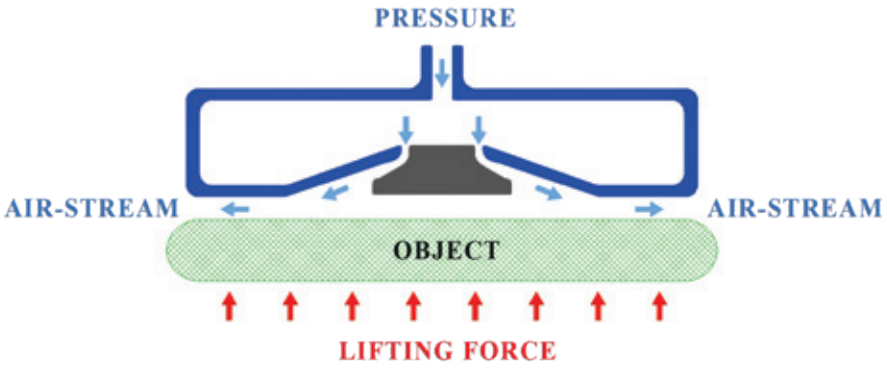
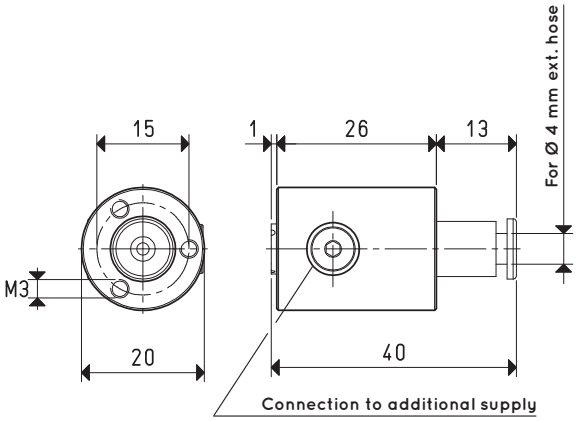
VACUUM CUPS BASED ON BERNOULLI'S THEOREM

Bernoulli's theorem explains many phenomena, such as the lifting of a plane's wing or of a light disc in front of a tube end from which air flows out quickly.
This apparently paradoxical phenomenon is exploited for manufacturing vacuum gripping systems (vacuum cups) and handling, with no contact, fragile objects, such as semiconductor plates, silica discs, solar cells, precious metal foils, films and whatever needs to be handled with the greatest care.
Our cups based on Bernoulli's principle are made with anodised aluminium, with stainless steel centre thrust disc.
The antistatic silicone spacers, located on the cup gripping plane, prevent transverse movements of the gripped object.
The compressed air supply connections can be axial and radial and the quick coupler for the flexible pipe is included in the package.
The unused holes are closed with brass threaded caps.
On the rear part of the cup there are 3 or 4 threaded holes for fitting it to the automation.



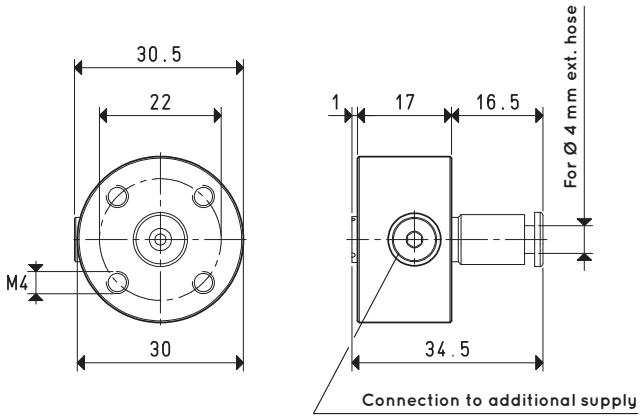
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

VACUUM CUPS BASED ON BERNOULLI'S THEOREM



Item	Max force g	Transverse force g	Operating pressure bar	Consumption of air Nl/s	Level of noise dB(A)	Weight g
BEC 20	220	145	5	2.3	66	21

Accessories and spare parts upon request		BEC 20
Spare rubber pad spacer	item	00 BEC 10
Fitting	item	00 BEC 13
Vacuum Cup Holders	item	20 80 04



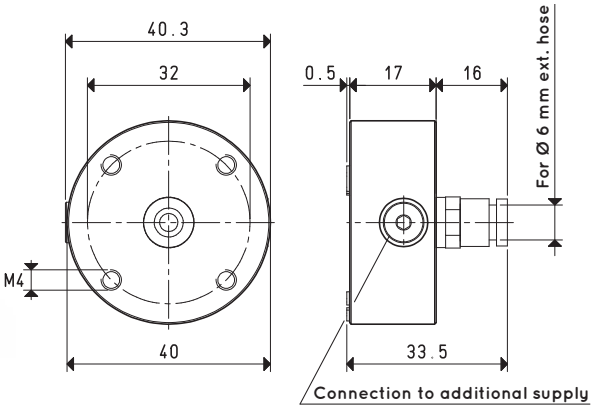
Item	Max force g	Transverse force g	Operating pressure bar	Consumption of air Nl/s	Level of noise dB(A)	Weight g
BEC 30	380	250	5	2.5	72	31

Accessories and spare parts upon request		BEC 30
Spare rubber pad spacer	item	00 BEC 10
Fitting	item	00 BEC 13
Vacuum Cup Holders	item	20 80 04

Note: BEC vacuum cups must be supplied with non-lubricated compressed air, 5 micron filtration, according to standard **ISO 8573-1 class 4**.
For BEC to function correctly, we do not recommend the use of chemical sealants for the pneumatic supply, as they could dissolve with the compressed air, causing clogging, reducing performance and thus compromising functioning of the BEC vacuum cups.
To ensure a sealed connection, it is essential to use compression fittings, quick coupling fittings or other fittings specifically designed for compressed air, which guarantee airtightness thanks to their sealing gasket.

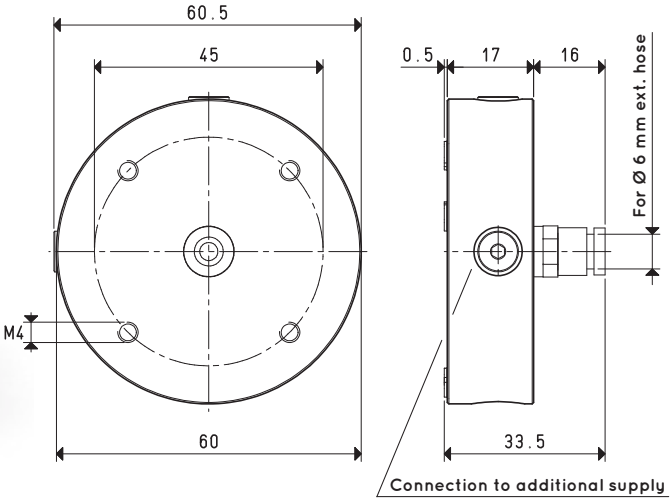
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

VACUUM CUPS BASED ON BERNOULLI'S THEOREM



Item	Max force g	Transverse force g	Operating pressure bar	Consumption of air Nl/s	Level of noise dB(A)	Weight g
BEC 40	680	450	5	3.0	74	51

Accessories and spare parts upon request		BEC 40
Spare rubber pad spacer	item	00 BEC 09
Fitting	item	00 BEC 14
Vacuum Cup Holders	item	20 10 38 M



Item	Max force g	Transverse force g	Operating pressure bar	Consumption of air Nl/s	Level of noise dB(A)	Weight g
BEC 60	900	600	5	4.4	75	121

Accessories and spare parts upon request		BEC 60
Spare rubber pad spacer	item	00 BEC 09
Fitting	item	00 BEC 14
Vacuum Cup Holders	item	20 10 38 M

Note: BEC vacuum cups must be supplied with non-lubricated compressed air, 5 micron filtration, according to standard **ISO 8573-1 class 4**.
For BEC to function correctly, we do not recommend the use of chemical sealants for the pneumatic supply, as they could dissolve with the compressed air, causing clogging, reducing performance and thus compromising functioning of the BEC vacuum cups.
To ensure a sealed connection, it is essential to use compression fittings, quick coupling fittings or other fittings specifically designed for compressed air, which guarantee airtightness thanks to their sealing gasket.

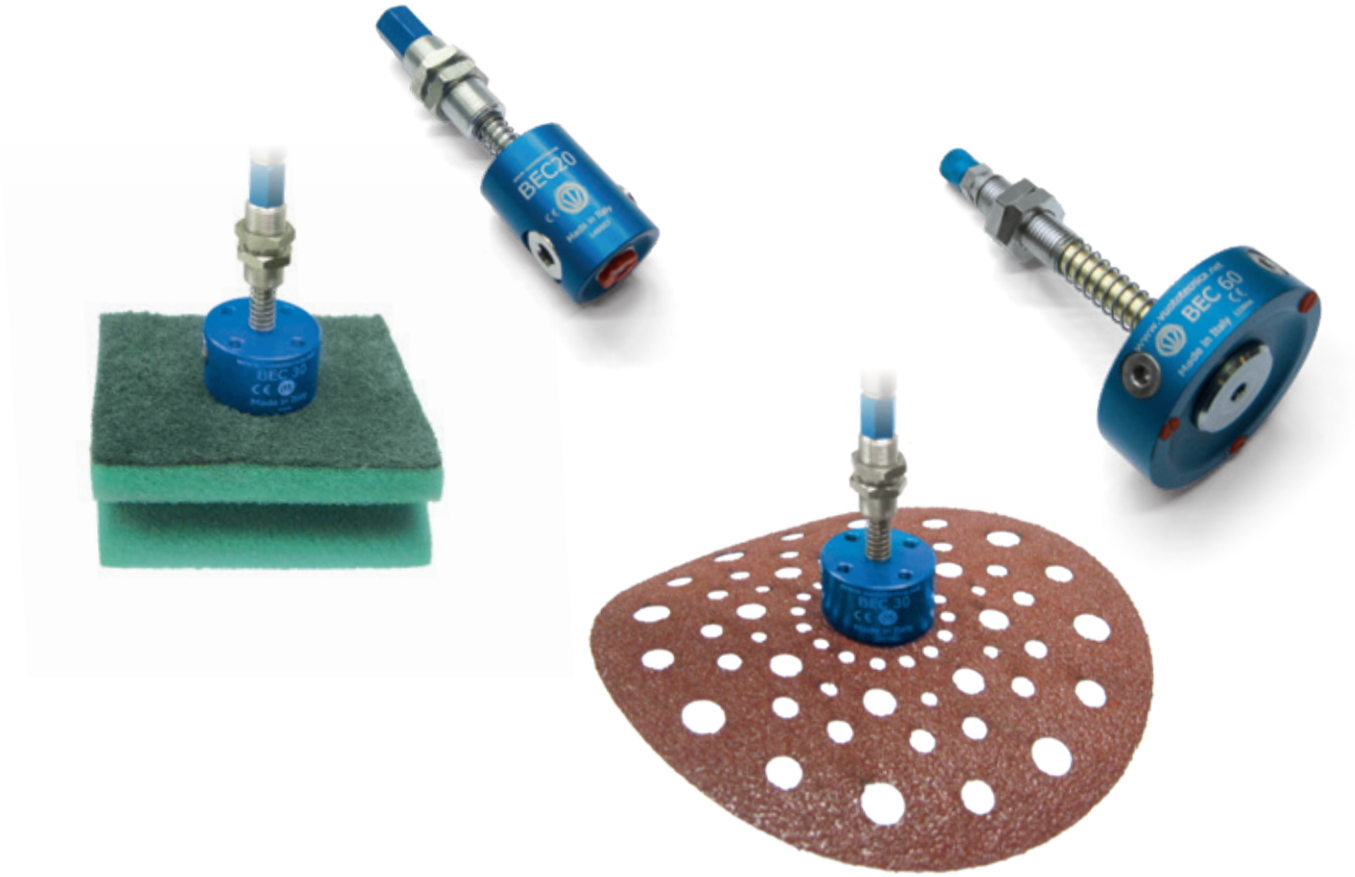
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) $\quad$ inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Spare rubber pad spacer

Item	Description	For vacuum cup
00 BEC 09	Red silicone hexagonal spacer	BEC 40 - BEC 60
00 BEC 10	Red silicone hexagonal spacer	BEC 20 - BEC 30

Fitting

Item	Description	For vacuum cup
00 BEC 13	Straight quick coupling, M5 male, for Ø4 tube	BEC 20 - BEC 30
00 BEC 14	Quick coupling, G 1/8", for Ø6 tube	BEC 40 - BEC 60

Vacuum Cup Holders

Item	Description	For vacuum cup
20 80 04	Micro cup holders M5 male	BEC 20 - BEC 30
20 10 38 M	Mini vacuum cup holders with G 1/8" male connection	BEC 40 - BEC 60