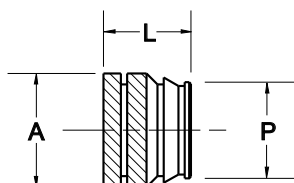
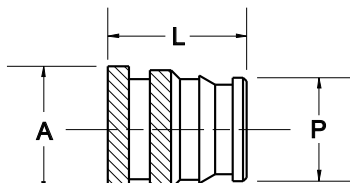


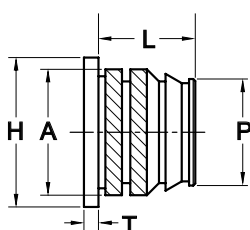
Series 19 Short



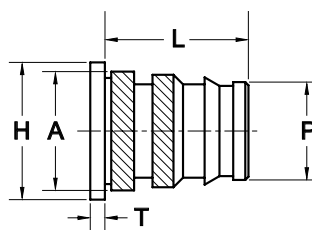
Series 19 Long



Series 20 Short



Series 20 Long



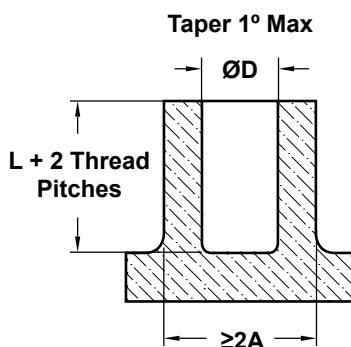
DIMENSIONAL DATA

LEGEND

Inch
Metric Conversion

Thread Size		A Short Overknurl Ø		A Long Overknurl Ø		P Pilot Ø		L Short Length		L Long Length		T Head Thickness		H Head Ø		D* Rec. Hole Ø	
Tolerance ▶		Ref.		Ref.		±.003	±.008	±.005	±.013	±.005	±.013	±.003	±.008	±.003	±.008	+ .003	+ .008
2-56	M2 x 0.4	.141	3.58	.143	3.63	.123	3.12	.125	3.18	.157	3.99	.018	0.46	.185	4.70	.126	3.20
4-40	M2.5 x 0.45 M3 x 0.5	.182	4.62	.187	4.75	.154	3.91	.140	3.56	.226	5.74	.021	0.53	.216	5.49	.157	3.99
6-32	M3.5 x 0.6	.213	5.41	.218	5.54	.185	4.70	.150	3.81	.281	7.14	.027	0.69	.247	6.27	.188	4.78
8-32	M4 x 0.7	.246	6.25	.251	6.38	.218	5.54	.185	4.70	.321	8.15	.033	0.84	.278	7.06	.221	5.61
10-24 10-32	M5 x 0.8	.277	7.04	.282	7.16	.249	6.32	.250	6.35	.375	9.53	.040	1.02	.310	7.87	.252	6.40
1/4-20	M6 x 1.0	.340	8.64	.345	8.76	.312	7.92	.312	7.92	.500	12.70	.050	1.27	.372	9.45	.315	8.00
5/16-18	M8 x 1.25	—	—	.407	10.34	.374	9.50	—	—	.500	12.70	.050	1.27	.435	11.05	.377	9.58

Recommended Hole Design*

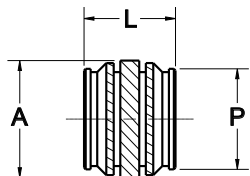


* See page 5 for more information
on recommended hole design

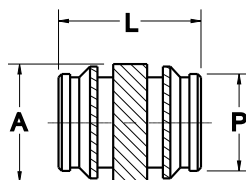
To Order: INS (Series #)/Thread Size / Length, Material, Finish

Example: INS 19/M5 / .250S EK

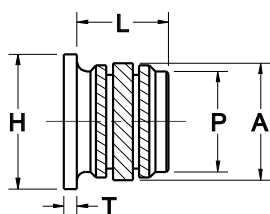
Series 29 Short



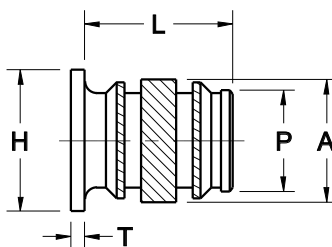
Series 29 Long



Series 30 Short



Series 30 Long



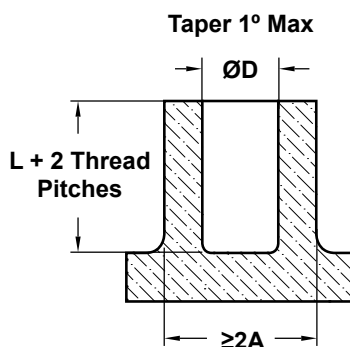
DIMENSIONAL DATA

LEGEND

Inch
Metric Conversion

Thread Size		A Overknurl Ø		P Pilot Ø		L Short Length		L Long Length		T Head Thickness		H Head Ø		D* Rec. Hole Ø	
Tolerance ▶		Ref.		±.003	±0.08	±.005	±0.13	±.005	±0.13	±.003	±0.08	±.003	±0.08	+0.003	+0.08
2-56	M2 x 0.4	.143	3.63	.123	3.12	.125	3.18	.157	3.99	.018	0.46	.185	4.70	.126	3.20
4-40	M2.5 x 0.45 M3 x 0.5	.187	4.75	.154	3.91	.140	3.56	.226	5.74	.021	0.53	.216	5.49	.157	3.99
6-32	M3.5 x 0.6	.218	5.54	.185	4.70	.150	3.81	.281	7.14	.027	0.69	.247	6.27	.188	4.78
8-32	M4 x 0.7	.251	6.38	.218	5.54	.185	4.70	.321	8.15	.033	0.84	.278	7.06	.221	5.61
10-24 10-32	M5 x 0.8	.282	7.16	.249	6.32	.250	6.35	.375	9.53	.040	1.02	.310	7.87	.252	6.40
1/4-20	M6 x 1.0	.345	8.76	.312	7.92	.312	7.92	.500	12.70	.050	1.27	.372	9.45	.315	8.00
5/16-18	M8 x 1.25	.407	10.34	.374	9.50	—	—	.500	12.70	.050	1.27	.435	11.05	.377	9.58

Recommended Hole Design*

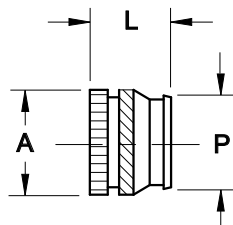


* See page 5 for more information
on recommended hole design

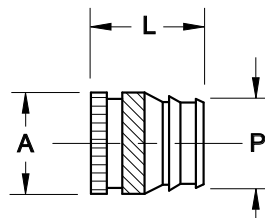
To Order: INS (Series #)/Thread Size / Length, Material, Finish

Example: INS 29/10-24 / .375L EK

Series 14 Short



Series 14 Long



DIMENSIONAL DATA

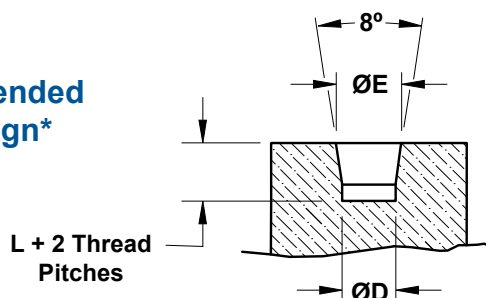
LEGEND

Inch
Metric Conversion

Short	Thread Size		A Overknurl Ø		P Pilot Ø		L Length		E* Rec. Hole Ø at Entrance		D* Rec. Hole Ø at Tapered End	
	Tolerance ▶		Ref.		±.003	±.008	±.005	±.013	+0.002	+0.005	+0.002	+0.005
	2-56	M2 x 0.4	.141	3.58	.119	3.02	.115	2.92	.123	3.12	.118	3.00
	4-40	M2.5 x 0.45	.174	4.42	.156	3.96	.135	3.43	.159	4.04	.153	3.89
	6-32	M3 x 0.5 M3.5 x 0.6	.221	5.61	.203	5.16	.150	3.81	.206	5.23	.199	5.05
	8-32	M4 x 0.7	.249	6.32	.230	5.84	.185	4.70	.234	5.94	.226	5.74
	10-24 10-32	—	.297	—	.272	—	.225	—	.277	—	.267	—
	—	M5 x 0.8	—	8.38	—	7.85	—	6.73	—	8.00	—	7.70
	1/4-20	M6 x 1.0	.378	9.60	.356	9.04	.300	7.62	.363	9.22	.349	8.86

Long	Thread Size		A Overknurl Ø		P Pilot Ø		L Length		E* Rec. Hole Ø at Entrance		D* Rec. Hole Ø at Tapered End	
	Tolerance ▶		Ref.		±.003	±.008	±.005	±.013	+0.002	+0.005	+0.002	+0.005
	2-56	M2 x 0.4	.141	3.58	.112	2.84	.188	4.78	.123	3.12	.107	2.72
	4-40	M2.5 x 0.45	.174	4.42	.146	3.71	.219	5.56	.159	4.04	.141	3.58
	6-32	M3 x 0.5 M3.5 x 0.6	.221	5.61	.190	4.83	.250	6.35	.206	5.23	.185	4.70
	8-32	M4 x 0.7	.249	6.32	.213	5.41	.312	7.92	.234	5.94	.208	5.28
	10-24 10-32	—	.297	—	.251	—	.375	—	.277	—	.246	—
	—	M5 x 0.8	—	8.38	—	7.19	—	11.13	—	8.00	—	7.06
	1/4-20	M6 x 1.0	.378	9.60	.326	8.28	.500	12.70	.363	9.22	.321	8.15
	5/16-18	M8 x 1.25	.469	11.91	.406	10.31	.562	14.27	.448	11.38	.401	10.19

Recommended Hole Design*



* See page 5 for more information
on recommended hole design

To Order: INS (Series #)/Thread Size / Length, Material, Finish

Example: INS 14/8-32 / .312L EK

Technical Centres

Europe SPIROL United Kingdom
17 Princewood Road
Corby, Northants
NN17 4ET United Kingdom
Tel: +44 (0) 1536 444800
Fax: +44 (0) 1536 203415

SPIROL France
Cité de l'Automobile ZAC Croix Blandin
18 Rue Léna Bernstein
51100 Reims, France
Tel: +33 (0) 3 26 36 31 42
Fax: +33 (0) 3 26 09 19 76

SPIROL Germany
Ottostr. 4
80333 Munich, Germany
Tel: +49 (0) 89 4 111 905 71
Fax: +49 (0) 89 4 111 905 72

SPIROL Spain
Plantes 3 i 4
Gran Via de Carles III, 84
08028, Barcelona, Spain
Tel/Fax: +34 932 71 64 28

SPIROL Czech Republic
Evropská 2588 / 33a
160 00 Prague 6-Dejvice
Czech Republic
Tel: +420 226 218 935

SPIROL Poland
ul. Solec 38 lok. 10
00-394, Warsaw, Poland
Tel. +48 510 039 345

Americas SPIROL International Corporation
30 Rock Avenue
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Tel. +1 860 774 8571
Fax. +1 860 774 2048

SPIROL Shim Division
321 Remington Road
Stow, Ohio 44224 U.S.A.
Tel. +1 330 920 3655
Fax. +1 330 920 3659

SPIROL Canada
3103 St. Etienne Boulevard
Windsor, Ontario N8W 5B1 Canada
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Fax. +1 519 974 6550

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Parque Industrial Avante Apodaca
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e-mail: info-uk@spirol.com

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Coiled Spring Pins



Slotted Spring Pins



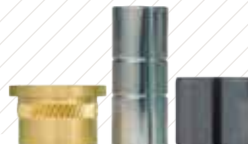
Solid Pins



**Alignment Dowels /
Bushings**



**Spacers & Rolled
Tubular Components**



**Compression
Limiters**



**Threaded Inserts
for Plastics**



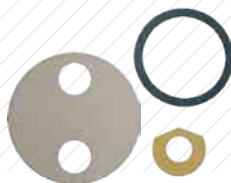
Railroad Nuts



Disc Springs



**Precision Shims &
Thin Metal Stampings**



Precision Washers



**Parts Feeding
Technology**



**Pin Installation
Technology**



**Insert Installation
Technology**



**Compression Limiter
Installation Technology**

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