



DATASHEET

RG2-FT

v1.3

1. Datasheet

1.1. RG2-FT

General Properties	Minimum	Typical	Maximum	Unit
 Payload Force Fit 2 Kg	-	-	2	[kg]
	-	-	4.4	[lb]
 Payload Form Fit 4 Kg	-	-	4	[kg]
	-	-	8.8	[lb]
Total stroke (adjustable)	0	-	100	[mm]
	0	-	3.93	[inch]
Finger position resolution	-	0.1	-	[mm]
	-	0.004	-	[inch]
Repetition accuracy	-	0.1	0.2	[mm]
	-	0.004	0.007	[inch]
Reversing backlash	0.2	0.4	0.6	[mm]
	0.007	0.015	0.023	[inch]
Gripping force (adjustable)	3	-	40	[N]
Gripping speed *	55	110	184	[mm/s]
Gripping time **	0.04	0.07	0.11	[s]
Adjustable bracket tilting accuracy	-	< 1	-	°
Ambient operating temperature	5	-	50	[°C]
Storage temperature	0	-	60	[°C]
Motor	Integrated, electric BLDC			
IP Classification	IP54			
Dimensions	219 x 149 x 49			[mm]
	8.6 x 5.9 x 1.9			[inch]
Product weight	0.98			[kg]
	2.16			[lb]

* see [RG2-FT Gripping Speed Graph](#)

** based on 8mm total movement between fingers. The speed is linearly proportional to the force. For more details see [RG2-FT Gripping Speed Graph](#).

Force Sensor Properties	Fxy	Fz	Txy	Tz	Units
Nominal capacity (N.C.)	20	40	0.7	0.5	[N] [Nm]

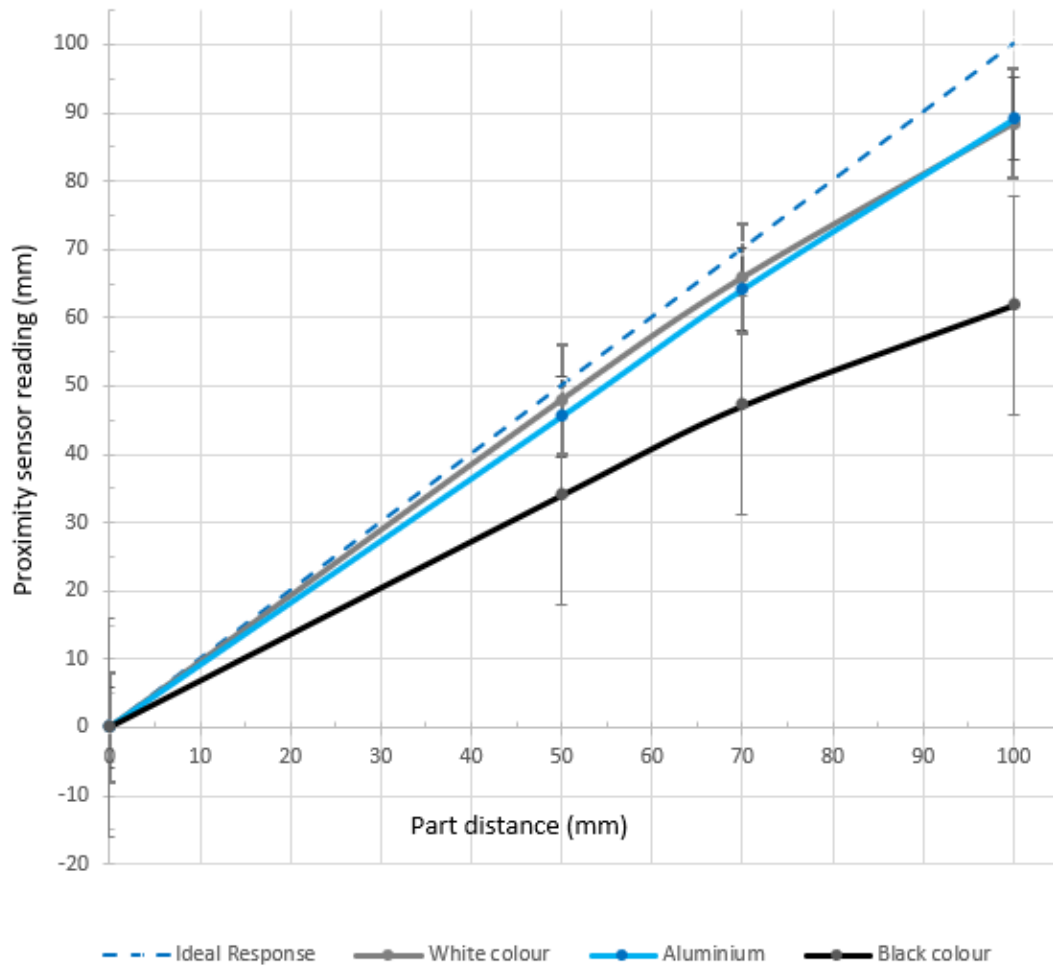
Force Sensor Properties	Fxy	Fz	Txy	Tz	Units
Single axis overload	200	200	200	200	[%]
Noise free resolution	0.1	0.4	0.008	0.005	[N] [Nm]
Single axis deformation at N.C.	0.4	0.1	2	5	[mm] [°]
	0.015	0.04			[inch] [°]
Full scale nonlinearity Temperature compensation	< 2				[%]
Sampling frequency	150				[Hz]

Proximity Sensor Properties	Min	Typical	Max	Units
Sensing range	0	-	100	[mm]
	0	-	3.93	[inch]
Precision	-	2	-	[mm]
	-	0.078	-	[inch]
Non-linearity *	-	12	-	[%]
Sampling frequency	-	150	-	[Hz]

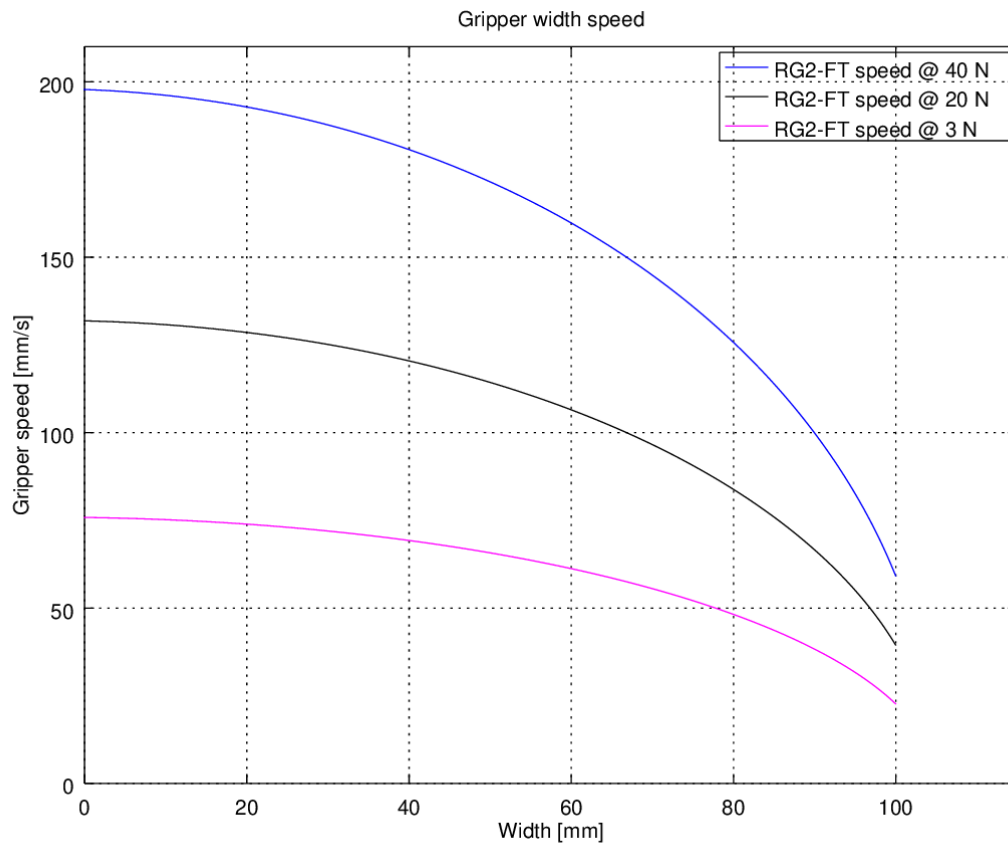
* the non-linearity refers to the max value and depends on the object properties (e.g. surface type and color)

Operating Conditions	Minimum	Typical	Maximum	Unit
Power requirement (PELV)	24	-	24	[V]
Power consumption	6.5	-	22	[W]
Operating temperature	0	-	55	[°C]
	32	-	131	[°F]
Relative humidity (non-condensing)	0	-	95	[%]
Calculated operation life	30 000	-	-	[Hours]

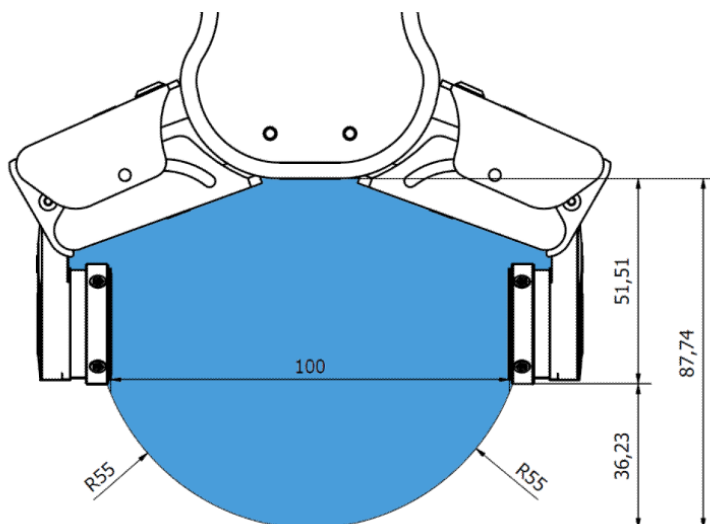
Proximity Sensor Typical Accuracy



RG2-FT Gripping Speed Graph



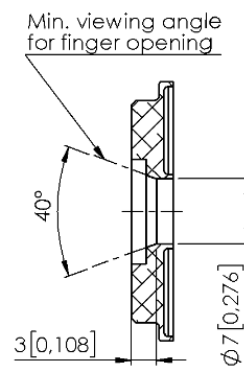
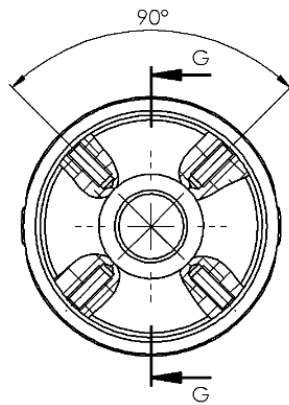
Gripper Working Range



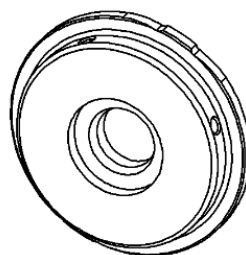
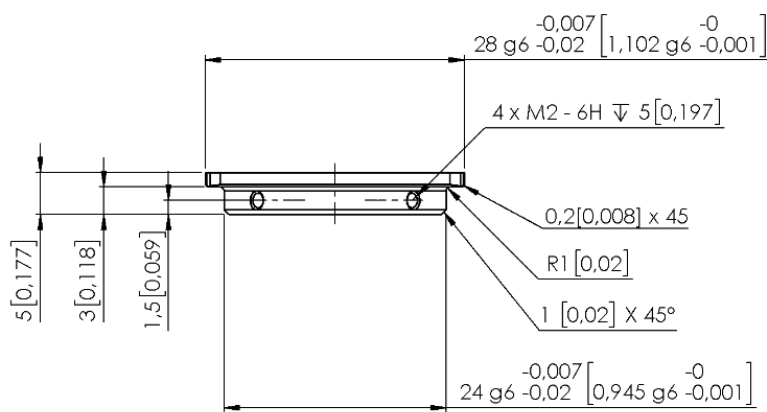
The dimensions are in millimeters.

Fingertips

The standard fingertips can be used for many different workpieces. If custom fingertips are required, they can be made to fit the Gripper fingers.



SECTION G-G



Dimensions of the Gripper's finger, in millimeters.

**NOTE:**

During the fingertip design, the following shall be considered to maintain optimal performance:

Clear optical path for the proximity sensors

Protect the proximity sensors from direct sunlight or strong light source

Avoid dust and liquid penetration

**WARNING:**

The proximity sensors are sensitive parts and shall be protected against:

Direct strong light (such as directional laser sources)

Direct high temperature

Mechanical contacts in any case

Expose to any liquid or fine conductive dust

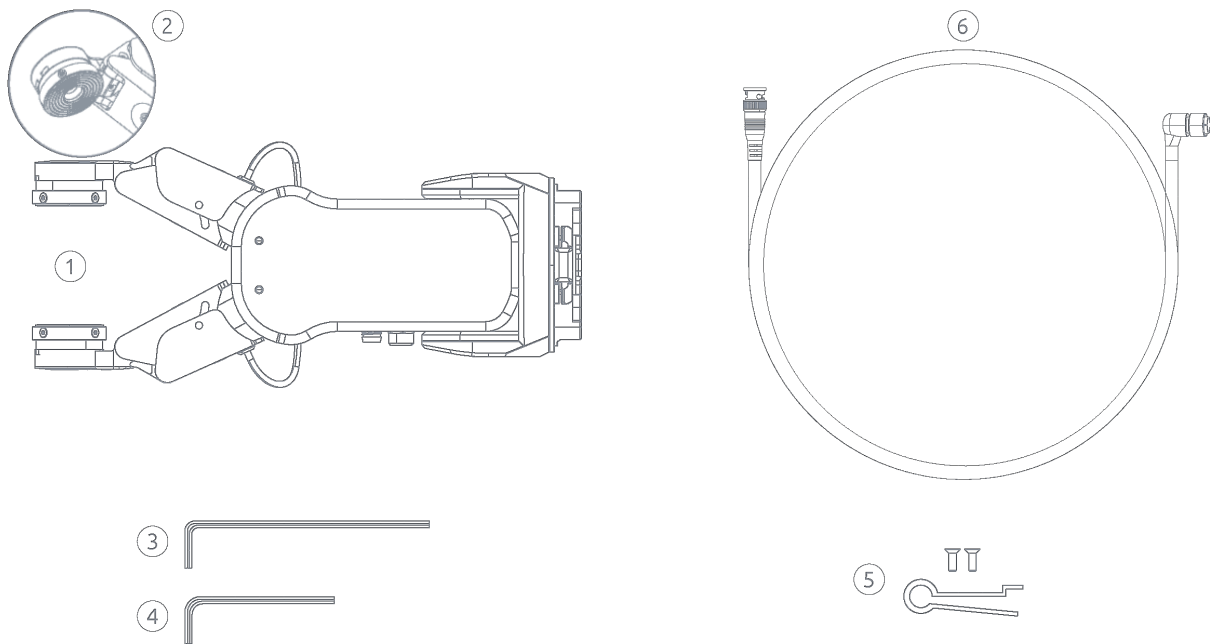
**NOTE:**

Please clean regularly the proximity sensor surface with low pressure compressed air (<5 bar) from a 5 cm distance. For stronger contamination use isopropyl alcohol with a soft cotton swab to keep it clean.

Finger Thickness

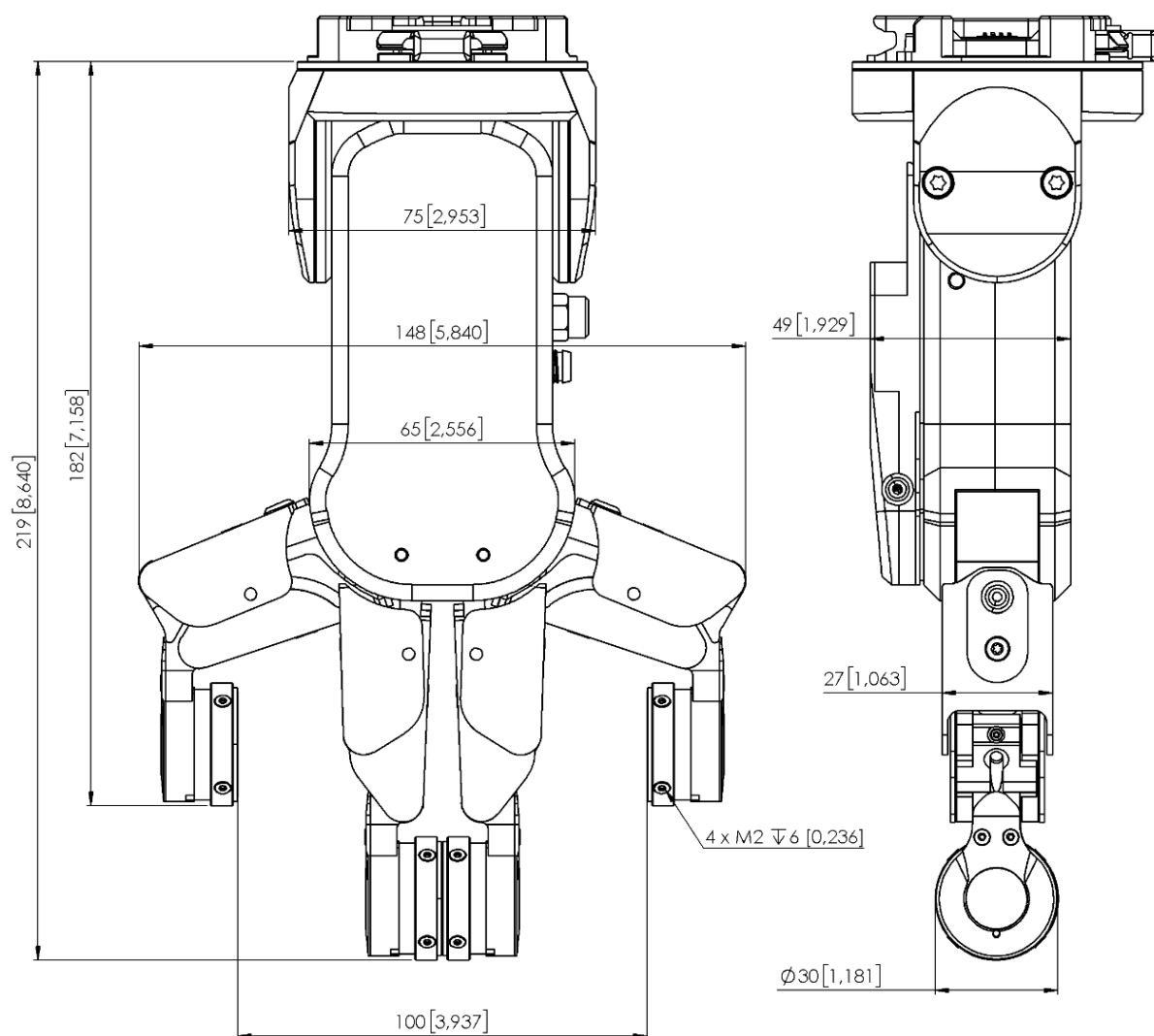
The default fingertips are considered while the finger thickness has been set and could not be changed in the software. In case when custom fingertips are used, the user should manually compensate for the difference in the finger thickness.

1.2. RG2-FT box content



- | | | |
|--------------------------------------|-------------------------------------|---------------------------------|
| ① RG2-FT | ③ Torx 20 Key for Gripper Adjutment | ⑤ Cable Holder and Spare Screws |
| ② Fingertip Adapter*
*pre-mounted | ④ Torx 6 Key for Fingertip Adapter | ⑥ Cable - 5m (M12 to M8-4pin) |

1.3. RG2-FT



All dimensions are in mm and [inches].