

## Features :

Type		CZ 45	CZ 100
Maximum working Force	[N]	450	1100
Non destructive overload rating	[N]	1350	3300
Ultimate overload rating	[N]	4500	11000
Half-bridge resistance	[Ω]	440 - 480	
Supply voltage	[V]	5 to 10	
Operating temperature range	[°C]	- 10 à 70	
Repeatability	[ % ]	+ / - 0,2	
Hysteresis + Non-linearity	[ % ]	+ / - 0,5	

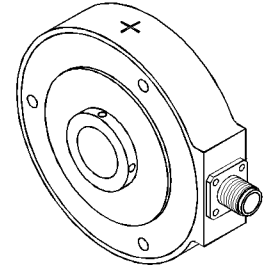
## Load Cells

### CZ 45

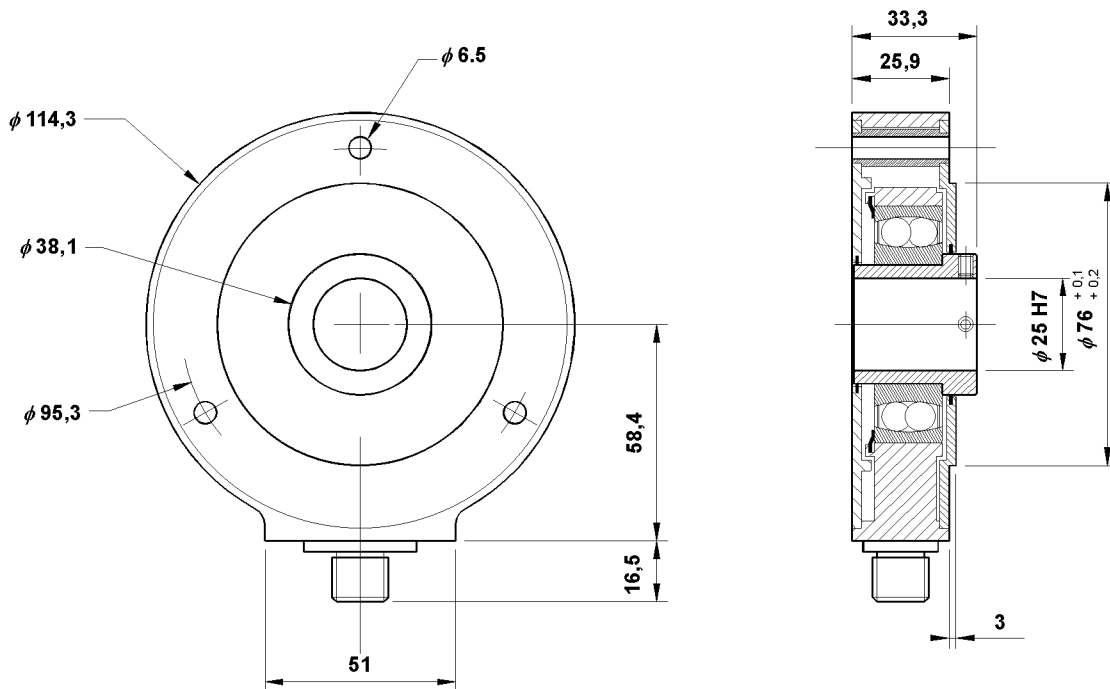
ref: ME126529-00

### CZ100

ref: ME126530-00



## Dimensions :



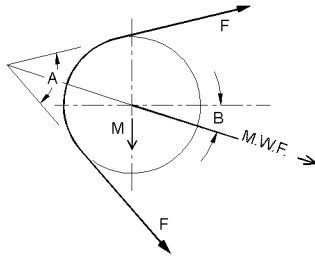
## Benefits :

- Very low profile design
- Easy to install : axial position and detection direction can be adjusted after installation
- Different mounting solutions
- Spheric ball bearing lubricated for life
- Stainless steel body and side plates
- IP 65 standard compliant
- Up to 1000 % overload rating
- High output signal level (100 mV at full load) Gives higher accuracy in industrial environment .
- Negligible displacement
- CE - CEM Compliant

### Sizing calculation :

- F = Max tension
- A = Wrap Angle (degrees)
- M = Roll weight
- B = Resultant force direction (Angle)
- K = Overload for transients :  
1,4 to 2, according to amplitude and frequency variation  
For constant tension : k = 1

M.W.F. = Maximum Working Force

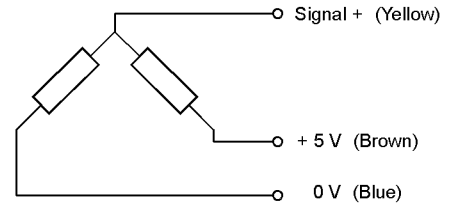


$$M.W.F = \frac{[ F \times 2 \times k \times \cos (A/2) ] \pm [ M \times \sin (B) ]}{2}$$

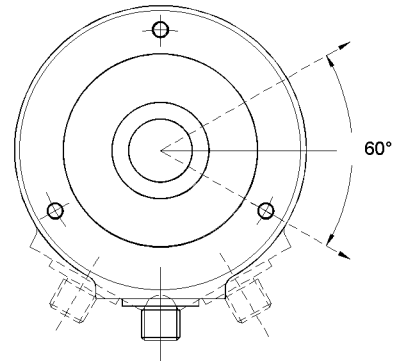
Nota : If angle "B" is below horizontal, use " + " in calculation  
Above horizontal, use " - "

Formula valid for the use of two load cells on the shaft !

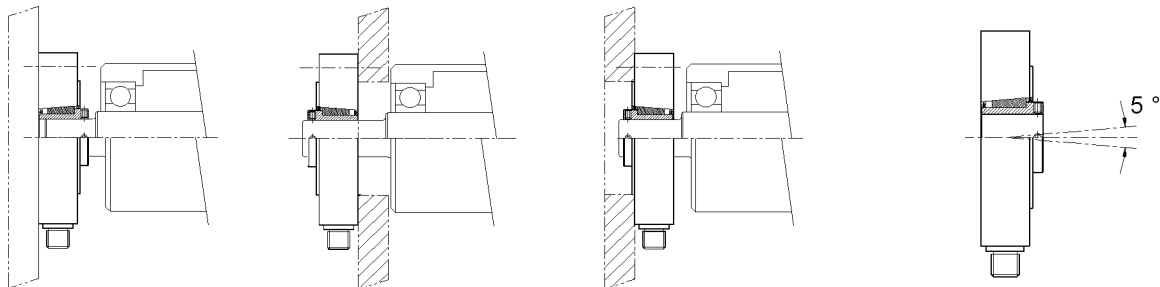
### Wiring :



### Angular position adjustment



### Recommended installation :

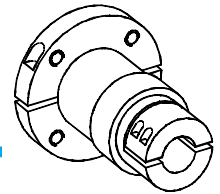


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# Force sensors

Flange mounted

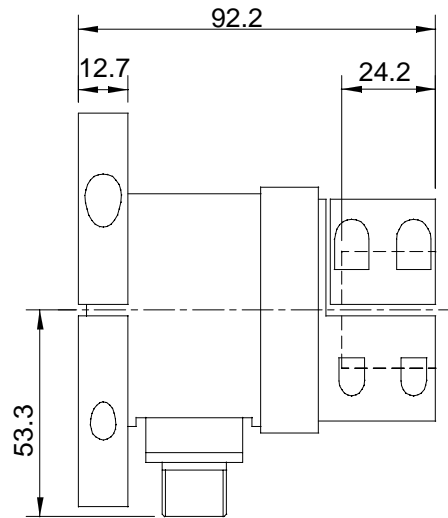
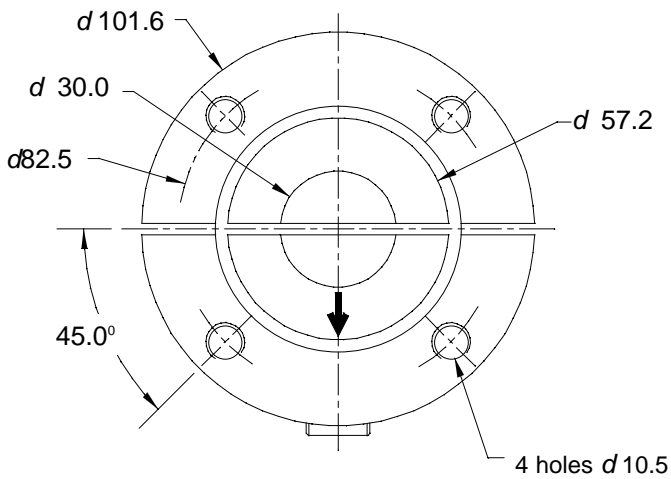
C.I 45 Ref : 340045-00  
C.I 100 Ref : 340100-00



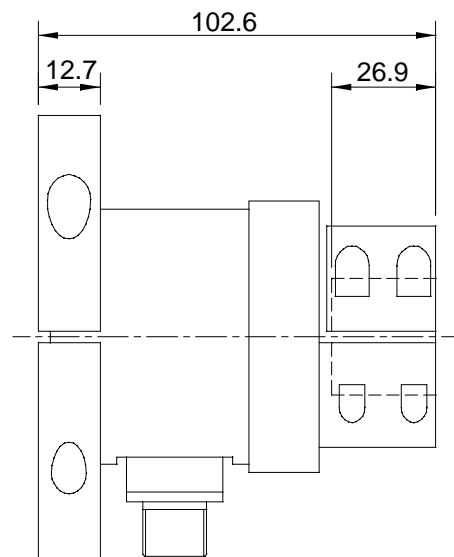
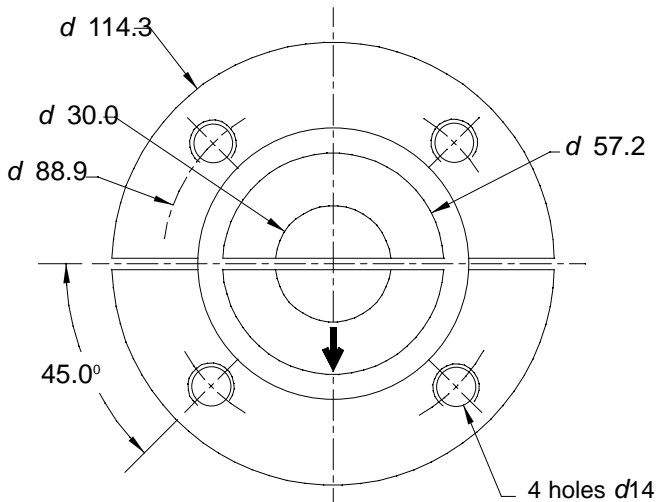
## Features :

Type		CI45	CI100
Maximum Working Force [N]		450	1000
Non-destructive Overload Rating [N]		670	1500
Ultimate Overload Rating [N]		1300	3000
Operating temperature range [°C]		-10 to 70	
Repeatability [%]		+0.5	
Hysteresis + Non-linearity [%]		+0.2	

### CI 45



### CI 45



## Cable :

Connector type	Space needed	Cable length	Reference
90° Connector	40mm	6 m	340 000 10

## Calculation :

T = Max tension

A = Wrap angle

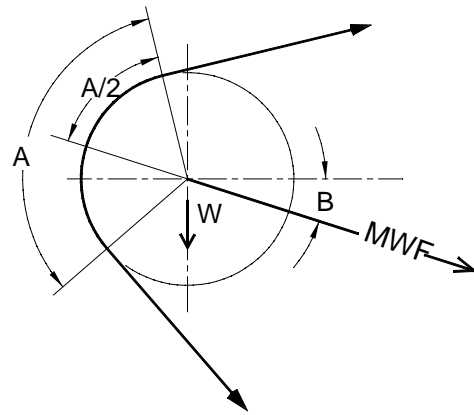
W = Roll weight

B = Angle of Tension Force

k = Overload for transients (1.4 to 2.0)

MWF = Maximum Working Force

$$MWF = \frac{1}{k} \frac{T \cdot A}{\sin \frac{A}{2}}$$



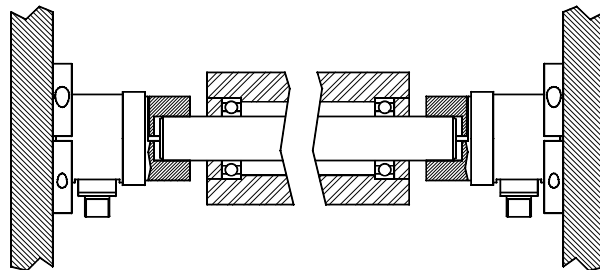
Note :

If angle "B" is below horizontal use "+"

If angle "B" is above horizontal use "-"

This formula has to be used when 2 sensors are mounted on the same measurement shaft .

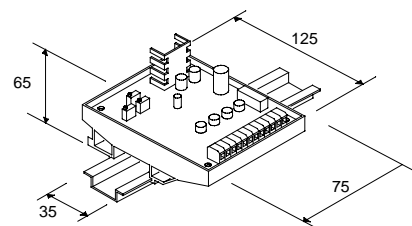
## Mounting sketch :



## Associated electronic card :

MEROBEL conditioning Card Ref : 336 431 00  
(usable for conditioning the 2 sensors mounted on the same measuring shaft)

Note : MEROBEL is also able to supply these sensors with different Maximum Working Forces .  
Thanks to ask us about your special applications .

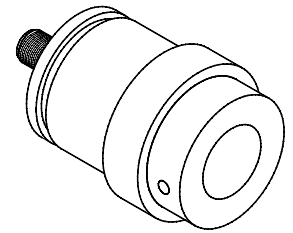


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# Force sensors

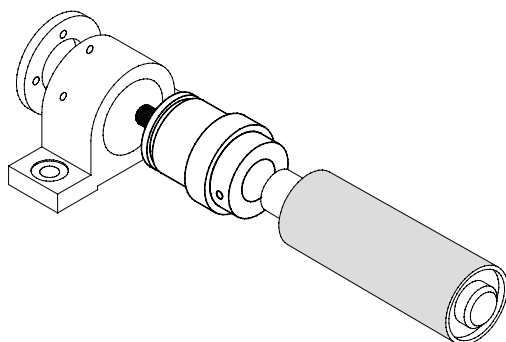
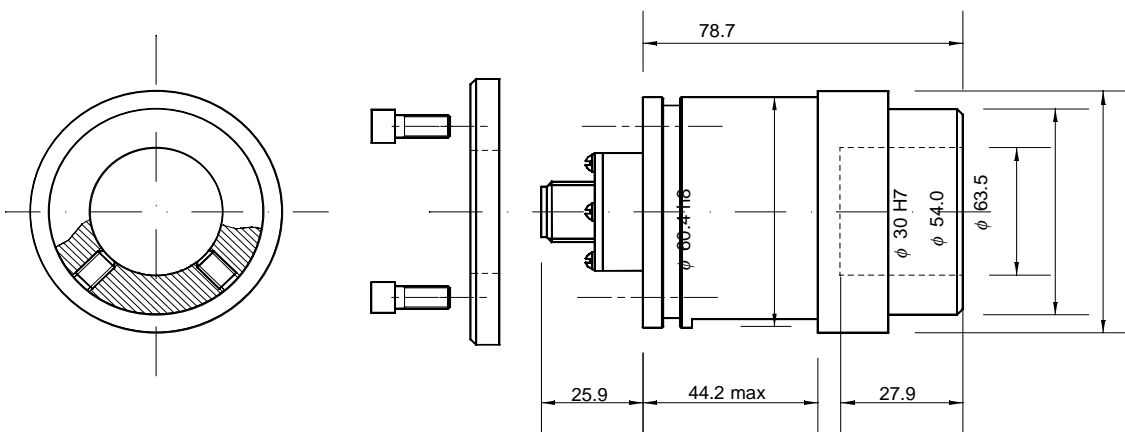
## Cantilever

CI-PF04 Ref : 340004-20  
 CI-PF20 Ref : 340020-20  
 CI-PF45 Ref : 340045-20



### Features :

Type	CI-PF04	CI-PF20	CI-PF45
Maximum Working Force [ N ]	40	200	450
Non - destructive Overload Rating [ N ]	60	300	670
Ultimate Overload Rating [ N ]	120	600	1300
Operating temperature [°C ]	-10 to 70		
Repeatability [ % ]	± 0.5		
Combined hysteresis+non-linearity [ % ]	± 0.2		

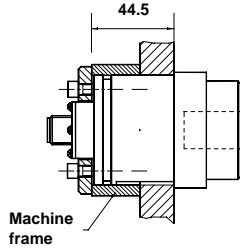


Ideal for tension control applications on narrow band products.

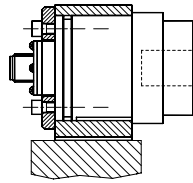
This new sensor offers many advantages :

- Flexibility : accommodates any customer roller
- Ease of mounting
  - quick mounting
  - easily oriented at any angle
- Cost savings
  - eliminate the expense of an integrated cantilevered roller
  - Low cost for maintenance

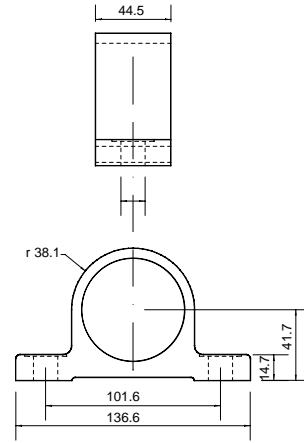
# Suggested mounting sketch



**Bearing Replacement**



**Pillow Block**



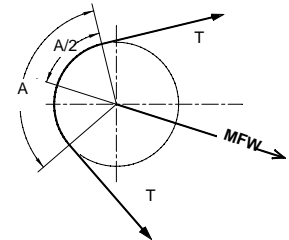
**Detail pillow Block ( A )**

## Calculation

CUM	CIPF 45	CIPF 200	CIPF 450
N	L max (mm)	L max (mm)	L max (mm)
20	510		
25	460	510	
30	420	475	
35	385	444	
40	360	420	
45	340	398	
50		380	410
75		313	348
100		270	308
125		240	280
150		218	257
175		200	240
200		180	224
250			200
300			182
350			168
400			155
450			145

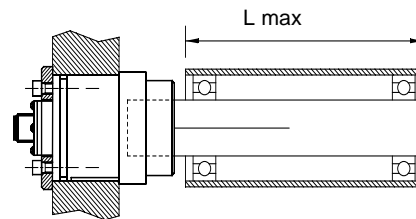
T = Tension force  
A = Wrap angle

k = Transient tension overload factor ( normally between 1.4 and 2, according to amplitude and frequency variation).  
For constant tension force, k = 1



MWF = Maximum Working Force  
= T x 2 x k x Sin ( A/2 )

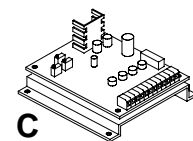
L max = maximum length of the shaft according to the MWF and maximum end deflection



## Accessories:

### Electrical connection

Connector type	Space needed	Cable length	Reference
90° Connector	40mm	6m	340 000 10



### Fixing accessories

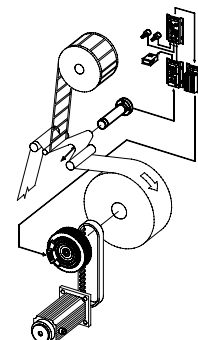
Pillow block mounting kit	A	340 000 10
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### Associated electronics

Conditioning card Iron plate	C	336 431 00
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### MEROBEL complete solution

TENSION CONTROL cabinet
TENSION CONTROL configuration (electronic board to be fitted in a card board )



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