



USER AND MAINTENANCE MANUAL

PIVOTING EXTENSION BOOM SINGLE ARM AND DOUBLE-ARM BOOMS WITH THE VENTILATION DUCT 6" AND 8" IN DIAMETER

This manual is designed to inform the user about the proper assembly and use of the device. The user is advised to get fully acquainted with the contents of the manual before installation of the device and to handle the device according to the manual.



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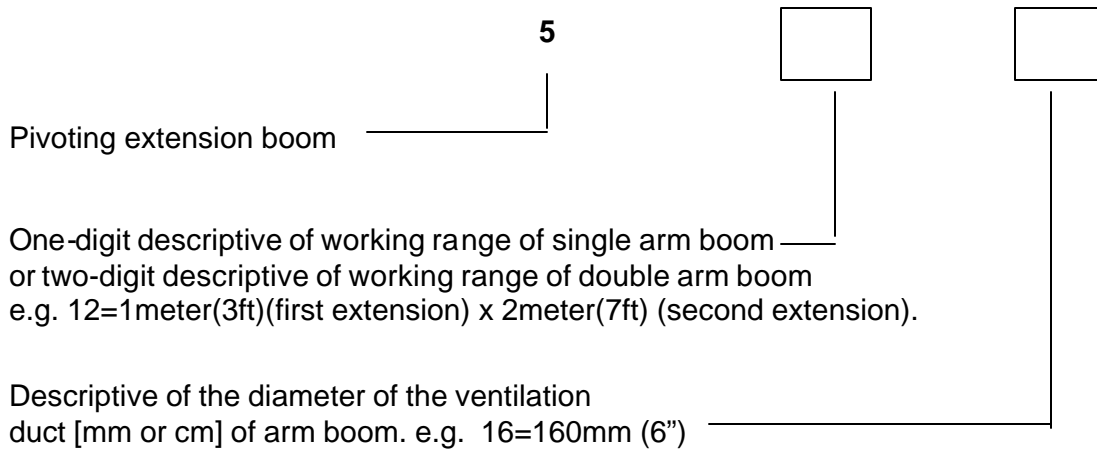
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I. GENERAL INFORMATION.

This manual contains basic technical data of the **Pivoting Extension Boom** and necessary information about installing, start and use of this device. Before assembly and use of the device the owner and operator should read this manual carefully in order to understand fully the construction of the device, the principles of its operation, as well as its service and safety features. This will permit safe, efficient operation and assembly of the device. The Manufacturer reserves the right to make design and technological changes, which may improve the device. The Manufacturer doesn't take any responsibility if the device isn't used according to manual.

II. NUMBERING SYSTEM



III. PURPOSE.

Pivoting extension single-arm and double-arm booms are designed to extend the working area of local extraction devices. They make it possible to reach areas where impurities are being created with, for example, a self-supporting arm, flexible hoses, hose reels etc. Due to a wide range of reaches, the booms are especially useful for the extraction of dust or gas impurities from difficult to reach areas or areas far removed from a wall or area where other types of equipment may be readily mounted. Additionally the booms can be used to suspend other equipment such as welding wire feeders, hose reels etc. within the range of permissible loads.

Note: The device is not appropriated to work in an aggressive environment.

IV. RESERVATIONS OF THE MANUFACTURER.

The Manufacturer reserves the right to make design and technological changes, which may improve the device.



Before assembly and use of the pivoting extension boom the owner and operator should read this manual carefully in order to understand fully the construction of the device, the principles of its operation, as well as its service and safety features. This will permit safe, efficient operation and assembly of the device. Permissible maximum weight capacity of the pivoting extension boom is given in Table 1.

After unpacking the device, please verify the quantity and quality of the parts received. Read completely the assembly instructions that follow. The assembly of the pivoting extension boom may be carried out as it is installed on a wall or beam or assembled on the floor and placed on the wall or beam afterwards.

V. TECHNICAL DATA.

Table 1. Extension boom dimensions (see Drawing 10).

Type	Connection dimensions									Reach of work [feet]/[m]		Weight Q1 [lb]/[kg]
	for OSKAR arms [inches]/[mm]				for ducting or fan [inches]/[mm]							
	n	M (metric thread)	D	D1	D2	B	H	L1	L2	R1	R2	
51160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	6'/1.9	-	124/58
52160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	6'/1.9	-	124/58
53160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	9.3/2.9	-	139/66
54160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	12.6/3.8	-	154/74
55160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	15.3/4.8	-	170/82
56160	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	18.6/5.8	-	188/91
51216	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	5.9/2.0	3.6/1.1	161/74
51316	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	9.8/3.0	3.6/1.1	177/82
51416	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	12.5/3.8	3.6/1.1	194/91
52216	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	5.9/2.0	5.9/1.8	172/79
52316	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	9.8/3.0	5.9/1.8	188/87
52416	6	6	.31/7	6.42/163	7.56/195	7.09/180	21.97/558	11.81/300	6.06/150	12.5/3.8	5.9/1.8	207/97
52200	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	6.9/2.1	-	227/104
53200	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	9.5/2.9	-	247/111
54200	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	12.5/3.8	-	269/126
55200	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	16.1/4.9	-	294/135
56200	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	19.4/5.9	-	318/150
51220	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	5.9/1.9	3.6/1.1	272/125
51320	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	9.4/2.9	3.6/1.1	291/140
51420	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	12.7/3.9	3.6/1.1	316/147
52220	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	5.9/1.9	5.6/1.8	289/133
52320	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	9.4/2.9	5.6/1.8	309/138
52420	8	8	.35/9	7.95/202	9.68/246	9.84/250	33.86/860	11.81/300	7.38/188	12.7/3.9	5.6/1.8	333/155

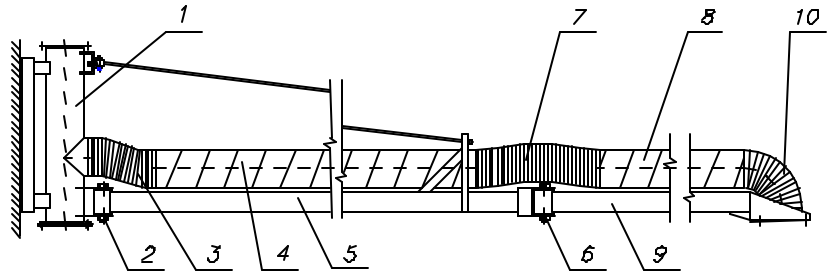
Net cap acity of boom is as follows:

- for single arm boom it is possible to mount the OSKAR Fume Arm (up to **13ft/4m** version) and additional **110lb/50kg** of other equipment Q2
- for double arm boom it is possible to mount the OSKAR Fume Arm (up to **10ft/3m** version) at the end of second extension (radius **R1+R2**) and additional **110lb/50kg** of other equipment at the end of first extension (radius **R1** on the Drawing 10)

VI. CONSTRUCTION.

Construction :

- 1 Mounting bracket made of steel, powder painted
- 2 Slide joint
- 3 Flexible hose
- 4 Ducting system spiral pipe
- 5 Carrying beam made of steel section closed profile
- 6 Ball bearing joint
- 7 Flexible hose
- 8 Ducting system spiral pipe
- 9 Carrying beam made of steel section closed profile with seat to mount Oskar self-supporting arm
- 10 Flexible hose



Assembly instruction - See Drawings 1 ÷ 9.

1. Sequence of assembly of pivoting extension **single**-arm boom.

- 1.1. Attach item (6) to the wall by means of bolts size M16 x L (L = thickness of the wall + 30mm) with the steel washers ≠ 3 x 60 x 60. Make openings through the wall. For version with diameter $\phi 8''$ use bolts size M20.
It is imperative to ensure that the mounting bracket is perfectly level to avoid "coasting" of the boom left and right.
 For mounting of the pivoting extension booms use bolts M 16 x L, nuts M 16 and washers ≠ 3 x 60 x 60.
- 1.2. Bolt the plug (8) to the mounting bracket (6) to the lower or the upper frame of the mounting bracket (6) using bolts (38) and (39 – 41). Between the plug and mounting bracket put silicone seal.
 Upper or lower location of the flexible washer and the plug will depend on the air outlet (top or bottom). Attach the fork (4) by means of the nut (19), the lock washer (20) and the regular washer (21).
 Attach the spring pins (29) in the openings of the mounting bracket (6).
- 1.3. Put a thin layer of solid grease onto the inner surfaces of the sleeves (12) which are in the extension arm (1). Attach the arm (1) to the mounting bracket (6) as well as the friction inserts (10), the pressure ring (9), the spring pin (30) the bolt (7), the grease nipple (35).



- Tighten down the bolts (27) in the openings in the pressure disk, the nuts (28) and tighten (9, 10) using the bolts (27) for adjustment of self supporting of arm.
- 1.4. Bolt down the pull rod head (31) on the shorter threaded end of the pull rod (5). The longer end of the threaded pull rod part (5) is placed into the opening in the cross bar of arm extension (1) and install on washer (23) and two nuts (22). Details of connection see Drawing 9.
 - 1.5. Next, install the pull rod (5) in the fork (4) by means of the pin (3), the washer (23) and the split pin (24).
Note: Precisely level extension arm (1) thread on the nuts (22). Tighten the bolts (27), adjust tension of extension arm (1) and thread on the nuts (28).
 - 1.6. Put the flexible hose (16) on the end of the spiral pipe (15). Using the gear clamp (17) connects the hose (16) and pipe (15) together to the arm (1). Details of this connection see Drawing 8.
Install gear clamps (17) onto both ends of the flexible hose (33).
Connect one end of the flexible hose to the spiral pipe (14)(see Drawing 8) and second end of the flexible hose connect with the element (37) of the mounting bracket (6) and tight the gear clamps (17).
In the case of excessive resistance during rotation of the arm extension, grease the bolt (7) through the grease nipple (35) and adjust self-locking as in item 1.3. Worn friction disks (10) must be replaced. Damaged flexible hose (33) must be replaced.
2. Sequence of assembly of double pivoting extension boom.
The assembly of the booms extension arm (1) (version 52316(20), 54116(20)) takes place as in items 1.1 ÷ 1.5 (single-arm boom), with the following additions:
- 2.1. Attach the spring pins (29) in the openings of the arm (1).
 - 2.2. Put a thin layer of grease onto the bearings that are in the extension arm (2). Attach the spring pin (30) in the bolt (13), install the second extension arm (2) to the first extension arm (1) and the frictional inserts (11), the bolt (13), the washer (25), the nut (26) and the grease nipple (35).
 - 2.3. Put the flexible hose (16) on the end of the spiral pipe (15). Using the gear clamp (17) connects the hose (16) and pipe (15) together to the arm (1). Details of this connection see Drawing 8.
Put the gear clamps (17) on the flexible hoses (33 and 34).
One end of the flexible hose (34) connects with the spiral pipe (15), and the second end of the hose connects to the spiral pipe (14) with the gear clamps. Details of this connection see Drawing 8.
Next, one end of the flexible hose (33) connects with the spiral pipe (14)(see Drawing 8), and the second end connects with the saddle tap (37) on the mounting bracket (6) and install the gear clamps (17).
3. Connecting the Oskar Fume Arm to the extension boom.
- 3.1. Put the socket of fume arm and connector (42) from bottom side of arm (2) mounting seat. Bolt both elements to the rivet nuts using bolts and washers delivered together with the fume arm.
 - 3.2. Put the gear clamp (17) on the end of flexible hose (16). Connect the hose (16) to the connector (42) using the clamp (17).



It is now time to add your Oskar accessories to the extension boom.

VII. USE AND MAINTENANCE INSTRUCTION.

Before use of the device user should check the tightening of all bolts as well as for secure mounting of the pivoting arm boom to its support. Each time after loading with any additional equipment – check the levelling of the carrying beam. The maintenance of the device is carried out periodically as follows:

1. Inspection of tightness of the flexible hose connections – once per month.
2. Inspection and tightening of all bolts between the boom and its support – once every 6 months

Disassembling of the pivoting extending boom, cleaning and lubrication of the anti-friction bearings – every 3 years.

VIII. TROUBLESHOOTING.

Symptoms	Possible reasons	Solution
Boom will not stay in requested position.	The Boom is not mounted level. (assembly error) The carrying beam isn't level.	Re-Install the device making certain that the mounting bracket is installed vertically level and arm horizontally level. Level the carrying beam and tighten two nuts of the pull rod (nut + lock nut) – possible only if mounting bracket is installed vertically level (see above).
It is hard to rotate the boom.	The bolts at the joints are loosened – wrong adjusting. The ventilation duct is dirty.	Tighten the bolts and adjust resistance of rotating boom. Check the permeability of the hoses. In case of blockage – clear blockage.
Air volume is reduced	Loose connections of the flexible hose.	Check the compression of the Gear Clamps and tightening at other connections.

IX. SAFETY GUIDELINES.

Assembly and start up of the device can be done only after reading of this documentation. When using the booms remember of the following rules:

1. Be Sure that no tools or other paraphernalia were left on the boom which could fall during its motions.
2. Do not move Swing Boom during assembly or repair.



3. Don't force the boom beyond its capabilities.
4. Don't load the carrying beam above the permissible load.

The manufacturer is not responsible for damage or injury caused by misuse or misapplication of the device.

X. PARTS LIST.

Parts list of **single-arm boom** with **6"** ducting system (refer to Drawings 1-9):

No.	Description	Quantity	Extension boom type				
			52160	53160	54160	55160	56160
			Art. No.				
1	Arm I	1	52160-1	53160-1	54160-1	55160-1	56160-1
3	Pin I	1	52160-3	53160-3	54160-3	55160-3	56160-3
4	Fork	1	52160-4	53160-4	54160-4	55160-4	56160-4
5	Pull rod	1	52160-5	53160-5	54160-5	55160-5	56160-5
6	Mounting bracket	1	52160-6	53160-6	54160-6	55160-6	56160-6
7	Pin	1	52160-7	53160-7	54160-7	55160-7	56160-7
8	Plug	1	52160-8	53160-8	54160-8	55160-8	56160-8
9	Pressure ring	1	52160-9	53160-9	54160-9	55160-9	56160-9
10	Friction insert I	2	52160-10	53160-10	54160-10	55160-10	56160-10
12	Sleeve	2	52160-12	53160-12	54160-12	55160-12	56160-12
14	Spiral pipe	1	52160-14	53160-14	54160-14	55160-14	56160-14
16	Flexible hose	1	52160-16	53160-16	54160-16	55160-16	56160-16
17	Gear clamps	4	52160-17	53160-17	54160-17	55160-17	56160-17
19	Nut M16	1	52160-19	53160-19	54160-19	55160-19	56160-19
20	Regular washer	1	52160-20	53160-20	54160-20	55160-20	56160-20
21	Lock washer	1	52160-21	53160-21	54160-21	55160-21	56160-21
22	Nut M12	2	52160-22	53160-22	54160-22	55160-22	56160-22
23	Regular washer	3	52160-23	53160-23	54160-23	55160-23	56160-23
24	Split pin S3.2	1	52160-24	53160-24	54160-24	55160-24	56160-24
27	Bolt M10x30 Fe/Zn, mushroom head square neck	2	52160-27	53160-27	54160-27	55160-27	56160-27
29	Spring pin	2	52160-29	53160-29	54160-29	55160-29	56160-29
30	Spring pin	1	52160-30	53160-30	54160-30	55160-30	56160-30
31	Pull rod head	1	52160-31	53160-31	54160-31	55160-31	56160-31
32	Rivet ?3.2x8	12	52160-32	53160-32	54160-32	55160-32	56160-32
34	Flexible hose	1	52160-34	53160-34	54160-34	55160-34	56160-34
35	Grease nipple	1	52160-35	53160-35	54160-35	55160-35	56160-35
36	Rivet nut	6	52160-36	53160-36	54160-36	55160-36	56160-36
37	Saddle tap	1	52160-37	53160-37	54160-37	55160-37	56160-37
38	Bolt M6	6	52160-38	53160-38	54160-38	55160-38	56160-38
39	Lock washer	6	52160-39	53160-39	54160-39	55160-39	56160-39
40	Regular washer	12	52160-40	53160-40	54160-40	55160-40	56160-40
41	Nut M6	6	52160-41	53160-41	54160-41	55160-41	56160-41
42	Connector	1	52160-42	53160-42	54160-42	55160-42	56160-42



Parts list of **single -arm boom** with **8"** ducting system (refer to Drawings 1+9):

No.	Description	Quantity	Extension boom type				
			52200	53200	54200	55200	56200
			Art. No.				
1	Arm I	1	52200-1	53200-1	54200-1	55200-1	56200-1
3	Pin I	1	52200-3	53200-3	54200-3	55200-3	56200-3
4	Fork	1	52200-4	53200-4	54200-4	55200-4	56200-4
5	Pull rod	1	52200-5	53200-5	54200-5	55200-5	56200-5
6	Mounting bracket	1	52200-6	53200-6	54200-6	55200-6	56200-6
7	Pin	1	52200-7	53200-7	54200-7	55200-7	56200-7
8	Plug	1	52200-8	53200-8	54200-8	55200-8	56200-8
9	Pressure ring	1	52200-9	53200-9	54200-9	55200-9	56200-9
10	Friction insert I	2	52200-10	53200-10	54200-10	55200-10	56200-10
12	Sleeve	2	52200-12	53200-12	54200-12	55200-12	56200-12
14	Spiral pipe	1	52200-14	53200-14	54200-14	55200-14	56200-14
16	Flexible hose	1	52200-16	53200-16	54200-16	55200-16	56200-16
17	Gear clamps	4	52200-17	53200-17	54200-17	55200-17	56200-17
19	Nut M20	1	52200-19	53200-19	54200-19	55200-19	56200-19
20	Regular washer	1	52200-20	53200-20	54200-20	55200-20	56200-20
21	Lock washer	1	52200-21	53200-21	54200-21	55200-21	56200-21
22	Nut M16	2	52200-22	53200-22	54200-22	55200-22	56200-22
23	Regular washer	3	52200-23	53200-23	54200-23	55200-23	56200-23
24	Split pin S3.2	1	52200-24	53200-24	54200-24	55200-24	56200-24
27	Bolt M10x30 Fe/Zn, mushroom head square neck	2	52200-27	53200-27	54200-27	55200-27	56200-27
29	Spring pin	2	52200-29	53200-29	54200-29	55200-29	56200-29
30	Spring pin	1	52200-30	53200-30	54200-30	55200-30	56200-30
31	Pull rod head	1	52200-31	53200-31	54200-31	55200-31	56200-31
32	Rivet ?3.2x8	12	52200-32	53200-32	54200-32	55200-32	56200-32
34	Flexible hose	1	52200-34	53200-34	54200-34	55200-34	56200-34
35	Grease nipple	1	52200-35	53200-35	54200-35	55200-35	560-35
37	Saddle tap	1	52200-37	53200-37	54200-37	55200-37	56200-37
38	Bolt M8	8	52200-38	53200-38	54200-38	55200-38	56200-38
39	Lock washer	8	52200-39	53200-39	54200-39	55200-39	56200-39
40	Regular washer	16	52200-40	53200-40	54200-40	55200-40	56200-40
41	Nut M8	8	52200-41	53200-41	54200-41	55200-41	56200-41
42	Connector	1	52200-42	53200-42	54200-42	55200-42	56200-42



Parts list of **double-arm boom** with **6"** ducting system (refer to Drawings 1÷9):

No.	Description	Quantity	Extension boom type					
			51216	51316	51416	52216	52316	52416
			Art. No.					
1	Arm I	1	51216-1	51316-1	51416-1	52216-1	52316-1	52416-1
2	Arm II	1	51216-2	51316-2	51416-2	52216-2	52316-2	52416-2
3	Pin I	1	51216-3	51316-3	51416-3	52216-3	52316-3	52416-3
4	Fork	1	51216-4	51316-4	51416-4	52216-4	52316-4	52416-4
5	Pull rod	1	51216-5	51316-5	51416-5	52216-5	52316-5	52416-5
6	Mounting bracket	1	51216-6	51316-6	51416-6	52216-6	52316-6	52416-6
7	Pin	1	51216-7	51316-7	51416-7	52216-7	52316-7	52416-7
8	Plug	1	51216-8	51316-8	51416-8	52216-8	52316-8	52416-8
9	Pressure ring	1	51216-9	51316-9	51416-9	52216-9	52316-9	52416-9
10	Friction insert I	2	51216-10	51316-10	51416-10	52216-10	52316-10	52416-10
11	Friction insert II	2	51216-11	51316-11	51416-11	52216-11	52316-11	52416-11
12	Sleeve	2	51216-12	51316-12	51416-12	52216-12	52316-12	52416-12
13	Pin III	1	51216-13	51316-13	51416-13	52216-13	52316-13	52416-13
14	Spiral pipe	1	51216-14	51316-14	51416-14	52216-14	52316-14	52416-14
15	Spiral pipe	1	51216-15	51316-15	51416-15	52216-15	52316-15	52416-15
16	Flexible hose	1	51216-16	51316-16	51416-16	52216-16	52316-16	52416-16
17	Gear clamps	6	51216-17	51316-17	51416-17	52216-17	52316-17	52416-17
18	Ball bearing	2	51216-18	51316-18	51416-18	52216-18	52316-18	52416-18
19	Nut M16	1	51216-19	51316-19	51416-19	52216-19	52316-19	52416-19
20	Regular washer	1	51216-20	51316-20	51416-20	52216-20	52316-20	52416-20
21	Lock washer	1	51216-21	51316-21	51416-21	52216-21	52316-21	52416-21
22	Nut M12	2	51216-22	51316-22	51416-22	52216-22	52316-22	52416-22
23	Regular washer	3	51216-23	51316-23	51416-23	52216-23	52316-23	52416-23
24	Split pin S3.2	1	51216-24	51316-24	51416-24	52216-24	52316-24	52416-24
25	Regular washer 21 Fe/Zn	2	51216-25	51316-25	51416-25	52216-25	52316-25	52416-25
26	Self lock nut M20 Fe/Zn	2	51216-26	51316-26	51416-26	52216-26	52316-26	52416-26
27	Bolt M10x30 Fe/Zn, mushroom head square neck	2	51216-27	51316-27	51416-27	52216-27	52316-27	52416-27
29	Spring pin	4	51216-29	51316-29	51416-29	52216-29	52316-29	52416-29
30	Spring pin	2	51216-30	51316-30	51416-30	52216-30	52316-30	52416-30
31	Pull rod head	1	51216-31	51316-31	51416-31	52216-31	52316-31	52416-31
32	Rivet ?3.2x8	12	51216-32	51316-32	51416-32	52216-32	52316-32	52416-32
33	Flexible hose	1	51216-33	51316-33	51416-33	52216-33	52316-33	52416-33
34	Flexible hose	1	51216-34	51316-34	51416-34	52216-34	52316-34	52416-34
35	Grease nipple	2	51216-35	51316-35	51416-35	52216-35	52316-35	52416-35
36	Rivet nut	6	51216-36	51316-36	51416-36	52216-36	52316-36	52416-36
37	Saddle tap	1	51216-37	51316-37	51416-37	52216-37	52316-37	52416-37
38	Bolt M6	6	51216-38	51316-38	51416-38	52216-38	52316-38	52416-38
39	Lock washer	6	51216-39	51316-39	51416-39	52216-39	52316-39	52416-39
40	Regular washer	12	51216-40	51316-40	51416-40	52216-40	52316-40	52416-40
41	Nut M6	6	51216-41	51316-41	51416-41	52216-41	52316-41	52416-41
42	Connector	1	51216-42	51316-42	51416-42	52216-42	52316-42	52416-42



Parts list of **double-arm boom** with **8"** ducting system (refer to Drawings 1÷9):

No.	Description	Quantity	Extension boom type					
			51220	51320	51420	52220	52320	52420
			Art. No.					
1	Arm I	1	51220-1	51320-1	51420-1	52220-1	52320-1	52420-1
2	Arm II	1	51220-2	51320-2	51420-2	52220-2	52320-2	52420-2
3	Pin I	1	51220-3	51320-3	51420-3	52220-3	52320-3	52420-3
4	Fork	1	51220-4	51320-4	51420-4	52220-4	52320-4	52420-4
5	Pull rod	1	51220-5	51320-5	51420-5	52220-5	52320-5	52420-5
6	Mounting bracket	1	51220-6	51320-6	51420-6	52220-6	52320-6	52420-6
7	Pin	1	51220-7	51320-7	51420-7	52220-7	52320-7	52420-7
8	Plug	1	51220-8	51320-8	51420-8	52220-8	52320-8	52420-8
9	Pressure ring	1	51220-9	51320-9	51420-9	52220-9	52320-9	52420-9
10	Friction insert I	2	51220-10	51320-10	51420-10	52220-10	52320-10	52420-10
11	Friction insert II	2	51220-11	51320-11	51420-11	52220-11	52320-11	52420-11
12	Sleeve	2	51220-12	51320-12	51420-12	52220-12	52320-12	52420-12
13	Pin III	1	51220-13	51320-13	51420-13	52220-13	52320-13	52420-13
14	Spiral pipe	1	51220-14	51320-14	51420-14	52220-14	52320-14	52420-14
15	Spiral pipe	1	51220-15	51320-15	51420-15	52220-15	52320-15	52420-15
16	Flexible hose	1	51220-20	51320-20	51420-20	52220-20	52320-20	52420-20
17	Gear clamps	6	51220-17	51320-17	51420-17	52220-17	52320-17	52420-17
18	Ball bearing	2	51220-18	51320-18	51420-18	52220-18	52320-18	52420-18
19	Nut M20	1	51220-19	51320-19	51420-19	52220-19	52320-19	52420-19
20	Regular washer	1	51220-20	51320-20	51420-20	52220-20	52320-20	52420-20
21	Lock washer	1	51220-21	51320-21	51420-21	52220-21	52320-21	52420-21
22	Nut M16	2	51220-22	51320-22	51420-22	52220-22	52320-22	52420-22
23	Regular washer	3	51220-23	51320-23	51420-23	52220-23	52320-23	52420-23
24	Split pin S3.2	1	51220-24	51320-24	51420-24	52220-24	52320-24	52420-24
25	Regular washer 21 Fe/Zn	2	51220-25	51320-25	51420-25	52220-25	52320-25	52420-25
26	Self lock nut M20 Fe/Zn	2	51220-26	51320-26	51420-26	52220-26	52320-26	52420-26
27	Bolt M10x30 Fe/Zn, mushroom head square neck	2	51220-27	51320-27	51420-27	52220-27	52320-27	52420-27
29	Spring pin	4	51220-29	51320-29	51420-29	52220-29	52320-29	52420-29
30	Spring pin	2	51220-30	51320-30	51420-30	52220-30	52320-30	52420-30
31	Pull rod head	1	51220-31	51320-31	51420-31	52220-31	52320-31	52420-31
32	Rivet ?3.2x8	12	51220-32	51320-32	51420-32	52220-32	52320-32	52420-32
33	Flexible hose	1	51220-33	51320-33	51420-33	52220-33	52320-33	52420-33
34	Flexible hose	1	51220-34	51320-34	51420-34	52220-34	52320-34	52420-34
35	Grease nipple	2	51220-35	51320-35	51420-35	52220-35	52320-35	52420-35
37	Saddle tap	1	51220-37	51320-37	51420-37	52220-37	52320-37	52420-37
38	Bolt M8	8	51220-38	51320-38	51420-38	52220-38	52320-38	52420-38
39	Lock washer	8	51220-39	51320-39	51420-39	52220-39	52320-39	52420-39
40	Regular washer	16	51220-40	51320-40	51420-40	52220-40	52320-40	52420-40
41	Nut M8	8	51220-41	51320-41	51420-41	52220-41	52320-41	52420-41
42	Connector	1	51220-42	51320-42	51420-42	52220-42	52320-42	52420-42

Spare parts:

All above-mentioned elements are available from the Manufacturer

