

# piCOBOT®



- ▶ Mechanical and electrical interfaces.
- ▶ Flexible setting options to perfectly match application needs.
- ▶ Vacuum ejector based on patented COAX® technology with integrated controls.
- ▶ Optimized design for high reliability.
- ▶ Light weight and low build height.
- ▶ Patented Intelligent Blow-Off (IBO) automatically activates and stops the blow-off when vacuum is removed from system and optimizes the usage of blow-off air.
- ▶ Valves with Adaptive Pulse Width Modulation (A-PWM) to reduce heat development and further improve reliability.
- ▶ Extra valve protection with Automatic Condition Monitoring (ACM) function that detects if the object being handled is leaking or non-leaking, triggering the use of Energy Saving (ES) or not.

## Technical data

Description	Unit	Value
<b>Installation</b>		
piCOBOT® weight (without suction cups)	oz	22.8
Adjustable gripper weight (without suction cups)	oz	8.6
Max handled weight	oz	246.9
Material	-	PA, NBR, SS, AI, FPM, CuZn, Cu, PU
Supply voltage	VDC	24 ± 10%
Electrical connection	-	Connector M8, 8-pin male
Typical current consumption	mA	200
In rush current	mA	800
Valve shift peak current	mA	425
Valve shift peak current time	ms	<32
Feed pressure, max.	psi	101.5
Connection, compressed air	-	ø6 push-in angle connector
Connection, vacuum	-	G1/4" female
<b>Environmental properties</b>		
IP classification	-	IP54
Temperature range	F	32-104
Humidity	%RH	35-85
Vibration resistant at 2g xyz	Hz	8-200
Noise level range*	dBA	52-63
<b>Operations</b>		
Pressure drop	psi	0.018
Blow-off flow at 73 psi and no counter pressure	scfm	0.583
Blow-off flow at 73 psi and 14.5 psi counter pressure	scfm	0.19
Hysteresis	-	Adjustable
Function, Vacuum/Blow-Off	-	NC vacuum + NC Blow-Off
Display	-	OLED and gyro display

### Electrical input/output

Electrical input/output	VDC	24, PNP/PNP or NPN/NPN
Analog output	V	1-5
Accuracy of F.S. (Full Scale) analog output	-	±3%
Manual override , electrically activated	-	Yes, non-locking push style
Signal range (digital output)	inHg	-29.92 – 41.34
Response time valve	ms	10 ± 2
Switch output S1/S2, max	mA	2x40 simultaneously or 1x80 one at a time

\*Higher noise level = free running vacuum (cups open)

### Vacuum flow

Feed pressure Pump nozzle	Air consumption	Vacuum flow (scfm) at different vacuum levels (-inHg)										Max vacuum
		0	10	20	30	40	50	60	70	80	-inHg	
psi 73.97/ 65.25	scfm 1.23	1.48	1.32	1.06	0.76	0.48	0.32	0.24	0.14	0.03	24.81	

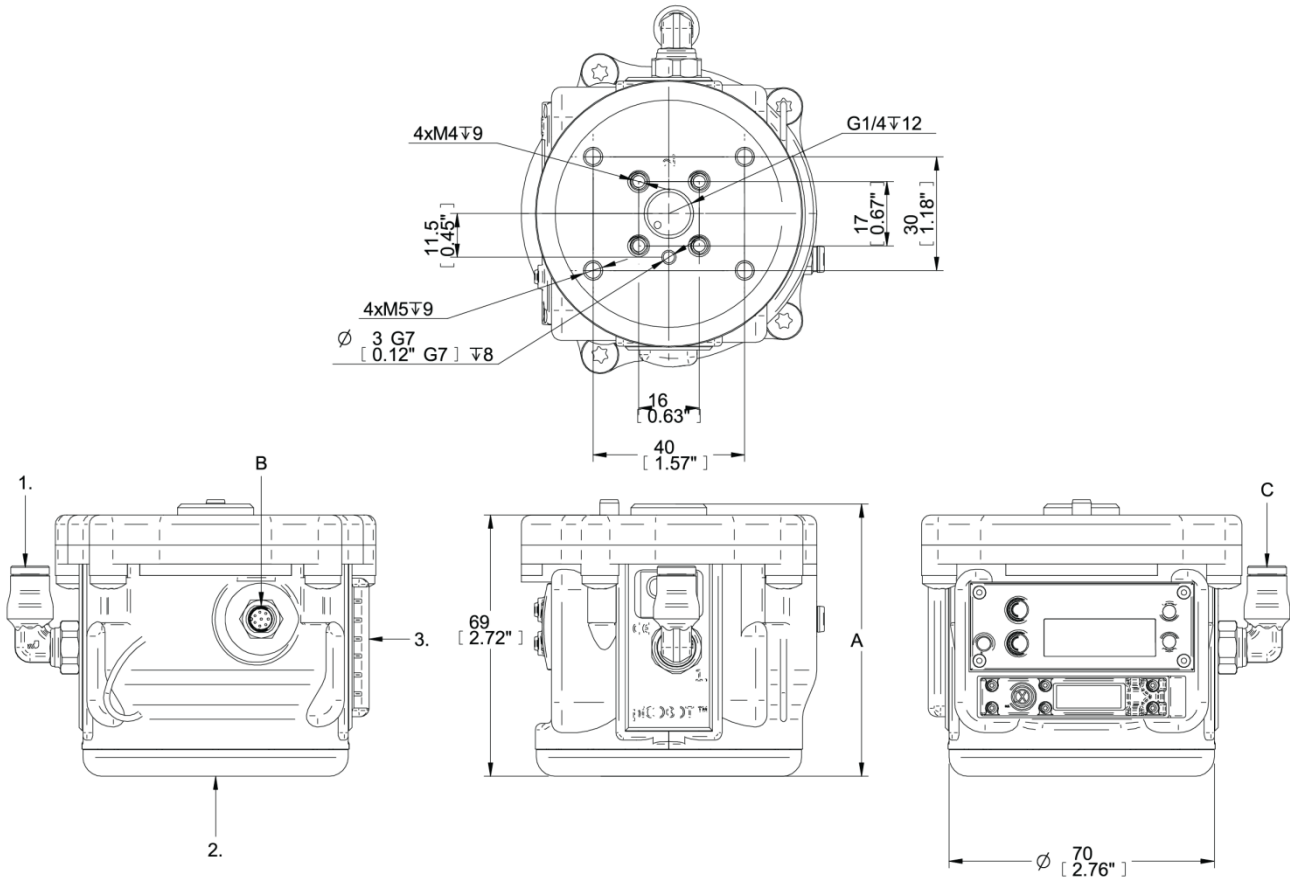
### Evacuation time

Feed pressure Pump nozzle	Air consumption	Evacuation time (s/cf) to reach different vacuum levels (-inHg)										Max vacuum
		10	20	30	40	50	60	70	80	-inHg		
psi 73.97/ 65.25	scfm 1.23	4.28	9.31	15.88	25.52	40.41	61.52	92.73	162.7	24.81		

Values specified in this data sheet are tested at (unless otherwise stated):

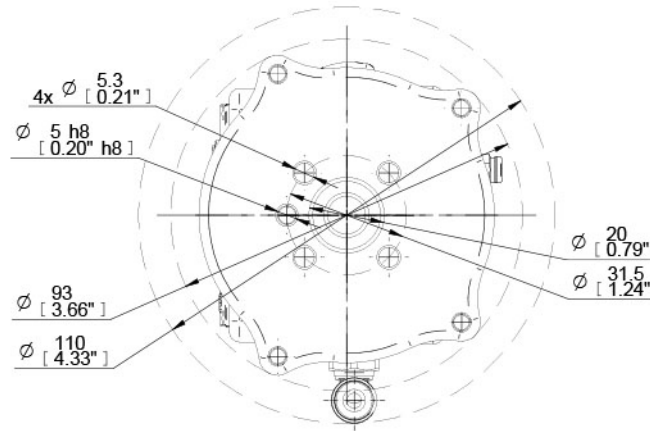
- Room temperature (20°C [68°F] ± 3°C [5.5°F]).
- Standard atmosphere (101.3 [29.9 inHg] ± 1.0 kPa [0.3 inHg]).
- Relative humidity 20-70%.
- Compressed air quality, DIN ISO 8573-1 class 4.

### Dimensional drawing



Description	Unit	Value	Pos.	Description
A	mm [in]	71.9 [2.83"]	1	Compressed air
B	-	M8 8-pin male	2	Vacuum
C	mm	Ø6	3	Exhaust

Adapter plate ISO 9409-1-31.5 – 4 – M5



## Gripper



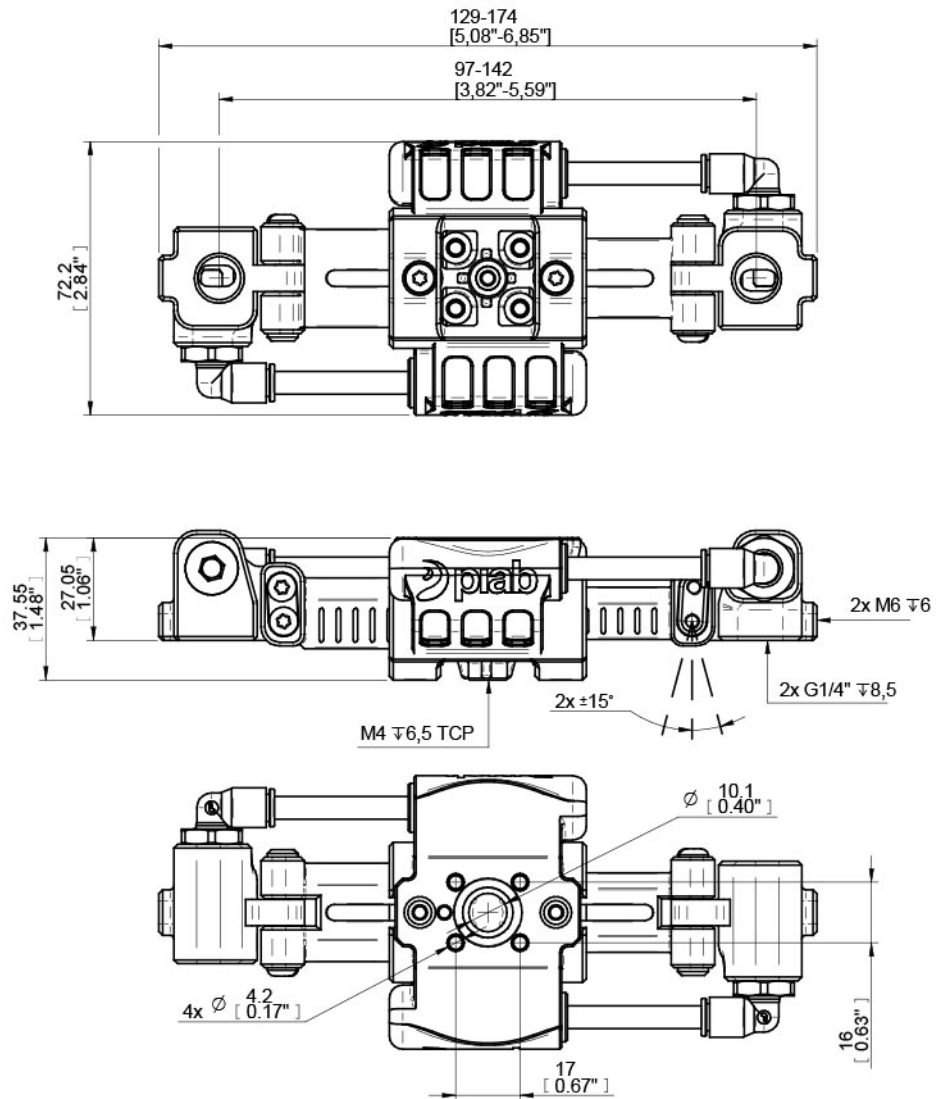
### Feature Gripper

- Flexible and adaptable to perfectly match application needs.
- Optimized design for high reliability and fast cycle times.
- Re-configurable within 2 minutes.
- Integrated piSAVE® sense technology allowing for single and/or double picking.
- Flexible and stepless adjustability in suction cup distance, 97-142mm.
- Stepless angle adjustability of individual suction cups, ±15°. Allows for maximum adaption to object surface variations.
- Push-pin can be mounted on the adjustable gripper suitable for pressing buttons or reorient objects.

### Technical Data Gripper

Description	Unit	Value
Material	-	PA, AL, SS, PU
Temperature range	F	32-122
Gripper weight	oz	8.6
Max payload	oz	246.9
Gripper internal volume	in <sup>3</sup>	0.976
Thread for suction cup	-	G1/4"
Adjustable angle for cups	-	±15°

## Dimensions Gripper



## Ordering information – Current configuration

Description piCOBOT®	Product code PCO.G.M02.T.MC2.S120PB.X.6.CCA.B.A03K1
Robot manufacturer	General piCOBOT
Mechanical interface	ISO 9409-1-31.5 – 4 – M5
Vacuum characteristics	Extra high vacuum flow (micro)
Nozzle model	MICRO (14-19 NI/min)
Nozzle rows	Double
Communication interface	Standard input/output
Energy saving type	ES pre-set on 70 -kPa [20.7 -inHg]
Blow-Off type	Intelligent Blow-Off (IBO)
Additional function	No additional functions
Vacuum sensing unit	[-kPa]
Vacuum sensing	2x digital outputs
Filter type	No vacuum filter
Air connection	ø6 push-in angle connector
Valve configuration	NC vacuum + NC Blow-Off
Electrical input/output	PNP/PNP or NPN/NPN
Cable	Cable M8-8p female, 3.0 m, open end
Gripper	Adjustable gripper, 2xG1/4"
Option (Gripper)	piSAVE sense 03/60, C. flow 0,37 NI/s
Suction cup	Developer Kit1