

4951/61/81

Suspension Arm Systems

Product Drawings

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Dimensional Drawings

Rose+Bopla's Suspension Arm Systems, 4951, 4961, and 4981, are modular systems for use in industrial environments. Square steel tubes can be combined with cast aluminum or steel system

4951/61/81 Suspension Arm

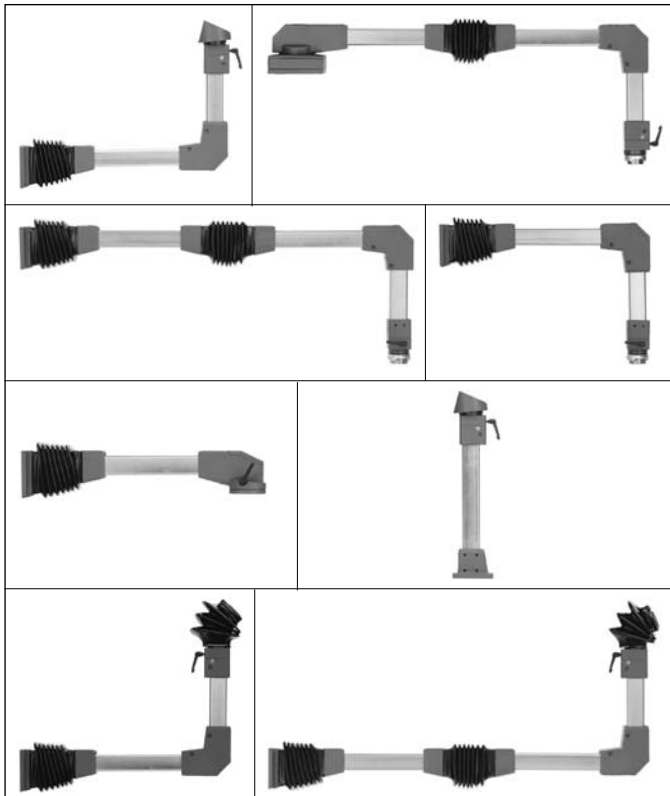
components to form various structures.

When combined with Rose+Bopla's system components they offer a wide variety of methods for setting up machine control units: as a vertical stand, as a wall-mounted system, or as a surface-mounted system. With their variable diameters these systems offer good wiring options and load-carrying capacity.

System components are offered in three sizes to meet varying weight load requirements. Component features include: stylish appearance, adjustable bearings to control swing forces, base unit bracket suitable for upside-down mounting, integral multi-position stop plates and easy tube installation with set screws.

These Suspension Arm Systems become self-contained tube systems due to the integrated seals in places where the system elements are joined, thus providing consistent IP 65 ingress protection up to the control unit. Cables are protected when installed through the unrestricted passageway created by burr-free inner contours and flush joints between tube and system elements. Swing can be adjusted to on-site requirements using adjustable fittings in the rotary and swivel elements.

Sample Constructions



TECHNICAL DATA:

- Color: Dark gray, similar to RAL 7043. Tubing, zinc plated.
- Material: Square connecting tubing, 5mm thick, steel, to DIN 2395.
- Protection Classifications:
IP 65, EN 60529
NEMA 12
- Assembly: Cut tubing to desired length. Slide components together. Tighten to required torque. Complete assembly instructions are provided with components.
- Torque Requirements: 30 Nm, 22 lbs. force.
- Maximum Weight:







	3.3 ft.	4.9 ft.	6.6 ft.	8.1 ft.	9.8 ft.	lbf.
System 51	225	146	112			lbf.
System 61	281	180	140	112		lbf.
System 81	337	213	163	135	112	lbf.

lbf.=Pounds Force








- Usable Space:
System 51—40 x 40mm, Inside Dimension of Tubing.
System 61—50 x 50mm, Inside Dimension of Tubing.
System 81—70 x 70mm, Inside Dimension of Tubing.

Suspension Arm Systems

4951 / 4961 / 4981 Suspension Arm System Components

DESCRIPTION	PART NUMBER	POSITION	MATERIAL	WEIGHT	DRAWING PG	
WALL BRACKET	49517000	Pivots 180°	Cast	13.89 lbs.	17-240	
	49617000	Variable	Steel	20.06 lbs.		
	49817000	Stop Settings		28.66 lbs.		
BASE UNIT BRACKET	49516600	Pivots 310°	Cast	30.86 lbs.	17-241	
	49616600	Variable	Steel	40.12 lbs.		
	49816600	Stop Settings		51.37 lbs.		
INTERMEDIATE JOINT	49516700	Pivots 180°	Cast	13.67 lbs.	17-241	
	49616700	Variable	Steel	19.62 lbs.		
	49816700	Stop Settings		28.00 lbs.		
ELBOW	49518000	Fixed	Cast	9.92 lbs.	17-242	
	49618000		Steel	12.79 lbs.		
	49818000			17.64 lbs.		
FOOT	49517400	Fixed	Cast	6.61 lbs.	17-242	
	49617400		Steel	8.60 lbs.		
	49817400			13.23 lbs.		
SUPPORTING TUBE	10094156 45 (51)	10 Foot Sections	Zinc	44.00 lbs.	—	
	10094157 45 (61)		Plated	47.00 lbs.		
	10094159 45 (81)		Steel	71.00 lbs.		

NOTE: Tubing can be cut to specific lengths. Maximum length for UPS shipment, 9 feet (108").

DESCRIPTION	PART NUMBER	POSITION	MATERIAL	WEIGHT	DRAWING PG	
FLANGE COUPLING	49517700	Pivots 325°	Cast	4.63 lbs.	17-243	
	49617700	Variable	Aluminum	6.17 lbs.		
	49817700	Stop Settings		10.80 lbs.		
ELBOW COUPLING	49517500	Pivots 300°	Cast	4.85 lbs.	17-243	
	49617500		Aluminum	7.05 lbs.		
	49817500			12.57 lbs.		
FLANGE ELBOW COUPLING	49517800	Pivots 325°	Cast	4.85 lbs.	17-244	
	49617800	Variable	Aluminum	7.94 lbs.		
	49817800	Stop Settings		12.35 lbs.		
ADAPTER ANGLE COUPLING (for vertical wiring exit)	49517900	Fixed	Cast	11.02 lbs.	17-244	
	49617900	Variable	Steel	13.23 lbs.		
	49817900	Stop Settings		14.33 lbs.		
ADJUSTABLE ANGLE COUPLING	49516200	Pivots 300° (adjustable angle)	Cast	3.97 lbs.	17-245	
	49616200		Aluminum	4.85 lbs.		
	49816200		Steel	6.17 lbs.		
30° FIXED ANGLE ADAPTER FOR FLANGE COUPLING	49517600	Fixed	Cast	1.76 lbs.	17-245	
	49617600		Aluminum	2.20 lbs.		
	49817600			3.75 lbs.		
SIGNAL LIGHT ADAPTER	49518010	Fixed	Cast	0.66 lbs.	17-246	
	49618010		Aluminum	0.88 lbs.		
	49818010			1.32 lbs.		

NOTE: Tubing can be cut to specific lengths. Maximum length for UPS shipment 9 feet (108")

Suspension Arm Systems

Standard Features

• 49498000 Tilting Adapter, Aluminum, 0° to 45° angle.

Tilting Adapter

Standard Features

Wall Bracket Steel elements with plain bearing. Pivots 180°, stepped adjustment using variable fittings. Force of pivot adjustable, using bearing screw. Tube clamping and alignment with self-tapping Allen screws. PVC bellows for dust and water protection.

• 49517000 Wall Bracket
 • 49617000 Wall Bracket
 • 49817000 Wall Bracket

Wall Bracket

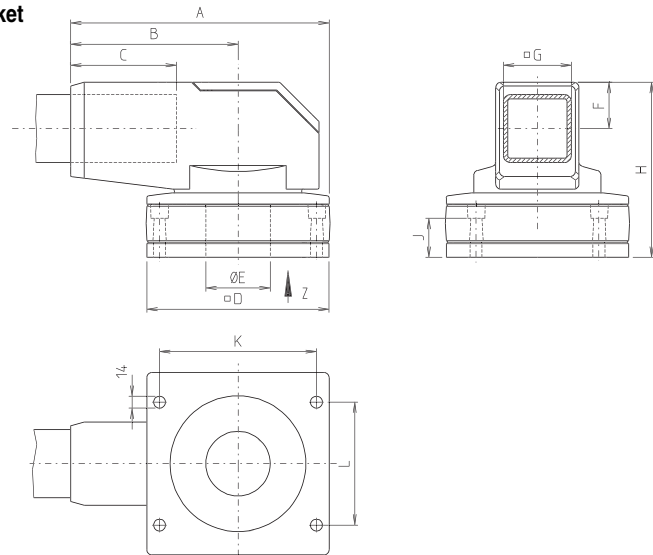
System	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S
4951	140	90	95	12	132	125	40	50	58	164	107	50	27.5	48	35.0	11	12
4961	162	102	110	15	140	145	45	60	62	176	115	60	32.5	57	44.5	15	12
4981	185	137	125	20	161	178	56	80	75	210	138	80	43.5	68	67.0	25	14

Standard Features

Base Unit Bracket Cast steel joint for use on mounting surfaces and for suspension mounting (ceiling mounting). Plain bearing with pivot of 310°, infinitely variable between 0° and 270°. Force of pivot adjustable by means of a set screw. Tube clamping and alignment with self-tapping Allen screws. Mounting lid to facilitate wiring.

- 49516600 Base Unit Bracket
- 49616600 Base Unit Bracket
- 49816600 Base Unit Bracket

Base Unit Bracket



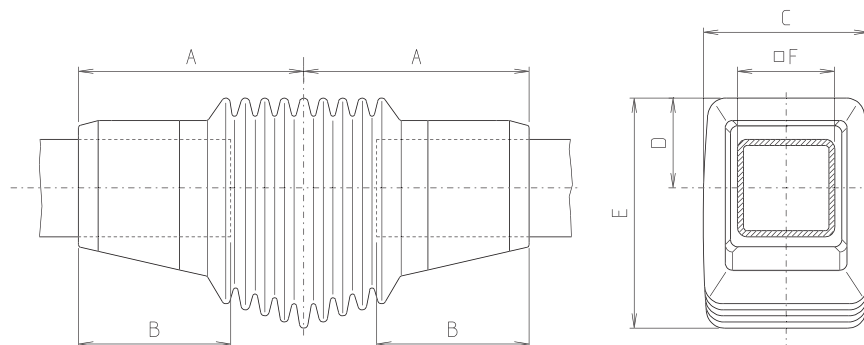
System	A	B	C	D	E	F	G	H	J	K	L
4951	251	160.0	95	180	50	39.5	50	151	35	150	116
4961	278	179.5	110	195	58	44.5	60	171	38	165	125
4981	306	197.5	125	215	76	54.5	80	206	46	185	145

Standard Features

Intermediate Joint Cast steel pivoted joint with plain bearing. Pivots 180°, stepped adjustment using variable fittings. Force of pivot adjustable using bearing screw. Tube clamping and alignment with self-tapping Allen screws. PVC bellows for dust and water protection.

- 49516700 Intermediate Joint
- 49616700 Intermediate Joint
- 49816700 Intermediate Joint

Intermediate Joint



System	A	B	C	D	E	F
4951	140	95	107	58	152	50
4961	162	110	114	62	162	60
4981	185	125	136	75	190	80

Suspension Arm Systems

Standard Features

Elbow Angle 90°, cast steel. Tube clamping and alignment with self-tapping Allen screws. Additional safety screw specifically for vibration caused strain. Mounting lid to facilitate wiring.

- 49518000 Elbow
- 49618000 Elbow
- 49818000 Elbow

Elbow

System	A	B	C	D
4951	154	115	80	74
4961	172	128	90	84
4981	210	157	105	98

Standard Features

Foot Cast steel element for floor mounting. Tube clamping and alignment with self-tapping Allen screws.

- 49517400 Foot
- 49617400 Foot
- 49817400 Foot

Foot

System	A	B	C	D	E	F	G	H	J	K	L	M
4951	128	90	80	12	20.5	19.5	40	50	100	57.0	71.0	12
4961	138	100	90	14	25.5	24.5	50	60	110	63.0	77.0	12
4981	162	115	105	16	35.5	34.5	70	80	130	74.5	90.5	14

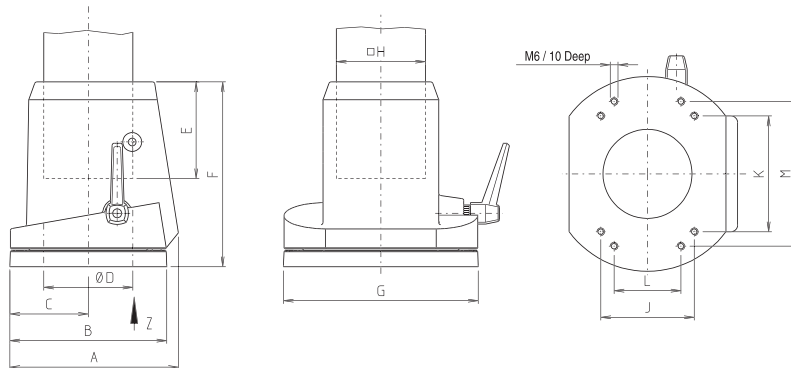


Standard Features

Flange Coupling Cast aluminum rotary device for attachment to the control panel. Plain bearing with 325° pivot, adjustable at intervals of 25°. Clamping lever to adjust force of movement and to stop pivoting movement. Tube clamping with self-tapping Allen screws. Additional safety screw for vibration-caused strain.

- 49517700 Flange Coupling
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- 49817700 Flange Coupling

Flange Coupling



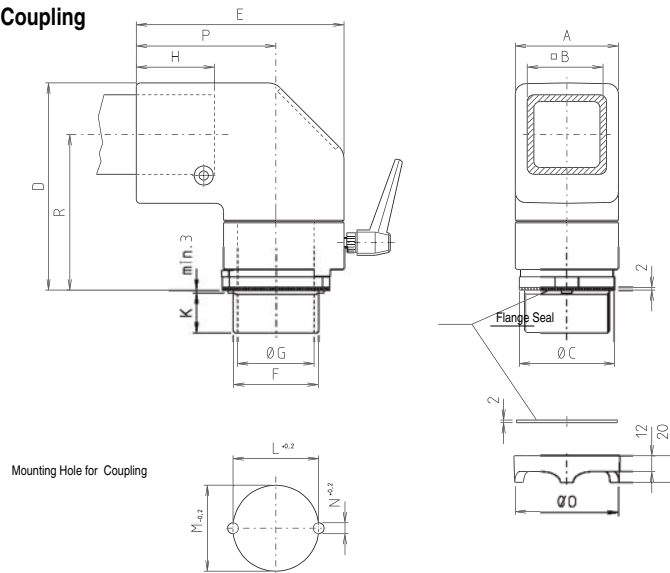
System	A	B	C	D	E	F	G	H	J	K	L	M
4951	110	107	53.5	48	55	116.0	131	50	57	77	-	-
4961	124	117	59.5	58	65	136.5	141	60	57	77	-	-
4981	151	141	70.5	80	87	166.0	175	80	84	104	60	130

Standard Features

Elbow Coupling Combination of Elbow and Coupling. Cast aluminum, fitting through enclosure hole. Attachment to connecting tube with self-tapping Allen screws. Additional safety screws for high loads. Durable PA bearing. Friction force of pivot, adjustable. Center of motion freely adjustable with clamping lever. Pivot 300°.

- 49517500 Elbow Coupling
- 49617500 Elbow Coupling
- 49817500 Elbow Coupling

Elbow Coupling



System	A	B	C	D	E	F	G	H	K	L	M	N	O	P	R
4951	66	50	62	140	140	M50 x 2	44.5	47	31	50.8	51	8.2	65	95.0	104
4961	78	60	72	157	157	M64 x 2	56.0	61	31	64.8	65	8.2	80	105.5	118
4981	104	80	104	199	200	M90 x 2	80.0	72	34	90.8	91	10.2	111	137.0	149

Suspension Arm Systems

Standard Features

Flange Elbow Coupling Cast aluminum rotary joint for direct attachment of control panel to horizontal carrier arm. Plain bearing with 325° pivot, can be stopped at intervals of 25°. Clamping lever to adjust force of movement and to stop pivoting movement. Tube clamping with self-tapping Allen screws. Mounting lid to facilitate wiring.

- 49517800 Flange Elbow Coupling
- 49617800 Flange Elbow Coupling
- 49817800 Flange Elbow Coupling

Flange Elbow Coupling

Technical drawings of the Flange Elbow Coupling showing front, side, and top views with dimensions A through N. The front view shows dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N. The side view shows dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N. The top view shows dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N.

System	A	B	C	D	E	F	G	H	J	K	L	M	N
4951	187.5	134	80	107	131	48	50	117.5	39.5	77	57	-	-
4961	216.5	158	90	117	141	58	60	130.5	42.5	77	57	-	-
4981	276.5	206	107	141	175	80	80	160.0	55.5	104	84	130	60

Standard Features

Adapter Flange for Wall Bracket Cast steel adapter to be mounted between wall bracket and mounting surface. Removable lead-in plate makes wiring possible from below.

- 49517900 Adapter Flange for Wall Bracket
- 49617900 Adapter Flange for Wall Bracket
- 49817900 Adapter Flange for Wall Bracket

Adapter Flange for Wall Bracket

Technical drawings of the Adapter Flange for Wall Bracket showing front and side views with dimensions A through R. The front view shows dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R. The side view shows dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R.

System	A	E	F	K	L	O	S	T	P	Q	R
4951	66	132	125	0	107	57	12	100	89	46	12
4961	71	140	145	0	115	65	12	120	109	52	15
4981	82	161	178	7	138	86	15	153	142	62	20



49516200 / 49616200 / 49816200

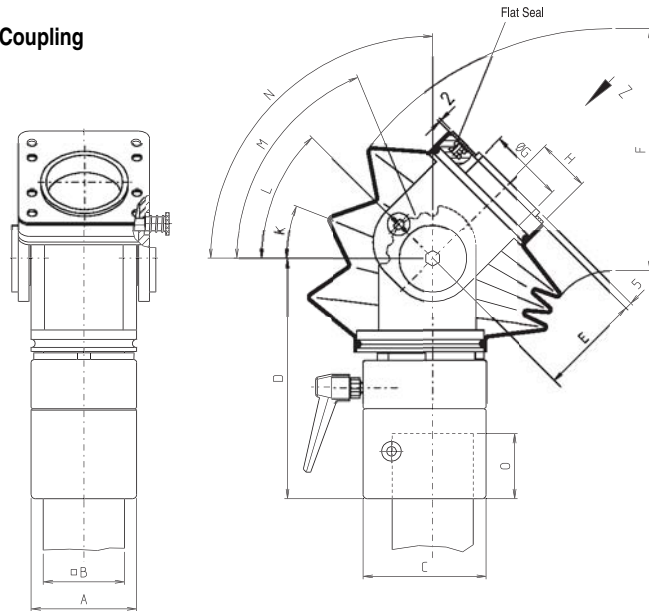
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Standard Features

Adjustable Angle Coupling Cast aluminum with inner steel tube for surface mounting on enclosure. Attachment to connecting tube with self-tapping Allen screws. Additional safety screw for high loads. Durable PA bearing. Friction force of pivot movement adjustable. Center of motion infinitely variable using clamping lever. Pivot 300°. Angle of slope adjustable.

- 49516200 Adjustable Angle Coupling
- 49616200 Adjustable Angle Coupling
- 49816200 Adjustable Angle Coupling

Adjustable Angle Coupling



System	A	B	C	D	E	F	G	H	K	L	M	N	O
4951	66	50	82	142	44	115 x 103	44.5	32.5	15.0°	32.5°	50.0°	—	32
4961	78	60	91	178	75	180 x 160	56.0	39.0	22.5°	45.0°	67.5°	90°	45
4981	104	80	115	212	84	210 x 180	80.0	55.0	22.5°	45.0°	67.5°	90°	49

49517600 / 49617600 / 49817600

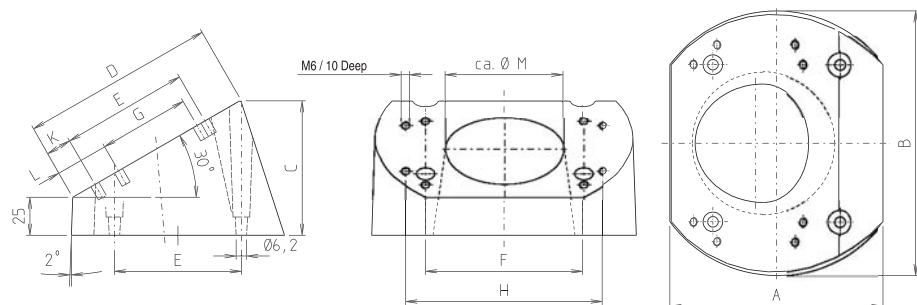
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Standard Features

30° Fixed Angle Adapter for Flange Coupling Cast aluminum, 30° fixed incline for flange coupling on 4951, 4961, and 4981 systems.

- 49517600
- 49617600
- 49817600

30° Fixed Angle Adapter for Flange Coupling



System	A	B	C	D	E	F	G	H	K	L	M
4951	107	131	71	92	57	77	—	—	14	—	50
4961	117	141	76	102	57	77	—	—	18	—	60
4981	141	175	89	128	84	104	60	130	17	35	80

Suspension Arm Systems

Standard Features

Signal Light Adapter Cast aluminum for mounting Signal Lamps.

- 49518010 Signal Light Adapter
- 49618010 Signal Light Adapter
- 49818010 Signal Light Adapter

Signal Light adapter

System	A	B	C	D	E	F
4951	74	60	36	54	29	38
4961	84	65	40	62	32	43
4981	98	76	54	82	42	54

Standard Features

Watertight Top Flange (used in conjunction with coupling) To maintain IP 65 ingress protection for control panels when combined with Coupling or Elbow Coupling.

- 49900030 Type A: Cast aluminum. Large surface flange mounting on enclosure. For a maximum of 3 ready equipped cables between 7 and 26 mm diameter. Open cable duct.
- 49900020 Type B: Cast aluminum. Large surface flange mounting on enclosure. For a large number of cables. Sealing with special cable channels or cable glands. Open cable lead-in.

Watertight Top Flange

Type A

Type B