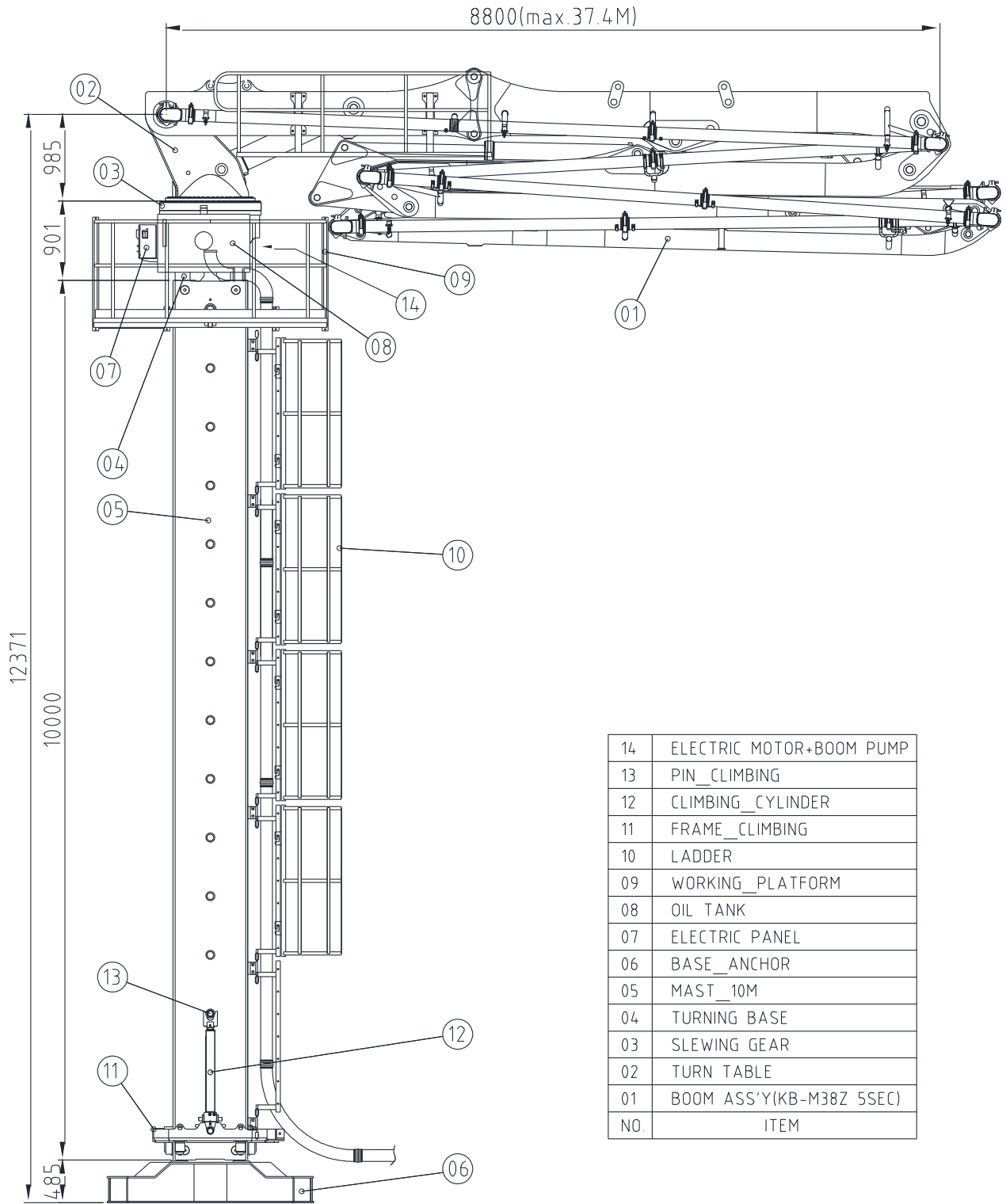


## KB-M38Z5

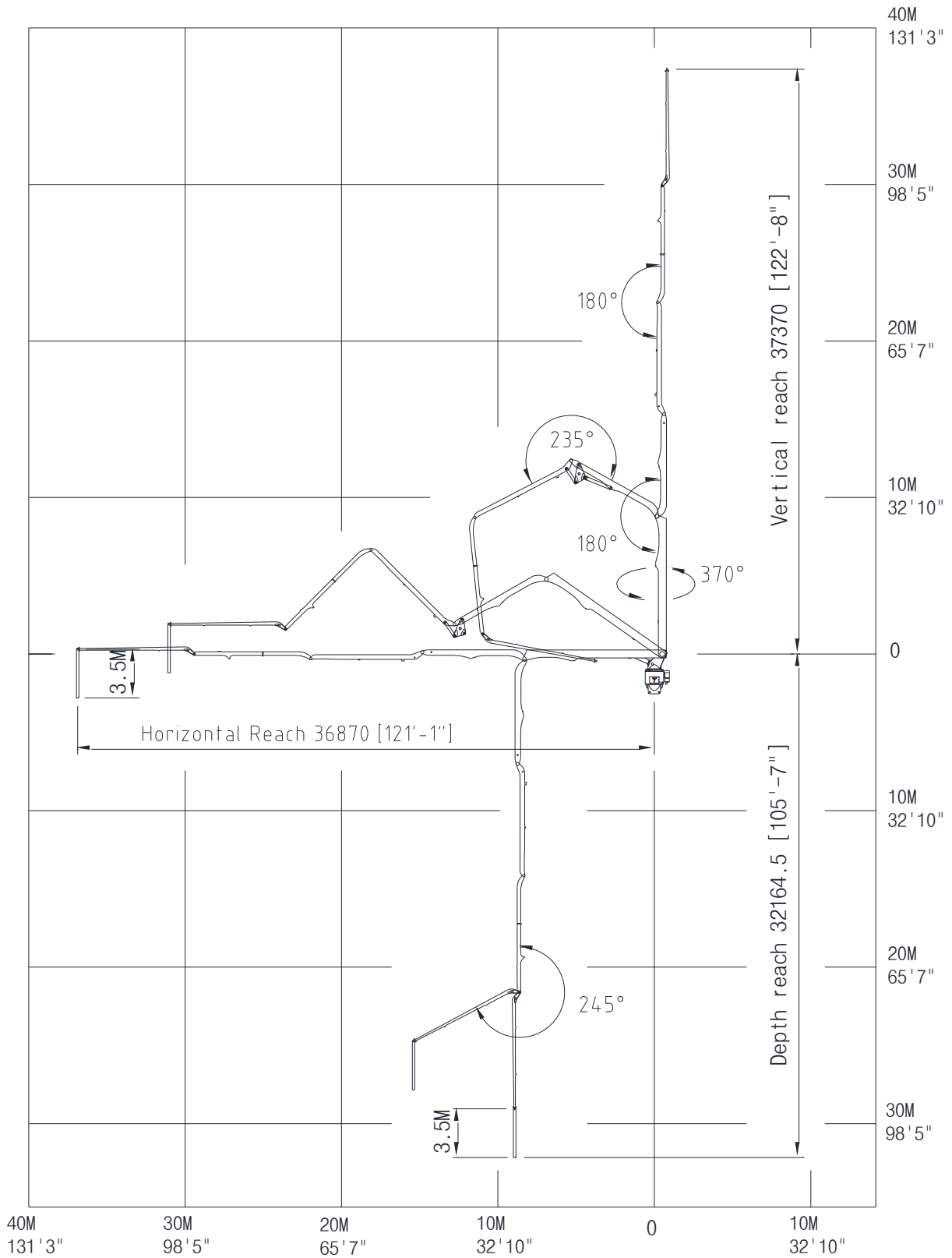
## Placing Boom System \_ Layout



14	ELECTRIC MOTOR+BOOM PUMP
13	PIN_CLIMBING
12	CLIMBING_CYLINDER
11	FRAME_CLIMBING
10	LADDER
09	WORKING_PLATFORM
08	OIL TANK
07	ELECTRIC PANEL
06	BASE_ANCHOR
05	MAST_10M
04	TURNING BASE
03	SLEWING GEAR
02	TURN TABLE
01	BOOM ASS'Y(KB-M38Z 5SEC)
NO.	ITEM

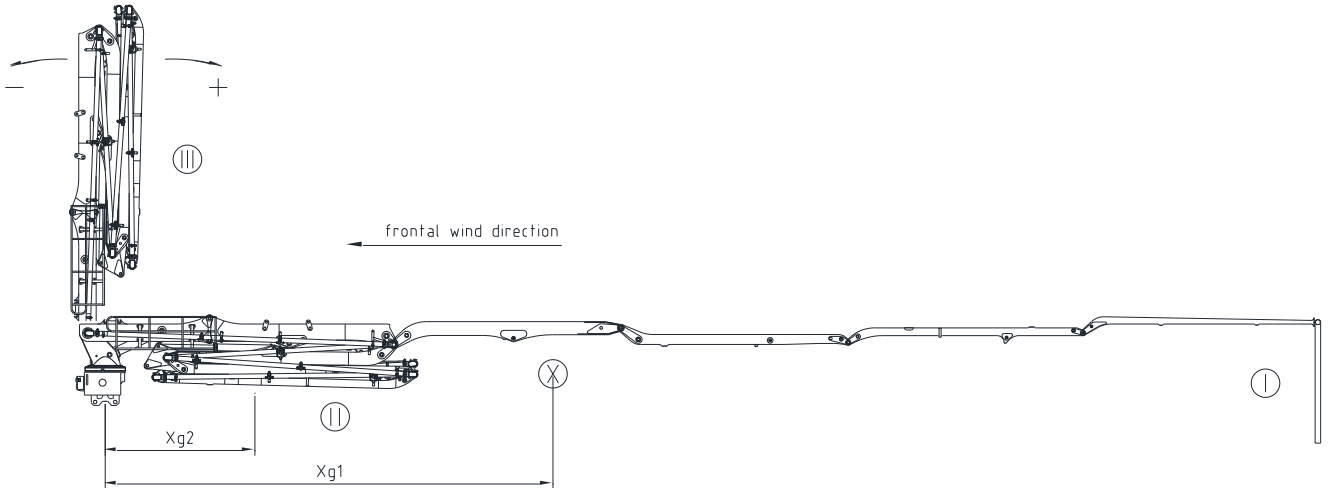
## KB-M38Z5

## Placing Boom System Working \_ Working diagram



## KB-M38Z5

## Placing Boom System Technical data



### MOMENT [KNm]

Position of boom	Moment(boom side) → +
I with concrete in pipe-line	→ 1,110 KNm
II without concrete in pipe-line	→ 341 KNm
III without concrete in pipe-line	→ 1.9 KNm

### Total weight [kg]– boom, table, base(with oil), motor, pump, (+concrete)

In operation	10,210 kg	Out of operation	9,060 kg
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### Wind-exposed areas [ m<sup>2</sup> ]

Position of boom	Wind-exposed area	Center of gravity distance	remark
I	18.6 m <sup>2</sup> boom-side	Xg1 = 11.1 m	Wind surface perpendicular to frontal wind
II	18.6 m <sup>2</sup> boom-side	Xg2 = 4.5 m	
I/II	7.2 m <sup>2</sup>	Ys = 0.6 m	Exposed area in frontal wind
III	17.1 m <sup>2</sup>	Ys = 5.4 m	

Comment : lateral thrust due to wind is calculated according to DIN 1055

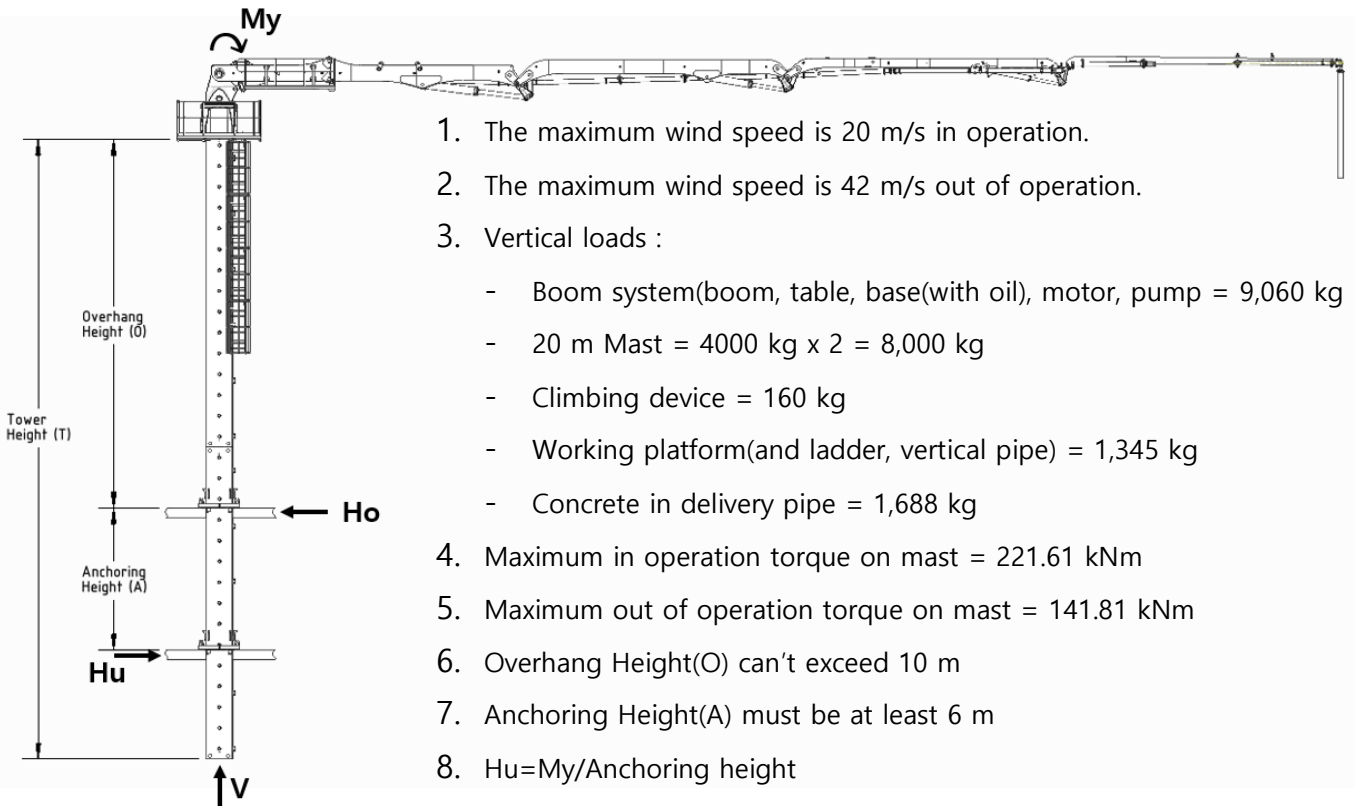
Absolute altitude [m]	0~8	8~20	20~100	Above 100
W [N/m <sup>2</sup> ]	800	1,280	1,760	2,080

$$F = W \times A$$

F : wind force	W : lateral thrust due to wind	A : wind surface area
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## KB-M38Z5

## Placing Boom System Technical data (Floor type)



1. The maximum wind speed is 20 m/s in operation.
2. The maximum wind speed is 42 m/s out of operation.
3. Vertical loads :
  - Boom system(boom, table, base(with oil), motor, pump = 9,060 kg
  - 20 m Mast = 4000 kg x 2 = 8,000 kg
  - Climbing device = 160 kg
  - Working platform(and ladder, vertical pipe) = 1,345 kg
  - Concrete in delivery pipe = 1,688 kg
4. Maximum in operation torque on mast = 221.61 kNm
5. Maximum out of operation torque on mast = 141.81 kNm
6. Overhang Height(O) can't exceed 10 m
7. Anchoring Height(A) must be at least 6 m
8.  $H_u = My / \text{Anchoring height}$
9.  $H_o = H_u + \text{wind load}$

### Maximum Anchoring load in operation

Anchoring Height [m]	6	7	8	9	10	11	12	13	14	15	16
$H_o$ [kN]	259	233	213	197	185	175	166	159	153	148	143

### Maximum Anchoring load out of operation

Overhang Height [m]	6	6.5	7	7.5	8	8.5	9	9.5	10
$H_o$ [kN]	175	182	189	197	204	212	220	227	235

### Maximum Vertical load in operation

Tower Height [m]	6	8	10	12	14	16	18	20
V [kN]	153.8	171.4	168.6	189.4	195.2	204.3	221.9	219.1

### Maximum Vertical load out of operation

Tower Height [m]	6	8	10	12	14	16	18	20
V [kN]	139.4	156.5	153.0	173.2	178.4	186.8	203.8	200.3

### Maximum loads in operation

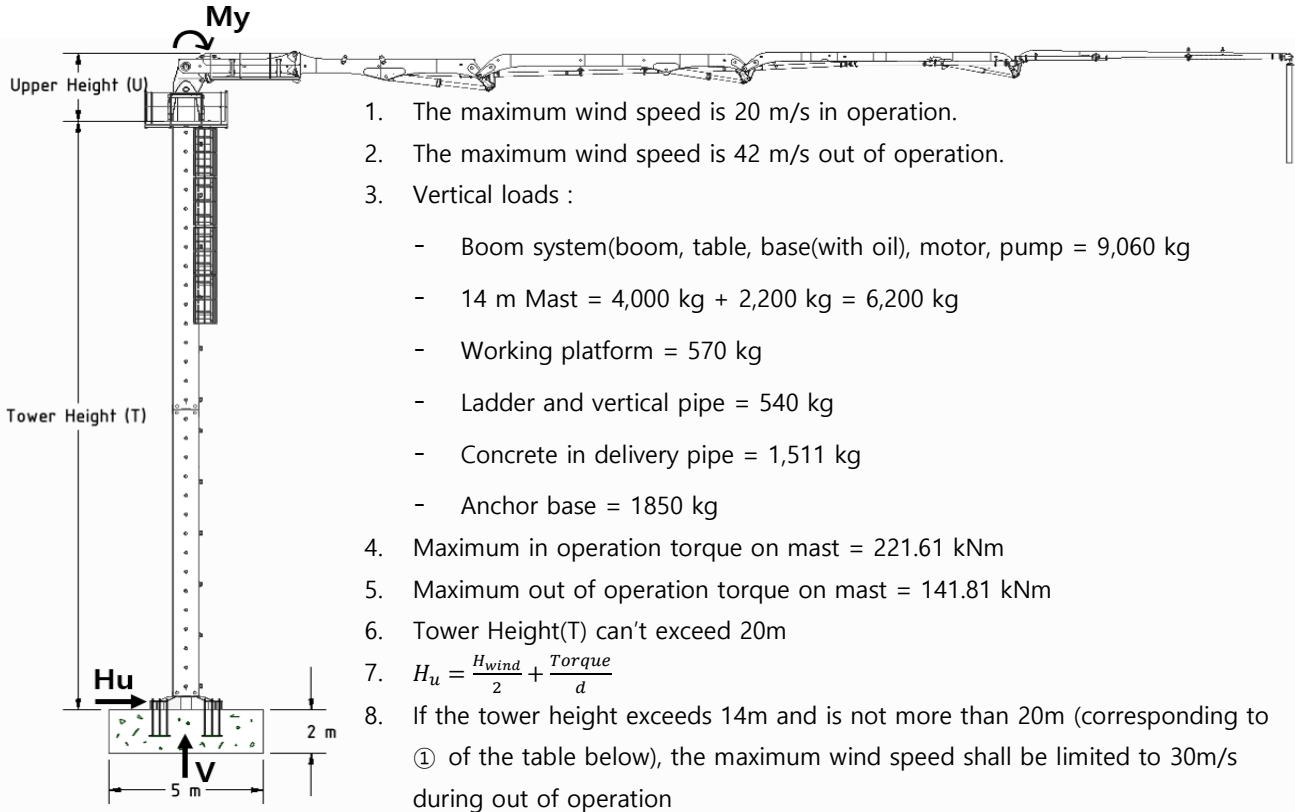
Overhang Height [m]	6	6.5	7	7.5	8	8.5	9	9.5	10
Overturn Moment [kNm]	1139.4	1142.5	1145.8	1149.2	1152.7	1156.3	1160.1	1164.0	1168.0

### Maximum loads out of operation

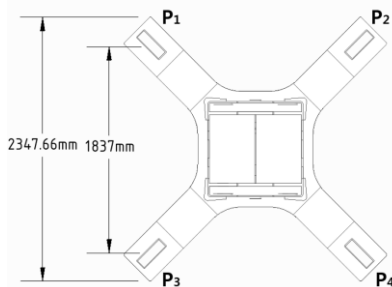
Overhang Height [m]	6	6.5	7	7.5	8	8.5	9	9.5	10
Overturn Moment [kNm]	629.0	664.2	700	736.5	773.6	811.4	849.9	889.0	928.0

## KB-M38Z5

## Placing Boom System Technical data (Anchor type)



Maximum loads in operation	Tower Height [m]								
	4	6	8	10	12	14	16	18	20
Total vertical load [kN]	163.0	172.0	189.6	186.8	207.7	213.5	222.5	240.1	237.3
Overturm Moment [kNm]	1128.2	1139.4	1152.7	1168.0	1185.3	1204.7	1226.2	1249.7	1275.2
Horizontal load [kN]	48.8	49.3	49.8	50.3	50.8	51.3	51.9	52.4	52.9
Maximum loads out of operation	Tower Height [m]								
	4	6	8	10	12	14	16	18	20
Total vertical load [kN]	149.3	157.7	174.7	171.2	191.5	196.6	205.0	222.0	218.5
Overturm Moment [kNm]	472.4	606.3	750.9	906.2	1072.0	1248.5	993.9	1130.8	1275.0
Horizontal load [kN]	13.4	16.0	18.7	21.3	24.0	26.6	29.3	32.0	34.6

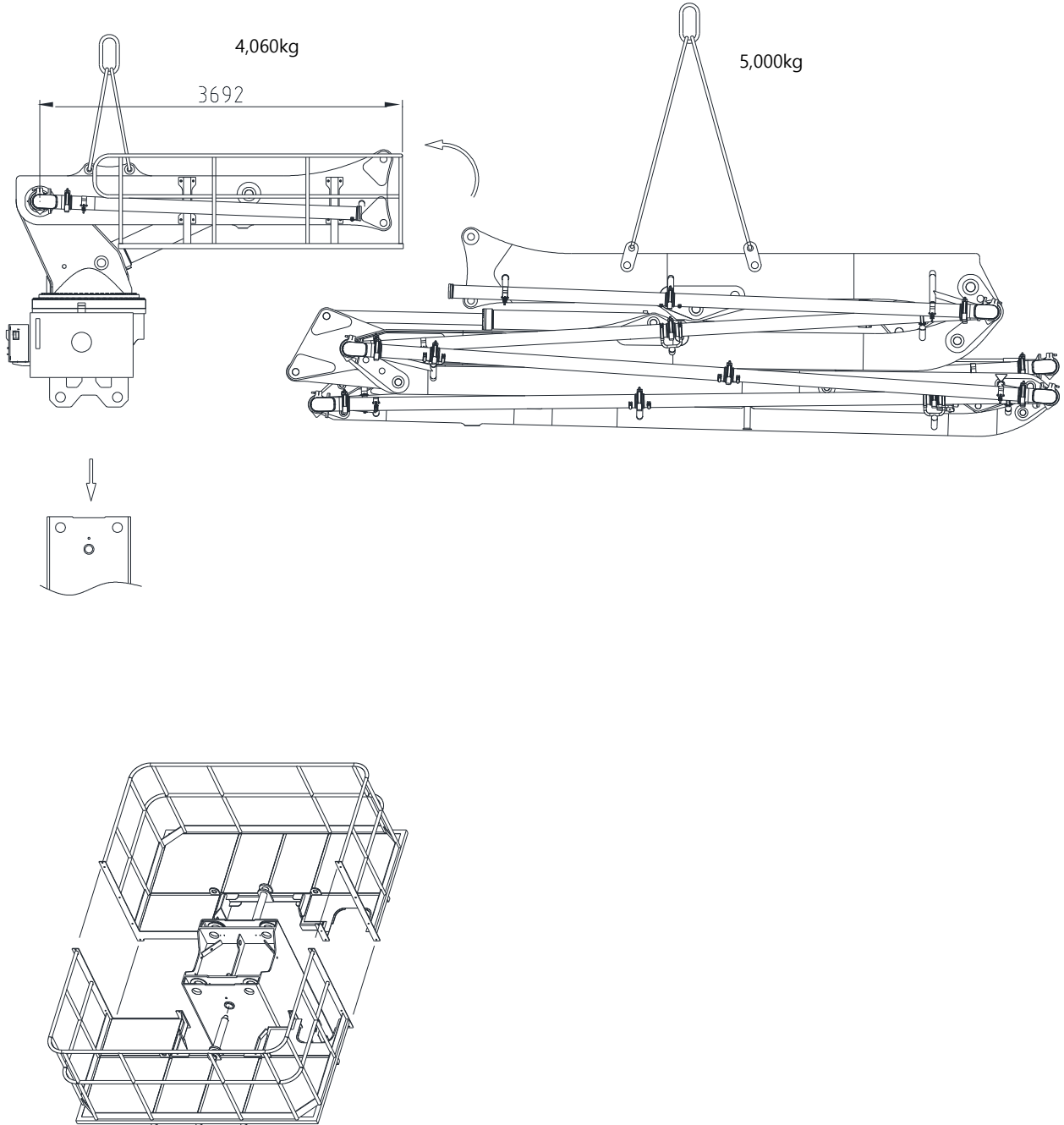


	Corner loads at max load condition			
	P1	P2	P3	P4
Max Load [kN]	-628.4	-101.7	137.6	730.1

● Negative loads are tension load.

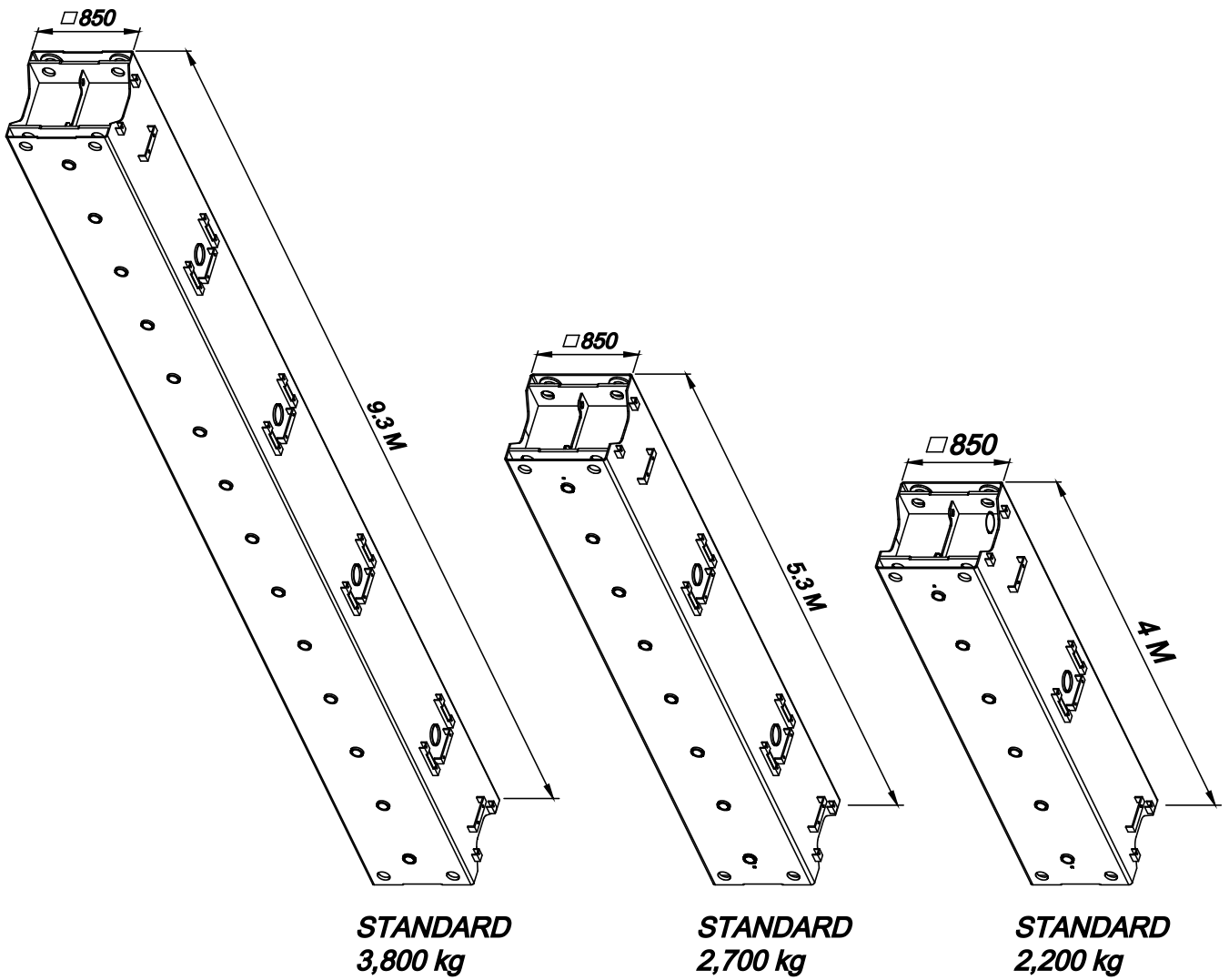
## KB-M38Z5

### PLACING BOOM SYSTEM ----- [ BOOM ASS'Y & UPPER PARTS ]



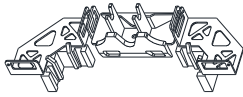
## KB-M38Z5

### PLACING BOOM SYSTEM ----- [ MAST ]

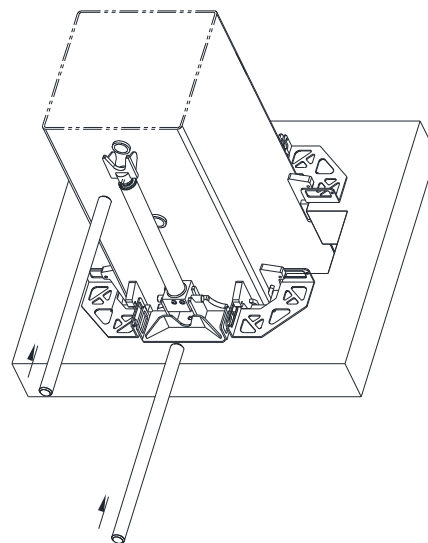
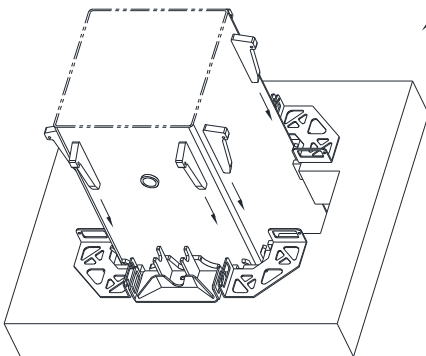
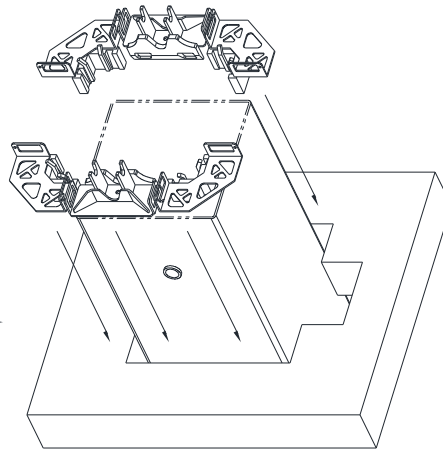
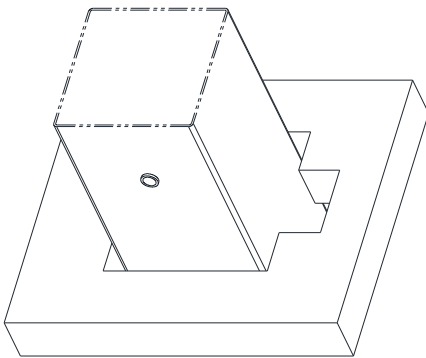
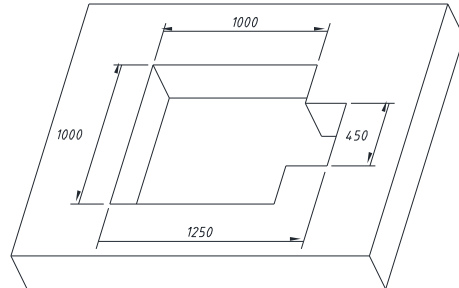


## KB-M38Z5

### PLACING BOOM SYSTEM ----- [ FRAME \_ CLIMBING, CLIMBING\_CYLINDER ]



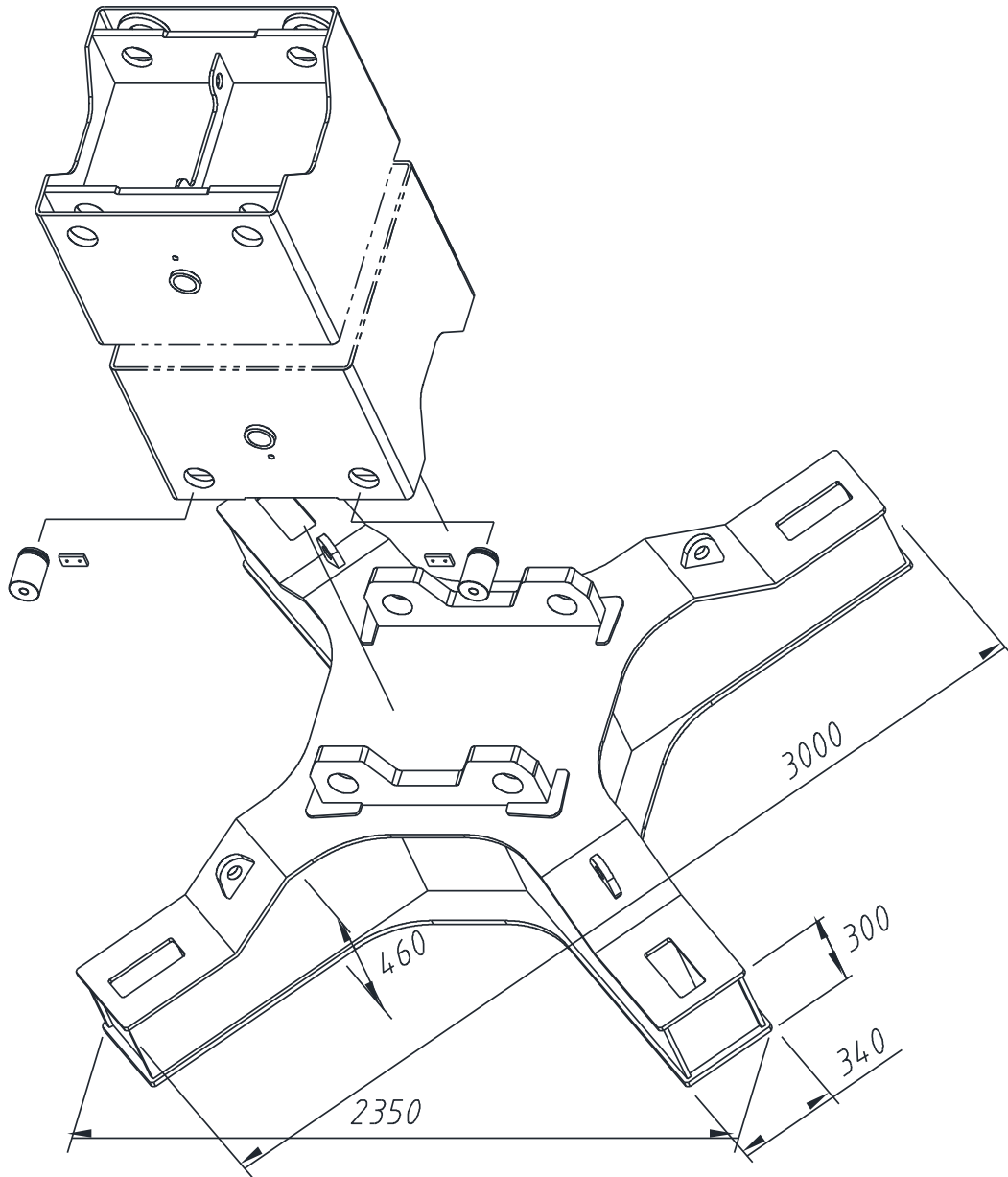
WEDGE BLOCK  
CLIMBING SHOE  
TOTAL : 160 kg





## KB-M38Z5

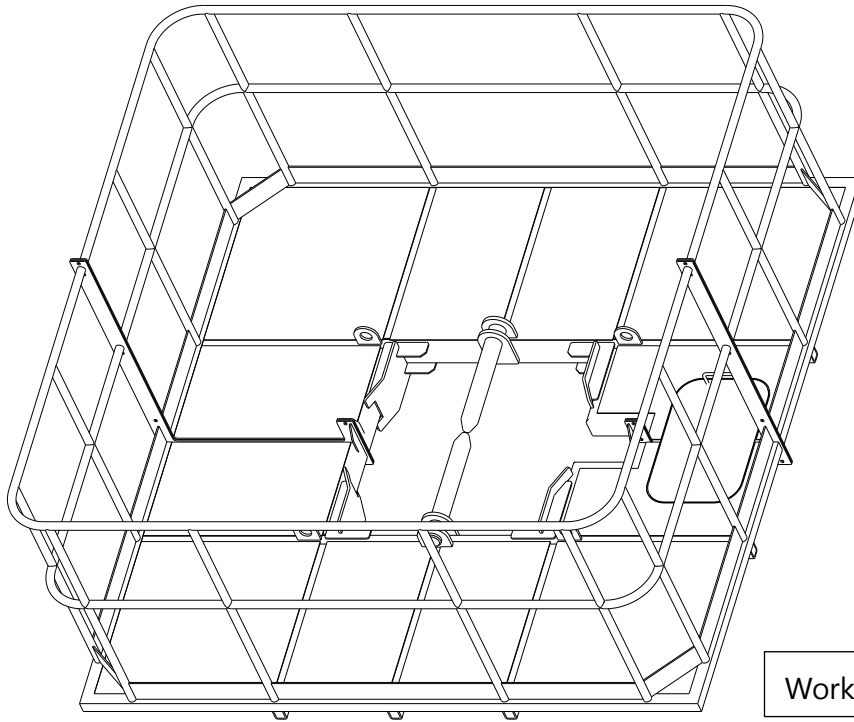
### PLACING BOOM SYSTEM ----- [ BASE\_ANCHOR ]



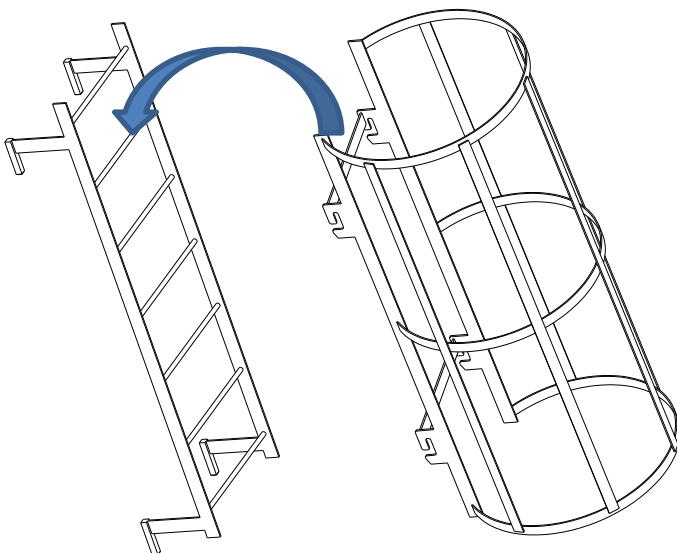
*BASE ANCHOR  
1,850 kg*

## KB-M38Z5

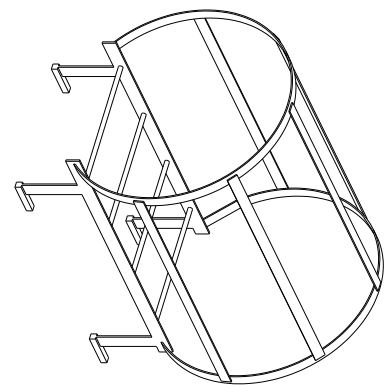
### PLACING BOOM SYSTEM ----- [ WORKING PLATFORM & LADDER ]



Working platform : 570 KG

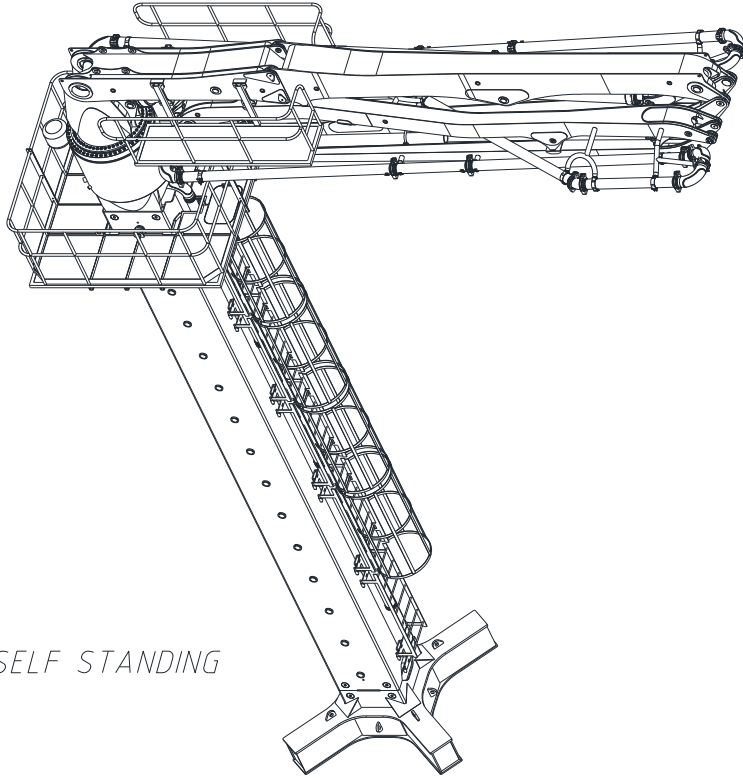


Ladder(STD) : 20kg+30kg = 50kg

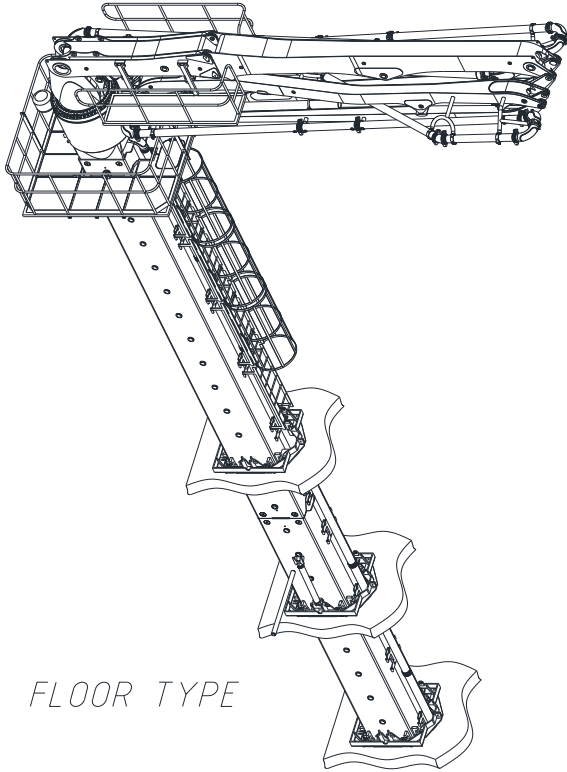


Ladder(OPT): 25kg

## KB-M38Z5 TYPE



*SELF STANDING*



*FLOOR TYPE*