

ZVB

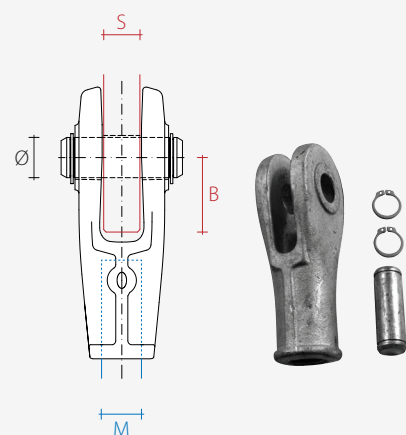
Hooks for bracings



COUPLING SYSTEMS FOR BRACINGS

Spheroidal gusset GJS-400-18-LT

CE



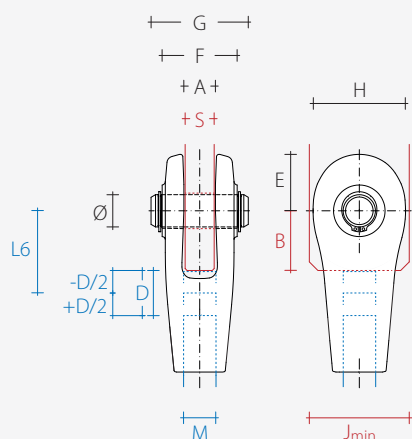
code	bar	thread*	S plate [mm]	pcs/box
FE110110	M10	R	8	1
FE110115	M10	L	8	1
FE110120	M12	R	10	1
FE110125	M12	L	10	1
FE110130	M16	R	15	1
FE110135	M16	L	15	1
FE110140	M20	R	18	1
FE110145	M20	L	18	1
FE110150	M24	R	20	1
FE110155	M24	L	20	1
FE110170	M30	R	25	1
FE110175	M30	L	25	1

Hook for M27 bar available upon request

Cover for thread available upon request

* R = right-hand thread

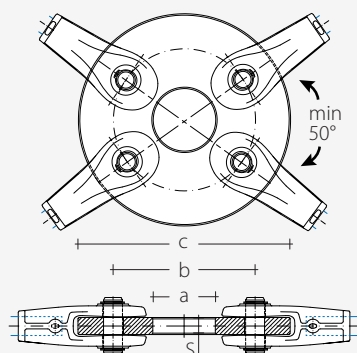
L = left-hand thread



	HOOK				PIN		BAR			PLATE			
	A [mm]	E [mm]	F [mm]	H [mm]	Ø [mm]	G [mm]	M [mm]	D [mm]	L6 [mm]	S [mm]	B [mm]	J _{min} [mm]	hole [mm]
M10	9,2	17,5	23,0	29,0	10	32,3	M10	16	28	8	20	35	11
M12	11,2	21,0	27,2	35,4	12	38,4	M12	18	32	10	23	41	13
M16	16,4	27,5	38,5	45,6	16	48,4	M16	22	42	15	31	52	17
M20	19,6	35,0	46,5	56,0	20	59,9	M20	28	51	18	37	62	21
M24	21,8	42,0	54,5	69,0	24	67,8	M24	36	63	20	45	75	25
M30	27,0	52,5	67,6	86,0	30	82,1	M30	44	78	25	56	93	31

DISK FOR BRACINGS

S355 carbon steel



code	hook	holes per hook* [pcs]	pcs/box
FE110205	M10	2	1
FE110210	M12	2	1
FE110215	M16	2	1
FE110220	M20	2	1
FE110225	M24	-	1
FE110235	M30	-	1

* Depending on the number of hooks converging on the disk, additional holes must be provided with diameter suitable to accommodate the joining pin

Disk for M27 hook available upon request

	a [mm]	b [mm]	c [mm]	S [mm]	f [mm]
M10	36	78	118	8	11
M12	42	94	140	10	13
M16	54	122	184	15	17
M20	66	150	224	18	21
M24	78	178	264	20	25
M30	98	222	334	25	31

f = hole diameter to join disk and hook

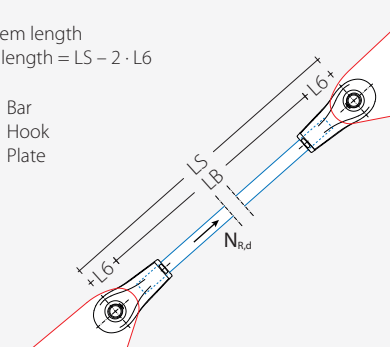
STATIC VALUES - TENSILE STRENGTH

$N_{R,d}$ FOR DIFFERENT BAR-DISK-JOINING PLATE COMBINATIONS

hook for bracings rothoblaas	disk for bracings rothoblaas	bar steel $f_{y,k}$ [N/mm ²]	joining plate - steel *	$N_{R,d}$ [kN]					
				M10	M12	M16	M20	M24	M30
GJS-400-18-LT	S355	≥ 540	S355	30,1	43,7	81,4	127,0	183,0	290,8
		≥ 540	S235	25,6	38,5	76,9	110,5	147,3	230,1
		≥ 355	S235	19,6	28,5	53,1	82,9	119,5	189,8
		≥ 235	S235	15,0	21,9	40,7	63,5	91,5	144,6

LS = system length
LB = bar length = LS - 2 · L6

— Bar
— Hook
— Plate



NOTES

* The plate connecting the bracing system to the main structure needs to be dimensioned case by case, hence it cannot be provided by rothoblaas

- Design values are consistent with EN 1993 and in accordance with ETA.
- The bar shall be dimensioned case by case.
- Dimensioning and verification of the connection between the bracing system and the main structure has to be carried out separately.