

Precision Guide Element (Metric)

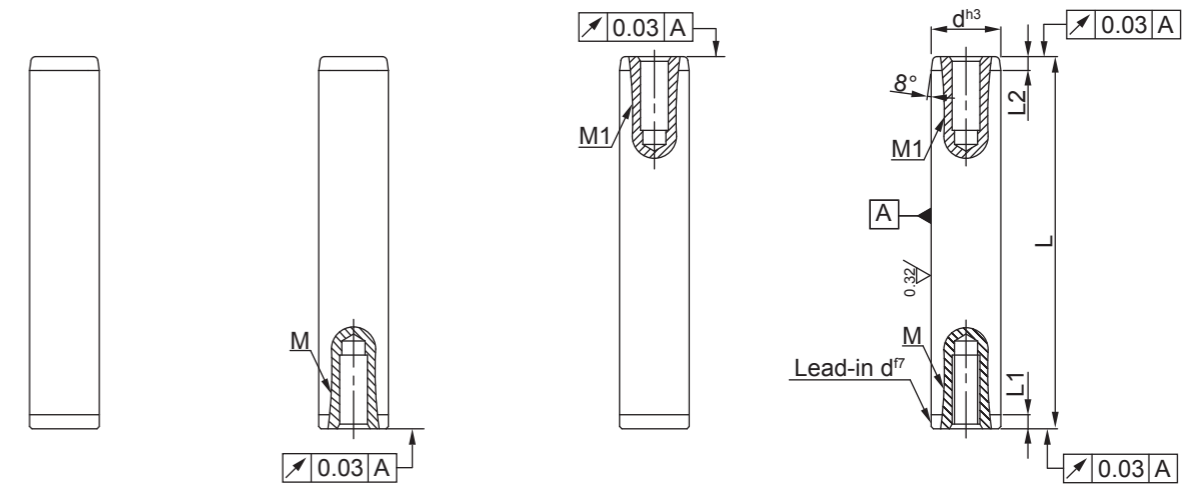
Small Straight Guide Post

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO N5
Cylindrical Tolerance	Ø3 – Ø10: 0.001



Thread data		
d	M	M1
3	-	-
4	-	-
5	M3	M3
6	M3	M3
8	M4	M4
10	M5	M5

NT: No Thread PI: Press-in Side GS: Guide Side BS: Both Sides



Guide Post Series

Sizes											
Diameter d	Length			Part Number	Diameter d	Length			Part Number	Part Number	
	L1	L2	L			L1	L2	L			
3	2	2	40	PAM-03-040xx	6 / 8	2	2	80	PAM-06-080xx	PAM-08-080xx	
			50	PAM-03-050xx				100	PAM-06-100xx	PAM-08-100xx	
			60	PAM-03-060xx				120	PAM-06-120xx	PAM-08-120xx	
			80	PAM-03-080xx				140	PAM-06-140xx	PAM-08-140xx	
4 / 5	2	2	40	PAM-04-040xx	PAM-05-040xx	10	3	3	160	PAM-06-160xx	PAM-08-160xx
			50	PAM-04-050xx	PAM-05-050xx				50	PAM-10-050xx	
			60	PAM-04-060xx	PAM-05-060xx				60	PAM-10-060xx	
			80	PAM-04-080xx	PAM-05-080xx				80	PAM-10-080xx	
			100	PAM-04-100xx	PAM-05-100xx				100	PAM-10-100xx	
6 / 8	2	2	40	PAM-06-040xx	PAM-08-040xx				120	PAM-10-120xx	
			50	PAM-06-050xx	PAM-08-050xx				140	PAM-10-140xx	
			60	PAM-06-060xx	PAM-08-060xx				160	PAM-10-160xx	

Order note: Please add the appropriate suffix to designate desired thread type.

NT = No thread

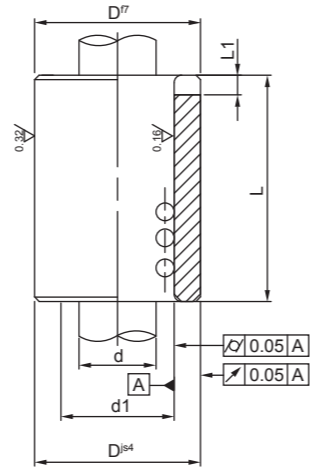
PI = Press-in side

GS = Guide side

BS = Both sides

Example: PAM-06-100PI = Diameter 06, Length 100, Press-in side threads

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO H5

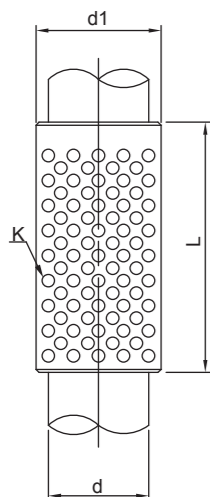


Sizes												
Diameter			Length		Part Number	Diameter			Length		Part Number	
d	d1	D	L1	L		d	d1	D	L1	L		
3	5	8	2	10	BAM-03-010	6	8	10	2	20	BAM-06-020	
				15						25		BAM-06-025
				20						30		
4	6	8	2	15	BAM-04-015	8	10	18	2	40	BAM-06-040	
				20						20		BAM-08-020
				25						25		
				30						30		BAM-08-030
5	7	10	2	15	BAM-05-015	10	14	22	3	40	BAM-08-040	
				20						20		BAM-10-020
				25						25		
				30						30		BAM-10-030
6	8	10	2	15	BAM-06-015				40	BAM-10-040		

Example: BAM-060-020=Diameter 06,Length 20.



Brass cage



Sizes										
Diameter			Length	Part Number	Diameter			Length	Part Number	
d	d1	K			d	d1	K			
3	5	1	10	CAM-03-010BR	6	8	1	20	CAM-06-020BR	
			15					25		CAM-06-025BR
			20					30		
4	6	1	10	CAM-04-010BR	8	10	1	40	CAM-06-040BR	
			15					15		CAM-08-015BR
			20					20		
			25					25		CAM-08-025BR
30	30	CAM-08-030BR								
5	7		1	10	CAM-05-010BR	10	14	2	40	CAM-08-040BR
		15		20					CAM-10-020BR	
		20		25						
		25		30					CAM-10-030BR	
30	30	CAM-10-040BR								
6	8		1	10	CAM-06-010BR				50	CAM-10-050BR
		15		CAM-06-015BR						

Example: CAM-060-020BR=Diameter 06,Length 20,Brass cage.

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO N5
Cylindrical Tolerance	Ø11 - 16: 0.001 Ø19 - 25: 0.002 Ø30 - 80: 0.003



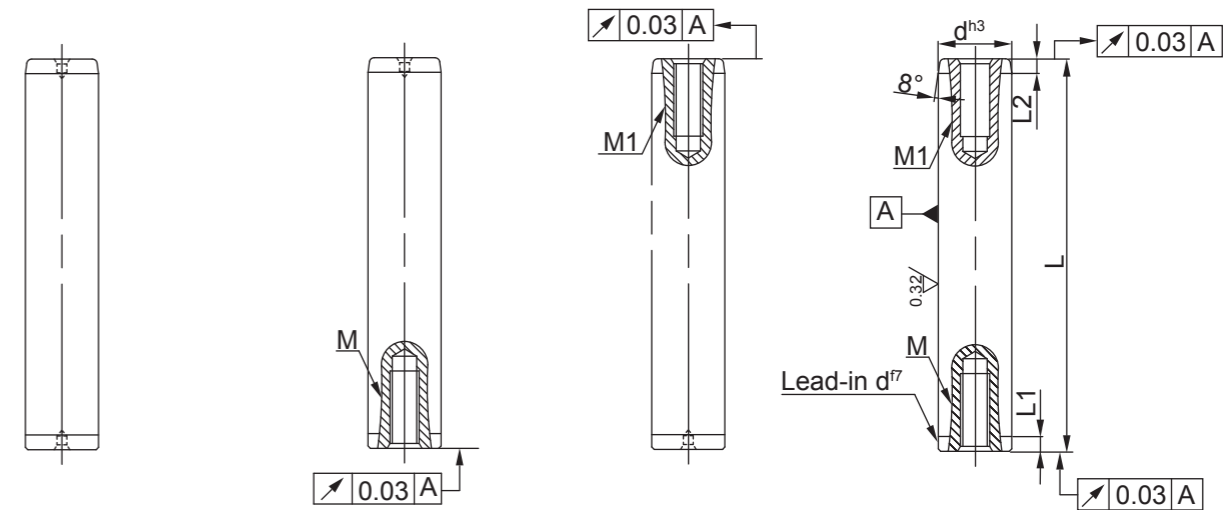
Thread data		
d	M	M1
11 - 16	M6	M6
19 - 25	M8	M8
30 - 50	M10	M10
60 - 63	M12	M12
80	M12	M12

NT: No Thread

PI: Press-in Side

GS: Guide Side

BS: Both Sides

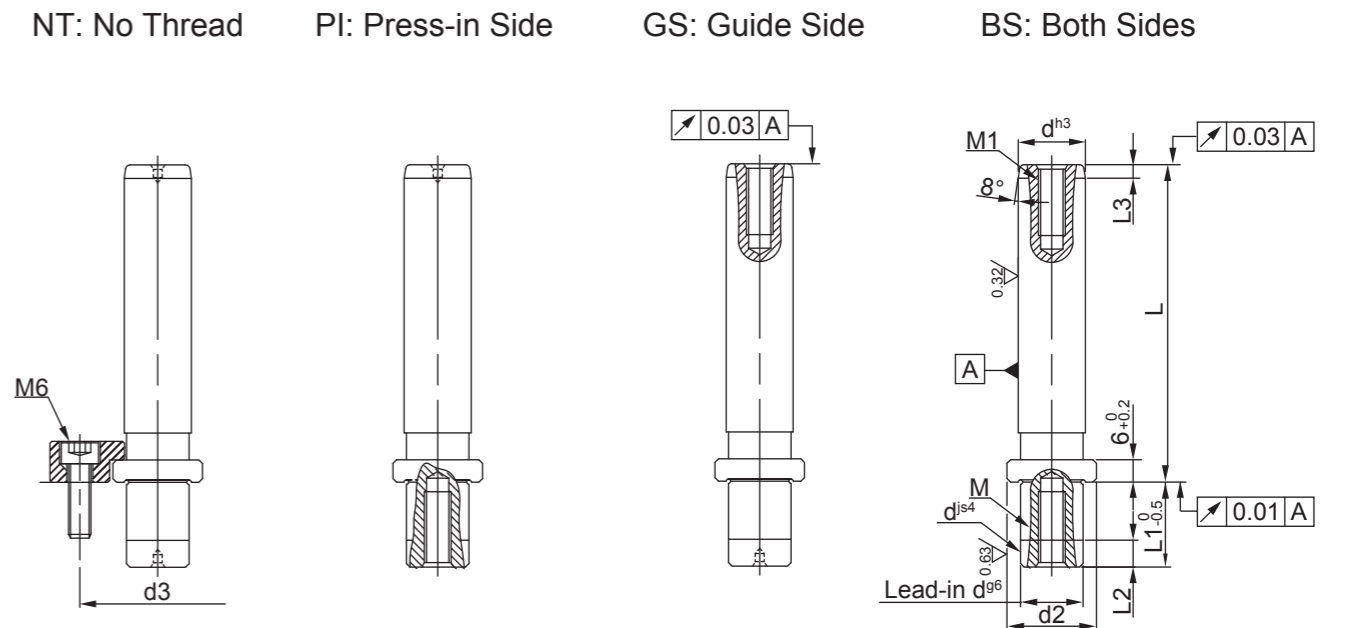


Sizes												
Diameter		Length			Part Number		Diameter			Part Number		
d	L1	L2	L			d	L1	L2	L			
11 / 12	3	3	3	60	PAM-11-060xx	15 / 16	4	4	4	112	PAM-15-112xx	PAM-16-112xx
				80	PAM-11-080xx					125	PAM-15-125xx	PAM-16-125xx
				100	PAM-11-100xx					140	PAM-15-140xx	PAM-16-140xx
				112	PAM-11-112xx					160	PAM-15-160xx	PAM-16-160xx
				125	PAM-11-125xx					180	PAM-15-180xx	PAM-16-180xx
				140	PAM-11-140xx					200	PAM-15-200xx	PAM-16-200xx
15 / 16	4	4	4	90	PAM-15-090xx	19 / 20	4	4	4	100	PAM-19-100xx	PAM-20-100xx
				100	PAM-15-100xx					112	PAM-19-112xx	PAM-20-112xx
										125	PAM-19-125xx	PAM-20-125xx

Sizes														
Diameter		Length			Part Number		Diameter		Length			Part Number		
d	L1	L2	L	Part Number		d	L1	L2	L	Part Number				
19 / 20	4	4	140	PAM-19-140xx	PAM-20-140xx	38 / 40	6	6	280	PAM-38-280xx	PAM-40-280xx			
			160	PAM-19-160xx	PAM-20-160xx				315	PAM-38-315xx	PAM-40-315xx			
			180	PAM-19-180xx	PAM-20-180xx				355	PAM-38-355xx	PAM-40-355xx			
			200	PAM-19-200xx	PAM-20-200xx				400	PAM-38-400xx	PAM-40-400xx			
			224	PAM-19-224xx	PAM-20-224xx				450	PAM-38-450xx	PAM-40-450xx			
			250	PAM-19-250xx	PAM-20-250xx				500	PAM-38-500xx	PAM-40-500xx			
			280	PAM-19-280xx	PAM-20-280xx				180	PAM-48-180xx	PAM-50-180xx			
24 / 25	5	5	100	PAM-24-100xx	PAM-25-100xx	48 / 50	6	8	200	PAM-48-200xx	PAM-50-200xx			
			112	PAM-24-112xx	PAM-25-112xx				224	PAM-48-224xx	PAM-50-224xx			
			125	PAM-24-125xx	PAM-25-125xx				250	PAM-48-250xx	PAM-50-250xx			
			140	PAM-24-140xx	PAM-25-140xx				280	PAM-48-280xx	PAM-50-280xx			
			160	PAM-24-160xx	PAM-25-160xx				315	PAM-48-315xx	PAM-50-315xx			
			180	PAM-24-180xx	PAM-25-180xx				355	PAM-48-355xx	PAM-50-355xx			
			200	PAM-24-200xx	PAM-25-200xx				400	PAM-48-400xx	PAM-50-400xx			
			224	PAM-24-224xx	PAM-25-224xx				450	PAM-48-450xx	PAM-50-450xx			
			250	PAM-24-250xx	PAM-25-250xx				500	PAM-48-500xx	PAM-50-500xx			
			280	PAM-24-280xx	PAM-25-280xx				550	PAM-48-550xx	PAM-50-550xx			
			315	PAM-24-315xx	PAM-25-315xx				600	PAM-48-600xx	PAM-50-600xx			
			355	PAM-24-355xx	PAM-25-355xx				250	PAM-60-250xx	PAM-63-250xx			
			400	PAM-24-400xx	PAM-25-400xx				280	PAM-60-280xx	PAM-63-280xx			
30 / 32	6	6	125	PAM-30-125xx	PAM-32-125xx	60 / 63	8	8	315	PAM-60-315xx	PAM-63-315xx			
			140	PAM-30-140xx	PAM-32-140xx				355	PAM-60-355xx	PAM-63-355xx			
			160	PAM-30-160xx	PAM-32-160xx				400	PAM-60-400xx	PAM-63-400xx			
			180	PAM-30-180xx	PAM-32-180xx				450	PAM-60-450xx	PAM-63-450xx			
			200	PAM-30-200xx	PAM-32-200xx				500	PAM-60-500xx	PAM-63-500xx			
			224	PAM-30-224xx	PAM-32-224xx				550	PAM-60-550xx	PAM-63-550xx			
			250	PAM-30-250xx	PAM-32-250xx				600	PAM-60-600xx	PAM-63-600xx			
			280	PAM-30-280xx	PAM-32-280xx				80	8	8	280	PAM-80-280xx	
			315	PAM-30-315xx	PAM-32-315xx							315	PAM-80-315xx	
			355	PAM-30-355xx	PAM-32-355xx							355	PAM-80-355xx	
400	PAM-30-400xx	PAM-32-400xx	400	PAM-80-400xx										
38 / 40	6	6	160	PAM-38-160xx	PAM-40-160xx				450	PAM-80-450xx				
			180	PAM-38-180xx	PAM-40-180xx				500	PAM-80-500xx				
			200	PAM-38-200xx	PAM-40-200xx				550	PAM-80-550xx				
			224	PAM-38-224xx	PAM-40-224xx				600	PAM-80-600xx				
			250	PAM-38-250xx	PAM-40-250xx									

Order note: Please add the appropriate suffix to designate desired thread type.
 NT = No thread (For assembly details, please refer to page 58, 59, 66)
 PI = Press-in side (For assembly details, please refer to page 61, 62)
 GS = Guide side (For assembly details, please refer to page 73,74)
 BS = Both sides (For assembly details, please refer to page 76)
 Example: PAM-40-200NT = Diameter 40, Length 200, None thread

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO K5
Cylindrical Tolerance	Ø11 - 16: 0.001 Ø19 - 25: 0.002 Ø30 - 80: 0.003



Sizes									
Diameter		Thread		Length				Part Number	
d	d2	d3	M	M1	L1	L2	L3	L	
11 / 12	17	33	M6	M6	12	3	3	70	PBM-11-070xx PBM-12-070xx
								80	PBM-11-080xx PBM-12-080xx
								90	PBM-11-090xx PBM-12-090xx
								100	PBM-11-100xx PBM-12-100xx
								112	PBM-11-112xx PBM-12-112xx
								125	PBM-11-125xx PBM-12-125xx

Sizes										
Diameter			Thread		Length				Part Number	
d	d2	d3	M	M1	L1	L2	L3	L		
15 / 16	22	38	M6	M6	16	3	4	80	PBM-15-080xx	PBM-16-080xx
								90	PBM-15-090xx	PBM-16-090xx
								100	PBM-15-100xx	PBM-16-100xx
								112	PBM-15-112xx	PBM-16-112xx
								125	PBM-15-125xx	PBM-16-125xx
								140	PBM-15-140xx	PBM-16-140xx
								160	PBM-15-160xx	PBM-16-160xx
								180	PBM-15-180xx	PBM-16-180xx
19 / 20	25	42	M8	M8	23	4	4	100	PBM-19-100xx	PBM-20-100xx
								112	PBM-19-112xx	PBM-20-112xx
								125	PBM-19-125xx	PBM-20-125xx
								140	PBM-19-140xx	PBM-20-140xx
								160	PBM-19-160xx	PBM-20-160xx
								180	PBM-19-180xx	PBM-20-180xx
24 / 25	32	49	M8	M8	27	5	5	100	PBM-24-100xx	PBM-25-100xx
								112	PBM-24-112xx	PBM-25-112xx
								125	PBM-24-125xx	PBM-25-125xx
								140	PBM-24-140xx	PBM-25-140xx
								160	PBM-24-160xx	PBM-25-160xx
								180	PBM-24-180xx	PBM-25-180xx
								200	PBM-24-200xx	PBM-25-200xx
								224	PBM-24-224xx	PBM-25-224xx
30 / 32	40	57	M10	M10	37	6	6	112	PBM-30-112xx	PBM-32-112xx
								125	PBM-30-125xx	PBM-32-125xx
								140	PBM-30-140xx	PBM-32-140xx
								160	PBM-30-160xx	PBM-32-160xx
								180	PBM-30-180xx	PBM-32-180xx
								200	PBM-30-200xx	PBM-32-200xx
								224	PBM-30-224xx	PBM-32-224xx
								250	PBM-30-250xx	PBM-32-250xx
38 / 40	50	67	M10	M10	37	6	6	125	PBM-38-125xx	PBM-40-125xx
								140	PBM-38-140xx	PBM-40-140xx
								160	PBM-38-160xx	PBM-40-160xx
								180	PBM-38-180xx	PBM-40-180xx
								200	PBM-38-200xx	PBM-40-200xx
								224	PBM-38-224xx	PBM-40-224xx
								250	PBM-38-250xx	PBM-40-250xx
								315	PBM-38-315xx	PBM-40-315xx

Sizes										
Diameter			Thread		Length				Part Number	
d	d2	d3	M	M1	L1	L2	L3	L		
48 / 50	63	80	M10	M10	47	8	8	140	PBM-48-140xx	PBM-50-140xx
								160	PBM-48-160xx	PBM-50-160xx
								180	PBM-48-180xx	PBM-50-180xx
								200	PBM-48-200xx	PBM-50-200xx
								224	PBM-48-224xx	PBM-50-224xx
								250	PBM-48-250xx	PBM-50-250xx
								280	PBM-48-280xx	PBM-50-280xx
								315	PBM-48-315xx	PBM-50-315xx
								355	PBM-48-355xx	PBM-50-355xx
								60 / 63	80	97
180	PBM-60-180xx	PBM-63-180xx								
200	PBM-60-200xx	PBM-63-200xx								
224	PBM-60-224xx	PBM-63-224xx								
250	PBM-60-250xx	PBM-63-250xx								
280	PBM-60-280xx	PBM-63-280xx								
315	PBM-60-315xx	PBM-63-315xx								
355	PBM-60-355xx	PBM-63-355xx								
80	100	117	M12	M12	60	8	8	250	PBM-80-250xx	
								280	PBM-80-280xx	
								315	PBM-80-315xx	
								355	PBM-80-355xx	
								400	PBM-80-400xx	

Order note: Please add the appropriate suffix to designate desired thread type.

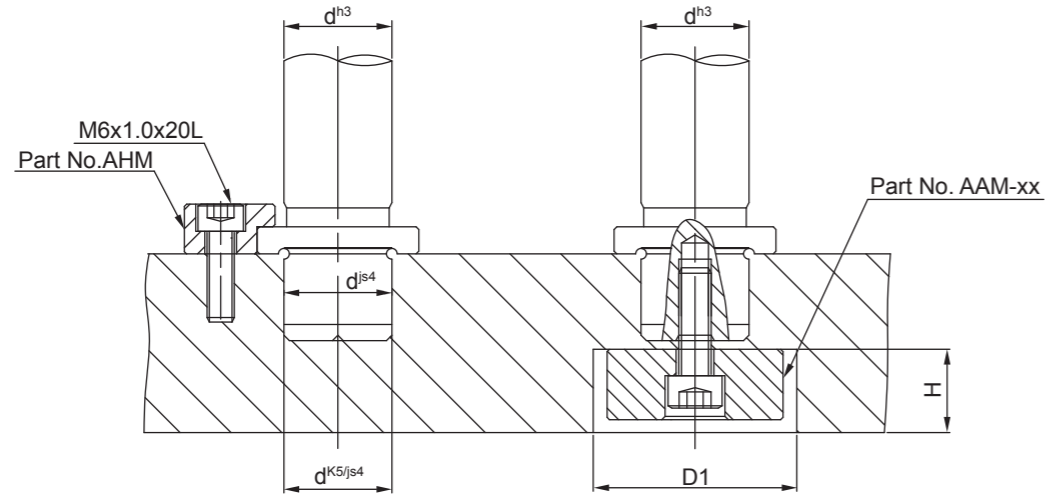
NT = No thread (For assembly details, please refer to page 59, 60, 66)

PI = Press-in side (For assembly details, please refer to page 62, 63)

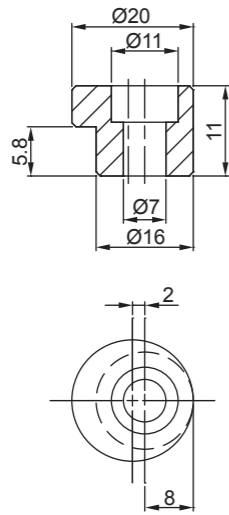
GS = Guide side (For assembly details, please refer to page 74, 75)

BS = Both sides (For assembly details, please refer to page 77)

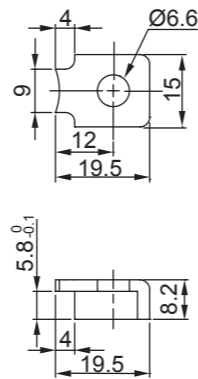
Example: PBM-60-200GS = Diameter 60, Length 200, Guide side threads



Clamp Data
Part No. AHM

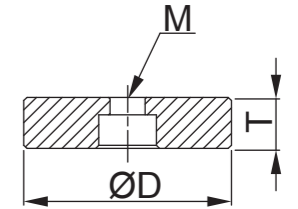


Clamp Data
Part No. AFM



Shoulder Bushing/Post Clamp Arrangement Selection Data			
Post	Left-Right Feed	Front-Back Feed	Round Dies
11-20			
24-40			
48-80			

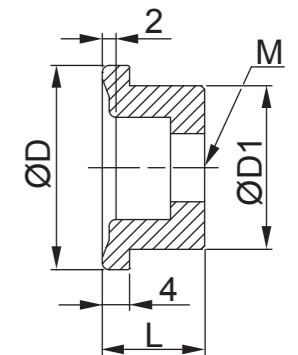
Material	Steel DIN/EN C50 ISO C50 AISI/SAE 1049 JIS S50C
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Spacer for Guide Post with Shoulder							
Post	D	D1	T	H	M	Part Number	
11 / 12	17	19	10	11	M6	AAM-11	AAM-12
15 / 16	22	24				AAM-15	AAM-16
19 / 20	25	27				AAM-19	AAM-20
24 / 25	32	34	13	14	M8	AAM-24	AAM-25
30 / 32	40	42				AAM-30	AAM-32
38 / 40	50	52				AAM-38	AAM-40
48 / 50	63	65	16	17	M10	AAM-48	AAM-50
60 / 63	77	79				AAM-60	AAM-63
80	94	96				AAM-80	

Example: AAM-50=Use for guide post diameter 50.

Material	Steel DIN EN10084/10083 ISO C50 AISI/SAE 1049 JIS S50C
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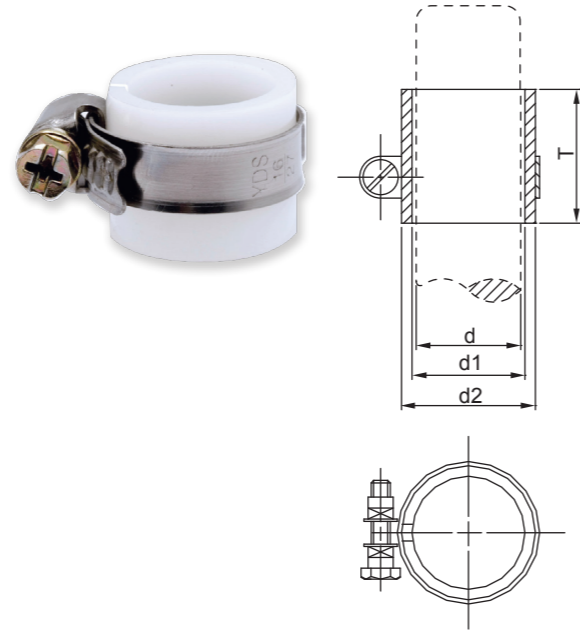
Washer for Guide Post						
Post	D	D1	L	M	Part Number	
11 / 12	14 / 15	10 / 11	10	M6	AGM-11	AGM-12
15 / 16	19 / 20	14 / 15			AGM-15	AGM-16
19 / 20	23 / 24	18 / 19			M8	AGM-19
24 / 25	28 / 29	23 / 24	20	M10	AGM-24	AGM-25
30 / 32	36 / 38	29 / 31			AGM-30	AGM-32
38 / 40	44 / 48	37 / 39			AGM-38	AGM-40
48 / 50	54 / 56	47 / 49	M12	M12	AGM-48	AGM-50
60 / 63	67 / 70	59 / 62			AGM-60	AGM-63
80	89	79			AGM-80	

Example: AGM-50= Use for guide post diameter 50.

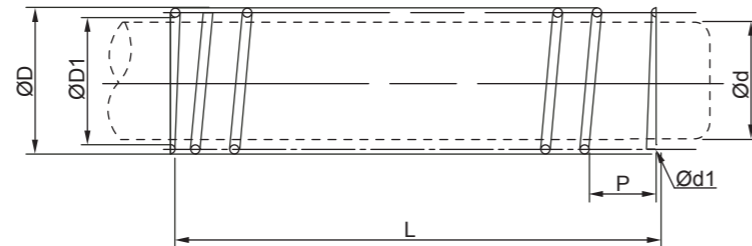
Material	DIN/EN Durethan ISO POM
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Part Number: AKM

Diameter			Length	Part Number	
d	d1	d2	L		
11 / 12	11.3/12.3	16	20	AKM-11	AKM-12
15 / 16	15.3/16.3	20		AKM-15	AKM-16
19 / 20	19.3/20.3	25		AKM-19	AKM-20
24 / 25	24.5/25.5	30	30	AKM-24	AKM-25
30 / 32	30.5/32.5	40		AKM-30	AKM-32
38 / 40	38.5/40.5	50		AKM-38	AKM-40
48 / 50	48.5/50.5	60	40	AKM-48	AKM-50
60 / 63	60.5/63.5	70		AKM-60	AKM-63
80	80.5	90		AKM-80	



Material	DIN 2076 ASTM A228 JIS G3522
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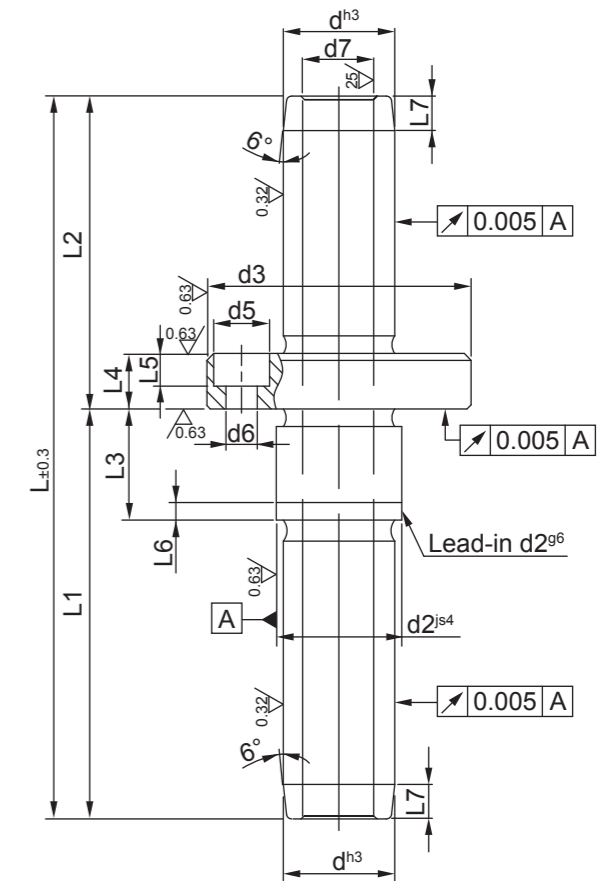
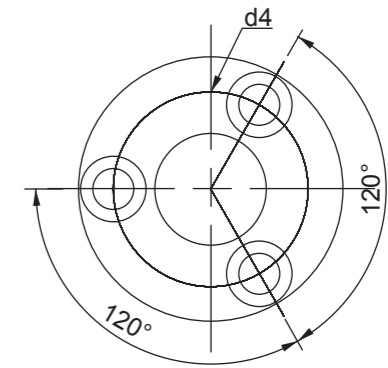


Part Number: SWP

Spring for Guide Post					
Post (d)	d1	D1	D	P	L
11	0.6	11.5	12.7	10	25,30,35,40,45,50,55,60
12		12.5	13.7		25,30,35,40,45,50,55,60
15	0.8	15.5	17.1	12	30,35,40,45,50,55,60,65,70,75,80,85,90
16		16.5	18.1		30,35,40,45,50,55,60,65,70,75,80,85,90
19	0.9	19.5	21.1	14	40,45,50,55,60,65,70,75,80,85,90,95,100
20		20.5	22.3		40,45,50,55,60,65,70,75,80,85,90,95,100
24	1.2	24.5	26.9	14	55,65,75,85,95,105,115,125,135,145,150,200
25		25.5	27.9		55,65,75,85,95,105,115,125,135,145,150,200
30	1.6	30.5	33.7	16	55,65,75,85,95,105,115,125,135,145,150,200
32		32.5	35.7		55,65,75,85,95,105,115,125,135,145,150,200
38	1.8	38.5	42.1	18	65,75,85,95,105,115,125,135,145,150,200,250
40	2.0	40.5	44.5	20	65,75,85,95,105,115,125,135,145,150,200,250
48	2.3	48.5	53.1	23	65,75,85,95,105,115,125,135,145,150,200,250,300
50		50.5	55.1		65,75,85,95,105,115,125,135,145,150,200,250,300
60	2.5	60.5	65.5	25	85,95,105,115,125,135,145,150,200,250,300
63		63.5	68.5		85,95,105,115,125,135,145,150,200,250,300,350
80		80.5	85.5		105,115,125,135,145,150,200,250,300,350,400

Example: SWP-50-200=Diameter 50, Length 200.

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO K5
Cylindrical Tolerance	Ø11 – Ø16: 0.001 Ø19 – Ø25: 0.002 Ø30 – Ø50: 0.003

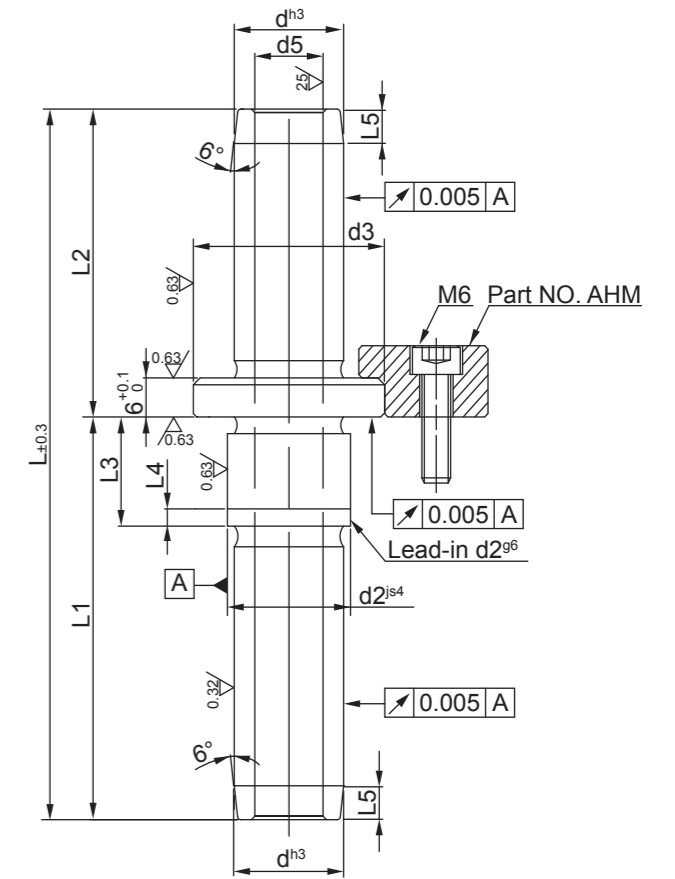
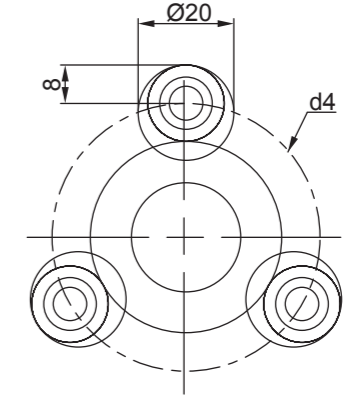


Sizes																
Diameter							Length							Part Number		
d	d2	d3	d4	d5	d6	d7*	L1	L2	L3	L4	L5	L6	L7	L		
11 / 12	13	28	20	6	3.4	-	50	40	12	6	3.4	3	3	90	PCM-11-090	PCM-12-090
							60	40						100	PCM-11-100	PCM-12-100
							60	50						110	PCM-11-110	PCM-12-110
							60	60						120	PCM-11-120	PCM-12-120
							70	60						130	PCM-11-130	PCM-12-130
15 / 16	18	38	28	8	4.5	-	70	62	16	8	4.6	4	5	140	PCM-11-140	PCM-12-140
							70	70						132	PCM-15-132	PCM-16-132
							80	62						142	PCM-15-142	PCM-16-142
							90	62						152	PCM-15-152	PCM-16-152
							90	70						160	PCM-15-160	PCM-16-160

Sizes															Part Number	
Diameter							Length									
d	d2	d3	d4	d5	d6	d7*	L1	L2	L3	L4	L5	L6	L7	L		
15 / 16	18	38	28	8	4.5	-	100	70	16	8	4.6	4	5	170	PCM-15-170	PCM-16-170
							100	80						180	PCM-15-180	PCM-16-180
19 / 20	22	42	32	8	4.5	-	90	70	20	8	4.6	4	5	160	PCM-19-160	PCM-20-160
							100	70						170	PCM-19-170	PCM-20-170
							100	80						180	PCM-19-180	PCM-20-180
							110	80						190	PCM-19-190	PCM-20-190
							110	90						200	PCM-19-200	PCM-20-200
							110	100						210	PCM-19-210	PCM-20-210
24 / 25	26	48	38	8	4.5	-	100	80	22	8	4.6	5	5	180	PCM-24-180	PCM-25-180
							110	80						190	PCM-24-190	PCM-25-190
							110	90						200	PCM-24-200	PCM-25-200
							120	90						210	PCM-24-210	PCM-25-210
							120	100						220	PCM-24-220	PCM-25-220
							120	110						230	PCM-24-230	PCM-25-230
30 / 32	34	60	48	10	5.5	20	100	80	25	10	5.7	5	6	180	PCM-30-180	PCM-32-180
							110	80						190	PCM-30-190	PCM-32-190
							110	90						200	PCM-30-200	PCM-32-200
							120	90						210	PCM-30-210	PCM-32-210
							120	100						220	PCM-30-220	PCM-32-220
							130	100						230	PCM-30-230	PCM-32-230
							130	110						240	PCM-30-240	PCM-32-240
							140	110						250	PCM-30-250	PCM-32-250
38 / 40	42	70	56	11	6.6	20	110	90	27	12	6.8	6	6	200	PCM-38-200	PCM-40-200
							120	90						210	PCM-38-210	PCM-40-210
							120	100						220	PCM-38-220	PCM-40-220
							130	100						230	PCM-38-230	PCM-40-230
							130	110						240	PCM-38-240	PCM-40-240
							140	110						250	PCM-38-250	PCM-40-250
							140	120						260	PCM-38-260	PCM-40-260
							150	110						260	PCM-48-260	PCM-50-260
48 / 50	52	80	66	11	6.6	20	160	120	37	15	6.8	6	8	280	PCM-48-280	PCM-50-280
							170	130						300	PCM-48-300	PCM-50-300
							180	140						320	PCM-48-320	PCM-50-320
							200	160						360	PCM-48-360	PCM-50-360
							220	180						400	PCM-48-400	PCM-50-400

* d7 contains standard inner diameter of 20mm for d=Ø30 thru d= Ø50.
 * Clamp arrangement data, please see page 10.
 * For assembly details please refer to page 67.
 * Example: PCM-50-260=Diameter 50, length 260.

Material	Steel DIN1.2067/1.3505, ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ2
Hardness	60-64HRC
Finish	Precision ground
Assembly	Hole bore ISO K5
Cylindrical Tolerance	Ø11 – Ø16:0.001 Ø19 – Ø25:0.002 Ø30 – Ø50:0.003



Sizes												Part Number	
Diameter					Length								
d	d2	d3	d4	d5	L1	L2	L3	L4	L5	L			
11/ 12	13	18	36	-	50	40	12	3	3	90	PDM-11-090	PDM-12-090	
					60	40				100	PDM-11-100	PDM-12-100	
					60	50				110	PDM-11-110	PDM-12-110	
					60	60				120	PDM-11-120	PDM-12-120	
					70	60				130	PDM-11-130	PDM-12-130	
					70	70				140	PDM-11-140	PDM-12-140	
15/ 16	18	24	40	-	70	62	16	4	5	132	PDM-15-132	PDM-16-132	
					80	62				142	PDM-15-142	PDM-16-142	

Sizes												
Diameter					Length						Part Number	
d	d2	d3	d4	d5	L1	L2	L3	L4	L5	L		
15 / 16	18	24	40	-	90	62	16	4	5	152	PDM-15-152	PDM-16-152
					90	70					PDM-15-160	PDM-16-160
					100	70					PDM-15-170	PDM-16-170
					100	80					PDM-15-180	PDM-16-180
19 / 20	22	28	44	-	90	70	20	4	5	160	PDM-19-160	PDM-20-160
					100	70				170	PDM-19-170	PDM-20-170
					100	80				180	PDM-19-180	PDM-20-180
					110	80				190	PDM-19-190	PDM-20-190
					110	90				200	PDM-19-200	PDM-20-200
24 / 25	26	32	49	-	110	100	22	5	5	210	PDM-19-210	PDM-20-210
					100	80				180	PDM-24-180	PDM-25-180
					110	80				190	PDM-24-190	PDM-25-190
					110	90				200	PDM-24-200	PDM-25-200
					120	90				210	PDM-24-210	PDM-25-210
					120	100				220	PDM-24-220	PDM-25-220
30 / 32	34	40	57	20	120	110	25	5	6	230	PDM-24-230	PDM-25-230
					100	80				180	PDM-30-180	PDM-32-180
					110	80				190	PDM-30-190	PDM-32-190
					110	90				200	PDM-30-200	PDM-32-200
					120	90				210	PDM-30-210	PDM-32-210
					120	100				220	PDM-30-220	PDM-32-220
					130	100				230	PDM-30-230	PDM-32-230
					130	110				240	PDM-30-240	PDM-32-240
38 / 40	42	50	67	20	140	110	27	6	6	250	PDM-30-250	PDM-32-250
					110	90				200	PDM-38-200	PDM-40-200
					120	90				210	PDM-38-210	PDM-40-210
					120	100				220	PDM-38-220	PDM-40-220
					130	100				230	PDM-38-230	PDM-40-230
					130	110				240	PDM-38-240	PDM-40-240
48 / 50	52	63	80	20	140	120	37	6	8	250	PDM-38-250	PDM-40-250
					150	110				260	PDM-38-260	PDM-40-260
					160	120				280	PDM-50-280	PDM-50-280
					170	130				300	PDM-50-300	PDM-50-300
					180	140				320	PDM-50-320	PDM-50-320
					200	160				360	PDM-50-360	PDM-50-360
					220	180				400	PDM-50-400	PDM-50-400

* d7 contains standard inner diameter of 20mm for d=Ø30 thru d= Ø50.

* Clamp arrangement data, please see page 10.

* For assembly details please refer to page 67.

* Example: PDM-50-400=Diameter 50, length 400.

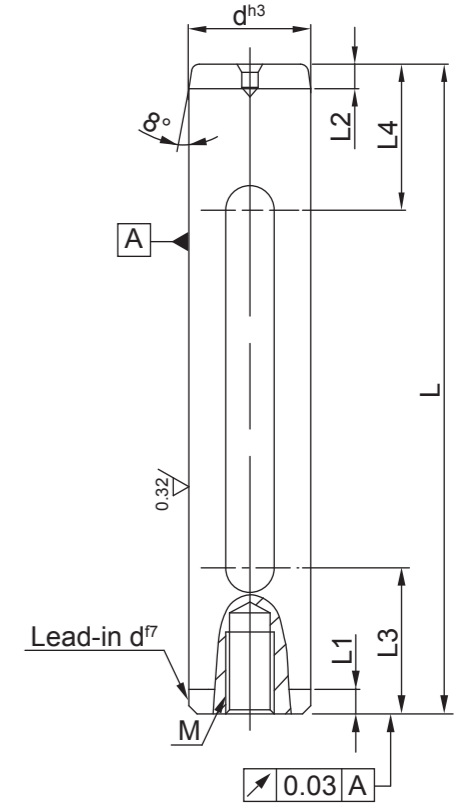
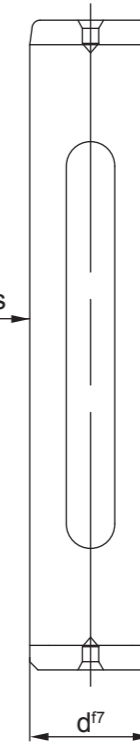
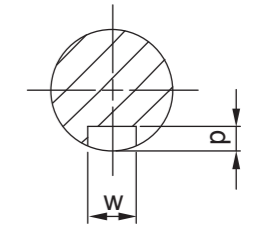
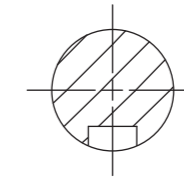
Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO N5
Cylindrical Tolerance	Ø11 – Ø16: 0.001 Ø19 – Ø25: 0.002 Ø30 – Ø80: 0.003

NT: No Thread

PI: Press-in Side



Ø11-40:1 groove
Ø48-80:2 grooves



Sizes										
Diameter	Length				Thread	Length			Part Number	
d	L1	L2	L3	L4	M	W	P	L		
11 / 12	3	3	20	20	M6	4	2.8	60	PEM-11-060xx	PEM-12-060xx
								80	PEM-11-080xx	PEM-12-080xx
								100	PEM-11-100xx	PEM-12-100xx
								112	PEM-11-112xx	PEM-12-112xx
								125	PEM-11-125xx	PEM-12-125xx
								140	PEM-11-140xx	PEM-12-140xx
								160	PEM-11-160xx	PEM-12-160xx
								180	PEM-11-180xx	PEM-12-180xx
15 / 16	4	4	25	25	M6	4	2.8	90	PEM-15-090xx	PEM-16-090xx
								100	PEM-15-100xx	PEM-16-100xx
								112	PEM-15-112xx	PEM-16-112xx
								125	PEM-15-125xx	PEM-16-125xx
								140	PEM-15-140xx	PEM-16-140xx
								160	PEM-15-160xx	PEM-16-160xx
								180	PEM-15-180xx	PEM-16-180xx
								200	PEM-15-200xx	PEM-16-200xx

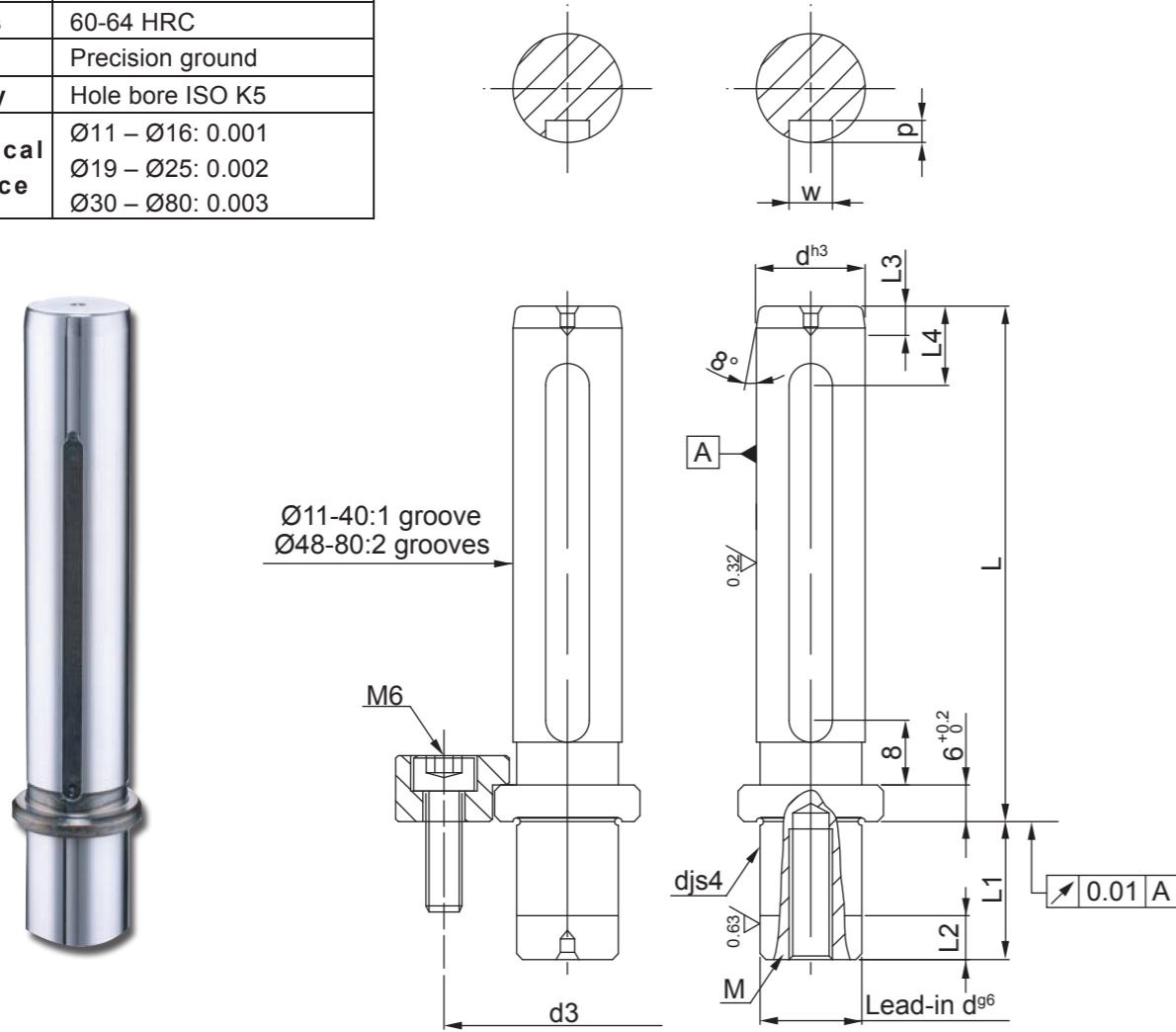
Sizes										
Diameter	Length				Thread	Length				Part Number
d	L1	L2	L3	L4	M	W	P	L		
19 / 20	4	4	30	30	M8	6	3.5	100	PEM-19-100xx	PEM-20-100xx
								112	PEM-19-112xx	PEM-20-112xx
								125	PEM-19-125xx	PEM-20-125xx
								140	PEM-19-140xx	PEM-20-140xx
								160	PEM-19-160xx	PEM-20-160xx
								180	PEM-19-180xx	PEM-20-180xx
								200	PEM-19-200xx	PEM-20-200xx
								224	PEM-19-224xx	PEM-20-224xx
								250	PEM-19-250xx	PEM-20-250xx
								280	PEM-19-280xx	PEM-20-280xx
24 / 25	5	5	35	35	M8	6	3.5	100	PEM-24-100xx	PEM-25-100xx
								112	PEM-24-112xx	PEM-25-112xx
								125	PEM-24-125xx	PEM-25-125xx
								140	PEM-24-140xx	PEM-25-140xx
								160	PEM-24-160xx	PEM-25-160xx
								180	PEM-24-180xx	PEM-25-180xx
								200	PEM-24-200xx	PEM-25-200xx
								224	PEM-24-224xx	PEM-25-224xx
								250	PEM-24-250xx	PEM-25-250xx
								280	PEM-24-280xx	PEM-25-280xx
30 / 32	6	6	40	40	M10	6	3.5	125	PEM-30-125xx	PEM-32-125xx
								140	PEM-30-140xx	PEM-32-140xx
								160	PEM-30-160xx	PEM-32-160xx
								180	PEM-30-180xx	PEM-32-180xx
								200	PEM-30-200xx	PEM-32-200xx
								224	PEM-30-224xx	PEM-32-224xx
								250	PEM-30-250xx	PEM-32-250xx
								280	PEM-30-280xx	PEM-32-280xx
								315	PEM-30-315xx	PEM-32-315xx
								355	PEM-30-355xx	PEM-32-355xx
38 / 40	6	6	50	50	M10	6	3.5	160	PEM-38-160xx	PEM-40-160xx
								180	PEM-38-180xx	PEM-40-180xx
								200	PEM-38-200xx	PEM-40-200xx
								224	PEM-38-224xx	PEM-40-224xx
								250	PEM-38-250xx	PEM-40-250xx
								280	PEM-38-280xx	PEM-40-280xx
								315	PEM-38-315xx	PEM-40-315xx
								355	PEM-38-355xx	PEM-40-355xx
								400	PEM-38-400xx	PEM-40-400xx
								450	PEM-38-450xx	PEM-40-450xx
48 / 50	6	8	60	60	M10	6	3.5	180	PEM-48-180xx	PEM-50-180xx
								200	PEM-48-200xx	PEM-50-200xx
								224	PEM-48-224xx	PEM-50-224xx
								250	PEM-48-250xx	PEM-50-250xx
								280	PEM-48-280xx	PEM-50-280xx

Sizes										
Diameter	Length				Thread	Length				Part Number
d	L1	L2	L3	L4	M	W	P	L		
48 / 50	6	8	60	60	M10	6	3.5	315	PEM-48-315xx	PEM-50-315xx
								355	PEM-48-355xx	PEM-50-355xx
								400	PEM-48-400xx	PEM-50-400xx
								450	PEM-48-450xx	PEM-50-450xx
								500	PEM-48-500xx	PEM-50-500xx
								550	PEM-48-550xx	PEM-50-550xx
								600	PEM-48-600xx	PEM-50-600xx
60 / 63	8	8	70	70	M12	6	3.5	250	PEM-60-250xx	PEM-63-250xx
								280	PEM-60-280xx	PEM-63-280xx
								315	PEM-60-315xx	PEM-63-315xx
								355	PEM-60-355xx	PEM-63-355xx
								400	PEM-60-400xx	PEM-63-400xx
								450	PEM-60-450xx	PEM-63-450xx
								500	PEM-60-500xx	PEM-63-500xx
80	8	8	80	80	M12	6	3.5	600	PEM-60-600xx	PEM-63-600xx
								280	PEM-80-280xx	
								315	PEM-80-315xx	
								355	PEM-80-355xx	
								400	PEM-80-400xx	
								450	PEM-80-450xx	
								500	PEM-80-500xx	
550	PEM-80-550xx									
600	PEM-80-600xx									

Order note: Please add the appropriate suffix to designated desired thread type.
 NT = No thread (For assembly details, please refer to page 68)
 PI = Press-in Side (For assembly details, please refer to page 70)
 Example: PEM-63-400PI = Diameter 63, Length 400, Press-in side thread

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO K5
Cylindrical Tolerance	Ø11 – Ø16: 0.001 Ø19 – Ø25: 0.002 Ø30 – Ø80: 0.003

NT: No Thread PI: Press-in Side



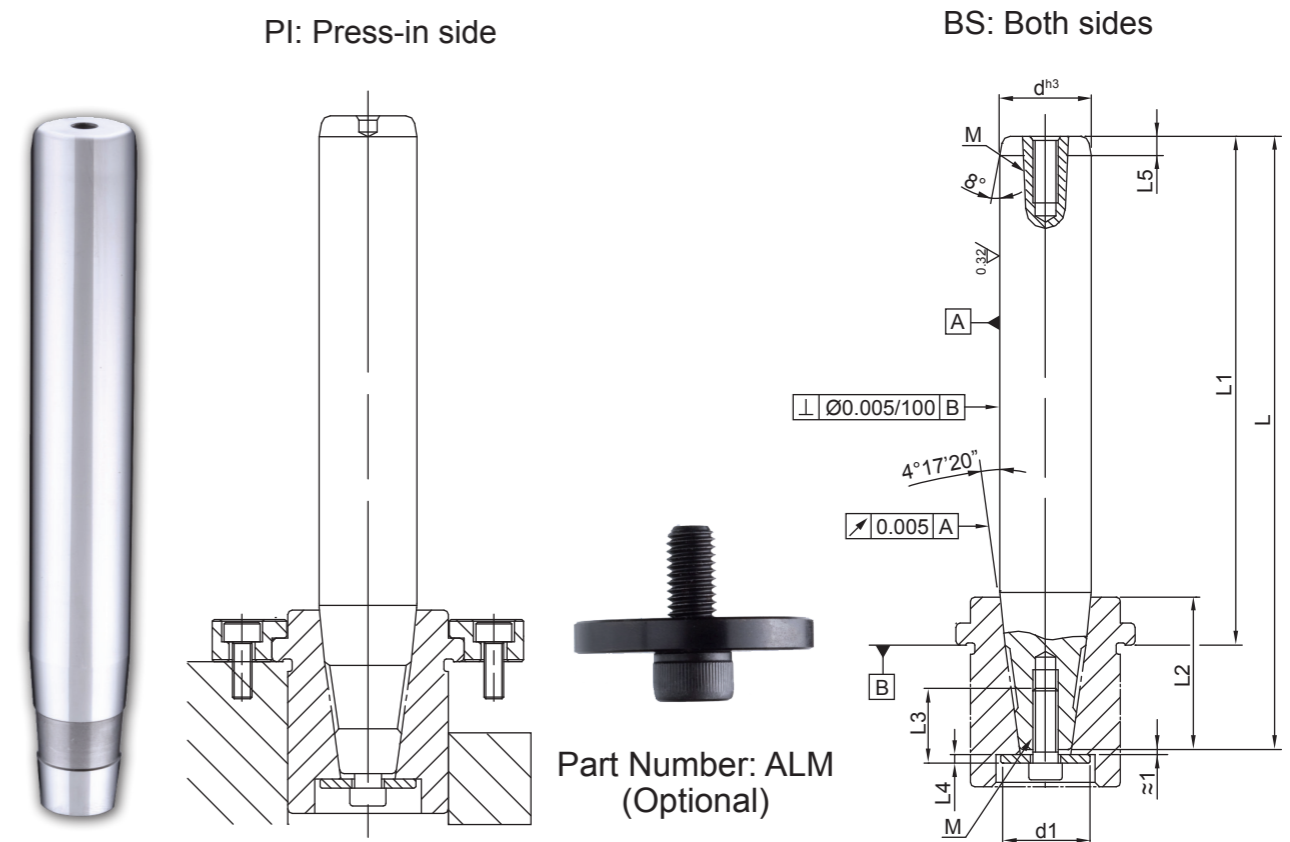
Sizes												
Diameter			Length							Part Number		
d	d2	d3	L1	L2	L3	L4	W	P	M	L		
11 / 12	17	33	12	3	3	20	4	2.8	M6	70	PFM-11-070xx	PFM-12-070xx
										80	PFM-11-080xx	PFM-12-080xx
										90	PFM-11-090xx	PFM-12-090xx
										100	PFM-11-100xx	PFM-12-100xx
										112	PFM-11-112xx	PFM-12-112xx
										125	PFM-11-125xx	PFM-12-125xx
15 / 16	22	38	16	3	4	25	4	2.8	M6	80	PFM-15-080xx	PFM-16-080xx
										90	PFM-15-090xx	PFM-16-090xx

Sizes												
Diameter			Length							Part Number		
d	d2	d3	L1	L2	L3	L4	W	P	M	L		
15 / 16	22	38	16	3	4	25	4	2.8	M6	100	PFM-15-100xx	PFM-16-100xx
										112	PFM-15-112xx	PFM-16-112xx
										125	PFM-15-125xx	PFM-16-125xx
										140	PFM-15-140xx	PFM-16-140xx
										160	PFM-15-160xx	PFM-16-160xx
19 / 20	25	42	23	3	4	30	6	3.5	M8	100	PFM-19-100xx	PFM-20-100xx
										112	PFM-19-112xx	PFM-20-112xx
										125	PFM-19-125xx	PFM-20-125xx
										140	PFM-19-140xx	PFM-20-140xx
										160	PFM-19-160xx	PFM-20-160xx
24 / 25	32	49	27	5	5	35	6	3.5	M8	180	PFM-19-180xx	PFM-20-180xx
										200	PFM-19-200xx	PFM-20-200xx
										100	PFM-24-100xx	PFM-25-100xx
										112	PFM-24-112xx	PFM-25-112xx
										125	PFM-24-125xx	PFM-25-125xx
										140	PFM-24-140xx	PFM-25-140xx
30 / 32	40	57	37	6	6	40	6	3.5	M10	160	PFM-24-160xx	PFM-25-160xx
										180	PFM-24-180xx	PFM-25-180xx
										200	PFM-24-200xx	PFM-25-200xx
										224	PFM-24-224xx	PFM-25-224xx
										250	PFM-24-250xx	PFM-25-250xx
										280	PFM-24-280xx	PFM-25-280xx
38 / 40	50	67	37	6	6	50	6	3.5	M10	112	PFM-30-112xx	PFM-32-112xx
										125	PFM-30-125xx	PFM-32-125xx
										140	PFM-30-140xx	PFM-32-140xx
										160	PFM-30-160xx	PFM-32-160xx
										180	PFM-30-180xx	PFM-32-180xx
										200	PFM-30-200xx	PFM-32-200xx
										224	PFM-30-224xx	PFM-32-224xx
										250	PFM-30-250xx	PFM-32-250xx
48 / 50	63	80	47	8	8	60	6	3.5	M10	125	PFM-30-125xx	PFM-32-125xx
										140	PFM-30-140xx	PFM-32-140xx
48 / 50	63	80	47	8	8	60	6	3.5	M10	140	PFM-38-140xx	PFM-40-140xx
										160	PFM-38-160xx	PFM-40-160xx

Sizes												Part Number	
Diameter			Length						M				
d	d2	d3	L1	L2	L3	L4	W	P					
48 / 50	63	80	47	8	8	60	6	3.5	M10	180	PFM-48-180xx	PFM-50-180xx	
										200	PFM-48-200xx	PFM-50-200xx	
										224	PFM-48-224xx	PFM-50-224xx	
										250	PFM-48-250xx	PFM-50-250xx	
										280	PFM-48-280xx	PFM-50-280xx	
										315	PFM-48-315xx	PFM-50-315xx	
60 / 63	80	97	47	8	8	70	6	3.5	M12	160	PFM-60-160xx	PFM-63-160xx	
										180	PFM-60-180xx	PFM-63-180xx	
										200	PFM-60-200xx	PFM-63-200xx	
										224	PFM-60-224xx	PFM-63-224xx	
										250	PFM-60-250xx	PFM-63-250xx	
										280	PFM-60-280xx	PFM-63-280xx	
80	100	117	60	8	8	80	6	3.5	M12	315	PFM-80-315xx		
										355	PFM-80-355xx		
										400	PFM-80-400xx		

Order note: Please add the appropriate suffix to designated desired thread type.
 NT = No thread (For assembly details, please refer to page 69)
 PI = Press-in Side (For assembly details, please refer to page 71)
 Example: PFM-16-140PI = Diameter 16, Length 140, Press-in side threads

Material	Steel DIN 1.2067/1.3505 ISO B1/100Cr6 AISI/SAE 52100 JIS SUJ 2
Hardness	60-64 HRC
Finish	Precision ground
Assembly	Hole bore ISO H5
Cylindrical Tolerance	Ø11 – Ø16: 0.001 Ø19 – Ø25: 0.002 Ø30 – Ø80: 0.003



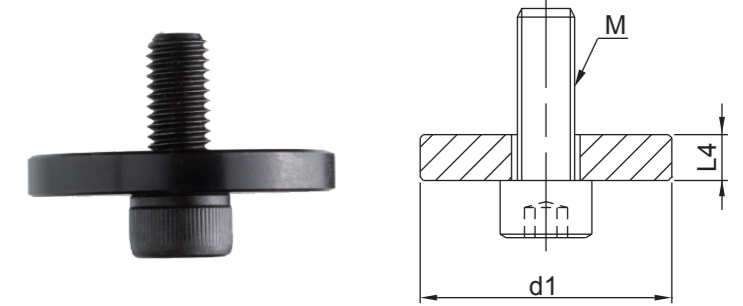
Sizes											Part Number	
Diameter		Thread		Length								
d	d1	M	M1	L	L1	L2	L3	L4	L5			
15 / 16	15	M5	M6	87	80	19	16	4	4	PGM-15-080xx	PGM-16-080xx	
				97	90					PGM-15-090xx	PGM-16-090xx	
				107	100					PGM-15-100xx	PGM-16-100xx	
				119	112					PGM-15-112xx	PGM-16-112xx	
				130	123					PGM-15-123xx	PGM-16-123xx	
				147	140					PGM-15-140xx	PGM-16-140xx	
19 / 20	19	M6	M8	115	100	27	20	4	4	PGM-19-100xx	PGM-20-100xx	
				127	112					PGM-19-112xx	PGM-20-112xx	
				140	125					PGM-19-125xx	PGM-20-125xx	
				155	140					PGM-19-140xx	PGM-20-140xx	

Sizes																			
Diameter		Thread		Length						Part Number									
d	d1	M	M1	L	L1	L2	L3	L4	L5										
19 / 20	19	M6	M8	175	160	27	20	4	4	PGM-19-160xx	PGM-20-160xx								
				195	180					PGM-19-180xx	PGM-20-180xx								
24 / 25	24	M8	M8	122	100	34	25	5	5	PGM-24-100xx	PGM-25-100xx								
				134	112					PGM-24-112xx	PGM-25-112xx								
				147	125					PGM-24-125xx	PGM-25-125xx								
				162	140					PGM-24-140xx	PGM-25-140xx								
				182	160					PGM-24-160xx	PGM-25-160xx								
				206	180					PGM-24-180xx	PGM-25-180xx								
				222	200					PGM-24-200xx	PGM-25-200xx								
				246	224					PGM-24-224xx	PGM-25-224xx								
				272	250					PGM-24-250xx	PGM-25-250xx								
				30 / 32	30					M8	M10	134	112	37	25	5	6	PGM-30-112xx	PGM-32-112xx
147	125	PGM-30-125xx	PGM-32-125xx																
162	140	PGM-30-140xx	PGM-32-140xx																
182	160	PGM-30-160xx	PGM-32-160xx																
202	180	PGM-30-180xx	PGM-32-180xx																
222	200	PGM-30-200xx	PGM-32-200xx																
246	224	PGM-30-224xx	PGM-32-224xx																
272	250	PGM-30-250xx	PGM-32-250xx																
302	280	PGM-30-280xx	PGM-32-280xx																
38 / 40	38	M8	M10			157	125	47	25			6	6					PGM-38-125xx	PGM-40-125xx
				172	140	PGM-38-140xx	PGM-40-140xx												
				192	160	PGM-38-160xx	PGM-40-160xx												
				212	180	PGM-38-180xx	PGM-40-180xx												
				232	200	PGM-38-200xx	PGM-40-200xx												
				256	224	PGM-38-224xx	PGM-40-224xx												
				282	250	PGM-38-250xx	PGM-40-250xx												
				312	280	PGM-38-280xx	PGM-40-280xx												
				347	315	PGM-38-315xx	PGM-40-315xx												
				48 / 50	50	M10	M10			176	140			54	30	6	8	PGM-48-140xx	PGM-50-140xx
196	160	PGM-48-160xx	PGM-50-160xx																
216	180	PGM-48-180xx	PGM-50-180xx																
236	200	PGM-48-200xx	PGM-50-200xx																
260	224	PGM-48-224xx	PGM-50-224xx																
286	250	PGM-48-250xx	PGM-50-250xx																
316	280	PGM-48-280xx	PGM-50-280xx																
351	315	PGM-48-315xx	PGM-50-315xx																
60 / 63	62	M12	M12					207	160	65	30	6	8					PGM-60-160xx	PGM-63-160xx
								227	180									PGM-60-180xx	PGM-63-180xx
				247	200	PGM-60-200xx	PGM-63-200xx												
				271	224	PGM-60-224xx	PGM-63-224xx												
				297	250	PGM-60-250xx	PGM-63-250xx												
				327	280	PGM-60-280xx	PGM-63-280xx												
				362	315	PGM-60-315xx	PGM-63-315xx												
				402	355	PGM-60-355xx	PGM-63-355xx												

Sizes											
Diameter		Thread		Length						Part Number	
d	d1	M	M1	L	L1	L2	L3	L4	L5		
80	80	M12	M12	319	250	87	30	6	8	PGM-80-250xx	
				349	280					PGM-80-280xx	
				384	315					PGM-80-315xx	
				424	355					PGM-80-355xx	
				469	400					PGM-80-400xx	

Part Number: ALM

Diameter	Length	Thread	Part Number
d1	L4	M	
15	4	M5	ALM-15
19	4	M6	ALM-19
24	5	M8	ALM-24
30	5	M8	ALM-30
38	6	M8	ALM-38
50	6	M10	ALM-50
62	6	M12	ALM-62
80	6	M12	ALM-80



Order note: Please add the appropriate suffix to designated desired thread type.
 The guide post is workable only with BSM bushing, please refer to P. 26.
 PI =Press-in side (For assembly details, please refer to page 64, 65, 72)
 BS=Both sides (For assembly details, please refer to page 78, 79)
 Example: PGM-20-125PI=Diameter 20, Length 125, Press-in side
 ALM-19 = Use for guide post diameter 19.