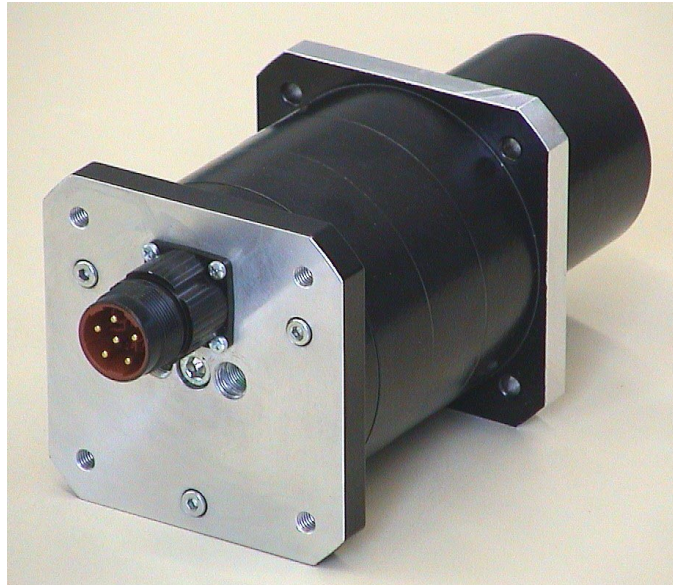


Linear Motors for Z-Axes

LTS Series

- **Peak Force up to 500 N**
- **Integrated Water Cooling**
- **Tubular Design**
- **High-dynamic**
- **Excellent Response Characteristics due to low electrical Time Constants**
- **Highest Positioning Accuracy due to high stiffness and Zero-Backlash**



The new generation of tubular linear motors of the LTS series have been especially designed for the operation in Z-Axes.

This motor range combines high peak forces and extreme low rotor masses and achieves high acceleration rates especially at Z-axes applications.

The low mass is realized by the tubular rotor design combined with the use of high-energetic magnet material.

Further advantages of the tubular design are the attraction force compensation and the low mechanical time constants for excellent control capabilities. They go together with high stiffness and zero-backlash for highest positioning accuracy.

The concept is based on an external armature ring which can be flange-mounted directly to the slide. This motor does not require an own bearing and therefore is completely wearless.

The water cooling which is directly integrated into the motors allows an operation with high continuous forces for quick operation cycles and high productivity.

The motors are protected against damages at continuous overload by a thermo switch or thermo sensor.

To drive the motor we recommend for example the servo amplifier type "MDE" which is provided with a special commutation software combined with a linear encoder.

In the following you will find the description of a typical motor. Further types with larger travel ranges or feed rates, optimized for you application are available upon request.

Technical Data

LTS062P-15/10-GL

Travel range		mm	50
Peak force	F_{PEAK}	N	500
Continuous force (ΔT of cooler max. 3°K)	F_{WC}	N	200
Attractive force	F_A	N	-
Max. acceleration (without load)	A_{max}	m/s^2	285
Max. ambient temperature	T_{Umax}	°C	40
Max. winding temperature	T_{Cmax}	°C	125
Mass primary part	M_P	kg	5,0
Mass 300mm secondary part	M_S	kg	1,5
Mechanical air gap	δ_{MECH}	mm	0,5
Pole width	$\tau_p/2$	mm	30
DC bus voltage	ZU	V_{DC}	330
No-load velocity	V_0	m/s	2,6
Back EMF constant	k_E	Vsm^{-1}	65
Force constant	k_F	N/A	38
Max. current	I_{PEAK}	A	10
Continuous current (with int. water cooler)	I_{WC}	A	5
Demagnetizing current	I_{ult}	A	20,0
Power loss at F_{PEAK}	P_{VPEAK}	W	1236
Power loss at F_{WC}	P_{VWC}	W	300
Winding resistance	R_{U-V}	Ω	6,15
Winding inductivity	L_{U-V}	mH	10,5
Electrical time constant	T_{el}	ms	3,6
Insulation class			F

Further types available upon request

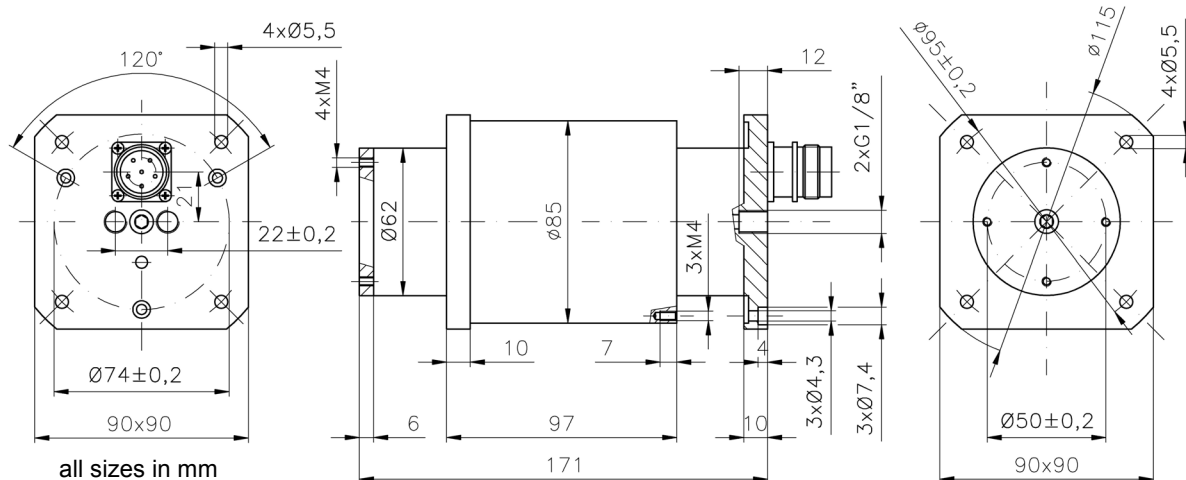
Water Cooler Characteristics

LTS062P-15/10-GL

		0,5	1	1,5	2
Q	l/min	0,5	1	1,5	2
Δv	K	2 – 3			
Δp	barr	0,011	0,053	0,133	0,254
P	W	105	188	260	327

Dimensions

LTS062P-15/10-GL



subject to change without notice

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