

ABB MEASUREMENT & ANALYTICS | DATA SHEET

9QGPS5190

Trough hole (annular) heavy capacity
load cell



Measurement made easy

Annular compression load cell.

Low profile for high capacity load cells

Material

- Stainless steel (model 9QGPS5190)
- Nickel plated steel (model 9QGPS5195)

IP rating IP 65

Sturdy design

Available options (non exhaustive list)

- ATEX intrinsic safety
- High service temperature -50 to 180 °C (-58 to 356 °F)
- Dual Wheatstone bridge
- Amplified output (V or mA) and digital output signal (RS-232C, RS-485, USB)

Applications

The load cell 9QGPS5190-9QGPS5195 is perfectly designed to the following applications:

- Pre-stressed rods measurement (concrete, snow, grounds, rocks....)
- Industrial force measurement in confined spaces

Capacities

Model 9QGPS5190-9QGPS5195

200 - 300 - 500 kN

(0.75) - 1 - 1.5 - 2 - 3 - 5 MN

Model 9QGPS5195

(7.5) - 10 - 15 - 20 - 30 MN

Explosion protection (Option)

ATEX intrinsic safety

- Ex II 1GD Ex ia IIC T6 or T4 Ga Ex ia IIIC T80°C Da

Specification

	SL
Repeatability error	$< \pm 0.25 \% \text{ F.S.}$
Creep error over 30 min.	$< \pm 0.3 \% \text{ F.S.}$
Zero shift after loading	$< \pm 0.5 \% \text{ F.S.}$
Temperature coefficient of the sensitivity	$< \pm 0.2 \% \text{ F.S./}10^\circ\text{C}$
Temperature coefficient of zero signal	$< \pm 0.2 \% \text{ F.S./}10^\circ\text{C}$
Reference temperature	23 °C (73.4 °F)
Temperature data	
Nominal temperature range	-10 to 45 °C (14 to 113 °F)
Service temperature range	-25 to 70 °C (-13 to 158 °F)
Storage temperature range	-50 to 85 °C (-58 to 185 °F)
Electrical data	
Input resistance	702 $\Omega \pm 2 \Omega$
Output resistance	702 $\Omega \pm 2 \Omega$
Insulation resistance (50V)	$> 5000 \text{ M}\Omega$
Reference excitation voltage	10 V
Nominal range of excitation voltage	3 to 12 V
Zero balance	$\pm 0.02 \text{ mV/V}$
Nominal sensitivity	1.5 mV/V
Load limits	
Safe load limit	150 % F.S.
Breaking load	$> 300 \% \text{ F.S.}$
Static lateral force limit	25 % F.S.
Permissible dynamic loading	50 % F.S.

Table 1: (F.S.: full scale)

Specifications subject to change without notice

Dimensions

Load cell model 9QGPS5190 (stainless steel), model 9QGPS5195 (nickel plated steel)

All specified dimensions are in mm (in.)

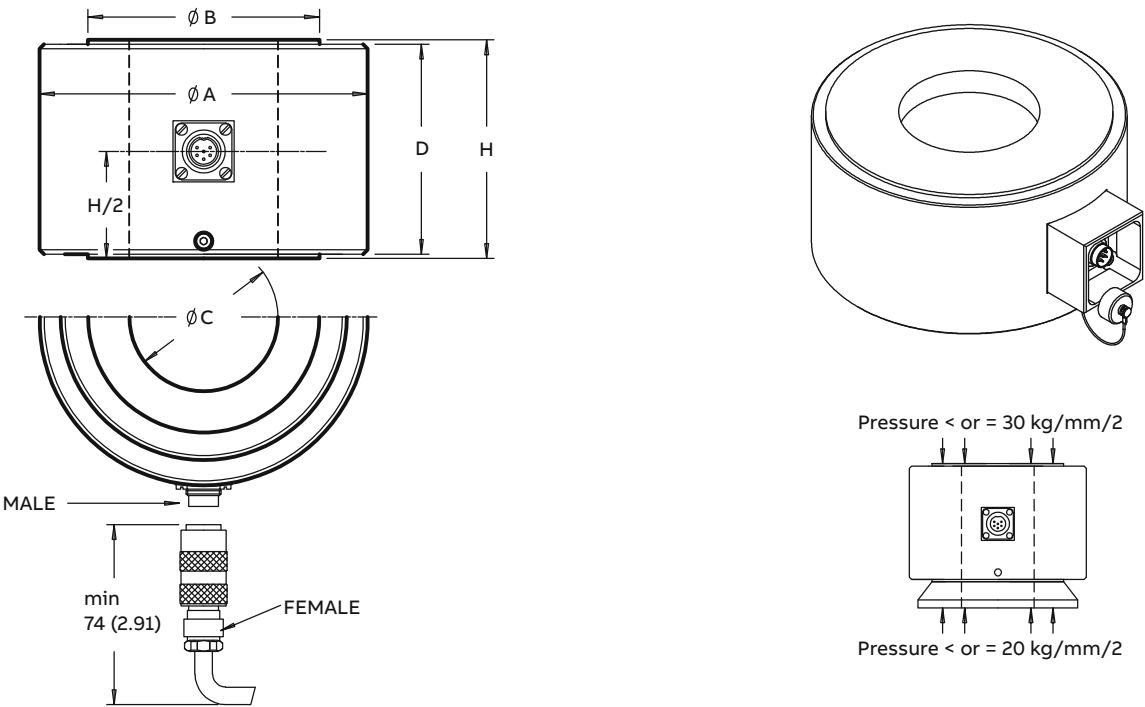


Figure 1: Dimensions

Ref. Item	Capacities	ØA	ØB	ØC	D	H	H1	H2	Ø1	Ø2	Max. Deflexion	CL m (ft)	Weight kg (lb)
519x-A	200 to 300 kN	60 (2.36)	49 (1.93)	20 (0.79)	66 (2.60)	70 (2.76)	22 (0.87)	30 (1.18)	45 (1.77)	57 (2.24)	0.08 (0.0031)	3 (9.84)	1.4 (3)
519x-B	500 kN	80 (3.15)	59 (2.32)	30 (1.18)	66 (2.60)	90 (3.54)	28 (1.10)	40 (1.57)	56 (2.20)	66 (2.60)	0.1 (0.0039)	6 (19.69)	3.2 (7)
519x-C	0.75 to 1 MN	110 (4.33)	89 (3.50)	50 (1.97)	81 (3.19)	100 (3.94)	40 (1.57)	50 (1.97)	90 (3.54)	97 (3.82)	0.12 (0.0047)	6 (19.69)	5.5 (12)
519x-D	1.5 to 2 MN	150 (5.91)	120 (4.72)	64 (2.52)	96 (3.78)	140 (5.51)	50 (1.97)	60 (2.36)	125 (4.92)	129 (5.08)	0.15 (0.0059)	12 (39.37)	17 (37)
519x-E	3 MN	180 (7.09)	155 (6.10)	80 (3.15)	124 (4.88)	160 (6.30)	65 (2.56)	75 (2.95)	165 (6.50)	172 (6.77)	0.17 (0.0067)	12 (39.37)	26 (57)
519x-F	5 MN	230 (9.06)	200 (7.87)	105 (4.13)	150 (5.91)	190 (7.48)	75 (2.95)	90 (3.54)	200 (7.87)	225 (8.86)	0.2 (0.0079)	12 (39.37)	50 (110)
5195-G	10 MN	290 (11.42)	290 (11.42)	150 (5.91)	-	260 (10.24)	60 (2.36)	130 (5.12)	300 (11.81)	387 (15.24)	0.3 (0.0118)	20 (65.62)	100 (220)
5195-H	7.5 to 15 MN	340 (13.39)	340 (13.39)	165 (6.50)	-	290 (11.42)	80 (3.15)	150 (5.91)	350 (13.78)	480 (18.90)	0.34 (0.0134)	20 (65.62)	175 (385)
5195-I	20 MN	390 (15.35)	390 (15.35)	200 (7.87)	-	330 (12.99)	110 (4.33)	175 (6.89)	395 (15.55)	545 (21.46)	0.38 (0.0150)	20 (65.62)	260 (573)
5195-J	30 MN	Available on request											

Table 2: Other dimensions ØA, ØB and H on request

Accessories

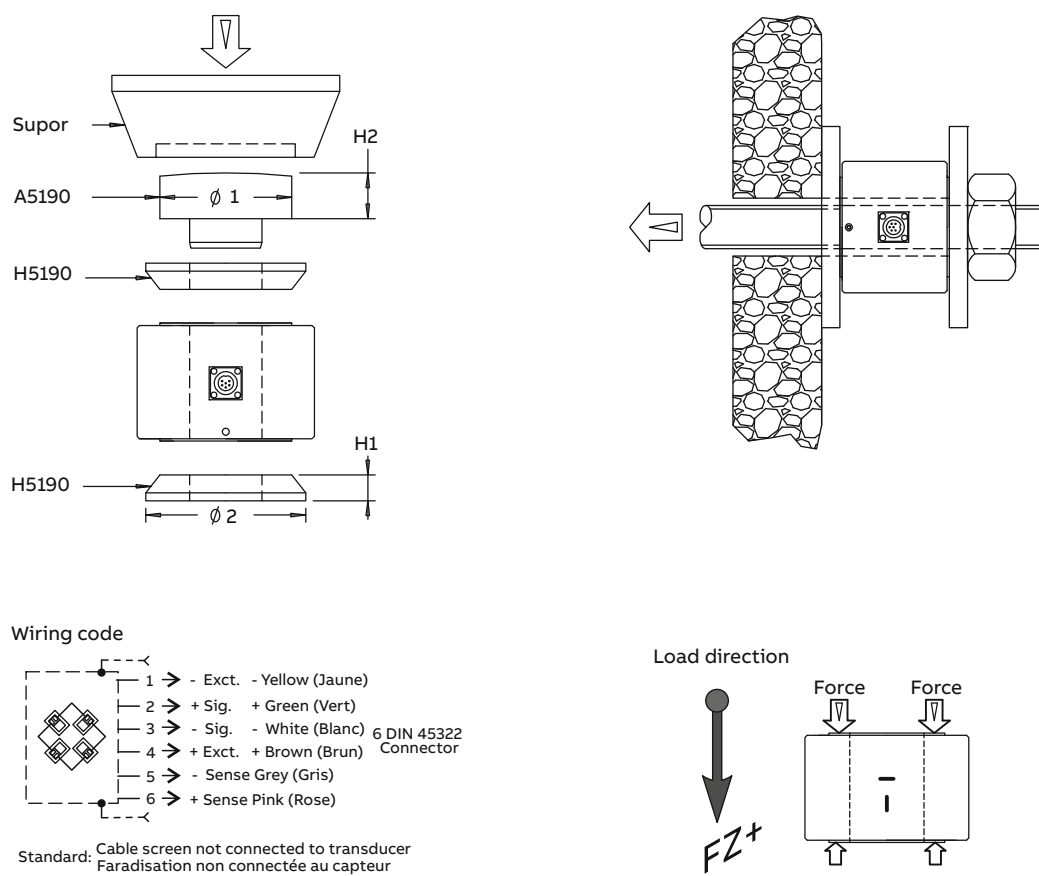


Figure 2: Accessories



Notes

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