

ForTorque[®] **FlowTorque[®]** Servo-Electric Swivelling-Rotary Modules FT01 with Fluidic Rotary Joints FW01

The FT01 **ForTorque[®]** swivelling-rotary modules are high-dynamic, low-wear positioning rotary modules for handling, assembly and automation technologies. They are equipped with a high-speed rotating AC servo drive and a gearbox with high reduction. With their performance, their compactness and weight, the modules are an ideal addition to our **HighDynamic[®]** linear motor actuators. With the matching adaptors they are mechanically compatible with this actuator family. FT01 modules are suitable for infinitely rotating applications, as well as applications for absolute angular positioning. The rotating axis can be initialized by a precision home switch. As an option the integrated fluidic rotary joints **FlowTorque[®]** are available.



Characteristics

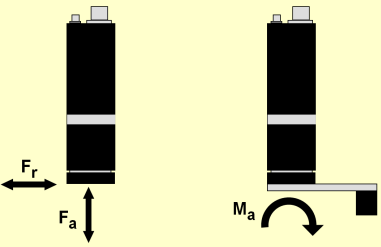
- swivelling-rotary modules with AC servo drive and a high-reduction gearbox
- 2- or 1-channel fluidic rotary joints optional
- very compact, slim and light design
- rotation angle & speed, angular acceleration and torque programmable
- torque value via motor current evaluable
- torques up to 8,0 Nm, rotational speed up to 150 UPM
- suitable for large external inertia loads
- home switch included
- mechanical interface compatible with our **HighDynamic[®]** series
- electrically controllable with LinMot[®] positioning controllers

Data **ForTorque[®]** Swivelling-Rotary Modules FT01-4050 and FT01-5050

Module Type	FT01-4050	FT01-5050
Technical Data		on demand
diameter of output flange [mm]	40	50
rotation angle	+/- infinite	
peak- / cont. output torque M_2 [Nm]	4,0 / 2,6	8,0 / 4,8
one-time collision torque M_2 [Nm]	8,0	16,0
rot. speed n_2 peak / cont. [UPM]	150 / 70	150 / 70
angular speed peak / cont. [Grad/s]	900 / 420	900 / 420
max. angular speed [Grad/s ²]	14.500	11.500
recommended external moment of inertia [kgcm ²]	< 180	< 400
recommended load mass [Gramm]	< 2.000	< 3.000
fluidic rotary joints pneumatic*) / vacuum*)	2 / 1	2 / 1

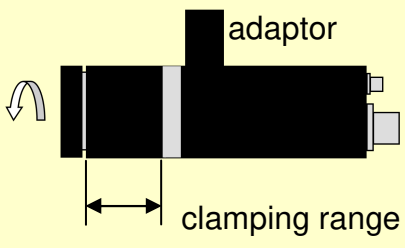
*) Options

Data *ForTorque*® Swivelling-Rotary Modules FT01-4050 and FT01-5050 Continuation

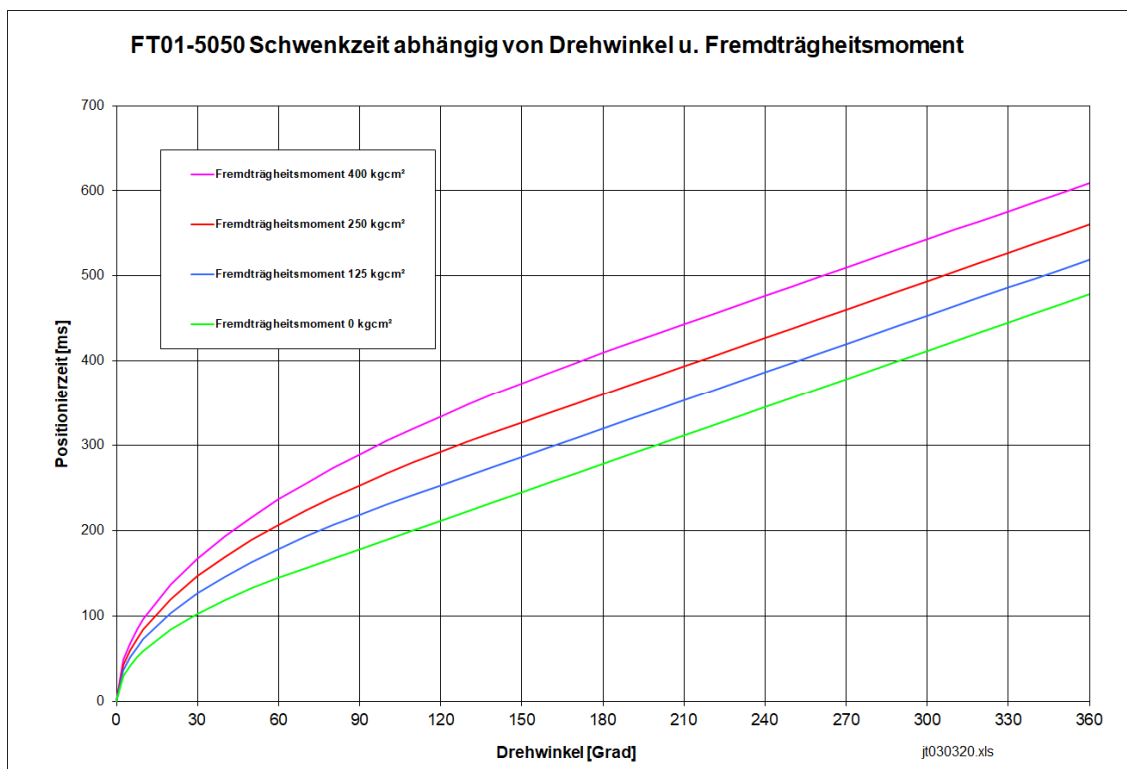
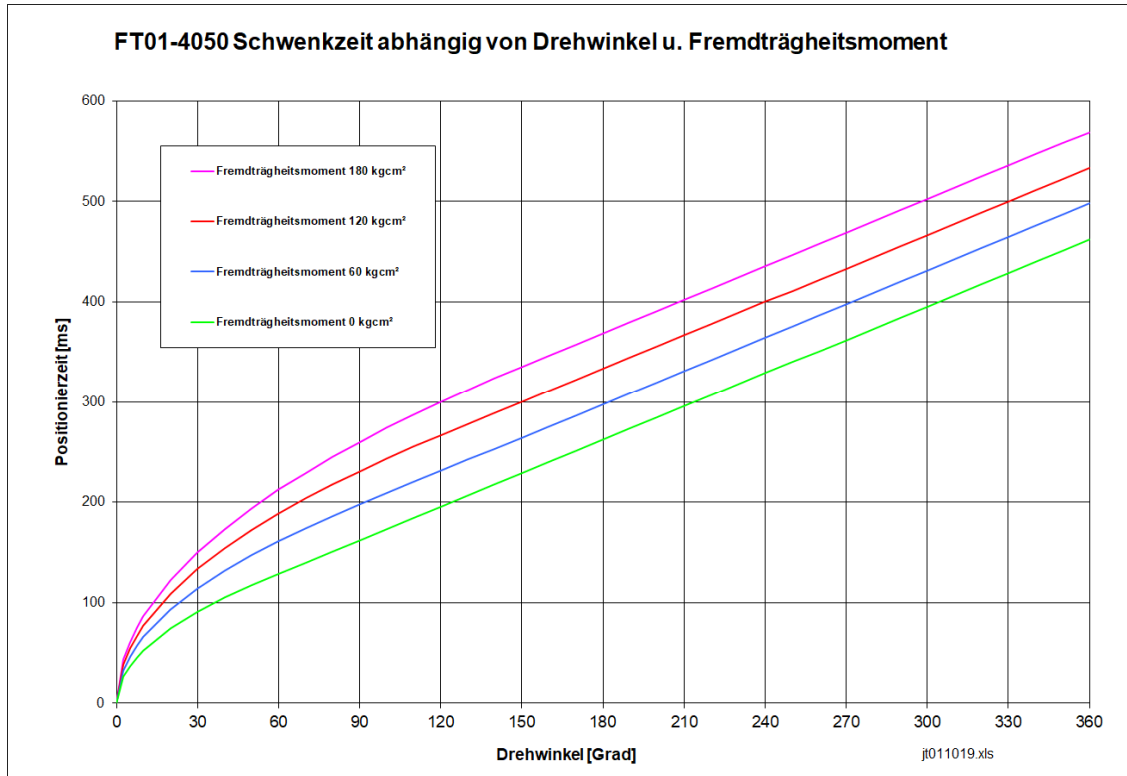
Module Type	FT01-4050	FT01-5050
Technical Data		
rotor of servo motor + gearbox inertia [kgcm ²]	0,042	0,096
reduction of gearbox	50	50
gearbox backlash unloaded [angular minutes]	0	0
angular accuracy of home switch [angular minutes]	< +/- 10	< +/- 10
repeating accuracy of rotary angle [angular minutes]	< +/- 2	< +/- 2
absolute accuracy of rotary angle [angular minutes]	< +/- 5	< +/- 5
max. diameter / length (without connectors) [mm]	40 / 145	50 / N.N.
weight [Gramm]	560	N.N.
operating temperature [°C]	- 30° to + 40° (+ 90° with reduced torque)	
IP protection class	IP 54	
	$F_a \leq 400 \text{ N}$ $F_r \leq 400 \text{ N}$ $M_a \leq 40 \text{ Nm}$	$F_a \leq 400 \text{ N}$ $F_r \leq 400 \text{ N}$ $M_a \leq 45 \text{ Nm}$

STEP files on demand!

Mounting *ForTorque*® Swivelling-Rotary Modules FT01-4050 and FT01-5050

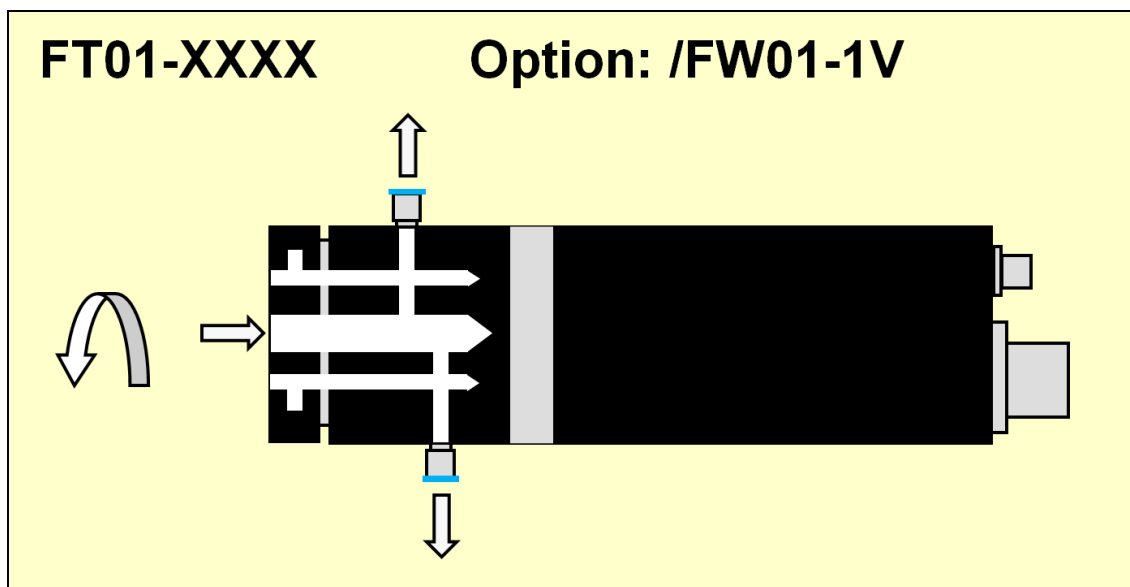
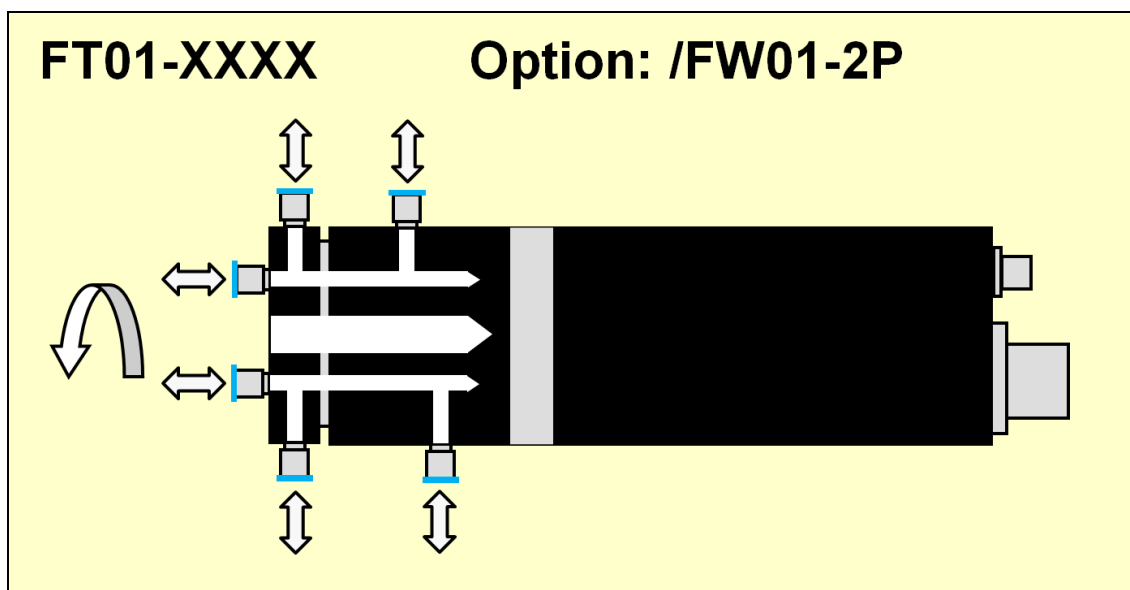
Modul Type	FT01-4050	FT01-5050
Mounting Instruction		
	<p>Suitable clamping and adaptor flanges are available. Clamping may only be done in the specified clamping range!</p>	

Dynamic Data *ForTorque*[®] Swivelling-Rotary Modules FT01-4050 and FT01-5050



Data of Joints *FlowTorque*® Fluidic Rotary Joints FW01

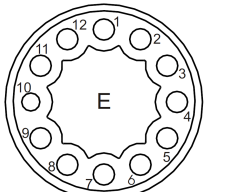
Modul Type	FT01-XXXX/FW01-2P	FT01-XXXX/FW01-1V
Technical Data		
fluid	pneumatic	vacuum
fluid ports	M3	M3
operating pressure [bar]	0 to 7	- 1 to 0
maintenance	lifetime lubrication	

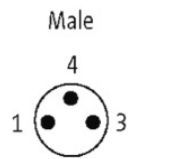


The graphics show an exemplary channel guide. The shown connection elements and plugs are not included in standard delivery.

Electrical Data & Connectors *ForTorque*® Swivelling-Rotary Modules FT01

Modul Type	FT01-4050	FT01-5050
Technical Data		
torque constant of motor [mNm/A]	41,4	43,5
max. phase current [A]	3,8	7,3
const. phase current [A]	1,2	2,0
max. DC-bus voltage [VDC]	75	
connector servo motor	12-pin connector with bayonet (m)	
home switch connector	M8 connector (m)	

Servo Motor Connector		
12-pin connector (m)		
Contact-No.	Signal	
1	GND	
2	NC	
3	+ 5 VDC	
4	Phase A	
5	Phase B	
6	Phase C	
7	Hall A	
8	Hall B	
9	Hall C	
10	NC	
11	NC	
12	NC	
housing		

Home Switch Connector		
M8 connector 3-pin (m)		
Contact No.	Signal	
1	+ 10 - + 30 VDC	
3	GND	
4	PNP output, output On when damped, max. output current 100 mA, output short circuit protected	

Suitable Positioning Controllers		
Brand		
LinMot®	FAULHABER®	TECHNOSOFT®

Ordering Information *ForTorque*® and *FlowTorque*® FT01-4050 & FT01-5050

Modul Type	FT01-4050	FT01-5050
Ordering Code		
without fluidic rotary joint	FT01-4050	FT01-5050
2-channel pneumat. rotary joint	FT01-4050/FW01-2P	FT01-5050/FW01-2P
1-channel vacuum rotary joint	FT01-4050/FW01-1V	FT01-5050/FW01-1V

Accessories & Options

- adaptors for our **HighDynamic**® modules and guides
- positioning controller with all current fieldbus interfaces
- controller for safe machine control
- controller pre-parameterised
- motor cable sets
- example circuit diagrams

LinMot® is a registered trademark of NTI AG LinMot!
 Technical changes reserved!
 Rev.: 23.09.2021 - js030420.doc