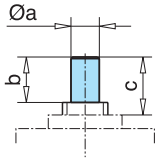
Contents

3.5 SHE range dimension plans

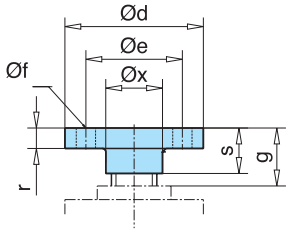
3.5.1 Configuration type 1

3.5.1.1 Standard

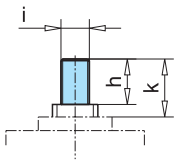
Head type I



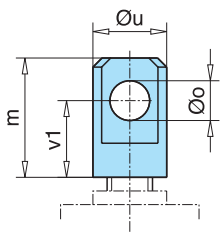
Head type II

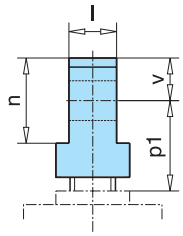


Head type III

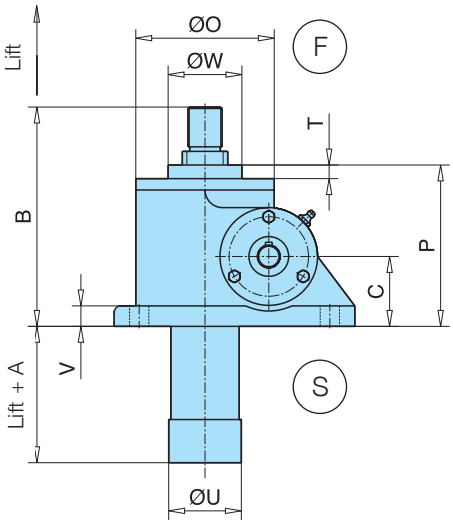


Head type IV

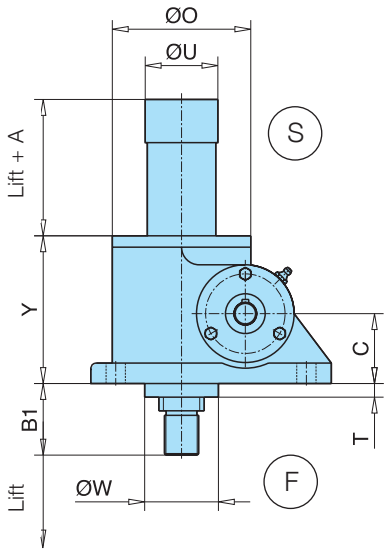




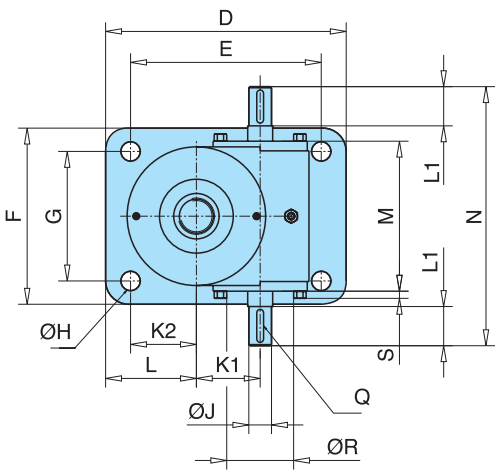
Design "A"



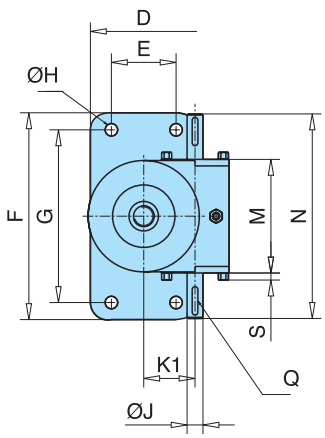
Design "B"



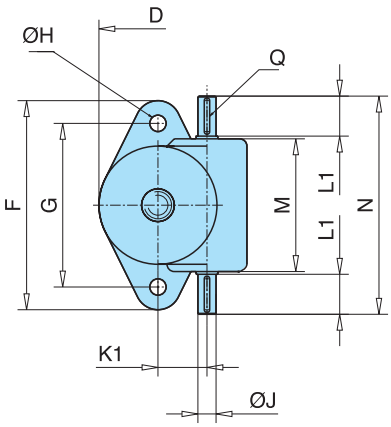
Size 1.1 and 3.1-Size 35



Size 2



Size 0,5



F = Guide ring, S = protection tube

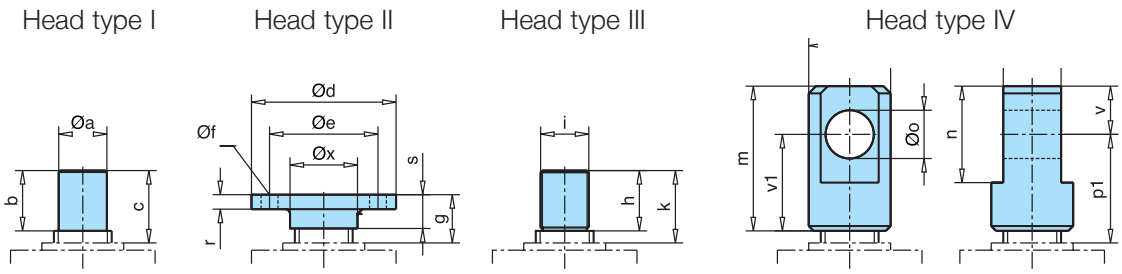
Screw jacks

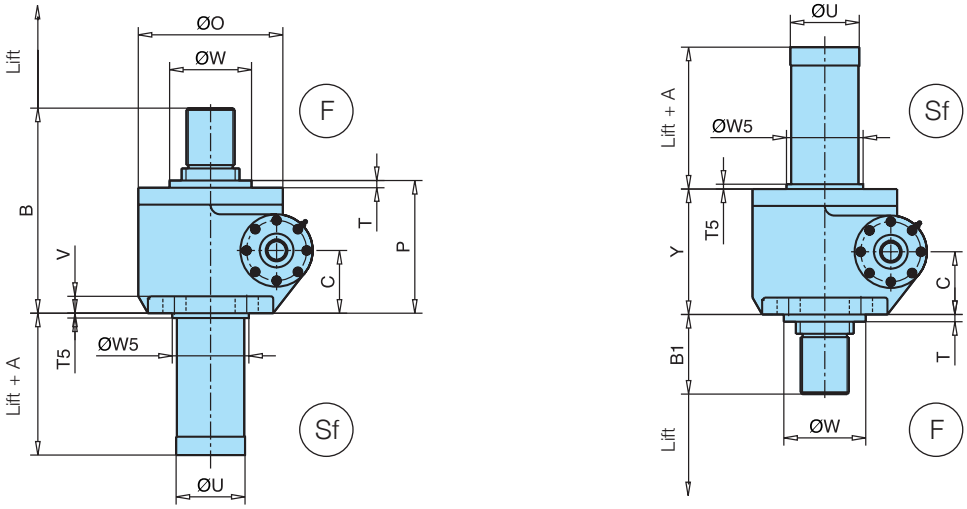
Size	0,5	1.1[1]	2	3.1[1]	5.1[1]	15.1	20.1[1]	25	35
Screw	Tr 18x6	Tr 24x5	Tr 26x6,28	Tr 30x6	Tr 40x7	Tr 60x12	Tr 70x12	Tr 90x16	Tr 100x16
A	20	20	20	20	20	20	20	20	20
B	105,5	124	147,5	150,5	193	230	256	317	350
B1	35,5	54	54,5	53,5	63	80	80	100	110
C	32	35	44	45	61,5	70	87	102	115
D	81,5	150	94	165	212	235	295	350	430
E	-	130	57	135	168	190	240	280	360
F	115	100	182	120	155	200	215	260	280
G	90	80	152	90	114	155	160	190	210
Ø H	9	9	11	14	17	21	28	35	35
Ø J k6	10	14	14	16	20	25	28	34	38
K 1	27	36	45,2	45,2	56,2	66,8	72,5	97	120
K 2	-	58	28,5	50	58	63,5	95	95	135
L	32,5	68	47	65	80	86	122,5	130	170
L 1	22	18	-	-	-	47	52	60	80
M	73	100	100	110,5	132	185	213,5	221	265
N	120	140	180	190	228	280	322	355	430
Ø O	65	88	98	98	122	150	185	205	260
P	75,5	79	101,5	105,5	142	156	182	225	250
Q	3x3x20	5x5x16	5x5x25	5x5x32	6x6x32	8x7x40	8x7x45	10x8x50	10x8x70
Ø R	-	-	41	38	55	-	72	80	100
S	-	-	6	5,5	6	-	6	10	10
T	5,5	9	8,5	8,5	12	6,5	6	8	10
V	10	13	14	12	18	16	20	25	30
Ø W	36	52[2]	48	48	65	80	100	130	150
Ø U	29	40	49	49	64	81	88	120	139
Y	70	79	93	97	130	150	176	217	240
Head type I									
Ø a k6	18h9	15	18	20	25	40	50	70	80
b	20	24	30	30	40	50	54	63	80
c	30	45	46	45	51	74	74	92	100
Head type II									
Ø d	65	72	98	98	122	150	185	205	260
Ø e	45	50	75	75	85	105	140	155	200
Ø f	4xø7	4xø9	4xø11	4xø14	4xø17	4xø21	4xø26	4xø27	4xø33
r	8	10	12	12	18	20	20	25	30
s	20	25	30	30	40	50	54	63	80
Ø x	18	30	40	40	50	65	90	100	130
g	30	45	46	45	51	74	74	92	100
Head type III									
h	15	24	30	30	39	50	54	63	80
i	M 18x1,5	M 16x1,5	M 18x1,5	M 22x1,5	M 30x2	M 40x3	M 56x3	M 70x3	M 80x3
k	30	45	46	45	51	74	74	92	100
Head type IV									
l - 0,2	20	25	30	30	42	60	75	90	105
m	50	60	70	70	105	130	150	175	220
n	30	40	50	50	75	100	120	140	160
Ø o H8	15	20	20	25	35	50	60	70	80
p1	50	60	61	60	79	104	110	134	160
ø u	30	40	48	50	65	90	110	130	150
v1	35	40	45	45	67,5	80	90	105	140
v	15	20	25	25	37,5	50	60	70	80

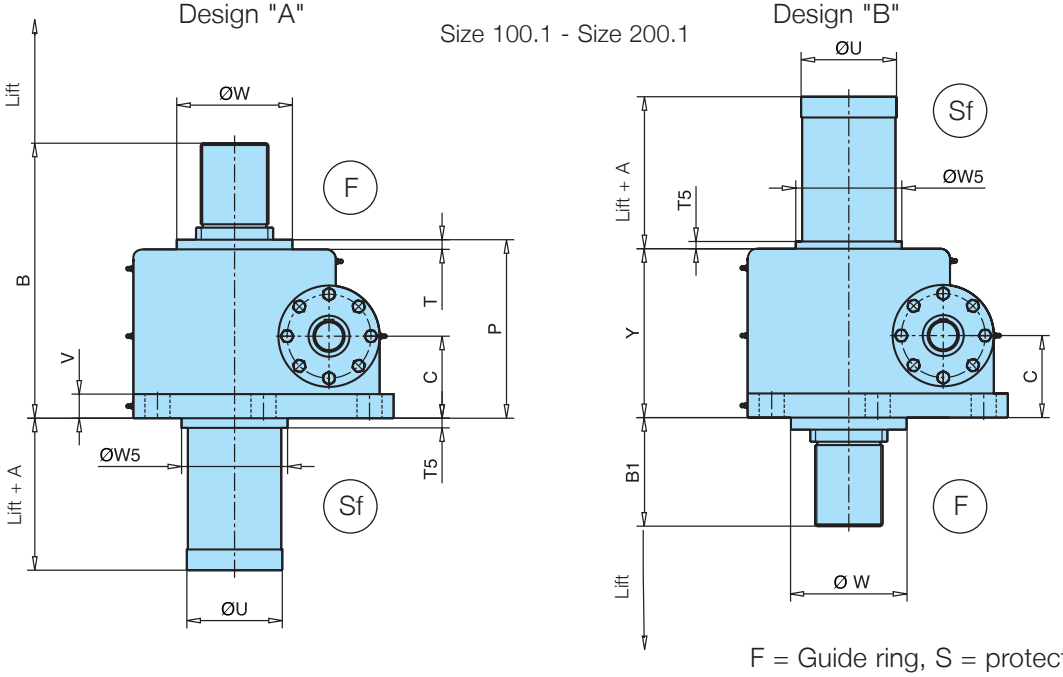
[1] Size X.1 replaces previous size
The new sizes are compatible with the previous sizes.
Previous sizes are available upon request.

[2] only design B

3.5 SHE range dimension plans



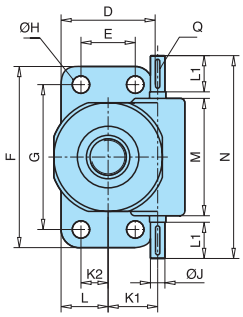




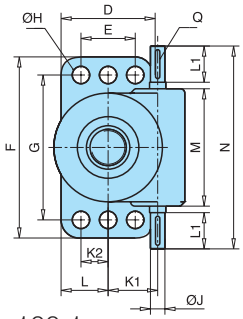
F = Guide ring, S = protection tube

Screw jacks

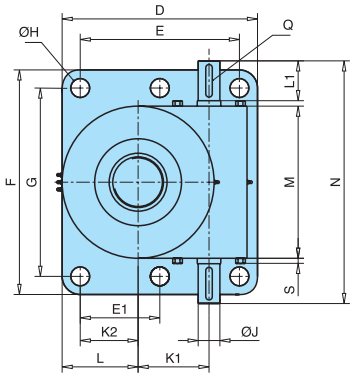
Size 50.1



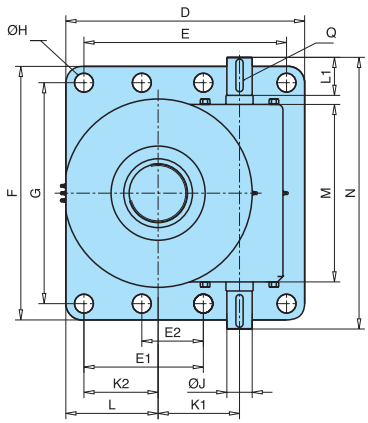
Size 75



Size 100.1



Size 150 and 200.1



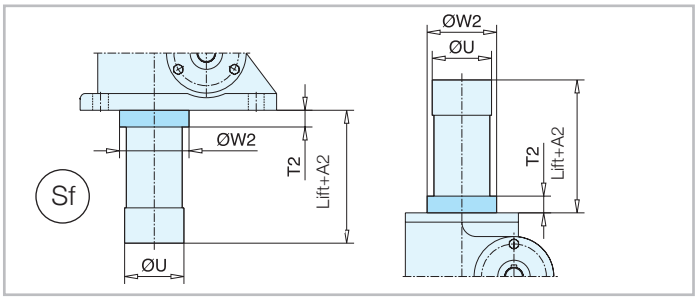
Size	50.1[1)]	75	100.1[1)]	150	200.1[1)]
Screw	Tr 120x16	Tr140x20	Tr 160x20	Tr 190x24	Tr220x28
A	20	80	65	80	
B	425	485	570	675	
B1	165	175	220	230	
C	130	155	170	194	
D	260	330	540	660	
E	150	225	440	560	
E1	-	-	220	330	
E2	-	-	-	170	
F	500	540	620	700	
G	400	455	520	610	
Ø H	4xØ48	6xØ45	6xØ52	8xØ52	
Ø J	40k6	60 m6	60 m6	70 m6	
K 1	137	160	196	225	
K 2	75	112,5	160	210	
L	130	165	210	255	
L 1	100	110	110	110	
M	324	360	420	490	
N	560	600	670	710	
Ø O	290	375	420	510	
P	275	335	355	445	
Q	12x8x80	18x11x100	18x11x90	20x12x90	
S	-	-	14	-	
T	15	25	15	20	
T5	10	25	20	20	
V	35	40	50	60	
Ø W	170	265	182	300	on request
Ø W5	170	265	220	245	
Ø U	143	220	198	220	
Y	260	310	350	424	
Head type I					
Ø a k6	100	110	140	160	
b	125	125	175	200	
c	150	150	200	230	
Head type II					
Ø d	300	370	370	400	
Ø e	225	270	280	310	
Ø f	4xØ35	6xØ45	6xØ52	8xØ52	
r	30	75	75	90	
s	70	125	125	150	
Ø x	140	200	200	220	
g	100	150	150	180	
Head type III					
h	125	125	175	200	
i	M 100x5	M 120x6	M 140x6	M 160x6	
k	150	150	200	230	
Head type IV					
l	120-0,2	140-0,2	160-0,3	180-0,3	
m	300	360	360	400	
n	200	240	280	320	
Ø o H8	100	120	140	160	
p1	225	265	245	270	
Ø u	170	200	220	260	
v1	200	240	220	240	
v	100	120	140	160	

[1)] Size X.1 replaces previous size. The new sizes are compatible with the previous sizes. Previous sizes are available upon request.

3.5 SHE range dimension plans

3.5.1.2 2nd Guide ring Sf

If no guides can be fitted on site and restoring forces produced by swivelling motion or lateral forces cannot be ruled out the SHE unit should be fitted with a 2nd guide ring.

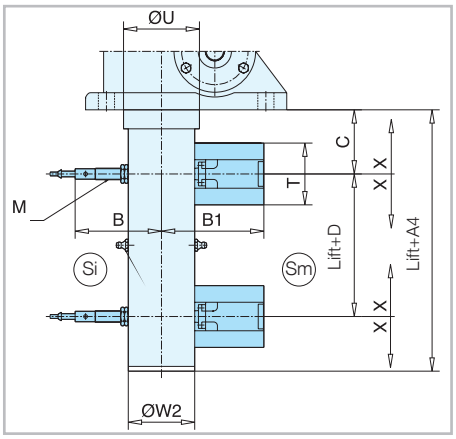


Size	A2	T2	ØW2	ØU
0,5	32	11,5	36	29
1.1	32	9	52[1)]	40
2	44	20	60	49
3.1	40	20	60	49
5.1	43	18	75	64
15.1	42	18	95	81
20.1	55	31	100	88
25	65	40	130	120
35	60	40	150	139
50.1	Standard design with 2nd guide ring			143
75				220
100.1				198
150				220
200.1				

[1)] only design A

3.5.1.3 With added-on limit switches Sm/Si

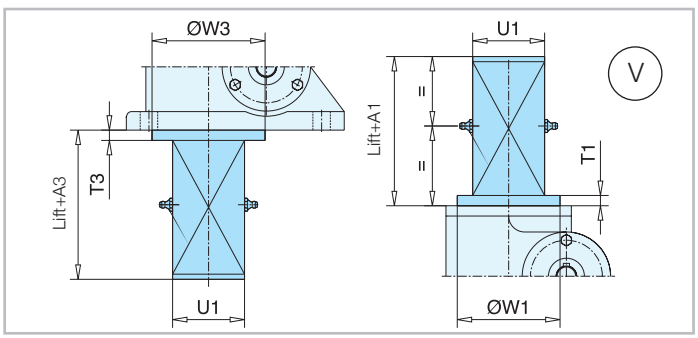
All sizes can be supplied with mechanical **or** inductive limit switches.



Size	A4	B	B1	C	D	T	M	ØU	ØW2	X
1.1	on request									
2	160	92	100	60	20	58	12x1	60	44,5	±10
3.1	170	100	106	65	25	58	12x1	75	60,3	±10
5.1	175	107	115	70	25	58	12x1	95	76,1	±10
15.1	185	114	122	75	30	58	12x1	110	88,9	±10
20.1	195	131	130	80	40	58	12x1	125	114,3	±10
25	225	141	137	90	50	65	18x1	150	133	±10
35	on request									
50.1										
75	204	171	178	75	70	58	18x1	265	219,1	±10
100.1; 150; 200.1; on request										

3.5.1.4 Anti-turn device V

The screw must be prevented from twisting in order to ensure correct linear movement. This measure can be provided on site or by means of an anti-turn device fitted to the SHE unit using a square tube.

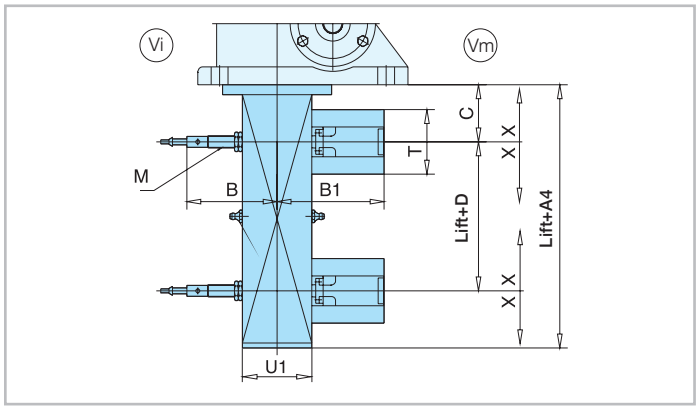


Size	A3	T3	ØW3	A1	T1	ØW1	U1
0,5	65	9	52	60	-	-	30 x30
1.1	74	8	80	74	8	80	40x40
2	85	8	65	77	-	-	40x40
3.1	85	8	70	77	-	-	50x50
5.1	95	10	110	85	-	-	80x80
15.1	115	15	130	100	-	-	90x90
20.1	100	20	160	100	20	160	100x100
25	110	20	180	110	20	160	120x120
35	115	20	200	115	20	200	140x140
50.1	158	15	240	158	15	240	180x180
75	170	20	300	170	20	300	220x220
100.1	170	10	300	170	15	300	200x200
150	210	20	380	210	20	380	260x260
200.1	on request						

3.5 SHE range dimension plans

3.5.1.5 Anti-turn device Vm/Vi with added-on limit switches

Size	A4	B	B1	C	D	T	M	U1	X
0,5	on request								
1.1									
2	130	90	100	60	20	58	12x1	40x40x2	± 10
3.1	130	95	105	60	25	58	12x1	50x50x2	± 10
5.1	130	102	112	55	25	58	12x1	80x80x3	± 10
15.1	155	111	116	80	30	58	12x1	90x90x6	± 10
20.1	180	130	131	80	40	68	18x1	110x110x5	± 10
25	210	145	145	90	50	68	18x1	140x140x6	± 10
35	on request								
50.1									
75	220	171	178	75	90	58	18x1	220x220x10	± 10
100.1; 150; 200.1 on request									



Ind. proximity switch Vi	Mechanical limit switch Vm
See chapter on accessories for technical data and dimension plans	

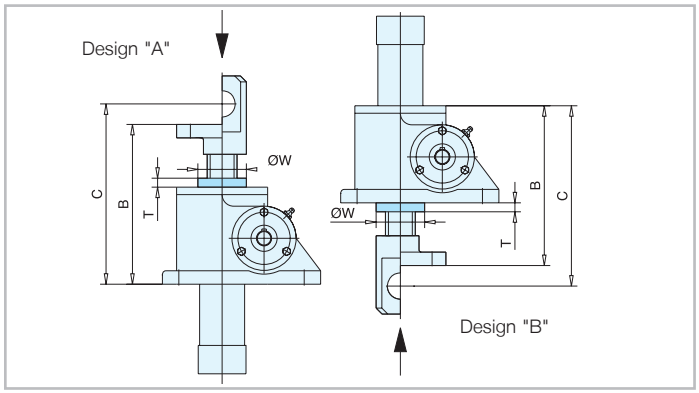
All sizes can be supplied with mechanical **or** inductive limit switches.

3.5.1.6 With short safety nut

The short safety nut takes up the axial strain if the main nut breaks. This considerably increases the operating safety of the drive elements. The safety nut can also be used to precisely check for wear on the main nut, as the clearance between the two nuts changes according to the amount of wear. In the case of worm gear screw jacks with short safety nut, the direction of main stress (tensile or compression force) and the mounting position should be taken into account, as only a correctly fitted safety nut is capable of taking up the load.

SHE type 1, compression force

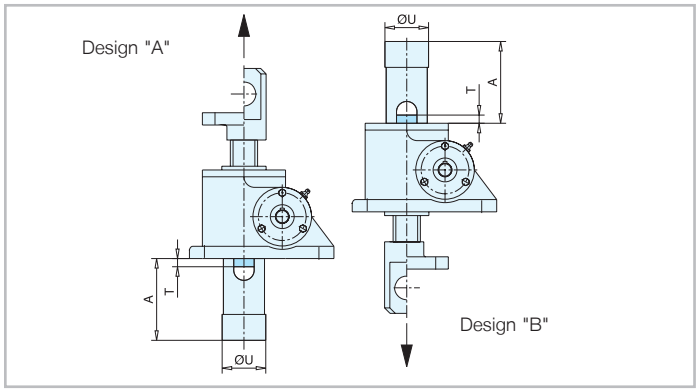
Size	B	C	T [1]	ØW
1.1	on request			
2	147,5	162,5	2	45
3.1	150,5	165,5	2	45
5.1	193	220,5	2	55
15.1	230	260	3	76
20.1	262	292	3	86
25	317	359	3,5	112
35	355	415	15	138
50.1; 75; 100.1; 150 and 200.1 on request				



SHE type 1, tensile force

Size	A	T [1]	ØU
1.1	on request		
2	lift + 20	2	61
3.1	lift + 20	2	61
5.1	lift + 40	2	81
15.1	lift + 20	3	93
20.1	lift + 20	3	119
25	lift + 20	3,5	145
35	lift + 45	4	173
50.1; 75; 100.1; 150 and 200.1 on request			

[1] As new. If "T = 0", supporting and safety nut must be repaired.

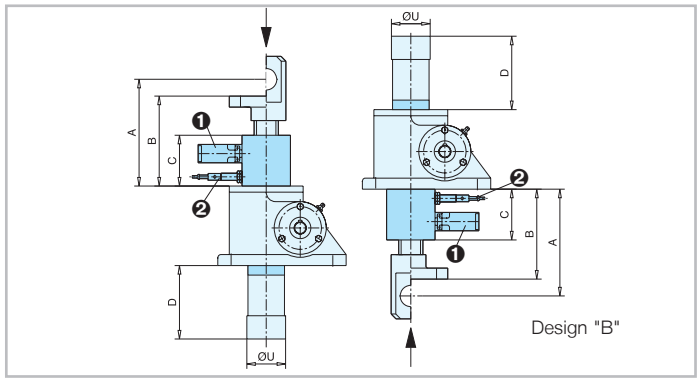


3.5 SHE range dimension plans

3.5.1.7 With long safety nut (BGV C1 or VBG 14)

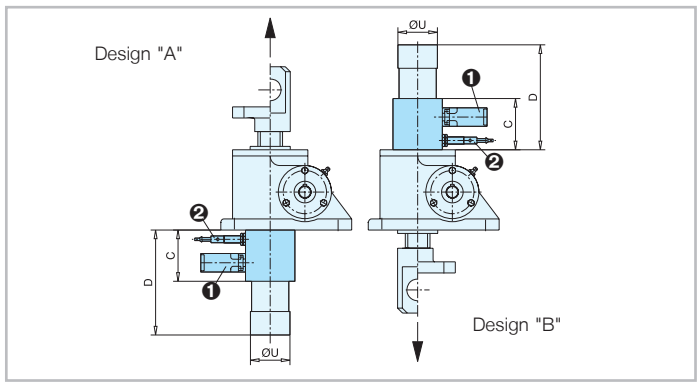
Worm gear screw jacks used on theatre stages (BGV C1, former VBG 70), lifting platforms (VBG 14) or lifting systems that might affect personal safety are designed according to current regulations, and include such items as anti-drop systems (self-locking screws and/or mechanical safety brakes as part of the drive system). The function of the synchronizing device is guaranteed, if required, by additional components.

SHE type 1, compression force



Size	A	B	C	D	ØU
1.1	on request				
2					
3.1	140	125	80	Lift + 60	65
5.1	161,5	134	83	Lift + 70	65
15.1	201,5	171,5	87,5	Lift + 70	83
20.1	201	171	91	Lift + 70	115
25	264	222	130	Lift + 83	160
35; 50.1; 75; 100.1; 150 and 200.1 on request					

SHE type 1, tensile force

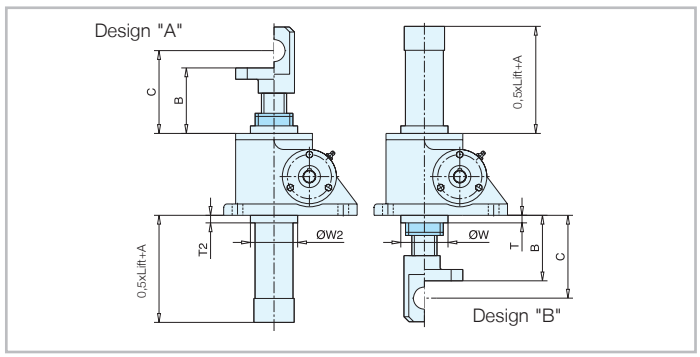


Size	A	B	C	D	ØU
Dimension plans available on request					

Ind. proximity switch ❷	Mechanical limit switch ❶
See chapter on accessories for technical data and dimension plans	

3.5.1.8 Telescopic configuration

Worm gear screw jacks in telescopic configuration permit long lifting distances in reduced spaces.



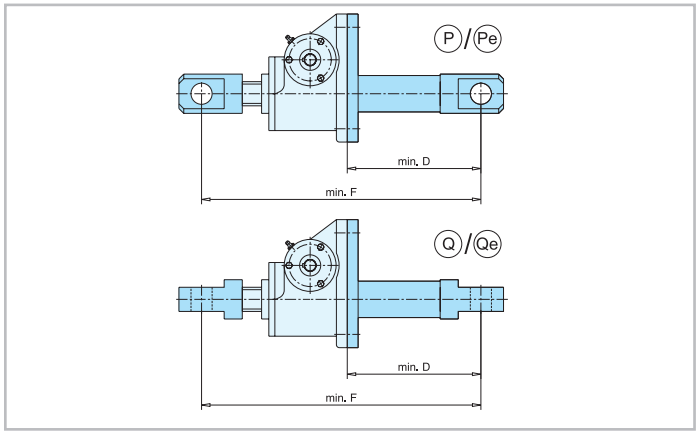
Size	Screw	A	B	C	ØW	T	ØW2	T1
3.1/0,5	on request							
5.1/1.1	Tr20x5LH Tr40x5RH	15	63	85	-	-	110	10
15.1/2	Tr26x6LH Tr60x6RH	35	72	87	135	26	85	17,5
15.1/3.1	Tr30x6LH Tr60x6RH	35	72	87	135	26	85	17,5
20/5.1	Tr40x7LH Tr72x7RH	33	90	117,5	120	32	116	12
25/10	Tr55x8LH Tr90x8RH	33	90	120	130	41	-	-
50.1/10	Tr60x12LH Tr110x12RH	35	160	130	200	15	200	15

3.5 SHE range dimension plans

3.5.1.9 Swivelling configuration

In order to allow worm gear screw jacks to carry out swivelling and tipping movements, the drive elements must be secured at two points and permitted to move. This can be done using head IV on both screw ends or an articulated head. The bending moment resulting from the swivelling motion should be minimized as much as possible by means of low-friction articulations.

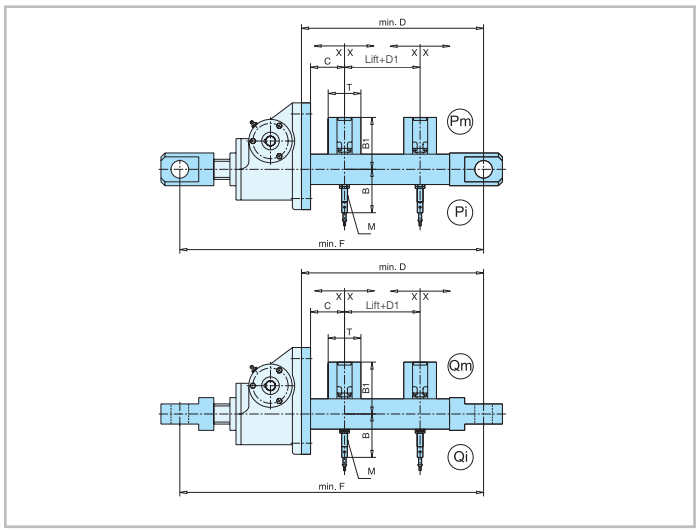
	With end-limit stop Pe/Qe		Without end-limit stop P/Q	
Size	D	F	D	F
1.1	on request			
2	lift + 90	lift + 252,5	lift + 70	lift + 232,5
3.1	lift + 110	lift + 275,5	lift + 90	lift + 255,5
5.1	lift + 128	lift + 349	lift + 108	lift + 329
15.1	lift + 155	lift + 415	lift + 125	lift + 385
20.1	lift + 175	lift + 467	lift + 135	lift + 427
25	lift + 200	lift + 559	lift + 150	lift + 509
35; 50.1; 75; 100.1 on request				



3

3.5.1.10 Swivelling configuration with added-on limit switches

All sizes can be supplied with mechanical or inductive limit switches

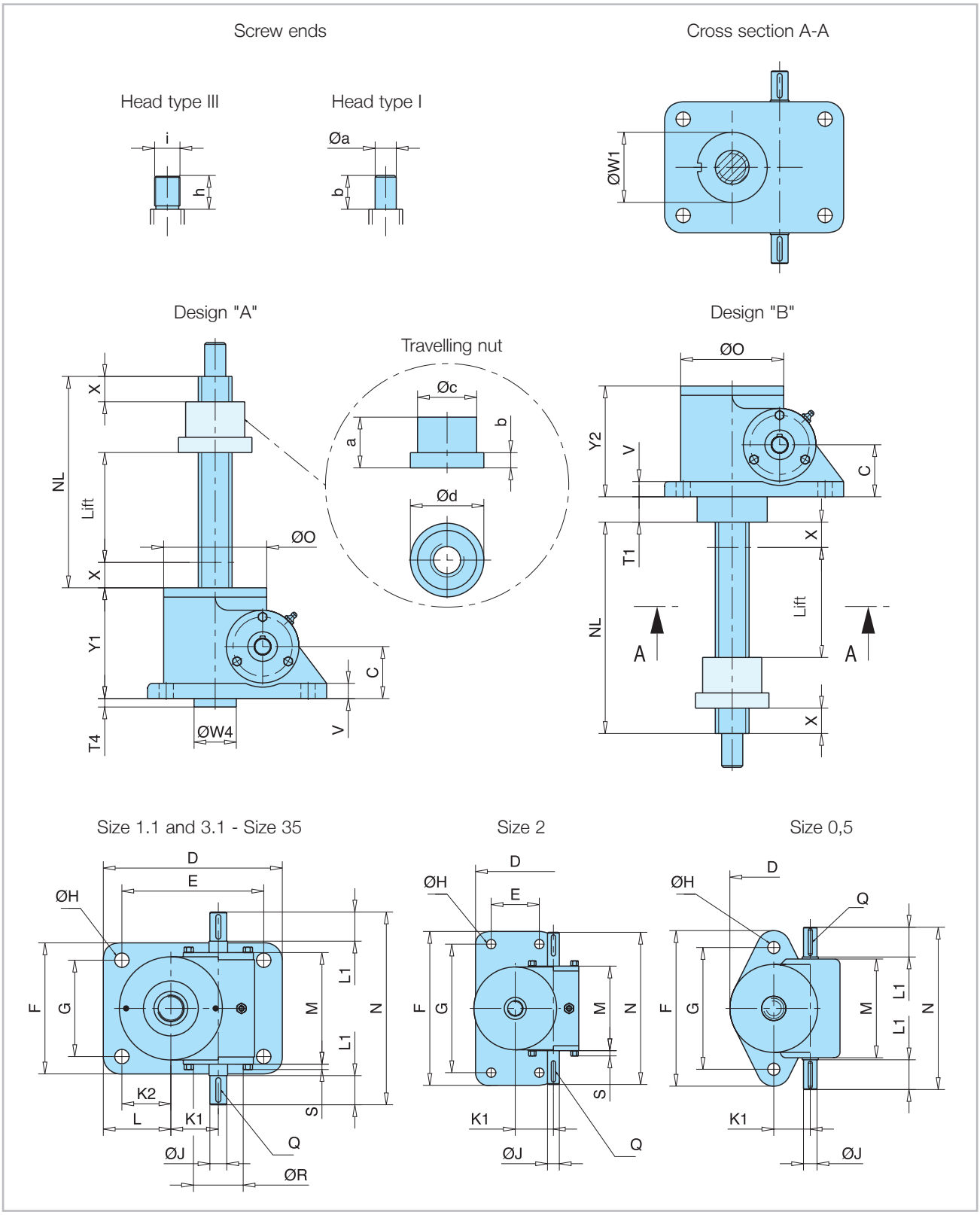


Size	B	B1	C	D	D1	F	M	T	X
3.1	91	100	48	175	25	340,5	12x1	58	± 10
5.1	103	80	48	203	20	424,5	12x1	58	± 10
15.1	106	115	48	228	30	488	12x1	58	± 10
0,5; 1.1; 2; 20.1; 25; 35; 50.1; 75 and 100.1 on request									

3.5 SHE range dimension plans

3.5.2 Configuration type 2

3.5.2.1 Standard



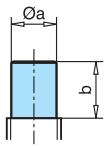
3.5 SHE range dimension plans

Size	0,5	1.1[1)]	2	3.1[1)]	5.1[1)]	15.1[1)]	20.1[1)]	25	35
Screw	Tr 18x6	Tr 24x5	Tr 26x6,28	Tr 30x6	Tr 40x7	Tr 60x12	Tr 70x12	Tr 90x16	Tr 100x16
C	32	35	44	45	61,5	70	87	102	115
D	81,5	150	94	165	212	235	295	350	430
E	-	130	57	135	168	190	240	280	360
F	115	100	182	120	155	200	215	260	280
G	90	80	152	90	114	155	160	190	210
ø H	9	9	11	14	17	21	28	35	35
ø J k6	10	14	14	16	20	25	28	34	38
K 1	27	36	45,2	45,2	56,2	66,8	72,5	97	120
K 2	-	58	28,5	50	58	63,5	95	95	135
L	32,5	68	47	65	80	86	122,5	130	170
L 1	22	18	-	-	-	47	52	60	80
M	73	100	100	110,5	132	185	213,5	221	265
N	120	140	180	190	228	280	322	355	430
NL	lift + 72	lift + 80	lift + 80	lift + 85	lift + 100	lift + 125	lift + 150	lift + 170	lift + 205
ø O	65	88	98	98	122	150	185	205	260
Q	3x3x20	5x5x16	5x5x25	5x5x32	6x6x32	8x7x40	8x7x45	10x8x50	10x8x70
ø R	-	-	41	38	55	-	72	80	100
S	-	-	6	5,5	6	-	6	10	10
T 1	18,5	16	24	26,5	30	34	39	52	45
T 4	-	-	-	-	-	-	-	-	15
V	10	13	14	12	18	16	20	25	30
ø W 1	45	52	60	68	83	110	140	160	180
ø W 4	-	-	-	-	-	-	-	-	150
Safety X	20	20	20	20	20	25	25	25	30
Y 1	74	86	95	100	131	160	194	226	250
Y 2	70	79	93	97	130	150	176	217	255
Traveling nut									
a	32	40	40	45	60	75	100	120	145
b	10	12	18	15	18	25	30	35	35
ø c h9	40	45	50	50	70	90	90	130	150
ø d	50	65	76	80	87	110	120	155	190
Head I									
ø a k6	10	15	18	20	25	40	50	70	80
b	20	24	30	30	40	50	54	80	80
Head III									
h	20	24	30	30	39	50	54	80	80
i	M 10	M 16x1,5	M 18x1,5	M 22x1,5	M 30x2	M 40x3	M 56x3	M 70x3	M 80x3

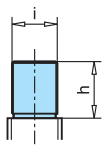
[1)] Size X.1 replaces previous size
The new sizes are compatible with the previous sizes.
Previous sizes are available upon request.

3.5 SHE range dimension plans

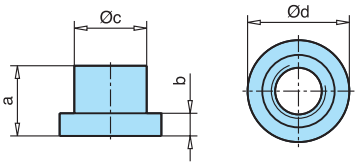
Head type I



Head type III



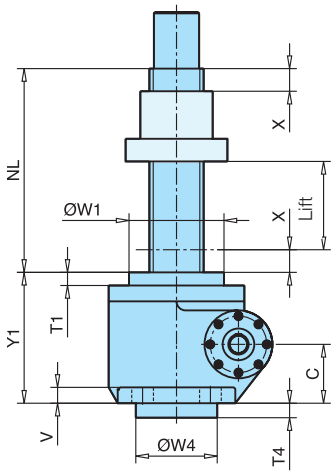
Travelling nut

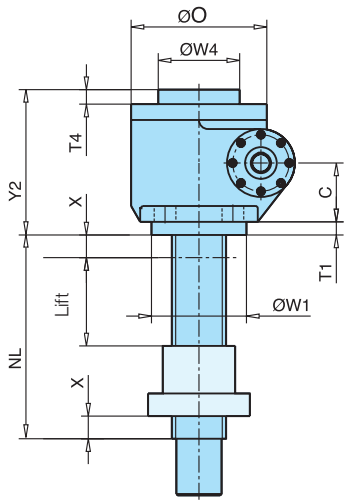


Design "A"

Design "B"

Size 50.1 - Size 75

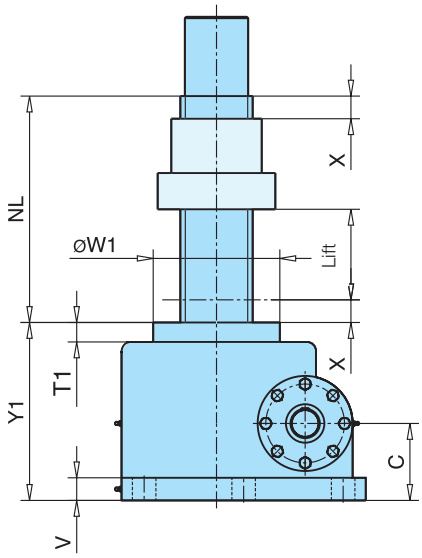


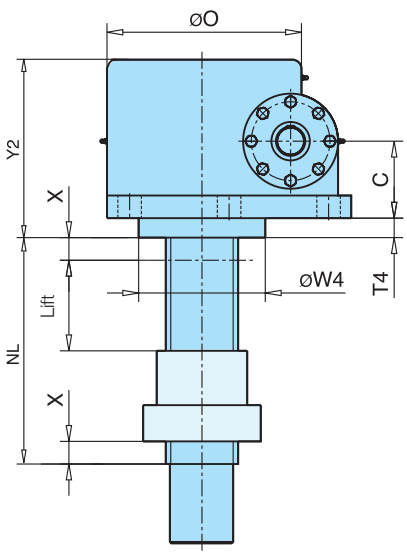


Design "A"

Design "B"

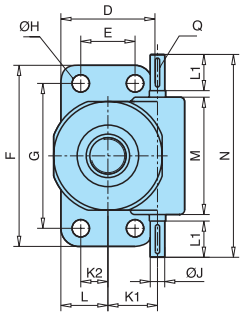
Size 100.1 - Size 200.1



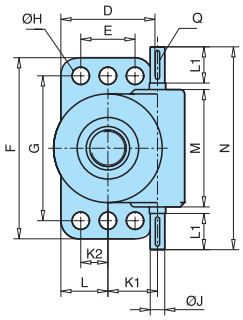


3.5 SHE range dimension plans

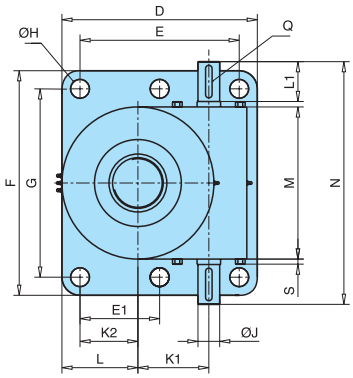
Size 50.1



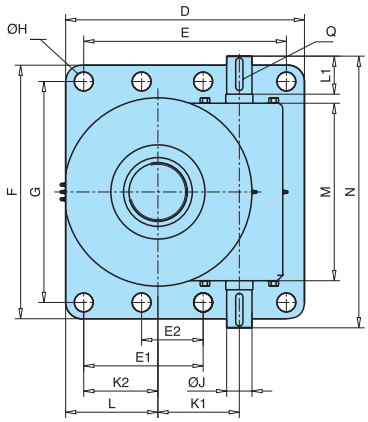
Size 75



Size 100.1



Size 150 and 200.1



Size	50.1[1)]	75	100.1[1)]	150	200.1[1)]
Screw	Tr 120x16	Tr 140x20	Tr 160x20	Tr 190x24	Tr 220x28
C	130	155	170	194	
D	260	330	540	660	
E	150	225	440	560	
E1	-	-	220	330	
E2	-	-	-	170	
F	500	540	620	700	
G	400	455	520	610	
ø H	48	45	52	52	
ø J	40k6	60m6	60m6	70m6	
K 1	137	160	196	225	
K 2	75	112,5	160	210	
L	130	165	210	255	
L 1	100	110	110	110	
M	324	360	420	490	
N	560	600	670	710	
NL	lift + 255	lift + 300	lift + 300	lift + 340	
ØO	-	375	420	510	
Q	12x8x80	18x11x100	18x11x90	20x12x90	on request
S	-	-	14	-	
T 1	29	16	33	40	
T 4	32	-	43	50	
V	35	40	50	60	
Ø W 1	210	274	280	340	
Ø W 4	180	-	-	-	
Safety X	50	50	50	50	
Y 1	289	326	383	465	
Y 2	289	326	393	475	
Travelling nut					
a	155	200	200	240	
b	50	70	80	90	
ø c h9	160	180	200	240	
ø d	225	250	260	300	
Head I					
ø a k6	100	110	140	160	
b	125	125	175	200	
Head III					
h	125	125	175	200	
i	M 100x5	M 120x6	M 140x6	M 160x6	

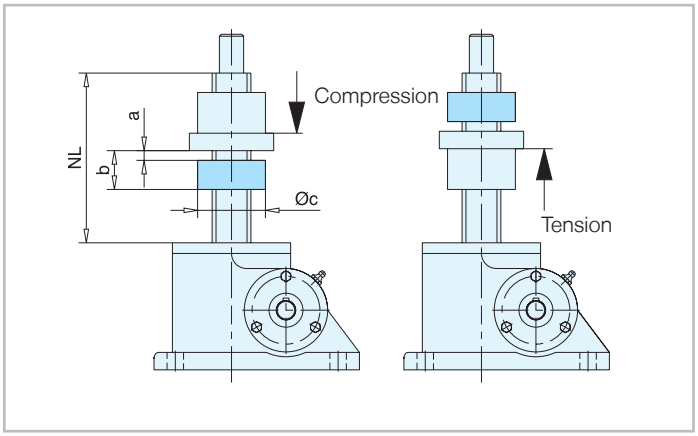
[1)] Size X.1 replaces previous size. The new sizes are compatible with the previous sizes. Previous sizes are available upon request.

3.5 SHE range dimension plans

3.5.2.2 With short safety nut

The short safety nut takes up the axial strain if the main nut breaks. This considerably increases the operating safety of the drive elements. The safety nut can also be used to precisely check for wear on the main nut, as the clearance between the two nuts changes according to the amount of wear. In the case of worm gear screw jacks with short safety nut, the direction of main stress (tensile or compression force) and the mounting position should be taken into account, as only a correctly fitted safety nut is capable of taking up the load.

SHE type 2, compression and tensile force

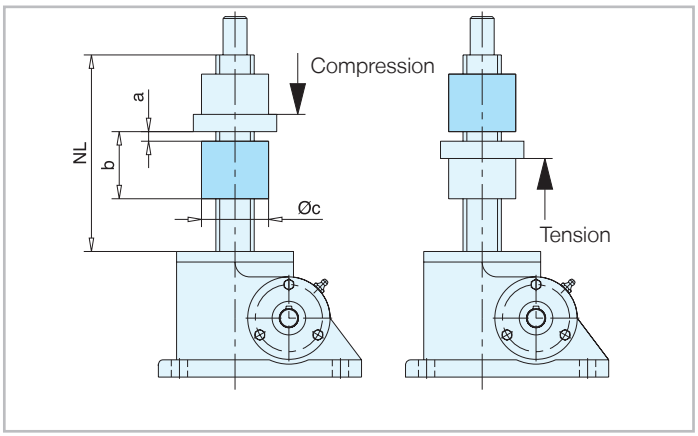


Size	a[1)]	b	Øc	NL
1.1	5	25	45	lift+105
2	10	35	50	lift+115
3.1	10	35	50	lift+120
5.1	10	40	70	lift+140
15.1	10	60	90	lift+185
20.1	10	60	90	lift+210
25	15	80	130	lift+250
35	15	80	150	lift+285
50.1	15	80	160	lift+335
75	on request			
100.1	15	95	200	lift+395
150	20	120	240	lift+460
200.1	on request			

3.5.2.3 With long safety nut (BGV C1 or VBG 14)

Worm gear screw jacks used on theatre stages (BGV C1, former VBG 70), lifting platforms (VBG 14) or lifting systems that might affect personal safety are designed according to current regulations, and include such items as anti-drop systems (self-locking screws and/or mechanical safety brakes as part of the drive system). The function of the synchronizing device is guaranteed, if required by, additional components.

SHE type 2, compression and tensile force



Size	a[1)]	b	Øc	NL
1.1	5	45	45	lift+125
2	10	50	50	lift+130
3.1	10	55	50	lift+140
5.1	10	70	70	lift+170
15.1	10	85	90	lift+210
20.1	10	110	90	lift+260
25	15	135	130	lift+305
35	15	160	150	lift+365
50.1	15	170	160	lift+425
75	on request			
100.1	15	215	200	lift+515
150	20	260	240	lift+600
200.1	on request			

[1)] As new. If "T = 0", supporting and safety nut must be repaired.

See chapter 3.9 for details of further travelling nut configurations
- Travelling nut with trunnion
- Ball screw (Ku) with single flange nut
- Travelling nut with keyed surface
- Travelling nut with spherical support

Mechanical limit switch
See chapter on accessories for technical data and dimension plans