

**Fig. 1**  
Holding tools in an ergonomically neutral position

Ergonomics deals with the interactions between operators and their work equipment, work environment and work process

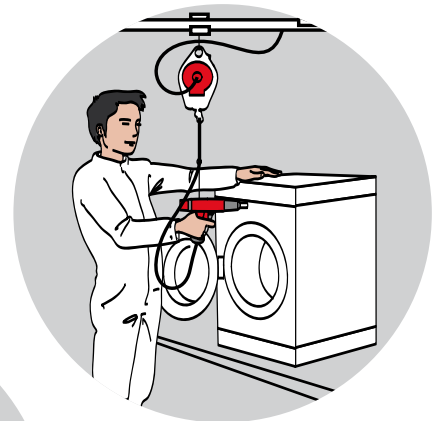
Ergonomically designed work systems enhance safety, effectiveness and efficiency, improve human working and living conditions, and counteract adverse effects on human health and performance

Desoutter has been developing products to improve the comfort of use and counter balance some of the below situations:

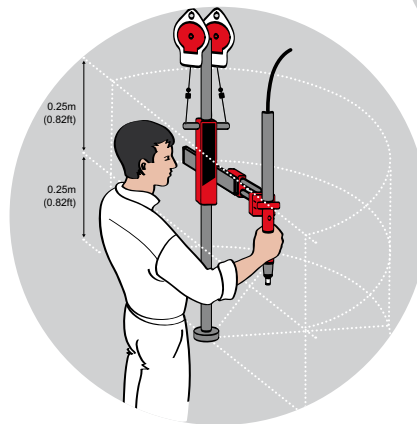
1. Hand position on the tool: based on application a straight or pistol grip tool is suggested (Fig. 1)
2. Tool position in the workspace: easy to reach and at the right height to minimize the unnecessary movement of the operator (Fig. 2 and 3)
3. Forces exerted: pulling force, torque reaction and the repetitiveness of these forces (Fig. 2 and 3)

The potential benefits of using Desoutter ergonomic accessories together with tools as described in this brochure are:

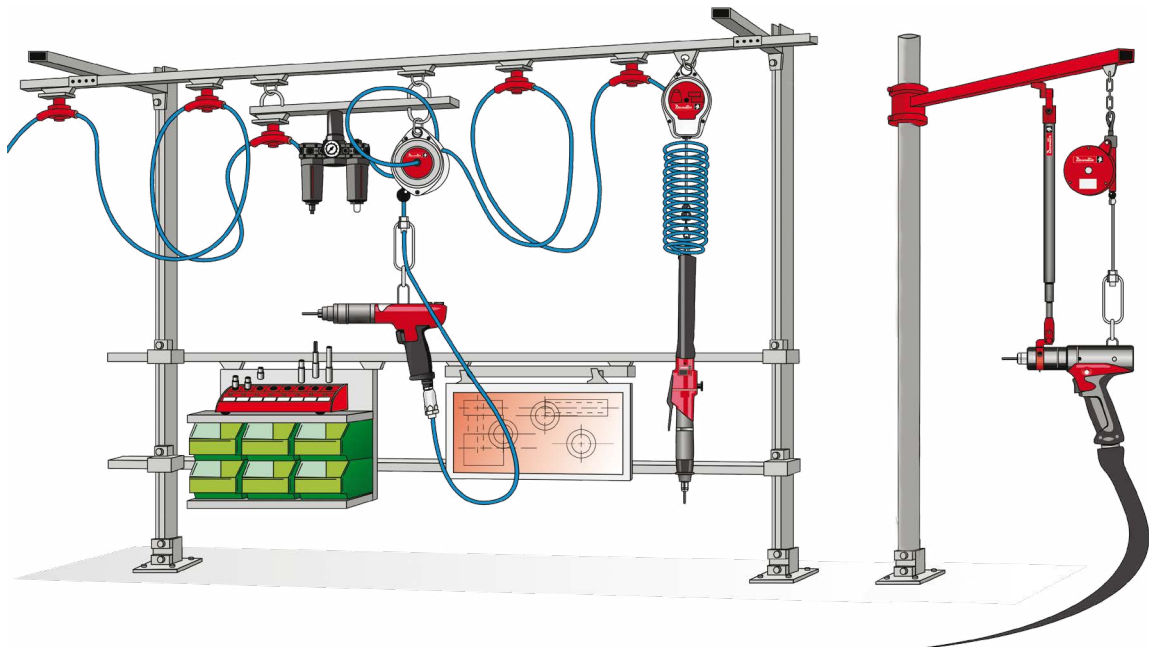
- Reduce repetitive stress injuries (RSI)
- Reduced operator fatigue
- Greater productivity
- Improved quality
- Reduced handling time
- Greater operator satisfaction
- Lower recruitment costs



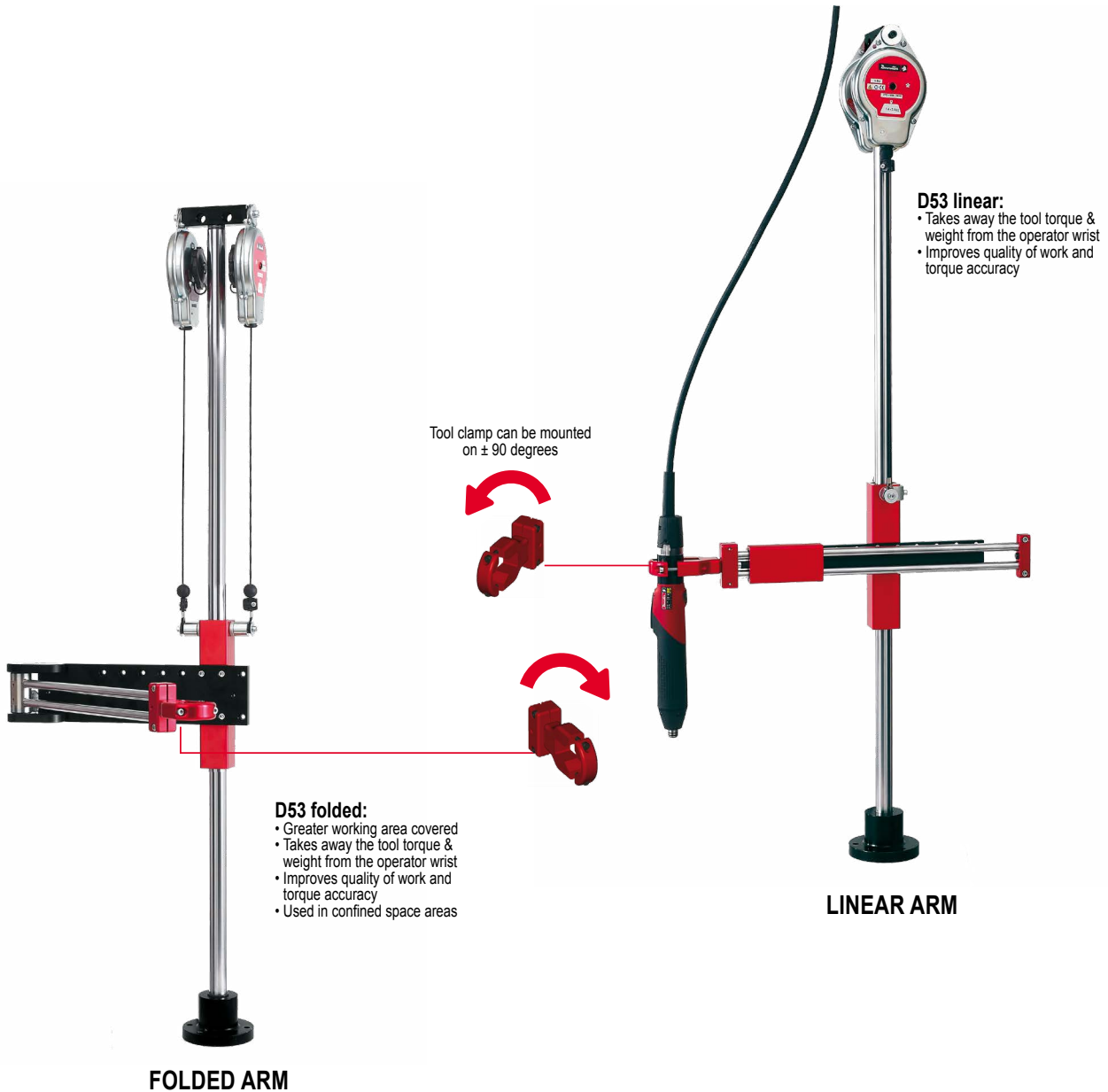
**Fig. 2**  
Desoutter balancer



**Fig.3**  
Desoutter torque reaction arm



# Linear and Folded torque reaction arms

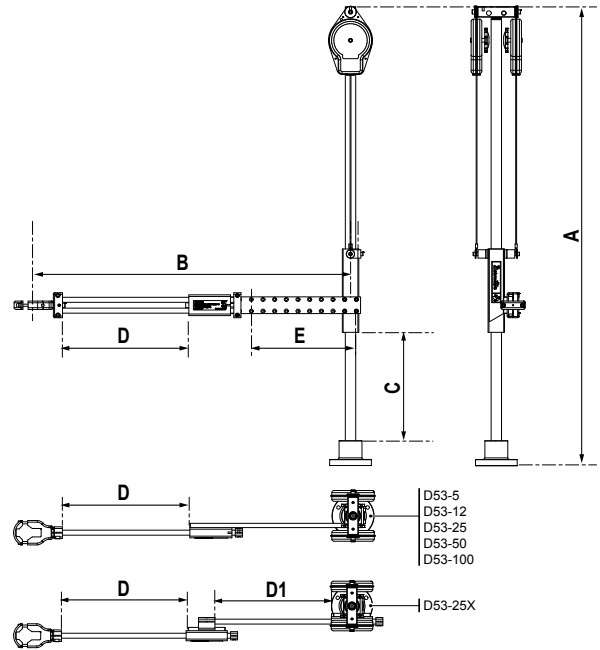
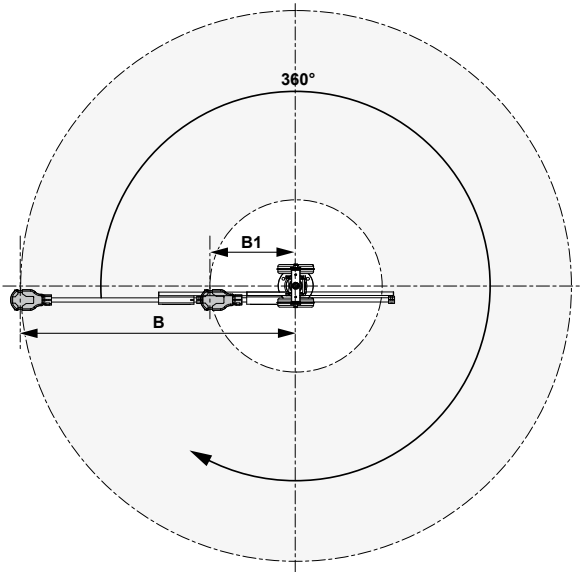


For full tool clamp program, please see details on page 162

MODEL	PART NUMBER	MAXIMUM TORQUE		MAXIMUM TOOL WEIGHT		ARM EQUIPPED WITH	TOOL CLAMP DIAMETER (INCLUDED WITH THE ARM)	
		Nm	ft. lb	kg	lb.		mm	in.
<b>LINEAR ARM</b>								
D53-5*	615 810 700 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12*	615 810 701 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25*	615 810 702 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25X Extended reach*	615 810 703 0	25	18.4	2.2	4.8	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50	615 810 704 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100	615 810 705 0	100	73.7	6.0	13.2	2 x 22D		
<b>FOLDED ARM</b>								
D53-5S*	615 810 706 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12S*	615 810 707 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25S*	615 810 708 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50S	615 810 709 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100S	615 810 710 0	100	73.7	6.0	13.2	2 x 22D		

(\*) Universal D53 tool clamp included

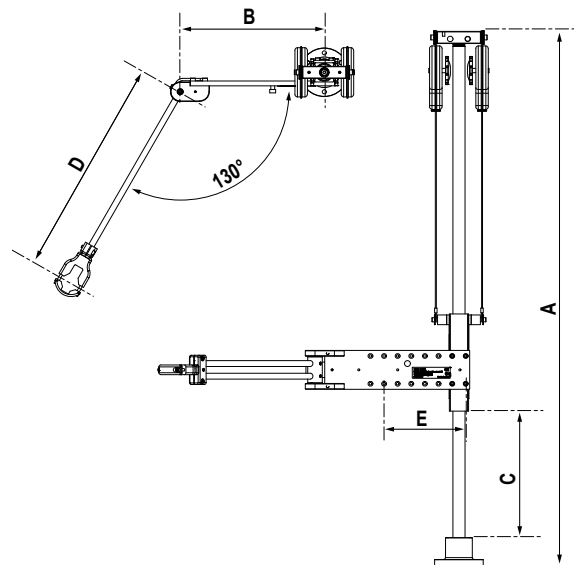
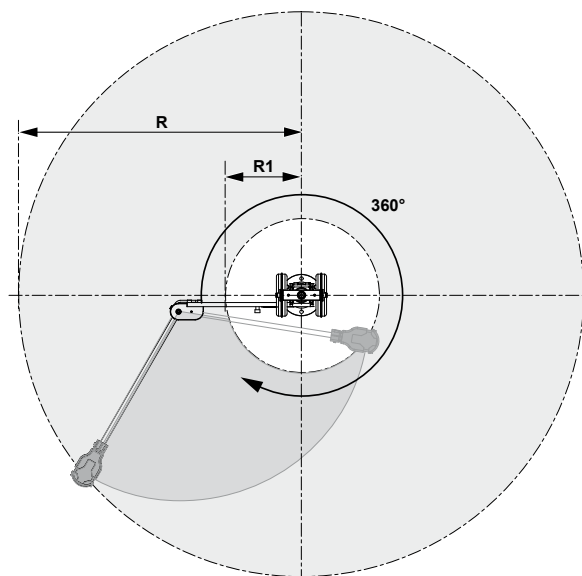
# D53 - Dimensions



## D53 linear working area product specification

MODEL	PART NUMBER	MAXIMUM TORQUE		HEIGHT A		WIDTH				VERTICAL STROKE C		HORIZONTAL STROKE			FIXED STROKE E		TOOL WEIGHT MAX		
		Nm	ft. lb	mm	in	MAXI-B	MINI-B	mm	in	mm	in	mm	in	mm	in	kg	lb		
D53-5	615 810 700 0	5	3.7	732	28.8	592*	23.3*	220*	8.7*	310	12.2	205	8.1	-	-	168	6.6	0.8	1.76
D53-12	615 810 701 0	12	8.9	888	35.0	710*	28*	260*	10.2*	465	18.3	255	10.0	-	-	196	7.7	1.5	3.3
D53-25	615 810 702 0	25	18.4	1132	44.6	779*	30.7*	231*	9.1*	615	24.2	290	11.4	-	-	252	9.9	2.5	5.5
D53-25X	615 810 703 0	25	18.4	1132	44.6	794*	31.2*	230*	9.0*	615	24.2	290	11.4	275	10.8	-	-	2.2	4.85
D53-50	615 810 704 0	50	36.9	1147	45.2	888*	35.0*	267**	10.5**	515	20.3	355	14.0	-	-	266	10.5	5.0	11.0
D53-100	615 810 705 0	100	73.8	1147	45.2	916*	36.0*	255**	10.0**	515	20.3	395	15.6	-	-	266	10.5	6.0	13.2

(\* With clamp - (\*\*) Without clamp



## D53 folded working area product specification

MODEL	PART NUMBER	MAXIMUM TORQUE		HEIGHT A		WIDTH B		VERTICAL STROKE C		RADIUS D		FIXED STROKE E		RADIUS R		RADIUS R1		TOOL WEIGHT MAX	
		Nm	ft. lb	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
D53-5S	615 810 706 0	5	3.7	732	28.8	248	9.76	270	10.6	370*	14.6*	168	6.6	546	21.5	140	5.5	0.8	1.76
D53-12S	615 810 707 0	12	8.9	888	35.0	298	11.73	425	16.7	420*	16.5*	168	6.6	639	25.2	146	5.8	1.5	3.3
D53-25S	615 810 708 0	25	18.4	1132	44.6	296	11.65	580	22.8	470*	18.5*	168	6.6	685	27	183	7.2	2.5	5.5
D53-50S	615 810 709 0	50	36.9	1147	45.2	336	1.1	520	20.5	440**	17.3**	228	9.0	698	27.5	154	6.1	5.0	11.0
D53-100S	615 810 710 0	100	73.8	1147	45.2	391	15.4	500	19.7	490**	19.3**	228	9.0	788	31	158	6.2	6.0	13.2

(\* With clamp - (\*\*) Without clamp

# Linear high torque reaction arms



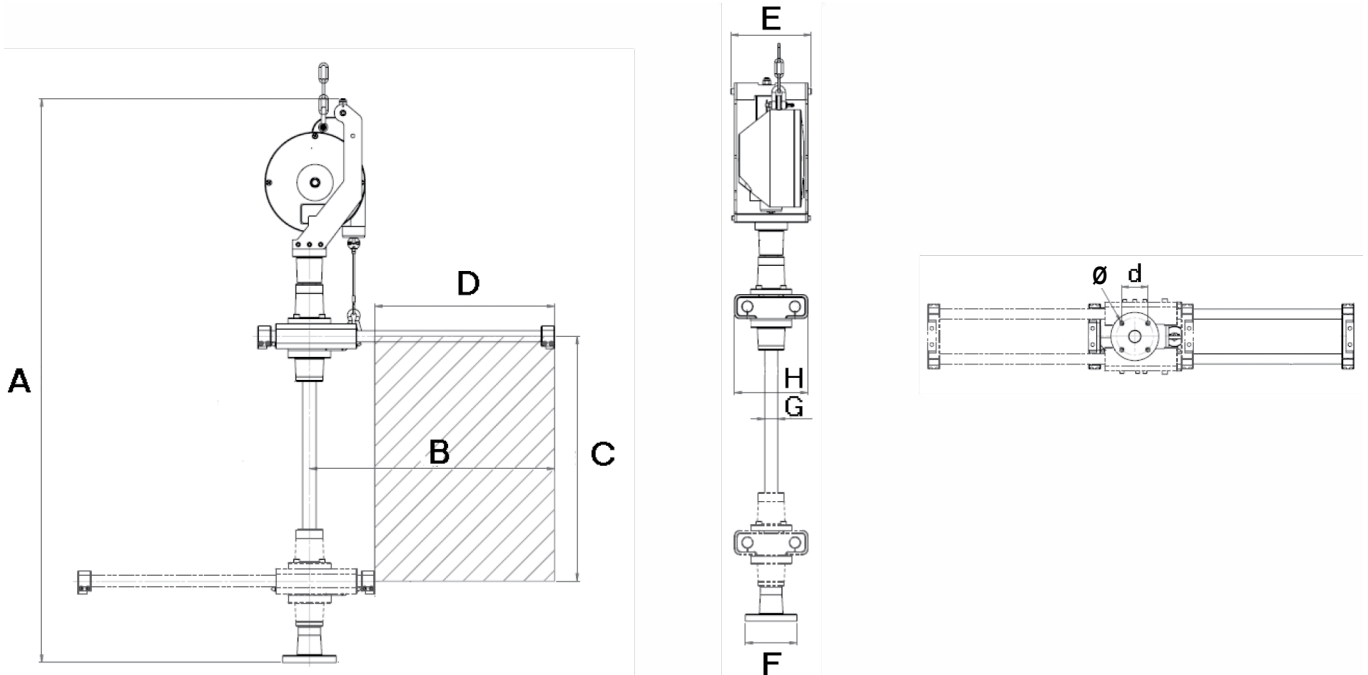
### D53-150/1000 linear:

- High torque arms from 150 to 1000Nm (111 to 740 ft.lb)
- Standard and extended versions

MODEL	PART NUMBER	MAXIMUM TORQUE		MAXIMUM TOOL WEIGHT		BALANCER INCLUDED	TOOL CLAMP DIAMETER
		Nm	ft. lb	kg	lb.		
D53-150	615 811 658 0	150	111	7	15.4	1 x 14DF	To order separately contact your Desoutter representatives
D53-150XL	615 811 659 0	150	111	6	13.2	1 x 14DF	
D53-300	615 811 660 0	300	222	14	30.9	1 x 25DF	
D53-300XL	615 811 661 0	300	222	12.5	27.6	1 x 25DF	
D53-500	615 811 662 0	500	370	30	66.2	1 x 45DF	
D53-500XL	615 811 663 0	500	370	27.4	60.4	1 x 45DF	
D53-1000	615 811 664 0	1000	740	21	46.3	1 x 45DF	
D53-1000XL	615 811 665 0	1000	740	17.8	39.3	1 x 45DF	



# D53HT - Dimensions



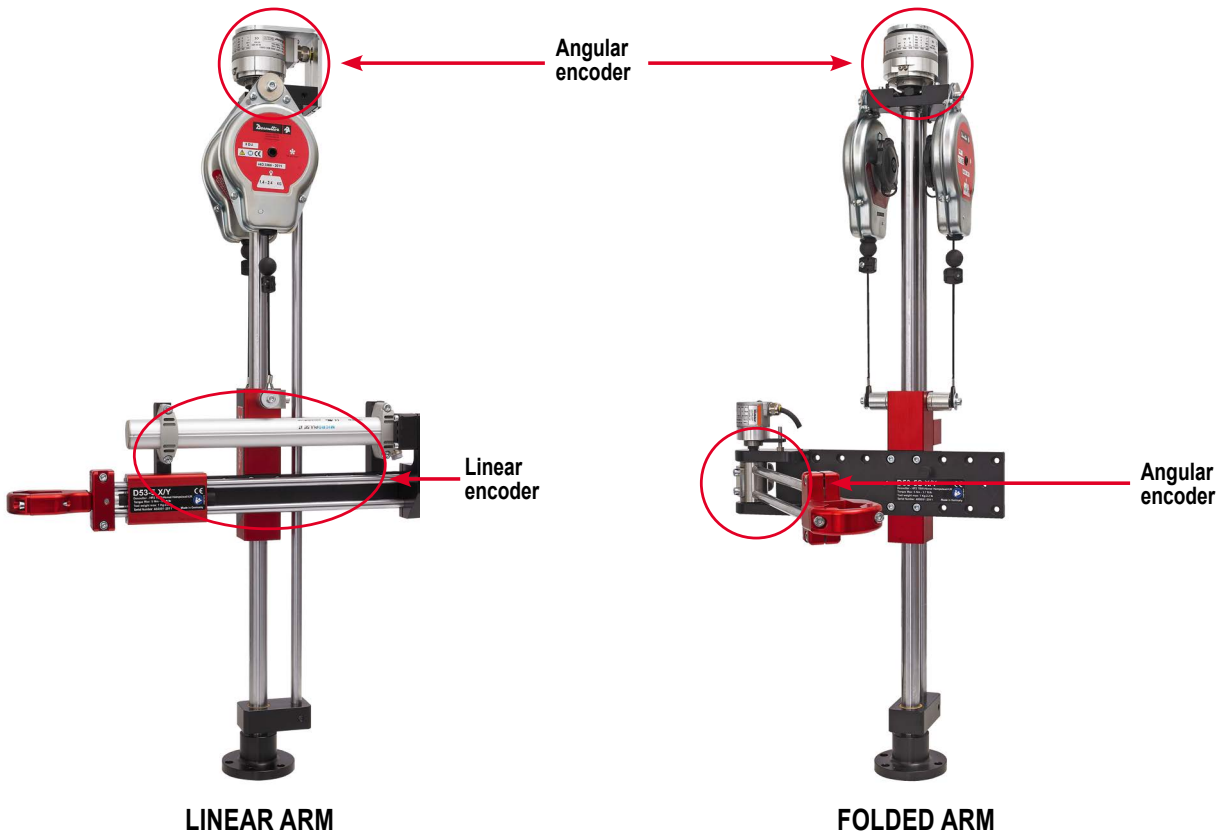
MODEL	PART NUMBER	HEIGHT		WIDTH (WO/CLAMP)				VERTICAL STROKE				TOOL WEIGHT	
		A		MIN-B		MAX-B		MIN-C		MAX-C		kg	lb
		mm	in	mm	in	mm	in	mm	in	mm	in		
D53-150	615 811 658 0	1049	41.3	240	9.4	600	23.6	154.5	6.1	644	25.4	7	15.4
D53-150XL	615 811 659 0	1159	45.6	240	9.4	840	33.1	154.5	6.1	754	29.7	6	13.2
D53-300	615 811 660 0	1216	47.9	260	10.2	660	26.0	180.0	7.1	720	28.3	14	30.9
D53-300XL	615 811 661 0	1296	51	260	10.2	860	33.9	180.0	7.1	780	30.7	12.5	27.6
D53-500	615 811 662 0	1346	53	290	11.4	730	28.7	209.5	8.2	815	32.1	30	66.2
D53-500XL	615 811 663 0	1561	61.5	290	11.4	1090	42.9	209.5	8.2	1009	39.7	27.4	60.4
D53-1000	615 811 664 0	1556	61.3	320	12.6	800	31.5	278.5	11.0	968	38.1	21	46.3
D53-1000XL	615 811 665 0	1691	66.6	320	12.6	1120	44.1	278.5	11.0	1078	42.5	18	39.3

MODEL	HORIZONTAL STROKE									
	D		E		F		G		H	
	mm	in	mm	in	mm	in	mm	in	mm	in
D53-150	360	14.4	170	6.7	90	3.5	25	1.0	150	5.9
D53-150XL	600	24	170	6.7	90	3.5	25	1.0	150	5.9
D53-300	400	16	186	7.3	119	4.7	30	1.2	170	6.7
D53-300XL	600	24	186	7.3	119	4.7	30	1.2	170	6.7
D53-500	440	17.6	180	7.1	119	4.7	40	1.6	170	6.7
D53-500XL	800	32	180	7.1	119	4.7	40	1.6	170	6.7
D53-1000	480	19.2	182	7.2	129	5.1	50	2.0	220	8.7
D53-1000XL	800	32	182	7.2	129	5.1	50	2.0	220	8.7

MODEL	D		Ø		ARM WEIGHT	
	mm	in	mm	in	kg	lb
D53-150	50	2.0	11	0.4	12.5	27.6
D53-150XL	50	2.0	11	0.4	13.7	30.2
D53-300	65	2.6	11	0.4	26.7	58.9
D53-300XL	65	2.6	11	0.4	28.2	62.2
D53-500	65	2.6	11	0.4	40.9	90.2
D53-500XL	65	2.6	11	0.4	43.7	96.3
D53-1000	72	2.8	13.5	0.5	57.9	127.7
D53-1000XL	72	2.8	13.5	0.5	61.5	135.7

# D53 X/Y - Positioning arms for Posco 500

- D53 X/Y stands allows to track the tool position during assembly process
- Same tool stand as D53 standard one
- 2 different versions with encoders
- This arm is intended to be used together with our POSCO 500 to program a complete fastening sequence
- Linear arm: Linear/Angular/Encoders
- Swivel arm: Angular/Angular/Encoders

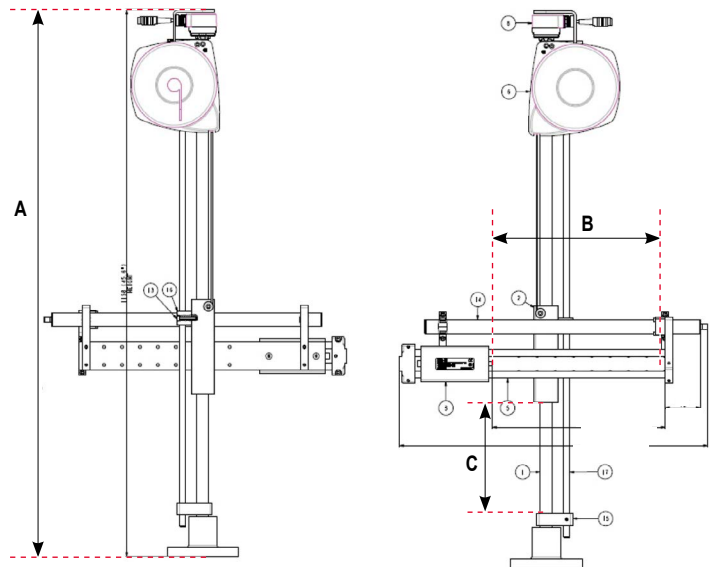
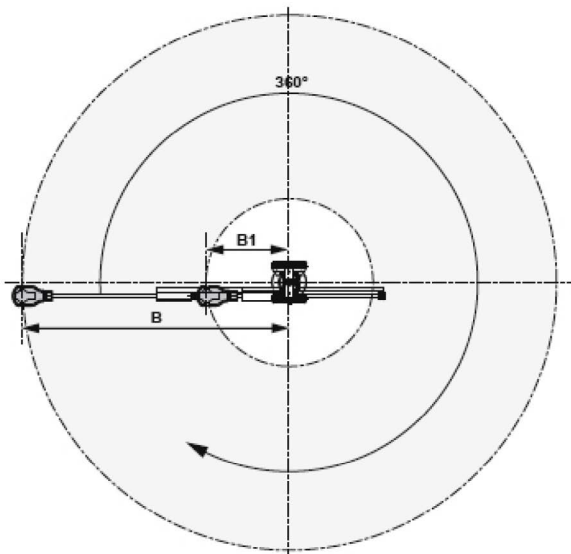


For full tool clamp program, please see details on page 154

MODEL	PART NUMBER	MAXIMUM TORQUE		MAXIMUM TOOL WEIGHT		ARM EQUIPPED WITH	TOOL CLAMP DIAMETER (INCLUDED WITH THE ARM)	
		Nm	ft.lb	kg	lb.		mm	in.
<b>LINEAR ARM</b>								
D53-5 X/Y AXLE*	615 397 874 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12 X/Y AXLE*	615 397 875 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25 X/Y AXLE*	615 397 876 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50 X/Y AXLE*	615 397 877 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100 X/Y AXLE*	615 397 878 0	100	73.7	6.0	13.2	2 x 22D		
<b>FOLDED ARM</b>								
D53-5S X/Y AXLE*	615 397 879 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12S X/Y AXLE*	615 397 880 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25S X/Y AXLE*	615 397 881 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50S X/Y AXLE	615 397 882 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100S X/Y AXLE	615 397 883 0	100	73.7	6.0	13.2	2 x 22D		

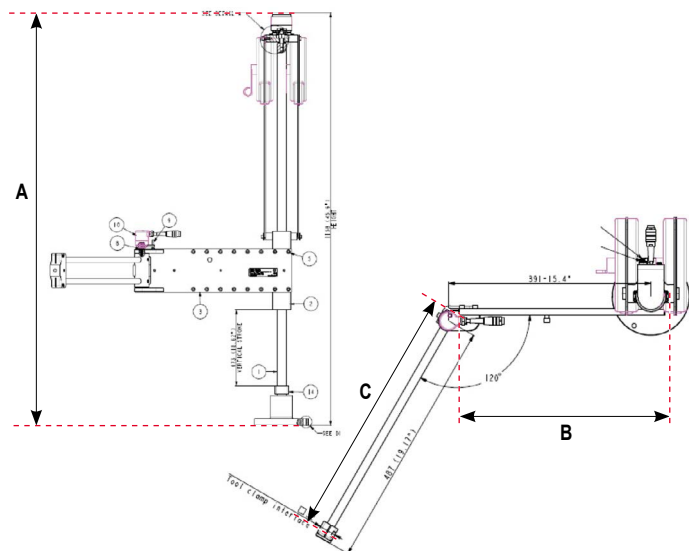
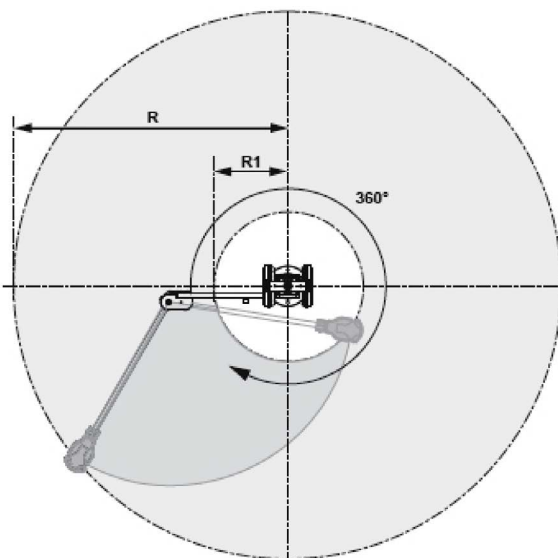
(\*) Universal D53 tool clamp included

# D53 X/Y - Dimensions



## Linear arm

MODEL	PART NUMBER	A		B		C	
		mm	in.	mm	in.	mm	in.
D53-5 X/Y-AXLE	615 397 874 0	789	31.1	206.5	8.1	281	11.1
D53-12 X/Y-AXLE	615 397 875 0	945	37.2	238.5	9.4	436	17.2
D53-25 X/Y-AXLE	615 397 876 0	1189	46.8	291.5	11.5	586	23.1
D53-50 X/Y-AXLE	615 397 877 0	1189	46.8	259.5	10.2	486	19.1
D53-100 X/Y-AXLE	615 397 878 0	1189	46.8	398.5	15.7	486	19.1



## Folded arm

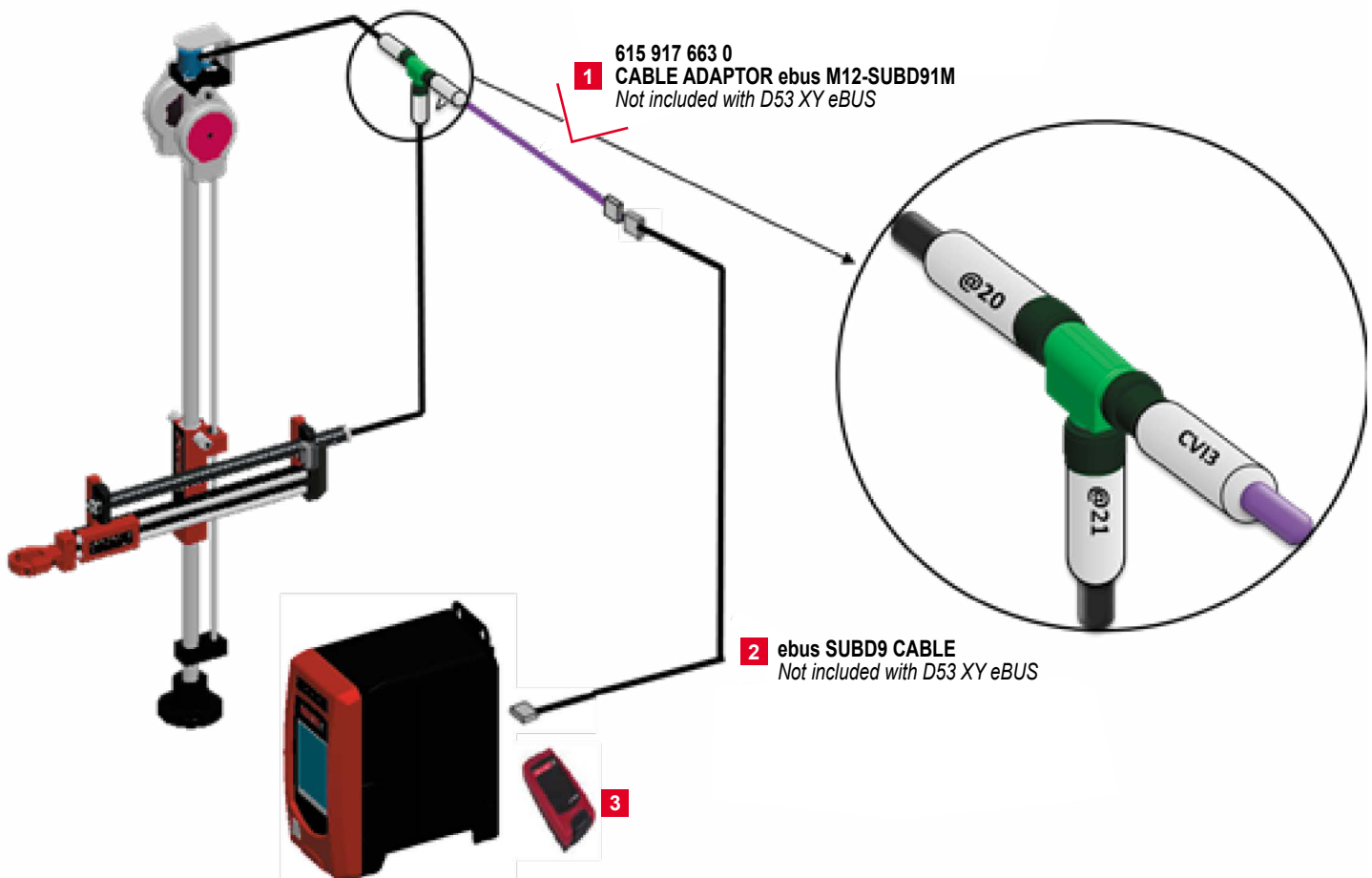
MODEL	PART NUMBER	A		B		C		R		R1	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
D53-5S X/Y AXLE	615 397 879 0	789	31.1	248	9.8	370	14.6	546	21.5	140	5.5
D53-12S X/Y AXLE	615 397 880 0	945	37.2	298	11.7	420	16.5	639	25.2	146	5.8
D53-25S X/Y AXLE	615 397 881 0	1158	45.6	296	11.6	470	18.5	685	27	183	7.2
D53-50S X/Y AXLE	615 397 882 0	1158	45.6	336	13.2	440	17.3	698	27.5	154	6.1
D53-100S X/Y AXLE	615 397 883 0	1158	45.6	391	15.4	490	19.3	788	31	158	6.2

# D53 X/Y – Positioning arms for CVI3

- D53 X/Y CANopen stands allows to track the tool position during assembly process
- Same tool stand as D53 standard one
- 2 different versions with encoders
- This arm is intended to be used together with our CVI3 controller
- Connected directly to the CVI3 controller
- Needs ePOD 2 or higher
- Easy positioning learning mode

## ACCESSORIES NEEDED :

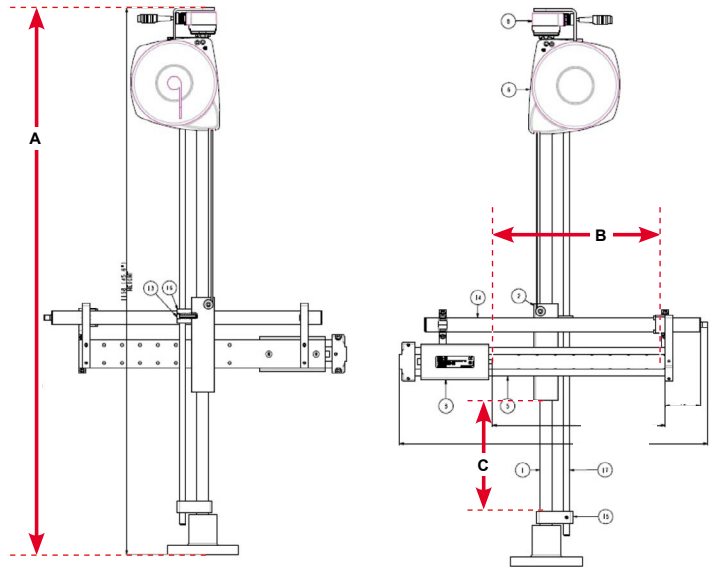
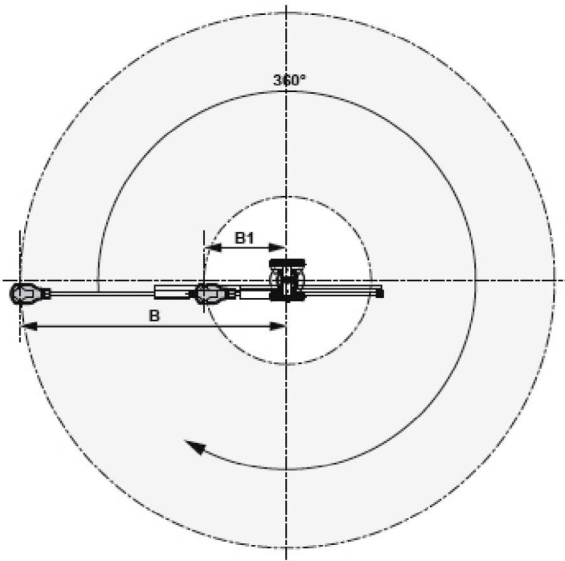
- 1** Cable adaptor EBUS M12 / SUBD9 6159176630
- 2** Select one of them :
  - eBUS SUBD9 cable 3m 6159176220
  - eBUS SUBD9 cable 5m 6159176230
  - eBUS SUBD9 cable 15m 6159176240
- 3** Select one ePOD :
  - ePOD2 6159360760
  - ePOD3 6159360770



MODEL	PART NUMBER	MAXIMUM TORQUE		MAXIMUM TOOL WEIGHT		ARM EQUIPPED WITH	TOOL CLAMP DIAMETER (INCLUDED WITH THE ARM)	
		Nm	ft. lb	kg	lb.		mm	in.
<b>LINEAR ARM</b>								
D53-5 X/Y-AXLE EBUS	615 812 267 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12 X/Y-AXLE EBUS	615 812 268 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25 X/Y-AXLE EBUS	615 812 269 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50 X/Y-AXLE EBUS	615 812 270 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100 X/Y-AXLE EBUS	615 812 271 0	100	73.7	6.0	13.2	2 x 22D		
<b>FOLDED ARM</b>								
D53-5S X/Y-AXLE EBUS	615 812 272 0	5	3.7	0.8	1.8	1 x 5DU	28.5 - 41	1.12 - 1.62
D53-12S X/Y-AXLE EBUS	615 812 273 0	12	8.8	1.5	3.3	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-25S X/Y-AXLE EBUS	615 812 274 0	25	18.4	2.5	5.5	2 x 5DU	28.5 - 41	1.12 - 1.62
D53-50S X/Y-AXLE EBUS	615 812 275 0	50	36.8	5.0	11.0	2 x 15D	To order separately	
D53-100S X/Y-AXLE EBUS	615 812 276 0	100	73.7	6.0	13.2	2 x 22D		

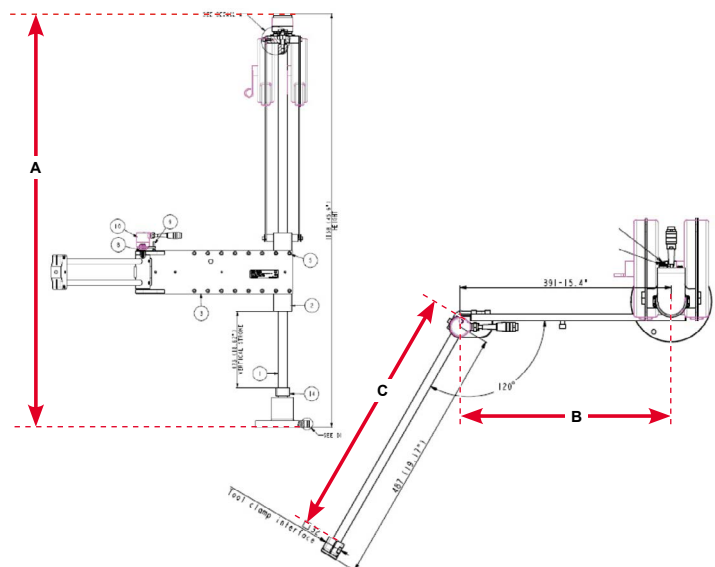
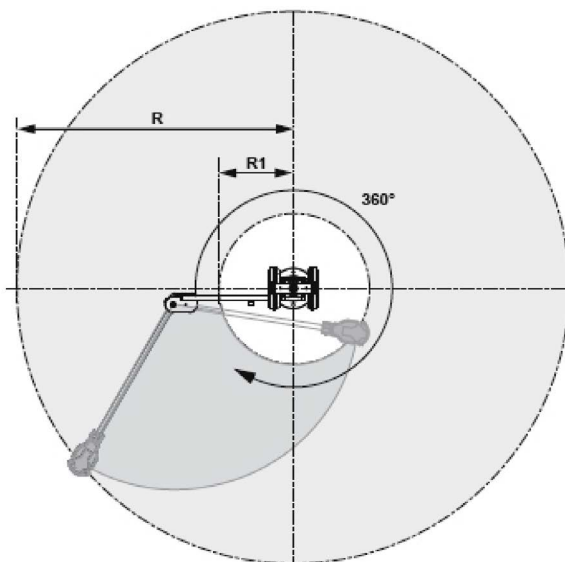


# D53 X/Y – Positioning arms for CVI3



## Linear arm

MODEL	PART NUMBER	A		B		C	
		mm	in.	mm	in.	mm	in.
D53-5 X/Y-AXLE	615 397 874 0	789	31.1	206.5	8.1	281	11.1
D53-12 X/Y-AXLE	615 397 875 0	945	37.2	238.5	9.4	436	17.2
D53-25 X/Y-AXLE	615 397 876 0	1189	46.8	291.5	11.5	586	23.1
D53-50 X/Y-AXLE	615 397 877 0	1189	46.8	259.5	10.2	486	19.1
D53-100 X/Y-AXLE	615 397 878 0	1189	46.8	398.5	15.7	486	19.1



## Folded arm

MODEL	PART NUMBER	A		B		C		R		R1	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
D53-5S X/Y AXLE	615 397 879 0	789	31.1	248	9.8	370	14.6	546	21.5	140	5.5
D53-12S X/Y AXLE	615 397 880 0	945	37.2	298	11.7	420	16.5	639	25.2	146	5.8
D53-25S X/Y AXLE	615 397 881 0	1158	45.6	296	11.6	470	18.5	685	27	183	7.2
D53-50S X/Y AXLE	615 397 882 0	1158	45.6	336	13.2	440	17.3	698	27.5	154	6.1
D53-100S X/Y AXLE	615 397 883 0	1158	45.6	391	15.4	490	19.3	788	31	158	6.2

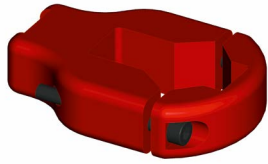
# Tool clamp guide for D53 arms

## Ordering Process:

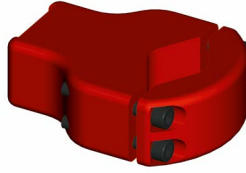
SELECT YOUR TOOL	SELECT THE ARM ACCORDING TO: - THE TORQUE APPLICATION - THE REACH NEEDED		ADD THE TOOL CLAMP IF NOT INCLUDED WITH THE ARM				ADD ADAPTORS IF YOU USE ROTATION CLAMPS
STEP 1	STEP 2		STEP 3				STEP 4
TOOL MODEL	D53 MODELS		TOOL CLAMP REFERENCES				COMMENTS
	Linear arms	Swiveling arms	Universal Clamp	Spline	Vertical 2 axis rotation clamp Only for D53-12(S) and D53-25(S)	Horizontal 1 axe rotation clamp Only for D53-12(S) and D53-25(S)	Horizontal 2 axis rotation clamp Only for D53-12(S) and D53-25(S)
SB/SBP/SC2/SC/ SCP(T)SH70 SLBN SLC(P) Nose mount ECS/ERS/ECD 5	D53-5* / D53-12* / D53-25* * Tool clamp included	D53-5S* / D53-12S* / D53-25S* * Tool clamp included	615 810 835 0 Included (A) 28.5-41mm		615 396 615 0 + 409083 NOT Included To be ordered	615 396 615 0 + 409113 NOT Included To be ordered	615 396 615 0 + 409173 NOT Included To be ordered
SD/SDP/SDT ERP 3/5/10/20 ECP 3/5/10/20	D53-5* / D53-12* / D53-25* * Tool clamp included	D53-5S* / D53-12S* / D53-25S* * Tool clamp included	615 810 835 0 Included (A) 28.5-41mm		615 396 615 0 + 409093 NOT Included To be ordered	615 396 615 0 + 409123 NOT Included To be ordered	615 396 615 0 + 409183 NOT Included To be ordered
SLC Top mount	D53-5 / D53-12	D53-5S D53-12S	615 810 838 0 NOT Included To be ordered (B) 40-50 mm		615 396 615 0 + 409093 NOT Included To be ordered	615 396 615 0 + 409123 NOT Included To be ordered	615 396 615 0 + 409183 NOT Included To be ordered
ECA 15/20/30	D53-5 D53-12 D53-25	D53-5S D53-12S D53-25S	615 810 838 0 NOT Included To be ordered (B) 40-50 mm				
SH 150/200/280/420/500 SH 700/850 ERP 30/40 ERAL1.5/2 ECS/ERS	D53-25(X) D53-50 D53-100	D53-25S(X) D53-50S D53-100S		615 811 029 0 NOT Included To be ordered (B) 28-55 mm			
ERDL 4 ECD 50/70/120	D53-50 / D53-100	D53-50S D53-100S		615 810 203 0 NOT Included To be ordered (C)			
EID 44-1200 EID 75-900 EID 65-800	D53-50 / D53-100	D53-50S D53-100S		615 812 136 0 NOT Included To be ordered (C)			
ERDL 6	D53-100	D53-100S		615 810 205 0 NOT Included To be ordered (C)			
ECD20/30	D53-25(X) D53-50	D53-25S(X) D53-50S		615 810 628 0 + 615 396 191 0 NOT Included To be ordered (D)			Parts to be welded
ERAL 4-90/110/120 ERAL 6-135 ECA 70... 150	D53-100	D53-100S		615 810 628 0 + 615 396 227 0 NOT Included To be ordered (D)			Parts to be welded
EID25-1200 EID 32-900 EDP/ERDL 1.5/2	D53-50	D53-50S		615 810 628 0 + 615 396 551 5 NOT Included To be ordered (D)			Parts to be welded

For the tools not mentioned in this list, please ask your local Desoutter contact to define the tool clamp.

# Tool clamps



**A**



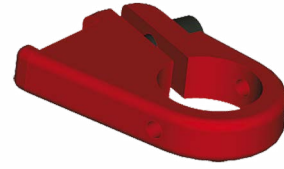
**B**



**C**



**D**



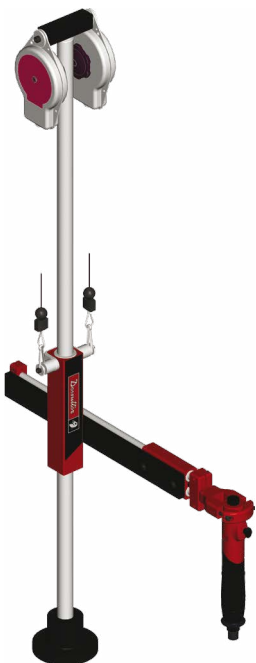
**E**

## Specific Clamps

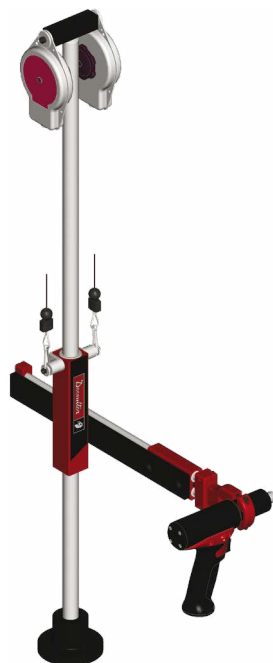
MODEL E	PART NUMBER
SB	615 810 123 0
SC2 / SBP / SCP(T) / SLB / ECS / SLC(P) SDP(T)	615 810 125 0
SD SH70/150/200/280 /420/500	615 810 129 0
SH700/850	615 810 131 0

## D53 Tool positioning

Straight tool



Pistol grip tool



Angle nutrunner

