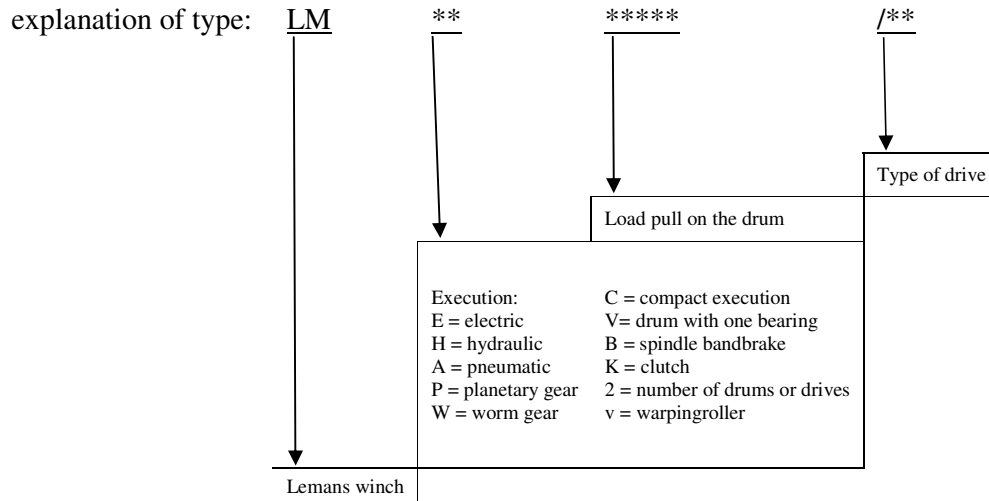


2. PLANETARY WINCHES



As standard planetary winch; or "Custom Built" planetary winch according to your specifications

Winches can be delivered according to the following classification bureaus and/or standards:

- Lloyd's register of shipping
- Bureau Veritas
- DNV (DET NORSKE VERITAS)
- NEN - ISO 3730 Warping winches
- NEN - ISO 3508 Hoist winches
- NEN - ISO 4568 Anchor winches
- NEN - ISO 7365 Hauling winches

Others in consultation

Technical data:

1. (Hoist) Planetary winches	<input checked="" type="checkbox"/> Electric planetary - From 1.5 up to 20 ton. <input checked="" type="checkbox"/> Hydraulic planetary - From 1.5 up to 30 ton.
2. Planetary warping winches	From 5 up to 60 ton With claw clutch and bandbrake.
3. Compact winches	Hoist from 400 up to 11,000 kg.

ALL TYPES ARE AVAILABLE WITH THE FOLLOWING OPTIONS:

- Different/various/variable load pull/hoist.
- Different/various/variable speeds
- Different/various wire storages
- Different/various wire drums sizes, with grooves for different wire sizes, divided drum.
- Warminghead (spil-head) in various measurements.
- Bandbrake, operated by a manual operated spindle or a hydraulic/pneumatic cylinder (other types of brakes are available)
- Clutch, in various executions, for instance: negative bandbrake, dog-clutch, cone-clutch, etc (hand, air or hydraulically operated)
- Couplings for various applications
- Build-on spindle limit switch.
- Press-on roller on the drum
- Drum with LEBUS-patent groove.
- LEBUS-patent wire-winding system.
- Last winding safety-guard.
- For all electric motors: IP56 protection, insulation class F and voltage 400 Volt-50 Hz-3 phase, other motor classes (for instance [EX-electrical motor for hazardous environments like for instance offshore and \(petro-\) chemical industries](#)), protection-classes and voltages (for instance 415 Volt-50 Hz-3 phase, 440 Volt-60 Hz-3 phase, 220 Volt-50 Hz-3 phase, etc.) are possible.
- Built-on reversing switch on motor.
- Switch box with thermal protections and remote footswitch/control with safety voltage (24 Volts) and 5 meters cable.
- Stage less regulated speed by means of frequency control in the electric execution
- Stage less regulated speed by means of proportional control valve in the hydraulic execution
- Complete hydraulic valve-sets, including piping and tubing, and powerpack (diesel-hydraulic or electro-hydraulic), this means we can supply you with complete self-contained sets
- Marine construction.
- Laminated brake on the E-motor or between the gearbox and the H-motor.
- Constant Tensioning, hydraulic or electric execution
- Special coating or end-finish RAL.
- Stand still heating in the E-motor.
- Angled planetary gearbox.
- Combined drive executions
- Special arrangements to use the on the quay, for instance in combination with a quick release mooring hook
- Drawing on computer disc or e-mail

2.1. ELECTRIC PLANETARY WINCH

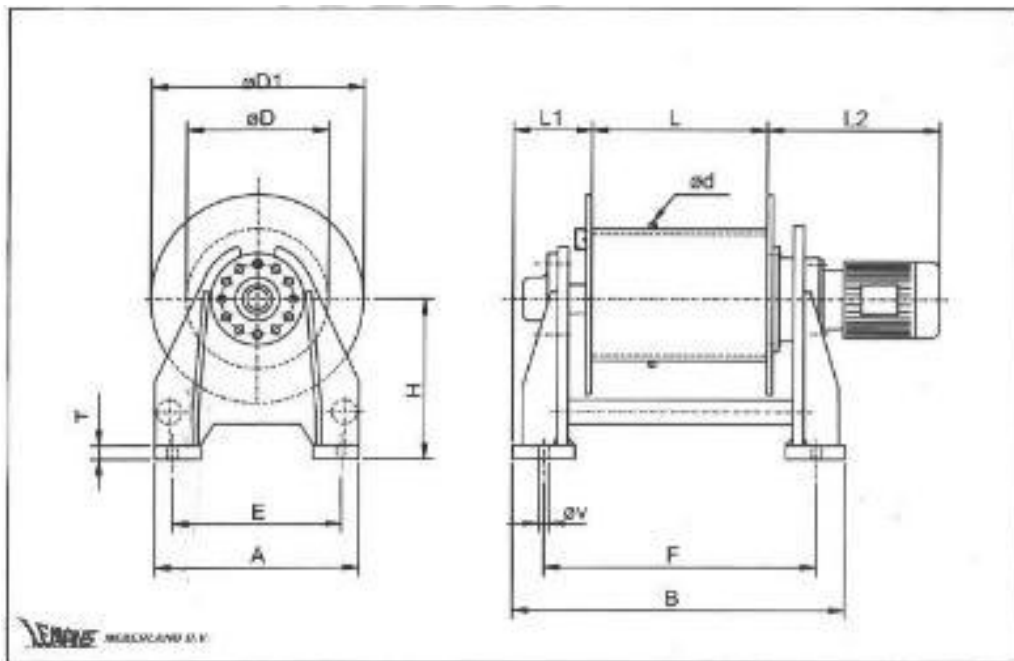
TYPE LM-EP

Technical data:

TYPE LM-EP	HOIST	SPEED	OUTPUT (3X 400V 50HZ)	WIRE- DIAMETE R	WIRE STORAG E IST LAYER	WIRE STORAG E FULL DRUM	WEIGHT
1500	1,500 kg	10 m/min	3 kW S1	ø12 mm	27 m	159 m	350 kg
3000	3,000 kg	8 m/min	6 kW S1	ø16 mm	27 m	165 m	500 kg
5000	5,000 kg	8 m/min	8 kW S1	ø18 mm	34 m	199 m	650 kg
6000	6,000 kg	8 m/min	11 kW S1	ø22 mm	28 m	170 m	750 kg
10.000	10,000 kg	6 m/min	11 kW S1	ø26 mm	33 m	196 m	1,150 kg

(Different and larger tensile forces at request.)

Measurements LM-EP:



TYPE LM-EP	A	B	ØD	ØD	ØD1	E	F	H	L	L1	L2
1.500	600	725		270	500	530	655	380	400	193	
3.000	600	790		325	550	500	690	420	450	193	
5.000	800	896		405	730	700	530	500	500	210	
6.000	800	864		405	730	700	530	500	500	210	
10.000	900	960		508	800	800	600	550	550	210	

(All dimensions in mm.)

L2 is dependent of motor size.

2.2. HYDRAULIC PLANETARY WINCHES

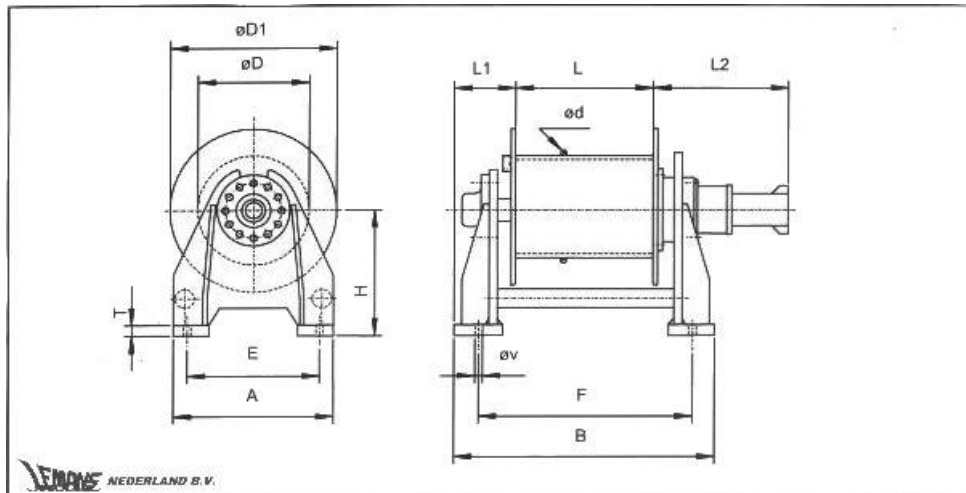
TYPE LM-HP

Technical data:

TYPE LM-HP	HOIST	SPEED (M/MIN)	OUTPUT $\Delta P + Q$	WIRE-DIAMETE R	WIRE STORAGE E 1ST LAYER	WIRE STORAGE E FULL DRUM	WEIGHT
1500	1,500 kg			ø12 mm	27 m	159 m	450 kg
2500	2,500 kg			ø14 mm	23 m	141 m	550 kg
3500	3,500 kg			ø16 mm	27 m	165 m	680 kg
4500	4,500 kg	AT	AT	ø18 mm	25 m	199 m	780 kg
6000	6,000 kg			ø22 mm	34 m	170 m	850 kg
8000	8,000 kg	REQUEST	REQUEST	ø26 mm	28 m	196 m	950 kg
12500	12,500 kg			ø28 mm	30 m	220 m	1,100 kg
15000	15,000 kg			ø30 mm	AT	AT	AT
20000	20,000 kg			ø34 mm			
30000	30,000 kg			ø36 mm	REQUEST	REQUEST	REQUEST

(Different and larger tensile forces at request.)

Dimensions: LM-HP:



TYPE LM-HP	A	B	$\varnothing D$	$\varnothing D$	$\varnothing D1$	E	F	H	L	L1	L2
1.500	600	725	-	270	500	530	655	380	400	193	-
2.500	600	733	-	270	500	530	663	380	400	193	-
3.500	800	790	-	325	550	500	690	420	450	193	-
4.500	800	896	-	405	730	700	796	530	500	210	-
6.000	800	864	-	405	730	700	764	530	500	210	-
8.000	900	960	-	508	800	800	860	600	550	210	-
12.500	900	1.130	-	559	850	800	1.030	625	600	250	-
15.000	900	-	-	508	850	800	-	625	625	250	-
20.000	1.000	-	-	610	950	880	-	650	650	300	-
30.000	1.100	-	-	720	1.050	980	-	680	680	400	-

(All dimensions in mm.)

L2 is dependent of type planetary gear units and hydraulic motor.

2.3. PLANETARY WINCHES

TYPE LM-HPBK\EPBK

Technical data:

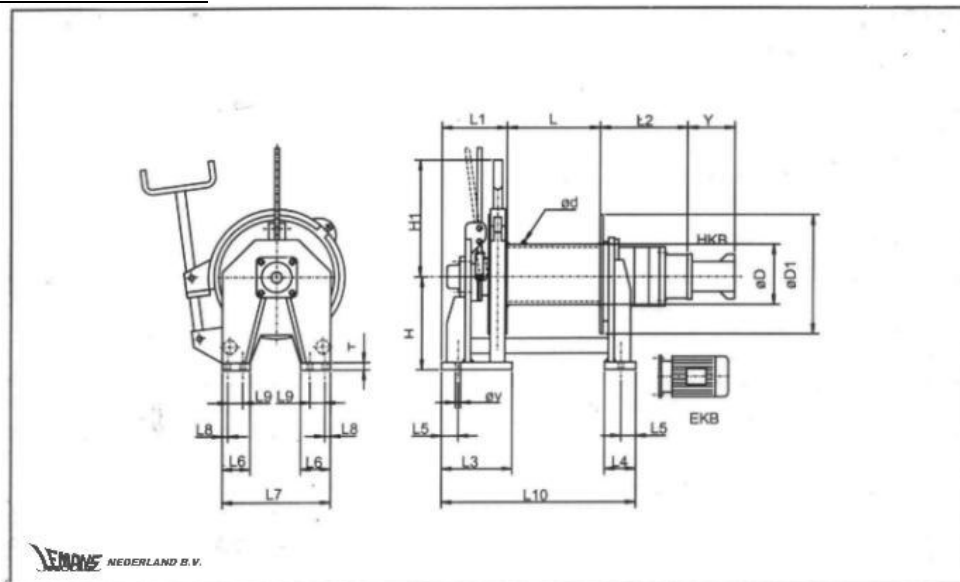
TYPE LM-HPBK/EPBK K	TENSILE FORCE (1ST LAYER)	HOLDING FORCE (1ST LAYER)	WIRE-DIAMETER	WIRE STORAGE	SPEED
5.000	5,000 kg	10,000 kg	ø16 mm	180 m	10 m/min
10.000	10,000 kg	15,000 kg	ø20 mm	200 m	10 m/min
15.000	15,000 kg	20,000 kg	ø24 mm	220 m	10 m/min
25.000	25,000 kg	30,000 kg	ø28 mm	225 m	8 m/min
40.000	40,000 kg	50,000 kg	ø38 mm	200 m	6 m/min

(Different and larger tensile/holding forces at request.)

With dog-clutch and bandbrake.

Main shaft CrMo with two double-rowed tapered roller bearing.

DIMENSIONS LM-HPBK/EPBK:



TYPE LM-HPBK/EPBK	ØD	ØD	ØD1	H	L	L1	L2+Y (CA.)	L3	L4	L5	L6	L7	L8	L9	L10	T	ØV
5.000	16	270	600	350	500	320	700	250	100	37	125	600	30	30	At	25	25
10.000	20	360	700	400	550	400	800	250	140	50	140	700	30	30	request	30	25
15.000	24	460	880	500	600	450	850	300	140	50	200	900	30	30		30	25
25.000	28	510	950	510	700	480	900	400	140	70	200	1.000	30	30		35	25
40.000	28	610	1.050	700	800	480	900	550	140	-	-	-	-	-		40	25

(All dimensions in mm.; alternations may occur)

L2 + Y is dependent on type planetary gear unit, hydraulic motor, of electric motor.

On type 40.000 the bandbrake and clutch are situated on the side of the drive.

2.4. PLANETARY COMPACT WINCHES

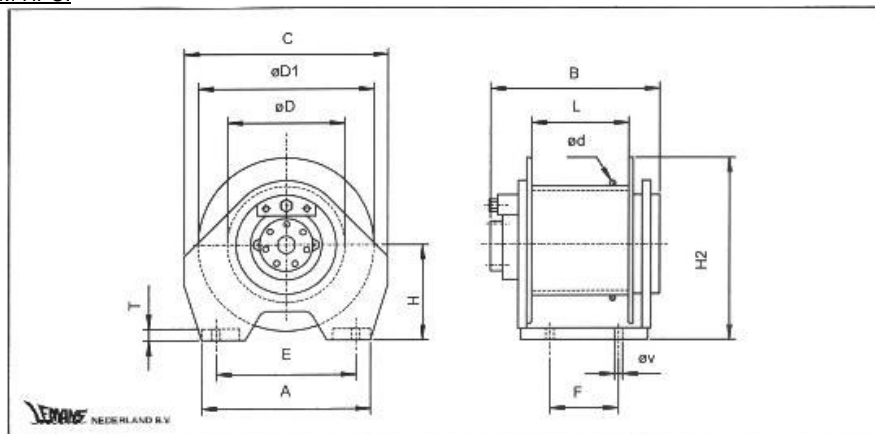
TYPE LM-HPC

With planetary gear unit, disc brake and motor with brake wheel fully integrated in the drum.
Also available according to CE-regulations.

Technical data:

TYPE LM-HPC	HOIST 1E LAYER	HOIST 2E LAYER	MAX. HOIST-SPEED	NOM. OIL-STREAM Q	NOM. PRESSURE ΔP	SWEPT VOLUME MOTOR	MAX. WIRE DIAMETER	WIRE CAP. 4E LAYER	WEIGHT
400	480 kg	400 kg	50 m/min	30 l/min	120 bar	316 cm ³	6 mm	34 m	26 kg
600	750 kg	600 kg	40 m/min	40 l/min	120 bar	100 cm ³	7 mm	55 m	33 kg
1.150	1.500 kg	1.150 kg	55 m/min	60 l/min	170 bar	188 cm ³	10 mm	58 m	45 kg
1.950	2.500 kg	1.950 kg	33 m/min	75 l/min	182 bar	249 cm ³	12 mm	51 m	74 kg
2.350	3.000 kg	2.350 kg	67 m/min	150 l/min	140 bar	633 cm ³	14 mm	71 m	160 kg
3.200	4.000 kg	3.200 kg	40 m/min	100 l/min	175 bar	633 cm ³	16 mm	121 m	297 kg
4.750	5.700 kg	4.750 kg	50 m/min	125 l/min	240 bar	816 cm ³	18 mm	162 m	435 kg
6.250	8.000 kg	6.250 kg	40 m/min	100 l/min	320 bar	816 cm ³	20 mm	120 m	410 kg
11.000	13.000 kg	11.000 kg (4e layer)	32 m/min	150 l/min	280 bar	1,633 cm ³	22 mm	180 m	750 kg

dimensions LM-HPC:



TYPE LM-HPC	A	B	C	ØD	ØD	ØD1	E	F	H	H2	L
400	-	223	115	6	146	220	120	40	115	230	100
600	222	273	272	7	178	260	180	150	140	290	161
1.150	240	304	296	10	203	305	200	170	160	335	192
1.950	355	325	428	12	245	380	305	150	192	380	172
2.350	380	377	500	14	299	447	320	200	226	447	230
3.200	480	556	568	16	356	523	400	330	267	528	364
4.750	550	710	658	18	407	598	470	480	304	603	510
6.250	570	597	708	20	406,4	625	490	360	318	630	400
11.000	590	820	750	22	445	670	510	520	345	680	600

(All dimensions in mm.; alternations may occur) / Type 400 equipped with a self-supported drum.