

ELECTRIC CYLINDERS QUICK REFERENCE

Use the following charts to select the electric cylinder that best fits your application. Refer to drawings on page 130. Contact Joyce/Dayton with questions regarding the proper selection of electric cylinders.

2.5-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
ACME Screw											
ECAL242.5	2.5	0.250	1.76	10	14%	5,000					
ECAL242.5	2.5	0.250	2.38	7.5	15%	5,000					
ECAH242.5	2.5	0.500	3.53	10	20%	5,000					
ECAH242.5	2.5	0.500	4.76	7.5	21%	5,000					
ECAH122.5	2.5	0.500	7.06	10	25%	4,234	5,000				
ECAH122.5	2.5	0.500	9.52	7.5	26%	3,219	5,000				
ECAH62.5	2.5	0.500	14.12	10	28%	2,374	3,701	5,000			
ECAL242.5	2.5	0.250	18.23	Direct drive	21%	756	1,543				
ECAH62.5	2.5	0.500	19.04	7.5	29%	1,787	2,811	4,317			
ECAH62.5	2.5	0.500	27.78	5	30%	1,213	1,946	3,025			
ECAH242.5	2.5	0.500	36.46	Direct drive	30%	525	1,072				
ECAH122.5	2.5	0.500	72.92	Direct drive	33%		555	1,010	1,464	2,373	
ECAH62.5	2.5	0.500	145.83	Direct drive	36%			512	754	1,238	1,723
Ball Screw											
ECBL242.5	2.5	0.250	1.76	10	30%	5,000					
ECBL242.5	2.5	0.250	2.38	7.5	32%	5,000					
ECBL122.5	2.5	0.250	3.53	10	38%	5,000					
ECBL122.5	2.5	0.250	4.76	7.5	40%	5,000					
ECBL62.5	2.5	0.250	7.06	10	43%	5,000					
ECBL62.5	2.5	0.250	9.52	7.5	45%	5,000					
ECBL62.5	2.5	0.250	13.89	5	47%	3,752	5,000				
ECBL242.5	2.5	0.250	18.23	Direct drive	46%	1,624	3,315				
ECBM62.5	2.5	0.500	19.04	7.5	45%	2,763	4,347	5,000			
ECBM62.5	2.5	0.500	27.78	5	47%	1,876	3,010	4,678	5,000		
ECBL122.5	2.5	0.250	36.46	Direct drive	52%	762	1,718	3,123	4,528	5,000	
ECBH62.5	2.5	1.000	38.08	7.5	45%	1,381	2,173	3,338			
ECBH62.5	2.5	1.000	55.56	5	47%	938	1,505	2,339	3,247		
ECBL62.5	2.5	0.250	72.92	Direct drive	55%		833	1,582	2,331	3,830	5,000
ECBM62.5	2.5	0.500	145.83	Direct drive	55%			791	1,166	1,915	2,664
ECBH62.5	2.5	1.000	291.67	Direct drive	55%				583	957	1,332

2.5-Ton Electric Cylinders			
	Maximum Rise		Cylinder Tube Torque
	Vertical Operation	Horizontal Operation	(in*lb) Per Pound Thrust
ACME Screw			
ECAL	28"	21"	.098
ECAH	28"	21"	.139
Ball Screw			
ECBL	41"	31"	.045
ECBM	44"	33"	.089
ECBH	41"	31"	.178

Selection Guidelines:

- Select the model most closely matching your desired load and speed requirements. The chart is 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 chart above.
- 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 reducer the listed 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.

ELECTRIC CYLINDERS QUICK REFERENCE

Use the following charts to select the electric cylinder that best fits your application. Refer to drawings on page 131. Contact Joyce/Dayton with questions regarding the proper selection of electric cylinders.

3-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
ACME Screw											
ECAL243	3	0.250	1.76	10	12%	6,000					
ECAL243	3	0.250	2.38	7.5	13%	6,000					
ECAL123	3	0.250	3.53	10	15%	5,183	6,000				
ECAL123	3	0.250	4.76	7.5	16%	3,926	6,000				
ECAL63	3	0.250	7.06	10	17%	2,906	4,547	6,000			
ECAL63	3	0.250	9.52	7.5	18%	2,179	3,446	5,310			
ECAL63	3	0.250	13.89	5	19%	1,468	2,375	3,710	5,162		
ECAL243	3	0.250	18.23	Direct drive	18%		1,215				
ECAL63	3	0.250	72.92	Direct drive	22%				899	1,499	2,098
Ball Screw											
ECBL243	3	0.200	1.41	10	30%	6,000					
ECBL243	3	0.200	1.90	7.5	32%	6,000					
ECBL123	3	0.200	2.82	10	38%	6,000					
ECBL123	3	0.200	3.81	7.5	40%	6,000					
ECBH243	3	0.625	4.41	10	30%	6,000					
ECBL63	3	0.200	5.65	10	43%	6,000					
ECBH243	3	0.625	5.95	7.5	32%	6,000					
ECBL63	3	0.200	7.62	7.5	45%	6,000					
ECBH123	3	0.625	8.82	10	38%	5,183	6,000				
ECBL63	3	0.200	11.11	5	47%	4,587	6,000				
ECBH123	3	0.625	11.90	7.5	40%	3,926	6,000				
ECBL243	3	0.200	14.58	Direct drive	46%	1,686	3,798				
ECBH63	3	0.625	17.65	10	43%	2,906	4,547	6,000			
ECBH63	3	0.625	23.80	7.5	45%	2,179	3,446	5,310			
ECBL123	3	0.200	29.17	Direct drive	52%	758	1,952	3,709	5,465	6,000	
ECBH63	3	0.625	34.72	5	47%	1,468	2,375	3,710	5,162		
ECBH243	3	0.625	45.57	Direct drive	46%		1,215				
ECBL63	3	0.200	58.33	Direct drive	55%		937	1,874	2,810	4,683	6,000
ECBH123	3	0.625	91.15	Direct drive	52%		625	1,187	1,749	2,873	
ECBH63	3	0.625	182.29	Direct drive	55%				899	1,499	2,098

3-Ton Electric Cylinders			
	Maximum Rise		Cylinder Tube Torque
	Vertical Operation	Horizontal Operation	(in*lb) Per Pound Thrust
ACME Screw			
ECAL	48"	36"	.113
Ball Screw			
ECBL	56"	42"	.036
ECBH	46"	34"	.111

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 right.
- 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 ComDRIVE 4 letter shaft code from page 121. Units with a "direct drive" listing should specify the proper 4 letter motor mount code listed on page 121.

ELECTRIC CYLINDERS QUICK REFERENCE

Use the following charts to select the electric cylinder that best fits your application. Refer to drawings on page 132. Contact Joyce/Dayton with questions regarding the proper selection of electric cylinders.

5-Ton Thrust Capacity Electric Cylinders							Max Dynamic Load at HP (lbs)					
Model	Max Static Capacity (tons)	Screw Lead (in)	Linear Speed (in/min)	External Gearbox Ratio	Estimated Efficiency	.33HP	.5HP	.75HP	1HP	1.5HP	2HP	3HP
						ACME Screw						
ECAL245	5	0.250	1.76	10	11%	6,895	10,000					
ECAM245	5	0.375	2.65	10	14%	5,891	9,330	10,000				
ECAH245	5	0.500	3.53	10	16%	5,193	8,224	10,000				
ECAM125	5	0.375	5.29	10	17%	3,661	5,822	9,000	10,000			
ECAH125	5	0.500	7.06	10	20%	3,227	5,132	7,933	10,000			
ECAM65	5	0.375	10.59	10	19%	2,031	3,257	5,059	7,022			
ECAH65	5	0.500	14.12	10	23%	1,790	2,871	4,460	6,189			
ECAL245	5	0.250	18.23	Direct drive	16%			1,471				
ECAM65	5	0.375	20.83	5	21%		1,634	2,635	3,723	5,768	7,813	
ECAM245	5	0.375	27.34	Direct drive	21%			1,257				
ECAH65	5	0.500	27.78	5	25%		1,441	2,322	3,282	5,085	6,887	
ECAH245	5	0.500	36.46	Direct drive	24%			1,108				
ECAM125	5	0.375	54.69	Direct drive	23%				1,085	1,935		
ECAL65	5	0.250	72.92	Direct drive	19%					1,144	1,672	2,728
ECAM65	5	0.375	109.38	Direct drive	25%						1,429	2,331
ECAH65	5	0.500	145.83	Direct drive	29%						1,259	2,055
Ball Screw												
ECBL245	5	0.474	3.34	10	30%	10,000						
ECBL125	5	0.474	6.69	10	38%	6,441	10,000					
ECBM245	5	1.000	7.06	10	30%	4,910	7,775	10,000				
ECBH245	5	1.875	13.24	10	30%	2,618	4,147	6,394				
ECBL65	5	0.474	13.37	10	43%	3,572	5,729	8,900	10,000			
ECBM125	5	1.000	14.12	10	38%	3,051	4,852	7,500	10,000			
ECBH125	5	1.875	26.47	10	38%	1,627	2,588	4,000	5,537			
ECBL65	5	0.474	26.32	5	47%	1,678	2,875	4,635	6,550	10,000		
ECBM65	5	1.000	28.23	10	43%	1,692	2,714	4,216	5,851			
ECBL245	5	0.474	34.54	Direct drive	46%			2,211				
ECBH65	5	1.875	52.94	10	43%		1,447	2,249	3,121			
ECBM65	5	1.000	55.56	5	47%		1,362	2,196	3,103	4,807	6,511	
ECBL125	5	0.474	69.08	Direct drive	52%			1,162	1,910	3,404	4,898	
ECBM245	5	1.000	72.92	Direct drive	46%			1,048				
ECBH65	5	1.875	104.17	5	47%			1,171	1,655	2,564	3,473	
ECBL65	5	0.474	138.16	Direct drive	55%					1,720	2,513	4,101
ECBM125	5	1.000	145.83	Direct drive	52%					1,612	2,320	
ECBH125	5	1.875	273.44	Direct drive	52%						1,237	
ECBM65	5	1.000	291.67	Direct drive	55%						1,191	1,942
ECBH65	5	1.875	546.88	Direct drive	55%							1,036

5-Ton Electric Cylinders			
	Maximum Rise		Cylinder Tube Torque (in*lb) Per Pound Thrust
	Vertical Operation	Horizontal Operation	
ACME Screw			
ECAL	59"	44"	.131
ECAM	63"	47"	.151
ECAH	59"	44"	.171
Ball Screw			
ECBL	54"	40"	.084
ECBM	54"	40"	.178
ECBH	59"	44"	.332

Note: For proper model selection refer to Selection Guidelines on page 126.

ELECTRIC CYLINDERS QUICK REFERENCE

Use the following charts to select the electric cylinder that best fits your application. Refer to drawings on page 133. Contact Joyce/Dayton with questions regarding the proper selection of electric cylinders.

10-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													
ECAL2410	10	0.250	1.76	10	10%	5,417	9,111	14,543	19,976				
ECAL2410	10	0.250	1.71	10	10%							20,000	
ECAM2410	10	0.500	3.53	10	16%	4,468	7,515	11,996	16,872				
ECAM2410	10	0.500	3.42	10	17%							20,000	
ECAH2410	10	0.666	4.70	10	18%	3,811	6,409	10,231	14,390				
ECAH2410	10	0.666	4.55	10	19%							20,000	
ECAL810	10	0.250	5.29	10	12%	2,134	3,689	5,977	8,468				
ECAL810	10	0.250	5.13	10	13%							20,000	
ECAM2410	10	0.500	6.94	5	18%		3,554	6,112	8,896	14,126	19,355		
ECAM2410	10	0.500	7.29	5	19%							20,000	
ECAH2410	10	0.666	9.25	5	20%		3,031	5,213	7,587	12,047	16,508		
ECAH2410	10	0.666	9.71	5	21%							20,000	
ECAM810	10	0.500	10.59	10	20%		3,043	4,930	6,984				
ECAM810	10	0.500	10.25	10	21%							20,000	
ECAH810	10	0.666	14.10	10	23%		2,595	4,205	5,957				
ECAH810	10	0.666	14.10	10	24%							20,000	
ECAL2410	10	0.250	18.23	Direct drive	14%					2,440			
ECAM810	10	0.500	20.83	5	22%			2,367	3,503	5,637	7,771		
ECAM810	10	0.500	21.88	5	23%							11,611	19,837
ECAH810	10	0.666	27.75	5	25%			2,019	2,988	4,808	6,628		
ECAH810	10	0.666	29.14	5	26%							9,903	16,919
ECAM2410	10	0.500	36.46	Direct drive	23%					2,012			
ECAL810	10	0.250	54.69	Direct drive	16%							2,461	4,732
ECAM810	10	0.500	109.38	Direct drive	26%							2,030	3,903
ECAH810	10	0.666	145.69	Direct drive	29%								3,329
Ball Screw													
ECBL2410	10	0.474	3.34	10	34%	10,130	17,038	20,000					
ECBL2410	10	0.474	6.58	5	39%	4,113	8,057	13,858	20,000				
ECBM2410	10	1.000	7.06	10	34%	4,798	8,071	12,883	18,121				
ECBM2410	10	1.000	6.83	10	36%							20,000	
ECBL810	10	0.474	10.03	10	43%	3,990	6,899	11,178	15,834				
ECBL810	10	0.474	9.71	10	46%							20,000	
ECBH2410	10	1.875	13.24	10	34%	2,559	4,304	6,871	9,664				
ECBM2410	10	1.000	13.89	5	39%		3,817	6,565	9,554	15,171	20,000		
ECBL810	10	0.474	19.74	5	47%		2,999	5,366	7,942	12,781	17,619		
ECBL810	10	0.474	19.11	5	50%							20,000	
ECBM810	10	1.000	21.18	10	43%		3,268	5,295	7,501				
ECBM810	10	1.000	20.50	10	46%							20,000	
ECBH2410	10	1.875	26.04	5	39%		2,036	3,501	5,096	8,091	11,086		
ECBL2410	10	0.474	34.54	Direct drive	49%					4,562			
ECBH810	10	1.875	39.71	10	43%			2,824	4,000				
ECBM810	10	1.000	41.67	5	47%			2,542	3,762	6,054	8,346		
ECBM810	10	1.000	43.75	5	49%							12,470	20,000
ECBM2410	10	1.000	72.92	Direct drive	49%					2,161			
ECBH810	10	1.875	78.13	5	47%				2,006	3,229	4,451		
ECBH810	10	1.875	82.03	5	49%							6,651	11,363
ECBL810	10	0.474	103.62	Direct drive	56%						2,478	4,602	8,849
ECBM810	10	1.000	218.75	Direct drive	56%							2,180	4,192
ECBH810	10	1.875	410.16	Direct drive	56%								2,236

10-Ton Electric Cylinders			
	Maximum Rise		Cylinder Tube Torque (in*lb) Per Pound Thrust
	Vertical Operation	Horizontal Operation	
ACME Screw			
ECAL	84"	63"	.161
ECAM	60"	45"	.195
ECAH	76"	57"	.228
Ball Screw			
ECBL	38"	28"	.084
ECBM	38"	28"	.178
ECBH	41"	31"	.332

Note: For proper model selection refer to Selection Guidelines on page 129.

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
	Vertical Operation	Horizontal Operation	(in*lb) Per Pound Thrust
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.