

# Model DBT Bourdon tube

## Bourdon tube measuring element suitable for Campo instruments



### Introduction

The measuring element Model DBT is a unit comprising a spiral or “C” Bourdon tube and a process connection linked together by a connecting pipe.

The Bourdon tube is directly connected to a process and the increase in process pressure is measured by the Bourdon tube. Movement of the Bourdon tube is transferred to the presentation element by a linkage arrangement.



## MATERIALS

The elements are completely manufactured in AISI 316 ss for spans up to 10 MPa and in chromium molybdenum steel for higher values.

## SPAN

Available spans and relevant range limits are shown both in the code list and in the following table.

SPAN MPa; bar	RANGE LIMITS MPa; bar
0.1 ; 1	-0.1 and +0.2 ; -1 and +2
0.15 ; 1.5	-0.1 and +0.3 ; -1 and +3
0.2 ; 2	-0.1 and +0.4 ; -1 and +4
0.3 ; 3	-0.1 and +0.6 ; -1 and +6
0.4 ; 4	-0.1 and +0.8 ; -1 and +8
0.5 ; 5	-0.1 and +1 ; -1 and +10
0.6 ; 6	-0.1 and +1.2 ; -1 and +12
0.8 ; 8	-0.1 and +1.6 ; -1 and +16
1 ; 10	-0.1 and +2 ; -1 and +20
1.2 ; 12	-0.1 and +2.4 ; -1 and +24
1.5 ; 15	0 and 3 ; 0 and 30
2 ; 20	0 and 4 ; 0 and 40
2.5 ; 25	0 and 5 ; 0 and 50
3 ; 30	0 and 6 ; 0 and 60
4 ; 40	0 and 6 ; 0 and 60
5 ; 50	0 and 7.5 ; 0 and 75
6 ; 60	0 and 9 ; 0 and 90
8 ; 80	0 and 10 ; 0 and 100
10 ; 100	0 and 15 ; 0 and 150
12 ; 120	0 and 18 ; 0 and 180
15 ; 150	0 and 22.5 ; 0 and 225
20 ; 200	0 and 20 ; 0 and 200
25 ; 250	0 and 25 ; 0 and 250
40 ; 400	0 and 40 ; 0 and 400

## ZERO SUPPRESSION AND MAXIMUM OVERLOAD

Suppressed ranges can be obtained within the already mentioned span limits bearing in mind that in any case the maximum overload can not be greater than the span limit.

## BOURDON TUBE WITH SEPARATORS

When corrosive or crystallising fluids are to be measured the Bourdon measuring element can be supplied together with a suitable diaphragm separator; REFER TO ABB FOR FURTHER DETAILS.

## SPECIFICATIONS

### Range limits

-0.1 to 40 MPa; -1 to 400 bar

### Span and range limits

see Table

### Accuracy (limited to the pressure element only)

- up to 3 MPa / 30 bar:  $\pm 0.5\%$
- over 3 MPa / 30 bar:  $\pm 1\%$

### Process connections

1/4 in. NPT-F, 1/2 in. NPT-F

### Bourdon tube material

AISI 316, chromium molybdenum steel



# ORDERING INFORMATION

Select one character or set of characters from each category and specify complete catalog number.

## PRODUCT CODE

	abc	d	e f	g	hijklm
BASE MODEL					
PRESSURE ELEMENT					
SPAN					
ZERO					
USE CODE					

	Code	
<b>abc</b> BASE MODEL		
Bourdon tube	DBT	
<b>d</b> PRESSURE ELEMENT		
Bourdon spring with 1/2 in. NPT-F connection	4	
Bourdon spring with 1/4 in. NPT-F connection	5	
<b>ef</b> SPAN kPa (Kg/cm2)		
Bourdon spring in stainless steel	100 (1)	01
	150 (1.5)	02
	200 (2)	03
	300 (3)	04
	400 (4)	05
	500 (5)	06
	600 (6)	07
	800 (8)	08
	1000 (10)	09
	1200 (12)	10
	1500 (15)	11
	2000 (20)	12
	2500 (25)	13
	3000 (30)	14
	4000 (40)	15
	5000 (50)	16
	6000 (60)	17
	8000 (80)	18
	10000 (100)	19
Bourdon spring in Cr. Mo.	12000 (120)	31
	15000 (150)	32
	20000 (200)	33
	25000 (250)	34
	40000 (400)	35
<b>g</b> ZERO		
Atmospheric pressure reference	0	
Absolute pressure reference (Not applicable with Span code 01, 02, 03 and 04 at position "ef")	1	
Zero elevation (For max. zero elevation see specification sheet)	2	
<b>hijklm</b> USE CODE		
Bourdon spring with threaded connection	010000	



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