

WAT+

PRECISION LOAD CELLS

MEROBEL

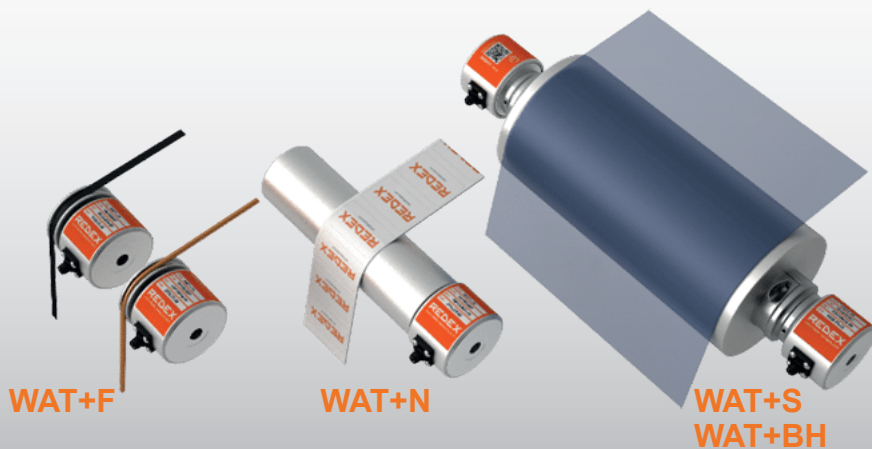
Torque & Tension

- > Highly modular
- > Highly accurate
- > Cost saving by design



Available in 2 sizes

Amplified signal option available



For any type of application !

Web & Wire Accurate Tension

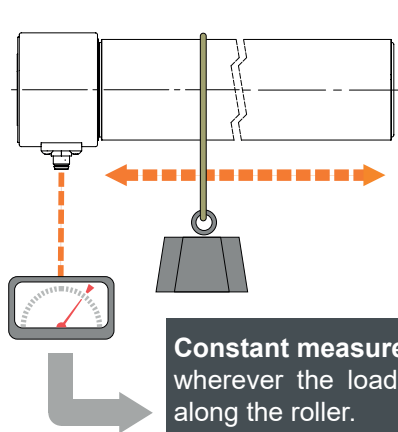
WAT+ concept enables a comprehensive range of force transducers and accessories, especially designed for dynamic tension measurement of fibers, wires and web.

WAT+ perfectly suits any technically demanding application in various high-tech industries such as, composites, wire and cable, textiles, as well as packaging, labelling & finishing equipment.

TRANSDUCERS

SIZE 1		Ref
WAT+5	Full scale 50N	ME134810-00
WAT+25	Full scale 250N	ME134802-00
WAT+50	Full scale 500N	ME134890-00
SIZE 2		Ref
WAT+100	Full scale 1000N	ME135524-00
WAT+250	Full scale 2500N	ME135525-00
WAT+500	Full scale 5000N	ME135526-00

CANTILEVER COMPENSATION



Constant measurement value, wherever the load is positioned along the roller.

ACCESSORIES

ACC-F	Pulley mounting shaft	Size1
ACC-S	For dead shaft roller	Size1 & 2
ACC-BH	For life shaft roller	Size1
ACC-N100	Roller Ø 50 - L 100mm	Size1
ACC-N200	Roller Ø 50 & 70 - L 200mm	Size1 & 2
ACC-N300	Roller Ø 50 - L 300mm	Size1
FLANGE	Rear side mounting flange*	Size1 & 2

Tailored solution with WAT+ concept :
Create your own design!



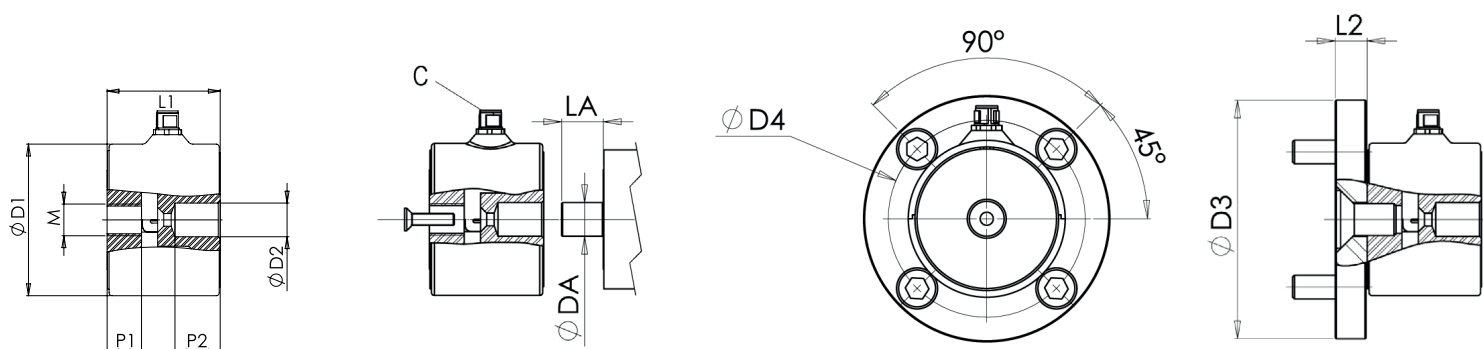
Scheda tecnica

Trasduttore		TAGLIA 1			TAGLIA 2		
		WAT+5	WAT+25	WAT+50	WAT+100	WAT+250	WAT+500
Codice		ME134810-00	ME134802-00	ME134890-00	ME135524-00	ME135525-00	ME135526-00
Carico (Fondo Scala)	N	50	250	500	1000	2500	5000
Carico di sicurezza	%FS		500			300	
Resistenza	Ω		350			350	
Alimentazione	V		5 → 10			5 → 10	
Sensibilità	mV/V		~1.6			~2	
Classe di precisione	%FS		0.3			0.3	
Temperatura di esercizio	°C		10 → 60			10 → 60	
Peso	g		200			460	

Inclusi nella fornitura: connettore + cavo schermato L=5mt

DIMENSIONS I LOAD CELLS

	D1	D2	L1	M	P1	P2	C	DA	LA	D3	D4	L2
SIZE 1	56	12H8	40	M10	11	17	M8	12h6	16	90	75	10
SIZE 2	76.5	17H8	57.5	M16	17.5	23	M12	17h6	21	120	96	16



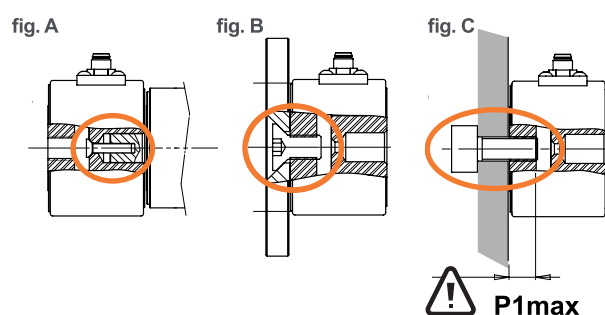
WAT+

ACCESSORY SHAFT

FLANGE

ASSEMBLY PRECAUTIONS FOR MOUNTING

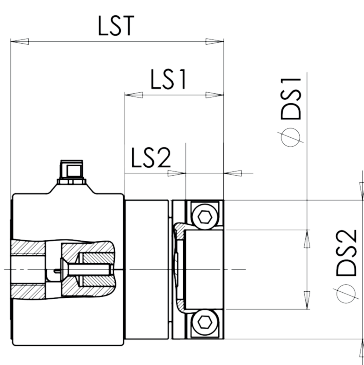
	Size	fig.A	fig.B	fig.C
Screw type (class 8.8)	Size 1	FHc M4*16	FHc M10*13	M10
	Size 2	FHc M6*25	FHc M16*30	M16
Tightening torque max value	Size 1	1.5Nm	25Nm	25Nm
	Size 2	5Nm	105Nm	105Nm



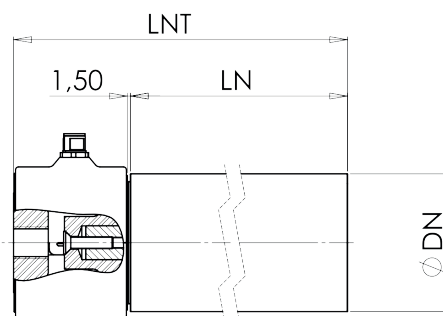
DIMENSIONS | ACCESSORIES

	DS1	DS2	LS1	LS2	LST
SIZE 1	25H8	50	42.4	13.5	82.4
SIZE 2	40H8	72	54	19	111.5

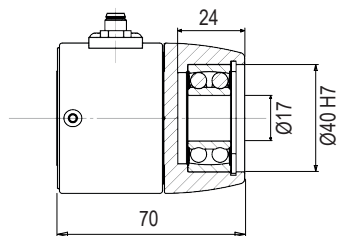
DN	LN	LNT
49.5	100 - 200 - 300	41.5 + LN
69.5	200	59 + LN



ACC-S

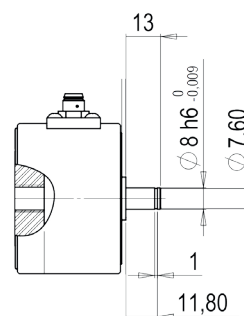


ACC-N



ACC-BH*

*Keep an axial play to ensure thermal expansion of the live shaft.

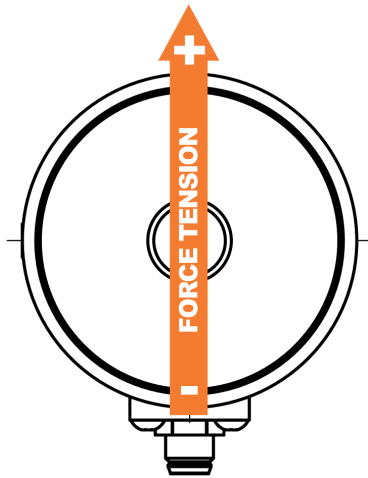


ACC-F

SIZE 1							
Accessory	FLANGE 1	ACC-S	ACC-N100	ACC-N200	ACC-N300	ACC-F	ACC-BH
Reference	ME134812-00	ME134811-00	ME134813-00	ME134808-00	ME134814-00	ME134803-00	ME134895-00

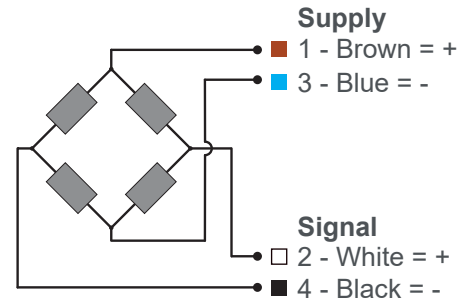
SIZE 2			
Accessory	FLANGE 2	ACC2-S	ACC2-N200
Reference	ME135837-00	ME135835-00	ME135836-00

LOAD DIRECTION



The load direction has to be oriented following the resultant direction.

WIRING



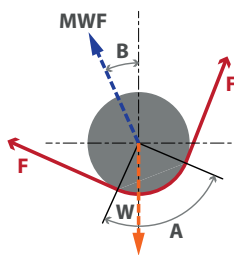
Connector

Size 1 : M8 - IEC 61076-2-104 A-Standard
Size 2 : M12 - IEC 61076-2-101 A-Standard

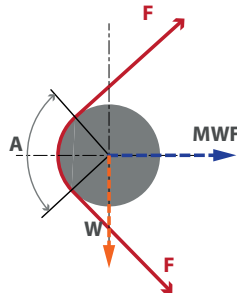
WAT+ is supplied with connector and a five meter shielded cable.

CALCULATIONS

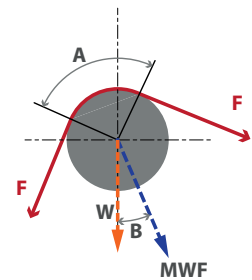
$$WMF = 3 \cdot F \cdot \sin(A/2) - W \cdot \cos(B)$$



$$MWF = 3 \cdot F \cdot \sin(A/2)$$



$$MWF = 3 \cdot F \cdot \sin(A/2) + W \cdot \cos(B)$$



WMF = Max Working Force on load cell(s)
For 2 load cells, the MWF must be divided by 2 to size each load cell

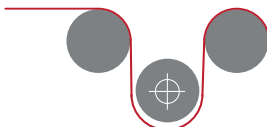
W = Roll / pulley weight

F = Max tension (on the product)

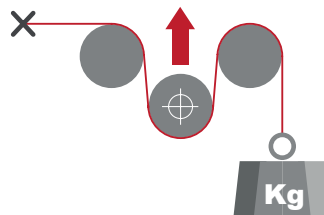
*safety factor 1.5 included

CALIBRATION PRINCIPLES

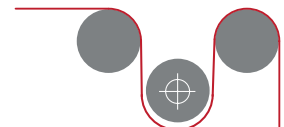
1 - Release any tension on the product and set the zero offset.



2 - Apply a known tension and set the value to adjust the gain factor.



3 - Release again any tension on the product and check again the zero value.



IN ASSOCIATION WITH

