

Linear Actuators

25 N

Gearhead with integrated Lead Screw, high load

For combination with
DC-Micromotors
Brushless DC-Motors
Stepper Motors

Series 06L ... HL

Values at 22°C

Number of gear stages		3	4	5
Reduction ratio (exact)		64:1	256:1	1 024:1
Continuous output speed, max. ¹⁾	mm/s	1,6	0,4	0,1
Peak output speed, max. ¹⁾	mm/s	2,1	0,5	0,1
Continuous input speed, max.	min ⁻¹	12 000	12 000	12 000
Peak input speed, max.	min ⁻¹	16 000	16 000	16 000
Continuous axial force, avg.	N	15	20	25
Peak axial force, dynamic, max.	N	25	30	35
Peak axial force, static, max.	N	80	80	80
Output power, max.	W	0,052	0,015	0,005
Efficiency of gearhead/coupler, max.	%	70	60	55
Efficiency of screw, max.	%	35	35	35
Mass inertia incl. screw, max. ²⁾	gmm ²	0,13	0,13	0,13
Accuracy, screw standard length, max.	µm	100	100	100
Radial load, max. (50 mm from flange)	N	≤ 5	≤ 5	≤ 5
Gearhead backlash, at no-load, typical	°	3	3	3
Radial play (screw, 3,5 mm from flange)	mm	≤ 0,06	≤ 0,06	≤ 0,06
Axial play:				
– screw	mm	0	0	0
– nut	µm	80	80	80
Screw length from flange:				
– standard	mm	50	50	50
– max.	mm	100	100	100
Length without motor L2	mm	15,2	17,9	20,6
Mass ²⁾	g	4,8	5,3	5,8
Screw type ³⁾	3x0,5 (mm) proprietary thread profile			
Screw material	stainless steel			
Nut material	cylindrical, plastic			
Housing material	stainless steel			
Geartrain material	steel			
Bearings on output shaft	ball bearings, preloaded			
Operating temperature range	°C	-30 ... +80		

¹⁾ According to selected reduction ratio, screw supported

²⁾ Standard length and standard nut

³⁾ Right handed, screw direction of rotation same as motor shaft.

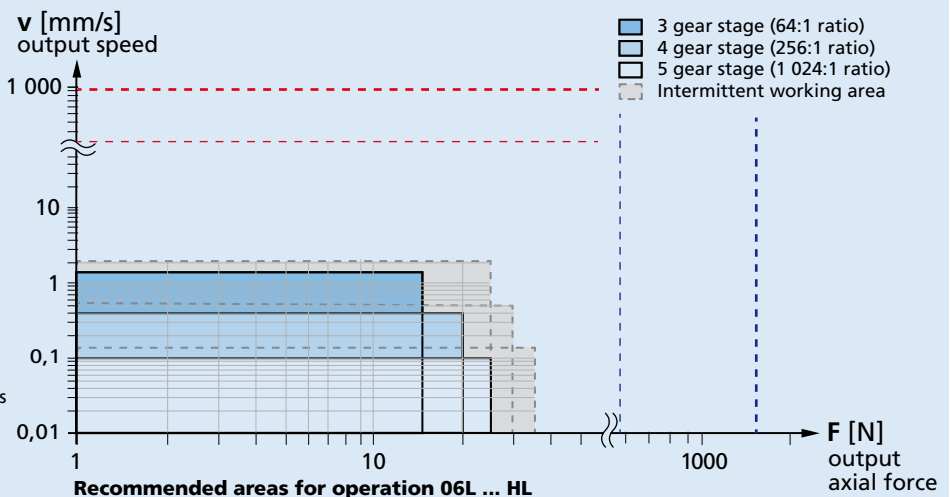
Note:

The display shows the range of possible operation points of the drives at a given ambient temperature of 22°C.

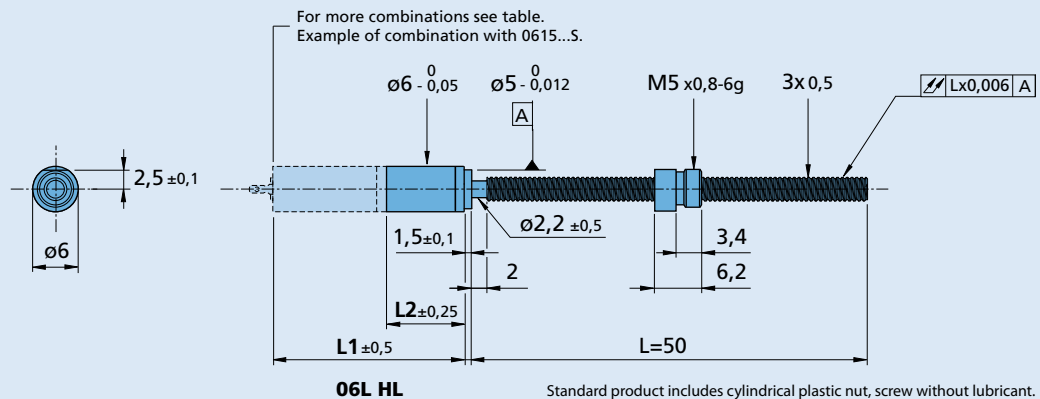
The diagram indicates the recommended output speed in relation to the available output axial force.

For the standard screw both supported and not, the diagram shows also the critical speeds and the buckling forces.

- Critical speed ³⁾ (fixed-free), 179 mm/s
- Critical speed ³⁾ (fixed-single), 950 mm/s
- Buckling force ³⁾ (fixed-free), 195 N
- Buckling force ³⁾ (fixed-single), 1563 N



Dimensional drawing



Options

Example product designation: **06L 64:1 KL1 HL 3x0.5 50 KWL1**

Option	Type	Description
KL1	Gearhead ambient conditions	Low temperature range of -55°C to +100°C
KL2	Gearhead ambient conditions	Vacuum down to 10 ⁻⁵ Pa @ 22°
KL3	Gearhead ambient conditions	Temperature range of -55°C to +150°C and vacuum down to 10 ⁻⁵ Pa @ 60°C
KF2	Gearhead front flange	Front flange with thread M6x0.5
15	Screw	Standard length (lengths from 15 mm to 100 mm are available in 1mm increments)
25	Screw	Standard length (lengths from 15 mm to 100 mm are available in 1mm increments)
50	Screw	Standard length (lengths from 15 mm to 100 mm are available in 1mm increments)
KWS1	Screw	Bearing tip/journal (Ø 2mm, L=2.5mm)
KWL0	Screw ambient conditions	Not lubricated
KWL1	Screw ambient conditions	Low temperature range of -55°C to +100°C
KWL2	Screw ambient conditions	Vacuum down to 10 ⁻⁵ Pa @ 22°
KWL3	Screw ambient conditions	Temperature range of -55°C to +150°C and vacuum down to 10 ⁻⁵ Pa @ 60°C
KWN1	Nut	Cylindrical bronze nut
KWN3	Nut	Flanged bronze nut
KWN4	Nut	Flanged plastic nut, screw without lubricant
KWN9	Nut	No nut, screw without lubricant

Note: Specified values may differ from the standard values depending on the option. Please consult your sales representative for further information.

Product combination

Number of gear stages	3	4	5
L2 [mm] = length without motor	15,2	17,9	20,6
L1 [mm] = length with motor	30,2	32,9	35,6
	29,8	32,5	35,2
	35,2	37,9	40,6
	24,7	27,4	30,1