

Screw jacks

SHG quick-lifting screw jacks

Features and processing

Dynamic and durable: these are the characteristics our customers appreciate in the SHG quick lifting screw jack. Available in four sizes, it covers a load range from 1.5 t to 9 t. The high efficiency and long service life are achieved by using a spiral bevel gearbox.

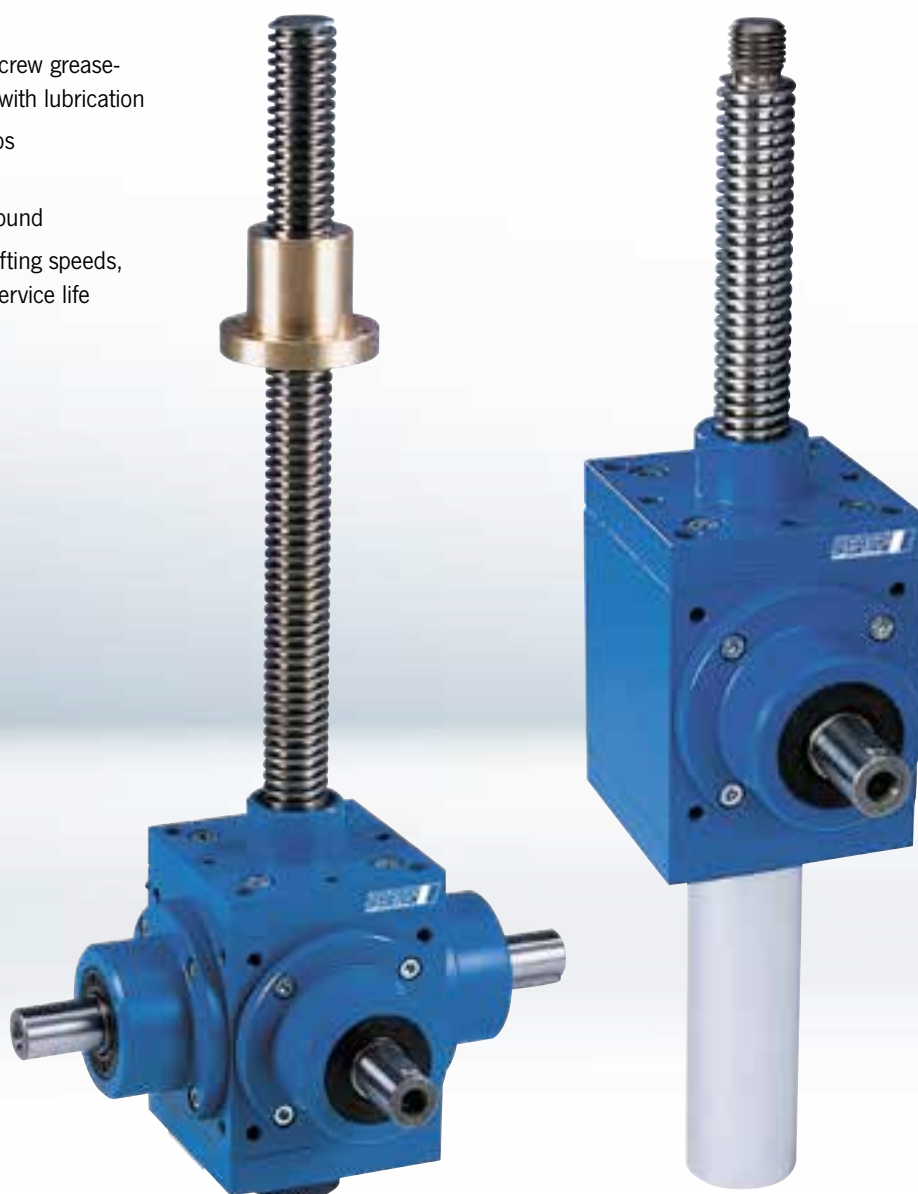
The gearboxes of the SHG ranges are ideal where high dynamics and long duty cycles are required.

4 different sizes

Lifting capacities from 15 to 90 kN

Input speeds up to 3000 min⁻¹

- Self-locking trapezoidal screw
- Separate lubrication circuits: Tr screw grease-lubrication and bevel gear boxes with lubrication
- Bevel gear boxes in two ratio steps (2:1 and 3:1 as required)
- Gearing is case-hardened and ground
- Spiral bevel gear boxes for high lifting speeds, high efficiency ratings and long service life



A



B



C

D


SHG range

Selection table

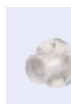
Selection table quick-lifting screw jack SHG					
Size		G15	G25	G50	G90
Max. lifting capacity dynamic/static	[kN]	15	25	50	90
Max. tensile load dynamic/static	[kN]	15	25	50	90
Screw Tr ¹⁾		24x5	35x8	40x7	60x9
Ratio N		2:1			
Lift per revolution for ratio N	[mm/per rev.]	2,5	4	3,5	4,5
Ratio L		3:1			
Lift per revolution for ratio L	[mm/per rev.]	1,66	2,67	2,33	3
Max. drive capacity ²⁾ at T = 20 °C Duty cycle (ED) 20 %/h	[kW]	1	1,5	2,4	8,9
Max. drive capacity ²⁾ at T = 20 °C Duty cycle (ED) 10 %/h	[kW]	1,3	2,6	3,8	13
Screw efficiency rating	[%]	41	43	37	33
Torque, capacity, turning-speed at 20 % ED/h and 20 °C		see performance tables page 82–83			
Screw torque at max. lifting power	[Nm]	29,4	73,2	123,4	398,5
Max. permitted drive-shaft torque	[Nm]	50	125	175	1600
Mass moment of inertia J ³⁾ Ratio N type 1	[kg cm ²]	1,058	6,63	22,44	181,28
Mass moment of inertia J ³⁾ Ratio N type 2	[kg cm ²]	1,079	6,79	22,89	184,92
Mass moment of inertia J ³⁾ Ratio L type 1	[kg cm ²]	0,677	3,6	7,248	123,79
Mass moment of inertia J ³⁾ Ratio L type 2	[kg cm ²]	0,691	3,67	7,393	126,28
Max. permitted screw length for compression load	[mm]	see buckling diagrams page 152–153			
Housing material		EN-GJL-250	G-AlSi10Mg	EN-GJL-250	
Weight without stroke length and protection tube	[kg]	9	13,5	23	85
Screw weight per 100 mm stroke	[kg]	0,8	0,59	1,5	2,5
Amount of lubricant in worm gear	[kg]	0,15	0,9	0,6	3,5

Dimension plans type 1: page 84–87, type 2: page 88–91

- 1) Also applies to Ku screw (see page 157)
 2) Max. permitted values for type 1 and Tr screw. Higher values are possible when using type 2 or Ku screw.
 3) Referring to 100 mm screw length

 Possible usage according to directive 2014/34/EU (ATEX)

A



B



C

D

SHG range

Performance tables (screw jacks with ball screw Ku)

SHG range (Quick-lifting screw jacks) with ball screw Ku

Rotary speed, power requirement and permitted lifting speed for **ratio „N“** with **lifting (type 1) ball screw Ku**. All performance data is expressed in terms of dynamic lifting force with 20 % ED/h.

Ball screws (Ku) with higher load capacity are possible with configuration type 2.

Performance table SHG G 15 N screw Ku 25x5; 20x20

Speed n	Lifting speed		F = 15 kN				F = 9,5 kN				F = 7 kN				F = 5 kN				F = 3 kN				F = 2 kN				F = 1 kN			
	20x20	25x5	20x20		25x5		20x20		25x5		20x20		25x5		20x20		25x5		20x20		25x5		20x20		25x5		20x20		25x5	
[1/min]	[m/min]		Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
3000	30,0	7,5	32	10,49	11	3,52	23	7,3	10	3,1	18	5,79	9	2,70	15	4,61	8	2,41	11	3,43	7	2,11	9	2,85	6	1,96	7	2,26	5	1,82
2500	25,0	6,3	32	8,80	11	2,99	23	6,1	10	2,6	18	4,88	9	2,31	15	3,90	8	2,06	11	2,92	7	1,82	9	2,43	6	1,70	7	1,94	5	1,57
2000	20,0	5,0	32	7,23	11	2,58	23	5,1	10	2,3	18	4,10	9	2,04	15	3,31	8	1,84	11	2,53	7	1,64	9	2,13	6	1,55	7	1,74	5	1,45
1500	15,0	3,8	32	5,41	11	1,92	23	3,8	10	1,7	18	3,06	9	1,51	15	2,47	8	1,37	11	1,88	7	1,22	9	1,59	6	1,15	7	1,29	5	1,07
1000	10,0	2,5	32	3,64	11	1,32	23	2,6	10	1,2	18	2,07	9	1,04	15	1,68	8	0,95	11	1,29	7	0,85	9	1,09	6	0,80	7	0,90	5	0,75
750	7,5	1,9	32	2,47	11	0,72	23	1,7	10	0,6	18	1,29	9	0,52	15	1,00	8	0,44	11	0,70	7	0,37	9	0,55	6	0,33	7	0,41	5	0,30

Performance table SHG G 25 N screw Ku 25x10; 25x5

Speed n	Lifting speed		F = 25 kN				F = 20 kN				F = 15 kN				F = 10 kN				F = 5 kN				F = 2,5 kN				F = 1 kN			
	25x10	25x5	25x10		25x5		25x10		25x5		25x10		25x5		25x10		25x5		25x10		25x5		25x10		25x5		25x10		25x5	
[1/min]	[m/min]		Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
3000	15	7,5	25	7,8	14	4,3	21	6,4	12	3,6	16	5	9,5	2,9	12	3,6	7	2,2	7	2,2	5	1,5	5	1,5	3,8	1,2	3,5	1,1	3,1	1
2500	12,5	6,25	25	6,5	14	3,6	21	5,4	12	3,1	16	4,2	9,5	2,5	12	3,1	7	1,9	7	1,9	5	1,3	5	1,3	3,8	1	3,5	1	3,1	0,9
2000	10	5	25	5,3	14	3	21	4,4	12	2,5	16	3,4	9,5	2	12	2,5	7	1,6	7	1,6	5	1,1	5	1,1	3,8	0,9	3,5	0,8	3,1	0,7
1500	7,5	3,75	25	4	14	2,2	21	3,3	12	1,9	16	2,6	9,5	1,5	12	1,9	7	1,2	7	1,2	5	0,8	5	0,8	3,8	0,7	3,5	0,6	3,1	0,6
1000	5	2,5	25	2,7	14	1,5	21	2,2	12	1,3	16	1,7	9,5	1	12	1,3	7	0,8	7	0,8	5	0,6	5	0,6	3,8	0,5	3,5	0,4	3,1	0,4
750	3,8	1,87	25	1,9	14	1	21	1,5	12	0,8	16	1,2	9,5	0,6	12	0,8	7	0,5	7	0,5	5	0,3	5	0,3	3,8	0,2	3,5	0,2	3,1	0,2

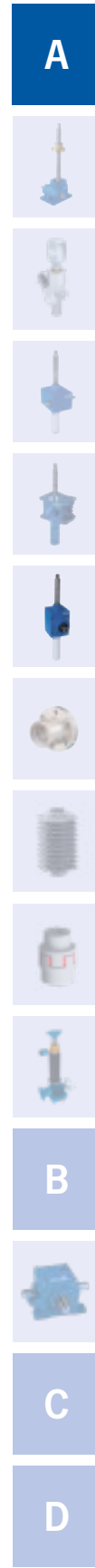
Performance table SHG G 50 N screw Ku 32x10; 40x5

Speed n	Lifting speed		F = 40 kN				F = 25 kN				F = 20 kN				F = 15 kN				F = 10 kN				F = 5 kN				F = 2,5 kN			
	32x10	40x5	32x10		40x5		32x10		40x5		32x10		40x5		32x10		40x5		32x10		40x5		32x10		40x5		32x10		40x5	
[1/min]	[m/min]		Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
3000	15	7,5	48	14	26	7,2	31	8,9	17	4,8	25	7,2	14	3,1	14	3,9	9	2,3	8	2,3	5,6	1,5	5	1,5	5,6	1,5	5	1,5	4,1	1,1
2500	12,5	6,25	48	12	26	6	31	7,4	17	4	25	6	14	3,3	20	4,7	14	2,6	14	3,3	9	1,9	8	1,9	5,6	1,2	5	1,2	4,1	0,9
2000	10	5	48	9,2	26	4,8	31	5,8	17	3,2	25	4,8	14	2,6	20	3,7	14	2,1	14	2,6	9	1,5	8	1,6	5,6	1	5	1	4,1	0,7
1500	7,5	3,75	48	6,9	26	3,6	31	4,4	17	2,4	25	3,6	14	2	20	2,8	14	1,6	14	2	9	1,2	8	1,2	5,6	0,8	5	0,8	4,1	0,6
1000	5	2,5	48	4,6	26	2,4	31	3	17	1,6	25	2,4	14	1,3	20	1,9	14	1,1	14	1,3	9	0,8	8	0,8	5,6	0,5	5	0,5	4,1	0,4
750	3,8	1,87	48	3,5	26	1,8	31	2,3	17	1,2	25	1,9	14	1	20	1,4	14	0,8	14	1	9	0,6	8	0,6	5,6	0,4	5	0,4	4,1	0,3

Performance table SHG G 90 N screw Ku 63x10

Speed n	Lifting speed		F = 90 kN				F = 60 kN				F = 40 kN				F = 20 kN				F = 15 kN				F = 10 kN				F = 5 kN			
	63x10	63x10	63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10		63x10	
[1/min]	[m/min]		Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW	Nm	kW
3000		15		116	32		80	23		55	16		30	8,3		25	6,7		19	4,8								13	3,1	
2500		12,5		116	28		80	19		55	13		30	7		25	5,5		19	4								13	2,6	
2000		10		116	22		80	15		55	11		30	5,6		25	4,4		19	3,2								13	2	
1500		7,5		116	17		80	12		55	8		30	4,2		25	3,3		19	2,4								13	1,5	
1000		5		116	11		80	7,5		55	5,1		30	2,8		25	2,2		19	1,6								13	1	
750		3,8		116	8,4		80	5,7		55	4		30	2,1		25	1,7		19	1,2								13	0,8	

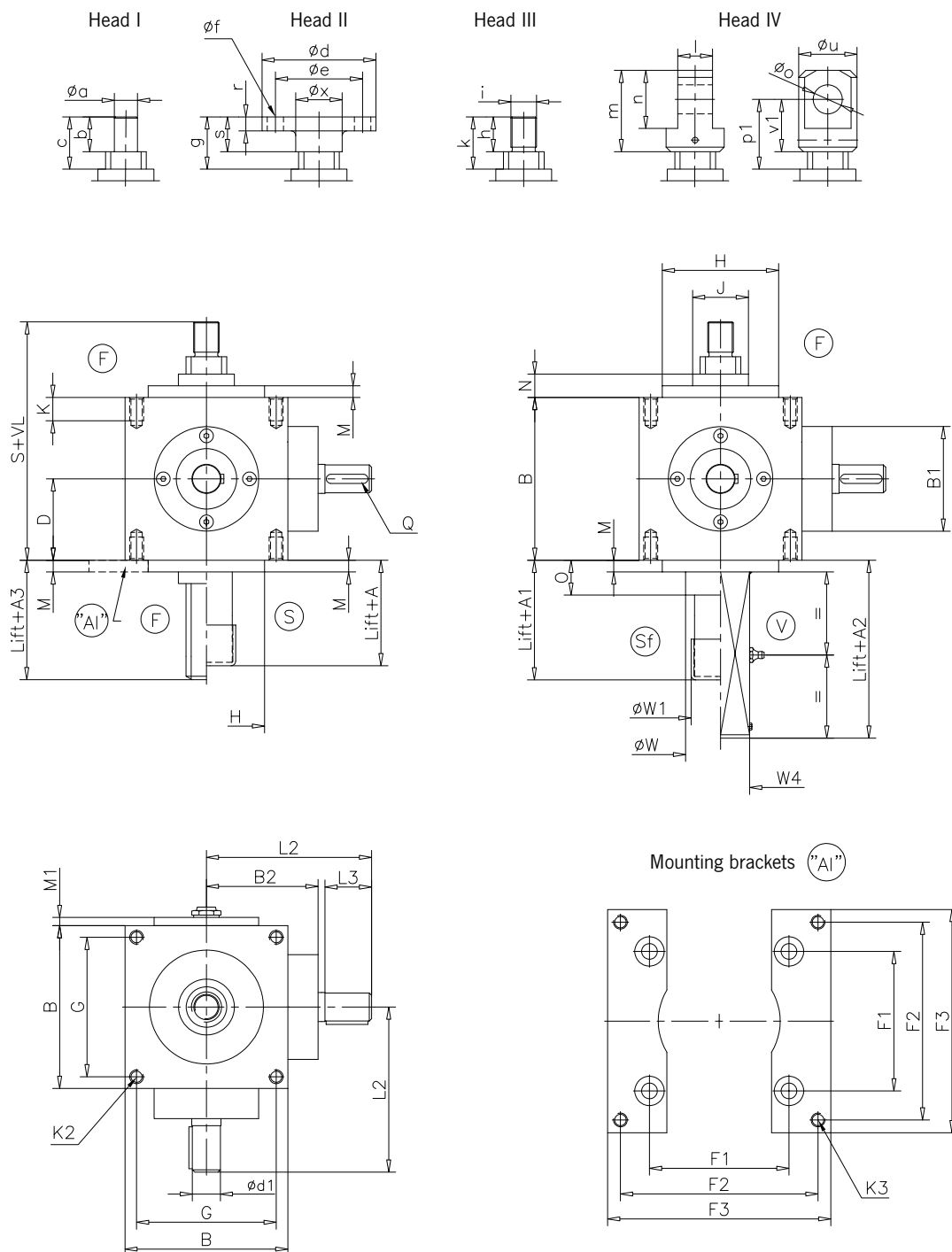
 Service life > 500 hours
 Service life 100 to 500 hours
 static only (dynamic not permitted)



SHG range

Technical drawings: Type 1 – Size G 25

Technical drawings SHG: Type 1 – Size G 25



- F = Guide ring (standard)
- S = Protection tube
- Sf = Protection tube with guide ring
- V = Anti-turn device
- Al = Mounting brackets
- VL = Screw extension

Options

- Ball screw
- Stroke shutoff
- Anti-turn device with stroke shutoff
- Long safety nut (DGV R100-500; chap. 2.10)
- Dimension plans on request

CAD & go

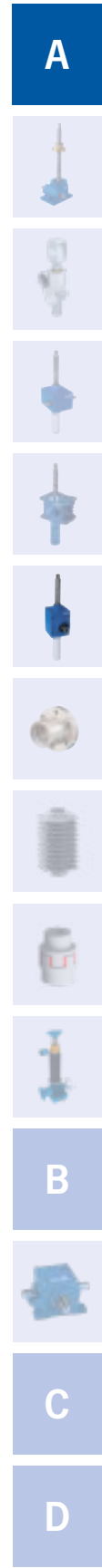


SHG range

Dimensions: Type 1 – Size G 25

Dimensions SHG: Type 1 – Size G 25			
Size	G 25		
Screw	Tr 35x8		Ku 25x05* Ku 25x10*
A		30	
A1		44	
A2		85	
A3		20	
B		140	
Ø B1		90	
B2		96	
D		70	
□G ±0,1		120	
Ø H h9		100	
Ø J e8		48	
K		20	
K2		M 12x20	
L2		142	
L3		40	
M		10	
M1		7	
N		20	
O		30	
S		205	
Ø W		60	
Ø W1		51	
□W4		50x50	
Ø d1 k6		24	
Q (DIN 6885)		A 8x7x36	
Head I			
Ø a		20 k6	
b		30	
c		45	
Head II			
Ø d		98	
Ø e		TK 75	
Ø f		4xØ14	
g		45	
r		12	
s		30	
Ø x		40	
Head III			
h		30	
i		M 22x1,5	
k		45	
Head IV			
l -0,2		30	
m		70	
n		50	
Ø O H8		25	
p1		60	
Ø u		50	
v1		45	
Mounting bracket AI			
F1 ±0,2		120	
F2 ±0,2		170	
F3		192	
K3		M12 (Ø 13,5)	

*Dimensions for ball screw (Ku) on request
Special designs on request

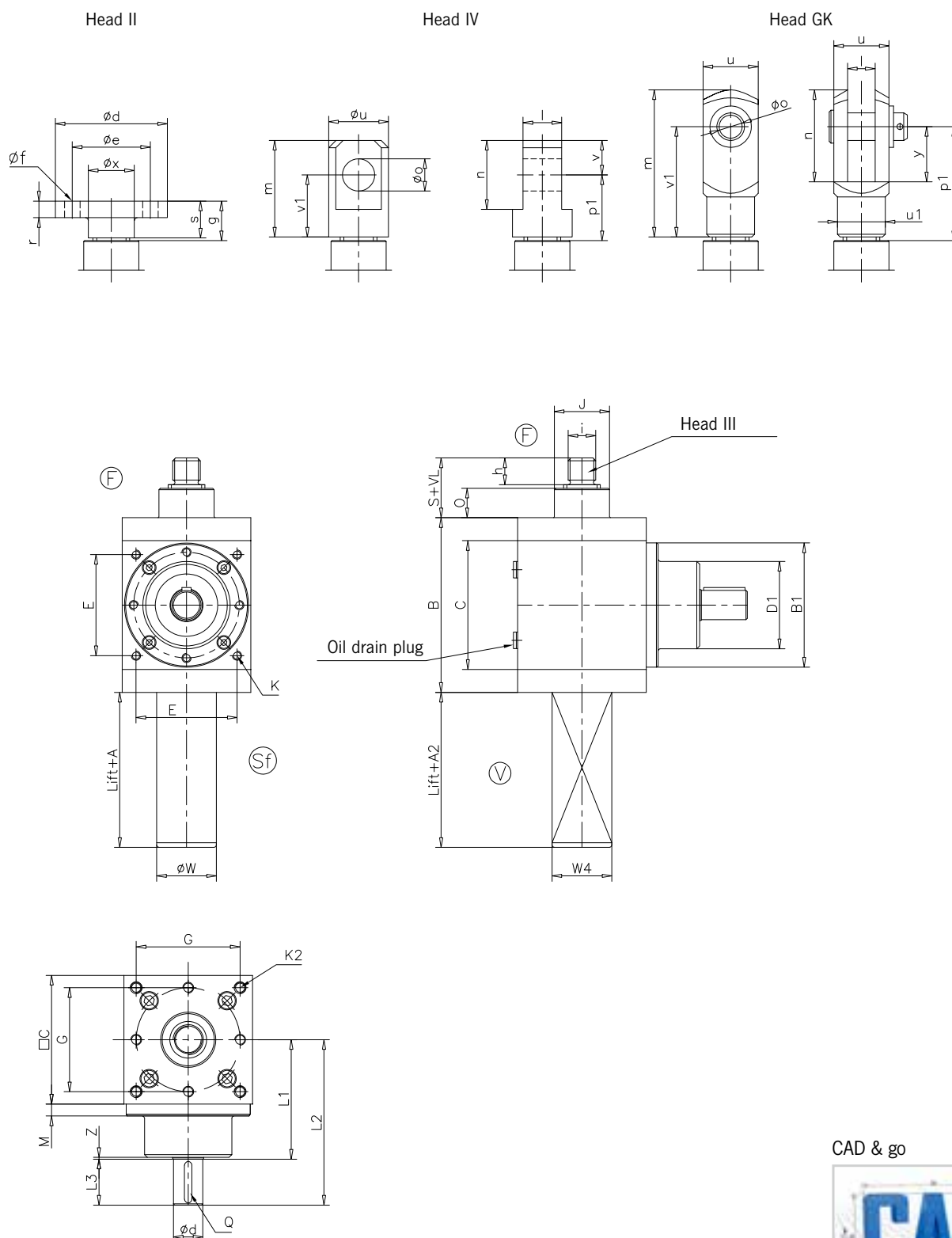


SHG range

Technical drawings:

Type 1 – Size G 15 – G 50 – G 90

Technical drawings SHG: Type 1 – Size G 15 – G 50 – G 90



- F = Guide ring (standard)
- V = Anti-turn device
- Sf = Protection tube with guide ring
- VL = Screw extension

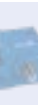
CAD & go



A



B



C

D

SHG range

Dimensions:

Type 1 – Size G 15 – G 50 – G 90

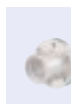
Dimensions SHG: Type 1 – Size G 15 – G 50 – G 90						
Size Screw	G 15		G 50		G 90	
	Tr 24x5	Ku 20x05* / Ku 20x20* Ku 25x05* / Ku 25x25*	Tr 40x7	Ku 32x10* / Ku 32x20* Ku 40x05*	Tr 60x9	Ku 63x10* Ku 63x20*
A		35 (70**)		45 (100**)		60 (90**)
A2		75		100		115
B		140		190		295
Ø B1		90		135		225
□C		90		140		230
Ø E		TK 75		110		□180
Ø G		TK 72		113		TK 180
Ø J		38,7		60		90
K		4x M 8x10 deep		4x M 10x22 deep		4x M 16x18 deep
K2		4x M 10x16 deep	8x M 12x25 deep	8x M 12x50 deep		4x M 20x20 deep
M		10		13		17,5
O		23		32		40
S		50 (+VL)		65 (+VL)		95 (+VL)
Ø W		40		65		95
□W4		40x40		70x70		90x90
Ratio 2:1						
Ø d j6		18		32		55
Q (DIN 6885)		A 6x6x25		A 10x8x45		A 16x10x80
Ø D1		60		95		150
L1		87		128		215
L2		122		180		305
L3		35		50		90
Z		2		2		2
Ratio 3:1						
Ø d j6		12		28		40
Q (DIN 6885)		A 4x4x25		A 8x7x45		A 12x8x63
Ø D1		60		95		125
L1		87		128		230
L2		122		180		310
L3		35		50		80
Z		2		2		3,5
Head II						
Ø d		90		110		170
Ø e		TK 67		TK 85		TK 130
Ø f		4x Ø11		4x Ø13		4x Ø21
g		28		34		57
r		10		15		25
s		23		30		50
Ø x		46		60		90
Head III						
h		22		29		48
i	M 18		M 20	M 30		M 48x2
Head IV						
l h10		30		35		60
m		78		105		120
n		45		65		90
Ø o H8		24		32		40
p1		58		74		82
Ø u		45		60		80
v1		53		70		75
v		25		35		45
Head GK						
l		20 H10		30 H13		50 H13
m		105		160		265
n		65		100		169
Ø o		20 +0,15 / +0,75		30 +0,15 / +0,75		50 +0,15 / +0,75
p1		85		124		199
u		40		60		96
Ø u1		34		52		82
v1		80		120		192
y		40		60		96

* Dimensions for ball screw (Ku) on request

** With turn out lock/design ball screw (Ku) on request

Special designs on request

A

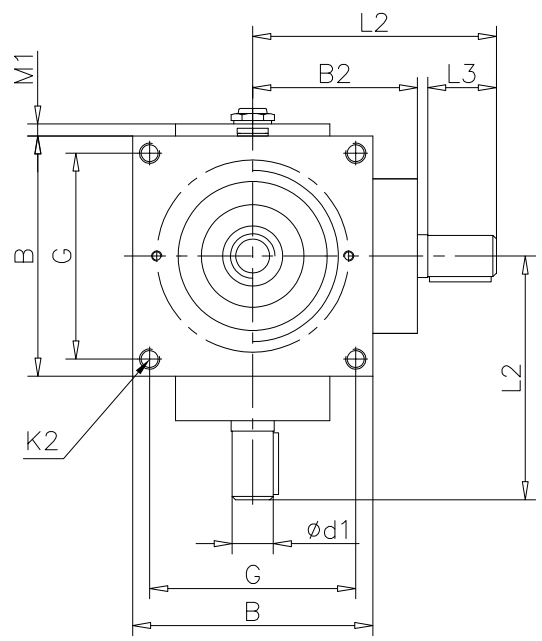
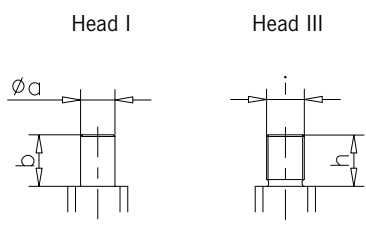
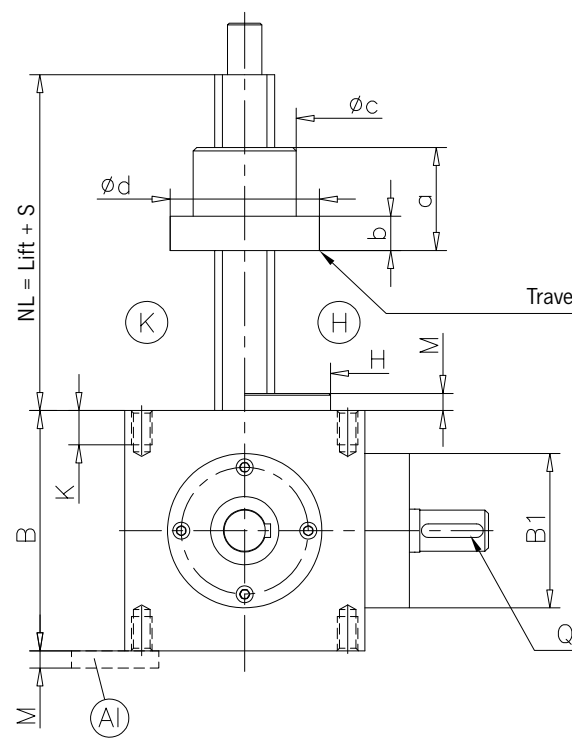


SHG range

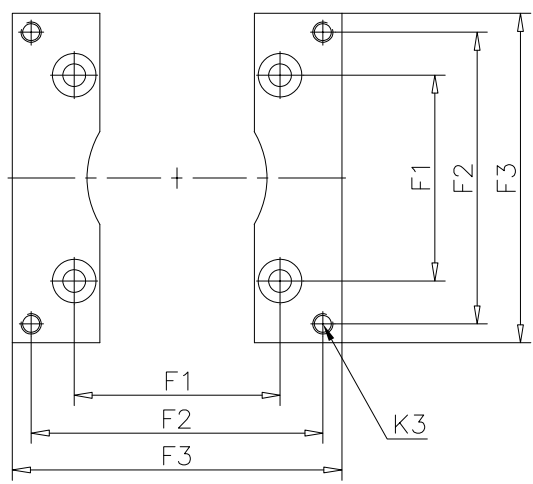
Technical drawings: Type 2 – Size G 25

Technical drawings SHG: Type 2 – Size G 25

A



Mounting brackets (Al)



- K = Short cover
- H = High cover
- Al = Mounting brackets

- Options**
- Ball screw
 - Short safety nut
 - Long safety nut (DGVU R100-500; chap. 2.10)
 - Dimension plans of options on request

CAD & go



SHG range

Dimensions: Type 2 – Size G 25

Dimensions SHG: Type 2 – Size G 25			
Size	G 25		
Screw	Tr 35x8		Ku 32x05* / Ku 32x10* Ku 32x20* / Ku 32x40*
B		140	
Ø B1		90	
B2		96	
□G ±0,1		120	
Ø H h9		100	
K		20	
K2		M 12x20	
L2		142	
L3		40	
M		10	
M1		7	
S		120	
Ø d1 k6		24	
Q (DIN 6885)		A 8x7x36	
Travelling nut LFM			
a		60	
b		20	
Ø c h9		60	
Ø d		87	
Head I			
Ø a k6		20	
b		30	
Head III			
h		30	
i		M 22x1,5	
Mounting bracket AI			
F1 ±0,2		120	
F2 ±0,2		170	
F3		192	
K3		M12 (Ø 13,5)	

* Dimensions for ball screw (Ku) on request
For further nut designs, see page 94–97



SHG G 25 quick-lifting screw jack
in aluminum housing

A



B



C



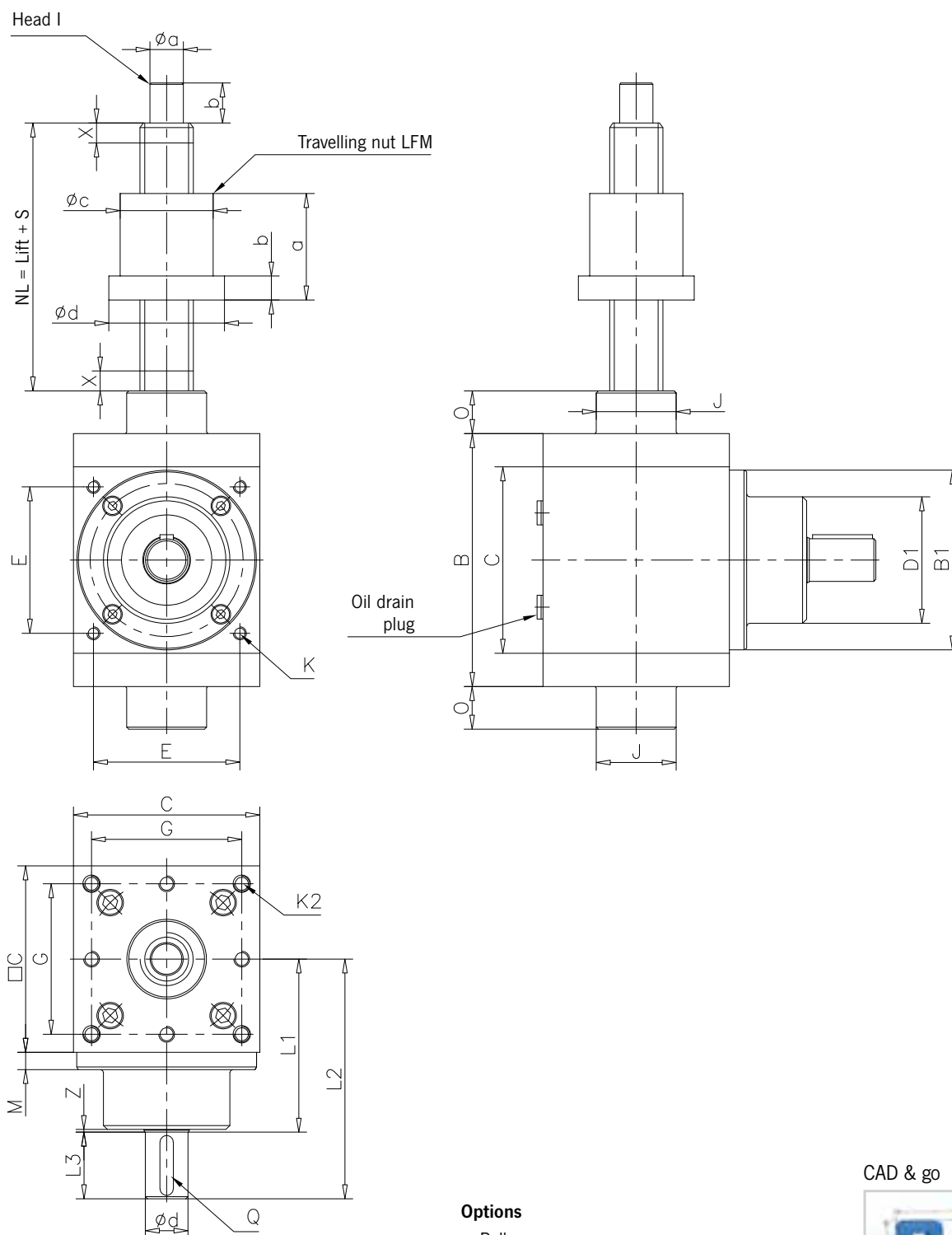
D

SHG range

Technical drawings:

Type 2 – Size G 15 – G 50 – G 90

Technical drawings SHG: Type 2 – Size G 15 – G 50 – G 90



Options

- Ball screw
- Short safety nut
- Long safety nut
- Dimension plans of options on request

CAD & go



A



B



C

D

SHG range

Dimensions:

Type 2 – Size G 15 – G 50 – G 90

Dimensions SHG: Type 2 – Size G 15 – G 50 – G 90						
Size	G 15		G 50		G 90	
Screw	Tr 24x5	Ku 25x05* / Ku 25x10* Ku 25x25* / Ku 32x05* Ku 32x10* / Ku 32x20* Ku 32x40*	Tr 40x7	Ku 32x05* / Ku 32x10* Ku 32x20* / Ku 32x40* Ku 40x05* / Ku 40x10* Ku 40x20* / Ku 40x40* Ku 50x10* / Ku 50x20* Ku 50x50*	Tr 60x9	Ku 63x10* Ku 63x20*
B		140		190		295
Ø B1		90		135		225
□C		90		140		230
E		TK 75		□110		□180
G		TK 72		□113		TK 180
Ø J		38,6		60		90
K		4x M 8x10 deep		4x M 10x22 deep		M 16x18 deep
K2		4x M 10x16 deep	8x M 12x25 deep	8x M 12x50 deep		M 20x20 deep
M		10		13		17,5
O		23		32		40
S		95		130		150
Safety X		20		25		25
Ratio 2:1						
Ø d j6		18		32		55
Q (DIN 6885)		A 6x6x25		A 10x8x45		A 16x10x80
Ø D1		60		95		150
L1		87		130		215
L2		122		180		305
L3		35		50		90
Z		2		2		2
Ratio 3:1						
Ø d j6		12		28		40
Q (DIN 6885)		A 4x4x25		A 8x7x45		A 12x8x63
Ø D1		60		95		120
L1		87		130		230
L2		122		180		310
L3		35		50		80
Z		2		2		3,5
Travelling nut LFM						
a		55		80		100
b		12		18		30
Ø c h9		45		70		90
Ø d		65		87		120
Head I						
Ø a j6	15	20		25		45
b	20	25		30		55

* Dimensions for ball screw (Ku) on request

Special designs on request

For further nut designs, see page 94–97

A

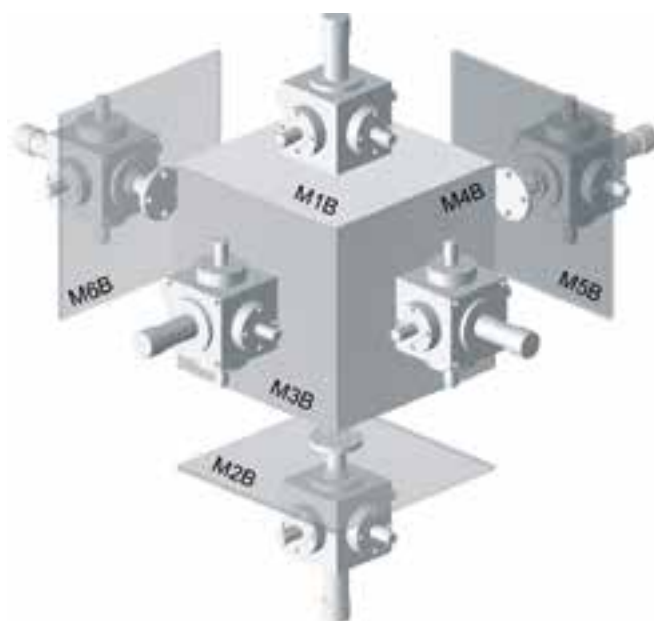
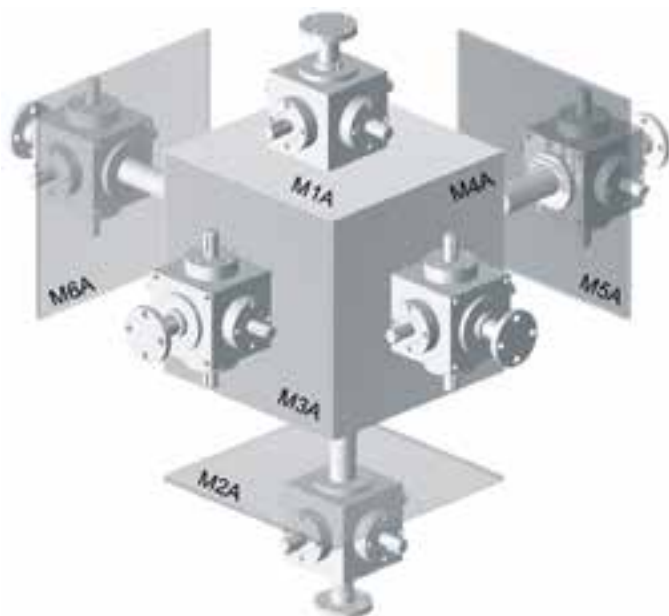


SHG range

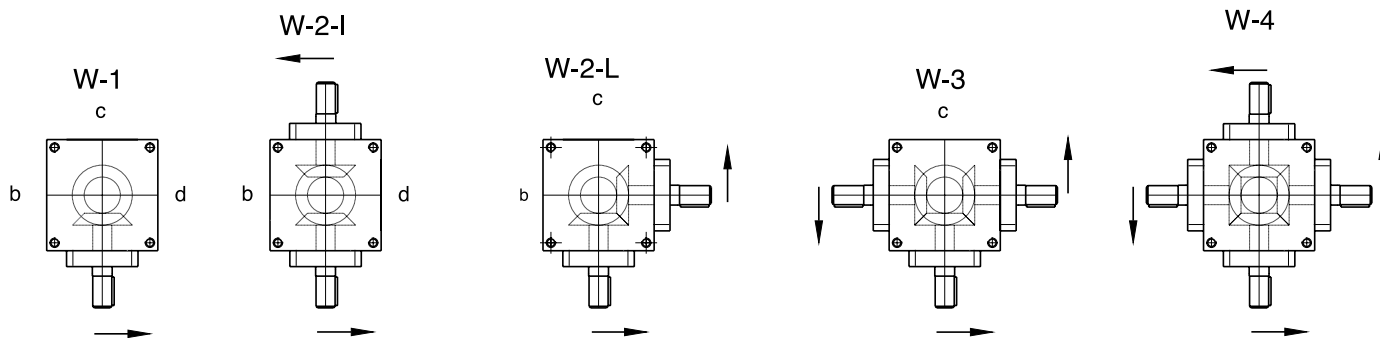
Mounting positions, shaft/attachment side

SHG range: Design A

SHG range: Design B



Shaft layout/Position of the oil fittings (b/c/d) - View from screw side



A



B



C

D

SHG range

Ordering details

No.	Description	
1	Range	SHG
2	Size	G15 / G25 / G50 / G90
3	Configuration type	1 2
4	Screw	Tr (DxP) = Trapezoidal screw Ku (DxP) = Ball screw
5	Ratio	2:1 3:1
6	Mounting position	M1A / M1B / M2A / M2B / M3A / M3B M4A / M4B / M5A / M5B / M6A / M6B
7	Screw side variant Size G15 / G25 / G50 / G90 Size G25 Size G15 / G50 / G90	F (Type 1) K / H (Type 2) F (Type 2)
8	Protective tube side variant Size G25 Size G15 / G50 / G90 Size G25 Size G15 / G50 / G90	F / S / Sf / V (Type 1) Sf / V (Type 1) K (Type 2) F (Type 2)
9	Shaft arrangement	W1b / W1c / W1d / W2lb / W2ld W2Lb / W2Lc / W3c / W4
10	Wheel layout	Ru / Ro (for multi-screw systems check for unidirectional movement of the lifting screw/travelling nut) – see page 94–97)
11	Head Size G25 Size G15 / G50 / G90 Size G25 Size G15 / G50 / G90	I / II / III / IV (Type 1) II / III / IV / GK (Type 1) I / III (Type 2) I (Type 2)
12	Lift	Lift in mm
13	Extension VL Usable length NL	VL in mm (Type 1) NL in mm (Type 2)
14	Options Size G25	AI Mounting brackets
15	Options/Accessories	According to specification, description or technical drawing (see chapter Accessories/Options)

