

ELECTRIC CYLINDERS QUICK REFERENCE

Use the following charts to select the electric cylinder that best fits your application. Refer to drawings on page 134. Contact Joyce/Dayton with questions regarding the proper selection of electric cylinders.

20-Ton Thrust Capacity Electric Cylinders														
Model	Max Static Capacity (tons)	Screw Lead (in)	Linear Speed (in/min)	External Gearbox Ratio	Estimated Efficiency	Max Dynamic Load at HP (lbs)								
						.33HP	.5HP	.75HP	1HP	1.5HP	2HP	3HP	5HP	
ACME Screw														
ECAL2420	20	0.250	1.76	10	8%		6,459	10,813	15,552					
ECAL2420	20	0.250	1.71	10	8%								40,000	
ECAM2420	20	0.500	3.53	10	13%		5,484	9,181	13,205					
ECAM2420	20	0.500	3.42	10	14%								40,000	
ECAH2420	20	0.750	5.29	10	16%		4,560	7,634	10,979					
ECAH2420	20	0.750	5.13	10	17%								38,366	
ECAM2420	20	0.500	6.94	5	15%			4,305	6,621	10,972	15,324			
ECAM2420	20	0.500	7.29	5	15%								23,176	39,948
ECAM820	20	0.500	10.59	10	17%				5,276					
ECAM820	20	0.500	10.25	10	18%								19,447	
ECAH820	20	0.750	15.38	10	22%				4,387					
ECAH820	20	0.750	14.89	10	23%								16,170	
ECAL2420	20	0.250	18.23	Direct drive	11%								4,701	9,678
ECAM820	20	0.500	20.83	5	19%					4,127	5,935			
ECAM820	20	0.500	21.88	5	19%								9,218	16,187
ECAH820	20	0.750	31.25	5	23%						4,935			
ECAH820	20	0.750	32.81	5	24%								7,665	13,459
Ball Screw														
ECBL2420	20	0.500	3.53	10	33%	7,425	13,710	22,953	33,012					
ECBL2420	20	0.500	3.42	10	35%								40,000	
ECBL2420	20	0.500	6.94	5	37%		5,442	10,763	16,553	27,431	38,309			
ECBL2420	20	0.500	7.29	5	39%								40,000	
ECBL820	20	0.500	10.59	10	43%		4,876	8,857	13,189					
ECBL820	20	0.500	10.25	10	45%								40,000	
ECBL820	20	0.500	20.83	5	47%				5,797	10,317	14,837			
ECBL820	20	0.500	21.88	5	48%								23,046	40,000
ECBL2420	20	0.500	36.46	Direct drive	49%						4,697			
ECBL820	20	0.500	109.38	Direct drive	55%									6,665

20-Ton Electric Cylinders			
	Maximum Rise		Cylinder Tube Torque (in*lb) Per Pound Thrust
	Vertical Operation	Horizontal Operation	
ACME Screw			
ECAL	100"	75"	.178
ECAM	78"	58"	.210
ECAH	88"	66"	.244
Ball Screw			
ECBL	72"	54"	.089

Selection Guidelines:

- Select the model most closely matching your desired load and speed requirements. The charts are sorted by static capacity, then screw type (ACME or ball), then travel speed.
- To determine the maximum rise for the model selected, see maximum rise charts above and to the left.
- L, M, and H in the model numbers designate low, medium, or high screw leads.
- ECA models are not suitable for duty cycles greater than 25%.
- **All models with efficiencies >30% require a brake motor.**
- Models with efficiencies ≤30% are self-locking in the absence of vibration. A brake motor is required if vibration is present or faster stopping times are desired.
- Loads and speeds shown assume use of a 1750 rpm 3ph AC induction motor.
- Cylinder tube torque per pound thrust is the means to calculate how much torque must be resisted at the mounting locations of the cylinder. To calculate torque (in*lb), multiply the value in the chart times the load in pounds.
- When ordering cylinders with a ComDRIVE the reducer listed in the part number should specify the proper 4 letter ComDRIVE shaft code from page 121. Units with a "direct drive" listing should specify the proper 4 letter motor mount code listed on page 121.