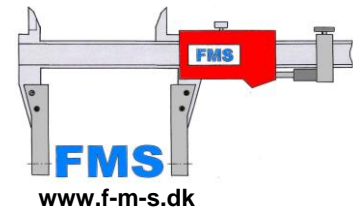


**FLEXIBLE  
MEASURING  
SYSTEMS**

## Knuckle thread

### Rd



### NOMINAL PITCH DIAMETER $d_2$ & $D_2$

$$d_2/D_2 = d/D - PDn$$

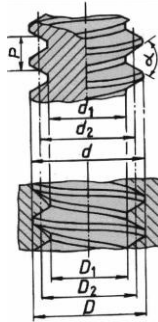
$$(PDn = 0.5P)$$

#### EXTERNAL THREAD

$d$  = Major diameter

$d_2$  = Pitch diameter

$d_1$  = Minor diameter



#### INTERNAL THREAD

$D$  = Major diameter

$D_2$  = Pitch diameter

$D_1$  = Minor diameter

$P$  = Pitch

$\alpha$  = Flank angle  
 $30^\circ$

*Ref.: DIN 405 Part 1 (Knuckle thread – Profiles, basic sizes, general plan) & DIN 405 Part 2 (Deviations and tolerances) These DIN standards contain much more information than is given here.*

Denomination Rd		T.P.I. Thread Per Inch	P (mm)	Pitch diameter $D_2 / d_2$
column1	column2			
8		10	2,540	6,730
9		10	2,540	7,730
10		10	2,540	8,730
11		10	2,540	9,730
12		10	2,540	10,730
14		8	3,175	12,412
16		8	3,175	14,412
18		8	3,175	16,412
20		8	3,175	18,412
22		8	3,175	20,412
24		8	3,175	22,412
26		8	3,175	24,412
28		8	3,175	26,412
30		8	3,175	28,412
32		8	3,175	30,412
36	34	8	3,175	32,412
	38	8	3,175	34,412
		8	3,175	36,412
40		6	4,233	37,883
	42	6	4,233	39,883
44		6	4,233	41,883
	46	6	4,233	43,883
48		6	4,233	45,883
	50	6	4,233	47,883
52		6	4,233	49,883
55		6	4,233	52,883
	58	6	4,233	55,883
60		6	4,233	57,883
	62	6	4,233	59,883
65		6	4,233	62,883
	68	6	4,233	65,883
		6	4,233	67,883
70		6	4,233	69,883
	72	6	4,233	69,883

Denomination Rd		T.P.I. Thread Per Inch	P (mm)	Pitch diameter $D_2 / d_2$
column1	column2			
75		6	4,233	72,883
	78	6	4,233	75,883
80		6	4,233	87,883
	82	6	4,233	79,883
85		6	4,233	82,883
	88	6	4,233	85,883
90		6	4,233	87,883
	92	6	4,233	89,883
95		6	4,233	92,883
	98	6	4,233	95,883
100		6	4,233	97,883
	105	4	6,350	101,825
110		4	6,350	106,825
	115	4	6,350	111,825
120		4	6,350	116,825
	125	4	6,350	121,825
130		4	6,350	126,825
	135	4	6,350	131,825
140		4	6,350	136,825
	145	4	6,350	141,825
150		4	6,350	146,825
	155	4	6,350	151,825
160		4	6,350	156,825
	165	4	6,350	161,825
170		4	6,350	166,825
	175	4	6,350	171,825
180		4	6,350	176,825
	185	4	6,350	181,825
190		4	6,350	186,825
	195	4	6,350	191,825
200		4	6,350	196,825

**Column 1 is recommended over column 2**

### Basic allowance for screw threads

To be subtracted from the nominal pitch diameter for  $d_2$

Pitch P mm	Tolerance placement	
	e	h
2,54	- 0,078	0
3,175	- 0,085	
4,233	- 0,097	
6,35	- 0,120	

### Tolerance for pitch diameter $d_2$ for screw (external) threads

Major diameter		Pitch P mm	Tolerance size		
above mm	up to mm		6	7	8
7	12	2,54	+ 0 / - 0,160	+ 0 / - 0,200	+ 0 / - 0,250
12	38	3,175	+ 0 / - 0,190	+ 0 / - 0,236	+ 0 / - 0,300
38	100	4,233	+ 0 / - 0,236	+ 0 / - 0,300	+ 0 / - 0,375
100	200	6,35	+ 0 / - 0,315	+ 0 / - 0,400	+ 0 / - 0,500

**Remember and include the basic allowance from the table above**

### Tolerance for pitch diameter $D_2$ for nut (internal) threads

Major diameter		Pitch P mm	Tolerance size	
above mm	up to mm		7	8
7	12	2,54	- 0 / + 0,265	- 0 / + 0,335
12	38	3,175	- 0 / + 0,315	- 0 / + 0,400
38	100	4,233	- 0 / + 0,400	- 0 / + 0,500
100	200	6,35	- 0 / + 0,530	- 0 / + 0,670

### Examples

Denomination	Screw	Pitch diameter $d_2$	Tolerance	max	min
<b>Rd 40 x 1/6 - 7e</b>			<b>37,883</b>	<b>- 0,097 / - 0,397</b>	<b>37,786</b>

Denomination	Nut	Pitch diameter $D_2$	Tolerance	max	min
<b>Rd 40 x 1/6 - 7H</b>			<b>37,883</b>	<b>- 0 / + 0,400</b>	<b>38,283</b>