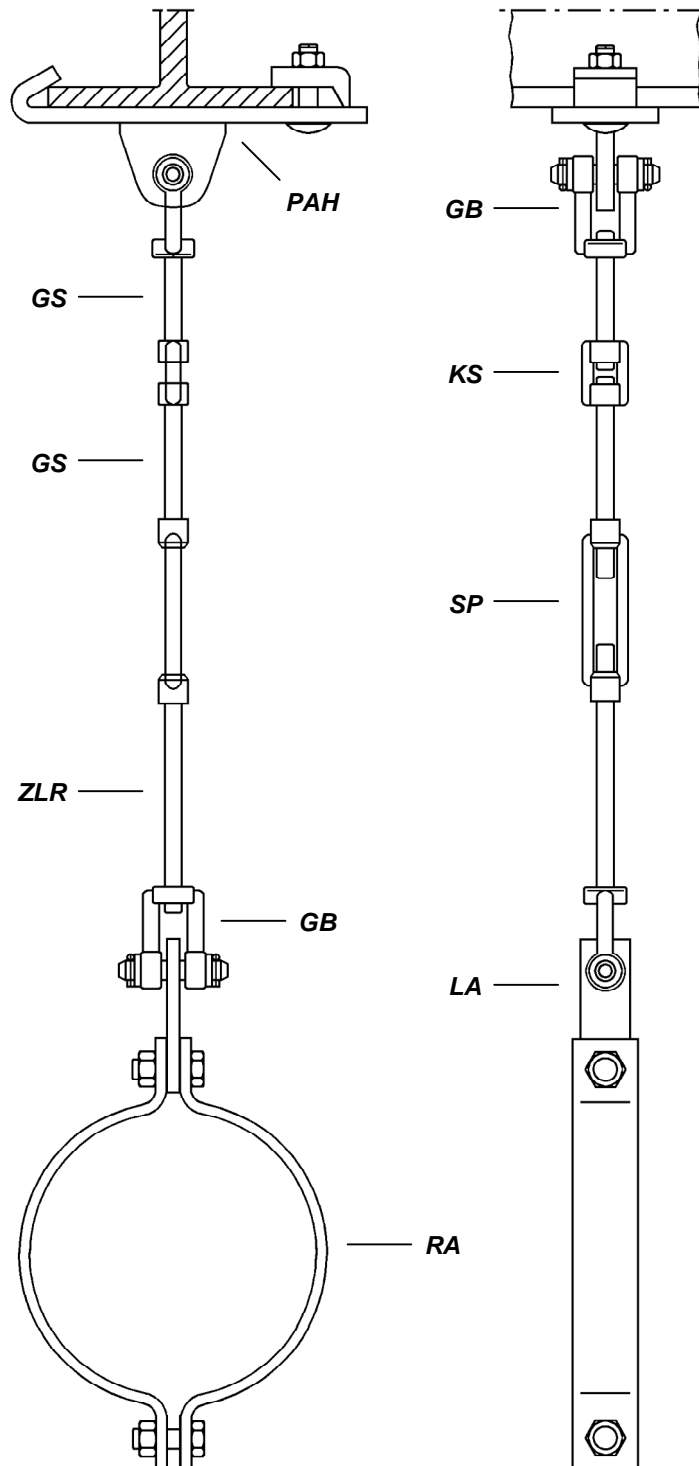
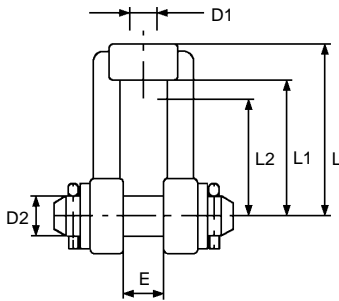


HANGER SYSTEMS



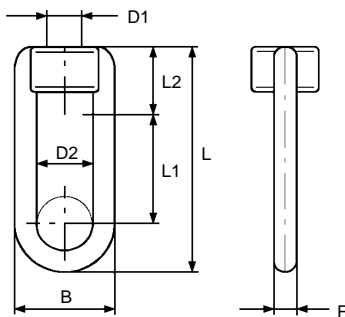
**Hanger Systems
Type GB-GO-SP**



Shackles - type GB

Material	C 22.8 DIN 17243
Type	forged, incl.bolts, foreheads and washers
Surface	zinc plated -Z, hot-dip galvanized -V

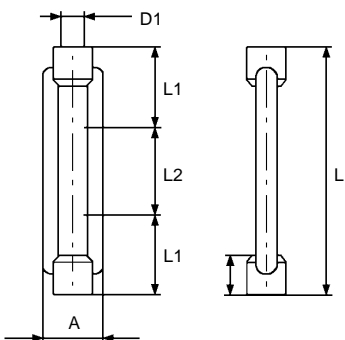
Type	D1	D2	L	L1	L2	E	Load kN	Weight kg
GB-012	M12	13	70	55	50	12	4,7	0,20
GB-016	M16	17	80	60	50	17	8,8	0,40
GB-020	M20	21	90	65	55	20	13,8	1,00
GB-024	M24	25	110	80	65	22	19,9	1,60
GB-030	M30	35	130	95	80	27	31,6	2,70
GB-036	M36	42	150	110	90	32	46,0	4,40



Thread eye - type GO

Material	C 22.8 DIN 17243
Type	forged
Surface	zinc plated -Z, hot-dip galvanized -V

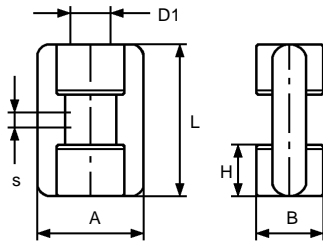
Type	D1	D2	L	L1	L2	B	F	Load kN	Weight kg
GO-012	M12	16	79	40	20	33	6	4,7	0,10
GO-016	M16	24	101	45	30	44	10	8,8	0,20
GO-020	M20	27	125	55	35	59	10	13,8	0,40
GO-024	M24	33	154	65	45	72	15	19,9	0,80
GO-030	M30	40	181	75	52	88	17	31,6	1,20
GO-036	M36	45	202	75	65	100	20	46,0	2,00



Turnbuckle - type SP iht. DIN 1480

Material	S235JR EN 10025
Type	forged
Surface	zinc plated -Z, hot-dip galvanized -V

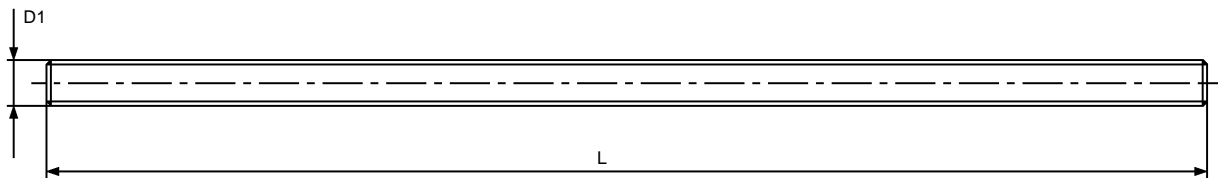
Type	D1	L	L1	L2	A	H	Load kN	Weight kg
SP-012	M12	130	45	40	34	21	4,7	0,20
SP-016	M16	170	55	60	42	27	8,8	0,40
SP-020	M20	200	65	70	52	33	13,8	0,70
SP-024	M24	250	80	90	62	39	19,9	1,20
SP-030	M30	270	90	90	74	45	31,6	1,80
SP-036	M36	290	95	100	86	55	46,0	3,00



Coupler - type KS

Material	S235JR EN 10025
Type	forged
Surface	zinc plated -Z, hot-dip galvanized -V

Type	D1	A	B	L	H	Load kN	Weight kg
KS-012	M12	34	21	45	15	4,7	0,10
KS-016	M16	42	27	60	20	8,8	0,20
KS-020	M20	52	32	75	25	13,8	0,50
KS-024	M24	62	39	90	30	19,9	0,70
KS-030	M30	74	45	105	35	31,6	1,20
KS-036	M36	86	55	120	40	46,0	1,60



Thread rods - type GS

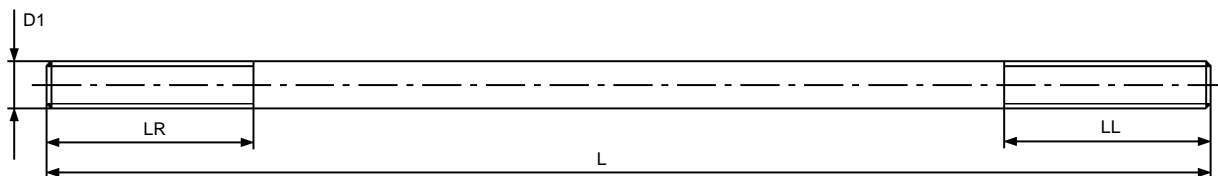
Material	St 4.6 or St 8.8
Type	with right hand thread DIN 13, rolled
Surface	zinc plated -Z, hot-dip galvanized -V

Type	D1	L	Load kN	Weight kg
GS-012x1000	M12	1000	4,7	0,71
GS-016x1000	M16	1000	8,8	1,52
GS-020x1000	M20	1000	13,8	2,05
GS-024x1000	M24	1000	19,9	2,99
GS-030x1000	M30	1000	31,6	4,73
GS-036x1000	M36	1000	46,0	8,00

Thread rods - type GS

Material	St 5.8 or St 8.8
Type	with right hand thread DIN 13, rolled
Surface	zinc plated -Z, hot-dip galvanized -V

Type	D1	L	Load kN	Weight kg
GS-012x2000	M12	2000	4,7	1,42
GS-016x2000	M16	2000	8,8	3,04
GS-020x2000	M20	2000	13,8	4,10
GS-024x2000	M24	2000	19,9	5,98
GS-030x2000	M30	2000	31,6	9,46
GS-036x2000	M36	2000	46,0	16,00

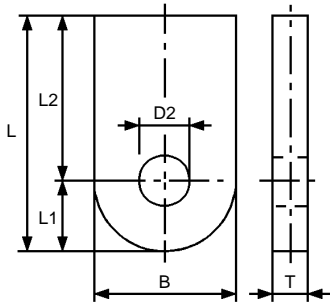


Tie rods - type ZLR

Material	S235JRC EN 10025
Type	with left and right hand thread DIN 13, rolled
Surface	zinc plated -Z, hot-dip galvanized -V

Type	D1	L	LR	LL	Load kN	Weight kg
ZLR-012x0300	M12	300	80	80	4,7	0,27
ZLR-016x0350	M16	350	100	100	8,8	0,55
ZLR-020x0400	M20	400	120	120	13,8	0,99
ZLR-024x0450	M24	450	140	140	19,9	1,66
ZLR-030x0500	M30	500	160	160	31,6	2,77
ZLR-036x0500	M36	500	180	180	46,0	4,00

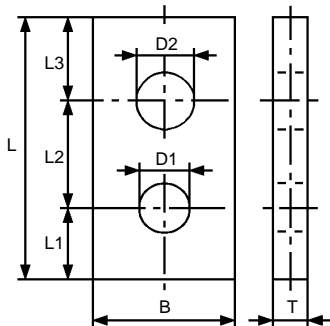
**Hanger Systems
type AO-LA-KP**



Welding lugs - type AO

Material	S235JRG2 EN 10025
Type	punched/rough-bored
Surface	black -R

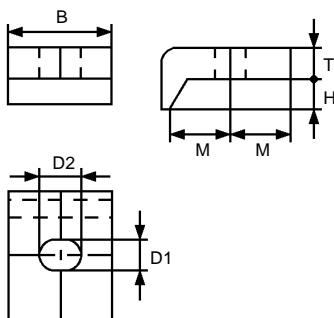
Type	BxT	L	C1	C2	D2	Load kN	Weight kg
AO-040	40x8	67	22	45	13	4,7	0,20
AO-050	50x10	78	28	50	17	8,8	0,30
AO-060	60x12	92	37	55	23	13,8	0,60
AO-070	70x15	100	40	60	26	19,9	0,90
AO-080	80x20	120	50	70	33	31,6	1,40
AO-100	100x25	145	65	80	41	46,0	2,40



Straps - type LA

Material	S235JRG2 EN 10025
Type	punched/rough bored
Surface	black -R, hot-dip galvanized -V

Type	BxT	L	L1	L2	L3	D1	D2	Load kN	Weight kg
LA-046	40x6	87	17	50	20	13	11	4,7	0,16
LA-048	40x8	123	26	75	22	13	17	4,7	0,31
LA-050	50x10	163	35	100	28	17	21	8,8	0,64
LA-060	60x12	202	40	125	37	23	25	13,8	1,14
LA-070	70x15	240	50	150	40	26	31	19,9	1,98
LA-090	90x15	270	50	170	50	36	31	31,6	2,86
LA-130	130x20	300	60	190	50	43	31	46,0	5,90



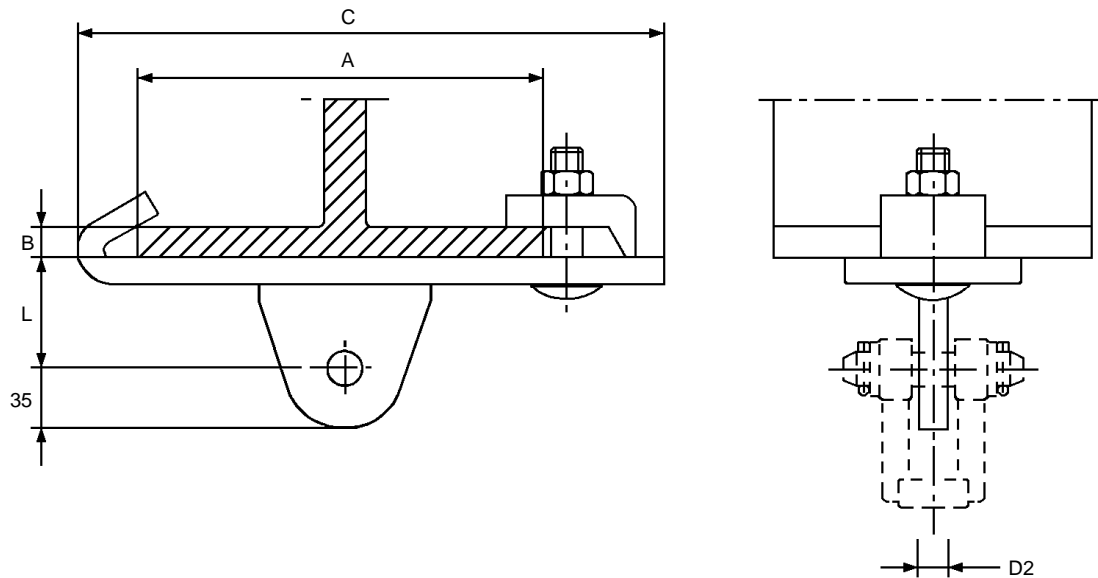
Clamp plates - type KP

Material	S235JRG2 EN 10025
Type	punched/rough bored
Surface	black -R

Type	B	T	M	H	D1	D2	Weight kg
KP-50x007	50	12	23	7	14	20	0,22
KP-50x009	50	12	23	9	14	20	0,23
KP-60x010	60	18	35	10	18	24	0,57
KP-60x012	60	18	35	12	18	24	0,58
KP-60x014	60	18	35	14	18	24	0,59
KP-60x016	60	18	35	16	18	24	0,60
KP-60x018	60	18	35	18	18	24	0,61
KP-60x020	60	18	35	20	18	24	0,63
KP-70x014	70	22	45	14	23	29	1,05
KP-70x016	70	22	45	16	23	29	1,06
KP-70x018	70	22	45	18	23	29	1,07
KP-70x020	70	22	45	20	23	29	1,08
KP-70x022	70	22	45	22	23	29	1,10

3.5.4.4

**Beam Hangers
type PAH
standard range**



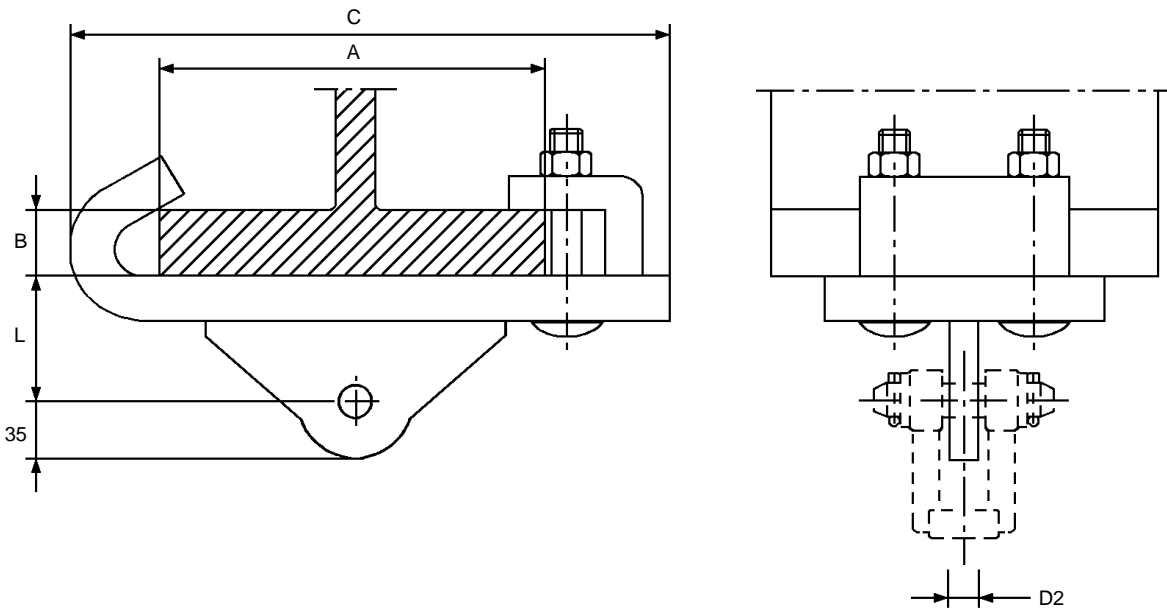
Beam hangers- type PAH - standard

Material	S235JRG2 EN 10025
Type	incl. clamp plate and bolt
Surface	hot-dip galvanized -V, screw - hot-dip galvanized
OBS	necessary distortion of the clamp plate: M16 - 80 Nm

Type	Beam dimension		Thread D2	L	C	Load kN	Weight kg
	Width A	Thickness B					
PAH-120/12	100-120	8-11	M12	65	215	4,7	3,50
PAH-120/16	100-120	8-11	M16	65	215	8,8	3,45
PAH-120/20	100-120	8-11	M20	65	215	13,8	3,40
PAH-160/12	130-160	8-13	M12	65	250	4,7	4,10
PAH-160/16	130-160	8-13	M16	65	250	8,8	4,05
PAH-160/20	130-160	8-13	M20	65	250	13,8	4,00
PAH-200/12	170-200	10-16	M12	65	290	4,7	4,40
PAH-200/16	170-200	10-16	M16	65	290	8,8	4,35
PAH-200/20	170-200	10-16	M20	65	290	13,8	4,30
PAH-240/12	210-240	11-19	M12	65	340	4,7	5,20
PAH-240/16	210-240	11-19	M16	65	340	8,8	5,15
PAH-240/20	210-240	11-19	M20	65	340	13,8	5,10
PAH-300/12	260-300	12-19	M12	65	400	4,7	5,85
PAH-300/16	260-300	12-19	M16	65	400	8,8	5,80
PAH-300/20	260-300	12-19	M20	65	400	13,8	5,75

Ordering example: PAH-240/16-V
 PAH = beam hanger type PAH standard
 240 = clamping range 210-240 mm
 16 = lug thread M16 with a SWLI of 8,8 kN
 -V = hot-dip galvanized

**Beam Hangers
type PAHS**



Beam hangers - type PAHS - special

Material	S235JRG2 EN 10025 (RSt 37.2 DIN 17100)
Type	incl. clamp plate and bolt
Surface	hot-dip galvanized -V, screw - hot-dip galvanized
OBS	necessary distortion of the clamp plate: M20 - 120 Nm

Type	Beam dimension		Thread D2	L	C	Load kN					Weight kg
	Width A	Thickness B				M12	M16	M20	M24	M30	
PAHS-300/25	270-300	25	M12-M30	120	450	4,7	8,8	13,8	19,9	31,6	11,0
PAHS-300/30	270-300	30	M12-M30	120	450	4,7	8,8	13,8	19,9	31,6	11,0
PAHS-300/35	270-300	35	M12-M30	120	450	4,7	8,8	13,8	19,9	31,6	11,0
PAHS-300/40	270-300	40	M12-M30	120	450	4,7	8,8	13,8	19,9	31,6	11,0
PAHS-350/25	320-350	25	M12-M30	120	500	4,7	8,8	13,8	19,9	31,6	12,0
PAHS-350/30	320-350	30	M12-M30	120	500	4,7	8,8	13,8	19,9	31,6	12,0
PAHS-350/35	320-350	35	M12-M30	120	500	4,7	8,8	13,8	19,9	31,6	12,0
PAHS-350/40	320-350	40	M12-M30	120	500	4,7	8,8	13,8	19,9	31,6	12,0
PAHS-400/25	360-400	25	M12-M30	120	550	4,7	8,8	13,8	19,9	31,6	13,0
PAHS-400/30	360-400	30	M12-M30	120	550	4,7	8,8	13,8	19,9	31,6	13,0
PAHS-400/35	360-400	35	M12-M30	120	550	4,7	8,8	13,8	19,9	31,6	13,0
PAHS-400/40	360-400	40	M12-M30	120	550	4,7	8,8	13,8	19,9	31,6	13,0
PAHS-450/25	410-450	25	M12-M30	120	600	4,7	8,8	13,8	19,9	31,6	14,0
PAHS-450/30	410-450	30	M12-M30	120	600	4,7	8,8	13,8	19,9	31,6	14,0
PAHS-450/35	410-450	35	M12-M30	120	600	4,7	8,8	13,8	19,9	31,6	14,0
PAHS-450/40	410-450	40	M12-M30	120	600	4,7	8,8	13,8	19,9	31,6	14,0

Ordering example:	PAHS-240/16-V
	PAHS = beam hanger type PAHS special range
	300 = clamping range 270-300 mm
	25 = flange thickness
	12 = lug thread M12 with a SWL of 4,7 kN
	-V = hot-dip galvanized

Corrosion protection and surface finishes

The pipe supports can be supplied to your specified surface treatments with the following finishes: Sandblast, oil-treated, primed, varnished pickled, hot-dip galvanized or zinc plated.

Heat treatment

If desired the components of heat resisting material can be heat-treated e.g. stress-free annealing, normalizing or hardening of high temperature materials. On request, a heat treatment certificate is made when the heat treatment has been carried out.

Prefabrication service

All the components are available as desired ready for installation with a complete specification. The prefabricated components can be installed at once and make an easy and timesaving assembly.

Expert advise

As we are very experienced in pipeline accessories we are able to help with the settlement of large orders and we are at your service for professional advice.

Loads

The loads given in the catalogue have been calculated according to current engineering regulations and have been verified in tests. They are given as guideline figures only and are not necessarily applicable in specific cases.

The hanger systems have the following load value:

M 12	-	4,7 kN
M 16	-	8,8 kN
M 20	-	13,8 kN
M 24	-	19,9 kN
M 30	-	31,6 kN
M 36	-	46,0 kN

The load value in our catalogue has been calculated acct. the current set of engineering regulations and confirmed by tests.

Acceptance / certificates

On request we can supply our pipe support products with acceptance test certificates to DIN 50049 3.1B or with factory certificates to DIN 50049 2.2. If necessary the test can be carried out by TÜV or other testing companies.

Security

Bernecker has a certified quality safety system DIN ISO 9002 and a quality security handbook (QSH). This guaranties that the specifications and requests are observed.

Norms

QS	-	DIN ISO 9002
TÜV	-	ADW-0
DVS	-	DIN 18 800 part 7 (welding)
TÜV	-	Unit approval KWU

Conversion in the catalogue for the applied load value at other temperatures.

(Loads should only be converted for the same material, never from one material to another)

Material	No.	DIN	20°/50°	100°	150°	200°	250°	300°	350°	400°	450°	500°	520°	540°	560°
S235JRG2 RSt 37-2	1.0038	EN 10038 EN 17100	1,00	0,80	0,74	0,69	0,62	0,52							
16Mo3	1.5415	17 155	1,55	1,47	1,43	1,38	1,27	1,11	1,00	0,94	0,88				
13CrMo4-5	1.7335	17 155	1,77	1,70	1,65	1,60	1,48	1,36	1,25	1,19	1,14	1,00	0,67	0,41	0,27
X10CrNiTi 18 10	1.4541	17 440	1,00	0,93	0,88	0,83	0,77	0,72	0,68	0,66					
X10CrNiMoTi 18 10	1.4571	17 440	1,00	0,90	0,86	0,81	0,76	0,70	0,68	0,66					