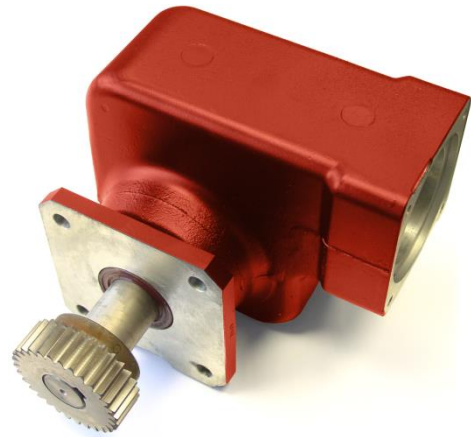
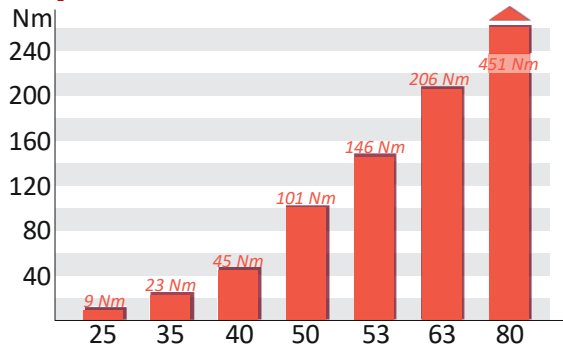


Worm Drives

Overview of permissible worm drive torques



Size 25

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
4	none	86 %	7.9	16
5	none	85 %	10.1	20
6.5	none	81 %	9.3	18
10	none	72 %	9.1	18
15	none	65 %	8.8	17
20	stat.	56 %	9.0	17
25	dyn.	42 %	6.3	12
30	dyn.	47 %	9.1	18
40	dyn.	43 %	9.6	19
50	dyn.	34 %	7.9	15

Size 35

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
5	none	87 %	23.7	46
7.25	none	82 %	22.8	44
8	none	82 %	25.9	50
10	none	78 %	24.9	48
11	none	77 %	25.9	50
12	none	74 %	24.9	48
15	none	69 %	23.7	46
20	none	63 %	23.0	44
25	stat.	57 %	20.0	39
30	dyn.	52 %	23.3	45
35	stat.	54 %	26.5	51
40	dyn.	46 %	22.8	44
50	dyn.	40 %	20.0	39
58	dyn.	42 %	22.5	44
90	dyn.	27 %	14.1	27

Size 40

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
6.75	none	86 %	45.8	89
8	none	84 %	42.7	83
10	none	83 %	45.8	89
15	none	75 %	43.6	84
20	none	72 %	44.9	87
25	none	65 %	38.0	73
28	stat.	60 %	44.2	85
30	none	63 %	46.8	90
35	none	61 %	48.2	93
36	dyn.	51 %	37.1	72
40	stat.	57 %	44.0	85
50	stat.	55 %	42.0	81
60	dyn.	39 %	30.0	58
70	dyn.	47 %	37.4	72
80	dyn.	40 %	31.2	60
90	dyn.	41 %	29.7	57

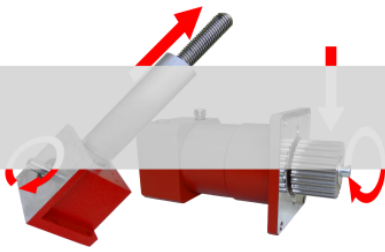
Permissible torque

The drive can deliver the permissible torque in continuous operation. Lubrication conditions, working life and operating ratios must be taken into consideration.

Maximum torque

The maximum torque describes the mechanical stability of the worm gears. Exceeding the torque limits can destroy the gears.

The data indicated in this datasheet provide general reference values. We determine the precise technical data for your individual application and end conditions during the design process.



Efficiency

The data indicate the maximum efficiency ratio the worm drive can deliver in run-in condition (i.e. after approx. 26 operating hours).

In single cases, the efficiency ratio may be reduced due to

- lower motor speed
- special sealing or special bearing
- restricted gear backlash
- during start-up

Size 50

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
4.25	none	89 %	53	153
6	none	86 %	81	147
8.66	none	82 %	100	144
12	none	78 %	103	150
13.5	none	75 %	98	149
19	none	67 %	101	145
23	none	65 %	111	150
27	stat.	60 %	100	173
35	stat.	56 %	88	181
46	dyn.	48 %	79	153
55	dyn.	43 %	72	140
69	dyn.	38 %	65	117

Size 53

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
4.75	none	89 %	70	174
6.67	none	86 %	105	167
9.67	none	82 %	120	171
13.5	none	78 %	124	175
15	none	75 %	117	181
21	none	67 %	146	171
25	none	65 %	132	176
28	stat.	57 %	135	156
30	stat.	60 %	120	178
38	stat.	56 %	106	178
50	dyn.	48 %	93	152
60	dyn.	43 %	85	140
75	dyn.	38 %	77	125

**Another reduction? Special wishes?
No problem whatsoever. Contact us.**

Size 63

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
6	none	89 %	139	336
12	none	82 %	220	277
19	none	77 %	206	330
26	none	67 %	268	306
34	none	63 %	230	375
48	stat.	56 %	194	312
63	dyn.	48 %	172	264
70	dyn.	40 %	175	216

Size 80

Reduction ratio	Self-locking	Efficiency	Perm. torque [Nm]	Max. torque [Nm]
6.75	none	88 %	233	550
12	none	85 %	379	471
20	none	75 %	451	711
30	none	65 %	541	737
50	stat.	58 %	386	630
80	dyn.	42 %	332	539

Self-locking depends on the gearing geometry and friction.

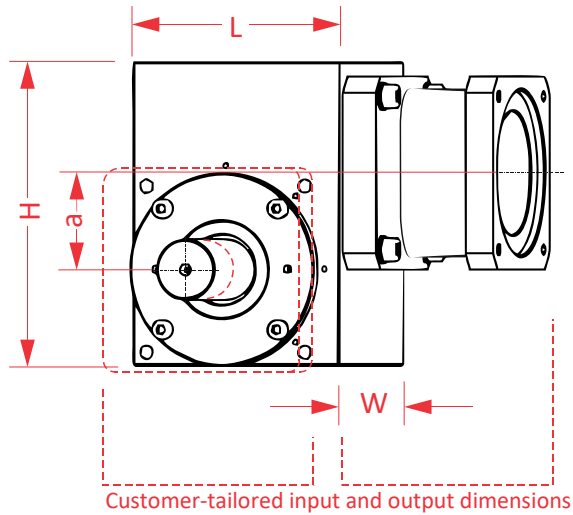
No self-locking: Risk of the output shaft driving the geared motor, i.e. no prevention of back driving.

Static self-locking: The geared motor comes to a halt and cannot be set in motion by the output shaft. Exception: slight movements due to vibrations.

Dynamic self-locking: The gears brake the geared motor when the motor is switched off.



Worm drive dimensions



Axle distance a [mm]	Length L [mm]	Width W [mm]	Height H [mm]
25	60	40	70
35	85	65	100
40	95	75	110
50	120	90	140
53	150	95	160
63	190	110	185
80	230	120	220

The measures are reference values only and can be optimized according to your requirements.

Applications

Langguth drives are used in many different industries but they all have one thing in common: They are truly special.

Packaging machines



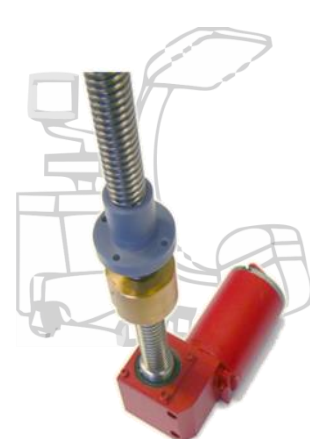
Pick&Place robots



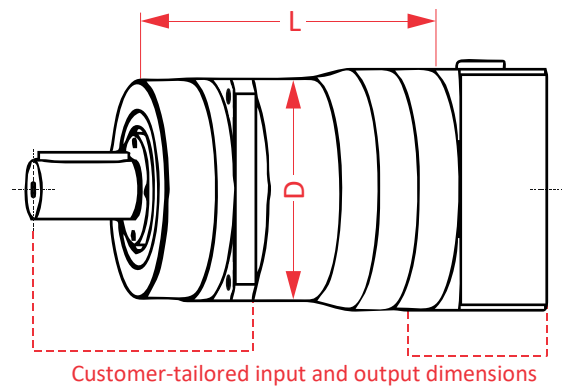
Actuators



X-ray machines (C-shape)



Planetary gearing dimensions



Type	Diameter D [mm]	Length L [mm]
P65	65	72
P85	85	87
P110	110	96
P68	65	94
P88	85	107
P118	110	126

*Other housing shape?
Special sizes?
No problem whatsoever. Contact us.*