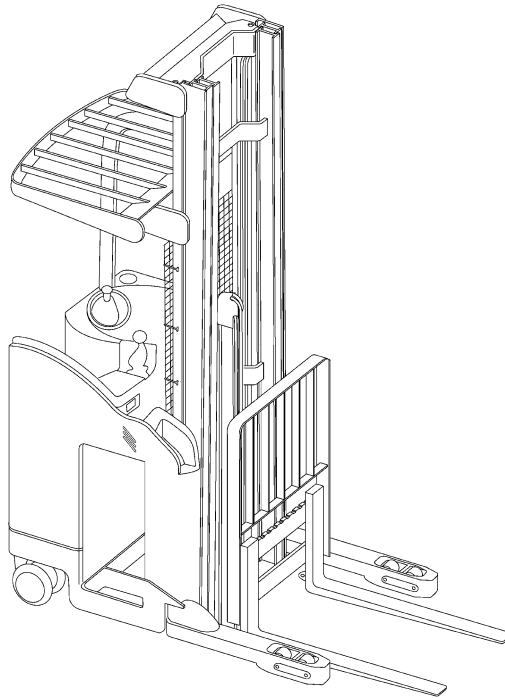


# **CAPACITIES AND SPECIFICATIONS**

**N30ZDRS, N35-40ZRS [A265];  
N35ZDR, N45ZR [C264];  
N30ZDR, N35-40ZR [D470]**



# ***HYSTER***

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This section is for the following models:

N30ZDRS, N35-40ZRS [A265];  
 N35ZDR, N45ZR [C264];  
 N30ZDR, N35-40ZR [D470]

(More Content includes: Brake system, Capacities, and specifications, Frame, Hydraulic, System, Industrial battery, Main control, Valve, Mast repair, Fasteners, Schematics diagrams, Steering axle, Steering system, Wire harness repair And more)

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## Lubrication Specifications

Lubrication Type	Application		
	Standard	Cold Storage/Freezer	Arctic
Hydraulic Oil	ISO VG 46 Antiwear (HCE-140)	Exxon Univis® HVI 26	Exxon Univis® HVI 26
Grease	Multipurpose (Lithium Complex) Grease	Multipurpose (Lithium Complex) Grease	Mobilgrease® 28 Synthetic Extra-Protection Grease
Gear Oil	80W-90 (GL-5) Conventional Gear Oil	80W-90 (GL-5) Conventional Gear Oil	75W-90 (GL-5) Synthetic Gear Oil
Antiseize	Antiseize Lubricant (MIL-A-706)	Antiseize Lubricant (MIL-A-706)	Antiseize Lubricant (MIL-A-706)

## Oil Capacities

Hydraulic System			
Truck Models	Battery Compartment Size	Tank (Full Capacity)	Usable Oil
N30ZDR, N35ZDR, N35ZR, N40ZR, N45ZR	368.0 mm (14.5 in.)	27.0 liter (28.5 qt)	19.6 liter (20.7 qt)
	419.0 mm (16.5 in.)	27.0 liter (28.5 qt)	19.6 liter (20.7 qt)
	470.0 mm (18.5 in.)	27.0 liter (28.5 qt)	19.6 liter (20.7 qt)
	546.0 mm (21.5 in.)	30.7 liter (32.4 qt)	23.8 liter (25.1 qt)
N30ZDRS, N35ZRS, N40ZRS	368.0 mm (14.5 in.)	27.0 liter (28.5 qt)	19.6 liter (20.7 qt)
	419.0 mm (16.5 in.)	27.0 liter (28.5 qt)	19.6 liter (20.7 qt)

Master Drive Unit		
Truck Models	Drive Type	Oil Capacity
N30ZDR, N35ZR, N40ZR, N30ZDRS, N35ZRS, N40ZRS	GK20 MDU	2.5 liter (2.6 qt)
N35ZDR, N45ZR	GK25 MDU	3.7 liter (3.9 qt)

## Hydraulic System

N30ZDR, N35ZDR, N35ZR, N40ZR, and N45ZR				
Hydraulic System	Motor	Pump Displacement	Speed (RPM)	Max Pump Pressure
Main Lift Pump and Motor	36V	25.00cc	105 to 3300	20.68 MPa (3000 psi)
	36V Hi Performance	28.00cc	105 to 3300	20.68 MPa (3000 psi)
	36V - EE	20.00cc	105 to 3300	20.68 MPa (3000 psi)
Auxiliary Pump and Motor	24V/36V	2.08cc	600 to 3500	17.92 MPa (2600 psi)
N30ZDRS, N35ZRS, and N40ZRS				
Hydraulic System	Motor	Pump Displacement	Speed (RPM)	Max Pump Pressure
Main Lift Pump and Motor	24V	19.20cc	105 to 3300	20.68 MPa (3000 psi)
	36V	19.20cc	105 to 3300	20.68 MPa (3000 psi)

Relief Valves		
Model	Valve Function	Relief Pressure <sup>1</sup>
N30ZDR, N35ZDR, N35ZR, N40ZR, N45ZR	Main Lift Relief Valve Pressure	20.99 MPa (3045 psi)
	Auxiliary Relief Valve Pressure	17.92 MPa (2600 psi)
N30ZDRS, N35ZRS, N40ZRS	Main Lift Relief Valve Pressure	17.24 MPa (2500 psi)

<sup>1</sup>All measurements made when hydraulic oil temperature is 38 to 66°C (100 to 150°F).

## Lift Specifications

N30ZDR, N35ZDR, N35ZR, N40ZR, and N45ZR								
Model	Voltage	Load	Lift Speed <sup>1</sup> (Ft/ Min)	Amp Draw		Pressure (psi)		Lower Speed <sup>2</sup> (Ft/ Min)
				Free Lift	Main Lift	Free Lift	Main Lift	
N35ZR  Lift Capacity 1588 kg (3500 lb)	36	0	100	245	365	4.48 MPa (650 psi)	5.86 MPa (850 psi)	98
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	-	-	-	-	-	-
		1588 kg (3500 lb)	60	320	380	10.48 MPa (1520 psi)	13.20 MPa (1915 psi)	103
N40ZR Standard  Lift Capacity 1814 kg (4000 lb)	36	0	100	245	365	4.48 MPa (650 psi)	5.86 MPa (850 psi)	98
		907 kg (2000 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	70	-	-	-	-	-
		1588 kg (3500 lb)	-	-	-	-	-	-
		1814 kg (4000 lb)	60	320	380	11.41 MPa (1655 psi)	14.48 MPa (2100 psi)	103
N40ZR High Performance Option  Lift Capacity 1814 kg (4000 lb)	36	0	115	375	480	5.52 MPa (800 psi)	8.62 MPa (1250 psi)	100
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (3000 lb)	80	-	-	-	-	-
		1588 kg (3500 lb)	-	-	-	-	-	-
		1814 kg (4000 lb)	65	480	530	11.38 MPa (1650 psi)	16.20 MPa (2350 psi)	105

<sup>1</sup>Lift Speed Tolerance +3% and -10%

<sup>2</sup>Lower Speed Tolerance +5% and -10%

N30ZDR, N35ZDR, N35ZR, N40ZR, and N45ZR								
Model	Voltage	Load	Lift Speed <sup>1</sup> (Ft/ Min)	Amp Draw		Pressure (psi)		Lower Speed <sup>2</sup> (Ft/ Min)
				Free Lift	Main Lift	Free Lift	Main Lift	
N30ZDR Standard  Lift Capacity 1361 kg (3000 lb)	36	0	100	245	365	4.48 MPa (650 psi)	5.86 MPa (850 psi)	98
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	70	320	380	10.48 MPa (1520 psi)	13.20 MPa (1915 psi)	103
N30ZDR High Performance Option  Lift Capacity 1361 kg (3000 lb)	36	0	115	375	480	5.52 MPa (800 psi)	8.62 MPa (1250 psi)	100
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	80	480	530	11.03 MPa (1600 psi)	15.86 MPa (2300 psi)	105
N45ZR Standard  Lift Capacity 2041 kg (4500 lb)	36	0	115	300	440	5.52 MPa (800 psi)	8.62 MPa (1250 psi)	105
		907 kg (2000 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	80	-	-	-	-	-
		1588 kg (3500 lb)	75	-	-	-	-	-
		1814 kg (4000 lb)	70	-	-	-	-	-
		2041 kg (4500 lb)	65	500	540	11.38 MPa (1650 psi)	16.55 MPa (2400 psi)	105
<sup>1</sup> Lift Speed Tolerance +3% and -10% <sup>2</sup> Lower Speed Tolerance +5% and -10%								

N30ZDR, N35ZDR, N35ZR, N40ZR, and N45ZR								
Model	Voltage	Load	Lift Speed <sup>1</sup> (Ft/ Min)	Amp Draw		Pressure (psi)		Lower Speed <sup>2</sup> (Ft/ Min)
				Free Lift	Main Lift	Free Lift	Main Lift	
N45ZR High Performance Option  Lift Capacity 2041 kg (4500 lb)	36	0	130	375	482	5.45 MPa (790 psi)	8.89 MPa (1290 psi)	105
		907 kg (2000 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	90	-	-	-	-	-
		1588 kg (3500 lb)	-	-	-	-	-	-
		1814 kg (4000 lb)	80	560	690	13.67 MPa (1982 psi)	18.44 MPa (2675 psi)	-
		2041 kg (4500 lb)	75	-	-	14.48 MPa (2100 psi)	19.65 MPa (2850 psi)	105
N35ZDR Standard  Lift Capacity 1588 kg (3500 lb)	36	0	115	307	440	4.94 MPa (717 psi)	8.53 MPa (1237 psi)	100
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	75	-	-	-	-	-
		1588 kg (3500 lb)	70	500	540	11.27 MPa (1635 psi)	16.06 MPa (2330 psi)	105
N35ZDR High Performance Option  Lift Capacity 1588 kg (3500 lb)	36	0	130	-	-	5.17 MPa (750 psi)	8.62 MPa (1250 psi)	105
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	-	-	-	-	-	-
		1588 kg (3500 lb)	70	-	-	11.38 MPa (1650 psi)	16.20 MPa (2350 psi)	105

<sup>1</sup>Lift Speed Tolerance +3% and -10%  
<sup>2</sup>Lower Speed Tolerance +5% and -10%



N30ZDRS, N35ZRS, and N40ZRS								
Model	Voltage	Load	Lift Speed <sup>1</sup> (Ft/ Min)	Amp Draw		Pressure (psi)		Lower Speed <sup>2</sup> (Ft/ Min)
				Free Lift	Main Lift	Free Lift	Main Lift	
N35ZRS  Lift Capacity 1588 kg (3500 lb)	24	0	66	323	329	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		1361 kg (3000 lb)	45	352	367	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	-
		1588 kg (3500 lb)	37	353	374	9.65 MPa (1400 psi)	12.41 MPa (1800 psi)	100
N40ZRS  Lift Capacity 1814 kg (4000 lb)	24	0	66	323	329	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		1361 kg (3000 lb)	45	352	367	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	-
		1588 kg (3500 lb)	37	353	374	9.65 MPa (1400 psi)	12.41 MPa (1800 psi)	100
		1814 kg (4000 lb)	35	366	382	10.34 MPa (1500 psi)	13.10 MPa (1900 psi)	103
N30ZDRS  Lift Capacity 1361 kg (3000 lb)	24	0	66	323	329	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1134 kg (3000 lb)	45	352	367	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	100
N35ZRS  Lift Capacity 1588 kg (3500 lb)	36	0	77	216	224	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		907 kg (2000 lb)	62	305	325	6.89 MPa (1000 psi)	9.65 MPa (1400 psi)	-
		1361 kg (3000 lb)	57	318	330	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	-
		1588 kg (3500 lb)	56	327	344	9.65 MPa (1400 psi)	12.41 MPa (1800 psi)	100

<sup>1</sup>Lift Speed Tolerance +3% and -10%

<sup>2</sup>Lower Speed Tolerance +5% and -10%

N30ZDRS, N35ZRS, and N40ZRS								
Model	Voltage	Load	Lift Speed <sup>1</sup> (Ft/ Min)	Amp Draw		Pressure (psi)		Lower Speed <sup>2</sup> (Ft/ Min)
				Free Lift	Main Lift	Free Lift	Main Lift	
N40ZRS Lift Capacity 1814 kg (4000 lb)	36	0	77	216	224	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		907 kg (2000 lb)	62	305	325	6.89 MPa (1000 psi)	9.65 MPa (1400 psi)	-
		1361 kg (3000 lb)	57	318	330	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	-
		1588 kg (3500 lb)	56	327	344	9.65 MPa (1400 psi)	12.41 MPa (1800 psi)	-
		1814 kg (4000 lb)	50	341	352	10.34 MPa (1500 psi)	13.10 MPa (1900 psi)	103
N30ZDRS Lift Capacity 1361 kg (3000 lb)	36	0	77	216	244	2.76 MPa (400 psi)	4.14 MPa (600 psi)	85
		907 kg (2000 lb)	-	-	-	-	-	-
		1134 kg (2500 lb)	-	-	-	-	-	-
		1361 kg (3000 lb)	57	318	330	8.96 MPa (1300 psi)	11.03 MPa (1600 psi)	100

<sup>1</sup>Lift Speed Tolerance +3% and -10%  
<sup>2</sup>Lower Speed Tolerance +5% and -10%

## Tire Sizes

Model	Drive (in.)	Caster (mm)	Load Wheels (in.)
N30ZDR, N35ZR, N40ZR, N30ZDRS, N35ZRS, N40ZRS	12.5 × 5.5 × 8.0 Rubber	200 × 50	5 × 3
	12.5 × 5.5 × 8.0 Poly		5 × 4
N45ZR, N35ZDR	13.5 × 5.5 × 8.0 Rubber	200 × 50	5 × 3
	13.5 × 5.5 × 8.0 Poly		5 × 4
	13.5 × 5.5 × 8.0 Siped Poly		6 × 4

## Torque Specifications

### MASTER DRIVE UNIT

#### Wheel Nuts

136 N•m (100 lbf ft)

Use cross pattern to snug, half torque, then full torque. Apply antiseize to threads.

#### Drive Unit to Frame Capscrews

95 N•m (70 lbf ft)

Use cross pattern to snug, half torque, then full torque.

#### Traction Motor to Drive Unit

23 N•m (17 lbf ft)

Use cross pattern to snug, half torque, then full torque.

### REACH CARRIAGE

#### Center Bearing Retainer Capscrews

Apply Loctite® 242 to capscrews and install into bearing cap along with belleville washers. Tighten to snug, then tighten each capscrew incrementally in a clockwise rotation to maintain even pressure the bearing. Capscrews are tight when belleville washers are flat.

#### Scissor Arm Stud Castle Nuts (Double Reach Only)

115 N•m (85 lbf ft)

Slightly loosen castle nut as necessary to align cotter pin holes.

#### Reach Cylinder Rod End Capscrews

35 to 40 N•m (26 to 30 lbf ft)

#### Tilt Cylinder Rod Nut

34 N•m (25 lbf ft)

then back off 2 turns.

#### Load Backrest

102 N•m (75 lbf ft)

### MAST

#### Overhead Guard to Mast

149 N•m (110 lbf ft)

#### Cylinder Bleed Screws

7 ±1 N•m (62 ±9 lbf in)

#### Lower Mast Mounting Capscrews

203 N•m (150 lbf ft)

#### Mast Trunnion Capscrews

210 N•m (155 lbf ft)

**HYDRAULIC SYSTEM (N30-35ZDR AND N35-40-45ZR)****Hydraulic Filter Cover**

6 N•m (53 lbf in)

**Hydraulic Filter Housing to Tank**

8 N•m (72 lbf in)

**Breather Assembly to Tank**

1.5 N•m (18.0 lbf in)

**Pump Pressure Flange**

40 N•m (30 lbf ft)

Tighten to touch, then 1/8th turn alternately until full torque.

**Lift Pump to Motor Mounting Capscrews**

47 N•m (35 lbf ft)

Tighten to touch, then 1/8th turn alternately until full torque.

**HYDRAULIC SYSTEM (N30ZDRS AND N35-40ZRS)****Hydraulic Filter Cover**

6 N•m (53 lbf in)

**Hydraulic Filter Housing to Tank**

8 N•m (72 lbf in)

**Breather Assembly to Tank**

1.5 N•m (18.0 lbf in)

**Tank Plug (Top)**

20 N•m (15 lbf ft)

**Tank Plug (Bottom)**

67 N•m (50 lbf ft)

**Tank Plug (Top)**

8 N•m (72 lbf in)

**Pump Fittings**

80 N•m (59 lbf ft)

Tighten to touch, then 1/8th turn alternately until full torque.

**Lift Pump to Motor Mounting Capscrews**

61 N•m (45 lbf ft)

Tighten to touch, then 1/8th turn alternately until full torque.

**STEERING SYSTEM****Steer Motor Mounting Capscrews**

23 N•m (17 lbf ft)

**LOAD WHEELS****Load Wheel Axle Bolt**

68 N•m (50 lbf ft)

Apply antiseize to axles on nongreaseable load wheel assemblies.

**Fuses**

<b>Fuse</b>	<b>Circuit</b>	<b>Rating</b>
FU 10	Key Switch Input	10 Amp
FU 11	24-Volt Supply	10 Amp
FU 12	12-Volt Supply	10 Amp
FU 13	Input to Controllers	10 Amp
FU 14	Spare	10 Amp
FU JP2	Voltage Regulator	7.5 Amp

## Coil Resistance Values

Coil	Location	Resistance	Test Points
Main Contactor	Control Compartment	32.0 ±4.0 ohms	Coil Leads
Load Hold	Hydraulic Pump	40.0 ±5.0 ohms	Coil Leads
Tilt Selector	Attachment	40.0 ±5.0 ohms	Coil Leads
Sideshift	Attachment	40.0 ±5.0 ohms	Coil Leads
Auxiliary Straight	Attachment	40.0 ±5.0 ohms	Coil Leads
Auxiliary Reverse	Attachment	40.0 ±5.0 ohms	Coil Leads
Extend/Retract	Attachment	40.0 ±5.0 ohms	Coil Leads
Brake	Traction Motor	11.9 ±1.0 ohms	Coil Leads
Electrical Cooling Fan(s)	Under Front Panel (LH) Drive Unit Door (Optional)	2.2 ±0.5 milliohms	Connector Pins

Traction Motor Windings		
Voltage	Winding to Line Resistance (milliohm)	
	Min	Max
24	3.22	3.83
36	3.22	3.83

Hydraulic Motor Windings			
Pump Displacement	Voltage	Winding to Line Resistance (milliohm)	
		Min	Max
19.2cc	24 to 36	2.27	2.70
25.0cc	36	2.55	3.03
25.0cc	36	2.27	2.70
28.0cc	36	1.19	1.37
20.0cc	36 (EE)	2.27	2.70

## Battery Specifications

Model		Battery Compartment Minimum Clearance <sup>1</sup>		Maximum Battery Dimensions <sup>1</sup>	
		Length	Width	Length	Width
N30ZDRS, N35ZRS, N40ZRS	24V	986.0 mm (38.8 in.)	318.0 mm (12.5 in.)	986.0 mm (38.8 in.)	311.0 mm (12.3 in.)
		986.0 mm (38.8 in.)	371.0 mm (14.6 in.)	986.0 mm (38.8 in.)	365 mm (14.4 in.)
		986.0 mm (38.8 in.)	422.0 mm (16.6 in.)	986.0 mm (38.8 in.)	416.0 mm (16.4 in.)
N30ZDR, N35ZR, N40ZR, N30ZDRS, N35ZRS, N40ZRS	36V	986.0 mm (38.8 in.)	371.0 mm (14.6 in.)	986.0 mm (38.8 in.)	365.0 mm (14.4 in.)
		986.0 mm (38.8 in.)	422.0 mm (16.6 in.)	986.0 mm (38.8 in.)	416.0 mm (16.4 in.)
N45ZR, N35ZDR	36V	986.0 mm (38.8 in.)	422.0 mm (16.6 in.)	986.0 mm (38.8 in.)	416.0 mm (16.4 in.)
		986.0 mm (38.8 in.)	478.0 mm (18.8 in.)	986.0 mm (38.8 in.)	473.0 mm (18.6 in.)
		986.0 mm (38.8 in.)	536.0 mm (21.1 in.)	986.0 mm (38.8 in.)	530.0 mm (20.9 in.)
<b>Battery Maximum Height (All Models) 787.0 mm (31.0 in.)</b>					
<sup>1</sup> Battery measurements refer to length as the dimension between battery retainer plates on either side of the lift truck. Width refers to the most narrow dimension of the battery.					

Model		Battery Weight	
		Min	Max
N30ZDRS, N35ZRS, N40ZRS	24V	635 kg (1400 lb)	862 kg (1900 lb)
		703 kg (1550 lb)	953 kg (2100 lb)
		771 kg (1700 lb)	1032 kg (2275 lb)
N30ZDR, N35ZR, N40ZR, N30ZDRS, N35ZRS, N40ZRS	36V	703 kg (1550 lb)	953 kg (2100 lb)
		771 kg (1700 lb)	1089 kg (2400 lb)
N45ZR, N35ZDR	36V	771 kg (1700 lb)	1089 kg (2400 lb)
		998 kg (2200 lb)	1293 kg (2850 lb)
		1134 kg (2500 lb)	1361 kg (3000 lb)

## NOTES

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