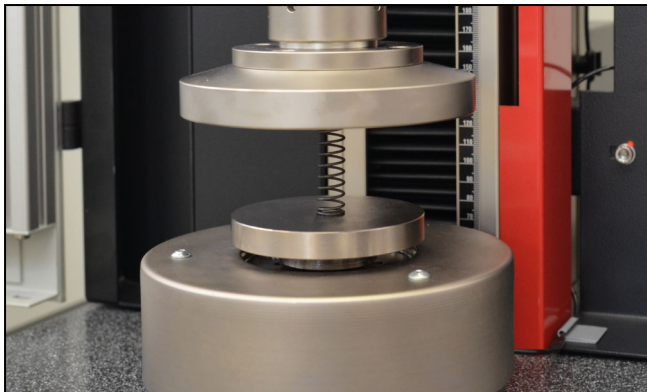


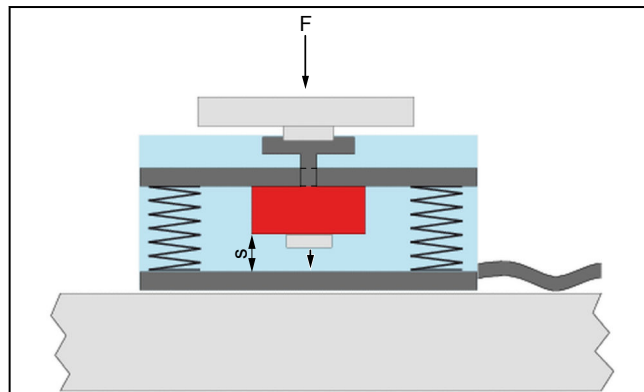
## Product Information

### Xforce force measurement system with load bypass unit

CTA: 64212 53212



Xforce force-measurement system



Coasting travel (s) of load bypass unit with mechanical stop

#### Applications

- tests at higher test speeds, as here there is a danger that set force-limits will not take effect quickly enough
- tests with very small separation between fixtures or with little travel; therefore also ideal for tests on springs and components.

#### Function description

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

- In case of **mechanical overload protection**, a mechanical stop blocks it before reaching the maximum permissible limit force of the load cell. This prevents any damage to the load cell due to overloading.
- The integrated **load bypass unit** protects the entire test arrangement:  
Starting at a specific force threshold  $120^{+6}/_{-4} \% F_{nom}$  (at the earliest starting from the maximum nominal force of the load cell), the existing force is transferred to several springs. As a result, the entire test arrangement bypasses a load. This load bypass prevents a force increase in the load cell that would cause overloading or even destruction.

#### Advantages and features

- large support width gives the force measurement system high axial and flexural stiffness
- overload protection provided by mechanical stop
- clear, error-free compression-platen positioning (no alignment unit required)
- large overtravel (longer than testing machine braking distance) ensures safety
- low overall height achieved through compact design
- patent-based Xforce load cells available exclusively from ZwickRoell
- all Xforce load cells are highly insensitive to parasitic influences (transverse forces, bending moments, and torque)
- Xforce load cells satisfy calibration requirements well beyond specifications in standards

## Product Information

### Xforce force measurement system with load bypass unit

#### Technical data

#### Xforce force measurement system with load bypass unit for zwickiLine

Nominal force $F_{nom}$	0.2	0.5	1	2.5	kN
	45	112	225	562	lbf
Item No.	1079287 <sup>1)</sup>	1079288 <sup>1)</sup>	1079290 <sup>1)</sup>	1079291 <sup>1)</sup>	
Accuracy Class 1 (from 0.2 % of $F_{nom}$ )	0.4	1	2	5	N
Accuracy Class 0.5 (from 1 % of $F_{nom}$ )	2	5	10	25	N
Dimensions					
Diameter	172 <sup>2)</sup>	172 <sup>2)</sup>	172 <sup>2)</sup>	172 <sup>2)</sup>	mm
Installation height	96 <sup>3)</sup>	96 <sup>3)</sup>	96 <sup>3)</sup>	93 <sup>3)</sup>	mm
Weight, approx.	7	7	7	7	kg
Load bypass unit from	0.2 <sup>4)</sup>	0.5 <sup>4)</sup>	1 <sup>4)</sup>	2.5 <sup>4)</sup>	kN
Overshoot travel	2.5	2.8	2.8	3.5	mm

- 1) Also possible in conjunction with zwicki standard safety device
- 2) 172 mm diameter suitable for single-column testing machines; 234 mm diameter suitable for two-column testing machines
- 3) With compression platen inserted. Without compression platen the installation height is reduced by approx. 12 mm.
- 4) Force measurement systems combining load bypass units and load cells with low nominal forces upon request.

#### Xforce force measurement system with load bypass unit for AllroundLine/ProLine

Nominal force $F_{nom}$	2.5	5	10 <sup>1)</sup>	kN
	562	1124	2248	lbf
Item No.	1088047	1088048	1088049	
Accuracy Class 1 (from 0.2 % of $F_{nom}$ )	5	10	20	N
Accuracy Class 0.5 (from 1 % of $F_{nom}$ )	25	50	100	N
Dimensions				
Diameter	234 <sup>2)</sup>	234 <sup>2)</sup>	234 <sup>2)</sup>	mm
Installation height	106 <sup>3)</sup>	106 <sup>3)</sup>	106 <sup>3)</sup>	mm
Weight, approx.	16	16	17	kg
Load bypass unit from	2.5 <sup>4)</sup>	5 <sup>4)</sup>	10 <sup>4)</sup>	kN
Overshoot travel	3.8	3.8	4	mm

- 1) Required for mounting to ProLine 100 kN: 317877 flange.
- 2) 172 mm diameter suitable for single-column testing machines; 234 mm diameter suitable for two-column testing machines
- 3) With compression platen inserted. Without compression platen the installation height is reduced by approx. 12 mm.
- 4) Force measurement systems combining load bypass units and load cells with low nominal forces upon request.



#### NOTE

The Xforce HP load cell with load bypass unit is always installed below in the test area, directly on the base crosshead. The load bypass functionality works only in the compression direction; calibration is performed for compression as standard. To load for tension as well, note the required options.

## Product Information

Xforce force measurement system with load bypass unit

### Optional accessories

Description	Item number
Adapter plate incl. calibration, zwickiLine	<b>1079301</b>
Adapter plate incl. calibration, ProLine and AllroundLine	<b>1091764</b>