

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 _____

abc	BASE MODEL	Code
	Bourdon tube	DBT

d	PRESSURE ELEMENT	
	Bourdon spring with 1/2 in. NPT-F connection	4
	Bourdon spring with 1/4 in. NPT-F connection	5

ef	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

g	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

hijklm	USE CODE	
	Bourdon spring with threaded connection	010000

Contact us

ABB Ltd.

Process Automation

Howard Road
St. Neots
Cambridgeshire PE19 8EU
UK
Tel: +44 (0)1480 475321
Fax: +44 (0)1480 217948

ABB Inc.

Process Automation

125 E. County Line Road
Warminster
PA 18974
USA
Tel: +1 215 674 6000
Fax: +1 215 674 7183

ABB Automation Products GmbH

Process Automation

Schillerstr. 72
32425 Minden
Germany
Tel: +49 551 905 534
Fax: +49 551 905 555

ABB S.p.A.

Process Automation

Via Statale 113
22016 Lenno (CO)
Italy
Tel: +39 0344 58111
Fax: +39 0344 56278

www.abb.com

Note

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents - in whole or in parts - is forbidden without prior written consent of ABB.

Copyright© 2014 ABB
All rights reserved

3KXP900101R1001