

Hoist Selection Guide

In order to properly select a hoist, consider the following:

Example:**

1. WEIGHT CAPACITY	Determine the maximum gross weight of the load. (Remember to add for Lifting, Supporting, and Positioning devices).	1. 2400 lbs.	This weight includes all the components of the load (pallet, drum, sling, etc.).
2. INPUT VOLTAGE	Nominal Voltage*: Single Phase 115 or 230 volt Three Phase 208, 230, or 460 volt.	2. 230V	Nominal voltage available
3. LIFT SPEED	The speed you want to lift the load. Industry standard for 1/8 - 1 ton is 16 ft./min. (FPM). 2 ton is 8 FPM.	3. 8 FPM	Common lift speed for a 2-ton hoist.
4. CHAIN LENGTH (Lift)	Measure from the point of mount to the floor.	4. 12 Feet	Height from I-beam to floor
5. LOAD MOVEMENT	Determine actual distance the load must be lifted and lowered.	5. 7 Feet	Actual lift height
6. NUMBER OF LIFTS	Determine the number of lifts per hour.	6. 15 Lifts	Amount of lifts per hour for job
7. START/STOPS	The number of times the operator activates the push-button control. Rule of thumb: 8 start/stops per cycle (load lift and lower).	7. 120 Start/Stops	15 x 8 = 120
8. OPERATING TIME	All hoists are rated with a "Service Classification". To determine this classification for your job, use the following calculation: Minutes Run Time = Feet of Load Lift x Lifts per Hour x 2 ÷ Hoist Speed Then calculate: % On Time = Minutes Run Time ÷ 60	8. Calculation:	7 ft. x 15 lifts x 2 ÷ 8 FPM = 26.25 Min. Run Time/Hr. 26.25 ÷ 60 = 44% On Time/Hr.
Once a % On Time is determined, see "Hoist Service Classification" to determine the hoist needed.		Selected Hoist: With the above known, the selected hoist should offer: 2-ton capacity, 230V, 3-phase operation, 15 ft. lift, 8 FPM, and have a 44% or "H4" Service Classification.	

(*) Nominal voltage is ±10% of rated voltage. (**) Example is based on having Nominal Voltage and 80°F ambient still air. Higher temperatures and/or voltages outside of nominal range will result in reduced duty cycles.

Hoist Service Classifications

Service Classification	Typical Areas of Application
H2	Light machine shop, fabricating industries, and service and maintenance work, where loads and use are randomly distributed with capacity loads infrequently handled, and where total running time of equipment does not exceed 15% of the work period and 75 start/stops per hour.
H3	General machine shop, fabricating, assembly, storage, and warehousing use, where loads and operation are randomly distributed, with total running time of equipment not exceeding 25% of the work period and 150 start/stops per hour.
H4	High-volume handling in steel warehousing, machine shops, fabricating plants, mills, and foundries. Manual or automatic cycling operations in heat-treating and plating operations. Total running time of equipment normally approaches 50% of the work period and 300 start/stops per hour.

Note: For higher duty cycles, refer to the Air Hoist Section.

Are You Choosing the Proper Hoist?

STEP ONE:

Make sure there is a dedicated circuit of the correct amperage to power your hoist.

Note: always follow electrical codes and manufacturers' operation instructions.

STEP TWO:

Select a power cord of the proper length and gauge to ensure smooth operation.

STEP THREE:

A chain container is recommended for use with each hoist. Choose the item number indicated.

Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED			Chain Container	Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED			Chain Container
		Up to 50 Ft.	Up to 80 Ft.	Up to 120 Ft.				Up to 50 Ft.	Up to 80 Ft.	Up to 120 Ft.	
Budget						CM Valstar®					
2ELT6	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	3KP84	15 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466
2ELT7	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	3KP85	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466
2ELT8	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	4Z399	20 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466
2KFT2	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	5Z137	20 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466
2KFT3	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	3KP86	20 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466
2KFT4	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	4Z400	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466
2ELT9	20 Amp	#14 AWG	#12 AWG	#12 AWG	Included	5Z138	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467
2ELU1	20 Amp	#14 AWG	#12 AWG	#12 AWG	Included	5Z139	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467
2ELU2	20 Amp	#14 AWG	#12 AWG	#12 AWG	Included	4Z401	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466
2KFT5	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	5Z140	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z467
2KFT6	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	3Z844	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467
2KFT7	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	5Z141	40 Amp	#14 AWG	#12 AWG	#10 AWG	5W833
2ELU3	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	5Z142	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z468
2ELU4	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	3Z845	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z467
2ELU5	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	5Z143	15 Amp	#16 AWG	#16 AWG	#14 AWG	5W833
2KFT8	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	CM Clean Room					
2KFT9	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE29	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU1	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE30	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELU6	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE31	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELU7	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE32	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELU8	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE33	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU2	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE34	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU3	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE35	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU4	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE36	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELU9	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE37	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELV1	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE38	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2ELV2	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included	2YE39	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU5	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE40	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE47
2KFU6	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE41	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
2KFU7	15 Amp	#16 AWG	#16 AWG	#16 AWG	Included	2YE42	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
Coffing Hoist						2YE43	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
3Z953	20 Amp	#12 AWG	#10 AWG	#8 AWG	4Z812	2YE44	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
3Z952	20 Amp	#14 AWG	#14 AWG	#14 AWG	4Z812	2YE45	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
3Z954	30 Amp	#10 AWG	#8 AWG	#6 AWG	4Z812	2YE46	15 Amp	#14 AWG	#12 AWG	#10 AWG	2YE48
3Z955	20 Amp	#14 AWG	#14 AWG	#14 AWG	4Z812						
3Z956	20 Amp	#14 AWG	#14 AWG	#14 AWG	4Z812						

Are You Choosing the Proper Hoist? (Continued)

Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED GAUGE			Chain Container	Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED GAUGE			Chain Container
		Up to 50 Ft.	Up to 80 Ft.	Up to 120 Ft.				Up to 45 Ft.	Up to 75 Ft.	Up to 105 Ft.	
CM Lodestar						CM Shopstar					
52382, 2YJ40	15 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466	4UV26	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV32
52383, 2YE35, 2YE41	20 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466	4UV28	15 Amp	#16 AWG	#16 AWG	#14 AWG	4UV33
52389, 2YE36, 2YE42	20 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466	4UV30	15 Amp	#16 AWG	#16 AWG	#14 AWG	4UV33
4ZW62, 2YE37, 2YE43	20 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466	4ZW42	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV32
52384, 2YE38, 2YE44	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466	4ZW43	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV33
52390, 2YE39, 2YE45	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466	4ZW44	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV33
4ZW63, 2YE40, 2YE46	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466	4ZW45	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV32
52385, 2YE47	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z466	4UV27	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV33
52391, 2YE48	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467	4UV29	15 Amp	#16 AWG	#16 AWG	#14 AWG	4UV34
4ZW75, 2YE49	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467	4UV31	15 Amp	#16 AWG	#16 AWG	#14 AWG	4UV35
52386, 2YE50	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z466	4ZW48	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV33
52392, 2YE51	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z467	4ZW49	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV34
4ZW76, 2YE52	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z467	4ZW51	15 Amp	#16 AWG	#16 AWG	#16 AWG	4UV33
52387, 2YE53	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z467	Dayton Chain & Wire Rope					
52393, 2YE54	40 Amp	#14 AWG	#12 AWG	#10 AWG	5W833	4GU70	10 Amp	#16 AWG	#16 AWG	#16 AWG	3KR20
4ZW77, 2YE55	40 Amp	#14 AWG	#12 AWG	#10 AWG	4Z468	2GTC9	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
52388, 2YE56	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z467	2GTD1	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
52394, 2YE57	15 Amp	#16 AWG	#16 AWG	#14 AWG	5W833	4GU71	10 Amp	#16 AWG	#16 AWG	#16 AWG	3KR20
4ZW78, 2YE58	15 Amp	#16 AWG	#16 AWG	#14 AWG	4Z468	2GTD2	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
3KP87	40 Amp	#14 AWG	#12 AWG	#10 AWG	4UV25	2GTD3	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
4ZXB6, 2YE59	40 Amp	#14 AWG	#12 AWG	#10 AWG	4UV25	4ZY98	10 Amp	#16 AWG	#16 AWG	#16 AWG	3KR20
4ZXB7, 2YE60	15 Amp	#16 AWG	#16 AWG	#14 AWG	4UV25	2GTD4	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
						2GTD5	10 Amp	#16 AWG	#16 AWG	#16 AWG	—
Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED GAUGE			Chain Container						
		Up to 61 Ft.	Up to 97 Ft.	Up to 154 Ft.		2XY32	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
Dayton Hoist						2GTD6	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB72	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	2GTD7	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB96	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	2XY33	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB97	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	2GTD8	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB98, 4ZY54	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	2GTD9	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB99, 4ZY55	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	Harrington Hoists Ergonomic Electric Chain Hoists					
3YE10, 4ZY56	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1YW82	10 Amp	#14 AWG	#14 AWG	#12 AWG	Included
3YB78	20 Amp	#12 AWG	#10 AWG	#8 AWG	Included	1YW83	10 Amp	#14 AWG	#14 AWG	#12 AWG	Included
3YB84	20 Amp	#12 AWG	#10 AWG	#8 AWG	Included	1YW84	15 Amp	#14 AWG	#14 AWG	#12 AWG	Included
3YB85	20 Amp	#12 AWG	#10 AWG	#8 AWG	Included						
3YB90	30 Amp	#12 AWG	#10 AWG	#8 AWG	Included	Item No.	Minimum Dedicated Circuit Breaker Size	POWER CORD REQUIRED GAUGE		Chain Container	
3YB73, 4ZY57	20 Amp	#14 AWG	#14 AWG	#14 AWG	Included			Up to 61 Ft.	Up to 97 Ft.	Up to 154 Ft.	
3YB74, 4ZY58	20 Amp	#14 AWG	#14 AWG	#14 AWG	Included	Harrington NER					
3YB75, 4ZY59	20 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEY3	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB79	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEY4	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB91	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEY5	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB83	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEY6	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB80, 4ZY60	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEY8	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB86, 4ZY61	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEY9	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB76, 4ZY62	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEZ1	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
3YB81	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEZ2	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
7E989	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEZ3	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included
7E990	30 Amp	#10 AWG	#8 AWG	#6 AWG	Included	1AEZ4	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
3YB82, 4ZY63	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEZ5	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
7E991, 4ZY64	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEZ6	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
7E992, 4ZY65	30 Amp	#14 AWG	#14 AWG	#14 AWG	Included	1AEZ7	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
2GXG9	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	1AEZ8	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
2GXH1	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	1AEZ9	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included
2GXH2	15 Amp	#16 AWG	#16 AWG	#14 AWG	Included	1AF A1	30 Amp	#12 AWG	#10 AWG	#8 AWG	Included
2GXH3	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A2	30 Amp	#12 AWG	#10 AWG	#8 AWG	Included
2GXH4	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A3	30 Amp	#12 AWG	#10 AWG	#8 AWG	Included
2GXH5	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A4	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included
2GXH6	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A5	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included
2GXH7	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A6	30 Amp	#12 AWG	#10 AWG	#10 AWG	Included
2GXH8	20 Amp	#14 AWG	#12 AWG	#10 AWG	Included	1AF A7	40 Amp	#12 AWG	#10 AWG	#8 AWG	Included
						1AF A8	40 Amp	#12 AWG	#10 AWG	#8 AWG	Included
						1AF A9	40 Amp	#12 AWG	#10 AWG	#8 AWG	Included