

drylin® Low Cost Automation

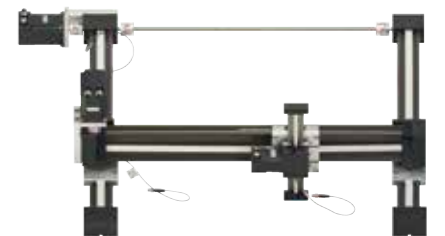
Multi-axis linear robots

Delta robots

Articulated robots

Rotary axes

Motor control systems



Low Cost Automation kit

Lubrication-free drylin® W profile guides

Drive: Lead screw, toothed belt or rack

Accessories included for the linear robot setup

drylin® drive units with defined stroke lengths

Ready-to-install with NEMA stepper motors

Machine reliability with encoder

Multi-axis linear robots are systems that run in predefined areas or "rooms". Our drylin® linear robots are based on proven tribo-technology, i.e. all systems use sliding self-lubricating linear units, so that a lifelong operation without external lubrication is possible. Typical application areas are automation for pick and place, measuring and test automation, assembly handling, marking devices, handling tasks in Low Cost Automation, autonomous assembly cells and everything on the subject of "end-of-the-line".

- Maintenance-free dry operation
- Quiet operation
- Resistance to dust and dirt
- Corrosion-free
- Standard product range available in within 24hrs
- Free consultation and installation at your premises

Typical application areas

- Pick & Place
- Measurement and testing
- Labelling technology
- Component marking
- Assembly cells
- Sorting machines
- Safety systems



Available from stock

Detailed information about delivery time online.

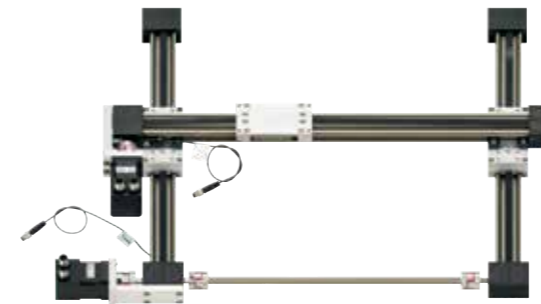


Price breaks online

No minimum order value. No minimum order quantity.

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 1470



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 1474



Lead screw motors

- Precise and efficient
 - Compact structure, variable lead screw pitches
 - Stepper motors with/without encoder
- From page 1447



Cantilever axis

- As z-axis for linear robot structures
 - For pick & place applications
 - With toothed belt or rack
- From page 1441

igus® motor control systems



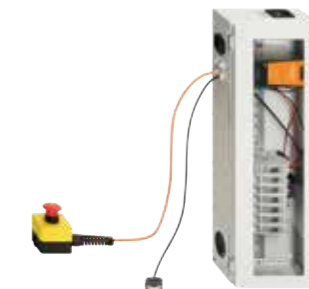
D1 dryve

- Motor control for stepper motors
- From page 1544



D3 dryve

- Motor control for DC motors
- From page 1545



Robot Control

- Motor control system for linear robots, delta robots and robolink® robot arms
- From page 1544

Line robot – for vertical working planes



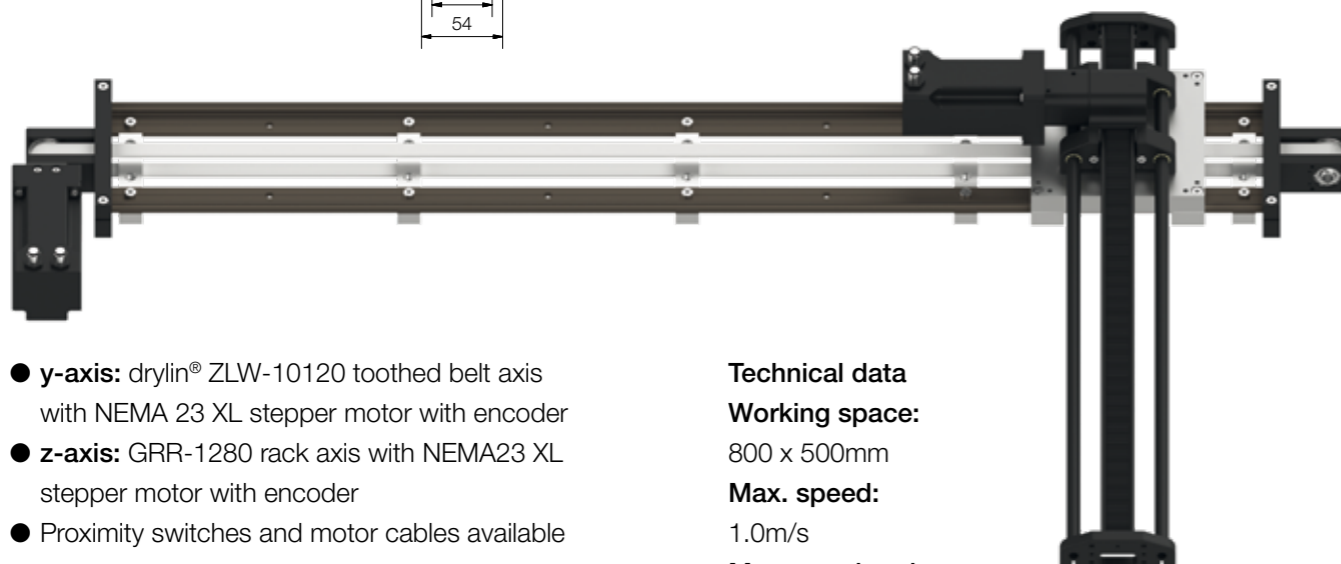
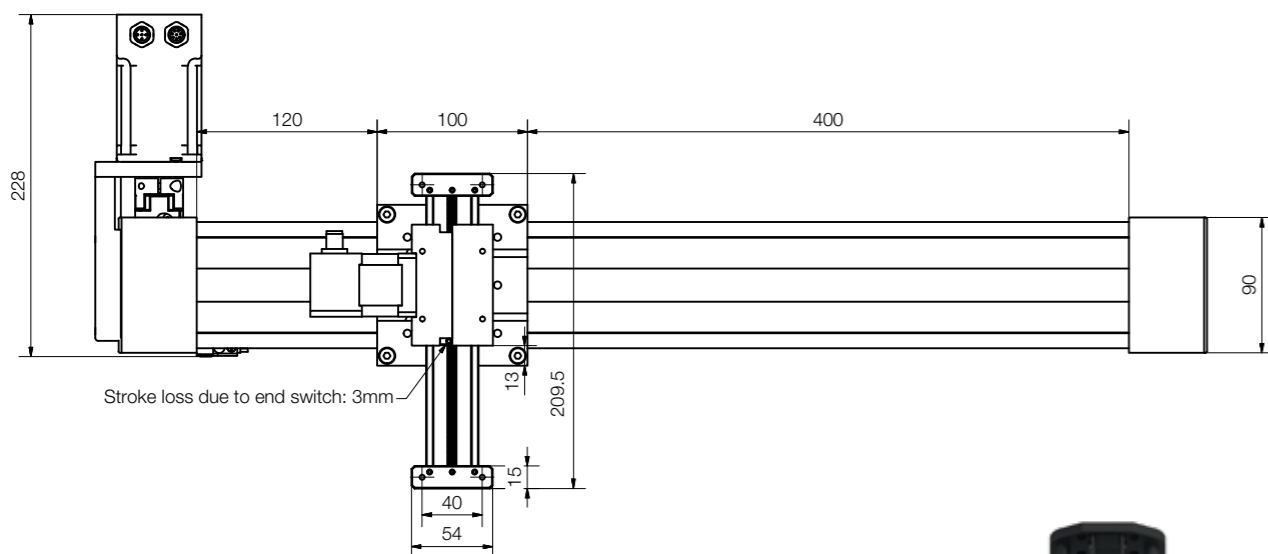
- **x-axis:** drylin® GRW-0630 rack and pinion drive with NEMA17 stepper motor with encoder
- **y-axis:** drylin® ZLW-1080 toothed belt axis with NEMA23 stepper motor with encoder
- Proximity switches available

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

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

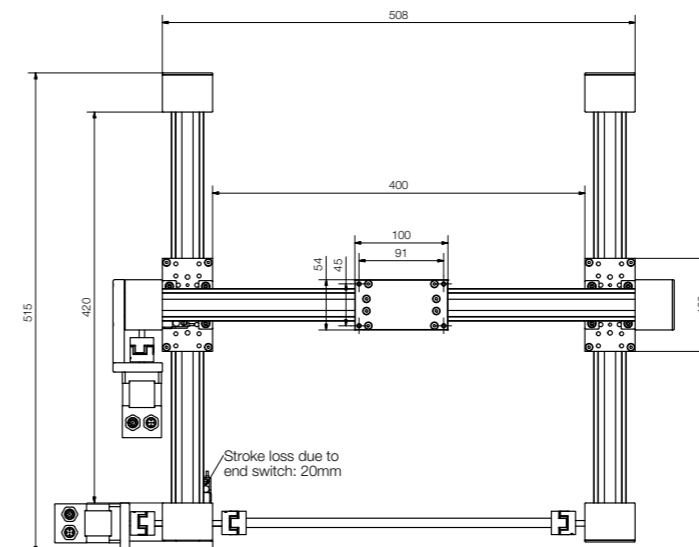
Workspace:	300 x 300mm
Max. speed:	1.5m/s
Max. acceleration:	10m/s ²
Repeatability:	0.3mm
Load capacity:	80N

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

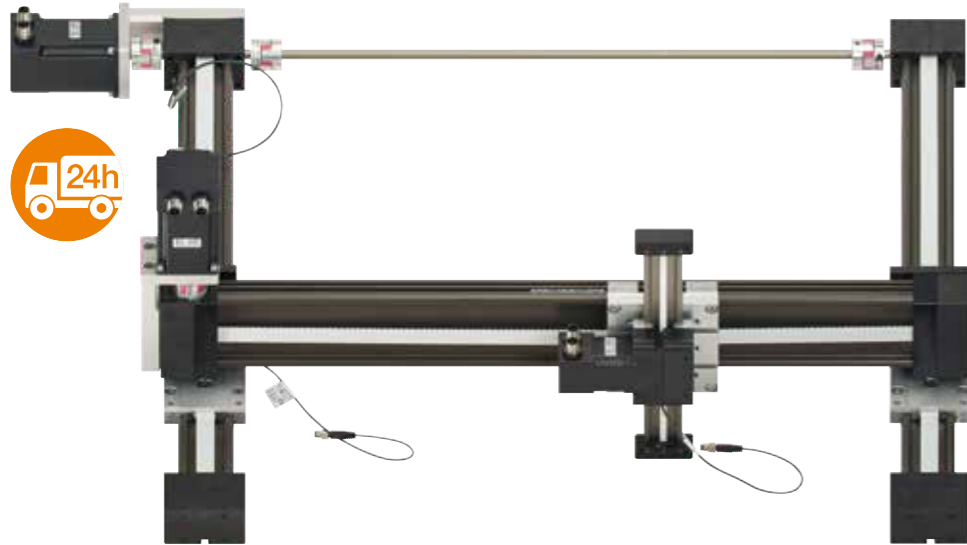
Technical data

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 1462

Room linear robot – for three dimensional applications



DLE-RG-0001

- **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

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

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

Technical data

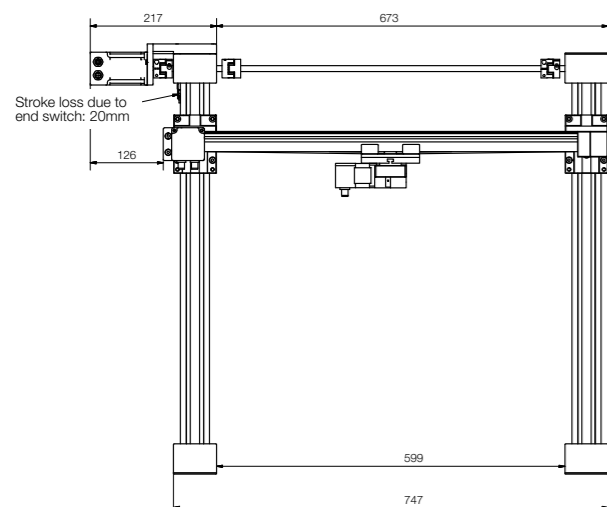
Workspace:	400 x 400 x 150mm
Max. speed:	0.5m/s
Max. acceleration:	1.5m/s ²
Repeatability:	0.8mm
Load capacity:	25N

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

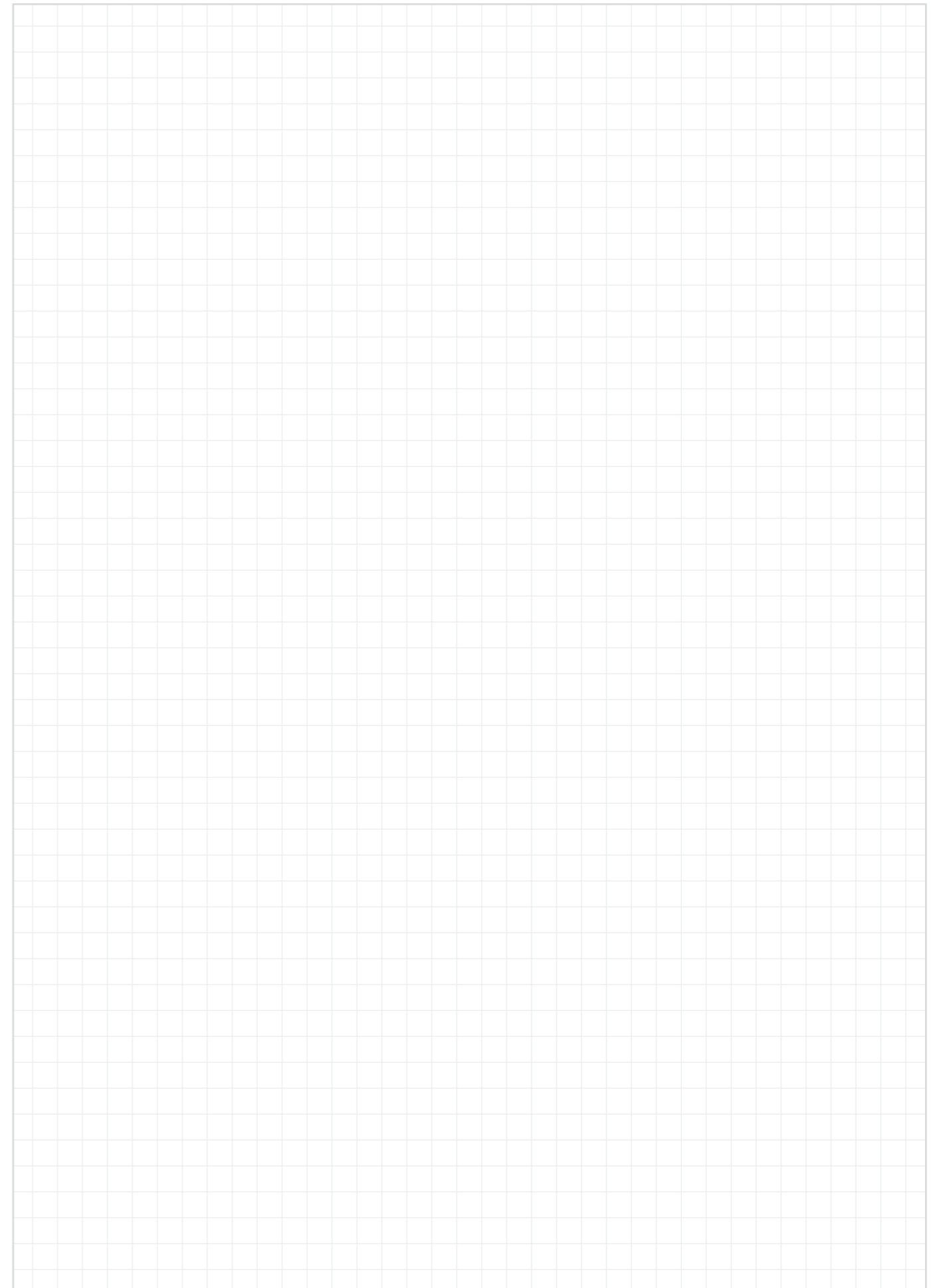
Technical data

Workspace:	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

My sketches



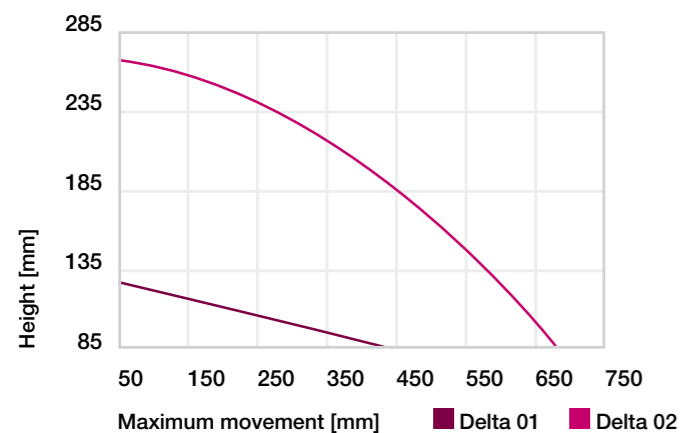
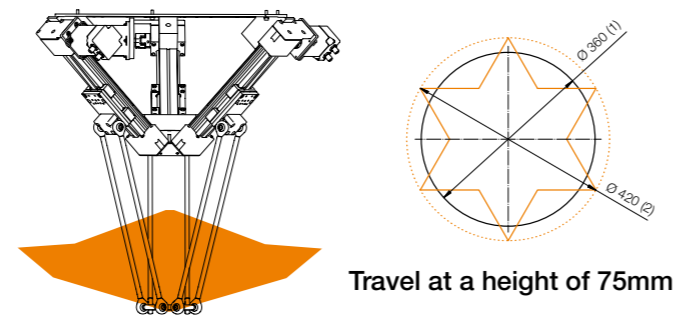
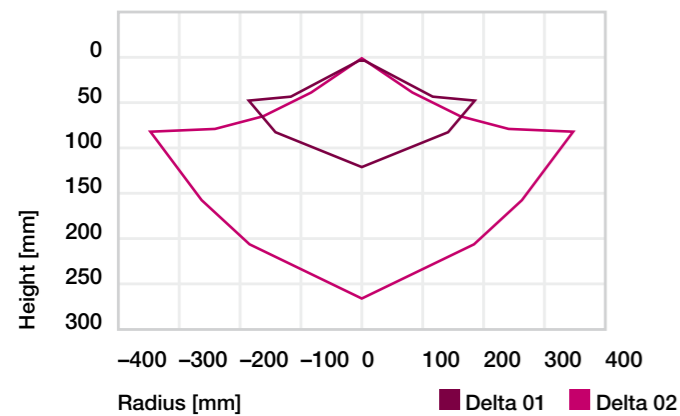
Delta robots



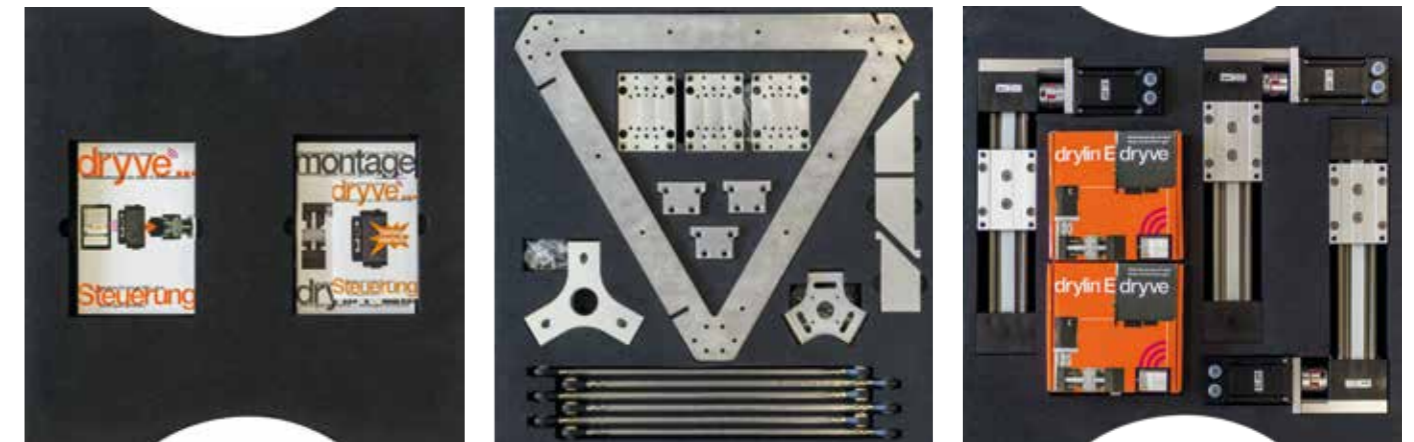
Delta robot consisting of:

- 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

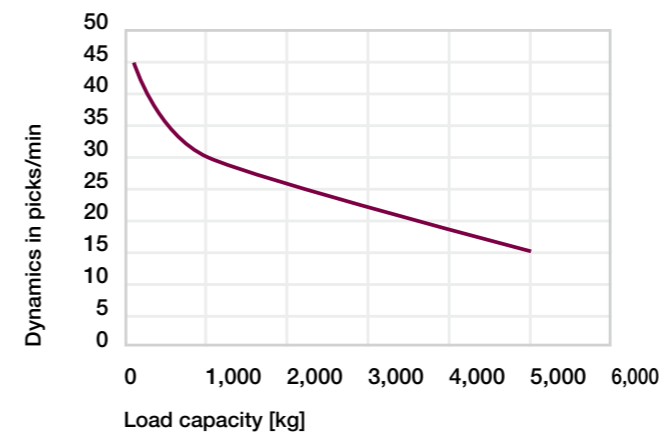


Delta robot kit

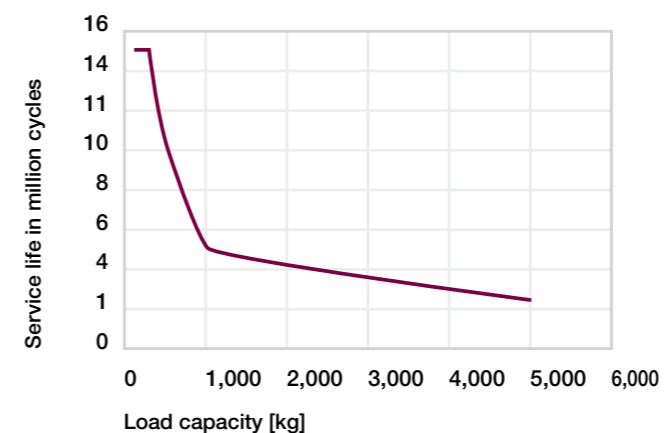


Optional accessories: initiator kits, motor encoders and sensor cables, calibrating pin, cable clip
 ► www.igus.eu/delta-robot

Part No.	Delta 01	Delta 02	Description
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



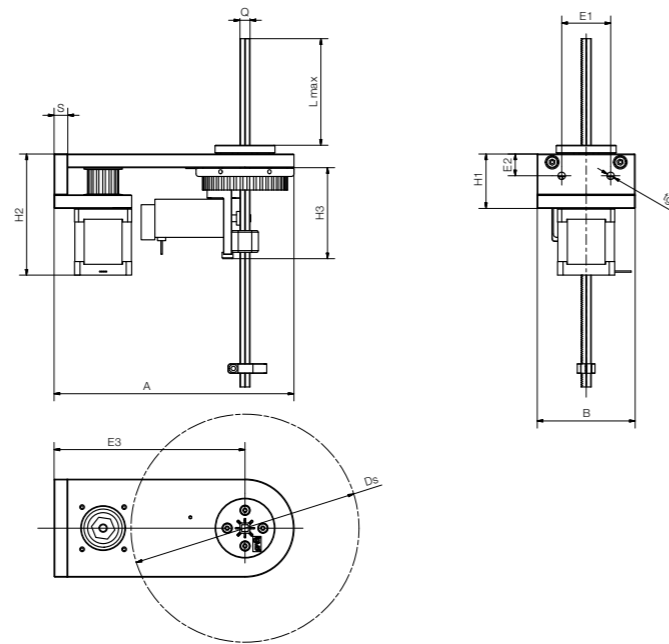
You can get the highest (picks/min) by using a master control system with path planning function. (e.g. Sinus acceleration ramp and optimised motor control parameters). Graph as shown applies to a load motor voltage of 48 [V] mounted in a stable and vibration-free frame.



Compact, modular and lubrication-free



- Toothed, hard-anodised and corrosion-resistant square hollow section
- Combination with iglidur® J low friction element
- 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)

Torque-resistant, controlled separately



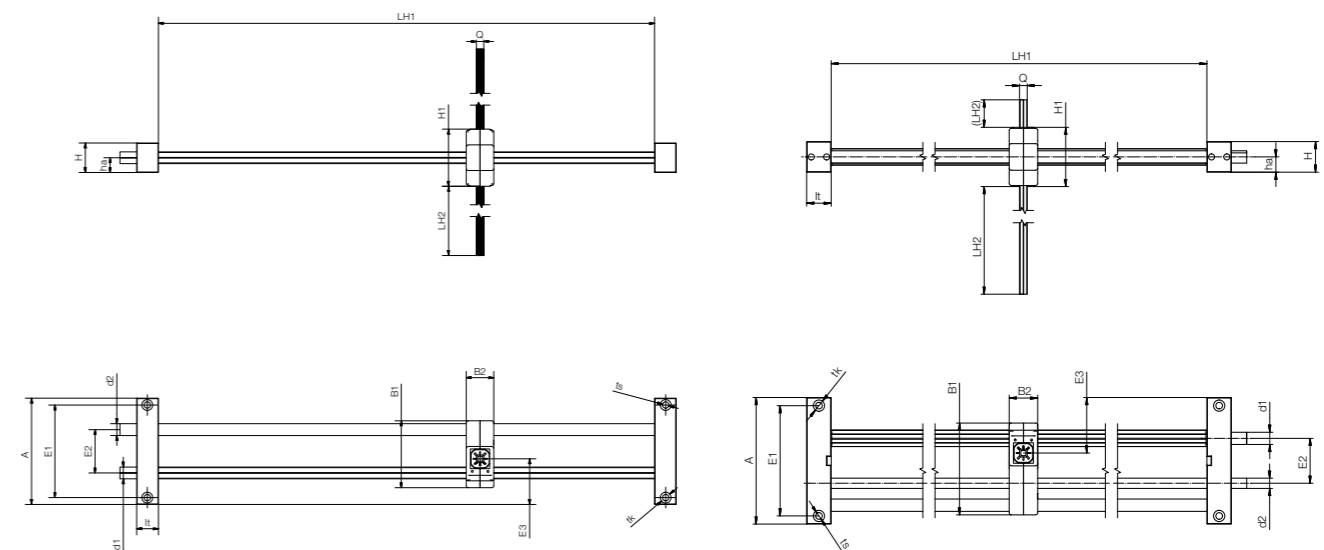
Torque-resistant, lubrication-free linear module. Low mass and compact in the working area.

One linear module with two directions of motion which can be controlled separately. This way, both drives are located outside the working area. This saves space and no unnecessary motor weight is moved. The linear guide is torque-resistant and thanks to the compact modular construction, 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]

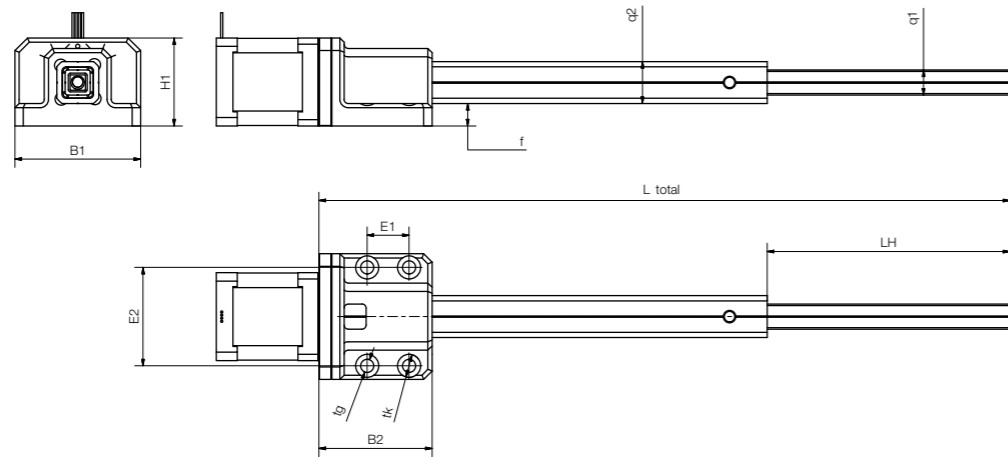
Part No.	Max. axial F [N]	LH1	LH2	H	H1	ha	A	E1	E2	E3	B1	B2	lt	d1	d2	ts	tk
SLQ-1210-...	200	500	200	30	58	15	108	94	44	46.5	68	28	22	12	12	6.6	-
SLQ-121012-...	2	500	200	30	58	15	124	108	44	30.0	90	28	22	12	10	6.6	11



- 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

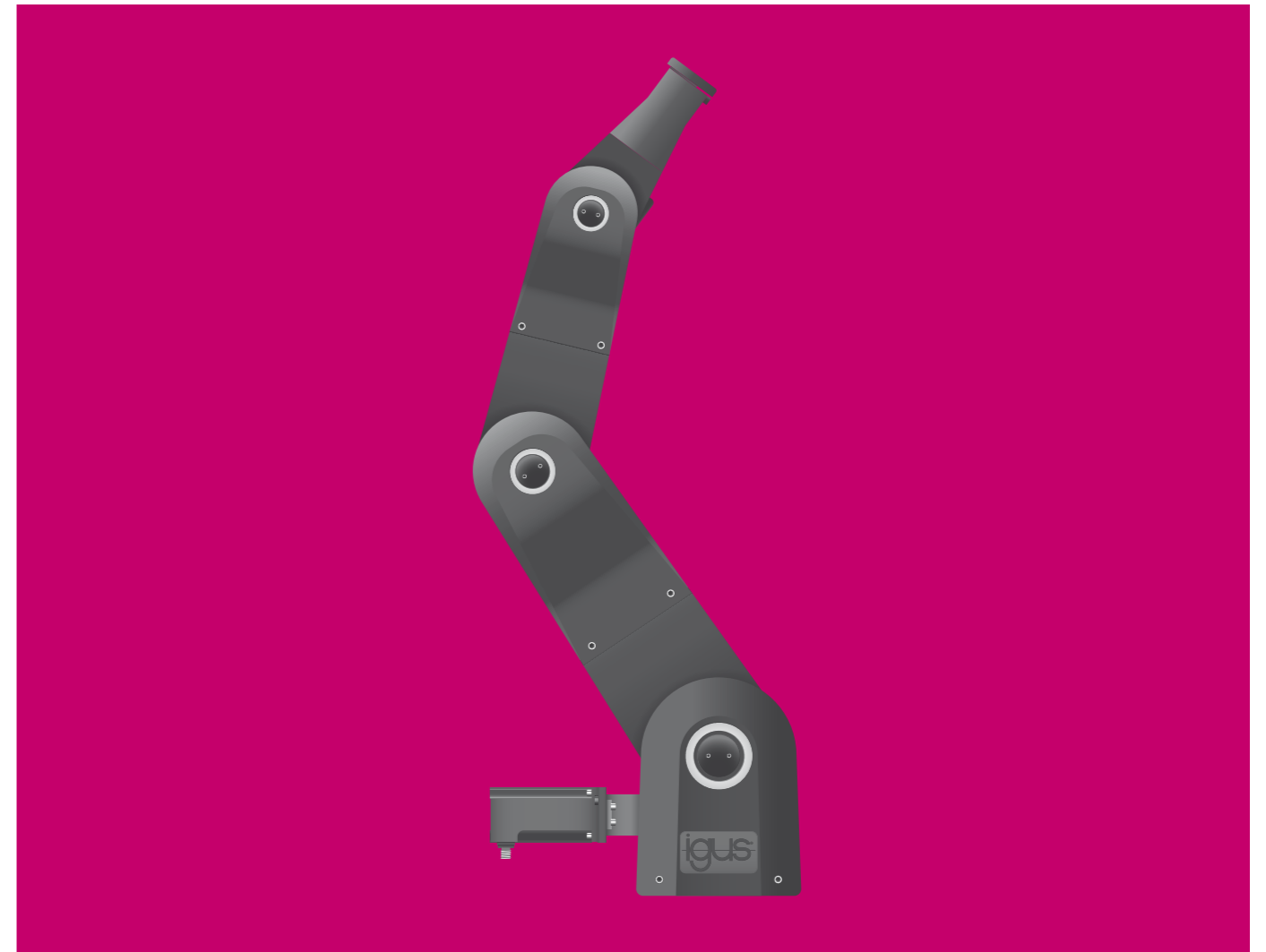
Typical application areas:

- 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



robolink® – polymer-based robot arm

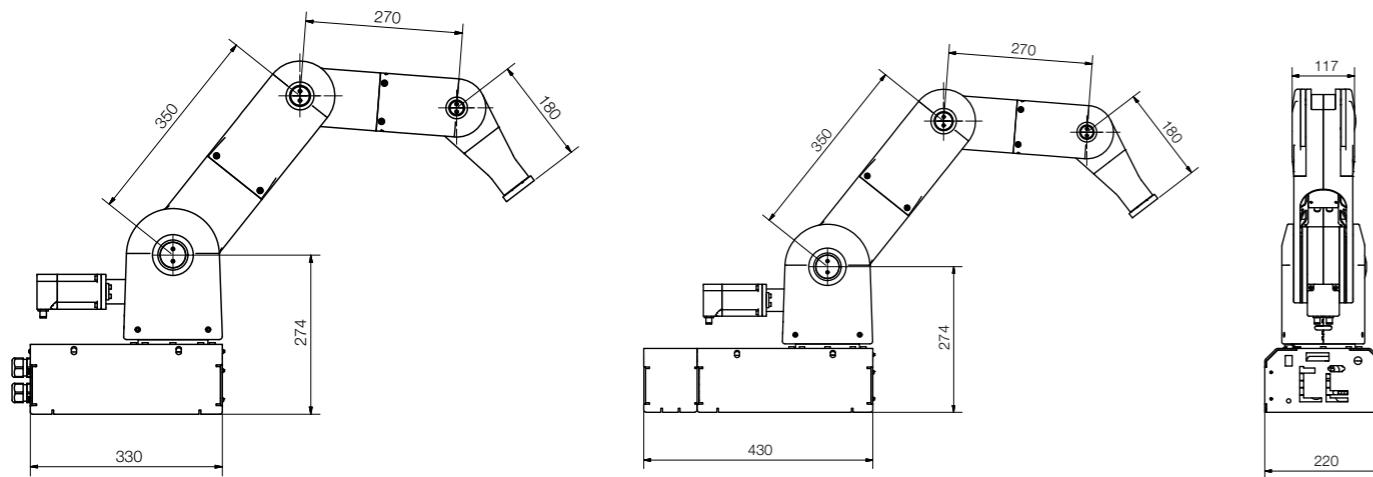
Robot arms

Rotary axes

Apiro® joints



- Payload up to 30N
- Cycle times > 6s
- Reach up to 790mm
- Also available as DPI version with integrated control system
- With motor encoders upon request
- Version with drive encoders possible
- Available as 4 DOF or 5 DOF¹⁶⁸⁾
- Optimised bearing of the single axes for low backlash



Technical data

		Small option		Large option	
		4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾	4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾
		RL-DC	RL-DC	RL-DP	RL-DP
Operating voltage	[VDC]	24	24	24	24
Nominal power (at full load)	[W]	120	120	120	120
Weight (without power supply unit, ext. display)	[kg]	11	12	22	23
Precision (WDH precision)	[mm]	±0.5	±0.5	±0.5	±0.5
Max. speed (TCP)	[mm/s]	100	100	100	100

For more information, see the technical data sheet

- ▶ www.igus.eu/DC
- ▶ www.igus.eu/DP

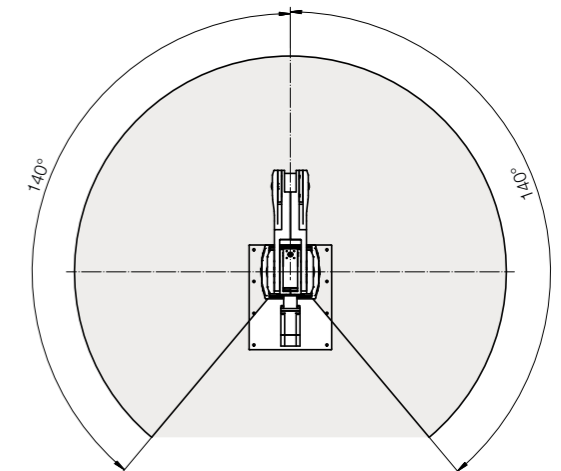
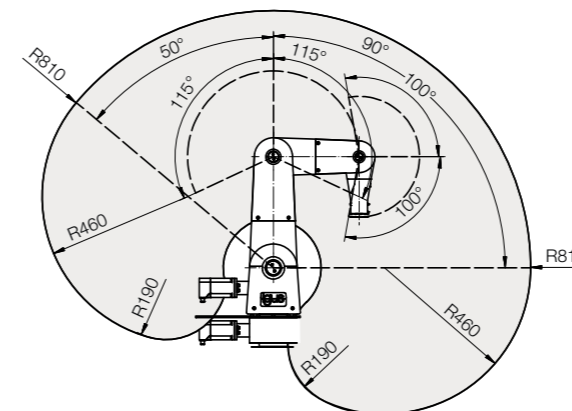
¹⁶⁸⁾ DOF: degree of freedom

- Integrated gearbox
- High degrees of precision and high loads
- Faster
- Internal cables
- Lightweight
- More configuration options online
- ▶ www.igus.eu/DP



Small option

Large option



Small option – 4DOF¹⁶⁸⁾ or 5 DOF¹⁶⁸⁾

	4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾
Part No.	RL-D-RBT-3322-BF	RL-D-RBT-3322S-BF
Reach	510mm	680mm
Load capacity	10 N	5 N

Large option – 4DOF¹⁶⁸⁾ or 5 DOF¹⁶⁸⁾

	4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾
Part No.	RL-DP-RBT-5532	RL-DP-RBT-5532S
Reach	620mm	790mm
Load capacity	30 N	30 N

All with integrated control system

Small option	4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾
Part No.	RL-DCi-4S-M-B	RL-DCi-5S-M-B
Large option	4 DOF ¹⁶⁸⁾	5 DOF ¹⁶⁸⁾
Part No.	RL-DPI-RBT-5532	RL-DPI-RBT-5532S
With top hat (DIN) rail	RL-DP-4-0002-00-0	RL-DP-5-0002-00-0
With control cabinet	RL-DP-4-0004-00-0	RL-DP-5-0004-00-0

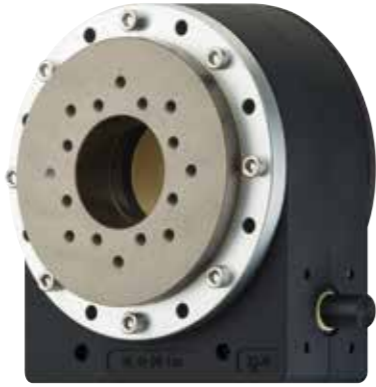
¹⁶⁸⁾ DOF: degree of freedom



econ

Entry level model mounted with plain bearings for manual adjustments with light polymer slewing ring PRT-02 series.

More information on
iglidur® PRT-02 slewing rings
▶ Page 640



Standard

Robust type with plain bearings for high loads. Manual and electrical operation. With robust aluminium slewing ring of the PRT-01 series.

More information on
iglidur® PRT-01 slewing rings
▶ Page 638



Dynamics

Dynamic design with ball bearings. Manual or electrical adjustments with slewing ring with ball bearings.



Delivery time
2–3 days

Modular robot system

▶ **Products**
Information & background details
Configuration & calculation
Industrial solutions & applications

The roboLink® modular robotic system allows you to automate manual work steps quickly and easily. Articulated arms in various lengths and sizes are available. The number of lubrication-free joints used ranges from two to six, and the robot can be equipped with various tools (e.g., grippers, suction cup, camera, etc.) as desired. roboLink® robot components are characterised by their modularity. As a modular system, a robot arm can be configured as desired and therefore ergonomically and moreover it is also possible to obtain ready-to-use complete

roboLink® designer
Configure individual roboLink® D robotic arm easily and quickly.

▼ more

Products


Number of products: 14

Relevance ▾ List ▮

Categories

- Robot arms
- Modular gearbox system
- Strain wave gears
- Rotary axis
- Worm gear joints**
 - symmetrical
 - asymmetrical
- Worm gear accessories
- Control system
- Cartesian robots
- Parallel kinematics


roboLink® D robot joint, installation size 50, symmetrical



from 538.00 EUR/Pc.

[To the product page](#)

roboLink® D robot joint, installation size 20, symmetrical



from 327.00 EUR/Pc.

[To the product page](#)

Order roboLink® D rotary axes with proven iglidur® slewing rings quickly and easily in the rotary axis shop.

The extensive modular robotic system allows you to automate manual work steps quickly and easily.

More information and prices online
▶ www.igus.eu/rotary-axes-shop



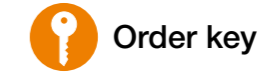
Order key

Type	Options				
RL-D-20-101-38-01033					
robolink®	Direct drive	Installation size	Design	Gear ratio	Variation

Technical data

Part No.	Size (H x W x D)	Shaft Ø	Trans- mission	Axis distance	Backlash	Breakaway torque	Max. axial dyn. load on output
	[mm]	[mm]	[mm/rev]	[mm]	[°]	[cNm]	[N]
RL-D-20-101-38-01033	90 x 80 x 67	8	1:38	31	< 0.5°	< 5	> 500
RL-D-20-101-70-01033	90 x 80 x 67	8	1:70	31	< 0.5°	< 5	> 500
RL-D-30-101-5-01033	110 x 100 x 94	10	1:5	40	< 0.5°	< 7	> 700
RL-D-30-101-50-01033	110 x 100 x 94	10	1:50	40	< 0.5°	< 7	> 700
RL-D-30-101-70-01033	110 x 100 x 94	10	1:70	40	< 0.5°	< 7	> 700
RL-D-50-101-48-01033	170 x 150 x 103	15	1:48	63	< 0.5°	< 10	> 1,200
RL-D-50-101-70-01033	170 x 150 x 103	15	1:70	63	< 0.5°	< 10	> 1,200

Part No.	Speed at max. load	Weight	Efficiency	Moment of breakage (static)	Max. output Dynamic torque 12rpm	
					Periodic use (<30%)	Continuous use
	[rpm]	[g]		[Nm]	[Nm]	[Nm]
RL-D-20-101-38-01033	20	610	0.45	30	10	5
RL-D-20-101-70-01033	20	610	0.35	20	5	2.5 (9rpm)
RL-D-30-101-5-01033	12	1,180	0.65	40	10	5
RL-D-30-101-50-01033	12	1,180	0.40	60	20	10
RL-D-30-101-70-01033	12	1,180	0.30	30	12	7.5 (6rpm)
RL-D-50-101-48-01033	8	3,050	0.40	180	50	25
RL-D-50-101-70-01033	8	3,050	0.30	140	40	20



Order key

Type	Options				
RL-D-20-102-38-01035					
robolink®	Direct drive	Installation size	Design	Gear ratio	Variation

Technical data

Part No.	Size (H x W x D)	Shaft Ø	Trans- mission	Axis distance	Backlash	Breakaway torque	Max. axial dyn. load on output
	[mm]	[mm]	[mm/rev]	[mm]	[°]	[cNm]	[N]
RL-D-20-102-38-01035	90 x 80 x 67	8	1:38	31	< 0.5°	< 5	> 500
RL-D-20-102-70-01035	90 x 80 x 67	8	1:70	31	< 0.5°	< 5	> 500
RL-D-30-102-5-01035	110 x 100 x 94	10	1:5	40	< 0.5°	< 7	> 700
RL-D-30-102-50-01035	110 x 100 x 94	10	1:50	40	< 0.5°	< 7	> 700
RL-D-30-102-70-01035	110 x 100 x 94	10	1:70	40	< 0.5°	< 7	> 700
RL-D-50-102-48-01035	170 x 150 x 103	15	1:48	63	< 0.5°	< 10	> 1,200
RL-D-50-102-70-01035	170 x 150 x 103	15	1:70	63	< 0.5°	< 10	> 1,200

Part No.	Speed at max. load	Weight	Efficiency	Moment of breakage (static)	Max. output Dynamic torque 12rpm	
					Periodic use (<30%)	Continuous use
	[rpm]	[g]		[Nm]	[Nm]	[Nm]
RL-D-20-102-38-01035	20	470	0.45	30	10	5
RL-D-20-102-70-01035	20	470	0.35	20	5	2.5 (9rpm)
RL-D-30-102-5-01035	12	890	0.65	40	10	5
RL-D-30-102-50-01035	12	890	0.40	60	20	10
RL-D-30-102-70-01035	12	890	0.30	30	12	7.5 (6rpm)
RL-D-50-102-48-01035	8	2,300	0.40	180	50	25
RL-D-50-102-70-01035	8	2,300	0.30	140	40	20

robolink® D | Rotary axis | Technical data

Rotary axis with two PRT slewing rings, with ball bearings



Order key

Type	Options				
robolink®	Direct drive	Installation size	Design	Gear ratio	Variation

RL-D-20-105-38-010BB

Technical data

Part No.	Size (H x W x D)	Shaft Ø	Trans- mission	Axis distance	Backlash	Breakaway torque	Max. axial dyn. load on output
	[mm]	[mm]	[mm/rev]	[mm]	[°]	[cNm]	[N]
RL-D-20-105-38-010BB	90 x 80 x 67	8	1:38	31	< 0.5°	< 5	> 250
RL-D-20-105-70-010BB	90 x 80 x 67	8	1:70	31	< 0.5°	< 5	> 250
RL-D-30-105-5-010BB	110 x 100 x 94	10	1:5	40	< 0.5°	< 7	> 450
RL-D-30-105-50-010BB	110 x 100 x 94	10	1:50	40	< 0.5°	< 7	> 450
RL-D-30-105-70-010BB	110 x 100 x 94	10	1:70	40	< 0.5°	< 7	> 450
RL-D-50-105-48-010BB	170 x 150 x 103	15	1:48	63	< 0.5°	< 10	> 1,000
RL-D-50-105-70-010BB	170 x 150 x 103	15	1:70	63	< 0.5°	< 10	> 1,000

Part No.	Speed at max. load	Weight	Efficiency	Moment of breakage (static)	Max. output Dynamic torque 12rpm	
					Periodic use (<30%)	Continuous use
	[rpm]	[g]		[Nm]	[Nm]	[Nm]
RL-D-20-105-38-010BB	20	320	0.45	30	10	5
RL-D-20-105-70-010BB	20	320	0.35	20	5	2.5 (9rpm)
RL-D-30-105-5-010BB	12	620	0.65	40	10	5
RL-D-30-105-50-010BB	12	620	0.40	60	20	10
RL-D-30-105-70-010BB	12	620	0.30	30	12	7.5 (6rpm)
RL-D-50-105-48-010BB	8	2,730	0.40	180	50	25
RL-D-50-105-70-010BB	8	2,730	0.30	140	40	20

robolink® D | Rotary axis | Technical data

Rotary axis with one PRT slewing rings, with ball bearings



Order key

Type	Options				
robolink®	Direct drive	Installation size	Design	Gear ratio	Variation

RL-D-20-106-38-010B5

Technical data

Part No.	Size (H x W x D)	Shaft Ø	Trans- mission	Axis distance	Backlash	Breakaway torque	Max. axial dyn. load on output
	[mm]	[mm]	[mm/rev]	[mm]	[°]	[cNm]	[N]
RL-D-20-106-38-010B5	90 x 80 x 67	8	1:38	31	< 0.5°	< 5	> 250
RL-D-20-106-70-010B5	90 x 80 x 67	8	1:70	31	< 0.5°	< 5	> 250
RL-D-30-106-5-010B5	110 x 100 x 94	10	1:5	40	< 0.5°	< 7	> 450
RL-D-30-106-50-010B5	110 x 100 x 94	10	1:50	40	< 0.5°	< 7	> 450
RL-D-30-106-70-010B5	110 x 100 x 94	10	1:70	40	< 0.5°	< 7	> 450
RL-D-50-106-48-010B5	170 x 150 x 103	15	1:48	63	< 0.5°	< 10	> 1,000
RL-D-50-106-70-010B5	170 x 150 x 103	15	1:70	63	< 0.5°	< 10	> 1,000

Part No.	Speed at max. load	Weight	Efficiency	Moment of breakage (static)	Max. output Dynamic torque 12rpm	
					Periodic use (<30%)	Continuous use
	[rpm]	[g]		[Nm]	[Nm]	[Nm]
RL-D-20-106-38-010B5	20	280	0.45	30	10	5
RL-D-20-106-70-010B5	20	280	0.35	20	5	2.5 (9rpm)
RL-D-30-106-5-010B5	12	520	0.65	40	10	5
RL-D-30-106-50-010B5	12	520	0.40	60	20	10
RL-D-30-106-70-010B5	12	520	0.30	30	12	7.5 (6rpm)
RL-D-50-106-48-010B5	8	2,140	0.40	180	50	25
RL-D-50-106-70-010B5	8	2,140	0.30	140	40	20



- Adaptable to various motors, standard option:
NEMA17 / 23 / 23XL stepper motor
- INI kit for zero position optionally adaptable

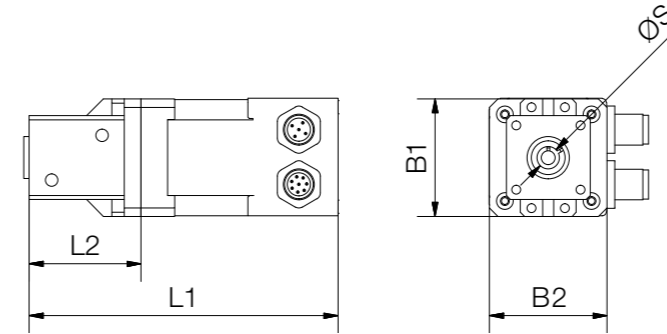
Motor kit

Motor type	Distance over hubs [mm]	Versions
igus® stepper motor		
NEMA17, NEMA23, NEMA23XL	42, 56, 60	-00: with strand wires -01: with stepper motor without encoder -02: with motor encoder -NM: version without motor

Technical data

Joint	Installation size 20		Installation size 30		Installation size 50	
	RL-D-20-101-38-xxxxx		RL-D-30-101-50-xxxxx		RL-D-50-101-48-xxxxx	
Motor	+ NEMA17		+ NEMA17	+ NEMA23	+ NEMA23	+ NEMA23XL
Motor type	Stepper motor					
Weight (with standard joint)	[g]	890	1.1140	1,860	2,540	2,970
Max. radial torque strength (short-term)	[Nm]	5	6	12	21	38
Max. radial torque strength (long-term)	[Nm]	4	5	8	18	33
Max. speed (at max. load)	[rpm]	5	4	4	4	4
Max. axial dynamic load (horizontal installation)	[N]	> 500	> 700	> 700	> 1,200	> 1,200

Delivery time
2-3 days



Dimensions [mm]

Part No.	ØS	L1	L2	B1	B2
NEMA17					
RL-D-20-MK-C-N17-00	8	99.4	40	42.0	42.0
RL-D-20-MK-C-N17-01	8	110.4	40	42.0	42.0
RL-D-20-MK-C-N17-02	8	110.4	40	42.0	42.0
RL-D-20-MK-C-N17-NM	8	–	40	42.0	42.0
RL-D-30-MK-C-N17-00	10	99.4	40	42.0	42.0
RL-D-30-MK-C-N17-01	10	110.4	40	42.0	42.0
RL-D-30-MK-C-N17-02	10	110.4	40	42.0	42.0
RL-D-30-MK-C-N17-NM	10	–	40	42.0	42.0
NEMA23					
RL-D-30-MK-C-N23-00	10	118	42	56.4	56.4
RL-D-30-MK-C-N23-01	10	140	42	56.4	56.4
RL-D-30-MK-C-N23-02	10	140	42	56.4	56.4
RL-D-30-MK-C-N23-NM	10	–	42	56.4	56.4
RL-D-50-MK-C-N23-00	15	124	48	60.0	60.0
RL-D-50-MK-C-N23-01	15	146	48	60.0	60.0
RL-D-50-MK-C-N23-02	15	146	48	60.0	60.0
RL-D-50-MK-C-N23-NM	15	–	48	60.0	60.0
NEMA23XL					
RL-D-50-MK-C-N23XL-00	15	136.5	48	60.0	60.0
RL-D-50-MK-C-N23XL-01	15	158.5	48	60.0	60.0
RL-D-50-MK-C-N23XL-02	15	158.5	48	60.0	60.0
RL-D-50-MK-C-N23XL-NM	15	–	48	60.0	60.0

RL-D-MONT-MOT-01

Motor assembly

 **Order key**

Type	Options
RL-D-20-A0202	
roboLink®	
Direct drive	
Installation size	
Variation	



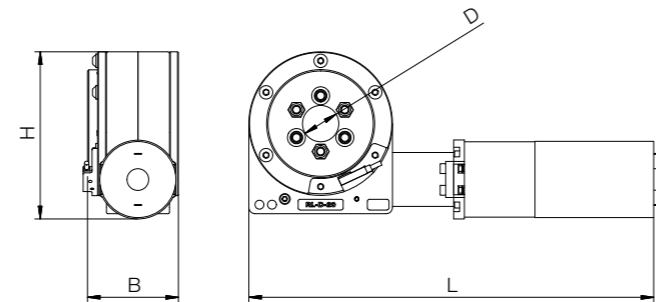
RL-D-20-A0202



RL-D-30-A0203

RL-D-50-A0204

- Assembly of robot joint, motor kit, INI kit
- Also available with cables ► **Page 1530** and motor control system ► **Page 1544**



Technical data

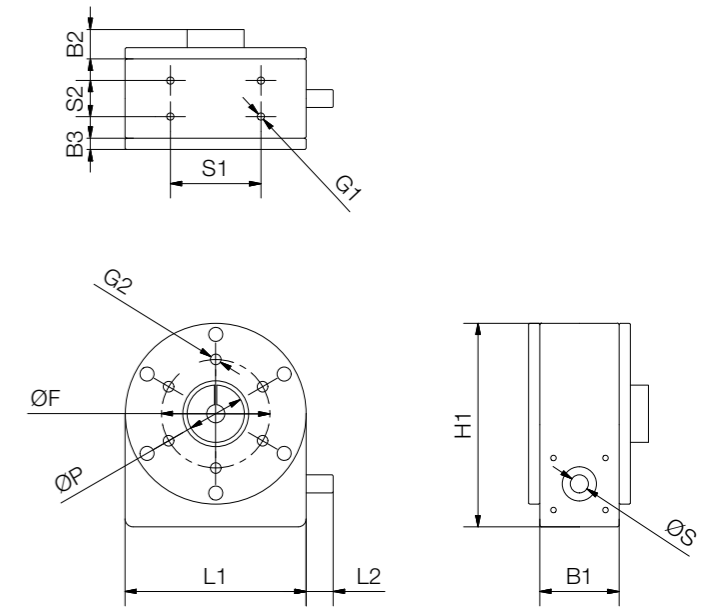
	Weight	Max. output torque	Max. speed	Service life
	[kg]	[Nm]	[rpm]	
Installation size 20				
RL-D-20-A0202	1.06	7	12	Min. 1,000,000 cycles ¹⁶⁹⁾
Installation size 30				
RL-D-30-A0203	1.50	20	9	Min. 1,000,000 cycles ¹⁶⁹⁾
Installation size 50				
RL-D-50-A0204	4.8	50	6	Min. 1,000,000 cycles ¹⁶⁹⁾

¹⁶⁹⁾ At a rated torque of 2.5Nm and a rated speed of 30rpm

Dimensions [mm]

Part No.	D	B	L	H
Installation size 20				
RL-D-20-A0202	20	50.5	233.7	90.0
Installation size 30				
RL-D-30-A0203	30	63.5	253.7	110.0
Installation size 50				
RL-D-50-A0204	50	87.5	303.77	170.5


 **Delivery time**
2–3 days




- Cost-effective alternative without slewing ring bearing
- Lightweight
- Replaceable coupling components for different shaft diameters

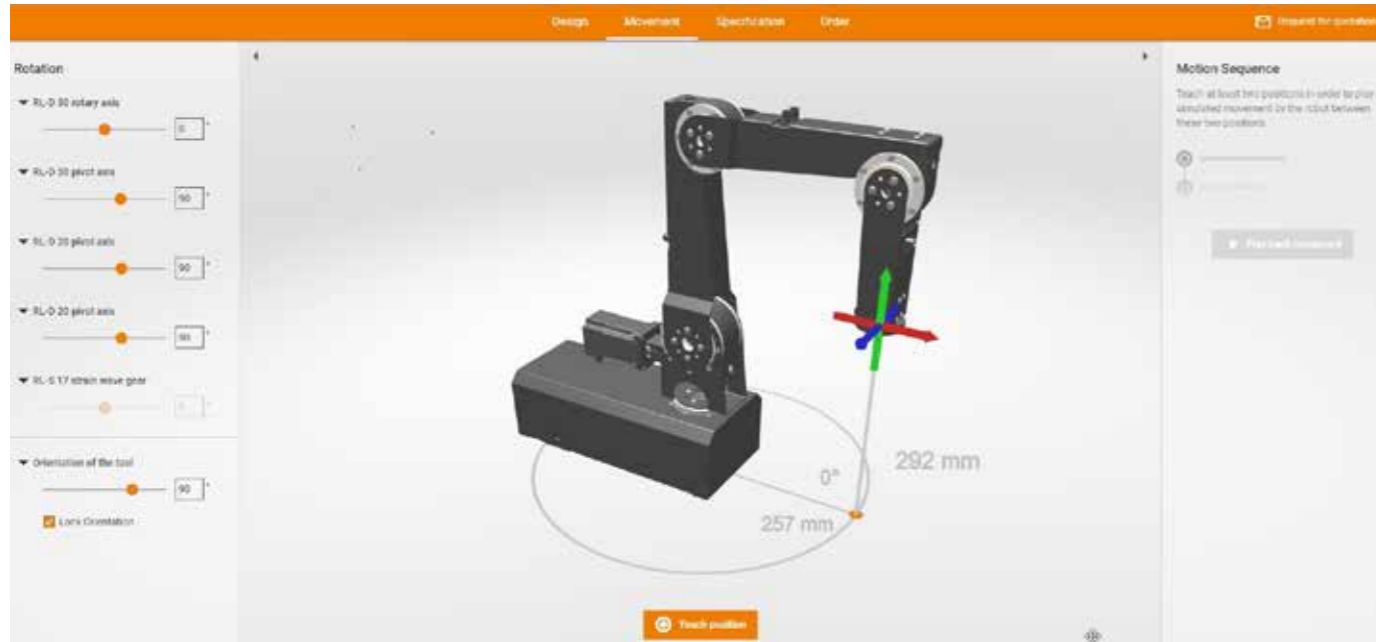
Dimensions [mm]

ØS	ØP	ØF	ØT	L1	L2	B1	B2	B3	H1	G1	S1	S2	Part No.
8	25	48	20	80.5	12	35	13	5	90.5	M4	40	16	RL-D-20-103-...
10	32	64	30	100.5	12	45	16.3	6	110.5	M4	55	20	RL-D-30-103-...
15	42	100	50	150.5	13	60	22.8	6	170.5	M6	80	30	RL-D-50-103-...

 **Order example: RL-D-20-103-38-010K5-08**
roboLink® robot joint installation size 20, gear ratio 1:38, gearbox, motor pin 8mm

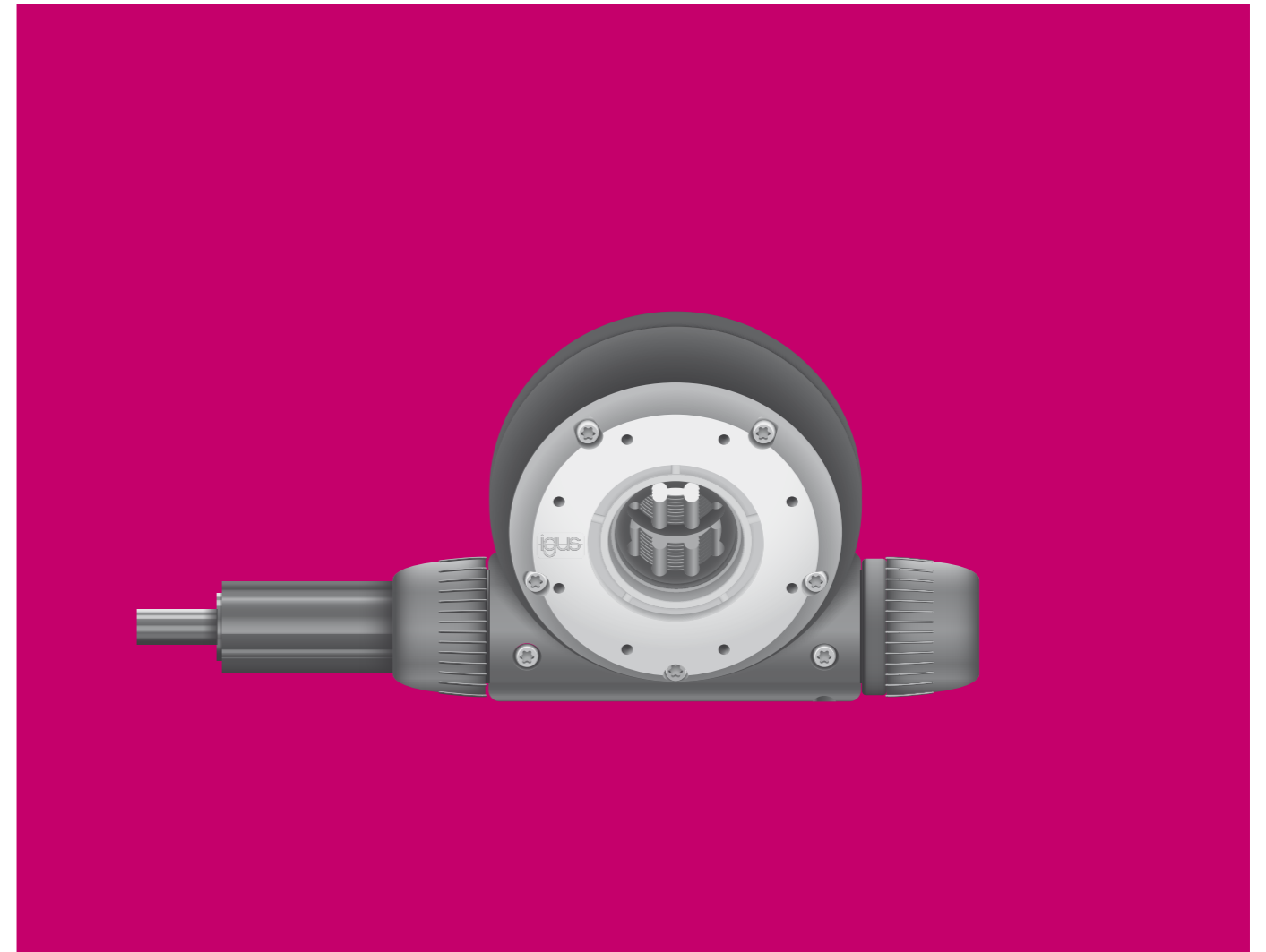
 **More information and prices online**
► www.igus.eu/rotary-axes-shop

 **Delivery time**
2–3 days



With the roboLink® designer, you can quickly and easily configure online in an intuitive CAD interface your individual roboLink® D robot arm online. Select individual roboLink® components step by step to configure the robot arm individually, from the first axis to the tool. Simulation of the solution thanks to output of max. range and max. payload, teach function and inverse kinematics.

► www.igus.eu/roboLink-designer



roboLink® Apiro®

Joints

Motor kits

INI kits

Accessories





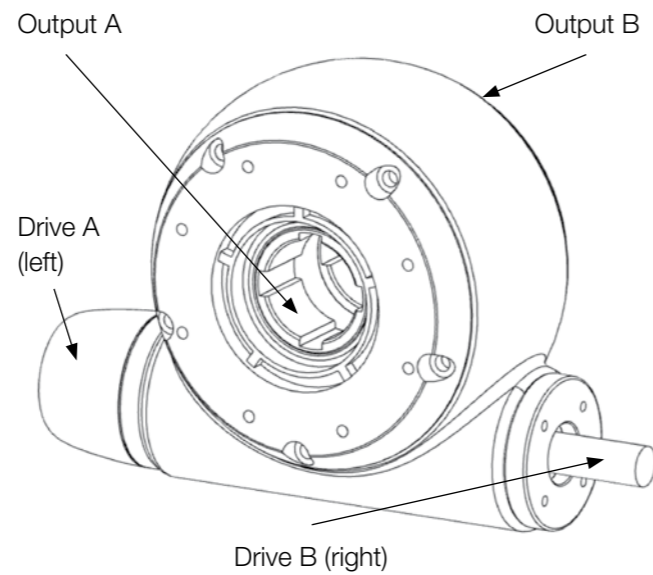
Joint



Joint with turntable



Joint with coupling



Technical data

Designation	Transmission	Self-locking	Drive torque [Nm]	Moment of breakage [Nm]	F stat. axial [N]	Backlash [°]
Joint	1:4	–	2.5	15	250	< 0.5
Joint with turntable	1:32	–	2.5	20	250	< 0.5
Joint with coupling	1:64	Yes	1.5	10	250	< 0.5

Technical data

Designation	Drive A	Output A	Drive B
Joint			
HR	–	–	Drive pin
HK/PA/HR	–	–	Drive pin
HR	–	–	Profile
HK/PA/HR	–	–	Profile
Profile	–	–	Profile
Joint with turntable			
HR	–	Turntable	Drive pin
HK/PA/HR	–	Turntable	HR
HR	–	Turntable	Profile
HK/PA/HR	–	Turntable	Profile
Profile	–	Turntable	Profile
Joint with coupling Ø 4–12mm			
HR	–	Coupling	Drive pin
HK/PA/HR	–	Coupling	Drive pin
HR	–	Coupling	Profile
HK/PA/HR	–	Coupling	Profile
Profile	–	Coupling	Profile



Delivery time
2–3 days



RL-A10.0105



Order example
RL-A10.0105

Apiro® joint with drive pin
and hand wheel (HR)



RL-A10.0148.100



Order example
RL-A10.0148.100

Apiro® joint with 100mm profile, manual clamp
(HK), position indicator (PA) and hand wheel (HR)



RL-A10.0160.100.100



Order example
RL-A10.0148.100

Apiro® joint with profile 100mm left,
profile 100mm right

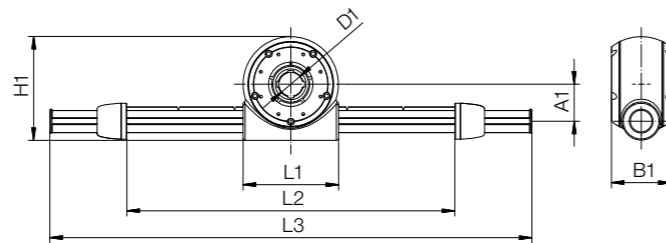
Transmission 1:4	Transmission 1:32	Transmission 1:64
RL-A10.0105	RL-A10.0106	RL-A10.107
RL-A10.0111	RL-A10.0112	RL-A10.113
RL-A10.108.□	RL-A10.0109.□	RL-A10.0110.□
RL-A10.0148.□	RL-A10.0149.□	RL-A10.0161.□
RL-A10.0160.□.□	RL-A10.0115.□.□	RL-A10.0161.□.□
RL-A10.0138	RL-A10.0114	RL-A10.0139
RL-A10.0132	RL-A10.0133	RL-A10.0134
RL-A10.0145.□	RL-A10.0146.□	RL-A10.0147.□
RL-A10.0151.□	RL-A10.0152.□	RL-A10.0153.□
RL-A10.0157.□.□	RL-A10.0158.□.□	RL-A10.0159.□.□
RL-A10.0117	RL-A10.0118	RL-A10.0119
RL-A10.0129	RL-A10.0130	RL-A10.0131
RL-A10.0123.□	RL-A10.0124.□	RL-A10.0125.□
RL-A10.0154.□	RL-A10.0155.□	RL-A10.0156.□
RL-A10.0120.□.□	RL-A10.0121.□.□	RL-A10.0122.□.□

Cantilever axis



RL-A14.0100

- Inverted gearbox available
- Gearbox linear guide available
- 6 DOF¹⁶⁸⁾ can also be designed
- Modules can be switched consecutively, side by side
- Standard ratios 1:4, 1:32 and 1:64
- For format adjustments and easy automation tasks



Technical data

Part No.	Designation	Transmission	Backlash [°]	Length profile to middle L2 [mm]	Weight [g]
RL-A14.0100	Basic cantilever axis with 100mm stroke	125mm/rev	< 0.5	194.74	from 330

Dimensions [mm]

Part No.	L1	L2	L3	H1	B1	D1	A1
RL-A14.0100	80	133 – 1,122	250 – 1,300	87	50	20	31

¹⁶⁸⁾ DOF: degree of freedom



Accessories



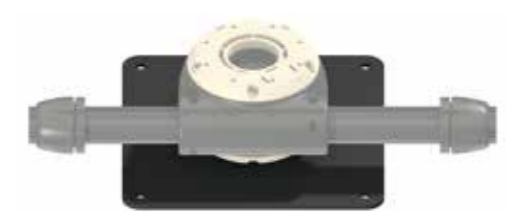
RL-A54.0102



RL-A54.0101



RL-A54.0100



RL-A54.0103



RL-A51.0101



RL-A55.0100

Images exemplary

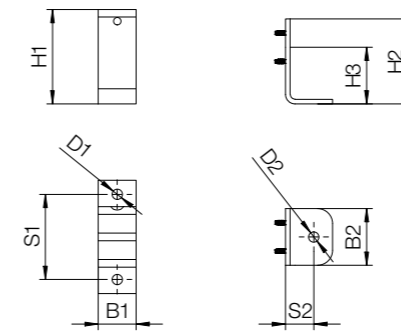
Part No.	Designation
RL-A51.0101	Motor kit with stepper motor NEMA17, version with stranded wire
RL-A51.0102	Motor kit with stepper motor NEMA17, version with connector
RL-A51.0103	Motor kit with NEMA17 stepper motor, version with connector and encoder
RL-A51.0104	Motor kit with NEMA17 stepper motor, version with connector, encoder and brake
RL-A51.0105	Motor kit with stepper motor NEMA23, version with connector
RL-A52.0100	INI kit available for: worm gear RL-A10
RL-A52.0101	INI kit available for: cantilever axis RL-A14
RL-A220.0106	Spacer element
RL-A320.0100	Slot nut M2.5
RL-A320.0101	Slot nut M3
RL-A320.0102	Slot nut M4
RL-A55.0100	Assembly tool, tightening tool, open
RL-A55.0101	Assembly tool, tightening tool, closed

Connecting cables for NEMA stepper motors
► Page 1518

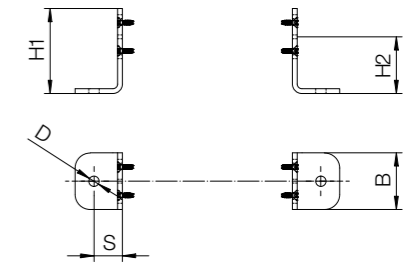
Accessories

Dimensions [mm]

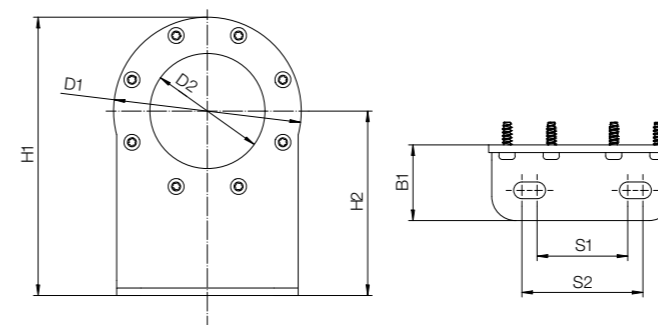
Part No.	Short designation	D1	D2	D3	D4	B1	B2	S1	S2	S3	H1	H2	H3	Weight [g]
RL-A54.0100	Front mounting	62	38	-	-	25	-	30	40	-	92	61	-	100.1
RL-A54.0101	Axial angle set, lateral attachment	5.5	-	-	-	30	-	15	-	-	45	30	-	32
RL-A54.0102	Axial lead screw support block, lateral attachment	5.5	5.5	-	-	20	30	45	15	-	50	45	30	109
RL-A54.0103	Mounting plate vertical, flat mounting	30.5	5.5	-	-	140	-	120	-	-	-	-	-	370
RL-A50.0100	Profile stop	30	20	25	2	25	-	-	-	-	-	-	-	8
RL-A50.0101	Profile flange	30	12	2	-	25	-	15	-	-	-	-	-	8
RL-A200.0103	Profile end cap	20	-	-	-	-	-	-	-	-	-	-	-	1
RL-A220.0104	Parallel connector	62	46	-	-	5	-	-	-	-	-	-	-	4
RL-A220.0105	Feather key element, Apiro® feather key	50	-	-	-	-	-	-	-	-	-	-	-	-
RL-A400.0100.X	Multi-functional profile 20mm	20	10	-	-	-	-	8.2	5.2	6	-	-	-	320/m



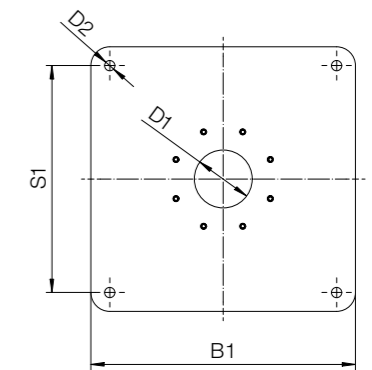
RL-A54.0102



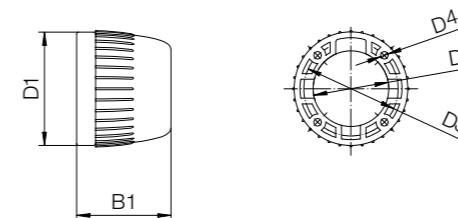
RL-A54.0101



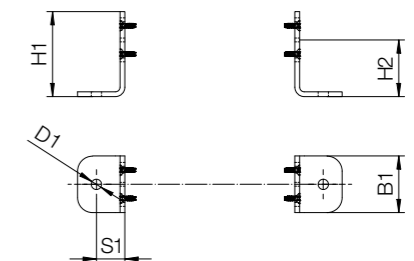
RL-A54.0100



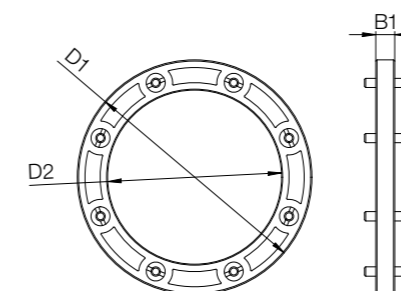
RL-A54.0103



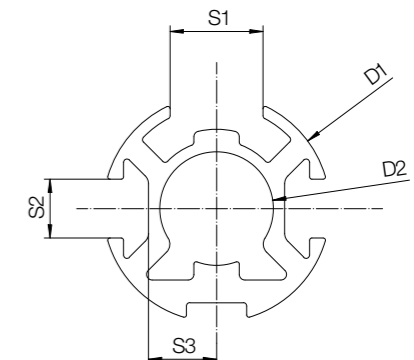
RL-A50.0100



RL-A50.0101



RL-A220.0104



RL-A400.0100