Diesel and LPG Forklift Trucks 3500, 4000 and 4500 kg

Introduction:
Developed with the aid of the latest design methods, these trucks offer the following outstanding features:

- Exceptional economy, due to minimised servicing costs and long service intervals.
- High productivity and low fuel consumption through the use of high-torque engines combined with hydrostatic transmission control systems.
- Outstanding environmental friendliness, arising from:
  - optimised engine designs in terms of exhaust gases and noise
  - low noise levels for operator and surrounding environment alike.
- Ergonomically designed cab and controls, with:
  - Linde double pedal control system
  - Linde central control lever
  - operator's compartment insulated from vehicle itself.

Driver's position:
Optimised layout, based on the latest ergonomic principles, for operators in the 5–95 percentile. Considerably reduced vibration and noise, through insulating the operator's compartment from the vehicle itself by means of shock absorbers. Seat adjustable to operator's height and weight, as well as being spring suspended and hydraulically damped. Linde double pedal control system offers accurate reversing without changing gear. Linde central control lever operates all lifting mast functions (lift, lower, tilt). Automatic adjustment of engine speed to the power output required for lifting and other functions. Operator's overhead guard forms an integral unit with the driver's compartment and can be fitted with additional equipment up to fully enclosed cab configuration.

Chassis:
Designed for maximum strength by the finite element method (FEM). Enclosed all round to reduce noise and protect internally mounted sub-assemblies from damage.

Engine:
Liquid cooled diesel or LPG engine, specially adapted for use with this series of trucks. High torque rating at low engine rpm not only reduces fuel consumption, exhaust emissions and noise levels but also prolongs durability. Smoke emissions from the diesel engine are exemplary below 2.5 Bosch under all operating conditions.

Automatic speed control:
The automatic engine speed control system, exclusive to Linde, ensures that the engine and hydrostatic system are constantly operating at the lowest possible rpm or pump output ratio, thus saving fuel and reducing emissions.

Transmission:
Hydrostatic transmission, made by Linde and flange-mounted direct to the engine, provides sensitive, infinitely variable control of vehicle speed, while also serving as the operating braking system. The integral, trouble-free, multiple-disc brake acts only as a parking brake. Automatically engaged when engine switched off. Oil supplied by the hydrostatic pump is separated and directed to the two fixed-displacement motors mounted in the semi-compact axle, eliminating the need for a differential and affording smooth, progressive travel, both forwards and in reverse.

Steering:
Hydrostatic system providing light operation, precise control and low steering effort (20 N), thus allowing a steering wheel of only 300 mm diameter.

Masts:
Clear-view lifting masts in standard, duplex or triplex configuration. The standard version features two leaf-chains which raise the fork carriage via the lifting cylinders. The chains are fitted with wear-resistant plastic cams to prevent damage to the rams. These also act as guides for the supplementary hydraulic hoses. Duplex and triplex masts are equipped with a free-lift cylinder.

Brakes:
Integral, trouble-free, multiple-disc parking brake automatically engaged when the engine is switched off. The hydrostatic transmission also acts as a wear-free service brake.

LINDE

March 1994

Denomination acc. DIN 15140

Data sheet for materials handling equipment

Forklift trucks

▪ Reference VDI 2198

Characteristics	1	Manufacturer		Abbreviation/symbol			Linde		Linde	
	2	Model		Manufacturer's model designation			**H 35 D**	**H 35 T**	**H 40 D**	**H 40 T**
	▪ 3	Load capacity	Q	Load lifted		t	3.5		4	
	▪ 4	Load centre	c	Distance		mm	500		500	
	5	Power unit		Battery, diesel, LP gas, mains power			Diesel	LPG	Diesel	LPG
	6	Operator type		Walkie, rider/stand, rider/seat			Driver seated		Driver seated	
	▪ 7	Tyres		SE = superelastic, P = pneumatic		front/rear	P (SE) / P (SE)		P (SE) / P (SE)	
	▪ 8	Wheels (x = driven)		Number		front/rear	2x (4x) / 2		2x (4x) / 2	
Dimensions	▪ 9	Lift duplex mast	h_3	Standard lift height		mm	3250 [1] (4675) [2]		3250 [1] (4675) [2]	
	▪ 10		h_2	Standard free lift		mm	150		150	
	▪ 11		h_5	High free lift		mm	1620 [1] [3]		1620 [1] [3]	
	12	Fork carriage		To DIN 15173 A / B / no			3 A		3 A	
	▪ 13	Fork		s · e · l		mm	50 x 120 x 1000 [14]		50 x 120 x 1000 [14]	
	▪ 14	Tilt		Mast forward / backward		deg.	6 / 12		6 / 12	
	▪ 15	Overall measurements	L_2	Length to fork face		mm	2920 (2947) [2]		2955 (2982 [2]	
	▪ 16		B	Width		mm	1400 (1900) [7] (1970) [8]		1400 (1900) [7] (1970) [8]	
	▪ 17		h_1	Height, mast retracted		mm	2382 [1] [4] (2337) [1] [3] [5]		2382 [1] [4] (2337) [1] [3] [5]	
	▪ 18		h_4	Height, mast extended		mm	3967 [1] (5392) [2]		3967 [1] (5392) [2]	
	▪ 19		h_6	Height, including overhead guard		mm	2400		2400	
	▪ 20		h_7	Height of driver seat		mm	1285		1285	
	▪ 21	Turning radius	Wa			mm	2590		2625	
	▪ 22	Load centre distance	x	from centre of front axle		mm	528 (555) [2]		528 (555) [2]	
	▪ 23	90° stacking width	Ast	pallets 800 x 1200 / 1000 x 1200 crosswise		mm	4115 / 4315		4150 / 4350	
Performance	24	Speeds		Travelling with / without load		km/h	21 / 22	21 / 21	21 / 22	21 / 21
	25			Lifting with / without load		m/s	0.55 / 0.58	0.50 / 0.55	0.53 / 0.58	0.48 / 0.55
	26			Lowering with / without load		m/s	0.55 / 0.55		0.55 / 0.55	
	▪ 27	Nominal tractive force		With / without load		N (kgf)	27490 / 21330		27340 / 21330	
	▪ 29	Climbing ability		With / without load		%	32 / 30		29 / 29	29 / 28
	▪ 31	Acceleration		Travelling with / without load		s	5 / 4.3		5.4 / 4.5	
Weight	▪ 32	Dead weight				kg	5635		5905	
	▪ 33	Axle load		With load, front / rear		kg	8135 / 1000		8855 / 1050	
	34			Without load, front / rear		kg	2740 / 2895		2730 / 3175	
Chassis	35	Tyres		Number, front / rear		each	2 (4) / 2		2 (4) / 2	
	36			Size front		inch or mm	250–15 / 16 PR [9]		250–15 / 18 PR [9]	
	37			Size rear		inch or mm	250–15 / 16 PR [10]		250–15 / 18 PR [10]	
	▪ 38	Wheelbase	y			mm	1900		1935	
	39	Track width		Centre line of tyres, front / rear		mm	1150 (1415) [7] (1432) [8] / 1120		1150 (1415) [7] (1432) [8] / 1120	
	40	Ground clearance		With load m^1 minimum		mm	148		148	
	41			With load m^2 centre of wheelbase		mm	230		230	
	42	Service brake		Mechanical / hydr. / electric / pneumatic			Hydrostatic		Hydrostatic	
	43	Parking brake		Foot / hand / deatman's			Foot / hand		Foot / hand	
Drive	49	Combustion engine		Manufacturer / Type			1004.40	G 4.236	1004.40	G 4.236
	50			Maximum engine rated power to DIN 70 020		kW	49		49	
	51			Rated rpm to DIN 70 020		rpm	2100		2100	
	52			Number of cylinders / Displac. ccm			4 / 3990	4 / 3860	4 / 3990	4 / 3860
	▪ 53			Fuel consumption		l/h kg/h	3.1	3.7	3.3	3.9
	55	Transmission		on IC engine trucks		type / speeds	Hydrostatic / infinitely variable		Hydrostatic / infinitely variable	
	56	Clutch		on IC engine trucks		type	n/a		n/a	
	57	Operating pressure		for attachment		bar	190 (200) [2]		205 (215) [2]	
	▪ 58	Noise level		Mean noise level at driver's ear		dB(A)	77.5		77.5	

1) For additional masts refer to page 3.
2) Figures in brackets refer to lift triplex masts.
3) Referring to lift duplex and lift triplex masts.
4) With 150 mm free lift.
5) Referring to special free lift h_5.
6) With tyres 300–15: 50 mm higher.
7) Twin tyres 28 x 9–15.
8) Twin tyres 250–15.
9) Optional twin tyres 250–15/16 PR or 28 x 9–15/14 PR or SE-tyres.
10) Optional 28 x 9–15/14 PR or SE-tyres.
11) Optional 250–15/16 PR or SE-tyres.
12) Optional 28 x 9–15 SE-tyres.
13) Figures for triplex masts on request.
14) Fork length 'l' ≧ 1800 mm; s x e = 60 x 130 mm.
15) Fork length 'l' ≧ 1500 mm; s x e = 60 x 130 mm.

Abbreviation acc. DIN 15140

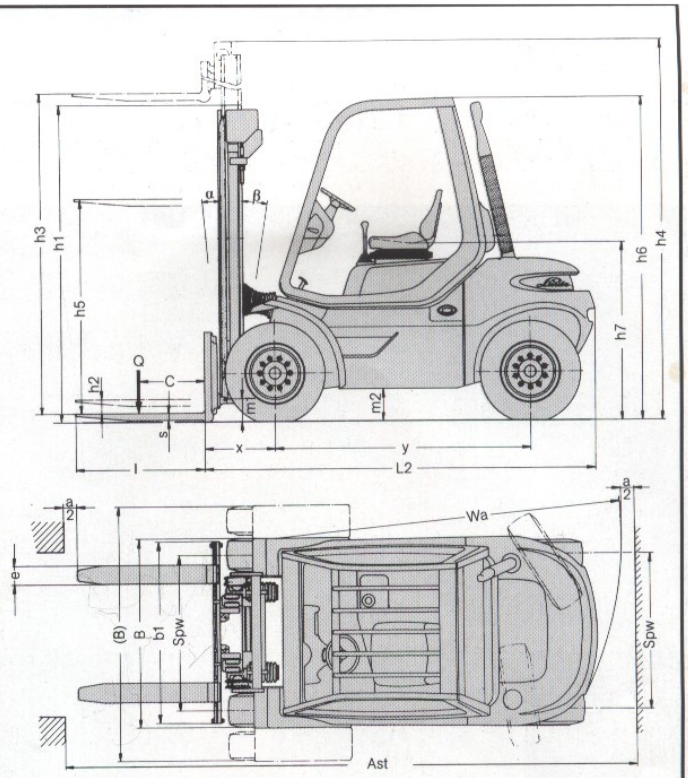
VDI 2198
V
Registration note

Manufacturer's Data and Design Characteristics

	Linde				Linde			
	H 45 D	H 45 T	H 45 D	H 45 T	H45D/600	H45T/600	H45D/600	H45T/600
	4.5				4,5			
	500				600			
	Diesel	LPG	Diesel	LPG	Diesel	LPG	Diesel	LPG
	Driver seated				Driver seated			
	P (SE) / P (SE)		SE / SE (P)		P (SE) / P (SE)		SE / SE (P)	
	4x / 2		2x / 2		4x / 2		2x / 2	
	3150 [1] (4525) [2]				3150 [1] (4525) [2]			
	150				150			
	1470 [1] [3]				1470 [1] [3]			
	3 A				3 A			
	50 x 120 x 1000 [15]				60 x 130 x 1200			
	6 / 12		5 / 7		6 / 8.5		5 / 7	
	2995 (3022) [2]				3045 (3072) [2]			
	1900 (1970) [8]		1415		1900 (1970) [8]		1415	
	2382 [1][4] (2337) [1][3][5]		2432 [1][4] (2387) [1][3][5]		2382 [1][4] (2337) [1][3][5]		2432 [1][4] (2387) [1][3][5]	
	4017 [1] (5392) [2]		4067 [1] (5442) [2]		4017 [1] (5392) [2]		4067 [1] (5442) [2]	
	2395		2420		2395		2420	
	1280		1305		1280		1305	
	2665				2705			
	528 (555) [2]				538 [2]			
	4190 / 4390				4645 [16]			
	20/21	20/20	23/24	23/23	24/24		24/24	
	0.51/0.58	0.46/0.55	0.51/0.58	0.46/0.55	0.51 / 0.58			
	0.55 / 0.55				0.55 / 0.55			
	27990/23180		23470/23180		28110/25880		23310/24210	
	26/27		22/27		25/29		21/28	
	5.7/4.7		5.7/4.9		5.9/5.2		5.9/5.2	
	6465				6850		6970	
	9820 / 1145				10220/1130		10240/1230	
	2980 / 3485				3200/3650		3220/3750	
	4 / 2		2 / 2		4 / 2		2 / 2	
	28x9-15/14 PR [11]		300–15 SE		28x9-15/14 PR		300–15 SE	
	28x9-15/14 PR [11]		250–15 SE [12]		28x9-15/14 PR		250–15 SE	
	1975				2015			
	1415 (1432) [8] / 1120		1150 / 1120		1415 / 1120		1150 / 1120	
	149		159		149		159	
	220		245		220		245	
	Hydrostatic				Hydrostatic			
	Foot / hand				Foot / hand			
	1004.40	G 4.236	1004.40	G 4.236	1004.40	G 4.236	1004.40	G 4.236
	49				49			
	2100				2100			
	4/3990	4/3860	4/3990	4/3860	4/3990	4/3860	4/3990	4/3860
	3.5	4.1	3.5	4.1	3.7	4.3	3.7	4.3
	Hydrostatic / infinitely variable				Hydrostatic / infinitely variable			
	n / a				n / a			
	220 (230) [2]				220 (230) [2]			
	77.5				77.5			

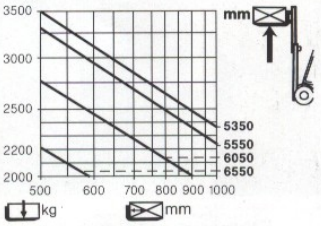
16) With pallets 1000 x 1200 length.

Further tyres on request.

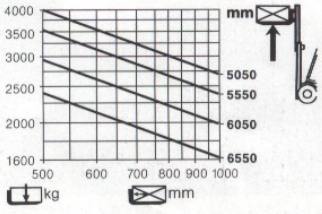


Lifting capacity diagrams:

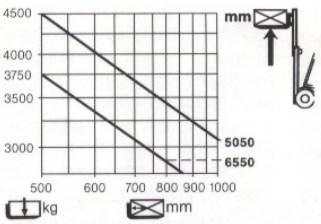
H 35



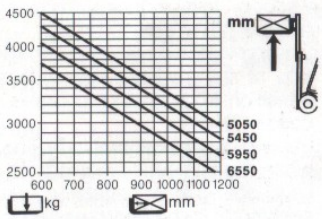
H 40



H 45



H 45 02



Figures for triplex masts on request

Overall height and lift height H 35 / H 40 (in mm) [13]							
Lift height	h_3	3250	3750	4050	4450	5050	5550
Overall height, mast retracted (with 150 mm free lift – standard)	h_1#	2382	2632	2782	2982	3282	3532
Overall height, mast retracted (duplex)	h_1	2337	2587	2737	2937	3237	3487
Overall height, mast extended	h_4	3967	4467	4767	5167	5767	6267
Special free lift (duplex)	h_5	1620	1870	2020	2220	–	–
Overall height and lift height H 45 / H 45/600 (in mm) [13]							
Lift height	h_3	3150	3650	3950	4350	4950	5450
Overall height, mast retracted (with 150 mm free lift – standard)	h_1# [6]	2382	2632	2782	2982	3282	3532
Overall height, mast retracted (duplex)	h_1 [6]	2337	2587	2737	2937	3237	3487
Overall height, mast retracted	h_4 [6]	4017	4517	4817	5217	5817	6317
Special free lift (duplex)	h_5	1470	1720	1870	2070	–	–

Width of fork carriage	b_1	1350, 1750, 2000 mm
Fork lenghts	l	1000, 1100, 1200 mm
Safety distance	a	200 mm