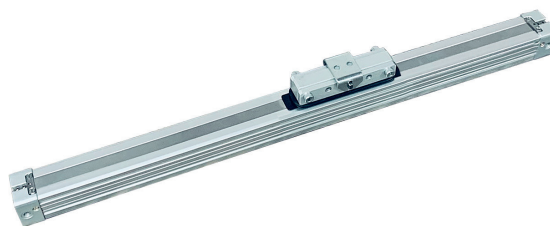


PL-20 SERIES



FLEXIBLE CARRIAGE RODLESS PNEUMATIC CYLINDER

As Origa P210-25 / P120-S25



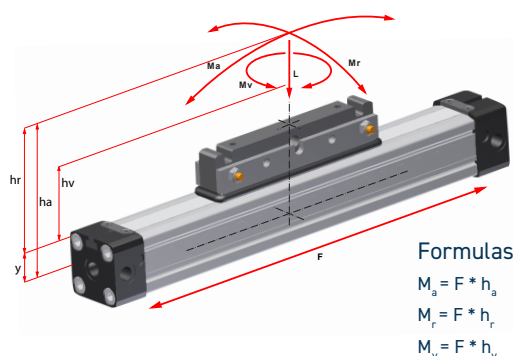
Design	Rodless cylinder, double acting, direct force transmission
Strokes	
ø 25-40 mm	100-5700mm, in increments of 1mm (longer strokes on request)
ø 16 mm	100-4400mm, in increments of 1mm
Air connection	(M5, G 1/8", G 1/4", g3/8")
Mounting	free
Forces + moments	see Forces and moments
Support Forces	see Deflection Diagram
Temperatures	(-10°C bis +80°C) other temperatures on request
Materials	
Barrel	High-strength anodized aluminum
End caps	High-strength anodized aluminum
Piston axle	High-strength anodized aluminum
Seals	Oilproof synthetic material (V < 1m/s (NBR)(V > 1m/s (VITON)
Sealing bands	Stainless steel
Piston caps	Wear proof synthetic material
Sliding parts	Wear proof synthetic material
Pressure range	0,5-8,0 bar
Medium	compressed air, filtered max. 50µm

- Equal forces on both ends of the piston
- Force connection direct, torque safe
- Piston with or without magnets
- 50% space-savings
- Long strokes up to 5700mm
- End caps with 3 air connections and adjustable cushioning
- Fast acceleration and high piston velocity
- Very flexible in the user's design
- Non lubricated or lubricated air supply**)
- 3 stage cushioning characteristics for protection of the cushioning- and loadsystem *)
- Use in EX area possible - ATEX

*) Special Version On request

**) Attention: Before changing operation from lubricated to nonlubricated air the cylinder has to be disassembled, cleaned, newly greased and reassembled

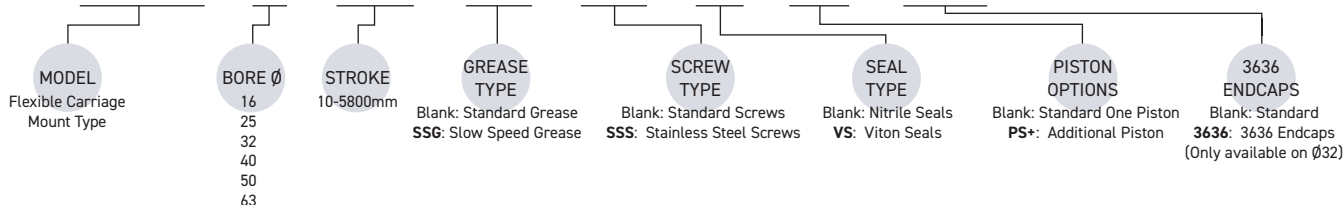
Forces and Moments



Cylinder		Effect Force (N)	Cushioning	Max. allowed load (N)	Max. allowed bending moments (Nm)		Max. allowed torque (Nm)
		at 6 Bar	(mm)	PL	PL		PL
ø	Y	F	S	L	Ma axial	Mr radial	Mv central
16	9	110	15	120	4	0.3	0.3
25	14	250	21	300	15	1.0	3.0
32	18	420	26	450	30	2.0	4.5
40	22	640	32	750	60	4.0	8.0
50							
63							

Order example

PL - 20 - 25 - 0100 - SSG - SSS - VS - PS+ - 3636



PL-20 SERIES Price List

Bore Ø / Stroke	Ø16	Ø25	Ø32	Ø40	Ø50	Ø63
100 mm	£235.55	£314.81	£536.64	£636.24	£976.44	£1,221.17
200 mm	£252.90	£337.06	£564.93	£672.40	£1,018.83	£1,278.63
300 mm	£270.25	£359.31	£593.22	£708.56	£1,061.21	£1,336.09
400 mm	£287.60	£381.55	£621.51	£744.72	£1,103.60	£1,393.55
500 mm	£304.95	£403.80	£649.80	£780.88	£1,145.99	£1,451.02
600 mm	£322.30	£426.04	£678.09	£817.03	£1,188.37	£1,508.48
700 mm	£339.65	£448.29	£706.38	£853.19	£1,230.76	£1,565.94
800 mm	£357.00	£470.53	£734.67	£889.35	£1,273.15	£1,623.40
900 mm	£374.35	£492.78	£762.96	£925.51	£1,315.54	£1,680.86
1000 mm	£391.70	£515.03	£791.25	£961.67	£1,357.92	£1,738.33
1100 mm	£409.05	£537.27	£819.54	£997.83	£1,400.31	£1,795.79
1200 mm	£426.40	£559.52	£847.83	£1,033.99	£1,442.70	£1,853.25
1300 mm	£443.75	£581.76	£876.12	£1,070.14	£1,485.08	£1,910.71
1400 mm	£461.10	£604.01	£904.41	£1,106.30	£1,527.47	£1,968.18
1500 mm	£478.46	£626.26	£932.70	£1,142.46	£1,569.86	£2,025.64
1600 mm	£495.81	£648.50	£960.99	£1,178.62	£1,612.24	£2,083.10
1700 mm	£513.16	£670.75	£989.28	£1,214.78	£1,654.63	£2,140.56
1800 mm	£530.51	£692.99	£1,017.58	£1,250.94	£1,697.02	£2,198.02
1900 mm	£547.86	£715.24	£1,045.87	£1,287.10	£1,739.40	£2,255.49
2000 mm	£565.21	£737.48	£1,074.16	£1,323.25	£1,781.79	£2,312.95
Additional 100mm	£15.09	£20.22	£25.72	£32.87	£38.53	£52.24
Additional Piston	£122.25	£134.72	£159.67	£184.62	£222.04	£259.46
3636 Endcaps (Pair Fitted PL00 / PLF 32)			£151.20			
End Supports (Pair) 	24-1 £34.56	24-2 £41.04	24-3 £51.84	24-4 £51.84	24-5 £62.64	24-6 £62.64
Mid Section Support 	25-1 £32.62	25-2 £36.94	25-3 £34.26	25-4 £51.84	25-5 £51.84	25-6 £51.84
Adjustable Clamp Support (Preferred Stock) 	25-1-3 £58.61	25-2-3 £68.97	25-3-3 £73.57			
	£14.59	£17.66	£20.16	£22.94	£24.92	£28.19
Stainless Screws (SS)	£18.00	£25.36	£27.59	£29.81	£32.04	£33.15
Viton Seals (VS)	£69.99	£101.65	£109.53	£151.29	£197.96	£229.15
RCAL-3M Reed Switch		£16.93				
RCAL-EQD		£16.93				
RCI-3M Reed Switch					£18.09	
RCI-EQD					£20.45	
RNA-3M Inductive Switch		£33.16				
RNA-EQD		£22.72				
RPA-3M Inductive Switch		£23.55				
RPA-EQD		£39.42				
RNI-3M Inductive Switch					£31.41	
RNI-EQD					£30.51	
RPI-3M Inductive Switch					£31.41	
RPI-QD					£31.86	
M83RPVC-5M (QR Lead)				£17.63		
Switch Clamp (Use With RCAL / NA / PA)	HPL £4.22	HPL £4.22				
Switch Clamp (Use With RCI / RNI / RPI) 25Ø Only		DC1 £4.31				

Air Preparation

Solenoid Valves

Pilot & Mechanical Valves

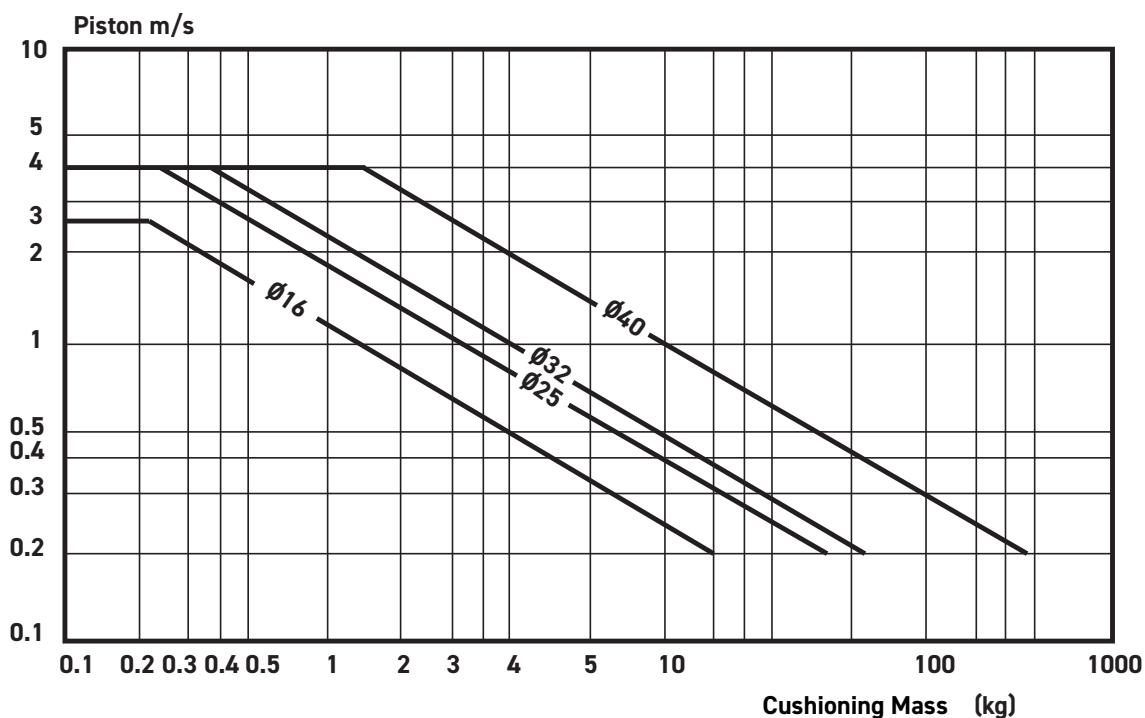
Pneumatic Cylinders

Rodless Cylinders

Grippers

Auxiliary Equipment

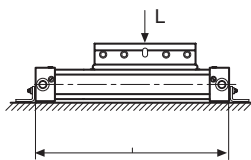
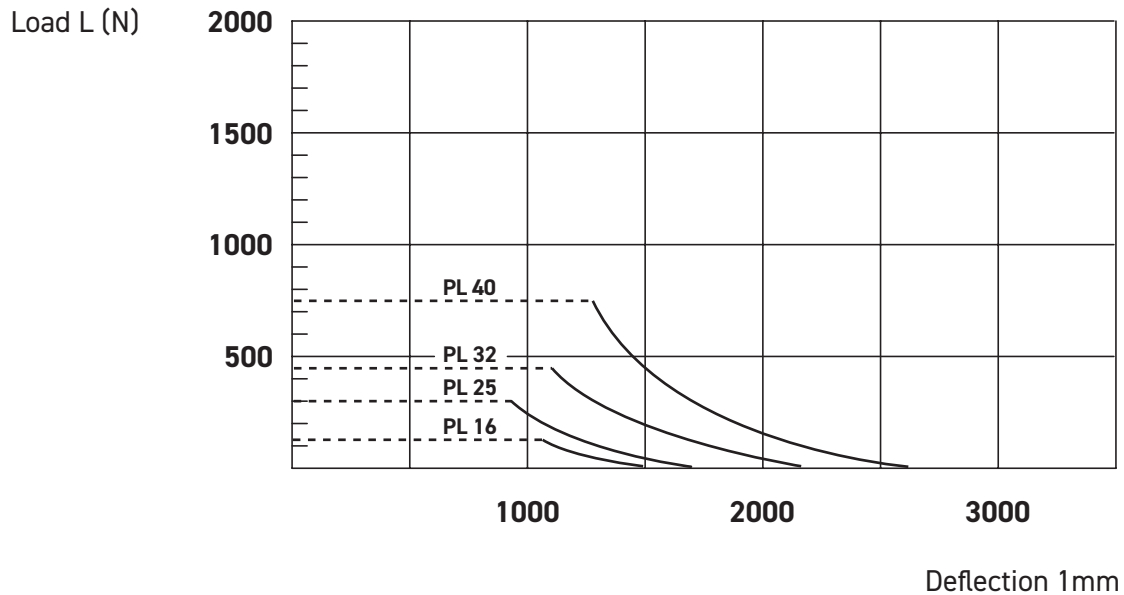
PL-20 SERIES Cushioning Diagram



Pay attention to the following points:

- If the limits above are exceeded additional shock absorbers are necessary.
- For piston speeds of more than ≥ 1 m/s viton seals are recommended.
- For piston speeds $\leq 0,1$ m/s (NBR), $\leq 0,2$ m/s (VITON) slow speed lubrication is necessary
- Maximum duration life will be achieved when piston speeds do not exceed 1m/s.

PL-20 SERIES Deflection Diagram



max. distance (SL) in mm - free of mounting No. 25

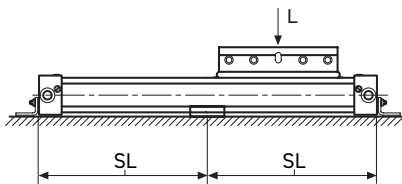
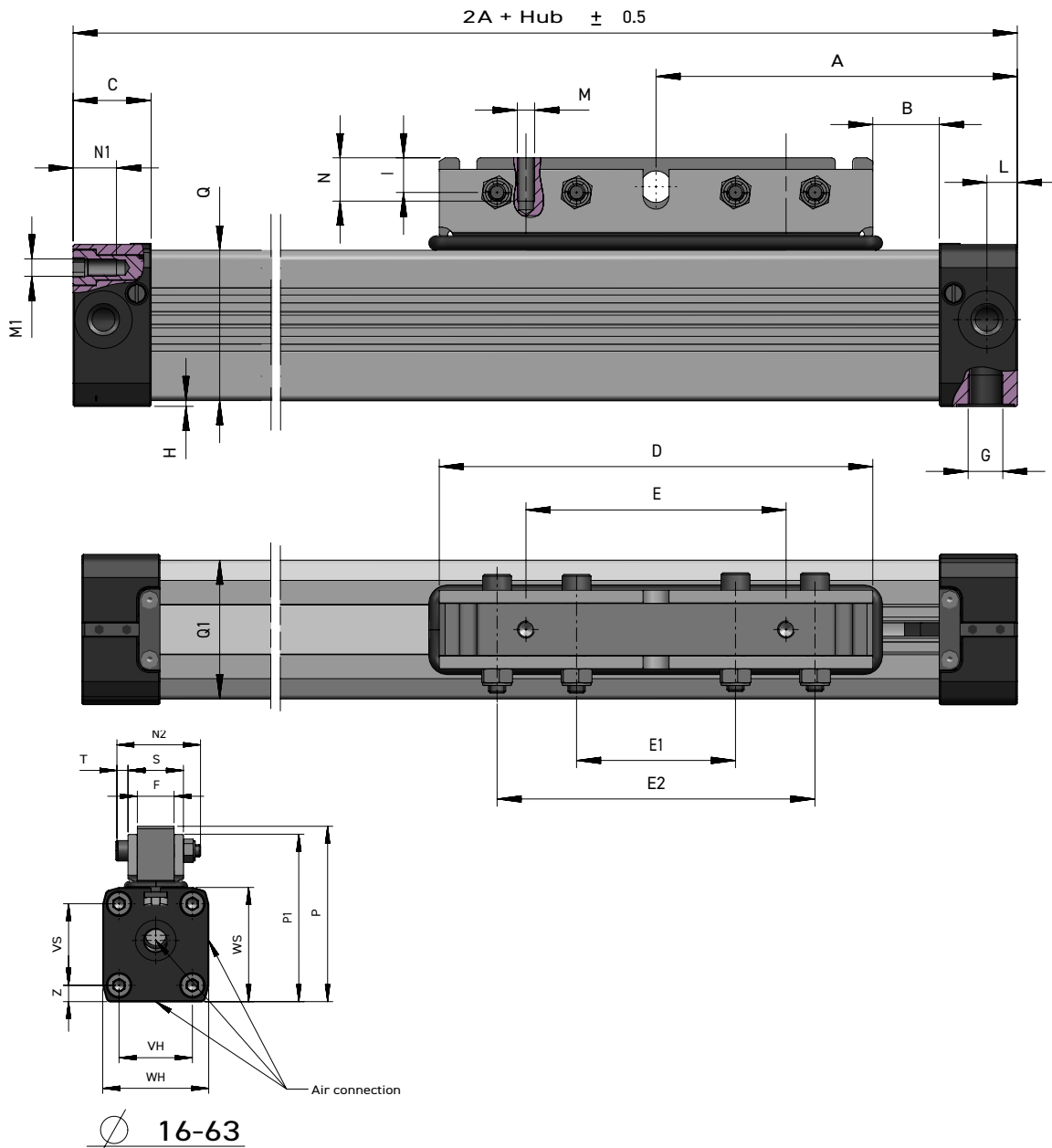


Diagram Information:

- Calculated deflections without support of 0,5 – 1mm allow exceeding of supporting distance.
- Calculated deflections without support of 1mm – max 1,5mm require reduction of the supporting distance.

PL-20 SERIES Dimensions

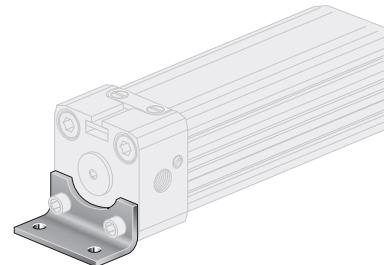
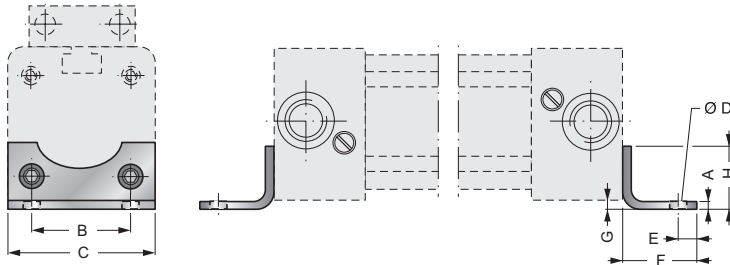


Ø	A	B	C	D	E	E1	F	G	I	L	M	M1	N1	N2	P-P1	P1	QxQ1	E2	H	S	T	VH	WH	VS	WS	Z
16	65	12	15	76	48	32	10	M5	6	5.5	M4	M3	7	27	43.5 - 42.3	37.5	24.5x25	64	1.0	18	4	18	27	18	27	4.5
16L	90	37	15	76	48	32	10	M5	6	5.5	M4	M3	7	27	43.5 - 42.3	37.5	24.5x25	64	1.0	18	4	18	27	18	27	4.5
25	100	17	23	120	80	50	15	1/8"	13	8.5	M5	M5	10	35	66-58	53	36x36	100	2	23	5	27	40	27	40	6.5
25L	150	67	23	120	80	50	15	1/8"	13	8.5	M5	M5	10	35	66-58	53	36x36	100	2	23	5	27	40	27	40	6.5
32	125	23	27	150	90	55	18	1/4"	12	10.5	M6	M6	14	41	86-82	74	52x51	110	2	27	6	36	52	40	56	8
32L	200	23	27	300	180	120	18	1/4"	12	10.5	M6	M6	14	41	86-82	74	52x51	240	2	27	6	36	52	40	56	8
40	150	45	30	150	90	55	18	1/4"	12	15	M6	M6	17	41	97-93	85	58.5x59	110	7	28	6	54	72	54	69	9
40L	250	70	30	300	180	120	18	1/4"	12	15	M6	M6	17	41	97-93	85	58.5x59	240	7	28	6	54	72	54	69	9
50	175	42	33	180	110	70	27	1/4"	12	11.7	-	M6	18	-	114	-	77X78	140	0.5	56	-	70	80	70	80	4
63	215	47	50	220	140	90	36	3/8"	15	25	-	M8	18	-	136	-	102X102	180	1.5	50	-	78	106	78	106	14.5

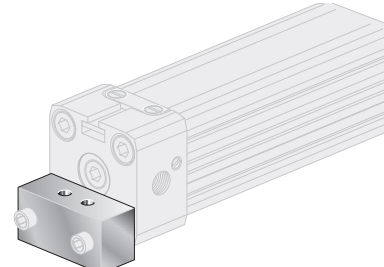
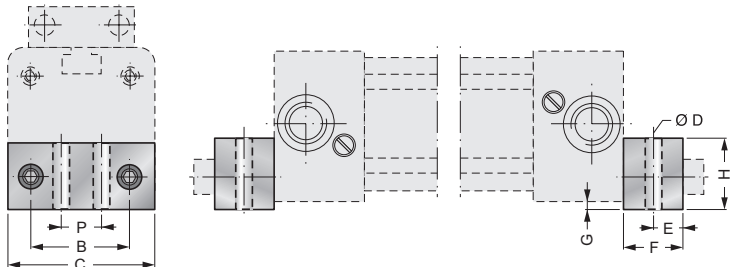
PL-20 SERIES Mountings

End cover bracket (foot)

24/1.0 - 2.0*

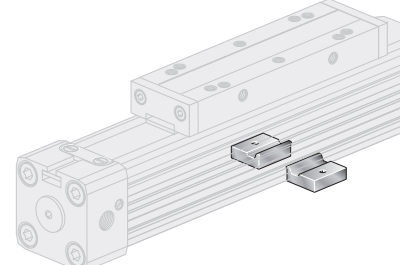
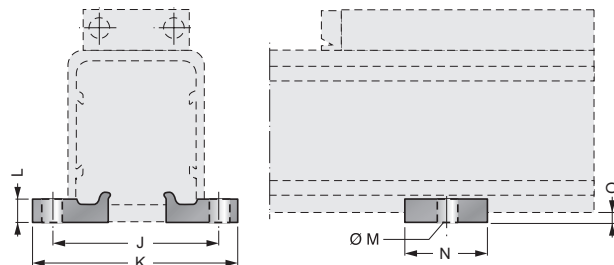


24/3.0 - 4.0*

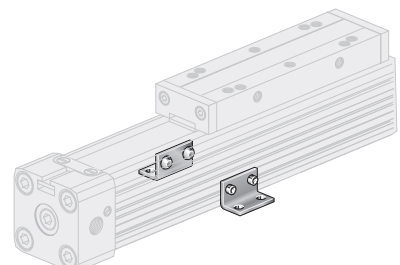
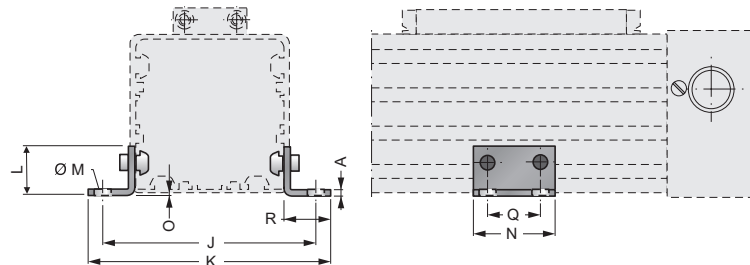


Mid section support

25/1.0 - 2.0*



25/3.0 - 4.0*

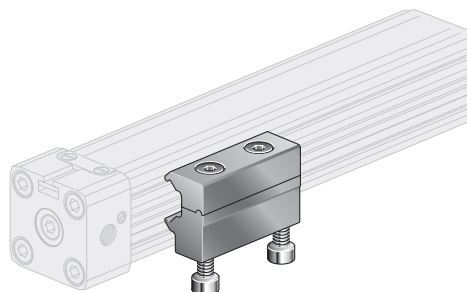
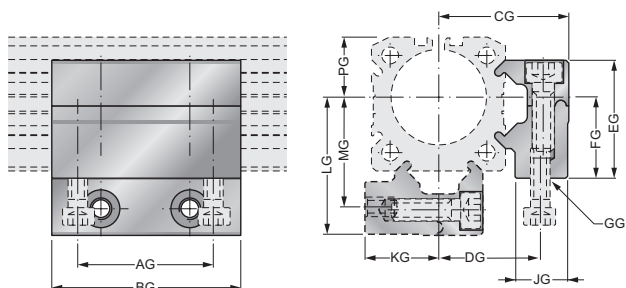


Ø	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
16	1.5	18	26	3.6	4.0	14	1.5	12.5	41.5	53.5	5	Ø5.5	20	3	-	-	-
25	2.5	27	40	5.5	6.0	22	2	18	48.5	60	6	Ø5.5	20	4	-	-	-
32	5.0	36	51	6.5	8.0	24	4	20	82	91	30	Ø4.5	45	6	20	30	20
40	5.0	54	71	9	11.5	24	2	20	90	99	25	Ø4.5	45	8.5	30	30	20

Application No.	
24/1.0 = Ø16	24/2.0 = Ø25
24/3.0 = Ø32	24/4.0 = Ø40
25/1.0 = Ø16	25/2.0 = Ø25
25/3.0 = Ø32	25/4.0 = Ø40

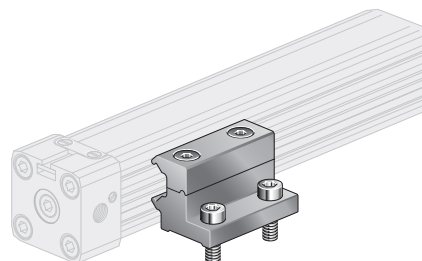
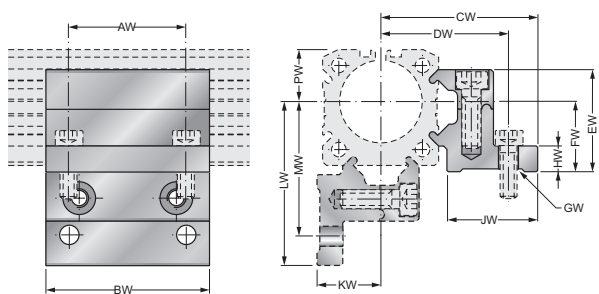
PL-20 SERIES Mountings

Mobile Mid Section Support, Type G for Cylinder Ø25/32



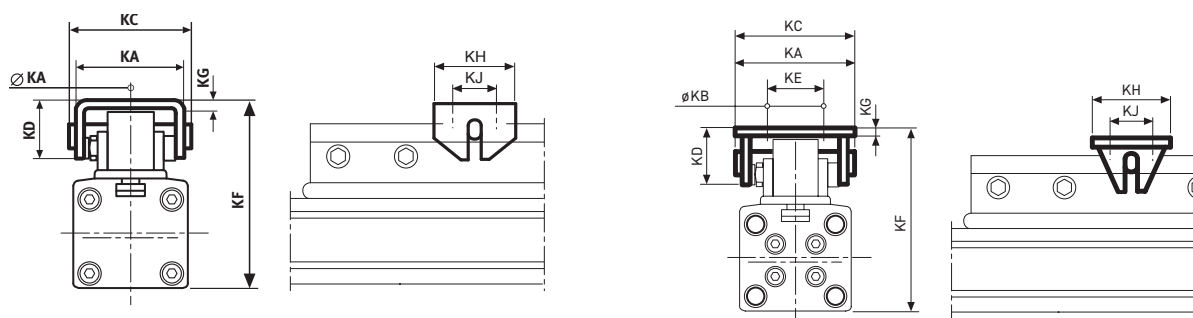
ø	AG	BG	CG	DG	EG	FG	GG	JG	KG	LG	MG	PG
16	18.0	30.0	27.5	18.4	21.0	15.0	M4	11.5	13.9	29.0	19.7	10.8
25	36.0	50.0	34.5	27.0	31.3	22.0	M5	14.0	20.0	36.5	29.0	16.0
32	36.0	50.0	41.8	34.2	39.0	30.0	M6	14.0	27.6	47.0	39.5	21.5

Mobile Mid Section Support, Type W for Cylinder Ø25/32



ø	AW	BW	CW	DW	EW	FW	GW	HW	JW	KW	LW	MW	PW
16	18.0	30.0	37.0	32.5	21.0	15.0	ø4.5	6.0	22.4	13.9	38.0	32.9	10.8
25	36.0	50.0	47.5	40.0	31.3	22.0	ø5.5	10.0	26.0	20.0	49.5	42.0	16.0
32	36.0	50.0	56.0	47.4	39.0	30.0	ø6.5	10.0	28.5	27.6	61.0	52.5	21.5

Flexi Mount



Ø	KA	KB	KC	KD	KE	KF*	KG	KH	KJ	KK	KS	KT
16	25	4.5	28	12	-	47-50	2	20	10	-	-	-
25	37	5.5	42	20	-	72-75	3	30	16	-	-	-
32	70	7.0	70	38	55	91-100	5	90	75	60	45	58.5
32L	-	7.0	-	-	-	-	-	-	-	60	45	58.5
40	70	7.0	70	38	55	111-120	5	90	75	60	45	63
40L	-	7.0	-	-	-	-	-	-	-	60	45	63

- * KF-Dimensions are variable within the length of the slot of the load friction.