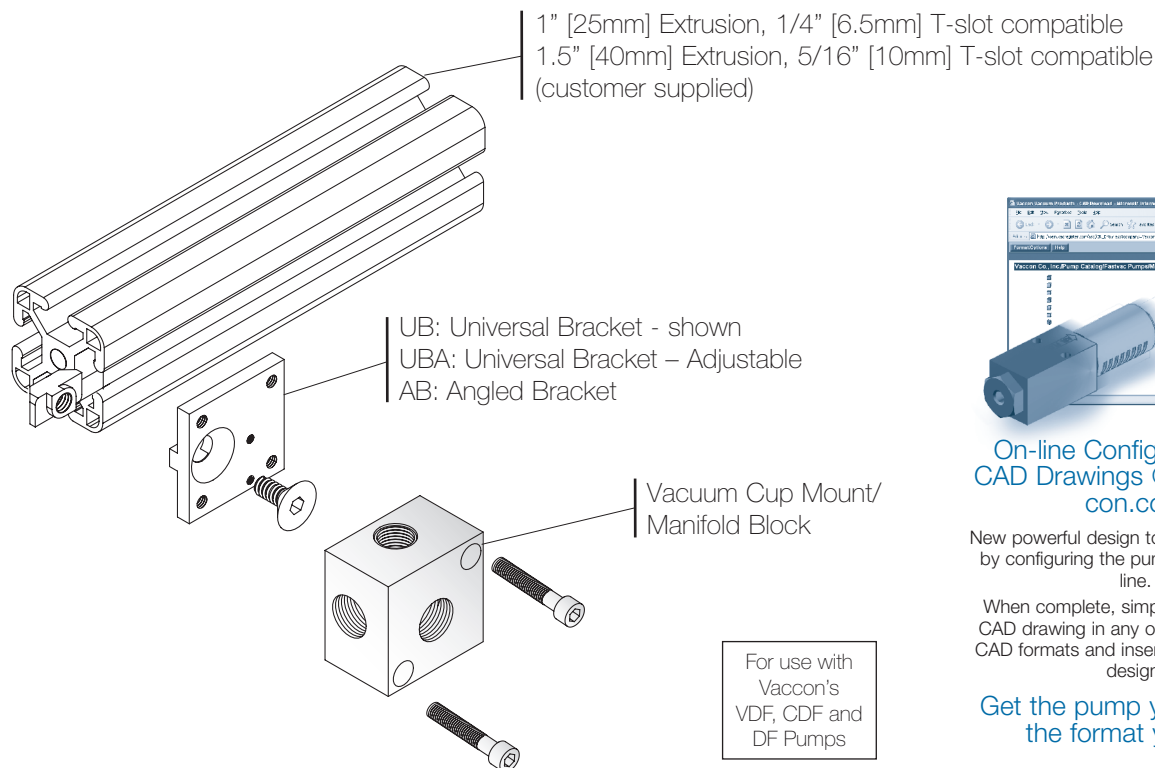
Ideal Applications:

- Robotic End Effectors/End-of-Arm Tooling
- Removing products from molds
- Sheet metal transfer
- Palletizing of work pieces
- Nesting fixtures
- Assembly fixtures
- Pick & place

Features/Benefits

- Direct mount for cups – maintains consistent height for all cups
- High performance – full vacuum flow out performs competition
- Easy to assemble, modular End-of-Arm Tooling components – minimal design time required
- Flexible design – 5 ports for easy plumbing, allows side entry vacuum, adaptable for all End-of-Arm Tooling configurations
- Square shape – easily mounts to any side of the extrusion, products stay square and flush
- Vacuum lines may be connected in series or home run plumbed to streamline the tooling fixture
- Anodized aluminum – lightweight, extends performance and life of robot, allows higher speeds
- Large thread sizes provides high flow rates for safe handling of porous objects

Vacuum Cup Mount/Manifold Configuration & Specifications:



On-line Configurator and CAD Drawings @ www.vaccon.com

New powerful design tool saves you time by configuring the pump you need on-line.

When complete, simply download the CAD drawing in any one of 13 different CAD formats and insert it right into your design.

Get the pump you need, in the format you like!

How to Specify:

Part Number	Vacuum Cup Mount/Manifold Block
MB18/I-MB18-25	1/8 NPT [G1/8] – All Female Ports – recommended for 1" (25mm) extrusions
MB14/I-MB14-40	1/4 NPT [G1/4] – All Female Ports – recommended for 1.5" (40mm) extrusions
MBB14/I-MBB14-40	1/4 NPT [G1/4] – Bottom Male Port – recommended for 1.5" (40mm) extrusions
MBB38/I-MBB38-40	3/8 NPT [G3/8] – Bottom Male Port – recommended for 1.5" (40mm) extrusions
MBB12-40	1/2 NPT [G1/2] – Bottom Male Port – recommended for 1.5" (40mm) extrusions
MBF14/I-MBF14-40	1/4 NPT [G1/4] – Face Male Port – recommended for 1.5" (40mm) extrusions
MBF38/I-MBF38-40	3/8 NPT [G3/8] – Face Male Port – recommended for 1.5" (40mm) extrusions
MBF12/I-MBF12-40	1/2 NPT [G1/2] – Face Male Port – recommended for 1.5" (40mm) extrusions
MBF34/I-MBF34-40	3/4 NPT [G3/4] – Face Male Port – recommended for 1.5" (40mm) extrusions

Please note: All vacuum cup mount/manifolds include 3 flush plugs to seal extra ports.

Please order vacuum cup mount/manifolds as separate line items based on part number i.e. MBB12-40

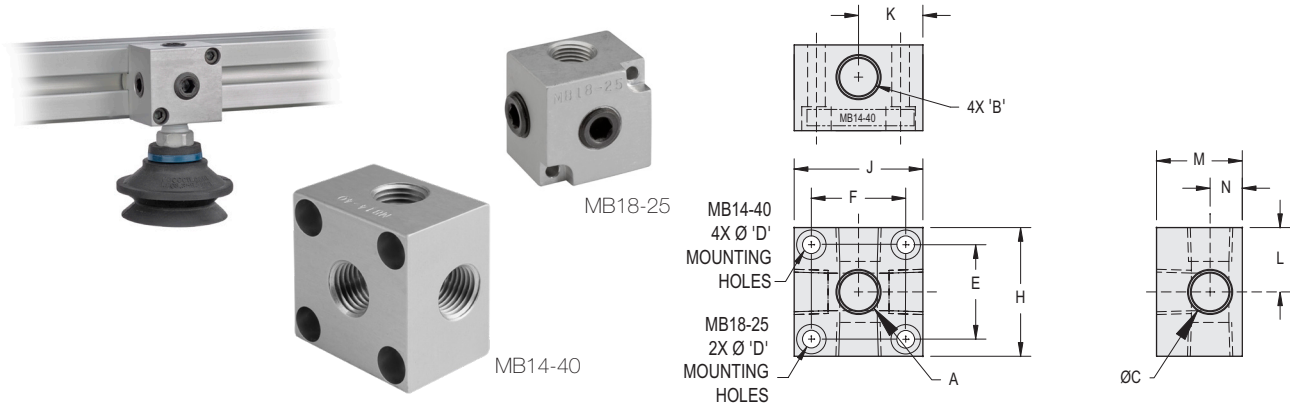
If you would like parts factory assembled, please specify on order "factory assembled."

To attach Vacuum Cup Mount/Manifold to extrusion, please see page 12.23 for Universal Bracket mounting options.



Vacuum Cup Mount/Manifold Block

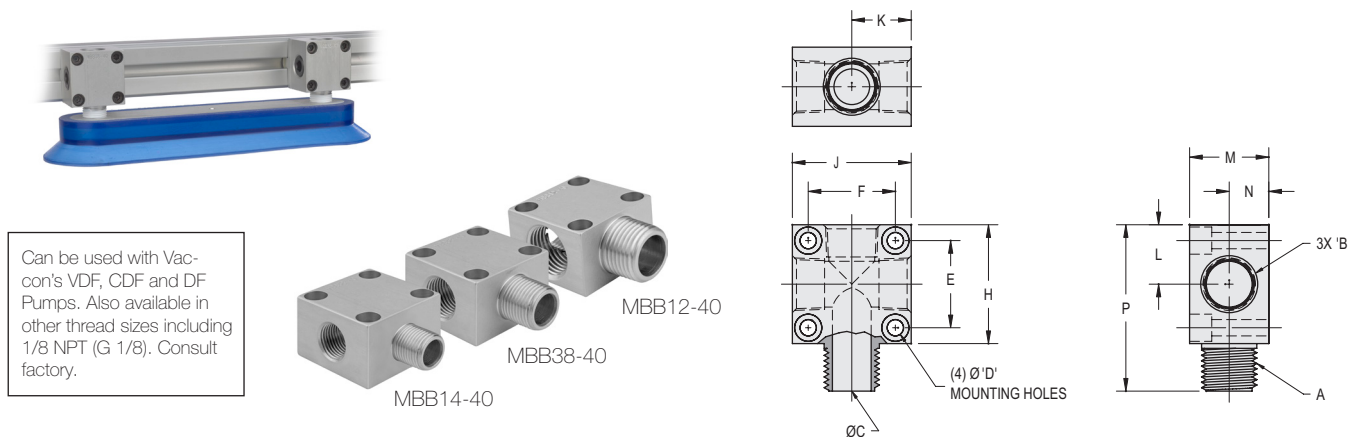
Vacuum Cup Mount/Manifold – All Female ports : MB14-40, 18-25



Model #		Dimensions - Fits 1" [25mm] Extrusions										Weight
		A-Thread	B- Thread	C	D	E, F	H, J	K, L	M	N	P	
MB18-25	in	1/8 NPT	1/8 NPT	0.34	0.10	0.75	1.00	0.50	0.75	0.25	N/A	1.2 oz
I-MB18-25	mm	G 1/8	G 1/8	8.6	3.3	19.1	25.4	12.7	19.0	6.4	N/A	34g

Model #		Dimensions - Fits 1.5" [40mm] Extrusions										Weight
		A-Thread	B- Thread	C	D	E, F	H, J	K, L	M	N	P	
MB14-40	in	1/4 NPT	1/4 NPT	0.44	0.21	1.10	1.50	0.75	1.00	0.38	N/A	2.6 oz
I-MB14-40	mm	G 1/4	G 1/4	11.1	5.2	27.9	38.1	19.0	25.4	9.53	N/A	73.7g

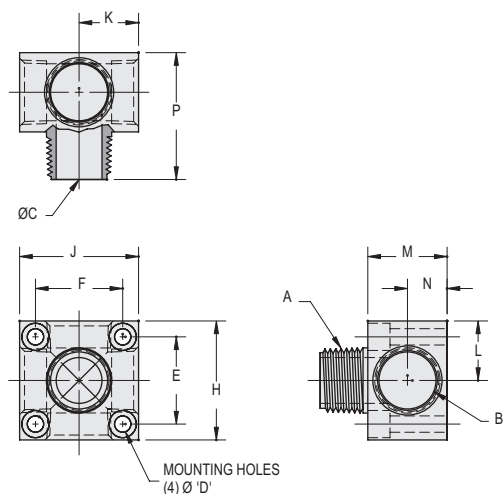
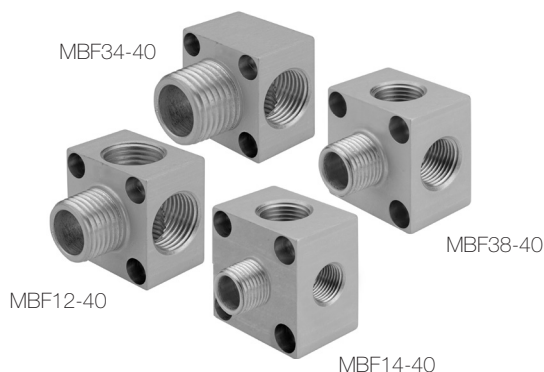
Vacuum Cup Mount/Manifold – Bottom Male ports : MBB(14, 38, 12) -40



Can be used with Vaccon's VDF, CDF and DF Pumps. Also available in other thread sizes including 1/8 NPT (G 1/8). Consult factory.

Model #		Dimensions - Fits 1.5" [40mm] Extrusions										Weight
		A-Thread	B- Thread	C	D	E, F	H, J	K, L	M	N	P	
MBB14-40	in	1/4 NPT	1/4 NPT	0.34	0.21 [5.2]	1.10 [27.9]	1.50 [38.1]	0.75 [19.0]	1.00 [25.4]	0.50 [12.7]	2.00	2.6 oz
I-MBB14-40	mm	G 1/4	G 1/4	8.6							50.8	73.7g
MBB38-40	in	3/8 NPT	3/8 NPT	0.45							2.10	2.9 oz
I-MBB38-40	mm	G 3/8	G 3/8	11.4							53.3	82.2g
MBB12-40	in	1/2 NPT	1/2 NPT	0.58							2.10	1.9 oz
I-MBB12-40	mm	G 1/2	G 1/2	14.7							53.3	53.9g

Vacuum Cup Mount/Manifold – Face Male Port : MBF(14, 38, 12, 34) -40



Can be used with Vaccon's VDF, CDF and DF Pumps. Also available in other thread sizes including 1/8 NPT (G 1/8). Consult factory.

Model #		Dimensions - Fits 1.5" [40mm] Extrusions										Weight
		A-Thread	B- Thread	C	D	E, F	H, J	K, L	M	N	P	
MBF14-40	in	1/4 NPT	4 x 1/4 NPT	0.34	0.21 [5.2]	1.10 [27.9]	1.50 [38.1]	0.75 [19.0]	1.00 [25.4]	0.50 [12.7]	1.50	2.6 oz
I-MBF14-40	mm	G 1/4	4 x G 1/4	8.6							38.1	73.7g
MBF38-40	in	3/8 NPT	4 x 3/8 NPT	0.45							1.50	2.7 oz
I-MBF38-40	mm	G 3/8	4 x G 3/8	11.4							38.1	76.5g
MBF12-40	in	1/2 NPT	4 x 1/2 NPT	0.58							1.60	1.7 oz
I-MBF12-40	mm	G 1/2	4 x G 1/2	14.7							40.6	48.2g
MBF34-40	in	3/4 NPT	2 x 3/4 NPT	0.75							1.60	1.8 oz
I-MBF34-40	mm	G 3/4	2 x G 3/4	19.1							40.6	51.0g

Push-to-Connect Fittings



Push-to-Connect Male Elbow Fitting connects to Vacuum cup Mount/Manifold Block on Adjustable Universal Bracket

Features/Benefits

- Ready to use, easy to install
- Compact and lightweight
- Fast assembly, disassembly and reassembly – minimal downtime
- No tools required
- No flow restrictions – quick cycle time
- Elbow or elbow angle for tight spaces
- Durable – all metal, solid brass nickel-plated construction
- Tubing sizes: 1/8" to 1/2" OD
- Male or female NPT threads (1/8 to 1/2 NPT)

Push-to-Connect (PTC) fittings are a robotic, End-of-Arm tooling component that connects all Vaccon vacuum pumps, cups, and spring levelers to each other or tubing.

Vaccon provides complete End-of-Arm tooling devices that can be ordered pre-assembled and tested at the factory or shipped in component format for on-site assembly.

Specifications:

Fitting Material:	Brass, nickel plated, PTFE seal ring, Buna-N o-ring
Operating Pressure:	0-250 PSI
Operating Temperature:	0° F to 160° F [-18° C to 71° C]
Vacuum rating:	29"Hg
Fluid:	Compressed air

Eliminate the Guesswork: Contact Us!

Vacuum technology isn't an exact science. To ensure proper product selection, Vaccon offers free application engineering assistance, a 30 Day Test & Evaluation Program or you can send sample products to our in-house test facility and we will test and size a pump for you.

To download a complete set of drawings in multiple CAD formats, please visit our website at www.vaccon.com

For more information or technical assistance, please call 508-358-7200 or 800-848-8788 or email engineering@vaccon.com

PTC Fittings: Male Straight



Model #	Male Straight Fittings	
VSLF-02-32MS	Straight PTC fitting 1/8" OD x 10-32 NPT Male	Connect to VSL1 Spring Levelers
VSLF-04-32MS	Straight PTC fitting 1/4" OD x 10-32 NPT Male	
VMPF-04-14MS	Straight PTC fitting 1/4" OD x 1/4 NPT Male	Connect to Vaccon vacuum pumps, and Vacuum cup mount/manifold blocks
VMPF-04-38MS	Straight PTC fitting 1/4" OD x 3/8 NPT Male	
VMPF-06-14MS	Straight PTC fitting 3/8" OD x 1/4 NPT Male	
VMPF-06-38MS	Straight PTC fitting 3/8" OD x 3/8 NPT Male	
VMPF-06-12MS	Straight PTC fitting 3/8" OD x 1/2 NPT Male	
VMPF-08-38MS	Straight PTC fitting 1/2" OD x 3/8 NPT Male	
VMPF-08-12MS	Straight PTC fitting 1/2" OD x 1/2 NPT Male	

PTC Fittings: Male Elbow



Model #	Male Elbow Fittings	
VSLF-04-32ME	Elbow PTC fitting 1/4" OD x 10-32 Male	Connect to VSL1 Spring Levelers
VMPF-04-18ME	Elbow PTC fitting 1/4" OD x 1/8 NPT Male	Connect to Vaccon vacuum pumps, spring levelers and Vacuum cup mount/manifold blocks
VMPF-04-14ME	Elbow PTC fitting 1/4" OD x 1/4 NPT Male	
VMPF-06-14ME	Elbow PTC fitting 3/8" OD x 1/4 NPT Male	
VMPF-06-38ME	Elbow PTC fitting 3/8" OD x 3/8 NPT Male	
VMPF-06-12ME	Elbow PTC fitting 3/8" OD x 1/2 NPT Male	
VMPF-08-38ME	Elbow PTC fitting 1/2" OD x 3/8 NPT Male	
VMPF-08-12ME	Elbow PTC fitting 1/2" OD x 1/2 NPT Male	

PTC Fittings: Female Straight



Model #	Female Straight Fittings	
VSLF-02-18FS	Straight PTC fitting 1/8" OD x 1/8 NPT Female	Connect to VSL2 Spring Levelers
VSLF-04-18FS	Straight PTC fitting 1/4" OD x 1/8 NPT Female	
VSLF-06-18FS	Straight PTC fitting 3/8" OD x 1/8 NPT Female	
VSLF-04-14FS	Straight PTC fitting 1/4" OD x 1/4 NPT Female	Connect to VSL3 Spring Levelers
VSLF-06-14FS	Straight PTC fitting 3/8" OD x 1/4 NPT Female	
VSLF-06-38FS	Straight PTC fitting 3/8" OD x 3/8 NPT Female	

PTC Fittings: Female Elbow



Model #	Female Elbow Fittings	
VSLF-04-18FE	Elbow PTC fitting 1/4" OD x 1/8 NPT Female	Connect to VSL2 Spring Levelers
VSLF-04-14FE	Elbow PTC fitting 1/4" OD x 1/4 NPT Female	Connect to VSL3 Spring Levelers
VSLF-06-14FE	Elbow PTC fitting 3/8" OD x 1/4 NPT Female	
VSLF-08-38FE	Elbow PTC fitting 1/2" OD x 3/8 NPT Female	

Consult factory for additional fitting sizes.



NOTES:

