



QF-Series High Temperature Strain Gauges

GENERAL USE

These are CE marked strain gauges (compliant to RoHS2 Directive) for high temperature use. They have joined to our well proven QF-series strain gauges with a new series name „GOBLET“. These are foil strain gauges utilizing polyimide resin as the backing material. Measurement in high temperature is easily possible by using our roomtemperature- curing adhesive NP-50 for bonding.

Operating temperature range
-30 ~ +200°C
Temperature compensation range
+10 ~ +100°C

Applicable adhesives
NP-50 -30 ~ +200°C
C-1/EB-2 -30 ~ +200°C
CN -30 ~ +120°C



Please specify the type number as shown in the example below.

QFLA B -6 (-350) -11 -3LJC-F

Length in meter and type of integral leadwire CE compliant leadwire
Objective material for temperature compensation
Gauge resistance (blank for 120Ω)
Gauge length
Gauge series name

Objective material for temperature compensation
(coefficient of linear thermal expansion $\times 10^{-6}/^{\circ}\text{C}$)

-11: Mild steel -17: Stainless steel -23: Aluminium -28: Magnesium

Note: The backing color of QF series gauges are the same for every material for temperature compensation.

SINGLE AXIS / MULTI-AXIS

Gauge pattern	Type	Gauge size (mm)		Backing size (mm)		Resistance Ω
		Length	Width	Length	Width	
 • Single axis QFLGB-02 Q (x 3) QFLAB-1 Q (x 3)	General purpose	0.2	1.4	3.5	2.5	120
		0.3	1.4	3	2	120
		1	1.1	4.7	2	120
		2	1.5	6.5	3	120
		3	1.7	7.7	3.5	120
		5	1.5	10	3	120
		6	2.2	11	4.3	120
		30	2	35	5	120
	FLK type with narrow backing	1	0.7	4.5	1.4	120
	for magnesium alloy	2	0.9	5.5	1.5	120
gauge resistance 350Ω High gauge resistance 1000Ω	QFLKB-1	1	0.7	4.5	1.4	120
	QFLKB-2	2	0.9	5.5	1.5	120
	QFLKB-2-28	2	0.9	5.5	1.5	120
	QFLAB-1-350	1	1.6	4.5	3	350
	QFLAB-1W-350	1	2	4.7	3.6	350
	QFLAB-2-350	2	1.9	6	3.5	350
	QFLAB-3-350	3	1.6	7.2	3	350
	QFLAB-3W-350	3	3.2	8.5	5	350
	QFLAB-6-350	6	2.6	10.8	4.5	350
	QFLAB-6-1000	6	4.6	11	7	1000
• 0°/90° 2-axis Stacked type • 0°/45°/90° 3-axis Stacked type	QFCAB-1	1	0.7	φ4.5		120
	QFCAB-3	3	1.7	φ11		120
	QFRAB-1	1	0.7	φ4.5		120
	QFRAB-3	3	1.7	φ11		120

Minimum order quantity is 10 strain gauges.

Dedicated leadwire recommended for QF series strain gauges (GOBLET) (made to order)

We supply various leadwires dedicated to strain gauges so as to meet our customers' requirements. Please refer to page 32 to 40 for the details of combination of a strain gauge and a leadwire. For CE marked GOBLET series strain gauges, only the leadwires using lead-free solder are available.

Type and designation of leadwires

Usage	Leadwire name	Operating temperature range of leadwire (°C)	Type number example
General purpose (without temperature change)	Parallel vinyl leadwire LJC-F	-20 ~ +80	QFLAB-1-11-3LJC-F
General purpose	3-wire parallel vinyl leadwire LJCT-F	-20 ~ +80	QFLAB-1-11-3LJCT-F
High temperature	3-wire twisted FEP leadwire 6FA □ LT-F	-269 ~ +200	QFLAB-1-11-6FA3LT-F
	3-wire twisted FEP single-core leadwire 6FB □ LT-F		QFLAB-1-11-6FB3LT-F

NB: □ shows the lead wire length in meter

ε QF-Series High Temperature Strain Gauges

GENERAL USE

These are foil strain gauges having a polyimide resin backing, which exhibits excellent performance in high temperature up to 200°C. Stress concentration measurement gauges and shear stress measurement gauges are also available in this series. Integral leadwires using lead-free solder are available with option –F.

Operating temperature range	-20 ~ +200°C	Applicable adhesives	NP-50 - 20 ~ +200°C
Temperature compensation range	+10 ~ +100°C	C-1/EB-2	-20 ~ +200°C
		CN	-20 ~ +120°C

Please specify the type number as shown in the example below.

QFCT -2 (-350) -11 (-F) -3LJC (-F)

Option F : LEAD-free soldering of leadwire
Length in meter and type of integral leadwire
Option F: LEAD-free soldering of strain gauge
Objective material for temperature compensation
Gauge resistance (blank for 120Ω)
Gauge length
Gauge series name

Objective material for temperature compensation
(coefficient of linear thermal expansion $\times 10^{-6}/^{\circ}\text{C}$)

-11: Mild steel -17:Stainless steel -23:Aluminium -28:Magnesium
Note: The backing color of QF series gauges are the same for every material for temperature compensation.

Shearing· Torque· Plane

Gauge pattern	Type	Gauge size(mm) Length Width	Backing size(mm) Length Width	Resistance Ω
<ul style="list-style-type: none"> Shearing strain measurement 				
	QFLT-05A-11-002LE	0.55 0.66	4 1.3	120
	QFLT-05B-11-002LE	0.55 0.66	4 1.3	120
	QFLT-1A-11-002LE	1.2 1.1	5.7 2	120
	QFLT-1-350A-11-002LE	1.2 1.1	5.7 2	350
	QFLT-1B-11-002LE	1.2 1.1	5.7 2	120
	QFLT-1-350B-11-002LE	1.2 1.1	5.7 2	350
	-002LE: Polyimide insulated gauge lead of 2-cm pre-attached			
<ul style="list-style-type: none"> Torque measurement 	QFCT-2	2 1.5	8.7 6.5	120
	QFCT-2-350	2 1.5	7.6 5.3	350
<ul style="list-style-type: none"> 0°/90° 2-axis Plane type 	QFCB-2	2 1.5	X / Y axis 8.2 8	120

Minimum order quantity is 10 strain gauges.

Stress Concentration Masurement

Gauge pattern	Type	Gauge size(mm) Length Width	Backing size(mm) Length Width	Resistance Ω
<ul style="list-style-type: none"> 5-element Single-axis 				
	QFXV-1	1 1.3	5 12	120
	QFYV-1	1 1.4	5 12	120
	-002LE: Polyimide insulated gauge lead of 2-cm pre-attached			
	QFBXV-04	0.4 1.3	5.4 7.4	120
	QFBYV-06	0.6 0.8	5.3 7	120
	-005LE: Polyimide insulated gauge lead of 5-cm pre-attached			
<ul style="list-style-type: none"> Single axis 				
	QFBX-04	0.4 1.3	5.4 1	120
	QFBY-06	0.6 0.8	5.3 1	120
	QFLX-1-11-002LE	1 1.3	5 2	120
	-005LE: Polyimide insulated gauge lead of 5-cm pre-attached			
	-002LE: Polyimide insulated gauge lead of 2-cm pre-attached			

Minimum order quantity is 10 strain gauges.