

**NEW**

# Linear Actuators

## 580 N

Gearhead with integrated Ball Screw, standard version

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

### Series 22L ... SB

Values at 22°C

		1	1	2	2	3	4
Number of gear stages		1	1	2	2	3	4
Reduction ratio <sup>1)</sup> (rounded)		1:1	3:1 3,6:1 4,5:1 6,6:1	9:1	11:1 14:1 16:1 20:1 24:1 30:1 44:1	41:1 49:1 59:1 72:1 89:1 108:1 131:1 158:1 196:1	178:1 215:1 267:1 323:1 401:1 474:1 588:1 711:1 862:1 1 042:1 1 294:1
Continuous output speed, max. <sup>2)</sup>	mm/s	120	100...45,4	37	36,8...9,18	12,4...2,55	2,81...0,39
Peak output speed, max. <sup>2)</sup>	mm/s	150	122...55,6	44,4	46...11,5	16,5...3,4	3,7...0,5
Continuous input speed, max.	min <sup>-1</sup>	3 600	9 000	10 000	12 000	15 000	15 000
Peak input speed, max.	min <sup>-1</sup>	4 500	11 000	12 000	15 000	20 000	20 000
Continuous axial force, avg.	N	84	90...117	125	126...200	181...305	295...572
Peak axial force, dynamic, max.	N	580	580	580	580	580	580
Peak axial force, static, max.	N	670	670	670	670	670	670
Output power, max.	W	27	27	16	16	9	2
Efficiency of gearhead/coupler, max.	%	95	92	82	82	82	65
Efficiency of screw, max.	%	90	90	90	90	90	90
Mass inertia incl. screw, max. <sup>3)</sup>	gmm <sup>2</sup>	648	106	81	81	33	14
Accuracy, screw standard length, max.	µm	24	26	26	26	26	26
Radial load, max. (15 mm from flange)	N	90	105	135	135	180	205
Gearhead backlash, at no-load, typical	°	0,33	0,8	0,8	0,8	0,8	0,8
Radial play (screw, 10 mm from flange)	mm	≤ 0,05	≤ 0,05	≤ 0,05	≤ 0,05	≤ 0,05	≤ 0,05
Axial play:							
– screw	mm	= 0	= 0	= 0	= 0	= 0	= 0
– nut	µm	10	10	10	10	10	10
Screw length from flange:							
– standard	mm	150	150	150	150	150	150
– max.	mm	200	200	200	200	200	200
Length without motor L2	mm	30,9	30,9	37,2	37,2	43,5	49,9
Mass <sup>3)</sup>	g	107	111	126	126	142	157
Screw type	6x2 IT3 - right handed, screw direction of rotation same as motor shaft.						
Screw material	stainless steel						
Nut material	cylindric, metal						
Housing material	stainless steel						
Geartrain material	stainless steel						
Bearings on output shaft	ball bearings, preloaded						
Operating temperature range	°C	-20 ... +80					

<sup>1)</sup> The reduction ratios are rounded, the exact values are available on request or at [www.faulhaber.com](http://www.faulhaber.com).

<sup>2)</sup> According to selected reduction ratio, screw supported

<sup>3)</sup> Standard length and standard nut

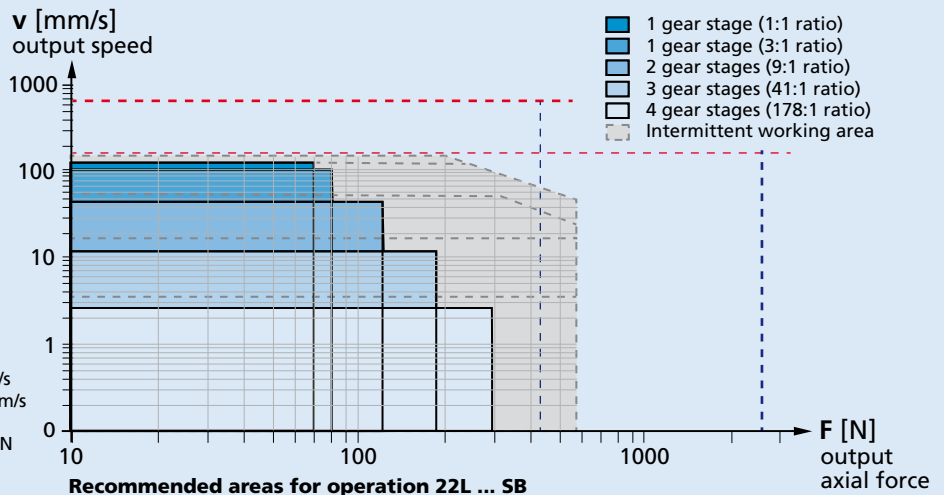
**Note:**

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

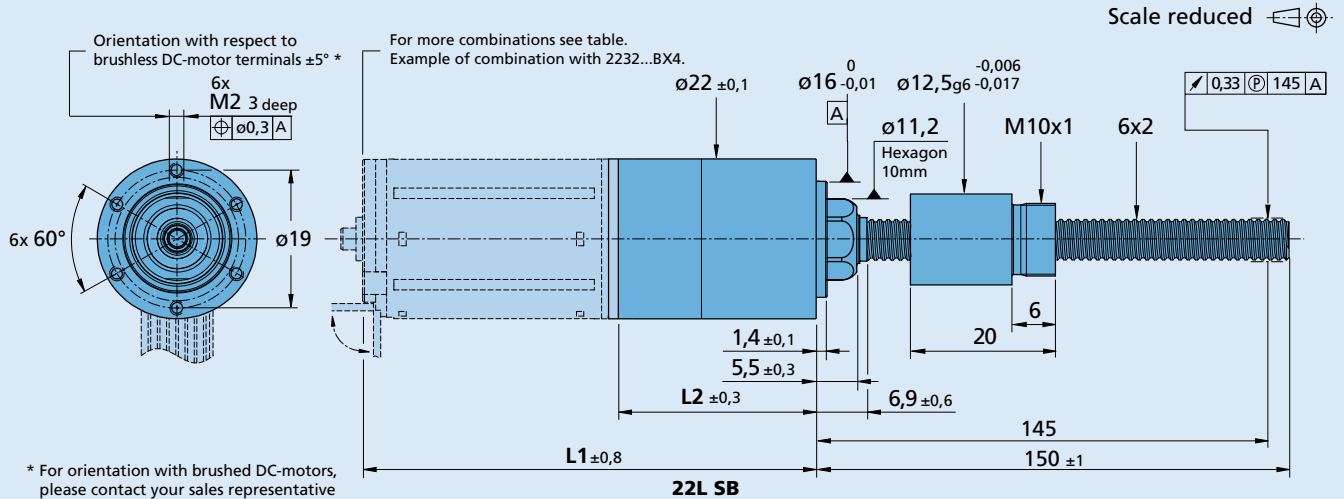
The diagram indicates the recommended output speed in relation to the available output axial force.

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

- - - Critical speed <sup>3)</sup> (fixed-free), 156 mm/s
- - - Critical speed <sup>3)</sup> (fixed-single), 690 mm/s
- - - Buckling force <sup>3)</sup> (fixed-free), 320 N
- - - Buckling force <sup>3)</sup> (fixed-single), 2560 N



### Dimensional drawing



### Options

Example product designation: **22L 30:1 KP1 SB 6x2 150 KWS1**

Option	Type	Description
KL1	Gearhead ambient conditions	Low temperature range of -55°C +100°C
KL2	Gearhead ambient conditions	Vacuum down to $10^{-5}$ Pa @22°C
KL3	Gearhead ambient conditions	Temperature range of -55°C +150°C and vacuum down to $10^{-9}$ Pa @60°C
KP1	Gearhead protection	IP54
KC1	Cable orientation	Motor cable/wires or terminals oriented at 15° CCW vs gearhead front threads
KC2	Cable orientation	Motor cable/wires or terminals oriented at 30° CCW vs gearhead front threads
KC3	Cable orientation	Motor cable/wires or terminals oriented at 45° CCW vs gearhead front threads
150	Screw	Standard length (150 mm), length from 45 mm up to 200 mm are available with 5 mm steps
KWL1	Screw ambient conditions	Low temperature range of -55°C +100°C
KWL2	Screw ambient conditions	Vacuum down to $10^{-5}$ Pa @22°C
KWL3	Screw ambient conditions	Temperature range of -55°C +150°C and vacuum down to $10^{-9}$ Pa @60°C
KWS1	Screw	Bearing tip/journal ( $\varnothing$ 4mm, L=5mm)
KWN7	Nut	Flanged metal nut

**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	1	2	3	4
L2 [mm] = length without motor	30,9	37,2	43,5	49,9
L1 [mm] = length with motor	70,7	77,0	83,3	89,7
2237U...CXR	74,6	80,9	87,2	93,6
2342X...CR	78,0	84,3	90,6	97,0
2642X...CR/CXR	93,0	99,3	105,6	112,0
2657X...CR/CXR	104,0	110,3	116,6	123,0
2668X...CR	66,4	72,7	79,0	85,4
2232X...BX4	84,4	90,7	97,0	103,4
2250X...BX4	100,0	106,3	112,6	119,0
2264X...BP4	47,4	53,7	60,0	66,4
2214X...BXTH	46,6	52,9	59,2	65,6
2214X...BXTR	52,8	59,1	65,4	71,8
3216X...BXTH	52,0	58,3	64,6	71,0
3216X...BXTR	69,6	75,9	82,2	88,6
2036U...B	89,6	95,9	102,2	108,6
2057X...B	76,6	82,9	89,2	95,6
2444X...B	61,4	67,7	74,0	80,4
AM2224...10				