SHEAR BEAM AND BENDING LOAD CELL

TENSION & COMPRESSION

- COMBINED ERROR ≤ ±0.02%
- IP67 | IP68 PROTECTION RATING
- AISI 420 STAINLESS STEEL

IP67 IP68 IP69K Stainless Steel AISI 420 · 1.4034 mV/V

NOMINAL LOAD (FS) [E_{max}]

kg	N	Net weight (kg)	Accuracy Class	ISO 17025	Rated Output (mV/V)
75	750	0.9	C3	(optional)	2 ±0.4%
150	1 500	0.9	C3	(optional)	2 ±0.4%
300	3 000	0.9	C3	(optional)	2 ±0.4%
500	5 000	0.9	C3	(optional)	2 ±0.4%
750	7 500	0.9	C3	(optional)	2 ±0.4%
1 000	10 000	0.9	C3	(optional)	2 ±0.4%
1 500	15 000	0.9	C3	(optional)	2 ±0.4%
2 000	20 000	0.9	C3	(optional)	2 ±0.4%
3 000	30 000	1.6	-	(optional)	2 ±0.4%
5 000	50 000	1.6	-	(optional)	2 ±0.4%
10 000	100 000	3.8	-	(optional)	2 ±0.4%

TECHNICAL DATA

PRECISION

Rated Output (C_n)	2 mV/V ±0.4 % at FS
Zero Balance	< ±0.04 %
Combined error	≤ ±0.02 %FS
Non-linearity	≤ ±0.02 %FS
Hysteresis	≤ ±0.02 %FS
Repeatability	≤ ±0.02 %FS
Creep	≤ ±0.03 %FS (at 30 min FS)
Temperature coefficient of zero	0.002 %FS/°C
Temperature coefficient of sensitivity	0.0012 %FS/°C
Compensated temperature range	-10...+40 °C
Operating temperature range	-20...+70 °C
Reference Temperature	23 °C

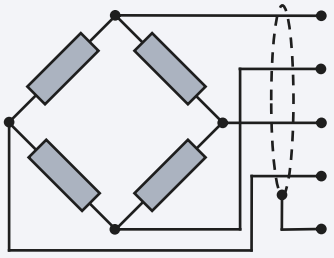
MECHANICAL PROPERTIES

Material	AISI 420 stainless steel
Deflection at FN	~ 0.4 mm

ELECTRICAL PROPERTIES

Bridge configuration	Full Wheatstone bridge, 6-wire
Input resistance	385±10 Ω (75-750 kg / 1000–2000 kg) 400±15 Ω (3000–10000 kg)
Output resistance	350±3 Ω (75-750 kg / 1000–2000 kg) 350±5 Ω (3000–10000 kg)
Insulation resistance	≥ 5,000 MΩ at 100 V
Recommended excitation voltage	≤ 15 V
Minimum verification interval (V min)	Emax/15 000 (75–2000 kg)
	– (3 000–10 000 kg)
Cable diameter	5 mm
Cable length	5 m (75–5 000 kg); 10 m (10 000 kg)
Cores	6 x 0.25 mm²

ELECTRICAL CONNECTION



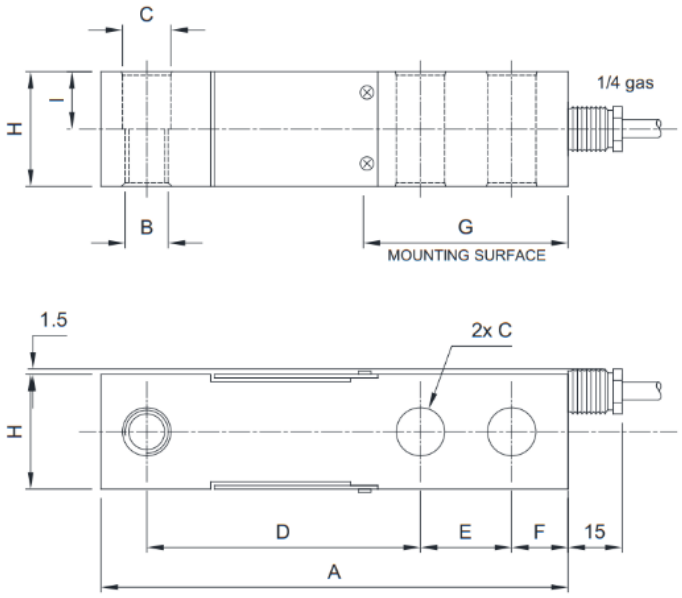
+ EXCITATION	RED
+ REF./SENSE	BLUE
– EXCITATION	BLACK
– REF./SENSE	YELLOW
+ SIGNAL	GREEN
– SIGNAL	WHITE
SHIELD	

MECHANICAL LIMITS

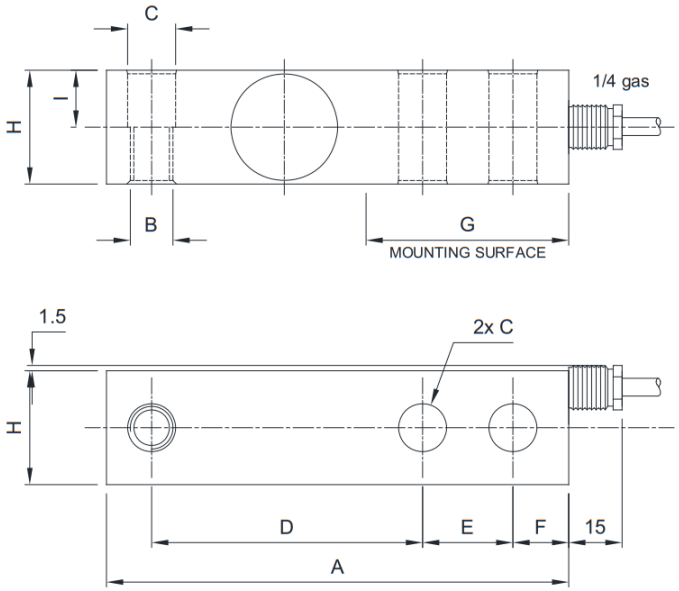
Service load	120 %FS	Load without any permanent deformation or change in calibration.
Safe overload	150 %FS	The highest static load that may be applied once or briefly without mechanical damage.
Breaking load	> 200 %FS	Load at which permanent deformation or mechanical failure (fracture) occurs.
Max. transverse load (side)	50 %FS	Maximum lateral or shear load that can be applied (e.g. due to misalignment or friction).
Max. permissible dynamic load	70 %FS	For cyclic or oscillating loads, the amplitude should not exceed this load to prevent fatigue failure. The dynamic load must be applied to the transducer central thread.

DIMENSIONS (mm)

75...300 kg ≈ 750...3 000 N



500...10 000 kg ≈ 5 000...100 000 N



	75 kg...2 t ≈ 0.75...20 kN	3 t...5 t ≈ 30...75 kN	10 t ≈ 100 kN
A	130	171.5	222.5
B	M12×1.75	M20×2.5	M24×2
C	Ø13.5	Ø21	Ø26.2
D	76.2	95.3	123.8
E	25.4	38.1	50.8
F	15.7	19.1	25.4
G	52	72.5	102
H	32	38	51
I	16	19	25.5
Apply the torque values listed below when fastening load cell screws			
Screw	M12	M20	M24
Screw class	8.8	8	8.8
Tightening torque (Nm)	79	400	690

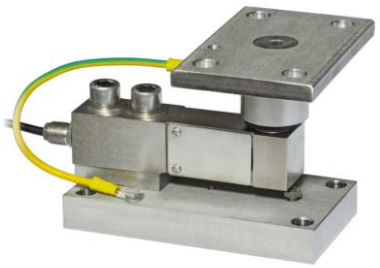
COMPLIANCE AND CERTIFICATION

Protection Rating	IP67 (75 – 300 kg) and IP68 (500 -10 000 kg) according to IEC 60529 Optional IP69K protection according to DIN 40050-9	
Compliance	CE, RoHS, REACH	
Calibration	Factory-calibrated, ISO 17025 calibration available on request	
HS-CODE	9031.80.80	
Certifications	OIML	OIML R60 C3
	EAC	Complies with the Eurasian Customs Union regulations
	UKCA	Equivalent of the CE marking for the United Kingdom
Certifications (on request)	IP69K	Declaration of conformity + IP69K marking protection rating Water protection in case of high-pressure or steam jet cleaning (test: pressurized water is sprayed from a distance of max 150 mm); Water pressure: 100 bar; temperature: 80 °C; test duration: 250 seconds (reference standard: DIN 40050-9)
	ISO 376	LAT Accredia calibration certificate ISO 376 or ASTM E74 for capacities from 1000 kg to 10000 kg
	Ex	ATEX (zone 2-22) (L-FTP)
	Ex	ATEX (zone 1-21) (L-FTP)
	IECEx	IECEx (zone 1-21) (L-FTP)
	EAC Ex	Complies with the Eurasian Customs Union regulations for use in potentially explosive atmospheres
	Ex NEPSI	Complies with Chinese market regulations for use in potentially explosive atmospheres
	PA	Complies with Chinese market regulations for legal for trade use
		Accredia traceable calibration report

MOUNTING KITS AND ACCESSORIES

TF 500/200

- Upper plate with a compression joint in AISI 304 stainless steel and rubber.
- Lower plate and block in AISI 304 stainless steel (TF500, TF2000) or in galvanized steel (TF2000Z).
- Compensation for any misalignments of the support plates of the structure.
- Locking screw to avoid damage during transport and installation.
- It can be used for systems with at least 3 supports.



50...2 000 kg
0.5...20 kN

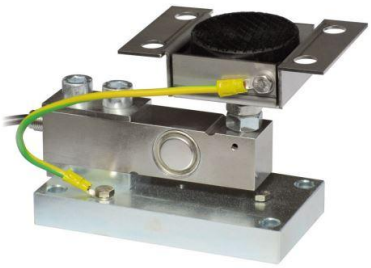
PV80

- Adjustable upper plate in AISI 304 stainless steel (PPV80) or galvanized steel (PPV60Z).
- Lower plate and block in AISI 304 stainless steel (PV80) or galvanized steel (PV60Z).
- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel (PV80) or galvanized steel (PV60Z) self-centering joint foot.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.

50...2 000 kg
0.5...20 kN

PV

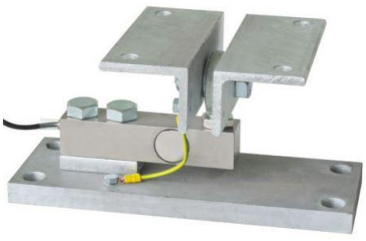
- Adjustable upper plate in AISI 304 stainless steel (PPV) or galvanized steel (PPVZ).
- Lower plate and block in AISI 304 stainless steel (PV) or galvanized steel (PVZ).
- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel (TFPV, TFPV2000) or galvanized steel (TFPVZ) self-centering joint foot.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.



50...2 000 kg
0.5...20 kN

PS

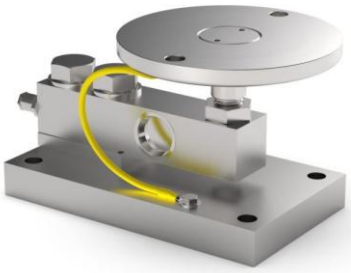
- Upper plate, lower plate and block in galvanized steel.
- Constraint against lateral forces and anti-tilt by ball-and-socket joint.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height



50...10 000 kg
0.5...100 kN

PV80EN1090

- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel self-centering joint foot.
- Lower plate and block in AISI 304 stainless steel.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.



50...5 000 kg
0.5...50 kN

Certification:
EN1090

PVEN1090

- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel self-centering joint foot.
- Lower plate and block in AISI 304 stainless steel.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.

50...2 000 kg
0.5...20 kN

Certification:
EN1090

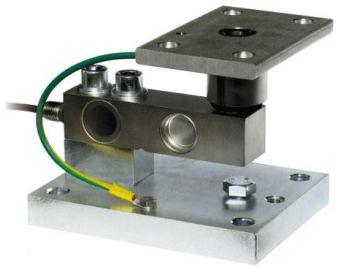
TFPS2000

- AISI 304 stainless steel upper plate.
- Lower plate and block in galvanized steel (TFPS2000) or in stainless steel (TFPS2000INOX).
- Constraint against lateral forces and anti-tilt by means of ball-and socket joint with nut in galvanized C45 steel (TFPS2000) or in stainless steel (TFPS2000INOX).
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.

50...2 000 kg
0.5...20 kN

T12

- Upper plate with a compression joint in AISI 304 stainless steel
- and rubber.
- Lower plate and block in galvanized steel.
- Compensation for any misalignments of the support plates of the structure.
- Locking screw to avoid damage during transport and installation.
- It can be used for systems with at least 3 supports.



50...2 000 kg
0.5...20 kN