High Temperature Strain Gauges QF series

CE GOBLET

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 room-temperature-curing adhesive NP-50B for bonding.

Operating temperature range −30～+200℃
Temperature compensation range +10～+100℃

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

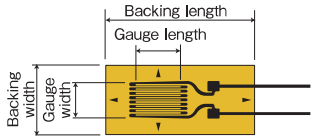
Please specify the type number as shown in the example below.

QFLAB -6 (-350) -11 -3LJC-F

- QFLAB: Gauge series name
- -6: Gauge length
- (-350): Gauge resistance (blank for 120Ω)
- -11: Objective material for temperature compensation
- -3LJC-F: Length in meter and type of integral leadwire CE compliant leadwire

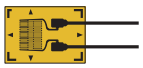
Objective material for temperature compensation
(coefficient of linear thermal expansion ×10^{-6}/°C)
-11: Mild steel -17:Stainless steel -23:Aluminium -28:Magnesium

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



●Single axis

QFLGB-02



(x 3)

QFLAB-1

(x 3)

●0° /90° 2-axis Stacked type

●0° /45° /90° 3-axis Stacked type

Minimum order quantity is 10 strain gauges.

Gauge pattern	Type	Gauge size(mm) Length	Gauge size(mm) Width	Backing size(mm) Length	Backing size(mm) Width	Resistance Ω
General purpose	QFLGB-02	0.2	1.4	3.5	2.5	120
	QFLAB-03	0.3	1.4	3	2	120
	QFLAB-1	1	1.1	4.7	2	120
	QFLAB-2	2	1.5	6.5	3	120
	QFLAB-3	3	1.7	7.7	3.5	120
	QFLAB-5	5	1.5	10	3	120
	QFLAB-6	6	2.2	11	4.3	120
	QFLAB-30	30	2	35	5	120
FLK type with narrow backing	QFLKB-1	1	0.7	4.5	1.4	120
	QFLKB-2	2	0.9	5.5	1.5	120
for magnesium alloy	QFLKB-2-28	2	0.9	5.5	1.5	120
gauge resistance 350Ω	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
High gauge resistance 1000Ω	QFLAB-6-1000	6	4.6	11	7	1000
QFCAB-1 / QFCAB-3	QFCAB-1	1	0.7	φ4.5		120
	QFCAB-3	3	1.7	φ11		120
QFRAB-1 / QFRAB-3	QFRAB-1	1	0.7	φ4.5		120
	QFRAB-3	3	1.7	φ11		120

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 29 to 37 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 3-wire twisted FEP single-core leadwire 6FB□LT-F	−269～+200	QFLAB-1-11-6FA3LT-F QFLAB-1-11-6FB3LT-F

NB: □ shows the lead wire length in meter

High Temperature Strain Gauges QF series

CE

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℃
Temperature compensation range +10～+100℃

Applicable adhesives	
NP-50B	−20～+200℃
C-1/EB-2	−20～+200℃
CN	−20～+120℃

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

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

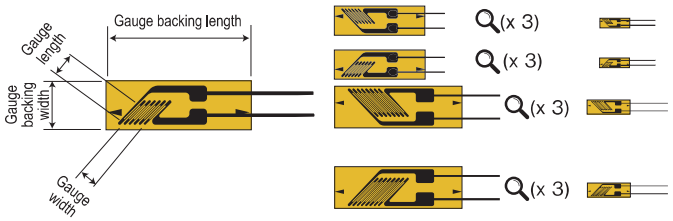
- QFCT: Gauge series name
- -2: Gauge length
- (-350): Gauge resistance (blank for 120Ω)
- -11: Objective material for temperature compensation
- (-F): Option F: LEAD-free soldering of strain gauge
- -3LJC: Length in meter and type of integral leadwire
- (-F): Option F : LEAD-free soldering of leadwire

Objective material for temperature compensation
(coefficient of linear thermal expansion ×10^{-6}/°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

●Shearing strain measurement



●Torque measurement


QFCT-2


QFCT-2-350

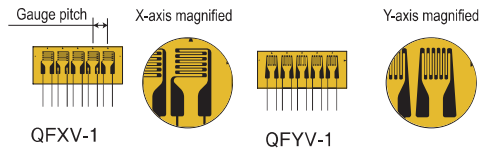
●0° /90° 2-axis Plane type

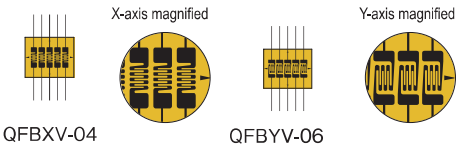
Minimum order quantity is 10 strain gauges.

Gauge pattern	Type	Gauge size(mm) Length	Gauge size(mm) Width	Backing size(mm) Length	Backing size(mm) Width	Resistance Ω
	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					
	QFCT-2	2	1.5	8.7	6.5	120
	QFCT-2-350	2	1.5	7.6	5.3	350
	QFCB-2	2	1.5	X / Y axis 8.2	8	120

Stress Concentration Measurement

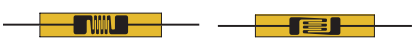
●5-element Single-axis





●Single axis

Single element cut away from the above Stress Concentration gauge


QFBX-04 (×3) QFBY-06 (×3)

Minimum order quantity is 10 strain gauges.

Gauge pattern	Type	Gauge size(mm) Length	Gauge size(mm) Width	Backing size(mm) Length	Backing size(mm) Width	Resistance Ω
Gauge pitch 2mm	QFXV-1-11-002LE	1	1.3	5	12	120
	QFYV-1-11-002LE	1	1.4	5	12	120
	-002LE: Polyimide insulated gauge lead of 2-cm pre-attached					
Gauge pitch 1mm	QFBXV-04-11-005LE	0.4	1.3	5.4	7.4	120
	QFBYV-06-11-005LE	0.6	0.8	5.3	7	120
	-005LE: Polyimide insulated gauge lead of 5-cm pre-attached					
Single axis	QFBX-04-11-005LE	0.4	1.3	5.4	1	120
	QFBY-06-11-005LE	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					