

CAVEX[®]hygienic

Stainless steel gearboxes
and gearmotors

CAVEX[®]

German Drive Technology

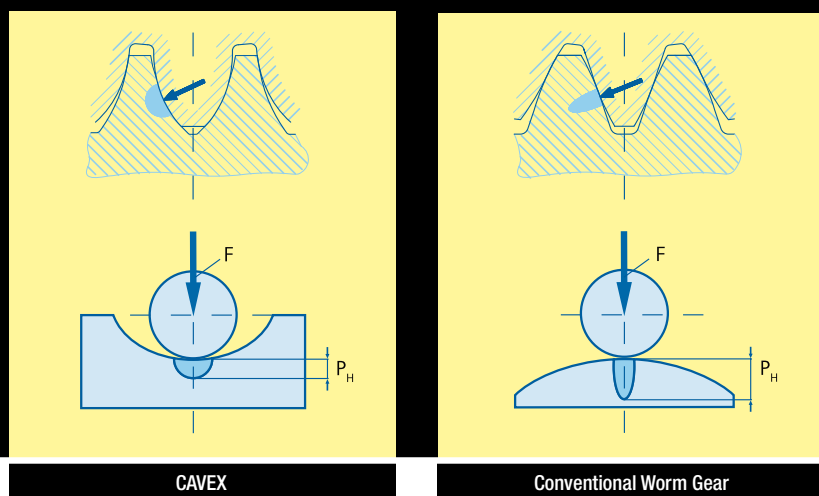


CAVEX[®]HD

www.CAVEX-GmbH.com

Excellent in efficiency, torque and durability

A worm gearbox quite unlike any other. This is what CAVEX® has been proving time and again in a great variety of industrial sectors all over the world for more than 50 years. Our unique gearing system is far superior to standard worm gearboxes.



CAVEX®

German Drive Technology

Intelligent Gearing System

The name CAVEX® says it all, composed from the Latin word concavus, the profile on the worm, and convexus, the profile on the worm wheel. Thanks to worm teeth with a concave flank profile (concave worm) paired with convex worm wheels, CAVEX® worm gearboxes are far superior to comparable worm gearboxes of an equal size. This combination of teeth ensures better osculation of the flanks and leads to a lower flank pressure (Hertzian stress). The result: A higher torque transmission in relation to its size, optimum efficiency and an increase in service life due to lower wear and tear.

CAVEX GmbH & Co. KG offers you the complete range of CAVEX® worm gearboxes:

- Nominal output torque from 60 Nm to 1.200.000 Nm
- Housing made from steel, stainless steel or aluminium
- Single-stage or multi-stage
- Standard, industry-specific or custom

CAVEX® offers you many advantages:

- Excellent torque and efficiency and a long service life due to our unique gearing system
- High ratios
- High overloading capacity
- Robust design
- Low noise emission
- Custom and industry specific solutions
- ATEX conformity

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1 CAVEX®hygienic - Gearboxes in hygienic design

1.1 Overview

Our new CAVEX®hygienic product range features gearboxes and gearmotors with stainless steel housings that are exceptionally easy to clean. It is designed to meet the requirements of the food and pharmaceutical industry and sets new standards in both sectors.

The CAVEX®hygienic series offers a variety of designs: Gearboxes with an adaptable input shaft that allow the mounting of motors from different manufacturers as well as complete gearmotors where the gearbox and motor form one single unit. When it comes to hygiene, our gearmotors are the ultimate solution. As with all CAVEX® gearboxes, our stainless steel models feature our original CAVEX® worm gearing which is unmatched in reliability and long service life.

If our standard range does not meet your requirements, we can also offer you customized solutions.

We look forward to hearing from you!

1.2 About CAVEX®



In August 2011 CAVEX GmbH & Co. KG took over the worm gearbox range from Siemens AG (Flender CAVEX® worm gearboxes). The CAVEX® gearing that was developed by Flender provides unparalleled durability and reliability in the worm gearbox sector. We are continuing on this long tradition of quality and are still producing the complete range of Flender CAVEX® gearboxes. Our success story continues with our new CAVEX®compact and CAVEX®HD worm gearboxes which set a new standard in the areas of compactness, flexibility and cleanliness. With an efficiency ratio of up to 97%, these gearboxes are effective and sustainable; and all this at highly competitive prices.

2 Applications and benefits

2.1 Range of applications

Our CAVEX®hygienic product range can be used in many different applications in the food and pharmaceutical industry (table 1). Due to its stainless steel housing, it is no longer necessary to use an encapsulated solution (separate stainless steel housing cover). The hygienic design and the use of stainless steel make our CAVEX®HD gearboxes and gearmotors also suitable for outdoor use.

Table 1: Applications for CAVEX®HD gearboxes / gearmotors

	Food industry	Pharmaceutical industry	Medical engineering	Cosmetics industry	Maritime technology
Mixing	✓	✓		✓	
Stirring	✓	✓		✓	
Shredding	✓	✓		✓	
Pressing	✓	✓			
Packaging	✓	✓		✓	
Filling	✓	✓		✓	
Handling	✓	✓	✓	✓	✓
Opening / Closing	✓	✓	✓	✓	✓
Manipulating			✓		✓

2 Applications and benefits

2.2 Benefits

Product benefits:

- Chemical resistance / corrosion resistance
- Maximum ingress protection (up to IP69K)
- Hygienic design of entire equipment is possible
- High performance and dynamics

Benefits for engineers:

- Can be integrated into an existing installation that has been designed according to hygienic requirements
- Legal requirements are fulfilled (machine standards, food hygiene regulations)
- Fewer parts mean easier construction / assembly
- Enables compact machine designs
- Higher overall plant efficiency
- Innovative / Competitive edge

Benefits for users:

- Cleaning is easier and quicker: short CIP / SIP times for cleaning
- Increased reliability and service life
- Quick and simple disassembly
- Less cleaning agents needed
- Lower maintenance and repair costs
- Cost savings
- Better food safety

2.3 Comparison between hygienic design and encapsulated solutions



Image 1: Encapsulation

Previous solution:

The drives had to be encapsulated inside stainless steel housings.

- Dirt and humidity could accumulate inside the housing
- Large areas needed to be cleaned
- Additional costs (design, additional cleaning, assembly)
- Build-up of heat inside the housing adversely affected the drive's service life



Image 2: Hygienic solution with a CHD-S gearbox

Hygienic solution:

New engineering possibilities with the use of CHD gearboxes and gearmotors

- + Direct cleaning of the drive components guarantees a hygienic production process
- + Fewer areas that need to be cleaned save time and cleaning costs
- + An open drive concept has positive effects on the drive's service life

2 Applications and benefits

2.4 Industry applications

Pharmaceutical industry:

Freeze dryer

CAVEX solution:

Conventional gear units and encapsulated drive systems are being replaced by our CHD and CHD-S gear units.



Image 3: Industry application pharmaceutical industry

Medical engineering:

Electromechanical adjustment of the reclining position of operating tables

CAVEX solution:

Custom gearbox design with stainless steel housing



Image 4: Industry application medical engineering

Food industry:

Pitting of olives

CAVEX solution:

CHD gearmotor replaces conventional gearmotor (which previously had to be replaced every six months due to high corrosion)



Image 5: Industry application food industry

3 Product range

3.1 CAVEX®HD gearboxes and gearmotors

CAVEX®HD gearboxes and gearmotors are available as gearboxes (CHD40 / CHD63) or as gearmotors (CHD40M / CHD63M). The input power ratings of CAVEX®HD gearmotors range from 180 watts to 1200 watts.

The gearboxes are shown in images 6 and 8 and the gearmotors in images 7 and 9. They are shown with different surface treatments.



Image 6: gearbox CHD40



Image 7: gearmotor CHD40M

3 Product range



Image 8: gearbox CHD63

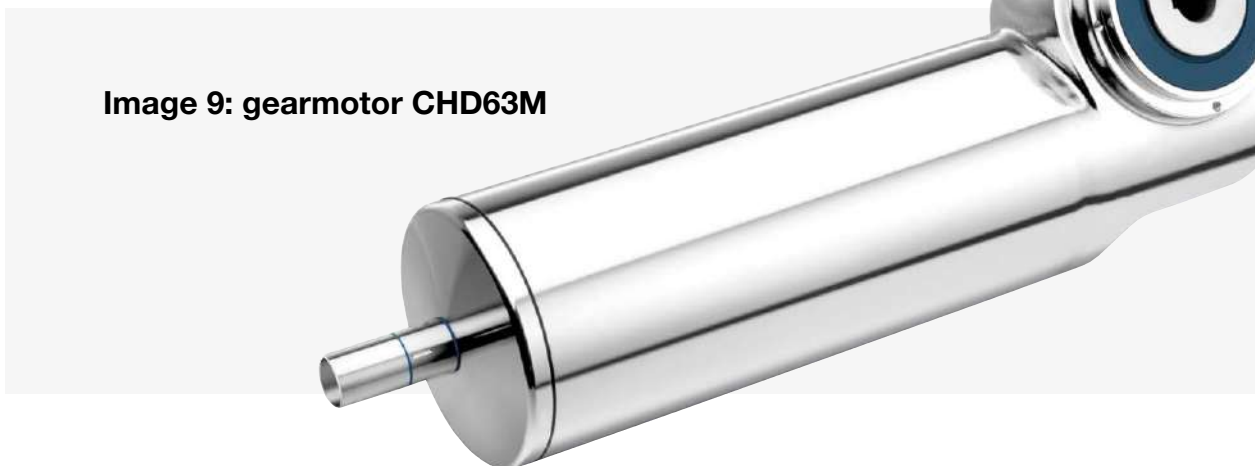


Image 9: gearmotor CHD63M

Table 2: Key components of CAVEX®HD gearboxes and gearmotors and their main features

Description	Main Feature
Housing	Material stainless steel 1.4404 (gearbox head) or 1.4305 (motor body), surface quality to be specified, automatic water drainage (IP 69k)
Input shaft	Material steel, with CAVEX® gearing
Output shaft	Material stainless steel 1.4305
Worm wheel rim	Material bronze, with CAVEX® gearing
Input shaft seal	Standard VITON, NBR, optional PTFE for hygienic design
Output shaft seal	Standard VITON, NBR, optional PTFE for hygienic design
Input shaft bearing	Tapered roller bearing (gearbox) / Grooved ball bearing (gearmotor)
Output shaft bearing	Grooved ball bearing
Lubricant	Oil with H1 approval
Input shaft bearing	Grooved ball bearing, greased and sealed, grease H1 approved
Fitted cable box	Socket in special hygienic design

3 Product range

3.2 CAVEX®HD-S gearboxes

The CAVEX®HD-S gearboxes are available in 3 different sizes. They can be adapted to different motors.



3 Product range



Table 3: Key components of CAVEX®HD-S gearboxes and their main features

Description	Main Feature
Housing	Material stainless steel 1.4305, surface standard to be specified, automatic water drainage (IP 69k)
Input shaft	Material steel, with CAVEX® gearing
Output shaft	Material stainless steel 1.4305
Worm wheel rim	Material bronze, with CAVEX® gearing
Input shaft seal	Standard VITON, NBR, optional PTFE for hygienic design
Output shaft seal	Standard VITON, NBR, optional PTFE for hygienic design
Input shaft bearing	Angular contact ball bearings
Output shaft bearing	Grooved ball bearing
Lubricant	Oil or grease with H1 approval

4 Technical data and maintenance

4.1 Technical data CAVEX®HD gearmotors

Table 4: Gearmotor CHD40M180

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23	1,23
T_{2N} [Nm]	6	8	10	12	14	17	21	26	31	37	44	53	60
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 60$ Nm
- Operating hours 10.000 h

Table 5: Gearmotor CHD40M250

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70	1,70
T_{2N} [Nm]	8	11	13	16	19	23	29	35	42	51	60	60	60
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 60$ Nm
- Operating hours 10.000 h

Table 6: Gearmotor CHD40M330

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27	2,27
T_{2N} [Nm]	11	14	17	22	26	31	39	47	56	60	60	60	60
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 60$ Nm
- Operating hours 10.000 h

4 Technical data and maintenance

Table 7: Gearmotor CHD63M400

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68	2,68
T_{2N} [Nm]	13	17	21	26	31	37	46	56	67	81	96	114	131
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 200$ Nm
- Operating hours 10.000 h

Table 8: Gearmotor CHD63M850

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63	5,63
T_{2N} [Nm]	39	49	61	75	90	108	134	165	200	200	200	200	200
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 200$ Nm
- Operating hours 10.000 h

Table 9: Gearmotor CHD63M1200

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91	7,91
T_{2N} [Nm]	39	49	61	75	90	108	134	165	200	200	200	200	200
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 200$ Nm
- Operating hours 10.000 h

4 Technical data and maintenance

4.2 Technical Data CAVEX®HD-S gearboxes

Table 10: CHD-S 40 with 0,25 kW Motor

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{in} [Nm]	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6	1,6
T_{2N} [Nm]	8	10	12	15	18	22	27	33	40	48	57	60	60
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 60$ Nm
- Operating hours 10.000 h

Table 11: CHD-S 40 with 0,37 kW Motor

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{in} [Nm]	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4	2,4
T_{2N} [Nm]	12	15	18	23	27	33	41	50	60	60	60	60	60
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 60$ Nm
- Operating hours 10.000 h

Table 12: CHD-S 50 with 0,55 kW Motor

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{in} [Nm]													
T_{2N} [Nm]	17	22	27	33	40	48	59	73	87	105	110	110	110
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 110$ Nm
- Operating hours 10.000 h

4 Technical data and maintenance

Table 13: CHD-S 63 with 0,75 kW Motor

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8	4,8
T_{2N} [Nm]	24	30	37	46	55	65	81	100	119	144	172	200	200
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 200$ Nm
- Operating hours 10.000 h

Table 14: CHD-S 63 with 1,1 kW Motor

Ratio (n_1/n_2)	5,17	6,60	8,25	10,33	12,67	15,50	19,50	24,50	31	39	49	61	70
n_1 [1/min]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
T_{1N} [Nm]	7	7	7	7	7	7	7	7	7	7	7	7	7
T_{2N} [Nm]	34	43	54	67	80	95	119	146	174	200	200	200	200
Gear efficiency [%]	95	94	93	92	90	88	87	85	80	77	73	70	68

Basic parameters:

- 50 Hz
- S1 operation
- Ambient temperature = 20°C
- Oil type ISO VG 460
- Mechanical strength $T_{2N} = 200$ Nm
- Operating hours 10.000 h

4 Technical data and maintenance

4.3 Maintenance

The maintenance of CAVEX®HD / HD-S gearboxes and gearmotors consists of just a few steps which are listed below.

Table 15: Maintenance procedures

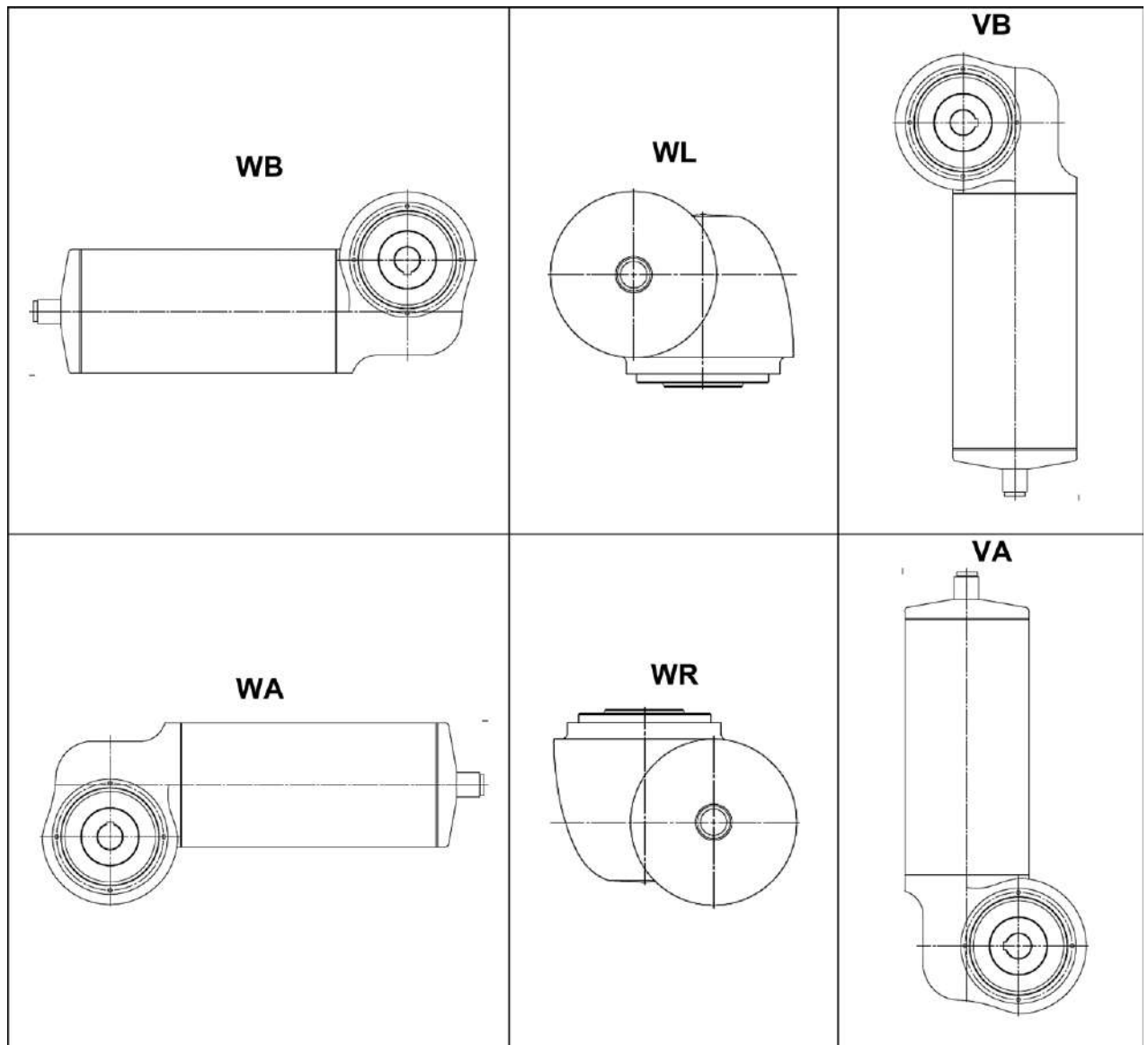
Procedures	Schedule
Monitoring of oil temperature, noise emission and leakage	continuously
Oil change	Lubricated for life
Replace grease in motor bearings	after approx. 30,000 operating hours or after 5 years at the latest
Clean housing when dirty	when dirty
Check screws for tightness	continuously
Check cable entry for secure fit (only CHD gearmotor)	continuously

4 Technical data and maintenance

4.4 Mounting positions

The mounting positions of CAVEX®HD / HD-S allow for various assembly options.

Image 13: The following mounting positions are possible (schematic diagram with CHD gearmotors)

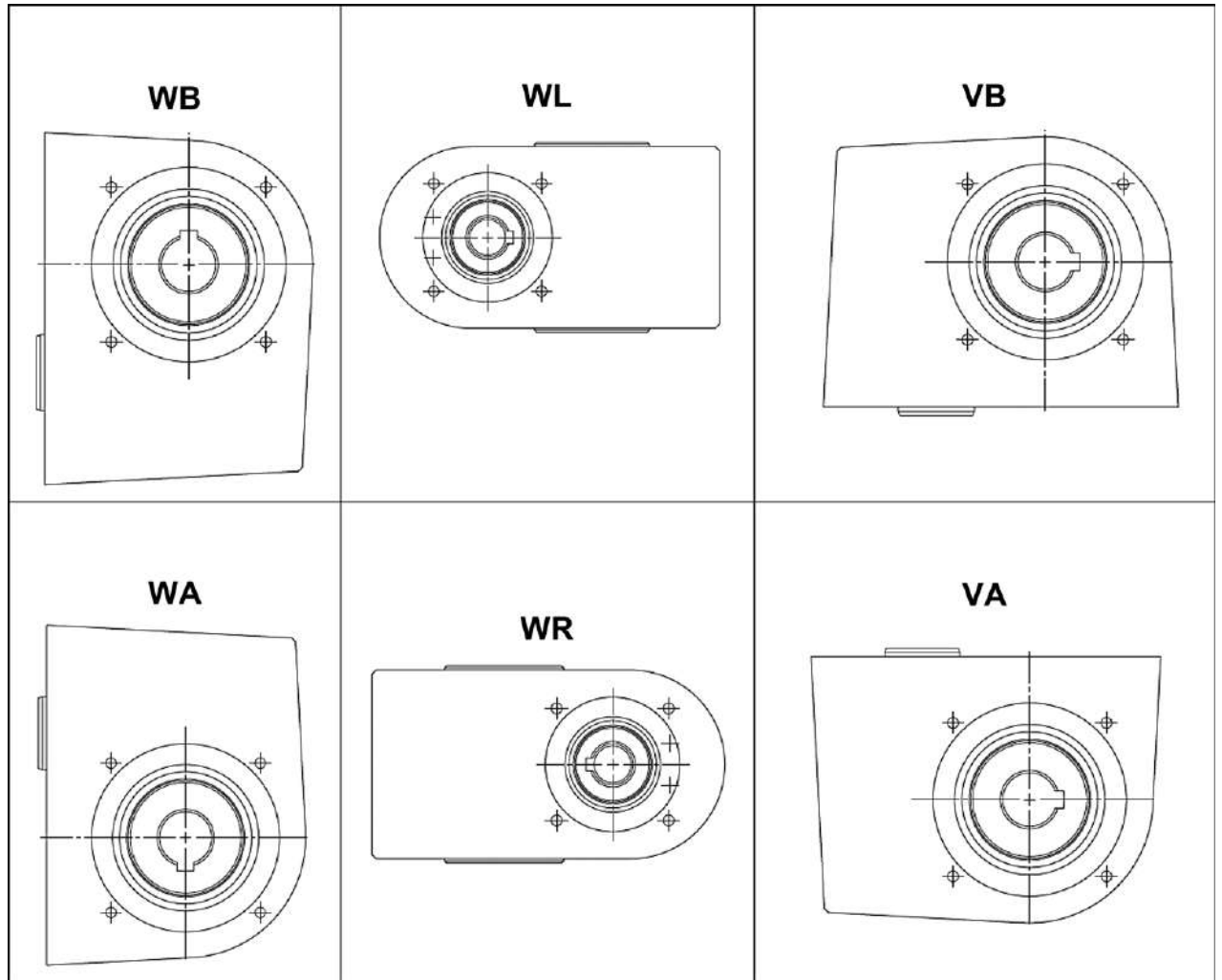


WB: Worm below, **WA:** worm above, **WL:** worm on left, **WR:** worm on right,
VA: worm vertically above, **VB:** worm vertically below

Water automatically drains from the surfaces in all mounting positions depicted in image 13.

4 Technical data and maintenance

Image 14: The following mounting positions are possible (schematic diagram with CHD-S gearboxes)



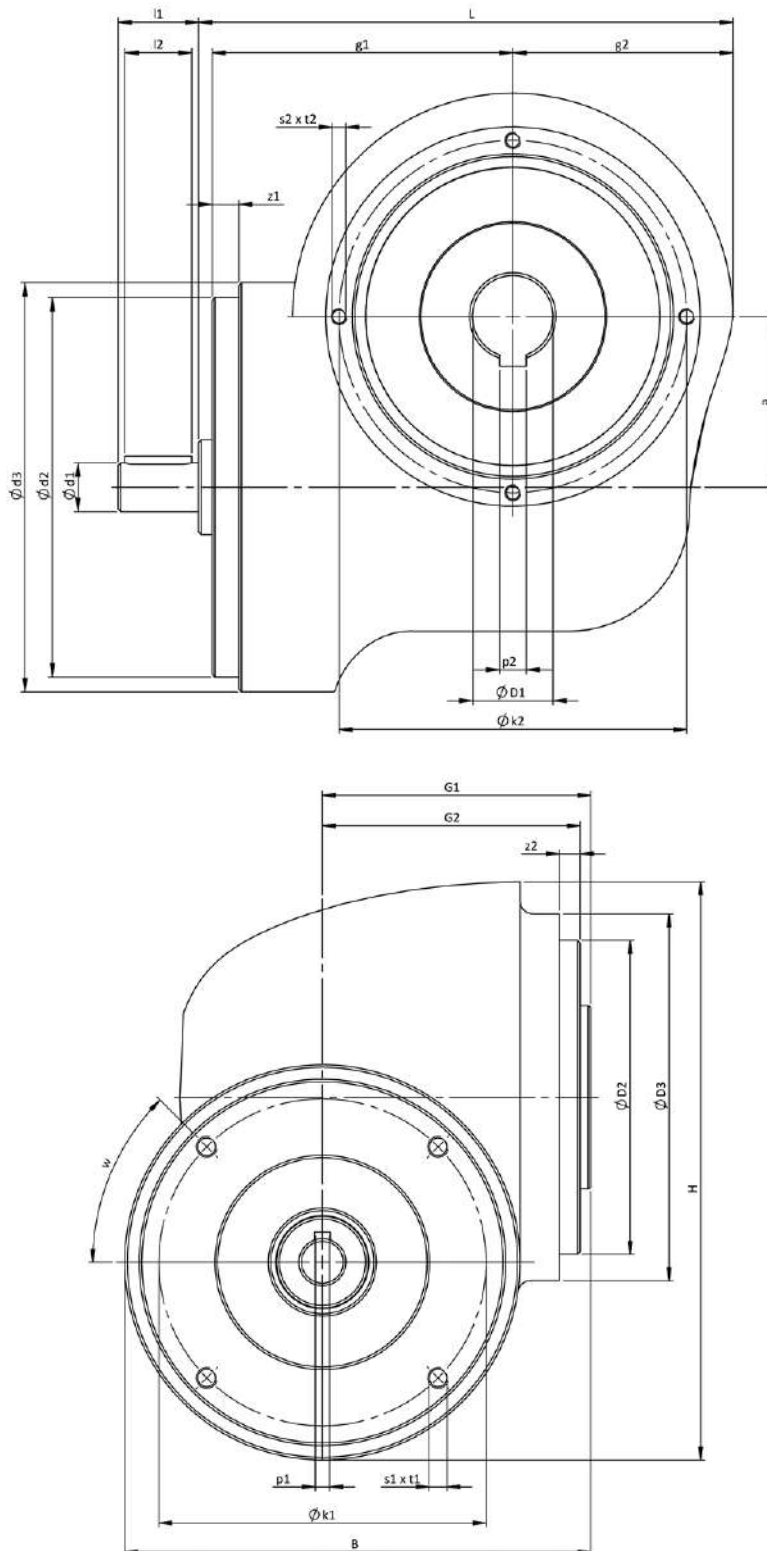
WB: Worm below, **WA:** worm above, **WL:** worm on left, **WR:** worm on right,
VA: worm vertically above, **VB:** worm vertically below

5 Dimensional drawings

5.1 CAVEX®HD gearboxes

Below please find the dimensional drawings of CAVEX®HD gearboxes and gearmotors.

Image 15: Dimensional drawing of the CAVEX®HD gearbox



5 Dimensional drawings

Table 16: CHD gearboxes

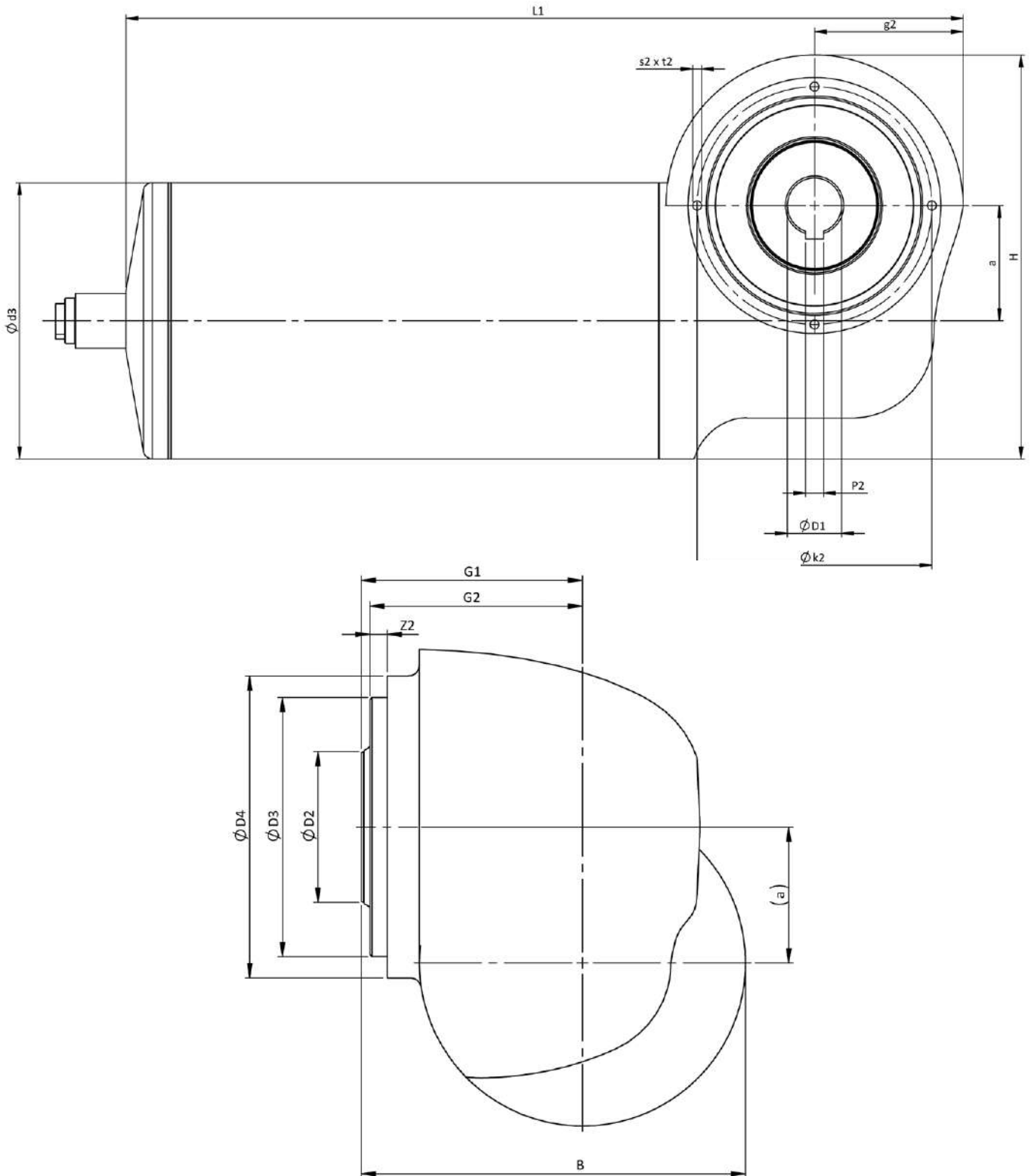
Size	Unit	40	63
a	mm	40	63
B	mm	145,5	178
ød1*	mm	18 m6	18 m6
ød2	mm	110 h7	140 h7
ød3	mm	121	151
øD1*	mm	20 H7	30 H7
øD2	mm	78 h7	120 h7
øD3	mm	100	140
g1	mm	90	122,45
g2	mm	50	82
G1	mm	85	102,5
G2	mm	80,5	98,5
H	mm	150,5	221
øk1	mm	105	125
øk2	mm	89	130
l1	mm	21	30
l2	mm	18	25
L1	mm	143,5	200
p1	mm	6 P9	5,5 P9
p2	mm	6 P9	10 P9
Number of thread holes on input side	pieces	4	4
Number of thread holes on output side	pieces	4	4
s1 x t1	mm	M6 x 10/14	M8 x 16/22,5
s2 x t2	mm	M5 x 10/13,5	M6 x 10/14
w	°	45	45
z1	mm	10	10
z2	mm	5	8
Weight	kg	8,5	15

* adaptable on request

5 Dimensional drawings

5.2 CAVEX®HD gearmotors

Image 16: Dimensional drawing of the CAVEX®HD gearmotor



5 Dimensional drawings

Table 17: CHD gearmotors

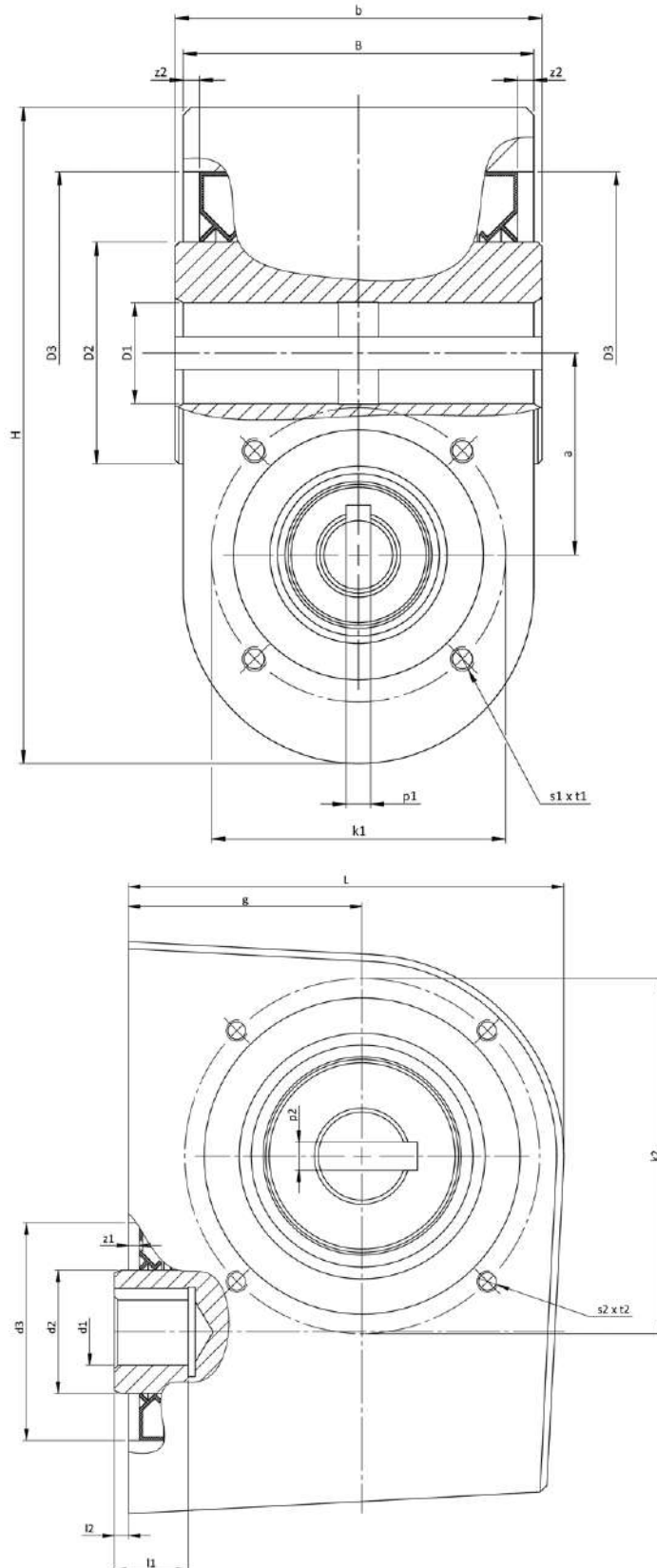
Size	Unit	40			63		
Performance	W	180	250	330	400	850	1200
a	mm	40			63		
B	mm	146			178		
øD3	mm	121			151		
øD1*	mm	20 H7			30 H7		
øD2	mm	50 h11			70 h11		
øD3	mm	78 h7			120 h7		
øD4	mm	100			140		
g2	mm	50			82		
G1	mm	85			102,5		
G2	mm	80,5			98,5		
H	mm	150,5			221		
øk2	mm	89			130		
L	mm	323	342	342	464	504	549
P2	mm	6 P9			10 P9		
Number of thread holes on output side	pieces	4			4		
s2 x t2	mm	M5 x 10/13,25			M6 x 10/14		
Z2	mm	5			8		
Weight	kg	15	17	17	33	38	45

* adaptable on request

5 Dimensional drawings

5.3 CAVEX®HD-S gearboxes

Image 17: Dimensional drawing of the CAVEX®HD-S gearbox



5 Dimensional drawings

Table 18: CHD-S gearboxes

Size	Unit	40	50	63
a	mm	40	50	63
b	mm	79	91	100
B	mm	75	87	96
ød1*	mm	14 H7	19 H7	24 H7
ød2	mm	30 h9	35 h9	40 h9
ød3	mm	55 H7	62 H7	68 H7
øD1*	mm	20 H7	25 H7	30 H7
øD2	mm	40 h9	55 h9	70 h9
øD3	mm	68 H7	90 H7	110 H7
g	mm	58,5	66,5	75
H	mm	133,5	162,7	189,4
k1	mm	66	73	80
k2	mm	79	101	121
l1	mm	18	21	24
l2	mm	5	4	1
L	mm	105,1	123,9	142,7
p1	mm	6 JS9	8 JS9	8 JS9
p2	mm	5 JS9	6 JS9	8 JS9
Number of thread holes on input side	pieces	4	4	4
Number of thread holes on output side	pieces	4	4	4
s1 x t1	mm	M6 x 10/12,5	M6 x 10/12,5	M6 x 10/12,5
s2 x t2	mm	M6 x 10/12,5	M6 x 10/12,5	M6 x 10/12,5
z1	mm	3	3	2,5
z2	mm	3,75	3,5	3,75
Weight	kg	5,41	8,65	12,94

* adaptable on request

6 Options

The basic design of CAVEX®HD gearmotors is depicted in the dimensional drawings in chapter 5.

Table 19: Options for CAVEX®HD gearmotors

Options	Components
Speed measurement	Shaft encoder on motor shaft
Brakes on motor shaft	Electromagnetic brake on motor shaft
Variable motor speeds	Inverter

7 Approvals

Table 20: Approvals and conformity of CAVEX®HD gearboxes and gearmotors

Approval	Conformity	Main features
CE UL CSA	-	<ul style="list-style-type: none"> • Electrical
-	FDA conformity	<ul style="list-style-type: none"> • Materials and lubricants used
-	EHEDG conformity	<ul style="list-style-type: none"> • Materials and lubricants used • Design and surface structure

8 Appendix

8.1 Symbols, terms, units

Table 21: Symbols, terms and units used

Symbol	Term	Unit
a	Centre distance	mm
CE	Communautés Européennes	-
CIP	Cleaning in place	-
CHD	CAVEX® Hygienic Design	-
CSA	Canadian Standards Association	-
$\varnothing D_1$	Maximum diameter of input shaft	mm
$\varnothing D_2$	Maximum diameter of output shaft	mm
EHEDG	European Hygienic Engineering and Design Group	-
FDA	US Food and Drug Administration	-
H1	Permission to use in food industry and animal feed industry, permit granted by FDA	-
HD	Hygienic Design	-
n_1	Input speed	min ⁻¹
n_2	Output speed	min ⁻¹
n_1/n_2	Transmission	-
S1	Non-stop operation at constant load	-
SIP	Sterilization in place	-
T_{1N}	Nominal driving torque	Nm
T_{2N}	Nominal output torque	Nm
WL	Worm on left	-
WA	Worm above	-
WR	Worm on right	-
WB	Worm below	-
VA	Worm vertically above	-
VB	Worm vertically below	-
UL	Underwriters Laboratory	-
η	Efficiency	%

8 Appendix

8.2 Contact

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8.3 Legal information

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8.4 Design application

Our gearbox designs have been registered with the „Deutsches Patent- und Markenamt“ (German patent and trademark office).

8 Appendix

8.5 Request form CAVEX®hygienic

Query:	Author:	Date:
Customer:	Contact person:	Place:

Request	Example	Unit	
Application	Freeze dryer / pharmaceutical industry		
Type of gearbox	worm, helical, coaxial, ...		
Nominal power (installed electrical power)		[W]	
Nominal output torque		[Nm]	
Nominal input speed		[min ⁻¹]	
Ratio			
Desired service life		[h]	
Operating mode (Zyklus/ ED)			
Ambient temperatures		[°C]	
Contamination in ambient air	vapours, ...		
Max. space available		H x W x D [mm]	
Annual quantity		piece	
Batch		piece	
Target price		€	

Your notes, remarks, additional information:

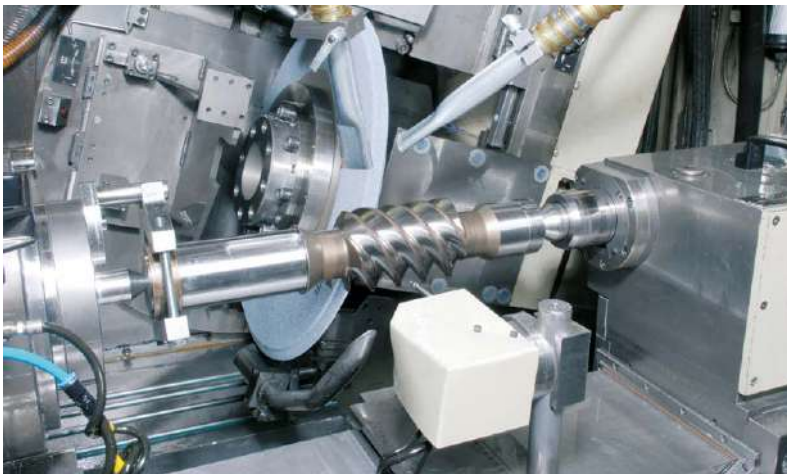
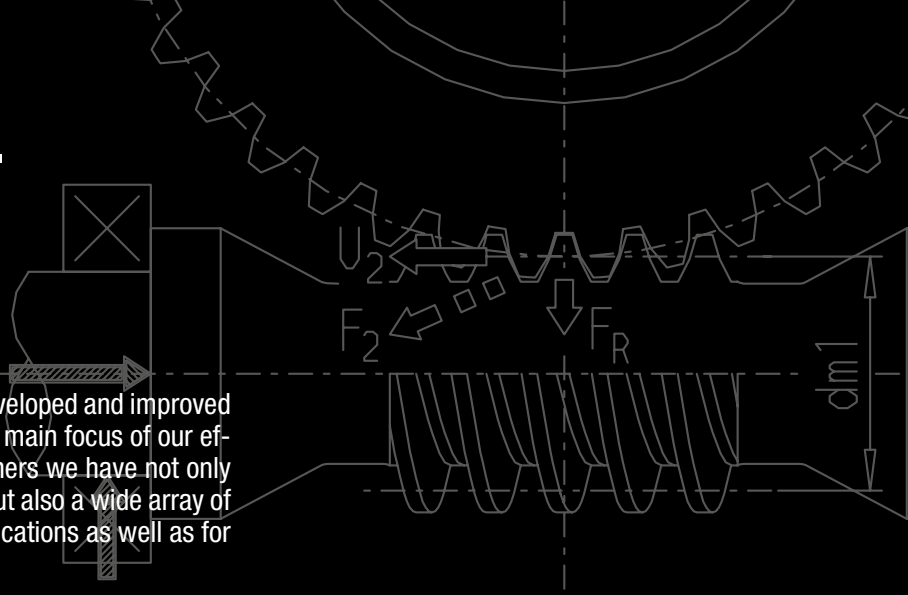
9 Notices

9 Notices

Drive Technology - Made in Germany

The right solution for any application

CAVEX® worm gear units have been continuously developed and improved for over 50 years. Your requirements are always the main focus of our efforts. In close cooperation with our clients and partners we have not only developed our up-to-date CAVEX® standard range but also a wide array of individual solutions - for our customer specific applications as well as for individual industries.



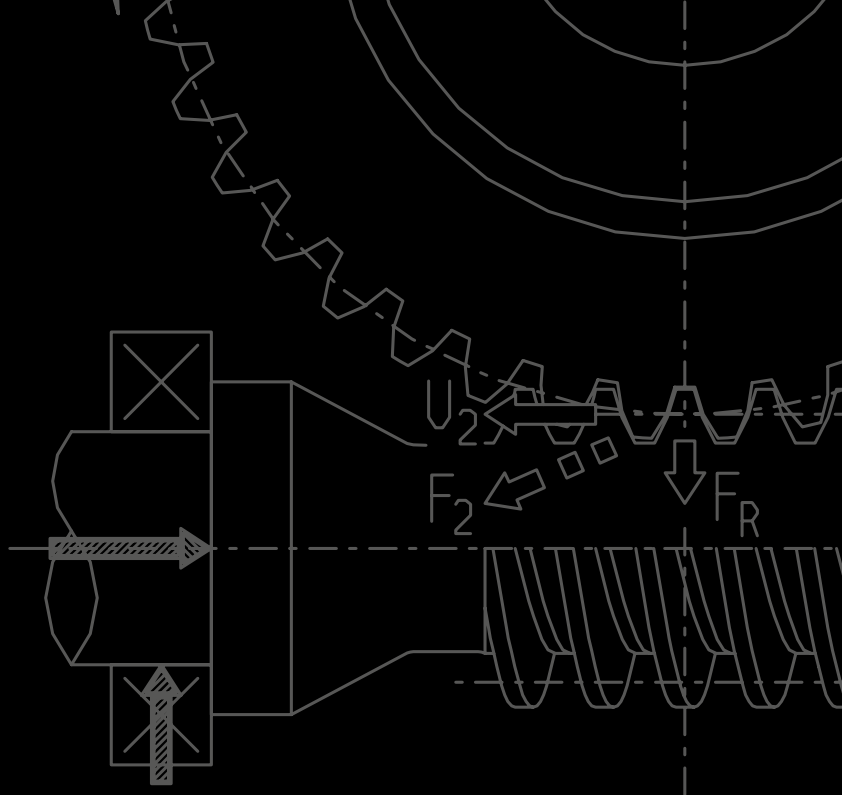
CAVEX®

German Drive Technology

Typical designs

- Solid and hollow shaft at output
- Input or output shafts on both sides
- Output with reinforced bearing
- Hollow shaft with feather key groove or shrink disk
- Labyrinth shaft seals
- Housing in grey cast iron (GG-20) or spheroidal cast iron (GGG-40)
- Worm and wheel sets with superior accuracy (e.g. DUPLEX gearing)

www.CAVEX-GmbH.com



CAVEX[®]

German Drive Technology

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