Guidelines

For Easy Vacuum Cup Selection

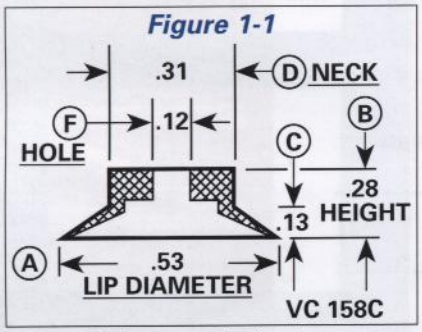
Proper vacuum cup selection can be divided into two categories:

A. Finding a suitable replacement to an already existing Vacuum Cup

Step 1: Match your existing vacuum cup to one of the styles shown on pages 6 and 7.

Step 2: Turn to that page and match the lip diameter of your cup using the "A" column. Now select the part which closest represents the existing cup by comparing the rest of the dimensions. Example: If you have a cup which matches Figure 1-1, then you would turn to style "B". Next you would locate .53 in the "A" column and match the rest of the dimensions. In this case your final selection would be VC 158C.

Figure 1-1



Refer to cups by diameter
(see Parts Index starting on page 48).

B. Selecting a Vacuum Cup for a "new" application

Step 1: Determine the lip diameter required. (Below is a chart that will allow you to calculate the approximate lifting capacity based on the lip diameter.)

Step 2: Select style of vacuum cup preferred (pages 6 & 7).

Step 3: Find matching diameter in the "A" column.

Step 4: Cross-reference style and "A" dimension to select the proper vacuum cup.

Unless otherwise specified, parts ordered will be manufactured from our standard A50 blue vinyl material.

Note: If your selection cannot be found or you have a special application, please refer to our Technical Help Department at 513-791-7741.

Vacuum in Inches Mercury	1"	1-1/4	1-1/2	1-3/4	2"	2-1/4	3"	3-1/8	3-1/2	4"	4-1/2	5"	5-1/4	5-3/4	6-1/2	7"	8-1/2
5	.5	.8	1.1	1.5	2	2.5	4.5	5	6	8	10	12	13	16	20	24	35
10	1	1.6	2.2	3	4	5	9	10	12	16	20	24	26	32	40	48	70
15	1.5	2.4	3.3	4.5	6	7.5	13.5	15	18	24	30	36	39	48	60	72	105
20	2	3.2	4.4	6	8	10	18.0	20	24	32	40	48	52	64	80	96	140
21	2.1	3.4	4.6	6.3	8.4	10.5	18.9	21	25.2	33.6	42	50.4	54.6	67.2	84	100.8	147
25	2.5	4	5.5	7.5	10	12.5	22.5	25	30	40	50	60	65	80	100	120	175

Figures shown are approximate to 1/2 lb., have a 4 to 1 safety factor, and are based on the following formula:

$$\text{Lifting capacity} = \frac{.4912 \times \text{cup area} \times \text{inches vacuum}}{4}$$

Due to the variety of lip design the actual lifting capacity cannot be guaranteed.

513-791-7741 • 513-791-6484 FAX

Material Specifications

Material	Working Temperature	Wear Resistance	Oil Resistance	Durometer
Vinyl	+32 – +125°F	Excellent	Fair	A20 – A75 Range
Urethane	+32 – +150°F	Good	Good	A20 – A70 Range
Silicone	-50 – +400°F	Good	Good	A30 – A60 Range
Oil Resistant Vinyl	+32 – +125°F	Good	Excellent	A40 – A60 Range

Standard Durometer is A50 + or - 5 points.

Unless otherwise specified, parts ordered will be manufactured from our standard A50 blue vinyl material.

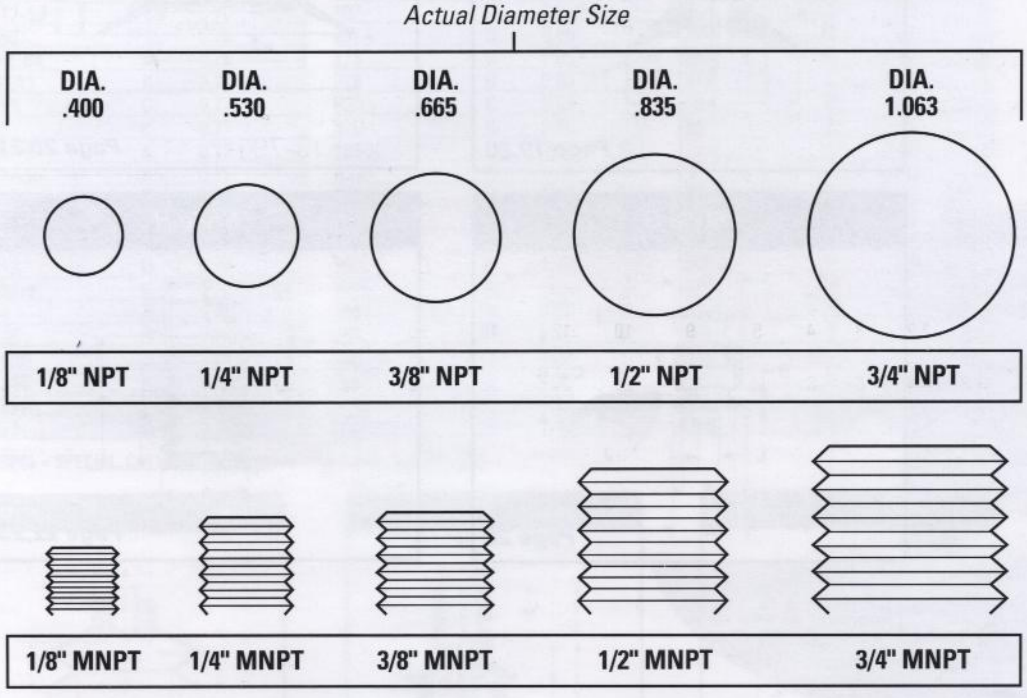
Other materials available:

FDA Vinyl
Anti-Static Vinyl
FDA Silicone

Definitions

Durometer: Method by which the hardness of the material is gauged
Cleats: Bottom protrusions used for maintaining a larger vacuum area
Bellows: The fold or collapsible area that allows the cup to compress like an accordion
Insert/Fitting: Metallic piece bonded to the material to allow fastening by threads or bolts
Convolution: The folded area of a bellows cup that makes up 1 internal "V"
Suction Cup: Cup that does not require an external vacuum source to adhere to a surface
Vacuum Cup: Cup that does require the use of an external vacuum source to adhere to a surface

SIZE COMPARISONS
ACTUAL OUTSIDE DIAMETERS OF PIPE THREADS



Most ordering problems occur by measuring the actual size of a fitting. This is the incorrect way of measuring. This sizing guide will help in determining the correct size that you need to order.

The most widely used pipe threads are National Pipe Threads (NPT). This thread has a taper that provides a leak resistant fit.
NPT and FPT = Female Threads
MPT and MNPT = Male Threads