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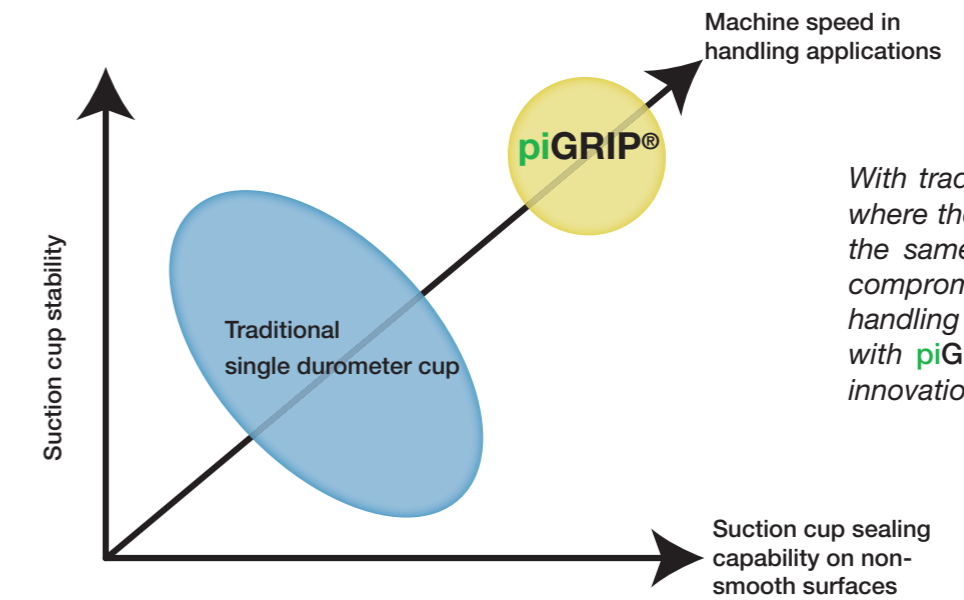
# piGRIP®

Taking gripping to new dimensions



# piGRIP® Versatility and productivity

A modular suction cup that fits most machines and that can be optimized for handling almost all materials. piGRIP®'s five different lip types ensure the right hardness/softness and sealing capability for your material. Combined with the firm bellows, piGRIP® is stable enough to handle faster accelerations and more high speed lifts as compared to traditional cups.



*With traditional single durometer cups, where the lips and bellows are made of the same material, you either have to compromise on the grip or the machine handling speed. That is now history with piGRIP®, the efficient automation innovation from Piab.*

▶ Materials that are in accordance with **FDA** are available for the food industry.

▶ **100% Recyclable** and separable material contribute to an environmental friendly and sustainable waste management program as opposed to cup materials like PVC.

▶ Can be used in **high temperature** applications such as injection molding. Material options free from silicone and Paint Wetting Impairment Substances (PWIS).



No need to compromise.

[www.piab.com](http://www.piab.com)

Product Group
piGRIP®
Code
G

Lip			
Dimension & Type		Material & Durometer	
Code	Description	Code	Description
S25	Ø 25 mm Standard lip	T60 T50	TPE 60° Shore A TPE 50° Shore A
S35	Ø 35 mm Standard lip		
S50	Ø 50 mm Standard lip		
S70	Ø 70 mm Standard lip		
FX28	Ø 28 mm Flexible lip	T50 T30	TPE 50° Shore A TPE 30° Shore A
FX39	Ø 39 mm Flexible lip		
FX55	Ø 55 mm Flexible lip		
FX77	Ø 77 mm Flexible lip		
FLI25	Ø 25 mm Foam lip	S	Foam EDPM (soft)
FLI35	Ø 35 mm Foam lip		
FLI50	Ø 50 mm Foam lip		
FLI70	Ø 70 mm Foam lip		

Lips are available as spare parts.

Bellows or Flat Cup	
Code	Description
B1	1 bellows
B3	3 bellows
F	Flat

Support	
Code	Description
S1	Support type 1

Fitting					
Type	Code	Description	Code	Description	Style
G-Thread NPT-Thread	18	1/8"	M	Male	
	14	1/4"			
	38	3/8"			
	12	1/2"			
G-Thread low NPT-Thread low	18	1/8"	M	Male	
	14	1/4"			
	38	3/8"			
	12	1/2"			
NPSF-Thread G-Thread	18*	1/8"	F	Female	
	14	1/4"			
	38	3/8"			
	12	1/2"			
	518*	5x1/8"			
NPT-Thread	14	1/4"	F	Female	
	38	3/8"			
M-Thread	M6	M6	M	Male	
	MF8	M8x1			
	M10	M10			
	MF14	M14x1			
	MF16	M16x1.5			
M-Thread	M5	M5	F	Female	
	M6	M6			
	M8	M8			
	M10	M10			
	M12	M12			
UNC-Thread	12	1/2"	F	Female	
	X	No Type			

\*) Fitting code G18F and G518F are automatically changed to NS18F and NS518F due to identical threads.  
Fittings are available as spare parts.

Option	
Code	Description
00	No Filter
01	Filter mesh
02	Filter disc (only bellows cup)

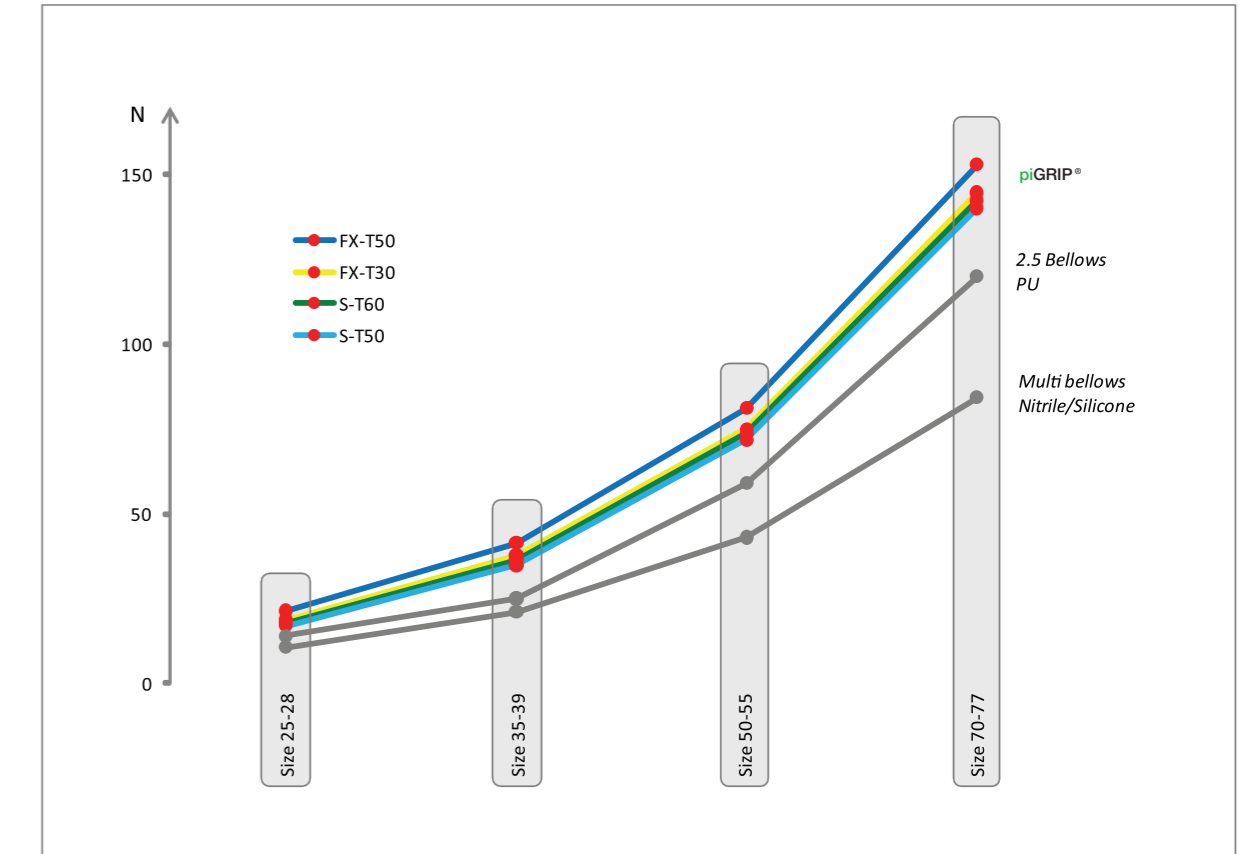
FDA approved option includes material certificate	
Code	Description
FDA	US Food and Drug Administration

\*) Leave blank for no certificate. Certificate includes a fee.



**G . S50T60 . B3 . S1 . G38M . 01 ( . )**

Up to 50% improved lifting force with piGRIP®. Use fewer cups or smaller sizes.



Proven function and lifting capacity within specified area of operation.  
See suction cup selection guide on [www.piab.com](http://www.piab.com) for specified performance data.

**Material Specifications**

Material	Hardness Shore A °	Item(s)	Colour	Temp. range ° C	Special qualities
TPE	80-87	Support S1	Lime/Transparent	-20 – 80 / 120*	FDA**, Silicone/PWIS free, Mark free, oil resistant
TPE	87	Bellows	Lime/Transparent	-20 – 80 / 120*	FDA**, Silicone/PWIS free, Mark free, oil resistant
TPE	60	Standard Lip (S) T60	Green	-20 – 80 / 120*	Silicone/PWIS free, Mark free, oil resistant
TPE	50	Standard Lip (S) T50	Blue	-40 – 80 / 120*	FDA
TPE	50	Flexible Lip (FX) T50	Blue	-40 – 80 / 120*	FDA
TPE	30	Flexible Lip (FX) T30	Yellow	-40 – 80 / 100*	FDA
EPDM	-	Foam Lip (FLI)	Black	-40 – 120	Ultra soft cellular rubber
PU	60	Foam Lip holder	Green	10 – 50	

\*) Max Temperature short term contact, <10 sec and 50% intermittence, ambient temperature 15-30 °C, mechanical properties will start to degrade.  
\*\*) FDA approved option in transparent material.

Go to suction cup selection guide on [www.piab.com](http://www.piab.com) to configure your suction cup.



# Thousands of suction cups ready to improve your machine

A unique modular suction cup concept with individually optimized parts for gripping, lifting and height compensation.

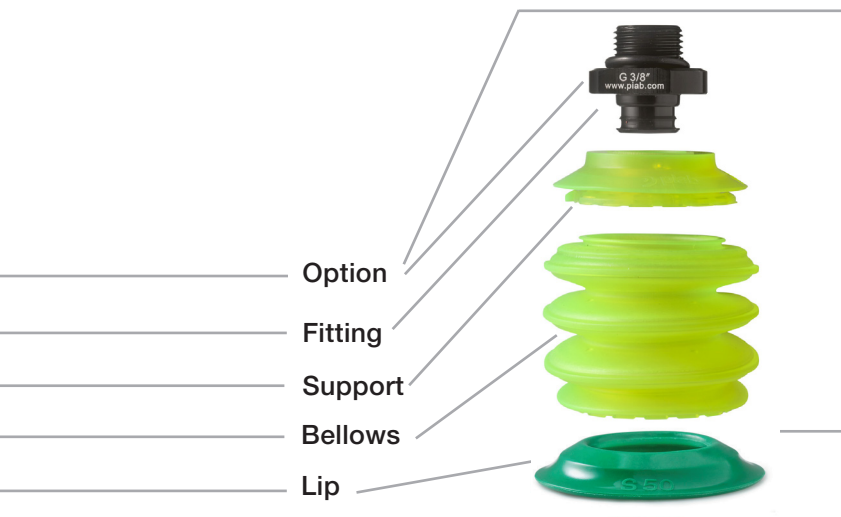
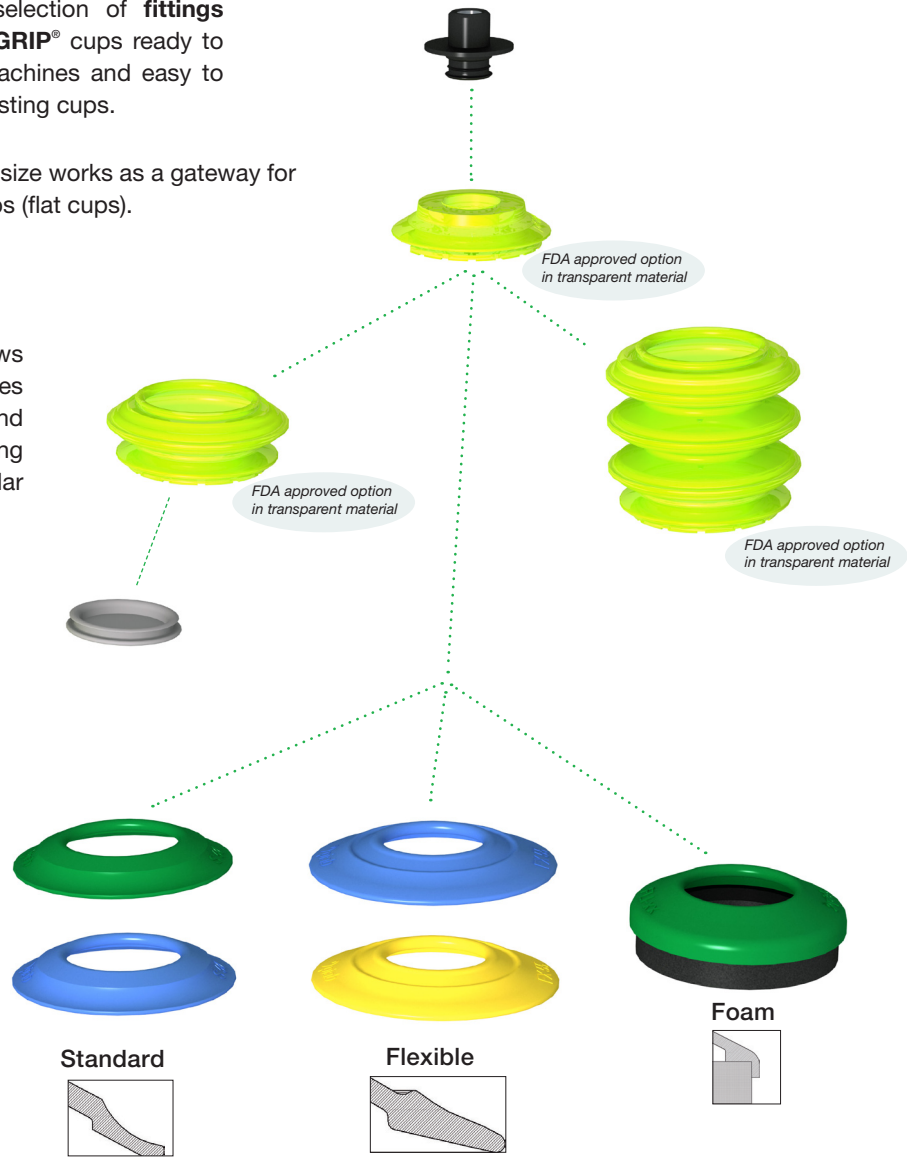
A large selection of **fittings** makes piGRIP® cups ready to fit new machines and easy to retrofit existing cups.

One **support** per size works as a gateway for all bellows and lips (flat cups).

Firm and Stable 1- and 3- folded **bellows** allows for faster machine speeds. Thin-wall design makes them faster to compress using less force and energy. The strength of the material increases lifting capacity between 30-50% compared to similar conventional cups.

A low micron **filter disc** inside the bellows traps dust and particles increasing system reliability.

Get an excellent grip on almost anything with the right **lip** for your application. Choose standard lips from 60° shore to extremely flexible, soft lips in 30° shore. Even foam lips for objects which are difficult to grip with traditional cups.



80°-87°	TPE, Oil resistant, Silicone/PWIS free & Mark free
80°-87°	TPE, FDA, Oil resistant, Silicone/PWIS free & Mark free
60°	TPE, Oil resistant, Silicone/PWIS free & Mark free
50°	TPE, FDA
30°	TPE, FDA
60°	PU
S	EPDM, Foam

Superior performance with individually optimized parts.



## Standard lip (S)

– for versatile use

▶ The green standard lip is suitable for relatively even surfaces on sealed materials. It has extra wear resistance.

▶ The blue standard lip is recommended if the surface is more uneven or rough, e.g. textured plastic parts. FDA approved material recommended for food handling.

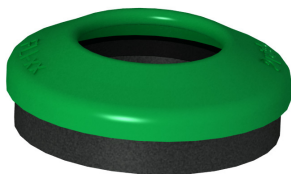


## Flexible lip (FX)

– with extra sealing capability

▶ The flexible lips are suitable for surface leaking materials (wrinkled or textured) and porous materials, such as corrugated paper.

▶ Both the blue and yellow lips have FDA approved material and are recommended for food handling.



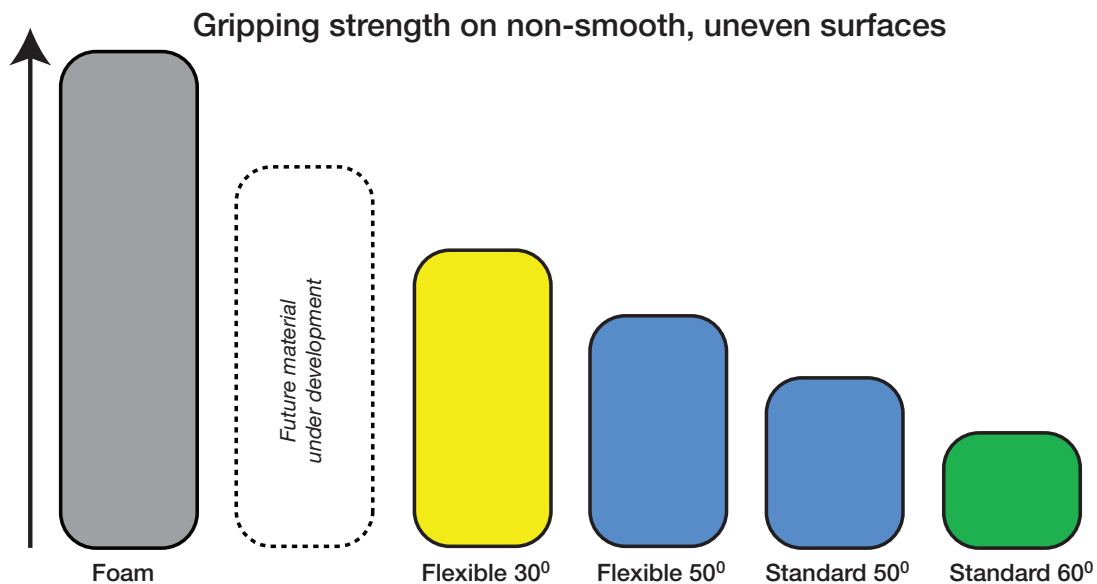
## Foam lip (FLI)

– for difficult to handle objects

▶ Suitable when conventional lips are not sealing enough.

▶ Can replace mechanical grippers.

▶ A lip holder excludes the need for glue, worn lips are easy replaced.





## Support – the generic interface

- ▶ Gateway between fittings and bellows or lips (for flat cups).
- ▶ Adds cleats with good wear resistance and friction to flat cups.



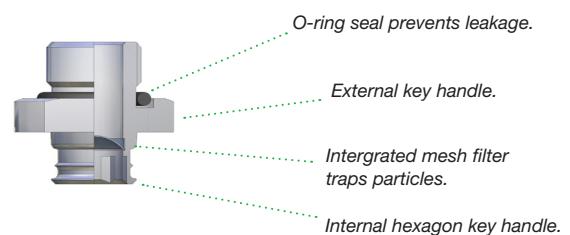
## Bellows – when level compensation is needed

- ▶ Firm/stable bellows allows for high machine speeds.
- ▶ Low spring force with thin-wall design, makes it easy to compress and return, leading to faster evacuations and speeds.
- ▶ Extra high lifting force compared to conventional cups in the same size. The stiff bellows retains its shape even at deep vacuum levels.



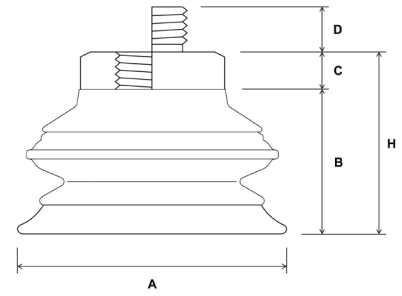
## Fitting - huge selection for many machines and industries

- ▶ All fittings are possible to use for all configurations. Easy to upgrade/change.



## Suction cup dimensions, mm

Lip type & size	Dim. A	Dim. B.			
		F (Flat)	B-1 (1 Bellows)	B-3 (3 Bellows)	
	S25	25	10.9	18.7	29.8
	S35	35	12.4	23.3	38.8
	S50	50	14.7	30.3	52.4
	S70	70	17.8	39.6	70.6
	FX28	28	11.4	19.2	30.3
	FX39	38	13.1	24.0	39.5
	FX55	55	15.7	31.3	53.4
	FX77	77	19.2	41	72
	FLI25	25	17.5	25.3	36.4
	FLI35	35	21.5	32.4	47.9
	FLI50	50	32.1	47.7	69.8
	FLI70	70	34.1	55.9	86.9



Build height:

$$H = B + C = 18.7 + 5 = 23.7 \text{ mm}$$

## Fitting dimensions, mm

Type	Code	Dim. C	Dim. D	Description	Recommended fitting size for best performance*			
					S25 FX28 FLI25	S35 FX39 FLI35	S50 FX55 FLI50	S70 FX77 FLI70
	G18M	5	6	Fitting G1/8" male	x	x	x	
	G14M	6	9	Fitting G1/4" male	x	x	x	x
	G38M	6	10	Fitting G3/8" male		x	x	x
	G12M	6	10	Fitting G1/2" male			x	x
	GL18M	1.5	6	Fitting G1/8" low male	x	x	x	
	GL14M	1.5	9	Fitting G1/4" low male	x	x	x	x
	GL38M	1.5	10	Fitting G3/8" low male		x	x	x
	NT18M	5	7	Fitting 1/8" NPT male	x	x	x	
	NT14M	6	11	Fitting 1/4" NPT male	x	x	x	x
	NT38M	6	11.5	Fitting 3/8" NPT male		x	x	x
	NT12M	6	15	Fitting 1/2" NPT male			x	x
	NTL18M	1.5	7	Fitting 1/8" NPT low male	x	x	x	
	NTL14M	1.5	11	Fitting 1/4" NPT low male	x	x	x	x
	NTL38M	1.5	11.5	Fitting 3/8" NPT low male		x	x	x
	MM6M	5	6	Fitting M6 male	x	x		
	MMF8M	5	6	Fitting M8 x 1 male	x	x	x	
	MM10M	6	10	Fitting M10 male	x	x	x	
	MMF14M	6	12	Fitting M14 x 1 male	x	x	x	x
	MMF16M	6	12	Fitting M16 x 1.5 male		x	x	x
	G14F	10	-	Fitting G1/4" fem	x	x	x	
	G38F	13	-	Fitting G3/8" fem		x	x	x
	G12F	14	-	Fitting G1/2" fem			x	x
	NS18F**	7	-	Fitting 1/8" NPSF fem	x	x	x	
	NS14F	10	-	Fitting 1/4" NPSF fem	x	x	x	x
	NS38F	13	-	Fitting 3/8" NPSF fem		x	x	x
	NS12F	14	-	Fitting 1/2" NPSF fem			x	x
NS518F**	18	-	Fitting 5x1/8" NPSF fem	x	x	x		
	NT14F	12	-	Fitting 1/4" NPT fem	x	x	x	x
	NT38F	13	-	Fitting 3/8" NPT fem		x	x	x
	U12F	12	-	Fitting 1/2" UNC fem			x	x
	MM5F	6	-	Fitting M5 fem	x	x		
	MM6F	6	-	Fitting M6 fem	x	x		
	MM8F	7	-	Fitting M8 fem	x	x	x	
	MM10F	7	-	Fitting M10 fem	x	x	x	
	MM12F	12	-	Fitting M12 fem	x	x	x	
	MMF16F	13	-	Fitting M16 x 1.5 fem		x	x	x

\*) No flow restriction or excessive volume to evacuate, which will deteriorate the performance of the vacuum system.

\*\*\*) Fitting code G18F and G518F are automatically changed to NS18F and NS518F due to identical threads.