





# DATASHEET

RG2-FT

V1.0

# 1 Datasheet

| General Properties  | Min                               | Typical      | Max          | Units          |
|---|-----------------------------------|--------------|--------------|----------------|
| Payload Force Fit  | -<br>-                            | -<br>-       | 2<br>4.4     | [kg]<br>[lb]   |
| Payload Form Fit   | -<br>-                            | -<br>-       | 4<br>8.8     | [Kg]<br>[lb]   |
| Total stroke (adjustable)   | 0<br>0                            | -<br>-       | 100<br>3.93  | [mm]<br>[inch] |
| Finger position resolution  | -<br>-                            | 0.1<br>0.004 | -<br>-       | [mm]<br>[inch] |
| Repetition accuracy   | -<br>-                            | 0.1<br>0.004 | 0.2<br>0.007 | [mm]<br>[inch] |
| Reversing backlash  | 0.2<br>0.007                      | 0.4<br>0.015 | 0.6<br>0.023 | [mm]<br>[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<br>8.6 x 5.9 x 1.9 |              |              | [mm]<br>[inch] |
| Product weight  | 0.98<br>2.16                      |              |              | [kg]<br>[lb]   |

\* see speed table 4

\*\* based on 8mm total movement between fingers. The speed is linearly proportional to the force. For more details see speed table on page 4.

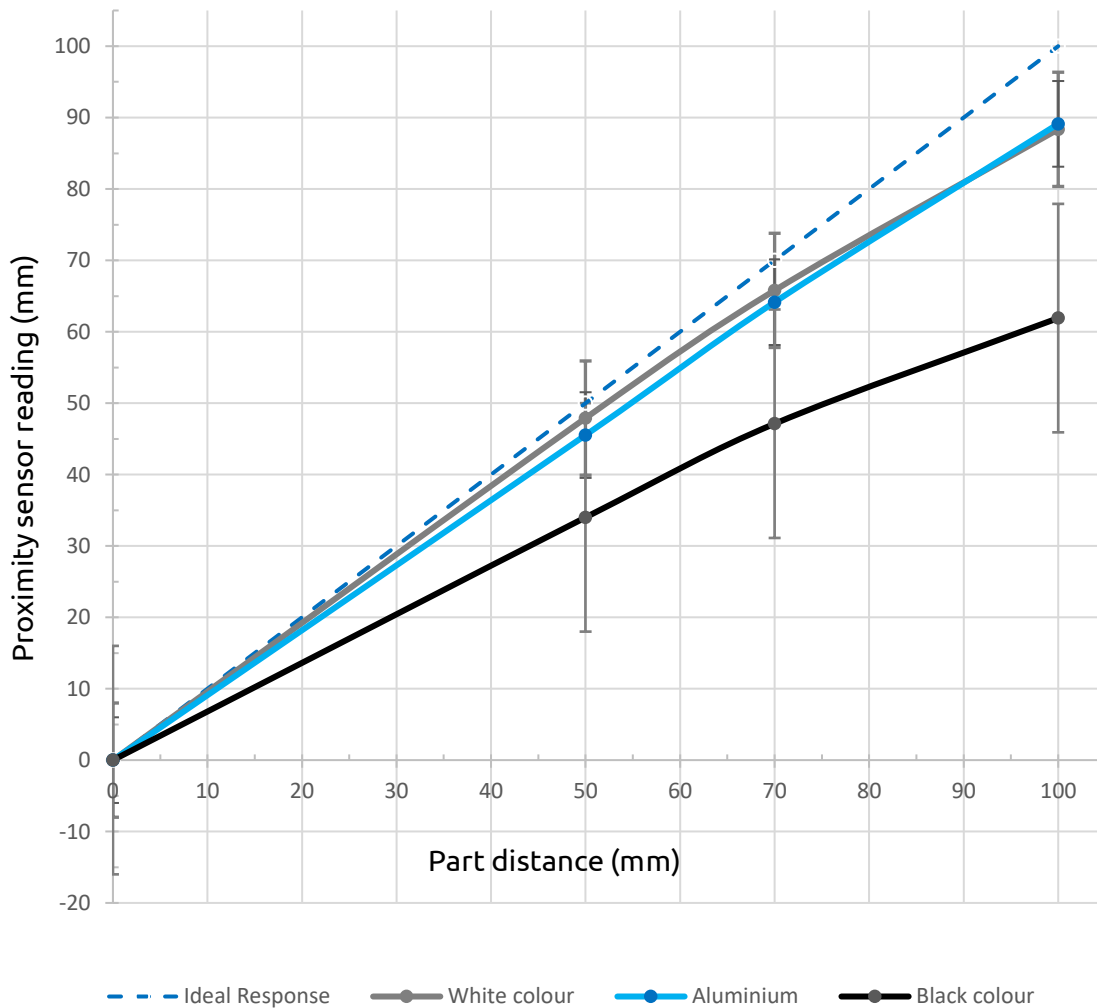
| Force Sensor Properties                             | Fxy          | Fz          | Txy   | Tz    | Units                  |
|---|--------------|-------------|-------|-------|------------------------|
| Nominal capacity (N.C.)                             | 20           | 40          | 0.7   | 0.5   | [N] [Nm]               |
| 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<br>0.015 | 0.1<br>0.04 | 2     | 5     | [mm] [°]<br>[inch] [°] |
| Full scale nonlinearity<br>Temperature compensation | < 2          |             |       |       | [%]                    |

| 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      | -    | [%]    |

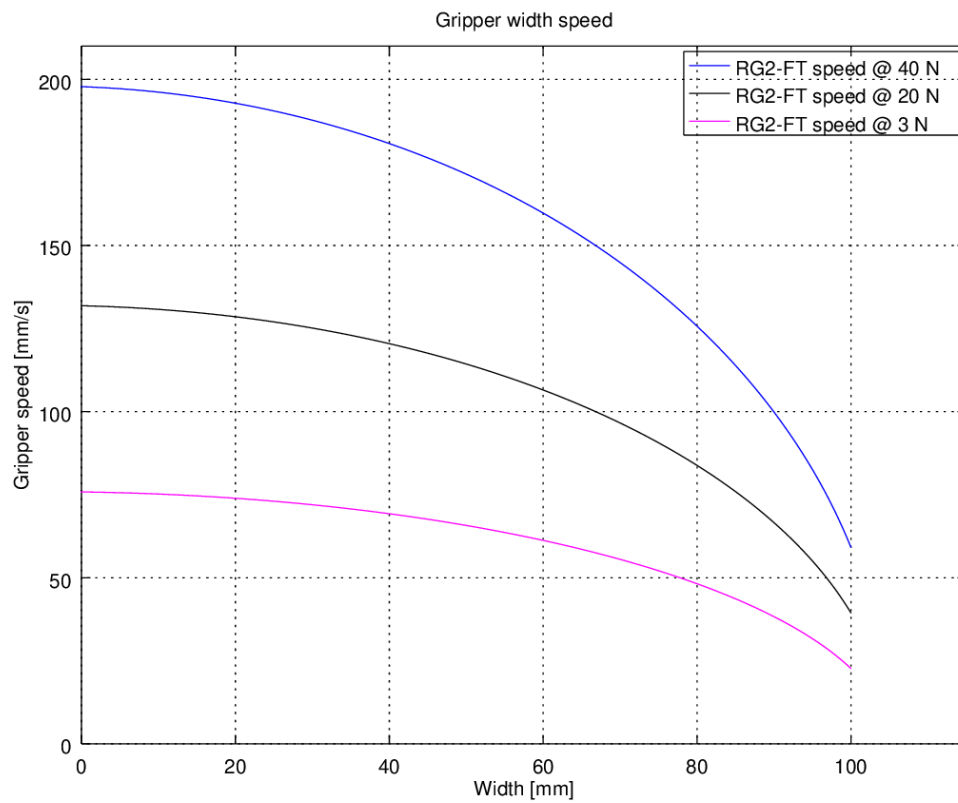
\* the non-linearity refers to the max value and depends on the object properties (e.g. surface type and color)

| 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 MTBF (operating life)   | 30.000  | -       | -       | [Hours] |

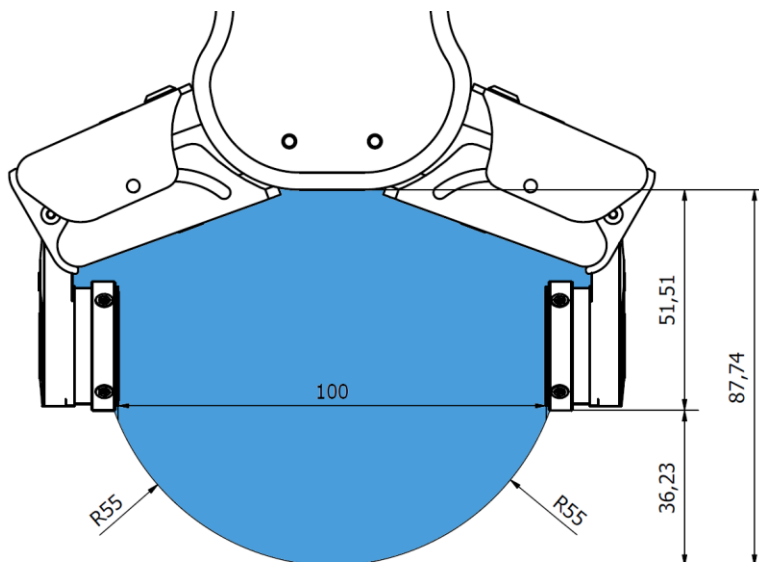
### Proximity sensor typical accuracy



### RG2-FT Gripping Speed Graph



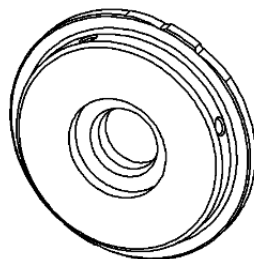
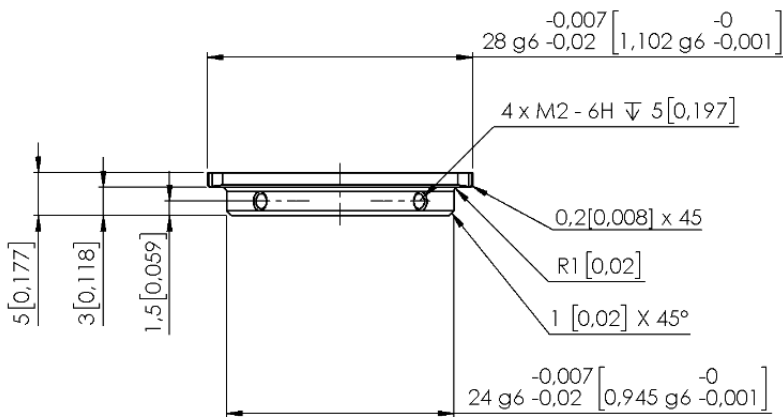
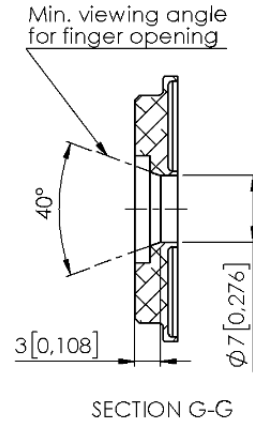
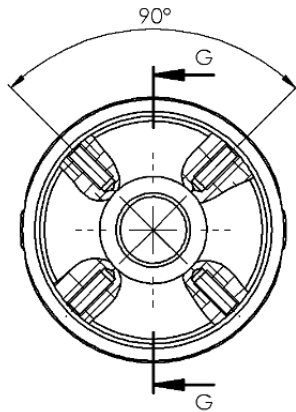
### Gripper Working Range



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.



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



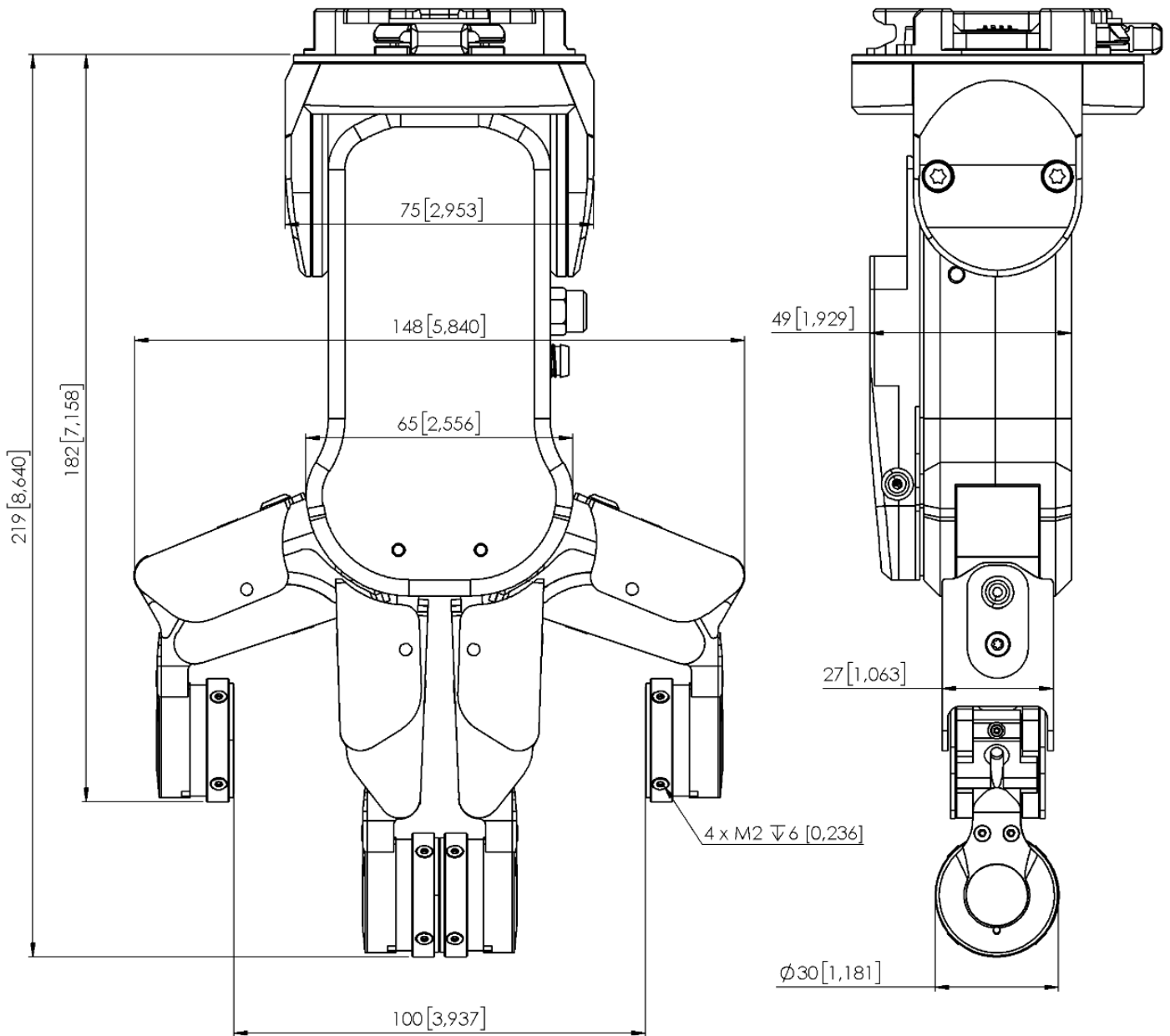
**NOTE:**

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.

**RG2-FT**



All dimensions are in mm and [inches].