

# Screw jacks

## Lifting screw protective covers

### Flexible protection boots

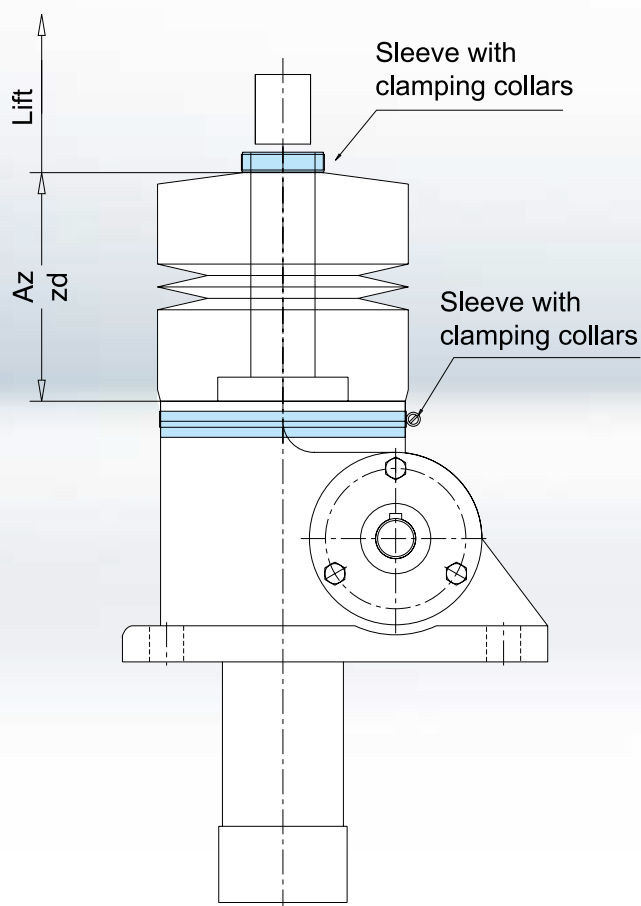
**Screw protection covers can increase the service life of the screw jacks.** Protection boots made of various materials are used for this purpose. They protect the screw jacks from dirt and external influences. The protection boots are elastic and folded like an accordion and can also be fitted over mechanically interlocking machine parts.

In the standard version, protection boots made of the material PN-100 or PN-200 are used and fastened on both ends with galvanised metal clamping collars (see drawing below). Stainless steel clamping collars (V2A) are also available on request.

For extension limits  $Az > 1000$  mm, the protection boots are fitted with limiting devices to prevent over-stretching of the individual protection boot segments.

In case of inclined or horizontal installation, the protection boots must from a stroke length of 400 mm upwards be fitted with support rings to prevent them from getting caught in the threads. If they are installed in a vertical position, one support ring per 1000 mm stroke is required.

Apart from the standard design, special designs of protection boots are also available on request.



A



B



C

D

# Lifting screw protective covers

## Design features and ordering details

### Features and processing of protection boots

Material	Design	Temperature range °C	Dustproof	Waterproof	Oil-resistant	Chemical-resistant	Spark-resistant	zd/Lift
PN-100*	Polygonal folding	-15 to 70	●	●	● <sup>2)</sup>	-	-	0,12
PN-200*	Polygonal folding	-15 to 100	●	●	●	○	-	0,15
PN-CSM- Rubber sheeting	Round	-28 to 110	●	●	○	-	-	on request
PN-CR Rubber fabric	Round	-38 to 100	●	●	●	● <sup>1)</sup>	-	on request
PN-ALU- Glass fiber	Sewn round	-20 to 200	●	-	-	-	●	on request

\*Standard ○ only conditional ● resistant ●<sup>1)</sup> only if coated with Teflon ●<sup>2)</sup> with synth. oil, with inner coating only

### Ordering details flexible protection boots

**P** **N** -    -   /   - Ø   / Ø   -  x  /  x  -  -  -     x

1            2            3            4            5            6    7            8

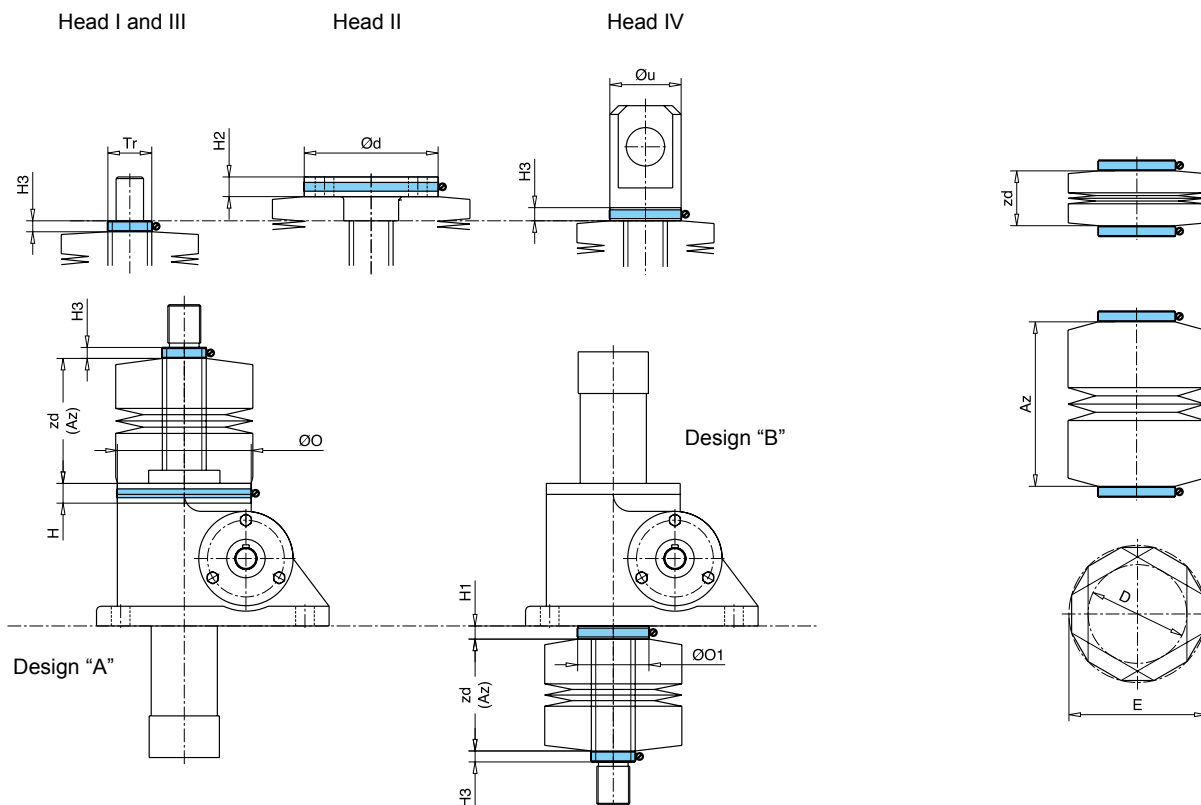
No.	Description
1	<b>Range</b> <span style="float: right;"><b>Flexible protection boot</b></span>
2	<b>Material</b>
3	<b>zd/Az</b> <span style="float: right;">zd = minimum length / Az = maximum length</span>
4	<b>Inside/Outside</b> <span style="float: right;">Inside Ø / Outside Ø</span>
5	<b>Sleeve</b> <span style="float: right;">Sleeve 1 Sleeve 2</span>
6	<b>Protection against extension</b> <span style="float: right;">0 = yes 1 = no</span>
7	<b>Number of support rings</b>
8	<b>Screw size</b> <span style="float: right;">Tr (DxP) / Ku (DxP)</span>



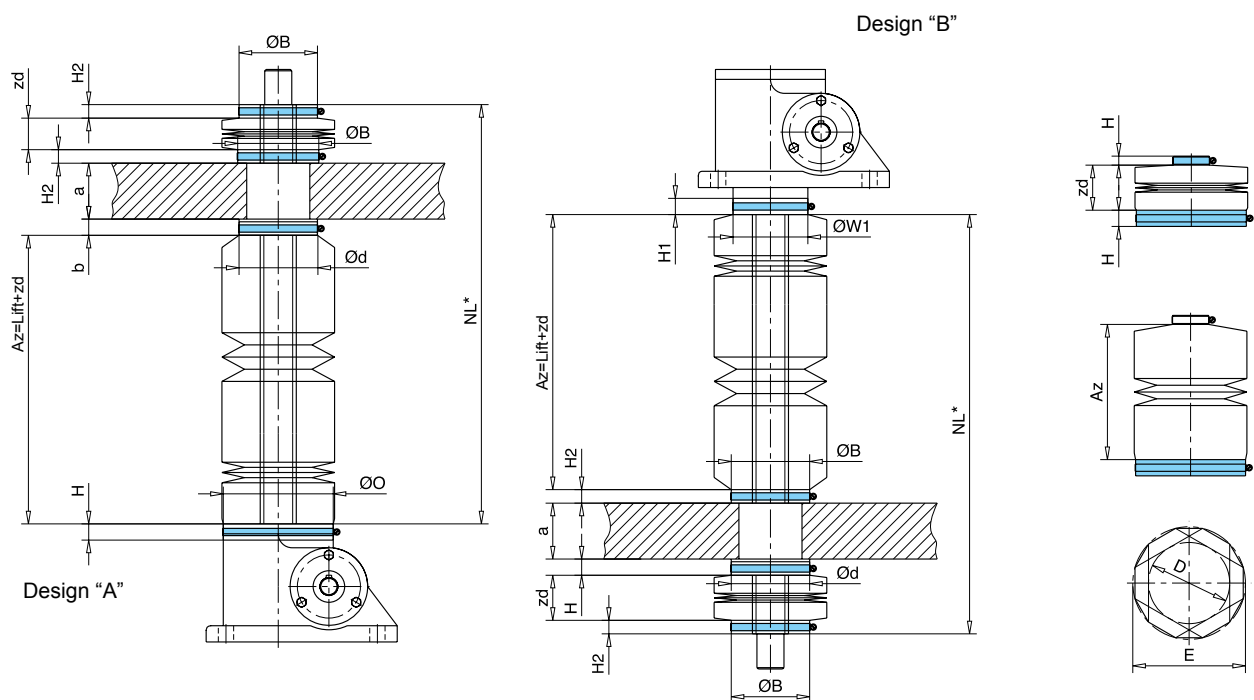
# Lifting screw protective covers

## Technical drawings

Technical drawings flexible protection boots: Type 1, SHE range, Design A and B, all mounting positions



Technical drawings flexible protection boots: Type 2, SHE range, Design A and B, all mounting positions



\*Addition of individual dimensions produces NL

A

B

C

D

# Lifting screw protective covers

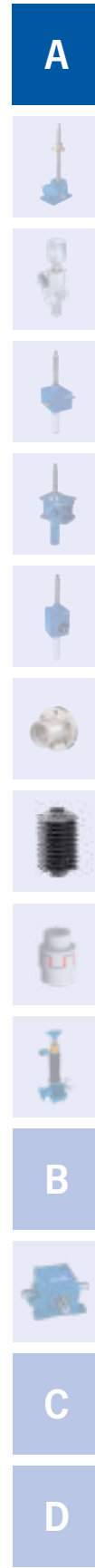
## Dimensions

Dimensions flexible protection boots: Type 1, SHE range, Design A and B, all mounting positions															
SHE		0,5	1.1	2	3.1	5.1	15.1	20.1	25	35	50.1	75	100.1	150.1	200.1
<b>Housing connection design A</b>															
Housing	ØO	65	88	98	98	122	150	185	205	260	170	250	240	300	
	H	12					15					20			
<b>Housing connection design B</b>															
Housing	ØO1	36	52	48	48	65	80	100	130	150	170	250	240	300	
	H1	12									15		20		
<b>Screw head</b>															
Head II	Ød	65	72	98	98	122	150	185	205	260	300	200	200	220	
	H2	12	12	12	12	18	20	25	25	25	30	30	30	30	
Head I/III	ØTr	18	24	26	30	40	60	70	90	100	120	140	160	190	
Head IV	Øu	30	40	48	50	65	90	110	130	150	170	200	220	260	
	H3	12					15					20			
<b>Minimum zd<sub>min</sub> Design A</b>															
Head II		24	33	42	42	45	60	66	75	80	70	20	25	30	
Head I/III		12	12	12	12	12	15	11	22	15	12	12	12	10	
Head IV		20	20	24	24	24	30	26	37	30	25	20	25	30	
<b>Minimum zd<sub>min</sub> Design B</b>															
Head II		12	30	30	30	33	48	54	63	68	70	20	20	30	
Head I/III		12	12	12	12	12	12	12	12	12	12	12	12	10	
Head IV		8	17	12	12	12	18	14	25	18	25	20	20	30	
<b>Dimensions flexible protection boot (material PN 100 and PN 200)</b>															
Head II	D	65	75	100	100	120	150	185	200	260	300	300	300	310	
	E	105	125	140	140	180	210	245	260	320	360	360	360	370	
Head I/III/IV	D	38	45	63	63	75	110	130	150	150	200	245	245	280	
	E	75	85	105	105	125	150	185	210	210	260	295	295	340	

on request

Dimensions flexible protection boots: Type 2, SHE range, Design A and B, all mounting positions															
SHE		0,5	1.1	2	3.1	5.1	15.1	20.1	25	35	50.1	75	100.1	150.1	200.1
<b>Housing connection design A</b>															
Housing	ØO	65	88	98	98	122	150	185	205	260	210	on request	240	300	
	H	12	12	12	12	12	15	15	15	15	20		20	20	
<b>Housing connection design B</b>															
Housing	ØW1	45	52	60	68	83	110	140	160	180	210		280	340	
	H1	12	12	12	12	12	15	15	15	15	20		20	20	
<b>Travelling nut connection</b>															
	Ød	50	65	76	80	87	110	120	155	190	225		260	300	
	b	12	12	12	12	12	15	15	15	15	20		20	20	
<b>On site connection</b>															
	ØB	50	65	80	80	87	110	120	155	190	225		260	300	
	H2	12	15	15	15	15	15	15	15	15	25		20	20	
<b>Dimensions flexible protection boot (material PN 100 and PN 200)</b>															
	ØD	38	38	65	63	75	110	130	150	150	200	245	280		
	ØE	75	75	105	105	125	150	185	210	210	260	295	360		

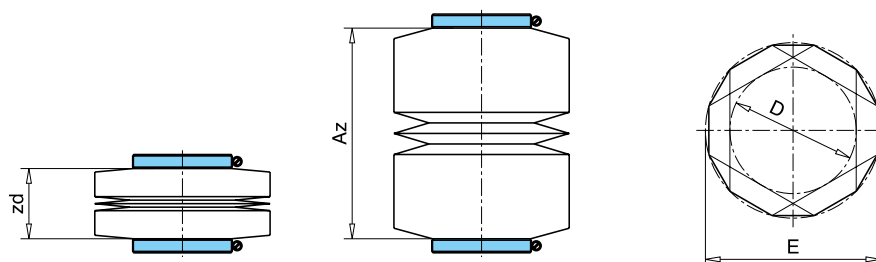
on request



# Lifting screw protective covers

## Technical drawings

Technical drawings flexible protection boots: Type 1, MERKUR/HSE/SHE range



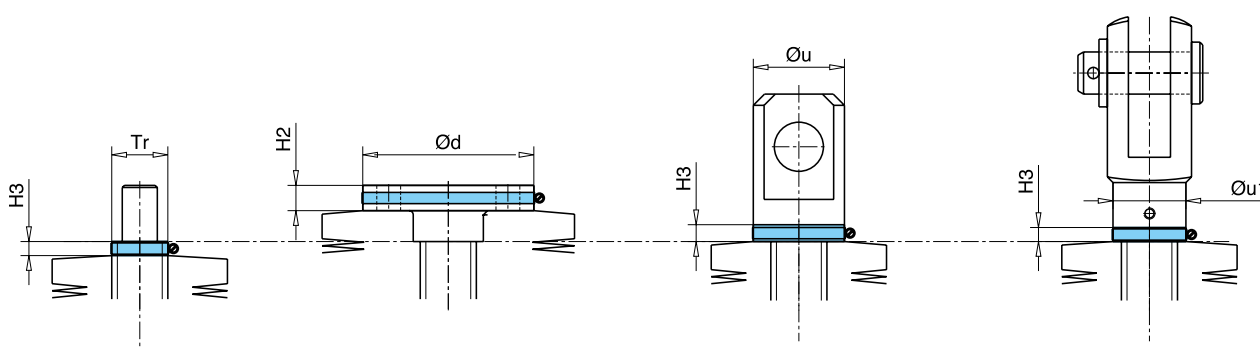
Protection boot fasteners – head area

Head I and III

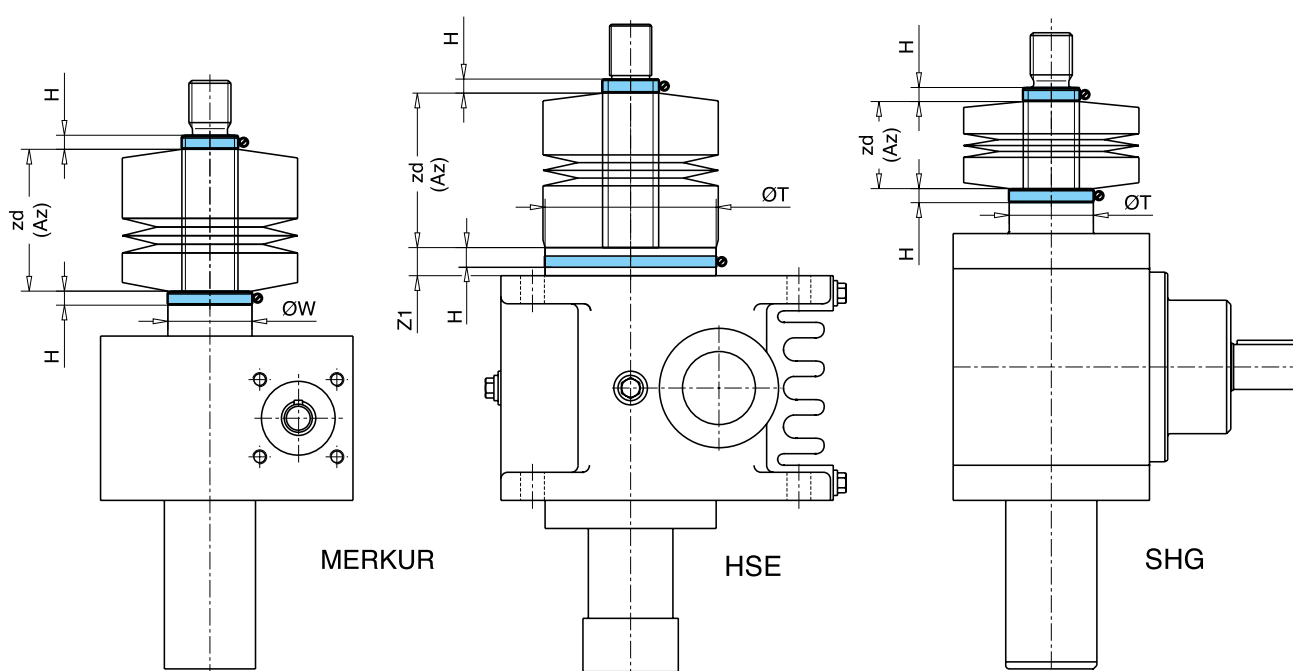
Head II

Head IV

Head GK



Protection boot fasteners – gear box area



MERKUR

HSE

SHG

A

B

C

D

# Lifting screw protective covers

## Dimensions

Dimensions flexible protection boots: Type 1, MERKUR range										
MERKUR		M 0	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8
<b>Housing connection</b>										
Housing	ØW	26	30	39	46	60	85	120	145	170
	H	12	12	12	12	12	12	15	15	15
<b>Screw head</b>										
Head II	Ød	50	65	80	90	110	150	220	260	310
	H2	12	12	12	12	15	20	30	30	30
Head I/III	ØTr*	14	18	20	30	40	60	70	100	120
Head IV	Øu	25	30	40	45	60	85	120	160	170
	H3	12	12	12	12	12	12	15	15	15
Head GK	Øu1	14	20	25	34	52	60	-	-	-
	H3	12	12	12	12	12	12	-	-	-
<b>Minimum zd<sub>min</sub></b>										
Head II		7	12	16	16	19	37	42	52	102
Head I/III		0	0	0	0	0	0	0	0	0
Head IV/GK		3	4	7	5	4	7	12	12	22
<b>Dimensions flexible protection boot - inside/outside Ø (material PN 100 and PN 200)</b>										
Head II	D	65	65	100	100	120	150	220	260	310
	E	105	105	140	140	180	210	280	320	370
Head I/III/IV/GK	D	38	38	45	63	100	100	120	200	200
	E	75	75	85	105	140	140	180	260	260

Dimensions for ball screw (Ku) on request

\*For ball screw (Ku) connection Head I/III = Ku Ø

Dimensions flexible protection boots: Type 1, HSE range										
HSE		32	36.1	50.1	63.1	80.1	100.1	125.1	140	200.1
<b>Housing connection</b>										
Housing	ØT	62	72	92	122	152	182	222		352
	H	15	16	18	20	25	25	25		25
<b>Screw head</b>										
Head II	Ød	65	72	92	122	150	182	222		352
	H2	12	12	12	18	20	20	25		30
Head I/III	ØTr	18	24	40	50	60	70	100		160
Head IV	Øu	30	40	50	65	90	110	140		220
	H3	12	12	12	12	15	15	20		20
<b>Minimum zd<sub>min</sub> with configuration H (see page 62-79)</b>										
Head II		31	33	38	42	50	50	70		90
Head I/III		8	8	10	10	10	15	15		90
Head IV		20	20	20	20	20	20	20		90
<b>Minimum zd<sub>min</sub> with configuration F (see page 62-79)</b>										
Head II		39	41	46	51	64	69	89		120
Head I/III		16	16	18	19	19	24	24		120
Head IV		28	28	28	29	34	39	39		120
<b>Dimensions flexible protection boot - inside/outside Ø (material PN 100 and PN 200)</b>										
Head II	D	65	65	100	120	150	185	260		300
	E	105	105	140	180	210	245	320		360
Head I/III/IV	D	38	45	65	75	110	130	150		245
	E	75	85	105	125	150	185	210		295

on request

Type 1, SHG range					
SHG		G 15	G 25	G 50	G 90
<b>Housing connection</b>					
Housing	ØT	39	100	60	90
	H	12	12	15	15
<b>Screw head</b>					
Head II	Ød	90	98	110	170
	H2	12	12	15	25
Head I/III	ØTr	24	35	40	60
	ØKu (25)	-	-	(40/32)	(63)
Head IV	Øu	-	50	65	80
Head GK	Øu1	34	-	52	-
	H3	12	12	15	15
<b>Minimum zd<sub>min</sub> with configuration H (see page 80-93)</b>					
Head II		-	33	-	-
Head I/III		-	3	-	-
Head IV		-	15	-	-
<b>Minimum zd<sub>min</sub> with configuration F (see page 80-93)</b>					
Head II		16	43	19	32
Head I/III		0	13	0	0
Head IV		-	25	4	7
Head GK		5	-	4	-
<b>Dimensions flexible protection boot - inside/outside Ø (material PN 100 and PN 200)</b>					
Head II	D	100	120	120	185
	E	140	180	180	245
Head I/III/IV/GK	D	65	75	110	110
	E	105	125	150	150

( ) Values in brackets for configurations with ball screw (Ku)

A



B



C

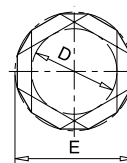
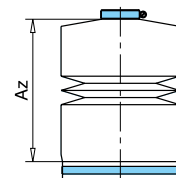
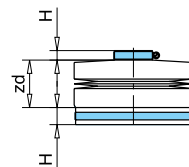
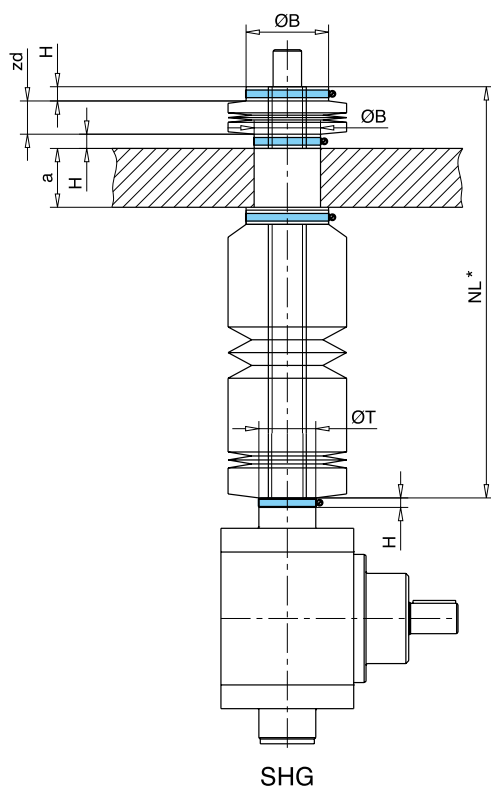
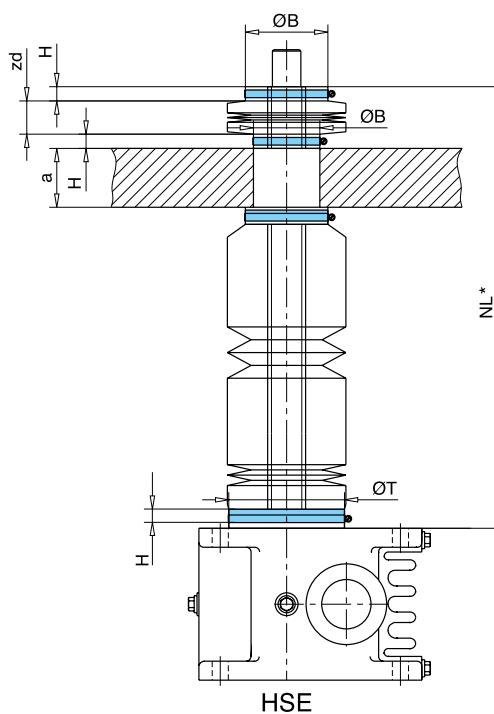
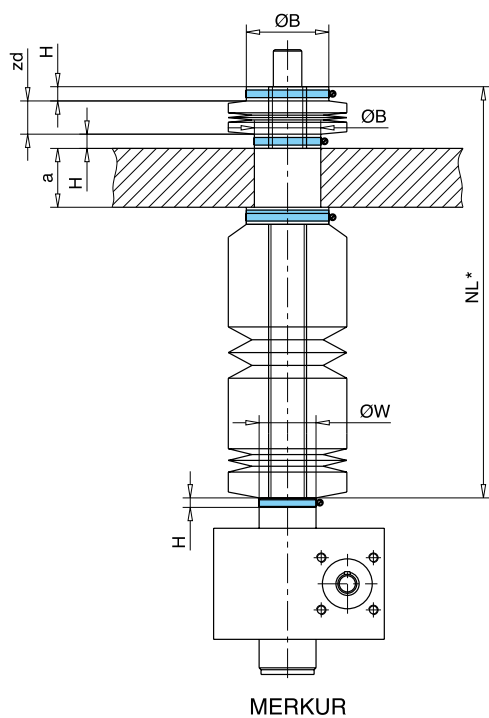
D

# Lifting screw protective covers

## Technical drawings

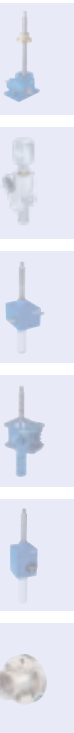
Technical drawings flexible protection boots: Type 2, MERKUR/HSE/SHE range

A



\*Addition of individual dimensions produces NL

A



B

C

D

# Lifting screw protective covers

## Dimensions

Dimensions flexible protection boots: Type 2, MERKUR range									
MERKUR	M 0	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8
<b>Connecting dimensions: Housing</b>									
ØW	26	30	39	46	60	85	120	145	170
H	12	12	12	12	12	12	15	15	15
<b>Travelling nut connection</b>									
Ød	50	50	65	80	87	110	155	190	225
b	12	12	12	15	18	25	25	25	25
<b>On-site connection</b>									
ØB	50	50	65	80	87	110	155	190	225
H	12	12	15	15	15	15	25	25	25
<b>Dimensions flexible protection boot (material PN 100 and PN 200)</b>									
D	38	38	38	65	75	110	150	150	200
E	75	75	75	105	125	150	210	210	260

Dimensions flexible protection boots: Type 2, HSE range										
HSE	32	36.1	50.1	63.1	80.1	100.1	125.1	140	200.1	
<b>Connecting dimensions: Housing</b>										
ØT	62	72	92	122	152	182	222	on request	352	
H	15	16	18	20	25	25	25		25	
<b>Travelling nut connection</b>										
Øy	50	65	87	105	110	120	190		260	
H	12	15	18	18	15	15	15		25	
<b>On-site connection</b>										
ØB	50	65	87	105	110	120	190		260	
H	12	15	15	15	15	15	15		25	
<b>Dimensions flexible protection boot (material PN 100 and PN 200)</b>										
D	38	38	75	110	110	130	150		245	
E	75	75	125	150	150	185	210	295		

Dimensions flexible protection boots: Type 2, SHG range				
SHG	G 15	G 25	G 50	G 90
<b>Connecting dimensions: Housing</b>				
ØT	39	100	60	90
H	12	12	15	15
<b>Travelling nut connection</b>				
Ød	65	87	87	120
b	12	15	15	15
<b>On-site connection</b>				
ØB	65	87	87	120
H	12	15	15	15
<b>Dimensions flexible protection boot (material PN 100 and PN 200)</b>				
D	65	75	75	130
E	105	125	125	185

