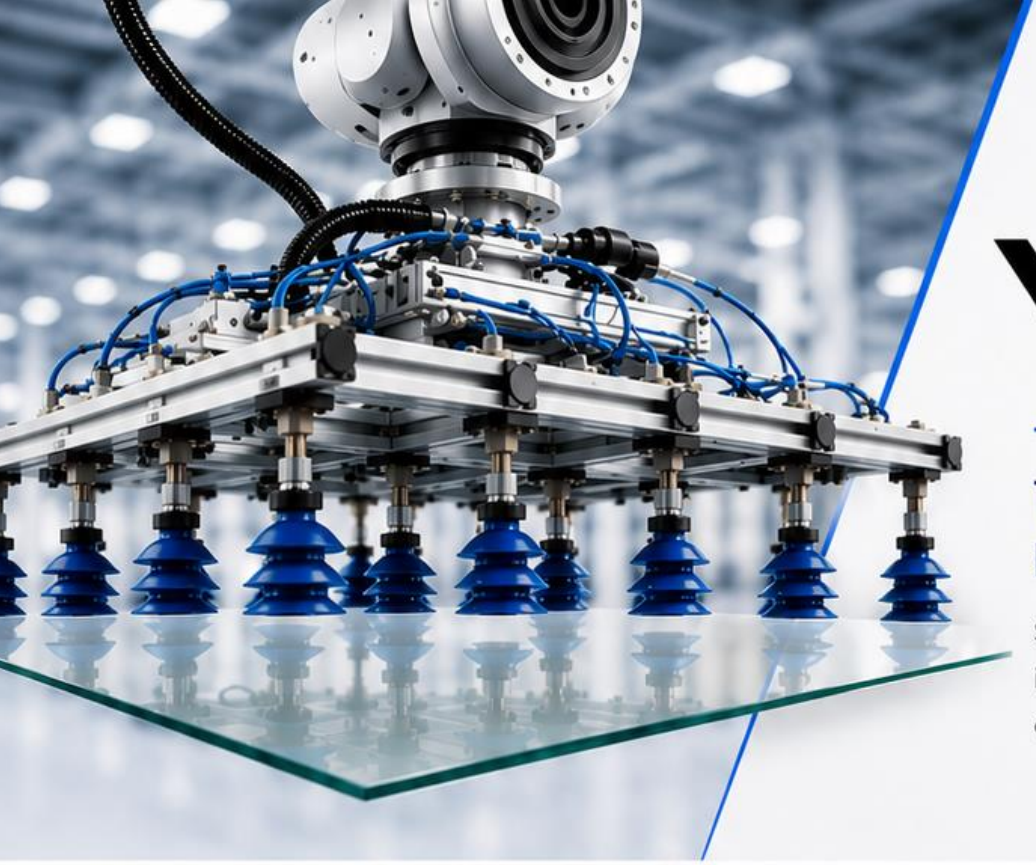

VORAM



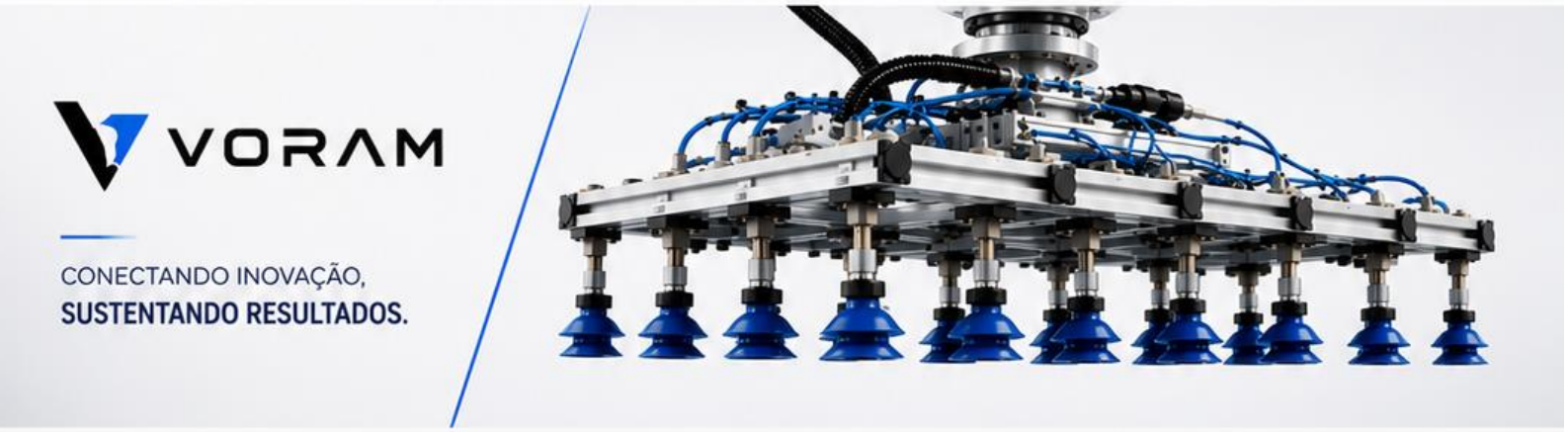
VORAM

TECNOLOGIA DE **VÁCUO** PARA MÁXIMO **DESEMPENHO**

Soluções inteligentes para automação industrial com máxima eficiência, confiabilidade e precisão.



VORAM



VORAM

CONECTANDO INOVAÇÃO,
SUSTENTANDO RESULTADOS.

MÁXIMA EFICIÊNCIA
Alto desempenho na movimentação e redução de ciclo.

CONFIABILIDADE
Projetos robustos para operações contínuas e seguras.

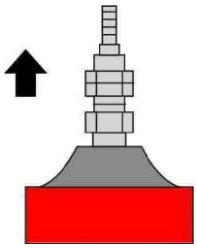
PRECISÃO
Tecnologia de vácuo para posicionamento exato e repetível.

PRODUTIVIDADE
Soluções que aumentam a eficiência e a performance da linha.

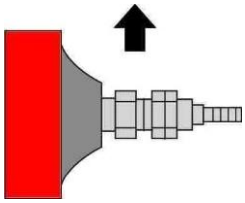
SUSTENTABILIDADE
Menor consumo de ar e energia com máxima performance.

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Cálculo de Diâmetro de Ventosas



Elevação Horizontal



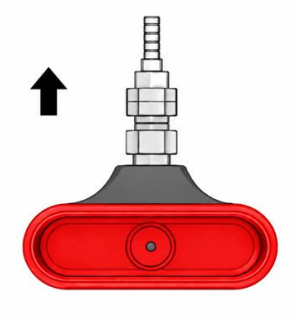
Elevação Vertical

$$D=2\sqrt{\frac{M\times 9.8\times S\times 1000}{\pi\times n\times P}}$$

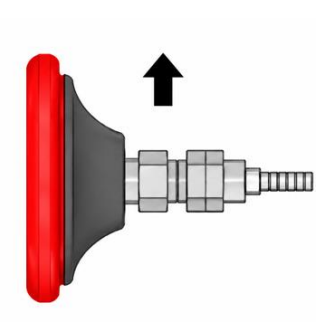
D : Diâmetro da ventosa (mm)
M : Peso da peça (kg)
S : Fator de segurança Horizontal: S=4
Vertical: S=8
n : Número de ventosas
P : Pressão de vácuo (-kPa)

Diâmetro	Superfície de Sucção (cm)	Pressão Vácuo (lá a)					
		-40	-50	-60	-70	-80	-90
1	0.008	0.031	0.039	0.047	0.055	0.063	0.071
15	0.018	0.071	0.088	106	124	0.141	159
2	0.031	0.126	0.157	0.188	0.22	0.251	0.283
3.5	0.096	0.385	0.481	0.577	0.673	0.77	0.866
4	0.126	0.502	0.628	0.754	0.879	1.005	1.13
5	0.196	0.785	0.982	1.178	1.374	1.571	1.767
6	0.283	J.131	1.414	1.696	1.979	2.262	2.545
7	0.385	1.539	1.923	2.308	2.693	3.077	3.462
8	0.503	2.011	2.513	3.016	3.519	4.021	4.524
10	0.785	3.142	3.927	4.712	5.498	6.283	7.069
15	1.77	7.069	8.836	10.6	12.37	14.14	15.9
20	3.J4	J2.57	15.71	18.85	21.99	25.13	28.27
25	4.91	19.63	24.54	29.45	34.36	39.27	44.18
30	7.07	28.27	35.34	42.41	49.48	56.55	63.62
35	9.62	38.48	48.11	57.73	67.35	76.97	86.59
40	12.57	50.27	62.83	75.4	87.96	100.5	113.1
50	19.63	78.54	98.17	117.8	137.4	157.1	176.7
60	28.27	113.1	141.4	169.6	197.9	226.2	254.5
80	50.27	201 1	251 3	301 6	351.9	402.1	452.4
95	70.88	283.5	354.4	425.3	496.2	567.1	637.9
100	78.54	314.2	392.7	471.2	549.8	628.3	706.9
120	113.1	452.4	565.5	678.6	791.7	904.8	1017.9
150	176.7	706.9	883.6	1060	1237	1414	1590
200	314.2	1257	1571	1885	2199	2513	2827

Ventosas Oval



Elevação Horizontal



Elevação Vertical

$$D = \sqrt{\frac{M \times 9.8 \times S \times 1000}{\pi \times n \times P}}$$

D : Diâmetro da ventosa (mm)
M : Peso da peça (kg)
S : Fator de segurança Horizontal: S=4
Vertical: S=8
n : Número de ventosas
P : Pressão de vácuo (-kPa)

Diâmetro (mm)	Área de Sucção (cm)	Pressão de Vácuo kPa					
		-40	-50	-60	-70	-80	-90
2 x 4	0.071	0.286	0.357	0.428	0.5	0.571	0.643
3.5 x 7	0.219	0.875	1.094	1.312	1.531	1.75	1.968
4 x 10	0.366	1.463	1.828	2.194	2.56	2.925	3.291
4 x 20	0.766	3.063	3.828	4.594	5.36	6.125	6.891
4 x 30	1.166	4.663	5.828	6.994	8.16	9.325	10.49
5 x 1 0	0.446	J.785	2.232	2.678	3.124	3.571	4.017
5 x 20	0.946	3.785	4.732	5.678	6.624	7.571	8.517
5 x 30	1.446	5.785	7.232	8.678	1O.12	11.57	13.02
6 x 10	0.523	2.091	2.614	3.136	3.659	4.182	4.705
6 x 20	1.123	4.491	5.614	6.736	7.859	8.982	10.1
6 x 30	1.723	6.891	8.614	10.34	12.06	13.78	15.5

Aplicações

					
Material	EPDM	NBR	HNBR	Silicone	Polyoretano
Resistencia ao desgaste	Regular	Excelente	Excelente	Bom	Excelente
Óleo	Baixo	Excelente	Excelente	Baixo	Excelente
Ozônio	Excelente	Baixo	Excelente	Excelente	Excelente
Hidrolises	Bom	Bom	Bom	Baixo	Baixo
Petróleo	Baixo	Bom	Excelente	Baixo	Baixo
Ácidos concentrados	Baixo	baixo	Excelente	Baixo	Baixo
Álcool	Excelente	Bom	Bom	Baixo	Bom
Oxidantes	Excelente	Bom	Excelente	Excelente	Bom

Tipos



Planta



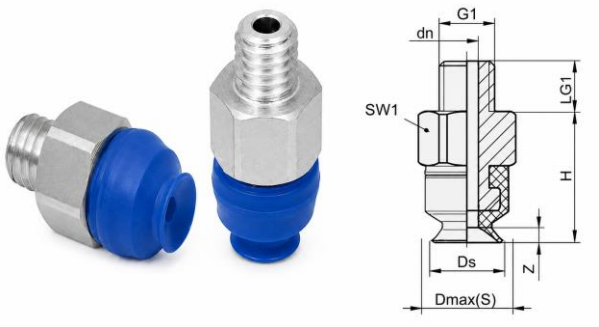
1 ½ Foles



2 ½ Foles

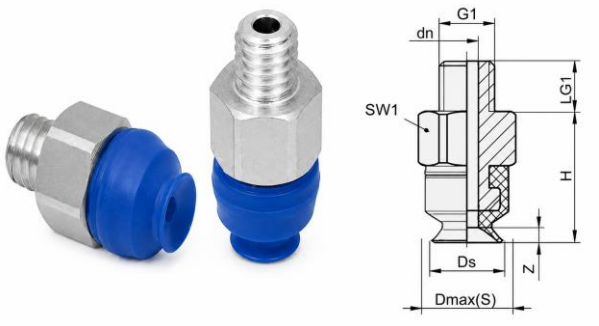


Oval



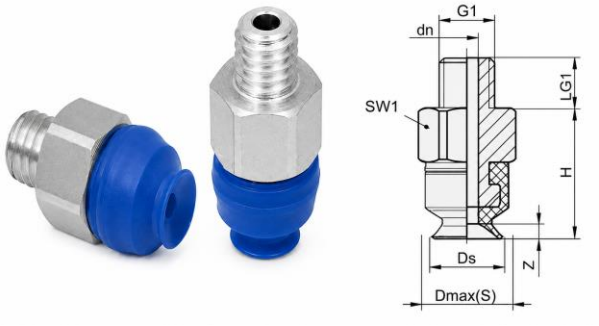
PFYN 5 X.X.X M5-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
1,50 mm	5,50 mm	5 mm	M5	11,50 mm	4,5 mm	8 mm	0,9 mm	**SIL/EPDM/HNBR/PU**



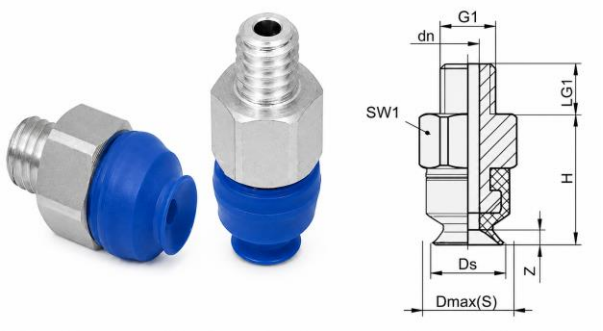
PFYN 6 X.X.X M5-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2 mm	6,50 mm	6 mm	M5	11,50 mm	4,5 mm	8 mm	1,0 mm	**SIL/EPDM/HNBR/PU**



PFYN 8 X.X.X M5-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,0 mm	9,0 mm	8,0 mm	M5	12,0 mm	4,5 mm	8 mm	1,3 mm	**SIL/EPDM/HNBR/PU**



PFYN 10 X.X.X M5-AG

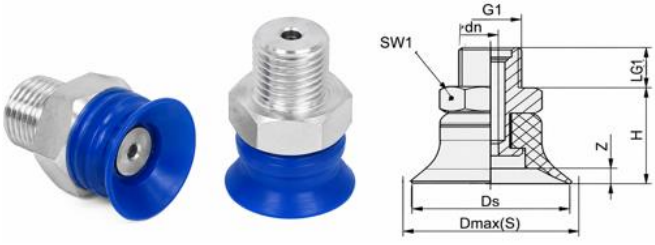
dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,0 mm	11,5 mm	10,0 mm	M5	12,5 mm	4,5 mm	8 mm	1,4 mm	**SIL/EPDM/HNBR/PU**



PFYN 15 X.X.X M5-AG

PFYN 15 X.X.X G1/8-AG

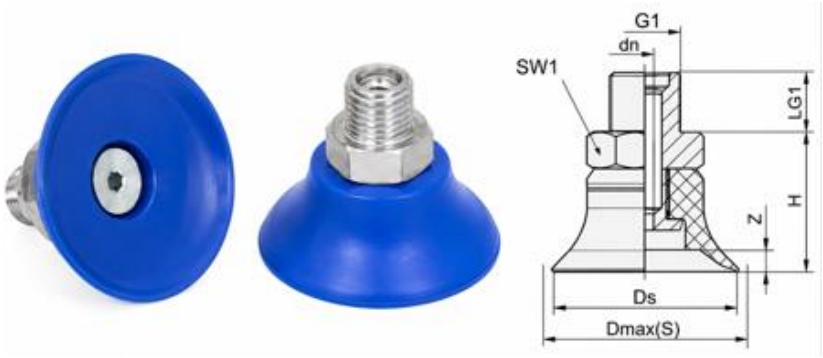
dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,0 mm	17,5 mm	15,0 mm	M5 ou G18” M	13,0 mm	8,0 mm	14 mm	1,9 mm	**SIL/EPDM/HNBR/PU**



PFYN X.X.X M5-AG

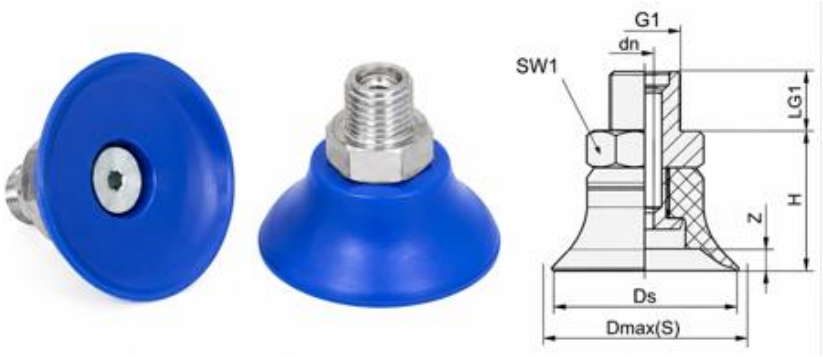
PFYN 20 X.X.X G1/8-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,0 mm	23,5 mm	20,0 mm	M5 ou G1/8” M	15,0 mm	8,0 mm	14 mm	2,2 mm	**SIL/EPDM/HNBR/PU**



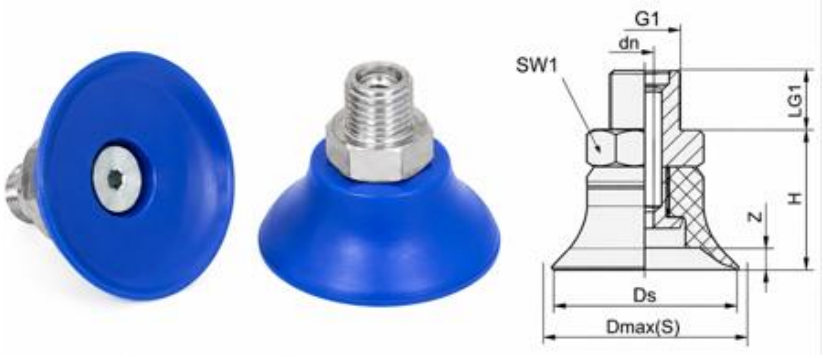
PFYN 25 X.X.X G 1/8-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,4 mm	27,50 mm	25,0 mm	G1/8”M	19,0 mm	4,5 mm	14 mm	3,0 mm	**SIL/EPDM/HNBR/PU**



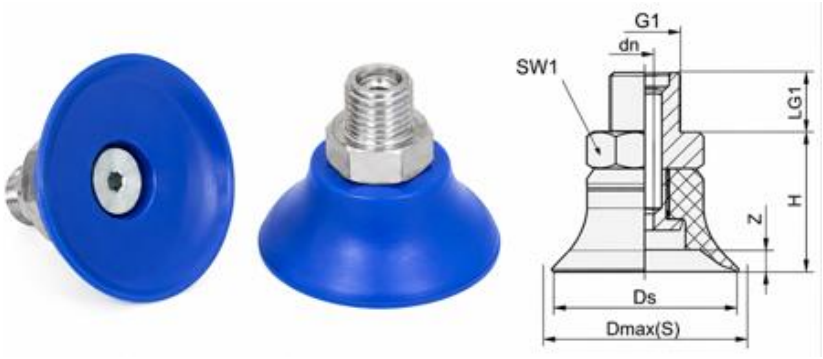
PFYN 30 X.X.X G 1/8-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,4 mm	31,9 mm	30,0mm	G1/8”M	17,0 mm	8,0 mm	14 mm	2,0 mm	**SIL/EPDM/HNBR/PU**



PFYN 35 X.X.X G 1/8-AG

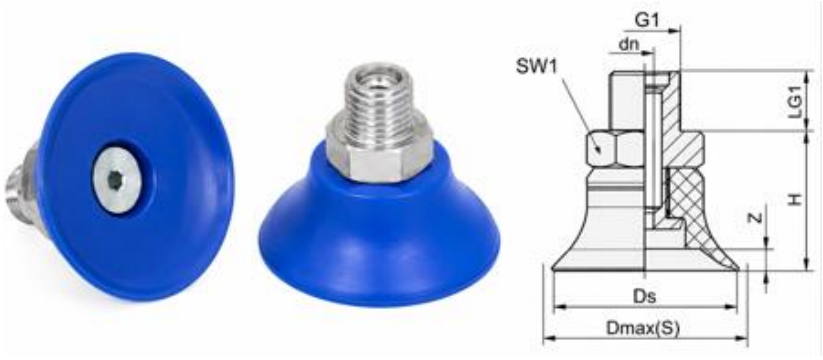
dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,4 mm	38,0 mm	20,0 mm	G1/8” M	15,0 mm	8,0 mm	14 mm	2,2 mm	**SIL/EPDM/HNBR/PU**



PFYN 40 X.X.X G 1/8-AG

PFYN 40 X.X.X G 1/4-AG

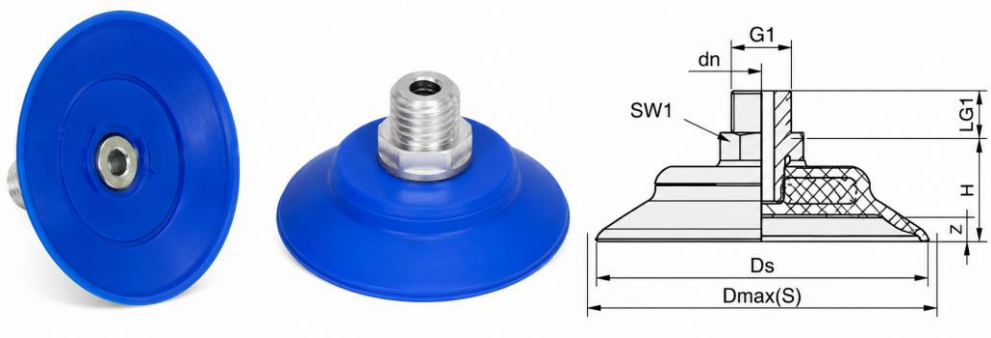
dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,4 mm	42,50 mm	40,0 mm	G1/8” OU G1/4”	19,0 mm	8,5 mm	14 mm	3,5 mm	**SIL/EPDM/HNBR/PU**



PFYN 50 X.X.X G 1/8-AG

PFYN 50 X.X.X G 1/4-AG

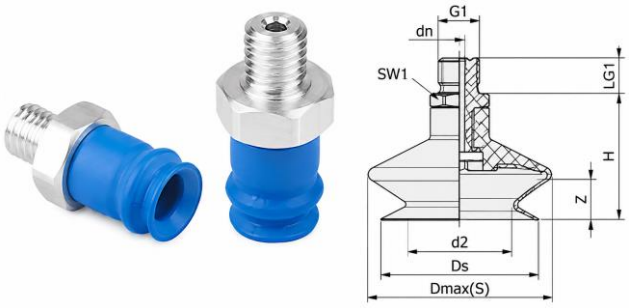
dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
2,4 mm	53,5 mm	50,0mm	G1/8” ou G1/4”	20,0 mm	8,0 mm	14 mm	4,0 mm	**SIL/EPDM/HNBR/PU**



PFYN 60 X.X.X G 1/8-AG

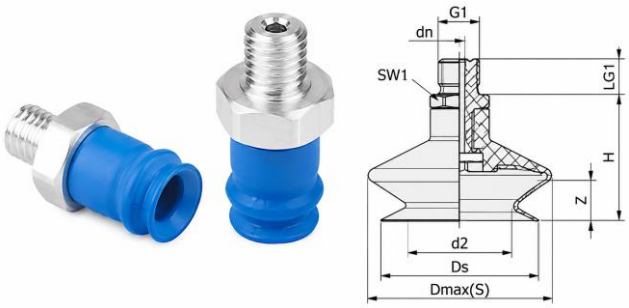
PFYN 60 X.X.X G 1/4-AG

dn	Dmax(S)	DS	G1	H	LG1	SW1	Z	XXX
5,5 mm	64,0 mm	60,0 mm	G1/8” OU G1/4”	23,0 mm	10,0 mm	17 mm	4,7 mm	**SIL/EPDM/HNBR/PU**



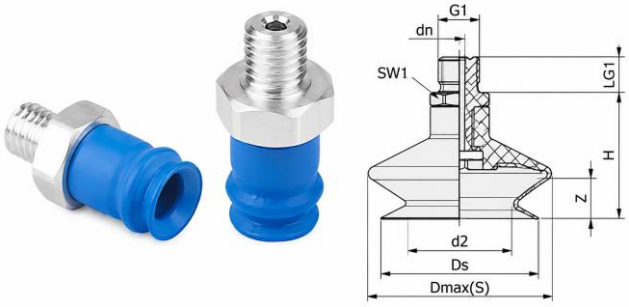
FSGA 4 X.X.X M5-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
2,5 mm	5,0 mm	1,0 mm	4,0 mm	M5	7,5 mm	3,0 mm	5,0 mm	1,5 mm	**SIL/EPDM/HNBR/PU**



FSGA 6 X.X.X M5-AG

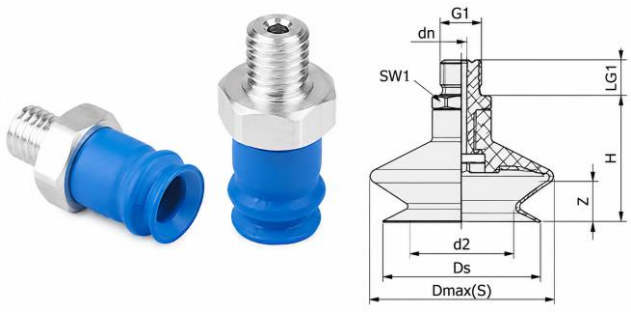
d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
3,0 mm	8,0 mm	2,0 mm	5,7 mm	M5	14,0 mm	4,5 mm	8,0 mm	2,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 11 X.X.X M5-AG

FSGA 11 X.X.X G1/8-AG

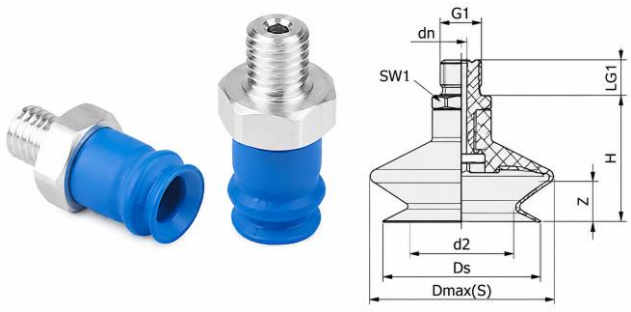
d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
5,1 mm	13,0 mm	2,5 mm	10,4 mm	M5 ou 1/8”M	21,0 mm	5,0 mm	7,0 mm	4,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 14 X.X.X M5-AG

FSGA 14 X.X.X G1/8-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
5,0 mm	14,5 mm	2,5 mm	12,5 mm	M5 ou G1/8”M	20,5 mm	5,0 mm	7,0 mm	5,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 16 X.X.X M5-AG

FSGA 16 X.X.X G1/8-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
8,4 mm	18,5 mm	2,5 mm	15,6 mm	M5 ou G1/8”M	24,5 mm	5,0 mm	7,0 mm	7,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 20 X.X.X M5-AG

FSGA 20 X.X.X G1/8-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
11,0 mm	21,0 mm	2,5 mm	18,1 mm	M5 ou G1/8”M	20,2 mm	5,0 mm	7,0 mm	5,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 25 X.X.X G1/8-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
9,9 mm	26,5 mm	3,5 mm	22,5 mm	G1/8”M	29,0 mm	7,5 mm	14,0 mm	9,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 33 X.X.X G1/8-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
17,0 mm	38,0 mm	4,4 mm	30,0 mm	G1/8”M	31,0 mm	11,0 mm	17,0 mm	9,0 mm	**SIL/EPDM/HNBR/PU**

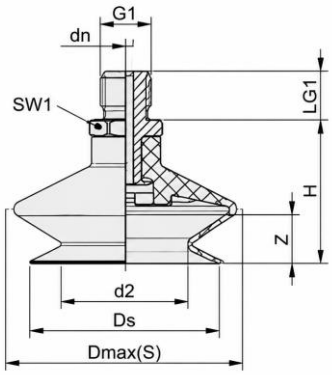


FSGA 43 X.X.X G1/8-AG

FSGA 43 X.X.X G1/4-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
21,9 mm	47,5 mm	4,4 mm	38,0 mm	G1/8” OU G1/4”	31,6 mm	11,0 mm	17,0 mm	10,0 mm	**SIL/EPDM/HNBR/PU**



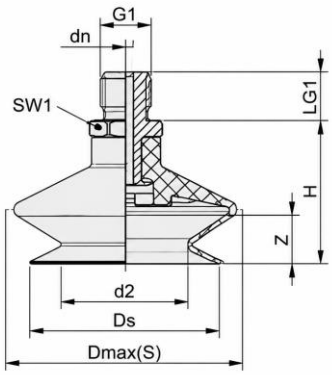


FSGA 53 X.X.X G1/8-AG

FSGA 53 X.X.X G1/4-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
33,9 mm	60,5 mm	4,4 mm	50,0 mm	G1/8” ou G1/4”	38,0 mm	11,0 mm	17,0 mm	10,0 mm	**SIL/EPDM/HNBR/PU**



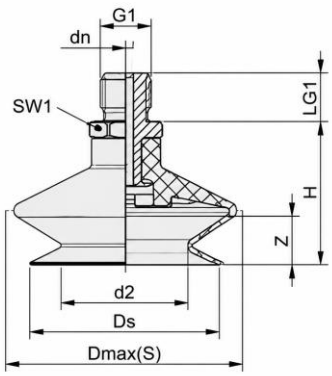


FSGA 60 X.X.X G1/8-AG

FSGA 60 X.X.X G1/4-AG

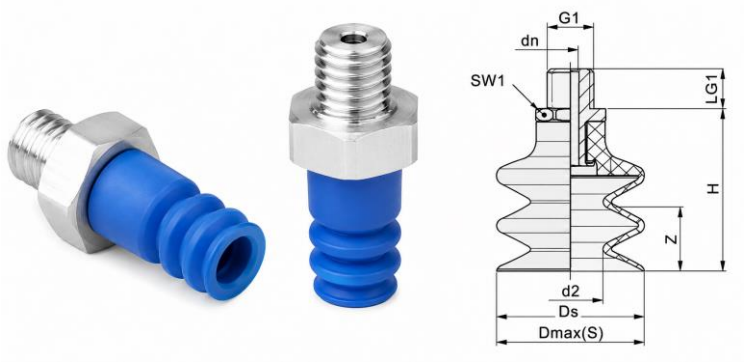
d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
44,5 mm	68,0 mm	4,4 mm	60,0 mm	G1/4”M	38,0 mm	11,0 mm	17,0 mm	15,0 mm	**SIL/EPDM/HNBR/PU**





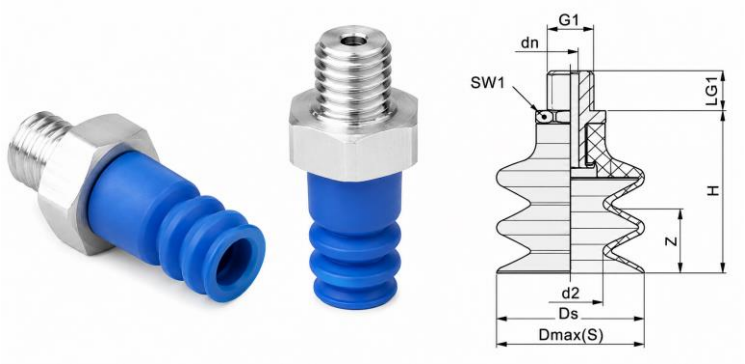
FSGA 78 X.X.X G1/4-AG

d2	Dmax(S)	dn	Ds	G1	H	LG1	SW1	Z	XXX
54,5 mm	84,5 mm	8,4 mm	74,0 mm	G1/4”M	53,0 mm	11,0 mm	21,0 mm	16,0 mm	**SIL/EPDM/HNBR/PU**



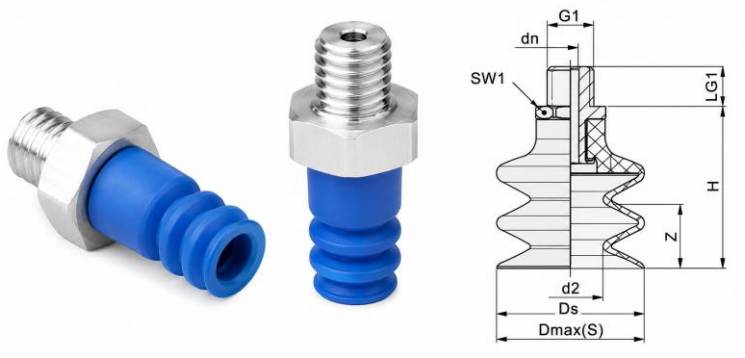
FSG 3 X.X.X M5-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
1,8 mm	1,0 mm	4,0 mm	3,0 mm	M5	8,7 mm	3,0 mm	5,0 mm	1,1 mm	**SIL/EPDM/HNBR/PU**



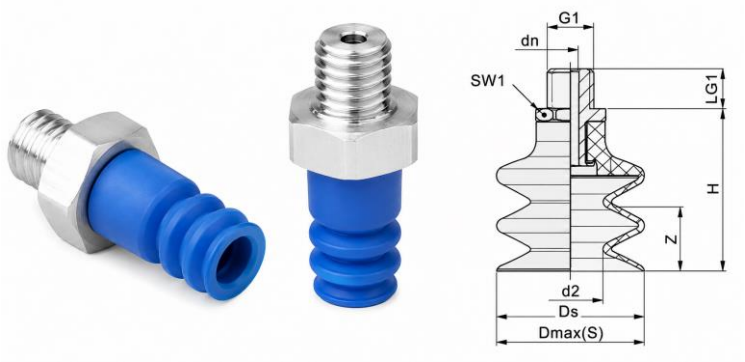
FSG 5 X.X.X M5-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
2,6 mm	2,0 mm	7,0 mm	5,0 mm	M5	19,0 mm	5,0 mm	8,0 mm	2,1 mm	**SIL/EPDM/HNBR/PU**



FSG 7 X.X.X M5-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
1,8 mm	2,5 mm	7,0 mm	5,9 mm	M5	19,0 mm	5,0 mm	7,0 mm	3,0 mm	**SIL/EPDM/HNBR/PU**



FSG 9 X.X.X M5-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
4,1 mm	2,5 mm	9,5 mm	9,0 mm	M5	20,0 mm	5,0 mm	7,0 mm	3,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 12 X.X.X M5-AG

FSGA 12 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
5,0 mm	2,5 mm	13,0 mm	12,0 mm	M5 ou G1/8”M	26,0 mm	5,0 mm	7,0 mm	7,1 mm	**SIL/EPDM/HNBR/PU**

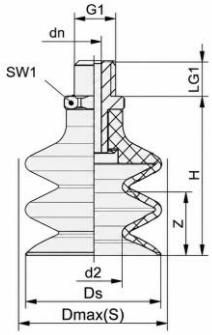


FSGA 14 X.X.X M5-AG

FSGA 14 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
5,4 mm	2,5 mm	15,5 mm	14,50 mm	M5 ou G1/8”	27,8 mm	5,0 mm	7,0 mm	9,0 mm	**SIL/EPDM/HNBR/PU**



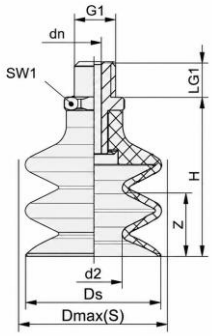


FSGA 18 X.X.X M5-AG

FSGA 18 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
8,0 mm	2,5 mm	19,0 mm	17,20 mm	M5 ou G1/8”	27,8 mm	5,0 mm	7,0 mm	9,0 mm	**SIL/EPDM/HNBR/PU**



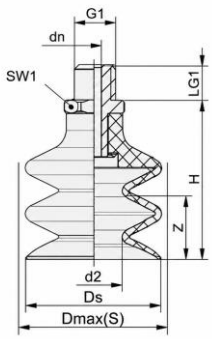


FSGA 20 X.X.X M5-AG

FSGA 20 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
10,5 mm	2,5 mm	21,0 mm	20,0 mm	M5 ou G1/8”	27,8 mm	5,0 mm	7,0 mm	9,0 mm	**SIL/EPDM/HNBR/PU**





FSGA 25 X.X.X M5-AG

FSGA 25 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
10,5 mm	3,5 mm	26,0 mm	23,0 mm	M5 ou G1/8”	40,0 mm	7,5 mm	14,0 mm	18,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 32 X.X.X G1/8-AG

d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
16,0 mm	4,4 mm	33,5 mm	32,0 mm	G1/8” M	41,5 mm	11,0 mm	17,0 mm	15,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 42 X.X.X G1/8-AG

FSGA 42 X.X.X G1/4-AG

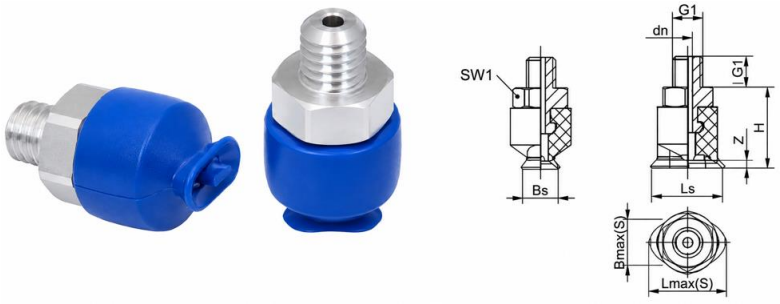
d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
17,8 mm	4,4 mm	45,0 mm	42,6 mm	G1/8” ou G1/4”	50,0 mm	11,0 mm	17,0 mm	20,0 mm	**SIL/EPDM/HNBR/PU**



FSGA 52 X.X.X G1/8-AG

FSGA 52 X.X.X G1/4-AG

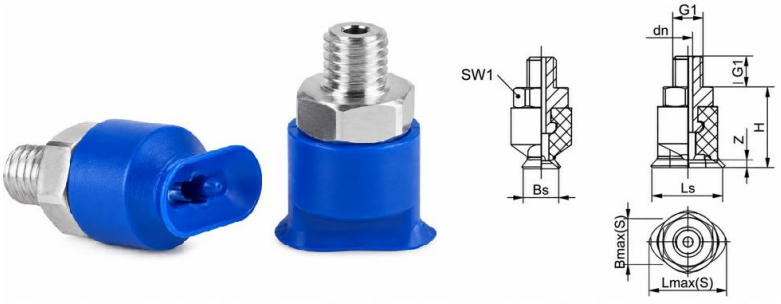
d2	dn	Dmax(S)	Ds	G1	H	LG1	SW1	Z	XXX
24,6 mm	4,4 mm	55,0 mm	22,5 mm	G1/8”ou G1/4”	40,0 mm	7,5 mm	14,0 mm	18,0 mm	**SIL/EPDM/HNBR/PU**



SGON 4 X 2 XXX- 55 M3 - AG

SGON 4 X 2 XXX- 55 M5 - AG

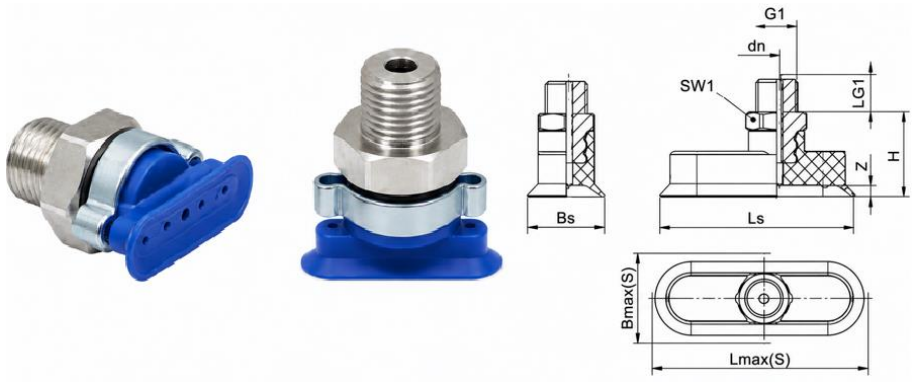
Bmax(S)	Bs	dn	G1	H	LG1	Lmax (S)	Ls	SW1	Z (Storke)	XXX
2,5 mm	2,0 mm	1,0 mm	M3 mm	8,0 mm	3,0 mm	4,5 mm	4,0 mm	5,0 mm	0,5 mm	**SIL/EPDM/HNBR**



SGON 7 X 3,5 XXX- 55 M3 - AG

SGON 7 X 3,5 XXX- 55 M3 - AG

Bmax(S)	Bs	dn	G1	H	LG1	Lmax (S)	Ls	SW1	Z (Storke)	XXX
4,5 mm	3,5 mm	1,0 mm	M3 mm	8,0 mm	3,0 mm	7,5 mm	7,0 mm	5,0 mm	0,8 mm	**SIL/EPDM/HNBR**



SGON 24 X 8 XXX- 55 G1/8 - AG

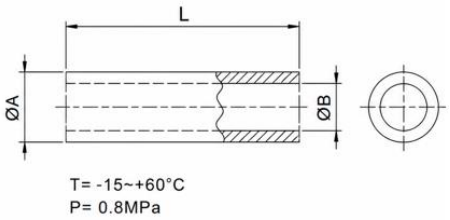
Bmax(S)	Bs	dn	G1	H	LG1	Lmax (S)	Ls	SW1	Z (Storke)	XXX
9,0 mm	8,0 mm	1,5 mm	G1/8” mm	17,0 mm	8,0 mm	24,5 mm	24,0 mm	14,0 mm	1,0 mm	**SIL/EPDM/HNBR**

Ventosas Especiais



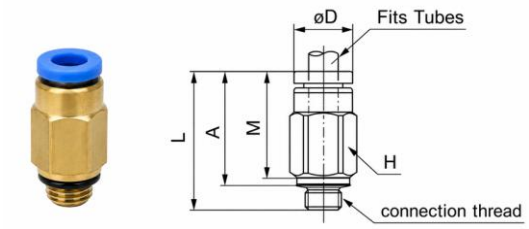
Acessórios





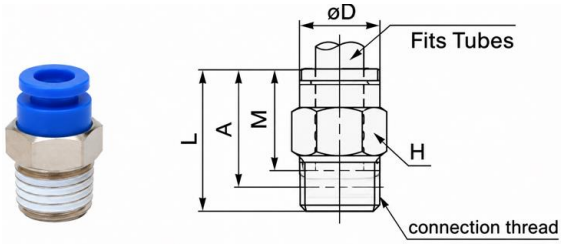
Tubos

A [mm]	Modelo	Cor	B [mm]	L [m]	Lm [g/m]
4	AH4B	Preta	2,5	100	9g
	AH4BU	Azul	2,5	100	9g
	AH4G	Cinza	2,5	100	9g
	AH4T	Transparente	2,5	100	9g
	AH4Y	Amarela	2,5	100	9g
	AH4R	Vermelha	2,5	100	9g
	AH4O	Laranja	2,5	100	9g
6	AH6B	Preta	4	100	19g
	AH6BU	Azul	4	100	19g
	AH6G	Cinza	4	100	19g
	AH6T	Transparente	4	100	19g
	AH6Y	Amarela	4	100	19g
	AH6R	Vermelha	4	100	19g
	AH6O	Laranja	4	100	19g
8	AH8B	Preta	5	100	36g
	AH8BU	Azul	5	100	36g
10	AH10B	Preta	6,5	100	54g
	AH10BU	Azul	6,5	100	54g



Conexão Reta

Diâmetro Externo do Tubo (mm)	Modelo	Rosca de Conexão (M)	H (Sextavado)	ØD	L	A	M	Área efetiva da seção transversal (mm²)		Diâmetro mínimo do furo	Peso
								Nylon	Silicone		
Ø 2	KQ2H02-M3G	M3x0.5	7	5,5	15,6	13	11,9		0.9	1,2	1.5 g
	KQ2H02-M5A	M5x0.8	7	5,5	13,8	10,8	11,9		0.9	1,4	2 g
Ø 3.2	KQ2H23-M3G	M3x0.5	7	6,7	17	14,4	13,3	0,9	0,9	1,2	2.4 g
	KQ2H23-M5A	M5x0.8	7	6,7	17,3	14,3	13,3	3	2,5	2,5	2.7 g
Ø 4	KQ2H04-M5A	M5x0.8	8	7,7	17,7	14,7	13,3	4	4	2,5	3.3 g
	KQ2H04-M6A	M6x1.0	8	7,7	18,7	14,7	13,3	4	4	3	3.6 g
Ø 6	KQ2H06-M5A	M5x0.8	10	9,7	17,7	14,7	13,3	4	4	2,5	4.1 g
	KQ2H06-M6A	M6x1.0	10	9,7	18,8	14,8	13,3	4	4	3	4.4 g

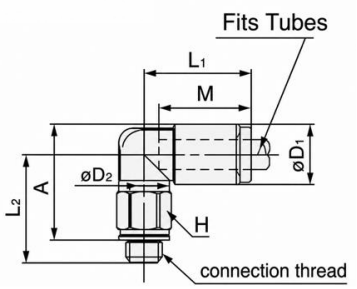


Conexão Reta

Diâmetro Externo do Tubo (mm)	Modelo	Rosca de Conexão (")	H (Sextavado)	ØD	L	A	M	Área efetiva da seção transversal (mm²)		Diâmetro mínimo do furo	Peso
								Nylon	Silicone		
Ø 3.2	KQ2H23-01AS	1/8	10	6,7	14	10,9	13,3	3,4	2,9	2,5	6g
	KQ2H23-02AS	1/4	14	6,7	16,7	12	13,3	3,4	2,9	2,5	15.3g
Ø 4	KQ2H04-01AS	1/8	10	7,7	14,3	11,2	13,3	5,6	4	3	5.6g
	KQ2H04-02AS	1/4	14	7,7	16,7	12	13,3	5,6	4	3	14.6g
Ø 6	KQ2H06-01AS	1/8	10	9,7	18,4	15,3	13,3	13,1	10,4	4,5	5.8g
	KQ2H06-02AS	1/4	14	9,7	16,7	12	13,3	13,1	10,4	4,5	12.5g
	KQ2H06-03AS	3/8	17	9,7	18,1	13	13,3	13,1	10,4	4,5	24.5g
Ø 8	KQ2H08-01AS	1/8	14	12,2	22,5	19,4	14,2	26,1	18	6	11.9g
	KQ2H08-02AS	1/4	14	12,2	22	17,3	14,2	26,1	18	6	13.9g
	KQ2H08-03AS	3/8	17	12,2	18,1	13	14,2	26,1	18	6	21g
Ø1 0	KQ2H10-01AS	1/8	17	14,6	23,8	20,7	15,6	26,1	26,1	6	16.9g
	KQ2H10-02AS	1/4	17	14,6	27,3	22,6	15,6	41,5	29,5	7,5	22.1g
	KQ2H10-03AS	3/8	17	14,6	23,5	18,4	15,6	41,5	29,5	7,5	22.5g
	KQ2H10-04AS	1/2	22	14,6	22,3	15,9	15,6	41,5	29,5	7,5	44.7g
Ø 12	KQ2H12-02AS	1/4	19	17	28,7	24	17	58,3	46,1	9	24.3g
	KQ2H12-03AS	3/8	19	17	25,9	20,8	17	58,3	46,1	9	25.2g
	KQ2H12-04AS	1/2	22	17	22,3	15,9	17	58,3	46,1	9	37.7g
Ø 16	KQ2H16-02AS	1/4	24	21,8	32,5	27,8	20,6	58,3	46,1	9	37.4g
	KQ2H16-03AS	3/8	24	21,8	33,1	28	20,6	81	67	11	42.4g
	KQ2H16-04AS	1/2	24	21,8	32,1	25,7	20,6	113	67	13	44.6g

VORAM

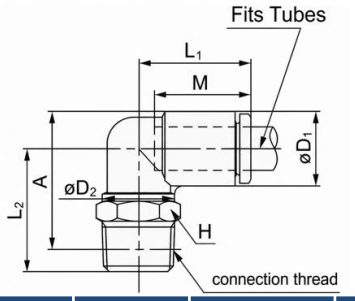




Conexão 90°

Diâmetro Externo do Tubo (mm)	Modelo	Rosca de conexão	H (Sextavado)	ø D1	ø D2	L1	L2	A	M	Área efetiva da seção transversal (mm²)		Diâmetro mínimo do furo	Peso
										Nylon	Silicone		
Ø 2	KQ2L02-M3G	M3×0.5	5.5	5.8	5.5	12.6	12.5	12.8	11.9	-	0.8	1.2	1.6g
Ø 2	KQ2L02-M5A	M5×0.8	7	5.8	5.5	12.6	13	12.9	11.9	-	0.8	1.4	2.7g
Ø 3.2	KQ2L23-M3G	M3×0.5	7	7.1	7	15.3	13.8	14.8	13.3	13.3	0.8	1.2	2.7g
Ø 3.2	KQ2L23-M5A	M5×0.8	7	7.1	7	15.3	14.3	14.9	13.3	2.2	2.5	3.1g	
Ø 4	KQ2L04-M3G	M3×0.5	7	8.2	7	15.4	14.3	15.8	13.3	13.3	0.8	1.2	2.7g
Ø 4	KQ2L04-M5A	M5×0.8	7	8.2	7	15.4	14.8	15.9	13.3	13.3	3.5	2.5	3.1g
Ø 4	KQ2L04-M6A	M6×1.0	8	8.2	7	15.4	15.8	15.9	13.3	13.3	3.5	2.5	4.2g
Ø 6	KQ2L06-M5A	M5×0.8	7	10.4	7	14.5	16.5	18.7	13.3	13.3	3.5	2.5	3.2g
Ø 6	KQ2L06-M6A	M6×1.0	8	10.4	7	14.5	17.5	18.7	13.3	13.3	3.5	2.5	4.3g

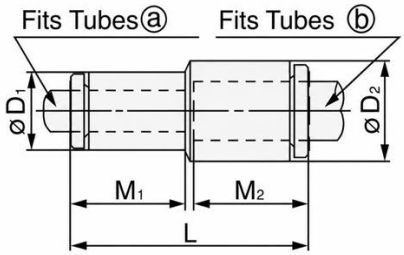




Conexão 90°

Diâmetro Externo do Tubo (mm)	Modelo	Rosca de conexão	H (Sextavado)	ø D1	ø D2	L1	L2	A	M	Área efetiva da seção transversal (mm²)		Diâmetro mínimo do furo	Peso
										Nylon	Silicone		
Ø 3.2	KQ2L23-01AS	1/8	10	7,1	10	14,5	16,7	17,2	13,3	3	2,5	2,5	4.6g
	KQ2L23-02AS	1/4	14	7,1	10	14,5	21,2	20,1	13,3	3	2,5	2,5	14.1g
Ø 4	KQ2L04-01AS	1/8	10	8,2	10	14,8	16,2	17,2	13,3	4,2	4,2	3	4.8g
	KQ2L04-02AS	1/4	14	8,2	10	14,8	21,7	21,1	13,3	4,2	4,2	3	14.3g
Ø 6	KQ2L06-01AS	1/8	10	10,4	10	15,5	17,3	19,4	13,3	11,4	9	4,5	5.2g
	KQ2L06-02AS	1/4	14	10,4	10	15,5	22,8	23,3	13,3	11,4	9	4,5	14.7g
	KQ2L06-03AS	3/8	17	10,4	10	15,5	24,1	24,2	13,3	11,4	9	4,5	26.5g
Ø 8	KQ2L08-01AS	1/8	10	13,2	10	16,4	18,7	22,2	14,2	11,4	11,4	4,5	6.1g
	KQ2L08-02AS	1/4	14	13,2	12	17,2	25,4	27,3	14,2	21,6	14,9	6	17.7g
	KQ2L08-03AS	3/8	17	13,2	12	17,2	25,5	27	14,2	21,6	14,9	6	24.7g
Ø 10	KQ2L10-01AS	1/8	12	15,9	12	18,6	23,6	28,4	15,6	21,6	14,9	6	11.1g
	KQ2L10-02AS	1/4	17	15,9	17	19,3	28,7	31,9	15,6	35,2	25	7,5	21.7g
	KQ2L10-03AS	3/8	17	15,9	17	19,3	29,6	32,4	15,6	35,2	25	7,5	22.2g
	KQ2L10-04AS	1/2	22	15,9	17	19,3	33,6	35,1	15,6	35,2	25	7,5	44.6g
Ø 12	KQ2L12-02AS	1/4	17	18,5	17	21,5	30	34,5	17	50,2	39,7	9	23.5g
	KQ2L12-03AS	3/8	17	18,5	17	21,5	30,9	35	17	50,2	39,7	9	24.1g
	KQ2L12-04AS	1/2	22	18,5	17	21,5	34,9	37,7	17	50,2	39,7	9	46.5g
Ø 16	KQ2L16-02AS	1/4	17	23,8	17	25,1	32,6	39,8	20,6	50,2	50,2	9	27.8g
	KQ2L16-03AS	3/8	22	23,8	21	27,1	35,4	42,2	20,6	71	58,9	11	40.8g
	KQ2L16-04AS	1/2	22	23,8	21	27,1	34,1	39,6	20,6	100	58,9	13	44.5g

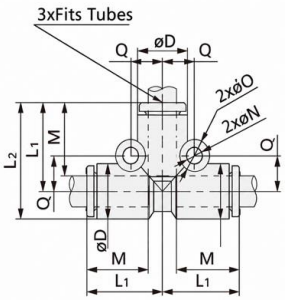




Redução

Tubos de diâmetro externo a (mm)		Modelo	ØD1	ØD2	L	M1	M2	Área efetiva da seção transversal (mm²)		Diâmetro mínimo	Peso
A	B							Nylon	Silicone		
Ø 2	Ø 3.2	KQ2H02-23A	5,8	7,1	26,2	11,9	13,3	-	0,9	1,4	1.1g
Ø 2	Ø 4	KQ2H02-04A	5,8	8,2	26,2	11,9	13,3	-	0,9	1,4	1.2g
Ø 3.2	Ø 4	KQ2H23-04A	7,1	8,2	27,6	13,3	13,3	3,4	2,9	2,5	1.5g
Ø 3.2	Ø 6	KQ2H23-06A	7,1	10,4	27,6	13,3	13,3	3,4	2,9	2,5	1.8g
Ø 4	Ø 6	KQ2H04-06A	8,2	10,4	27,6	13,3	13,3	5,6	5,6	3	2g
Ø 6	Ø 8	KQ2H06-08A	10,4	13,2	28,5	13,3	14,2	13,1	10,4	4,5	2.9g
Ø 8	Ø 10	KQ2H08-10A	13,2	15,9	30,8	14,2	15,6	26,1	18	6	4.9g
Ø 10	Ø 12	KQ2H10-12A	15,9	18,5	33,6	15,6	17	41,5	29,5	7,5	7.2g
Ø1 2	Ø 16	KQ2H12-16A	18,5	23,8	38,6	17	20,6	58,3	46,1	9	12.4g





Conexão T

Diâmetro Externo do Tubo (mm)	Modelo	Ø D	L1	L2	M	Q	Ø O	Ø N	Área efetiva da seção transversal (mm²)		Diâmetro mínimo do furo	Peso
									Nylon	Silicone		
Ø 2	KQ2T02-00A	5,8	12,9	15,8	11,9	4,5	6	3,2	—	0,9	1,4	1.4g
Ø 3.2	KQ2T23-00A	7,1	14,9	18,5	13,3	5,4	6	3,2	3,4	2,9	2,5	2.3g
Ø 4	KQ2T04-00A	8,2	15,3	19,4	13,3	5,7	6	3,2	6,4	4,4	3	2.8g
Ø 6	KQ2T06-00A	10,4	16,3	21,5	13,3	6,8	6	3,2	13,4	10,6	4,5	3.8g
Ø 8	KQ2T08-00A	13,2	18,2	24,8	14,2	8,4	8	4,2	25,6	17,7	6	7g
Ø 10	KQ2T10-00A	15,9	20,6	28,6	15,6	9,6	8	4,2	40	28,4	7,5	11g
Ø 12	KQ2T12-00A	18,5	23	32,3	17	10,7	8	4,2	57,4	45,4	9	15.7g
Ø16	KQ2T16-00A	23,8	28,6	40,5	20,6	13,4	8	4,2	100	58,9	13	29.8g

VORAM

MÁXIMA EFICIÊNCIA

Alto desempenho na movimentação e redução de ciclo.

CONFIABILIDADE

Projetos robustos para operações contínuas e seguras.

PRECISÃO

Tecnologia de vácuo para posicionamento exato e repetível.

PRODUTIVIDADE

Soluções que aumentam a eficiência e a performance da linha.

SUSTENTABILIDADE

Menor consumo de ar e energia com máxima performance.