



CHRISTIE

TOTAL TORQUE SOLUTIONS

Hand Held Torque Tools

REVISED
EDITION
ISSUE 2



Pneumatic



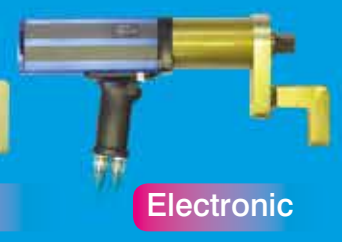
Hydraulic



Electric



Battery



Electronic

C-RAD

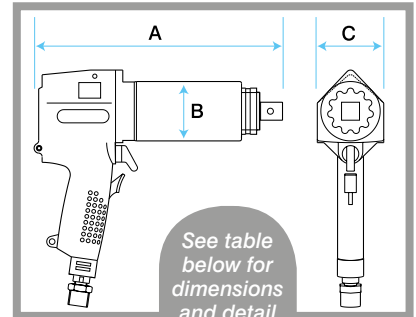
Pneumatic Torque Tool

C-RAD PNEUMATIC

The C-RAD range of pneumatically powered torque tools are an ideal choice for the toughest bolt tightening and un-tightening jobs.

Torque control is achieved by adjustment of the air pressure via a **C-RAD Lubro Unit** installed between the air compressor and torque tool. See page 8 and 9 for further details.

Automatic two speed versions are available which allow the C-RAD operator to run down a fastener up to 5 times faster than the normal operating speed.



Model	Dimensions (mm)			Weight Kg	Speed (rpm)		Torque Range (Nm)		Square Drive
	A	B	C		Single	Auto 2	Min	Max	
C-RAD 1	181	62	69	2.5	290	n/a	20	100	3/4"
C-RAD 3	195	62	69	2.7	90	n/a	55	275	3/4"
C-RAD 5	195	62	69	2.7	55	n/a	80	500	3/4"
C-RAD 5A	254	62	69	4.0	n/a	250	150	500	3/4"
C-RAD 10L	232	63	69	3.5	30	n/a	150	950	3/4"
C-RAD 14	232	63	69	3.6	12	n/a	275	1,350	3/4"
C-RAD 14A	283	63	69	4.5	n/a	80	400	1,350	3/4"
C-RAD 20	233	69	69	3.9	10	n/a	400	2,000	1"
C-RAD 20A	288	69	69	4.8	n/a	50	700	2,000	1"
C-RAD 27	265	76	83	5.7	10	n/a	550	2,700	1"
C-RAD 27A	317	76	83	7.3	n/a	45	850	2,700	1"
C-RAD 34	286	77	83	6.5	8.5	n/a	700	3,400	1"
C-RAD 34A	335	77	83	7.6	n/a	35	952	3,400	1"
C-RAD 40DX	289	81	83	7.0	6	n/a	1,200	4,000	1"
C-RAD 40DXA	368	81	83	7.3	n/a	49	1,400	4,000	1"
C-RAD 46	338	86	96	10	12	n/a	1,360	4,600	1"
C-RAD 70	329	95	95	10.7	4.5	n/a	2,000	7,000	1 1/2"
C-RAD 80	346	102	96	12.5	6.6	n/a	2,700	8,000	1 1/2"
C-RAD 110	476	115	96	13.8	4	n/a	3,400	10,800	1 1/2"
C-RAD 115	425	115	85	17.4	4.5	n/a	4,100	11,500	1 1/2"
C-RAD 150	415	127	96	19.0	3	n/a	5,400	15,000	1 1/2"

* 'A' denotes Auto 2 Speed models

C-RAD

Pneumatic Torque Tool

- Non-impacting (vibration below 2.5 m/s²)
- Low noise (operates below 85 decibels)
- Accurate (will stall repeatedly within +/- 4%)
- Auto two speed versions available*
- All tools are supplied with a dedicated calibration certificate

**HIRE, SALES
& ADVICE**
01709 550088



Don't struggle with standard reaction plates

Torque tool breakages are often the result of incorrect reaction. Special reactions (as shown in some of the application images and on page 10 - Accessories) can be designed and manufactured quickly to suit your individual applications.



Valve tightening & removal



Jigger pick maintenance



Bus wheel rotation test

C-RAD PNEUMATIC

Heavy Duty C-RAD Pneumatic Torque Tool

C-RAD HEAVY DUTY

To achieve torques of 20,000 Nm or greater, W. Christie offer three C-RAD models in the 'Heavy Duty' range.

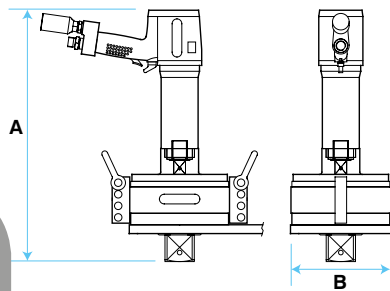
These high torque models incorporate the standard range of pneumatic tools with an additional 'bolt-on' gear module. This design gives the tool dual usage whereby low torques can be applied using the standard component of the tool and higher torques with the additional gear module in place.



2 Tools in One
- use the smaller tool when removed from the large gearbox.

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See table below for dimensions and detail

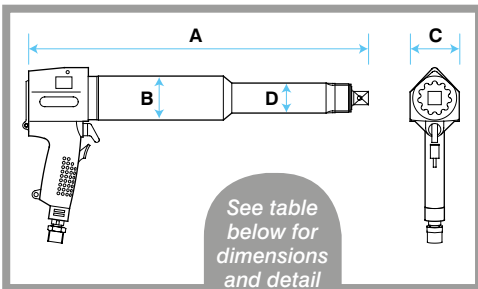


Model	Dimensions (mm)		Weight Kg	Speed (rpm)		Torque Range (Nm)		Square Drive
	A	B		Single	Auto 2	Min	Max	
C-RAD 200	565	218	42	1.7	n/a	4,500	20,000	2½"
C-RAD 340	575	260	83	0.5	n/a	10,420	34,000	2½"
C-RAD 570	671	320	102	0.9	n/a	13,500	57,000	2½"
C-RAD 1000	750	320	127	0.3	n/a	24,000	100,000	3½"

Integral Nose Cone Tools

INTEGRAL NOSE CONE TOOLS

C-RAD models with integral nose cones are the perfect tool for wheel nut jobs, ensuring a stable, accurate, and safe reaction.



See table below for dimensions and detail



Model	Dimensions (mm)				Weight Kg	Speed (rpm)		Torque Range (Nm)		Square Drive
	A	B	C	D		Single	Auto 2	Min	Max	
C-RAD 10LNA	368	63	69	43	5.4	n/a	115	400	950	¾"
C-RAD 27XN	546	76	83	50	12.4	10	n/a	700	2,450	1"



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Detachable Nose Cones for the Standard Range of Hand Held Torque Tools



Please contact us for further information.

C-RAD ATEX

Pneumatic Torque Tools for use in potentially explosive atmospheres

The C-RAD range of pneumatic torque tools (models 100 - 15,000 Nm) are now available with optional:

- ATEX Directive 94/9/EC approval
- CE II2G/D Ex c IIB/IIIB T6 designation
- Suitability for use in Zones 1, 2, 21 & 22 – Class 2

(hazardous area zone classification and corresponding equipment category).

Standard and bespoke, non-sparking Aluminium Bronze sockets also available

C-RAD Now with ATEX Certification Option



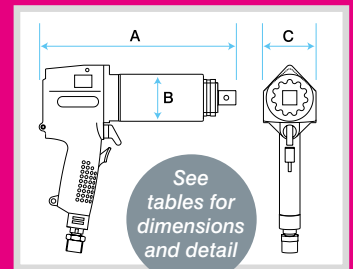
C-RAD-ATEX and Lubro Control Unit with Equipotential Bonding



Model	Dimensions (mm)			Weight Kg	Speed (rpm)		Noise Level (dB)*	Torque Range (Nm)		Square Drive
	A	B	C		Single	Auto 2		Min	Max	
C-RAD 1-ATEX	181	62	69	2.5	290	n/a	<83.0	20	100	3/4"
C-RAD 3-ATEX	195	62	69	2.7	90	n/a	<83.0	50	275	3/4"
C-RAD 5-ATEX	195	62	69	2.7	55	n/a	<83.0	80	500	3/4"
C-RAD 5A-ATEX	254	62	69	4.0	n/a	250	<83.0	150	500	3/4"
C-RAD 10L-ATEX	232	63	69	3.5	30	n/a	<83.0	150	950	3/4"
C-RAD 14-ATEX	232	63	69	3.6	12	n/a	<83.0	275	1,350	3/4"
C-RAD 14A-ATEX	283	63	69	4.5	n/a	80	<83.0	400	1,350	3/4"
C-RAD 20-ATEX	233	69	69	3.9	10	n/a	<83.0	400	2,000	1"
C-RAD 20A-ATEX	288	69	69	4.8	n/a	50	<83.0	700	2,000	1"
C-RAD 27-ATEX	265	76	83	5.7	10	n/a	<85.0	550	2,700	1"
C-RAD 27A-ATEX	317	76	83	7.3	n/a	45	<85.0	850	2,700	1"
C-RAD 34-ATEX	286	77	83	6.5	8.5	n/a	<85.0	700	3,400	1"
C-RAD 34A-ATEX	335	77	83	7.6	n/a	35	<85.0	952	3,400	1"
C-RAD 40DX-ATEX	289	81	83	7.0	6	n/a	<85.0	1,200	4,000	1"
C-RAD 40DXA-ATEX	368	81	83	7.3	n/a	4.9	<85.0	1,400	4,000	1"
C-RAD 46-ATEX	338	86	96	10.0	12	n/a	86.2	1,360	4,600	1"
C-RAD 70-ATEX	329	95	95	10.7	4.5	n/a	<90.0	2,000	7,000	1 1/2"
C-RAD 80-ATEX	346	102	96	12.5	6.6	n/a	<90.0	2,700	8,000	1 1/2"
C-RAD 110-ATEX	476	115	96	13.8	4	n/a	<90.0	3,400	10,800	1 1/2"
C-RAD 115-ATEX	425	115	85	17.4	4.5	n/a	<90.0	4,100	11,500	1 1/2"
C-RAD 150-ATEX	415	127	96	19.0	3	n/a	<90.0	5,400	15,000	1 1/2"

All C-RAD-ATEX Pneumatic Torque Tools are:

- Non-impacting (vibration levels below 2.5 m/s²)
- Accurate within +/- 4%
- Low noise level
- With neutral setting to prevent accidental start-up
- Supplied with a dedicated calibration certificate



C-RAD-ATEX with Integral Nose Cone

Model	Dimensions (mm)				Weight Kg	Speed (rpm)		Noise Level (dB)*	Torque Range (Nm)		Square Drive
	A	B	C	D		Single	Auto 2		Min	Max	
C-RAD 10LNA-ATEX	368	63	69	43	5.4	n/a	115	<83	400	950	3/4"
C-RAD 27XN-ATEX	546	76	83	50	12.4	10	n/a	<85	700	2,450	1"

For more information call...

 **01709 550088**

* Noise levels are representative of ATEX versions of C-RAD Tools only.
 'A' denotes Auto 2 speed models.

C-RAD T

Pneumatic Torque Tool with Torque Transducer

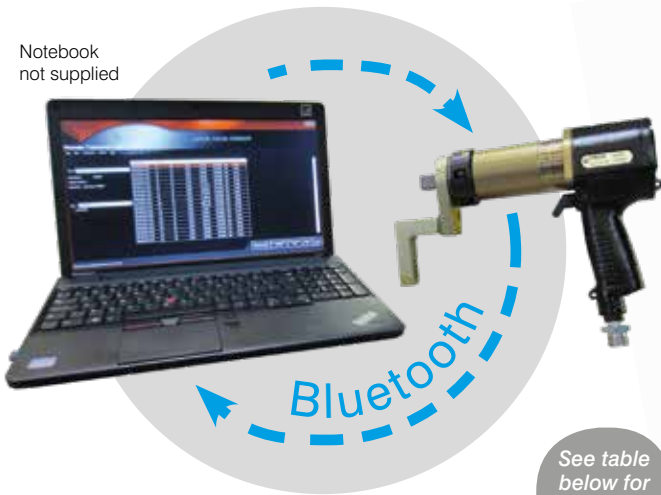
C-RAD T PNEUMATIC WITH TRANSDUCER

With torque tool accuracy of +/- 4% combined with built-in transducer accuracy of +/- 1%, the C-RAD T range is the easy way to ensure bolting jobs are carried out correctly.

The convenience of a built-in transducer means:

- Every bolt tightening operation can be recorded
- Data can be easily uploaded to a PC (Software supplied on USB Memory Stick)
- Data can be viewed in real time with a smart phone or tablet* via Bluetooth technology
- Quick and easy set-up

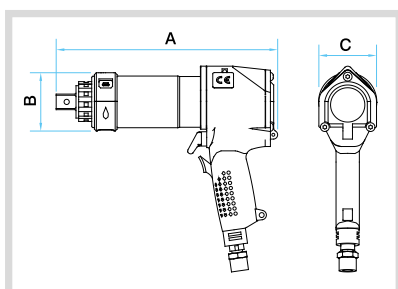
* Android systems only (an app. for Apple is currently under development).



*Model C-RAD 10T with integral nose cone

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See table below for dimensions and detail



Model	Drive Size	Torque Range (Nm)	Speed (rpm)	Dimensions (mm)			Weight Kg
				A	B	C	
C-RAD 10T*	3/4"	400-950 Nm	30	339	71	69	6.0 kg
C-RAD 14T	3/4"	275-1350 Nm	12	266	71	69	4.0 kg
C-RAD 20T	1"	400-2000 Nm	10	264	77	69	4.5 kg
C-RAD 46T	1"	1360-4600 Nm	12	379	94.3	93	10.5 kg

C-RAD Remote

Pneumatic Torque Tool

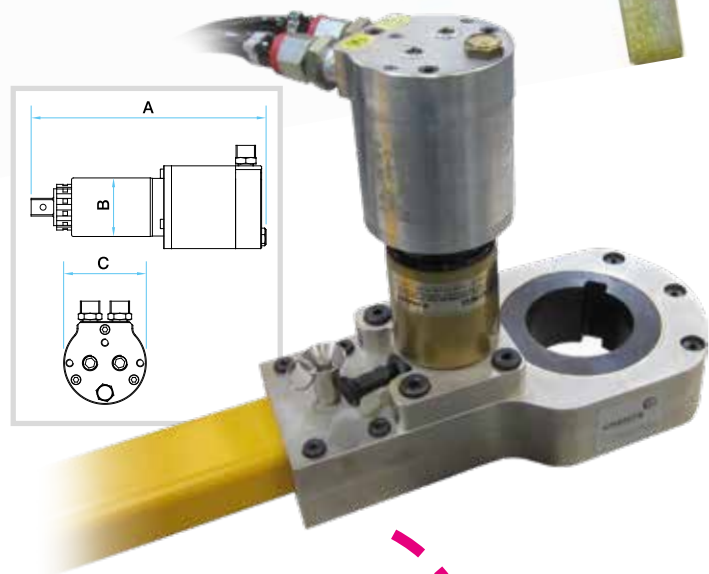
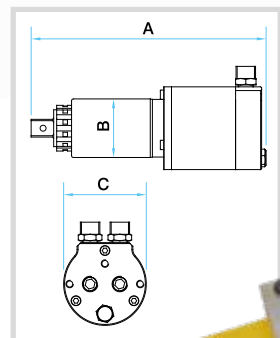
C-RAD REMOTE PNEUMATIC

- Remotely operated
- Non-impacting
- Low noise (operates below 85 decibels)
- Accurate (will stall repeatedly within +/- 4%)
- Alternative, top and rear air inlet ports
- Auto two speeds available*
- All tools supplied with a dedicated calibration certificate

See table below for dimensions and detail



Model	Dimensions (mm)			Weight Kg	Speed (rpm)		Torque Range (Nm)		Square Drive
	A	B	C		Single	Auto 2	Min	Max	
C-RAD 1 R	202	62	89	3.2	290	n/a	20	100	3/4"
C-RAD 3 R	208	62	89	3.3	90	n/a	50	275	3/4"
C-RAD 5 R	216	62	89	3.4	55	n/a	80	500	3/4"
C-RAD 5A R	275	62	89	4.7	n/a	250	150	500	3/4"
C-RAD 10L R	253	63	89	4.2	30	n/a	150	950	3/4"
C-RAD 14 R	253	63	89	4.3	12	n/a	275	1,350	3/4"
C-RAD 14A R	304	63	89	5.2	n/a	80	400	1,350	3/4"
C-RAD 20 R	254	69	89	4.6	10	n/a	400	2,000	1"
C-RAD 20A R	309	69	89	5.5	n/a	50	700	2,000	1"
C-RAD 27 R	~290	76	~120	6.7	10	n/a	550	2,700	1"
C-RAD 27A R	~342	76	~120	8.3	n/a	45	850	2,700	1"
C-RAD 34 R	~311	77	~120	7.5	8.5	n/a	700	3,400	1"
C-RAD 34A R	~360	77	~120	8.6	n/a	35	952	3,400	1"
C-RAD 40DX R	~314	81	~120	8.0	6	n/a	1,200	4,000	1"
C-RAD 40DXA R	~393	81	~120	8.3	n/a	49	1,400	4,000	1"
C-RAD 46 R	357	86	~120	11.0	12	n/a	1,360	4,600	1"
C-RAD 70 R	~355	95	~120	11.7	4.5	n/a	2,000	7,000	1 1/2"
C-RAD 80 R	~365	102	~120	13.5	6.6	n/a	2,700	8,000	1 1/2"
C-RAD 110 R	~501	115	~120	14.8	4	n/a	3,400	10,800	1 1/2"
C-RAD 115 R	~450	115	~120	18.4	4.5	n/a	4,100	11,500	1 1/2"
C-RAD 150 R	~440	127	~120	20.0	3	n/a	5,400	15,000	1 1/2"



* 'A' denotes Auto 2 Speed models



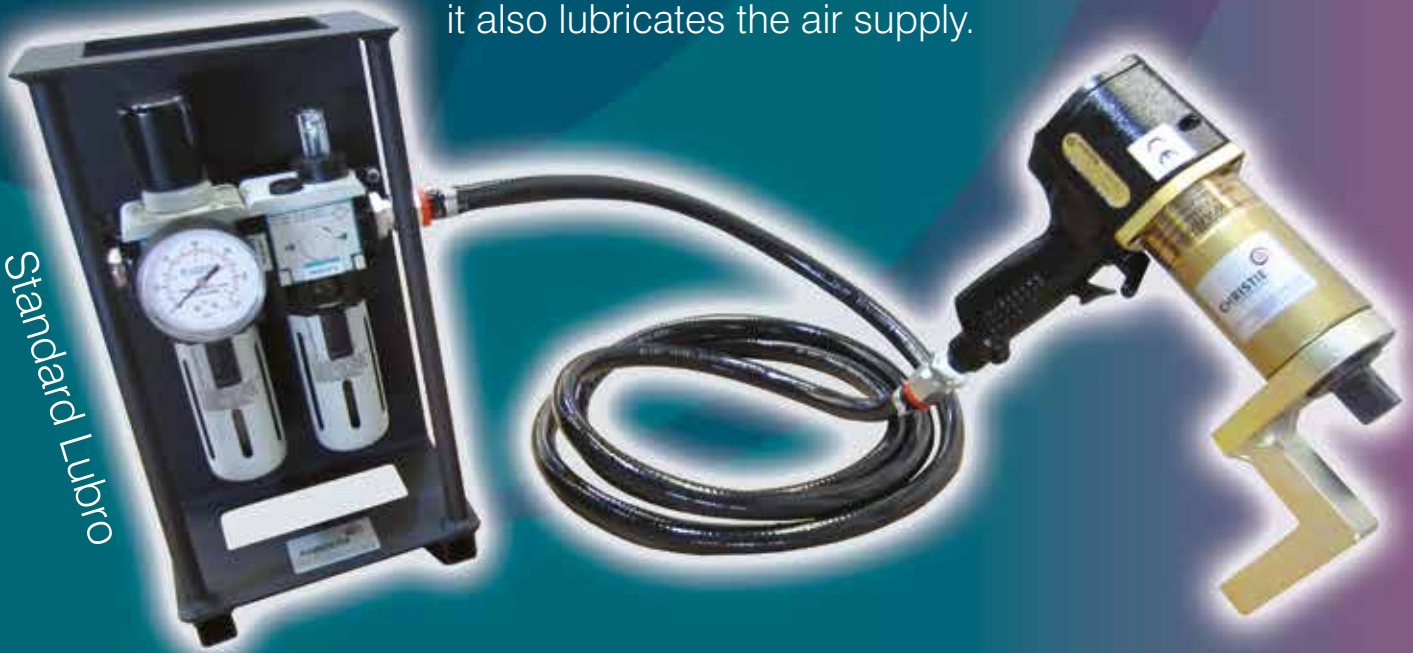
C-RAD 14 R with Remote Lubro Control Unit connected via rear air inlets

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W. Christie Lubro Control Units

the ideal choice for
the control of torque
in all your **pneumatic torque tools**

Installed between the air compressor and the torque tool, a Lubro Control Unit will not only allow adjustment of the air pressure for control of tool torque, it also lubricates the air supply.



Pressure Lock-off Lubro



Lubro
with
Isolator
Valve



Carry Case
Lubro



Digital Pressure Gauge Lubro

Heavy Duty Water Filter Lubro



Other variations and features are available for both Standard Lubro and Heavy Duty Water Filter Lubro versions



Multiple Pressure Setting Lubro

Pressure Lock-off Lubro



Stainless Steel Lubro



Remote Lubro



Caged Lubro

We have a huge range of Lubro Control Units available for every operating condition

...call **01709 550088**



Multiple Pressure Setting Lubro



CHRISTIE
TOTAL TORQUE SOLUTIONS

C-RAD

Accessories

C-RAD ACCESSORIES



Hand Guards

Provide increased safety in tool handling and use.



Swivel Lifting Bracket



Swivel Tool Hanger

A range of tool hangers/lifting brackets for easy tool handling.

Safety Trigger

The tool can only be activated with both the pistol trigger and the rear safety trigger pressed at the same time.



Storage Boxes

Standard and bespoke storage solutions available on request.

Swivelling Tool Handles

Extra handle which fits to the gearbox for improved ergonomics.



Bespoke Reactions

Don't struggle with standard reaction plates.

Torque tool breakages are often the result of incorrect reaction.

Special reactions can be designed and manufactured quickly to suit your individual applications.



W. Christie are expert providers of hire equipment for bolting and torque tightening throughout the UK.

As specialists in the field we pride ourselves on the equipment, service and advice we provide.

We will...

- Offer tool match to your specific application and give technical advice if you need it
- Guarantee all tools are individually serviced between every hire
- Provide individual calibration certificates to UK National Standards with all torque tools
- Take orders in advance and reserve equipment so you avoid disappointment
- Adapt reaction plates (at extra cost) to fit exactly as they should, reducing risk to tool and operator
- Train and assess your operators in the safe and correct use of Christie supplied equipment

HI RE SERV ICE

www.wchristie.com

HI
RE
SERV
ICE



**C-RAD
(Pneumatic)**



**BC-RAD
(Battery)**



VC-RAD (Electric)



Hydraulic Tools



**Flange
Spreaders**

**COG – Offset
Gearboxes**



**Extensive range of
Sockets & Ancillaries**



Power Packs

Delivery and collection service

- Equipment can be delivered and collected (same day if required).
- Provide your own transport and we will assist with loading and unloading.

For Detailed Tooling Information visit

www.wchristie.com

or call **01709 550088** to ask about a specific requirement.

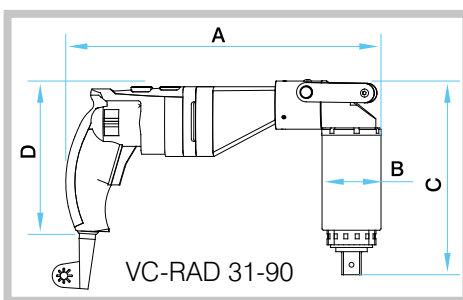
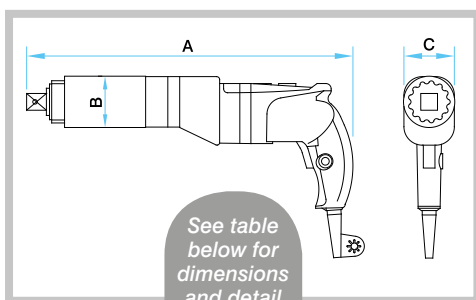
VC-RAD

Electric Torque Tool

VC-RAD ELECTRIC

The VC-RAD Series of electric powered torque tools is the optimal choice for situations where there is no air supply or the air supply is poor. Requiring no control cabinet or software, the VC-RAD is easy to set-up and use.

- Non-impacting
- Simple 'plug & play' operation
- Quick dial torque adjustment
- Powered by 110 Volt mains (240 Volt motors available)
- Quiet operation – suitable for use in low noise environments (e.g. residential neighbourhoods). Operates at less than 85 decibels
- All tools are supplied with a dedicated calibration certificate
- Supplied in weatherproof storage/carry case



Model	Dimensions (mm)				Weight Kg	Speed rpm	Torque Range (Nm)		Square Drive
	A	B	C	D			Min	Max	
VC-RAD 1	400	62	76	n/a	4.5	76	20	106	3/4"
VC-RAD 6	431	63	76	n/a	4.5	21	150	550	3/4"
VC-RAD 14	457	63	76	n/a	4.9	7	400	1,350	3/4"
VC-RAD 21	482	76	76	n/a	6.8	6	700	2,150	1"
VC-RAD 31	495	78	78	n/a	7.6	4	1,100	3,100	1"
VC-RAD 31-90	413	76	255	215	7.1	4	1,100	3,100	1"

**HIRE, SALES
& ADVICE**
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DV-RAD

Digital Electric Torque Tool

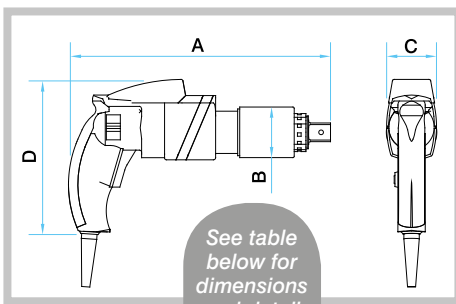
DV-RAD DIGITAL ELECTRIC

The DV-RAD Series of digital electric torque tools with ease of programmable torque settings and 'plug and play' is the optimal choice where there is no air supply or the air supply is poor.



- Single increment torque settings
- Fully programmable pre-set torque settings
- Colour digital display & keypad
- Pass/fail function
- Powered by 110 Volt mains supply (240 Volt motors available)
- Non-impacting
- Simple 'plug & play' operation
- All tools are supplied with a dedicated calibration certificate
- Supplied in weatherproof storage/carry case

Digital Display



Model	Dimensions (mm)				Weight Kg	Speed (rpm)	Torque Range (Nm)		Square Drive
	A	B	C	D			Min	Max	
DV-RAD 14	350	63	70	210	5.1	7.4	550	1,350	¾"
DV-RAD 20	377	69	70	210	5.6	4.3	800	2,000	1"
DV-RAD 34	414	76	70	210	7.1	3.1	1,350	3,400	1"

**HIRE, SALES
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BC-RAD BL Select Battery Torque Tool

BRUSHLESS

BC-RAD BL SELECT BRUSHLESS BATTERY

Improved performance & durability

The latest BC-RAD BL Select range of battery powered torque tools, incorporates the latest in brushless (BL) motor technology. With higher efficiency and increased speeds, the BC-RAD BL Select - Brushless is the ultimate in portability, being the ideal tool where air or power is unavailable.

- Accuracy of +/- 5%
- Longer battery run times due to greater motor efficiency
- Higher operating speeds
- Non-impacting
- Powered by 18 Volt Li-ion battery (2 supplied together with charging unit)
- Torque setting in increments of 10 Nm via new improved digital display
- Ability to lock-in a set torque (last set torque is remembered even when battery is removed)
- High torque to weight ratio
- Auto 2 speed versions available
- Battery capacity display
- Low noise (operates at less than 80 decibels)
- All tools are supplied with a dedicated calibration certificate
- Supplied in weatherproof storage case

**Brushless
Technology**



**No Power Source
No Problem**

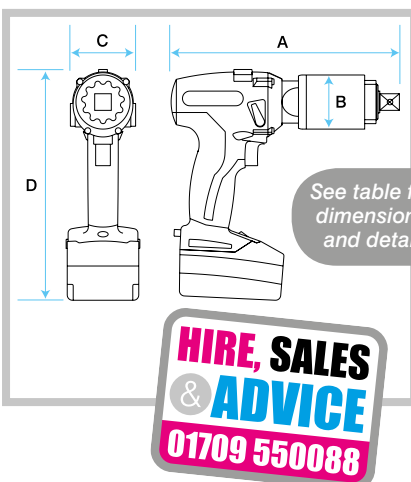
BC-RAD BL Select
BRUSHLESS, Battery
Operated Torque Tool



Digital
Torque
Setting



Optional
Double
Safety
Trigger



Model	Dimensions (mm)				Weight Kg	Speed (rpm)	Torque Range (Nm)		Square Drive
	A	B	C	D			Min	Max	
BC-RAD 5 X Select*	265	62	67	260	3.8	24	100	475	3/4"
BC-RAD 7 BL Select	256	63	67	260	3.3	21	170	700	3/4"
BC-RAD 14 BL Select	256	63	67	260	3.5	10	300	1,400	3/4"
BC-RAD 14A BL Select	305	63	67	260	4.5	71	300	1,400	3/4"
BC-RAD 20 BL Select	275	69	67	260	4.25	5.5	400	2,000	1"
BC-RAD 20A BL Select	326	69	67	260	4.9	19.5	400	2,000	1"
BC-RAD 40 BL Select	312	81	67	260	6.0	2.5	800	4,000	1"
BC-RAD 40A BL Select	363	81	67	260	6.7	20	800	4,000	1"
BC-RAD 70 BL Select	338	95	67	260	8.8	2	1,350	7,000	1 1/2"

* Model 5 X Select is a brushed motor version (accuracy +/- 10%)
'A' Denotes Auto 2 speed models

DB-RAD

Digital Battery Torque Tool

The DB-RAD Series of battery powered torque tools gives the convenience of digital torque setting combined with portability.

- Single increment digital torque settings
- Programmable pre-set torque values
- Powered by 18 Volt Li-ion battery (2 supplied together with charging unit)
- Low noise level (less than 80 decibels)
- Auto 2 speed versions available*
- All tools are supplied with a dedicated calibration certificate
- Supplied in weatherproof storage case

DB-RAD Plus Model (Factory Fitted Option)

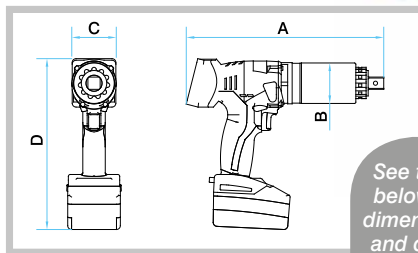
Additional features:

- Angle of reaction
- Automatic reaction arm release

Digital Display



HIRE, SALES & ADVICE
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See table below for dimensions and detail

Model	Dimensions (mm)				Weight Kg	Speed (rpm)	Torque Range (Nm)		Square Drive
	A	B	C	D			Min	Max	
DB-RAD 275	292	62	69	266	4.3	35	69	275	3/4"
DB-RAD 475	298	62	69	266	4.4	22.5	119	475	3/4"
DB-RAD 700	293	63	69	266	4.0	12	175	700	3/4"
DB-RAD 700 A	344	63	69	266	5.0	39	175	700	3/4"
DB-RAD 1400	308	63	69	266	4.3	4.5	350	1,400	3/4"
DB-RAD 1400 A	359	63	69	266	5.2	18	350	1,400	3/4"
DB-RAD 2000	317	69	69	266	4.3	3	500	2,000	1"
DB-RAD 2000 A	317	69	69	266	5.3	12	500	2,000	1"
DB-RAD 4000	~400	81	69	266	6.0	2	1,000	4,000	1"
DB-RAD 4000 A	~480	81	69	266	7.1	9	1,000	4,000	1"

* 'A' denotes Auto 2 Speed models



**No Power Source
No Problem**

DB-RAD
Battery Operated Digital
Torque Tool

DB-RAD DIGITAL BATTERY

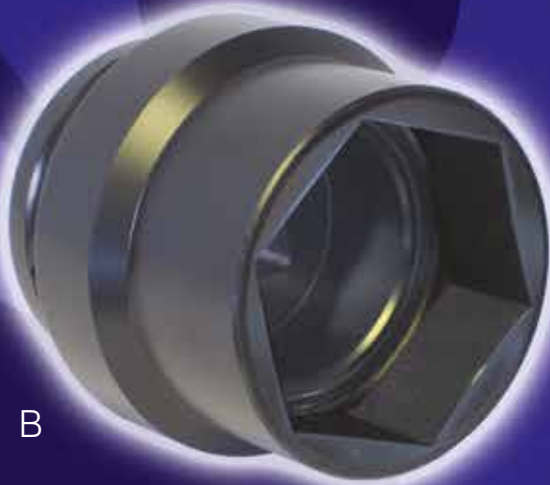


Optional
Screen
Protector

for all your **Special Socket Ancillary** & needs...



A



B



C

In addition to supplying sockets and ancillaries in non-standard sizes, we can also manufacture sockets and ancillaries from a range of materials, and with different profiles and finishes. Special materials include Aluminium, Phosphor Bronze, Superduplex, Stainless Steel, and many others.





All W. Christie sockets and ancillary items are precision made, impact and machine quality.

- A. Hex. Male Reducer
- B. Thin Wall Hex. Socket
- C. Castellated Nut Socket
- D. Key Shaft Socket / Valve Socket
- E. Universal Joint Socket (Spline Set)
- F. Phosphor Bronze (Anti-sparking) Hex. Socket
- G. Cut-away Female Hex. Socket
- H. Dirt Clearance Socket
- I. Offset Wrench
- J. Extension Bar (Female Square to Male Hexagon)
- K. Eyebolt Socket
- L. Thin Wall Bi-Hex. Socket
- M. Keyed Socket
- N. Male Square Surface Drive Socket

The range also includes: -

- Skirted Hex. Sockets
- Male Drives (Extension Bars)
- T-Bars
- Special Adaptors
- Bi-Square Sockets
- Stud Runner Sockets

...call **01709 550088**

We also supply...

- Test Pieces
- Extended Sockets
- Extension Bars
- Insert Bits & Drives
- Telescopic Sockets
- Special Punches
- Sleeves
- Shafts

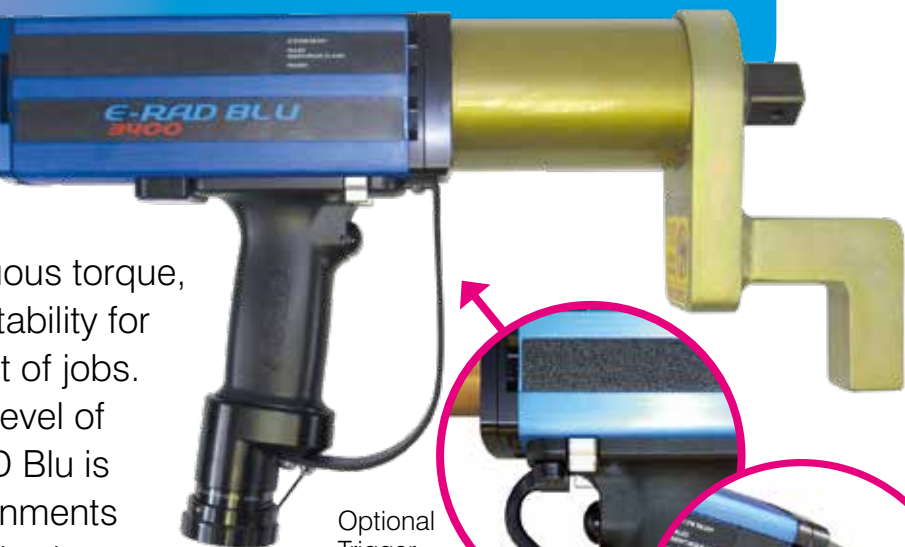
EC-RAD Blu

Electronic Torque Tool with Bluetooth Technology

EC-RAD Blu ELECTRONIC

The EC-RAD Blu with AC servo motor technology for delivering smooth continuous torque, ensures accuracy and repeatability for the most critical and stringent of jobs. With an extremely low noise level of only 75 decibels, the EC-RAD Blu is also ideal for sensitive environments and exacting operating standards.

- Transducer controlled accuracy (when used with a Smart Socket*)
- Data collection and storage for full traceability
- Selectable pre-set torque values (password protected)
- Torque and angle function
- Low energy consumption
- Touch screen for single increment torque settings
- LED indicator lights for torque status (pass/fail)
- Reverse torque check function
- Life cycle & maintenance counters
- Very low noise operation
- Low vibration (well below 2.5 m/s²)



Optional Trigger Guard



Swivel Gearbox

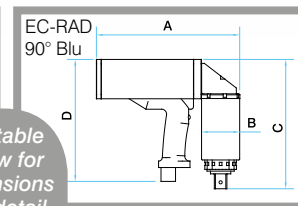
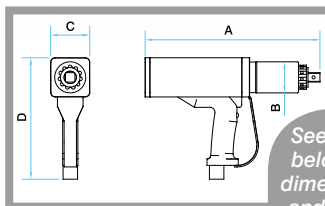
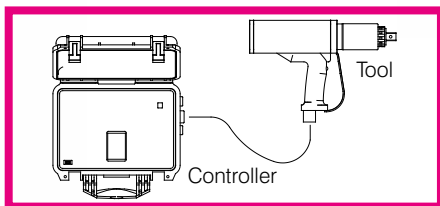


EC-RAD 3400 Comp 90° Blu

Digital display



EC-RAD Blu with weatherproof touch screen control case



See table below for dimensions and detail

Model	Drive Size	Torque Range (Nm)	Speed (RPM)		Dimensions (mm)				Weight kg
			110V	240V	A	B	C	D	
EC-RAD 475 Blu	3/4"	54-475 Nm	32.6	68	330	62	78	275	4.6
EC-RAD 950 Blu	3/4"	135-950 Nm	15	30.5	364	63	78	275	5.4
EC-RAD 2000 Blu	1"	270-2,000 Nm	8	17.5	367	69	78	275	5.9
EC-RAD 3400 Blu	1"	340-3,400 Nm	5.4	10.5	410	77	78	275	8.1
EC-RAD 3400 Comp 90° Blu	1"	340-3,400 Nm	3.25	6.8	~300	77	~261	275	8.3
EC-RAD 4000 Blu	1"	675-4,050 Nm	4.1	8.5	470	83	89	290	10.6
EC-RAD 8000 Blu	1 1/2"	2,030-8,100 Nm	2.1	4	464	102	89	290	13.0
EC-RAD 10K Blu	1 1/2"	2,030-10,100 Nm	1.5	3	477	108	89	290	15.0
EC-RAD 15K Blu	1 1/2"	4,050-15,000 Nm	1.2	2.3	508	127	89	290	20.0

EC-RAD Blu

Electronic Torque Tool with Bluetooth Technology

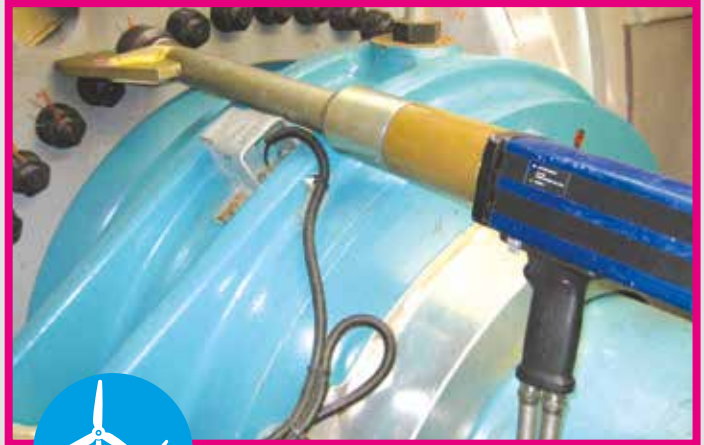
EC-RAD BLU Electronic



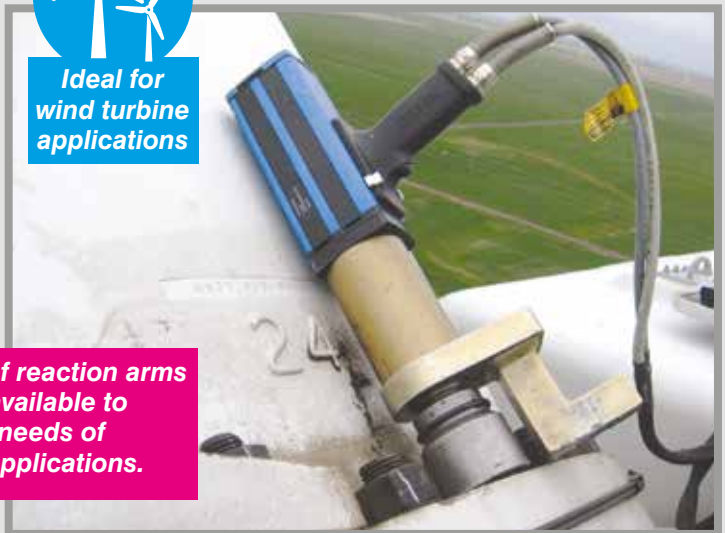
Connecting a Smart Socket* transducer to the EC-RAD Blu Torque Tool via Bluetooth allows torque measurements from the socket to be sent to the tool which it then uses to adjust its own torque settings to match those readings. This means the EC-RAD Blu is always working to the torque requirements of the site application.

* Smart Socket available at extra cost

With Torque Tool accuracy of +/- 3% and Transducer accuracy of +/- 1%, the EC-RAD Blu range ensures bolting jobs are carried out accurately with full traceability.



Ideal for wind turbine applications



A range of reaction arms are also available to meet the needs of specific applications.

Case	Closed Dimensions (mm)			Weight
	Length	Height	Width	
Weatherproof Control Case	370	152	300	6Kg



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Hyspan

PG Hydraulic Torque Tool

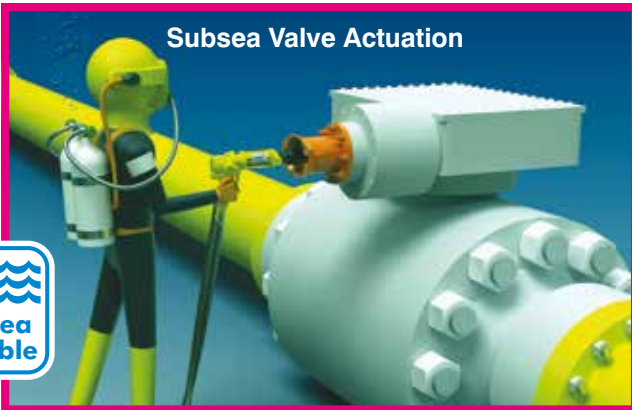
HYSPAN PISTOL GRIP HYDRAULIC

Up to 26 times faster than conventional ratchet style hydraulic torque wrenches.

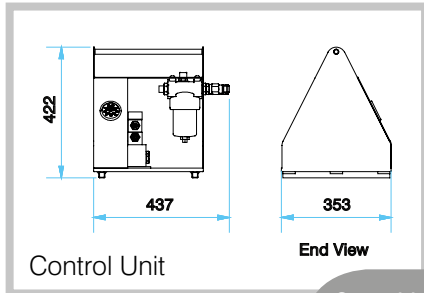
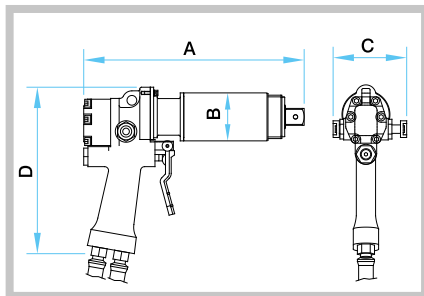
The Hyspan Pistol Grip Torque Tool is the perfect tool for difficult and critical bolting in a wide range of operating environments, including subsea and offshore applications. This robust tool is versatile and can be used for applications other than bolting, such as the rundown of valves.



- Repeatability of +/-4%
- Low noise level of 76 decibels
- Non-impacting and low vibration (less than 0.5 m/s²)
- Easy access to forward and reverse switching
- Oversized safety trigger
- Finished in high visibility, corrosion resistant, marine quality paint
- Integral lifting point
- Quick-release couplings
- Supplied with individual calibration certificates



Subsea Valve Actuation



Hyspan PG powered from hydraulics of an excavator.

The flexibility of the Hyspan PG allows the tool to be operated via a power pack or from a hydraulic supply on plant vehicle hydraulics and Remote Operated Vehicles – ROVs.

Storage boxes available on request

Special models available on request

Special reactions can be designed and manufactured quickly to suit your individual applications

See table for dimensions and detail

Model	Dimensions (mm)				Weight (Kg)	Speed (rpm)	Torque Range (Nm)		Square Drive
	A	B	C	D			Min	Max	
HY10PG	335	72	110	255	7.5	28	110	1,000	¾/1"
HY20PG	335	72	110	255	7.5	15	190	2,000	1"
HY34PG	330	78	110	255	8.5	9.5	290	3,400	1"

Hyspan PG operates at 15-45 litres per minute flow rate.

Max. operating pressure 1,500 psi.

Hyspan

RT Remote Hydraulic Torque Tool

The Hyspan Remote Hydraulic Torque Tool is particularly suitable for those bolting jobs where remote operation is necessary, including maintenance work above and below ground, offshore, and subsea.

- Repeatability of +/- 4%
- Significantly quicker than conventional ratchet style hydraulic torque wrenches
- Remotely operated – suitable for diver inaccessible applications (e.g. deep water and hazardous)
- Non-impacting operation
- Finished in high visibility, corrosion resistant, marine quality paint
- Compatible with Remote Operated Vehicles (ROVs)
- Supplied with individual calibration certificates



HYSPAN REMOTE HYDRAULIC



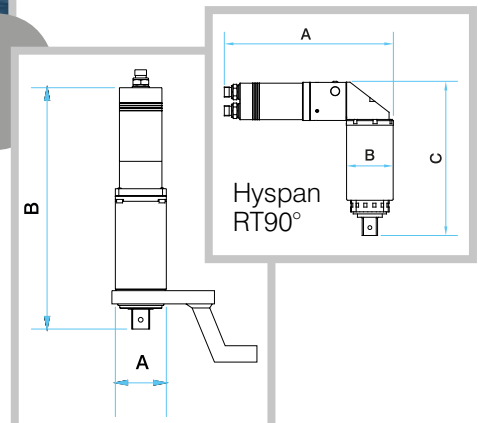
Hyspan Remote in use on subsea lifting frame for positioning of concrete reinforcement blocks on underwater structure.



**HIRE, SALES
& ADVICE**
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See table below for dimensions and detail

Model	Dimensions (mm)			Weight Kg	Speed (rpm)	Torque Range (Nm)		Square Drive
	A	B	C			Min	Max	
HY10RT	72	345	n/a	<22.5	15	190	1,000	¾ / 1"
HY20RT	72	345	n/a	<22.5	8	400	2,000	1"
HY34RT	78	340	n/a	~9.0	5.5	680	3,400	1"
HY34RT-90°	280	78	255	~10.0	5.5	680	3,400	1"
HY70RT	144	395	n/a	~25.0	2.5	1,762	6,000	1½"
HY90RT	184	389	n/a	~30.0	1.8	2,710	9,500	1½"
HY110RT	216	484	n/a	~40.0	1.2	4,400	20,000	2½"



Hyspan RT operates at 7-22 litres per minute flow rate.

Max. operating pressure 2,030 psi.

www.wchristie.com

“Why use a Christie Nose Extension?”

W. Christie Nose Extensions

W. Christie Nose Extensions are suitable for tightening and untightening threaded fasteners located within a deep recess.

A nose extension facilitates stable transmission of torque to the bolting application.

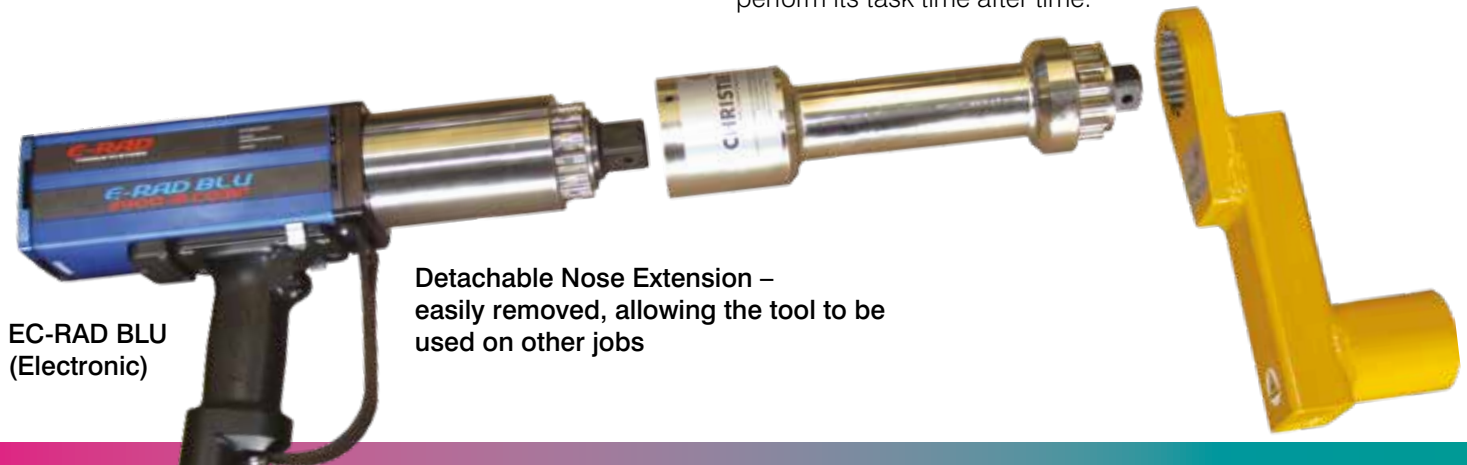
Provided that a direct line of access is available the nose extension will engage the application, whilst the tool is operated away from the obstruction.

The length & diameter of the nose extension depends on the restriction to be overcome, and the torque required.

A drive shaft supported by bearings ensures torque is transmitted safely, with virtually no mechanical losses.

Each nose extension is designed specifically for the application. Our engineers consider the customer requirements, model the site geometry, and design the nose extension using state of the art 3D software. Following a stress analysis the final drawings are prepared for manufacture.

Using the best quality alloys, the nose extension is manufactured in-house to high tolerances using the latest CNC technology. Testing is carried out above the design torques to ensure that the nose extension will perform its task time after time.

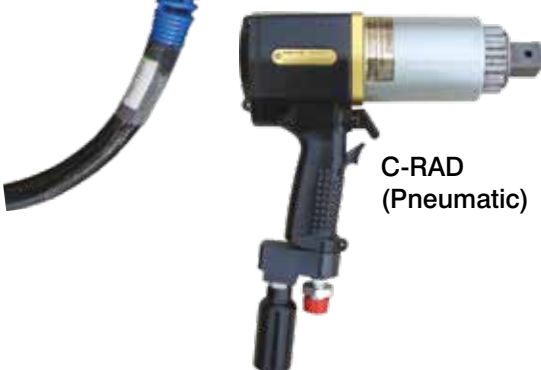


EC-RAD BLU
(Electronic)

Detachable Nose Extension – easily removed, allowing the tool to be used on other jobs

Detachable Nose Extension

Detachable Nose Extension can be used with a range of W. Christie Torque Tools



C-RAD
(Pneumatic)



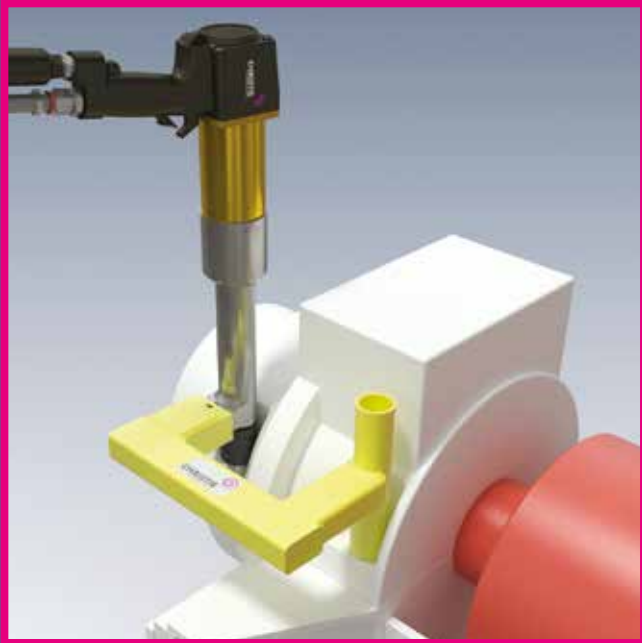
VC-RAD
(Electric)



BC-RAD
(Battery)

Examples of access problems overcome with

W. Christie Nose Extensions



Generator

Bearings on a generator housing.
Length of nose extension: 210 mm



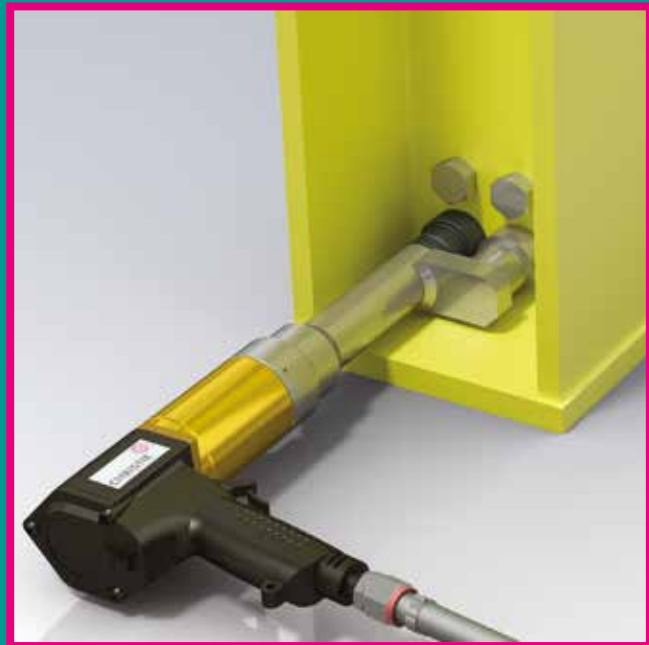
HGV Wheel

Tightening/untightening of wheel nuts.
Length of nose extension: 131 mm



Injection Moulding Machine

Bolts on a hydraulic cylinder flange.
Length of nose extension: 208 mm



Structural Steel Work

Tightening of bolts on structural steel.
Length of nose extension: 128 mm

“Why use a Christie Offset Gearbox?”

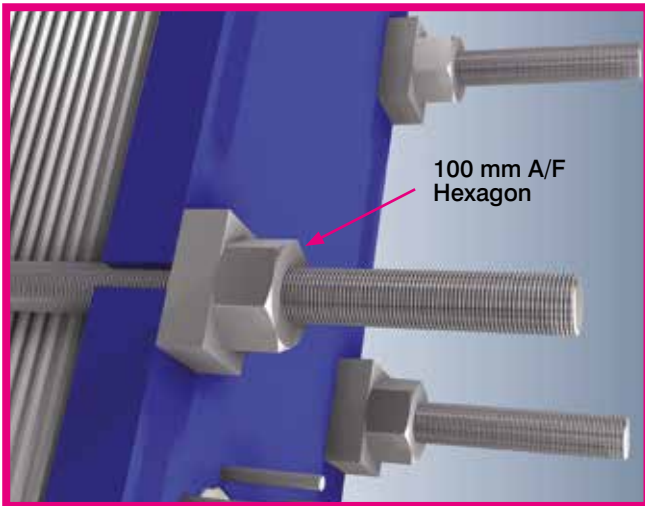
W. Christie Offset Gearbox (COG)

The Christie Offset Gearbox (COG) facilitates access when there is no direct line of sight, or when a nut needs to be run down a stud so long that a socket would not be practical.

Christie Offset Gearboxes are designed for the tightening and untightening of fasteners with protruding threads (Problem 1) and/or restricted access (Problem 2).

Problem 1:

Protruding Thread

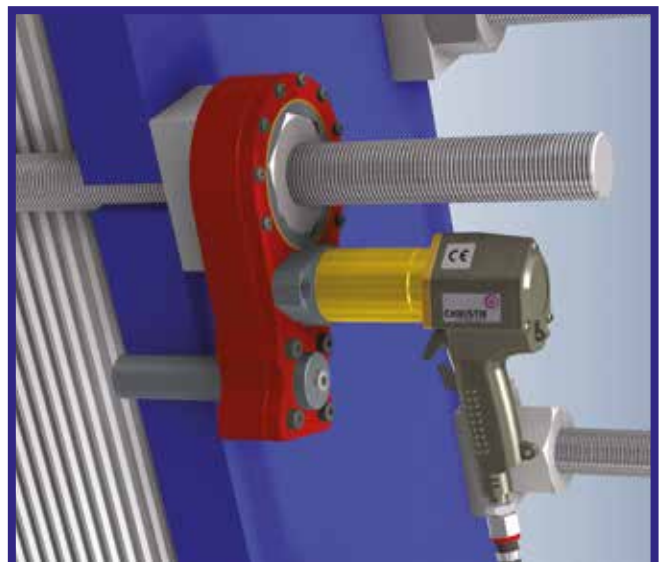
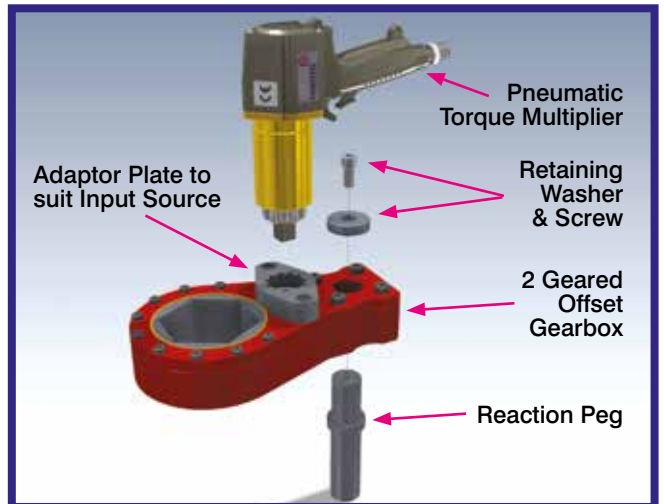
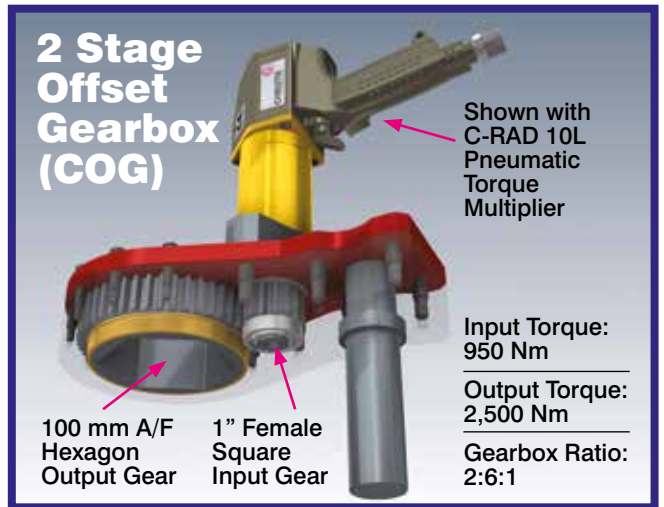


W. Christie standard 2 Stage Offset gearboxes (COG as shown) can be used for the continuous tightening of tie rod nuts on plate heat exchangers, to compress the sealing gaskets to a measured distance.

Often these tools are used in pairs for even compression. These Offset Gearboxes can also be used with a VC-RAD Electric Torque Tool.

Solution:

Generic Offset Gearbox designed for plate heat exchangers.



Solution:

Problem 2:

Restricted Access



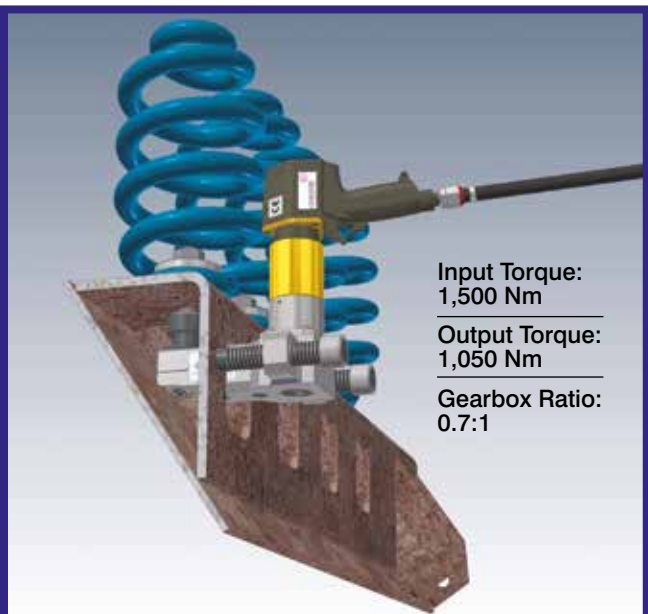
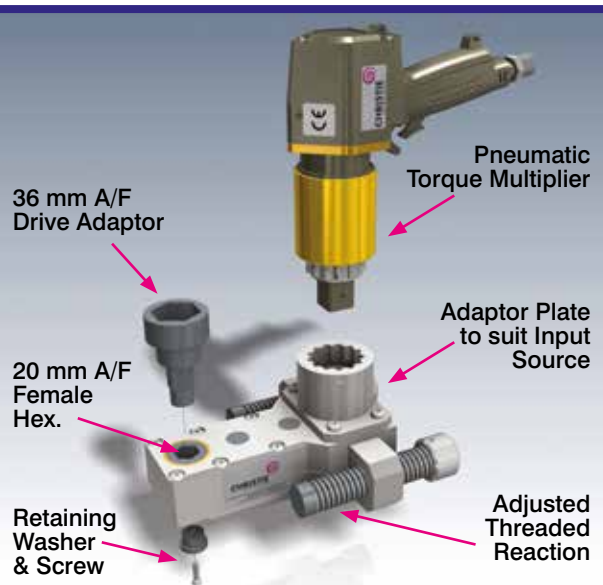
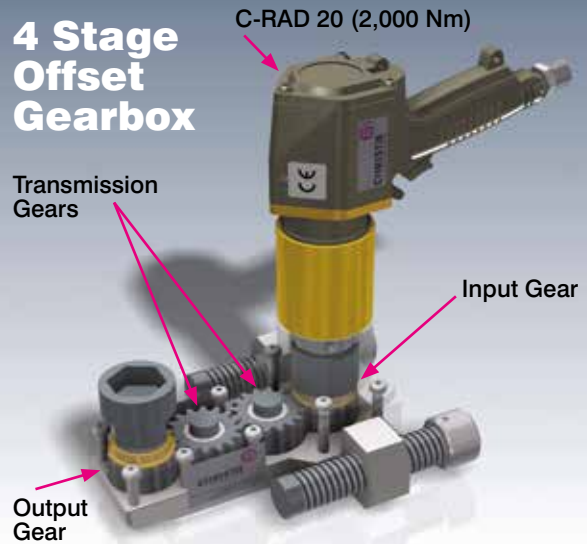
By means of a gear train, torque and turning motion is transmitted to the bolting application, offsetting the gearbox/drive point of a standard tool.

In these situations an offset gearbox will give access to the bolts, allowing a safer and quicker bolting procedure.

Each gearbox is designed using 3D and stress analysis software to minimise friction and torque losses.

W. Christie's manufacturing processes involves precision CNC machining and heat treatment of the highest quality materials.

4 Stage Offset Gearbox



Input Torque:
1,500 Nm

Output Torque:
1,050 Nm

Gearbox Ratio:
0.7:1

Smart Socket

SMART SOCKET

The W. Christie Smart Socket transducer is the convenient and flexible way to check the torque on critical bolting applications where full data traceability is required.

- Easy to fit – simple 'o' ring and retaining pin fixture
- Accuracy of +/-2%
- Compact design – no larger than a standard socket
- Powered by internal rechargeable Lithium battery (supplied)
- Easy to read Smart Socket display, with:
 - max. applied torque
 - switchable units of torque (Nm or lbf.ft)
 - 'pass' or 'fail' display - tolerance (%) and target figure for torque set via software
 - storage of up to 750 results
- Automatic standby facility and low battery warning
- Supplied with Windows compatible software:
 - available for use on additional PCs
 - store data as CSV. or Excel
 - store multiple data logs
- Charge via the netbook or by USB mains adaptor (both not supplied as part of standard set)



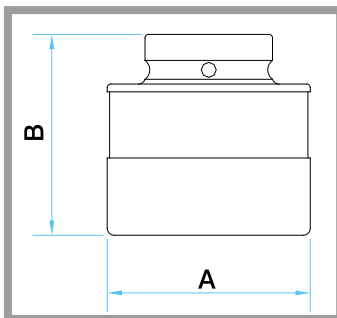
For use on any non-impacting square drive torque tool.



Charging and data download via the netbook.

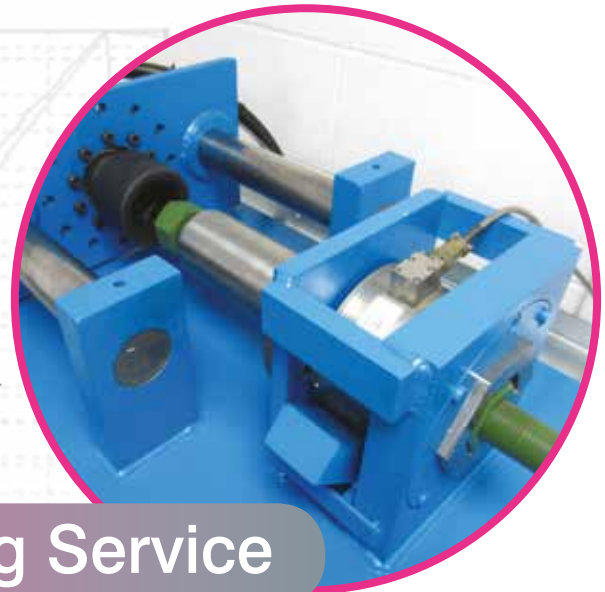
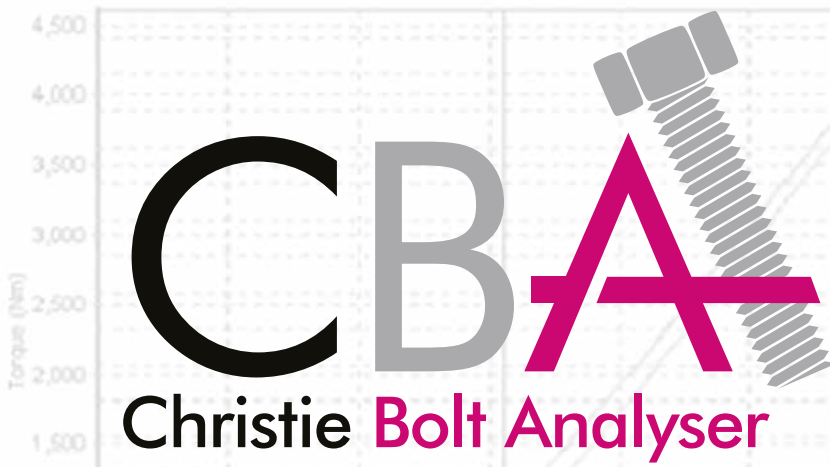
Each set includes:
 Smart Socket, Socket Retaining Pin and 'O' Ring, USB Charger / Comms. Cable, Software, and Operating Manual.
 Netbook and USB Mains Adaptor (optional) available at extra cost.

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See table for dimensions and detail

Model	Drive Size	Torque Range (Nm)		Weight Kg	Dimensions (mm)	
		Min.	Max.		A	B
33mm Smart Socket	¾"	200	2,000	1.2	72	100
36mm Smart Socket	1"	200	2,000	1.2	72	100
41mm Smart Socket	1"	200	2,000	1.2	72	87
46mm Smart Socket	1"	200	2,000	1.2	72	87
50mm Smart Socket	1"	400	4,000	1.5	86	85
55mm Smart Socket	1"	400	4,000	1.5	86	89
60mm Smart Socket	1"	400	4,600	1.5	86	89
65mm Smart Socket	1½"	1,100	10,800	4.0	115	121
70mm Smart Socket	1½"	1,100	10,800	4.0	115	121
80mm Smart Socket	1½"	1,100	10,800	4.0	115	121
90mm Smart Socket	1½"	1,600	16,000	5.8	115	130
100mm Smart Socket	1½"	1,600	16,000	7.2	120	146



W. Christie Bolt Analysing Service

Have you got failing bolts or joint integrity issues?

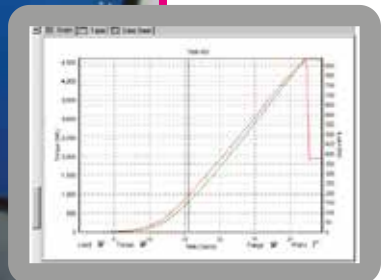
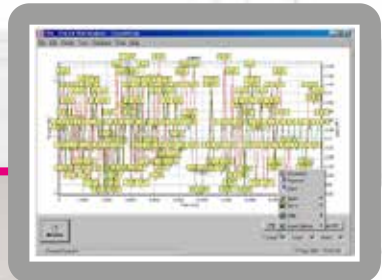
Understanding the unique behaviour of bolted joints is essential to structure safety and integrity.

As a diagnostic aid to monitoring the forces produced in bolts, Christie Bolt Analysers (CBAs) assess the important relationship between the torque applied and axial load.

This allows factors such as fastener manufacturing variations, and the effects caused by lubrication to be

determined with respect to torque and load.

High frequency Windows® based software analyses torque, load, and lubricant variations. This data is recorded and plotted on real-time graphs and result tables, giving an instant 'picture' of the characteristics of the particular bolt under test.



Capability of W. Christie Bolt Analysing Systems

- Testing of fasteners over a wide range of sizes and classifications; M10-M64 (+ imperial equivalent), with accuracy of within +/-1%
- Provides a maximum load measurement of 2,000 kN and a torque measurement of up to 20,000 Nm.
- Offers the following tests:
 - Torque-tension
 - Torque/preload to failure
 - Torque to yield

Send us your sample bolts for evaluation...

Call W. Christie Bolt Analysing Service Team

 **01709 550088**

Order **FREE** the latest
Engineers Friend
Booklet and Poster



CHRISTIE
 TOTAL TORQUE SOLUTIONS

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