

Low-cost automation

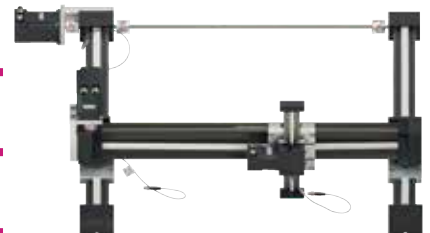
Multi-axis linear gantry robots

Delta robots

Articulated robots

Rotary axes

Motor control systems



drylin® automation | Product overview

drylin® – multi-axis linear robots



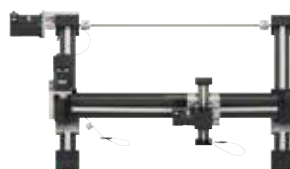
X-Y robot:
for vertical working planes
DLE-LG

► Page 1670



X-X-Y robot:
for predefined surfaces
DLE-FG

► Page 1672



X-X-Y-Z robot:
for three dimensional
applications – DLE-RG

► Page 1674

robolink® – polymer-based robot arm



**Robot arm with integrated
control system:**
robolink® RL-DP

► Page 1682



**Robot arm available in
8 versions:**
robolink® RL-DP

► Page 1683

robolink® – rotary axes



**Rotary axis with one PRT
slewing ring, with ball
bearings:** robolink® D

► Page 1690



**Components with
DC motor:**
robolink® D

► Page 1692



**Robot joint
gear version:**
robolink® D

► Page 1693



**Calculate and configure
robot arms:**
robolink® designer

► Page 1694

drylin® – delta robots – lift/swivel unit



Delta robots

► Page 1676



Lift/swivel unit,
linear and rotating:
drylin® HSQ

► Page 1678



Torque-resistant linear
module, controlled separately:
drylin® SLQ

► Page 1679



Linear actuator:
drylin® QLA

► Page 1680

robolink® – rotary axes



Rotary axis with two PRT
slewing rings, with plain
bearings: robolink® D

► Page 1686



Rotary axis with one PRT
slewing ring, with plain
bearings: robolink® D

► Page 1687



Rotary axis with two PRT
slewing rings, with ball
bearings: robolink® D

► Page 1688



Rotary axis with one PRT
slewing ring, with ball
bearings: robolink® D

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robolink® – Apiro®



Worm gear joints:
robolink® Apiro®

► Page 1696



Cantilever system
for z-axis:
robolink® Apiro®

► Page 1698



Accessories:
robolink® Apiro®

► Page 1699

Low-cost automation kit

drylin® linear robots/gantries are systems that run in predefined workspaces. Our drylin® linear robots are based on drylin® self-lubricating linear guides.

Typical application areas are automated for pick and place, measuring and testing, marking devices, and automated assembly cells.

- Maintenance-free dry operation
- Quiet operation
- Resistance to dust and dirt
- Corrosion-free
- Standard product range available within 24hrs
- Rapid return of investment

Self-lubricating drylin® W profile guides

Drive: Lead screw, timing belt or rack

Assembly accessories included for the linear robot setup

drylin® drive units with defined stroke lengths

Ready-to-install with NEMA stepper motors

Optional motor encoder



Available from stock

Detailed information about delivery time online.



Price breaks online

No minimum order value.
No minimum order quantity.

drylin® | Low-cost automation | Product overview

Ready-to-install linear robots available from stock in 24hrs

Toolmakers and their suppliers are facing major global challenges. The competition is becoming more intense, the price pressure is becoming greater, including the demand for local production. We offer complete cost-effective systems that automate tasks in order to produce faster and more effectively.



Multi-axis linear robots

- Pre-configured assembly kits available from stock
 - 3 different linear robot structures: line/flat/room
 - For workspaces of up to 500 x 500 x 100mm
- From page 1670



Delta robots

- For a workspace of up to Ø 360 and Ø 660mm
 - Kit or pre-installed kinematics
 - dryve motor control system available
- From Page 1676



Lead screw motors

- Precise and efficient
 - Compact structure, variable lead screw leads
 - Stepper motors with/without encoder
- From Page 1649



Cantilever axis

- As z-axis for linear robot structures
 - For pick & place applications
 - With toothed belt or rack
- From Page 1643

igus® motor control systems



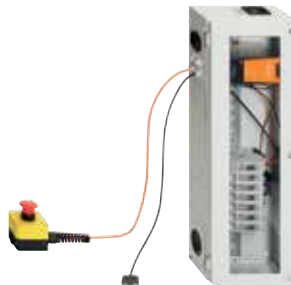
D1 dryve

- Motor control for stepper motors
- From Page 1746



D3 dryve

- Motor control for DC motors
- From Page 1747



Robot Control

- Motor control system for linear robots, delta robots and robolink® robot arms
- From Page 1745

drylin® | Low-cost automation | Product Range

Line robot – for vertical working planes



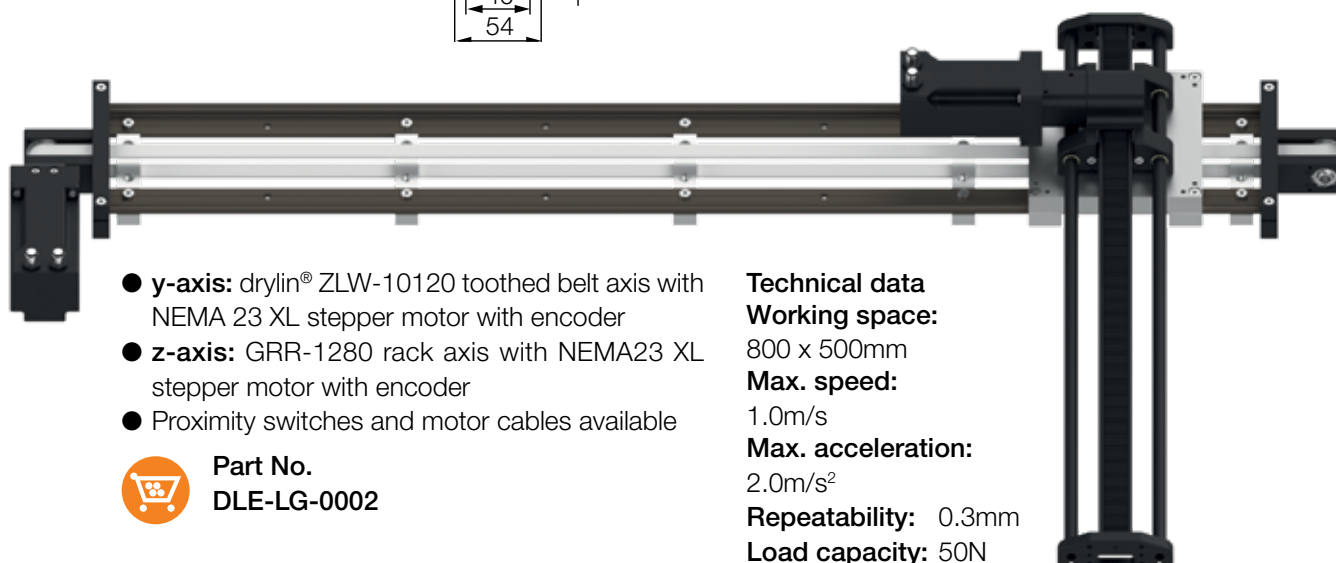
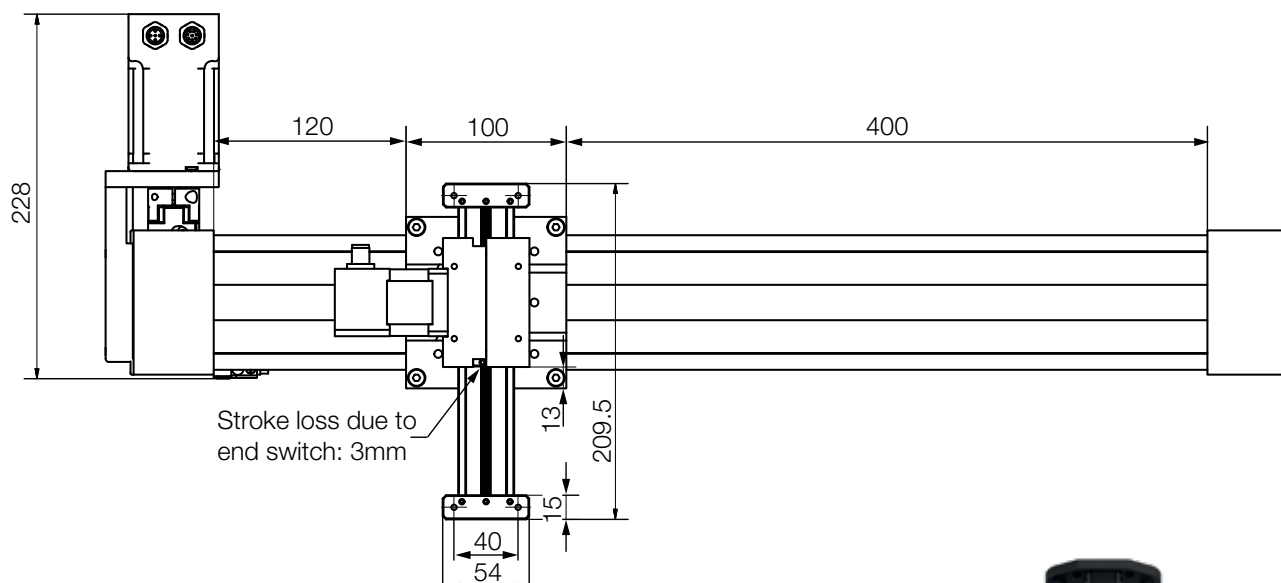
- **x-axis:** drylin® GRW-0630 rack and pinion drive with NEMA17 stepper motor with encoder
- **y-axis:** drylin® ZLW-1080 toothed belt axis with NEMA23 stepper motor with encoder
- Proximity switches available

Technical data

Workspace:	500 x 100mm
Max. speed:	1.0m/s
Max. acceleration:	3.0m/s ²
Repeatability:	0.2mm
Load capacity:	25N



Part No.
DLE-LG-0001



- **y-axis:** drylin® ZLW-10120 toothed belt axis with NEMA 23 XL stepper motor with encoder
- **z-axis:** GRR-1280 rack axis with NEMA23 XL stepper motor with encoder
- Proximity switches and motor cables available

Technical data

Working space:	800 x 500mm
Max. speed:	1.0m/s
Max. acceleration:	2.0m/s ²
Repeatability:	0.3mm
Load capacity:	50N



Part No.
DLE-LG-0002

drylin® | Low-cost automation | Product Range

Flat linear robot – for predefined surfaces



DLE-FG-0001

- **x-axis:** drylin® ZLW-0630 toothed belt axis with NEMA17 stepper motor with encoder
- **y-axis:** drylin® ZLW-0630 toothed belt axis with NEMA17 stepper motor with encoder
- Proximity switches available

Technical data

Workspace:	300 x 300mm
Max. speed:	1.5m/s
Max. acceleration:	10m/s ²
Repeatability:	0.3mm
Load capacity:	80N

DLE-FG-0002

- **x-axis:** drylin® ZLW-0630 toothed belt axis with NEMA17 stepper motor with stranded wire
- **y-axis:** drylin® ZLW-0630 toothed belt axis with NEMA17 stepper motor with stranded wire
- Proximity switches available

Technical data

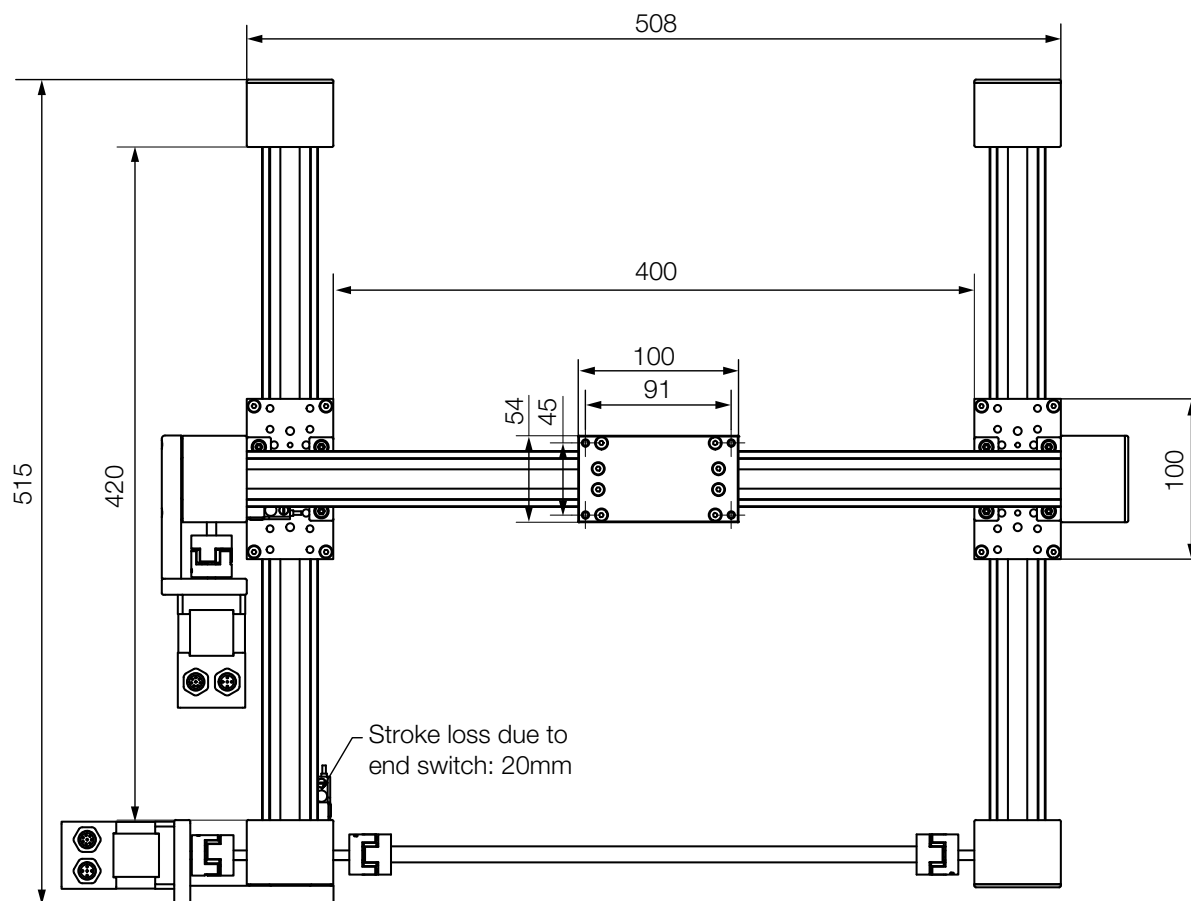
Workspace:	300 x 300mm
Max. speed:	1.5m/s
Max. acceleration:	10m/s ²
Repeatability:	0.3mm
Load capacity:	80N

DLE-FG-0003

- **x-axis:** drylin® ZLW-1040 econ toothed belt axis with NEMA23 stepper motor with stranded wire
- **y-axis:** drylin® ZLW-1040 econ toothed belt axis with NEMA17 stepper motor
- Proximity switches available

Technical data

Workspace:	500 x 500mm
Max. speed:	0.5m/s
Max. acceleration:	1m/s ²
Repeatability:	1mm
Load capacity:	10N



Part No.
DLE-FG-0001 version with encoder
DLE-FG-0002 version with stranded wires
DLE-FG-0003 econ version
► Page XXX

drylin® | Low-cost automation | Product Range

Room linear robot – for three dimensional applications



- **x-axis:** drylin® ZLW-1040 toothed belt axis with NEMA23 stepper motor with encoder
- **y-axis:** drylin® ZLW-1080 toothed belt axis with NEMA23 stepper motor with encoder
- **z-axis:** drylin® GRW cantilever axis with rack and pinion drive and NEMA17 stepper motor with encoder

DLE-RG-0002

- **x-axis:** drylin® ZLW-0630 toothed belt axis with NEMA23XL stepper motor with encoder
- **y-axis:** drylin® ZLW-0660 toothed belt axis with NEMA23 stepper motor with encoder
- **z-axis:** drylin® GRW-0630 cantilever axis with NEMA17 stepper motor with encoder

DLE-RG-0003

- **x-axis:** drylin® ZLW-1040 toothed belt axis with NEMA 23 XL stepper motor with encoder
- **y-axis:** drylin® ZLW-10120 toothed belt axis with NEMA 23 XL stepper motor with encoder
- **z-axis:** GRR-1280 rack axis with NEMA23 XL stepper motor with encoder

Technical data

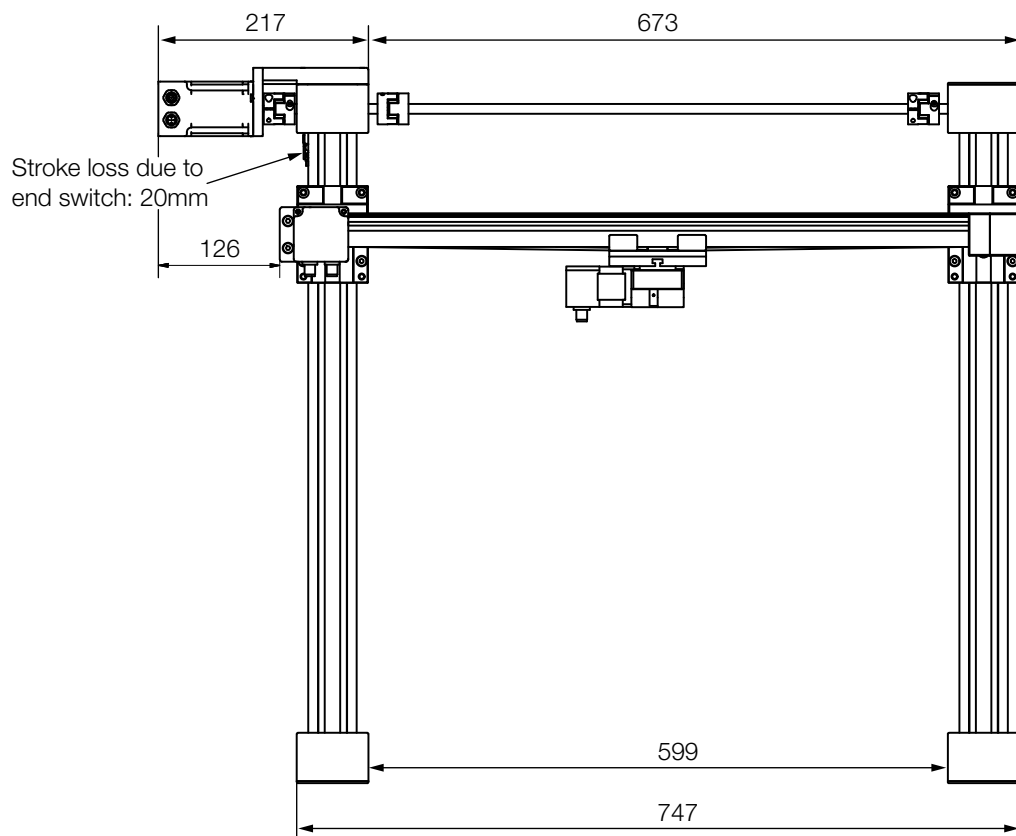
Workspace:	500 x 500 x 100mm
Max. speed:	0.5m/s
Max. acceleration:	1.5m/s ²
Repeatability:	0.8mm
Load capacity:	25N

Technical data

Workspace:	400 x 400 x 150mm
Max. speed:	0.5m/s
Max. acceleration:	1.5m/s ²
Repeatability:	0.8mm
Load capacity:	25N

Technical data

Workspace:	800 x 800 x 500mm
Max. speed:	0.5m/s
Max. acceleration:	1.5m/s ²
Repeatability:	0.8mm
Load capacity:	50N



Part No.
DLE-RG-0001
DLE-RG-0002
DLE-RG-0003

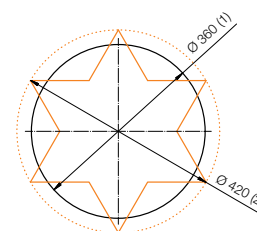
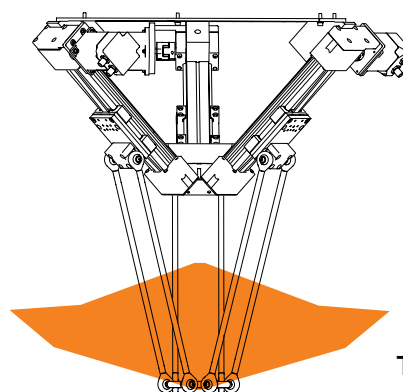
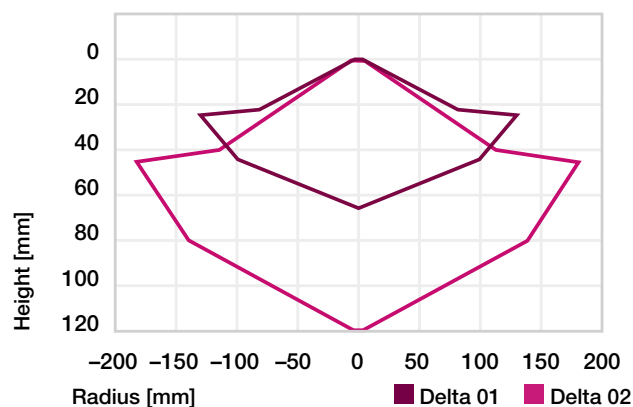
Delta robots



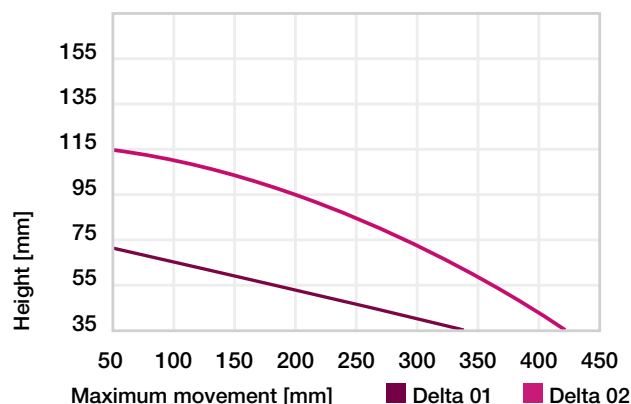
Delta robot consisting of:

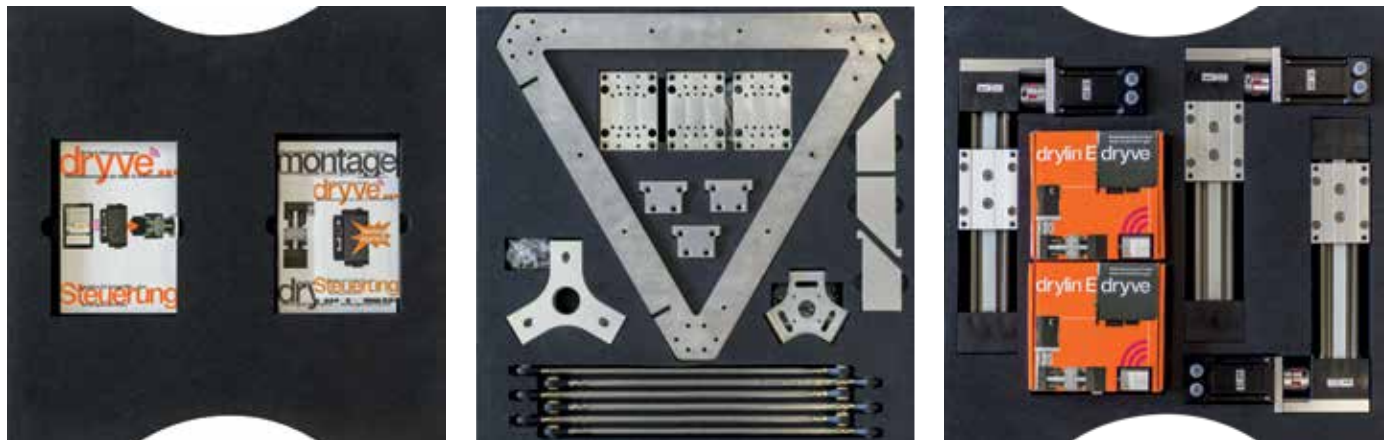
- 3 drylin® toothed belt axis with NEMA23XL stepper motor with encoder
- Lightweight igubal® delta kinematics
- Mounting brackets for mounting in a frame and possibilities of adaptation for grippers/motor: with or without D1 dryve stepper motor control units.
- As a construction kit or completely pre-assembled in a transport rack.
- Optional accessories: initiator kits, motor encoders and sensor cables

Technical data	Delta 01 DLE-DR-0001	Delta 02 DLE-DR-0050
Positioning accuracy	± 0.5mm	± 0.5mm
Working area diameter at 75mm	360mm	660mm
Max. payload	5kg	5kg
Max. process force at radius 0mm	100N	100N
Dynamics at 500g	Min. 60 picks/min	Max. 30 picks/min.
Mass	15kg	16kg
Max. track speed	3m/s	0.7m/s
Max. acceleration	60m/s ²	2m/s ²



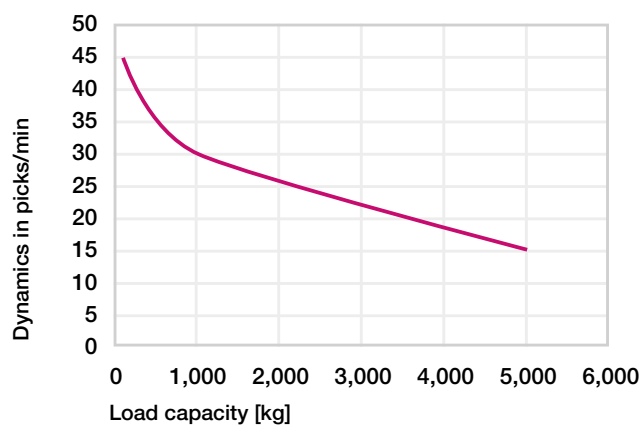
Travel at a height of 75mm



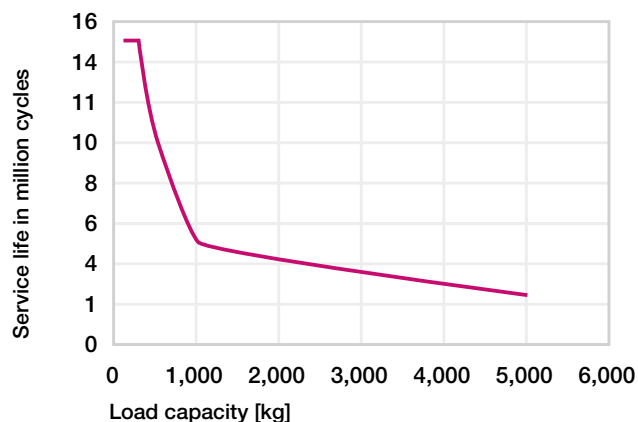


Optional accessories: initiator kits, motor encoders and sensor cables, calibrating pin, cable clip
► www.igus.com/delta-robot

Part No.		Description
Delta 01	Delta 02	
DLE-DR-0001	DLE-DR-0050	Delta robot, kit in compact transport box
DLE-DR-0002	DLE-DR-0051	Delta robot, pre-installed kinematics, in transport rack made of profiled rails
DLE-DR-0003	DLE-DR-0052	Delta robot, kit in compact transport box, incl. 3x D1 dryve stepper motor control units
DLE-DR-0004	DLE-DR-0053	Delta robot, pre-installed kinematics, in transport box made of profiled rails, incl. 3x D1 dryve stepper motor control units



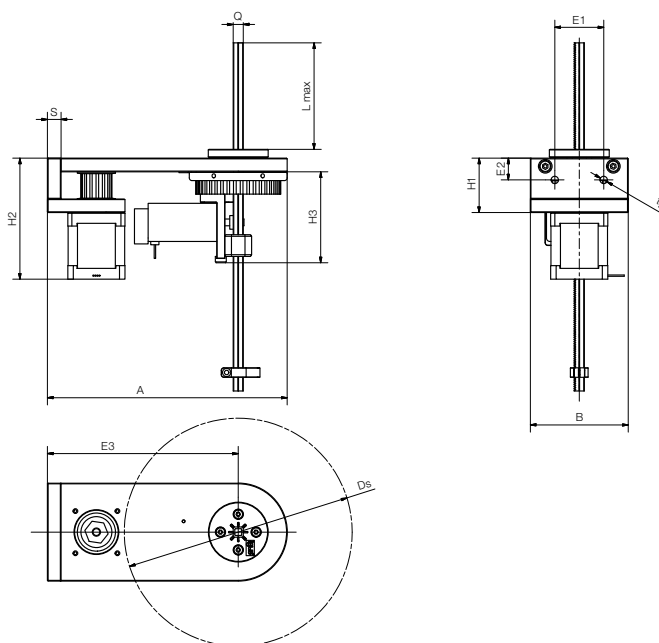
You can get the highest (picks/min) by using a master control system with path planning function. (e.g. Sinus acceleration ramp and optimized motor control parameters). Graph as shown applies to a load motor voltage of 48 [V] mounted in a stable and vibration-free frame.



drylin® HSQ | Lift/swivel units | Product Range

Compact, modular and self-lubricating

- Hard-anodized guide rail with integrated gear rack
- Combination with iglide® J low friction bearing materials
- Modular design
- Drive: NEMA11 stepper motor



i Further motors upon request/suitable initiators available

Dimensions [mm]

Part No.	F	vL	vR	Lmax.	(Ds)	A	B	H1	(H2)	(H3)	E1	E2	E3	Q	tg	S
	[g]			±0.15	±0.15		±0.15		±0.3						h9	
HSQ-10-1440-...	300	0.5	0.4	200	168	177	72	40	89	67	36	16	140	7.5	5.3	10

Order example
HSQ-10-1440-A-xxx-17-L-11-L
 (incl. stepper motor NEMA17/11 with stranded wire)
HSQ-10-1440-A-xxx-17-E-11-E
 (incl. stepper motor NEMA17/11 with encoder)

drylin® SLQ | Linear actuators | Product Range

Torque-resistant, controlled separately

drylin®
automation



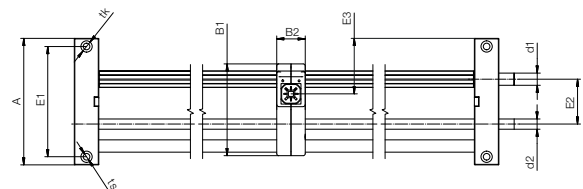
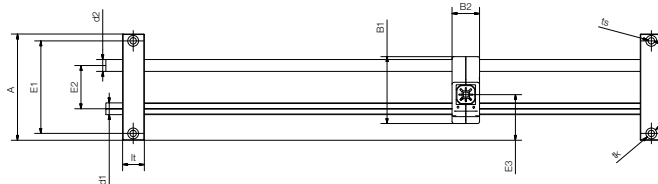
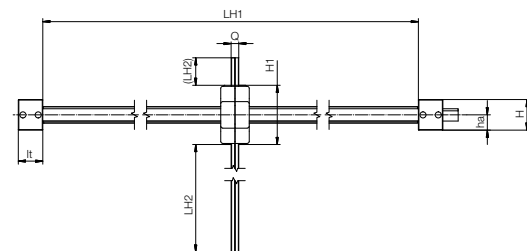
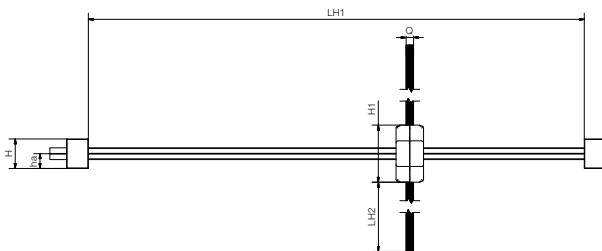
Torque-resistant, lubrication-free linear module. Low mass and compact.

One linear module with two directions of motion which can be controlled separately. This saves space and no unnecessary motor weight is moved. The linear guide is torque-resistant and compact and high speeds can be reached with low power.

- Quiet and lightweight
- No electronics in the working area
- Compact structure
- Corrosion-resistant

Typical application areas:

- Medical technology
- Pick & Place
- Gripper technology

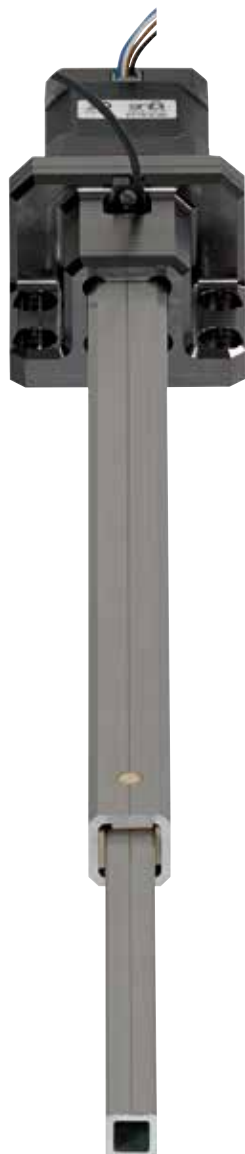


Dimensions [mm]

Part No.	Max. axial F [N]	LH1	LH2	H	H1	ha	A	E1	E2	E3	B1	B2	It	d1	d2	ts	tk
SLQ-1210-...	200	500	200	30	58	15	108	94	44	46.5	68	28	22	12	12	6.6	–
SLQ-121012-...	2	500	200	30	58	15	124	108	44	30.0	90	28	22	12	10	6.6	11

drylin® QLA | Linear actuator | Product Range

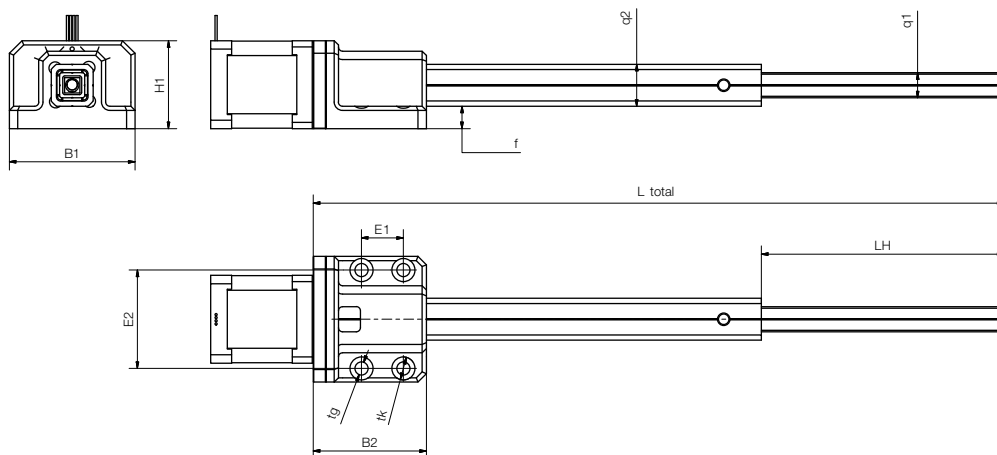
drylin® QLA linear actuator



- Extension lengths up to 300mm
- Max. compressive strength 100N
- Unsupported installation
- Accessories available (hand wheel, position indicator etc.)
- Ready-to-connect with drylin® motor kits

Typical application areas:

- Textile industry
- Actuators
- Windows
- Rehabilitation technologies
- Lane adjustments
- Inspection technology
- Medical and pharmaceutical technology



Dimensions [mm]

Part No.	Max. axial F [N]	LH	L Total	H1	B1	B2	E1	E2	Q1	Q2	tk	tg
QLA-2012-A	100	300	B2 + 2xLH	42	60	54	20	47	12	20	11	6.5