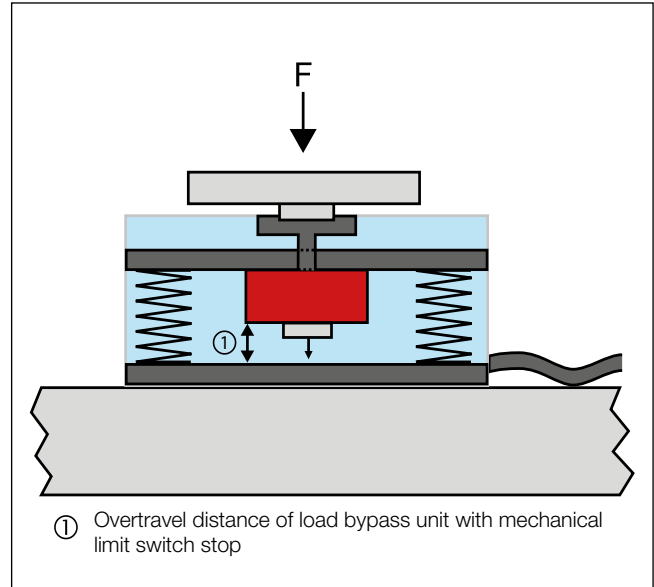
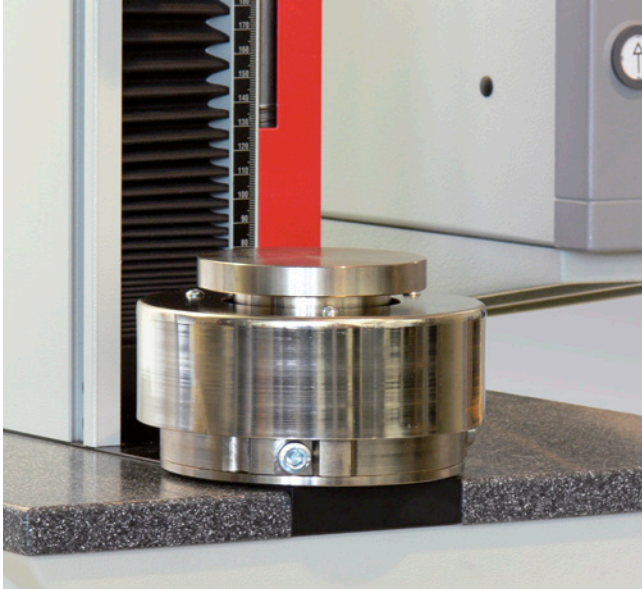


## Product Information

### Xforce load cells with load bypass unit



#### Range of application

- Tests at higher speeds, where there is a danger that set load limits will not take effect quickly enough.
- Tests with minimal separation between test fixtures and/or short travel, also making it ideal for spring and component testing.
- Can be used for tensile and compression tests without the need to dismantle and reconfigure the testing system.

#### Description of product

During tests in the compression direction, Xforce HP load cells are safeguarded by mechanical overload protection and an integrated load bypass unit.

- With **mechanical overload protection** a mechanical limit switch stop locks at maximum load of the load cell, preventing damage to the load cell through overloading
- The integrated **load bypass unit** protects the entire test assembly. From a defined load threshold (starting from the maximum capacity of the load cell) the existing load is transferred to several springs, allowing overtravel of the entire test assembly, thereby preventing an increase in force in the load cell which would result in overload or even destruction.

#### Advantages/features

- Very easily changed from compression to tensile tests via an adapter plate.
- Large span ensures high axial and flexural stiffness.
- Overload protection provided by a mechanical limit switch stop.
- Definite positioning of compression platens (no alignment fixture necessary)
- Safety features include an internal overtravel distance greater than the stopping distance of the testing machine.
- Low height achieved through compact design.
- The patent-based Xforce load cells are exclusively available from Zwick Roell.
- All Xforce load cells feature very high resistance to parasitic influences (transverse forces, bending moments, torque).
- Xforce load cells substantially exceed the requirements specified in the relevant standards (see product information PI 716).

Further advantages and features, together with detailed information regarding calibration and accuracy, can be found in the separate product information PI 716 – Xforce load cells.

## Product Information

### Xforce load cells with load bypass unit

Maximum capacity $F_N$ [kN]	0,5	1	2,5
Maximum capacity $F_N$ [lbf]	112	225	562
Diameter [mm] <sup>(1)</sup>	172	172	172
For testing machines of:	zwicki-Line	zwicki-Line	zwicki-Line
Accuracy grade 1 from (0,2% von $F_N$ )	1 N	2 N	5 N
Accuracy grade 0.5 from (1% von $F_N$ )	5 N	10 N	25 N
Mounting height [mm] <sup>(2)</sup>	96	96	93
Weight [kg], ca.	7	7	7
Load bypass from [kN] <sup>(3)</sup>	0,5	1	2,5
Overtravel distance [mm]	4	4	4
<b>Item number</b>	<b>029705</b>	<b>029709</b>	<b>029719</b>

Maximum capacity $F_N$ [kN]	2,5	5	10
Maximum capacity $F_N$ [lbf]	562	1124	2248
Diameter [mm] <sup>(1)</sup>	234	234	234
For testing machines of:	Allround-Line / ProLine	Allround-Line / ProLine	Allround-Line / ProLine
Accuracy grade 1 from (0,2% von $F_N$ )	5 N	10 N	20 N
Accuracy grade 0.5 from (1% von $F_N$ )	25 N	50 N	100 N
Mounting height [mm] <sup>(2)</sup>	106	106	106
Weight [kg], ca.	16	16	16
Load bypass from [kN]	2,5	5	10
Overtravel distance [mm]	4	4	4
<b>Item number</b>	<b>029720</b>	<b>029724</b>	<b>027258</b>

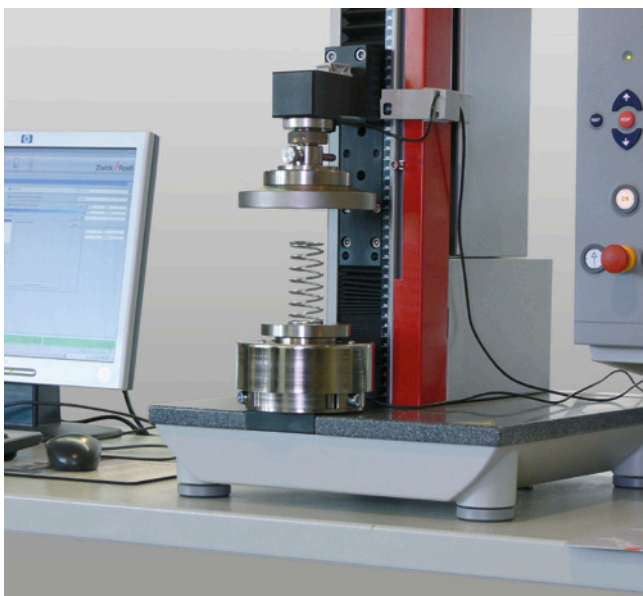
<sup>(1)</sup> 172 mm diameter suitable for single-column testing machines, 234 mm diameter for two-column testing machines

<sup>(2)</sup> With compression platen in place. Without compression platen approx. minus 12 mm.

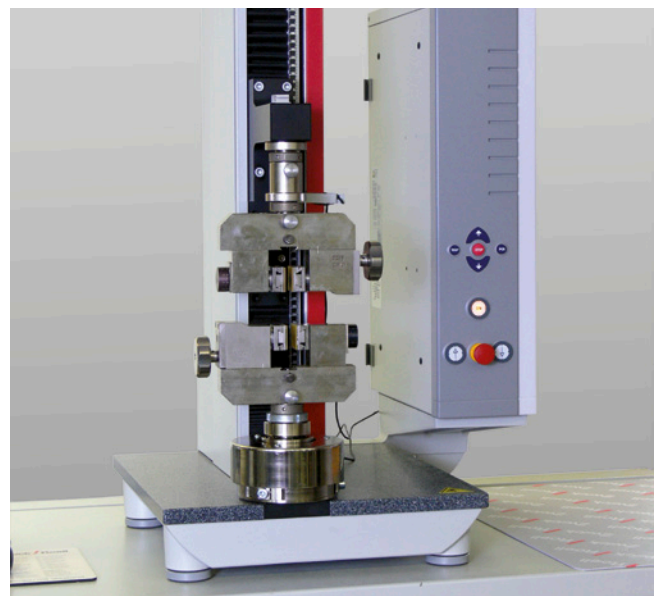
<sup>(3)</sup> Load measuring systems combining load bypass units and load cells with lower nominal capacities on request.

#### Note regarding installation:

The Xforce HP load cell with load bypass unit is always installed in the lower part of the test area, directly on the base cross-head.



Load bypass unit combined with a compression test



Load bypass unit combined with a tensile test

All data at ambient temperature.

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