



# N45ZR2/ N35ZDR2

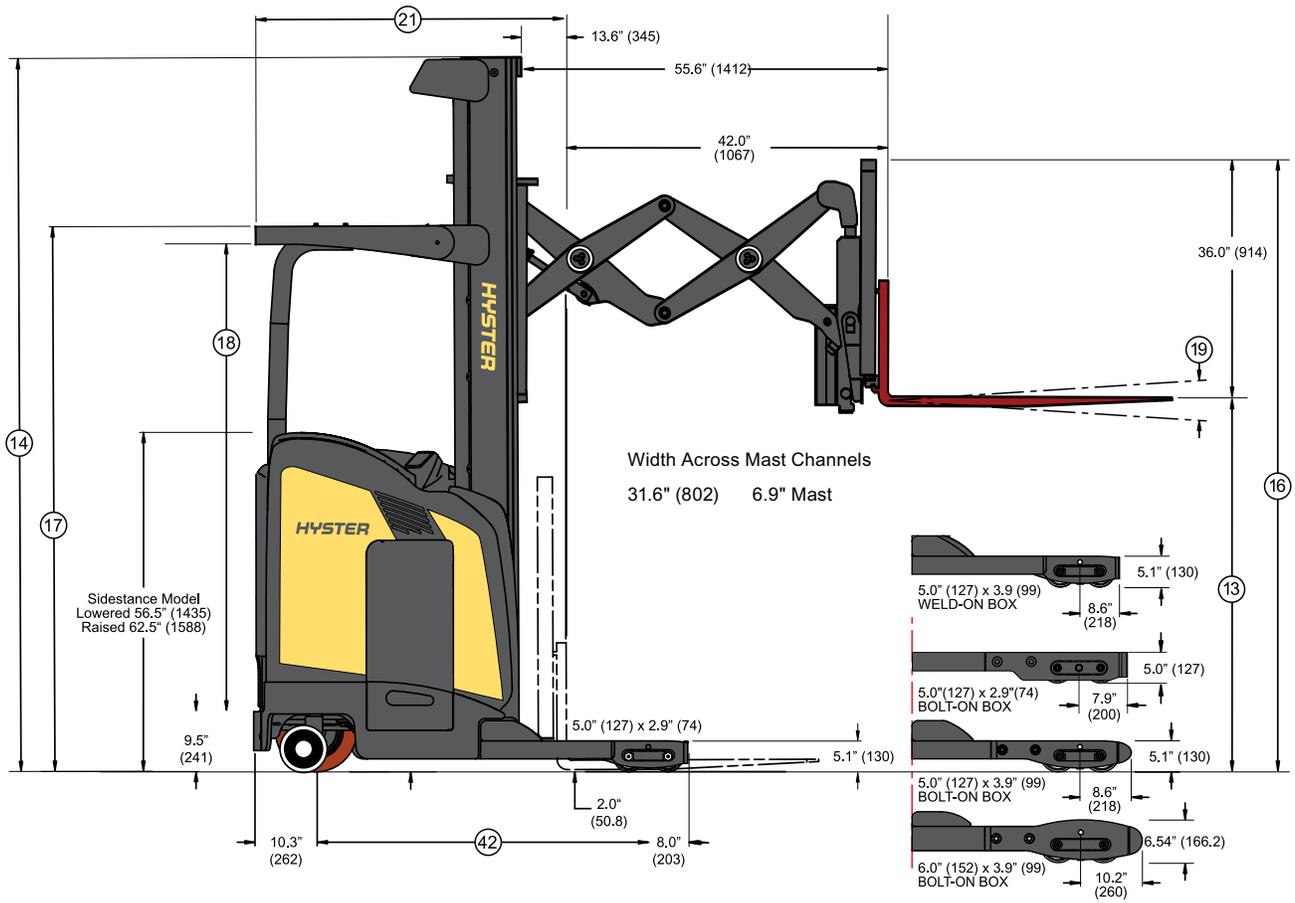
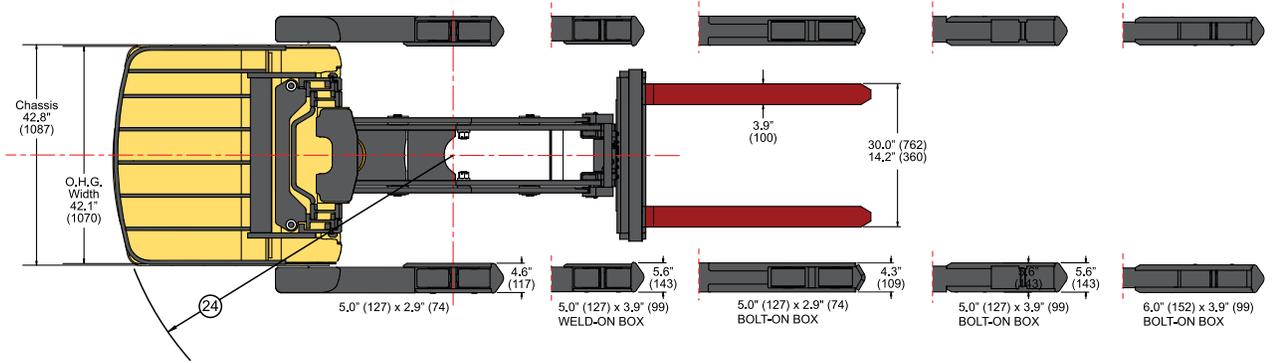
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## NARROW AISLE REACH TRUCK PRODUCT TECHNICAL GUIDE





# N45ZR2/N35ZDR2 DIMENSIONS



Circled dimensions correspond to the line numbers on the tabulated chart inside the spec sheet. Dimensions are in inches (millimeters).

# N45ZR2 SPECIFICATIONS

N45ZR2 SPECIFICATIONS				
GENERAL	1	Manufacturer's name	Hyster	
	2	Model	N45ZR2	
	3	Wheel base designation <sup>1</sup>	SWB	
	4	Rated capacity	lb (kg)	4500 (2041)
	5	Load center, distance	in (mm)	24 (610)
	6	Power type, electric, diesel, LPG		Electric - 36 volt
	7	Operator type		Stand
	8	Tire type, load/caster/drive		Poly / Poly / NDIITHANE®
	9	Wheels, number load/drive (x = driven)		4 / 2 (1x)
WT.	10	Truck weight, without battery (approximate)	lb.	5400
	12	Axle loading with assembly retracted (front / rear) <sup>2</sup>	lb.	8400 / 3800
DIMENSIONS	13	Height, standard lift (TOF)	in (mm)	
	14	Height, standard mast lowered (OALH)	in (mm)	
	15	Height, freelif (TOF)	in (mm)	
	16	Height, standard mast extended w/LBR	in (mm)	See mast table
	17	Height, top of OHG	in (mm)	
	18	Height, operator clearance	in (mm)	
	19	Mast tilt angle, forward/back	degrees	3° / 4°
	20	Forks, standard (length x width x thickness)	in	1.80 x 3.9 x 42
	21	Head length to face of forks - all battery compartments <sup>3</sup>	in	See mast table
	22	Basearm OEC	in	34"- 49" (1" increments)
	23	Battery compartment size, 18.5" - (LxWxH)	in	39.0 x 18.5 x 31.5
	23	Battery compartment size, 21.5" - (LxWxH)	in	39.0 x 21.5 x 31.5
	24	Turning radius - min. Outside, 18.5" batt. compartment	in	69.90
24	Turning radius - min. Outside, 21.5" batt. compartment	in	72.90	
25	Aisle width - zero clearance - Right Angle Stack		Right Angle Stack	
26	Stability - comply with ANSI		Yes	
27	Travel speed <sup>4</sup>		Standard	
PERFORMANCE	28	Rearward (chassis first) - empty/RL	mph	7.4/6.5
	29	Forward (forks first) - empty/RL	mph	7.4/5.8
	30	Lift Speed		Standard
	31	Empty	ft/min	130
	32	2000 lb	ft/min	98
	33	3000 lb	ft/min	90
	34	3500 lb	ft/min	84
	35	4000 lb	ft/min	78
	36	4500 lb	ft/min	74
	37	Lowering speeds, empty	ft/min	105
38	Lowering speeds, RL	ft/min	105	
WHEELS & TIRES	39	Size - front load wheels, standard		5 x 3.9
	41	Size, standard - drive tire/dual casters		13.5 x 5.5   7.9 x 2.2
	42	Wheelbase - 18.5" battery compartment	in	59.37
	42	Wheelbase - 21.5" battery compartment	in	62.36
	43	Brakes, service/parking (method of control)		Foot
44	Brakes, service/parking (method of operation)		Spring Apply (Electric Release)	
ELECTRIC	45	Battery type		Lead Acid
	46	Traction motor rating (60 minute rating)	hp (kw)	8.7 (6.5)
	47	Hoist motor rating (5 minute rating)	hp (kw)	20.7 (15.4)
	48	Traction motor control method		Transistor
	49	Hoist motor control method		Transistor
	50	Number of speeds		Infinitely Variable

<sup>1</sup> Short or Long Wheelbase is determined by Mast Height, LWB for 332" Max Fork Height and Below

<sup>2</sup> Static with Rated Load and Max. Wt. Battery

<sup>3</sup> Includes integral sideshift, subtract 1" for without sideshift

<sup>4</sup> Travel speed will be reduced to 6.8 / 5.8 mph (empty / rated load) with MFHs above 341" in the Rearward and Forward direction. 7.4 mph travel speed is limited to Load up to 2500 lbs.

N35ZDR2 SPECIFICATIONS				
GENERAL	1	Manufacturer's name	Hyster	
	2	Model	N35ZDR2	
	3	Wheel base designation <sup>1</sup>	LWB	SWB
	4	Rated capacity	3500 (1588)	
	5	Load center, distance	24 (610)	
	6	Power type, electric, diesel, LPG	Electric - 36 volt	
	7	Operator type	Stand	
	8	Tire type, load/caster/drive	Poly / Poly / NDIITHANE®	
	9	Wheels, number load/drive (x = driven)	4 / 2 (1x)	
WT.	10	Truck weight, without battery (approximate)	5650	N/A
	12	Axle loading with assembly retracted (front / rear) <sup>2</sup>	6700 / 4250	
DIMENSIONS	13	Height, standard lift (TOF)	in (mm)	
	14	Height, standard mast lowered (OALH)	in (mm)	
	15	Height, freelif (TOF)	in (mm)	
	16	Height, standard mast extended w/LBR	in (mm)	
	17	Height, top of OHG	in (mm)	
	18	Height, operator clearance	in (mm)	
	19	Mast tilt angle, forward/back	degrees 3° / 4°	
	20	Forks, standard (length x width x thickness)	in 1.60 x 3.9 x 42	
	21	Head length to face of forks - all battery compartments <sup>3</sup>	in See mast table	
	22	Basearm OEC	in 34"- 49" (1" increments)	
	23	Battery compartment size, 18.5" - (LxWxH)	in 39.0 x 18.5 x 31.5	
	23	Battery compartment size, 21.5" - (LxWxH)	in 39.0 x 21.5 x 31.5	
24	Turning radius - min. Outside, 18.5" batt. compartment	74.90	69.90	
24	Turning radius - min. Outside, 21.5" batt. compartment	77.90	72.90	
25	Aisle width - zero clearance - Right Angle Stack	Right Angle Stack		
26	Stability - comply with ANSI	Yes		
27	Travel speed <sup>4</sup>	Standard		
PERFORMANCE	28	Rearward (chassis first) - empty/RL	mph 7.4/6.8	
	29	Forward (forks first) - empty/RL	mph 7.4/6.5	
	30	Lift Speed	Standard	
	31	Empty	ft/min 130	
	32	2000 lb	ft/min 93	
	33	3000 lb	ft/min 85	
	34	3500 lb	ft/min 79	
	35	4000 lb	ft/min N/A	
	36	4500 lb	ft/min N/A	
	37	Lowering speeds, empty	ft/min 105	
	38	Lowering speeds, RL	ft/min 105	
WHEELS & TIRES	39	Size - front load wheels, standard	5 x 2.9	
	41	Size, standard - drive tire/dual casters	13.5 x 5.5	7.9 x 2.2
	42	Wheelbase - 18.5" battery compartment	64.37	59.37
	42	Wheelbase - 21.5" battery compartment	67.36	62.36
43	Brakes, service/parking (method of control)	Foot		
44	Brakes, service/parking (method of operation)	Spring Apply (Electric Release)		
ELECTRIC	45	Battery type	Lead Acid	
	46	Traction motor rating (60 minute rating)	hp (kw) 8.7 (6.5)	
	47	Hoist motor rating (5 minute rating)	hp (kw) 20.7 (15.4)	
	48	Traction motor control method	Transistor	
	49	Hoist motor control method	Transistor	
	50	Number of speeds	Infinitely Variable	

<sup>1</sup> Short or Long Wheelbase is determined by Mast Height, LWB for 332" Max Fork Height and Below

<sup>2</sup> Static with Rated Load and Max. Wt. Battery

<sup>3</sup> Includes integral sideshift, subtract 1" for without sideshift

<sup>4</sup> Travel speed will be reduced to 6.8 / 5.8 mph (empty / rated load) with MFHs above 341" in the Rearward and Forward direction. 7.4 mph travel speed is limited to Load up to 2500 lbs.

# N45ZR2/N35ZDR2 SPECIFICATIONS

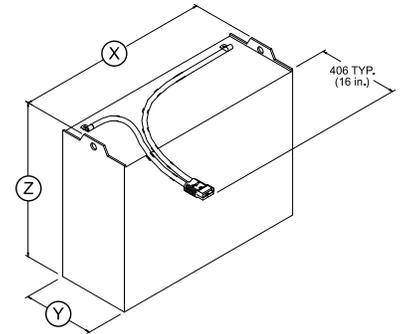
## N45ZR2/N35ZDR2 MAST DIMENSIONS (6.9" MAST)

Max. Fork Height (TOF)	Overall Lowered Ht.	Overall Height (Mast Extended) Highest Point w/36" LBR	Free-Lift (TOF)	Overhead Guard Height to Top	Operator Clearance	Head Length (Length to Face of Forks)			
						18.5" B.C.		21.5" B.C.	
in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	Single Reach	Double Reach	Single Reach	Double Reach
3-STAGE FULL FREE-LIFT (FFL) VISTA™ MAST									
272 (6909)	119 (3023)	311 (7899)	80 (2032)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
287 (7290)	125 (3175)	326 (8280)	86 (2184)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
302 (7671)	131 (3327)	341 (8661)	92 (2337)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
320 (8128)	138 (3505)	359 (9119)	99 (2515)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
332 (8433)	143 (3632)	371 (9423)	104 (2642)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
341 (8661)	146 (3708)	380 (9652)	107 (2718)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
368 (9347)	157 (3988)	407 (10338)	118 (2997)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
401 (10185)	170 (4318)	440 (11176)	131 (3327)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50
422 (10719)	179 (4547)	461 (11709)	140 (3556)	91 (2311)	79.8 (2027)	59.60	65.50	62.59	68.50

## N45ZR2/N35ZDR2 BATTERY SPECIFICATIONS

Battery Compartment Size	Battery Voltage	Maximum 6 Hr Rate	Battery Dimensions						Minimum Batt. Wt.	Maximum Batt. Wt.	
			"X" Max.		"Y" Max.		"Z" Max.				
in (mm)		AH	KWH	in	(mm)	in	(mm)	in	(mm)	lb (kg)	lb (kg)
18.5 (469.9)	36	1085	38.1	38.8	(985)	18.25	(464)	31.0	(788)	2200 (998)	2800 (1270)
21.5 (546.1)	36	1240	43.5	38.8	(985)	21.25	(540)	31.0	(788)	2500 (1134)	3100 (1406)

Battery connector: 36v - gray; position "B", lead length 16"  
 Manufacturers standard cable size not to exceed 4/0 AWG  
 Battery compartment is designed to accommodate standard wet cell batteries with fixed lifting eyes and no cover.  
 Contact Applications Engineering to verify compatibility/fit when using maintenance free, covered or non-standard batteries.

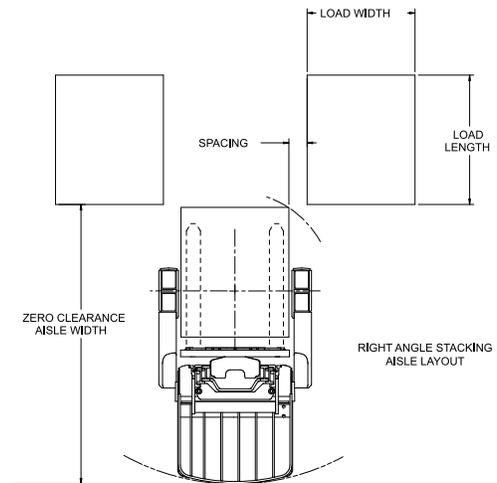


## N45ZR2/N35ZDR2 RIGHT ANGLE AISLE STACKING

N45ZR2					N35ZDR2						
Truck with 18.5" Battery Compartment and 42" ID					Truck with 18.5" battery compartment and 42" ID						
3 Stage - 4" Between Loads					3 Stage - 6" Between Loads						
Pallet Length (inches)	Pallet Width (inches)				Pallet Length (inches)	Pallet Width (inches)					
	36"	40"	44"	48"		36"	40"	44"	48"		
	36"	90	90	89		89	36"	94	93	93	93
	40"	95	94	94		93	40"	98	98	97	96
	44"	99	99	98		98	44"	103	102	102	101
48"	104	103	103	102	48"	107	107	106	106		

Add 5" for 21.5" Battery Compartment  
 Add 1" for Sideshift

Add 5" for 21.5" Battery Compartment  
 Sideshift is Standard on Double Reach



Note: These are "Zero Clearance" aisles and require an additional 6" to 12" to be added to provide for easier maneuvering.

# FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
36-volt (includes 350 amp gray battery connector)	x	
AC Traction, lift/lower and steering	x	
Transistor controller with regenerative braking	x	
Electric power steering	x	
4 Independent fully programmable performance modes - programmable traction speed and acceleration, lift and lower speeds	x	
Power lowering (unloaded) and regenerative lowering (loaded)	x	
High speed lift	x	
Load transport position		x
Laser line fork positioning		x
Return to set tilt		x
Shelf height selector		x
Fork camera		x
Load weight display		x
Fork height display		x
DRIVE	STD	OPT
Park brake (spring applied, electrically released)	x	
Polyurethane drive tire - 13.5" x 5.5" (standard on N45ZR2, N35ZDR2)	x	
5" x 3.9" Poly articulating tandem load wheels - high load compound (standard on N45ZR2)	x	
5" x 2.9" Poly articulating tandem load wheels - high load compound (standard on N35ZDR2)	x	
Dual articulating polyurethane non-steered caster wheels	x	
Bolt-on wheel box for use with 5" x 3.9", 6" x 3.9", and 5" x 2.9" load wheels		x
Electric - steered caster		x
Various sizes of load wheels - sealed or greaseable		x
Various drive tire compounds and types		x
Tapered load wheel boxes		x
LIFT	STD	OPT
119" / 272" - 3 Stage full free lift 6.9" mast (standard on N45ZR2, N35ZDR2)	x	
Single reach mast with 33.5" wide Class II with integral sideshift (hook type carriage) (standard on N45ZR2)	x	
Double reach mast with 33.5" wide Class II with integral sideshift (hook type carriage) (standard on N35ZDR2)	x	
Tilting carriage (3° fwd, 4° back)	x	
36" High load backrest extension	x	
Lift limit - with or without override		x
48" High load backrest extension		x
Single reach without integral sideshift for standard 33.5" wide carriage		x
Various mast heights for 6.9" mast		x
HANDLING	STD	OPT
Forks: 1.6" x 3.9" x 42" (40 mm x 100 mm) - Class II hook type (standard on N35ZDR2)	x	
Forks: 1.8" x 3.9" x 42" (45 mm x 100 mm) - Class II hook type (standard on N45ZR2)	x	
Fully proportional multi-function control handle	x	
Control handle with simultaneous hydraulic functions	x	
Various fork lengths		x
Reduced travel speed with carriage extended		x
ERGONOMICS	STD	OPT
Low profile anti-fatigue floormat	x	
Adjustable armrest and backrest (sidestance operator controls only)	x	
Fixed steer tiller position	x	
Low step height	x	
Padded operator compartment	x	
Adjustable steer tiller position		x

ERGONOMICS (CONTINUED)	STD	OPT
Operator overhead fan		x
Dual LED headlights		x
Rear LED worklight		x
Operator LED desktop light		x
OPERATION	STD	OPT
UL Classification 'E'	x	
Sidestance operator controls compartment	x	
Key switch start	x	
Wire mesh mast guard	x	
Automotive steering	x	
Static strap	x	
Electronic horn	x	
Sealed battery rollers	x	
Operator's overhead guard	x	
Rear post operator protection	x	
Power disconnect button	x	
Reverse steering		x
UL Classification 'EE'		x
Keyless start		x
Outrigger OEC - 34" to 49" in 1" increments		x
Audible back-up and motion alarms		x
Visible amber strobe light - continuous activated		x
Impact monitor		x
RF terminal bracket		x
RF handheld scanner holder		x
12-volt DC auxiliary power supply		x
Battery gate interlock (SPED)		x
Clear mast guard (SPED)		x
Rear operator compartment door (SPED)		x
Wire mesh on top overhead guard (SPED)		x
Hyster Tracker™ (SPED)		x
Hyster Reaction™ (SPED)		x
SUPPLEMENTAL	STD	OPT
12 Months / no hour limit full truck warranty, 36 months / 6,000 hours powertrain warranty, lifetime frame warranty; please see full warranty statement for additional details.	x	
Operating manual	x	
Parts manual		x
CONSTRUCTION	STD	OPT
Standard construction	x	
Cooler/freezer construction (0°F to 120°F) with anti-slip floorplate covering		x
SubZero freezer construction (operating temperatures -40°F to 120°F) with anti-slip floorplate covering		x
SubZero freezer with heated floor and control handle (operating temperatures -40°F to 120°F) with anti-slip floorplate covering		x
ENERGY SYSTEM	STD	OPT
Lead Acid Battery	x	
Power Collect™ (SPED)		x
Fuel Cell (SPED)		x



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