



■ **BALANCE CHAIN
AND ACCESSORIES**



- > Balance Chain
- > Balance Chain Roller
- > Installation Kit
- > U - Bolt

- > Angle Bracket
- > Shackle
- > Swivel

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G-Flex which is a Güven Çelik Halat brand, is a balance chain which is produced utilizing the method of coating the high quality electric arc - welded chain with liquid PVC. G-Flex which is used in elevator systems, safely performs the duty of balancing the rope weight while moving upwards and downwards along the cabin space shaft.

WHY G-FLEX?

Especially, when high rise elevators (generally exceeding 30 meters and up to 3,5 mt/sec speed) are concerned, due to the weight of suspension ropes and travelling cables.

Balance chain;

- The rope tension on driving sheave fluctuates
- The load on the sheave and motor is varying.

Compensation chains are mainly used;

- To minimize rope tension fluctuations on driving sheave and
- To make constant the load applied on to the sheave and the motor regardless of car position.

Indeed, as a brief expression, compensation chains are used to balance the dynamic load varying of elevators which is caused by suspension ropes weight.



G-FLEX

ELEVATOR BALANCE CHAIN

Model	Weight (kg/m)	Outside Diameter (mm)	Loop Diameter (mm)	Chain Diameter (mm)	Breaking Load (kN)	Max. Suspension Length (m)
GF075	1,12 ±0,20	24,8 ±2,33	618	6,3 ±0,30	≥ 13,63	148
GF100	1,69 ±0,20	27,8 ±2,33	618	6,3 ±0,30	≥ 13,63	160
GF125	1,86 ±0,20	33,8 ±2,33	618	7,0 ±0,50	≥ 18,13	167
GF150	2,24 ±0,20	35,8 ±2,33	618	7,8 ±0,50	≥ 23,68	178
GF175	2,63 ±0,20	39,8 ±2,33	660	8,5 ±0,50	≥ 23,97	148
GF200	2,98 ±0,20	39,8 ±2,33	660	9,0 ±0,50	≥ 26,97	148
GF250	3,73 ±0,20	42,8 ±2,33	660	10,0 ±0,50	≥ 37,00	147
GF300	4,07 ±0,20	44,8 ±2,74	660	11,0 ±0,50	≥ 44,71	158
GF350	5,22 ±0,20	48,8 ±2,83	690	12,0 ±0,50	≥ 52,28	158
GF400	6,96 ±0,20	52,2 ±2,93	690	13,0 ±0,50	≥ 62,53	158



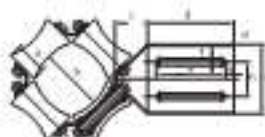
WHAT ARE THE BENEFITS OF G-FLEX?

- Balanced rope tension on sheave,
- Constant load on sheave and motor,
- Avoiding from dangerous cases might result because of excessive traction force differentiations,
- Easy installation-opportunity for more precise and smooth elevator,
- Opportunity to use low torque motor i.e. low cost of motor and energy and smaller room need,
- Noiseless,
- Cheap and simple installation.



BALANCE CHAIN ROLLER

- ★ Quirebit consists of periklet plastic reels
- ★ Its use reduce vibration
- ★ It moves along with chain during use and eliminates friction,
- ★ Its gapless structure prevents jamming



a	b	c	d	e	f	g	h	i
57,0	100	59,0	150	120	12,0	75,0	60,0	120



ANGLE BRACKET

It used to install the balance chain rod on the wall. It has a fixing equipment with adjustable ports on it.



GRIP

- ★ It's the connection link that allow the installation kit to be connected under the elevator cables.

Chain Code	Installation Kit
SF 075	Installation Kit - 1,12 kg/m
SF 100	Installation Kit - 1,37 kg/m
SF 125	Installation Kit - 1,88 kg/m
SF 150	Installation Kit - 2,24 kg/m
SF 200	Installation Kit - 2,63 kg/m
SF 250	Installation Kit - 2,98 kg/m
SF 300	Installation Kit - 4,47 kg/m
SF 350	Installation Kit - 5,22 kg/m
SF 400	Installation Kit - 5,95 kg/m

BALANCE CHAIN AND ACCESSORIES



U - BOLT

U-bolt is a connection element that allows the mounting kit to be connected under the cabinet.



SHACKLE

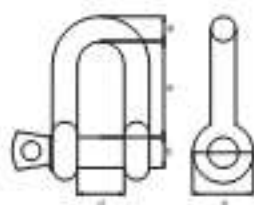
Shackle is a connection element that allows the mounting kit to be connected under the cabinet.

- ★ One set consists of 1 piece grip, 3 pieces U - Bolt and 1 shackle.

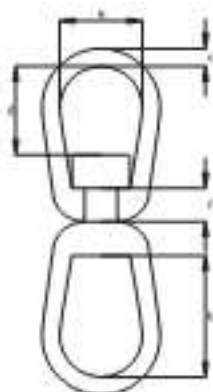


SHACKLE - U TYPE

- ★ Mild steel and untreated.
- ★ Class grade 3.
- ★ Not to be used for lifting applications.
- ★ Electro-galvanized coating.



a mm	b mm	c mm	d mm	e mm	Weight kg
5,00	5,00	10,0	10,0	20,0	1,40
6,00	6,00	12,0	12,0	24,0	2,70
8,00	8,00	16,0	16,0	32,0	5,20
10,0	10,0	20,0	20,0	40,0	11,0
11,0	11,0	22,0	22,0	44,0	14,0
12,0	12,0	24,0	24,0	48,0	20,0
14,0	14,0	28,0	28,0	56,0	29,0
16,0	16,0	32,0	32,0	64,0	42,0



EYE - EYE SWIVEL

Diameter mm	Working Load kg	a mm	b mm	d mm	e mm	f mm
17	2,30	60,0	17,0	44,0	39,0	20,0
21	3,20	74,0	21,0	49,0	30,0	22,0
25	5,40	81,0	25,0	53,0	40,0	25,0
27	6,00	92,0	27,0	60,0	42,0	30,0
35	11,5	105	35,0	67,0	79,0	40,0
39	16,0	115	39,0	67,0	77,0	42,0
44	22,0	130	44,0	91,0	127	48,0
52	30,0	145	52,0	102	128	55,0

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HOW TO INSTALL?

Generally compensation chains are installed in a way that one end is attached to the bottom of the car frame and the other end by passing through the chain roller guide which is at the bottom of the well and then fixed to the bottom of the counterweight frame. During installation, it should be provided that compensation chain will run with its natural bending loop diameter. Otherwise if the installation bending loop diameter is bigger than the natural one, this will cause while elevator runs the chain will weave.

In this case, because of weaving the chain might hang out to other parts inside the well and then naturally might harm them. As a result may damage the overall operation of the system. Therefore, fixing point of the compensation chain should be the point where the natural loop matches. This is highly important for the run of the elevator in a safe way.

When you fixed compensation chain according to its natural loop, the one end of the chain fixed to the car bottom frame might be at the edge. This might result in distortion of the alignment of the car. In such a case, car should be aligned. Elevator manufacturers sometimes by placing some additional hanging stable weights to car frame bottom or by other methods but should set the needed compensation.

