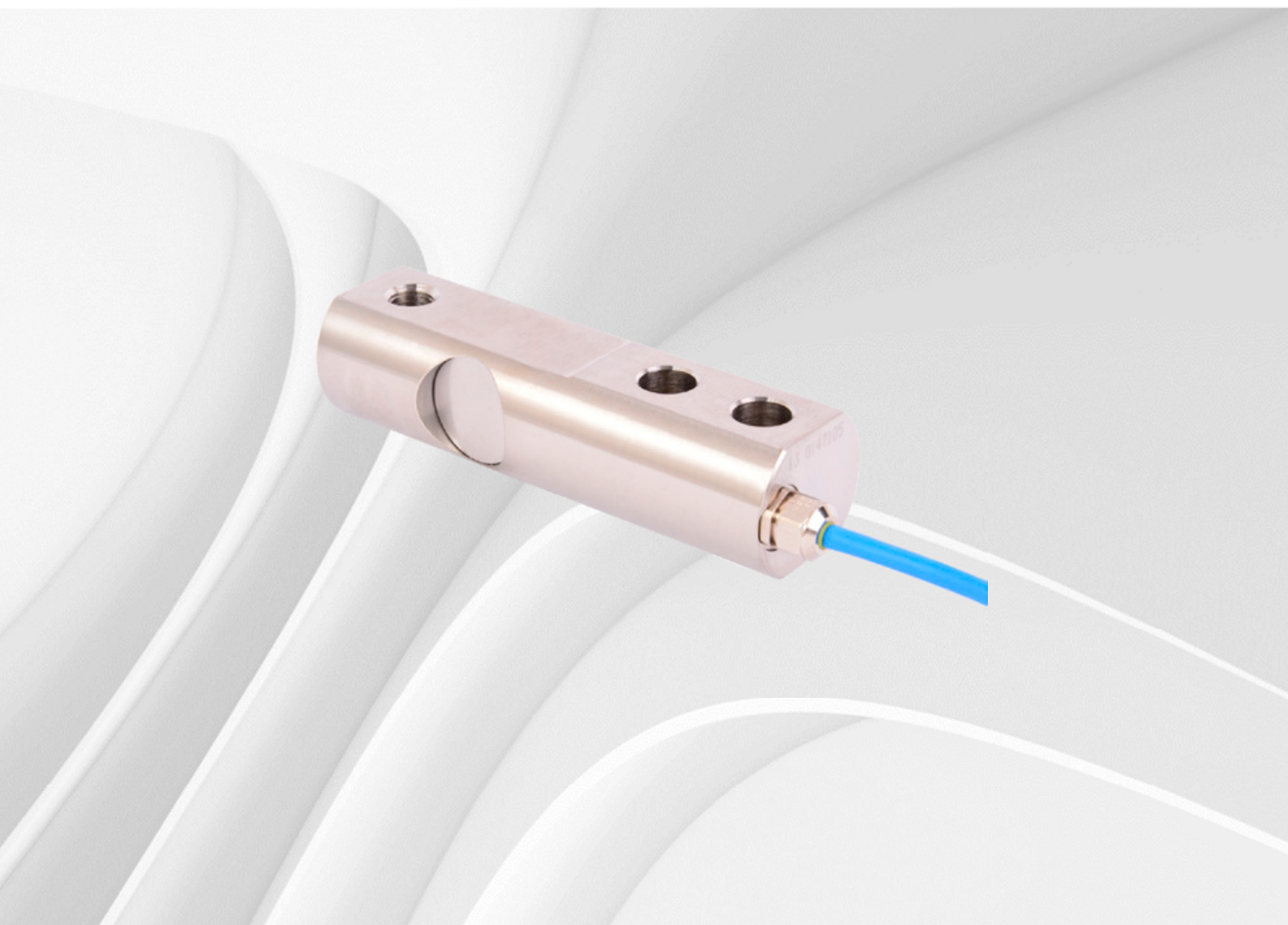


ABB MEASUREMENT & ANALYTICS | DATA SHEET

# **9QGPS5510**

Shear beam load cell



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## Measurement made easy

Universal load cell combining sturdy design, high accuracy and low cost.

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**Stainless steel**

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**IP rating IP 67**

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**Sturdy design**

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**Complies with OIML / R60 up to 3000 d for scales in class III (EN 45501)**

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### Mounting kits available with following properties

- Stabilization without tension rods
- Compensation of thermal dilatations and of default of parallelism

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### Available options (non exhaustive list)

- ATEX intrinsic safety
- Amplified output (V or mA) and digital output signal (RS-232C, RS-485, USB)
- Dual Wheatstone bridge
- IP rating IP 68
- High service temperature -50 to 180 °C (-58 to 356 °F)

## Applications

The load cell 9QGPS5510 is perfectly designed to the following applications:

- Low profile scales, pallet, platform scales
- Packaging, batching and filling machines
- Reactors, tanks, vessel or hoppers weighing

## Capacities

0.5 - (0.75) - 1 - 1.5 - 2 t

## Explosion protection (Option)

ATEX intrinsic safety

- Ex II 1GD Ex ia IIC T6 or T4 Ga Ex ia IIIC T80°C Da

## Specification

|                                              | A3                              | C1                              | 0.03 %                           | C3                              |
|----------------------------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------------|
| Accuracy class                               | 3000 d*                         | 3000 d OIML                     | 3000 d <sup>1</sup>              | 3000 d OIML                     |
| Combined error (nonlinearity and hysteresis) | < ± 0.03 % F.S.                 | < ± 0.05 % F.S.                 | < ± 0.03 % F.S.                  | < ± 0.02 % F.S.                 |
| Repeatability error                          | < ± 0.015 % F.S.                | < ± 0.02 % F.S.                 | < ± 0.015 % F.S.                 | < ± 0.01 % F.S.                 |
| Creep error over 30 min.                     | < ± 0.03 % F.S.                 | < ± 0.04 % F.S.                 | < ± 0.025 % F.S.                 | < ± 0.02 % F.S.                 |
| Sensitivity tolerance                        | < ± 0.2 % F.S.                  | < ± 0.3 % F.S.                  | < ± 0.2 % F.S.                   | < ± 0.1 % F.S.                  |
| Temperature coefficient of the sensitivity   | < ± 0.1 % F.S./10 °C            | < ± 0.02 % F.S./10 °C           | < ± 0.015 % F.S./10 °C           | < ± 0.009 % F.S./10 °C          |
| Temperature coefficient of zero signal       | < ± 0.05 % F.S./10 °C           | < ± 0.03 % F.S./10 °C           | < ± 0.023 % F.S./10 °C           | < ± 0.013 % F.S./10 °C          |
| Reference temperature                        | 23 °C (73.4 °F)                 | 23 °C (73.4 °F)                 | 23 °C (73.4 °F)                  | 23 °C (73.4 °F)                 |
| <b>Temperature data</b>                      |                                 |                                 |                                  |                                 |
| Nominal temperature range                    | -10 to 45 °C<br>(14 to 113 °F)  | -10 to 45 °C<br>(14 to 113 °F)  | -10 to 45 °C<br>(14 ... 113 °F)  | -10 to 45 °C<br>(14 to 113 °F)  |
| Service temperature range                    | -25 to 70 °C<br>(-13 to 158 °F) | -25 to 70 °C<br>(-13 to 158 °F) | -25 to 70 °C<br>(-13 ... 158 °F) | -25 to 70 °C<br>(-13 to 158 °F) |
| Storage temperature range                    | -50 to 85 °C<br>(-58 to 185 °F) | -50 to 85 °C<br>(-58 to 185 °F) | -50 to 85 °C<br>(-58 ... 185 °F) | -50 to 85 °C<br>(-58 to 185 °F) |
| <b>Electrical data</b>                       |                                 |                                 |                                  |                                 |
| Input resistance                             | 352 Ω ± 2 Ω                     | 352 Ω ± 2 Ω                     | 352 Ω ± 2 Ω                      | 352 Ω ± 2 Ω                     |
| Output resistance                            | 352 Ω ± 2 Ω                     | 352 Ω ± 2 Ω                     | 352 Ω ± 2 Ω                      | 352 Ω ± 2 Ω                     |
| Insulation resistance (50 V)                 | > 5000 MΩ                       | > 5000 MΩ                       | > 5000 MΩ                        | > 5000 MΩ                       |
| Reference excitation voltage                 | 10 V                            | 10 V                            | 10 V                             | 10 V                            |
| Nominal range of excitation voltage          | 3 to 12 V                       | 3 to 12 V                       | 3 to 12 V                        | 3 to 12 V                       |
| Nominal sensitivity                          | 2 mV/V                          | 2 mV/V                          | 2 mV/V                           | 2 mV/V                          |
| <b>Load limits</b>                           |                                 |                                 |                                  |                                 |
| Safe load limit                              | 150 % F.S.                      | 150 % F.S.                      | 150 % F.S.                       | 150 % F.S.                      |
| Breaking load                                | > 300 % F.S.                    | > 300 % F.S.                    | > 300 % F.S.                     | > 300 % F.S.                    |
| Static lateral force limit                   | 100 % F.S.                      | 100 % F.S.                      | 100 % F.S.                       | 100 % F.S.                      |
| Permissible dynamic loading                  | 50 % F.S.                       | 50 % F.S.                       | 50 % F.S.                        | 50 % F.S.                       |

Table 1: (F.S.: full scale)

\* Except thermal drifts

Specifications subject to change without notice



Mounting accessories model F5510 (stainless steel)

For load cells 9QGPS5510  
All specified dimensions are in mm (in).

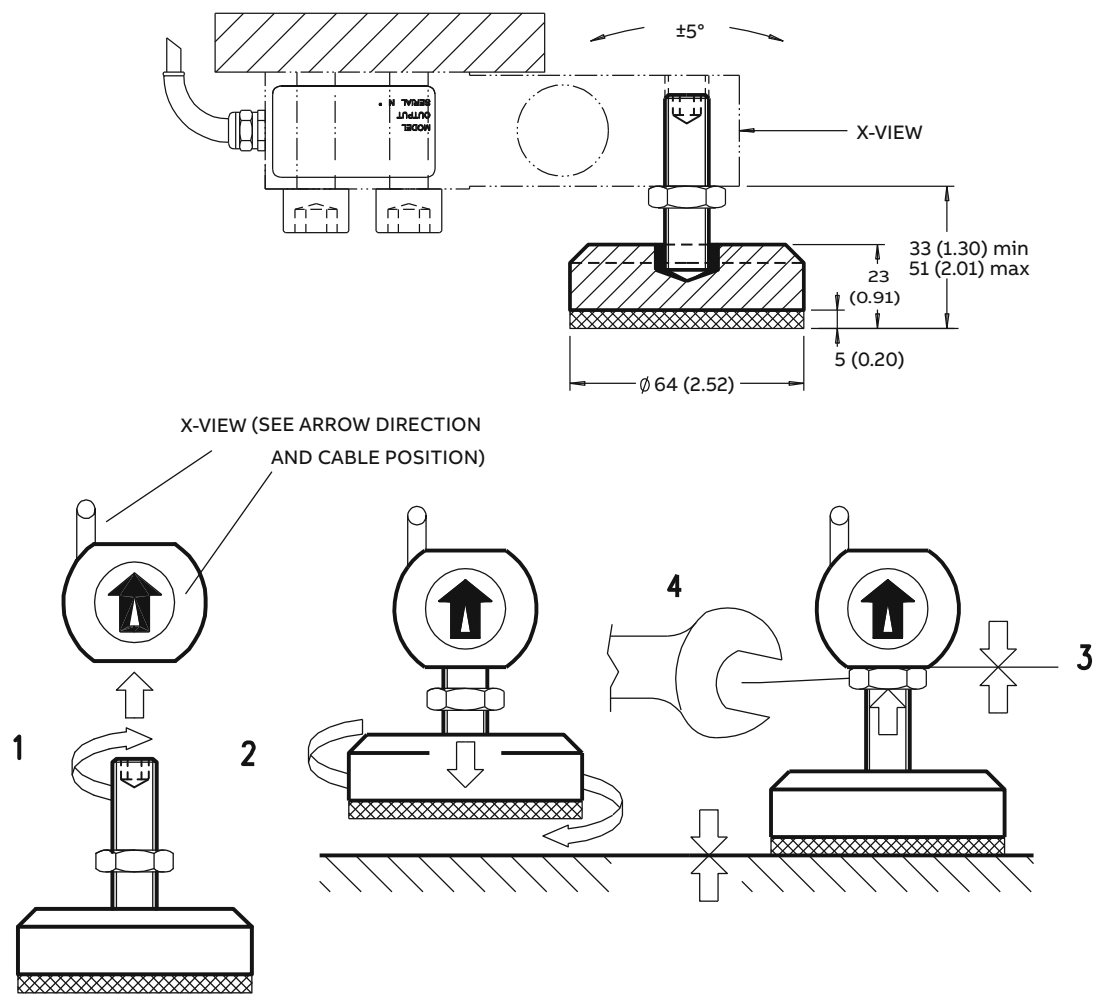


Figure 3: Mounting accessories

| Ref. Item | Capacities t |
|-----------|--------------|
| F5510-A   | 0.5 to 2     |

Table 3: Other capacities and dimensions on request

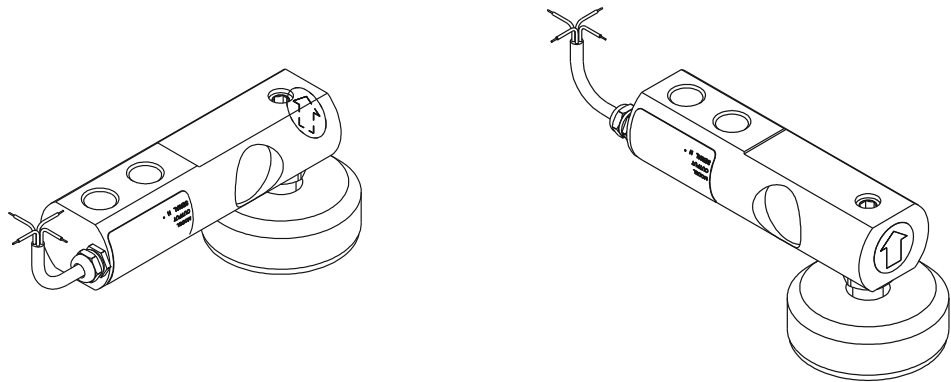


Figure 4: Other views

...Dimensions

Easy mount model I5510 (stainless steel), model I5515 (alloy steel)

For load cells 9QGPS5510

All specified dimensions are in mm (in.)

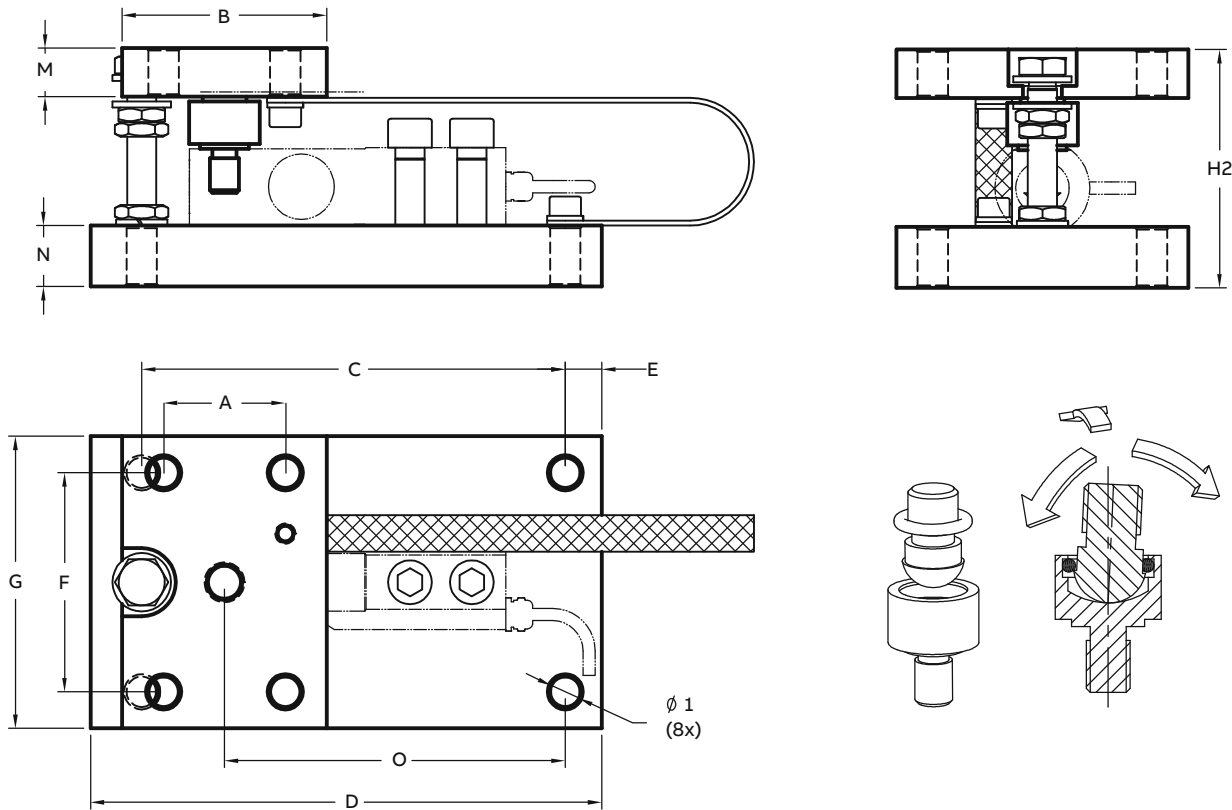


Figure 5: Easy mount

| Ref. Item | Capacities t | A      | B      | C      | D      | E      | F      | G      | M      | N      | O      | Ø1     | H2     | Weight kg (lb) |
|-----------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|
| I551x-A   | 0.5 to 2     | 50     | 84     | 174    | 210    | 15     | 90     | 120    | 20     | 25     | 140    | 12.5   | 98     | ≈ 6.76 (14.90) |
|           |              | (1.97) | (3.31) | (6.85) | (8.27) | (0.59) | (3.54) | (4.72) | (0.79) | (0.98) | (5.51) | (0.49) | (3.86) |                |

Table 4: Other capacities and dimensions on request

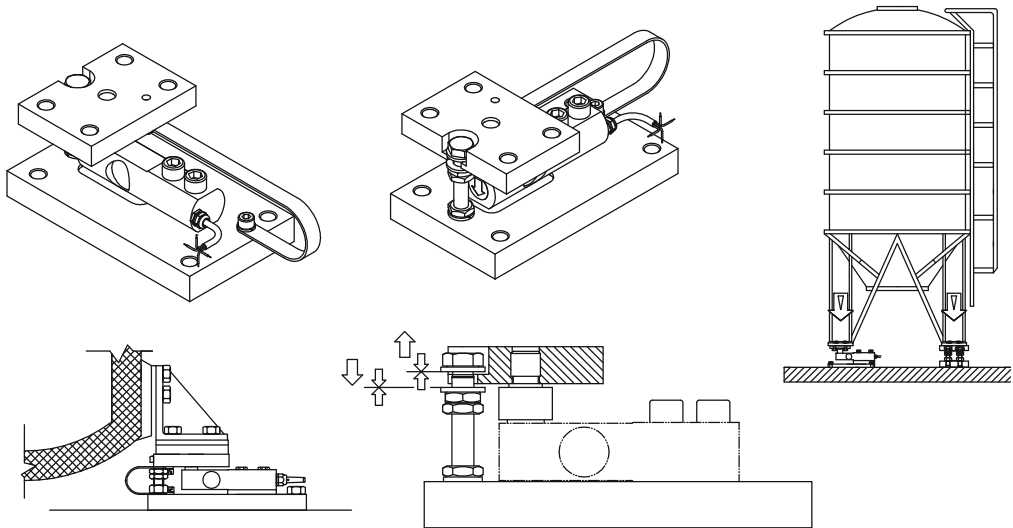


Figure 6: Other views

**Compression ball joint model R5510 (stainless steel)**

For load cells 9QGSP5510

All specified dimensions are in mm (in.)

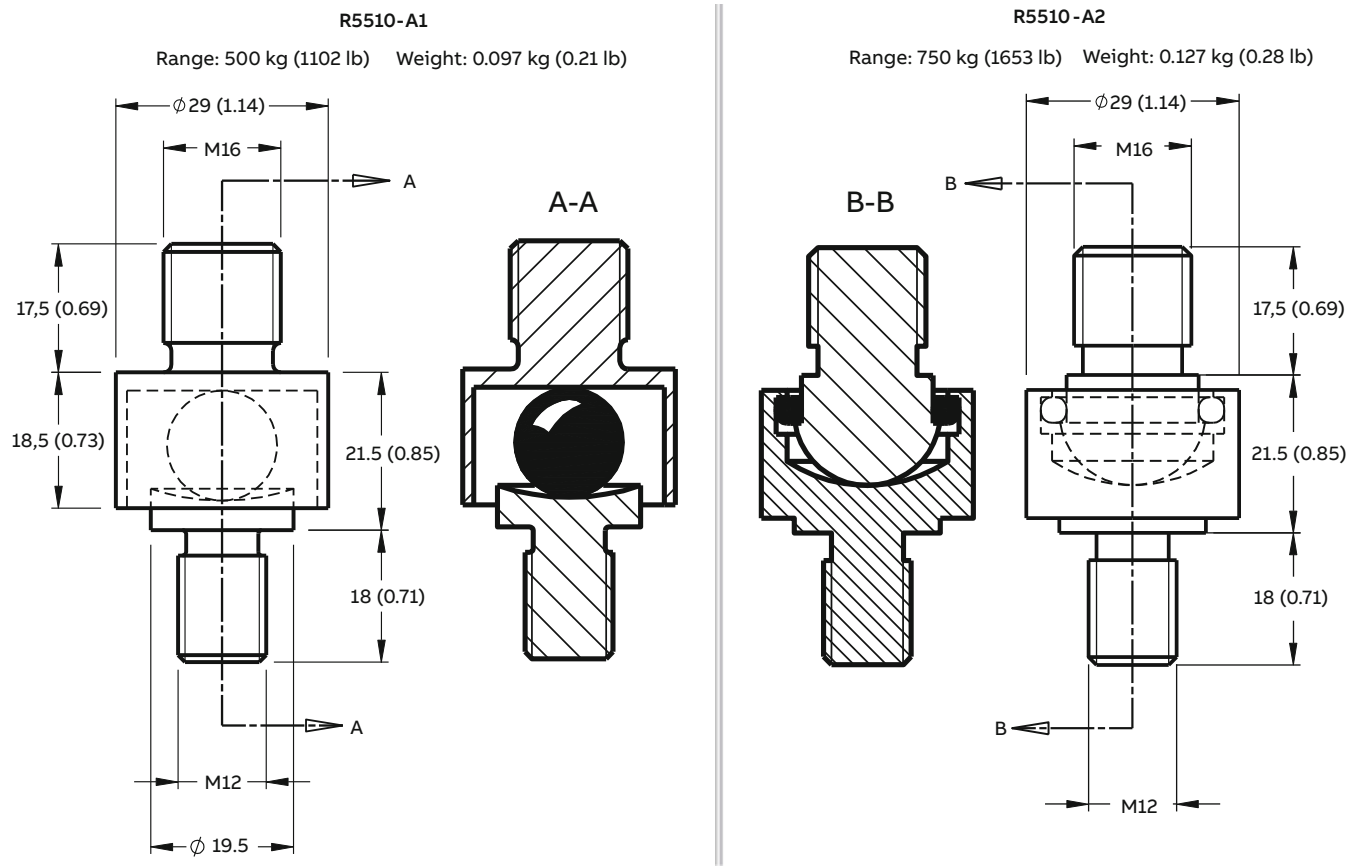


Figure 7: Compression ball joint

| Ref. Item | Capacities              |
|-----------|-------------------------|
| R5510-A1  | 500 kg (1102 lb)        |
| R5510-A2  | 750 kg (1653 lb) to 2 t |

Table 5: Other capacities and dimensions on request

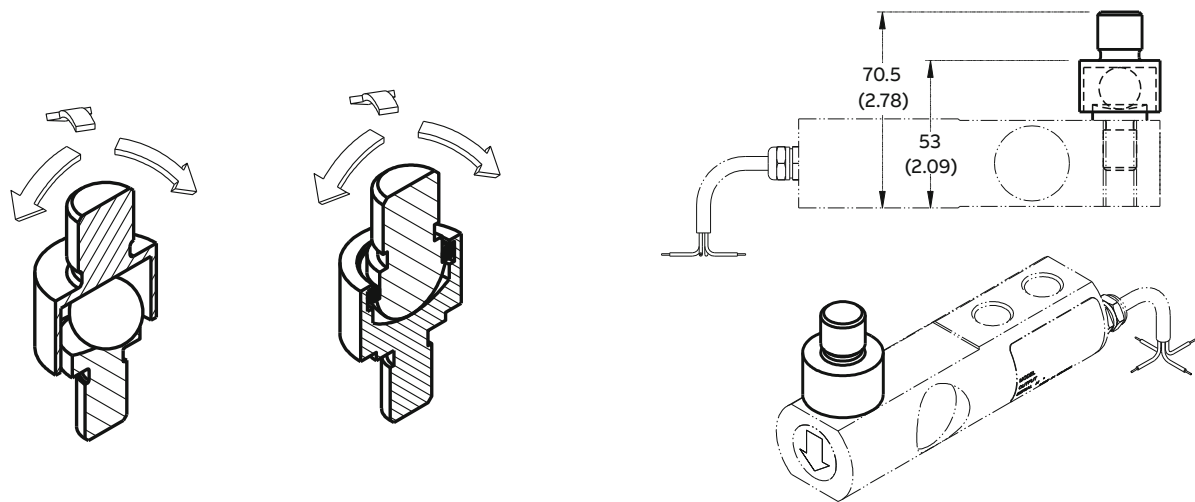


Figure 8: Other views



**Notes**

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## Notes



**Notes**



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