

# Level Sensor PanCake® PR 6251 and Mounting Kit PR 6051

The space-saving solution for simple applications



German Quality

*The sensors of the PR 6251 series have been specially designed for simple weighing of silos and horizontal tanks for bulk and liquid materials. Their compact design allows for easy retrofitting of existing applications. In-house production using top-quality materials, which bear the "Made in Germany" quality seal, ensures optimum product quality.*

The right solution for all of these applications:



Weighing



Fill quantity  
control

## Technical specifications

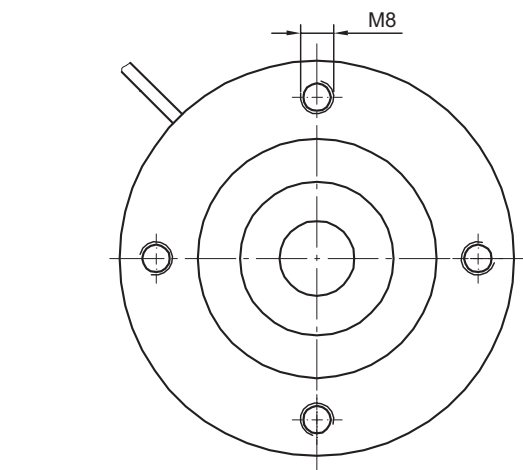
Level sensor PanCake® PR 6251						
Parameters	Description	Abbr.	L	LA	LE	Unit
Accuracy class			0.5	0.5	0.5	%E <sub>max</sub>
Minimal dead load	Lowest limit of specified measuring range	E <sub>min</sub>	0	5	0	%E <sub>max</sub>
Maximum capacity	Highest limit of specified measuring range	E <sub>max</sub>	See ordering information table			kg
Safe load limit	Maximum load possible without irreversible damage	E <sub>lim</sub>	150	120	150	%E <sub>max</sub>
Destructive load	Danger of mechanical destruction	E <sub>d</sub>	300	300	300	%E <sub>max</sub>
Rated output	Relative output signal at maximum capacity (LA = 4...20 mA)	C <sub>n</sub>	2	16 mA	2	mV/V
Tolerance on rated output	Permissible deviation from rated output	d <sub>c</sub>	<4	<4	<4	%C <sub>n</sub>
Zero output signal	Load cell output signal under unloaded condition	S <sub>min</sub>	0±4	4±4	0±4	%C <sub>n</sub>
Reproducibility	Max. change in load cell output for repeated loading	ε <sub>R</sub>	<0.1	<0.1	<0.1	%C <sub>n</sub>
Creep	Max. change of output signal at E <sub>max</sub> during 30 min.	d <sub>cr</sub>	<0.1	<0.1	<0.1	%C <sub>n</sub>
Non-linearity	Deviation from best straight line through zero	d <sub>lin</sub>	<0.25	<0.25	<0.25	%C <sub>n</sub>
Hysteresis	Max. difference in between loading and unloading	d <sub>hy</sub>	<0.15	<0.15	<0.15	%C <sub>n</sub>
Temperature effect (TK) of S <sub>min</sub>	Max. change of S <sub>min</sub> in B <sub>T</sub>	TK <sub>Smin</sub>	<0.15	<0.15	<0.15	%C <sub>n</sub> /10 K
Temperature effect (TK) of parameter	Max. change of C in B <sub>T</sub>	TK <sub>C</sub>	<0.1	<0.1	<0.1	%C <sub>n</sub> /10 K
Input impedance	between supply terminals	R <sub>LC</sub>	645±60	/	645±60	Ω
Output impedance	between measuring terminals	R <sub>O</sub>	635±15	/	635±15	Ω
Insulation impedance	Between measuring circuit and housing at 100 V <sub>DC</sub>	R <sub>IS</sub>	>5000×10 <sup>6</sup>	/	>5000×10 <sup>6</sup>	Ω
Nominal supply voltage range	In compliance with the technical data	B <sub>u</sub>	4 to 24	20 to 28	4 to 24	V
Max. supply voltage	Continuous operation without damage	U <sub>max</sub>	32	28	25	V
Nominal ambient temperature range	In compliance with the technical data	B <sub>T</sub>	-10 to +70	-10 to +55	-10 to +55	°C
Service temperature range	Continuous operation without damage	B <sub>TU</sub>	-30 to +95	-30 to +70	-30 to +95	°C
Storage temperature range	without electrical and mechanical stress	B <sub>TI</sub>	-40 to +95	-40 to +80	-40 to +95	°C
Marginal eccentricity	accepted distance from measuring axis	S <sub>ex</sub>	10			mm
Vibration resistance	Resistance against oscillations (IEC 68-2-6-Fc)		20 g, 100 h, 10 to 150 Hz			
Barometric pressure influence	Barometric pressure influence on the output signal	PK <sub>Smin</sub>	<20			g/kPa
Nominal deflection	Max. elastic deforming under maximum capacity	S <sub>nom</sub>	to 2 t <0.1/16 t <0.2			mm
Material (sensor)	– Stainless steel 1.4057 at load level 500 kg...5 t – Stainless steel 1.4542 at load level 10 t and 16 t					
Protection class	IP68					
Cables	Length: 5 m Diameter: 5 mm Cross section: 4×0.35 mm <sup>2</sup> Material of cable sheathing: TPE					
Bending radius	≥25 mm in the case of fixed installation ≥75 mm in the case of flexible installation					

## Mounting kits PR 6051

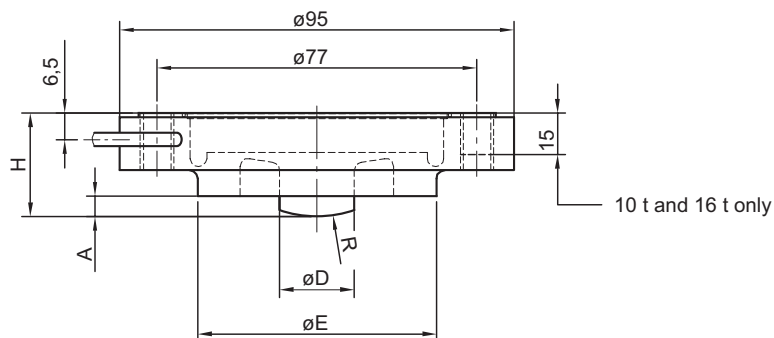
Maximum capacity of the load cell PR 6251	Mounting kit/accessories	Material	Description/comments	Height (mm)
500 kg–2 t	PR 6051/20S	Stainless steel 1.4301	Installation adapter for PanCake® 1" (spherical cap base)	180 (incl. load cell)
3 t–5 t	PR 6051/21S		Installation adapter for PanCake® 1.5" (spherical cap base)	180 (incl. load cell)
10 t	PR 6051/22S		Installation adapter for PanCake® 2" (spherical cap base)	190 (incl. load cell)
500 kg–16 t	PR 6051/00S		Securing reverse disc	500 kg to 5 t: 40 10 t to 16 t: 50
	PR 6051/12S	Stainless steel 1.4542	Base plate	18

## Technical diagrams

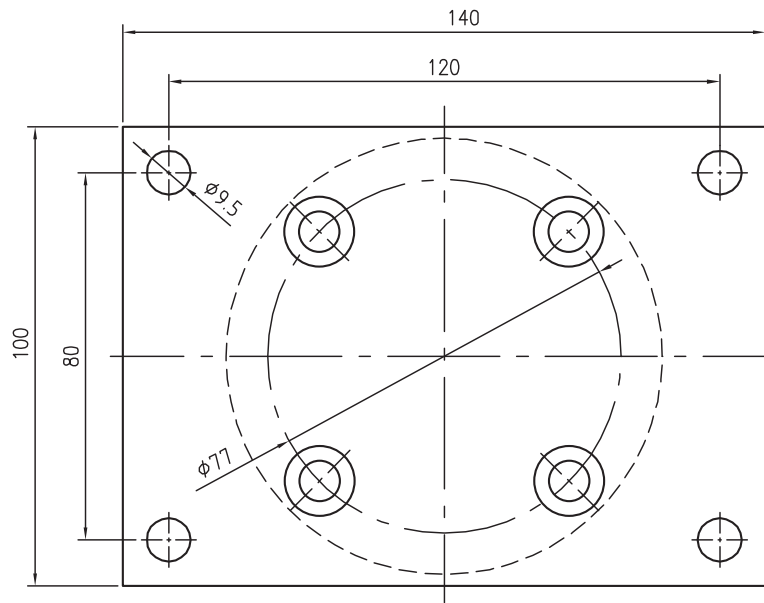
### Level sensor PanCake® PR 6251



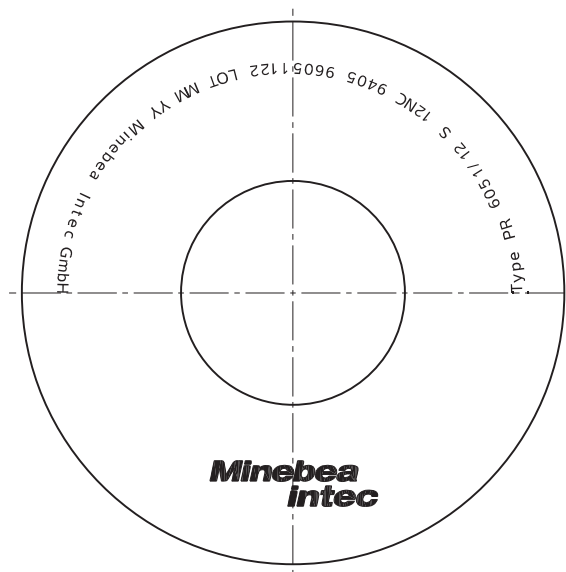
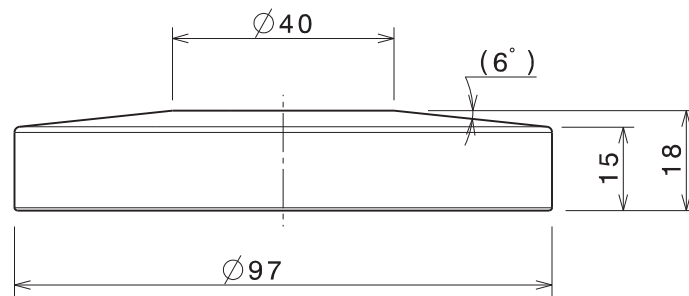
Model	A [mm]	D [mm]	E [mm]	H [mm]	R [mm]
PR 6251/52	5	18	57.5	25	25
PR 6251/13	5	18	57.5	25	25
PR 6251/23	5	18	57.5	25	25
PR 6251/33	5	18	57.5	25	50
PR 6251/53	3	18	63	25	50
PR 6251/14	8	21.7	57.5	35	70
PR 6251/24	5	23	67	35	100



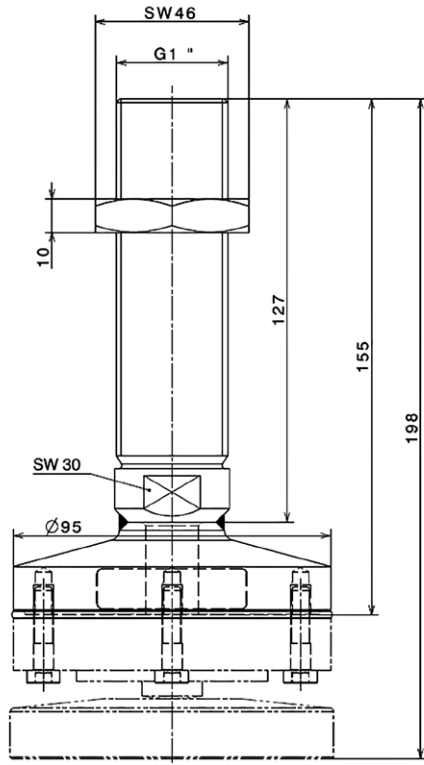
Mounting kit PR 6051



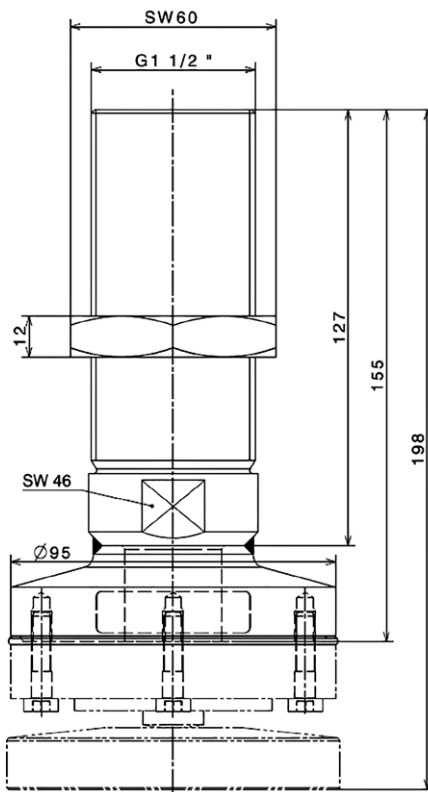
Reverse disc PR 6051/00S



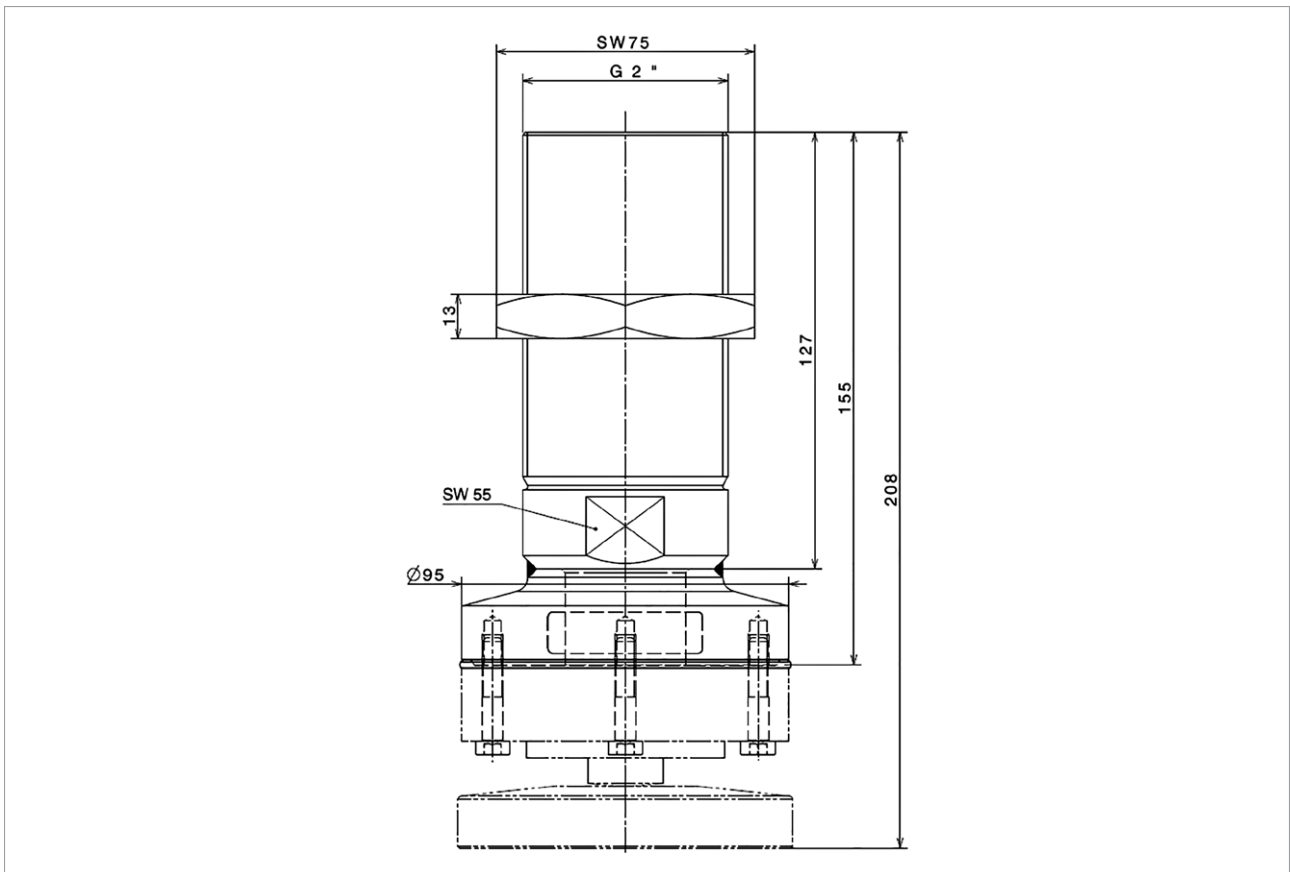
Base plate PR 6051/12S



Installation adapter PR 6051/20S (base plate PR 6051/12S not included in scope of delivery)



Installation adapter PR 6051/21S (base plate PR 6051/12S not included in scope of delivery)



Installation adapter PR 6051/22S (base plate PR 6051/12S not included in scope of delivery)

## Ex approval

### Scope of validity:

PR 6251 (500 kg to 16 t)



Explosion protection

### Level sensor PanCake® PR 6251 certificates

Zone	Marking	Certificate number	For
0 and 1	II 1G Ex ia IIC T6 Ga Ex ia IIC T6 Ga	BVS 16 ATEX E 005 IECEX BVS 16.0005	Only PR 6251/..LE
20 and 21	II 1D Ex ta IIIC T160°C Da Ex ta IIIC T160°C Da	TÜV 03 ATEX 2301X IECEX TUN 17.0025X	Only PR 6251/..L
2	II 3G Ex nA IIC T6 Gc	Manufacturer's declaration	Only PR 6251/..L
22	II 3D Ex tc IIIC T85 °C Dc	Manufacturer's declaration	Only PR 6251/..L
FMus	IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, III, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta = -30°C to 70°C; T5 Ta = -30°C to 55°C	FM17US0276	Only PR 6251/..L
FMca	IS CL I, II, III, DIV 1, GP A, B, C, D, E, F, G Entity - 4012 101 5688 NI CL I, II, III, DIV 2, GP A, B, C, D, E, F, G NIFW - 4012 101 5688 T4A Ta = -30°C to 70°C; T5 Ta = -30°C to 55°C	FM17CA0138	Only PR 6251/..L

## Ordering information

### Level sensor PanCake<sup>®</sup>, accuracy class L = 0.5%

Type	Load level	Order number
PR 6251/52L	500 kg	940526251529
PR 6251/13L	1 t	940526251139
PR 6251/23L	2 t	940526251239
PR 6251/33L	3 t	940526251339
PR 6251/53L	5 t	940526251539
PR 6251/14L	10 t	940526251149
PR 6251/24L	16 t	940526251249

### Level sensor PanCake<sup>®</sup>, accuracy class L = 0.5%, EX version

Type	Load level	Order number
PR 6251/52LE	500 kg	940566251529
PR 6251/13LE	1 t	940566251139
PR 6251/23LE	2 t	940566251239
PR 6251/33LE	3 t	940566251339
PR 6251/53LE	5 t	940566251539
PR 6251/14LE	10 t	940566251149
PR 6251/24LE	16 t	940566251249

### Level sensor PanCake<sup>®</sup>, accuracy class L = 0.5%, with analogue amplifier (4–20 mA)

Type	Load level	Order number
PR 6251/52LA	500 kg	940556251529
PR 6251/13LA	1 t	940556251139
PR 6251/23LA	2 t	940556251239
PR 6251/33LA	3 t	940556251339
PR 6251/53LA	5 t	940556251539
PR 6251/14LA	10 t	940556251149
PR 6251/24LA	16 t	940556251249



## Installation adapter PR 6051

Type	Order number
PR 6051/20S	940536051202
PR 6051/21S	940536051212
PR 6051/22S	940536051002

## Mounting kits PR 6051 – mounting plate

Type	Order number
PR 6051/12S	940596051122
PR 6051/00S	940596051002

The products and solutions presented in this data sheet make major contributions in the following sectors:



Food  
and beverages



Chemistry



Agribusiness



Building materials



Machinery  
(OEM)

The technical data given serves as a product description only and should not be understood as guaranteed properties in the legal sense.

Specifications subject to change without notice.  
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