ACCURATE
Metrology & Automation
Since 1984

3 WIRE UNIT

CERTI.NO. CC- 2082

Features

- Available for micrometer with 6.35mm, 6.50mm and 8.0mm spindle diameters
- Available in single pair or in complete set
- Each 3-wire unit set consists of two holders
- Wires are mounted on the holder to enable easy positioning over the thread during measurement.
- Wires are hardened, ground and lapped
- Each set consists of 18 assorted sizes of wires

Technical Specifications

Available for micrometer with 6.35mm, 6.50mm and 8.0mm spindle diameters.
Formula to obtain the pitch diameter E*
E = M-3d+0.866025P Where
E = Pitch Diameter
P = Screw Thread Pitch
d = Diameter of the wire
M = Measurement over the wire
* For Metric and UNF Screws

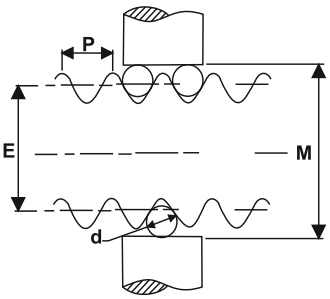
Range	Accuracy Diametrical Tolerance	Hardness	Sizes
0.25 - 5 mm Pitch Threads (1 Unit = 03 Wires)	±0.5µm	700 HV	0.170mm, 0.195mm, 0.220mm, 0.250mm, 0.290mm, 0.335mm, 0.390mm, 0.455mm, 0.530mm, 0.620mm, 0.725mm, 0.895mm, 1.100mm, 1.350mm, 1.650mm, 2.050mm, 2.550mm, 3.200mm

* Can supply in ±0.4µm accuracy on request

Applications

Measurement of the pitch diameter of screw threads using standard micrometer of spindle diameter 6.35/6.5/8 mm

PITCH DIAMETER CHART



1 Set = 3 Wire

Application with Micrometer & Stand

$P_{Value} = \frac{P}{2} * \cot(\frac{\alpha}{2}) - d * [\mathrm{cosec}(\frac{\alpha}{2}) - 1]$

For 60° P value = 0.866P - d

For 55° P value = 0.960P - 1.166d

Where d is mean diameter of wire

Thread Type, Corresponding pitch & P Value

Nominal size of wire in mm	ISO Metric (MM)		Unified & ISO TPI (INCH)		Whitworth TPI Parallel Threads		British Associate (B.A.)	
	Pitch P	P value	TPI	P Value	TPI	P value	No.	P value
0.170	0.25	0.047	--	--	--	--	10	0.146
	0.30	0.090	--	--	--	--	--	--
0.195	--	--	80	0.080	--	--	9	0.154
0.220	0.35	0.083	72	0.086	--	--	--	--
0.250	0.40	0.096	64	0.094	--	--	7	0.175
0.290	0.45	0.100	56	0.103	--	--	6	0.172
	0.50	0.143	--	--	--	--	--	--
0.335	0.60	0.185	48	0.123	40	0.219	5	0.174
	--	--	--	--	--	--	4	0.253
0.390	--	--	44	0.110	36	0.223	3	0.251
	--	--	40	0.160	--	--	--	--
0.455	0.70	0.151	36	0.156	32	0.232	2	0.246
	0.75	0.195	--	--	--	--	1	0.348
	0.80	0.238	--	--	--	--	--	--
0.530	0.90	0.249	32	0.157	28	0.253	0	0.350
	--	--	28	0.256	--	--	--	--
0.620	1.00	0.246	26	0.226	26	0.216	--	--
0.725	1.25	0.358	24	0.192	22	0.264	--	--
	--	--	22	0.275	20	0.375	--	--
	--	--	20	0.375	19	0.439	--	--
	--	--	19	0.433	--	--	--	--
0.895	1.50	0.404	18	0.327	18	0.312	--	--
	--	--	--	--	16	0.482	--	--
1.100	1.75	0.416	16	0.275	14	0.460	--	--
	--	--	14	0.471	--	--	--	--
	--	--	13	0.592	--	--	--	--
1.350	2	0.382	12	0.483	12	0.459	--	--
	--	--	11	0.650	11	0.644	--	--
1.650	2.5	0.515	10	0.550	10	0.516	--	--
	--	--	9	0.794	9	0.788	--	--
2.050	3.0	0.548	8	0.700	8	0.660	--	--
	3.5	0.981	7	1.092	7	1.096	--	--
2.550	4.0	0.914	6	1.116	6	1.094	--	--
	4.5	1.347	--	--	--	--	--	--
3.200	5.0	1.130	5	1.199	5	1.149	--	--
	5.5	1.563	4.5	1.688	4.5	1.692	--	--