



Eigenschaften / Properties

- **Hauptkomponenten: igus PRT-01 / -02, Schneckengetriebe, Kunststoff Gehäuse**
main components: igus PRT-01 /-02, worm gear, plastic housing
- **Selbsthemmung nur bei Übersetzung 1:70**
Self-locking gear only for transmission 1:70
- **Ini Kit für Nullposition optional adaptierbar** *Ini kit for Zero Position as an option*
- **Unterschiedliche Motoren adaptierbar, Standardoption: Schrittmotor NEMA17 / 23 / 23XL**
Different motors can be adapted, standard igus option is stepper motor NEMA17 / 23 / 23XL
- **Leicht, kompakt und schmierfrei** *Lightweight, compact and lubricant free*

Varianten / Versions

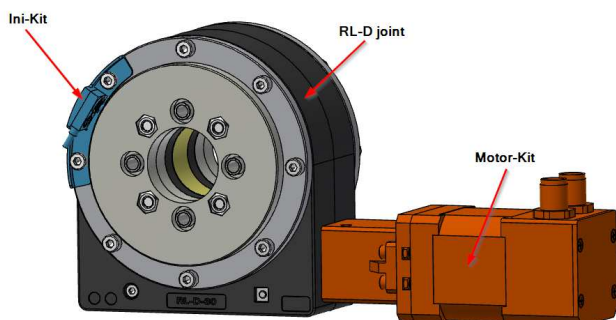
- **Standard (-01004): 1 Stk. igus PRT-02-xx-AL , Gegenlager iglidur J, Schneckenwelle AL hard anodisiert, Wellenlager =2 gedichtete Kugellager, Schneckenrad iglidur A180, VA Schrauben, Spritzguss Gehäuse iglidur® RN33**
Standard design (-01004): 1 pcs. igus PRT-02-xx-AL, opposite bearing iglidur J, worm shaft AL hard anodized, 2 sealed ball bearings for worm shaft, gear wheel iglidur A180, stainless steel screws, injection moulded housing RN33
- **Low cost (03014): wie Standard, jedoch 1 Stk. igus PRT-02-xx-LC , Schneckenwelle Kunststoff W300, 2 Stk. Wellenlager xiros Kugellager,**
low cost design (-03014): like Standard but 1 pcs. igus PRT-02-xx-LC, worm shaft plastic W300, worm shaft bearings 2pcs xiros
- **High end (-01035): wie Standard, jedoch 1 Stk. igus PRT-01-xx anstelle PRT-02-xx, Gegenlager = Kugellager**
high end design (-01035): like Standard but 1 pcs. igus PRT-01-xx instead of PRT-02-xx, opposite = ball bearing

Basis Daten / Basic Data

	RL-D-20-102	RL-D-30-102	RL-D-50-102
Größe / size (HxBxT) [mm]	90 x 80 x 67	110 x 100 x 94	170 x 150 x 103
Wellendurchmesser / worm shaft dia	8 mm	10 mm	15 mm
Untersetzung / transmission 1:	38 / 70	5 / 30 / 50 / 70	48 / 70
Achsabstand / axis center distance	31 mm	40 mm	63 mm
Umkehrspiel (Abtrieb) / reverse play (output)	< 0,5°	< 0,5°	< 0,5°
Losbrechmoment / breakaway torque	< 5 cNm	< 7 cNm	< 10 cNm
Max. axiale dyn. Last auf Abtrieb / Max. axial dynamic load on output	> 500 N	> 700 N	> 1.200 N

Ini Kit / Ini kit (Option)

- **Igus Artikel Nr. / igus art. no.** INI-AB-I-025-A-AA
- **Anschluss / connection** M8x1
- **Schaltausgang / switching output** PNP
- **Schaltfunktion / switching function** NO (Schließer)
- **Betriebsspannung / power input** 10...30 V DC
- **Bemessungsbetriebsstrom / rated op. current** 100 mA



Motor Kit / Motor kit (Option incl. coupling, flange and screws)

Für / for RL-D-20-....

	Motortyp / motor type	Anschluss / connection
RL-D-20-MK-C-N17-00	Stepper NEMA17	Litzen / litz wire IP40
RL-D-20-MK-C-N17-01	Stepper NEMA17	Stecker M12 / M12 connector IP65
RL-D-20-MK-C-N17-02	Stepper NEMA17	igus Encodermotor / encoder motor

Für / for RL-D-30-....

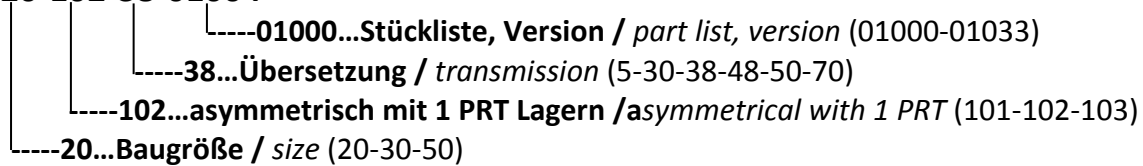
RL-D-30-MK-C-N17-00	Stepper NEMA17	Litzen / litz wire IP40
RL-D-30-MK-C-N17-01	Stepper NEMA17	Stecker M12 / M12 connector IP65
RL-D-30-MK-C-N17-02	Stepper NEMA17	igus Encodermotor / encoder motor
RL-D-30-MK-C-N23-00	Stepper NEMA23	Litzen / litz wire IP40
RL-D-30-MK-C-N23-01	Stepper NEMA23	Stecker M12 / M12 connector IP65
RL-D-30-MK-C-N23-02	Stepper NEMA23	igus Encodermotor / encoder motor

Für / for RL-D-50-....

RL-D-50-MK-C-N23-00	Stepper NEMA23	Litzen / litz wire IP40
RL-D-50-MK-C-N23-01	Stepper NEMA23	Stecker M12 / M12 connector IP65
RL-D-50-MK-C-N23-02	Stepper NEMA23	igus Encodermotor / encoder motor
RL-D-50-MK-C-N23XL-00	Stepper NEMA23XL	Litzen / litz wire IP40
RL-D-50-MK-C-N23XL-01	Stepper NEMA23XL	Stecker M12 / M12 connector IP65
RL-D-50-MK-C-N23XL-02	Stepper NEMA23XL	igus Encodermotor / encoder motor
RL-D-30-MK-C-N17-01	Stepper NEMA17	Stecker M12 / M12 connector IP65

Artikelnummern / art. Nos.

RL-D-20-102-38-01004



Technische Daten der Varianten / technical data of variants

RL-D-20-102-	Gewicht / Weight [gr]	Wirkungsgrad / efficiency *) η	Bruchmoment/ breaking torque Statisch / static	Max. Abtr. Moment/ Max. output torque Dynamisch / dynamic at 12 rpm Periodic duty (<30%) **) permanent duty***)	
38-01004 (1:38)	360	0,40	30 Nm	10 Nm	5 Nm
38-01035 (1:38)	470	0,45		10 Nm	5 Nm
70-01004 (1:70)	360	0,30	20 Nm	5 Nm	2,5 Nm (9 rpm)
70-01035 (1:70)	470	0,35		5 Nm	2,5 Nm (9 rpm)

RL-D-30-102-	Gewicht / Weight [gr]	Wirkungsgrad / efficiency *) η	Bruchmoment/ breaking torque Statisch / static	Max. Abtr. Moment/ Max. output torque Dynamisch / dynamic at 9 rpm Periodic duty (<30%) **) permanent duty***)	
5-01004 (1:5)	730	0,55	40 Nm	10 Nm	5 Nm
5-01035 (1:5)	890	0,65		10 Nm	5 Nm
30-01004 (1:30)	730	0,40	80 Nm	20 Nm	10 Nm
30-01035 (1:30)	890	0,45		20 Nm	10 Nm
50-01004 (1:50)	730	0,35	60 Nm	20 Nm	10 Nm
50-01035 (1:50)	890	0,40		20 Nm	10 Nm
70-01004 (1:70)	730	0,25	30 Nm	12 Nm	7,5 Nm (6 rpm)
70-01035 (1:70)	890	0,30		12 Nm	7,5 Nm (6 rpm)

RL-D-50-102-	Gewicht / Weight [gr]	Wirkungsgrad / efficiency *) η	Bruchmoment/ breaking torque Statisch / static	Max. Abtr. Moment/ Max. output torque Dynamisch / dynamic at 6 rpm Periodic duty (<30%) **) permanent duty***)	
48-01004 (1:48)	1.900	0,35	180 Nm	50 Nm	25 Nm
48-01035 (1:48)	2.300	0,40		50 Nm	25 Nm
70-01004 (1:70)	1.900	0,25	140 Nm	40 Nm	20 Nm
70-01035 (1:70)	2.300	0,30		40 Nm	20 Nm

*) mittlerer Wirkungsgrad bei 3Nm Abtriebslast / average efficiency measured at output torque 3Nm

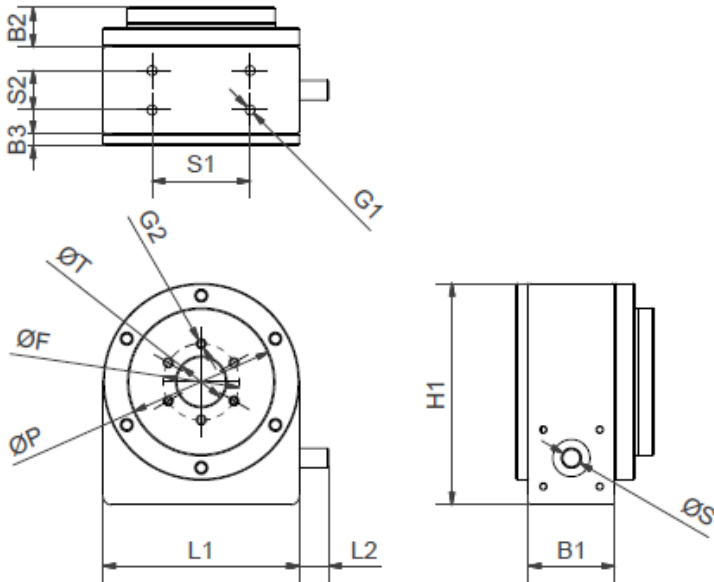
**) max. zulässiges Abtriebsmoment bei Aussetzbetrieb mit ED <30% (Robotik) / max. perm. output torque in periodic duty with duty time <30% (i.e. robotic applications)

***) max. zulässiges Abtriebsmoment im Dauerbetrieb / max. perm. output torque in permanent duty (tested at >1.000.000 cycles)

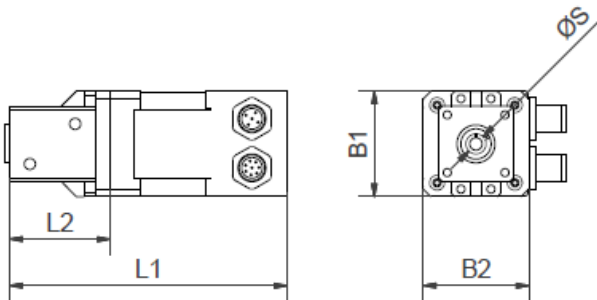
Berechnung der Antriebsmomente / calculation of Input torques:

M_{out} = M_{in} * i * η i=Übersetzung / transmission, η=Wirkungsgrad / efficiency

Maße / Dimensions [mm]



Abmaße / dimensions [mm]	ØT	ØS	ØP	ØF	L1	L2	B1	B2	B3	H1	S1	S2	G1	G2
<i>Standard and low cost version with PRT-02</i>														
RL-D-20-102-38-01004	20	8	60	31	80,5	12	35	10,5	5	90,5	40	16	M4	3 x M5
RL-D-30-102-50-01004	30	10	80	42,5	100,5	12	45	12,5	6	110,5	55	20	M4	4 x M5
RL-D-50-102-48-01004	50	15	120	65	150,5	13	60	13	6	170,5	80	30	M6	8 x M6
<i>High end version with PRT-01</i>														
RL-D-20-102-38-01035	20	8	60	31	80,5	12	35	16	5	90,5	40	16	M4	6 x M4
RL-D-30-102-50-01035	30	10	80	42,5	100,5	12	45	19,5	6	110,5	55	20	M4	8 x M4
RL-D-50-102-48-01035	50	15	120	65	150,5	13	60	21,5	6	170,5	80	30	M6	8 x M6



Abmaße / dimensions [mm]	ØS	L1	L2	B1	B2
RL-D-20-MK-C-N17-02 (NEMA17)	8	110,4	40	42	42
RL-D-30-MK-C-N17-02 (NEMA17)	10	110,4	40	42	42
RL-D-30-MK-C-N23-02 (NEMA23)	10	140	42	56,4	56,4
RL-D-50-MK-C-N23-02 (NEMA23)	15	146	48	60	60
RL-D-50-MK-C-N23XL-02 (NEMA23XL)	15	158,5	48	60	60