MEMO – Internal use
EasyLine

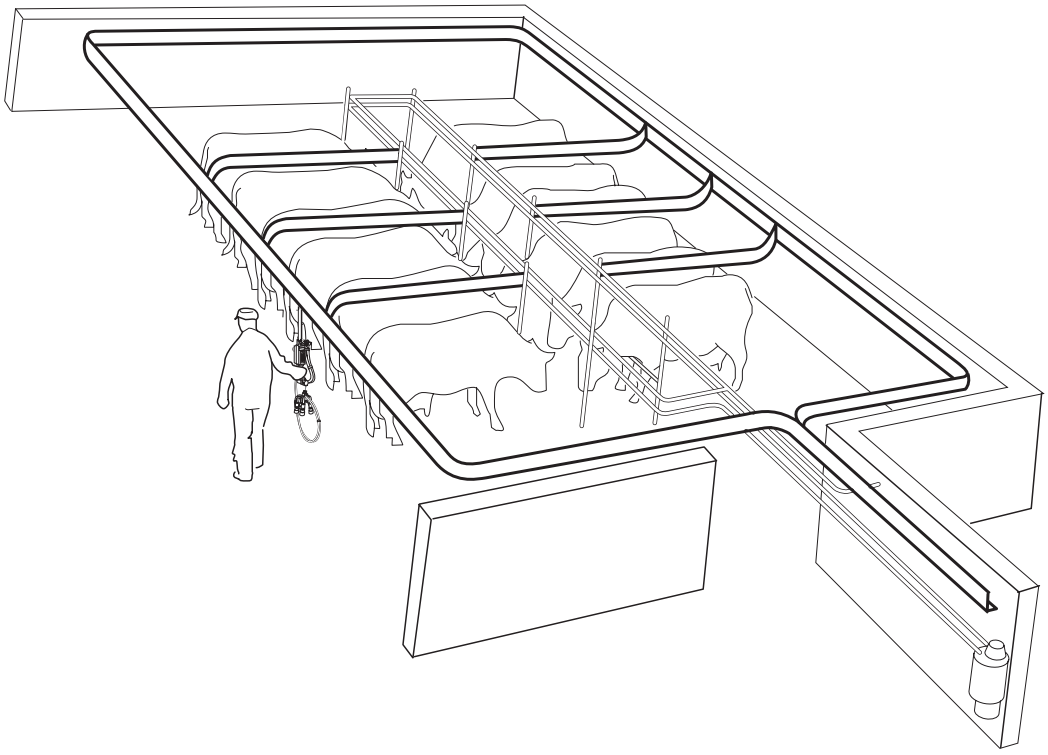
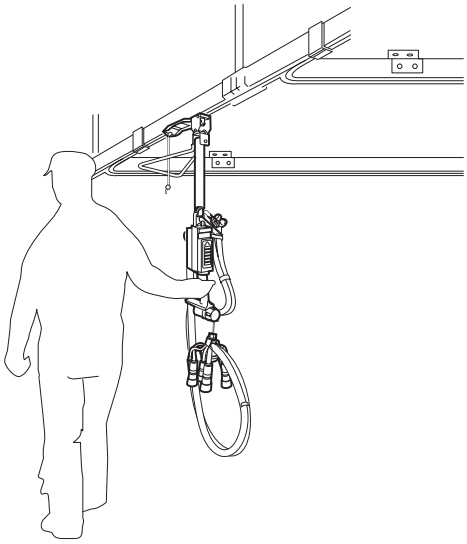


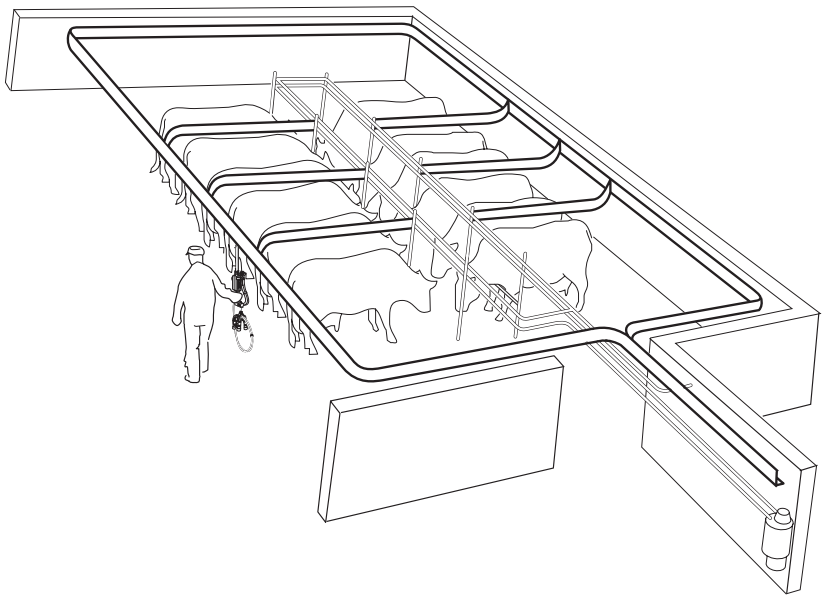
Table of contents

EasyLine

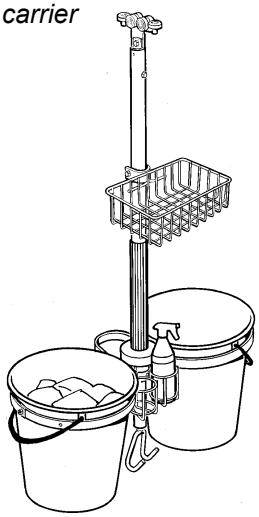


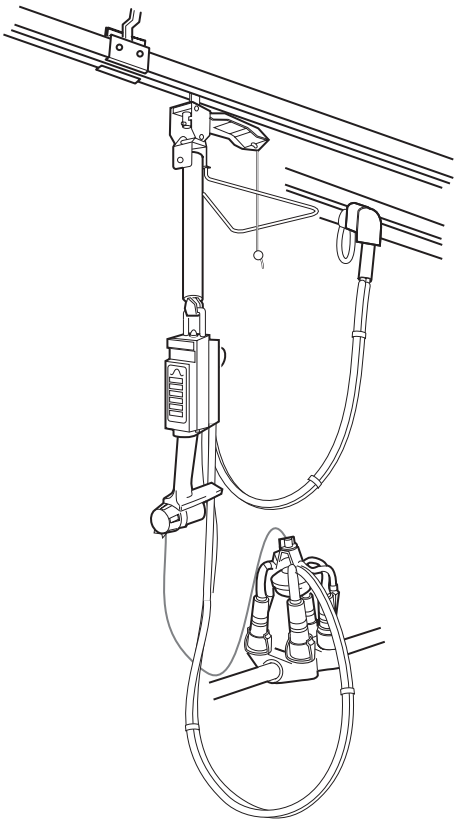
EasyLine consists of rail components and different types of carriers.

EasyLine is a rail system that makes the milker's work easier by eliminating the need to carry the milking equipment, which can be moved around instead suspended from the service rail. The rail can also be used to transport bucket carriers and hygiene carriers. No heavy lifts are needed to hitch the unit on to the milk pipe.



Hygiene carrier





Carriers

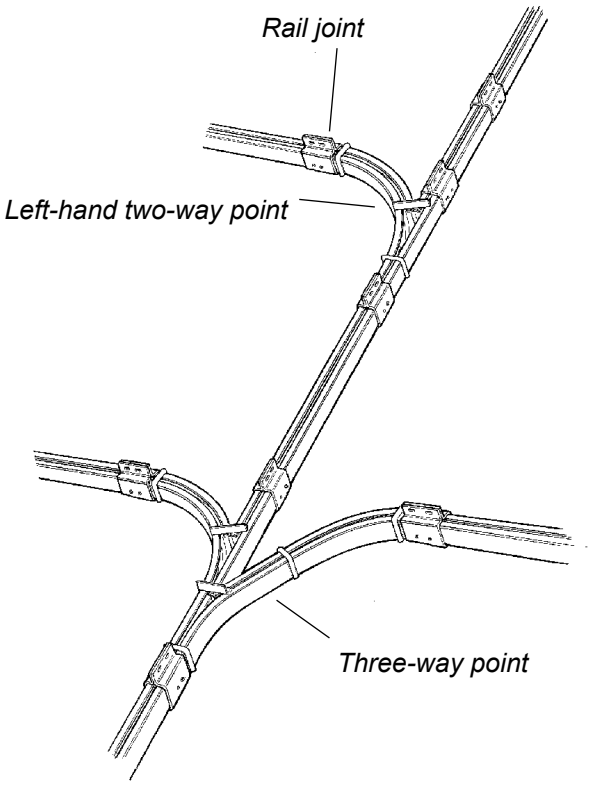
There are six different types of carriers:

- Double Milkmaster carrier
- Double Duovac carrier
- Single Milkmaster carrier
- Single Duovac carrier
- Bucket carrier
- Hygiene carrier

The carriers are pivoted and can be swung. Duovac carriers are also turnable.

Cleaning

The milking units remain hanging from the rail during cleaning and between milkings, thus eliminating all heavy lifts.



Rail System

The rails are made up of different parts:

- Straight rails
- Curves
- Points

These parts are assembled with the aid of rail joints.

Points

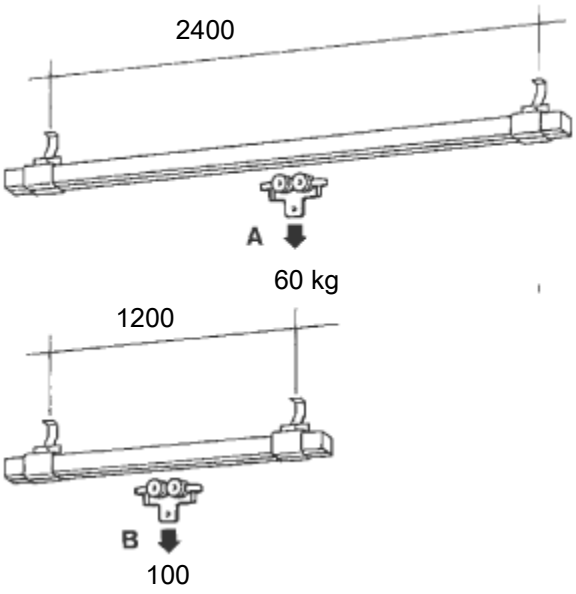
Points are of different types:

- Two-way points for left-hand or right-hand curve
- Double points
- Three-way points
- Parallel points for left-hand or right-hand curve
- Y-points.
- Twin points
- Rail openings

EasyLine

Planning

Limitations



Loads on the rails

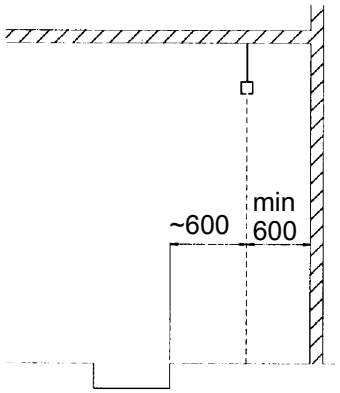
Supports should be fitted at every rail point and at the end of every side track. If the distance between the rail points and/or straight rails is more than 2400 mm, extra supports must be used.

Supports every 2400 mm

If the supports are fitted every 2400 mm, the maximum load between supports is 60 kg/bogie.

Supports every 1200 mm

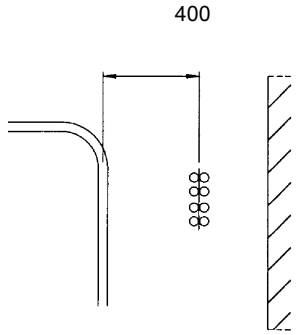
If supports are fitted every 1200 mm, the EasyLine rail can be loaded with maximum 100 kg/bogie. Supports should be fitted at every rail joint, also at every curve or point, or as close to these as possible.



Rail in the alley

The rail should be located at min 600 mm from outer walls. If possible it should also be located approx 600 mm from the manure channel. This distance can be decreased if the alley is smaller than 1200 mm or if it is provided with a grid.

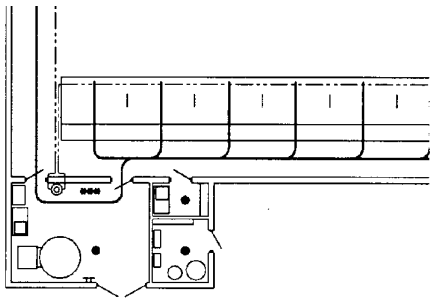
Note! *Local regulations concerning the use of the rail could also affect the location.*



Rail in milk room

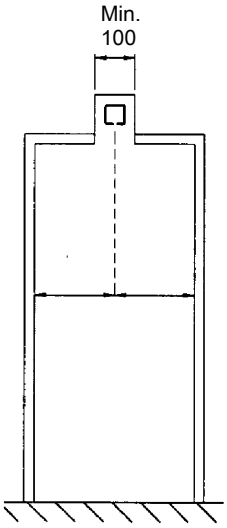
There should be sufficient space in the milk room to load a bucket or hygiene carrier.

It should be easy to attach the milking cluster to the cluster cleaner. The distance between rail and cluster cleaner should be 400 mm.



If possible

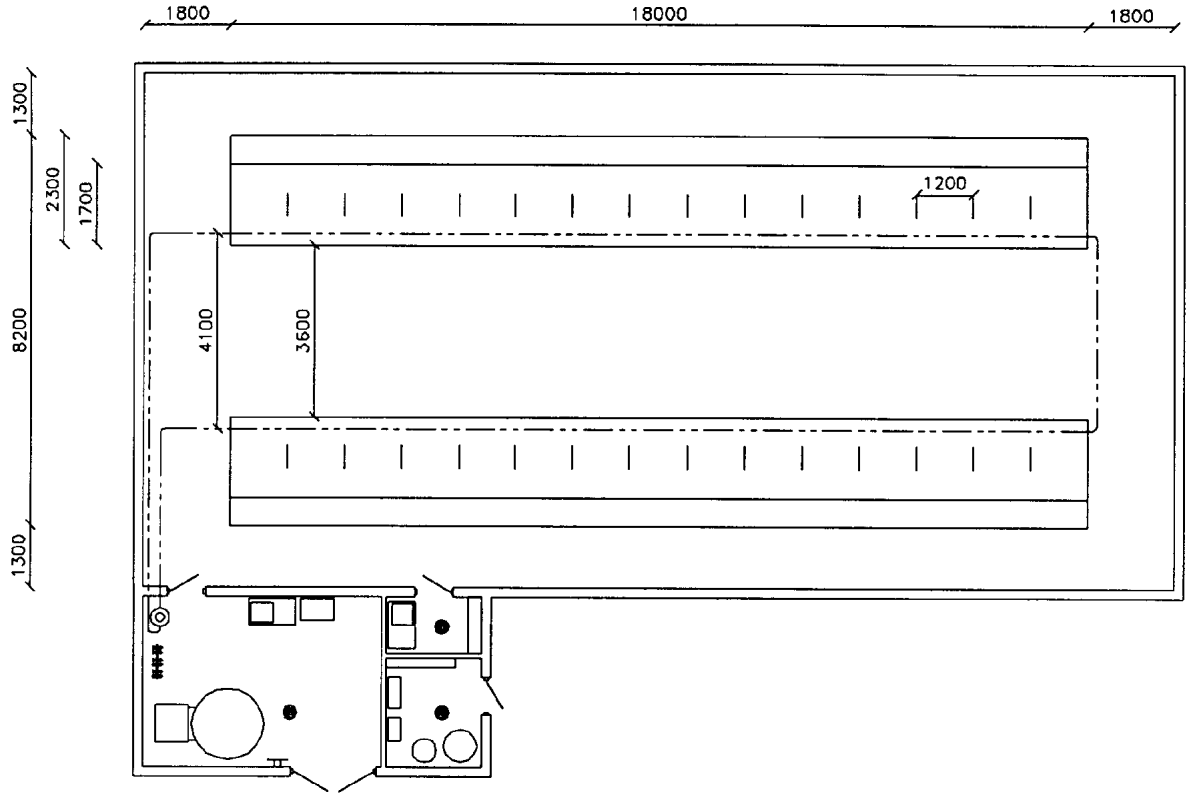
With two doors to the milk room you can avoid level curves and rail openings in the barn.

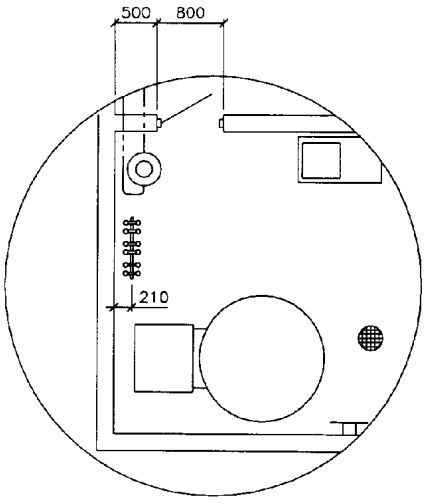


Passage through door to milk room

If the rail must pass through the door to the milk room, the doorcase may need to be opened up. In such a case the hole must be at least 100 mm wide.

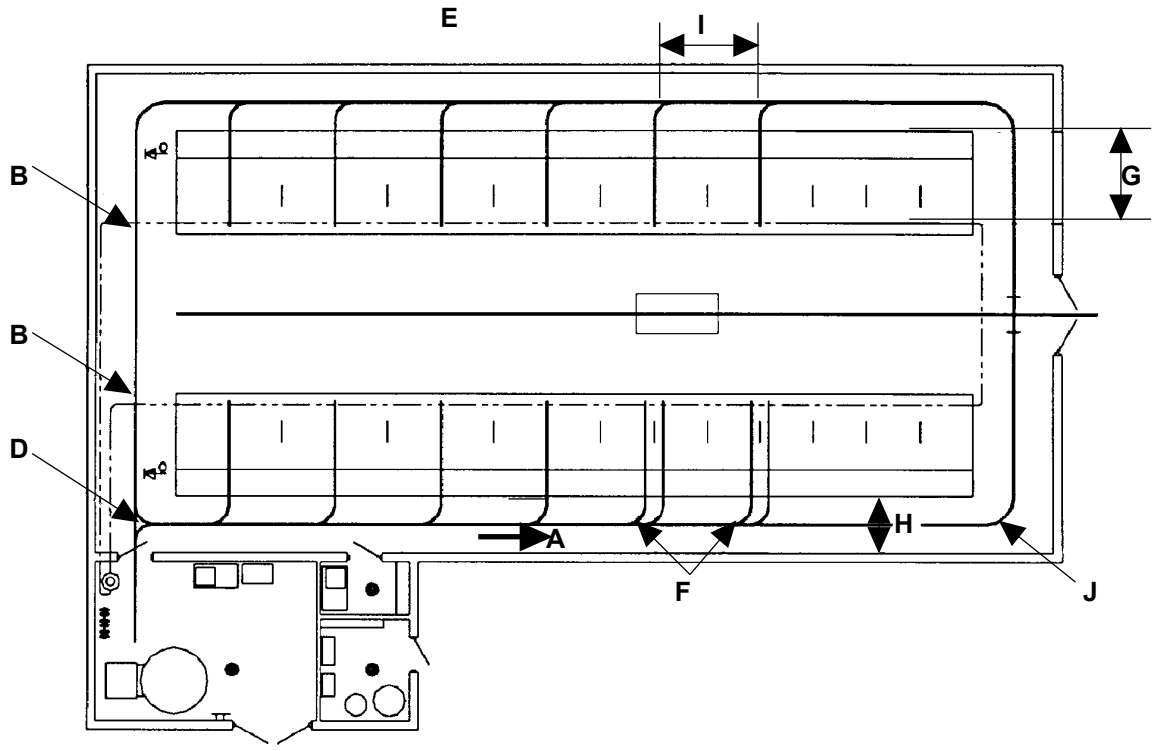
Rail layout

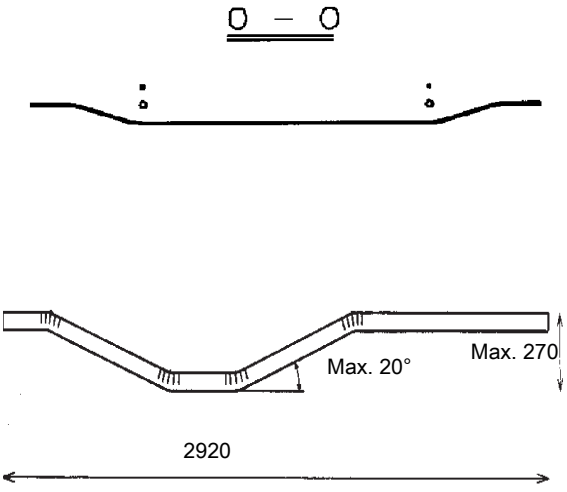




Measurements

- Make a drawing of the barn in scale, as complete as possible. Measure all that can influence the layout of the service rail,
  - doors
  - ceiling height
  - width of alleys
  - stalls
  - milk line
  - position of cocks
  - cluster cleaners, etc.


E
I
B
B
D
G
A
F
H
J



Curves and points

- Check the farmers "milking route" and make a preliminary layout of the service rail

The milking route in the barn, figure above, is counter clock-wise and implies left-hand two way points **(A).**

A level curve **(B)**, or rail opening and movable arch, must be used to cross the milk line. The level curve is adapted on site.

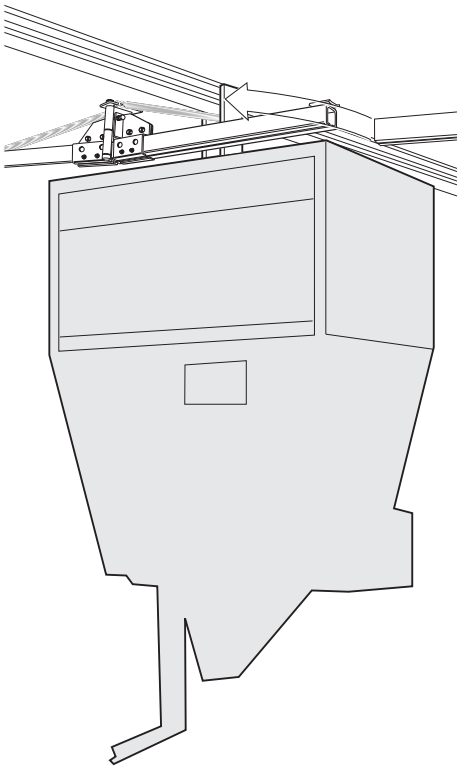
Note! *Do not make the curve steeper than necessary.*

If the distance between the milk lines is wide, the level curve must be cut in two pieces and then jointed with a straight rail. Order two extra rail joints.

Note! *Try to avoid level curves and rail openings. This can be done if the rail is planned to go around the milk line. Two doors to the milk room are required.*

If the farmer has a feed wagon, or must enter with a tractor on the feeding table, a rail opening must be planned **(C).**

If the farmer wants to use the service rail for other purposes than milking, e.g. a wagon for bedding straw, it is advisable to use a three-way point **(D).**

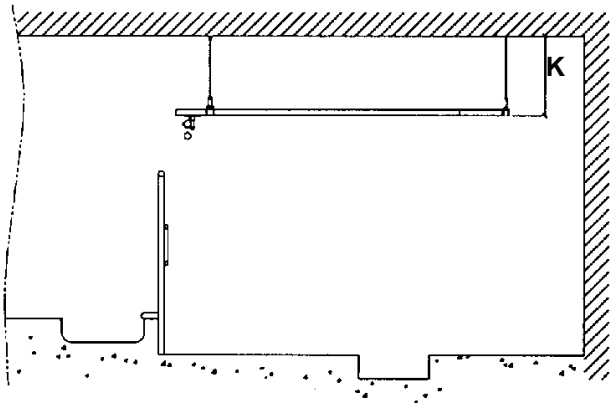


Side tracks

- One two-way point to every second cow place **(E)**. The side tracks should be placed on the centre line between the cows.
- One two-way or three-way point for every extra side track to be able to round up the milk carriers at the end of the cow row. Two-way points are called a twin point. Use one twin point per two milk carriers, i e 4 Milkmaster equals 2 twin points **(F)**.
- Standard rail lengths for the side tracks **(G). The rail can pass the milk line.**

Note! *Find the most favourable position of the rail by moving it across the alley (H).*

Consider how the end of each side track has to be supported and anchored.



Rail in alley

- The length of rail **(I)** between side tracks depends on the width of the cow places

When using two-way points:

| = (2 x cow place width) - 0.4 m *

* = The length of the two-way point

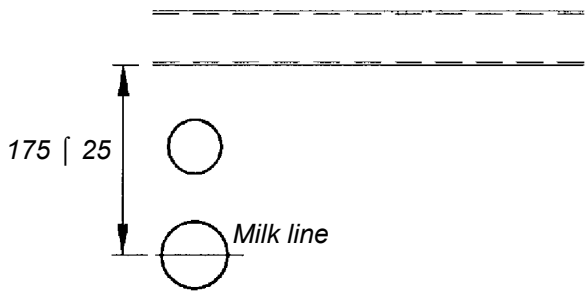
If the cow place width is 1.2 m, **(I)** will be 2m

When twin points are used.

(I)= (2 x 1.2) - (2 x 0.4) = 1.6 m

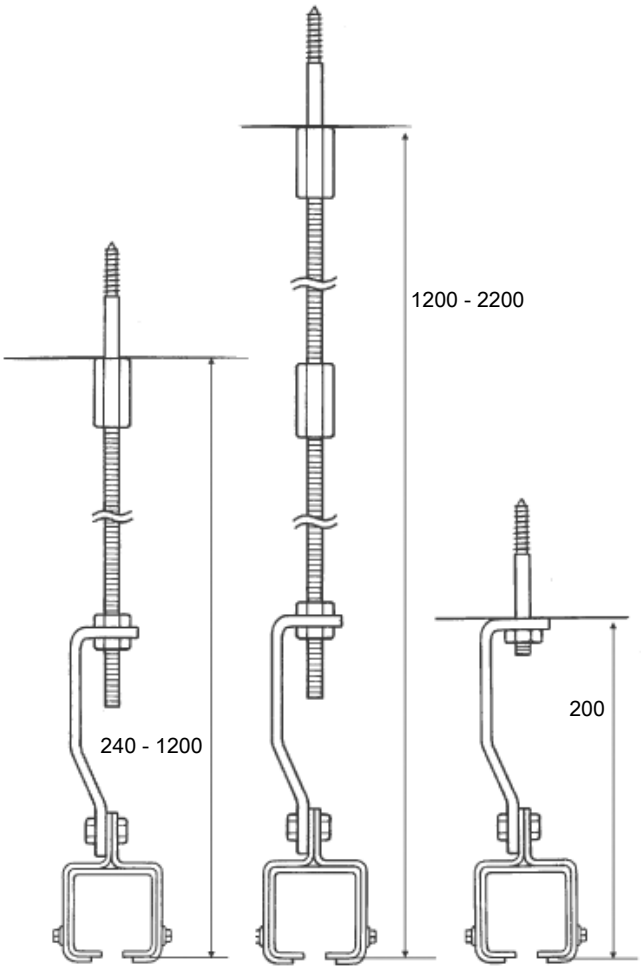
- Use curves with 623 mm radius for smoother passage of the carriers, where possible (J)
- Decide the vertical location of the rail
- Estimate the distance between lower edge of rail and ceiling **(K)**

Note! *This distance will vary depending on the slope of the rail.*



Rail to milk line

The rail should be located 175 ⌈ 25 mm above the milk line. It should be parallel to the milk line, which means that the rail must have the same slope as the milk line, i.e. 3–5 mm/m (3 - 5 per thousand). Side tracks between the cow places should have the same level towards the feeding table.



Suspending the rail

The distance between ceiling and lower edge of the rail determines the sort of support to be used.

l = h - 200

where:

l = Length of threaded bar required per support

h = Height from ceiling to lower edge of rail

All dimensions in millimetres

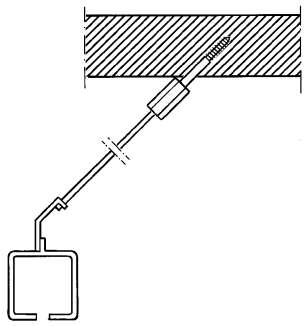
If *l* exceeds 100 mm, order an extra threaded rod and a jointing nut.

Note! *Never order a threaded bar to the exact length. A little adjustment is always needed.*

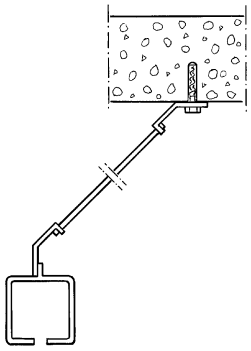
If the ceiling is made of concrete, plastic plugs for 12 mm holes must be used.

The rail must be supported at least every 2400 mm. Make use of the jointing irons for supports at points and curves as far as possible.

Lateral anchorage



Lateral anchorage



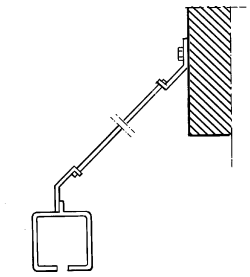
Lateral anchorage

Side stays must be arranged at every end/connection of rails that are not placed against a wall or joist or are side-stayed on to the vacuum line (side tracks between cows)

Lateral anchorage must be provided at:

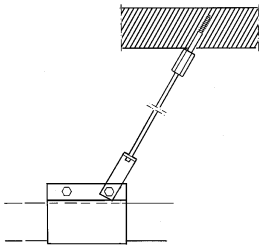
- every 10 m of rail in the aisle
- every rail end
- rail openings
- curves

Lateral anchorage



If possible, stays should be fitted on to the joints of the different components. Use the standard rail support and bend it to a suitable angle on site. Screw a stud obliquely into the ceiling, or use an extra hanger.

Lengthwise anchorage

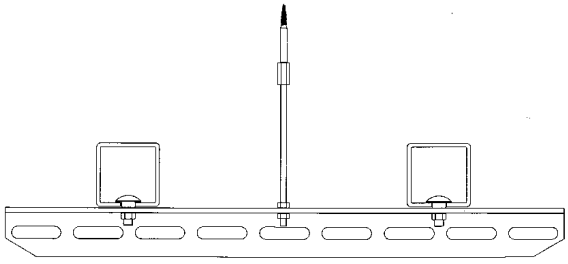


Lengthwise anchorage

Lengthwise anchorage must be arranged at:

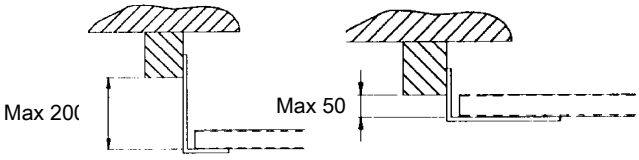
- all curves where transport forces will be considerable
- rail openings
- level curves

Lengthwise anchorage must be arranged to eliminate longitudinal movement of the rail. If possible, the stays should be subjected to tensile force.



Anchorage twin points

Two side tracks are suspended by a console at the front of the stall.



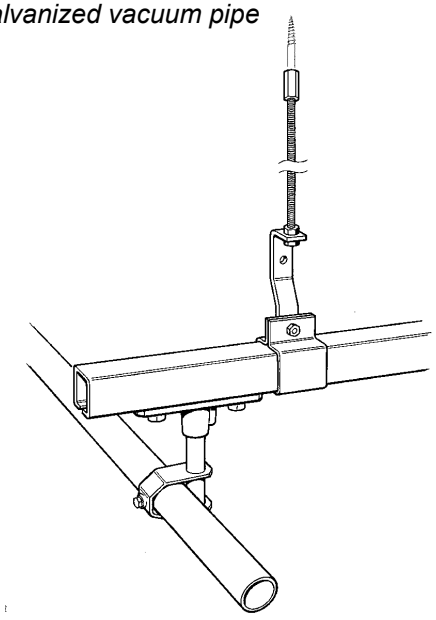
At ends of side tracks

Decide the kind of support to be used at the end of each side track. If there is a beam across the milk line, use the angle bracket.

Distance < 350 mm

If the distance between the centre of the milk line and the lower edge of the beam is less than 350 mm, the angle bracket can be used. It can be used in two ways.

Galvanized vacuum pipe

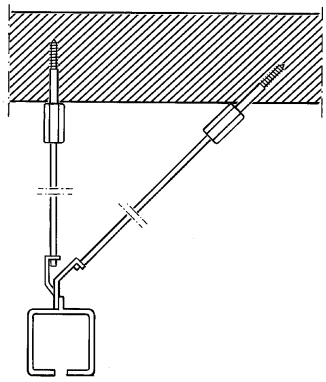


Distance > 350 mm or no beam

Measure the dimensions at the highest and lowest points of the milk line. If the distance is greater than 350 mm or if there is no beam, use standard rail supports together with a pipe lock on to the vacuum line.

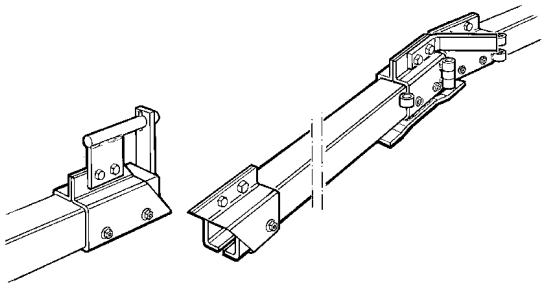
Note! *The pipe lock must not be used without the support.*

Plastic vacuum pipe



If the vacuum line is made by plastic, use the normal support and anchorage.

Mark on the sketch where rail and supports are planned.

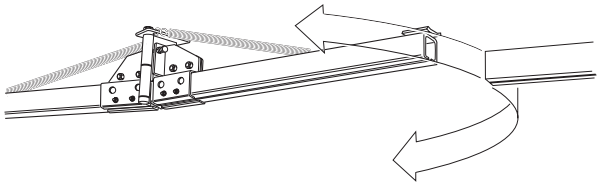


Others

Rail opening

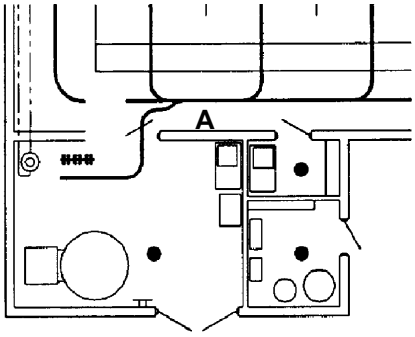
A rail opening is used where a feed wagon/movable arches would collide with the EasyLine rail.

If the rail opening is 1200 mm at the top, a hinged opening can be used. If the opening must be wider, the rail must be lifted out.



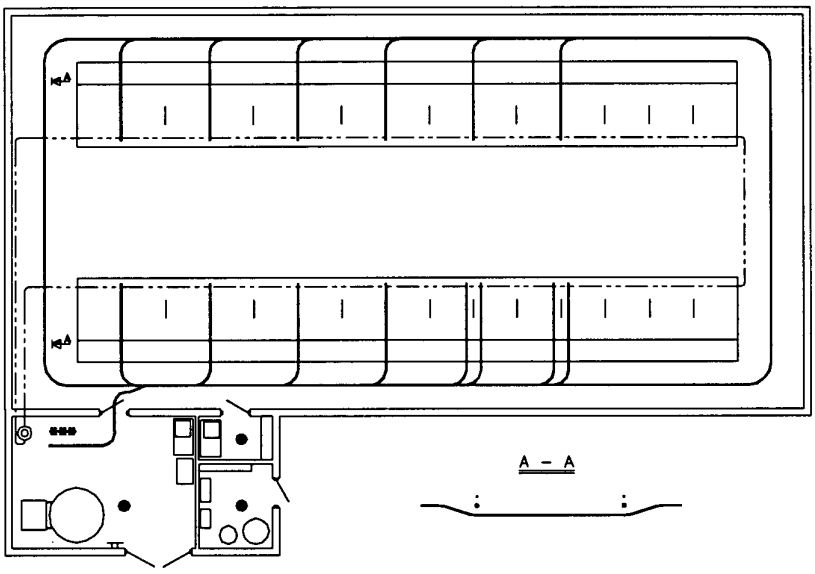
Automatic rail opening

If the rail opening is max. 1200 mm an automatic rail opening can be used.



Parallel point

A parallel point (A) can be used in narrow installations, e.g. when the milk room door is located close to a cow place and a two-way point will not solve the problem.



Single carrier installation

When using single carriers, it is advisable to plan for double milk cocks and twin-points at the last cow places. This is so that all milking machines can be utilized at the end of a row, thus reducing milking time. Four or six single carriers with double cocks on the last four cow places. This can also be planned for collection of carriers before a long transport.

The twin point is made of two two-way points right or left. Place the twin point so that the distance between a side track and centre line is approx. 200 mm. To be steady the twin point must be suspended with two supports, one on each two way point. The side tracks are supported with one console support.

Double carrier installation

Plan according to the same principle as for a single carrier installation. Install double Combicocks at every second cow place. Advantage with this solution is that it will be less walking during milking session. Drawback is that the milking machines can not be utilized to 100% because the cows have different machine-on time.

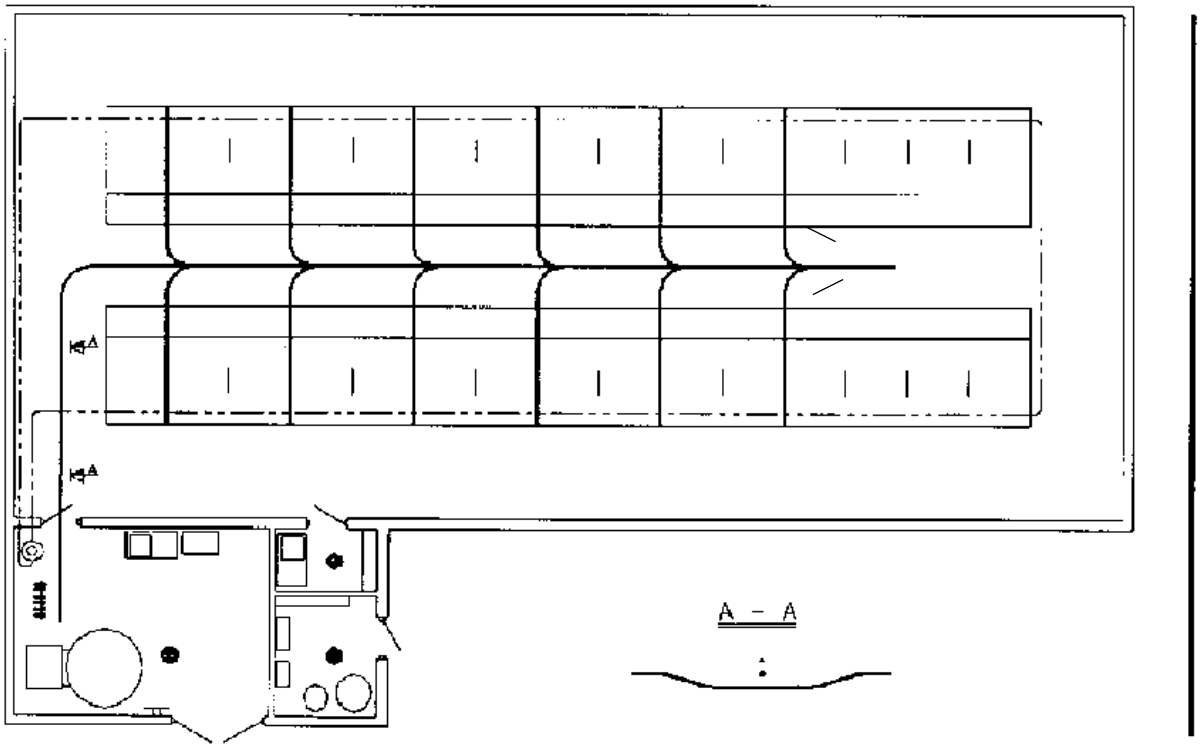
Tail to tail

Use the same planning principles as for head to head layout.

Level curves can be avoided in tail-to-tail installations if the milk line is planned to go around the EasyLine rail.

Example 1:

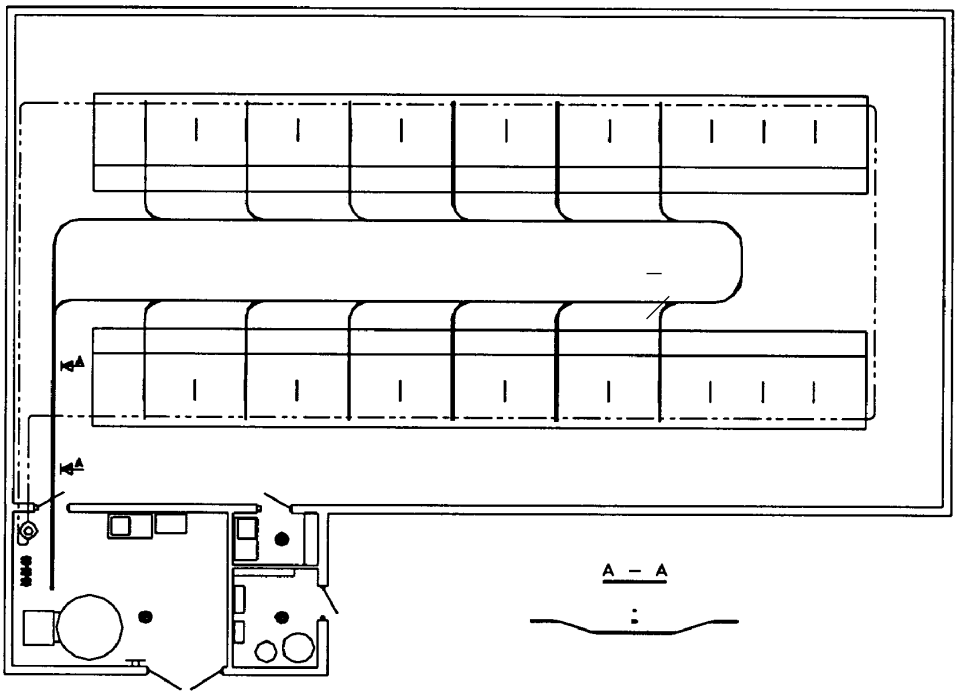
Tail to tail installation; alley width 1.5 m



Example 2:

Alternative, tail to tail installation, depending on the width of alley

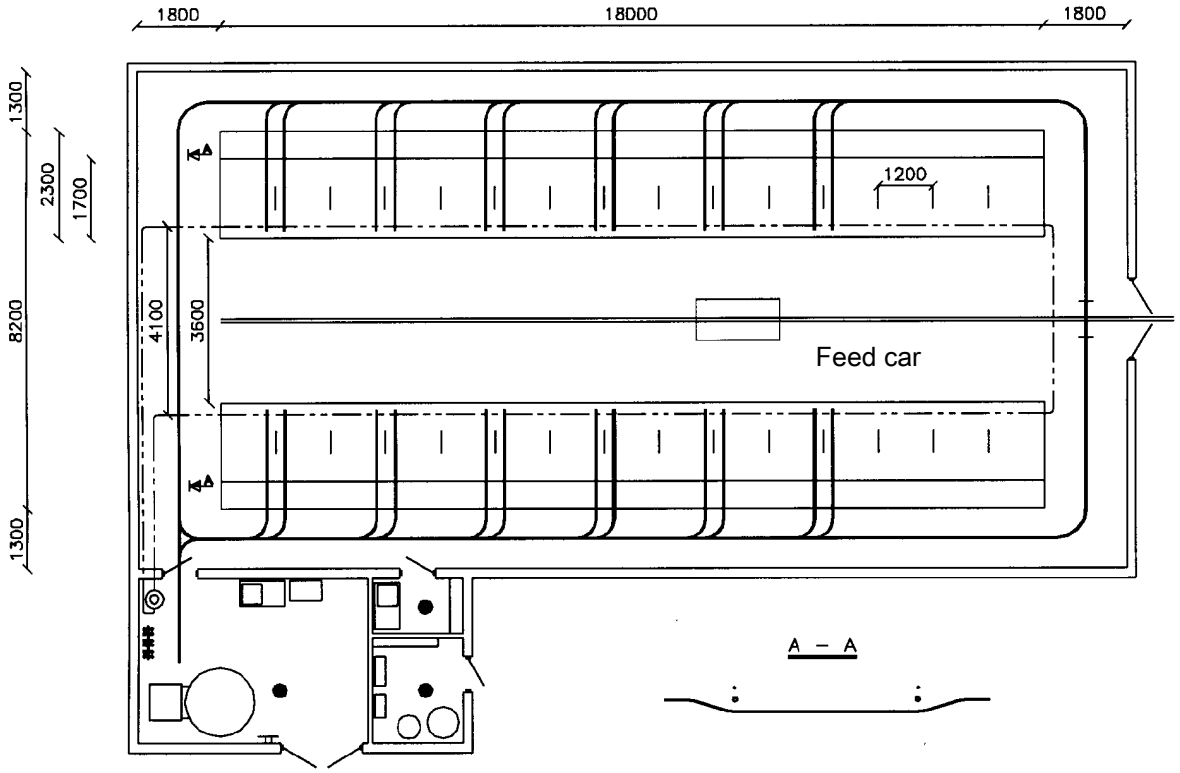
A cross-over made by two two-way points can be used if milking on one side is supposed to go faster than the other.



Example 3:

Alternative, head to head installation

To be able to use the equipment as efficient as possible, install twin points and double combicocks at every second cow place.



Ordering example

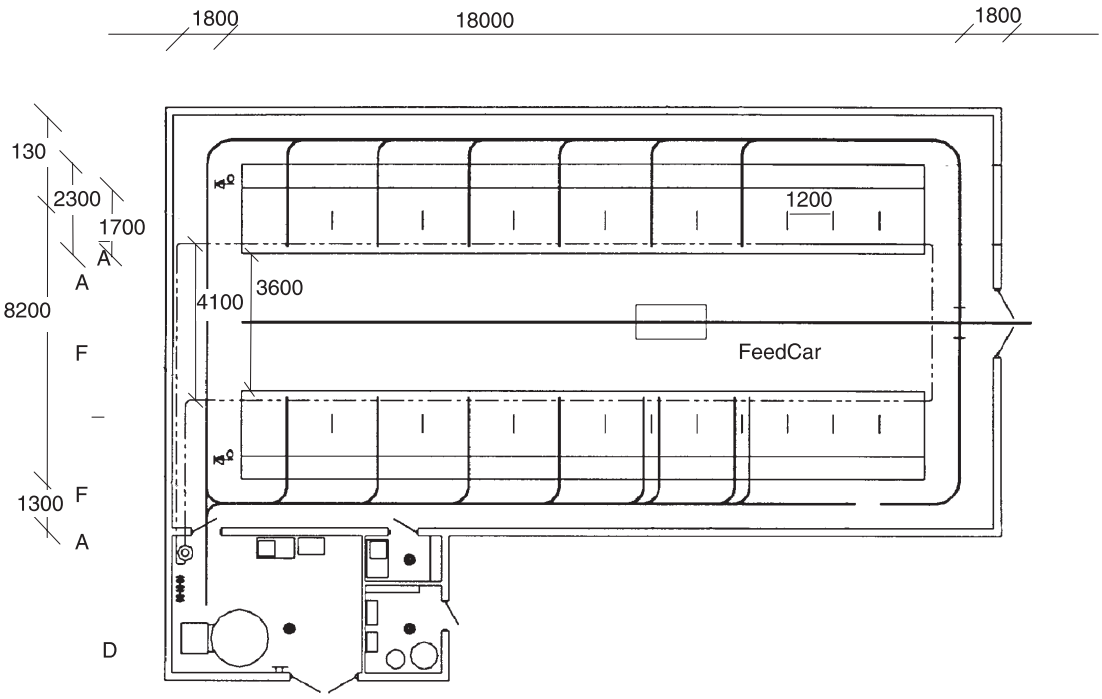
Conditions milking plant

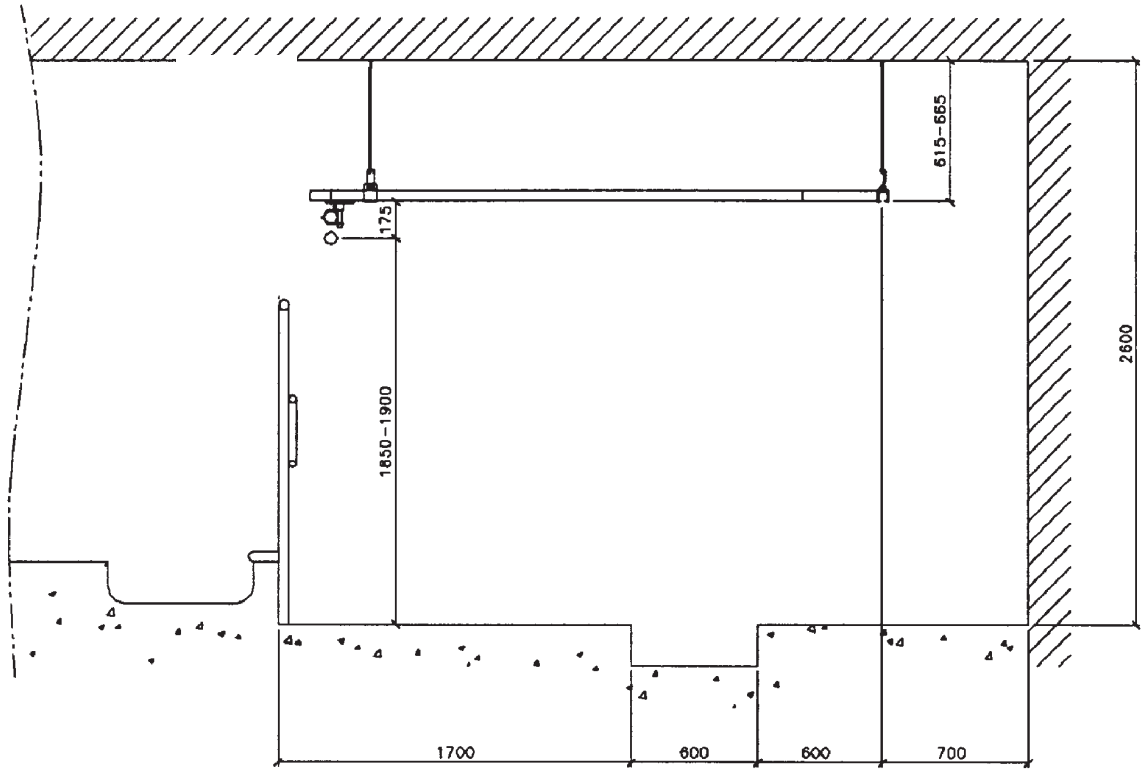
- 4 MilkMaster
- 24 cows
- layout and dimensions as below
- no beam for fixing side tracks above the milk line
- galvanized vacuum line
- timber ceiling
- automatic feed car

I.e. a standard straight rail section of 2400 mm can be used as side track in this case.

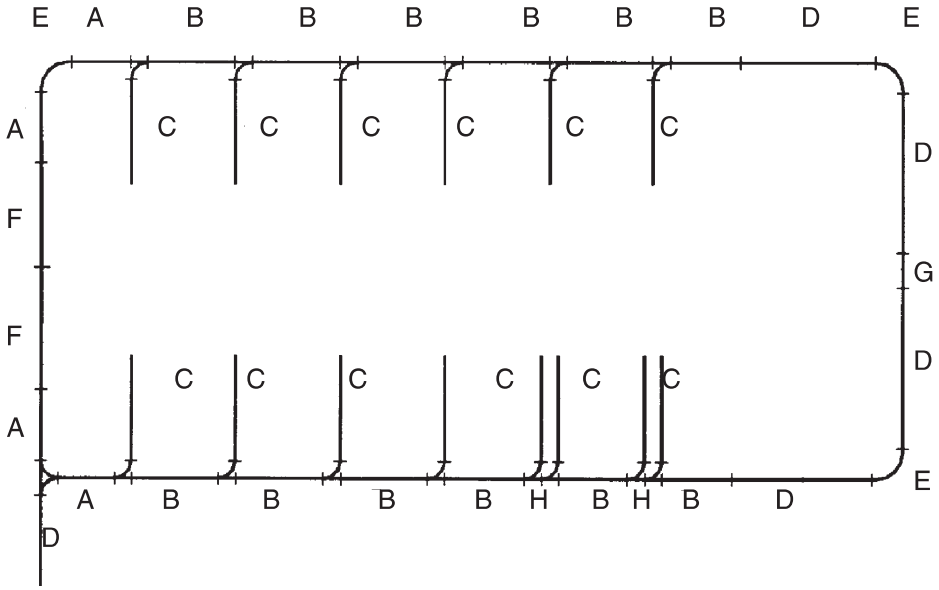
I e a standard straight rail section of 2000 mm is used between the two points when the width of a cow place is 1200 mm.

The ceiling has timber beams to suspend the rail into. Supports high must be ordered because it is uncertain if the rail joints can be used for suspension.



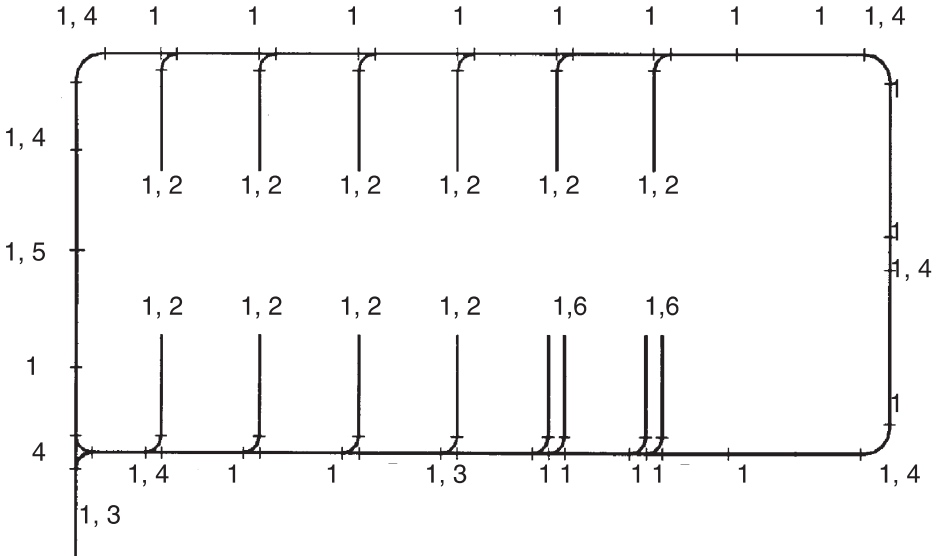


Straight rails



Legend
A = 1600 mm
B = 2000 mm
C = 2400 mm
D = 3000 mm
E = Curve 90º
F = Level curve
G = 2000 mm rail opening
H = Twin point

Supports and anchorage



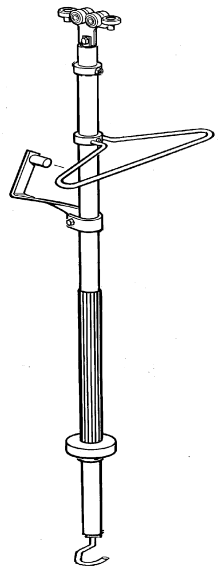
Legend
1 = support high
2 = stanchion
3 = support high oblique
4 = support high lengthwise anchorage
5 = extended lengthwise oblique if level curve
6 = console

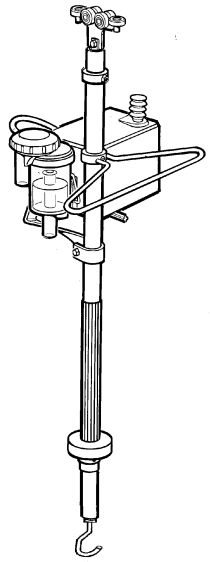
Ordering form

EasyLine product	Item	Number
Rail section 1600 mm	A	4
Rail section 2000 mm	B	12
Rail section 2400 mm	C	14
Rail section 3000 mm	D	3
Curve 90 degree radius 626	E	3
Two-way point left		14
Three-way point		1
Level curve	F	2
Jointing iron		8
Support high	1,2,3,4,5	49
Console	6	2
Stanchion	2	10
Threaded bar		1
Jointing nut		1
MilkMaster		4
Bucket carrier		1
Hygiene carrier		1
Rail opening 2000 mm	G	1

EasyLine Duovac carrier

Product data





Article number 5320067017

EasyLine Duovac carrier is a part of EasyLine rail system. The carrier will facilitate movement of milking cluster in a cow shed equipped with EasyLine rail system.

EasyLine Duovac carrier is composed of a bogie and a stand pipe with a holder for single Duovac 300P unit, a support for a milk meter and a hook to hang up a milking cluster.

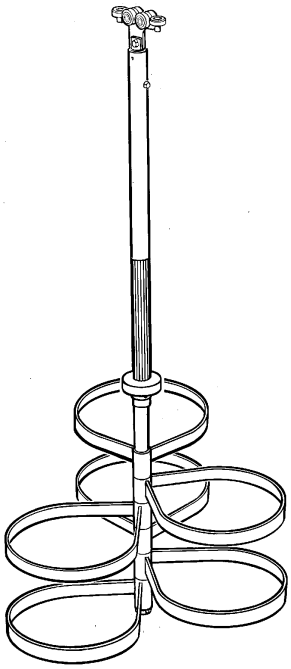
The carrier is pivoted and can be rotated. Adjustment of the milking cluster attachment is also possible.

Technical data

Material: Stainless steel

Width: 280 mm

Heigth: 1100-1450 mm excl milking cluster



EasyLine bucket and hygiene carriers

Product data

EasyLine bucket carrier

Article number 5320067038

EasyLine bucket carrier is a part of EasyLine rail system. It will facilitate transport of six buckets (6 x 7 litres).

The upper part of the carrier (incl. bogie) can not be rotated. The lower part with bucket rings can be rotated around the pipe. The rings can also be centered above each other or arranged off centre.

Technical data

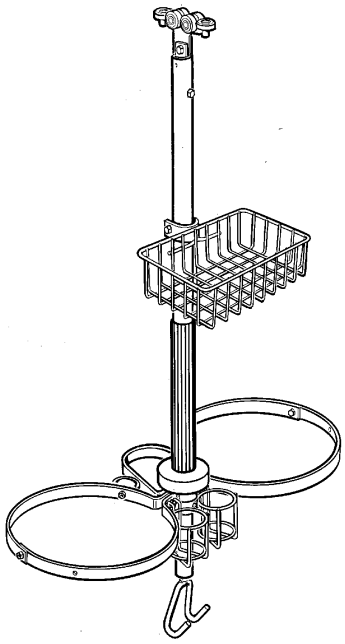
Bucket support: Ø24 mm

Material: Stainless steel

Width: 540 mm

Height: 1600 mm

Product data



EasyLine hygiene carrier

Article number 5320067019 cpl

Article number 5320067048 w/o bucket support

EasyLine bucket carrier is a part of EasyLine rail system. It will facilitate transport of hygiene articles such as udder cloths, control cups, udder washing liquids etc. There is also space for two buckets (2 x 7 litres). The carrier includes a bogie, but can not be rotated.

Technical data

Bucket support: Ø24 mm

Material: Stainless steel

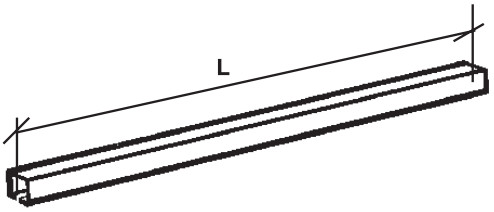
Length: 750 mm

Width: 260 mm

Height: 1150 - 1500 mm

EasyLine rail

Product data



EasyLine rail

EasyLine rail sections can be delivered in five lengths;

5320067036 Length: 1600 mm

5320067001 Length: 2000 mm

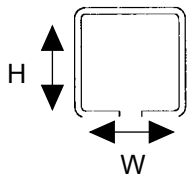
5320067054 Length: 2200 mm

5320067037 Length: 2400 mm

5320067002 Length: 3000 mm

NOTE!

A rail joint must be used when a straight rail section is to be fitted with another straight section. EasyLine rail sections are delivered exclusive rail joints.



Technical data

Material: Hot galvanized steel

Length: See article numbers

Width (W): 50 mm

Height (H): 50 mm

Weight:

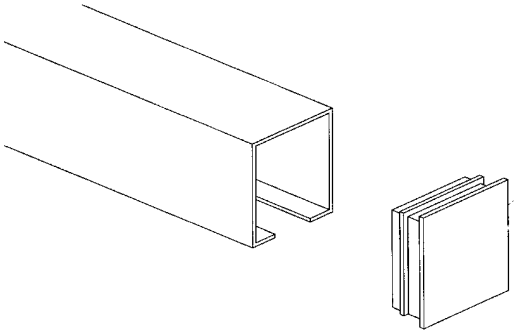
1600 mm: 6.5 kg

2000 mm: 8.2 kg

2400 mm: 9.8 kg

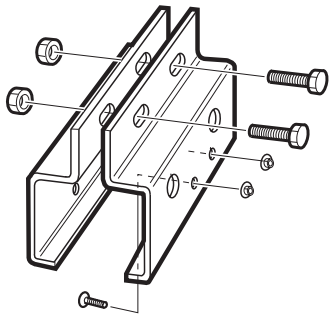
3000 mm: 12.2 kg

Accessories



Plastic end plug

(10-pack) article number 5330269099

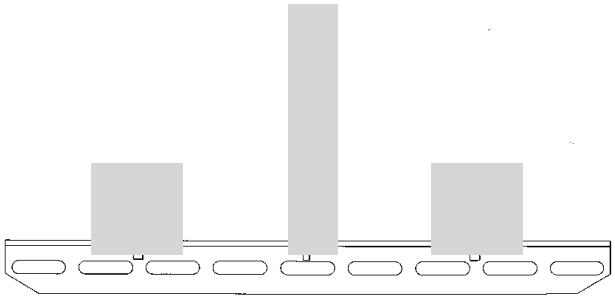


Rail joint

Article number 5320067074

Rail joint for straight sections, where rail joints for points and curves can not be used.

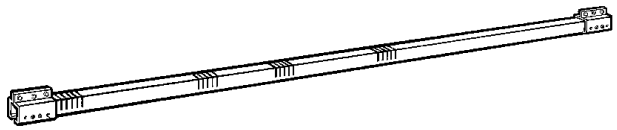
Supplied complete with two M6S 8x20 mm bolts, two M8 nuts, four MF6S 5x16 mm Allen screws and four M5 nuts.



Console

Article number 5320067055

The console is used for twin points installations. It is supporting two side tracks at the front end of the stall.



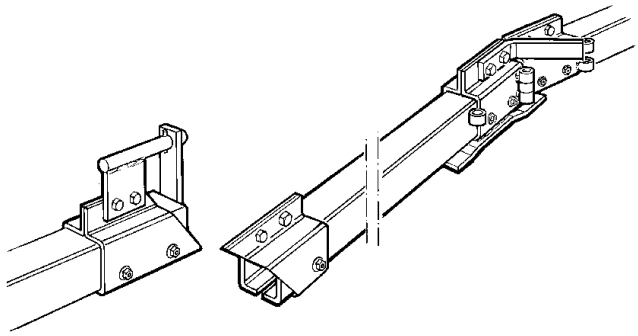
Level curve 3000 mm

Article number 5320067070

A level curve can be used where there is a difference in levels between stall and other buildings or when the EasyLine must cross the milk lines. Weight: 11.8 kg

Delivered as a straight rail provided with notches for modification on site. Four rail joints are included.

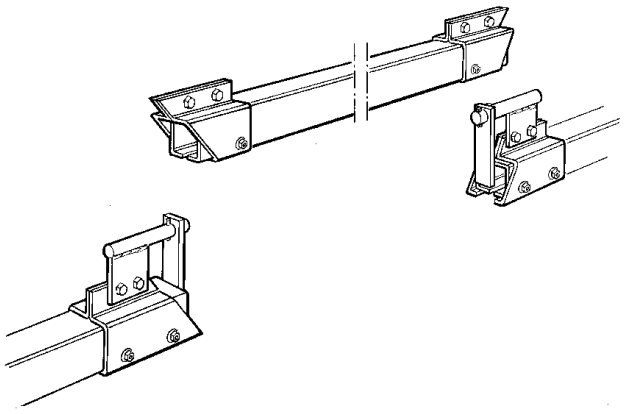
Supplied complete with four M6S 8x20 bolts, four M6 nuts, eight MF6S 5x16 mm Allen screws and eight M5 nuts



Rail opening 1200 mm

Article number 5320067035

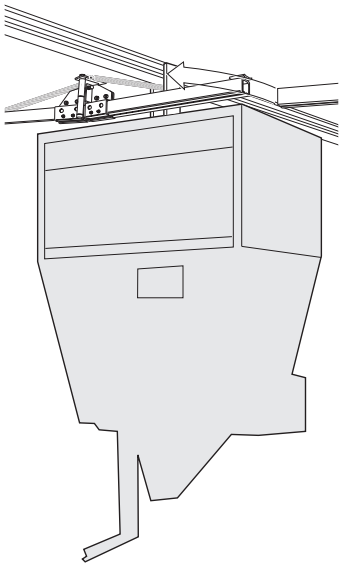
Rail opening to be used where EasyLine crosses a feed wagon rail. Supplied without straight rail section, which must be ordered separately. If the rail opening must be wider than 1200 mm, order rail opening, 3000 mm.



Rail opening 3000 mm

Article number 532067046

Rail opening to be used where EasyLine crosses a feed wagon rail. Supplied without straight rail section, which must be ordered separately.



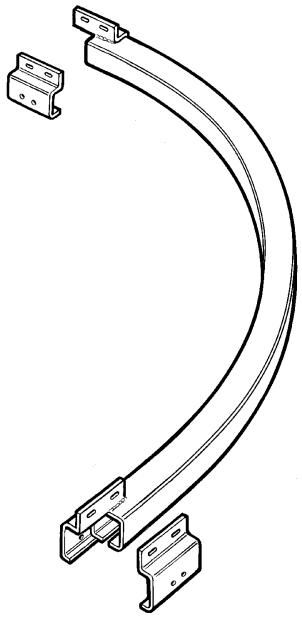
Automatic rail opening

Article number 5320067051

The automatic rail opening is opened by the feed car. It closes automatically when the car has passed. Max opening length: 1200 mm

EasyLine curves

Product data



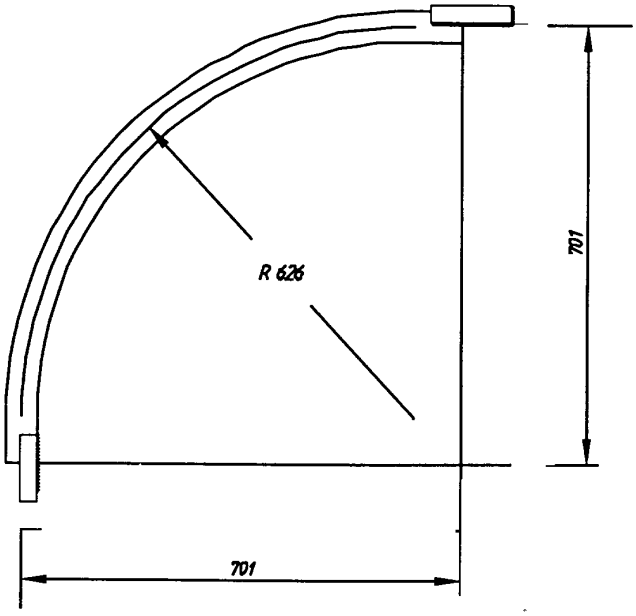
90° curve radius 626 Left/Right

Article number 5320067061

Can be used as a right-hand or left-hand curve.

Two rail joints with bolts and nuts are included. One half of the joint is welded to the curve, thus improving the stability.

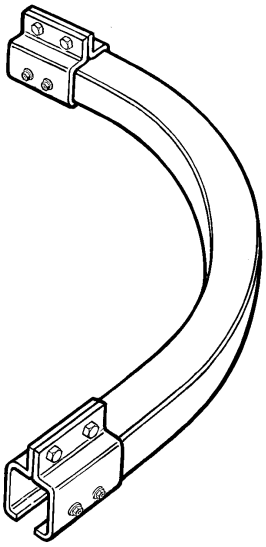
The rail joint includes four M6S 8x20 mm bolts and M6M nuts for mounting, together with six MF6S 5x16 mm Allen screws with M5 nuts.



Technical data

Material: Hot galvanized steel

Radius: 626 mm (90° curve)



90° curve radius 318 Left/Right

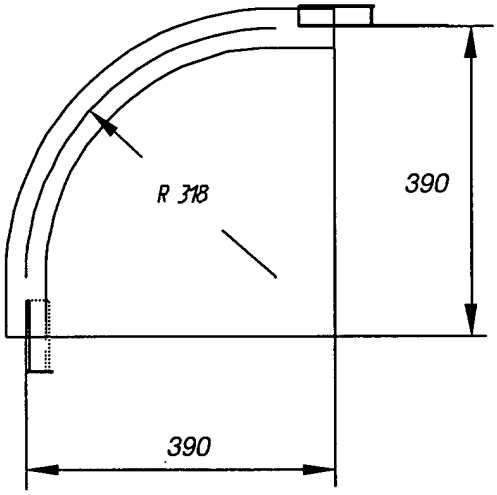
Article number 5320067062

Suitable for use in narrow barns.

Can be used as a right-hand or left-hand curve.

Two rail joints with bolts and nuts are included. One half of the joint is welded to the curve, thus improving the stability.

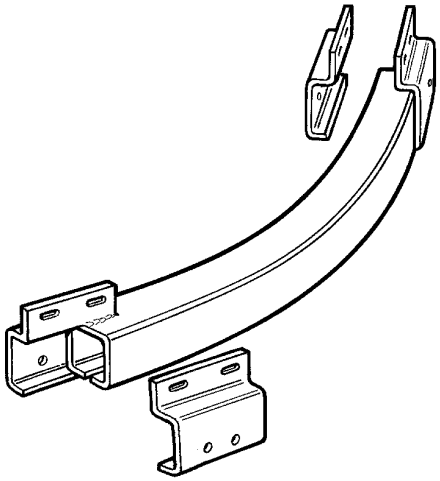
The rail joint includes four M6S 8x20 mm bolts and four M6M nuts for mounting, together with six MF6S 5x16 mm Allen screws with M5 nuts.



Technical data

Material: Hot galvanized steel

Radius: 318 mm (90° curve)

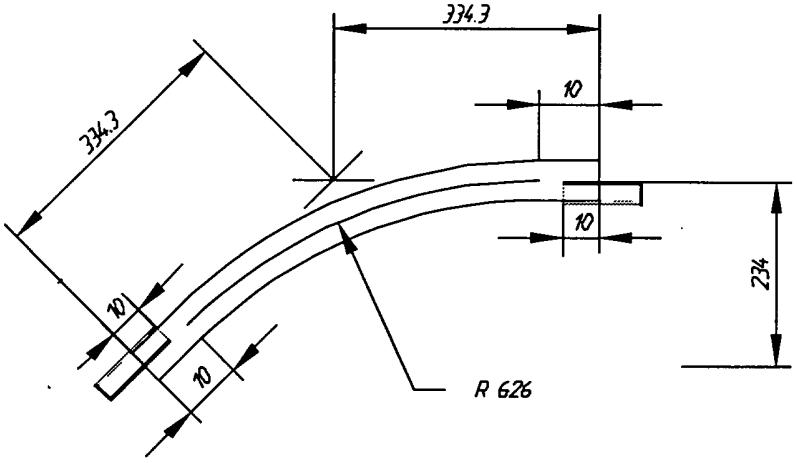


45° curve radius 626 Left/Right

Article number 5320067067

Can be used as a left-hand or right-hand curve. Two rail joints with bolts and nuts are included. One half of the joint is welded to the curve, thus improving stability.

The rail joint includes four M6S 8x20 mm bolts and M6M nuts for mounting, together with six MF6S 5x16 mm Allen screws with M5 nuts.



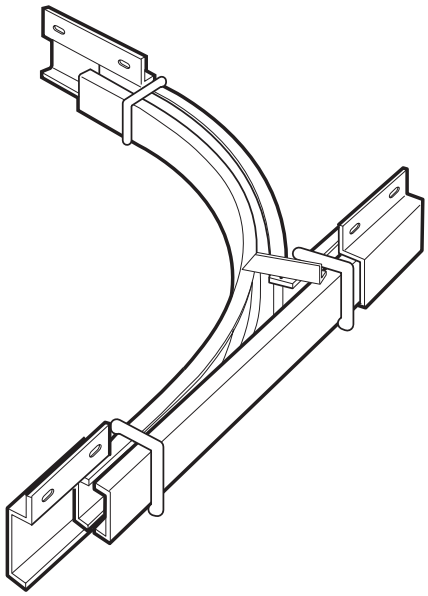
Technical data

Material: Hot galvanized steel

Radius: 626 mm (45° curve)

EasyLine points

Product data



Two way point (Left)

Article number 5320067063

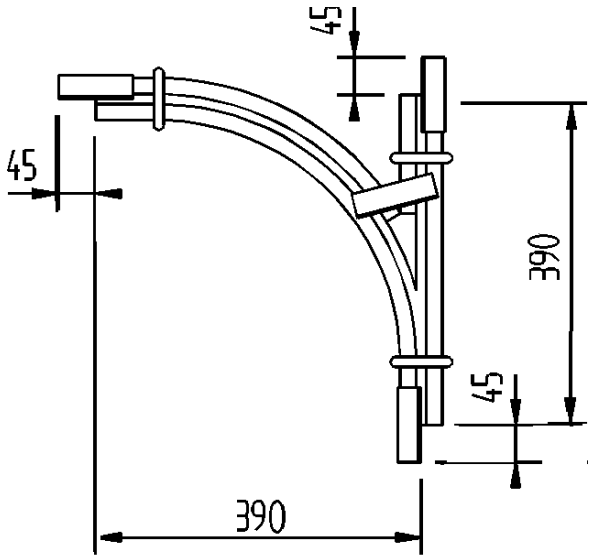
The delivery includes three rail joints with bolts and nuts. One half of the joint is welded to the point, thus improving mounting and stability.

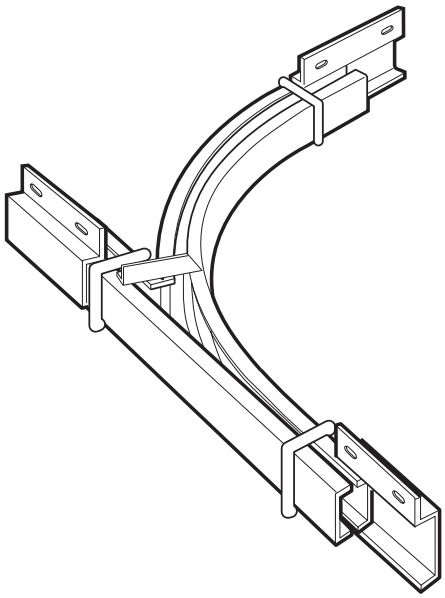
The rail joint includes six M6S 8x20 mm bolts and M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws with M5 nuts.

Technical data

Material: Hot galvanized steel

Weight: 5.0 kg



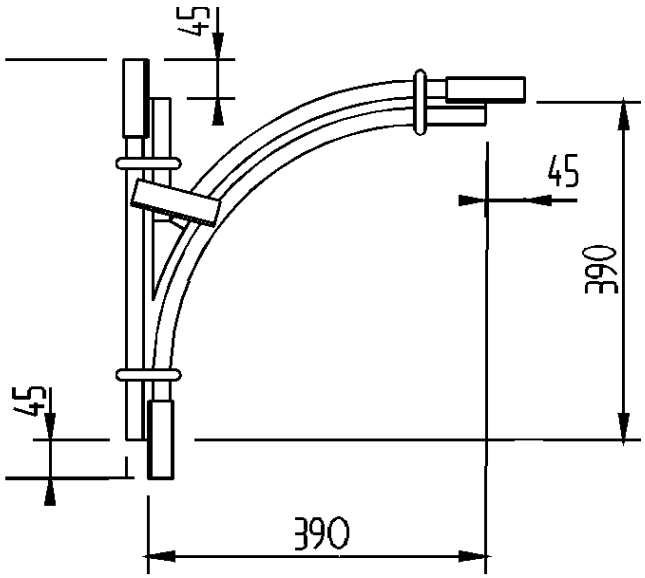


Two way point (Right)

Article number 5320067064

The delivery includes three rail joints with bolts and nuts. One half of the joint is welded to the point, thus improving mounting and stability.

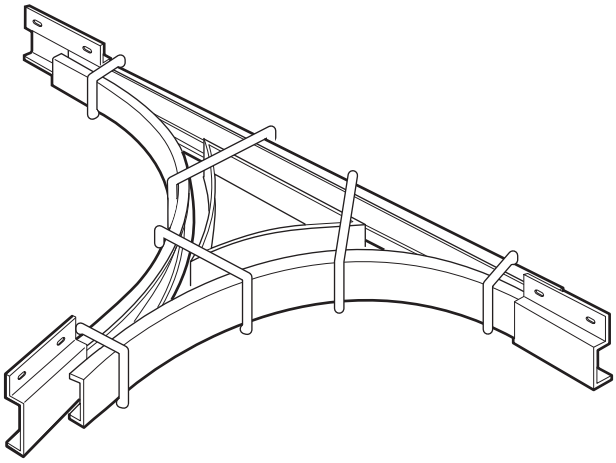
The rail joint includes six M6S 8x20 mm bolts and M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws with M5 nuts.



Technical data

Material: Hot galvanized steel

Weight: 5.0 kg



Three way point

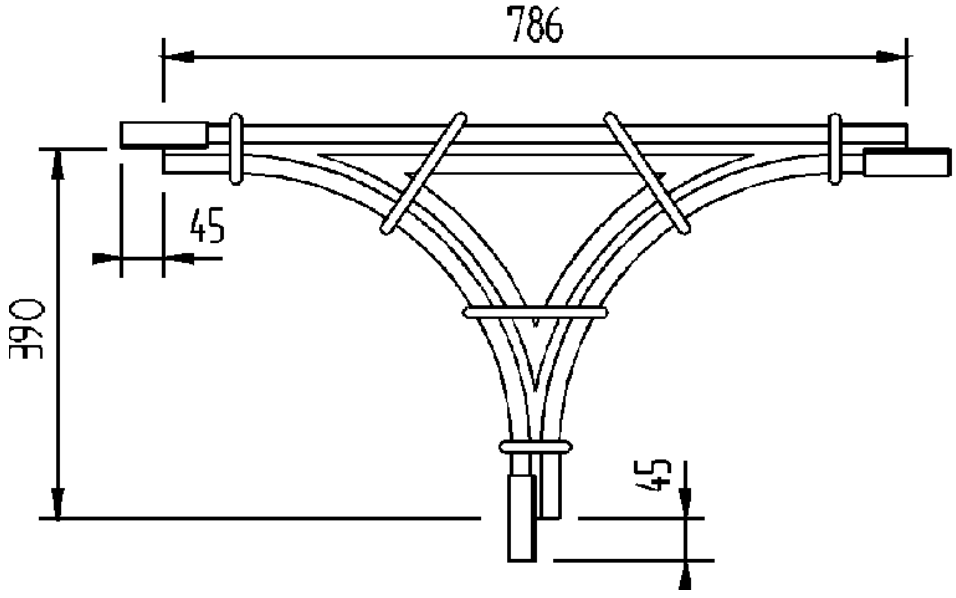
Article number 5320067066

The three-way point can be used instead of the two-way point.

Note! *The carrier will turn when moving into and out of a point.*

The delivery includes three rail joints with bolts and nuts. One half of the joint is welded to the point, thus improving mounting and stability

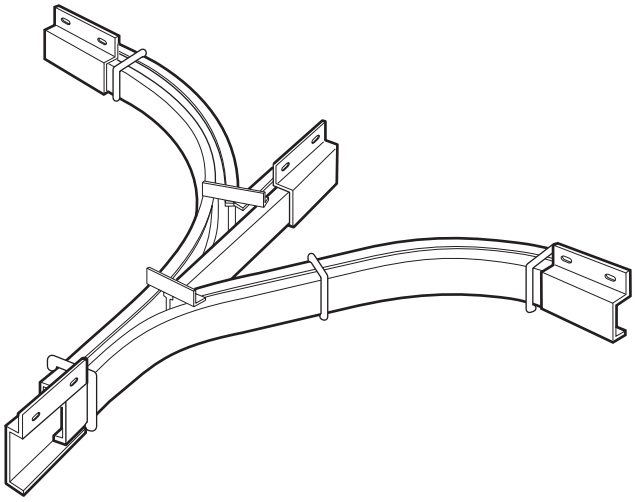
The rail joint includes six M6S 8x20 mm bolts and M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws with M5 nuts.



Technical data

Material: Hot galvanized steel

Weight: 8.2 kg



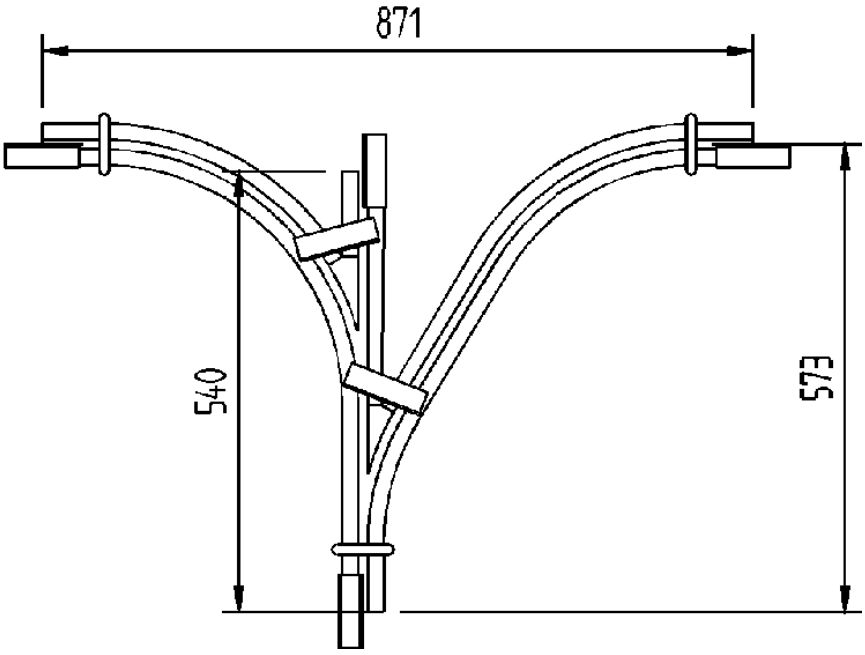
Double point

Article number 5320067065

The double point is intended to be used in stalls where the cows stand tail-to-tail.

The delivery includes three rail joints with bolts and nuts. One half of the joint is welded to the point, thus improving mounting and stability.

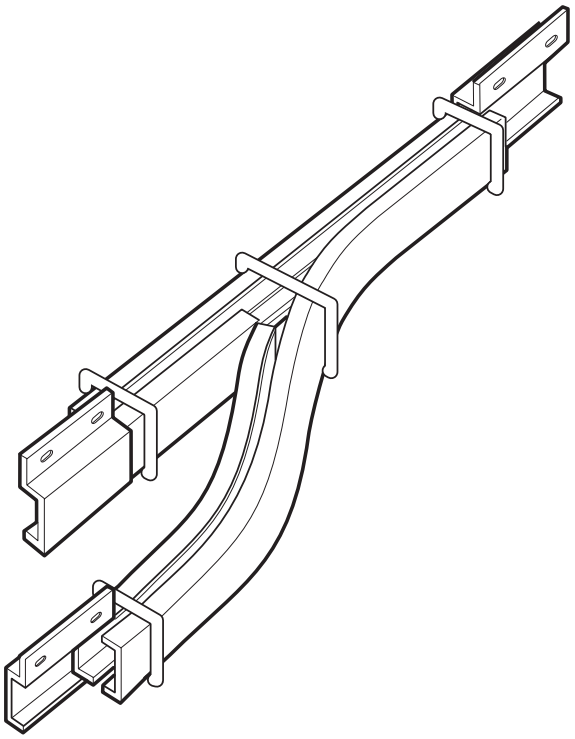
The rail joint includes six M6S 8x20 mm bolts and M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws with M5 nuts.



Technical data

Material: Hot galvanized steel

Weight: 9.3 kg



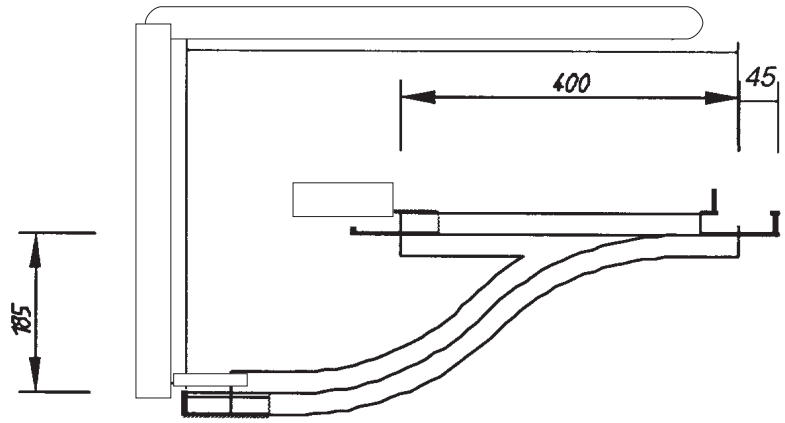
Parallel point (Left)

Article number 5320067068

Parallel point (left-hand) is intended to be used in particularly narrow cases, e.g. when the milk room door is located close to a cow place and a solution with a two-way point is not possible.

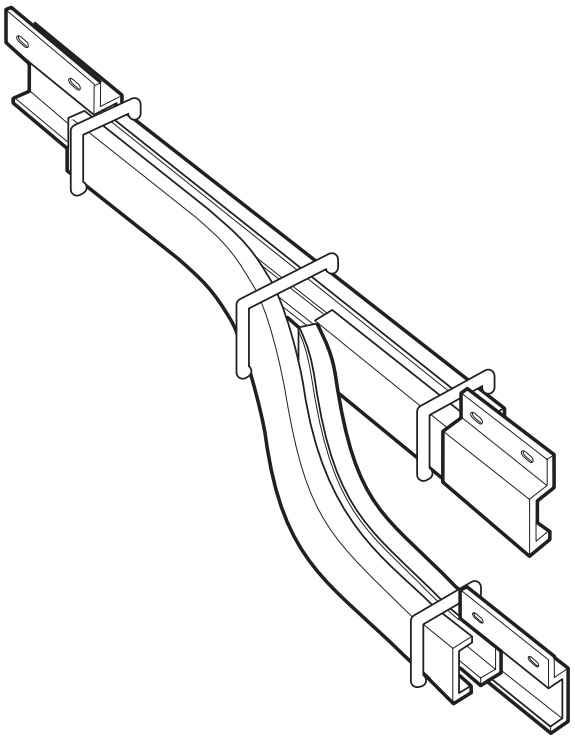
The delivery includes three rail joints with bolts and nuts. One half of the joint is welded to the point, thus improving mounting and stability.

The rail joint includes six M6S 8x20 mm bolts with M6M nuts for assembly of the rail, together with nine MF6S 5x16 Allen screws and M5 nuts.



Technical data

Material: Hot galvanized steel



Parallel point (Right)

Article number 5320067069

Parallel point (right-hand) is intended to be used in particularly narrow cases, e.g. when the milk room door is located close to a cow place and a solution with a two-way point is not possible.

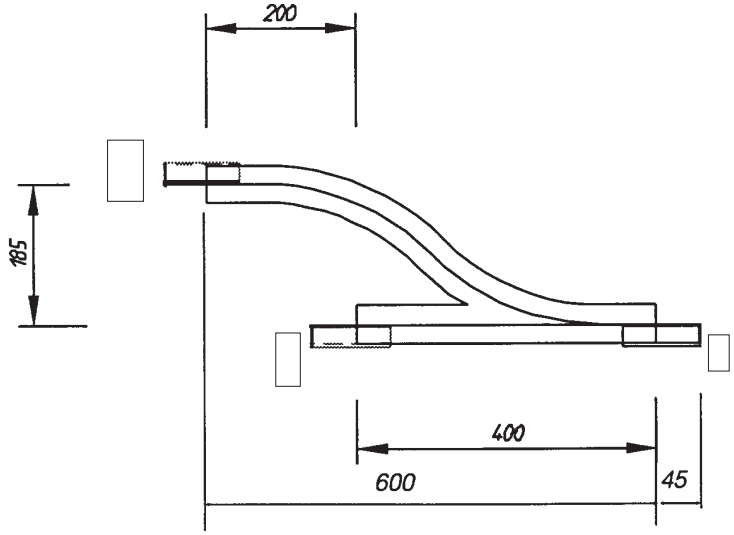
The delivery includes three rail joints with bolts and nuts. One half of the rasil joint is welded to the point, thus improving mounting and stability.

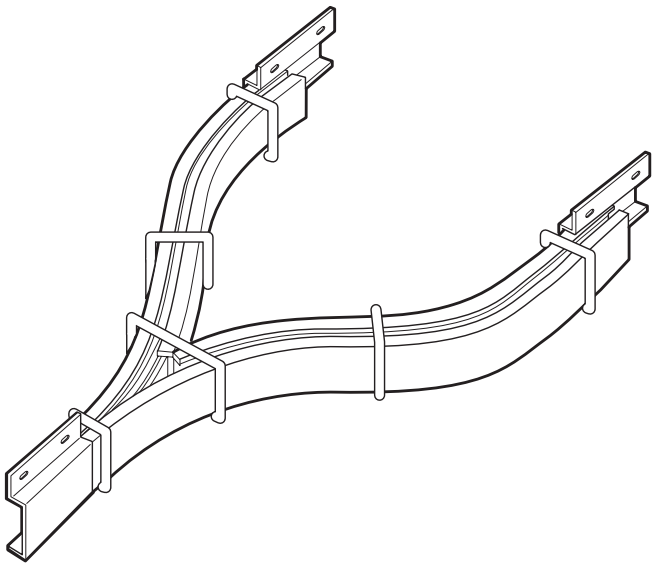
The rail joint includes six M6S 8x20 mm bolts with M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws and M5 nuts.

Technical data

Material: Hot galvanized steel

Weight: 7.2 kg





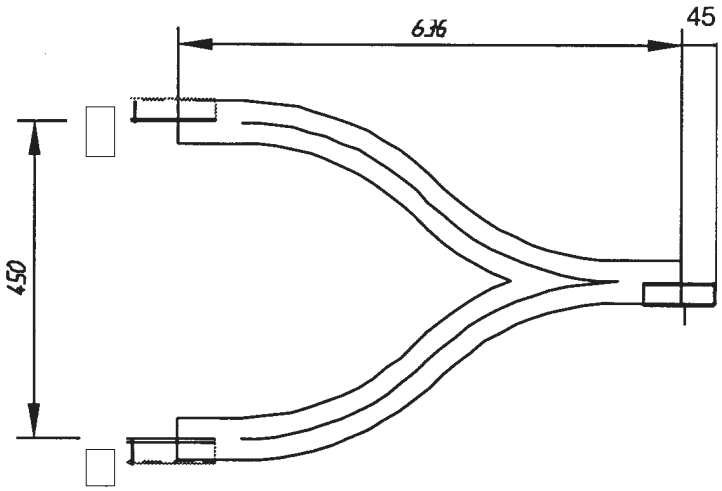
Y - point

Article number 5320067071

The Y-point is intended to be used with double milk cocks and single EasyLine carriers.

Supplied complete with three rail joints with bolts and nuts. One half of the rail joint is welded to the point, thus improving mounting and stability.

The delivery includes six M6S 8x20 mm bolts with M6M nuts for assembly of the rail, together with nine MF6S 5x16 mm Allen screws and M5 nuts.



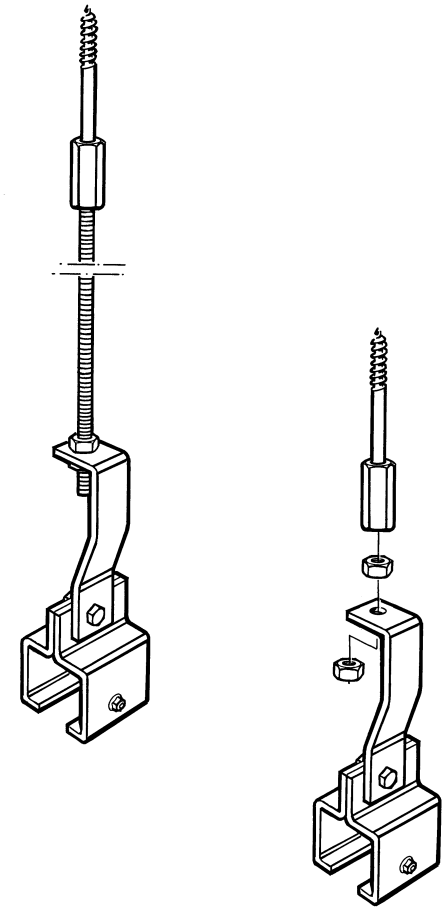
Technical data

Material: Hot galvanized steel

Weight: 7.2 kg

EasyLine supports

Product data



Support high (incl. threaded bar)

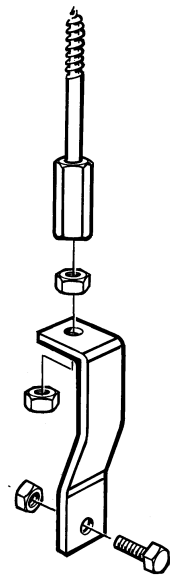
Article number 5320067072

Supplied complete with hanger, rail clip, threaded bar, jointing nut and stud with nuts.

Support low (excl. threaded bar)

Article number 5320067073

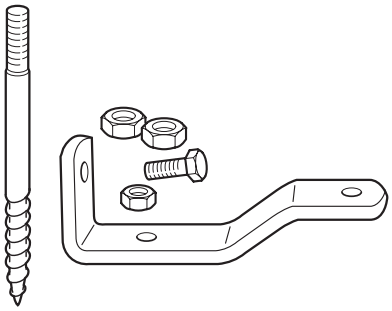
Supplied with hanger, rail clip, jointing nut and stud with nuts. Excluding threaded bar.



Suspension kit

Article number 5320067044

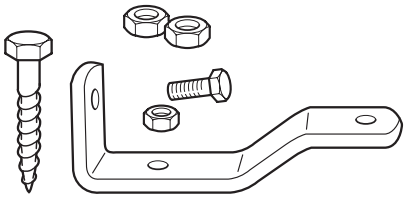
Suppplied with hanger, grub screw, jointing nut and stud wit nuts. Excluding rail clip and threaded bar.



Hanger with grub screw

Article number 5320067049

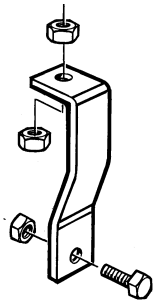
Suppplied hanger with grub screw and stud with nuts. Excluding rail clip.



Hanger carrier rail

Article number 5320067050

Suppplied hanger with hexagon head wood screw, stud and nuts. Excluding threaded bar and rail clip.



Hanger

Article number 5320067079

Supplied with stud and nuts.

Threaded bar

Article number 5320067033

Hot galvanized threaded bar, M10x1000 mm

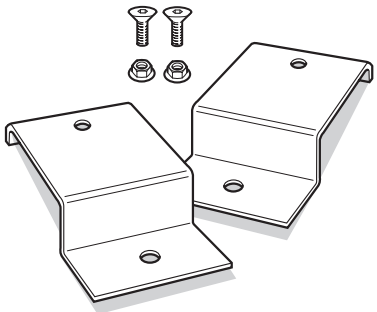
Jointing nut

Article number 5340433701

Jointing nut, M10x40 mm

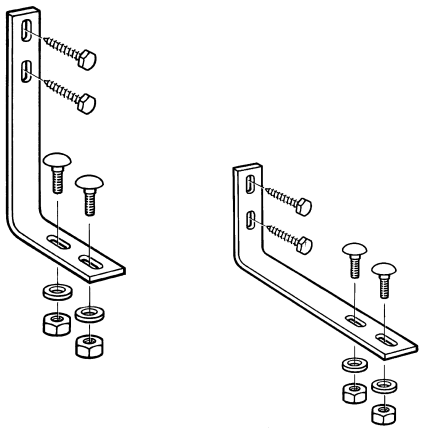
Grub screw

Article number 5340433601



Rail clip carrier rail

Article number 5320067053

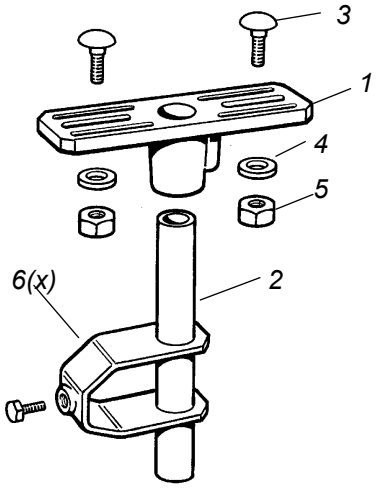


Angle bracket

Article number 5320067012

Angle bracket to support and anchor the end of the rail. Can be mounted in two ways.

Supplied complete with two hexagon head wood screws and two square necked screws with nuts.



Stanchion

1. 95248180 Flange
2. 95279801 Pipe 1/2" x 170
3. 99655904 Square necked screw M8 x 25
4. 22310133 Washer 8Ø
5. 99952202 Hexagon nut M8

6(a). 96415291 Pipe lock 1"

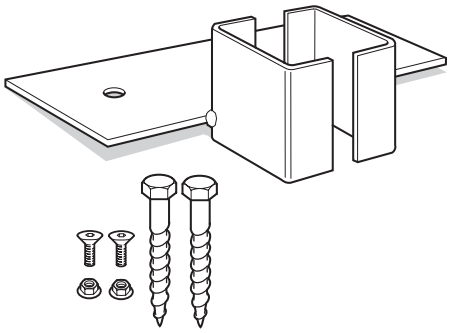
6(b). 96415292 Pipe lock 1 1/4"

6(c). 96415293 Pipe lock 1 1/2"

6(d). 96415294 Pipe lock 2"

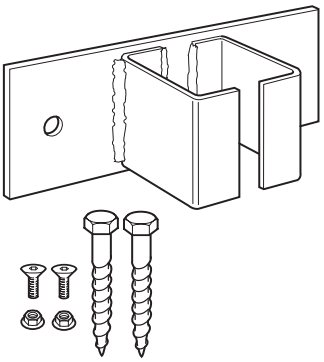
Stanchion used for anchoring the end of a rail section against the vacuum line.

Note! *Must be used with either a high or low support.*



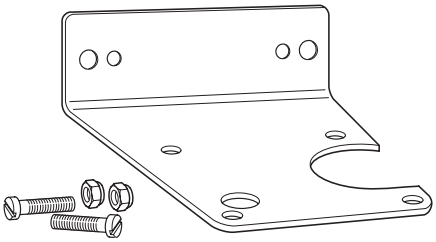
Beam support carrier rail (cpl)

Article number 5320067040



Ceiling support carrier rail (cpl)

Article number 5320067039

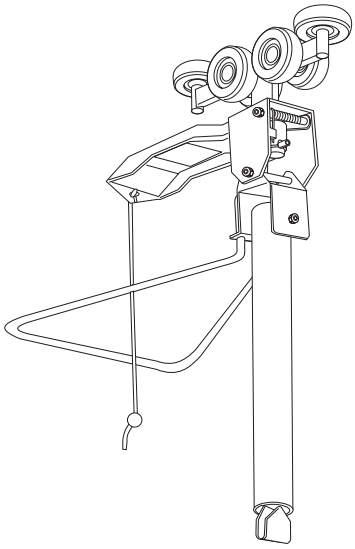


Support for Duovac to MU350 carrier

Article number 5330275901

EasyLine MilkMaster carrier

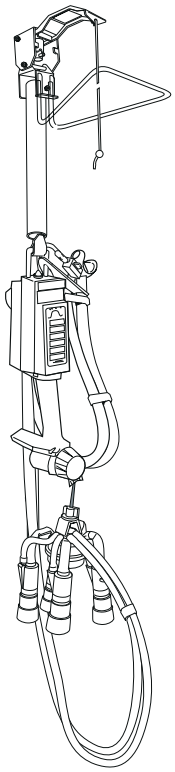
Product data

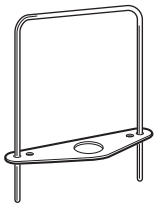


Article number 98818080 Single

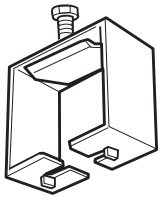
Article number 98818082 Double

EasyLine MilkMaster carrier is used to carry the MilkMaster in an EasyLine system. The unit has a spring loaded stop function and can easily be turned 180 degrees. A protection beam protects the MilkMaster when units are pushed like a train.





A



B

Accessories

Hanger (A)

Article number 98835380

Rail stop (B)

Article number 98818780

EasyLine

Installation

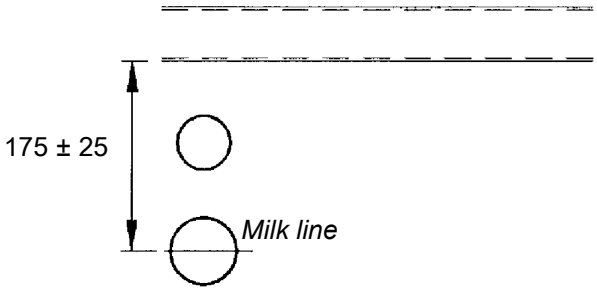
Limitations

- Check the limitations for installation of the EasyLine rail. (See Planning.)

Rail location

- Check the paragraph "Rail layout" in the planning chapter. (See Planning.)
- Decide the location of the rail above the alley. See salesman's sketch.
- Set up a guide line on the ceiling
- Mark out where the ceiling studs will be located
- Fit the studs for the suspension of the rail
- Fit a threaded bar on the studs.

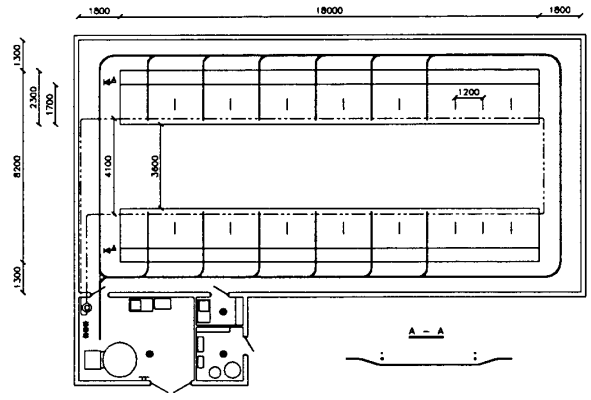
Level out the height, which should be 175 ± 25 mm above the milk line and with the same slope as the milk line.



(If the installation includes a level curve, the distance 175 mm can be decreased towards the curve to make the passage smother.)

Note! *Hanger and rail clip build 200 mm.*

- Set up a guide line, cut off the threaded bar at a suitable length. Allow about 50 mm extra length for subsequent adjustment of the rail height.
- Fit the rail according to the salesman's sketch



Side tracks

Refer to Planning for installing EasyLine at side tracks, and the salesman's sketch.

Lateral anchorage

Refer to Planning for arranging lateral anchorage, and the salesman's sketch.

Lengthwise anchorage

Refer to Planning for arranging lengthwise anchorage, and the salesman's sketch.

Anchor the rail lateral and lengthwise

Lengthwise anchorage

Refer to Planning for arranging lengthwise anchorage, and the salesman's sketch.

Anchor the rail lateral and lengthwise

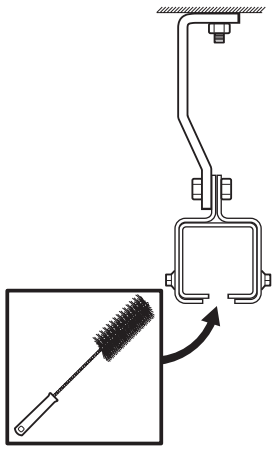
Locking the rail

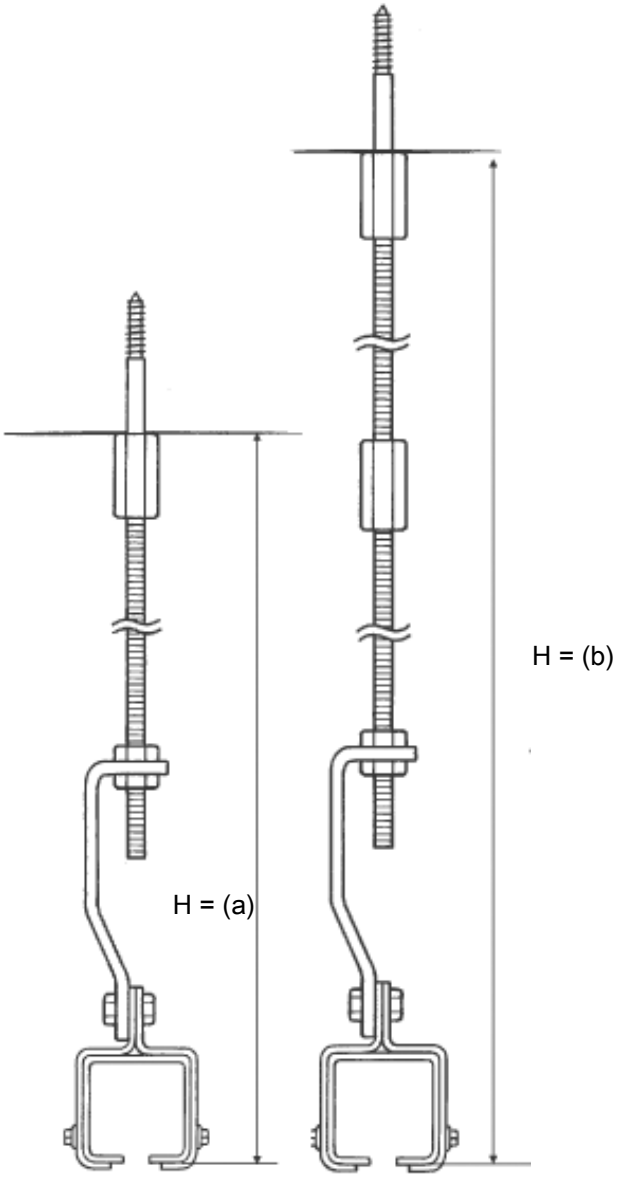
- Finish the installation of the rail by locking rail to rail. (See "Rail to rail" in this chapter).

Clean the rail

To avoid wearing down the carrier bogie wheels:

- Take away the burst from the edges with a flat single-cut file (about 12 inches long).
- Clean the inside of the rail from metal residues and dirt with a brush.





Fitting ceiling supports

Timber

- Predrill with a Ø6.5- 7 mm drill to a depth of 85 mm
- Fit a jointing nut on the stud and screw it into the ceiling. The whole of the stud should be in the ceiling. A stud box can be used for insertion.
- Fit the hangers and the M8 nuts

Concrete

- Predrill with a Ø12-mm drill to a depth of 65 mm. Fit plastic plugs.
- Fit a jointing nut on to the studs for insertion into the ceiling. A stud box can be used for insertion.
- Fit the hangers and the M8 nuts

Height to ceiling H = a

Distance a = 240 - 1200 (mm)

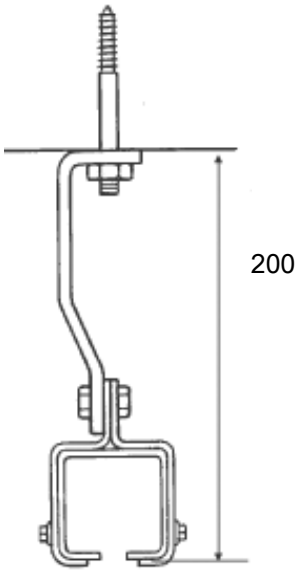
One threaded bar is 1000 mm, hanger and rail clip will be 200 mm together.

Height to ceiling H = b

Distance b = 1200 - 2200 (mm)

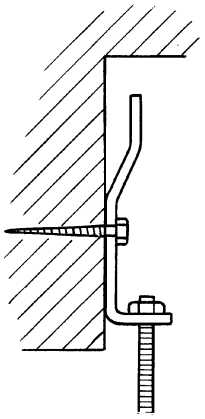
Threaded bars are supplied in lengths of one metre and can be joined together with the jointing nuts.

When jointing, one of the bars is screwed 15 mm into the nut and the other bar is then screwed hard up against the first.



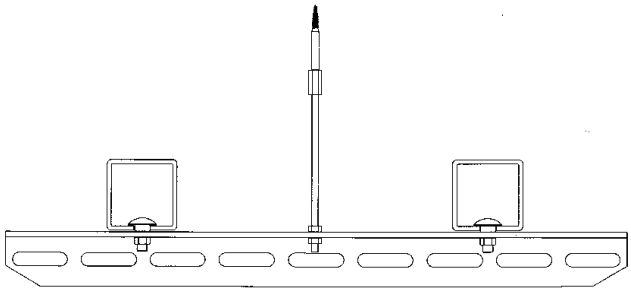
Height to ceiling - 200 mm

Without a threaded bar, the distance to the ceiling will be 200 mm. In barns with a low ceiling, the hangers can be fitted directly on to the studs. In these cases a slight height adjustment of the rail can be done, max. 25 mm.



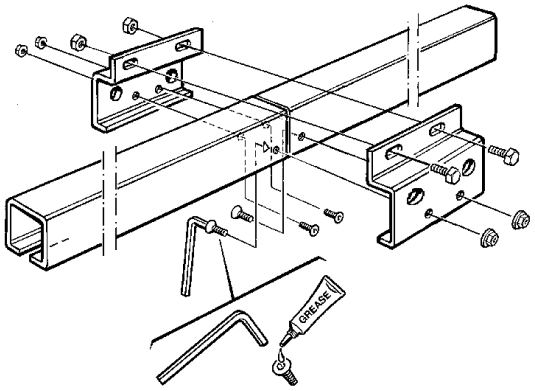
Low height to ceiling

As an alternative, the hangers can be fitted on to the ceiling beams.



Twin point installation

For twin point installation there is a special console to suspend two rails at the same time.

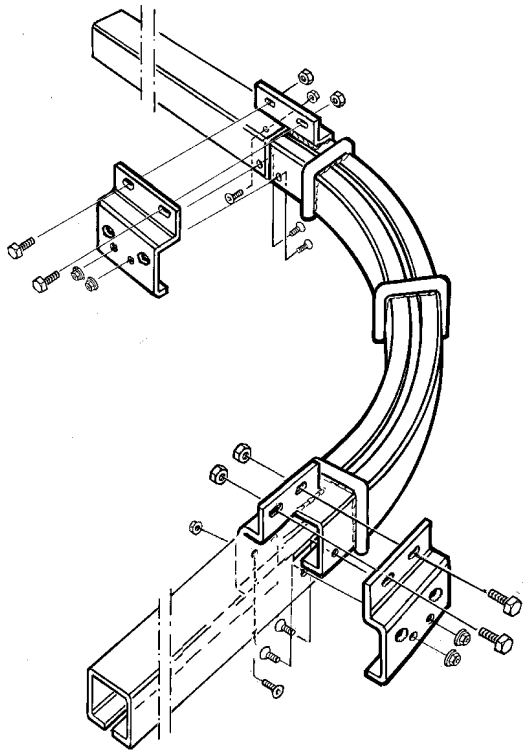


Rail to rail

For the rail sections, there must be:
- a support for each rail section
- a lateral anchor every tenth metre
- a lateral anchor at rail ends

- Tighten the bolts
- Drill a Ø7 mm hole in the rail. (The jointing irons are already predrilled.)
- Fit the Allen screw from inside the rail. Fit the nut and tighten. A little grease on the the screw head facilitates the mounting.

The welded part on curves and points do not need to be locked.

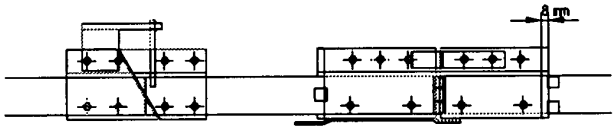


Rail to curve or point

For each curve or point, there must be:
- a support for every curve or point
- a lateral anchor
- a lengthwise anchor

- Tighten the bolts
- Drill a Ø7 mm hole in the rail. (The jointing irons are already predrilled.)
- Fit the Allen screw from inside the rail. Fit the nut and tighten. A little grease on the the screw head facilitates the mounting.

The welded part on curves and points do not need to be locked.

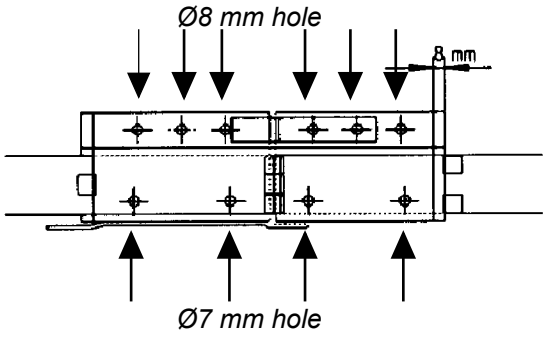


Rail openings

Rail opening < 1200 mm

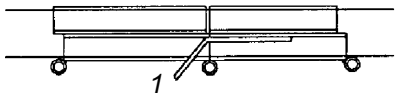
The rail opening can be fitted as right-hand or left-hand hinged.

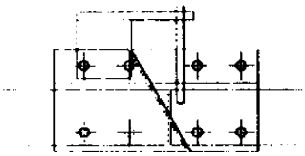
- Fit the complete rail. Cut to length in place to give the desired passage.
- The rail joint making up the fixed part of the hinge is displaced 8 mm to provide support for the opening part.
  - Drill six new Ø8 holes in the jointing irons.



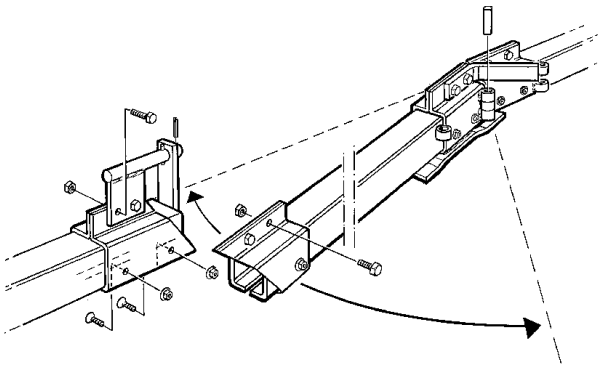
Seen from above

- Fit the stop for the hinged part (1)



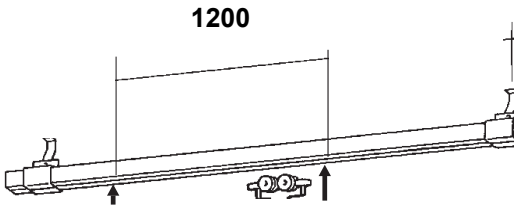


- Drill Ø7 holes through the rail. Insert M5x16 mm bolts from the inside of the rail through the rail opening and lock with M5 nuts on the outside.

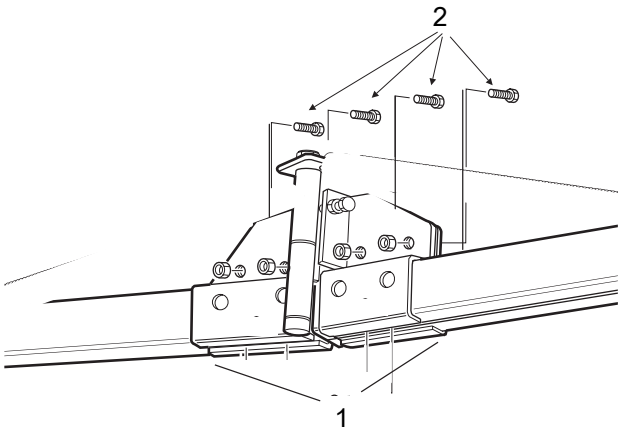


- Cut off the rail at the desired place and fit the clip cut off at an angle and the guard. Fit the bolts.
- Anchor the rail opening rigidly in lengthwise and lateral directions. (See Planning).

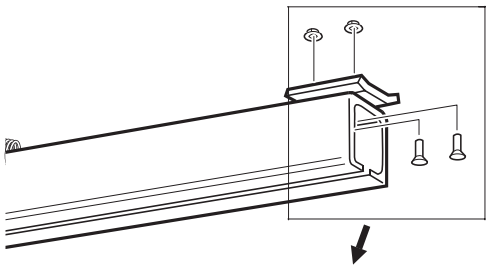
Automatic rail opening

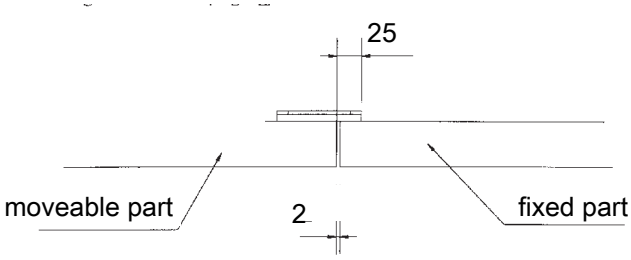


- Cut the rail where it should be opened. Opening part max. 1200 mm.

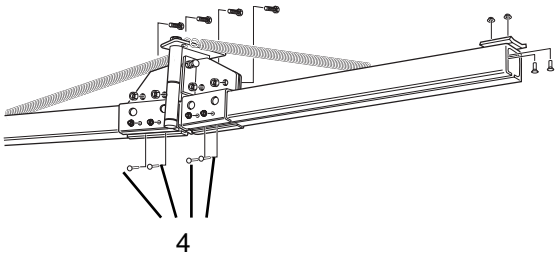


- Mount the hinge loosely both on the fixed and the opening part (1).
- Lift the end of the moveable rail and adjust it to press against the fixed rail. Tighten the screws on the hinge (2).
- Adjust the hinge symmetrically at the joint. The track must form a straight line.

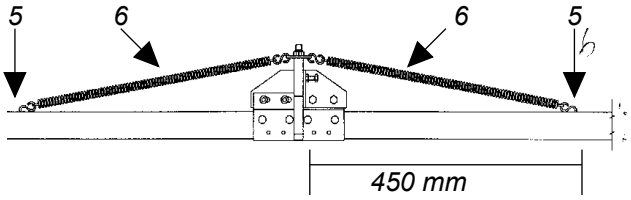




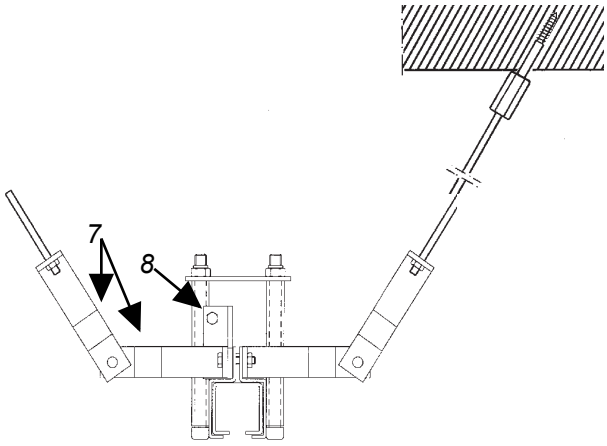
- Mount the rail support in the other end of the moveable rail. Drill 2 holes Ø8 mm and mount square necked screws M6x16 mm with the head from inside (3).



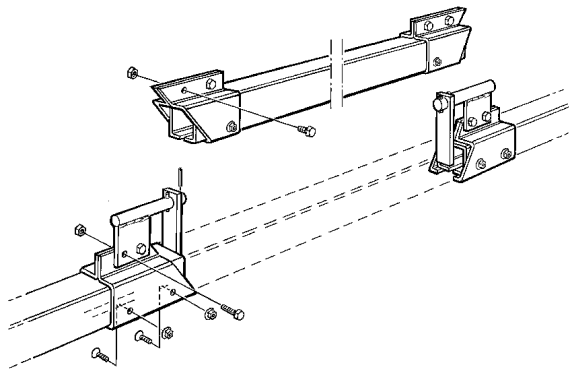
- Drill holes Ø7 mm in the rail and fasten the countersunk screws M5 (4).
- Drill holes Ø7 mm on the upper side of the rail, at the hinge, 450 mm from the rail joint. Mount the S-formed hooks (5).



- Mount the springs (6).
- Mount the side bars so that the rail does not revolve when it is opened (7).
- Adjust the height with the roof bars.
- Adjust the opening part with the adjusting screws on the hinge (8).



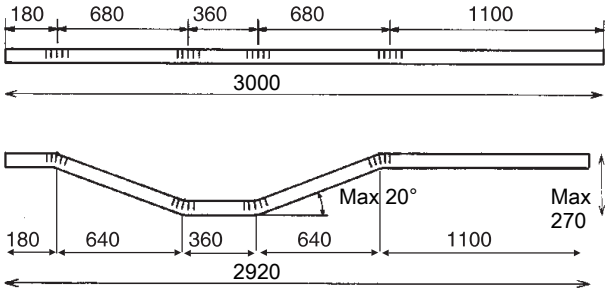
- Before leaving the farm – check the feed wagon not getting stuck on the moveable part. Check this also for the case the feed wagon would change direction whilst passing through the rail opening.



Rail opening < 3000 mm

If the rail opening is wider then 1200 mm, an opening of up to 3000 mm can be used.

- Fit the complete rail
  - Cut to length in place to give the desired passage
- Cut the rail at desired place and fit the clip cut off at an angle and the guard. Fit the bolts.
- Anchor the rail opening rigidly in lengthwise and lateral directions.



Level curve

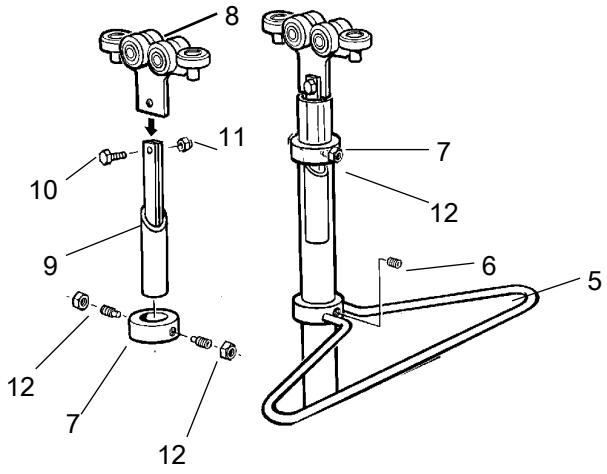
The level curve is supplied as a straight rail (notched) and is bent to place. Make the curve as smooth as possible to prevent the bogies of the carriers catching on the rail.

Note! *Maximum difference in levels is 270 mm*

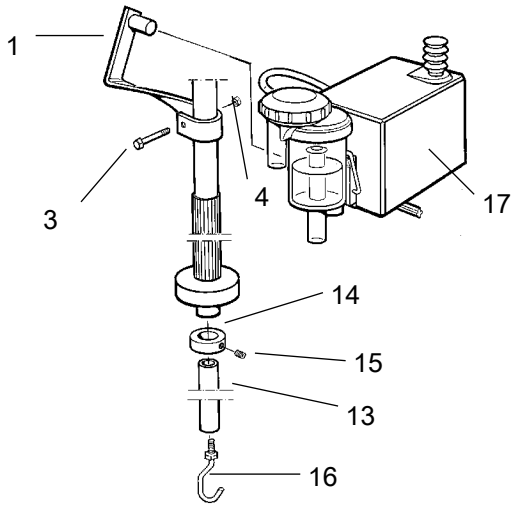
- Make a trial run with a bogie before fitting.
- Anchor the level curve rigidly lengthwise and at the sides with the aid of ceiling supports.

EasyLine Duovac carrier

Installation



- Fit the Duovac support (1) on to the support tube (2). Fasten with M6x50 mm bolt (3) and lock with M6 nut (4). Adjust the height after the Duovac units and tubes have been fitted.
- Attach the milk meter support (5) on to the support tube and secure with a stop screw (6) about 200 mm from the top of the tube. Make a final adjustment later.
- Fit the locking ring (7)
- Fit the bogie (8) on to the swivel socket (9) with M8x20 mm bolt (10) and nut (11)
- Lock with the nut (12)

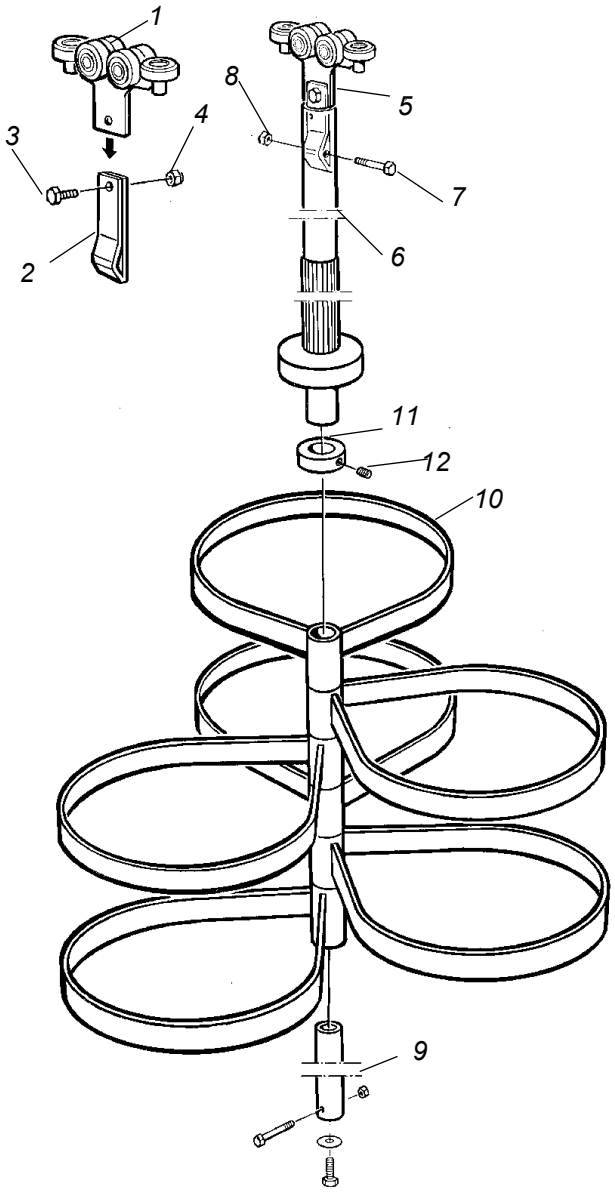


Note! *The nuts (11 and 12) should not be tightened too hard, as this could restrain the pivoting and rotating functions of the support tube*

- Fasten the telescopic tube (13), lock ring (14) and stop screw (15). The final adjustment should be made when the milking cluster has been installed.
- Screw the support hook (16) into the bottom of the support tube.
- Attach the Duovac unit (17)

EasyLine bucket carrier

Installation



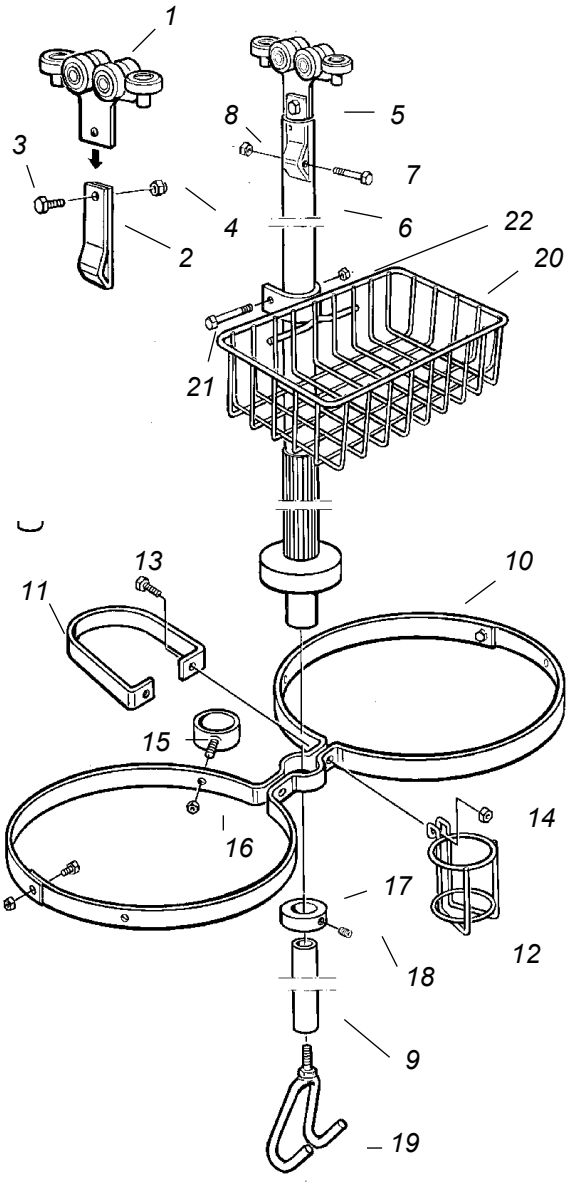
- Fit the bogie (1) on to the socket (2) with M8x20 mm bolt (3) and lock nut (4)

Note! *The nut must not be tightened too hard. It must be possible for the support tube to swing.*

- Fit the socket (5) into the support tube (6). Lock with M6x45 mm bolt (7) and nut (8) through the hole in socket and support tube.
- Release the telescopic tube (9) and attach the bucket supports (10)
- Fasten the telescopic tube in the support tube with stop ring (11) and lock nut (12)

EasyLine hygiene carrier

Installation



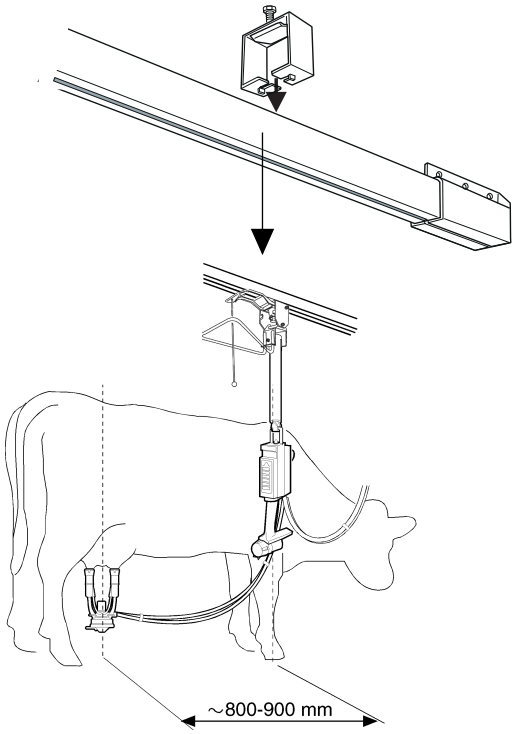
- Fit the bogie (1) on to the socket (2) with M8x20 mm bolt (3) and nut (4).

Note! *The nut must not be tightened too hard. It must be possible for the support tube to swing.*

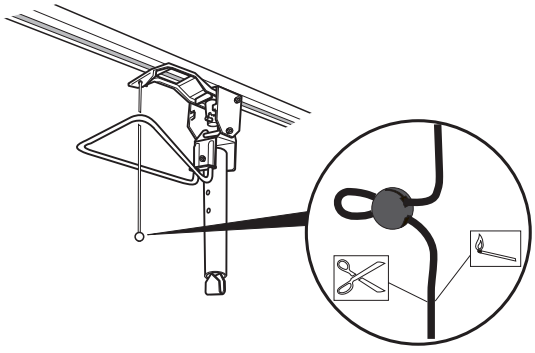
- Fit the socket (5) in the support tube (6). Lock with M6x45 mm screw (7) and nut (8) through the hole in swivel socket and support tube.
- Release the telescopic tube (9) and attach the bucket supports (10). Secure these together with bracket (11) and the two bottle holders (12). Use M6x20 mm bolts (13) and M6 nuts (14).
- The ring (15) for holding a tube is fastened on to the bucket support by an M6 nut (16)
- Fasten the telescopic tube (9) in the support tube with stop ring (17) and nut (18). (The height must be adapted to suit the actual conditions).
- Screw in the hook (19) for supporting a milk pail at the bottom of the telescopic tube.
- Bring the wire basket (20) on to the tube above the plastic grip. Fasten with M6x50 mm bolt (21) and M6 nut (22).

EasyLine MilkMaster carrier

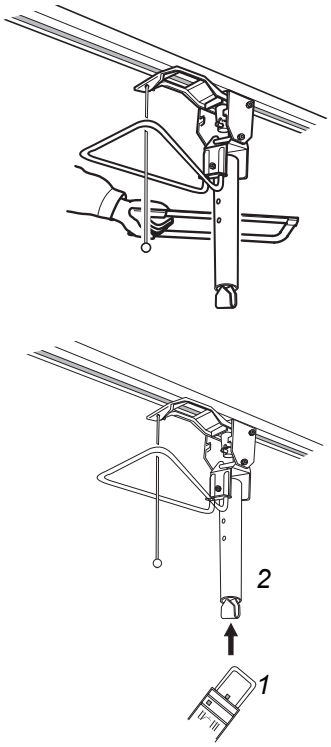
Installation



- Install the rail stop in a position 800-900 mm in front of the udder.



- Cut the cord to suitable length. Heat up the ends.

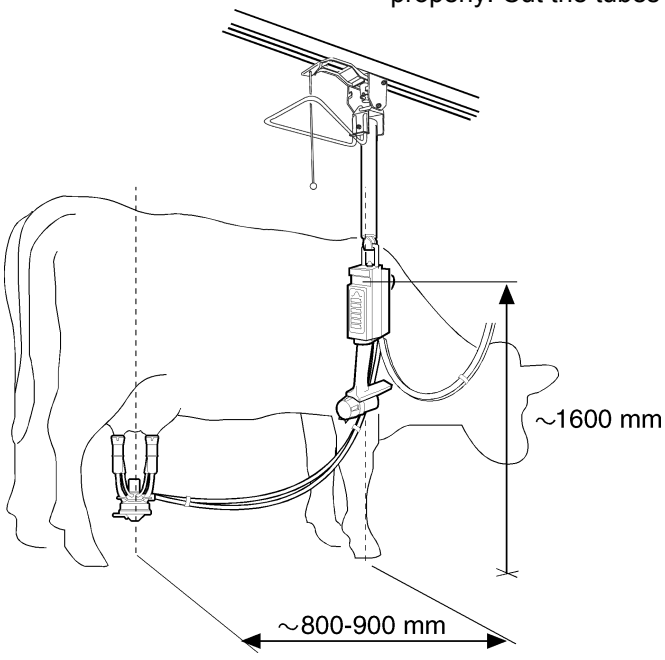


If the rail is installed lower than normal it is possible to cut the hanger pipe to a suitable height.

- Attach the special hanger (1) to the MilkMaster unit. Hook the unit to the carrier (2). The MilkMaster must be in 45 degrees angle to be hooked in.

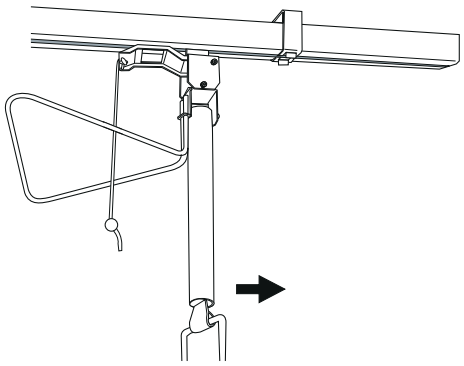
Alignment of the tubes

It is very important to align the tubes properly. Cut the tubes to suitable length.

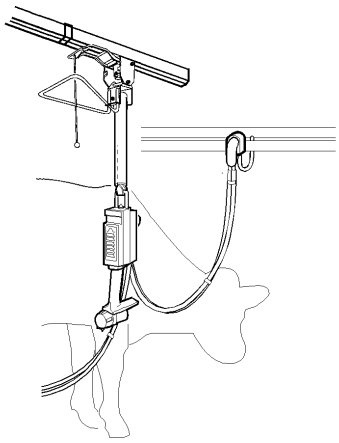


EasyLine MilkMaster carrier

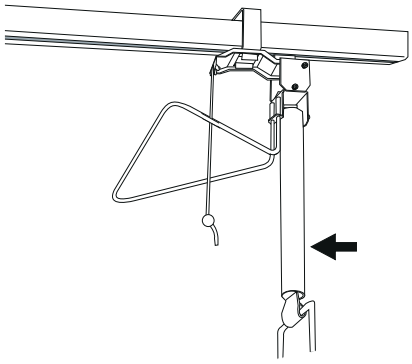
Operation



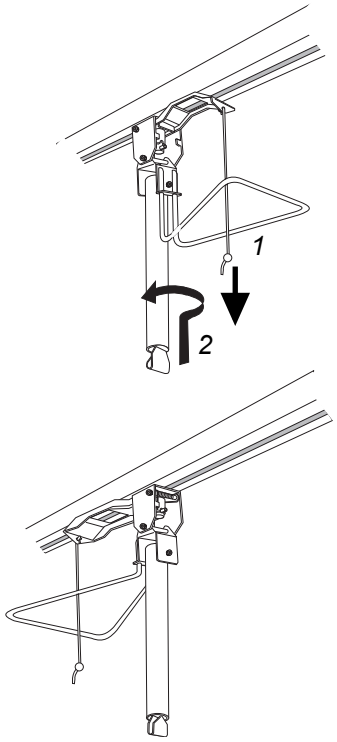
- Push the carrier past the rail stop. If the carrier is pushed with normal speed it will pass the rail stop.



- Attach the milk cock and pull the carrier backwards.

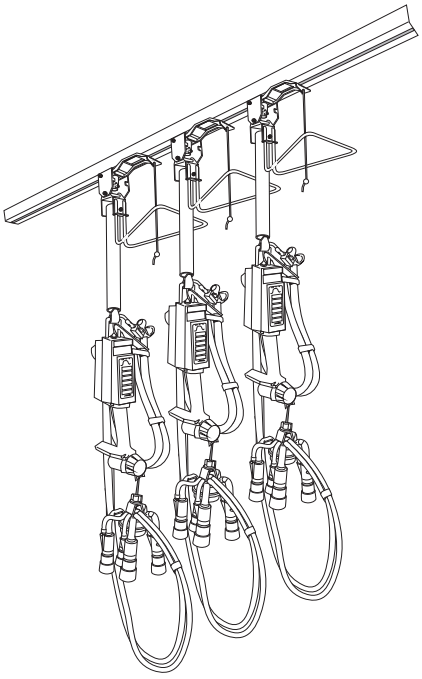


- Pull the carrier back to the locking postion.
- Pull the cord to release the carrier from the rail stop.



Turning around the carrier

The carrier is turned around 180 degrees by pulling the cord (1) until the carrier lifts about 10 mm. Now the unit can be turned (2) freely.



Moving the carriers

- Push the carriers in a train form when moving them from milk room to stall.

Easy Line

Service

Once a month

- Check the supports and anchorage of the rails
- Tighten screws, bolts and nuts
- Clean the bogie wheels and check for wear
- Check that the tongues of points have not been deformed

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