MTZ L Series Internally Guided Belt Driven Actuator

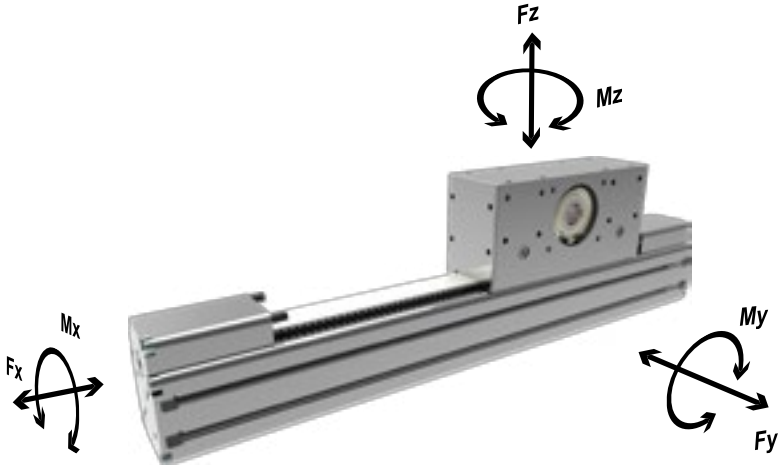
The Matara MTZ L series actuator is normally used as a Z axis unit, with the ability to connect the motor directly to the carriage assembly. This model can be combined with the MTB, MTE and MTS to make a simple and cost effective gantry unit.

Technical Data					
Size			42x42	55x55	80x80
Max. speed	m/s		1	1	1
Max. stroke length	mm		1000	1500	1500
Min. stroke length	mm		100	100	100
Pulley drive ratio	mm		130	130	192
Number of teeth of pulley			26	26	24
Tooth belt width with Steel Reinforced Polyurethane HTD 5 profile with 0 clearance. For size 80x80, a tooth belt with Steel Reinforced Polyurethane HTD8 profile clearance 0, width 30 mm, is used.			16	25	30
Max rpm	rpm		500	750	900
Base weight	Kg		1.1	3.7	12
Add for 100 mm of stroke	Kg		0.35	0.52	0.9
Max. load*	Fx	N	600	1250	2500
	Fy	N	1200	3000	4500
	Fz	N	1200	3000	4500
Moments*	Mx	Nm	20	45	90
	My	Nm	55	220	390
	Mz	Nm	55	220	390
Inertia moment Aluminum profile	Ix	cm^4	11.8	36	183
Inertia moment Aluminum profile	Iy	cm^4	14.2	45	226
Repeatability	mm		± 0.01	± 0.1	± 0.1
Max. radial load on input shaft	N		200	230	300
No load torque	Nm		>0.3	>0.7	>0.6

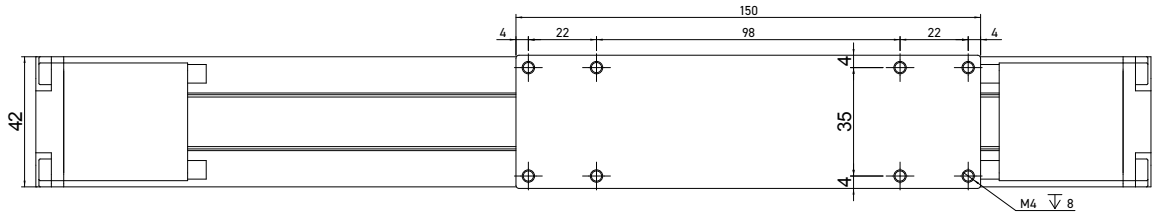
* Max values for dynamic conditions. Please refer to the following formula when combined loads are applied.

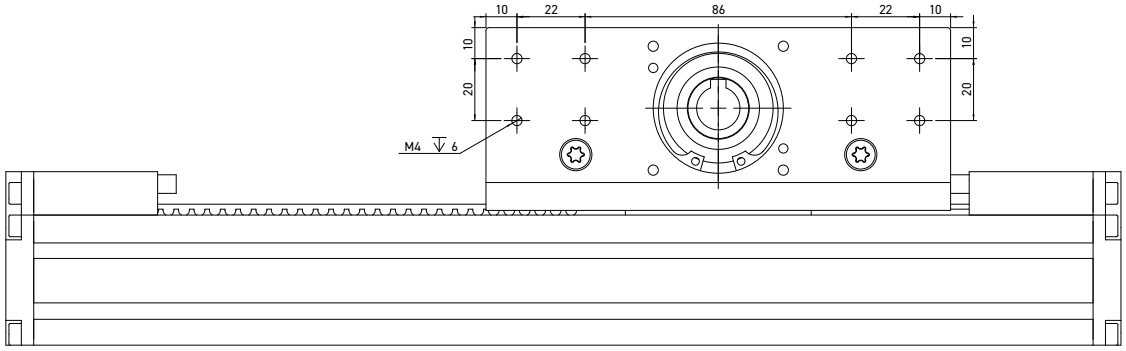
$$\frac{Fy_A}{Fy} + \frac{Fz_A}{Fz} + \frac{Mx_A}{Mx} + \frac{My_A}{My} + \frac{Mz_A}{Mz} \leq 1$$

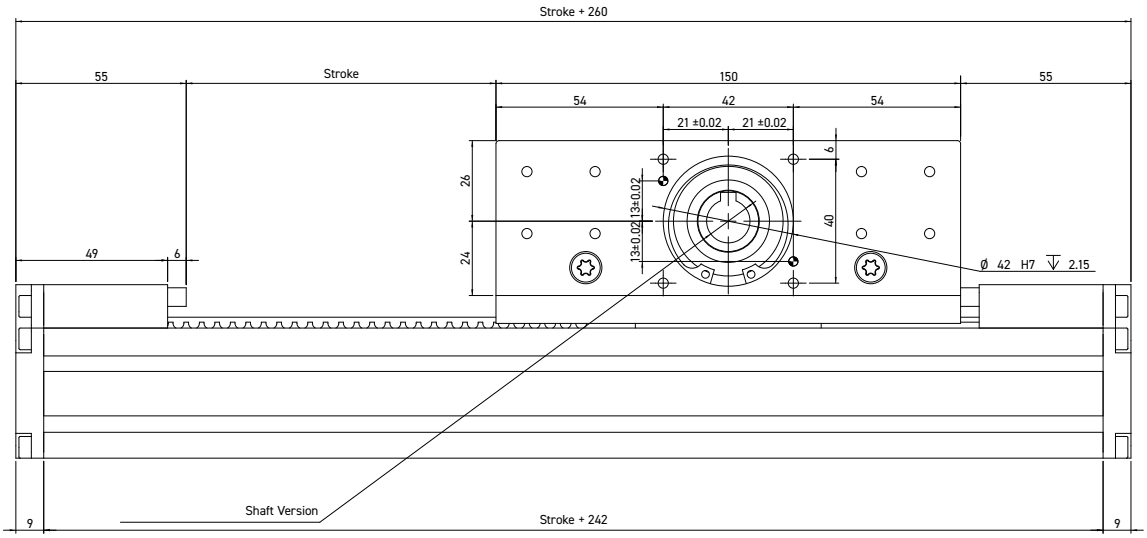
The A letters show the calculated value.

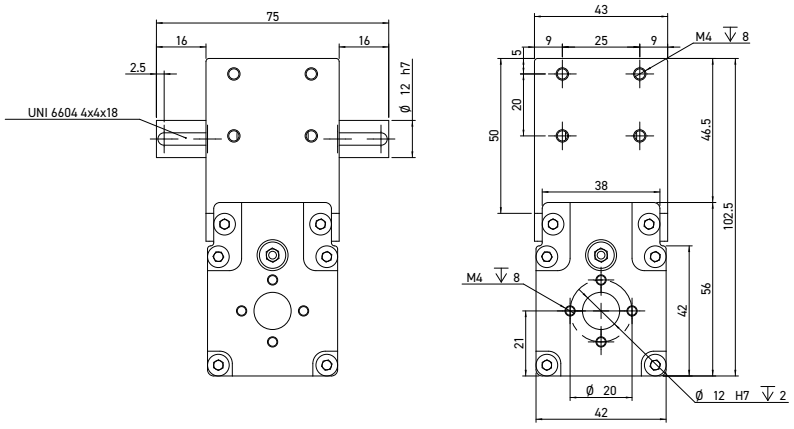


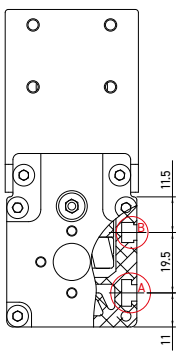
MTZ42L Series Dimensions

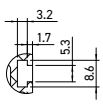




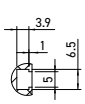






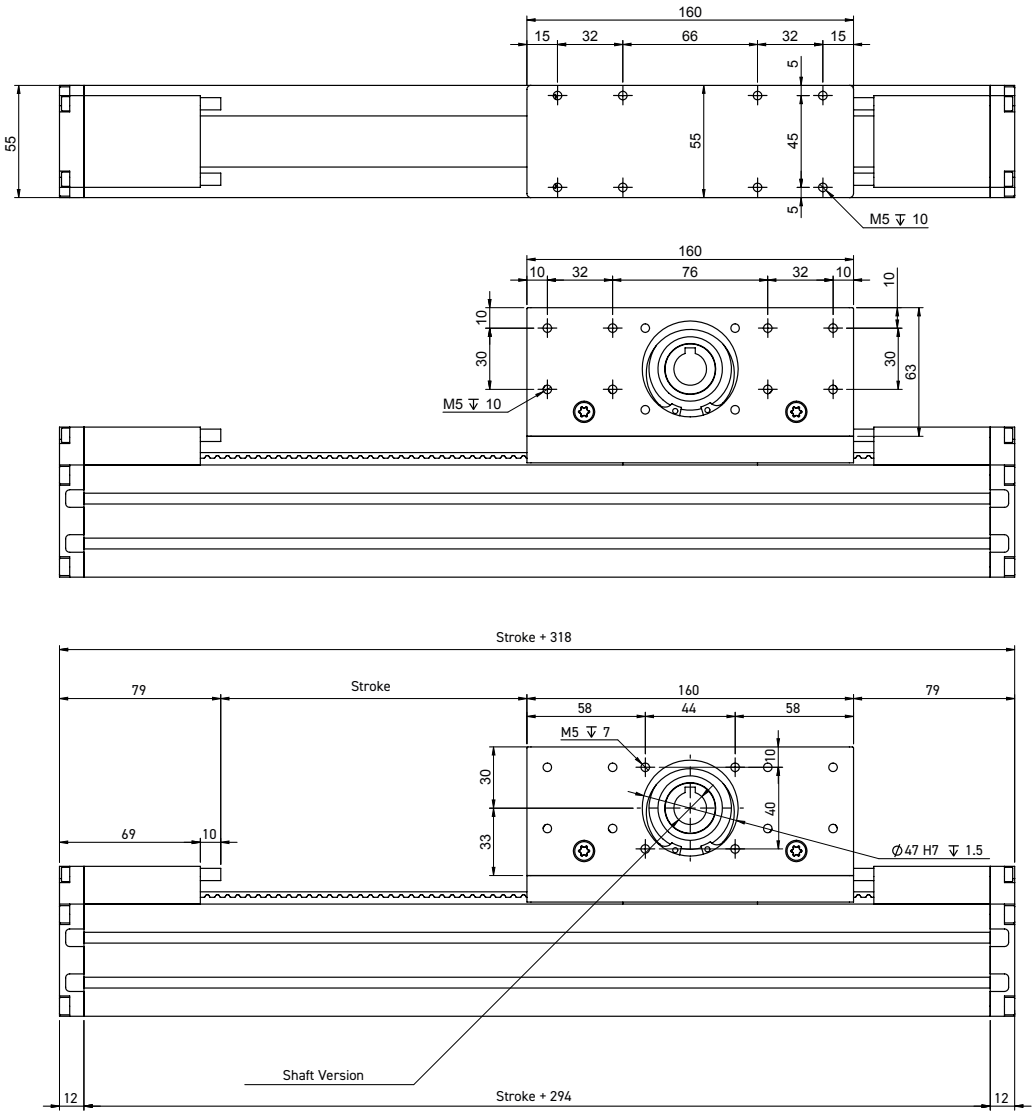


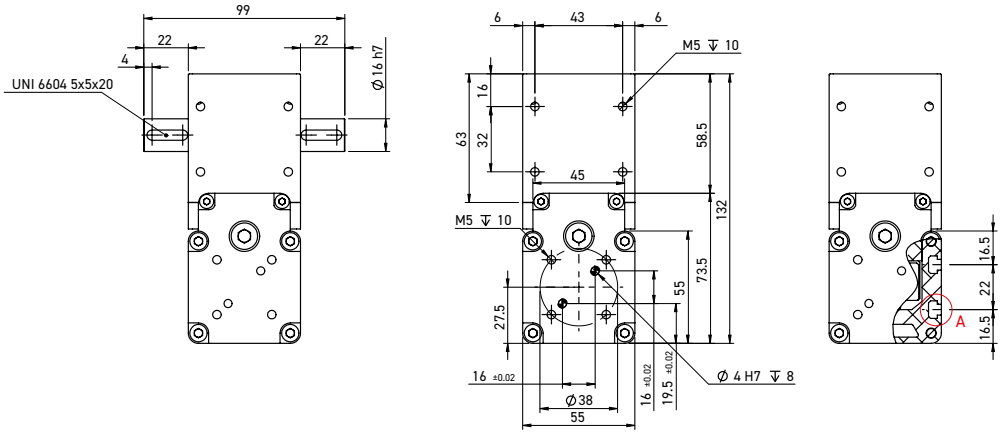
View A

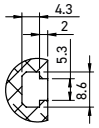


View B

MTZ55L Series Dimensions

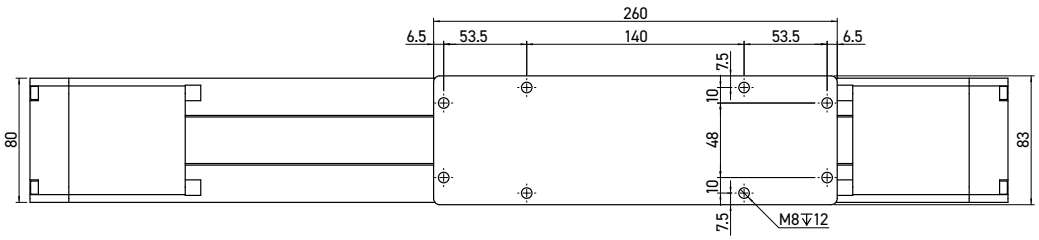


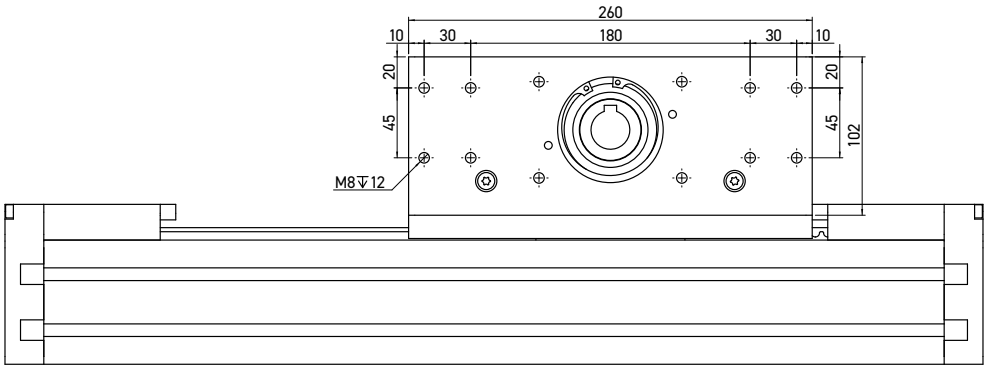


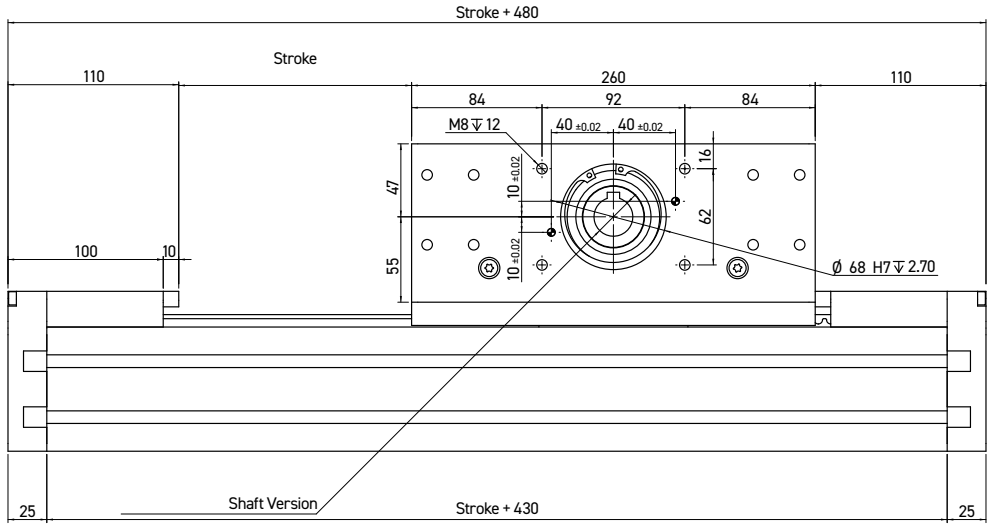


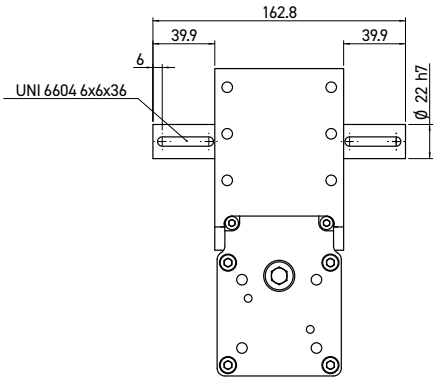
View A

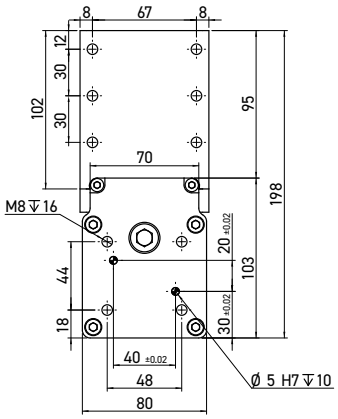
MTZ80L Series Dimensions

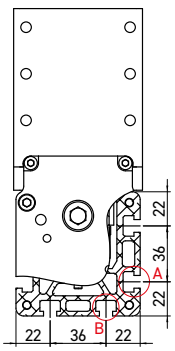


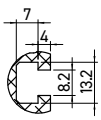




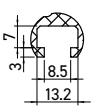








View A



View B

MTZ S Series Internally And Externally Guided Belt Driven Actuator

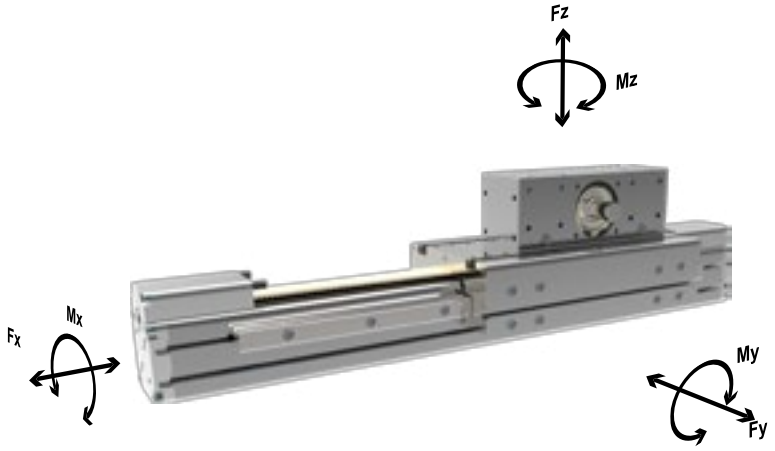
The Matara MTZ S series actuator, a derivative of the MTZ-L series, has two additional external rails fitted. The rails are fitted either side of the piston and can be supplied coated and with pre-load if required.

Technical Data				
Size			55x55	80x80
Max. speed	m/s		1	2
Max. stroke length	mm		1500	1500
Min. stroke length	mm		100	100
Pulley drive ratio	mm		130	192
Number of teeth of pulley			26	24
Size 55 x 55: Teeth belt with Steel Reinforced Polyurethane HTD5 profile clearance 0. Size 80 x 80: Teeth belt with Steel Reinforced Polyurethane HTD8 profile clearance 0. Width=	mm		25	30
Max rpm	rpm		500	900
Base weight	Kg		5.1	15
Add for 100 mm of stroke	Kg		0.6	1.55
Max. load*	Fx	N	1250	2500
	Fy	N	7800	15000
	Fz	N	7800	15000
Moments*	Mx	Nm	395	620
	My	Nm	480	980
	Mz	Nm	480	980
Inertia moment Aluminium profile	Ix	cm^4	36	183
Inertia moment Aluminium profile	Iy	cm^4	45	226
Repeatability	mm		± 0.1	± 0.1
Max. radial load on input shaft	N		300	300
No load torque	Nm		>0.7	>0.6

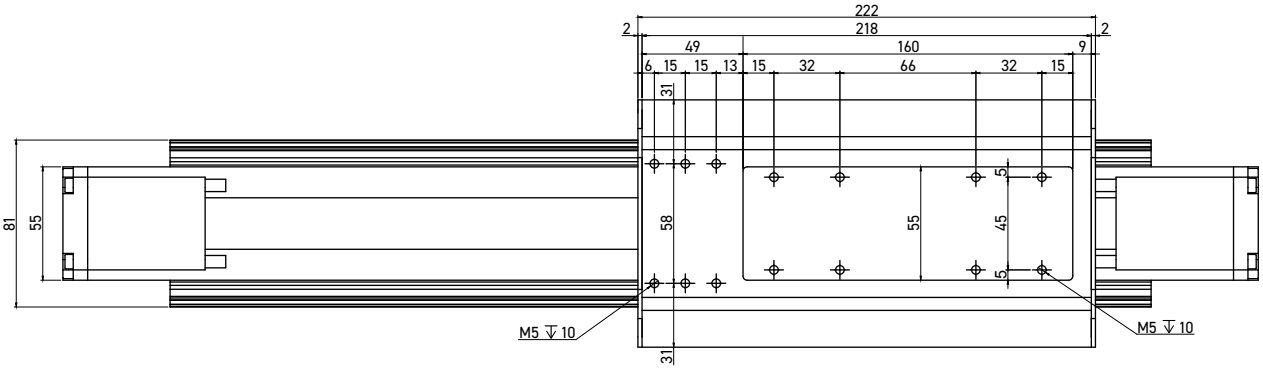
* Max values for dynamic conditions.
Please refer to the following formula when combined loads are applied.

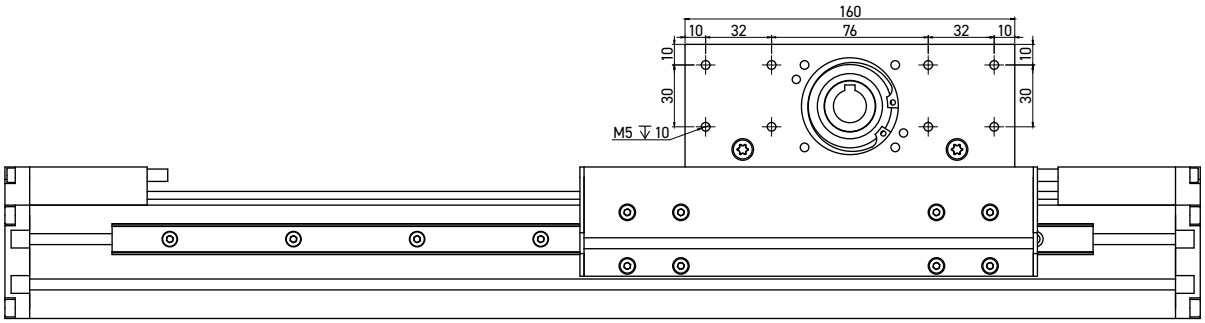
$$\frac{Fy_A}{Fy} + \frac{Fz_A}{Fz} + \frac{Mx_A}{Mx} + \frac{My_A}{My} + \frac{Mz_A}{Mz} \leq 1$$

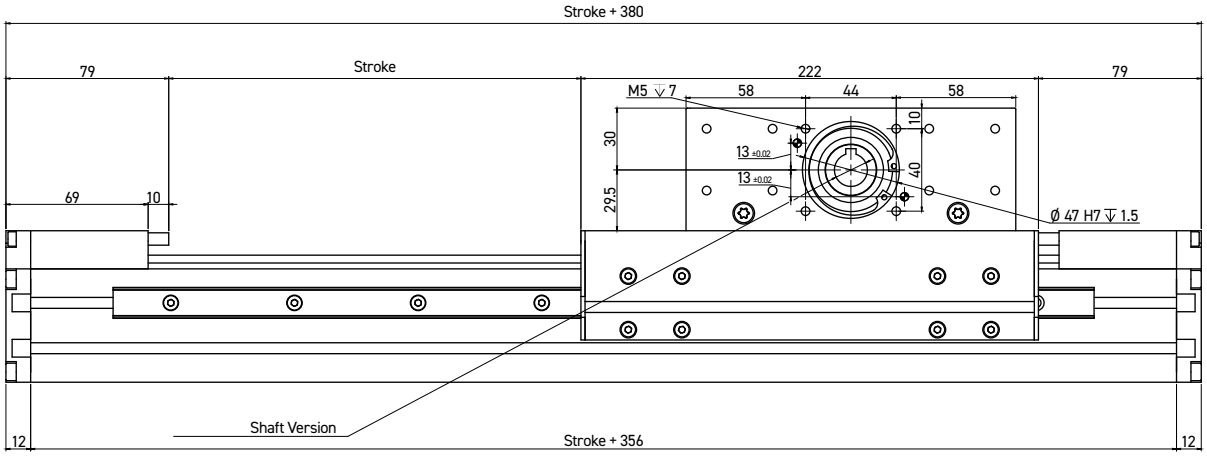
The A letters show the calculated value.

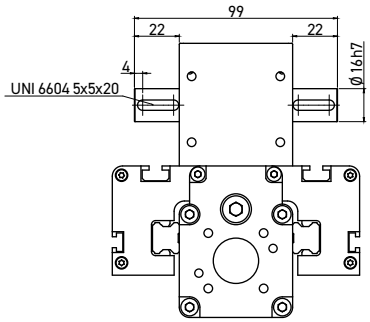


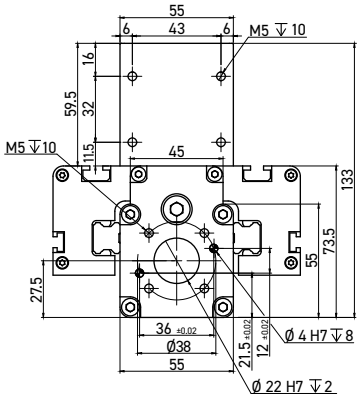
MTZ55S Series Dimensions

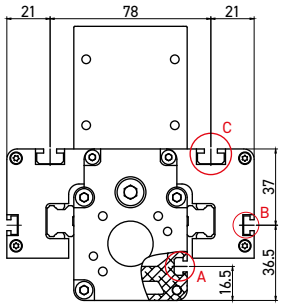


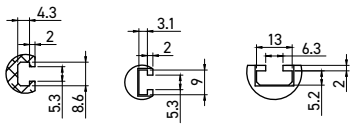






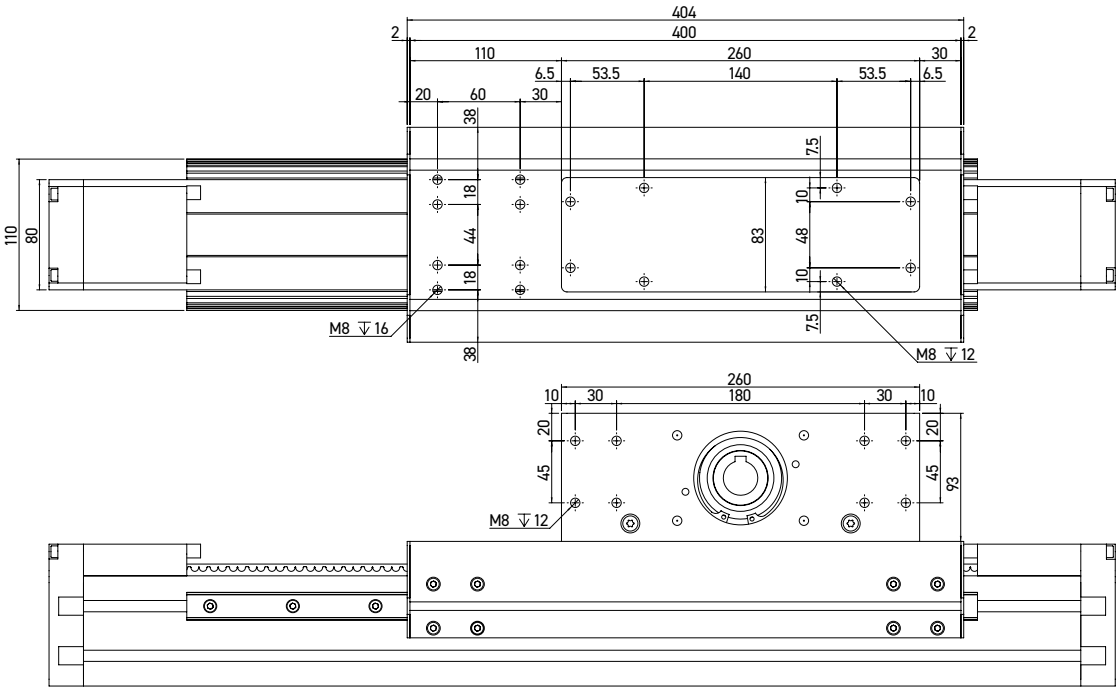


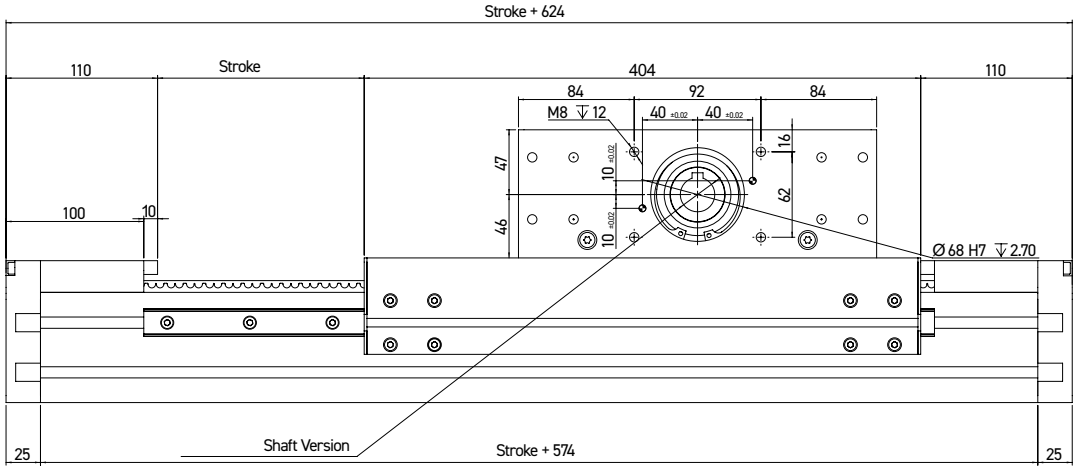


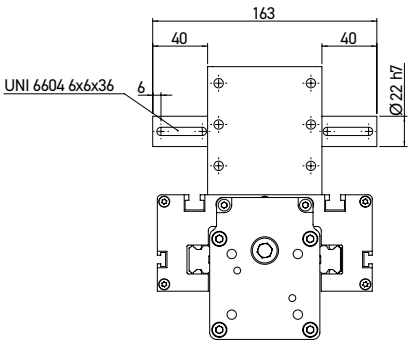


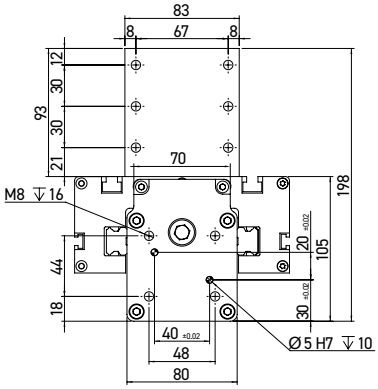
View A View B View C

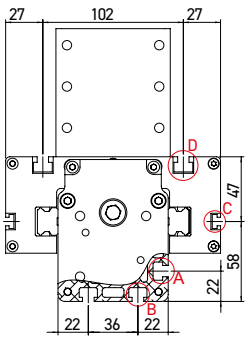
MTZ80S Series Dimensions

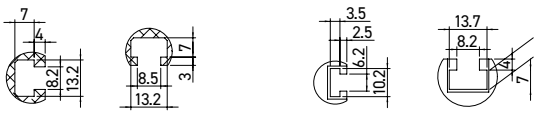












View A View B View C View D

MTZ L&S Series Order Example

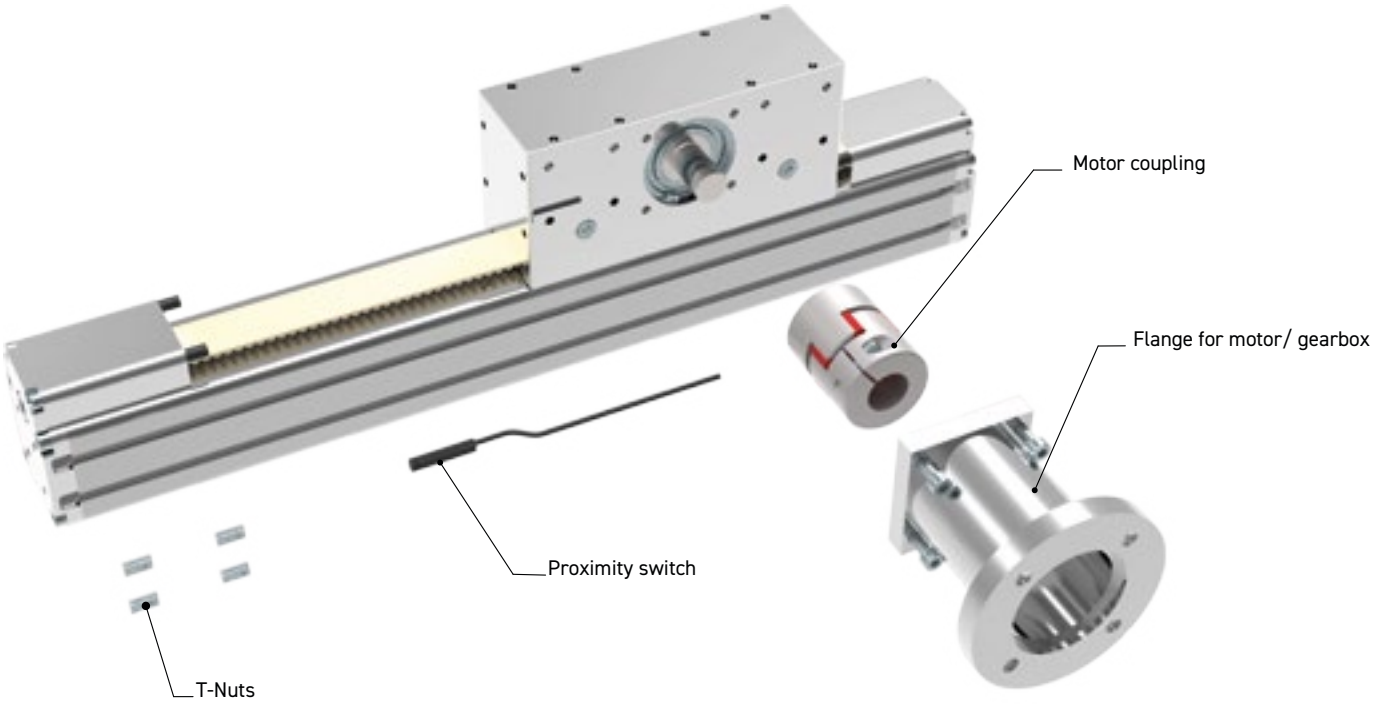
Code: **MTZ 55 L - 2100 - F08**
Options: 1 2 3 4 5

Options		Selection				
1	Series	MTZ				
2	Size	42 (42x42)	55 (55x55)		80 (80x80)	
3	Type	L	L	S	L	S
4	Stroke	0-1000 mm	0-1500 mm		0-1500 mm	
5	Shaft Versions *	F14 M14	F16 M16	F6 M6L M6R D6	F22 M22	F25 M25L M25R

*Shaft Version Codes

F6	Female shaft Ø16 mm with keyshaft	M14	Male shaft Ø14 mm	D6	Double male shaft Ø16 mm
F14	Female shaft Ø16 mm with keyshaft	M16	Male shaft Ø16 mm		
F16	Female shaft Ø16 mm with keyshaft	M22	Male shaft Ø22 mm		
F22	Female shaft Ø22 mm with keyshaft	M6L	Male shaft Ø16 mm mount left		
F25	Female shaft Ø16 mm with keyshaft	M25L	Male shaft Ø25 mm mount left		
		M6R	Male shaft Ø16 mm mount right		
		M25R	Male shaft Ø25 mm mount right		

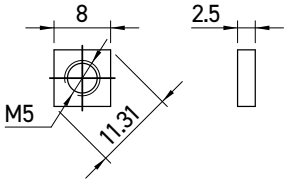
MTZ Series Accessories



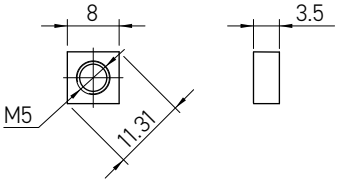
Slot Nuts

Square Nuts

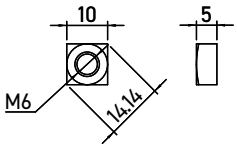
DQM05-01



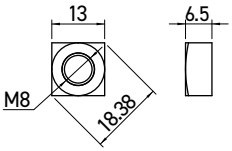
DQM05



DQM06

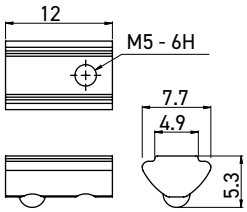


DQM08

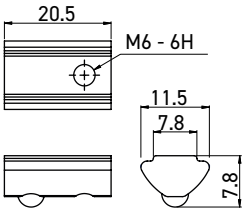


T Nuts

DTM05-M5

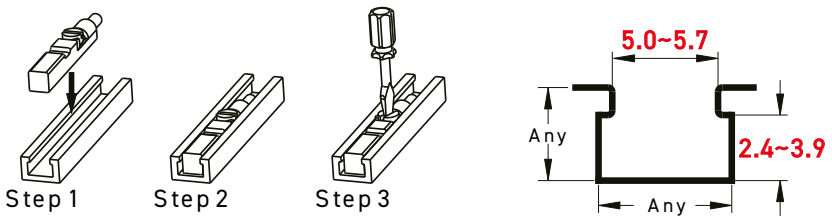


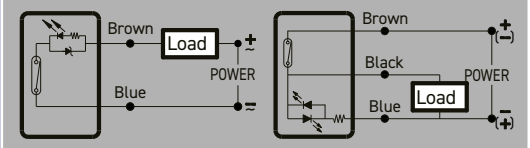
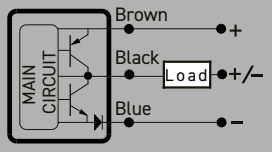
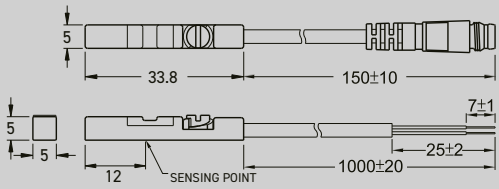
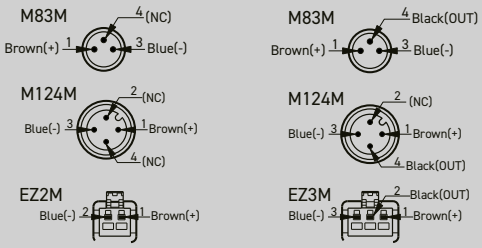
DTM06-M6



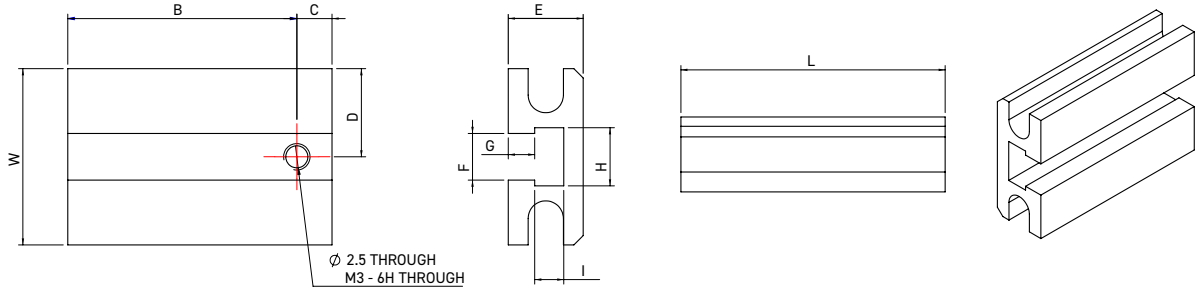
Code	Nut Type	MTZ L 42	MTZ L/S 55	MTZ L/S 80
DQM05-01	Square Nut - M5	X		
DQM05	Square Nut - M5		X	
DQM06	Square Nut - M6			X
DQM08	Square Nut - M8			X
DTM05-M5	Slot Nut T - M5		X	
DTM06-M6	Slot Nut T - M6			X

Magnetic Sensor



Characteristic	AL39-R	AL39-S
Switching Logic	SPST Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN/PNP Automatic Detection
Operating Voltage	5~240V DC/AC	5~30V DC
Switching Current	100 mA Max.	100 mA Max.
Switching Rating	10 W Max.	3 W Max.
Current Consumption	—	7.5 mA Max. @ 24V
Voltage Drop	2.5V Max. @ 100mA DC	1 V Max. @ 200 mA DC
Leakage Current	—	0.01 mA Max.
Indicator	Red LED	Red LED
Cable	2.9 , 2C, Grey Oil Resistat PUR	2.9 , 3C, Black Oil Resistat PUR
Sensitivity	35 ~ 45 Gauss	40 ~ 800 Gauss
Switching Frequency	200 Hz	5000 Hz
Temperature range	-10 ~ 70°C	-10 ~ 70°C
Shock	30 G	50 G
Vibration	9 G	9 G
Enclosure Classification	IP 65 (EN60529)	IP 65 (EN60529)
Protection Circuit	—	Power Reverse Polarity; Surge Suppression
CE Certificate NO.	E8N 11 0 4 53334 005	—
3C Certificate NO.	No. : 2 004010305127433	—
CNEx Certificate NO.	CNEx16.2333X(ExnCIICT6GC)	—
Connect Diagram		
	AL-39R AL-39R-QD8 AL-39R-QD12 AL-39R-EZ2M 	M8, M12, EZ QUICK CONNECT 2 wire QD wiring OR (IEC61076-2-101) 3 wire QD wiring 

Sensor Switch Holder



Linear Unit	Dimensions (mm)										Code
	B	C	D	E	F	G	H	I	L	W	
MTZ 80	26	4	6.5	6.5	5.3	1.8	6.6	3.3	30	13	A9AA_AD80