Servo Electric Manipulator FS-BS / FS-ES



Product overview

The FULLSHARP servo electric manipulator uses a servo motor instead of a pneumatic cylinder: the operator simply guides the handle, and loads of 200–500 kg move smoothly, stop exactly in position and stay put when released. No compressed air is needed – only a 380V 3-phase power supply.

With a 3000 mm arm, 2500 mm working radius and 2000 mm lifting height, it suits CNC loading stations, heavy-part assembly and handling of boxes, rolls and sacks. The end gripper is designed for each customer's product.

Three mounting options



Floor-mounted Column bolted to the floor, ideal for a fixed workstation.



Mobile base Steel base with castors and leveling feet, moved between workstations when needed (C, D, E increase by 200 mm).



Ceiling-mounted Suspended from a ceiling frame or beam, keeping the floor clear for the production line.

Real-world photos



Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 1



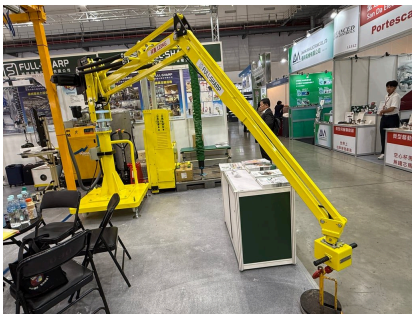
Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 2



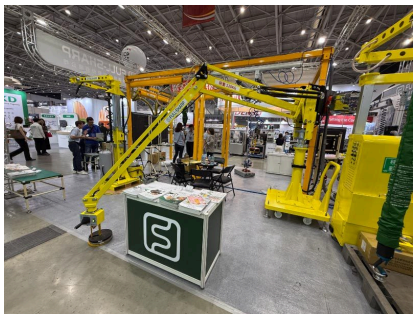
Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 3



Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 4



Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 5



Servo Electric Manipulator FS-BS / FS-ES – Real-world photos 6

Main specifications

Item	Specification
Power supply	380V 3-phase
Motor	Servo
Load (gripper tool and product)	200 – 500 kg
Lifting height	2000 mm
Arm length	3000 mm
Working radius	2500 mm
Base plate	600 × 600 mm
Total height	3400 mm

Key features

Servo motor

Precise control, smooth operation, energy-efficient.

200–500 kg load

Covers most lifting tasks in production.

Wide reach

3000 mm arm and 2500 mm working radius reach every point of the station.

Safety

Smart monitoring system with emergency stop.

Benefits

- Higher productivity: shorter lifting cycles, up to 40% faster production
- Protects workers from injuries caused by manual lifting
- High precision thanks to the servo motor
- Wide working area and flexible handling
- Energy saving
- Solid construction and long service life
- Modular design for quick part replacement

Applications

Food

Lifting raw-material pots, moving packaging and cartons; a dedicated gripper keeps pots from spilling.

Chemical

Moving drums and plastic canisters, reducing direct contact with chemicals.

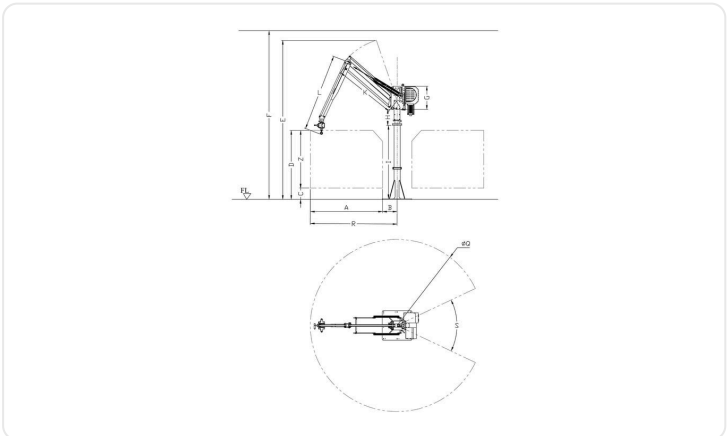
Mechanical

Lifting parts, assembling heavy components and loading CNC machines.

Pharmaceutical

Handling materials in clean environments while keeping hygiene standards.

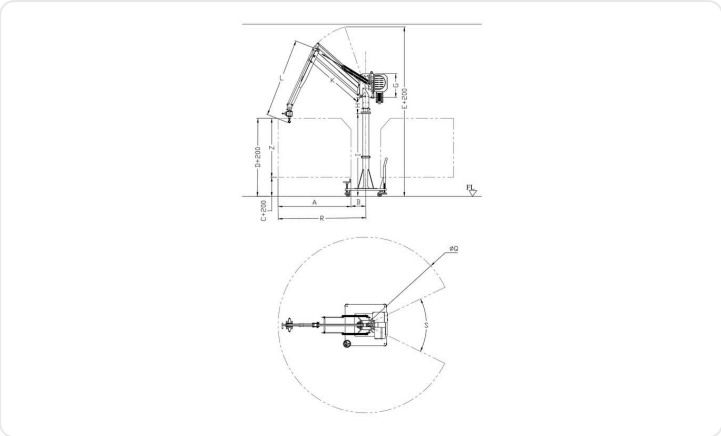
Dimension drawings



Servo Electric Manipulator FS-BS / FS-ES – Floor-mounted type

Floor-mounted type

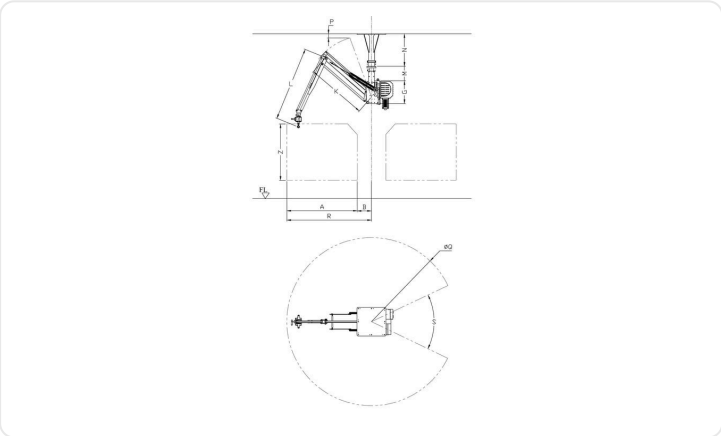
Column fixed to the floor. Dimensions in the FS-BS table below.



Servo Electric Manipulator FS-BS / FS-ES – Mobile base type

Mobile base type

Same dimensions as the FS-BS table; C, D and E increase by 200 mm because of the base height.



Servo Electric Manipulator FS-BS / FS-ES – Ceiling-mounted type

Ceiling-mounted type

Installed on a ceiling frame or beam. Dimensions in the FS-ES table below.

Legend: A, B – horizontal distances from the load point to the column; R = A + B – maximum working radius; Q – rotation diameter; C, D – lowest / highest load-point height; Z = D – C – lifting stroke; E – highest point of the arm; F – total height; G – drive housing height; H, I – column dimensions; K – rear arm length; M – distance from mounting face to the pivot (ceiling type). Unit: mm.

Dimension table – floor-mounted / mobile base (FS-BS series)

Model	A	B	C	D	E	F	G	H	I	K	Q	R	Z
FS-BS-53	1320	180	300	1350	2974	3050	447	225	1587	1575	3000	1500	1050
FS-BS-54	1792	208	300	1750	3647	3734	447	225	1995	1835	4000	2000	1450
FS-BS-55	2188	312	300	2200	4575	4650	447	225	2574	2315	5000	2500	1900
FS-BS-56	2610	390	300	2550	5310	5400	447	225	3019	2635	6000	3000	2250
FS-BS-103	1320	180	300	1350	3068	3125	453	267	1635	1629	3000	1500	1050
FS-BS-104	1792	208	300	1800	3690	3734	453	267	2009	1889	4000	2000	1500
FS-BS-105	2188	312	300	2200	4715	4770	453	267	2670	2349	5000	2500	1900
FS-BS-106	2610	390	300	2550	5403	5460	453	267	3070	2689	6000	3000	2250
FS-BS-183	1350	150	300	1350	3048	3200	585	431	1459	1643	3000	1500	1050
FS-BS-184	1785	215	300	1750	3728	3875	585	431	1919	1913	4000	2000	1450
FS-BS-185	2200	300	300	2200	4519	4670	585	431	2424	2264	5000	2500	1900
FS-BS-186	2620	380	300	2550	5236	5490	585	431	2854	2625	6000	3000	2250
FS-BS-253	1275	225	300	1350	3162	3235	590	431	1507	1749	3000	1500	1050
FS-BS-254	1770	230	300	1750	3949	4055	590	431	1997	2119	4000	2000	1450
FS-BS-255	2175	325	300	2200	4729	4890	590	431	2482	2487	5000	2500	1900
FS-BS-256	2600	400	300	2550	5427	5600	590	431	2922	2809	6000	3000	2250
FS-BS-303	1275	225	300	1350	3162	3235	590	431	1507	1749	3000	1500	1050
FS-BS-304	1770	230	300	1750	3949	4055	590	431	1997	2119	4000	2000	1450
FS-BS-305	2175	325	300	2200	4729	4890	590	431	2482	2487	5000	2500	1900
FS-BS-306	2600	400	300	2550	5427	5600	590	431	2922	2809	6000	3000	2250

Model	A	B	C	D	E	F	G	H	I	K	Q	R	Z
FS-BS-503	1400	400	300	1550	3786	3860	900	501	1629	2158	3000	1800	1250
FS-BS-504	1550	450	300	1750	4109	4175	900	501	1820	2310	4000	2000	1450
FS-BS-505	1970	530	300	2100	4785	4900	900	501	2200	2673	5000	2500	1800
FS-BS-506	2370	630	300	2500	5612	5720	900	501	2665	3070	6000	3000	2200
FS-BS-704W	1560	440	300	1450	4240	4290	1060	640	1645	2450	4000	2000	1150
FS-BS-705	2040	460	300	2300	5300	5400	1060	640	2275	2865	5000	2500	2000

Dimension table – ceiling-mounted (FS-ES series)

Model	A	B	G	K	M	Q	Z
FS-ES-53	1056	674	400	236	240	3000	1200
FS-ES-54	1423	755	400	236	240	4000	1450
FS-ES-55	1907	960	400	236	240	5000	1750
FS-ES-56	2342	1262	400	236	240	6000	2000
FS-ES-103	889	766	440	236	240	3000	1200
FS-ES-104	1423	754	440	236	240	4000	1450
FS-ES-105	1906	951	440	236	240	5000	1750
FS-ES-106	2342	1262	440	236	240	6000	2000
FS-ES-183	880	786	480	236	431	3000	1200
FS-ES-184	1421	759	480	236	431	4000	1450
FS-ES-185	1902	947	480	236	431	5000	1750
FS-ES-186	2338	1254	480	236	431	6000	2000
FS-ES-253	1069	681	530	238	431	3000	1200
FS-ES-254	1410	768	530	238	431	4000	1450
FS-ES-255	1897	944	530	238	431	5000	1750
FS-ES-256	2338	1245	530	238	431	6000	2000
FS-ES-503	506	1470	790	322	560	3000	1200
FS-ES-504	1251	1467	790	322	560	4000	1450
FS-ES-505	1405	1605	790	322	560	5000	1800
FS-ES-506	1719	1876	790	322	560	6000	2200

Mobile base type: add 200 mm to C, D and E. Dimensions can be adapted to the actual layout and gripper; FULLSHARP provides a confirmation drawing with the quotation.

Contact us for consultation and a quotation

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Specifications may vary with the ordered configuration. Please contact FullSharp for exact details.