

## **ForTorque**® Servo-Electric Swivelling-Rotary Modules FT01

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.



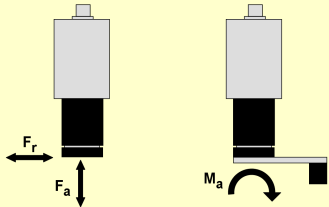
### Characteristics

- swivelling-rotary modules with AC servo drive and a high-reduction gearbox
- very compact, slim and light design
- rotation angle & speed, angular acceleration and torque programmable
- torque value via motor current evaluable
- torques up to 4,0 Nm, rotational speed up to 400 UPM
- suitable for large external inertia loads
- mechanical interface compatible with our **HighDynamic**® series
- electrically controllable with LinMot® positioning controllers

### Data **ForTorque**® Swivelling-Rotary Modules FT01

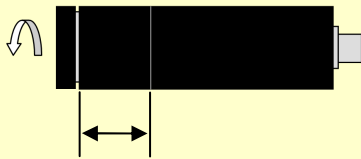
Module Type	FT01-2520	FT01-25L20	FT01-3518	FT01-35L18	FT01-4550
<b>Technical Data</b>					
diameter of output flange [mm]	25		35		45
rotation angle	+/- infinite				
peak- / cont.-output torque M <sub>2</sub> [Nm]	0,7 / 0,36	1,0 / 0,64	1,9 / 0,95	3,0 / 1,7	4,0 / 3,0
one-time collision torque M <sub>2</sub> [Nm]	1,0	1,0	4,0	4,0	8,0
rot. speed n <sub>2</sub> peak / cont. [RPM]	400 / 117	400 / 117	360 / 117	360 / 117	150 / 83
angular speed peak / con. [deg/s]	2.400 / 700	2.400 / 700	2.166 / 700	2.166 / 700	900 / 500
max. angular acceleration [deg/s <sup>2</sup> ]	83.000	83.000	40.000	41.000	15.000
recommended external moment of inertia [kgcm <sup>2</sup> ]	< 5	< 10	< 20	< 40	< 200
recommended load mass [g]	< 500	< 500	< 1.000	< 1.000	< 2.000

## Data *ForTorque*® Swivelling-Rotary Modules FT01 Continuation

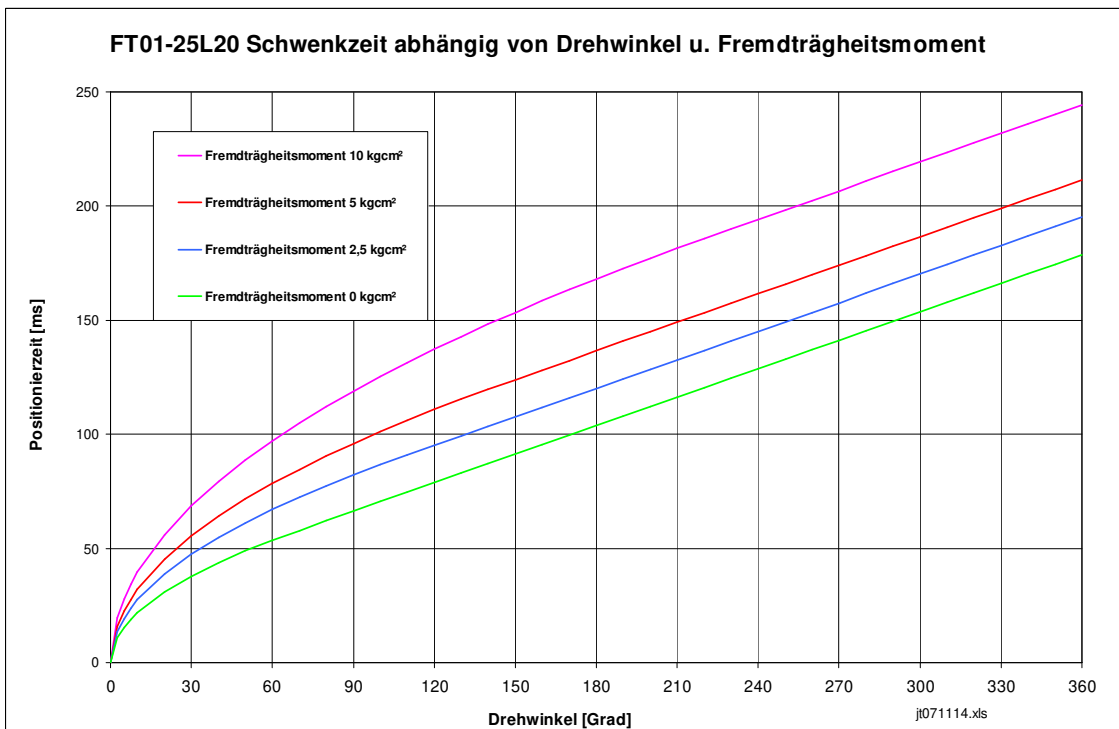
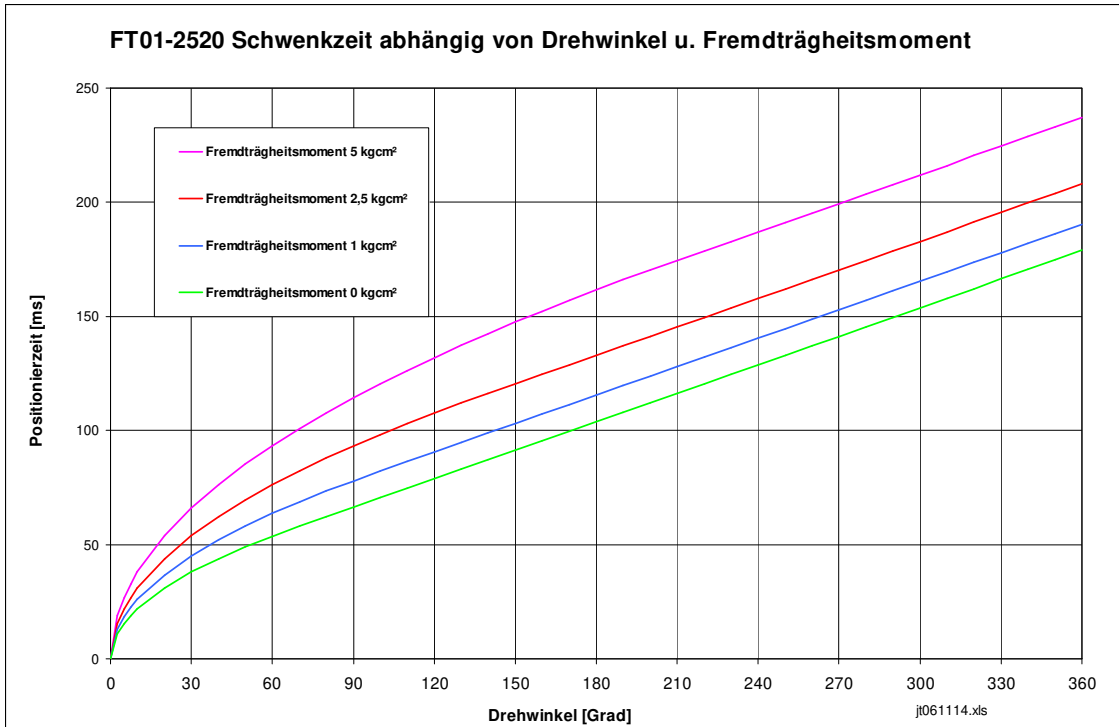
Module Type	FT01-2520	FT01-25L20	FT01-3518	FT01-35L18	FT01-4550
<b>Technical Data</b>					
rotor of servo motor + gearbox inertia [kgcm <sup>2</sup> ]	0,0062	0,011	0,042	0,075	0,046
reduction of gearbox	20	20	18	18	50
gearbox backlash unloaded [angular minutes]	20	20	20	20	0
angular accuracy of home switch [angular minutes]	< +/- 8	< +/- 8	< +/- 8	< +/- 8	< +/- 8
repeating accuracy of rotary angle [angular minutes]	-/-	-/-	-/-	-/-	< +/- 2
absolute accuracy of rotary angle [angular minutes]	-/-	-/-	-/-	-/-	< +/- 5
max. diameter / length [mm]	25 / 152	25 / 170	35 / 175	35 / 201	56 / 145
weight [g]	229	274	553	673	905
operating temperature [°C]	- 30° to + 40° (+ 90° with reduced torque)				
IP protection class	IP 54				
	$F_a \leq 70 \text{ N}$ $F_r \leq 70 \text{ N}$ $M_a \leq 10 \text{ Nm}$	$F_a \leq 70 \text{ N}$ $F_r \leq 70 \text{ N}$ $M_a \leq 10 \text{ Nm}$	$F_a \leq 100 \text{ N}$ $F_r \leq 100 \text{ N}$ $M_a \leq 20 \text{ Nm}$	$F_a \leq 100 \text{ N}$ $F_r \leq 100 \text{ N}$ $M_a \leq 20 \text{ Nm}$	$F_a \leq 400 \text{ N}$ $F_r \leq 400 \text{ N}$ $M_a \leq 20 \text{ Nm}$

STEP files on demand!

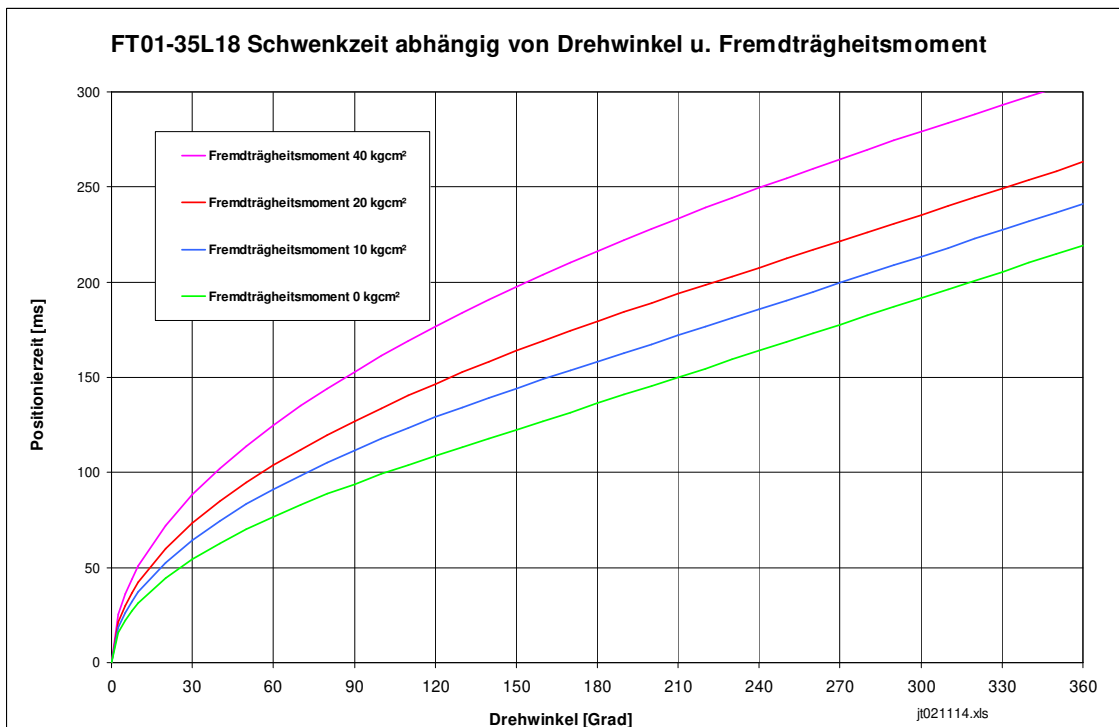
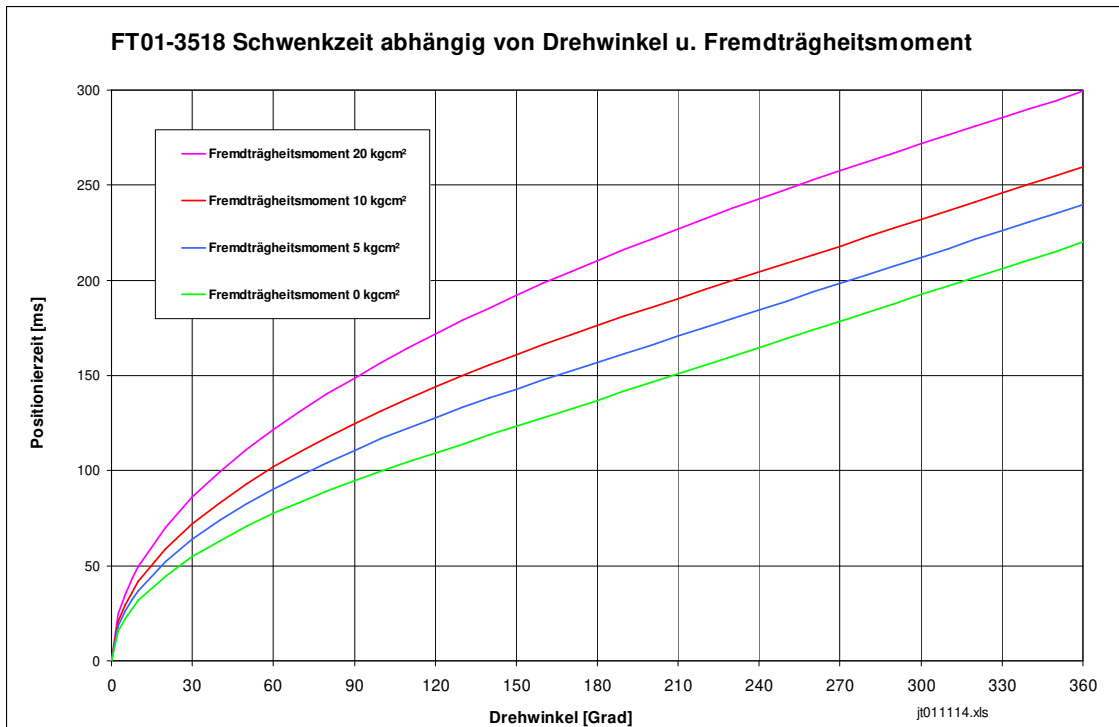
## Mounting *ForTorque*® Swivelling-Rotary Modules FT01

Module Type	FT01-2520	FT01-25L20	FT01-3518	FT01-35L18	FT01-4550
<b>Mounting Instruction</b>					
	<p>Suitable clamping flanges are available. Clamping may only be done in the specified clamping ranges!</p>				

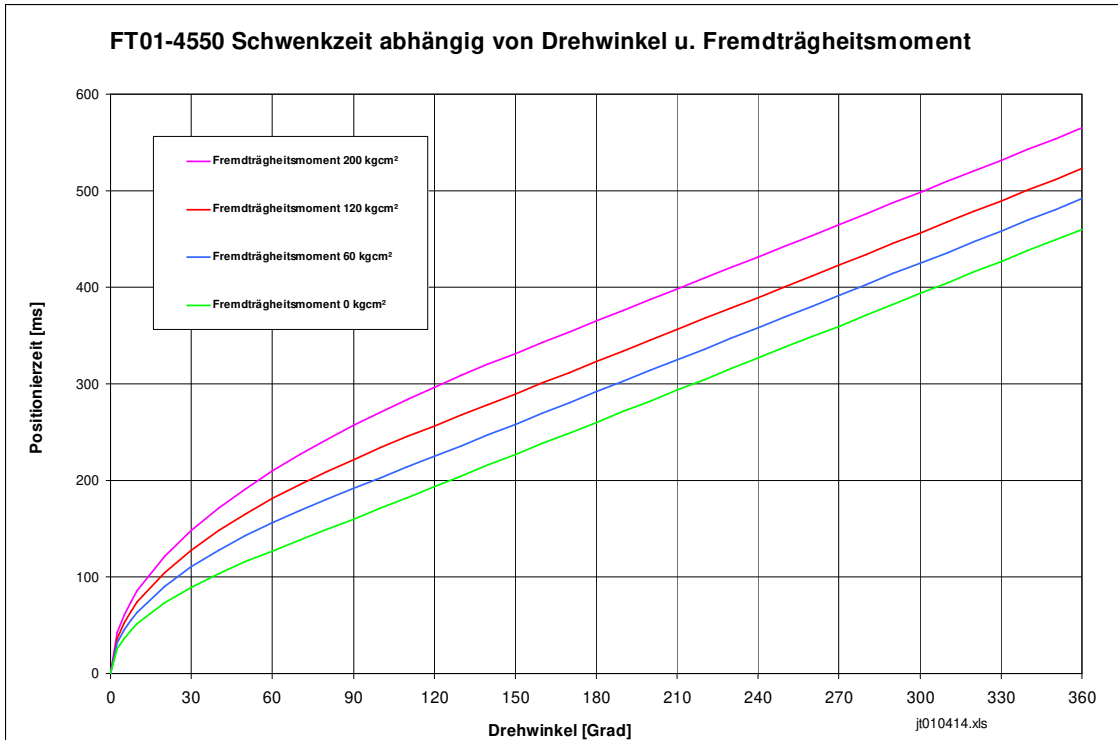
Dynamic Data *ForTorque*® Swivelling-Rotary Modules FT01-25



Dynamic Data *ForTorque*® Swivelling-Rotary Modules FT01-35



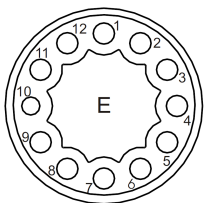
Dynamic Data *ForTorque*® Swivelling-Rotary Modules FT01-45



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

Module Type	FT01-2520	FT01-25L20	FT01-3518	FT01-35L18	FT01-4550
<b>Technical Data</b>					
torque constant of motor [mNm/A]	32,4	36,9	42,1	43,5	20,1
max. phase current [A]	1,6	1,3	5,4	5,1	8,0
const. phase current [A]	0,54	0,85	1,2	2,0	2,5
max. DC-bus voltage [VDC]	75				
connector servo motor	12-pin connector with bayonet				
home switch connector	optional				M8 connector

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 & Switching Distance		
M8 connector 3-pin (m)		
Contact-No.	Signal	switching distance for AD14 0,1 mm
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		
FAULHABER	LinMot	TECHNOSOFT

## Accessories & Options

- adaptors for our *HighDynamic*® modules and guides
- precision reference switch
- fluid and electric passages (on demand)
- 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 - ss211117.doc