

Options and Technical Data

DECK/BASE MOUNTED ATTACHMENT POINTS—DIMENSIONS

Capacity (t)	Product Code	e1 (in)	e12 (in)	Deck/Base Mounted
2	RHN02D-20A-20D-①	40.9	24.2	
	RHN02D-33A-20D-①	52.5	35.8	
3	RHN03D-20A-20D-①	40.9	24.2	
	RHN03D-33A-20D-①	52.5	35.8	
5	RHN05D-20B-20D-①	41.3	24.2	
	RHN05D-33B-20D-①	52.9	35.8	
7 1/2	RHN08D-20C-20D-①	48.0	26.8	
	RHN08D-33C-20D-①	60.4	39.2	
10	RHN10D-20C-20D-①	48.0	26.8	
	RHN10D-33C-20D-①	60.4	39.2	

- ① 1 = 208V - 3ph - 60Hz
- ② 2 = 230V - 3ph - 60Hz
- ③ 4 = 460V - 3ph - 60Hz
- ④ 5 = 575V - 3ph - 60Hz

*5 - Lock washer

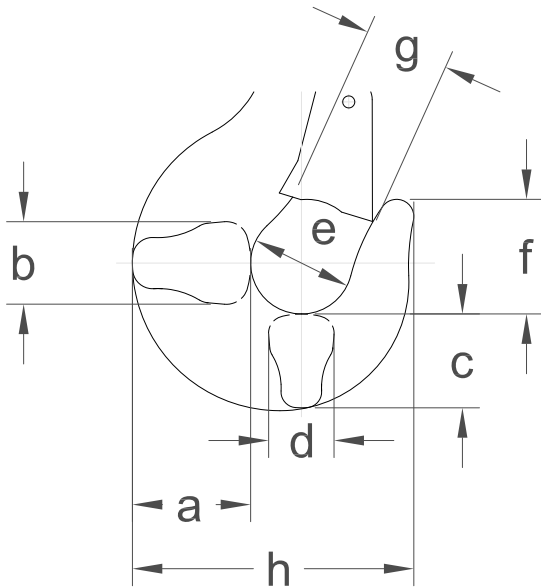
DECK/BASE MOUNTED ATTACHMENT POINTS—DIMENSIONS

Capacity (t)	Product Code	e1 (in)	e2 (in)	e12 (in)	Deck/Base Mounted
15	RHN15D-20D-16D-①	54.4	43.7	33.7	
	RHN15D-33D-16D-①	66.6		45.9	
20	RHN20D-20D-16D-①	54.4	43.7	33.7	
	RHN20D-33D-16D-①	66.6		45.9	

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*5 - Lock washer

Options and Technical Data



BOTTOM HOOK—DIMENSIONS

Capacity (t)	Product Code*	a (in)	b (in)	c (in)	d (in)	e (in)	f (in)	g (in)	h (in)
2	RHN02D-20A-20D-①	2.2	1.8	1.9	1.5	2.2	2.5	1.6	5.8
	RHN02D-33A-20D-①								
3	RHN03D-20A-20D-①	2.2	1.8	1.9	1.5	2.2	2.5	1.6	5.8
	RHN03D-33A-20D-①								
5	RHN05D-20B-20D-①	2.6	2.1	2.3	1.8	2.5	2.8	1.7	6.6
	RHN05D-33B-20D-①								
7 1/2	RHN08D-20C-20D-①	3.1	2.5	2.6	2.1	2.8	3.1	1.9	7.7
	RHN08D-33C-20D-①								
10	RHN10D-20C-20D-①	3.1	2.5	2.6	2.1	2.8	3.1	1.9	7.7
	RHN10D-33C-20D-①								
15	RHN15D-20D-16D-①	3.9	3.1	3.3	2.6	3.5	4.0	2.4	10.1
	RHN15D-33D-16D-①								
	RHN15U-20D-12D-①	4.9	3.9	4.2	3.3	4.4	5.0	3.2	12.0
	RHN15U-33D-12D-①								
20	RHN20D-20D-16D-①	4.9	3.9	4.2	3.3	4.4	5.0	3.2	12.0
	RHN20D-33D-16D-①								

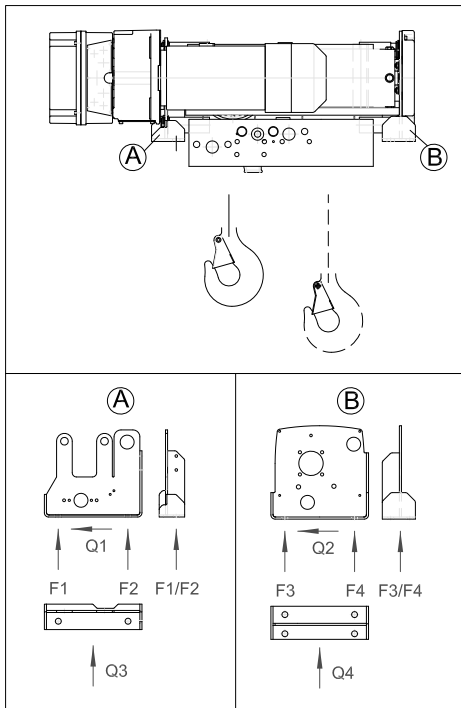
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 5 = 575V - 3ph - 60Hz

*Product codes represent Deck/Base Mounted hoists (except RHN15U), but hook dimensions also apply to trolley hoists.

REACTION FORCES AT RATED LOAD—DECK/BASE MOUNTED

Capacity (t)	Product Code	F1 (lbs)	F2 (lbs)	F3 (lbs)	F4 (lbs)	Q1 (lbs)	Q2 (lbs)	Q3 (lbs)	Q4 (lbs)	Moment Mt (ft-lbs)
2	RHN02D-20A-20D-①	1817	1902	654	1292	295	169	393	393	232*
	RHN02D-33A-20D-①	1950	2149	582	1122	328	147	393	393	
3	RHN03D-20A-20D-①	2700	3043	1038	2067	472	270	629	629	372*
	RHN03D-33A-20D-①	2906	3439	916	1795	524	235	629	629	
5	RHN05D-20B-20D-①	4171	4683	1618	3151	736	415	984	984	770*
	RHN05D-33B-20D-①	4480	5272	1435	2744	814	362	984	984	
7 1/2	RHN08D-20C-20D-①	6989	5019	3625	5051	978	741	1475	1475	1514*
	RHN08D-33C-20D-①	7758	6054	3112	4278	1129	627	1475	1475	
10	RHN10D-20C-20D-①	9041	6692	4763	6735	1304	988	1967	1967	2019*
	RHN10D-33C-20D-①	10042	8072	4076	5703	1506	836	1967	1967	
15	RHN15D-20D-16D-①	9297	14086	5835	13988	1894	1684	3147	3147	**
	RHN15D-33D-16D-①	10384	16989	4931	12154	2227	1445	3147	3147	
20	RHN20D-20D-16D-①	12088	16707	7449	17186	2367	2105	3934	3934	**
	RHN20D-33D-16D-①	13494	20243	6316	14899	2784	1807	3934	3934	

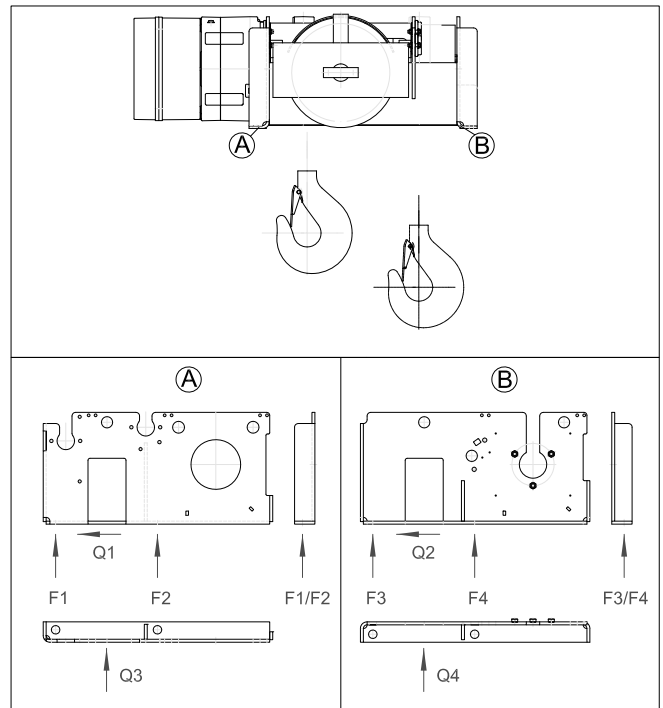
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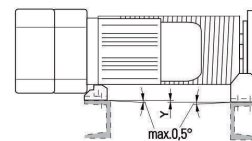
Deck/Base Mounted Hoist (2-10 Ton)

*For 2-10t capacities, the customer's substructure must take up the moment MT from the rope drum. Therefore it must be torsion resistant and level, (max permissible offset, Y = .0787)

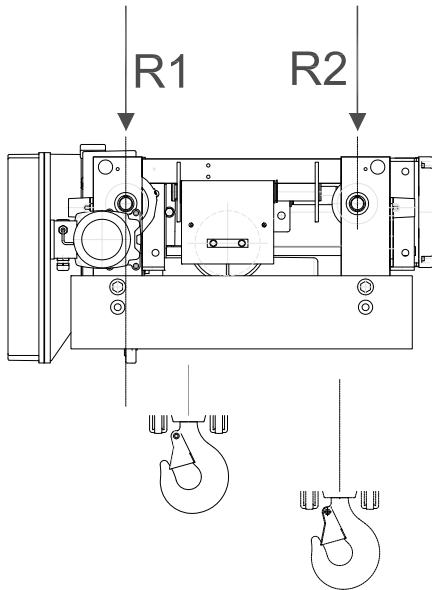
**For 15-20t capacities, the design structure compensates for the moment, and the forces are diverted to the fixation points.



Deck/Base Mounted Hoist (15-20 Ton)



Options and Technical Data

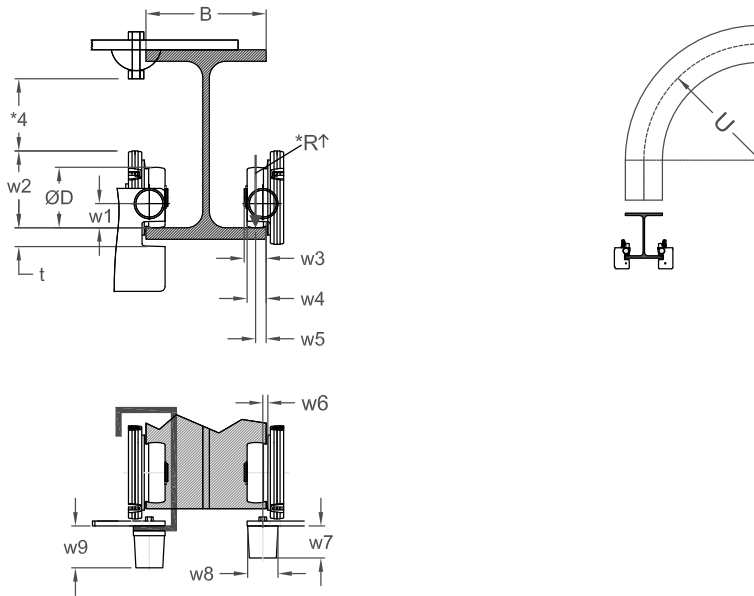


Ultra-Low Headroom
Trolley Hoist

REACTION FORCES AT RATED LOAD—ULTRA-LOW HEADROOM TROLLEY HOISTS

Capacity (t)	Ultra-Low Headroom Trolley Wheel Pair Reaction Forces		
	Product Code	R1 (lbs)	R2 (lbs)
2	RHN02U-20A-20DD-①	2985	2939
	RHN02U-33A-20DD-①	3632	2411
3	RHN03U-20A-20DD-①	4292	4285
	RHN03U-33A-20DD-①	5253	3487
5	RHN05U-20B-20DD-①	6629	7288
	RHN05U-33B-20DD-①	7167	6675
7 1/2	RHN08U-20C-20DD-①	9102	12320
	RHN08U-33C-20DD-①	12011	9860
10	RHN10U-20C-20DD-①	11783	16192
	RHN10U-33C-20DD-①	15641	12898
15	RHN15U-28D-12DD-①	22045	17881
	RHN15U-46D-12DD-①	22226	18478
20		N/A	
		N/A	

①
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TROLLEY WHEEL—DIMENSIONS

Capacity (t)	Product Code	Wheel Dia. Ø D (in)	w1 (in)	w2 (in)	w3 (in)	w4 (in)	w5 (in)	w6 (in)	w7 (in)	w8 (in)	w9 (in)	U*2 (ft)	Maximum Flange Thickness t (in)
2	RHN02U-20A-20DD-①	3.1	1.6	4.1	1.2	1.1	0.5 (0.6)**	0.2	2.1	2.0	2.5	37.4	0.96
	RHN02U-33A-20DD-①											56.8	
3	RHN03U-20A-20DD-①	3.1	1.6	4.1	1.2	1.1	0.5 (0.6)**	0.2	2.1	2.0	2.5	37.4	0.96
	RHN03U-33A-20DD-①											56.8	
5	RHN05U-20B-20DD-①	3.9	1.6	5.1	1.5	1.2	0.7 (0.9)**	0.2	2.1	2.0	2.5	37.4	1.04
	RHN05U-33B-20DD-①											56.8	
7 1/2	RHN08U-20C-20DD-①	5.5	1.5	6.9	N/A	1.8	0.9 (1.3)**	0.5	2.1	2.5	2.5	41.0	1.46
	RHN08U-33C-20DD-①											61.7	
10	RHN10U-20C-20DD-①	5.5	1.5	6.9	N/A	1.8	0.9 (1.3)**	0.5	2.1	2.5	2.5	41.0	1.46
	RHN10U-33C-20DD-①											61.7	
15	RHN15U-28D-12DD-①	7.9	1.7	10.5	N/A	1.8	0.9 (1.3)**	0.5	2.1	2.5	2.5	N/A	1.81
	RHN15U-46D-12DD-①											N/A	

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** - () with sloping flange.
 *R - See page 25 for reaction forces R1 and R2.
 *2 - only up to B ≤ 7.9 inches.
 *4 - Observe clearance dimensions.

Options and Technical Data

VARIABLE FREQUENCY DRIVE (VFD)

Consult Customer Service

DUTY CLASSIFICATIONS

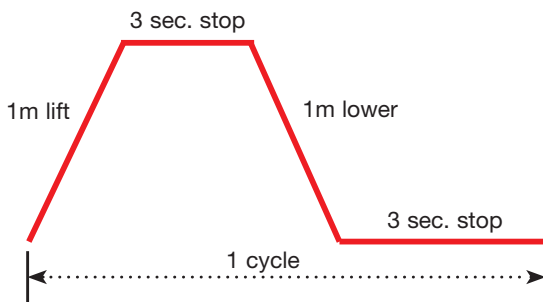
Hoist Duty Class	Typical Areas of Application	Operation Time Ratings at K = 0.65*			
		Uniformly Distributed Work Periods		Infrequent Work Periods	
		Max. Time (min/hr)	Max. No. of Starts/hr	Max. Time From Cold Start (min)	Max. No. of starts
H2	Light machine shop fabricating, service and maintenance; loads and utilization randomly distributed; rated loads infrequently handled	7.5 (12.5%)	75	15	100
H3	General machine shop fabricating, assembly, storage, and warehousing; loads and utilization randomly distributed	7.5 (25%)	150	30	200
H4	High volume handling in steel warehouses, machine shops, fabricating plants and mills, and foundries; manual or automatic cycling operations in heat treating and plating; loads at or near rated load frequently handled	30 (50%)	300	30	300

*K = Mean effective load factor.

LIFTING MOTOR RATINGS

Short Time Rating

This rating indicates how long the hoist can be operated continuously at the rated capacity on the cycle below, assuming continued operation for a short time span.

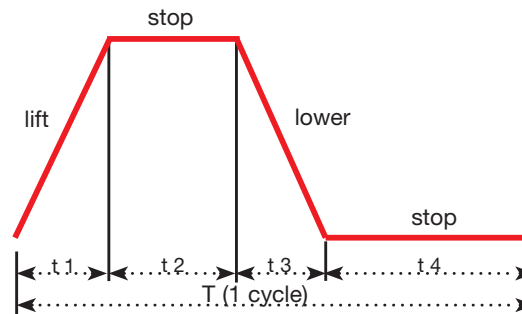


• Dual speed: 30/10 min

Intermittent Rating (Percent ED)

Max. Number of Starts Per Hour

This rating indicates the allowable ratio of motor ON time to motor OFF time, and starts per hour for a hoist operated continuously at 63% of rated capacity on the cycle below, assuming continued operation or repeated starting over a long time span.



$$\text{Example (single speed): \%ED} = \frac{\text{Motor ON time (t1 + t3)}}{T (1 \text{ cycle})} \times 100$$

(Where T = 1 cycle (t1 + t2 + t3 + t4) and is not more than 10 minutes.)

RHN SINGLE GIRDER BEAM SIZES

Cap – Lift	2 Ton 20 Ft Lift	2 Ton 33 Ft Lift	3 Ton 20 Ft Lift	3 Ton 33 Ft Lift	5 Ton 20 Ft Lift	5 Ton 33 Ft Lift	7 ½ Ton 20 Ft Lift	7 ½ Ton 33 Ft Lift	10 Ton 20 Ft Lift	10 Ton 33 Ft Lift
Hoist Span Ft	RHN02U20A	RHN02U33A	RHN03U20A	RHN03U33A	RHN05U20B	RHN05U33B	RHN08U20C	RHN08U33C	RHN10U20C	RHN10U33C
10	W8x28	W8x35	W10x39	W10x45	W16x57	W16x57	W21x93	W16x89	W18x119	-
15	W10x30	W10x39	W10x45	W12x50	W18x60	W18x60	W21x93	W21x93	W18x119	W18x119
20	W10x39	W10x39	W12x50	W14x53	W18x65	W18x65	W24x103	W24x103	W27x129	W27x129
25	W12x35	W12x45	W14x53	W14x53	W18x71	W18x71	W24x103	W24x103	W27x129	W27x129
30	W14x43	W14x48	W14x53	W16x57	W18x86	W18x86	W27x129	W27x129	W30x148	W30x148
35	W14x48	W14x48	W16x57	W16x57	W21x83	W21x83	W27x129	W27x129	W30x148	W30x148
40	W16x57	W16x57	W16x67	W18x65	W24x94	W24x94	W27x129	W27x129	W33x169	W30x148
45	W18x60	W18x60	W18x76	W18x76	W24x94	W24x94	W27x129	W27x129	W33x169	W33x169
50	W18x76	W18x76	W24x84	W24x84	W27x102	W27x102	W30x148	W30x148	W33x169	W33x169
55	W18x86	W18x86	W27x94	W27x94	W30x124	W30x124	W30x148	W30x148	W33x169 MC18x42.7	W33x169 MC18x42.7
60	W24x94	W24x94	W27x114	W27x114	W33x141	W33x141	W30x148 MC18x42.7	W33x169	W33x169 MC18x42.7	W33x169 MC18x42.7

For metric or US Tons – A36 or A572 Steel
 For cranes using Harrington RHN Hoists and Harrington end trucks only.
 For indoor cranes only – no wind load considered.
 1 METRIC Ton = 2205 lb (1000 kg)

Options and Technical Data

COMPLIANCE

Harrington's electric wire rope hoists are produced to comply with:

- ASME B30.16 ("Safety Standard – Overhead Hoists (Underhung)")
- CMAA
- UL508A
- CSA 22.2 NO.14

Product Code For RHN Series Hoists and Trolley Hoists

