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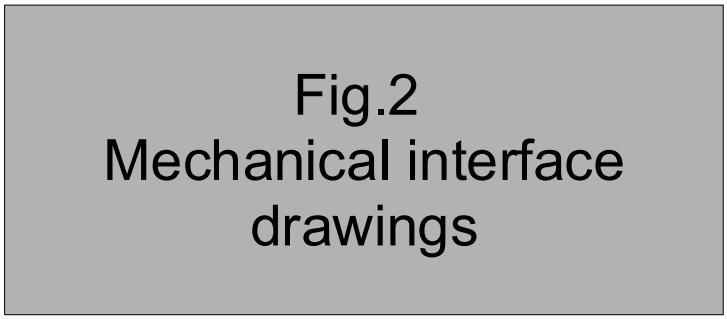
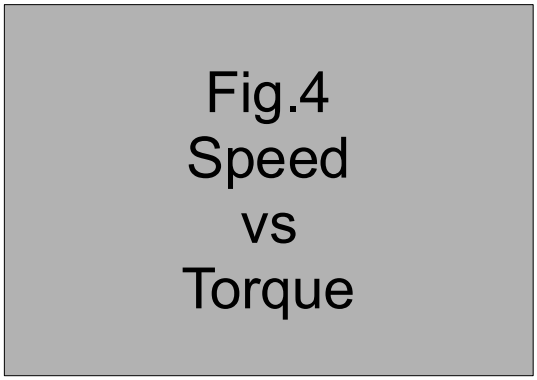
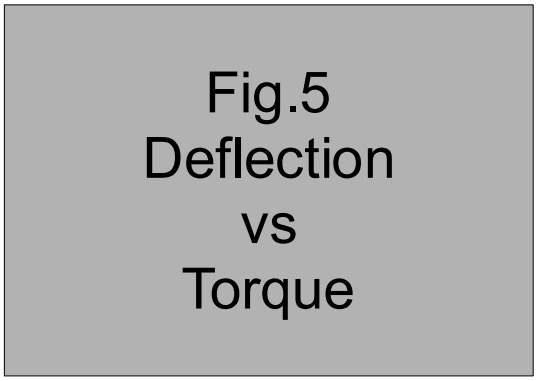
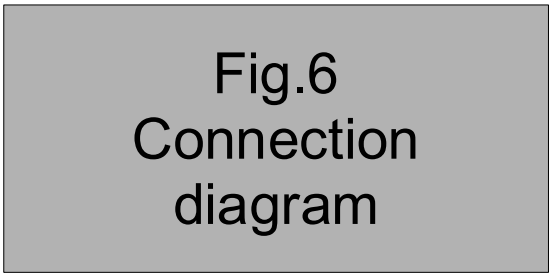
Typology



Operating Data				
#	(quantity)		(unit)	(value)
Mechanical				
1	Continuous Output Power		[W]	xxx
2	Nominal Torque		[Nm]	xxx
3	Nominal Speed		[rad/s]	xxx
4	Nominal Stiffness Variation Time	with no load	[s]	xxx
5		with nominal torque	[s]	xxx
6	Peak (Maximum) Torque		[Nm]	xxx
7	Maximum Speed		[rad/s]	xxx
8	Maximum Stiffness		[Nm/rad]	xxx
9	Minimum Stiffness		[Nm/rad]	xxx
10	Maximum Elastic Energy		[J]	xxx
11	Maximum Torque Hysteresis		[%]	xxx
12	Maximum deflection	with max. stiffness	[°]	xxx
13		with min. stiffness	[°]	xxx
14	Active Rotation Angle		[°]	xxx
15	Angular Resolution		[°]	xxx
16	Weight		[Kg]	xxx
Electrical				
17	Nominal Voltage		[V]	xxx
18	Nominal Current		[A]	xxx
19	Maximum Current		[A]	xxx
Control				
20	Voltage Supply		[V]	xxx
21	Nominal Current		[A]	xxx
22	I/O protocol		[]	xxx







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Additional Characteristics

Fig.7
Measured
Torque
vs
Deflection

Fig.8
3D workspace

Additional sensors data			
#	(quantity)	(unit)	(value)
a0	**Sensor a**		
a1	Resolution	[yyy]	xxx
a2	Range	[yyy]	xxx
a3	I/O protocol	[yyy]	xxx
ax	(specific sensor properties)	[yyy]	xxx
b0	**Sensor b**		
bx	(specific sensor properties)	[yyy]	xxx
by	(specific sensor properties)	[yyy]	xxx
bz	(specific sensor properties)	[yyy]	xxx
n0	**Sensor n**		
...	...	...	...

Fig.9
Sensor Map

This space is left blank for any integrative information
at the compiler's discretion. Examples may include:

- additional system images
- max. structural load values
- accessories
- software details

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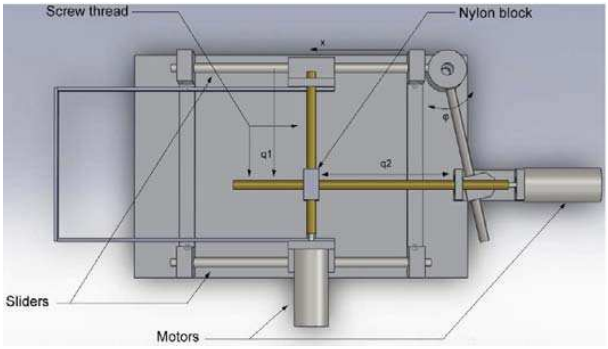
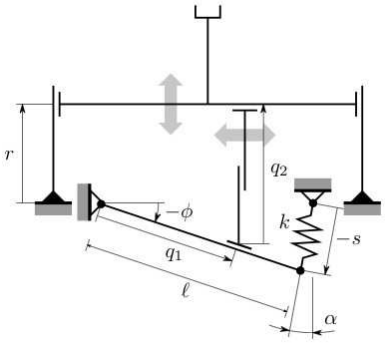
Model





Mathematical model

101	Recoil Point Function	$x_e = q_2$
102	Energy Function	$H = \frac{1}{2} k \left(l \frac{r - q_2}{q_1} \right)^2$
103	Output Torque Function	$\tau = -k \left(\frac{l}{q_1} \right)^2 (r - q_2)$
104	Output Stiffness Function	$\sigma = k \left(\frac{l}{q_1} \right)^2$
105	Spring Torque Function	$e_S = k\, l \frac{r - q_2}{q_1}$
106	Springs to Motors Transmission Ratio	$A = -\frac{l}{q_1} \left[\sin(\phi) \quad 1 \right]$
107	Springs to Output Transmission Ratio	$B = \frac{l}{q_1}$