



Fangtooth Inc  
11970 Mayfield  
Livonia, MI 48150  
(248) 798-4877  
[www.fang2th.com](http://www.fang2th.com)



## PRODUCT OVERVIEW

"Automation solutions with teeth"



## Fangtooth Linear Motion Systems and Mechanical Drive Solutions



Ball Screws & Screw Jacks

Electro-Mechanical Rod Style Cylinders

Servo & Industrial Gearboxes

Guided Rack FANGaxis

Linear Actuators – Gantry  
[ FINGLIDE ]

Automated SwitchFORKS



Our  
Specialty!  
**CUSTOM**  
**ENGINEERED**  
**PRODUCTS/SYSTEMS**

# Fangtooth Linear Motion Systems and Mechanical Drive Solutions

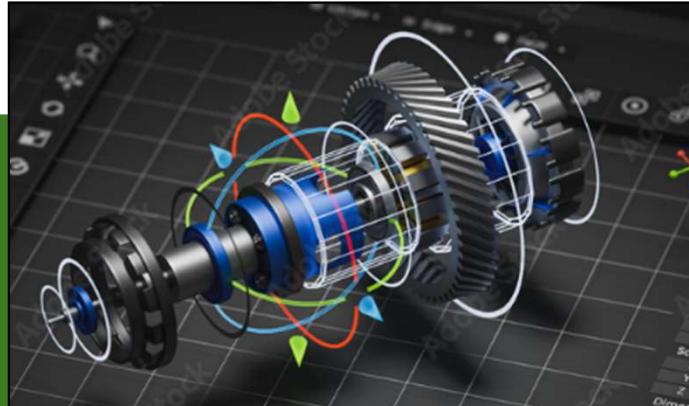
[www.fangtooth-linear.com](http://www.fangtooth-linear.com)

## Company Overview



### ASK an Engineer

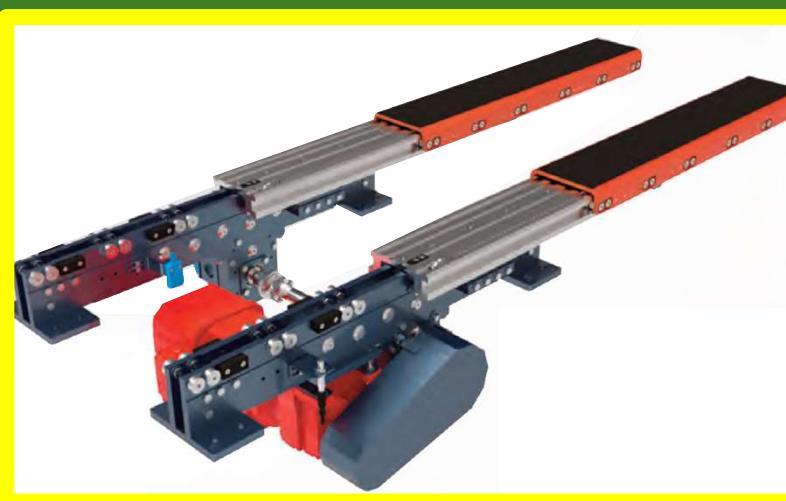
Request a virtual or in person consultation with one of our engineers to review your specific requirements



### Product & System Sizing

Receive detailed sizing report with the Fangtooth CALCasD tools and reporting methods showing service factors, loads, fatigue life and torque requirements.

APPLICATION SIZING INFORMATION		BELT SYSTEMS																																									
File: 24GEN0222_CALCasd CALculated Application Sizing Data		Note: application will require Max Belt Force of 398.4 lbs is rated for running force of 1250 lbs																																									
Customer: GEN Date																																											
<b>Input Data BELT &amp; PULLEY</b>																																											
Moving weight 589.676 [kg]		Additional force 0.000 [N]																																									
Diameter of pinion(s) 89.130 [mm]		Additional torque 0.00 [Nm]																																									
Moment of inertia (pinion) 0.0026780 [kgm^2]		Axis slope 0.000 [°]																																									
Efficiency 0.920 [-]		Counterbalance (relative) 0.000 [-]																																									
Coefficient of friction 0.150 [-]		Counterforce (hyd/pneum.) 0.000 [-]																																									
<b>Gearing Data</b>																																											
Input data for gear 1																																											
Name/type		Moment of inertia 0.1300000 [kgcm^2]																																									
Translation ratio 8.00		Efficiency 0.900																																									
<b>Drive Data</b>																																											
Maximum value of moving weight 589.676 [kg]		Resulting moments of inertia 0.0183536 [kgm^2]																																									
Ratio J ext / J motor 9.3																																											
motion profile on the motor side																																											
Cycle time 7.000 [s]		Maximum acceleration 538.538 [rad/s^2]																																									
max. torque (with motor inertia) 18.83 [Nm]		max. torque (without motor inertia) 17.77 [Nm]																																									
effective torque (with motor inertia) 4.90 [Nm]		effective torque (without motor inertia) 4.68 [Nm]																																									
maximum 1726.76 [1/min]		Average speed 410.53 [1/min]																																									
<b>Motion Profile</b>																																											
<table border="1"><thead><tr><th>Phase type / direction</th><th>Distance [m]</th><th>Time [s]</th><th>Accel. [m/s^2]</th><th>Start speed [m/s]</th><th>End speed [m/s]</th><th>Total mass [kg]</th><th>Proc. force [N]</th></tr></thead><tbody><tr><td>Acceleration/Forward</td><td>0.169</td><td>0.336</td><td>3.000</td><td>0.000</td><td>1.007</td><td>589.676</td><td>0.000</td></tr><tr><td>Constant/Forward</td><td>1.338</td><td>1.328</td><td>0.000</td><td>1.007</td><td>1.007</td><td>589.676</td><td>0.000</td></tr><tr><td>Deceleration/Forward</td><td>0.169</td><td>0.336</td><td>-3.000</td><td>1.007</td><td>0.000</td><td>589.676</td><td>0.000</td></tr><tr><td>Dwell/Forward</td><td>0.000</td><td>5.000</td><td>0.000</td><td>0.000</td><td>0.000</td><td>589.676</td><td>0.000</td></tr></tbody></table>				Phase type / direction	Distance [m]	Time [s]	Accel. [m/s^2]	Start speed [m/s]	End speed [m/s]	Total mass [kg]	Proc. force [N]	Acceleration/Forward	0.169	0.336	3.000	0.000	1.007	589.676	0.000	Constant/Forward	1.338	1.328	0.000	1.007	1.007	589.676	0.000	Deceleration/Forward	0.169	0.336	-3.000	1.007	0.000	589.676	0.000	Dwell/Forward	0.000	5.000	0.000	0.000	0.000	589.676	0.000
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GOTO [www.f2fast.com](http://www.f2fast.com)  
AND CHECK OUR  
Ball Screw Inventory



Our  
Specialty!  
**CUSTOM  
ENGINEERED  
PRODUCTS/SYSTEMS**

FANGTOOTH ENGINEERS COMBINE MANY FANGTOOTH PRODUCTS INTO CUSTOM SOLUTIONS CREATING A VALUE RARELY SEEN IN MOTION CONTROL SYSTEMS SAVING ENGINEERING COSTS

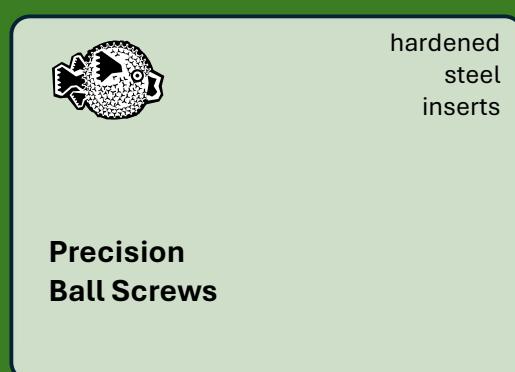
- Bespoke Mounting & Adaption
- Custom Engineered SYSTEMS
- Custom Engineered COMPONENTS
- Custom CAD concepts
- Online CAD Library
- Strategic Control Panels
- Fabricated Steel Structures
- Extruded Aluminum Structures
- CALCasD - Calc Application Sizing Data sheets to determine L10 Life's, Torque/Load Requirements & Motor Needs (Speed / Torque / Precision)

Other Configured Products  
Are Available with Delivery  
2-4 weeks

# Fangtooth Linear Ball Screws

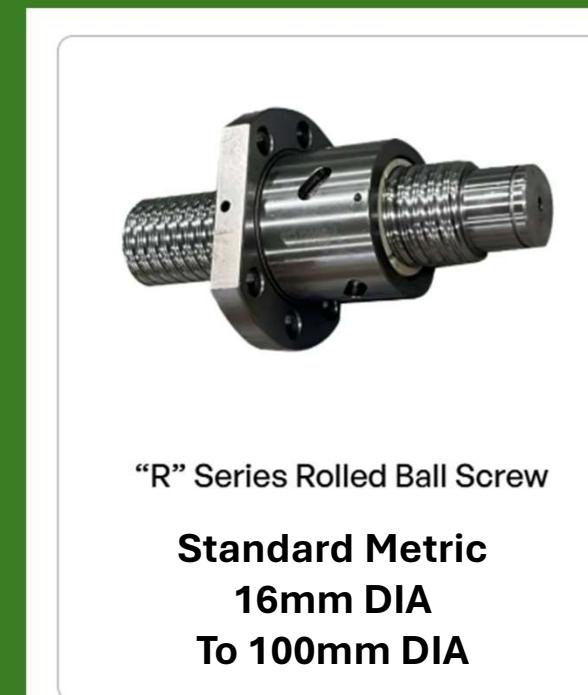
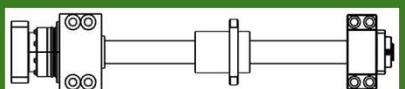
[www.fangtooth-linear.com](http://www.fangtooth-linear.com)

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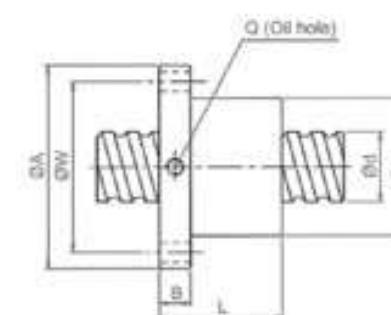
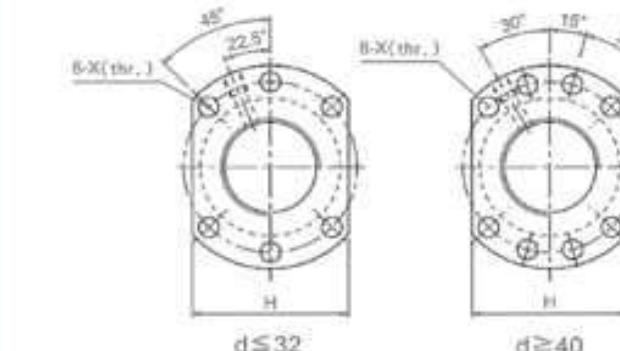
LEFT HAND THREAD AVAILABLE

PERFECT MOTOT MOUNT  
SYSTEM



REF: F2BS-50001-F2RFU\_Datasheet

## BALL SCREW – FLANGED UNIT Series: F2RFU



Units: mm

Basic Model	Ball Circle Dia	[d]	Lead	[D]	[A] [B]	[L]	[W]	[X]	[H]	[Q]	[C <sub>app</sub> ]	[C <sub>g</sub> ]
F2RFU1605-4	16 mm	5 mm	28	48 10	50	38	5.5	40	M6	1720 lbs	3946 lbs	
F2RFU1610-3	16 mm	10 mm	28	48 10	47	38	5.5	40	M6	1590 lbs	2754 lbs	
F2RFU2005-4	20 mm	5 mm	36	58 10	51	47	6.6	44	M6	2492 lbs	5248 lbs	
F2RFU2010-3	20 mm	10 mm	36	58 10	57	47	6.6	40	M6	1841 lbs	3704 lbs	
F2RFU2505-4	25 mm	5 mm	40	62 10	51	51	6.6	48	M6	2822 lbs	6858 lbs	
F2RFU2510-4	25 mm	10 mm	40	62 10	85	51	9.0	48	M6	4287 lbs	8549 lbs	
F2RFU3205-4	32 mm	5 mm	50	80 12	52	65	9.0	62	M6	3197 lbs	9151 lbs	
F2RFU3210-4	32 mm	10 mm	50	80 12	85	65	9.0	62	M8	7475 lbs	15810 lbs	
F2RFU4005-4	40 mm	5 mm	63	93 12	55	78	9.0	70	M8	3550 lbs	11753 lbs	
F2RFU4010-4	40 mm	10 mm	63	93 14	93	78	9.0	70	M8	8622 lbs	20992 lbs	
F2RFU5005-4	50 mm	5 mm	75	110 14	55	93	11.0	85	M8	3815 lbs	14912 lbs	
F2RFU5010-4	50 mm	10 mm	75	110 15	93	93	11.0	85	M8	9812 lbs	27563 lbs	
F2RFU5020-4	50 mm	20 mm	75	110 16	138	93	11.0	85	M8	10240 lbs	31591 lbs	
F2RFU6310-4	63 mm	10 mm	90	125 18	98	108	11.0	95	M8	11179 lbs	35280 lbs	
F2RFU6320-4	63 mm	20 mm	95	135 20	149	115	13.5	100	M8	16698 lbs	52589 lbs	
F2RFU8010-4	80 mm	10 mm	105	145 20	98	125	13.5	110	M8	12392 lbs	46967 lbs	
F2RFU8020-4	80 mm	20 mm	125	165 25	154	145	13.5	130	M8	18709 lbs	68123 lbs	
F2RFU10020-4	100 mm	20 mm	150	202 30	180	170	17.5	155	M8	20771 lbs	86399 lbs	



Designated ship Fangtooth fast items  
see [www.f2fast.com](http://www.f2fast.com)

PH 248.798.4877 MAIL [sales@fang2th.com](mailto:sales@fang2th.com)  
[www.fangtooth-linear.com](http://www.fangtooth-linear.com)

INSPIRE GREAT AUTOMATION





### Servo Gearboxes & Industrial Gear Reducers

Ultra Light		<b>GhostDrive "GhD"</b>
Ultra Quiet		<b>IronDrive "FeD"</b>
Up to 175,000 in-lbs		<b>HeavyDrive "HvD"</b>
Ultra Light		<b>Conveyor Series "CvK"</b>
Ultra Light		<b>SideCAR Series "CaR"</b>
Standard Steel 400 Series Stainless Option		<b>Spiral Bevel "SpB"</b>
300 Stainless		<b>IP69 Worm SS "69K"</b>

### OTHER PRODUCTS AVAILABLE

- GEARMOTORS
- BRAKEMOTORS
- INLINE PLANETARY
- HYPOID



Servo Worm Gearbox "GhD"  
Ghost Drive Series



**Ultra Light  
Ultra Quiet**



Servo Worm Gearbox "FeD"  
IronDrive Series



**Ultra Quiet**



Servo & Nema Worm Gearbox  
"HvD" Heavy Series

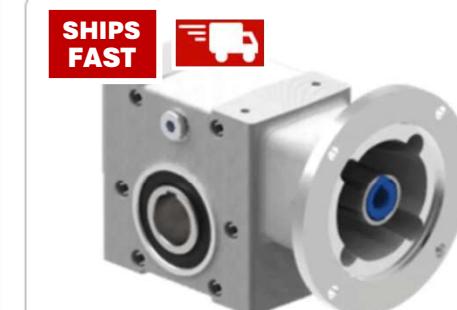


**Up to 175,000 in-lbs**



IEC/Servo/Nema Gearmoto  
"CaR" SideCAR Series

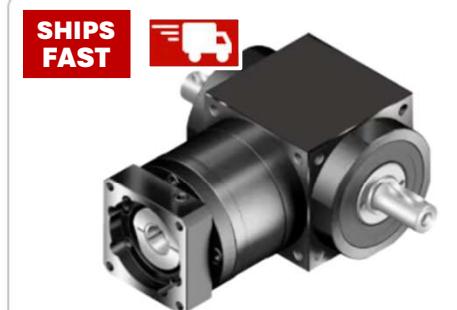
**Ultra Light**



Nema Worm Gearbox "CvK"  
Conveyor Series



**Ultra Light**



Spiral Bevel "SpB" Series



**400 Stainless Available with  
5 Year Warranty**

**Standard Options  
Are Available with Delivery  
2-4 weeks**



**BALLSCREWS  
GEARBOXES**   **SHIPS  
FAST**   **SCREWJACKS  
MOVITRIX**  
AUTOMATION



IP69" Worm "69K"  
Stainless Series



**300 Stainless**

**ASK ABOUT**  
**CUSTOM  
ENGINEERED  
PRODUCTS**



# Fangtooth Inc

## Linear Actuators / Gantry / Systems

[www.fangtooth-linear.com](http://www.fangtooth-linear.com)

[www.f2fast.com](http://www.f2fast.com)

### Origin Series

Single & Dual Linear Guides  
HIGH RIGIDITY



Ball Screw &  
Belt Driven

### Matrix Series

Integrated Guides  
ULTRA LIGHT



Ball Screw

SHIPS  
FAST



Synchronous Reverse

### Epoch Series

Single & Dual Linear Guides  
ECONOMY



Ball Screw &  
Belt Driven

SHIPS  
FAST



Belt Driven  
Unguided Options

SHIPS  
FAST

### Origin Series "W" & "N"

Widths 60mm, 80mm, 120mm, 160mm  
Payloads Up to 3100 lbs  
TRAVEL: Ball Screw Up to 3000mm (10ft), Belt to 5850mm (19ft)



Our  
Specialty!  
CUSTOM  
ENGINEERED  
PRODUCTS/SYSTEMS

### Matrix Series "MLU" & "MTU"

Widths 52mm, 80mm, 120mm  
Payloads Up to 143 lbs  
TRAVEL: Up to 1250mm (4ft)

### Epoch Series "WEX" & "NEX"

Widths 110mm, 170mm, 220mm  
Payloads Up to 440 lbs  
TRAVEL: Ball Screw Up to 2400mm (8ft), Belt to 4800mm (16ft)

### Movitrix Series "MVX-B" & "MVX-C" & "MVX-LG"

Widths 28mm, 40mm, 80mm, 105mm, 164mm  
Payloads Up to 6000 lbs  
TRAVEL: Up to 30m+ (100ft+)

### Movitrix Series

CAM & Linear Guided



### FangBOT Series

Multi-Axis Systems

Standard &  
Custom Solutions

Cable Track Included

Movitrix "M2BT-XX"  
FangBOT "F2BT-XX"



Movitrix "M2BT-XY"  
FangBOT "F2BT-XY"



Movitrix "M2BT-XZ"  
FangBOT "F2BT-XZ"



Movitrix "M3BT-XYZ"  
FangBOT "F2BT-XYZ"

# Fangtooth Inc [ BIG-E and BIG-A ]

## Electro-Mechanical Rod Style Actuators

[www.fangtooth-linear.com](http://www.fangtooth-linear.com)

[www.f2fast.com](http://www.f2fast.com)



BIG-E and BIG-A  
Electro-Mechanical  
Rod Style Actuators

**"EF" Force Series**  
**8500 lbs Continuous**



**EF Series**

2.2 m/s Max  
Strokes from 50 mm  
to 1000 mm Stroke

**"EM" Motorized Series**  
**650 lbs Continuous**

Stepper & Brushless  
Options & Drives



**EM Series**

1.5 m/s Max  
Strokes from 50 mm  
to 500 mm Stroke

**"ETHU20" High Thrust**  
**4400 lbs Continuous**



Compact Planetary  
Roller Screw

**ETHU Series**

0.42 m/s Max  
Strokes from 50 mm  
to 800 mm Stroke

**"ETU" Matrix Guided Rod**  
**1800 lbs Continuous**



**ETU Series**

1.2 m/s Max  
Strokes from 50 mm  
to 800 mm Stroke

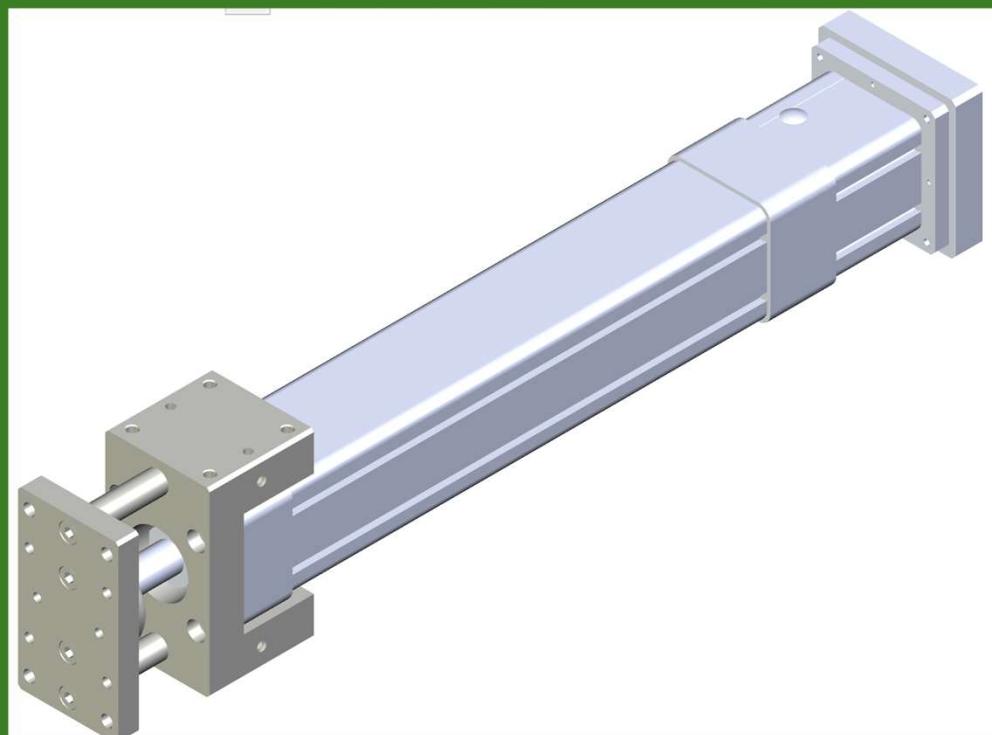
**"BIG-A" Automotive Duty**  
**12000 lbs Continuous**  
**60000 lbs Max**



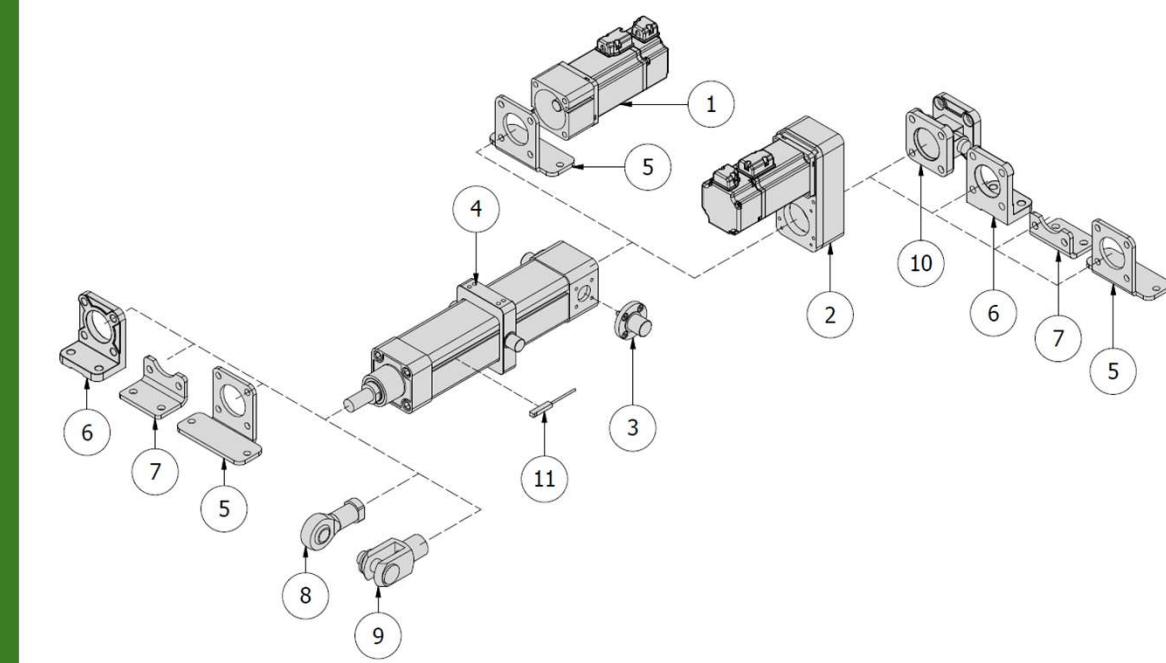
**BIG-A Series**

1 m/s Max  
Strokes from 50 mm  
to 2000 mm Stroke

## H-Guide Assemblies Available



## Accessories





Neptune Planetary Lift

Lift Up To 19 Tons



**19<sup>+</sup> Tons**



**5 Tons**



Triton Ball Screw Lift

Lift Up To 5 Tons



fangOPEN Standard  
Rack Axis



fangMAX Heavy Rack Axis



Screw Jack COMBIKITS

**20 Tons**

**800 lbs**

**2500 lbs**

**If the standard doesn't  
meet your requirement**

**Ask us anyway.  
We always have a way!**



Our  
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**CUSTOM  
ENGINEERED  
PRODUCTS**

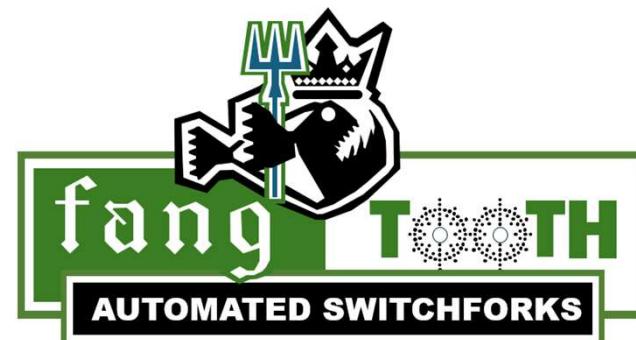
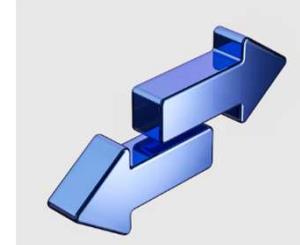


Standard Screw Jack Options - IN STOCK  
Additional Available with Delivery  
2-4 weeks

# Fangtooth Inc

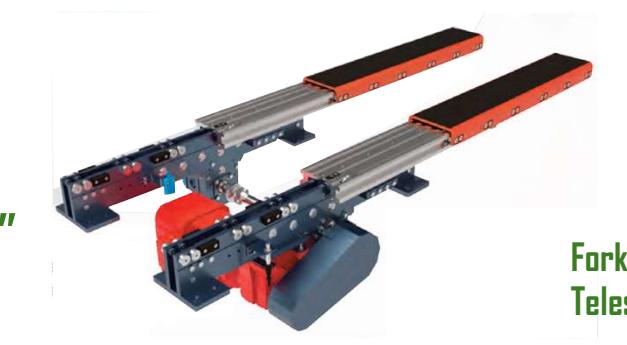
## Automated SwitchFORKS

BI-DIRECTIONAL



**A1**

FANGTOOTH SWITCHFORK  
ASF-A1 SERIES "A-II-TELE01"  
STANDARD LOAD



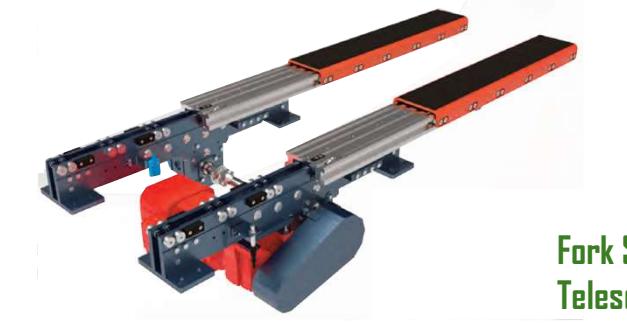
Fork Set = II Forks  
Telescopic Depth = 1

**"A1" Series**

Up to 1500 kg = 3300 lbs  
Stokes Up to 2100 mm = 6.9 feet  
Short Stroke Deflections as low as 12mm weight dependent  
Long Stroke Deflections as low as 23mm- 64mm weight dependent

**T1**

FANGTOOTH SWITCHFORK  
ASF-T1 SERIES "T-II-TELE01"  
HEAVY LOAD



Fork Set = II Forks  
Telescopic Depth = 1

**"T1" Series**

Up to 4000 kg = 8800 lbs  
Stokes Up to 2900 mm = 9.5 feet  
Short Stroke Deflections as low as 4mm weight dependent  
Long Stroke Deflections as low as 9mm- 36mm weight dependent

**Z2**

FANGTOOTH SWITCHFORK  
ASF-Z2 SERIES "Z-II-TELE02"  
STANDARD LOAD



Fork Set = II Forks  
Telescopic Depth = 2

**"Z2" Series**

Up to 2000 kg = 4400 lbs  
Stokes Up to 3300 mm = 10.8 feet  
Short Stroke Deflections as low as 12mm weight dependent  
Long Stroke Deflections as low as 24mm- 55mm weight dependent

**R3**

FANGTOOTH SWITCHFORK  
ASF-R3 SERIES "R-II-TELE03"  
STANDARD LOAD



Fork Set = II Forks  
Telescopic Depth = 3

**"R3" Series**

Up to 1200 kg = 2645 lbs  
Stokes Up to 3750 mm = 12.3 feet  
Short Stroke Deflections as low as 8mm weight dependent  
Long Stroke Deflections as low as 27mm- 62mm weight dependent

**X**

FANGTOOTH SWITCHFORK  
ASF-X SERIES  
SCISSOR LIFT



Combination Scissor Lift  
Automated Switch Forks  
Standard Option

**If the standard doesn't meet your requirement**

**Ask us anyway.  
We always have a way!**