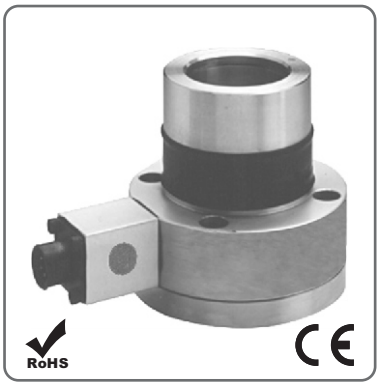
Web Tension - WT

Force Transducers for Measuring the Web / Spindle Tension



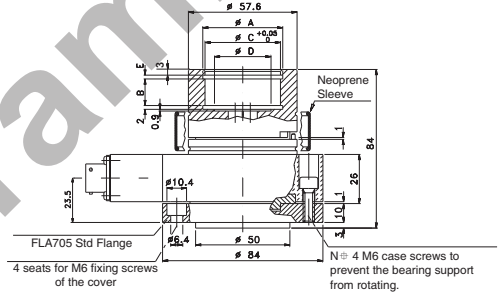
FEATURES

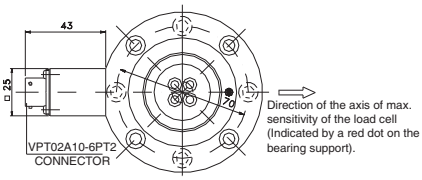
- Range of measurement: from 100N to 2kN
- Accuracy class: 0.5%
- Corrosion resistant
- Internally generated calibration signal
- Orientation of the axis of maximum sensitivity for 35 independently from the position of the fixing holes
- Grade of protection: Ip65 (DIN 40050)
- Integrated protection against overloads.

TECHNICAL SPECIFICATION

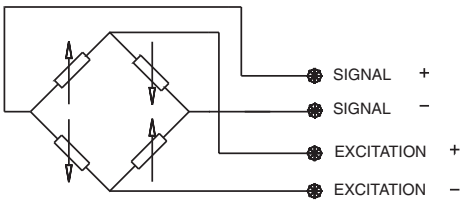
Model		WT
Accuracy		0.50%
Nominal full scale load (Ln)		100N...2kN
Nominal output at FSO		2mV/V
Output tolerance at Ln		<± 1% FSO
Combined errors: Non linearity,Hysteresis, Repeatability		< ± 0.5% FSO
Creep (after 30 min. at Ln)		< ± 0.06% FSO
Zero load out of balance signal		< ± 1% FSO
Thermal drift in	Sensitivity	< ± 0.005% FSO°C
compensated	Zero	< ± 0.01% FSO°C
range	Calibration	-
Nominal bridge resistance		350 Ohm
Isolation resistance		> 10 GOhm
Nominal supply voltage		10V
Maximum supply voltage		15 V
Compensated temperature range		-10...+50°C
Maximum temperature range		-20...+60°C
Storage temperature range		-30...+80°C
Permitted static load		100% Ln
Maximum applicable load		300% Ln
Rupture load		> 500% Ln [6 kN max.]
Maximum static lateral load		150% Ln
Maximum elastic deformation at Ln		< 0,5 mm
Grade of protection (DIN40050)		IP65
Electr. connections: Connector		VPT02A10-6PT2
Elastic element material		Aluminium (100...1kN)
		Stainless steel (1.5kN - 2 kN)
Case material		Anodised aluminium (Flange
		and bearing in AISI 303)

DIMENSION DETAILS



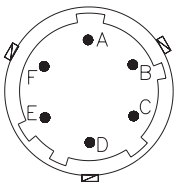


WIRING INFORMATION



	CABLE OUTPUT	CABLE CONNECTION
	A	Red
	B	Yellow or Black
	C	White
	D	Green

If the transducer is supplied complete with prewired connection cable, the colour code is that indicated in the table.



VPT02A10-6PT2
CONNECTOR

Specifications are subject to change without Prior notice

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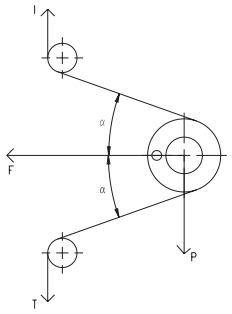
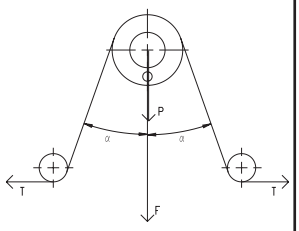
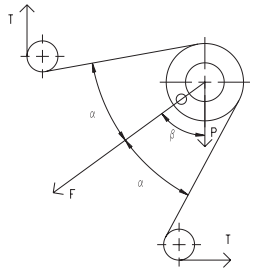
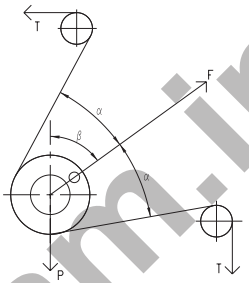
CALCULATION OF RESULTANT APPLIED TO CELL

F = Resultant **T** = Tension in laminate **P** = Roll weight

The red point on the bearing support identifies the axis of maximum cell sensitivity and therefore the direction that F has to take with respect to the transducer.

HORIZONTAL RESULTANT	VERTICAL RESULTANT	DOWNWARD RESULTANT	UPWARD RESULTANT
			
$F = \frac{T}{2} \cdot 2 \cdot \cos\alpha$	$F = \frac{T}{2} \cdot 2 \cdot \cos\alpha + \frac{P}{2}$	$F = \frac{T}{2} \cdot 2 \cdot \cos\alpha + \frac{P}{2} \cdot \cos\beta$	$F = \frac{T}{2} \cdot 2 \cdot \cos\alpha - \frac{P}{2} \cdot \cos\beta$
This configuration gives the best performance because it does not consider roll weight. It is advised for low tension, to prevent roll weight from representing an excessive fraction of the resultant, with consequent reduction of the usable field. This is the only configuration in which, in the absence of tension T, there is a zero signal of approximately 0 mV/V.	In this configuration, roll weight is completely in the direction of maximum sensitivity of the cell that generates a signal in mV/V positive. This signal should be considered as tare: it will be considered during calibration of the instrument connected to the cell.	In this configuration, roll weight is completely in the direction of maximum sensitivity of the cell that generates a signal in mV/V positive. This signal should be considered as tare: it will be considered during calibration of the instrument connected to the cell.	In this configuration, roll weight is completely in the direction of maximum sensitivity of the cell that generates a signal in mV/V negative. This signal should be considered as tare: it will be considered during calibration of the instrument connected to the cell.

ORDERING CODE

Force transducer **WT** □ □ □ □

MEASUREMENT RANGE (N)	
0 - 100	**N1C**
0 - 200	**N2C**
0 - 350	**N3.5C**
0 - 500	**N5C**
0 - 750	**N7.5C**
0 - 1000	**N1M**
0 - 1500	**N15C**
0 - 2000	**N20C**

If request, it is possible to supply models with non-standard mechanical and/or electrical features.

FLANGE	
1	FLA 705 (standard)
2	FLA711
3	FLA715

EXTERNAL DIAMETER	
35 mm bearing	**C35**
40 mm bearing	**C40**
30 mm shaft spindle	**P30**

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