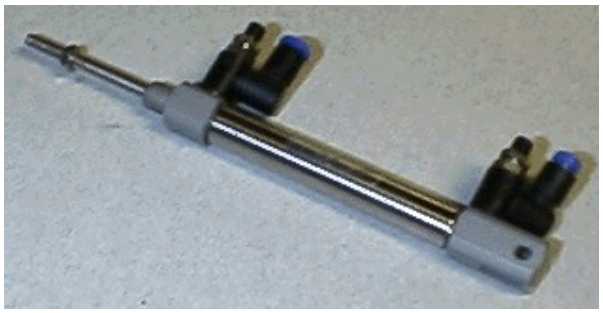
SMC Double-Acting Air Cylinder

For optional advanced information on how a pneumatic piston works, read the pneumatic section of the Advanced Actuator Handout.

Specs:

Manufacturer:	SMC	
Part Number:	NCJ2D10-45	
	Metric	English
Theoretical Pull Force @ 60 psi:	27.1 N	6.09 lbf
Theoretical Push Force @ 60 psi:	32.5 N	7.31 lbf
Stroke length:	45 mm	1.77 in
Body diameter:	11 mm	0.43 in
Piston diameter:	10 mm	0.39 in
Nose mount thread:	M8 x 1.00	
Rod diameter:	4 mm	0.157 in
Rod thread:	M4 x 0.7	
Rear clevis hole:	3.2 mm	0.125 in
Rear clevis slot:	3.3 mm	0.130
Piston weight:	57 g	0.125 lbs
Clevis hole diameter:	3.2 mm	0.125 in
Clevis slot:	3.3 mm	0.130 in
Clevis weight:	20 g	0.044 lbs



Notes on Usage:

1. Typically linear actuators of this type are mounted in one of two ways: a nose mount or a clevis (pivot) mount.
2. To use a nose mount, one would thread the body into a matching part and thus clamp the body at the "nose" of the cylinder. This would typically be used in pushing applications when the cylinder provides both the "guidance" and the force.
3. To use a pivot or clevis mount, one simply needs to place a rod through the hole at the end of the (opposite the nose) of the cylinder. This mounting is used for most linkages (where the other links pivot and provide the "guidance".)
4. Do not clamp around the body of the cylinder in any way. The clamping force tends to deform

the cylinder slightly and then the piston does not slide as well or gets stuck at the deformed area.

5. No bending moments should be placed on the cylinder or rod otherwise the piston will bind.
6. Use #4-40 bolts or welding rod as pivots inserted into the clevis holes.

Mounting: