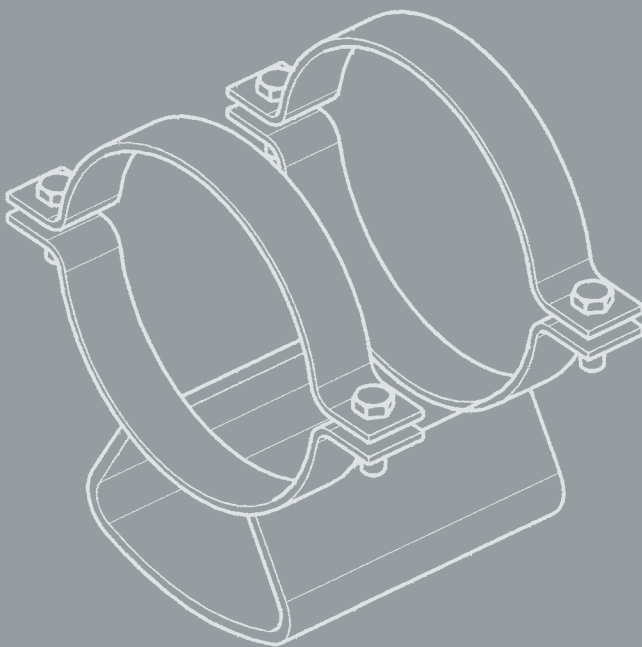
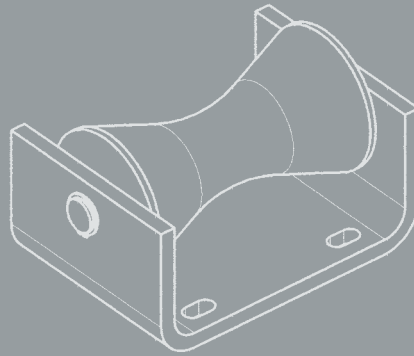
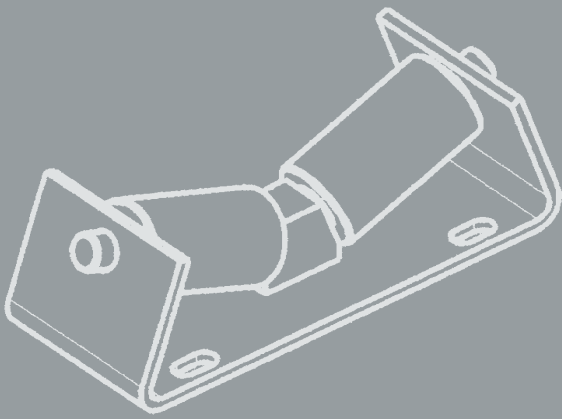
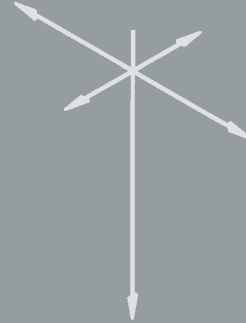


Roller bearings, pipe saddles, cryogenic clamp bases

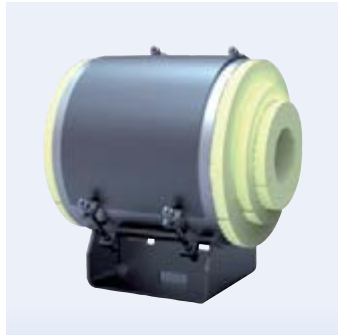
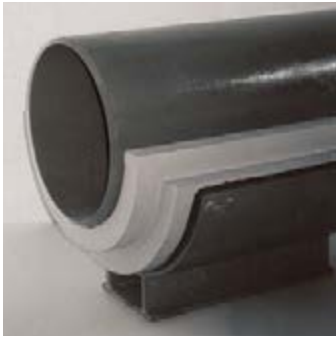
5

ROLLER BEARINGS, PIPE SADDLES,
CRYOGENIC CLAMP BASES



PRODUCT
GROUP

5



Roller bearings, pipe saddles and cryogenic clamp bases

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PRODUCT GROUP 5

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Roller bearings and pipe saddles

Type 51, 52, 53, 54, 55

Pipe systems arranged horizontally over longer stretches are supported by movable support bearings and fixed points. To ensure thermal expansion displacement with little friction, the bearing points are designed to be rolling or sliding.

For pipe systems of larger diameters and especially where high loads are caused by fluids and insulation weights, the optimum solution is provided by roller bearings of high load-bearing capacity, great reliability and extremely low friction resistance.

LISEGA standard roller bearings and pipe saddles

These components offer a suitable standard solution for a wide range of applications within product group 5.

For use outside the standard range specially modified designs can be supplied.

Design features and execution

In the development of standard roller bearings, the special practical requirements to be met were taken into account.

The design of the roller bearing enables optimum corrosion protection through galvanization.

The bearing axles are made of austenitic material with polished surfaces. As bearings for the rollers, bushings made of a sintered teflon / bronze composite material are fitted. They are maintenance-free and guarantee smooth dry run characteristics. A formed collar on the bushings minimizes starting friction on lateral loading.

The bearing axles are permanently fixed in the middle section of the base body of the double cylinder roller bearings. Special securing devices on the side bracket are not required.

The rollers are of high-tensile carbon steel. The running surfaces are machined.

To balance lateral offset in anchor bolts on site, the intake holes of the base body are slotted. The installation height (E dimensions) within a load group range are the same for rigid and laterally movable roller bearings.

Data on material quality, norms, calculations and welding can be found in the **technical specifications**, pp. 0.9 and 0.10.

Manufacture and storage

Standardization of the products permits efficient series production and storage for most components. For individual manufacture or fabrication in small batches, modern order logistics ensures rapid production and delivery.

Technical data for roller bearings:

- **rolling resistance of the rollers**
max. 4%
- **rolling resistance on lateral displacement**
max. 4%
- **temperature range for nominal load**
– 30°C to + 80°C
- **permissible lateral loading 35% of nominal load**
- **permissible lift-off load 10% of nominal load**



Special pipe saddle type 54 with double cylinder roller bearing type 53 and lift-off restraints type 55



Roller bearings

The roller bearings can be fastened with simple bolted connections or welded to the supporting surface. In all cases the whole base plate must lie flush on the surface.

On slight lateral offset of existing anchor bolts the roller bearings can be easily aligned using the existing slot holes.

Pipe saddles

Pipe saddles for welding are supplied with a weldable primer as corrosion protection (see technical specifications, pp. 0.10 and 0.11).

Clamp-fastened pipe saddles are supplied ready-to-install. Close attention must be paid to true-to-size seating and sufficient pre-stressing.

Lift-off restraints

When installing lift-off restraints, normal displacement over the whole range must be ensured to allow sufficient play between rollers and lift-off restraints.

Their special design and their manufacturing quality offer the following benefits in application:

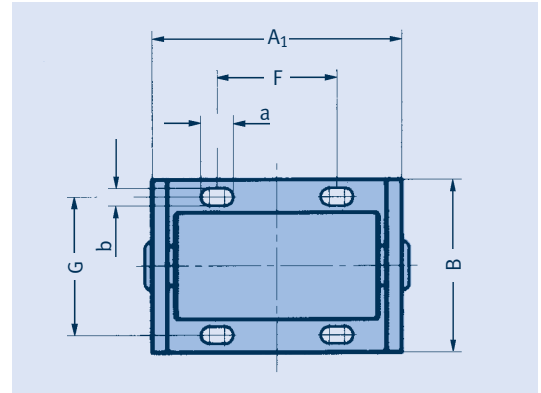
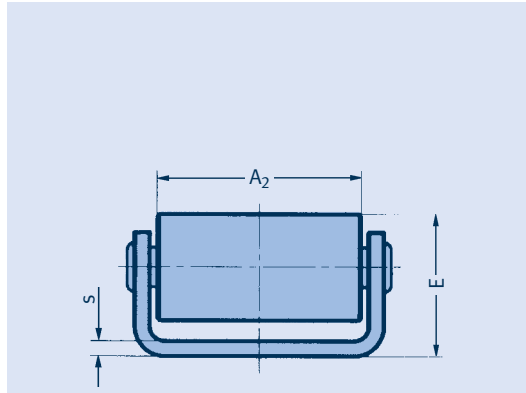
- maintenance of minimum rolling resistance (max. 4%)
- absorption of realistic lateral loading for double taper and double cylinder roller bearings (35% of the support load)
- for double cylinder roller bearings the whole support load can be borne by a single roller
- absorption of lateral displacement possible by laterally movable designs
- safe and simple design of lift-off restraints
- pipe saddles facilitate load transmission into the pipe walls
- pipe saddle design minimizes heat transmission
- galvanized corrosion protection for all roller bearings
- maintenance-free operation
- roller axle made of non-rusting steel
- teflon-bronze composite bushings
- wide range of support diameters (OD 60mm - OD 1350mm)
- high load capacity (max. support load 120kN)
- low installation heights (see selection table for 'E' dimensions)

Roller bearings

Type 51, 52

Cylinder roller bearings type 51 08 19 to 51 35 19

Surface:
hot dip galvanized

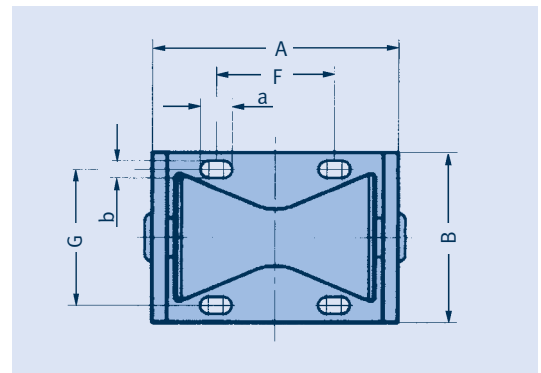
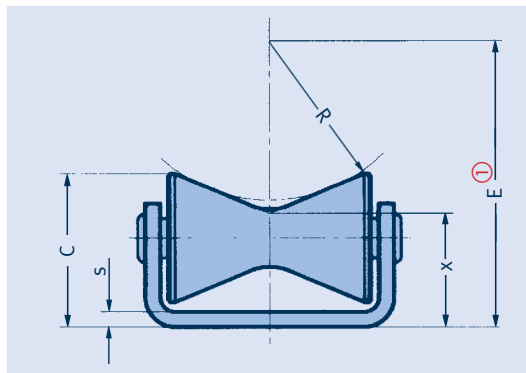


Order details:
cylinder roller bearing
type 51 .. 19

type	load F_N [kN]	A_1	A_2	B	E	F	G	a	b	s	weight [kg]
51 08 19	8	90	70	80	50	35	60	20	10	5	1.2
51 16 19	16	120	100	100	60	55	75	24	12	6	2.4
51 35 19	35	145	120	130	85	60	95	26	14	10	5.5

Double taper roller bearings type 52 04 19 to 52 35 19

Surface:
hot dip galvanized



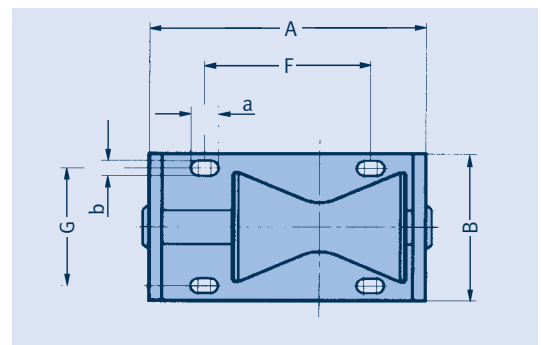
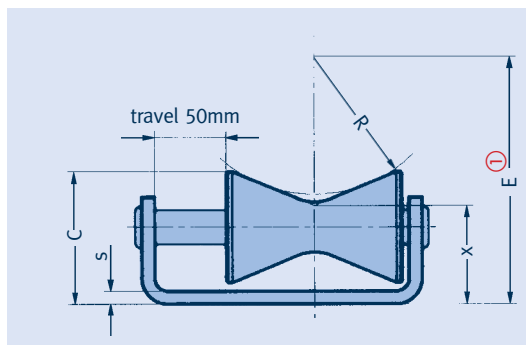
① $E = 1.064 \times R + x$

type	load F_N [kN]	R	A	B	C	E ①		F	G	a	b	s	x	weight [kg]
						min.	max.							
52 04 19	4	27 – 100	105	90	70	83	160	55	70	20	10	4	54	1.8
52 08 19	8	84 – 130	135	100	85	153	202	75	75	20	10	6	64	3.3
52 16 19	16	110 – 165	165	120	100	191	250	90	90	24	12	8	74	5.4
52 35 19	35	136 – 230	230	160	135	247	347	130	120	26	14	12	102	14.0

Order details:
double taper roller bearing
type 52 .. 19

Double taper roller bearings (laterally movable) type 52 04 29 to 52 35 29

Surface:
hot dip galvanized

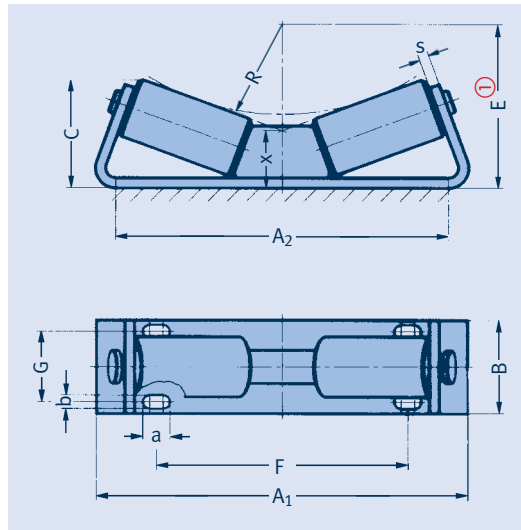
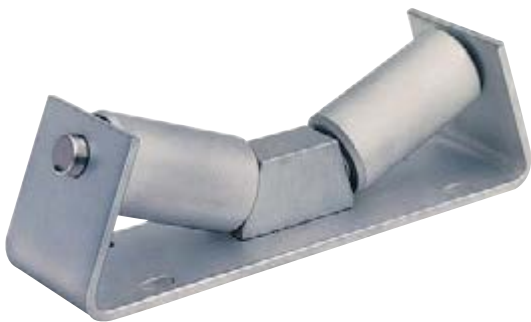


① $E = 1.064 \times R + x$

type	load F_N [kN]	R	A	B	C	E ①		F	G	a	b	s	x	weight [kg]
						min.	max.							
52 04 29	4	27 – 100	155	90	70	83	160	105	70	20	10	4	54	2.0
52 08 29	8	84 – 130	185	100	85	153	202	120	75	20	10	6	64	3.6
52 16 29	16	110 – 165	215	120	100	191	250	140	90	24	12	8	74	6.0
52 35 29	35	136 – 230	280	160	135	247	347	180	120	26	14	12	102	15.5

Order details:
double taper roller bearing
(laterally movable)
type 52 .. 29

Double cylinder roller bearings Type 53



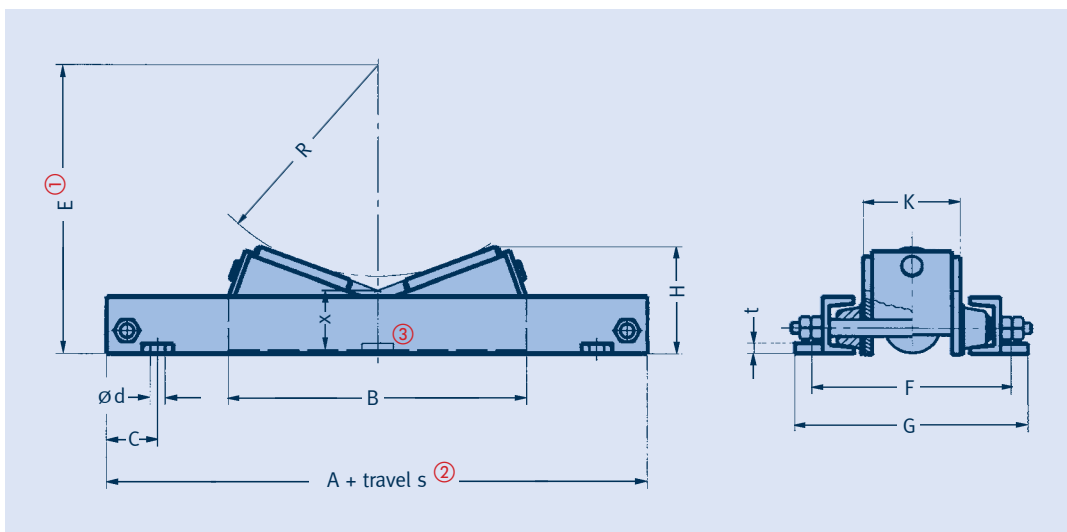
**Double cylinder rollers bearing
type 53 08 19 to 53 12 19**

Surface:
hot dip galvanized

type	load F_N [kN]	R	A_1	A_2	B	C	E ①		F	G	a	b	s	x	weight [kg]
							min.	max.							
53 08 19	8	30 – 190	210	190	80	65	72	242	140	60	20	10	5	40	2.5
53 16 19	16	85 – 310	310	285	100	90	135	375	230	75	24	12	6	45	5.5
53 35 19	35	175 – 440	420	370	130	110	240	520	320	90	26	14	10	53	14.0
53 60 19	60	250 – 520	490	430	150	135	329	615	370	100	31	18	12	63	23.0
53 12 19	120	400 – 675	620	525	180	165	495	785	460	115	31	22	18	70	48.0

① $E = 1.064 \times R + x$

Order details:
double cylinder roller bearing
type 53 .. 19



**Double cylinder roller bearings (laterally movable)
type 53 08 29 to 53 12 29**

travel s = lateral pipe movement

Surface:
hot dip galvanized

type	load F_N [kN]	R	A	B	C	ød	E ①		F	G	H	K	t	x	weight [kg]	
							min.	max.							for $s = 100\text{mm}$	+ per 100mm
53 08 29	8	30 – 190	260	210	50	10	72	242	145	165	65	60	5	40	6	0.6
53 16 29	16	85 – 310	350	300	50	12	135	375	160	185	90	75	5	45	10	0.6
53 35 29	35	175 – 440	475	410	60	14	240	520	215	245	110	100	6	53	23	1.0
53 60 29	60	250 – 520	530	465	70	18	329	615	250	290	130	120	8	63	35	1.0
53 12 29	120	400 – 675	700	635	80	23	495	785	315	360	160	145	10	70	70	1.7

① $E = 1.064 \times R + x$

② Travel $s = 100...600\text{mm}$.

③ Middle fixed point from travel $s = 300\text{mm}$.

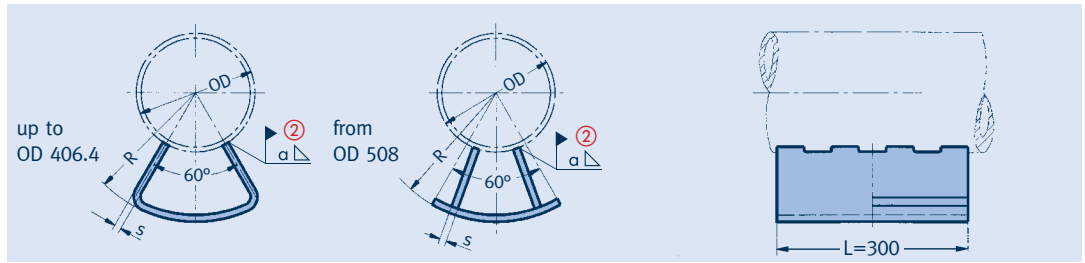
Order details:
double cylinder roller bearing (laterally movable)
type 53 .. 29
with $s = \dots\text{mm}$

Weld-on pipe saddles Type 54

Pipe saddles with clamps Type 54

Weld-on pipe saddles type 54 06 19 to 54 81 19

Surface:
weldable primer



① Load at pipe temperature
≤ 150°C

② Min. weld seam

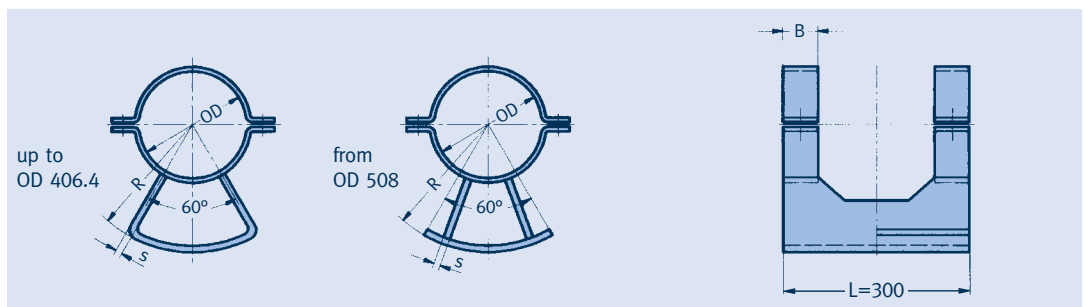
type	load F_N [kN] ①	OD	R	α ②	s	weight [kg]
54 06 19	1.4	60.3	80 – 180	3.0	3	1.4 – 3.5
54 08 19	1.4	76.1	90 – 190	3.0	3	1.5 – 3.7
54 09 19	1.4	88.9	95 – 195	3.0	3	1.5 – 3.8
54 11 19	1.8	114.3	110 – 210	3.0	3	1.5 – 4.0
54 14 19	4.0	139.7	120 – 220	3.0	4	2.0 – 5.0
54 17 19	4.0	168.3	135 – 235	3.0	5	3.0 – 6.5
54 19 19	5.0	193.7	150 – 250	3.0	5	3.0 – 6.8
54 22 19	8.0	219.1	160 – 260	4.0	6	4.0 – 8.0
54 27 19	12	273.0	190 – 290	4.0	10	6.7 – 13.5
54 32 19	20	323.9	215 – 315	4.0	12	9.6 – 18
54 36 19	20	355.6	230 – 330	4.0	12	10 – 18
54 41 19	38	406.4	255 – 355	5.0	15	13 – 25
54 51 19	50	508.0	325 – 415	5.0	10	10 – 16
54 61 19	65	609.6	375 – 465	5.0	12	12 – 21
54 71 19	100	711.2	430 – 520	6.0	15	16 – 26
54 81 19	120	812.8	480 – 570	6.0	20	19 – 33

Order details:

weld-on pipe saddle
type 54 .. 19
R = ...mm

Pipe saddles with clamps type 54 06 29 to 54 81 29

Surface:
hot dip galvanized



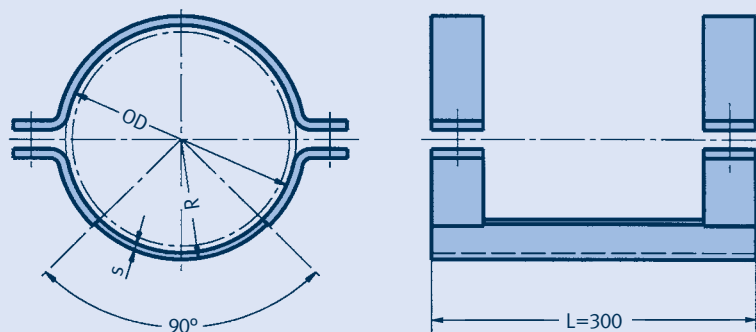
① Load at pipe temperature
≤ 150°C

type	load F_N [kN] ①	OD	R	B	s	weight [kg]
54 06 29	1.4	60.3	80 – 180	40	3	2.5 – 4.8
54 08 29	1.4	76.1	90 – 190	40	3	2.8 – 5.8
54 09 29	1.4	88.9	95 – 195	40	3	3.1 – 6.0
54 11 29	1.8	114.3	110 – 210	50	3	5.0 – 7.0
54 14 29	4.0	139.7	120 – 220	50	4	6.0 – 9.0
54 17 29	4.0	168.3	135 – 235	50	5	7.0 – 12
54 19 29	5.0	193.7	150 – 250	50	5	8.0 – 13
54 22 29	8.0	219.1	160 – 260	50	6	9.0 – 15
54 27 29	12	273.0	190 – 290	60	10	15 – 20
54 32 29	20	323.9	215 – 315	60	12	19 – 26
54 36 29	20	355.6	230 – 330	60	12	21 – 30
54 41 29	38	406.4	255 – 355	70	15	30 – 40
54 51 29	50	508.0	325 – 415	70	10	32 – 38
54 61 29	65	609.6	375 – 465	90	12	63 – 72
54 71 29	100	711.2	430 – 520	90	15	75 – 86
54 81 29	120	812.8	480 – 570	90	20	84 – 98

Order details:

pipe saddle with clamps
type 54 .. 29
R = ...mm

Pipe saddles with clamps Type 54 Lift-off restraints Type 55

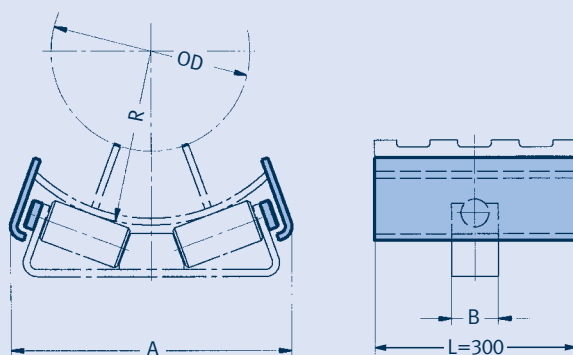


**Pipe saddles with clamps
type 54 06 39 to 54 81 39**

Surface:
hot dip galvanized

type	load F_N [kN]	OD	R	s	weight [kg]
54 06 39	0.8	60.3	34	3	1.7
54 08 39	0.8	76.1	41	3	2.0
54 09 39	1.2	88.9	48	5	2.6
54 11 39	1.5	114.3	62	5	4.7
54 14 39	4.0	139.7	75	5	5.4
54 17 39	4.0	168.3	90	5	5.9
54 19 39	5.0	193.7	102	5	6.6
54 22 39	8.0	219.1	116	6	7.5
54 27 39	10	273.0	143	6	11
54 32 39	15	323.9	170	8	14
54 36 39	20	355.6	188	10	16
54 41 39	35	406.4	214	10	24
54 51 39	40	508.0	264	10	28
54 61 39	60	609.6	317	12	56
54 71 39	80	711.2	370	15	68
54 81 39	100	812.8	421	15	75

Order details:
pipe saddle with clamps
type 54 .. 39



**Lift-off restraints
type 55 08 19 to 55 12 19**

Surface:
hot dip galvanized

type	compatible with roller bearing, type	A	B	R
55 08 19	53 08 19	226	80	30 – 190
55 16 19	53 16 19	335	100	85 – 310
55 35 19	53 35 19	455	130	175 – 440
55 60 19	53 60 19	560	150	250 – 520
55 12 19	53 12 19	700	180	400 – 675

Order details:
lift-off restraint
type 55 .. 19
for special pipe saddles
type 54 .. 39
R = ...mm

Insulated pipe supports for cold and cryogenic applications Type 56, 57



Warehouse for moulded insulations



Preassembled insulated supports



Special design for ø 1625.6mm

Supports for cold and cryogenic applications

LISEGA offers a complete product program of insulated pipe supports for all kinds of low temperature pipe systems. These products are normally used in industrial processes for the production, transport and distribution of liquefied gases. These can be propane and butane (LPG), methane (LNG), ethylene, nitrogen, ammonia etc..

LISEGA insulated pipe supports are standardized and designed according to recognized international technical codes and standards. They cover pipe sizes ranging from OD 21.3mm to OD 965.2mm, with insulation thicknesses from 25mm to 250mm. The supports are made from materials suitable for the specified loads and temperatures (temperature of medium as low as -196°C).

Insulating material

The material of the insulated standard pipe supports is made from fire-retarding polyurethane foam of high density (HD-PUF) and forms an integral part of the piping insulation.

Production of HD-PUF insulations

The HD-PUF insulations are moulded in heavy duty moulds under carefully controlled conditions in respect of temperature and air humidity. This process ensures dimensional stability as well as clean sharp edges that fit neatly with the adjacent line insulation material on site.

To guarantee form stability, the moulds are stored for a fixed period of time in order to cure. For insulations of higher thicknesses stepped joints are provided to match the layering of the adjoining line insulation. This method, also known as „shiplapping“, provides a reliable interlocking connection to each layer and prevents a direct heat path from the surface of the insulation through to the surface of the piping.

The stepped joints are 25mm long but can be supplied in 50mm steps on request. Insulation foam with thicknesses up to 50mm are single-layer designs without stepping.



Insulation foam with thicknesses of 80mm to 100mm are single layer with an extended step at either side. For type 56, insulation foam thicknesses of 130mm and higher are supplied as double-layer with two steps. To achieve load transmission for axial stop type 57, the HD-PUF cradles are designed as single-layers.

Both single-layer and double-layer HD-PUF insulations have stepped longitudinal joints. The size of these joints must be adjusted during installation to a specified gap dimension to ensure a clamping force from the insulated pipe support on the piping. Once installed the longitudinal gaps are then filled with a flexible insulating foam. The clamping force, which is applied by means of disc spring bolting, prevents relative movement between pipe support and piping.

A laminated aluminum/polyester vapor barrier is factory-bonded to the outer surface of the HD-PUF insulation. The vapor barrier overlaps the longitudinal joints and is sealed at site with a special vapor barrier adhesive tape. Directly after installation of the insulated pipe support, all exposed HD-PUF surfaces must be protected from moisture. For this purpose a cryogenic, elastomeric coating is applied as vapor barrier.

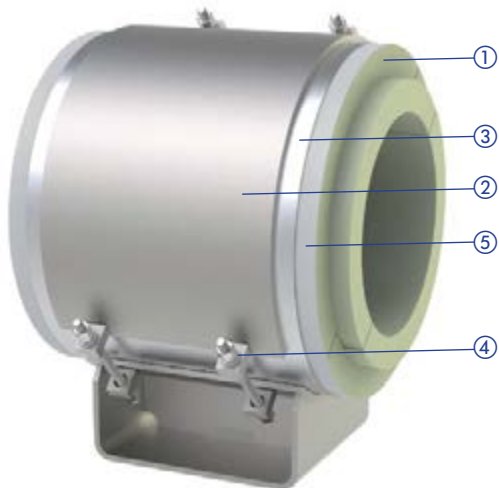
For the HD-PUF insulation three standard color-coded densities for various load requirements are available.

- 160kg/m³ – yellow
- 224kg/m³ – red
- 320kg/m³ – green

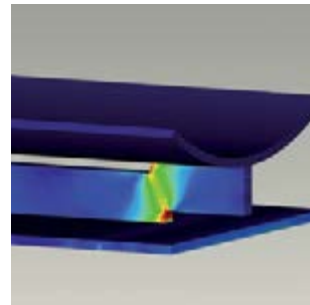
insulation thickness [mm]	insulation level thickness [mm]
80	40 / 40
100	50 / 50
130	50 / 40 / 40
150	50 / 50 / 50
180	50 / 80 / 50
200	50 / 100 / 50
250	75 / 100 / 75



Special advantages of HIPAC® insulated pipe supports



- ① HD-PUF insulation with stepped longitudinal joints and stepped front ends
- ② steel cradle
- ③ metal protective shield
- ④ disc spring bolting
- ⑤ vapor barrier



Finite element analysis of a special design



Insulated standard pipe support type 57

Insulated pipe support base

LISEGA standardized insulated pipe supports are designed to be clamped mechanically to the piping by means of disc spring bolting. The pipe support steel cradle, which houses the HD-PUF insulation, is made of carbon steel and hot-dip galvanized as standard.

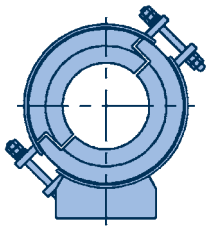
Material grades, welding and surface treatment comply with the LISEGA standard specifications. The integrated LISEGA quality assurance system applies to both the manufacture and preassembly of the pipe supports. Inspection and testing procedures guarantee compliance with the required specifications.

LISEGA insulated standard pipe supports are supplied with detailed installation instructions. Every support is clearly marked according to the LISEGA type designation system. The flexible gap filler insulation foam, as well as the special vapor barrier sealing tape are part of the scope of supply. Additional site installation materials such as cryogenic adhesives and mastics can be supplied on request.

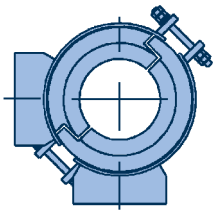
LISEGA insulated pipe supports are completely preassembled and supplied in appropriate packaging to protect them from surface damage and humidity during transport and storage.



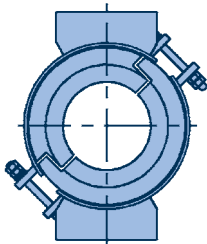
Preassembled insulated pipe supports



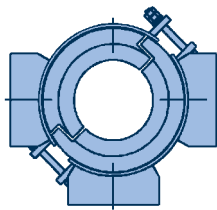
Type 56 ...



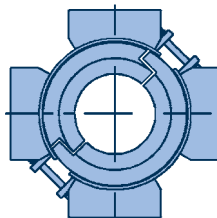
Type 56 ... -G2a



Type 56 ... -G2p



Type 56 ... -G3



Type 56 ... -G4

Design

Type 56 is a conventional insulated pipe support and functions as a slide or guide support. type 57 is similar to type 56 but serves as an axial stop that absorbs increased axial loads by means of thrust rings. The thrust rings on the piping consist of two half-rings which are welded together at site to form a single ring. The rings, which are movable on the piping, are fixed by means of shear lugs welded onto the pipe.

This patented design offers the advantage of fixing the insulated pipe support to the piping after final positioning. There is no need to disassemble the existing or already installed steelwork. The thrust rings and shear lugs are made of stainless steel and form part of the scope of supply.

Double and multiple clamp base pipe supports

For high vertical loads or high lateral loads, double clamp bases or guided supports are required. For this purpose, LISEGA's insulated pipe supports can be extended as required. Each variant is given a suffix after the 6th digit which describes the type of guide used. The pipe support can be ordered in the following designs:



Insulated double clamp base type 56 ... -G2P

G2A: Angulated clamp base pipe support (laterally guided)

G2P: Double clamp base pipe support (parallelly guided)

G3: Triple clamp base pipe support

G4: Quadruple clamp base pipe support

Type 56 as well as type 57 can be ordered with these guide options.

Special design

LISEGA takes pride in offering solutions to their clients and will gladly assist in any special inquiry.

- **Special pipe sizes can be accommodated.**
- **For large axial movements, special lengths can be supplied.**

- **The use of an insulated pipe support as a hanger (e.g. in combination with spring or constant hangers) is possible. In this case the shoe of the clamp base is replaced by a special pipe clamp type 43. The clamp is then designed for the particular conditions existing in each case.**



- **Deviations from the standard HD-PUF densities can be supplied, e.g. a density of 500kg/m² for high loads.**
- **The use of the pipe support on sliding components is possible. For this purpose a stainless steel plate is fixed to the underside of the shoe.**
- **For special applications when increased loads have to be absorbed, laminated wooden blocks can be utilized.**
- **The installation dimension 'E' can be adjusted but it must be considered that changes in the 'E' dimension can influence the design and the permissible loads. The actual operating loads must therefore be specified when ordering.**

All details required for product selection can be found in the special HIPAC® catalog.



Suspension with cryogenic pipe clamps



Cryogenic clamp base type 56



Pipes held in position with cryogenic supports



Final inspection of cryogenic clamp bases

Weld-on supports Type 57

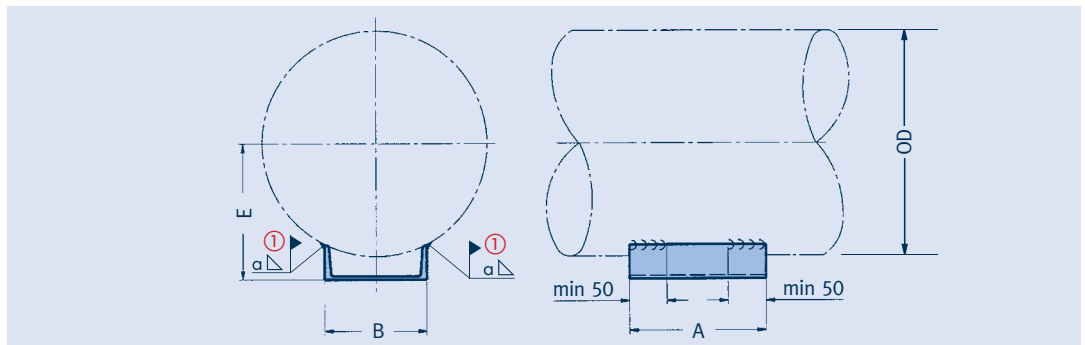
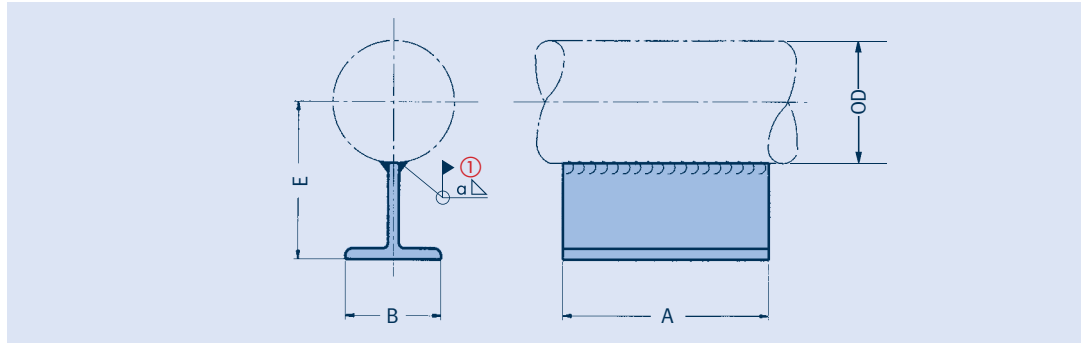
Weld-on pipe shoes made from T/U profiles type 57 .. 11 and 57 .. 12

For use at low pipe loads and temperatures $\leq 80^{\circ}\text{C}$

Material: S235JR

Surface: weldable primer

Type designation:
57 .. 11 (T Shoe)
57 .. 12 (U Shoe)



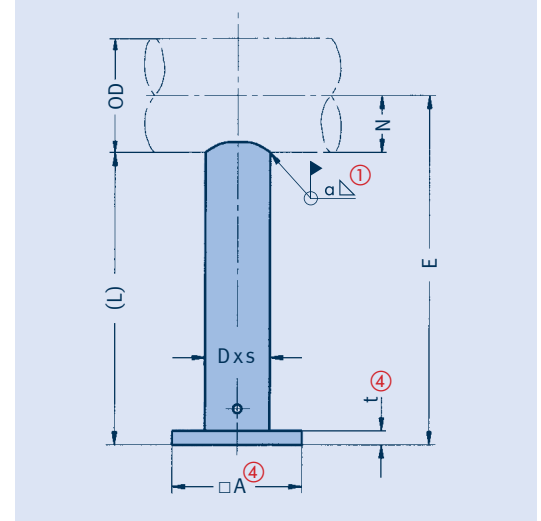
① Weld seam on site – for specified weld seam thickness and permissible load, the weld seam stress is smaller than 50N/mm^2 .

type	load F [kN] at 80°C	OD	A	B	E	α ①	weight [kg]
57 03 11	1.0	21.3	100	70	81	3.0	0.8
57 03 11	1.0	26.9	100	70	83	3.0	0.8
57 03 11	1.0	33.7	100	70	87	3.0	0.8
57 03 11	1.0	42.4	100	70	91	3.0	0.8
57 03 11	1.0	48.3	100	70	94	3.0	0.8
57 07 11	1.5	60.3	150	70	100	3.0	1.2
57 07 11	1.5	73.0	150	70	107	3.0	1.2
57 07 11	1.5	76.1	150	70	108	3.0	1.2
57 07 11	1.5	88.9	150	70	115	3.0	1.2
57 13 11	2.0	108.0	150	100	154	3.0	2.5
57 13 11	2.0	114.3	150	100	157	3.0	2.5
57 13 11	2.0	133.0	150	100	167	3.0	2.5
57 13 11	2.0	139.7	150	100	170	3.0	2.5
57 13 11	2.0	159.0	150	100	180	3.0	2.5
57 13 11	2.0	168.3	150	100	184	3.0	2.5
57 24 12	6.0	193.7	250	100	135	5.0	2.7
57 24 12	6.0	219.1	250	100	150	5.0	2.7
57 24 12	6.0	244.5	250	100	163	5.0	2.7
57 24 12	6.0	267.0	250	100	175	5.0	2.7
57 24 12	6.0	273.0	250	100	178	5.0	2.7
57 36 12	8.0	323.9	250	160	210	5.0	4.7
57 36 12	10	355.6	250	160	226	5.0	4.7
57 36 12	10	368.0	250	160	233	5.0	4.7
57 42 12	10	406.4	250	200	255	5.0	6.3
57 42 12	10	419.0	250	200	262	5.0	6.3
57 42 12	12	457.2	250	200	283	5.0	6.3
57 51 12	15	508.0	250	240	312	5.0	8.3
57 51 12	15	558.8	250	240	340	5.0	8.3
57 61 12	20	609.6	250	300	370	5.0	11.6
57 61 12	20	660.4	250	300	400	5.0	11.6

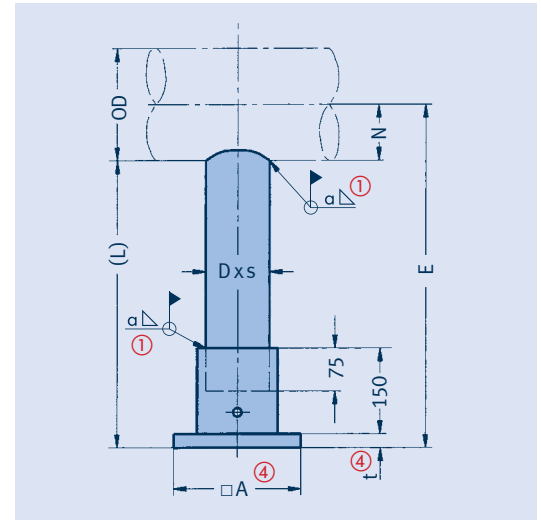
Order details:
weld-on pipe shoes
type 57 .. 1.

Stanchions for horizontal pipes Type 58

type ③	OD	D x s	stanchions type	α ②	N	E _{min}	E _{max}
58 05 .1	48.3	33.7 x 4.5	a	3.0	24	250	1000
58 06 .1	60.3	33.7 x 4.5	a	3.0	30	250	1000
58 06 .2	60.3	48.3 x 5.0	b	3.0	30	250	1100
58 07 .1	73.0	33.7 x 4.5	a	3.0	37	250	1000
58 07 .2	73.0	48.3 x 5.0	b	3.0	37	250	1100
58 08 .1	76.1	33.7 x 4.5	a	3.0	38	250	1000
58 08 .2	76.1	48.3 x 5.0	b	3.0	38	250	1100
58 09 .1	88.9	33.7 x 4.5	a	3.0	44	250	1000
58 09 .2	88.9	48.3 x 5.0	b	3.0	44	250	1100
58 10 .1	108.0	48.3 x 5.0	b	3.0	54	300	1150
58 10 .2	108.0	73.0 x 7.0	c	3.0	54	300	1150
58 11 .1	114.3	48.3 x 5.0	b	3.0	57	300	1150
58 11 .2	114.3	73.0 x 7.0	c	3.0	57	300	1150
58 13 .1	133.0	48.3 x 5.0	b	3.0	67	300	1150
58 13 .2	133.0	73.0 x 7.0	c	3.0	67	300	1150
58 14 .1	139.7	73.0 x 7.0	c	3.0	70	300	1150
58 14 .2	139.7	88.9 x 5.6	d	3.0	70	300	1150
58 16 .1	159.0	73.0 x 7.0	c	3.0	80	300	1150
58 16 .2	159.0	88.9 x 5.6	d	3.0	80	300	1150
58 17 .1	168.3	73.0 x 7.0	c	3.0	84	300	1150
58 17 .2	168.3	88.9 x 5.6	d	3.0	84	300	1150
58 19 .1	193.7	88.9 x 5.6	d	3.0	97	350	1150
58 19 .2	193.7	114.3 x 8.8	e	5.0	97	350	1150
58 22 .1	219.1	88.9 x 5.6	d	3.0	110	350	1200
58 22 .2	219.1	114.3 x 8.8	e	5.0	110	350	1200
58 24 .1	244.5	88.9 x 5.6	d	3.0	122	350	1200
58 24 .2	244.5	114.3 x 8.8	e	5.0	122	350	1200
58 26 .1	267.0	114.3 x 8.8	e	5.0	134	350	1200
58 26 .2	267.0	139.7 x 10	f	7.0	134	350	1200
58 27 .1	273.0	114.3 x 8.8	e	5.0	137	350	1200
58 27 .2	273.0	139.7 x 10	f	7.0	137	350	1200
58 32 .1	323.9	139.7 x 10	f	7.0	162	400	1250
58 32 .2	323.9	219.1 x 8.0	g	5.0	162	400	1250
58 36 .1	355.6	139.7 x 10	f	7.0	178	400	1250
58 36 .2	355.6	219.1 x 8.0	g	5.0	178	400	1250
58 37 .1	368.0	139.7 x 10	f	7.0	184	400	1250
58 37 .2	368.0	219.1 x 8.0	g	5.0	184	400	1250
58 41 .1	406.4	139.7 x 10	f	7.0	203	450	1300
58 41 .2	406.4	219.1 x 8.0	g	5.0	203	450	1300
58 42 .1	419.0	139.7 x 10	f	7.0	210	450	1300
58 42 .2	419.0	219.1 x 8.0	g	5.0	210	450	1300
58 46 .1	457.2	219.1 x 8.0	g	5.0	229	500	1300
58 46 .2	457.2	323.9 x 10	h	7.0	229	500	1300
58 51 .1	508.0	219.1 x 8.0	g	5.0	254	500	1350
58 51 .2	508.0	323.9 x 10	h	7.0	254	500	1350
58 56 .1	558.8	219.1 x 8.0	g	5.0	279	550	1350
58 56 .2	558.8	323.9 x 10	h	7.0	279	550	1350
58 61 .1	609.6	323.9 x 10	h	7.0	305	550	1400
58 66 .1	660.4	323.9 x 10	h	7.0	330	600	1400
58 71 .1	711.2	323.9 x 10	h	7.0	356	600	1450
58 76 .1	762.0	323.9 x 10	h	7.0	381	650	1450
58 81 .1	812.8	323.9 x 10	h	7.0	406	650	1500
58 91 .1	914.4	323.9 x 10	h	7.0	457	700	1550



Type 58 .. 11
Type 58 .. 12



Type 58 .. 21
Type 58 .. 22

①...④ See p. 5.15.

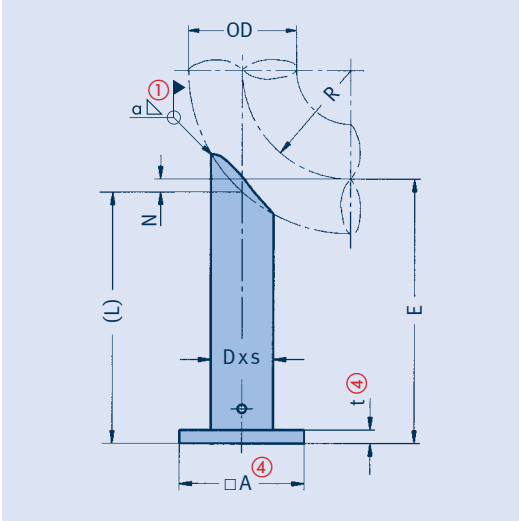
Example: Telescopic stanchion for pipe
OD = 244.5mm, E = 800 (as sliding shoe).
The stanchion length amounts to: L = E - N
(see data in selection table)
L = 800mm - 122mm = 678mm.

For stanchion D = 88.9 mm (designation 'd').
Permissible load = 0.36 x 11kN
(see table and diagram on p. 5.15) = 3.96kN.

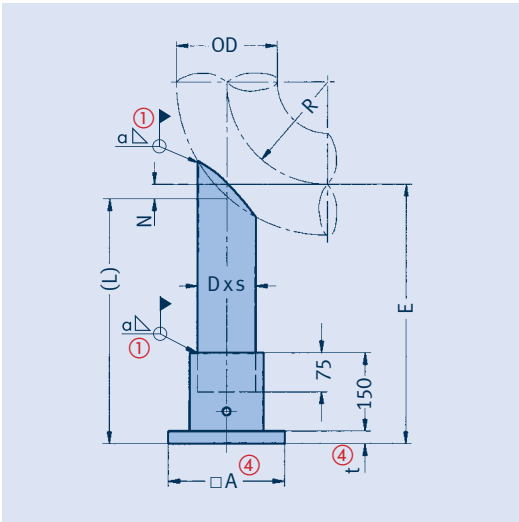
For the selection of stanchions consult the table and diagram on p. 5.15.

Order details:
stanchion for
horizontal piping
type 58, E = ...mm

Stanchions for short radius elbows ($R \approx OD$) Type 58



Type 58 .. 13
Type 58 .. 14



Type 58 .. 23
Type 58 .. 24

① ... ④ See p. 5.15.

Example: Stanchion for short radius elbow radius $R \approx DA$,
OD = 419mm, E = 750mm (as fixed point).
Stanchion length: L = E - N
(see data in selection table),
L = 750mm - 50mm = 700mm.

For stanchion D = 139.7mm (designation 'f').
Permissible load = $0.41 \times 22.5\text{kN}$
(see table and diagram on p. 5.15) = 9.2kN.

type ③	OD	D x s	stanchions type	a ②	N	E _{min}	E _{max}
58 05 .3	48.3	33.7 x 4.5	a	3.0	10	250	1000
58 06 .3	60.3	33.7 x 4.5	a	3.0	10	250	1000
58 06 .4	60.3	48.3 x 5.0	b	3.0	10	250	1100
58 07 .3	73.0	33.7 x 4.5	a	3.0	15	250	1000
58 07 .4	73.0	48.3 x 5.0	b	3.0	15	250	1100
58 08 .3	76.1	33.7 x 4.5	a	3.0	15	250	1000
58 08 .4	76.1	48.3 x 5.0	b	3.0	15	250	1100
58 09 .3	88.9	33.7 x 4.5	a	3.0	15	250	1000
58 09 .4	88.9	48.3 x 5.0	b	3.0	15	250	1100
58 10 .3	108.0	48.3 x 5.0	b	3.0	15	250	1100
58 10 .4	108.0	73.0 x 7.0	c	3.0	15	250	1100
58 11 .3	114.3	48.3 x 5.0	b	3.0	20	250	1100
58 11 .4	114.3	73.0 x 7.0	c	3.0	20	250	1100
58 13 .3	133.0	48.3 x 5.0	b	3.0	20	250	1100
58 13 .4	133.0	73.0 x 7.0	c	3.0	20	250	1100
58 14 .3	139.7	73.0 x 7.0	c	3.0	25	300	1100
58 14 .4	139.7	88.9 x 5.6	d	3.0	25	300	1100
58 16 .3	159.0	73.0 x 7.0	c	3.0	25	300	1100
58 16 .4	159.0	88.9 x 5.6	d	3.0	25	300	1100
58 17 .3	168.3	73.0 x 7.0	c	3.0	30	300	1100
58 17 .4	168.3	88.9 x 5.6	d	3.0	30	300	1100
58 19 .3	193.7	88.9 x 5.6	d	3.0	30	300	1100
58 19 .4	193.7	114.3 x 8.8	e	5.0	30	300	1100
58 22 .3	219.1	88.9 x 5.6	d	3.0	35	300	1100
58 22 .4	219.1	114.3 x 8.8	e	5.0	35	300	1100
58 24 .3	244.5	88.9 x 5.6	d	3.0	35	300	1100
58 24 .4	244.5	114.3 x 8.8	e	5.0	35	300	1100
58 26 .3	267.0	114.3 x 8.8	e	5.0	40	300	1100
58 26 .4	267.0	139.7 x 10	f	7.0	40	300	1100
58 27 .3	273.0	114.3 x 8.8	e	5.0	45	350	1100
58 27 .4	273.0	139.7 x 10	f	7.0	45	350	1100
58 32 .3	323.9	139.7 x 10	f	7.0	50	350	1100
58 32 .4	323.9	219.1 x 8.0	g	5.0	50	350	1100
58 36 .3	355.6	139.7 x 10	f	7.0	40	350	1100
58 36 .4	355.6	219.1 x 8.0	g	5.0	40	350	1100
58 37 .3	368.0	139.7 x 10	f	7.0	45	350	1100
58 37 .4	368.0	219.1 x 8.0	g	5.0	45	350	1100
58 41 .3	406.4	139.7 x 10	f	7.0	50	350	1100
58 41 .4	406.4	219.1 x 8.0	g	5.0	50	350	1100
58 42 .3	419.0	139.7 x 10	f	7.0	50	350	1100
58 42 .4	419.0	219.1 x 8.0	g	5.0	50	350	1100
58 46 .3	457.2	219.1 x 8.0	g	5.0	55	400	1150
58 46 .4	457.2	323.9 x 10	h	7.0	55	400	1150
58 51 .3	508.0	219.1 x 8.0	g	5.0	60	400	1150
58 51 .4	508.0	323.9 x 10	h	7.0	60	400	1150
58 56 .3	558.8	219.1 x 8.0	g	5.0	65	450	1150
58 56 .4	558.8	323.9 x 10	h	7.0	65	450	1150
58 61 .3	609.6	323.9 x 10	h	7.0	70	450	1150
58 66 .3	660.4	323.9 x 10	h	7.0	80	450	1150
58 71 .3	711.2	323.9 x 10	h	7.0	85	450	1150
58 76 .3	762.0	323.9 x 10	h	7.0	90	450	1150
58 81 .3	812.8	323.9 x 10	h	7.0	95	500	1150
58 91 .3	914.4	323.9 x 10	h	7.0	110	550	1200

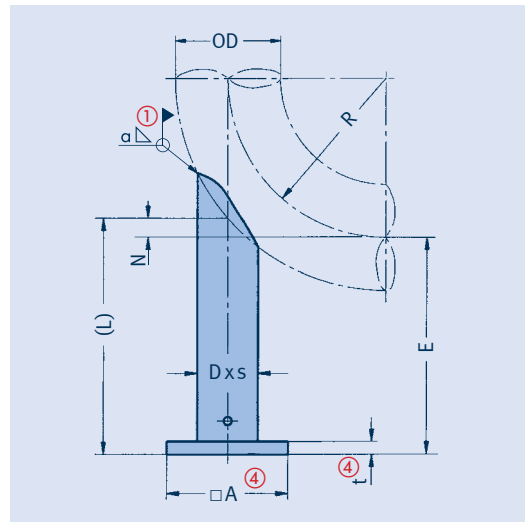
Order details:

stanchion for short radius elbows $R \approx DA$
type 58, E = ...mm

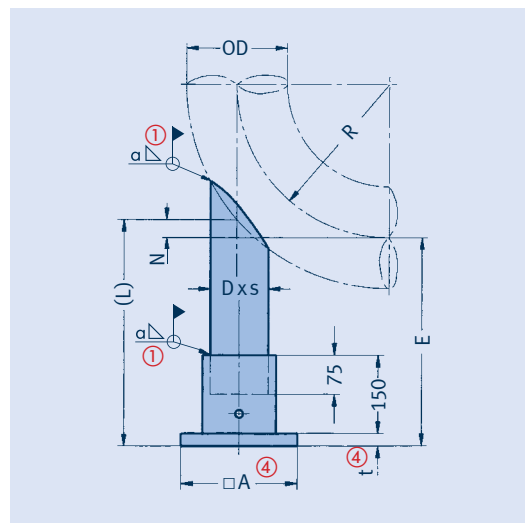
For the selection of stanchions consult
the table and diagram on p. 5.15.

Stanchions for long radius elbows ($R \approx 1.5 OD$) Type 58

type ③	OD	D x s	stanchions type	α ②	N	E_{min}	E_{max}
58 05 .5	48.3	33.7 x 4.5	a	3.0	0	200	1000
58 06 .5	60.3	33.7 x 4.5	a	3.0	0	250	1000
58 06 .6	60.3	48.3 x 5.0	b	3.0	0	250	1050
58 07 .5	73.0	33.7 x 4.5	a	3.0	5	250	1000
58 07 .6	73.0	48.3 x 5.0	b	3.0	5	250	1050
58 08 .5	76.1	33.7 x 4.5	a	3.0	0	250	1000
58 08 .6	76.1	48.3 x 5.0	b	3.0	0	250	1050
58 09 .5	88.9	33.7 x 4.5	a	3.0	5	250	1000
58 09 .6	88.9	48.3 x 5.0	b	3.0	5	250	1050
58 10 .5	108.0	48.3 x 5.0	b	3.0	5	250	1050
58 10 .6	108.0	73.0 x 7.0	c	3.0	5	250	1050
58 11 .5	114.3	48.3 x 5.0	b	3.0	10	250	1050
58 11 .6	114.3	73.0 x 7.0	c	3.0	10	250	1050
58 13 .5	133.0	48.3 x 5.0	b	3.0	10	250	1050
58 13 .6	133.0	73.0 x 7.0	c	3.0	10	250	1050
58 14 .5	139.7	73.0 x 7.0	c	3.0	15	250	1050
58 14 .6	139.7	88.9 x 5.6	d	3.0	15	250	1050
58 16 .5	159.0	73.0 x 7.0	c	3.0	15	250	1050
58 16 .6	159.0	88.9 x 5.6	d	3.0	15	250	1050
58 17 .5	168.3	73.0 x 7.0	c	3.0	15	250	1050
58 17 .6	168.3	88.9 x 5.6	d	3.0	15	250	1050
58 19 .5	193.7	88.9 x 5.6	d	3.0	20	250	1050
58 19 .6	193.7	114.3 x 8.8	e	5.0	20	250	1050
58 22 .5	219.1	88.9 x 5.6	d	3.0	25	250	1050
58 22 .6	219.1	114.3 x 8.8	e	5.0	25	250	1050
58 24 .5	244.5	88.9 x 5.6	d	3.0	25	250	1050
58 24 .6	244.5	114.3 x 8.8	e	5.0	25	250	1050
58 26 .5	267.0	114.3 x 8.8	e	5.0	30	250	1050
58 26 .6	267.0	139.7 x 10	f	7.0	30	250	1050
58 27 .5	273.0	114.3 x 8.8	e	5.0	30	250	1050
58 27 .6	273.0	139.7 x 10	f	7.0	30	250	1050
58 32 .5	323.9	139.7 x 10	f	7.0	40	300	1050
58 32 .6	323.9	219.1 x 8.0	g	5.0	40	300	1050
58 36 .5	355.6	139.7 x 10	f	7.0	65	250	1000
58 36 .6	355.6	219.1 x 8.0	g	5.0	65	250	1000
58 37 .5	368.0	139.7 x 10	f	7.0	65	250	1000
58 37 .6	368.0	219.1 x 8.0	g	5.0	65	250	1000
58 41 .5	406.4	139.7 x 10	f	7.0	70	300	1000
58 41 .6	406.4	219.1 x 8.0	g	5.0	70	300	1000
58 42 .5	419.0	139.7 x 10	f	7.0	75	300	1000
58 42 .6	419.0	219.1 x 8.0	g	5.0	75	300	1000
58 46 .5	457.2	219.1 x 8.0	g	5.0	80	300	1000
58 46 .6	457.2	323.9 x 10	h	7.0	80	300	1000
58 51 .5	508.0	219.1 x 8.0	g	5.0	90	350	1000
58 51 .6	508.0	323.9 x 10	h	7.0	90	350	1000
58 56 .5	558.8	219.1 x 8.0	g	5.0	100	350	1000
58 56 .6	558.8	323.9 x 10	h	7.0	100	350	1000
58 61 .5	609.6	323.9 x 10	h	7.0	110	400	950
58 66 .5	660.4	323.9 x 10	h	7.0	115	400	950
58 71 .5	711.2	323.9 x 10	h	7.0	125	450	950
58 76 .5	762.0	323.9 x 10	h	7.0	135	450	950
58 81 .5	812.8	323.9 x 10	h	7.0	145	500	950
58 91 .5	914.4	323.9 x 10	h	7.0	160	550	900



Type 58 .. 15
Type 58 .. 16



Type 58 .. 25
Type 58 .. 26

①...④ See p. 5.15.

Example: Stanchion for long radius elbow
radius $R \approx 1.5 OD$, $OD = 419\text{mm}$,
 $E = 750$ (as fixed point).
Stanchion length: $L = E + N$
(see data in selection table),
 $L = 750\text{mm} + 75\text{mm} = 825\text{mm}$.

For stanchion $D = 139.7\text{mm}$ (designation 'F').
Permissible load = $0.37 \times 22.5\text{kN}$
(see table on page 5.15) = 8.3kN .

For the selection of stanchions consult the table and diagram on p. 5.15.

Order details:
stanchion for long radius elbows
 $R \approx 1.5 OD$
type 58, $E = \dots\text{mm}$

Stanchions Type 58

① Field weld

② The weld seam stress amounts to max. 50N/mm² for the specified weld seam thickness and permissible loads.

③ Type designation:
58 .. 1. stanchion
58 .. 2. telescopic stanchion

④ Table data A x t.

⑤ The permissible loading of the stanchion in dependence on length can be found in the diagram.

⑥ Max. lateral loading of stanchion = 100% of specified vertical load. For welding designs of this type the load transmission to the piping must be guaranteed by the user.

Materials:

base plate S235JR

S355J2

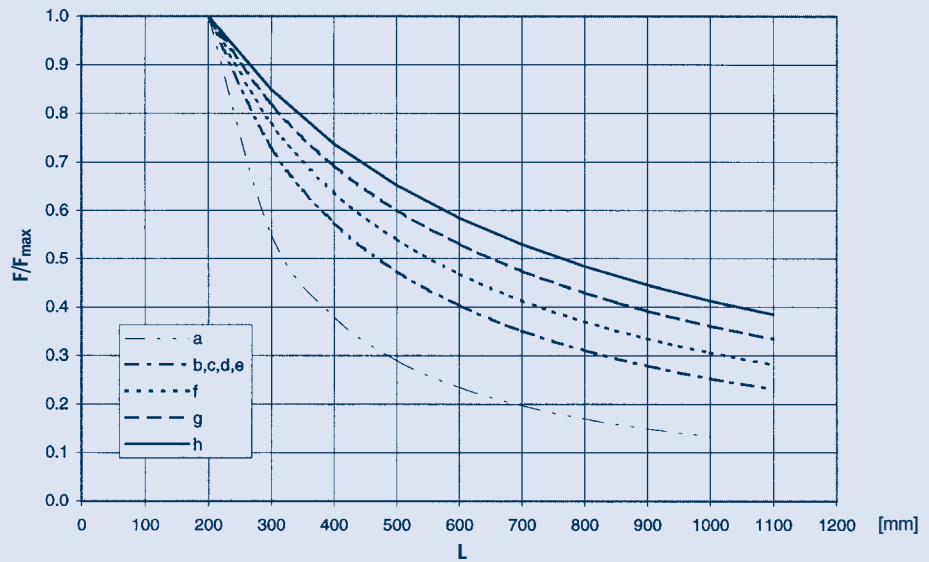
stanchion P235GH

Surface protection:

weldable primer

pipe type	D x s	④ A x t	maximum permissible load at 80°C			weight [kg]		
			vertical load only [kN]	⑤ sliding [kN]	⑥ fixed [kN]	for L = 200mm		+ per 100mm
a	33.7 x 4.5	90 x 10	9.5	1.9	1.1	1.3	1.8	0.32
b	48.3 x 5.0	115 x 10	22	3.7	2.3	2.1	4.0	0.53
c	73.0 x 7.0	130 x 10	34	7.9	5.0	3.5	4.4	1.1
d	88.9 x 5.6	150 x 10	40	11	7.1	4.0	6.6	1.2
e	114.3 x 8.8	190 x 12	78	25	16.0	7.7	10.8	2.3
f	139.7 x 10	215 x 15	96	35	22.5	11.7	15.8	3.2
g	219.1 x 8.0	305 x 20	150	69	43.5	22.1	26.8	4.2
h	323.9 x 10	405 x 25	330	185	113.0	45.7	54.1	7.7

Permissible load in dependence on length of stanchion for slide bearing or fixed point



Type 58 stanchion for pipe elbows as stop free of moments in X-Y direction with type 29 spring support



Type 58 stanchions as guides for horizontally running pipe system with type 29 spring support