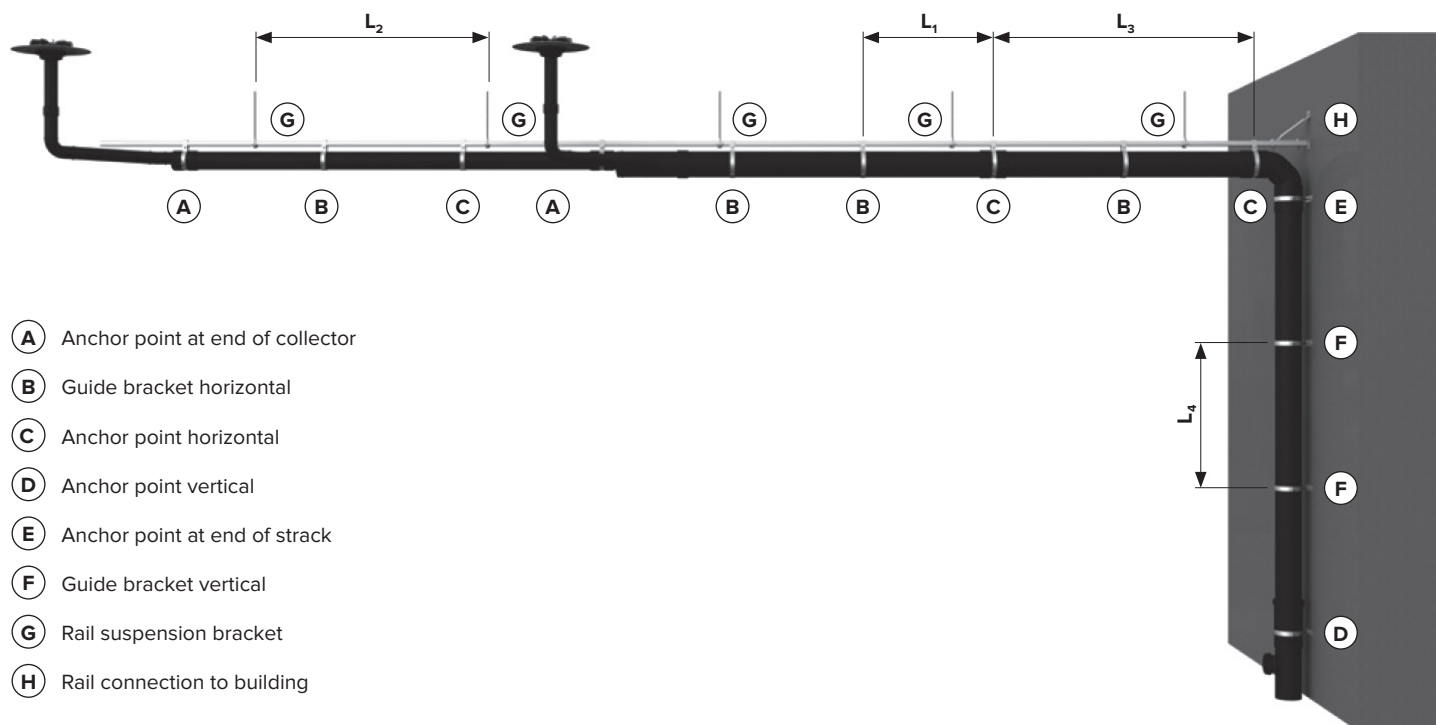


INSTALLATION INSTRUCTIONS

AKASISON FIXING SYSTEM



- (A) Anchor point at end of collector
- (B) Guide bracket horizontal
- (C) Anchor point horizontal
- (D) Anchor point vertical
- (E) Anchor point at end of strack
- (F) Guide bracket vertical
- (G) Rail suspension bracket
- (H) Rail connection to building

Diameter (d _p) Pipe (mm)	Rail (mm)	Max. guide bracket distance Horizontal L ₁ (m)	Max. distance rail suspension L ₂ (m)	Max. anchor point bracket distance L ₃ (m)	Max. guide bracket distance Vertical L ₄ (m)
40	30 x 30	0,85	2,50	5,00	1,00
50	30 x 30	0,85	2,50	5,00	1,00
56	30 x 30	0,85	2,50	5,00	1,00
63	30 x 30	0,85	2,50	5,00	1,00
75	30 x 30	0,85	2,50	5,00	1,25
90	30 x 30	0,85	2,50	5,00	1,25
110	30 x 30	1,00	2,50	5,00	1,65
125	30 x 30	1,25	2,50	5,00	1,65
160	30 x 30	1,65	2,00	5,00	2,50
200	30 x 30	1,65	1,65	5,00	2,50
250	41 x 41	1,65	1,65	5,00	2,50
315	41 x 41	1,65	1,65	5,00	2,50

ANCHOR POINT BRACKET DISTANCES

For each pipe diameter an anchor point has to be placed at every 5 m horizontal pipe section. Anchor points have to be installed in these locations:

- ! - every 5 m horizontal pipe section
- at the beginning and end of the collector
- before every branch 45°
- before every change of direction

The distance of the rail suspension brackets must be coordinated with the possible points of roof loads. Possibly smaller distances are required.

BUILDING CONNECTIONS

The rail must be fixed to the building construction at:

- ! - the beginning and end of each horizontal pipe section
- every 12 m of each horizontal pipe section
- a horizontal direction change
- a wall-interruption at both sides of the wall
- a vertical direction change

The distance of the rail suspension (L₂) not to be exceeded. Depending on the roof construction, it may be necessary to reduce the distance between the fastenings.



The results loads on the building construction should be authorised by responsible building engineer before work starts.

Total weight of each pipe dimensions, including full-filling and fixing material (see table below)

d1 (mm)	40	50	56	63	75	90	110	125	160	200	250	315
G (kg/m)	2,9	3,7	4,2	4,8	6,2	8,1	11,2	14,0	21,8	33,3	51,9	81,0
F (kg/T)	7,4	9,1	10,4	12,1	15,4	20,3	28,1	35,0	43,7	55,0	85,7	133,7

G = weight of pipe filled including fasteners

F = resultant weight / load per suspension point at max. intervals

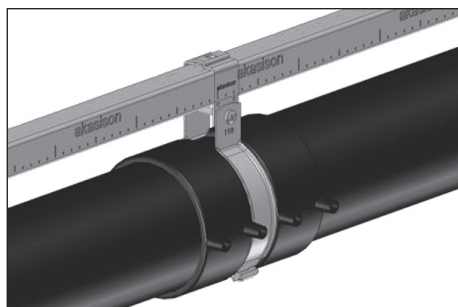
The adjusted rail suspension spacing (L_2) as a function of the approved towing capacity can be found in the table below.

d ₁ (mm)	15 kg/m ² L ₂ (m)	20 kg/m ² L ₂ (m)	25 kg/m ² L ₂ (m)	30 kg/m ² L ₂ (m)	35 kg/m ² L ₂ (m)	40 kg/m ² L ₂ (m)	45 kg/m ² L ₂ (m)	50 kg/m ² L ₂ (m)
40	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
50	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
56	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
63	2,50	2,50	2,50	2,50	2,50	2,50	2,50	2,50
75	2,40	2,50	2,50	2,50	2,50	2,50	2,50	2,50
90	1,80	2,50	2,50	2,50	2,50	2,50	2,50	2,50
110	1,30	1,80	2,20	2,50	2,50	2,50	2,50	2,50
125	1,10	1,40	1,80	2,10	2,50	2,50	2,50	2,50
160	-	-	1,10	1,40	1,60	1,80	2,00	2,00
200	-	-	-	-	1,10	1,20	1,40	1,50
250	-	-	-	-	-	-	-	-
315	-	-	-	-	-	-	-	-

At L_2 distances less than 1.0 m, no standard connection to the building structure is possible. In this case, a special solution must be developed for specific projects (eg. load distribution or suspension of the drainage system of steel beams).

ANCHOR POINT INSTALLATION

Anchor points horizontally (Collector-pipe)



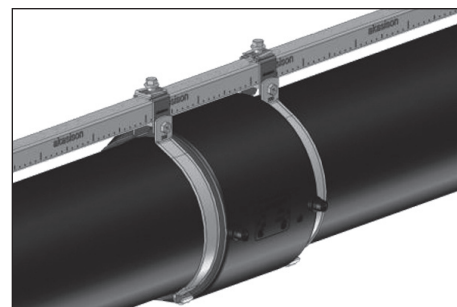
Ø 40 - 160 : Option 1

One bracket and two electrofusion couplers



Ø 40 - 160 : Option 2

Two brackets and one electrofusion coupler
(Standard options)



Ø 200 und 315

One electrofusion coupler and two brackets including anchor point set

Anchor points for dimensions 200, 250 and 315 mm are made with additional anchor point bolts. One bolt per brackets firmly fixes the bracket to the rail:

Ø 200	2x bolt	Anchor point set Art. Nr. 730025
Ø 250 und 315	2x bolt	Anchor point set Art. Nr. 730027

WALL FIXING SYSTEM FOR VERTICAL PIPE SYSTEM

Vertical pipe systems are fixed to the wall using guide brackets (M10) and anchor point brackets (½" en 1") with expansion sockets. The expansion sockets accommodate the expansion of the HDPE under influence of temperature changes. The brackets are fixed to the wall using mounting plates.