

# Yale®

## Hand chain hoists

### Hand chain hoists for lifting, lowering, tensioning and pulling

1877 Linus Yale produced the first spur geared hand chain hoist with incorporated Weston screw-and-disc type load brake. This principle is still used in nearly all manual hoists.

Our product range starting from our top model *Yalelift 360* to our well established VS and its successor *VSpplus* offers you the optimal solution for your application problem!

All parts of the load brake are made of high quality materials and are protected against corrosion. Yale exclusively uses **asbestos free friction discs** in all their hoists. The surface protected **zinc plated alloy steel chains** fulfil all the requirements of national and international standards and regulations. In accordance with safety regulations, the **chain stops** are designed to withstand double the rated capacity to ensure the chain does not unintentionally run free.

The **drop forged load and suspension hooks** that yield under overload instead of breaking, are made of high tensile steel and are standard for all Yale hoists. The hooks are fitted with robust safety latches and rotate 360°.

Every Yale ratchet lever hoist is factory tested with overload. The units are supplied with a test certificate showing the serial-No.

Operating instructions which contain an EC declaration of conformity are also attached to each unit.



## Hand chain hoist VSplus



Model VSplus  
with optional chain  
container

## Hand chain hoist model VSplus

Capacities 500 - 5.000 kg

The new Yale hand chain hoist VSplus is through further technical development the successor of our proven VS model. We set new standards with the extremely robust all-steel construction and high quality bearings for drive pinion, load chain sheave and gearbox.

A maximum of corrosion prevention and maintenance friendliness are special features of this model.

### Features

- 4 strong bolts between the side plates and the reinforced housing covers ensure increased stability.
- Precision machined guide rollers ensure smooth running of the load chain
- Encapsulated, life-time lubricated bearings ensure a long service life.
- Brake system protected against the ingress of dust, foreign particles and corrosion.

### Optional

- Chain container
- Corrosion and acid resistant load and hand chains
- For units above 1.000 kg work load overload protection available

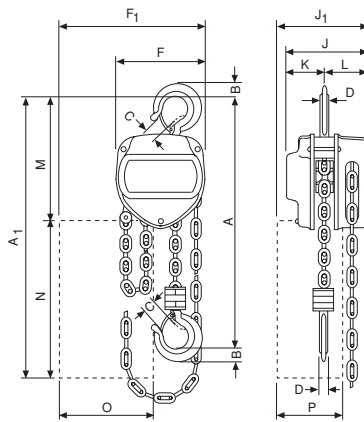
Model	Capacity kg	Number of chain falls	Chain dimensions d x p in mm	Hand chain overhaul for 1 m lift m	Lift per 1 m hand chain overhaul mm	Pull on hand chain at WLL daN	Net weight at std. lift kg
VSplus 0,5/1	500	1	6 x 18	28	35	26	9
VSplus 1/1	1000	1	6 x 18	42	23	36	11
VSplus 2/1	2000	1	8 x 24	54	18	54	18
VSplus 2/2	2000	2	6 x 18	84	12	37	15
VSplus 3/1	3000	1	10 x 30	83	12	52	28
VSplus 3/2	3000	2	8 x 24	108	9	41	25
VSplus 5/2	5000	2	10 x 30	165	6	44	39
VS 8/4	8000	4	10 x 30	329	3	38	69
VS 10/4	10000	4	10 x 30	329	3	46	69
VS 15/8	15000	8	10 x 30	659	1	2 x 35	157
VS 20/8	20000	8	10 x 30	659	1	2 x 46	157

## Dimensions VSplus/VS in mm

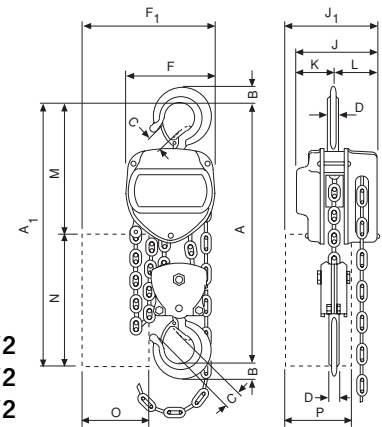
Dimension	VSplus 0,5/1	VSplus 1/1	VSplus 2/1	VSplus 2/2	VSplus 3/1	VSplus 3/2	VSplus 5/2	VS 8/4	VS 10/4	VS 15/8	VS 20/8
A <sub>min</sub>	320	370	450	530	530	620	620	735	735	1000	1000
A <sub>1</sub>	455	484	596	491	644	596	644	-	-	-	-
B	17	15	33	31	38	41	48	60	60	85	85
C	29	30	33	34	38	37	43	52	52	74	74
D	11	15	23	24	27	24	33	40	40	56	56
F	125	147	183	147	215	183	215	360	360	590	590
F <sub>1</sub>	213	232	314	232	333	314	333	-	-	-	-
G	-	-	-	-	-	-	-	252	252	-	-
H	-	-	-	-	-	-	-	108	108	108	108
J	115	125	142	125	163	142	163	163	163	198	198
J <sub>1</sub>	146	153	174	153	179	174	179	-	-	-	-
K	51	57	68	57	79	68	79	79	79	-	-
L	64	68	74	68	84	74	84	84	84	99	99
M	195	224	266	231	316	286	334	-	-	-	-
N	260	260	310	260	310	310	310	-	-	-	-
O	140	140	200	140	200	200	200	-	-	-	-
P	110	110	130	110	130	130	130	-	-	-	-
Chain m*	12	12	12	12	10	12	10	-	-	-	-

\*maximal content of chain container

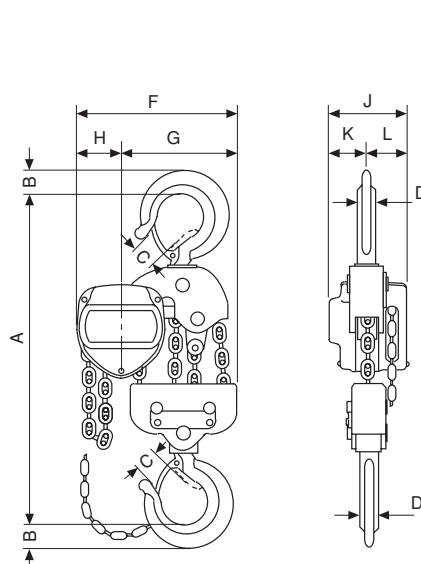
**Model VSplus 0,5/1**  
**Model VSplus 1/1**  
**Model VSplus 2/1**  
**Model VSplus 3/1**



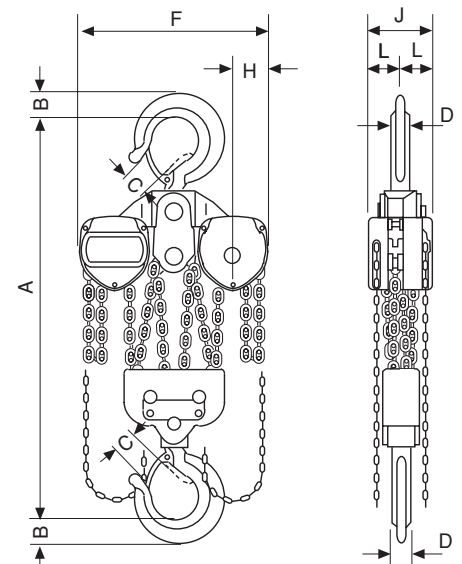
**Model VSplus 2/2**  
**Model VSplus 3/2**  
**Model VSplus 5/2**



**Model VS 8/4**  
**Model VS 10/4**



**Model VS 15/8**  
**Model VS 20/8**



# Yale<sup>®</sup>

## Hand chain hoist

### Yalelift 360



design award  
winner  
2003

## Hand chain hoist model Yalelift 360

Capacities 500 - 20.000 kg

Areas of operation as well as operator conditions have been improved in trail-blazing fashion, which goes far beyond the classical hand chain hoist.

- The revolutionary 360° rotating hand chain guide allows the operator to work from virtually any position, in confined spaces or above the load. The Yalelift can even be operated from the side of the load which also makes it possible to use the hoist for horizontal pulling or tensioning. Due to the additional flexibility, the operator is no longer forced to work in the danger zone near the load.
- The new patented brake system is extremely quiet and guarantees operational safety and improved serviceability due to omission of the vulnerable ratchet pawls. All parts are made of high quality materials, additionally galvanised or yellow-chromated to increase corrosion prevention.
- The enclosed robust stamped steel housing protects all internal components even in the toughest conditions.
- The hardened load sheave with four precision machined pockets ensures accurate movement of the load chain.
- The extremely low headroom allows maximum use of the lifting height.

### Optional extras

- All models can be equipped with an overload prevention device.
- Chain container, special sizes upon request
- Corrosion and acid resistant load and hand chains



**Chain guide**



**The patented  
Yale brake system**

low noise and reduced wear.



**High quality encapsu-  
lated ball bearings  
and sliding bushes**

for smooth and effortless  
operation.

#### Hand chain hoist model *Towerlift*

Capacities 1.000 - 2.000 kg

The *Towerlift* is the inverted version of the *Yalelift 360* and specifically designed for operation on traversing tower systems.

- The unit is provided with a special chain guide and a totally enclosed housing.
- The basic version of the *Towerlift* offers capacities of 1.000 kg and 2.000 kg.
- Black powder coat finish as standard.

**For applications that require additional corrosion prevention e.g. food processing, dairies, sewage treatment etc. see page 22-23**



#### The robust stamped steel housing

with four stay bolts is resistant to the toughest working conditions.



#### The precisely machined load sheave

ensures accurate movement of the load chain.

#### Hand chain hoist *Towerlift ES*

Capacity 1.000 kg

The *Towerlift ES* is a further development of the *Towerlift*. Like the *Towerlift* the model *ES* is provided with a chain reeving system specifically designed for the stage/entertainment industry. This allows operation in standard hoist configuration as well as in inverted mode.

- The hoist comes with revolving chain container which can be fully used in standard hoist configuration as well as in inverted mode.
- Black powder coat finish.



# Yale®

## Hand chain hoist

### Yalelift IT



Illustrated rubber buffers  
optionally available!

Hand chain hoist  
with integrated  
push type trolley  
model *Yalelift ITP*

Capacities 500 - 5.000 kg

Hand chain hoist  
with integrated  
geared type trolley  
model *Yalelift ITG*

Capacities 500 - 5.000 kg

The combination of the *Yalelift 360* with a low headroom manual trolley provides even more flexibility in the application of the *Yalelift 360*.

- All units of this series up to a capacity of 3.000 kg are provided with single chain fall and the min. headroom (Dim. A) has been further reduced. Ideal for applications with low ceilings and limited headroom.
- The manual trolleys are adjustable to fit a wide range of beam profiles (e.g. INP, IPE, IPB). Depending on the beam flange width an adjustment up to 300 mm can be made easily.
- The trolley wheels are designed for a max. beam profile incline of 14 % (DIN 1025 - part 1), excellent rolling features are guaranteed by pre-lubricated, encapsulated ball bearings.
- Anti-tilt and anti-drop devices are standard.
- A subsequent conversion of a *Yalelift 360* into a *Yalelift IT* with integrated trolley is easily possible at any time.

Optional equipment and accessories  
are given on pages 22 and 23!

## Hand chain hoist hoist Yalelift LH

Hand chain hoist  
with integrated push type trolley  
(Low headroom)  
model Yalelift LHP  
Capacities 500 - 10.000 kg

Hand chain hoist  
with integrated geared type  
trolley (Low headroom)  
model Yalelift LHG  
Capacities 500 - 10.000 kg

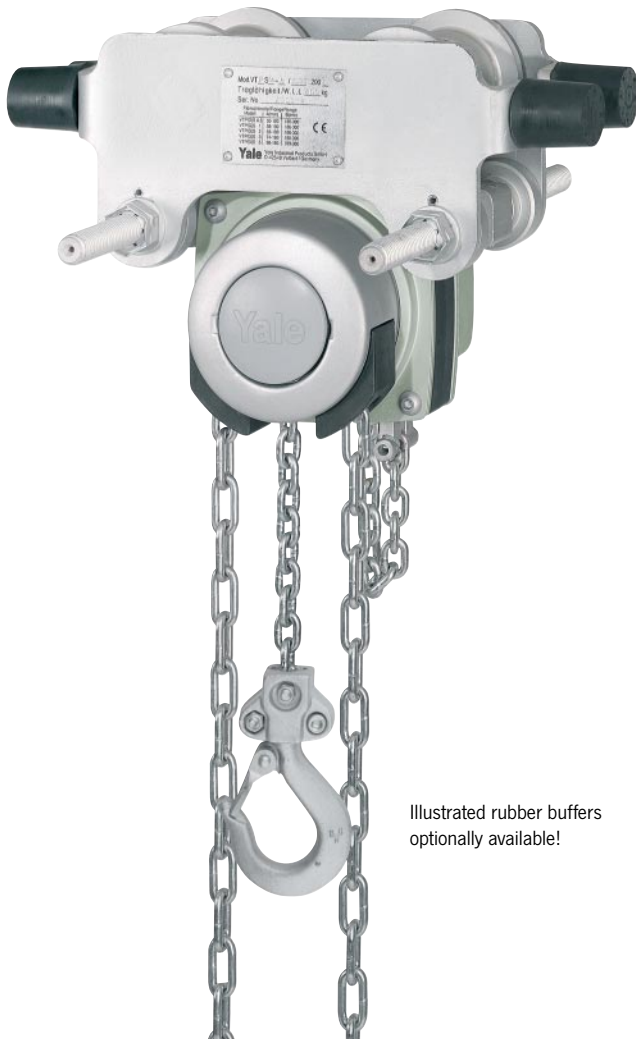
The hand chain hoist Model Yalelift LH with integrated low headroom manual trolley is the consequent further development of the Yalelift IT. Wherever an even smaller headroom is essential, the Yalelift LH is the ideal choice.

- The specially developed chain reeving system and chain guide allow the bottom block to be pulled laterally to the hoist even further up and almost against the beam flange.
- The integrated design of the innovative Yalelift LH uses the same manual trolleys as incorporated in the Yalelift IT series.
- All models of the LH series up to 3.000 kg capacity are provided with single chain fall.
- The proven and almost stepless adjustment system allows quick and easy assembly of the trolley.
- The low headroom version of the Yalelift IT is adjustable to fit a wide range of beam profiles (e.g. INP, IPE, IPB).
- The trolley wheels are designed for a max. beam profile incline of 14 % (DIN 1025 - Part 1).
- Excellent rolling features due to machined steel wheels mounted on pre-lubricated, encapsulated ball bearings.
- Anti-tilt and anti-drop devices as standard.
- The trolleys are offered for two beam ranges. Range A for a flange width up to 180 mm is standard and covers approx. 80 % of all requirements. Conversion to range B for beam width up to 300 mm can be easily accomplished.
- A subsequent conversion of a Yalelift 360 into a Yalelift LH with integrated trolley is also easily possible.



Illustrated rubber buffers  
and chain container  
optionally available!

## Corrosion resistance CR Accessories



Illustrated rubber buffers optionally available!

## Corrosion resistance CR

### Added lifetime

All models of the Yalelift Vario programme can be supplied with corrosion resistant features which include zinc-plated load chains and stainless steel hand chain as standard.

### Corrosion protection

Corrosion starts on the surface of components due to reaction of environmental influences. This affects the mechanical properties of the components, e.g. breaking strength and total ultimate elongation. Many components are supplied in black (unmachined), bright (machined) or painted condition. This offers certain protection but after only a short period of time corrosion can begin.

With the application of a protective coating, the development of corrosion can be reduced and delayed, thus extending the service life of the treated components.

### Applications for corrosion resistant units and zinc-plated resp. stainless steel load chains

Completely corrosion resistant units with either zinc-plated or stainless steel load chains should be used in all conditions with increased requirements towards corrosion protection.

Typical applications are in food processing (e.g. dairy, abattoir, etc.), chemical industries (e.g. paper, dye industries), farming and sewage treatment.

*All units available  
in corrosion resistant  
version!*



## Spark resistant features

### Added safety

All models of the Yalelift Vario programme can be provided with the following optional features for additional protection against sparking:

- Load and hand chains from stainless steel
- Units completely corrosion resistant
- Bronze-plated suspension and load hooks
- Solid bronze trolley wheels
- Rubber buffers
- Chain containers



**Solid bronze trolley wheels**



**Bronze-plated suspension and load hooks**

## Overload protection

### Added control

The overload protection device of the Yalelift Vario programme reliably prevents excessive load take-up of the hoist during operation. When reaching the pre-set overload value, the unit will jam and stop operation in the lifting direction. Lowering of the load is still possible at any time.

The overload protection device provides additional safety with regard to possible false estimation of the load weight and thus increases the lifetime of the hoist. The new design principle allows excellent adjustability and response.



## Spark resistance

In nearly all industrial areas, and not only in the chemical industry, plants are operated in explosion endangered environments. Because of the great damage an explosion could cause to people and material, stringent legal and technical requirements are imposed, particularly on electrical equipment used in explosion endangered environments.

### Applications

Paint factories, paint shops, foundries, on-/offshore, refineries, oil depots, electro-plating, automobile factories, on ships and docks, printers, textile and paper factories, food industries, glass and ceramic industries, wood working industries and hardening shops, etc.

## Beam locking device

### Added security

Yale trolleys can be optionally provided with beam locking device to secure the unloaded trolley in fixed position on the beam (park position e.g. on ships).

## Chain container

### Added comfort

The chain containers for the Yalelift Vario programme consist of a robust, powder-coated steel frame with a flexible chain bag made from high tensile Cordura textile fabric. Available in different sizes. Special sizes on request.



## Hand chain hoist

### Yalelift 360



Model	Capacity in kg/ Number of chain falls	Chain dimensions d x p in mm	Hand chain overhaul for 1 m lift m	Pull on hand chain at WLL daN	Net weight at std. lift (3 m) kg
<b>Yalelift 360</b>	500/1	5 x 15	30	21	9
	1000/1	6 x 18	49	30	13
	2000/1	8 x 24	71	32	20
	3000/1	10 x 30	87	38	29
	5000/2	10 x 30	174	34	38
	10000/3	10 x 30	261	44	71
	20000/6	10 x 30	522	2 x 44	196
<b>Towerlift</b>	1000/1	6 x 18	49	30	14
	2000/1	8 x 24	71	32	21
<b>Towerlift ES</b>	1000/1	6 x 18	49	30	15

Model	Capacity in kg/ Number of chain falls	Beam range	Beam flange width b mm	Beam flange thickness t max. mm	Min. radius curve m	Net weight in kg for 3 m lift with locking device			
						-P	-G	-P	-G
<b>Yalelift IT</b>	500/1	A	50 - 180	19	0,90	20	24	26	31
	500/1	B	180 - 300	19	0,90	21	25	27	32
	1000/1	A	50 - 180	19	0,90	27	32	35	40
	1000/1	B	180 - 300	19	0,90	29	33	37	41
	2000/1	A	58 - 180	19	1,15	44	49	52	57
	2000/1	B	180 - 300	19	1,15	46	50	54	58
	3000/1	A	74 - 180	27	1,40	77	82	86	91
	3000/1	B	180 - 300	27	1,40	79	84	88	93
	5000/2	A	98 - 180	27	1,80	125	130	135	140
	5000/2	B	180 - 300	27	1,80	129	134	139	144
<b>Yalelift LH</b>	500/1	A	60 - 180	19	0,90	27	31	33	38
	500/1	B	180 - 300	19	0,90	27	32	34	38
	1000/1	A	70 - 180	19	0,90	35	40	43	48
	1000/1	B	180 - 300	19	0,90	36	41	44	49
	2000/1	A	82 - 180	19	1,15	61	65	69	73
	2000/1	B	180 - 300	19	1,15	62	67	70	75
	3000/1	A	100 - 180	19	1,40	107	112	116	121
	3000/1	B	180 - 300	19	1,40	109	114	118	123
	5000/2	A	110 - 180	27	1,80	152	157	162	167
	5000/2	B	180 - 300	27	1,80	156	161	166	171
	10000/3	B	125 - 310	40	1,80				

on request



## The Vario programme Yalelift 360

Always different. Always with Yalelift 360.

Yalelift 360 for operation from all positions ✓

Towerlift for application on traversing tower systems ✓

Towerlift ES for operation in standard or inverted mode ✓

Yalelift IT with integrated manual trolley ✓

Yalelift LH to meet extremely low headroom requirements ✓

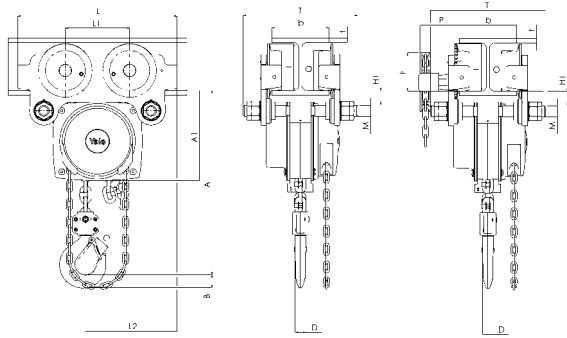
Optional:

CR corrosion resistant version of all models ✓

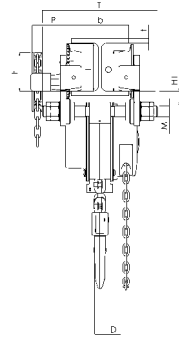
Accessories

- Spark resistant features ✓
- Overload protection ✓
- Beam locking device ✓
- Chain containers ✓

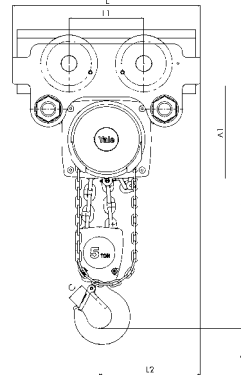




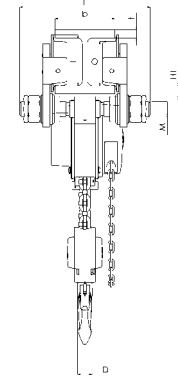
**Yalelift ITP/G 0,5t - 3,0t**



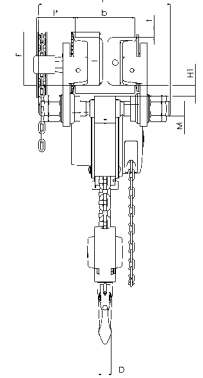
**Yalelift ITG**



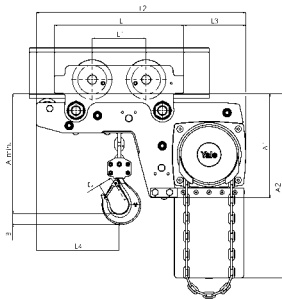
**Yalelift ITP/G 5,0t**



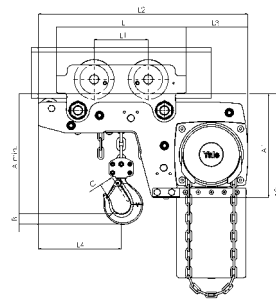
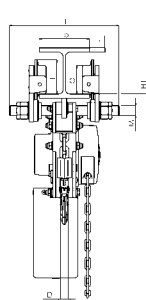
**Yalelift ITG**



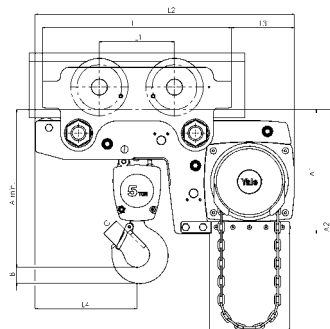
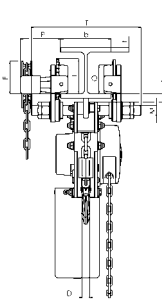
Dimensions in mm	Yalelift IT 500	Yalelift IT 1000	Yalelift IT 2000	Yalelift IT 3000	Yalelift IT 5000	Yalelift LH 500	Yalelift LH 1000	Yalelift LH 2000	Yalelift LH 3000	Yalelift LH 5000
A <sub>min.</sub>	245	272	323	382	550	188	211	264	316	425
A <sub>1</sub>	158	178	205,5	252	260,5	223	250	289	346	345
A <sub>2</sub>	-	-	-	-	-	381	427	511	614	612
B	17	22	30	38	45	17	22	30	38	45
C	24	29	35	40	47	24	29	35	40	47
D	14	19	22	30	37	14	19	22	30	37
F (geared)	92	92	91	107	149,5	92	92	91	107	150
H <sub>1</sub>	24,5	24	23,5	32	30,5	24	24	24	32	31
I (pushed)	71,5	71,5	95,5	131	142,5	72	72	96	131	143
I (geared)	76,5	76,5	98	132,5	148,5	77	77	98	133	149
L	270	310	360	445	525	270	310	360	445	525
L <sub>1</sub>	130	130	150	180	209	130	130	150	180	209
L <sub>2</sub>	159	175	207	256	283	444	488	582	690	720
L <sub>3</sub>	-	-	-	-	-	124	135	172	203	175
L <sub>4</sub>	-	-	-	-	-	184	201	230	265	283
M	M 18	M 22	M 27	M 30	M 42	M 18	M 22	M 27	M 30	M 42
O	60	60	80	112	125	60	60	80	112	125
P (geared)	108	110	112	112	117	108	110	112	112	117
T (Range A)	280	290	305	320	364	280	290	305	320	364
T (Range B)	400	410	425	440	484	400	410	425	440	484



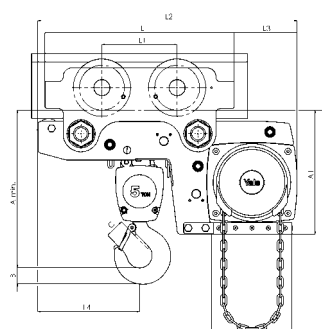
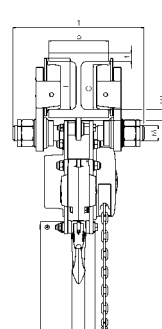
**Yalelift LHP 0,5t - 3,0t**



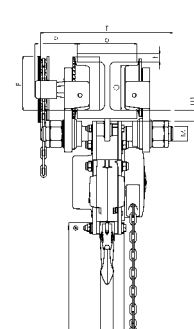
**Yalelift LHG 0,5t - 3,0t**

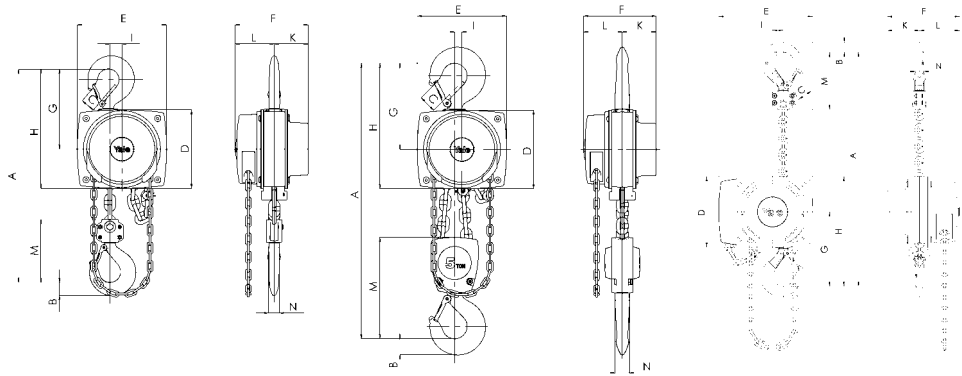


**Yalelift LHP 5,0t**



**Yalelift LHG 5,0t**



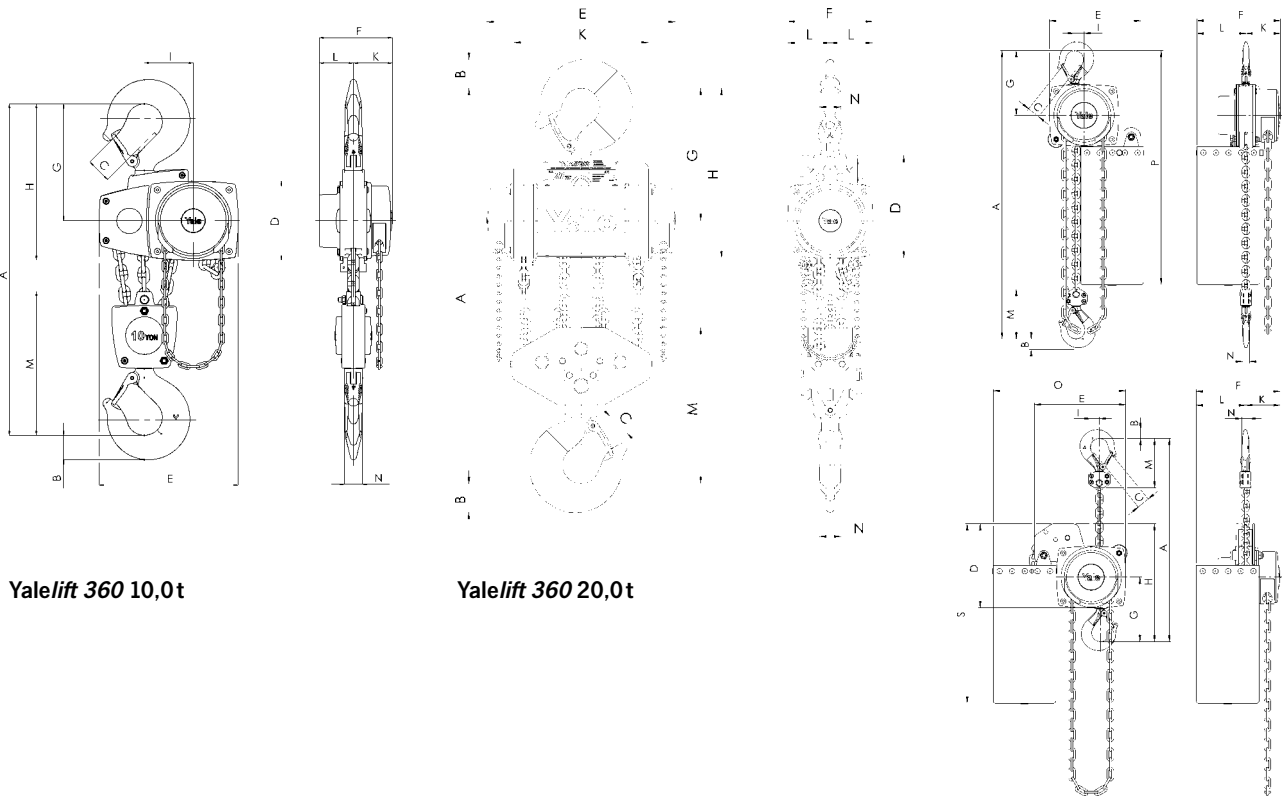


**Yalelift 360 0,5t- 3,0t**

**Yalelift 360 5,0t**

**Towerlift**

Dimensions in mm	Yalelift 360 500	Yalelift 360 1000	Yalelift 360 2000	Yalelift 360 3000	Yalelift 360 5000	Yalelift 360 10000	Yalelift 360 20000	Towerlift 1000	Towerlift 2000	Towerlift ES 1000
A <sub>min.</sub>	300	335	395	520	654	825	980	335	395	335
B	17	22	30	38	45	68	85	22	30	22
C	24	29	35	40	47	68	74	29	35	29
D	133	156	182	220	220	220	303	156	182	213
E	148	175	203	250	250	383	555	205	243	232
F	139	157	183	204	204	204	250	157	183	212
G	139	164	192	225	242	326	391	164	192	164
H	206	242	283	335	352	436	501	242	283	299
I	24	24	31	34	21	136	-	24	31	24
K	61	70	83	95	95	95	396	70	83	124
L	79	87	100	109	109	109	125	87	100	88
M	110	125	156	178	285	401	461	125	156	125
N	14	19	22	30	37	50	56	19	22	19
O	-	-	-	-	-	-	-	-	-	335
P	-	-	-	-	-	-	-	-	-	593
S	-	-	-	-	-	-	-	-	-	455



**Yalelift 360 10,0t**

**Yalelift 360 20,0t**

**Towerlift ES**

## Low headroom trolley hoist

### VLR



#### Yale swivel truck

#### Low headroom trolley hoist VLRP with plain trolley drive

Capacities 250 - 6.000 kg

#### VLRG with geared trolley drive

Capacities 250 - 6.000 kg

The hand chain hoist series VLR with integrated manual trolley drive features extremely low headroom capabilities and provides optimal usage of the available storage space in confined areas. Hand wheel and gear case are positioned outside the reach of the bottom flange, thus allowing the bottom block to be raised almost until the underside of the beam.

The swivel truck feature of the trolley suspension enables travelling on extremely short radius curves.

#### Workmanship and features

- All-steel construction with zinc-plated load and hand chains.
- The integrated swivel truck trolley suspension permits application on runways with extremely narrow radii.
- All units are built to order for a predetermined beam dimension. They cannot be adjusted retroactively to other beam sizes.
- Anti-drop devices and anti-tilt devices are standard features.
- The rotating hand chain guide allows side-pull of the trolley hand chain in travel direction.

#### Optional equipment

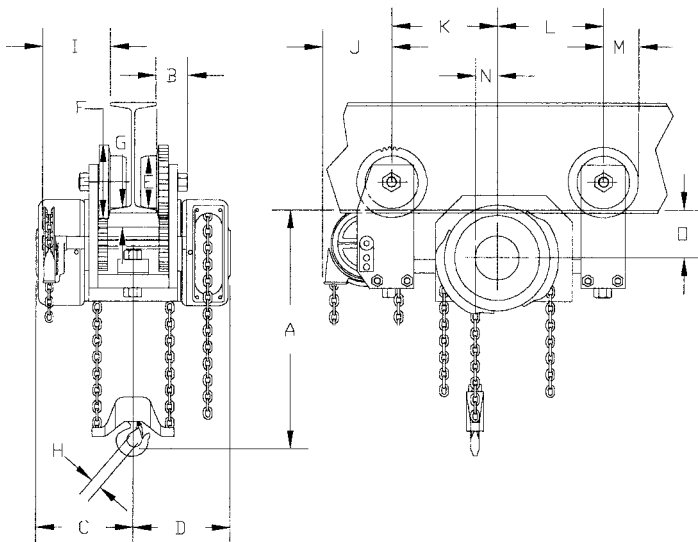
- Rubber buffers available on request
- Chain containers
- Overload prevention device

### Technical data

Model	Capacity kg	Beam flange width min. mm	Flange width max. mm	Max. flange thickness mm	Min. radius curve mm	Pull on hand chain at WLL daN	Net weight	
							VLRP kg	VLRG kg
VLRP/G	250	67	117	16	533	8	58	66
VLRP/G	500	67	117	16	533	16	58	66
VLRP/G	1000	76	117	16	533	32	58	66
VLRP/G	1500	86	140	16	762	26	113	122
VLRP/G	2000	86	140	16	762	35	115	123
VLRP/G	3000	102	178	16	1066	19	158	172
VLRP/G	4000	102	178	16	1066	27	160	175
VLRP/G	5000	117	203	22	1219	33	213	227
VLRP/G	6000	117	203	22	1219	41	213	227

### Dimensions

Capacity kg	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
mm	mm	mm	mm	mm	mm	mm	mm	mm	VLRG mm	VLRG mm	mm	mm	mm	mm	mm
250	157	51	167	167	95	127	22	25	119	95	184	165	64	35	75
500	157	51	167	167	95	127	22	25	119	95	184	165	64	35	75
1000	157	51	167	167	95	127	22	25	119	95	184	165	64	35	75
1500	171	56	220	220	114	152	16	29	182	159	289	194	77	77	48
2000	171	56	220	220	114	152	16	29	182	159	289	194	77	77	48
3000	210	68	250	250	162	203	24	34	206	155	294	195	101	77	87
4000	234	65	250	250	162	203	24	42	206	155	294	195	101	77	87
5000	252	71	257	257	182	229	22	42	216	176	294	223	114	77	98
6000	252	71	257	257	182	229	22	42	216	176	294	223	114	77	98

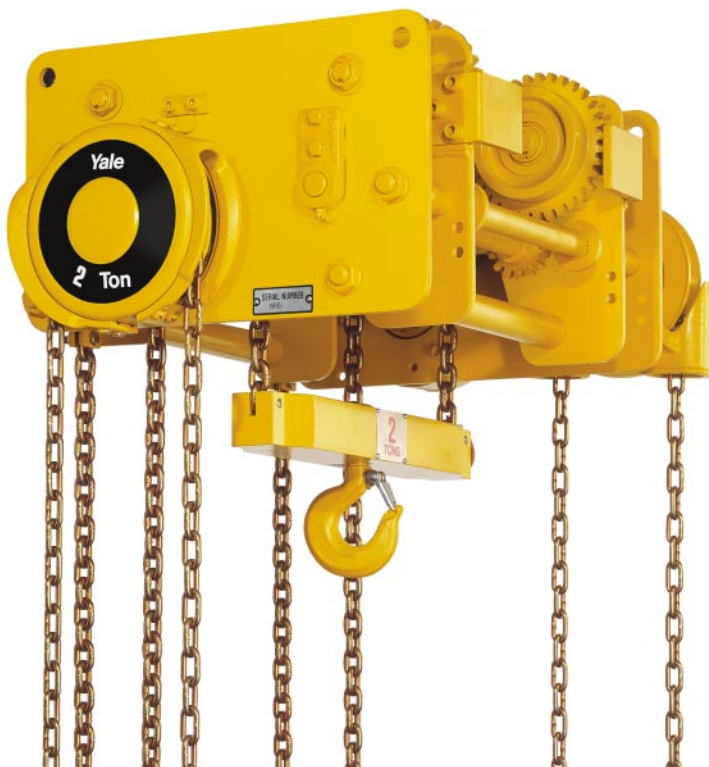


**Beam profile and dimension as well as curve radius must always be specified when ordering.**

# Yale®

## Compact low headroom trolley hoist

### VNR



### Yale compact low headroom trolley hoist

#### VNRP with plain trolley drive

Capacities 1.500 - 24.000 kg

#### VNRG with geared trolley drive

Capacities 1.500 - 24.000 kg

On account of a special chain reeving system and corresponding chain guide the trolley hoist series VNR offers minimum headroom and maximum usage of the available room height. These hoists have been specially designed for heavy industrial applications.

#### Workmanship and features

- All-steel construction with zinc-plated load and hand chains.
- All units are built to order for a predetermined beam dimension. They cannot be adjusted retroactively to other beam sizes.
- Anti-drop devices and anti-tilt devices are standard features.

#### Optional equipment

- Rubber buffers available on request.
- Chain containers



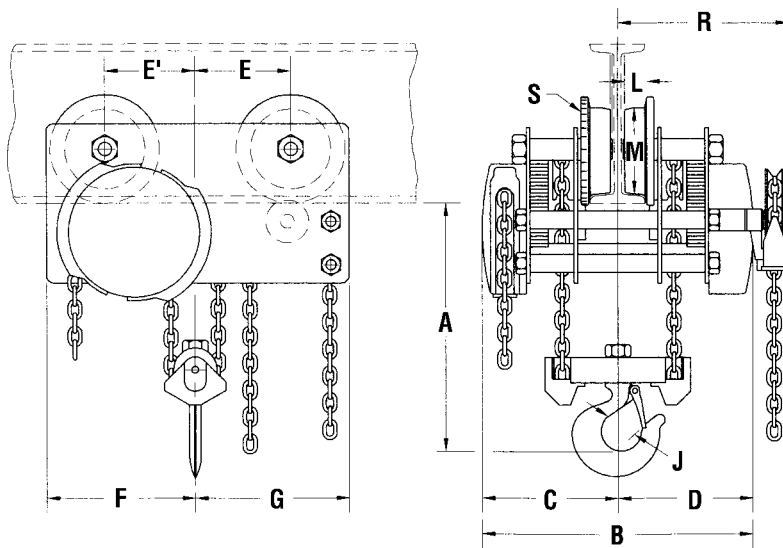
### Technical data

Model	Capacity kg	Lowest headroom hook dim. A mm	Min. radius curve mm	Pull on hand chain at WLL daN	Net weight	
					VNRP kg	VNRG kg
VNRP/G	1500	159	1982	19	95	105
VNRP/G	2000	159	1982	25	96	107
VNRP/G	3000	159	1982	20	140	153
VNRP/G	4000	203	2287	26	141	156
VNRP/G	5000	222	2592	36	263	290
VNRP/G	6000	222	2592	43	263	290
VNRP/G	8000	279	2897	30	298	354
VNRP/G	10000	292	3050	40	469	507
VNRP/G	12000	292	*	47	469	507
VNRP/G	16000	346	*	31	734	771
VNRP/G	20000	438	*	40	895	968
VNRP/G	24000	438	*	47	895	968

\*For capacities over 10 t we recommend use only on straight beams.

### Dimensions

Capacity kg	A	B	C	D	E	E'	F	G	J	L	M	R	S
kg	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1500	159	518	259	259	130	130	222	210	29	29	114	332	152
2000	159	518	259	259	130	130	222	210	29	29	114	332	152
3000	159	518	259	259	168	168	270	270	34	34	162	332	203
4000	203	518	259	259	168	168	270	270	34	34	162	332	203
5000	222	667	333	333	187	187	305	305	34	36	183	419	229
6000	222	667	333	333	187	187	305	305	34	36	183	419	229
8000	279	667	333	333	225	225	356	343	52	43	210	419	254
10000	292	667	333	333	216	248	397	365	57	44	248	419	297
12000	292	667	333	333	216	248	397	365	57	44	248	419	297
16000	346	772	386	386	302	302	473	473	76	51	298	477	343
20000	438	772	386	386	308	314	489	483	92	51	298	468	343
24000	438	772	386	386	308	314	489	483	92	51	298	468	343



**Beam profile and dimension as well as curve radius must always be specified when ordering.**