

**WE SERVICE
WHAT WE
MANUFACTURE**

www.3arm.net



TECNOSPIRO
MACHINE TOOL SL

Tecnospiro Machine Tool, S.L.

Tel. +34 93 8764359 Fax. +34 93 8767738

Pl. Pla dels Vinyats, B

08250 St. Joan de Vilatorrada Barcelona

3ARM® www.3arm.net

3arm@3arm.net



Customer Commitment

To work hard everyday to be regarded in the metal working marketplace as a supplier that is friendly, helpful and easy to do business with - EVERYDAY, EVERYTIME.

To offer innovative high quality solutions at a competitive price.

To be receptive & proactive in identifying solutions for our customers needs & requirements.



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Modifications reserved

Edition: September 2014

3arm®



ERGONOMIC SOLUTIONS

www.3arm.net

Catalog



3 Arm is a division of the Tecnospiro Machine Tool Company located in Sant Joan de Vilatorrada a small village about 40 miles west of Barcelona. They are a small family owned company that has been in business since the 60's. They have a state of the art manufacturing facility and a dynamic engineering staff that has been very innovative in design and inventing new products. The 3Arm ergonomic arm is the strongest most dependable arm available in the world market place today. It can be used for assistance in assembly, deburring, off line machining, and all types of lifting operations. Where ever operator fatigue is concern for employee safety, productivity, or quality 3Arm has a solution.

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SAFETY WARNING 3ARM products are engineered and manufactured with safety in mind. The heat treat specifications exceed or meet all standards. All of the products manufactured by 3ARM are designed to perform without any undue safety issues when caution, common sense and proper safety practices are followed. The use of cutting tools and toolholders is safe when proper application and protection guidelines are observed. Even when these proper precautions are taken, it is possible that fragments of a cutting tool, cutting material, or holding device may be thrown at a very high rate of speed and have potential to cause severe bodily harm. It is imperative that general safety precautions and safety glasses be used at all times.

3arm Details

	SERIES 1	SERIES 2	SERIES 3	SERIES 4	SERIES 6 (Telescopic)
Max. RADIUS mm/inches	1120/44"	860/34"	1730/68"	1460/58"	2190/86"
VERTICAL DISTANCE mm/inches	1070/42"	530/22"	1070/42"	1375/54"	670/26"
MAXIMUM WEIGHT Kg./lbs	10 / 22	6 / 13	35 / 77	24 / 53	20 / 44
LOCK ON BRAKES	NO	NO	OPTIONAL	OPTIONAL	NO
Top or BOTTOM Mounted	YES	YES	YES	YES	YES

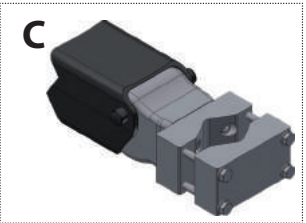
Head members



Tilting arm movement only



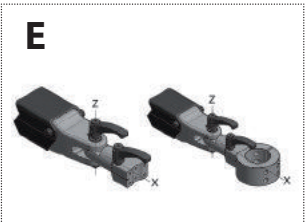
Tilting arm movement only



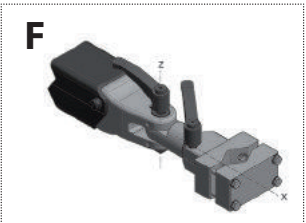
Tilting arm movement only



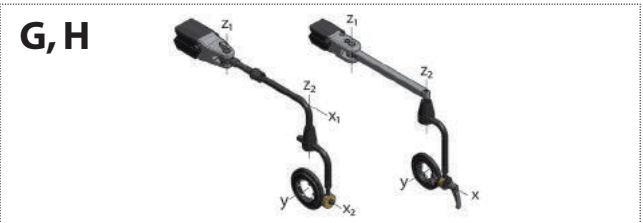
X:Turns 360°, Z:Turns 90° right & left.Lockable in any position



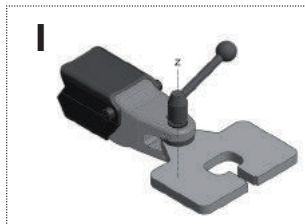
X:Turns 360°. Lockable in any position
Z:Turns 90° right & left. Lockable in any position



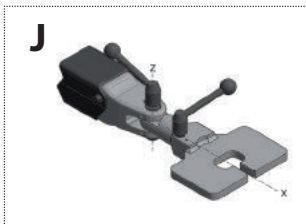
X:Turns 360°. Lockable in any position
Z:Turns 90° right & left. Lockable in any position



G:from 0 up to 15 kg/33 lbs with Quick Change
X1:Turns 360°. Lockable each 45°
X2:Turns 360°.
Y:Turns 360°.
Z1:Turns 90° right & left.
Z2:Turns 360°. Non lockable
H:from 15 kg/33 lbs up to 30 kg/66 lbs. NO Quick Change
X: turns 360°. Lockable in any position
Y:Turns 360°. Lockable in any position
Z1:Turns 90° right & left
Z2:Turns 360°



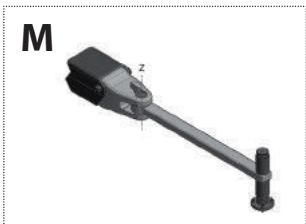
Z:Turns 90° right & left. Lockable in any position



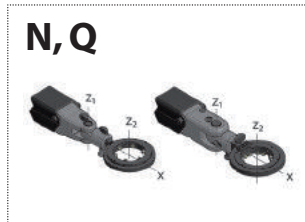
X:Turns 360°. Lockable in any position
Z:Turns 90° right and left. Lockable in any position



X:Turns 90°. Lockable in any position
Y:Turns 90° right & left.
Z:Turns 360°. Lockable in any position. Height adjustable up to 175 mm.



Z:Turns 90° right & left.



N:from 0 up to 15 kg with Quick change
X:Turns 360°. Lockable 4x90°.
Z1:Turns 90° right & left.
Z2:Turns 360°.
Q:from 15 up to 30 kg
X:Turns 360°. Lockable in any position
Z1:Turns 90° right & left
Z2:Turns 360°. Lockable in any position



X:Turns 360°. 64 Lockable positions
Z1:Turns 90° left. 5 Lockable positions
Z2:Turns 360°. 8 Lockable positions



T:from 0 up to 15 kg with Quick change
X:Turns 360°. Lockable 4x90°
Y:Turns 360°
Z1:Turns 90° right & left
Z2:Turns 360°
U:from 15 up to 30 kg
X:Turns 360°. Lockable 4x90°
Y:Turns 360°. Lockable in any position
Z1:Turns 90° right & left
Z2:Turns 360°



X1:Turns 360°. Lockable each 45°
X2:Turns 360°
Y:Turns 360°
Z1:Turns 90° right & left.
Z2:Turns 360°

APPLICATION	TOOLS	3arm solution
Deburring Sharpen Polish	Straight grinder Angular grinder Orbital Sander Pneumatic Electric	S1 - S2 - S3 - S4 Head G or X
Flat Polishing	Sander	S3 - S4 + Lock. Head M
Cut Rivet Stapling	Cutters & Spreaders Riveting Stapler	S1 - S2 - S3 - S4 Head G or X (+dynamic) Head N (- dynamic)
Welding	Stud Welding	S1 - S2 - S3 - S4 A / B / C / D / E / F / N
	Spot Welding	S1 - S2 - S3 - S4 Head N (- dynamic) Head G or X (+dynamic)

APPLICATION	TOOLS	3arm solution
Positioning	Camera Laser Scanner	S1- S2 - S3 - S4 A / B / C / D / E / F / N
Positioning + attach	Roughness tester Gauge	S3 - S4 A / B / C / D / E / F + lock
Positioning + attach Accuracy	Specialized tools etc...	S3 - S4 A / B / C / D / E / F + lock + Ball head
Screwing without torque	Wrench Impact Impulse Bar reaction Hydraulic	S1 - S2 - S3 - S4 - S6 Head N (- dynamic) Head G or X (+ dynamic) Head H / Q / T (only S3)
Screwing with torque	Wrench Pneumatic Electronic Hydraulic Straight Angle	S2 - S3 - S4 Look "TORQUE" table data page 5



Ref	Description	Dimensions	Series				
			1	2	3	4	6
TP000100	Small table	500x500x900 mm. 19 11/16" x 19 11/16" x 35 7/16"	●	●	Consult (according the load)		
TF000100	Medium table	850x850x850 mm. 33 7/16" x 33 7/16" x 33 7/16"	●	●	Consult (according the load)		
907B0000	Large table	1100x850x850 mm. 43 5/16" x 33 7/16" x 33 7/16"	●	●	Consult (according the load)		

Ref	Description	Dimensions	Series				
			1	2	3	4	6
BR000100	Clamp	127x63,5 mm. 5" x 2 1/2"	●	●			
BR100100	Big Clamp	127x127x65,5 mm. 5" x 5" x 2 1/2"	●	●	Consult (according the load)		

EDP	Description	Dimensions	Series				
			1	2	3	4	6
IC000100	Magnetic Suport	250 mm. 9 13/16"	●	●	Consult (according the load)		
KA011X04	Trolley	700 x 700 mm. 27,55" x 27,55"	●	●	Consult (according the load)		
CL000100	Column	940mm. 37"	●	●	●	●	●
EA0001A0	Pneumatic lifter	550 mm. 21 5/8"	●	●	●	Consult (according the load)	
CL013300	Column lifter	1450 mm. 57,1"	●	●	●	●	●
CL020000	Linear Guide	2000 mm. 78,7"	●	●	●	●	●
CL021504	Pillar	764 mm. 30"	●	●	●	●	●
CL040000	Floor Rail	2000 mm. 78,7"	●	●	●	●	●

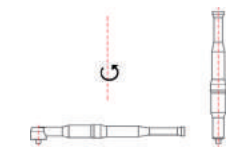
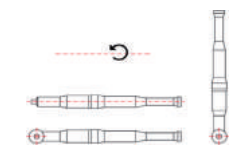
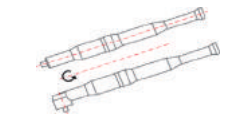
FLOOR RAILS & BEAMS

AVAILABLE UPON REQUEST

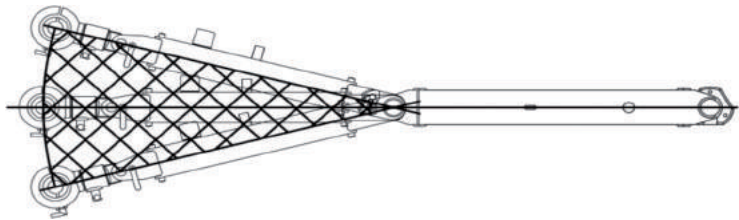
CALL FOR AN ENGINEERED SOLUTION

TORQUE TABLE

WORK TYPE	Max TORQUE. Nm		
	S2	S3*	S4**
VERTICAL	120	650	300
HORIZONTAL	60/90 straight/angular	250	250
ANY ANGLE	60	200	200

WORK	HEAD Member	S2	S3*	S4**
	VERTICAL			
	B: STATIONARY FLAT + RING	120	650	300
	E: ARTICULATED FLAT + RING	60	120	
	R: REVOLVING	-	300	
	HORIZONTAL			
	B: STATIONARY FLAT + RING	90	250	
	E: ARTICULATED FLAT + RING	60	120	
	R: REVOLVING	-	250	
	ANY ANGLE			
	E: ARTICULATED FLAT + RING	60	120	
	R: REVOLVING	-	200	

*S3 - RECOMMENDED LOCKING, **S4 - REQUIRED LOCKING



UNUSABLE AREA WITHOUT LOCKING

Accessories

BIG CLAMP



TROLLEY + COLUMN + PNEUMATIC LIFTER



TABLE



TOLLEY + LIFTER 2000



FLOOR RAIL + LIFTER 2000



BEAM + PILLARS



Damper Weight Range

Head Type	N6	T6
Load Range Kg	Min	Min
SERIES 6 TELESCOPIC BOTTOM & TOP Mounted	0	11
	2	13
	3	15
	4	18
	6	20



2Kg



3Kg

* Add the head weight to the weight tool.
Search for the weight range wished in the table

* Ex.:
Head N6 2 Kg
Tool 14 Kg
Total 16 Kg

Right choices:
6 - 20



Series 6

Weight Range
0-20 Kg / 44 lbs.
According Damper Weight Range

Maximum Reach
2190 mm / 86"

Vertical Distance
670 mm / 26"

Applications

Build an ergonomic solution

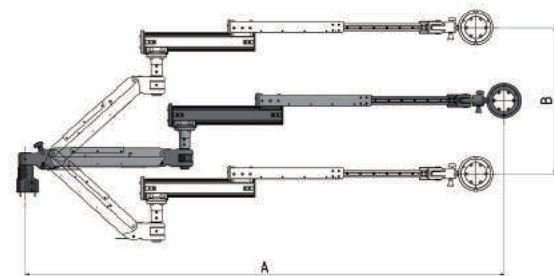
Pick your Radial Base Arm

Pick your Head Member



Radial Base Arm

BP + RA + BM



Arm Dimensions

Radial Base Arm	A (Maximum Reach) mm./inches	B (Vertical Distance) mm./inches
BP+RA+BM	2190/86,2"	670/26,4"
DM	1460/57,5"	1415/55,5"

Orbital Attachment

N6 Pistol Style tool holder



T6 Pistol Style tool holder



3arm Pictured
BP+RA+BM+N6
Tool not included



Engineered for your application

Over 600 standard combinations available

AS EASY AS KNOWING THE ANSWER TO 5 QUESTIONS

1

Choose the arm that will meet you weight and reach requirements

Series 1 - up to 10 Kg / 22 lbs, 1120 mm / 44"
Series 2 - up to 6 Kg / 13 lbs, 860 mm / 34"
Series 3 - up to 35 Kg / 77 lbs, 1730 mm / 68"
Series 4 - up to 24 Kg / 53 lbs, 1460 mm / 58"
Series 6 - up to 20 Kg / 44 lbs, 2190 mm / 86"

3

Choose Your vertical lift arm
What overall reach & vertical distance do you need?

4

Choose your Head Member
Hold it with a vertical head?
Hold it with a vertical or horizontal head? Or an orbital attachment?

5

Choose a Brake option

Do you need manual brakes?
Pneumatic brakes?
Or without brakes?

2

Choose your base

What type of mount do you need? Bottom, Top or Adjustable Height Base

OR YOU CAN CONTACT US AND WE WILL ENGINEER A SOLUTION FOR YOU!



Series 1

Weight Range
0-10 Kg / 22 lbs.
According Damper Weight Range

Maximum Reach
1120 mm / 44"

Vertical Distance
1070mm / 42"

Top & Bottom Mount

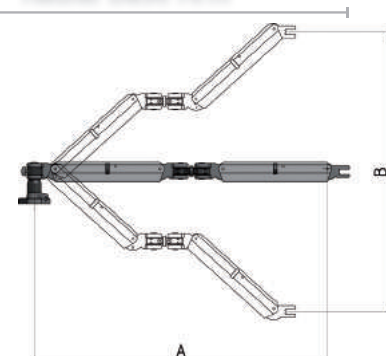
Build an ergonomic solution

Pick your Radial Base Arm

Pick your Head Member



Radial Base Arm



Arm Dimensions

Radial Base Arm	A (Maximum Reach)	B (Vertical Distance)
1SN+1DS	1120 mm / 44"	1070 / 42"

Stationary

A1 Vertical



B1 Flat



C1 Adjustable



Articulating

D1 Vertical



E1 Flat



F1 Adjustable



Orbital Attachment

G1, X1 Quik change Gimbal



N1 Pistol-Style Tool Holder with Quick-Change Gimbal



T1 Pistol-Style Tool Holder



WORK TYPE	Max TORQUE. Nm
	S4**
VERTICAL	300
HORIZONTAL	250
Any Angle	200

WORK	HEAD Member	S4**
	VERTICAL	
	B4: STATIONARY FLAT+ RING	300
	E4: ARTICULATED FLAT + RING	120
	HORIZONTAL	
	B4: STATIONARY FLAT + RING	250
	E4: ARTICULATED FLAT + RING	120
	ANY ANGLE	
	E: ARTICULATED FLAT + RING	120
	R4: REVOLVING	200

**S4 -REQUIRED LOCKING

Damper Weight Range

Head Type	A4	B4
SERIES 4 DM + Head type		
	Min	Max
	1	3
	1	3
	2	5
	3	6
	4	8
	5	9
	5	10
	6	12
	7	13
	7	13
	8	15
	9	16
	10	18
	11	19
	11	20
	12	21
	12	22
	13	23
	14	24
SERIES 4 DS + Head type	2	4
	3	6
	3	7
	4	9
	6	11
	7	13
	8	14
	9	16
	10	18
	11	20
	12	21

C4 	D4 	E4 	L4 	M4 	1Kg
F4 	I4 	J4 	N4 		2Kg
G4, H4, X4 	T4, U4 				3Kg
R4 					4Kg

* Add the head weight to the weight tool.
Look for the weight range wished in the table

* Ex.:
Head F4..... 2 Kg
Tool 5 Kg
Total: 7 Kg

Right choice:
5 - 9
5 - 10

Series 4

Weight Range
0-24 Kg / 53 lbs.
According Damper Weight Range

Maximum Reach
1460 mm / 58"

Vertical Distance
1375 mm / 54"

Top & Bottom Mount

Build an ergonomic solution

Pick your Base Arm

+

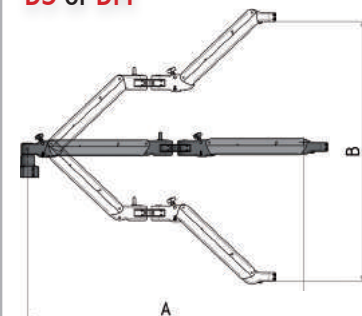
Pick your Head Member

+

Pick your Brakes

Radial Base Arm

DS or DM



Arm Dimensions

Radial Base	A (Maximum Reach) mm./inches	B (Vertical Distance) mm./inches	Weight Range Kg./lbs
DS	1220/48"	1020/40"	21/46
DM	1460/57.5"	1375/54"	24/53

Stationary

A4 Vertical



B4 Vertical



C4 Adjustable



Articulating

D4 Vertical



E4 Flat



F4 Adjustable



R4 Adjustable



L4 Adjustable



Orbital Attachment

G4, H4, X4 Quick-Change Gimbal



I4 Flat Locatable Surface



J4 Flat Vertical Surface



N4 Pistol-Style Tool



T4, U4 Pistol-Style Tool Holder



Brakes

L00 None

L22 Pneumatic

L92 Brakes lock by tool trigger

Head Type	A1	B1
Load Range Kg	Min	Min
SERIES 1 TOP & BOTTOM Mount 1SN + 1 DS + Head type	0	0,9
	0,7	2,1
	1,4	3,2
	2,1	4,3
	2,8	5,5
	3,6	6,7
	4,3	7,7
	5	8,9
	5,7	10

Damper Weight Range

C1	D1	E1	0,5 Kg
F1	T1	1 Kg	
N1	1,5 Kg		
G1/X1	2 Kg		

* Add the head weight to the weight tool.
Search for the weight range wished in the table

* Ex.:
Head G1 2 Kg
Tool 3 Kg
Total 5 Kg

Right choices:
3,6 - 6,7
4,3 - 7,7



Series 2

Weight Range
0-6 Kg / 13 lbs.
According Damper Weight Range

Maximum Reach
860 mm / 34"

Vertical Distance
530 mm / 22"

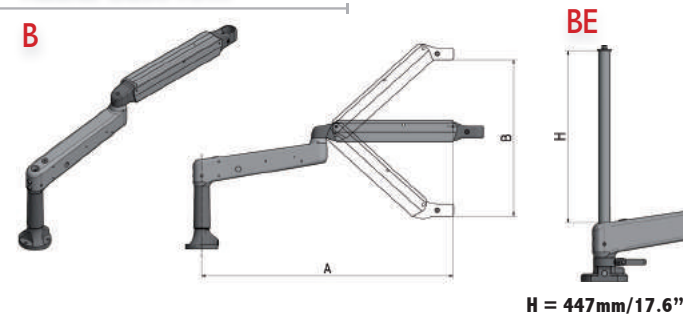
Build an ergonomic solution

Pick your Radial Base Arm

Pick your Head Member

+

Radial Base Arm



Arm Dimensions

Radial Base	A (Maximum Reach)	B (Vertical Distance)
B	860 / 33.9"	530 mm / 21"
BE	860 / 33.9"	530 mm / 21"

Stationary

A2 Vertical



B2 Flat



C2 Adjustable



Articulating

D2 Vertical



E2 Flat



F2 Adjustable



Orbital Attachment

G2, X2 Quik change Gimbal



N2 Pistol Style tool holder



3arm Pictured
B+G2
Tool not included

Damper Weight Range

Head Type	Damper Weight Range	
	A3	B3
Load Range Kg	Min	Max
	1	3
	1	3
	2	5
	3	6
	4	8
	5	9
	5	10
	6	12
	7	13
	7	13
	8	15
	9	16
	10	18
	11	19
	11	20
	12	21
	12	22
	13	23
	14	25
	15	26
	16	27
	17	29
	17	30
	18	31
	18	32
	19	33
	20	35

SERIES 3 TOP & BOTTOM Mount

AS or PS + BS + Head type / AL or BL + BS + Head type

Head Type	Damper Weight Range	
	A3	B3
Load Range Kg	Min	Max
	0	3
	1	4
	1	5
	2	5
	2	6
	2	7
	3	7
	3	8
	4	9
	4	10
	5	10
	5	11
	6	12
	6	13
	7	14
	7	14
	8	15
	8	16
	8	17
	9	17
	9	18

SERIES 3 TOP & BOTTOM Mount

AS or PS + BM + Head type / AL or PL + BM + Head type

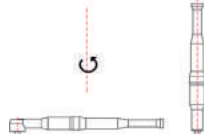
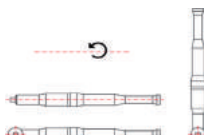
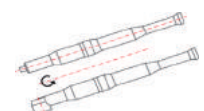
C3	D3	E3	L3	M3	1Kg
F3	I3	J3	N3, Q3		2Kg
G3, H3, X3	T3, U3				3Kg
R3					4Kg

* Add the head weight to the weight tool.
Look for the weight range wished in the table

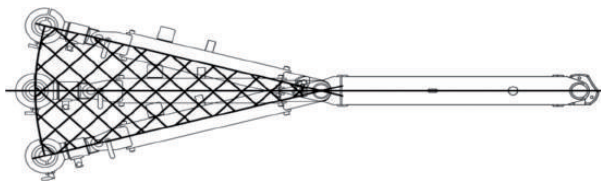
* Ex.:
Head F3 2 Kg
Tool 5 Kg
Total: 7 Kg

Right choice:
5 - 9
5 - 10

WORK TYPE	Max TORQUE. Nm
	S3*
VERTICAL	650
HORIZONTAL	250
ANY ANGLE	200

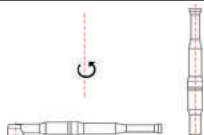
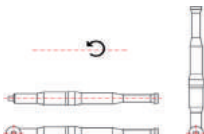
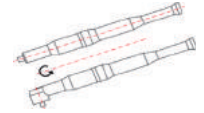
WORK	HEAD Member	S3*
	VERTICAL	
	B3: STATIONARY FLAT + RING	650
	E3: ARTICULATED FLAT + RING	120
	R3: REVOLVING	300
	HORIZONTAL	
	B3: STATIONARY FLAT + RING	250
	E3: ARTICULATED FLAT + RING	120
	R3: REVOLVING	250
	ANY ANGLE	
	E3: ARTICULATED FLAT + RING	120
	R3: REVOLVING	200

*S3 -RECOMMENDED LOCKING



UNUSABLE AREA WITHOUT LOCKING

WORK TYPE	Max TORQUE. Nm
	S2
VERTICAL	120
HORIZONTAL	60/90 straight/angular
ANY ANGLE	60

WORK	HEAD Member	S2
	VERTICAL	
	B2: STATIONARY FLAT + RING	120
	E2: ARTICULATED FLAT + RING	60
	HORIZONTAL	
	B2: STATIONARY FLAT + RING	90
	E2: ARTICULATED FLAT + RING	60
	ANY ANGLE	
	E2: ARTICULATED FLAT + RING	60

Damper Weight Range

Head Type	A2	B2
		
SERIES 2 TOP & BOTTOM Mount B + Head Type	Load Range Kg	Min
		Min
		0
		0,3
		0,6
		0,8
		1,1
		1,7
		2,3
		2,9
		3,5
		0,6
		1,1
		1,5
		2
		2,4
		3,3
		4,2
		5,1
		6

**C2**

**D2**

**E2**

0,5 Kg

**F2**

1 Kg

**N2**

1,5 Kg

**G2**

2 Kg

* Add the head weight to the weight tool.
Search for the weight range wished in the table

* Ex.:
Head G2 2 Kg
Tool 3 Kg
Total 5 Kg

Right choices:
3,6 - 6

Series 3

Weight Range
0-35 Kg / 77 lbs.
According Damper Weight Range

Maximum Reach
1730 mm / 68"

Vertical Distance
1070 mm / 42"

Top & Bottom Mount

Build an ergonomic solution

Pick your Base Arm

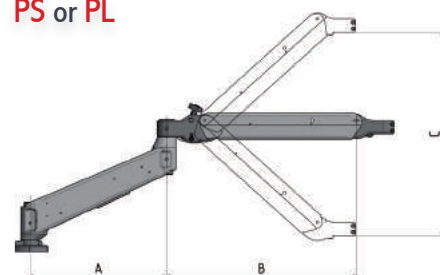
Pick your Tilt Arm

Pick your Head Member

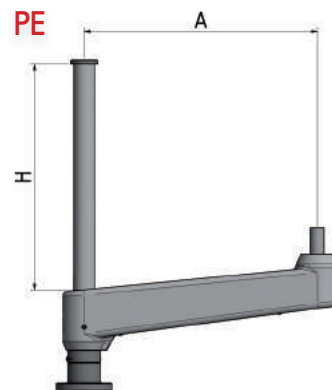
Pick your Brakes

Bottom Radial Base Arm

PS or PL



PE



H = 482mm./19"

Arm Dimensions

Radial Base	A (Length) mm./inches	Tilting Arm mm./inches	B (Length) mm./inches	C (Vertical Distance) mm./inches	Maximum Reach mm./inches
PS	450/17.7"	BS 625/24"	BM 925/36"	670/26" 1070/42"	1075/42" 1375/54"
PL	808/31.8"	BS 610/24.0"	BM 910/35.8"	707/27.8" 1130/44.5"	1430 / 56" 1730/67.6"
PE	500/19.7"	BS 610/24.0"	BM 910/35.8"	707/27.8" 1130/44.5"	1125/44" 1425/56"

Vertical Tilt Arm

BS Small (Length 625 mm / 24", up to 35 Kg/77 lbs)

BM Medium (Length 925 mm /36", up to 18 Kg /40 lbs)

Stationary

A3 Vertical



B3 Vertical



C3 Adjustable



Articulating

D3 Vertical



E3 Flat



F3 Adjustable



R3 Adjustable



L3 Adjustable



Orbital Attachment

G3, H3, X3 Quick-Change Gimbal



I3 Flat Locatable Surface



J3 Flat Vertical Surface



N3, Q3 Pistol-Style Tool



M3 Constant-Pressure Tool Holder



T3, U3 Pistol-Style Tool Holder



Brakes

L00 None

L11 Manual

L22 Pneumatic

L50 Manual Lock at Base

L92 Brakes lock by tool trigger

