

# Combi Gauges for Rail Cars

According to DIN 38 030:2009-02

With two Measuring Units

Models **DRg...Fz**  
**DRChg...Fz**

## Application

Pressure gauges **NCS 60 Model DRg 60 – 1 Fz rmBFR,**  
**NCS 80 Model DRChg 80 – 1 Fz rmBFR,**  
**NSC 100 Model DRChg 100 – 1 Fz rmBFR,**

are used for the measurement of two different pressures and are applied for rail cars, especially for pneumatic brake systems.

They are in accordance with the norm DIN 38 030:2009-02.

The instruments are provided with u-clamps for panel mounting and they combine direct and indirect lighting.

## Construction

The pressure gauges are provided with two independently working bourdon tube measuring systems. Each system has a separate pressure connection. A movement with separate pointer shafts transfers the pressure caused motion of the bourdon tubes onto the particular pointer.

## Standard Version according to DIN 38 030:2009-02

### Accuracy

Class 1.6: NCS 60 separate for each measuring system  
Class 1.0: NCS 80, 100 separate for each measuring system

### Position of Installation

70° – 90° (position of adjustment 80°)

### Case

NCS 60 (2.36") steel, galvanised  
NCS 80, 100 (3", 4") 1.4301 (304 stainless steel)  
with crimped-on ring, aluminum, black anodised

### Temperature Limitations

Storage/Transport: -40° to +70° C (-40° to +158° F)  
Operation: Ambience -40° to +60° C (-40° to +140° F)  
Medium max. +60° C (+140° F)

### Case Protection Type (EN 60529 / IEC 529)

IP 54 in front of the panel

### Blow-out Device

Blow-out plug in the back of the case

### Lighting

Directly 1 x BA9s 24 V / 2 W and  
indirectly by lighting apertures in the case

### Nominal Case Sizes (NCS)

60, 80, 100 (2.36", 3", 4")

### Wetted Parts

Connections: brass  
Bourdon tubes: bronze, soft soldered, c-form

### Case Configuration

Position of the connection: centre back connection (rm),  
parallel one above the other  
Mounting device: u-clamp for panel mounting (BFR)

### Pressure Ranges

0 – 6, 0 – 10 and 0 – 12 bar

### Process Connection

NCS 60: 2 x M 12x1.5 with chuck cone for cutting ring  
L 6 according to DIN EN ISO 8434-1  
NCS 80, 100: 2 x M 16x1.5 with chuck cone for cutting ring  
L 10 according to DIN EN ISO 8434-1

Including restrictor screw in each pressure inlet port,  
orifice Ø 0.8 mm (0.03").

Each process connection is marked with a coloured spot, matching the colour of the pointer.



### Window

Reflex-reduced laminated safety glass

### Movement

Brass / German silver

### Dial

Aluminum black, white scale, with zero stop (stop pin)

### Pointers

2 x aluminum, 1 pointer yellow (RAL 1016), 1 pointer red (RAL 3026)

### Safety Category according to EN 837-1

S1 pressure gauges with blow-out device

## Options and others

- Instrument without combination of lighting, meaning either direct or indirect lighting
- Other pressure ranges, e. g. 0 – 16 bar
- Other than 70° – 90° installation
- Process connection with cutting ring and union nut
- Other process connections upon request
- Restrictor screw brass, orifice Ø 1.0 mm (0.04"), in the inlet port
- Other colours for pointer, e. g. white (RAL 9010)
- Dial inscription (ZA), according to your demand in terms of colour matching the pointer
- Coloured marks matching the pointers
- LED lighting for operating voltages of more than 32 V up to max. 130 V for NCS 80 and 100
- BA9 LED 24 – 32 V, 48 – 75 V, 110 – 150 V

## Ordering Information:

Model: **DRg 60 – 1 Fz rmBFR**  
**DRChg 80 – 1 Fz rmBFR**  
**DRChg 100 – 1 Fz rmBFR**

Pressure range: **0 – 6 bar, 0 – 10 bar, 0 – 12 bar**

Process connections: **L6 (NCS 60)**  
**L10 (NCS 80, 100)**

Colour of pointer: front pointer: **red or yellow**  
rear pointer: **red or yellow**

Specifics: e. g. dial inscriptions (**ZA**),  
other position of installation etc.  
(see above)

### Example:

- DRChg 80 – 1 Fz rmBFR, 0 – 12 bar, L 10, front pointer red,  
rear pointer yellow



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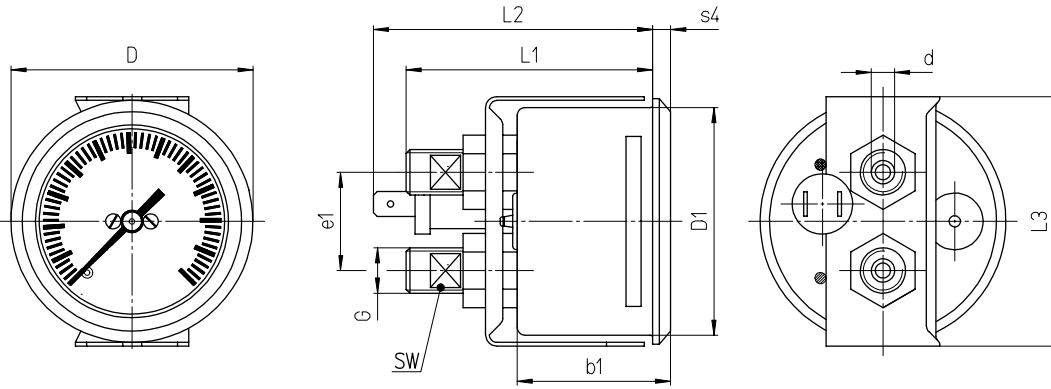
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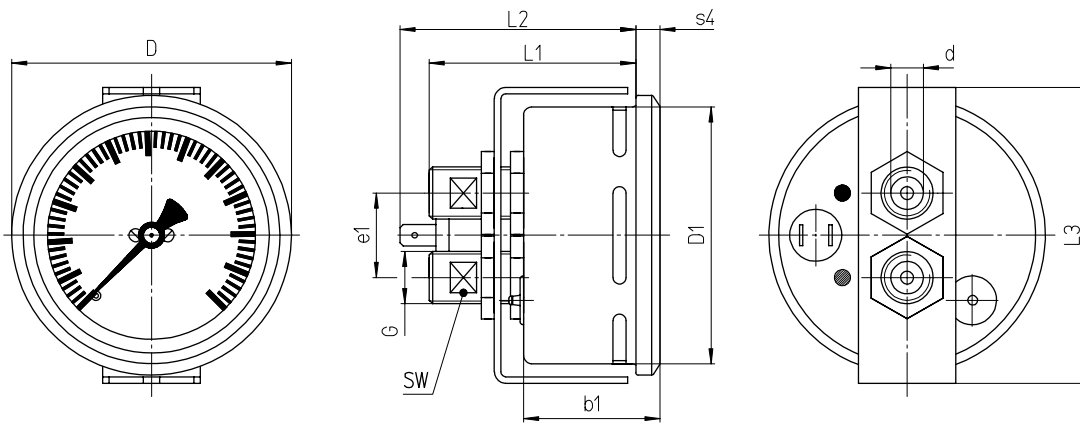
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# Case Configuration, Dimensions and Weight

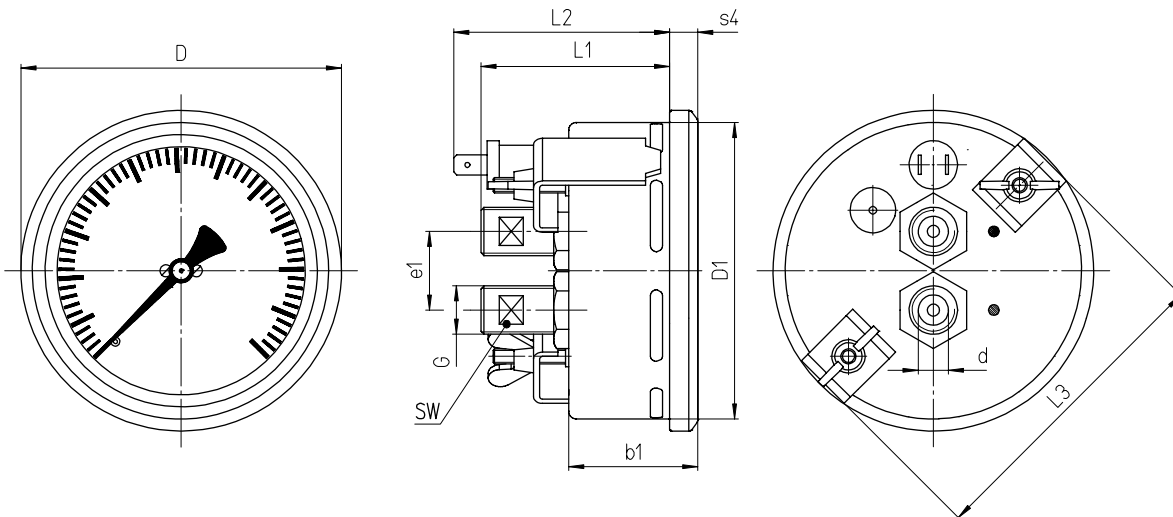
## DRg 60 – 1 Fz rmBFr



## DRChg 80 – 1 Fz rmBFr



## DRChg 100 – 1 Fz rmBFr



### Dimensional data ( mm / inches ) and weights ( kg / lb )

NCS	b1	D	D1	Process connections EN ISO 8434-1		e1	L1	L2	L3	s4	SW	recommended panel cut out Ø	Weight (approx.)
				$d^{B11\ 1)}$	G								
60 2.36	40 1.57	65 2.56	59 3.32	L6 .24	M 12x1.5	26 1.02	65 2.56	74 2.91	67 2.64	5 .2	8 .31	61 ± 0.5 2.4 ± 0.02	0.29 .44
80 3	41.5 1.63	86 3.39	79 3.11	L10	M 16x1.5		63 2.48	72.5 2.85	91 3.58	7.5 .3	13 .51	81 ± 0.5 3.19 ± 0.02	0.49 1.08
100 4	43 1.69	106 4.17	99 3.89	.39			62 2.44	71 2.8	104 4.09	10 .39		102 ± 1 4.02 ± 0.04	0.55 1.21

<sup>1)</sup>Tolerance class according to ISO 286-2