

ADVANCED ERGONOMIC SOLUTIONS

**BNP s.r.l.**

Catalogue  
2020 - 2021

*“Meet manufacturing needs”*

**BNP s.r.l.**

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# **BNP s.r.l.**

**Catalogue  
2020 - 2021**

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BRT 10

BRT

BRT-SA

BRT-P2

BRT-P3

High torque BRT

BRT-V

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THBI

THR

Retractors and Balancers

Brackets

Articulated support SA

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## ***BRV***

BRV

BRV-SA

High torque BRV

***V1***

V2

V3

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## ***BRV Complements***

TH-BRV

THR

Retractors and Balancers

Brackets

Articulated support SA

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## ***BRF - BRL***

BRF

BRL

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## ***BRF - BRL Complements***

Retractors and Balancers

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Pick to Light	P011

## POSITIONING SYSTEM

**SP1**

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A photograph of an industrial factory floor. In the foreground, a black robotic arm with a textured grip extends from the left. In the background, an orange robotic arm is visible, with bright light reflecting off its joints. The ceiling is a complex grid of white metal beams. The overall scene is brightly lit, typical of a modern manufacturing environment.

# ***TORQUE REACTION ARMS***



# BRT

## Telescopic torque reaction arms

- ✦ **BRT 10**  
Telescopic torque reaction arms
- ✦ **BRT**  
Telescopic torque reaction arms
- ✦ **BRT-SA**  
Telescopic torque reaction arms for articulated support
- ✦ **BRT-P2**  
Telescopic torque reaction arms with encoders
- ✦ **BRT-P3**  
Telescopic torque reaction arms with encoders
- ✦ **High torque BRT**  
High torque telescopic torque reaction arms
- ✦ **BRT-V**  
Vertical telescopic torque reaction arms

# BRT 10

## Telescopic torque reaction arms

### When useful?

- Tightening direction perpendicular to the reaction arm
- Horizontal installation
- Vertical installation



### Features

- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness

### Complements:

- + Tool holder (included)
- + Balancer

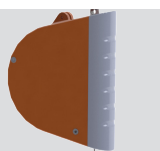


Arm	BNP p/n	Max torque		L min		L max		$\omega$ deg	Weight	
		Nm	f,lb	mm	in	mm	in		Arm Kg (Lb)	to balance Kg (Lb)
BRT10 1000	020.0001.000	10	7,38	495	19,49	1105	43,50	90	0,4 (.87)	*
BRT10 1500	020.0002.000	10	7,38	665	26,18	1605	63,19	90	0,45 (.99)	*

**Notes** \*: it depends on installation



**Balancer**  
Pag. T18





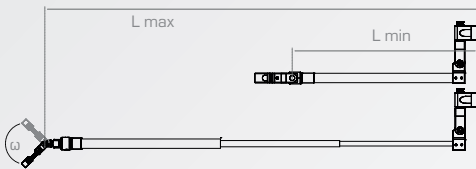
### When useful?

- Tightening direction perpendicular to the reaction arm
- Horizontal installation
- Vertical installation



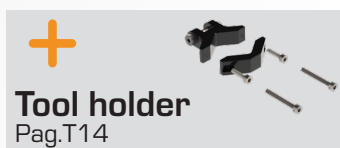
### Features

- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness



Arm	BNP p/n	Max torque		L min		L max		ω	Weight	
		Nm	f.lb	mm	in	mm	in		Arm Kg (Lb)	to balance Kg (Lb)
BRT15 1000	020.0003.000	15	11,06	486	19,13	1066	41,97	60	0,67 (1,47)	*
BRT15 1500	020.0004.000	15	11,06	646	25,43	1556	61,26	60	0,73 (1,60)	*
BRT15 2000	020.0005.000	15	11,06	806	31,73	2046	80,55	60	0,79 (1,73)	*
BRT40 1000	020.0006.000	40	29,50	486	19,13	1066	41,97	50	0,73 (1,62)	*
BRT40 1500	020.0007.000	40	29,50	646	25,43	1556	61,26	50	0,82 (1,81)	*
BRT40 2000	020.0008.000	40	29,50	806	31,73	2046	80,55	50	0,91 (2,01)	*
BRT40 2500	020.0009.000	40	29,50	986	38,82	2576	101,42	50	1 (2,20)	*
BRT80 1500	020.0010.000	80	59,00	658	25,91	1586	62,44	40	0,93 (2,05)	*
BRT80 2000	020.0011.000	80	59,00	828	32,60	2078	81,81	40	1,03 (2,27)	*
BRT80 2500	020.0012.000	80	59,00	998	39,29	2588	101,89	40	1,13 (2,49)	*
BRT150 1500	020.0013.000	150	110,63	668	26,30	1578	62,13	30	1,4 (3,08)	*
BRT150 2000	020.0014.000	150	110,63	838	32,99	1918	75,51	30	1,55 (3,41)	*
BRT150 2500	020.0015.000	150	110,63	1003	39,49	2248	88,50	30	1,72 (3,79)	*
BRT220 1500	020.0016.000	220	162,26	668	26,30	1578	62,13	20	1,59 (3,49)	*
BRT220 2000	020.0017.000	220	162,26	838	32,99	2088	82,20	20	1,78 (3,91)	*
BRT220 2500	020.0018.000	220	162,26	1003	39,49	2588	101,89	20	2 (4,40)	*

**Notes** \*: it depends on installation



**Standard purchase order:** BRT + tool holder + balancer



# BRT-SA

## SA compatible

### When useful?

This is a BRT telescopic arm optimized for the Articulated Support.

- Tightening direction perpendicular to the reaction arm
- Vertical installation



### Features

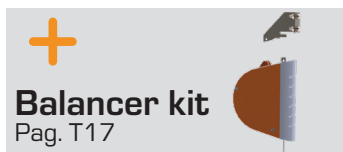
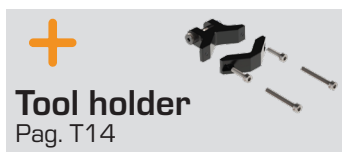
- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness

### Complements:

- + Tool holder
- + Balancer
- + Articulated Support



Arm	BNP p/n	Max torque		L min		L max		$\omega$ deg	Weight	
		Nm	f.lb	mm	in	mm	in		Arm Kg (Lb)	To balance
BRT-SA 40 1000	020.0050.000	40	29,50	455	17,91	1025	40,35	50	0,9 (1,98)	0,5 (1,10)
BRT-SA 40 1500	020.0051.000	40	29,50	615	24,21	1515	59,65	50	1 (2,21)	0,6 (1,32)
BRT-SA 40 2000	020.0052.000	40	29,50	785	30,91	2025	79,72	50	1,1 (2,43)	0,7 (1,54)
BRT-SA 40 2500	020.0053.000	40	29,50	955	37,60	2535	99,80	50	1,2 (2,65)	0,8 (1,76)
BRT-SA 80 1500	020.0054.000	80	59,00	455	17,91	1515	59,65	40	1,2 (2,65)	0,6 (1,32)
BRT-SA 80 2000	020.0055.000	80	59,00	615	24,21	2025	79,72	40	1,3 (2,87)	0,7 (1,54)
BRT-SA 80 2500	020.0056.000	80	59,00	785	30,91	2535	99,80	40	1,4 (3,09)	0,8 (1,76)



**Standard purchase order: BRT-SA + tool holder + Balancer kit + SA**



# BRT-P2

Telescopic torque reaction arms with encoders

## When useful?

- Arm position detection on X and Y axis
- Tightening direction perpendicular to the reaction arm
- Horizontal installation
- Vertical installation



## Features

- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness
- ✓ Ensure correct tightening sequences


## Complements:


- + Tool holder
- + Balancer kit
- + Posix positioning system



Arm	BNP p/n	Max torque		L min		L max		ω	Weight	
		Nm	f.lb	mm	in	mm	in		Arm	To balance
BRT-P2 15 1000	020.0301.000	15	11,07	647	25,5	1227	48,3	60	2,6 (5,73)	*
BRT-P2 15 1500	020.0302.000	15	11,07	803	31,6	1713	67,4	60	2,7 (5,95)	*
BRT-P2 15 2000	020.0303.000	15	11,07	977	38,5	2227	87,7	60	2,8 (6,17)	*
BRT-P2 40 1000	020.0304.000	40	29,52	647	25,5	1227	48,3	50	2,8 (6,17)	*
BRT-P2 40 1500	020.0305.000	40	29,52	803	31,6	1713	67,4	50	2,9 (6,39)	*
BRT-P2 40 2000	020.0306.000	40	29,52	977	38,5	2227	87,7	50	3 (6,62)	*
BRT-P2 40 2500	020.0307.000	40	29,52	1157	45,6	2737	107,7	50	3,2 (7,06)	*
BRT-P2 80 1500	020.0308.000	80	59,04	830	32,7	1757	69,1	40	3 (6,62)	*
BRT-P2 80 2000	020.0309.000	80	59,04	1000	39,3	2249	88,5	40	3,1 (6,84)	*
BRT-P2 80 2500	020.0310.000	80	59,04	1169	46	2760	108,6	40	3,2 (7,06)	*
BRT-P2 150 1500	020.0311.000	150	110,7	839	33	1749	68,7	30	3,5 (7,72)	*
BRT-P2 150 2000	020.0312.000	150	110,7	1009	39,7	2087	82,2	30	3,7 (8,16)	*
BRT-P2 150 2500	020.0313.000	150	110,7	1174	46,2	2419	95,2	30	3,85 (8,49)	*
BRT-P2 220 1500	020.0314.000	220	162,36	839	33	1749	68,9	20	3,6 (7,94)	*
BRT-P2 220 2000	020.0315.000	220	162,36	1009	39,7	2259	88,9	20	3,75 (8,27)	*
BRT-P2 220 2500	020.0316.000	220	162,36	1174	46,2	2760	108,7	20	4,1 (9,04)	*

**Notes** \*: it depends on installation

**+**   
**Tool holder**  
 Pag.T14

**+**   
**Balancer kit**  
 Pag. T17

**+**   
**Posix**  
 Pag. SP3

**!** **Standard purchase order:** BRT-P2 + tool holder + Balancer kit + posix

# BRT-P3

Telescopic torque reaction arms with encoders

## When useful?

- Arm position detection on X, Y and Z axis
- Tightening direction perpendicular to the reaction arm
- Horizontal installation
- Vertical installation

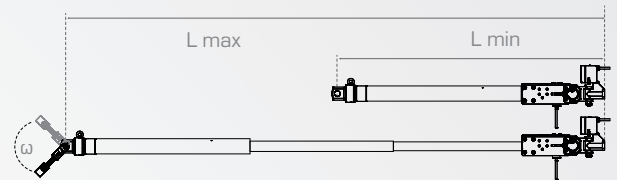


## Features

- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness
- ✓ Ensure correct tightening sequences


## Complements:


- + Tool holder
- + Balancer kit
- + Posix positioning system



Arm	BNP p/n	Max torque		L min		L max		ω	Weight	
		Nm	f.lb	mm	in	mm	in		deg	Arm Kg (Lb)
BRT-P3 15 1000	020.0401.000	15	11,07	647	25,5	1227	48,3	60	3 (6,62)	*
BRT-P3 15 1500	020.0402.000	15	11,07	803	31,6	1713	67,4	60	3,1 (6,84)	*
BRT-P3 15 2000	020.0403.000	15	11,07	977	38,5	2227	87,7	60	3,2 (7,06)	*
BRT-P3 40 1000	020.0404.000	40	29,52	647	25,5	1227	48,3	50	3,2 (7,06)	*
BRT-P3 40 1500	020.0405.000	40	29,52	803	31,6	1713	67,4	50	3,3 (7,28)	*
BRT-P3 40 2000	020.0406.000	40	29,52	977	38,5	2227	87,7	50	3,4 (7,50)	*
BRT-P3 40 2500	020.0407.000	40	29,52	1157	45,6	2737	107,7	50	3,6 (7,94)	*
BRT-P3 80 1500	020.0408.000	80	59,04	830	32,7	1757	69,1	40	3,4 (7,50)	*
BRT-P3 80 2000	020.0409.000	80	59,04	1000	39,3	2249	88,5	40	3,5 (7,72)	*
BRT-P3 80 2500	020.0410.000	80	59,04	1169	46	2760	108,6	40	3,6 (7,94)	*
BRT-P3 150 1500	020.0411.000	150	110,7	839	33	1749	68,7	30	3,9 (8,60)	*
BRT-P3 150 2000	020.0412.000	150	110,7	1009	39,7	2087	82,2	30	4,1 (9,04)	*
BRT-P3 150 2500	020.0413.000	150	110,7	1174	46,2	2419	95,2	30	4,2 (9,26)	*
BRT-P3 220 1500	020.0414.000	220	162,36	839	33	1749	68,9	20	4,2 (9,26)	*
BRT-P3 220 2000	020.0415.000	220	162,36	1009	39,7	2259	88,9	20	4,3 (9,48)	*
BRT-P3 220 2500	020.0416.000	220	162,36	1174	46,2	2760	108,7	20	4,5 (9,92)	*

**Notes** \*: it depends on installation

**+**  **Tool holder**  
Pag. T14

**+**  **Balancer kit**  
Pag. T17

**+**  **Posix**  
Pag. SP3

**!** **Standard purchase order:** BRT-P3 + tool holder + Balancer kit + posix

# High torque BRT

Telescopic torque reaction arms  
300 - 500 Nm



## When useful?

- Tightening direction perpendicular to the reaction arm
- Horizontal installation
- Vertical installation
- High torque power tools

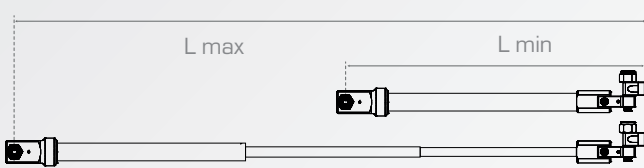


## Features

- ✓ High strength carbon fiber
- ✓ High precision manufacturing
- ✓ Aluminum details
- ✓ High smoothness

## Complements:

- + Tool holder (custom)
- + Balancer
- + Encoders kit (custom)
- + Positioning system (custom)



Arm	BNP p/n	Max torque		L min		L max		Weight	
		Nm	f.lb	mm	in	mm	in	Arm Kg (Lb)	To balance Kg (Lb)
BRT300 1500	020.0019.000	300	221,27	777	30,6	1662	65,43	2,77 (6,11)	*
BRT300 2000	020.0020.000	300	221,27	947	37,3	2172	85,51	3,01 (6,64)	*
BRT300 2500	020.0021.000	300	221,27	1112	43,8	2667	105,00	3,26 (7,19)	*
BRT500 1500	020.0022.000	500	368,78	870	34,3	1620	63,78	6,14 (13,54)	*
BRT500 2000	020.0023.000	500	368,78	1045	41,14	2160	85,04	6,75 (14,88)	*
BRT500 2500	020.0024.000	500	368,78	1275	50,2	2670	105,12	7,37 (16,25)	*

**Notes** \*: it depends on installation

**! Notes:** BNP custom solutions can reach 2000 Nm max torque

**+**  
**Tool holder**  
Custom

**+**  
**Balancer**  
Pag. T18

**+**  
**Encoders kit**  
Custom

**+**  
**Positioning system**  
Custom

**! Standard purchase order:** High torque BRT+ tool holder + balancer



# BRT-V

Telescopic torque reaction arms  
15 - 220 Nm

## When useful?

- Tightening direction perpendicular to the reaction arm
- Vertical installation
- Internal sliding balancer cable

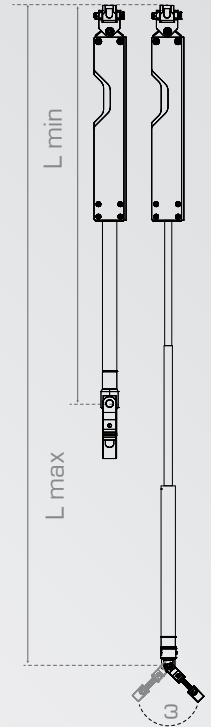


## Features

- ✓ Developed for 2 types of balancer, for 0.4-14 kg capacities
- ✓ Internal sliding
- ✓ High smoothness


## Complements:


- + Tool holder
- + Balancer kit
- + Crane systems



Arm	BNP p/n	Max torque		L min		L max		ω	Weight	
		Nm	f.lb	mm	in	mm	in		deg	Arm Kg (Lb)
BRT-V 15 1000	020.0131.000	15	11,06	777	30,59	1345	52,95	60	2,3 (5,07)	0,35 (.77)
BRT-V 15 1500	020.0132.000	15	11,06	937	36,89	1835	72,24	60	2,4 (5,29)	0,4 (.88)
BRT-V 15 2000	020.0133.000	15	11,06	1097	43,19	2325	91,53	60	2,5 (5,51)	0,45 (.99)
BRT-V 40 1000	020.0134.000	40	29,50	777	30,59	1345	52,95	50	2,5 (5,51)	0,4 (.88)
BRT-V 40 1500	020.0135.000	40	29,50	937	36,89	1835	72,24	50	2,6 (5,73)	0,45 (.99)
BRT-V 40 2000	020.0136.000	40	29,50	1097	43,19	2325	91,53	50	2,7 (5,95)	0,55 (1,21)
BRT-V 40 2500	020.0137.000	40	29,50	1277	50,27	2855	112,4	50	2,8 (6,17)	0,6 (1,32)
BRT-V 80 1500	020.0138.000	80	59,00	949	37,36	1865	73,42	40	2,9 (6,39)	0,65 (1,43)
BRT-V 80 2000	020.0139.000	80	59,00	1119	40,05	2357	92,79	40	3 (6,62)	0,65 (1,43)
BRT-V 80 2500	020.0140.000	80	59,00	1289	50,75	2867	112,87	40	3 (6,62)	0,7 (1,54)
BRT-V 150 1500	020.0141.000	150	110,63	960	37,5	1957,5	77,07	30	3,1 (6,84)	0,9 (1,98)
BRT-V 150 2000	020.0142.000	150	110,63	1129	44,45	2357	92,79	30	3,3 (7,28)	1 (2,21)
BRT-V 150 2500	020.0143.000	150	110,63	1294	50,94	2862	112,68	30	3,5 (7,72)	1,2 (2,65)
BRT-V 220 1500	020.0144.000	220	162,26	960	37,5	1957,5	77,07	20	3,4 (7,50)	1 (2,21)
BRT-V 220 2000	020.0145.000	220	162,26	1129	44,45	2357	92,79	20	3,6 (7,94)	1,2 (2,65)
BRT-V 220 2500	020.0146.000	220	162,26	1294	50,94	2867	112,87	20	3,8 (8,38)	1,4 (3,09)

**! Notes:** BNP custom solutions can reach 2000 Nm max torque

**+**   
**Tool holder**  
Pag. T14

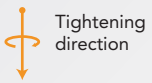
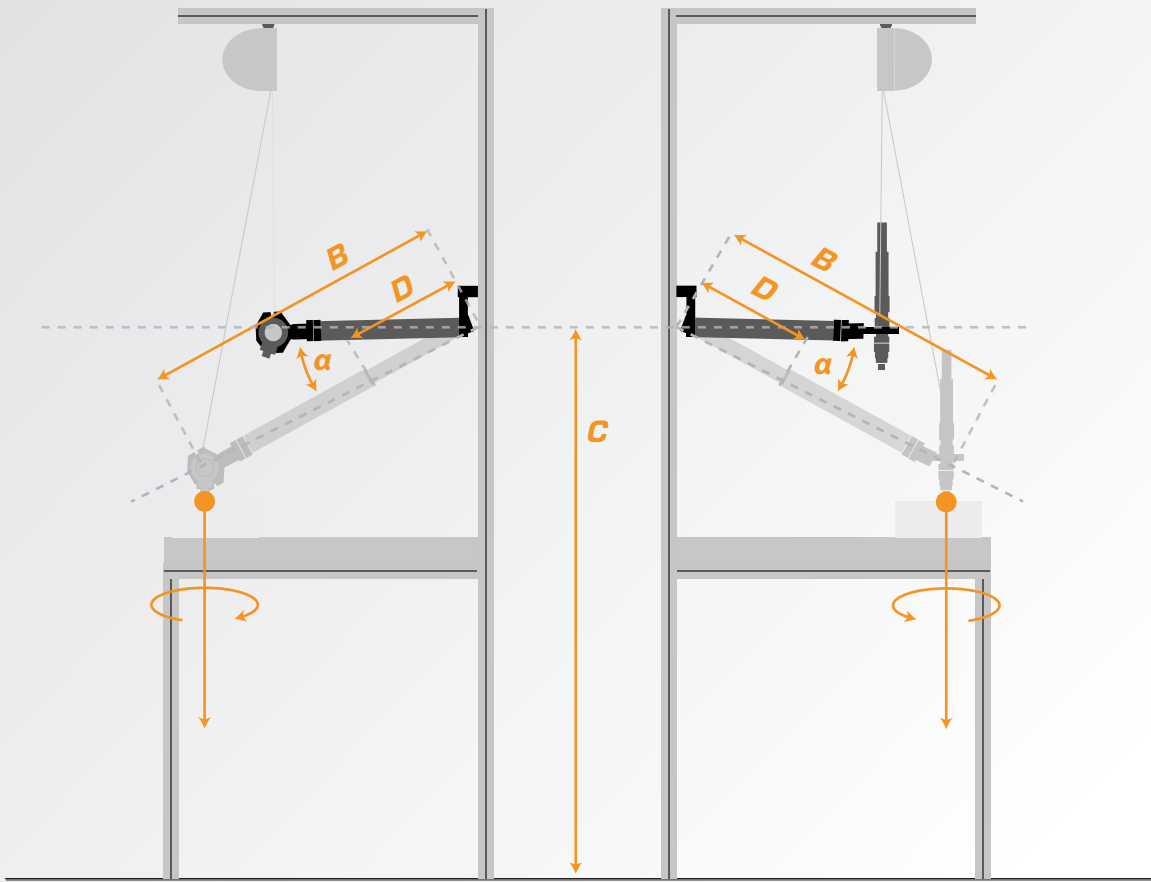
**+**   
**Balancer kit**  
Pag. T17

**+**   
**Modular rail system**  
Pag. LN2

**! Standard purchase order:** BRT-V+ tool holder + kit balancer

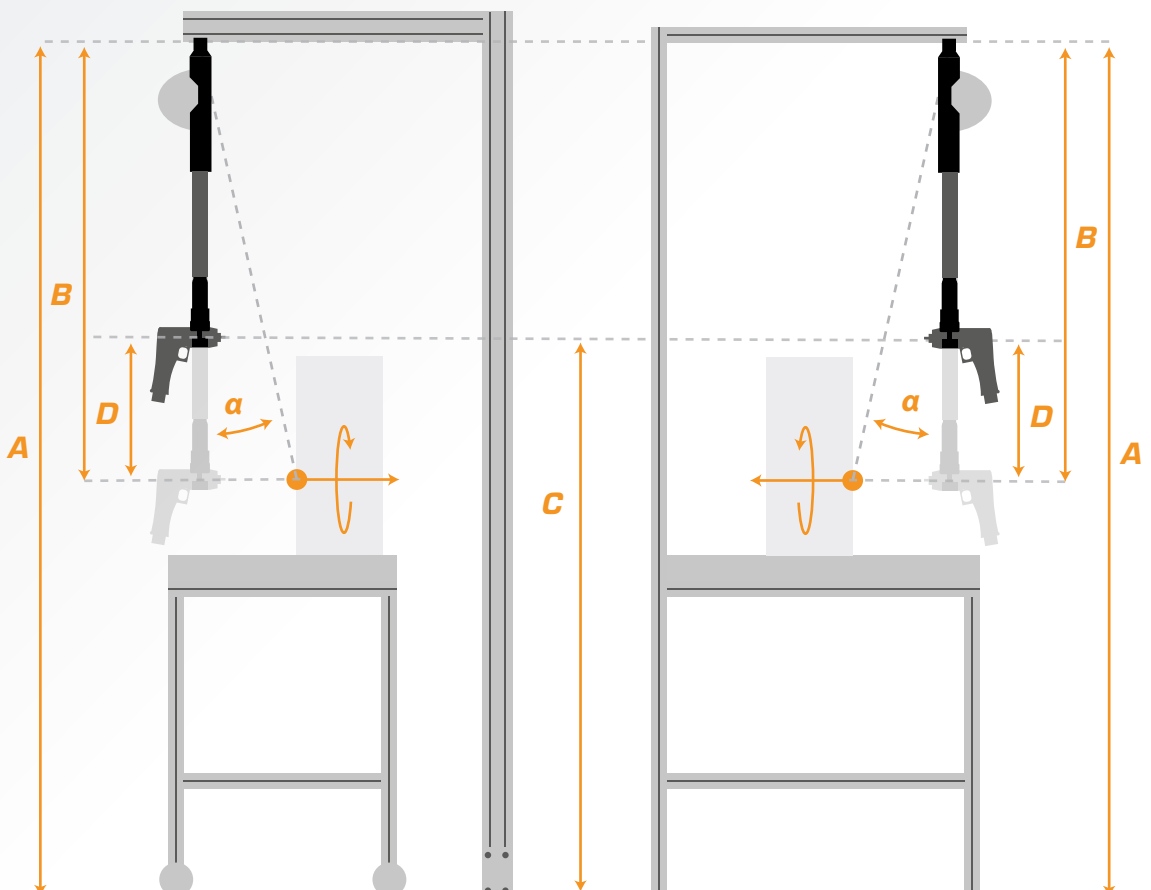
**Ex. 1:** BRT + angle screwdriver

**Ex. 2:** BRT + straight screwdriver



**Ex. 3:** Floor mounted BRT-V

**Ex. 4:** BRT-V mounted on workstation





# BRT Complements

- ✘ **THB**  
Tool holder
- ✘ **THBI**  
Tool holder
- ✘ **THR**  
Swivel Tool holder
- ✘ **Balancers and retractors kit**
- ✘ **Balancers and retractors**
- ✘ **Balancers and retractor's brackets**



# THB

## Tool holder

### Functionality

Universal tool locking with:

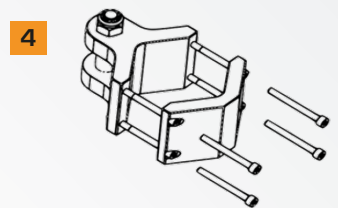
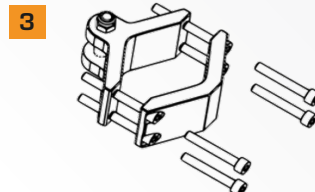
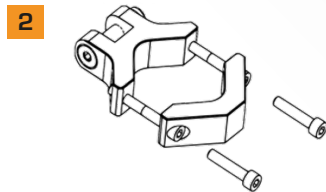
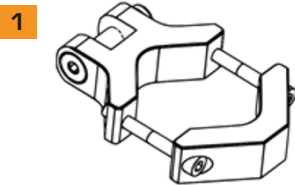
- Tilting joint



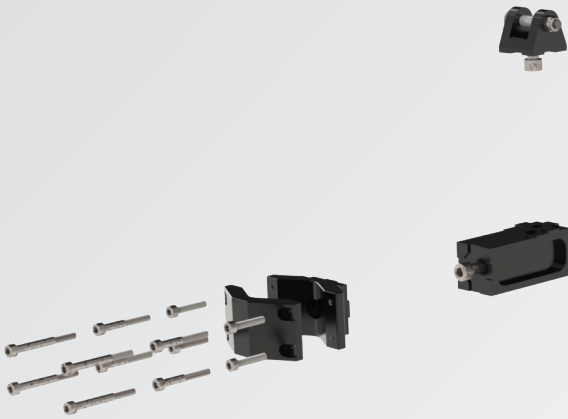
### Compatibility

- ✓ Telescopic torque reaction arms (BRT; BRT-P2, BRT-P3 BRT-V, BRT-SA)

	Compatibility	BNP p/n	Features	Grip diameter		Weight	Image
				Ømin (mm)	Ømax (mm)		
<b>BRT</b>	BRT 10 (included)	-	Base tool holder	26,5	44	0,2 (0,44)	1
	BRT/BRT-V/BRT-P2/BRT-P3/ BRT-SA 15	070.0001.000	Base tool holder 2 screws	27	45	0,2 (0,44)	2
	BRT/BRT-V/BRT-P2/BRT-P3/ BRT-SA 15	070.0002.000	Base tool holder 4 screws	27	45	0,35 (0,77)	3
	BRT/BRT-V/BRT-P2/BRT-P3/ BRT-SA 40-80	070.0009.000	Base tool holder 2 screws	30	60	0,3 (0,66)	2
	BRT/BRT-V/BRT-P2/BRT-P3/ BRT-SA 40-80	070.0015.000	Base tool holder 4 screws	30	60	0,45 (0,99)	3
	BRT/BRT-V/BRT-P2/BRT-P3/ BRT-SA 150-220	070.0003.000	Base tool holder	40	70	0,7 (1,54)	4









## Functionality

Universal tool locking with:

- Tilting joint 
- Increasing the distance between the tightening point and the arm 

## Compatibility

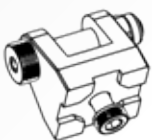
- ✓ Telescopic torque reaction arms (BRT; BRT-V)

	Compatibility	BNP p/n	Features	Grip diameter		Weight Kg (lb)	Image (Ref)
				Ømin (mm)	Ømax (mm)		
BRT 15	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 15	070.0006.000	Interface	n/a	n/a	0,1 (0,22)	1
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 15	070.0007.000	Multi-position tool holder	27	45	0,1 (0,22)	2
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 15	070.0008.000	Extension L=90mm	n/a	n/a	0,2 (0,44)	3
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 15	070.0013.000	5 degree of freedom Tool holder on X axis	27	45	0,25 (0,55)	4
BRT 40-80	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 40-80	070.0014.000	Interface	n/a	n/a	0,2 (0,44)	1
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 40-80	070.0016.000	Multi-position tool holder	27	45	0,5 (1,10)	2
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 40-80	070.0017.000	Extension L=120 mm	n/a	n/a	0,4 (0,88)	3
BRT 150-220	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 150-220	070.0010.000	Interface	n/a	n/a	0,3 (0,66)	1
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 150-220	070.0011.000	Multi-position tool holder	40	70	0,5 (1,10)	2
	BRT/BRT-V/BRT-P2/BRT-P3/BRT-SA 150-220	070.0012.000	Extension L=120mm	n/a	n/a	0,45 (0,99)	3

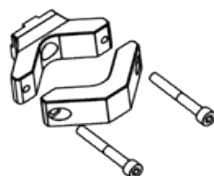
**Notes:** THBI tool holder is composed by three components. Interface, extension and tool holder. Each one have is own p/n.

**Standard purchase order:** Three components purchase order: Interface + extension + tool holder.

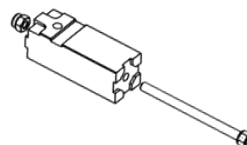
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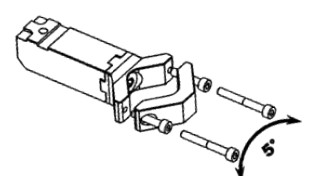
2



3



4



# THR

## Swivel tool holder

### Functionality

Universal tool locking with:

- Tightening direction rotation around the tool axis



### Compatibility

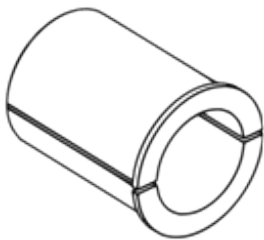
- ✓ Telescopic torque reaction arms (BRT; BRT-V)



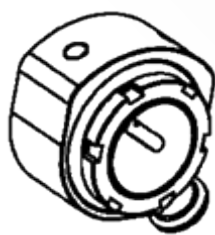
**\*Notes:** the adaptor is included and custom designed. The interface is not included

	Compatibility	BNP p/n	Features	Grip diameter		Weight Kg (lb)	Image (Ref)
				Ømin (mm)	Ømax (mm)		
<b>BRT</b>	All arms 15÷80 Nm	070.0004.000	Swivel tool holder	20	35	0,45 (0,99)	2
	BRT (all), BRT-V, BRT-P2/BRT-P3/BRT-SA 15÷220	070.0005.000	Swivel tool holder	40	55	1 (2,21)	3
	All arms	*	Adaptor	30 (*)	57 (*)	0,37 (0,82)	1
	BRT /BRT-V/ BRT-P2/BRT-P3/BRT-SA 15	070.0018.000	Interface	n/a	n/a	0,2 (0,44)	4
	BRT-V/BRT/ BRT-P2/BRT-P3/BRT-SA 40-80	070.0019.000	Interface	n/a	n/a	0,3 (0,66)	4
	BRT-V/ BRT/ BRT-P2/BRT-P3/BRT-SA 220	070.0020.000	Interface	n/a	n/a	0,55 (1,21)	4

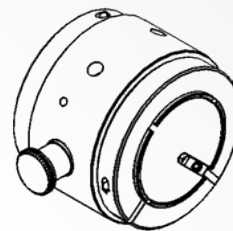
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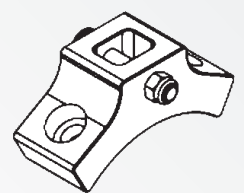
2



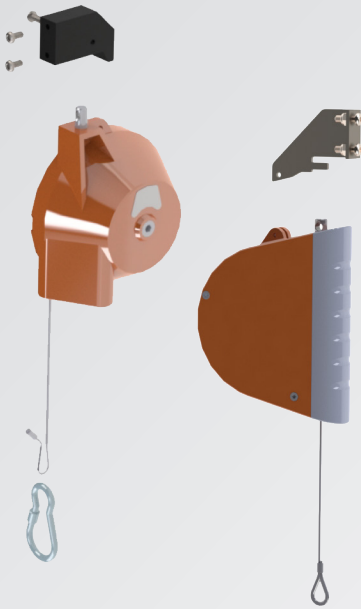
3



4



# Retractor and Balancers kit



## Functionality

Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

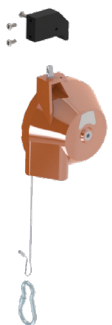
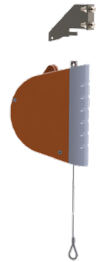
- Tool retraction

Balancers ensure a constant return force that scales the tool weight. After use, the tool will remain in the same position it was left.

- Tool suspension

Kit includes the balancer or the retractor and the fixing bracket.

	Compatibility	BNP p/n	Model	Cable length	Payload	Amount
Retractor kit - BRT				mm	Kg (lb)	Single
	BRT-V 15	070.0377.000	Kit 7200080001	1600	0,3-1,5 (0,66-3,51)	Single
	BRT-V 15	070.0378.000	Kit 7200080002	1600	1,2-2,5 (2,65-5,51)	Single
	BRT-V; BRT-P2, BRT-P3	070.0379.000	Kit 7211080001	2500	0,5-2,0 (1,10-4,4)	Single
	BRT-V; BRT-P2, BRT-P3	070.0380.000	Kit 7211080002	2500	1,5-3,0 (3,31-6,62)	Single
	BRT-V; BRT-P2, BRT-P3	070.0381.000	Kit 7211080005	1400	3,0-5,5 (6,62-12,3)	Single
	BRT-V; BRT-P2, BRT-P3	070.0382.000	Kit 7221080001	3000	2,0-5,0 (4,4-11,03)	Single
	BRT-V; BRT-P2, BRT-P3	070.0383.000	Kit 7221080002	3000	4,0-8,0 (8,82-17,64)	Single
	BRT-V; BRT-P2, BRT-P3	070.0384.000	Kit 7221080003	3000	7,0-10,0 (15,4-22,05)	Single
	BRT-V; BRT-P2, BRT-P3	070.0385.000	Kit 7221080004	3000	10,0-14,0 (22,05-30,87)	Single
	BRT-SA	070.0351.000	Kit 7211080001	2500	0,5-2,0 (1,10- 4,4)	Single
	BRT-SA	070.0352.000	Kit 7211080002	2500	1,5-3,0 (3,31-6,62)	Single
	BRT-SA	070.0353.000	Kit 7211080005	1400	3,0-5,5 (6,62-12,3)	Single
	BRT-SA	070.0354.000	Kit 7221080001	3000	2,0-5,0 (4,4-11,03)	Single
	BRT-SA	070.0355.000	Kit 7221080002	3000	4,0-8,0 (8,82-17,64)	Single
	BRT-SA	070.0356.000	Kit 7221080003	3000	7,0-10,0 (15,4-22,05)	Single
BRT-SA	070.0357.000	Kit 7221080004	3000	10,0-14,0 (22,05-30,87)	Single	
Balancer kit - BRT	Balancer					
	BRT-P2; BRT-P3	070.0386.000	KIT 7228000001	1600	0,4-1,2 (0,88-2,65)	Single
	BRT-P2; BRT-P3	070.0387.000	KIT 7228000002	1600	1,2-2,6 (2,65-5,73)	Single
	BRT-P2; BRT-P3	070.0388.000	KIT 7228000003	1600	2,6-3,8 (5,73-8,38)	Single
	BRT-P2; BRT-P3	070.0389.000	KIT 7228000004	1600	3,8-5,2 (8,38-11,47)	Single
	BRT-P2; BRT-P3	070.0390.000	KIT 7228000005	1600	5,2-6,5 (11,47-14,33)	Single
	BRT-P2; BRT-P3	070.0391.000	KIT 7230000003	2000	6,0-10,0 (13,23-22,05)	Single
	BRT-P2; BRT-P3	070.0392.000	KIT 7230000004	2000	9,0-14,0 (19,84-30,86)	Single
	BRT-SA	070.0358.000	KIT 7228000001	1600	0,4-1,2 (0,88-2,65)	Single
	BRT-SA	070.0359.000	KIT 7228000002	1600	1,2-2,6 (2,65-5,73)	Single
	BRT-SA	070.0360.000	KIT 7228000003	1600	2,6-3,8 (5,73-8,38)	Single
	BRT-SA	070.0361.000	KIT 7228000004	1600	3,8-5,2 (8,38-11,47)	Single
	BRT-SA	070.0362.000	KIT 7228000005	1600	5,2-6,5 (11,47-14,33)	Single
	BRT-SA	070.0363.000	KIT 7230000003	2000	6-10 (13,2-22,05)	Single
	BRT-SA	070.0364.000	KIT 7230000004	2000	9-14 (8,82 - 19,85)	Single



# Retractors and Balancers

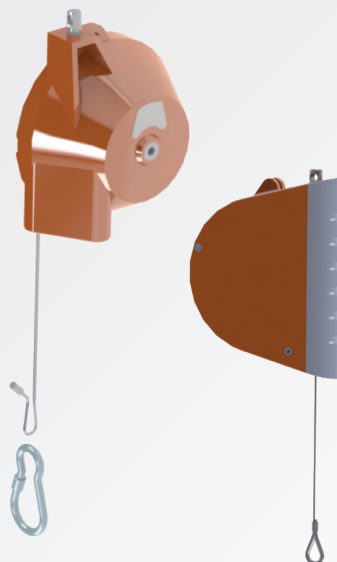
## Functionality

BRT arms can be associated with both retractors and balancers.

Installation bracket is required for BRT-V and BRT-P telescopic arms.

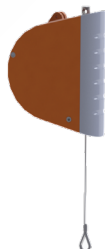
Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

Balancers ensure a constant return force that scales the tool weight. After use, the tool will remain in the same position it was left.



	BNP p/n	Payload	Cable length	Weight	P/n Kromer	Bracket
<b>Retractor (A) - BRT</b>		Kg (lb)	mm	Kg (lb)		Immagine pag. T19
	070.0918.000	0,3-1,5 (0,66-3,51)	1600	0,5 (1,10)	7200 0800 01	M (BRT)
	070.0919.000	1,2-2,5 (2,65-5,51)	1600	0,6 (1,32)	7200 0800 02	M (BRT)
	070.0920.000	0,5-2,0 (1,10-4,4)	2500	0,8 (1,76)	7211 0800 01	E (BRT-V; BRT-P2/BRT-P3); G (BRT-SA)
	070.0921.000	1,5-3,0 (3,31-6,62)	2500	0,9 (1,98)	7211 0800 02	E (BRT-V; BRT-P2/BRT-P3); G (BRT-SA)
	070.0922.000	3,0-5,5 (6,62-2,3)	1400	1 (2,21)	7211 0800 05	E (BRT-V; BRT-P2/BRT-P3); G (BRT-SA)
	070.0923.000	2,0-5,0 (4,4-11,03)	3000	3,5 (7,72)	7221 0800 01	F (BRT-V; BRT-P2/BRT-P3); H (BRT-SA)
	070.0924.000	4,0-8,0 (8,82-17,64)	3000	3,8 (8,38)	7221 0800 02	F (BRT-V; BRT-P2/BRT-P3); H (BRT-SA)
	070.0925.000	7,0-10,0 (15,4-22,05)	3000	3,8 (8,38)	7221 0800 03	F (BRT-V; BRT-P2/BRT-P3); H (BRT-SA)
070.0926.000	10,0-14,0 (22,05-30,87)	3000	4 (8,82)	7221 0800 04	F (BRT-V; BRT-P2/BRT-P3); H (BRT-SA)	
<b>Balancers (B) - BRT</b>		Kg (lb)	mm	Kg (lb)		Image page T19
	070.0927.000	0,4-1,2 (0,88-2,65)	1600	1,3 (2,87)	7228 0000 01	O (BRT-P2/BRT-P3); I (BRT-SA)
	070.0928.000	1,2-2,6 (2,65-5,73)	1600	1,4 (3,09)	7228 0000 02	O (BRT-P2/BRT-P3); I (BRT-SA)
	070.0929.000	2,6-3,8 (5,73-8,38)	1600	1,5 (3,31)	7228 0000 03	O (BRT-P2/BRT-P3); I (BRT-SA)
	070.0930.000	3,8-5,2 (8,38-11,47)	1600	1,5 (3,31)	7228 0000 04	O (BRT-P2/BRT-P3); I (BRT-SA)
	070.0931.000	5,2-6,5 (11,47-14,33)	1600	1,5 (3,31)	7228 0000 05	O (BRT-P2/BRT-P3); I (BRT-SA)
	070.0932.000	4,5-7,0 (9,92-15,44)	2000	3,3 (7,28)	7230 0000 02	-
	070.0933.000	6,0-10,0 (13,23-22,05)	2000	3,4 (7,50)	7230 0000 03	N (BRT-P2/BRT-P3); L (BRT-SA)
	070.0934.000	9,0-14,0 (19,85-30,87)	2000	3,6 (7,94)	7230 0000 04	N (BRT); L (BRT-SA)
070.0935.000	13,0-17,0 (28,6-37,49)	2000	3,8 (,00)	7230 0000 05	-	

A



B



# Brackets

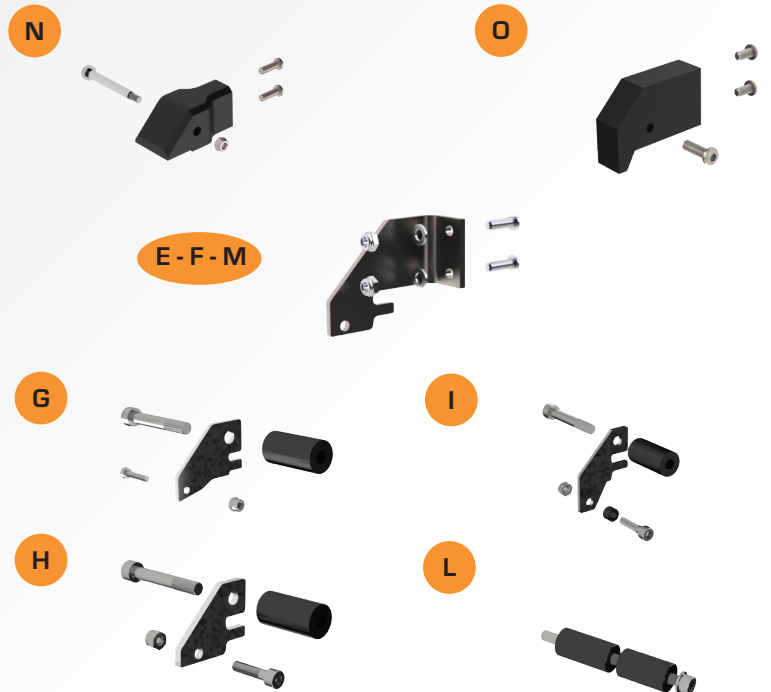
## Installation brackets



### Functionality

BNP arm Installation brackets for Kromer balancers and retractors.

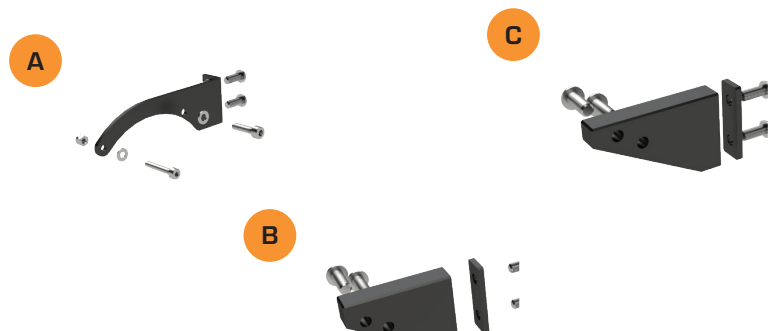
	Compatibility	Image	BNP p/n
BRT	BRT-V + BRT-P	E	070.1030.000
	BRT-V + BRT-P	F	070.1031.000
	BRT-V + BRT-P	M	070.1036.000
	BRT-P	N	070.1037.000
	BRT-P	O	070.1038.000
	BRT-SA	G	070.1032.000
	BRT-SA	H	070.1033.000
	BRT-SA	I	070.1034.000
	BRT-SA	L	070.1035.000



## Tecna balancer

Installation brackets for Tecna balancer.

Compatibility	Image	BNP p/n
BRT-V + BRT-P	A	070.1000.000
BRT-V + BRT-P	B	070.1001.000
BRT-V + BRT-P	C	070.1002.000



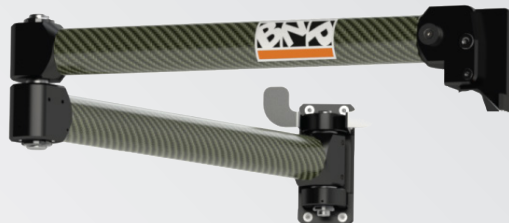
# SA

## Articulated support

### Functionality

Combined with BNP arm, it allows:

- Installation without aerial structures
- Working area increased



### Features

- ✓ Also available with encoders kit
- ✓ Carbon fiber for models up to 80 Nm -1000 mm

### Accessories:

- + Encoder kit

	Descriptions	BNP p/n	Max torque	Max radius	Payload	Weight
BRT - SA	SA80 600	090.0401.000	80	600	10 (22,05)	0,75 (1,65)
	SA80 800	090.0402.000	80	800	10 (22,05)	0,78 (1,72)
	SA80 1000	090.0403.000	80	1000	10 (22,05)	0,8 (1,76)
	SA80 1500 Steel	090.0451.000	80	1500	10 (22,05)	16 (35,28)
	SA80 2000 Steel	090.0452.000	80	2000	10 (22,05)	19 (41,90)
	SA80 2500 Steel	090.0453.000	80	2500	10 (22,05)	21 (46,31)
	SA150 1000 Steel	090.0460.000	150	1000	30 (66,15)	22 (48,51)
	SA150 1500 Steel	090.0461.000	150	1500	30 (66,15)	25 (55,13)
	SA150 2000 Steel	090.0462.000	150	2000	30 (66,15)	28 (61,74)
	SA150 2500 Steel	090.0463.000	150	2500	30 (66,15)	31 (68,36)



### Encoders kit

Encoders kit can be mounted on SA to allow tool position detection.

- X and Y axis position detections (2 encoders kit)



Kit	BNP p/n	Encoders number
Incrementals encoder kit - Posix	090.0510.000	2
Absolute encoder kit - Posix PRO	090.0511.000	2

**Notes:** also available in custom solutions (steel or carbon fiber), up to 300 Nm.

# BRV

Anti-rotation torque reaction arms

- ✘ **BRV**  
Anti-rotation torque reaction arms
- ✘ **BRV-SA**  
Anti-rotation torque reaction arms for articulated support
- ✘ **High torque BRV**  
High torque anti-rotation reaction arms



# BRV

Anti-rotation torque reaction arms

## When useful?

- Both perpendicular and parallel tightening direction
- Vertical installation

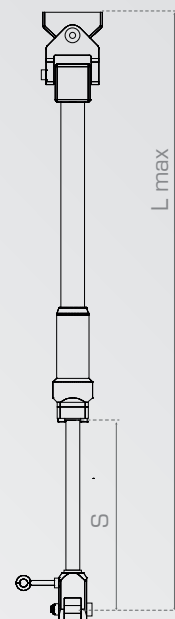


## Features

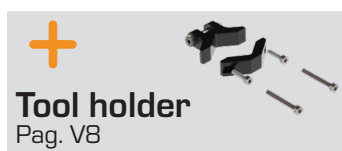
- ✓ Carbon fiber layering optimized for torsional loads
- ✓ High smoothness
- ✓ Recirculating ball bushing
- ✓ Anti-rotation system

## Complements:

- + Tool holder
- + Balancer
- + Crane systems



Arm	BNP p/n	Max torque		L max		Stroke (S)		Weight	
		Nm	f.lb	mm	in	mm	in	Arm	To balance
								Kg (Lb)	Kg (Lb)
BRV15 600/150	030.0001.000	15	11,06	600	23,62	150	5,90	1,00 (2,20)	0,35 (0,77)
BRV15 800/300	030.0002.000	15	11,06	800	31,49	300	11,81	1,20 (2,64)	0,50 (1,10)
BRV40 600/150	030.0003.000	40	29,50	600	23,62	150	5,90	1,90 (4,19)	0,70 (1,54)
BRV40 850/300	030.0004.000	40	29,50	850	33,46	300	11,81	2,25 (4,96)	1,00 (2,20)
BRV40 1500/600	030.0005.000	40	29,50	1500	59,05	600	23,62	3,00 (6,61)	1,60 (3,53)
BRV80 900/300	030.0006.000	80	59,00	900	35,43	300	11,81	3,30 (7,27)	1,50 (3,31)
BRV80 1500/600	030.0007.000	80	59,00	1500	59,05	600	23,62	4,35 (9,59)	2,50 (5,51)
BRV80 2100/900	030.0008.000	80	59,00	2100	82,67	900	35,43	5,35 (11,79)	3,40 (7,49)

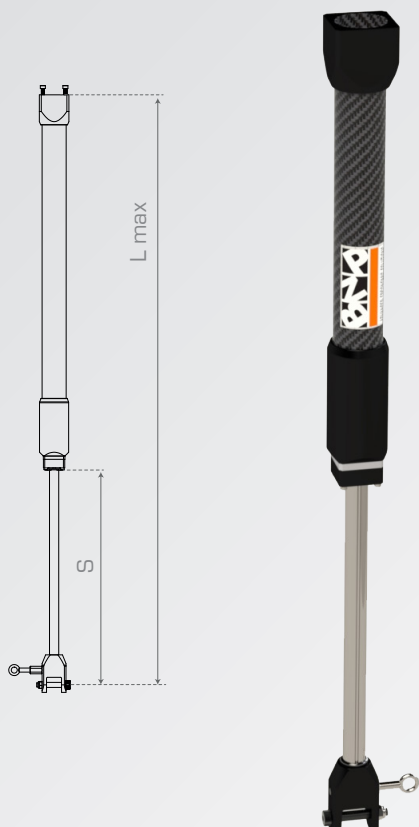


**Standard purchase order: BRV + tool holder + balancer kit**



# BRV-SA

Anti-rotation torque reaction arms  
SA compatible



## When useful?

This is an anti-rotation torque tube optimized for the Articulated Support

- Both perpendicular and parallel tightening direction
- Vertical installation



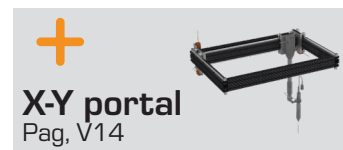
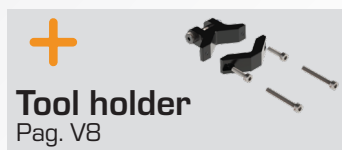
## Features

- ✓ Carbon fiber layering optimized for torsional loads
- ✓ High smoothness
- ✓ Recirculating ball bushing

## Complements:

- + Tool holder
- + Balancer Kit
- + Articulated Support
- + X-Y portals
- + Crane systems

Arm	BNP p/n	Max torque		L max		Stroke (S)		Weight	
								Arm	To balance
								Kg (Lb)	Kg (Lb)
BRV-SA15 450/150	030.0101.000	15	11.06	510	20.08	150	5.90	0,9 (1,98)	0,35 (0,77)
BRV-SA15 500/300	030.0102.000	15	11.06	710	27.95	300	11.81	1,1 (2,43)	0,50 (1,10)
BRV-SA40 450/150	030.0103.000	40	29.50	510	20.08	150	5.90	1,5 (3,31)	0,70 (1,54)
BRV-SA40 500/300	030.0104.000	40	29.50	760	29.92	300	11.81	1,9 (4,19)	1,00 (2,20)
BRV-SA40 1450/600	030.0105.000	40	29.50	1410	55.51	600	23.62	2,5 (5,51)	1,60 (3,53)
BRV-SA80 850/300	030.0106.000	80	59.00	810	31.89	300	11.81	2,9 (6,39)	1,50 (3,31)
BRV-SA80 1450/600	030.0107.000	80	59.00	1410	55.51	600	23.62	3,9 (8,60)	2,50 (5,51)



**!** Standard purchase order: BRV-SA + tool holder+ SA

# High torque BRV

Anti-rotation torque reaction arms  
150 - 600 Nm

## When useful?

- Both perpendicular and parallel tightening direction
- Vertical installation
- High torque power tools

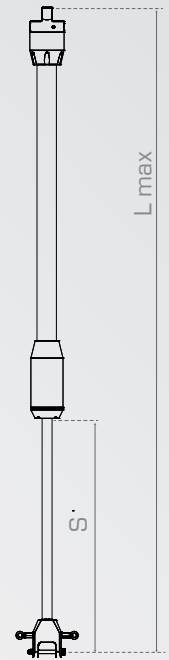


## Features

- ✓ Carbon fiber layering optimized for torsional loads
- ✓ High smoothness
- ✓ Recirculating ball bushing
- ✓ Anti-rotation system

## Complements:

- + Tool holder (custom)
- + Kit Balancers
- + Upper hinge kit
- + Brake kit



Arm	BNP p/n	Max torque		L max		Stroke (S)		Weight	
		Nm	f.lb	mm	in	mm	in	Arm	To balance
								Kg (Lb)	Kg (Lb)
BRV150 1600/600	030.0010.000	150	110,63	1600	63,00	600	23,62	11,00 (24,25)	5,00 (11,02)
BRV150 2100/900	030.0011.000	150	110,63	2160	85,04	900	35,43	13,00 (28,66)	6,00 (13,23)
BRV300 1600/600	030.0014.000	300	221,27	1700	67,00	600	23,62	20,00 (44,09)	5,50 (12,12)
BRV300 2100/900	030.0015.000	300	221,27	2310	90,94	900	35,43	21,50 (47,40)	6,50 (14,33)
BRV600 1600/600	030.0018.000	600	442,54	1740	68,50	600	23,62	23,00 (50,70)	8,50 (18,74)
BRV600 2100/900	030.0019.000	600	442,54	2340	92,12	900	35,43	27,00 (59,52)	11,00 (24,25)



**Notes:** BNP custom solutions can reach 1000 Nm max torque



**Tool holder**  
Custom



**Balancers kit**  
Pag. V10



**Upper hinge kit**  
Pag. V15



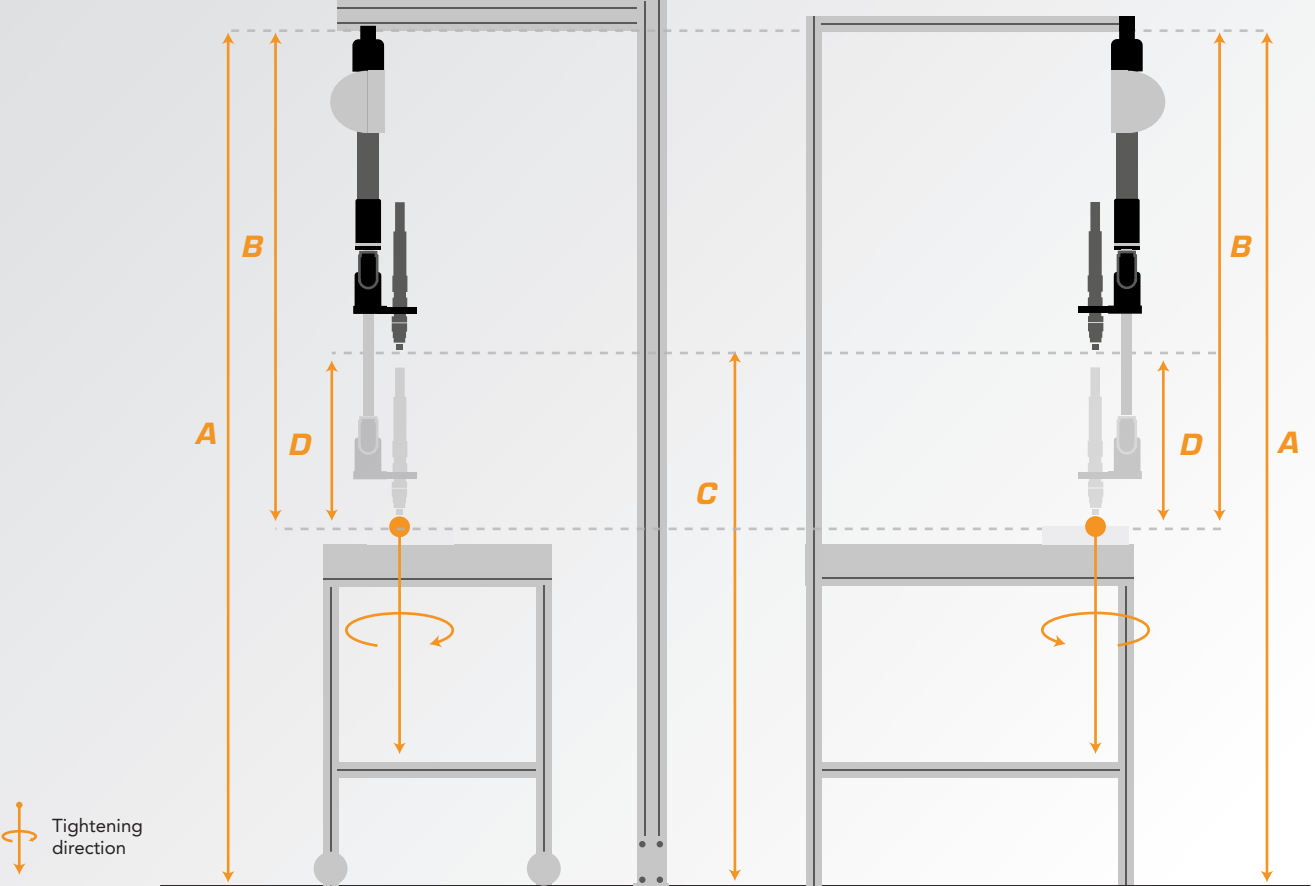
**Brake kit**  
Pag. V16



**Standard purchase order:** High torque BRV + balancer kit + upper hinge kit + tool holder

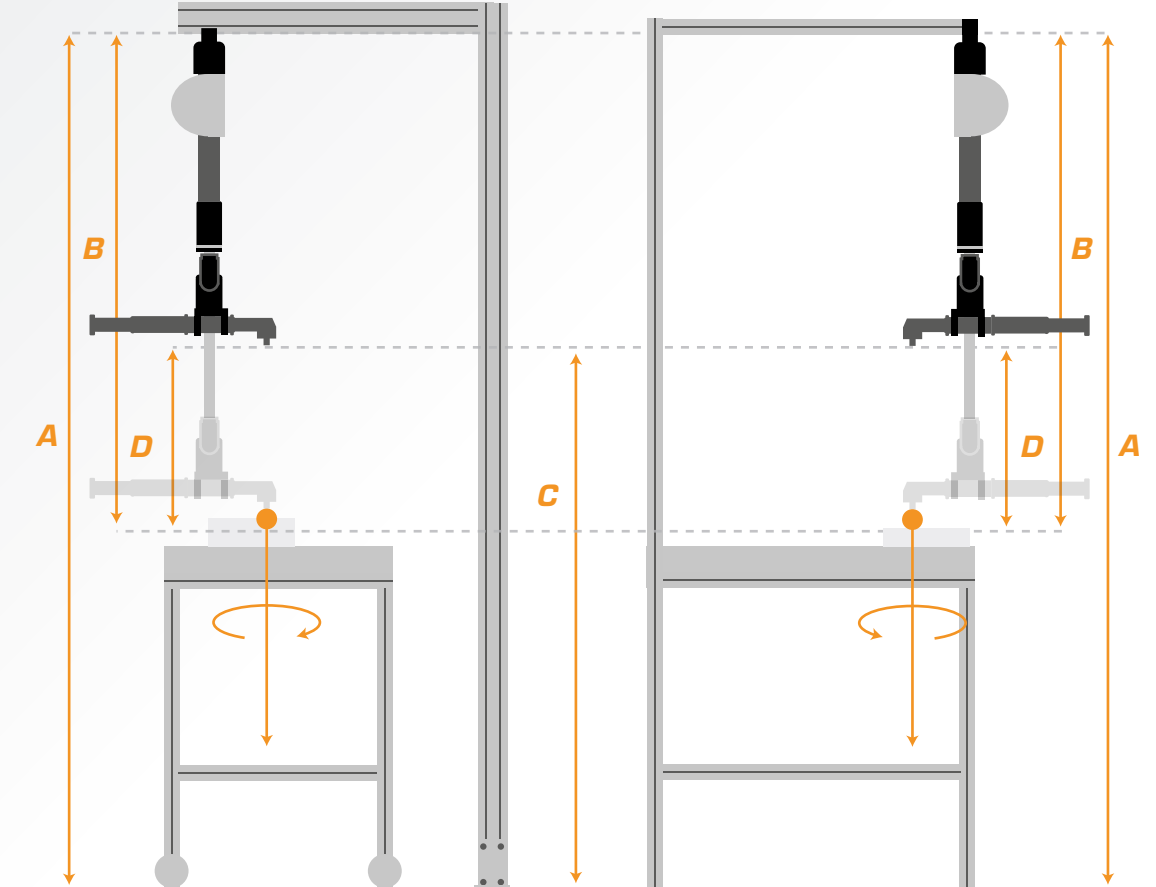
**Ex. 5:** Floor mounted BRV with straight screwdriver

**Ex. 6:** BRV mounted on workstation with straight screwdriver



**Ex. 7:** Floor mounted BRV with angle screwdriver

**Ex. 8:** BRV mounted on workstation with angle screwdriver





# BRV Complements

- ✘ **TH-BRV**  
Tool holder
- ✘ **THR**  
Swivel Tool holder
- ✘ **Balancers and retractors kit**
- ✘ **Balancers and retractors**
- ✘ **Balancers and retractor's brackets**
- ✘ **Articulated support**
- ✘ **XY portal**
- ✘ **Brake kit**



# TH-BRV

## Tool holder

### Functionality

Universal tool locking with:

- Tilting joint

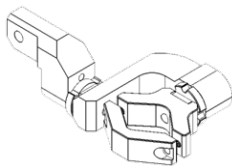


### Compatibility

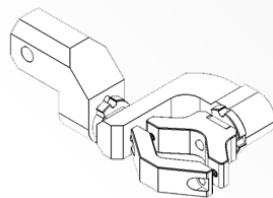
✓ Anti-rotation torque reaction arms (BRV).

	Compatibility	BNP p/n	Features	Grip diameter		Width mm	Weight Kg (lb)	Image Ref
				Ømin (mm)	Ømax (mm)			
<b>BRV</b>	BRV 15	070.0101.000	Straight tool holder	27	45	18	0,6 (1,32)	1
	BRV 15	070.0102.000	Angle tool holder	30	60	33,5	0,3 (0,66)	3
	BRV 40-80	070.0111.000	Straight tool holder	27	45	18	0,65 (1,43)	2
	BRV 40-80	070.0112.000	Angle tool holder	31	65	47	0,66 (1,46)	4

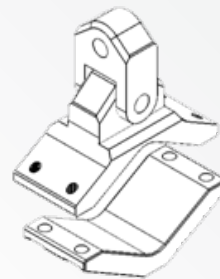
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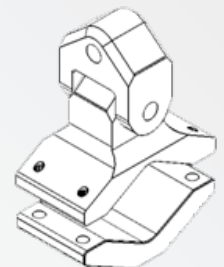
2



3



4



# THR

## Swivel tool holder



### Functionality

Universal tool locking with:

- Tightening direction rotation around the tool axis



### Compatibility

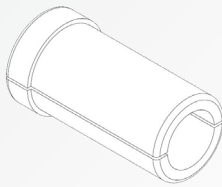
- ✓ Anti-rotation torque reaction arms (BRV)



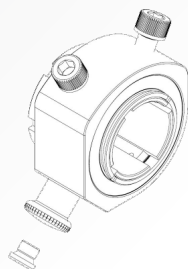
**\*Notes:** the adapter is included and custom designed. The interface is not included

	Compatibility	BNP p/n	Features	Grip diameter		Weight	Image
				Ømin (mm)	Ømax (mm)		
<b>BRV</b>	All arms 15÷80 Nm	070.0004.000	Swivel tool holder	20	35	0,45 (0,99)	2
	All arms 15÷150 Nm	070.0005.000	Swivel tool holder	40	55	1 (2,21)	3
	All arms	(*)	Adaptor	30 (*)	57 (*)	0,37 (0,82)	1
	BRV 15	070.0103.000	Interface	n/a	n/a	0,36 (0,79)	4
	BRV 40-80	070.0113.000	Interface	n/a	n/a	0,51 (1,12)	4

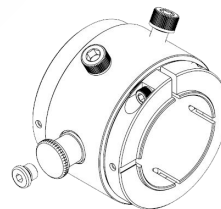
1



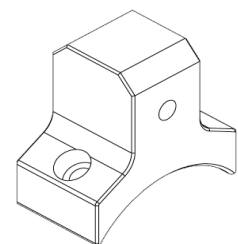
2



3



4



# Retractor and balancers kit

## Functionality

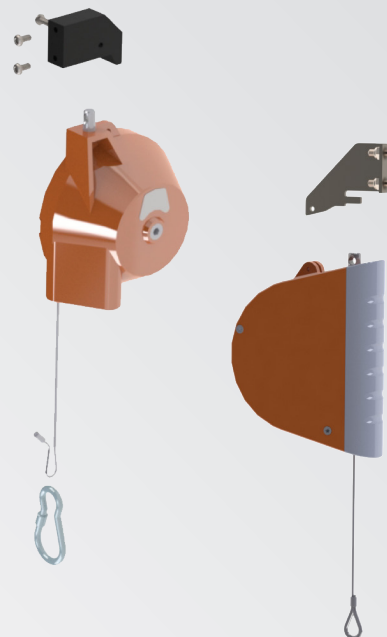
Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

- Tool retraction

Balancers ensure a constant return force that scales the tool weight. After use, the tool remains in the same position it was left.

- Tool suspension

Kit includes the balancer or the retractor and the fixing bracket.



Retractor kit - BRV	Compatibility	BNP p/n	Model	Cable length	Payload	Amount
				mm	Kg (lb)	
	BRV	070.0351.000	Kit 7211080001	2500	0,5-2,0 (1,10- 4,4)	Single
	BRV	070.0352.000	Kit 7211080002	2500	1,5-3,0 (3,31-6,62)	Single
	BRV	070.0353.000	Kit 7211080005	1400	3,0-5,5 (6,62-12,3)	Single
	BRV	070.0354.000	Kit 7221080001	3000	2,0-5,0 (4,4-11,03)	Single
	BRV	070.0355.000	Kit 7221080002	3000	4,0-8,0 (8,82-17,64)	Single
	BRV	070.0356.000	Kit 7221080003	3000	7,0-10,0 (15,4-22,05)	Single
	BRV	070.0357.000	Kit 7221080004	3000	10,0-14,0 (22,05-30,87)	Single

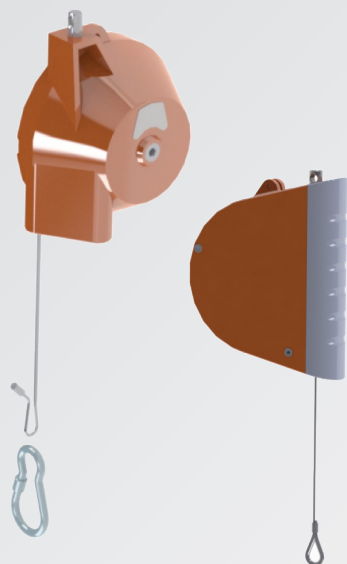


Balancer kit - BRV				Cable length	Payload	
	Compatibility	BNP p/n	Model	mm	Kg (lb)	Amount
	BRV	070.0358.000	KIT 7228000001	1600	0,4-1,2 (0,88-2,65)	Single
	BRV	070.0359.000	KIT 7228000002	1600	1,2-2,6 (2,65-5,73)	Single
	BRV	070.0360.000	KIT 7228000003	1600	2,6-3,8 (5,73-8,38)	Single
	BRV	070.0361.000	KIT 7228000004	1600	3,8-5,2 (8,38-11,47)	Single
	BRV	070.0362.000	KIT 7228000005	1600	5,2-6,5 (11,47-14,33)	Single
	BRV	070.0363.000	KIT 7230000003	2000	6-10 (13,2-22,05)	Single
	BRV	070.0364.000	KIT 7230000004	2000	9-14 (8,82 - 19,85)	Single





# Retractors and balancers



## Functionality

BRT arms can be associated with both retractors and balancers.

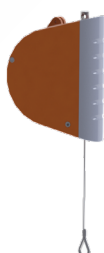
Installation bracket is required for BRT-V and BRT-P telescopic arms.

Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

Balancers ensure a constant return force that scales the tool weight. After use, the tool will remain in the same position it was left.

	BNP p/n	Payload	Cable length	Weight	P/n Kromer	Bracket
<b>Retractor (A) - BRV</b>		Kg (lb)	mm	Kg (lb)		Image page V12
	070.0918.000	0,3-1,5 (0,66-3,51)	1600	0,5 (1,10)	7200 0800 01	-
	070.0919.000	1,2-2,5 (2,65-5,51)	1600	0,6 (1,32)	7200 0800 02	-
	070.0920.000	0,5-2,0 (1,10-4,4)	2500	0,8 (1,76)	7211 0800 01	G
	070.0921.000	1,5-3,0 (3,31-6,62)	2500	0,9 (1,98)	7211 0800 02	G
	070.0922.000	3,0-5,5 (6,62-12,3)	1400	1 (2,21)	7211 0800 05	G
	070.0923.000	2,0-5,0 (4,4-11,03)	3000	3,5 (7,72)	7221 0800 01	H
	070.0924.000	4,0-8,0 (8,82-17,64)	3000	3,8 (8,38)	7221 0800 02	H
	070.0925.000	7,0-10,0 (15,4-22,05)	3000	3,8 (8,38)	7221 0800 03	H
070.0926.000	10,0-14,0 (22,05-30,87)	3000	4 (8,82)	7221 0800 04	H	
<b>Balancers (B) - BRV</b>		Kg (lb)	mm	Kg (lb)		Image page V12
	070.0927.000	0,4-1,2 (0,88-2,65)	1600	1,3 (2,87)	7228 0000 01	I
	070.0928.000	1,2-2,6 (2,65-5,73)	1600	1,4 (3,09)	7228 0000 02	I
	070.0929.000	2,6-3,8 (5,73-8,38)	1600	1,5 (3,31)	7228 0000 03	I
	070.0930.000	3,8-5,2 (8,38-11,47)	1600	1,5 (3,31)	7228 0000 04	I
	070.0931.000	5,2-6,5 (11,47-14,33)	1600	1,5 (3,31)	7228 0000 05	I
	070.0932.000	4,5-7,0 (9,92-15,44)	2000	3,3 (7,28)	7230 0000 02	-
	070.0933.000	6,0-10,0 (13,23-22,05)	2000	3,4 (7,50)	7230 0000 03	L
	070.0934.000	9,0-14,0 (19,85-30,87)	2000	3,6 (7,94)	7230 0000 04	L
070.0935.000	13,0-17,0 (28,6-37,49)	2000	3,8 (8,38)	7230 0000 05	-	

A



B



# Brackets

## Installation brackets

### Functionality

BNP arm Installation brackets for Kromer balancer and retractor.



	Compatibility	Image	BNP p/n
BRV	BRV	G	070.1032.000
	BRV	H	070.1033.000
	BRV	I	070.1034.000
	BRV	L	070.1035.000

G



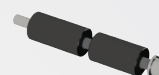
I



H



L



# SA Articulated support



## Functionality

Combined with BNP arm, it allows:

- Installation without aerial structures
- Working area increased



## Features

- ✓ Also available with encoders kit
- ✓ Carbon fiber for models up to 80 Nm -1000 mm

## Accessories:

- + Encoder kit

	Descriptions	BNP p/n	Max torque	Max radius	Payload	Weight
BRV - SA	SA80 600	090.0401.000	80	600	10 (22,05)	0,75 (1,65)
	SA80 800	090.0402.000	80	800	10 (22,05)	0,78 (1,72)
	SA80 1000	090.0403.000	80	1000	10 (22,05)	0,8 (1,76)
	SA80 1500 Steel	090.0451.000	80	1500	10 (22,05)	16 (35,28)
	SA80 2000 Steel	090.0452.000	80	2000	10 (22,05)	19 (41,90)
	SA80 2500 Steel	090.0453.000	80	2500	10 (22,05)	21 (46,31)
	SA150 1000 Steel	090.0460.000	150	1000	30 (66,15)	22 (48,51)
	SA150 1500 Steel	090.0461.000	150	1500	30 (66,15)	25 (55,13)
	SA150 2000 Steel	090.0462.000	150	2000	30 (66,15)	28 (61,74)
	SA150 2500 Steel	090.0463.000	150	2500	30 (66,15)	31 (68,36)



## Encoders kit

Encoders kit can be mounted on SA to allow tool position detection.

- X and Y axis position detections (2 encoders kit)



Kit	BNP p/n	Encoders number
Relative Encoder kit - Posix	090.0510.000	2
Absolute Encoder kit - Posix PRO	090.0511.000	2



**Notes:** also available in custom solutions (steel or carbon fiber), up to 300 Nm.

# XY

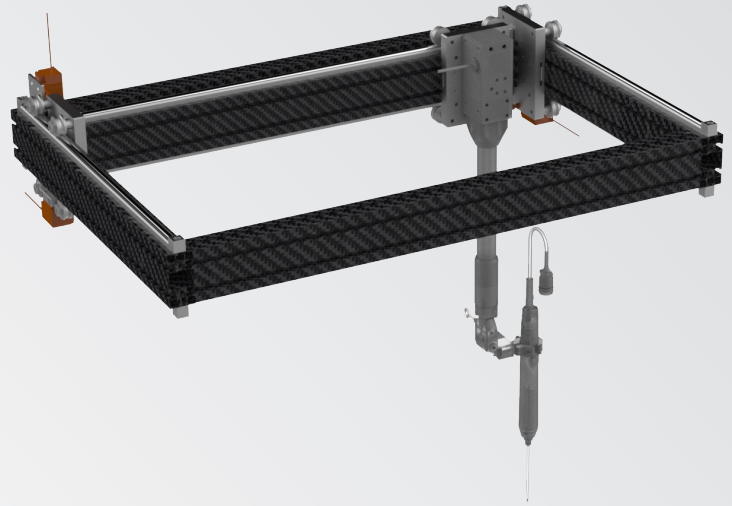
## X-Y portal

### Functionality

High precision tool position detection. It can be installed on existing workstation.

### Features

- ✓ Also available with encoder kit
- ✓ includes balancers



Description	BNPp/n	Made of:	Encoders	Compatibility
Portal 1000x500 AL	090.0010.000	Aluminum	2	BRV/15/BRV40/BRV80
Portal 1000x800 AL	090.0011.000	Aluminum	2	BRV/15/BRV40/BRV80
Portal 1200x500 AL	090.0012.000	Aluminum	2	BRV/15/BRV40/BRV80
Portal 1200x800 AL	090.0013.000	Aluminum	2	BRV/15/BRV40/BRV80
Portal 1000x500 CF	090.0020.000	Carbon	2	BRV/15/BRV40/BRV80
Portal 1000x800 CF	090.0021.000	Carbon	2	BRV/15/BRV40/BRV80
Portal 1200x500 CF	090.0022.000	Carbon	2	BRV/15/BRV40/BRV80
Portal 1200x800 CF	090.0023.000	Carbon	2	BRV/15/BRV40/BRV80
Portal 1500x500 CF	090.0024.000	Carbon	2	BRV/15/BRV40/BRV80
Portal 1500x800 CF	090.0025.000	Carbon	2	BRV/15/BRV40/BRV80

# Upper hinge kit

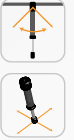
## High torque BRV



### Functionality:

If used with a high torque BRV arm enables more movement degrees of freedom:

- 1 degree of freedom
- 2 degrees of freedom



### Features

- ✓ Screws included

	Compatibility	Descriptions	BNP p/n
High torque BRV	BRV 150	Fix upper hinge	070.0531.000
	BRV 150	1 degree of freedom (X axis) upper hinge	070.0532.000
	BRV 150	2 degree of freedom (X axis) upper hinge	070.0533.000
	BRV 300	Fix upper hinge	070.0541.000
	BRV 300	1 degree of freedom (X axis) upper hinge	070.0542.000
	BRV 300	2 degree of freedom (X axis) upper hinge	070.0543.000
	BRV 600	Fix upper hinge	070.0551.000
	BRV 600	1 degree of freedom (X axis) upper hinge	070.0552.000
	BRV 600	2 degree of freedom (X axis) upper hinge	070.0553.000

# Brake kit

For BRV anti-rotation torque reaction arm

## Functionality

During the tightening operation the brake will block the arm rotation around z axis.

- It allows to manage free rotation around z axis



## Features

- ✓ Available in pneumatic and electromagnetic version
- ✓ High smoothness
- ✓ SA compatible



Descriptions	BNP p/n	Max torque	Weight	Technology
		Nm	Kg (lb)	
EM Brake 150 Nm	070.0534.000	150	6	Electromagnetic
EM Brake 300 Nm	070.0544.000	300	15	Electromagnetic
EM Brake 600 Nm	070.0554.000	600	17	Electromagnetic

**Notes:** On demand it's possible to order the pneumatic version of the brakes.

# BRF - BRL

Orthogonal torque reaction arms

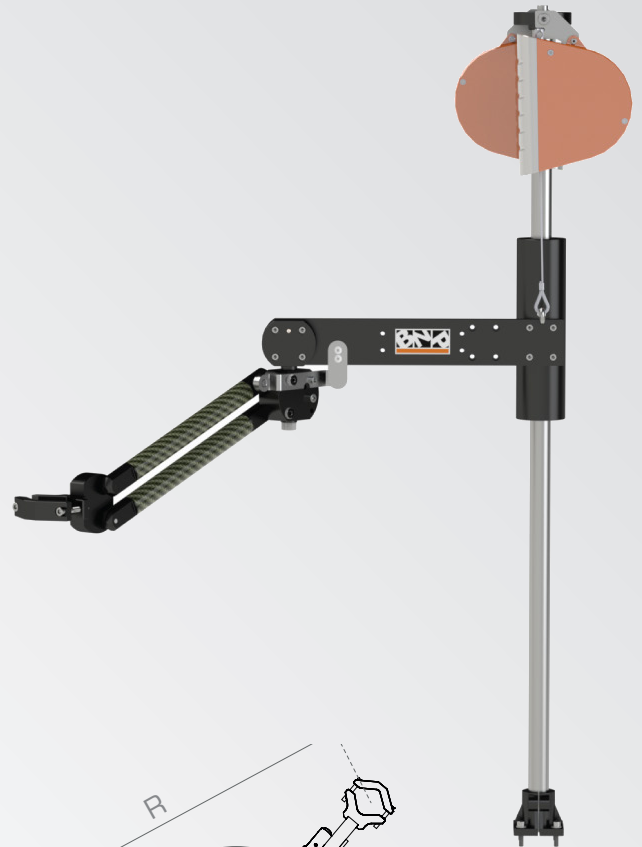
- ✘ **BRF**  
Articulated orthogonal torque reaction arms
- ✘ **BRL**  
Linear orthogonal torque reaction arms

# BRF

Articulated orthogonal torque reaction arms

## When useful?

- Perfect perpendicularity to the tightening floor
- Horizontal installation
- Wide working area
- Configurable inclination

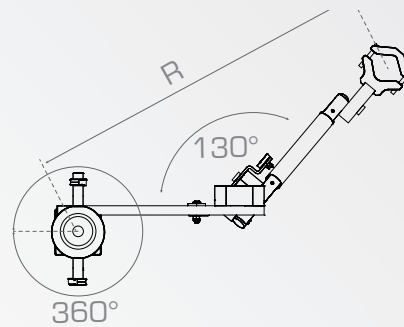


## Features

- ✓ Carbon fiber
- ✓ Tilting front arm
- ✓ High smoothness

## Complements:

- + Tool holder (included)
- + Balancers kit
- + Encoders kit
- + Downward kit
- + Positioning system



Arm	BNP p/n	Max torque		Min R		Max R		Max tool Weight	Weight to balance
		Nm	f.lb	mm	in	mm	in		
BRF10 450	040.0001.000	10	7,38	382	15,04	450	17,71	1,5 (3,31)	2 (4,41)
BRF10 600	040.0002.000	10	7,38	532	20,95	600	23,62	1,5 (3,31)	2,1 (4,63)
BRF15 450	040.0003.000	15	11,06	382	15,04	450	17,71	4 (8,82)	3 (6,62)
BRF15 600	040.0004.000	15	11,06	532	20,95	600	23,62	4 (8,82)	3,2 (7,06)
BRF40 600	040.0005.000	40	29,50	532	20,95	600	23,62	5 (11,03)	3,7 (8,16)
BRF40 800	040.0006.000	40	29,50	732	28,82	800	31,50	5 (11,03)	4 (8,82)
BRF80 800	040.0007.000	80	59,00	732	28,82	800	31,50	6 (13,23)	7 (15,44)
BRF80 1000	040.0008.000	80	59,00	932	36,70	1000	39,37	6 (13,23)	7,3 (16,10)



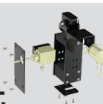
**Notes:** BNP custom solutions can reach 300 Nm max torque



**Balancers kit**  
Pag. FL6



**Encoders kit**  
Pag. FL9



**Downward kit**  
Pag. FL8



**Positioning system**  
Pag. SP3

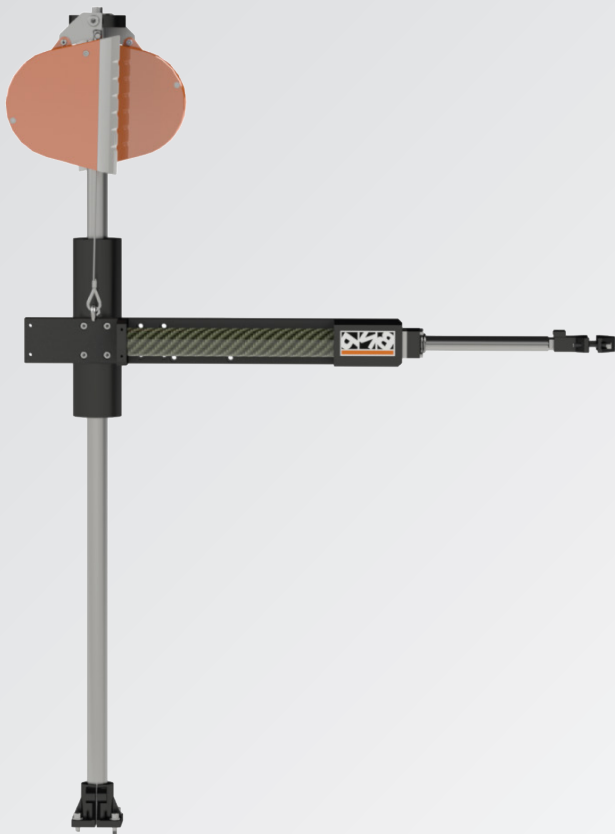


**Standard purchase order:** BRF + balancers kit



# BRL

## Linear orthogonal torque reaction arms



### When useful?

- Perfect perpendicularity to the tightening floor
- Horizontal installation
- Wide working area

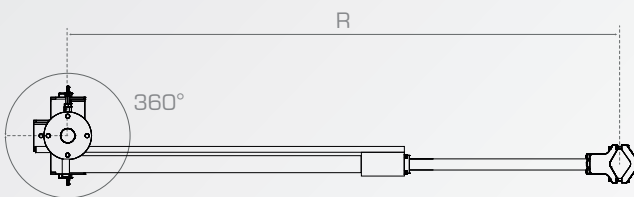


### Features

- ✓ Single-arm technology with recirculating ball bushing
- ✓ High smoothness
- ✓ High precision

### Complements:

- + Tool holder (included)
- + Balancers kit
- + Encoders kit
- + Downward kit
- + Positioning system



Descriptions	BNP p/n	Max torque		Min R		Max R		Max tool weight Kg (Lb)	Weight to balance Kg (Lb)
		Nm	f.b	mm	in	mm	in		
BRL10 450	040.0101.000	10	7,38	230	9,00	450	17,71	1,5 (3,31)	2 (4,41)
BRL10 750	040.0102.000	10	7,38	380	14,90	750	29,52	1,5 (3,31)	2,4 (5,29)
BRL15 450	040.0103.000	15	11,06	260	10,23	450	17,71	4 (8,82)	3 (6,62)
BRL15 750	040.0104.000	15	11,06	380	14,90	750	29,52	4 (8,82)	3,5 (7,72)
BRL40 600	040.0105.000	40	29,50	380	14,90	600	23,62	5 (11,03)	4 (8,82)
BRL40 900	040.0106.000	40	29,50	530	20,86	900	35,43	5 (11,03)	4,5 (9,92)
BRL80 800	040.0107.000	80	59,00	430	16,92	800	31,50	6 (13,23)	6,4 (14,11)
BRL80 1400	040.0108.000	80	59,00	670	26,37	1400	55,11	6 (13,23)	8 (17,64)

**Notes:** BNP custom solutions can reach 300 Nm max torque

+ **Balancers kit**  
Pag. FL6

+ **Encoders kit**  
Pag. FL9

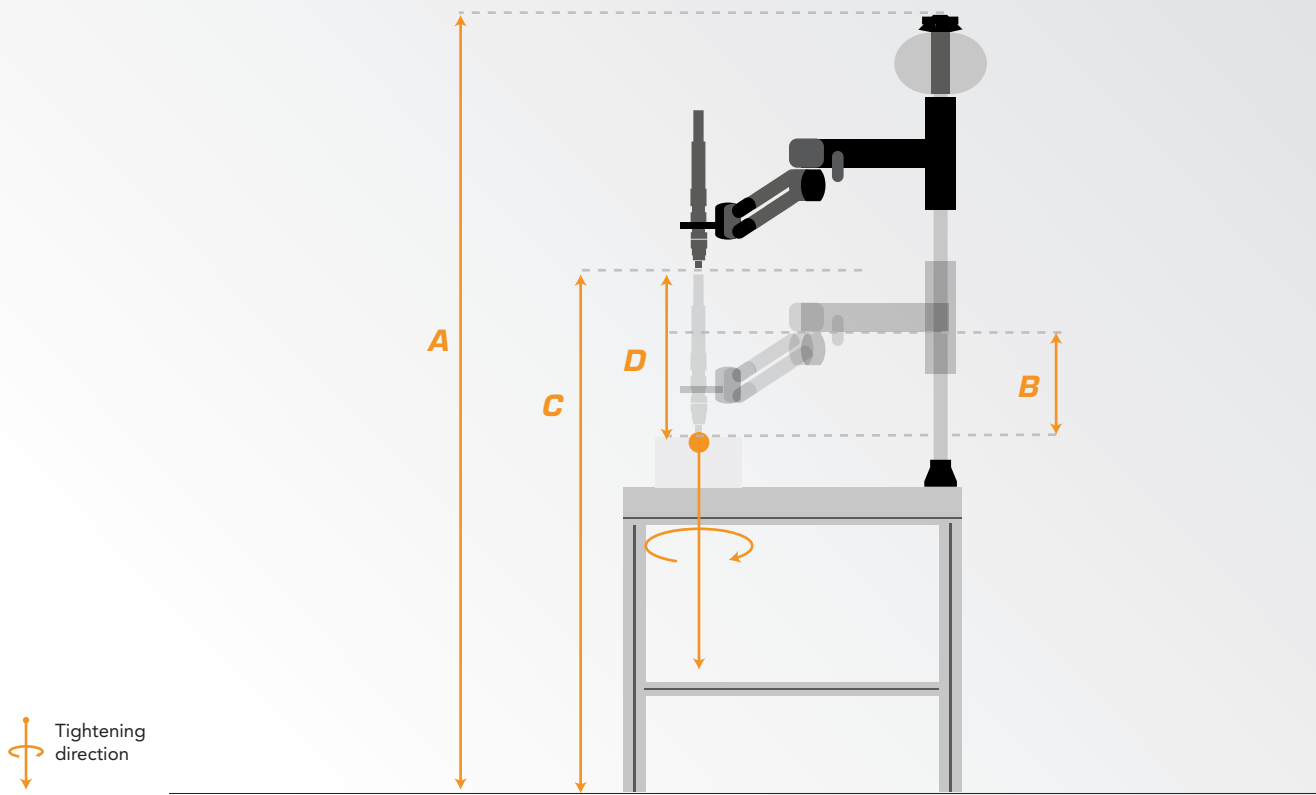
+ **Downward kit**  
Pag. FL8

+ **Positioning system**  
Pag. SP3

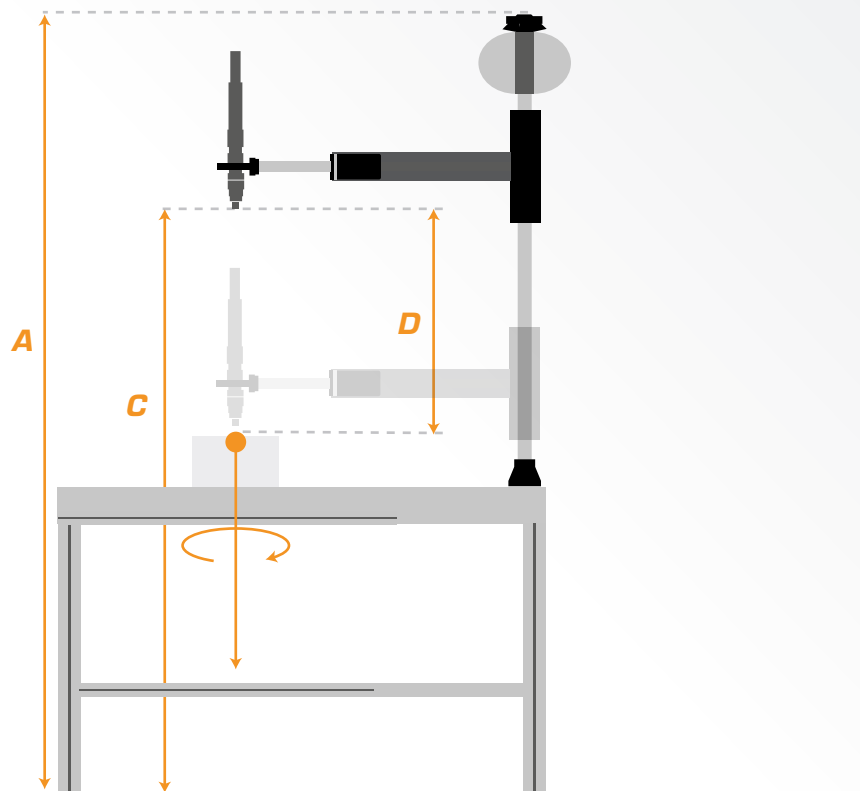
**Standard purchase order:** BRL + Balancers kit

# Installation tips

## Ex. 9: BRF with straight screwdriver



## Ex. 10: BRL with straight screwdriver



## **BRF - BRL** Complements

- ✘ **Balancers and retractors kit**
- ✘ **Balancers and retractors**
- ✘ **Dawnward kit**
- ✘ **Incremental encoders kit**
- ✘ **Absolute encoders kit**



# Retractor and Balancers kit

## Functionality

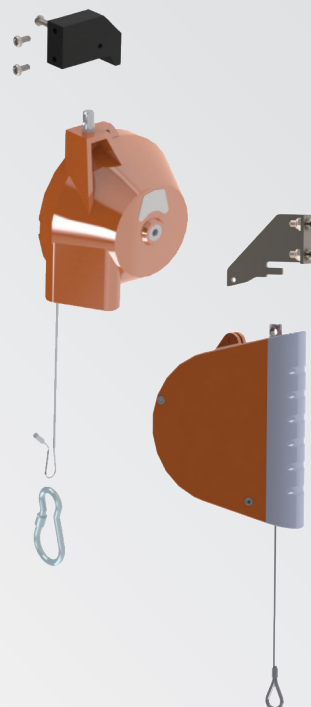
Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

- Tool retraction

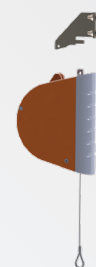
Balancers ensure a constant return force that scales the tool weight. After use, the tool remains in the same position it was left.

- Tool suspension

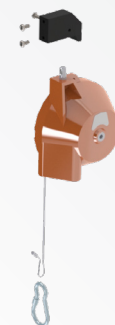
Kit includes the balancer or the retractor and the fixing bracket.



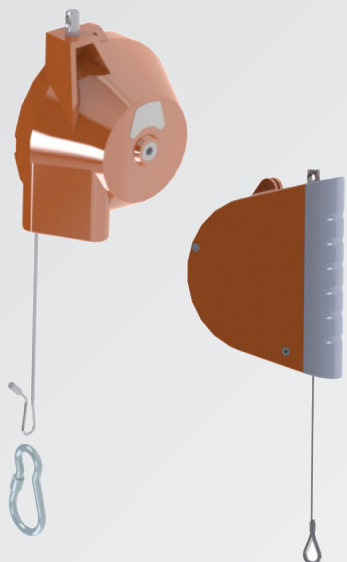
Retractors kit - BRF   BRL	Compatibility	BNP p/n	Model	Cable length	Payload	Amount
				mm	Kg (lb)	
	BRF; BRL	070.0321.000	Kit 7211080001	2500	1-4 (2,2-8,8)	Paired
BRF; BRL	070.0322.000	Kit 7211080002	2500	3-6 (6,6-13,2)	Paired	
BRF; BRL	070.0323.000	Kit 7211080005	1400	6-11 (13,2-24,3)	Paired	
BRF; BRL	070.0324.000	Kit 7221080001	3000	4-10 (8,8-22,1)	Paired	
BRF; BRL	070.0325.000	Kit 7221080002	3000	8-16 (17,6-35,9)	Paired	
BRF; BRL	070.0326.000	Kit 7221080003	3000	14-20 (30,9-44,1)	Paired	
BRF; BRL	070.0327.000	Kit 7221080004	3000	20-28 (44,1-61,8)	Paired	



Balancers kit - BRF   BRL				mm	Kg (lb)	
	BRF; BRL	070.0328.000	KIT 7228000001	1600	0,8-2,4 (1,76-5,3)	Paired
	BRF; BRL	070.0329.000	KIT 7228000002	1600	2,4-4, (5,29-9)	Paired
BRF; BRL	070.0330.000	KIT 7228000003	1600	5,2-7,6 (11,47-16,7)	Paired	
BRF; BRL	070.0331.000	KIT 7228000004	1600	7,6-10,4 (16,76-23)	Paired	
BRF; BRL	070.0332.000	KIT 7228000005	1600	10,4-13 (22,93-28,7)	Paired	
BRF; BRL	070.0333.000	KIT 7230000003	2000	26-34 (57,33-75)	Paired	
BRF; BRL	070.0334.000	KIT 7230000004	2000	32- 42 (70,56-92,6)	Paired	



# Retractors and Balancers



## Functionality

BRT arms can be associated with both retractors and balancers.

Installation bracket is required for BRT-V and BRT-P telescopic arms.

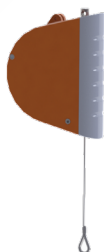
Retractors exert a return force on the tool. After use, the tool will be retracted to its initial position.

Balancers ensure a constant return force that scales the tool weight. After use, the tool will remain in the same position it was left.

Retractors (A) - BRF   BRL	BNP p/n	Payload	Cable length	Weight	P/n Kromer	Bracket
		Kg (lb)	mm	Kg (lb)		Image page FL8
	070.0918.000	0,3-1,5 (0,66-3,51)	1600	0,5 (1,10)	7200 0800 01	-
	070.0919.000	1,2-2,5 (2,65-5,51)	1600	0,6 (1,32)	7200 0800 02	-
	070.0920.000	0,5-2,0 (1,10-4,4)	2500	0,8 (1,76)	7211 0800 01	G (BRL-BRF)
	070.0921.000	1,5-3,0 (3,31-6,62)	2500	0,9 (1,98)	7211 0800 02	G (BRL-BRF)
	070.0922.000	3,0-5,5 (6,62-12,3)	1400	1 (2,21)	7211 0800 05	G (BRL-BRF)
	070.0923.000	2,0-5,0 (4,4-11,03)	3000	3,5 (7,72)	7221 0800 01	H (BRL-BRF)
	070.0924.000	4,0-8,0 (8,82-17,64)	3000	3,8 (8,38)	7221 0800 02	H (BRL-BRF)
	070.0925.000	7,0-10,0 (15,4-22,05)	3000	3,8 (8,38)	7221 0800 03	H (BRL-BRF)
	070.0926.000	10,0-14,0 (22,05-30,87)	3000	4 (8,82)	7221 0800 04	H (BRL-BRF)

Balancers (B) - BRF   BRL		Payload	Cable length	Weight	P/n Kromer	Bracket
		Kg (lb)	mm	Kg (lb)		Image page FL8
	070.0927.000	0,4-1,2 (0,88-2,65)	1600	1,3 (2,87)	7228 0000 01	I (BRL-BRF)
	070.0928.000	1,2-2,6 (2,65-5,73)	1600	1,4 (3,09)	7228 0000 02	I (BRL-BRF)
	070.0929.000	2,6-3,8 (5,73-8,38)	1600	1,5 (3,31)	7228 0000 03	I (BRL-BRF)
	070.0930.000	3,8-5,2 (8,38-11,47)	1600	1,5 (3,31)	7228 0000 04	I (BRL-BRF)
	070.0931.000	5,2-6,5 (11,47-14,33)	1600	1,5 (3,31)	7228 0000 05	I (BRL-BRF)
	070.0932.000	4,5-7,0 (9,92-15,44)	2000	3,3 (7,28)	7230 0000 02	-
	070.0933.000	6,0-10,0 (13,23-22,05)	2000	3,4 (7,50)	7230 0000 03	L (BRL-BRF)
	070.0934.000	9,0-14,0 (19,85-30,87)	2000	3,6 (7,94)	7230 0000 04	L (BRT)
	070.0935.000	13,0-17,0 (28,6-37,49)	2000	3,8 (,00)	7230 0000 05	-

A



B



# Brackets

## Installation brackets

### Functionality

BNP arm Installation brackets for Kromer balancer and retractor.



	Compatibility	Image	BNP p/n
BRV	BRF - BRL	G	070.1032.000
	BRF - BRL	H	070.1033.000
	BRF - BRL	I	070.1034.000
	BRF - BRL	L	070.1035.000

G



I



H



L



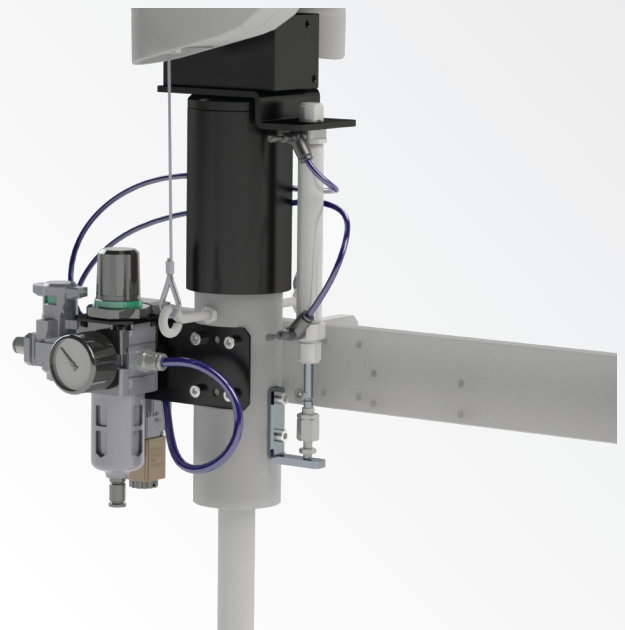
# Downward kit

## Pneumatic downward assistance kit

### Functionality

It supplies additional push force to the operator hand, especially for tightening with self tapping screw.

- Provides additional thrust to the operator's manual force



### Features

- ✓ Increases the tightening process quality

Compatibility	Descriptions	BNP p/n	Push force	Weight
			kg (lb)	kg (lb)
BRF; BRL15-40	KIT AS BR15-40	040.0201.000	5 (11,03)	2,2 (4,85)
BRF; BRL 80	KIT AS BR 80	040.0202.000	9 (19,85)	2,5 (5,51)

# Incremental encoders kit (for POSIX)



## Functionality

If it is installed on BRF and BRL arms, it allows to detect the tool position

- X and Y axis position detections (2 encoders):
- X, Y and Z axis position detection (3 encoders)



## Compatibility

- ✓ Orthogonal arms BRF - BRL
- ✓ Posix positioning system

	Compatibility	Kit	BNP p/n
BRF	BRF 15-40	2 encoders kit	040.0301.000
	BRF 80	2 encoders kit	040.0302.000
	BRF 15-40	3 encoders kit	040.0303.000
	BRF 80	3 encoders kit	040.0304.000

	Compatibility	kit	BNP p/n
BRL	BRL 15	2 encoders kit	040.0351.000
	BRL 40	2 encoders kit	040.0352.000
	BRL 80	2 encoders kit	040.0353.000
	BRL 15	3 encoders kit	040.0354.000
	BRL 40	3 encoders kit	040.0355.000
	BRL 80	3 encoders kit	040.0356.000

# Absolute encoders kit for POSIX PRO



## Functionality

If it is installed on BRF and BRL arms, it allows to detect the tool position:

- X and Y axis position detections (2 encoders)
- X, Y and Z axis position detections (3 encoders)



## Compatibility

- ✓ Posix PRO compatible
- ✓ Ensures correct tightening sequences
- ✓ Tool position detection by absolute encoders



	Kit	BNP p/n
<b>BRF</b>	2 encoders	
	BRF 15 - 2 abs. encoders kit	040.0320.000
	BRF 40 - 2 abs. encoders kit	040.0321.000
	BRF 80 - 2 abs. encoders kit	040.0322.000
	3 encoders	
	BRF 15 - 3 abs. encoders kit	040.0323.000
BRF 40 - 3 abs. encoders kit	040.0324.000	
BRF 180 - 3 abs. encoders kit	040.0325.000	

	Kit	BNP p/n
<b>BRL</b>	2 encoders	
	BRL 15 - 2 abs. encoders kit	040.0370.000
	BRL 40 - 2 abs. encoders kit	040.0371.000
	BRL 80 - 2 abs. encoders kit	040.0372.000
	3 encoders	
	BRL 15 - 3 abs. encoders kit	040.0373.000
BRL 40 - 3 abs. encoders kit	040.0374.000	
BRL 80 - 3 abs. encoders kit	040.0375.000	





# ***ARTICULATED ARMS***



# Zero G

- ✦ **Zero G**  
Articulated pneumatic torque reaction arm  
Zero Gravity

# Zero G

## 250 - 500 Nm

### When useful?

- Heavy weight tools
- High torque power tools
- Wide working area
- It allows to work under chassis
- Both floor and ceiling mounting

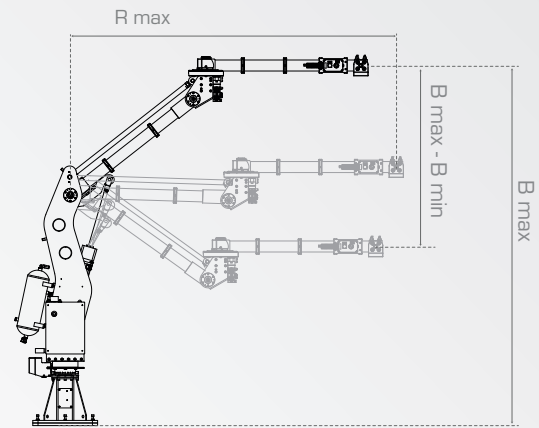


### Features

- ✓ Handling effort:  $\leq 39N$
- ✓ Floor and ceiling installation
- ✓ Pneumatic balancing

### Complements:

- + Base extensions
- + Dropper
- + Electromagnetic brakes
- + Positioning system



### Floor mounting

Descriptions	BNP p/n	Max torque	B max	B max - B min	R max	Payload	Weight
		Nm	Nm	mm	mm	Kg (lb)	Kg (lb)
ZeroG 250-1500	050.0001.000	250	2240	870	1500	55 (121,28)	215 (474,08)
ZeroG 250-2000	050.0002.000	250	2400	1185	2000	45 (99,23)	225 (496,13)
ZeroG 250-2500	050.0003.000	250	2555	1490	2500	35 (77,18)	235 (518,18)
ZeroG 500-1500	050.0201.000	500	2390	870	1500	70 (154,35)	255 (562,28)
ZeroG 500-2000	050.0202.000	500	2545	1185	2000	60 (132,30)	265 (584,33)
ZeroG 500-2500	050.0203.000	500	2700	1490	2500	50 (110,25)	275 (606,38)

### Ceiling mounting

		mm	mm	mm	mm	Kg (lb)	Kg (lb)
ZeroG-S 250-1500	050.0051.000	250	2220	870	1500	55 (121,28)	195 (429,98)
ZeroG-S 250-2000	050.0052.000	250	2380	1185	2000	45 (99,23)	205 (452,03)
ZeroG-S 250-2500	050.0053.000	250	2535	1490	2500	35 (77,18)	215 (474,08)
ZeroG-S 500-1500	050.0251.000	500	2370	870	1500	70 (154,35)	240 (529,20)
ZeroG-S 500-2000	050.0252.000	500	2525	1185	2000	60 (132,30)	230 (507,15)
ZeroG-S 500-2500	050.0253.000	500	2680	1490	2500	50 (110,25)	250 (551,25)





## Zero G encoders kit

### When useful?

It allows to detect the tool position in the space:

- X, Y and Z axis detection



#### Descriptions

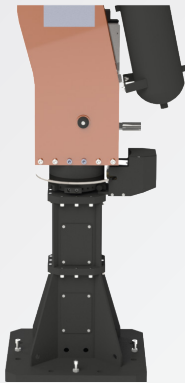
#### BNP p/n

ZeroG Encoder Kit

055.0302.000

### Features

- ✓ Posix compatible



## Base extension

### When useful?

- Increasing the arm's height



#### Descriptions

#### BNP p/n

P/n

Base extension L250

055.0004.000

Base extension L500

055.0005.000

Base extension L1000

055.0006.000

### Features

- ✓ Steel made



## Dropper

### When useful?

An electromagnetic brake can be integrated in order to allow axial rotation.

- Tool position modification
- Axial rotation



#### Descriptions

#### BNP p/n

Dropper

050.0101.000

Dropper with electromagnetic brake

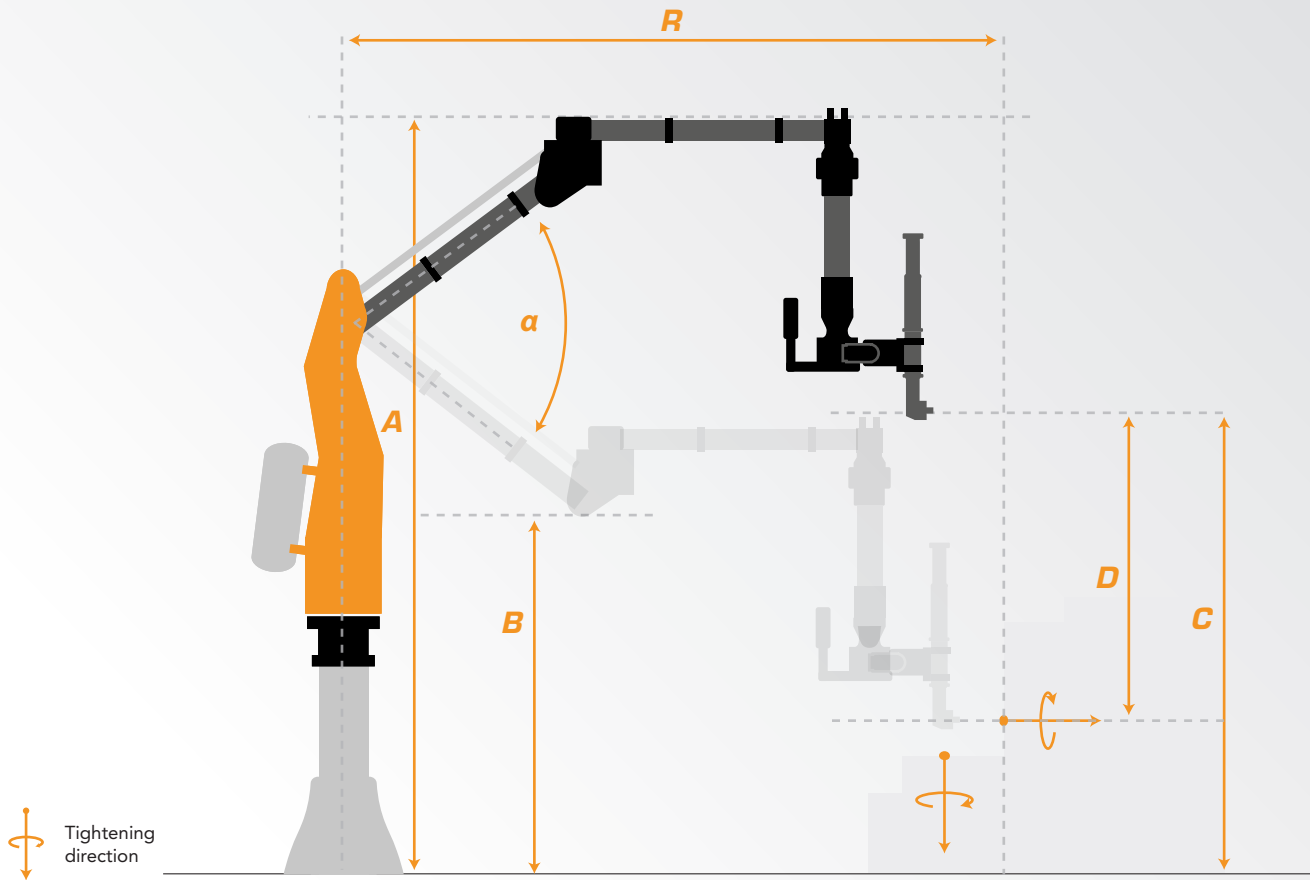
050.0102.000

### Features

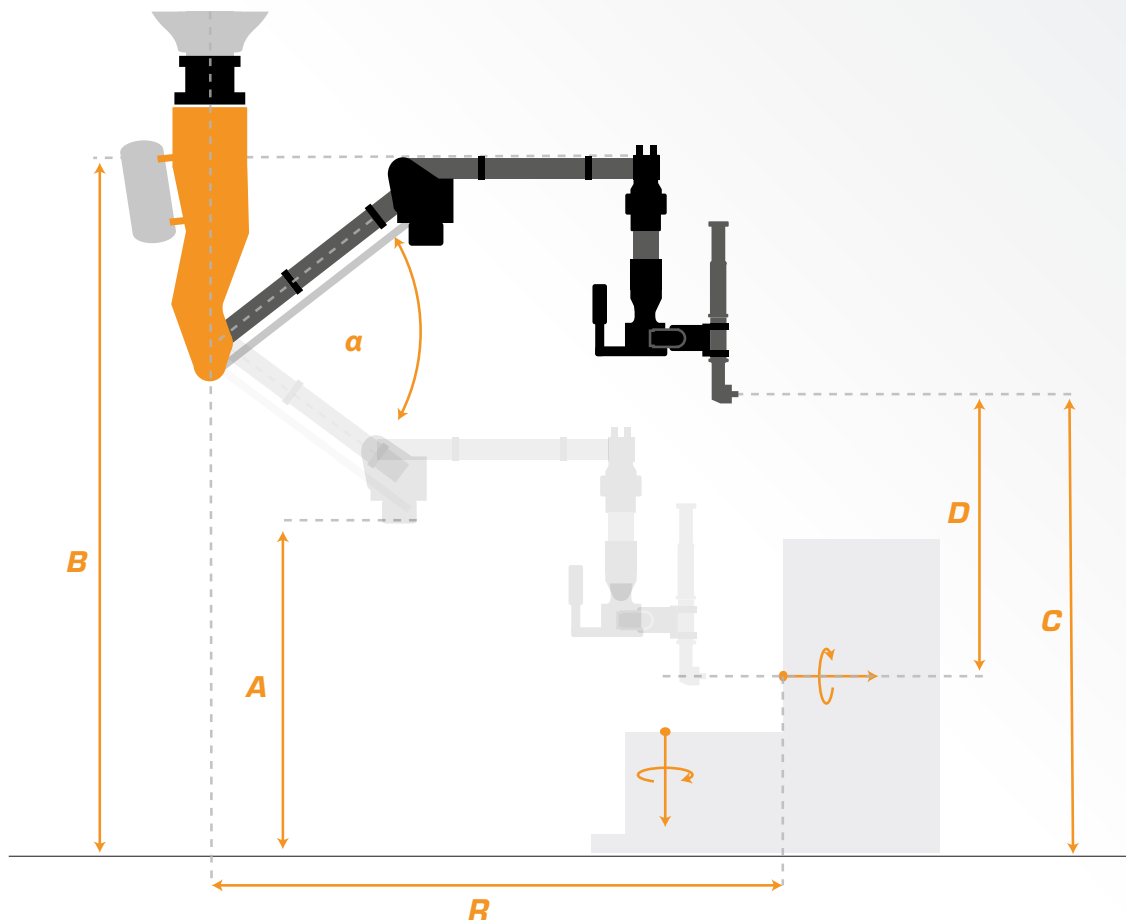
- ✓ Carbon fiber extension with customized tool holder
- ✓ Also available with electromagnetic brake

# Installation tips: Zero G

## Ex. 11: Floor mounted Zero G



## Ex. 12: Ceiling mounted Zero G





# A.B.R.A

Air balanced reaction arm



# A.B.R.A.

Air Balanced Reaction Arm

## When useful?

- Heavy weight tools
- High torque power tools
- Wide working area
- Both floor and ceiling mounting

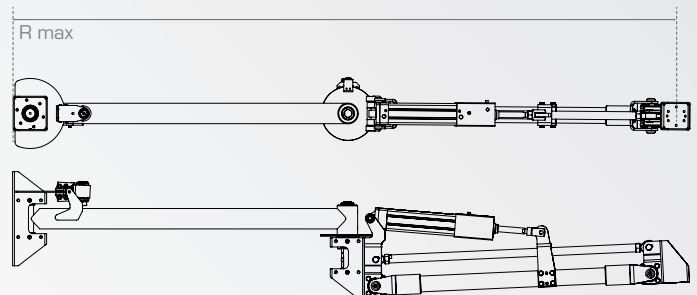


## Features

- ✓ Second arm in carbon fiber
- ✓ Light and compact
- ✓ Can be installed on existing structures

## Complements:

- + Central joint brake
- + Dropper 500 mm
- + Encoders kit



Descriptions	BNP p/n	Max torque	R max	Payload	Weight
		Nm	mm	Kg (lb)	Kg (lb)
ABRA 200 - 2500	050.0023.000	250	2500	30 (66,14)	120 (264,56)





## Central joint brake

### When useful?

Brake installed on the arm's joint. Useful when arm blocking is mandatory during the tightening operation.

### Features

- ✓ Pneumatic brake

#### Descriptions

BNP p/n

Central joint brake

050.0105.000



## Encoders kit

### When useful?

It allows to detect the tool position in the space

- X, Y and Z axis detection



### Features

- ✓ Posix compatible

#### Descriptions

BNP p/n

Incrementals encoders kit

050.0107.000

Absolute encoders kit

050.0108.000



## Dropper

### When useful?

An electromagnetic brake can be integrated in order to allow axial rotation.

- Tool position modification
- Axial rotation



### Features

- ✓ Carbon fiber extension with customized tool holder
- ✓ Also available with electromagnetic brake

#### Descriptions

BNP p/n

Dropper 500 mm

050.0110.000





# ***MANIPULATORS***



# Suspension arms

## When useful?

These arms allow to support heavy weight tools that do not generate reaction torque.

- Heavy weight tools
- Solve ergonomic issue



## Features

- ✓ Carbon fiber made
- ✓ Includes balancers

## Complements:

- + Custom tool holder
- + Custom suspension cart (A)
- + Trolley interface
- + Arm's extension



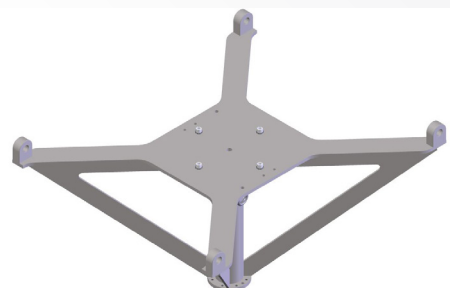
Descriptions	BNP p/n	Max payload	Max length	Stroke
		Kg (lb)	mm	mm
BS200_1600/500	200.0500.000	200 (441,00)	1600	500
BS100_2100/900	200.0502.000	100 (220,50)	2100	900
BS150_2100/900	200.0504.000	150 (330,75)	2100	900
BS200_2100/900	200.0506.000	200 (441,00)	2100	900

## Accessories

### Trolley's interface

Descriptions	BNP p/n
Custom suspension cart	200.0520.000

A



### Arm's extension

Descriptions	BNP p/n
extension L=500	200.0530.000



**LIVE**

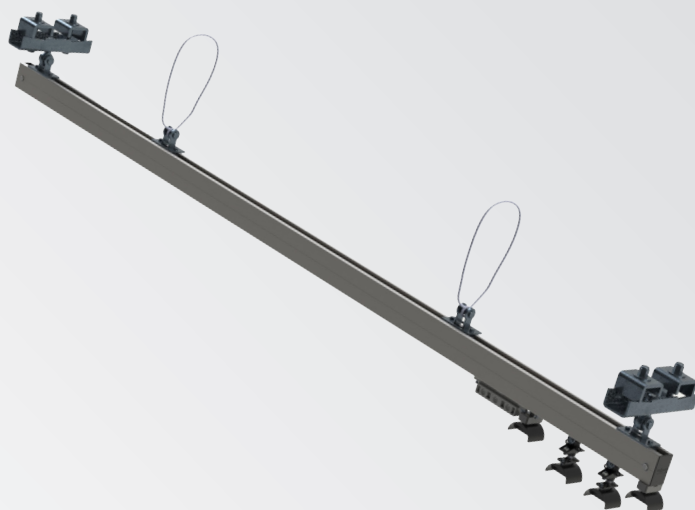
# Crane systems

## When useful?

For BRT and BRV torque reaction arms, BS suspension arms and mobile workstations.

## Features

- ✓ High smoothness
- ✓ Available with single and double configuration or with portal



Description	BNP p/n	P/n	Payload	Lenght	Width	Image
			Kg (Lb)	mm	mm	
Single rail module	200.0001.000	738.005.100	100	3000	-	A
Double rail module	200.0005.000	738.005.200	500*	3000	-	B
Double rail module with bridge system	200.0010.000	738.005.300	500*	3000	3000	C

**! Note\*:** payload for single rail. Cumulative payload depends on rails distance; in order to verify the possible load please contact us.

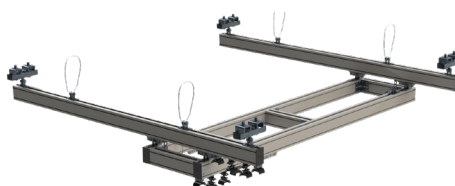
A



B



C



## When useful?

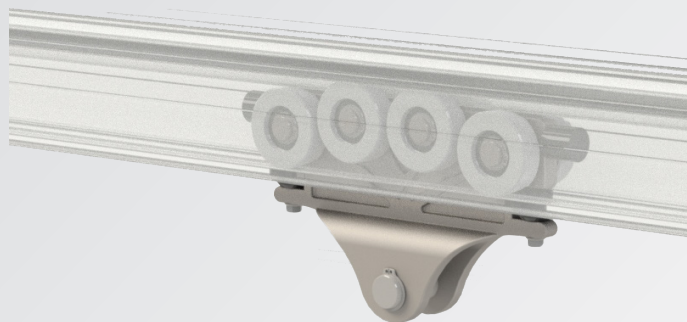
To move torque reaction arms and manipulators on the rails.

## Features

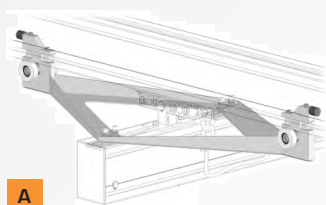
- ✓ Aluminium made
- ✓ Easy to install
- ✓ Custom on demand

## Complements

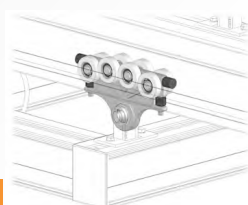
- + Torque reaction arms
- + Manipulators



Description	BNP P/n	P/n	Payload	Note	Image
			Kg (Lb)		
Torque cross	200.1001.000	900.100.123		Only for p/n 200.1004.000	A
Spherical joint trolley	200.1002.000	900.200.102	600		B
Trolley for pulley	200.1003.000	900.200.103	600		C
Double trolley spherical joint	200.1004.000	900.200.201	1000		D
Double trolley	200.1005.000	900.200.202	1000		E



A



B



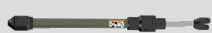
C



D



E



**Torque reaction arm**  
Pag. T1



**Manipulators**  
Pag. MA1

# Mobile workstation

## When useful?

When a workstation fully equipped for assembly activities is needed in the production line.

## Features

- ✓ High smoothness
- ✓ Compatible with BNP solutions for workstation
- ✓ Mobile workstation unit includes a crane systems with cable drag

## Complements

- + Dinamic lighting
- + Pick to light
- + Socket tray
- + Tool holster
- + Tool Holster mini




Description	BNP P/n	P/n	Workstation payload	Rail	
				Payload	Lenght
			Kg (Lb)	Kg (lb)	mm
Mobile workstation for screwdriver support and BNP tool	200.0050.000	738.005.500	50	500	3000

**+**   
**Adaptive lighting**  
 Pag. PO8

**+**   
**Pick to light**  
 Pag. PO11

**+**   
**Socket tray**  
 Pag. PO10

**+**   
**Tool holster mini**  
 Pag. PO5



# Supermarket



## When useful?

The supermarket allows to organize your production materials in accordance with operators' needs.

## Features

- ✓ Aluminium profile
- ✓ Light solution
- ✓ Roller shelves

Description	P/N
Supermarket 800x600x1500	200.0210.000
Supermarket 800x1200x1500	200.0211.000
Supermarket 1600x600x1500	200.0212.000
Supermarket 1600x1200x1500	200.0213.000

# Modular Supermarket

## When useful?

The modular supermarket is the best solution for configuring the storage in accordance with customer specific needs. The solution allows a subsequently upgrading.

## Features

- ✓ Possibility to configure the supermarket
- ✓ From three to five roller shelves configurations
- ✓ Upgradable solution

## Accessories:

- + Wooden top (optional)



Description	P/N	Dimensions
Side	200.0200.000	1200x1300
Roller shelf	200.0201.000	400x1200
Wooden top (optional)	200.0202.000	400x1200

**Note:** base configuration is composed by two sides and three roller shelves. To expand the supermarket, three shelves and only one side is required. Each supermarket can be equipped with up to 5 shelves.

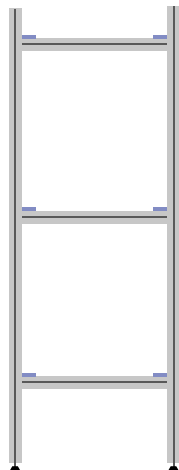
## Upgradable solution

### Base configuration

- 2 sides
- 3 roller shelves

#### Optional

- + Up to 2 additional shelves
- + Wood top

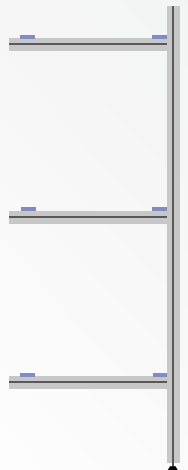


### Upgrade configuration

- 1 sides
- 3 roller shelves

#### Optional

- + Up to 2 additional shelves
- + Wood top



# Setup cart

## For workstation



### When useful?

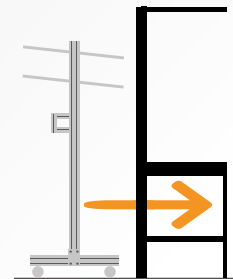
This is a solution for workstation material feeding. The mobile setup cart allows to pick-up the material and bring it to the operator's workbench.

- Workstation feeding and pick up activities

### Features

- ✓ Mobile solution
- ✓ Light weight
- ✓ The setup cart fits with BNP workstations

Description	P/n
Setup cart 1000	200.0100.000
Setup cart 1200	200.0105.000
Setup cart 1600	200.0110.000



# Ergonomic trolleys

## When useful?

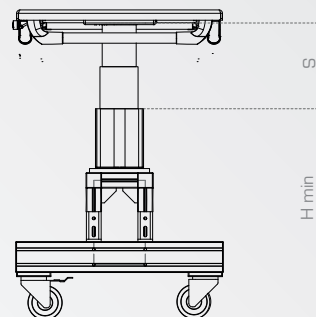
This trolley provides a mobile ergonomic workstation

- Mobile workstation
- Adjustable height
- Resolution of ergonomic critical issues



## Features

- ✓ Adjustable height
- ✓ With battery
- ✓ Electric grounding



Description	BNP P/n	Dimensions	H min	S
		mm	mm	mm
Trolleys 1300x600	200.0300.000	1300x600	900	300
Trolleys 1500x600	200.0301.000	1500x600	900	300



# ***WORKSTATION***



# Ergonomic workstations

✦ Ergonomic workstations



# Ergonomic workstation



## When useful?

This ergonomic workstation enhances worker productivity and wellness thanks to its adjustable height and other ergonomic complements.

- Electrical workbench height adjustment
- Wide range of ergonomic complements



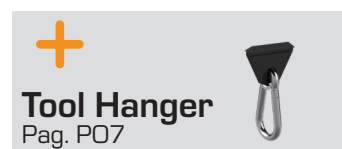
## Features

- ✓ Aluminium profiles
- ✓ Adjustable workbench height
- ✓ The ergonomic workstation unit is equipped with Ergo Kit for controlling workbench height

## Complements:

- + Adjustable lighting
- + Electric panel
- + Torque reaction arm
- + Pick to light
- + Socket tray
- + Antistatic bench
- + Shelves
- + Tool hanger
- + Monitor support
- + Tool holder
- + Modular rail system

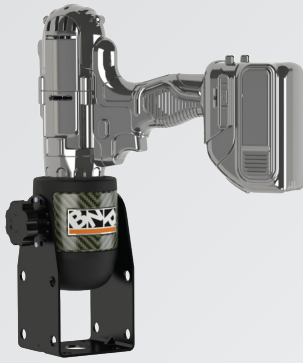
Description	BNP P/n	Length	Depth	Payload	Actuators	Min height	Max height
		mm	mm	Kg (lb)	Amount	mm	mm
Ergo workstation 1200x800 - 100	100.0001.000	1200	800	100	2	800	1100
Ergo workstation 1200x800 - 200	100.0003.000	1200	800	200	4	800	1100
Ergo workstation 1600x800 - 200	100.0012.000	1600	800	200	2	800	1100
Ergo workstation 1600x800 - 300	100.0013.000	1600	800	300	2	800	1100
Ergo workstation 1600x800 - 600	100.0015.000	1600	800	600	4	800	1100
Ergo workstation 2000x800 - 300	100.0017.000	2000	800	300	2	800	1100
Ergo workstation 2000x800 - 600	100.0018.000	2000	800	600	4	800	1100



# Ergonomic workstations accessories

- ✘ Tool holster mini
- ✘ Twin holder
- ✘ Antistatic bench
- ✘ Shelves
- ✘ Tool hanger
- ✘ Rail system
- ✘ Monitor support
- ✘ Lighting
- ✘ Kit Ergo
- ✘ Socket tray
- ✘ Electrical panel
- ✘ Pick to light BNP
- ✘ Pick to light





## Tool holster mini

### When useful?

Holder to store tools after use:

- It protects the tool body from strikes



### Features

- ✓ Easy set-up
- ✓ Carbon fiber badge

Descriptions	BNP P/n	Ø max
Mini Tool Holster	0007.08	42



## Twin holder

### When useful?

Holder to store tools after use.

### Features

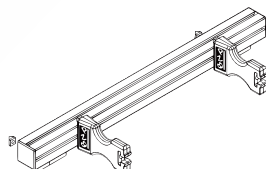
- ✓ It can be set in different ways
- ✓ Made for 8mm hollow aluminum structural profile

BNP P/n	Amount	Tool diameter	Description	Ref.
	(mm)			
080.0001.000	1	42 to 70	Single Holder	1
080.0002.000	1 (*)	n/a	Rail L=590 with Twin Holder	2
080.0003.000	1 (*)	n/a	Stand H1000 with Twin Holder	3
080.0004.000	1 (*)	n/a	Box holder profile L=590	4

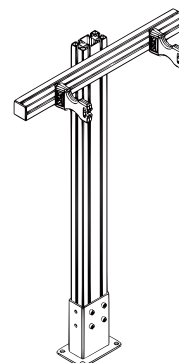
1



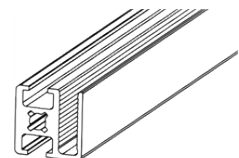
2



3



4



## Antistatic bench

### When useful?

Antistatic laminate workbench that prevents the accumulation of electric discharges due to rubbing with metallic component.

Description	BNP P/n	Dimensions	Color
		mm	
Antistatic bench 1200x800	100.0051.000	1200x800	Grey
Antistatic bench 1600x800	100.0052.000	1600x800	Grey
Antistatic bench 2000x800	100.0054.000	2000x800	Grey

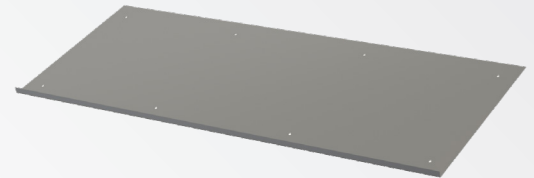


## Shelves

### When useful?

Necessary for the available space upgrade on workstation and for working area optimization.

Description	BNP P/n	Dimensions	Payload
		mm	Kg (Lb)
Shelves 1200x300	100.0051.000	1200x300	40
Shelves 1600x300	100.0052.000	1600x300	40
Shelves 2000x300	100.0054.000	2000x300	40



## Tool hanger

### When useful?

To install balancers on workstation frame to allow sliding.



Description	P/n
Tool Hanger	090.0730.000

## Modular rail system for workstation



### When useful?

Workstation sliding support for reaction arms.

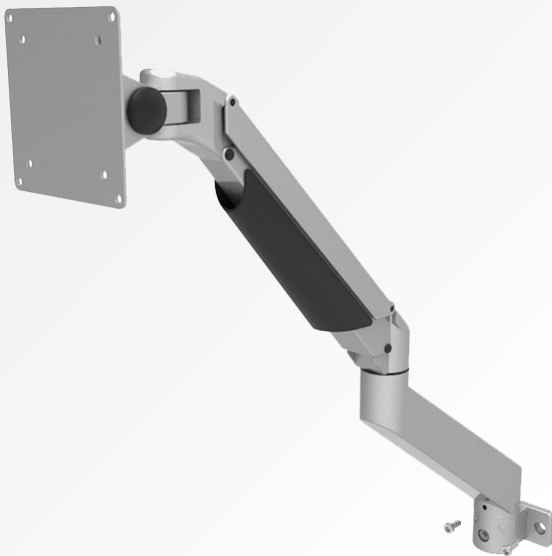
### Features

- ✓ The structural profile includes the carriage stop component and the closing caps.

Description	P/n
Structurale profile 45x61 *	090.0740.000
Standard trolley 150 mm	090.0750.000

**Note\***: length depends on customer needs, from minimum 500 mm up to maximum 2000 mm

## Monitor support



### When useful?

Suited for all workstations thanks to its 5 axis structure and different installation options.

### Features

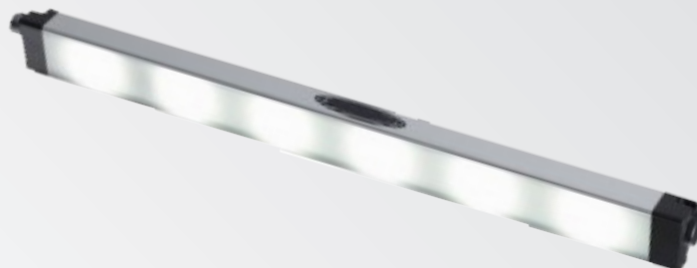
- ✓ Up to 10 kg range
- ✓ 5 axis adjustment structure
- ✓ VESA compatibility

Description	BNP P/n	Radius	Payload	Screen braket
		mm	Kg (lb)	
4 axis Monitor support	100.0074.000	522	10 (22)	VESA
5 axis Monitor support	100.0075.000	522	10 (22)	VESA

## When useful?

High luminance lamps designed to improve ergonomic of working environment for different activities such as assembly operations or quality control

- Adjustable lightness
- Digital integration



## Features

- ✓ Power supply, cables and lamp support are included

## Accessories:

- + Dimmer
- + Switch
- + Posix PRO kit

Description	BNP P/n	P/n	Lenght	Lamps	Color	illuminance
			mm			Lux
Led lamp 570 mm cold light	100.0101.000	WLS28-2CW570DSPWMQ	570	led	6500	1600
Led lamp 850 mm cold light	100.0102.000	WLS28-2CW850DSPWMQ	850	led	6500	2400
Led lamp 1130 mm cold light	100.0103.000	WLS28-2CW1130DSPWMQ	1130	led	6500	3200
Led lamp 570 mm warm light	100.0104.000	WLS28-2CWW570DSPWMQ	570	led	3000	1600
Led lamp 850 mm warm light	100.0105.000	WLS28-2CWW850DSPWMQ	850	led	3000	2400
Led lamp 1130 mm warm light	100.0106.000	WLS28-2CWW1130DSPWMQ	1130	led	3000	3200

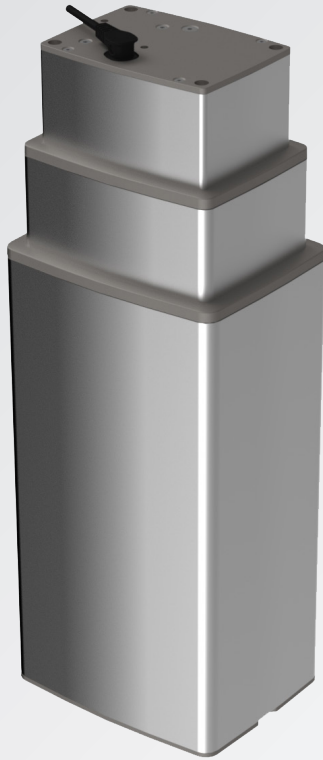
## Complements

Description	BNP P/n
Dimmer kit	100.0110.000
Switch kit	100.0111.000
Posix PRO kit	100.0112.000



# Ergo kit

Height adjustment system for workbench



## When useful?

Enables to adjust workbench height to the worker according to ergonomic requirements

- Electronic adjustment of workbench height
- Digital integration



## Features

- ✓ Interface plate
- ✓ Battery

## Accessories

- + Button panel
- + Posix Pro

Description	BNP P/n	Stroke	Payload
		mm	Kg (lb)
2 actuators kit - 100 kg	100.0081.000	300	100
4 actuators kit - 200 kg	100.0082.000	300	200
2 actuators kit - 300 kg	100.0083.000	300	300
4 actuators kit - 600 kg	100.0084.000	300	600

## Complements

Description	P/n
Button panel	100.0090.000
Posix PRO kit	100.0091.000

# Socket tray



## When useful?

Enhances tightening operations supporting worker with the correct socket picking

- Error proof picking
- Human mistake decrease
- Objectivation of manual process
- Digital integration



A



## Accessories

- + Bit Holders (A) of various sizes on demand

Description	BNP P/n
4 holders socket tray	100.0180.000
4 holders socket tray with led	100.0182.000
8 holders socket tray	100.0184.000
8 holders socket tray with led	100.0186.000

**!** Standard purchase order: Socket tray + bit holders

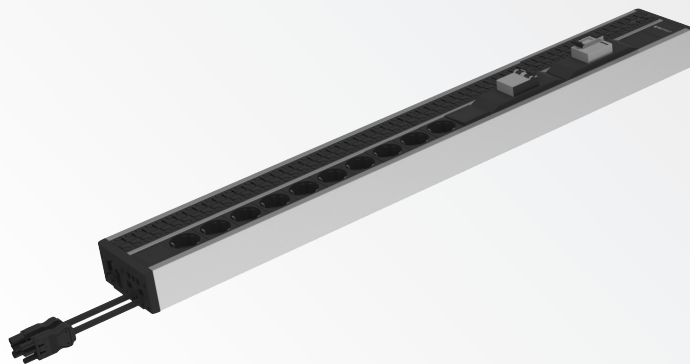
# Electrical panel

for workstations

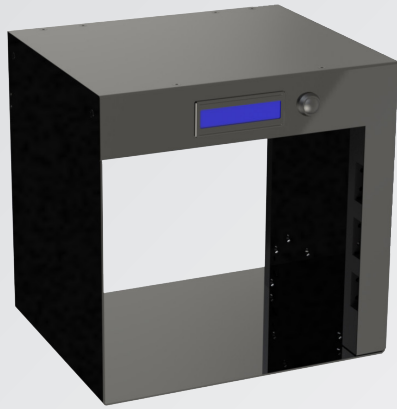
## When useful?

Enables your workstation with a modular system of ethernet electrical sockets, up to a maximum of 20 sockets

- Ethernet port
- Modular system



Description	BNP P/n	Switches	Ethernet	Sockets	Socket type	Magnetothermic and differential	Included
Master 4 switches	100.0300.000	1	2	4	shuko	✓	Supply cable
Master 6 switches	100.0302.000	1	2	6	shuko	✓	Supply cable
Master 10 switches	100.0304.000	1	2	10	shuko	✓	Supply cable
Slave 6 sockets	100.0306.000	X	2	6	shuko	X	Connection cable
Slave 10 sockets	100.0308.000	X	2	10	shuko	X	Connection cable



## Pick to light BNP

For tightening and kitting operations

### When useful?

It supports worker during set up and components picking processes in tightening and kitting operations

- Error proof picking
- Human mistake decrease
- Objectivation of manual process
- Digital integration



Description	BNP P/n
Pick 2 light small	On demand
Pick 2 light medium	On demand
Pick 2 light large	On demand

Complements	
Description	BNP P/n
RFID label	On demand
Posix PRO kit	On demand

### Accessories:

- + RFID
- + Posix PRO kit



## Pick to Light

### When useful?

Supports worker during picking activities showing with a signal light the item to pick up. Enables to confirm picking at the touch of a button or with hand movement.

### Accessories:

- + Posix PRO

Description	BNP P/n
PTL module kit	100.0130.000
PTL manage kit	100.0131.000
PTL additional supply kit	100.0132.000







# ***POSITIONING SYSTEM***

# Positioning systems

✘ Posix

✘ Posix PRO





### When useful?

Allows to guide worker during tightening phases, granting a reduction of errors and objectivation of process.

- Error proof tightening phases
- Reduction of human error risk
- Objectivation of the manual process



Description	BNP p/n
Posix	060.0001.000

### What's Posix?

It's a stand-alone positioning system that recognize the screwdriver position and enable his activities only on the screwing points set by the production manager. Thus, it is possible to set guided tightening sequences that allow to certify the positive outcome of each tightening activity.



#### Traceability



#### Operator's support

### Why Posix?

#### > QUALITY

**Traceability** and **process objectivation** permit to certify quality of the assembly manual activities.

#### > PRODUCTIVITY

The configuration of **assisted production cycles** enables to **speed up** manual assembly processes and to **reduce the number of errors**.

# Posix PRO

Error proof tightening process software

## When useful?

Enables the same functions of Posix with some advanced solutions

- Error proof tightening phases
- Reduction of human error risk
- Objectivation of the manual process
- Digital integration



Description	Posix PRO Manager	Posix PRO Connector (*)	Posix PRO Pro basic	Posix PRO Pro advance	Posix PRO Pro premium	Posix PRO P2L	Posix PRO Ergo
P/N	060.0501.000	060.0502.000	060.0505.000	060.0510.000	060.0520.000	060.0530.000	060.0540.000
Multi workstation control	✓	-	-	-	-	-	-
Data recording	✓	-	✓	✓	✓	✓	✓
ERP communications	✓	-	-	-	-	-	-
Assembly instruction	-	-	✓	✓	✓	✓	✓
Barcode reader	-	-	✓	✓	✓	✓	✓
Printer	-	-	✓	✓	✓	-	-
Screwdriver	-	-	✓	✓	✓	-	-
Encoders	-	-	-	✓	✓	-	-
Socket tray	-	-	-	✓	✓	-	-
Pick to light	-	-	-	-	✓	✓	-
Lamp	-	-	-	-	✓	-	✓
Workbench height	-	-	-	-	✓	-	✓

**Note:** (\*) required to connect Posix Manager with each workstation.

## What's Posix PRO?

It's a software developed to help workers during assembly activities and managers for process control. It aims to integrate workstation tools, enabling the sharing of data and their optimal use with the purpose to improve the production planning.



## Why Posix PRO?

### > FLEXIBILITY

**Centralized control** of the devices in the workstation and **intuitive creation** of production cycles enable rapid adaptation to different production conditions.

### > QUALITY

**Traceability** and **process objectivation** permit to certify quality of the assembly manual activities.

## > PRODUCTIVITY

The configuration of **assisted production cycles** enables to **speed up** manual assembly processes and to **reduce the number of errors**.

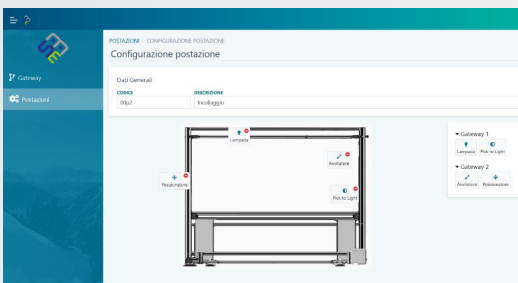
## > WELLBEING

Central management ensures to adapt the workstation to the characteristics of the operator according to ergonomic criteria, thus improving its working condition and **preventing the onset of work-related disorders**.

## How it works?

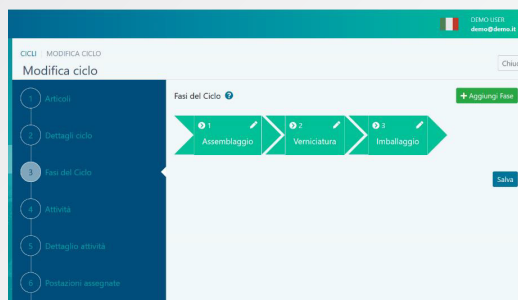
Each Posix PRO license is composed of two applications. Manager application is used to satisfy error proof process exigencies, while Operator application helps worker during assembly cycles.

## Manager



### ➔ Configuration of the workstation

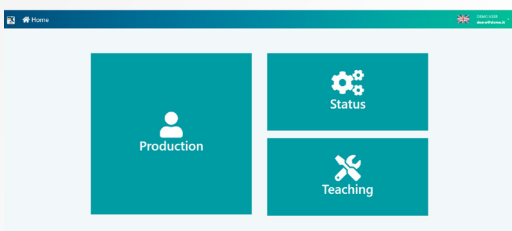
- Complete configuration of the workstation



### ➔ Configuration of production cycles

- Company'ERP connection
- Import codes and items lists
- Collection of production data
- Intuitive creation of assembly cycles
- Control tightening programs
- Management of tightening phases
- Configuration of picking and set-up guides
- Creation of multimedia contextualized instructions

## Operators



### ➔ Assistance in assembly cycles

- Display of work phases with multilingual and contextualized instructions
- Detailed multimedia instructions
  - PDF
  - Video
  - Graphic reproductions of bench and components
- Operator recognition and ergonomic adaptation of the station



## Conversion table

### Length

1 in.=	0.0254 m
1 m=	39.3701 in / 3.2808 ft
1 mm =0	.0393701 in

### Weight

1 lb =0	.4536 kg
1 kg =2	.2046 lb

### Torque

1 kpm=	9.8067 Nm
1 ft-lb=	1.3558 Nm
1 in-lb=	0.1130 Nm
1 Nm =0	.1020 kpm
1 Nm =0	.7376 ft-lbs

### Power

1 kpm/s=	9.8067 W
1 hp =	745.7 W
1 hp =	101.972 kpm/s
1 KW =1	.3410 hp

### Air pressure

1 bar =1	00 kPa
1 kp/cm <sup>2</sup> (at)=	98.0665 kPa
1 psi=	6.8948 kPa
1 kPa=	0.0101972 kp/cm <sup>2</sup> (at)

### Air flow

1 m <sup>3</sup> /min =1	6.6667 l/s
1 cfm=	0.4720 l/s
1 m <sup>3</sup> /h =0	.2778 l/s
1 l/s=	2.1189 cfm

**BNP s.r.l.**  
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**P. IVA 02454510245**





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