

# Known for durability. Trusted for quality.

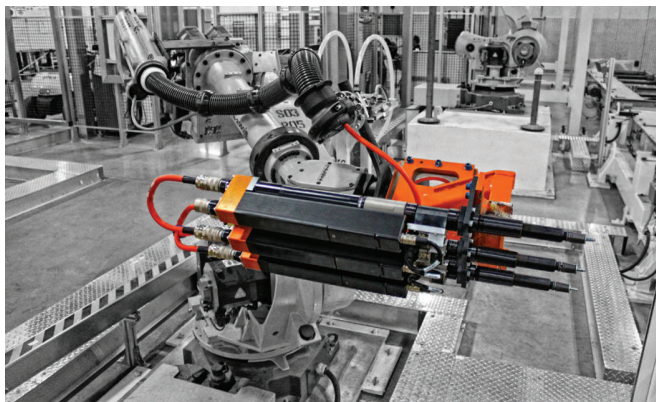
The ultimate **automated** tightening solutions.

Cleco DGD™ Intelligent Spindles are the exclusive fixtured assembly solution, combining reduced floor space, fewer cables and high-speed uptime availability for automated fastening applications. Intelligent spindles provide a wide range of torque capability and industry-leading free speeds.



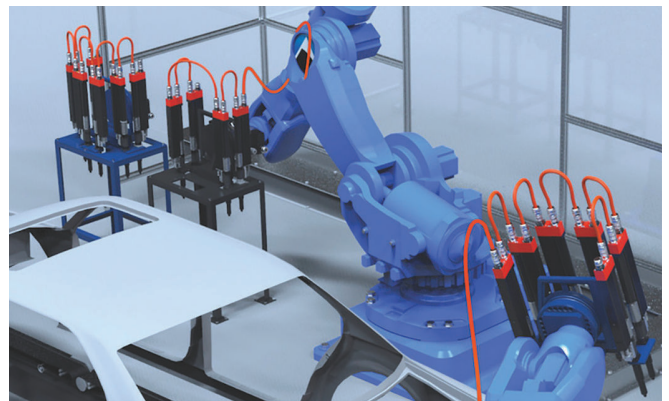
Reduce your **footprint and total cost of ownership** via our exclusive intelligent spindle cabling technology.

When you're looking to run robotic tightening applications, look to Cleco DGD intelligent spindle solutions. By utilizing our exclusive daisy-chain connectors, we offer the only solution in the industry that enables you to run multiple spindles using a daisy-chained cable solution. This results in reduced system complexity, simple cable management and smaller pay-load capacity.



Same cell, same robot: **Intelli-Swap**, an industry first.

Combining Cleco DGD Intelligent Spindles and daisy-chain connectors with our patented Intelli-Swap system technology, plus an automatic, intelligent tool changer enables your system to rapidly switch from one group of spindles to another using the same controller. Cleco DGD solutions enable you to effortlessly manage multiple applications in a single cell.



## Intelligent Spindle - BTS Size 1-4 (25-750 Nm) - Offset Drive - Twin Torque Transducer - Twin Angle Encoder



On board servo module, Patented daisy chain, Twin Torque transducer, Twin Angle Encoder

- Long Service Life, Maximum Precision, High Accuracy, World class free speed, On-Board trouble shooting
- Floating adapter not included with spindle

MODEL	TORQUE RANGE				FREE SPEED R/MIN	FLOAT MM	DRIVE TYPE	MIN CENTER TO CENTER MM	WEIGHT		LENGTH	
	MIN NM	MAX NM	MIN FT LB	MAX FT LB					LB	KG	IN	MM
1BTS-1B012A-1K3B-1VK3B	2	12	1.48	8.9	1825	50	3/8" SQUARE DRIVE	35	13.0	5.9	21.8	554
1BTS-1B035A-1K1B-1VK1B	5	35	3.69	25.8	690	50	3/8" SQUARE DRIVE	35	13.0	5.9	21.8	554
1BTS-1B060A-1K2B-1VK2B	15	53	11.1	39.1	405	50	3/8" SQUARE DRIVE	35	13.0	5.9	21.8	554
2BTS-2B110A-2K1B-2VK1B	25	110	18.5	81	831	50	1/2" SQUARE DRIVE	44	22.7	10.3	25.5	648
2BTS-2B200A-2K3B-2VK3B	40	200	29.5	148	468	50	3/4" SQUARE DRIVE	44	22.7	10.3	25.5	648
3BTS-3B300A-3K2B-3VK2B	50	300	36.9	221	421	50	3/4" SQUARE DRIVE	59	38.1	17.3	27.4	696
4BTS-4B500A-4K2B-4VK2B	100	500	74	369	238	50	3/4" SQUARE DRIVE	76	56	25.5	32.0	812
4BTS-4B660A-4K3B-4VK3B	130	660	96	487	163	50	1" SQUARE DRIVE	76	56	25.5	32.0	812
4BTS-4B660A-4K3M-4VK4B	160	750	118	554	135	50	1" SQUARE DRIVE	76	57	26	32.0	812

## Intelligent Spindle - BUTS size 1-4 (2-750 Nm) - Offset Drive - Reversible Gears - Twin Torque Transducer - Twin Angle Encoder



On board servo module, Patented daisy chain, Twin Torque transducer, Twin Angle Encoder

- Long Service Life, Maximum Precision, High Accuracy, World class free speed, On-Board trouble shooting
- Floating adapter not included with spindle

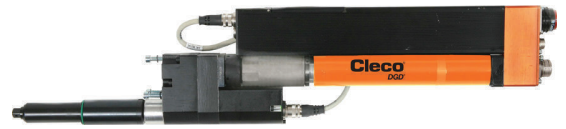
MODEL	TORQUE RANGE				FREE SPEED R/MIN	FLOAT MM	DRIVE TYPE	MIN CENTER TO CENTER MM	WEIGHT		LENGTH	
	MIN NM	MAX NM	MIN FT LB	MAX FT LB					LB	KG	IN	MM
1BUTS-1B012A-1K3B-1VK3B	2	12	1.48	8.9	1825	50	3/8" SQUARE DRIVE	35	14.1	6.4	15.0	382
1BUTS-1B035A-1K1B-1VK1B	5	35	3.69	25.8	690	50	3/8" SQUARE DRIVE	35	14.1	6.4	15.0	382
1BUTS-1B060A-1K2B-1VK2B	15	53	11.1	39.1	405	50	3/8" SQUARE DRIVE	35	14.1	6.4	15.0	382
2BUTS-2B110A-2K1B-2VK1B	25	110	18.5	81	831	50	1/2" SQUARE DRIVE	44	24.9	11.3	19.2	487
2BUTS-2B200A-2K3B-2VK3B	40	200	29.5	148	468	50	3/4" SQUARE DRIVE	44	24.9	11.3	19.2	487
3BUTS-3B300A-3K2B-3VK2B	50	300	36.9	221	421	50	3/4" SQUARE DRIVE	59	42.5	19.3	20.6	523
4BUTS-4B500A-4K2B-4VK2B	100	500	74	369	238	50	3/4" SQUARE DRIVE	76	60	27	25.2	639
4BUTS-4B660A-4K3B-4VK3B	130	660	96	487	163	50	1" SQUARE DRIVE	76	60	27	25.2	639
4BUTS-4B660A-4K3M-4VK4B	160	750	118	554	135	50	1" SQUARE DRIVE	76	61	27.5	25.2	639

Fixtured Spindles

## Fixtured Spindles

### Intelligent Spindle - BTS Size 1-4 (2-750 Nm) - Offset Drive - Single Torque Transducer - Angle Encoder

On board servo module, Patented daisy chain, Single Torque Transducer, Angle Encoder, Modular construction

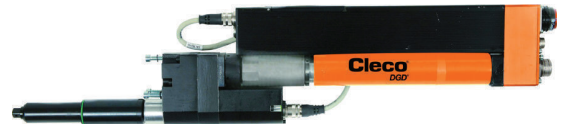


- Long Service Life, Maximum Precision, High Accuracy, World class free speed, On-Board trouble shooting
- Floating adapter not included with spindle

MODEL	TORQUE RANGE				FREE SPEED R/MIN	FLOAT MM	DRIVE TYPE	MIN CENTER TO CENTER MM	WEIGHT		LENGTH	
	MIN NM	MAX NM	MIN FT LB	MAX FT LB					LB	KG	IN	MM
1BTS-1B012A-1VK3B	2	12	1.48	8.9	1825	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
1BTS-1B035A-1VK1B	5	35	3.69	25.8	690	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
1BTS-1B060A-1VK2B	15	53	11.1	39.1	405	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
2BTS-2B110A-2VK1B	25	110	18.5	81	831	50	1/2" SQUARE DRIVE	44	20.3	9.2	21.7	551
2BTS-2B200A-2VK3B	40	200	29.5	148	468	50	3/4" SQUARE DRIVE	44	20.3	9.2	21.7	551
3BTS-3B300A-3VK2B	50	300	36.9	221	421	50	3/4" SQUARE DRIVE	59	33.5	15.2	23.0	584
4BTS-4B500A-4VK2B	100	500	74	369	238	50	3/4" SQUARE DRIVE	76	50	22.5	26.9	684
4BTS-4B660A-4VK3B	130	660	96	487	163	50	1" SQUARE DRIVE	76	50	22.5	26.9	684
4BTS-4B660A-4VK4B	160	750	118	554	135	50	1" SQUARE DRIVE	76	51	23	26.9	684

### Intelligent Spindle - BTSE Size 1-4 (2-750 Nm) - Offset Drive - Single Torque Transducer - Angle Encoder

On board servo module, Patented daisy chain, Torque transducer, modular construction



- Long Service Life, Maximum Precision, High Accuracy, World class free speed, On-Board trouble shooting
- Floating adapter not included with spindle

MODEL	TORQUE RANGE				FREE SPEED R/MIN	FLOAT MM	DRIVE TYPE	MIN CENTER TO CENTER MM	WEIGHT		LENGTH	
	MIN NM	MAX NM	MIN FT LB	MAX FT LB					LB	KG	IN	MM
1BTSE-1B012A-1VM3B	2	12	1.48	8.85	1825	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
1BTSE-1B035A-1VM1B	5	35	3.69	25.8	690	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
1BTSE-1B060A-1VM2B	15	53	11.1	39.1	405	50	3/8" SQUARE DRIVE	35	11.7	5.3	18.7	474
2BTSE-2B110A-2VM1B	25	110	18.4	81.1	831	50	3/8" SQUARE DRIVE	44	20.3	9.2	21.7	551
2BTSE-2B200A-2VM3B	40	200	29.5	146	468	50	3/8" SQUARE DRIVE	44	20.3	9.2	21.7	551
3BTSE-3B300A-3VM2B	50	300	36.9	221	421	50	3/4" SQUARE DRIVE	59	33.5	15.2	23.0	584
4BTSE-4B500A-4VM2B	100	500	73.8	369	238	50	3/4" SQUARE DRIVE	76	50	22.5	26.9	684
4BTSE-4B660A-4VM3B	130	660	95.9	487	163	50	1" SQUARE DRIVE	76	50	22.5	26.9	684
4BTSE-4B660A-4VM4B	160	750	118	553	135	50	1" SQUARE DRIVE	76	51	23	26.9	684