



# HYTORC

## INDUSTRIAL BOLTING SYSTEMS

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### PROPRIETARY RIGHTS NOTICE

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### PATENT NOTICE

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Products in this catalog are covered by numerous registered or pending patents in the U.S. and other countries.



HYTORC's mission is to optimize safety, quality and schedule in industrial bolting through innovative solutions, and an unyielding commitment to world class customer service.

## FREE SERVICES

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- User safety training upon receipt of merchandise
- Loaner tools within 24 hours in case of product failure
- Torque/Tension consultation/seminar
- Half-Day, first-use supervision
- User training for first-time rentals
- Warranty repairs including return-freight
- Annual product inspection on request
- Product demonstrations
- 12-Month no-questions-asked warranty
- Upgrades during the lifetime of the tool to enhance safety, durability, and function

**(Above services are not subject to travel expense charges.)**

## TOOL RENTALS

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- The HYTORC Exclusive 12-Month, 12-Word Guarantee: "YOU BREAK IT UNDER NORMAL USE – WE FIX IT FREE OF CHARGE."
- User training for first-time rentals is free of all cost
- Rental tools are guaranteed to perform and are subject to the free loaner tool policy of HYTORC

## WORLDWIDE CUSTOMER SERVICE

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The goal of 100% customer satisfaction is deeply embedded in every aspect of the business. Every HYTORC customer is entitled to free 24/7 phone support as well as free safety training, product operation training, and many more unique benefits. Additionally, all HYTORC products are covered by a worldwide one-year no-questions-asked warranty, which includes free parts and labor—another first in the industry. With authorized repair facilities located all over the world, a one-day turnaround is usually available.

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# HYTORC TOOL COMPARISONS

HYTORC offers the latest hydraulic, electric and pneumatic bolting technology with unique patented benefits that provide industry-leading safety and precision. Each bolting application has different requirements and challenges, and nobody can offer the combination of experience, service, and quality tools that HYTORC has developed over 50 years in the industry.

## HYDRAULIC TORQUE WRENCHES - FEATURES



LEGEND: 1 = MXT+™ 2 = AVANTI® 3 = EDGE S™ 4 = STEALTH® 5 = XLCT® 6 = VERSA®

FEATURE	MXT+™	AVANTI®	EDGE S™	STEALTH®	XLCT®	VERSA®
Multi-Directional Hose Swivel	✓	✓	✓	✓	✓	—
Torque Accuracy Within +/- 3%	✓	✓	✓	✓	✓	✓
Lock On Release Lever	—	✓	—	✓	✓	—
Lock On Auto Release	✓	—	—	—	—	—
Cycle Counter	✓	—	—	—	—	—
Dual Reaction	✓	—	—	—	—	—
Compatible with HYTORC Washer	✓	✓	—	✓	—	—
Compatible with HYTORC Nut	✓	✓	—	✓	—	—
Torque Output >25,000 Ft-Lbs (>33895 Nm)	—	✓	✓	✓	✓	✓
3 Moving Part Design	—	—	✓	—	—	✓
Quick Couplers	✓	0	0	0	0	0
Sub Sea Compatible	✓	✓	✓	✓	✓	✓
ATEX-Certified	—	✓	—	✓	—	—
Angle Dial Compatible	✓	✓	—	—	—	—

\* When used with a HYTORC Washer system. 0 = Optional.

**PNEUMATIC TORQUE TOOLS - FEATURES**



**LEGEND:** jGun® DIGITAL Single Speed (L) jGun® DUAL SPEED (R)

	jGun® DIGITAL Single Speed	jGun® DUAL SPEED
Accuracy Within +/- 5%	✓	✓
Torque Output: >5,000 Ft-Lbs (>4067 Nm)	✓	✓
Dual Speed Rundown / Torque	—	✓
LCD Digital Display	✓	—
Built In Cycle Counter	✓	—
Operation Below 75 dB	✓	✓*
Compatible With HYTORC Washer	✓	✓
Compatible With HYTORC Nut	✓	✓
ATEX Certified	—	✓
FRL Free Operation	✓	—

\* When used with optional silencer system.

**ELECTRIC TORQUE TOOLS - FEATURES**



**LEGEND:** LITHIUM SERIES® II (L) LION GUN® (R)

	LITHIUM SERIES® II	LION GUN®
Cordless Portable Operation	✓	✓
18 Volt Lithium-Ion Battery	—	✓
36 Volt Lithium-Ion Battery	✓	—
Accuracy within +/- 5%	✓	✓
Torque Range up to 5000 ft-lbs (6779 Nm)	✓	—
Brushless Motor	✓	✓
TorcSense® Technology	✓	—
Built-In Job Documentation	✓	✓
All Aluminum Housing	✓	—
Nickel Plated Gearbox	✓	—
Compatible With HYTORC Connect App	✓	0
Administrative Control	✓	✓
Directional Control	✓	✓
Dual Speed	✓	—
Snug Function	✓	—
Advanced Bolting Functions	✓	—
Work Light	✓	—
Cycle Counter	✓	✓
Rear Shock Guard	✓	—
Compatible With HYTORC Washer	✓	✓
Compatible With HYTORC Nut	✓	✓

0 = Optional.





## MXT+™ Hydraulic Torque Wrench

The **MXT+** Hydraulic Torque Wrench from HYTORC combines the best of the original MXT with the latest advances in bolting technology including coaxial reaction drive, auto-release feature and a new cycle counter. The **MXT+** is constructed from higher strength materials for rugged industrial use and highly repeatable performance. The coaxial drive reaction combined with rear reaction feature provides flexibility to configure the tool in the field. Eliminating the need for two separate tools. Compatible with standard sockets and now equipped with coaxial drive technology to support the HYTORC Washer and HYTORC Nut systems. Integrated auto-release and new quick-couplers provide faster job setup and completion. The new cycle counter helps keep tools in calibration, allowing users to schedule preventative maintenance for maximum performance and longer tool life.

### DUAL REACTION



The **MXT+** dual-reaction feature allows the user to configure the wrench for rear reaction arms compatible with the original **MXT**® or newer reaction arms compatible with AVANTI® and ICE® product lines.

### EMBEDDED CYCLE-COUNTER



The **MXT+** has an embedded cycle counter to monitor tool use and schedule preventative maintenance and calibration. This feature helps maintain the tool at peak performance for accurate and repeatable bolting results. By providing preventative maintenance the user can achieve the longest tool life possible.

### AUTO-RELEASE



The **MXT+** Wrench has an integrated auto release feature so the operator doesn't have to flip a lever to un-lock the tool from the application. Simply advance the pump and the tool will free itself making bolting operations faster, safer, and simpler.





**MORE THAN ALL OTHERS**

- |                                 |  |                                 |
|---------------------------------|--|---------------------------------|
| 1. Drive (Coaxial) Reaction Arm | 5. Drive (Coaxial) Reaction Arm Tightening | 9. Rear Reaction Sleeve 3" Down |
| 2. HYTORC Nut Direct Drive      | 6. Track Pad Fixture                       | 10. Rotatable Reaction Arm      |
| 3. HEX Direct Drive             | 7. HYTORC Washer Driver                    | <b>AND SO MUCH MORE...</b>      |
| 4. ALCO Arm                     | 8. Rear Reaction Arm                       |                                 |

**STRONGER. DURABLE. REPEATABLE.**



The MXT+ has been designed with stronger materials that can handle more than 5,000 duty cycles at max torque. This Wrench will outlast all others and provide consistently repeatable performance, even under the harshest conditions.

**QUICK COUPLERS**



New quick-couplers provide faster job setup and completion. No more guessing if your connections are tight. A locking mechanism is included with the couplers to prevent accidental disconnection.

**SPLINE COVER**



A spline cover is supplied with each tool to prevent damage to the tool's rear splines. Applied when using drive reaction systems to protect the rear splines and improve safety. Easy to install or remove.

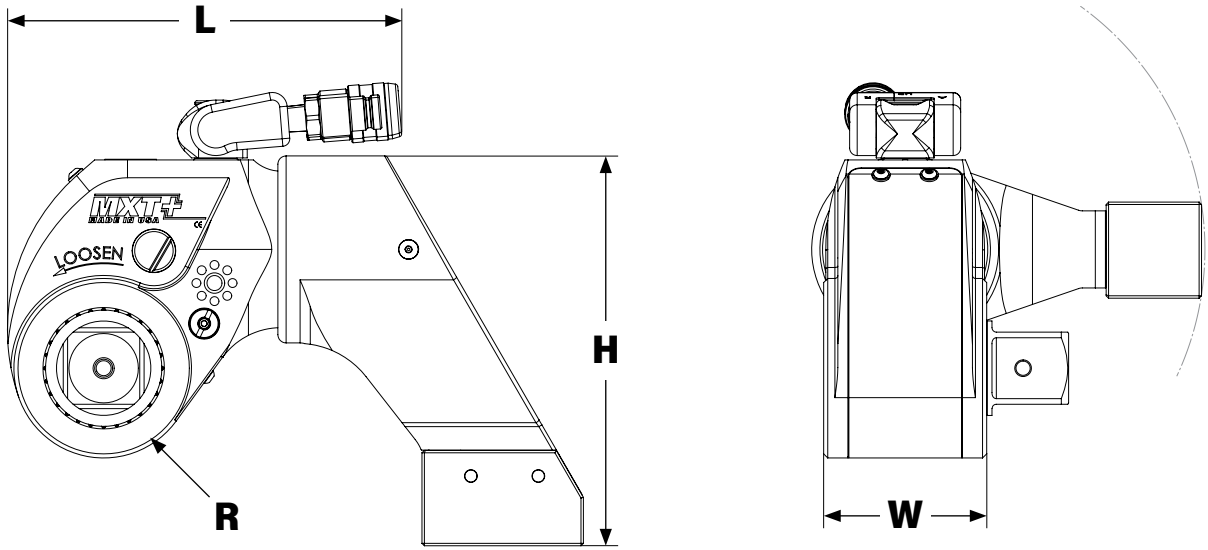
**ANGLE OF ROTATION**



Both indirect and direct angle of rotation measuring is possible, as well as Yield Control Bolting.

REAR REACTION ARM

DRIVE (COAXIAL) REACTION ARM



LEGEND: H = HEIGHT W = WIDTH L = LENGTH R = RADIUS

MODEL NUMBER	H	W	L	R	DRIVE	WEIGHT	TORQUE	
IMPERIAL			in.			lbs.	ft-lbs (Min)	ft-lbs (Max)
MXTP - 01	6.38	2.18	5.17	1.18	3/4	6.80	205	1,359
MXTP - 03	6.90	2.90	6.66	1.50	1	7.59	464	3,117
MXTP - 05	9.24	3.38	8.04	1.86	1-1/2	18.50	812	5,422
MXTP - 10	11.69	4.35	10.05	2.38	1-1/2	25.00	1,831	12,148
METRIC			mm		in.	kg	Nm (Min)	Nm (Max)
MXTP - 01	162	55	131	30	3/4	3.08	278	1843
MXTP - 03	175	74	169	38	1	3.44	629	4225
MXTP - 05	235	86	204	47	1-1/2	8.39	1101	7350
MXTP - 10	297	110	255	60	1-1/2	11.33	2482	16468

**COMPLETE KIT CONTENTS**

- MXT+ Hydraulic Wrench
- Side Axial Reaction Arm
- Rear Reaction Arm
- Protective Rear Spline Cover
- Storage Case
- Side Handle
- Calibration Certificate
- Operation Manual

**MXTP**

**Model:**

MXT+ Hydraulic Wrench

**Capacity:**

Available: 01, 03, 05, 10

(Coming mid-2022: Models .7, 8, & 20).





## AVANTI® Hydraulic Torque Wrench

The **AVANTI** Hydraulic Torque Wrench is the largest HYTORC tool. It offers the widest range of torque output, with a maximum of more than 130,000 ft.-lbs (187683 Nm). Having been used for two decades by industry professionals, the AVANTI has years of proven performance.

### REACTION DRIVE



The AVANTI features a patented industry-first reaction drive that eliminates the destructive twisting force that occurs in other torque wrenches that have a back-end reaction arm.

### TORQUE & ANGLE DIAL

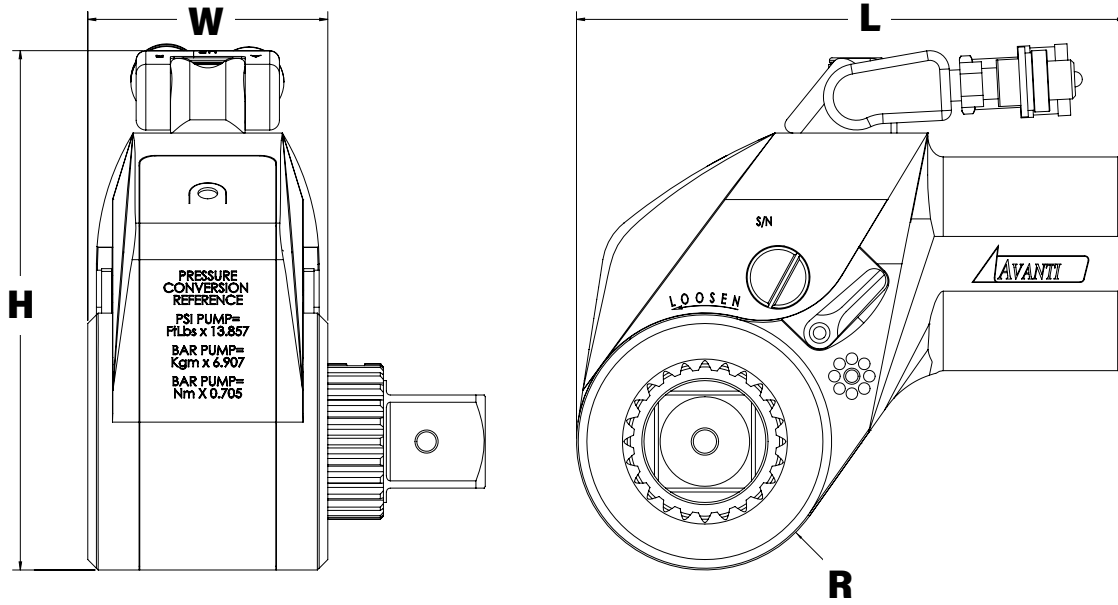


Users get a clear angle reading for each application during all bolting sessions that incorporate turn-of-the-nut.

### MULTI-USE SYSTEM



AVANTI works with conventional bolting equipment as well as the HYTORC Nut (1) and HYTORC Washer (2), making bolting applications safer, faster, and more accurate.



LEGEND: H = HEIGHT W = WIDTH L = LENGTH R = RADIUS

MODEL NUMBER	H	W	L	R	SQUARE DRIVE	WEIGHT	TORQUE	
IMPERIAL	in.					lbs.	ft-lbs (Min)	ft-lbs (Max)
AVANTI - .7	4.19	1.79	4.14	0.99	3/4	3.10	115	767
AVANTI - 8	7.90	3.86	8.24	1.94	1-1/2	20.75	1,150	7,760
AVANTI - 20	10.22	5.07	10.94	2.60	2-1/2	47.70	2,760	17,890
AVANTI - 35	12.22	6.23	13.45	3.19	2-1/2	82.75	4,905	31,830
AVANTI - 50	13.90	7.04	15.54	3.95	2-1/2	127.70	7,202	46,126
AVANTI - 80	16.84	7.49	19.52	4.69	3-1/2	280.50	11,965	85,695
AVANTI - 130	19.40	8.50	22.73	5.31	3-1/2	585.00	19,395	138,510
METRIC	mm				in.	kg	Nm (Min)	Nm (Max)
AVANTI - .7	106	45	105	25	3/4	1.41	156	1039
AVANTI - 8	201	98	209	49	1-1/2	9.43	1558	10515
AVANTI - 20	260	129	278	66	2-1/2	21.68	3740	24241
AVANTI - 35	310	158	342	81	2-1/2	37.61	6646	43130
AVANTI - 50	353	179	395	100	2-1/2	58.05	9759	62501
AVANTI - 80	428	190	496	119	3-1/2	127.50	16213	116118
AVANTI - 130	493	216	577	135	3-1/2	265.91	26280	187683



## EDGE S™ Hydraulic Torque Wrench

For general maintenance that requires high torque values and repeatable results, the **EDGE S** is HYTORC's workhorse. The straightforward three-moving-part design was created by HYTORC over 30 years ago and has been consistently improved upon, resulting in the most tried and tested line of hydraulic torque wrenches in the world.

### SIMPLE OPERATION AND MULTI-AXIS SWIVEL



The three-moving part design of the EDGE S reduces the number of potential repairs and keeps operating costs to a minimum. The multi-axis swivel allows for maximum positioning, flexibility, and safety of the hoses.

### REMOVABLE SQUARE DRIVE



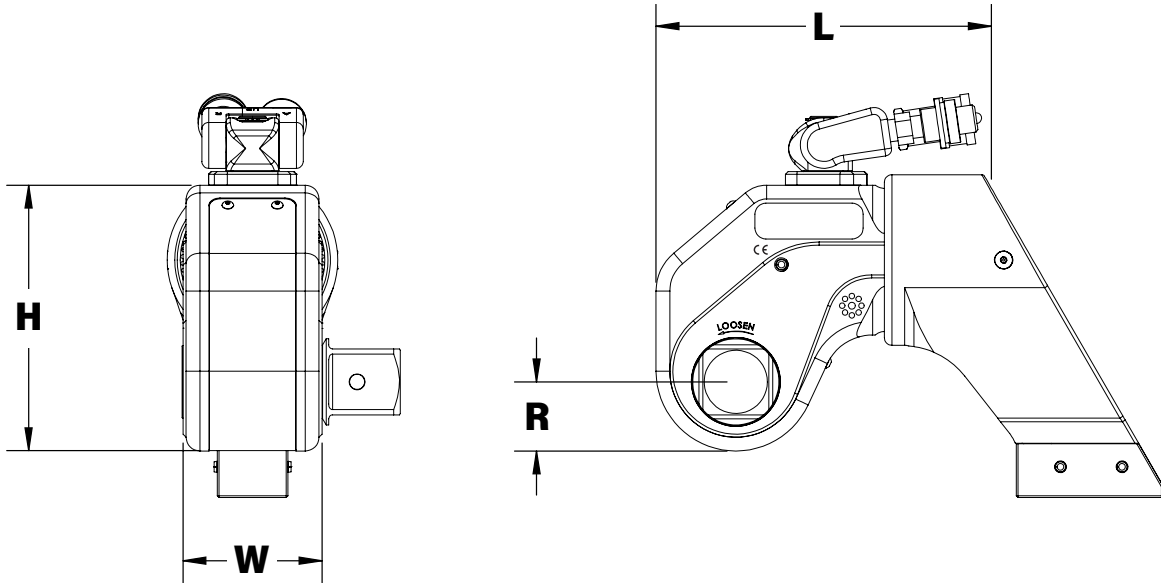
For quick and simple directional changes, the EDGE S splined square drive can be removed and installed on the opposite side with no tools. Hex Drives and other Direct Drives are also available with the EDGE S tool.

### SAFETY HANDLE



Keep your hands safe by using the included safety handle. Simple installation and able to be positioned in almost any angle. The safety handle can be installed on either the Tighten or Loosen side.





LEGEND: H = HEIGHT W = WIDTH L = LENGTH R = RADIUS

MODEL NUMBER	H	W	L	R	SQUARE DRIVE	WEIGHT	TORQUE	
<b>IMPERIAL</b>			in.			lbs.	ft-lbs (Min)	ft-lbs (Max)
<b>EDGE-1S</b>	3.53	1.97	4.94	0.97	3/4	4.05	178	1,257
<b>EDGE-3S</b>	4.71	2.63	6.40	1.31	1	8.50	443	3,097
<b>EDGE-6S</b>	6.04	3.18	7.61	1.57	1-1/2	19.20	893	6,241
<b>EDGE-9S</b>	6.58	3.57	8.59	1.86	1-1/2	20.05	1,230	8,555
<b>EDGE-11S</b>	7.07	3.95	9.60	1.96	1-1/2	25.00	1,615	11,291
<b>EDGE-30S</b>	10.10	5.64	13.71	2.79	2-1/2	64.70	4,448	29,650
<b>METRIC</b>		mm			in.	kg	Nm (Min)	Nm (Max)
<b>EDGE-1S</b>	90	50	125	25	3/4	1.84	241	1703
<b>EDGE-3S</b>	120	67	163	33	1	3.86	600	4172
<b>EDGE-6S</b>	153	81	193	40	1-1/2	8.73	1210	8457
<b>EDGE-9S</b>	167	91	221	47	1-1/2	9.11	1667	11592
<b>EDGE-11S</b>	180	100	244	50	1-1/2	11.36	2188	15299
<b>EDGE-30S</b>	257	143	348	71	2-1/2	29.41	6027	40194



## STEALTH® Hydraulic Torque Wrench

The STEALTH is the industry's most advanced low-clearance tool. The slim design fits where other tools will not and the dual piston powerhead provides unparalleled speed and power. Also compatible with the HYTORC Washer and HYTORC Nut, the STEALTH can conquer bolting applications from general maintenance to critical pathways.

### HANDS-FREE OPERATION



For the highest level of safety on industrial bolting jobs, HYTORC recommends hands-free operation. The STEALTH Lock-On adapter allows for hands-free usage with or without the HYTORC Washer.

### DUAL-PISTON POWER

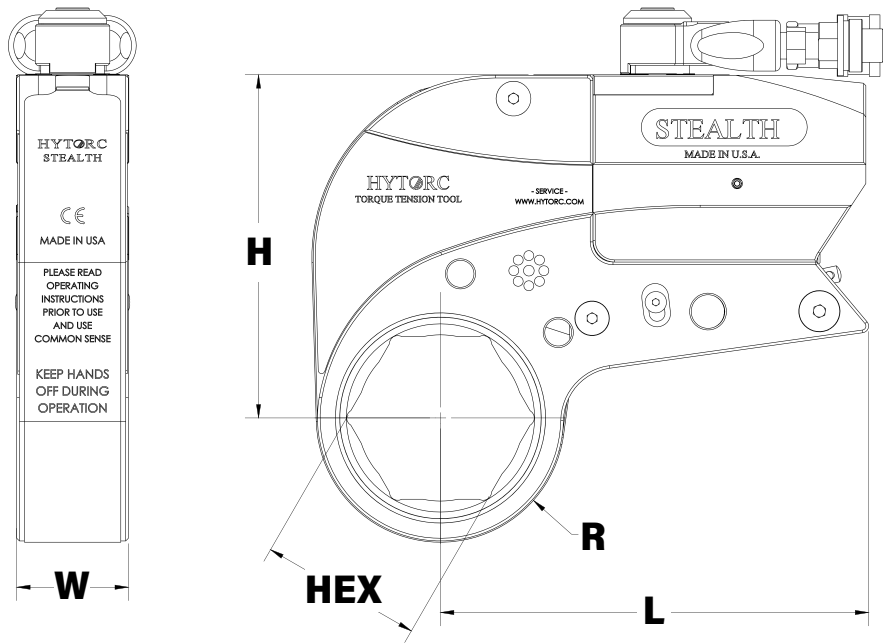


The patented design of the STEALTH's dual pistons provides more speed than any other limited clearance tool in the market.

### SLIM DESIGN



The STEALTH was the first industrial bolting system in the market to feature a continuous slim body design that fits in even the tightest of confines.



LEGEND: H = HEIGHT W = WIDTH L = LENGTH R = RADIUS

MODEL NUMBER	H	W	L	R		WEIGHT	TORQUE	
IMPERIAL	in.			in. (Min)	in. (Max)	lbs.	ft-lbs (Min)	ft-lbs (Max)
STEALTH - 2	4.21	1.25	5.53	1.03	1.76	3.99	278	1,869
STEALTH - 4	5.43	1.66	6.56	1.33	2.32	4.30	604	4,020
STEALTH - 8	6.40	2.18	8.00	1.77	2.89	6.70	1,199	7,984
STEALTH - 14	7.94	2.50	9.35	2.32	3.47	10.40	2,105	14,255
STEALTH - 22	9.18	2.91	10.80	2.62	3.87	15.40	3,250	21,875
STEALTH - 36	10.81	3.41	12.71	3.07	4.80	24.10	4,917	34,722
METRIC	mm			mm (Min)	mm (Max)	kg	Nm (Min)	Nm (Max)
STEALTH - 2	107	32	140	26	45	1.80	377	2534
STEALTH - 4	138	42	167	34	59	2.00	818	5450
STEALTH - 8	163	55	203	45	73	3.00	1625	10825
STEALTH - 14	202	64	237	59	88	4.70	2854	19327
STEALTH - 22	233	74	274	66	98	7.00	4406	29659
STEALTH - 36	275	87	323	78	122	10.90	6667	47077



## XLCT® Hydraulic Torque Wrench

The XLCT is the world's best-selling limited clearance industrial bolting system with over one hundred thousand in use around the world. Since 1992, the signature red housing has represented quality, durability and reliability on job sites in every major industry. From the tallest roller coasters to the world's largest bridges, the XLCT has the power to get the job done.

### LOCK-UP RELEASE



Like the MXT, the XLCT features a release lever that allows you to release the tool after torquing for easy removal. (Also found on the STEALTH).

### ZERO-SLIP RATCHET

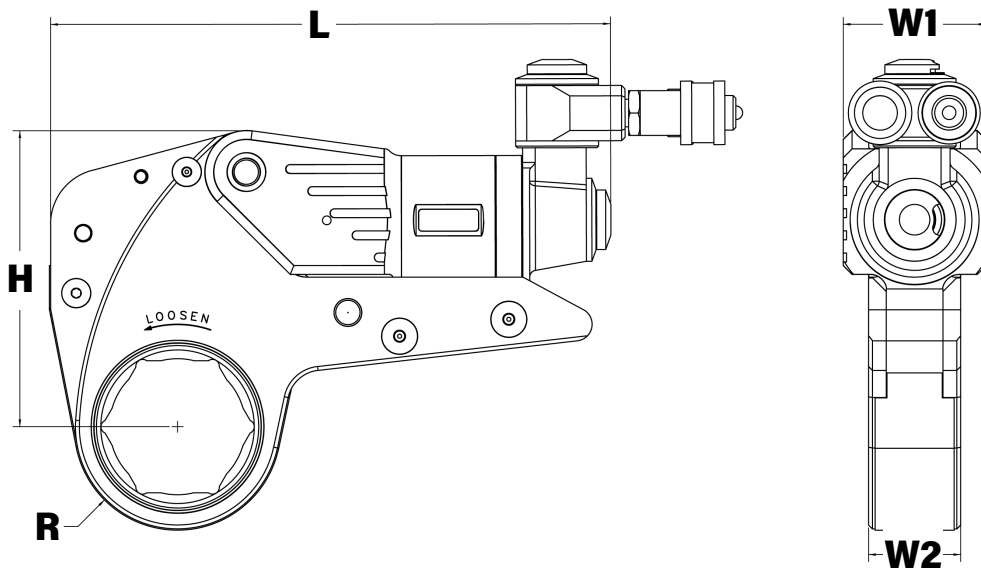


The XLCT series features a Zero-Slip ratchet for more powerful breakout and faster tightening. The secondary pawl inside the tool prevents the ratchet from turning opposite of the direction it is being driven.

### AB ROLLER SYSTEM



For those tight hard to reach confined spaces the XLCT's unique AB Roller System creates reaction while allowing spanner to engage on the fastener. This is one of many accessories available.



LEGEND: H = HEIGHT W1 = WIDTH OF POWERHEAD W2 = WIDTH OF LINK L = LENGTH R = RADIUS

MODEL NUMBER	H	W1	W2	L	R		WEIGHT	TORQUE	
IMPERIAL	in.				in. (Min)	in. (Max)	lbs.	ft-lbs (Min)	ft-lbs (Max)
XLCT - 2	4.02	1.94	1.25	7.33	1.03	1.76	2.05	243	1,687
XLCT - 4	5.36	2.58	1.67	10.19	1.33	2.32	4.25	580	3,855
XLCT - 8	6.70	3.23	2.09	12.29	1.77	2.89	7.15	1,143	8,151
XLCT - 14	8.04	3.88	2.50	14.61	2.32	3.47	11.30	2,010	13,400
XLCT - 18	9.08	4.38	2.83	14.34	2.62	3.87	14.85	2,790	19,100
XLCT - 30	10.71	5.17	3.35	16.82	3.07	4.80	23.80	4,579	30,986
XLCT - 45	13.39	6.00	3.94	21.10	4.05	4.88	43.00	7,130	49,180
XLCT - 60	13.39	6.46	4.16	20.70	4.81	5.03	48.00	8,867	59,110

METRIC	mm				mm (Min)	mm (Max)	kg	Nm (Min)	Nm (Max)
XLCT - 2	102	49	32	186	26	44.70	0.93	329	2286
XLCT - 4	136	66	42	259	34	58.93	1.93	786	5224
XLCT - 8	170	82	53	312	45	73.41	3.25	1549	11045
XLCT - 14	204	99	64	371	59	88.14	5.14	2724	18157
XLCT - 18	231	111	72	364	67	98.30	6.75	3780	25881
XLCT - 30	272	131	85	427	78	121.92	10.82	6205	41986
XLCT - 45	340	152	100	536	103	124.00	19.50	9667	66679
XLCT - 60	340	164	106	526	122	128.00	21.80	12022	80143



## VERSA® Hydraulic Torque Wrench

For general maintenance that requires high torque values and repeatable results, the VERSA has a straight-forward three-moving-part design was created by HYTORC over 30 years ago and has been consistently improved upon resulting in the most tried and tested line of hydraulic torque wrenches in the world.

### SIMPLE OPERATION



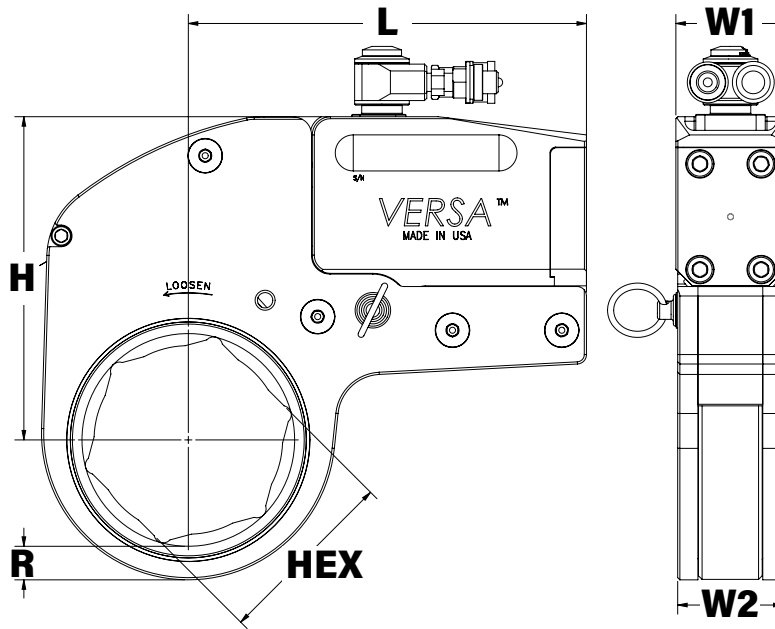
The three-moving part design of the VERSA reduces the number of potential repairs and keeps operating costs to a minimum.

### SLIM LINK AND PROFILE



When overhead clearance or space around the nut is extremely limited, HYTORC offers the VERSA Slim Link; a hex link so thin there's almost no job it can't handle. The VERSA is the most economical solution with a continuous-profile design throughout the powerhead and hex link.





LEGEND: H = HEIGHT W1 = WIDTH OF POWERHEAD W2 = WIDTH OF LINK L = LENGTH R = DISTANCE FROM HEX CORNER

MODEL NUMBER	H	W1	W2	L	R	WEIGHT	TORQUE	
IMPERIAL						lbs.	ft-lbs (Min)	ft-lbs (Max)
VERSA - 1	3.42	1.06	0.94	4.23	0.32	2.80	150	1,050
VERSA - 2	3.73	1.25	1.13	5.35	0.38	3.25	261	1,920
VERSA - 4	5.52	1.67	1.51	7.07	0.51	7.35	654	4,503
VERSA - 8	6.53	2.10	1.89	8.60	0.64	11.85	1,350	9,000
VERSA - 14	8.03	2.50	2.36	10.52	0.73	19.25	2,148	14,832
VERSA - 20	8.87	3.00	2.89	10.93	0.92	24.43	3,088	21,458
VERSA - 30	10.95	3.75	3.00	13.89	1.00	46.71	5,100	36,200
METRIC						kg	Nm (Min)	Nm (Max)
VERSA - 1	87	27	24	107	8	1.27	203	1423
VERSA - 2	95	32	29	136	10	1.48	354	2602
VERSA - 4	140	42	38	180	13	3.34	886	6102
VERSA - 8	166	53	48	218	16	5.39	1829	12195
VERSA - 14	204	64	60	267	19	8.75	2911	20098
VERSA - 20	225	76	73	278	23	11.10	4184	29076
VERSA - 30	278	95	76	353	25	21.23	6911	49051



## jGun® DIGITAL Single Speed Pneumatic Torque Tool

The jGun DIGITAL Single Speed from HYTORC is the world's first torque-adjustable pneumatic multiplier with a digital readout and FRL-free operation. Unlike other systems that require a separate filter, regulator and lubrication system between the air line and the tool, the patented design of the jGun DIGITAL Single Speed eliminates the need for this add-on for the highest level of portability and convenience.

### DIGITAL READOUT



The jGun DIGITAL Single Speed is the world's first industrial torque multiplier with a digital readout for instant confirmation of selected torque. No more pressure-to-torque conversions or calculations. Select between ft-lbs and Nm.

### BUILT-IN TORQUE ADJUSTMENT

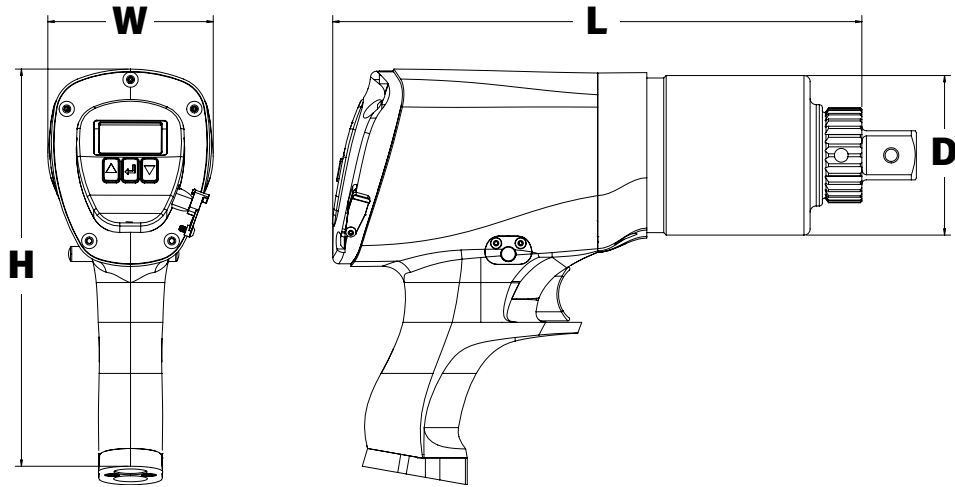


The jGun DIGITAL Single Speed is the first of its kind with an onboard air regulator for simple torque adjustment with a twist of the connector at the bottom of the handle. Especially convenient when switching from tightening to loosening, giving you the ability to quickly adjust to full power for fast and easy break-out.

### INDUSTRIAL-GRADE MOTOR



The new motor featured in the jGun DIGITAL Single Speed is a workhorse designed for heavy industrial use. With maximum power-to-weight ratio and a rugged corrosion-resistant design, this motor eliminates the need for separate air filters and lubrication systems, making the jGun DIGITAL Single Speed the most portable air powered torque gun on the market.



LEGEND: H = HEIGHT W = WIDTH L = LENGTH D = OUTER DIAMETER OF GEARBOX

MODEL NUMBER	H	W	L	D	SQUARE DRIVE	WEIGHT	TORQUE		RPM
IMPERIAL	in.					lbs.	ft-lbs (Min)	ft-lbs (Max)	
JGUN-D.25	7.87	3.15	7.11	2.50	3/4	8.25	50	250	65.0
JGUN-D.5	7.87	3.15	8.11	2.58	3/4	8.85	135	500	24.0
JGUN-D1	7.87	3.15	8.90	2.58	3/4	9.8	300	1,175	6.5
JGUN-D2	8.41	3.37	10.79	3.25	1	16.5	540	2,090	5.5
JGUN-D3	8.41	3.37	11.46	3.25	1	17.7	856	3,180	5.0
JGUN-D5	8.41	3.37	12.42	4.15	1-1/2	28.3	1,150	5,050	2.5
JGUN-D6.5	8.41	3.37	12.88	3.99	1-1/2	21.95	2,300	6,500	2.4
JGUN-D8	8.41	3.37	13.48	4.56	1-1/2	38.4	2,300	7,900	1.5

METRIC	mm				in.	kg	Nm (Min)	Nm (Max)	RPM
JGUN-D.25	200	80	181	64	3/4	3.75	81	339	65.0
JGUN-D.5	200	80	206	66	3/4	4.02	251	678	24.0
JGUN-D1	200	80	226	66	3/4	4.45	475	1592	6.5
JGUN-D2	214	86	274	83	1	7.50	780	2832	5.5
JGUN-D3	214	86	291	83	1	8.05	1161	4309	5.0
JGUN-D5	214	86	315	105	1-1/2	12.86	1891	6843	2.5
JGUN-D6.5	214	86	327	101	1-1/2	9.95	3118	8813	2.4
JGUN-D8	214	86	342	116	1-1/2	17.45	3118	10705	1.5



## jGun® DUAL SPEED Pneumatic Torque Tool

The jGun DUAL SPEED is the only pneumatic multiplier that gives you the flexibility to use it for rundown, final torque, and heavy duty breakout. For fast rundown and powerful torque capability, the jGun DUAL SPEED is the industry's most reliable choice.

### WHEEL GUN ACCESSORY



The Wheel Gun Accessory is the obvious choice for wheel bolting and all nuts and bolts in confined spaces. The powerful extension system delivers the desired torque without compromise to power or durability. With industry-leading repeatability and intuitive design, job integrity is always assured.

### 3-IN-1 BOLTING SYSTEM

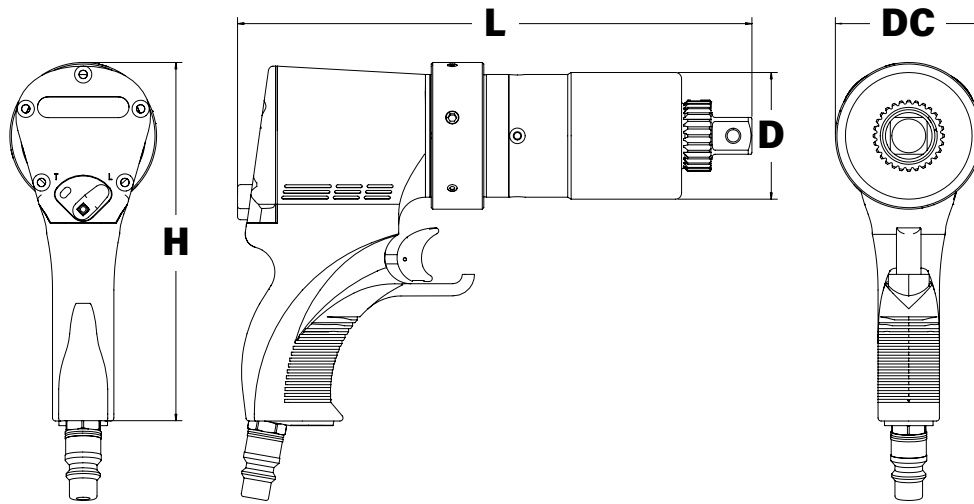


A simple twist of the collar switches the tool from high speed rundown mode into the max power mode with adjustable torque so you can choose the right output for your job.

### INTUITIVE DESIGN



This robust tool eliminates the need for multiple systems making training simpler and reducing the chance for operator error. When multiple systems are used to assemble a bolted joint there is more chance for operator error. The jGun DUAL SPEED makes the job simpler by giving operators one easy to use system that can be used from start to finish.



**LEGEND:** H = HEIGHT L = LENGTH D = OUTER DIAMETER OF GEARBOX DC = DIAMETER OF COLLAR

MODEL NUMBER	H	L	D	DC	SQUARE DRIVE	WEIGHT	TORQUE		RPM	
IMPERIAL	in.					lbs.	ft-lbs (Min)	ft-lbs (Max)	High	Low
J - A.5 - AP	7.32	8.07	2.58	2.99	3/4	9.04	194	502	465	24.0
J - A1 - AP	7.40	10.55	2.58	2.99	3/4	9.70	312	1,272	126	6.5
J - A2 - AP	8.42	12.51	3.25	4.48	1	15.00	520	2,039	97	5.0
J - A3 - AP	7.50	12.48	3.19	2.99	1	12.00	830	3,072	39	2.0
J - A5 - AP	8.42	14.65	4.15	4.48	1-1/2	22.50	1,215	5,007	48	2.5
J - A8 - AP	8.46	15.38	4.56	4.48	1-1/2	28.75	2,079	8,285	29	1.5
<b>WHEEL GUN</b> J - A1 - AP - WG	7.40	10.55	2.58	2.99	3/4	12.0	255	1,075	322	17
METRIC	mm				in.	kg	Nm (Min)	Nm (Max)	High	Low
J - A.5 - AP	186	205	66	76	3/4	4.11	263	680	465	24.0
J - A1 - AP	188	268	66	76	3/4	4.41	423	1724	126	6.5
J - A2 - AP	214	318	83	114	1	6.82	705	2763	97	5.0
J - A3 - AP	191	317	81	76	1	5.45	1125	4163	39	2.0
J - A5 - AP	214	372	105	114	1-1/2	10.23	1646	6785	48	2.5
J - A8 - AP	215	391	116	114	1-1/2	13.07	2817	11226	29	1.5
<b>WHEEL GUN</b> J - A1 - AP - WG	188	268	66	76	3/4	5	346	1457	322	17



## THE MOST AWARD-WINNING ELECTRIC TORQUE MULTIPLIER

Spotlight on New Technology, 2019  
Good Design, 2019  
Pro Tool Innovation Award, 2019

## LITHIUM SERIES® II Electric Torque Tool

The LITHIUM SERIES II Electric Torque Tool is the next revolution in bolting technology redesigned from the ground up with expanded functionality, greater durability, and intuitive usability. This lightweight 36 Volt battery powered tool, with capacity up to 5,000 ft-lbs (6779 Nm), is the ultimate solution for strength and portability in industrial bolting jobs worldwide. This tool is compatible with conventional sockets, the HYTORC Washer, and the HYTORC Nut.

### FEATURE LIST



- **TorcSense™ Technology**
- **Brushless Motor**
- **All Aluminum Housing**
  - High Strength Gearbox
  - Nickel Plated
  - Rear Shock Guard
  - Work Light
  - High Resolution Display
- **Directional Switch**
- Snug Function
- **Intuitive User Interface**
  - Access Levels
  - Data Acquisition
- **Bluetooth Wireless Technology**
  - Expanded Job Data Management
  - Advanced Bolting Features
- **Compatible with HYTORC Nut**
- **Compatible with HYTORC Washer**

▪ Please see the following two pages for detailed information about the highlighted features above.





**TESTIMONIAL**

"I HAVE BEEN AROUND PLENTY OF BOLTING TOOLS, SEEN MANY TOOLS USED. BUT THIS IS REALLY COOL! IT'S LIGHTER THAN I EXPECTED, IT'S REALLY FOOL PROOF, AND SO SIMPLE THAT ANYONE CAN GET THE JOB DONE. THE GUYS ARE GOING TO BE ABLE TO WORK LONGER AND SAFER, WHILE STILL GETTING THE JOB DONE RIGHT. I LOVE IT!"

**Kyle Chambers**  
Texas Quality Assurance

**TorcSense™ Technology**



A direct torque measurement system utilizing a strain based transducer in a closed loop monitoring system provides more repeatable torque and enables advanced bolting features.

**BRUSHLESS 36V DC MOTOR**



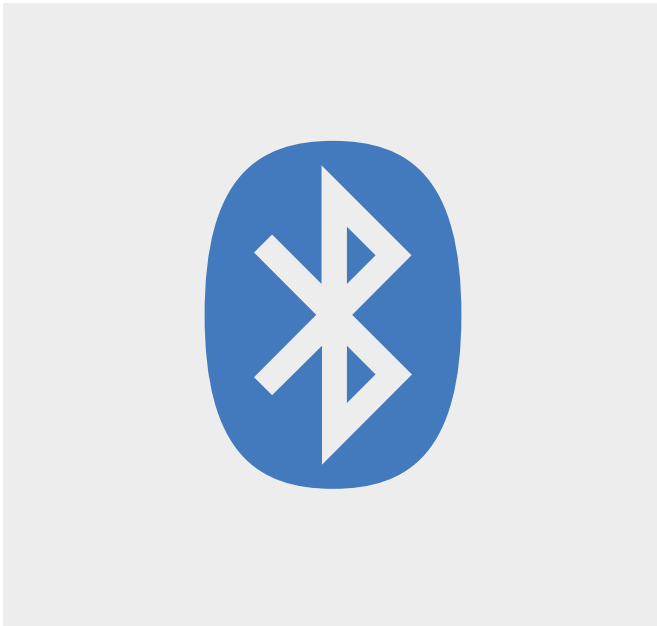
The tool uses an all new 36V brushless DC motor which runs cooler, quieter, and has significantly longer life.

**INTUITIVE USER INTERFACE**



The home screen and menu structure have been redesigned with all new icons, indicators, and simple navigation layout making the tool intuitive and simple to use.

**BLUETOOTH WIRELESS TECHNOLOGY**



Now standard with Bluetooth wireless technology, the tool makes data transfer easier than ever! Job data and tool firmware upgrades can now be performed wirelessly.

**MULTIPLE TOOL CONFIGURATIONS**



The tool is easily configured for conventional sockets and reactions arms (1), the HYTORC Washer System (2), and precision mechanical tensioning with the HYTORC Nut (3).

**ALL-ALUMINUM HOUSING**

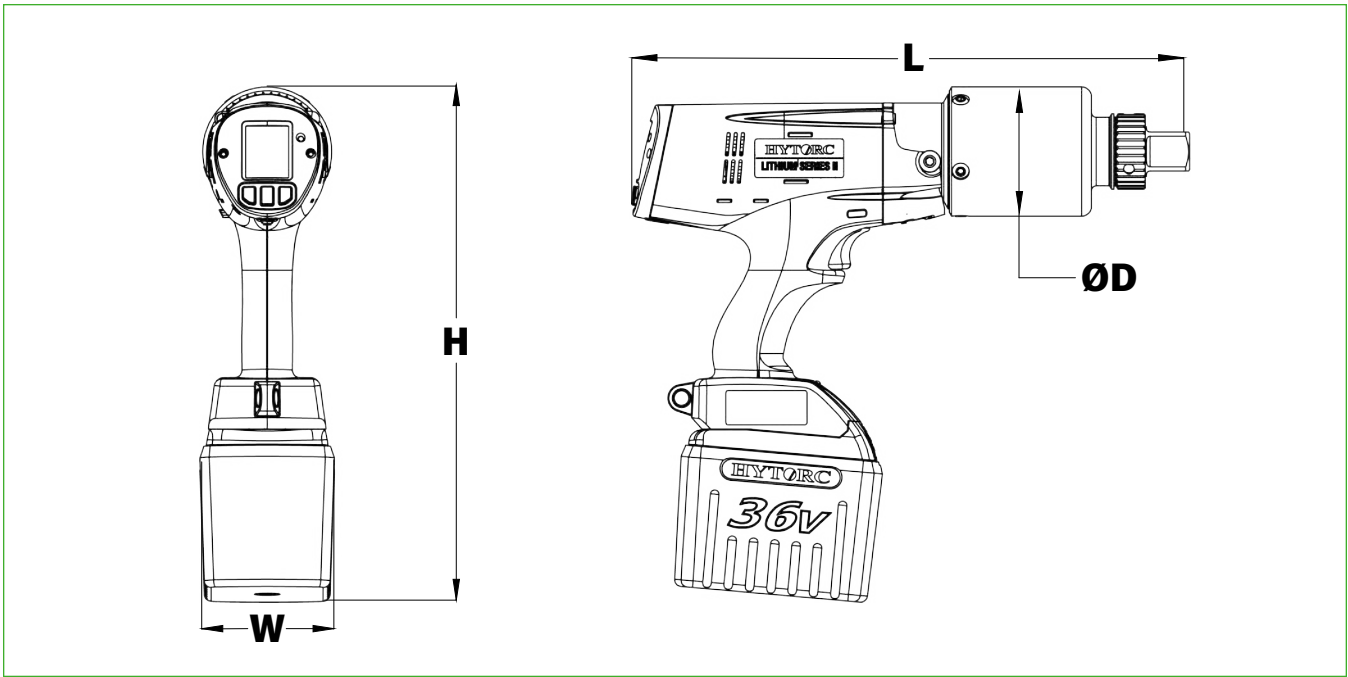


The new all-aluminum housing vastly improves impact resistance and durability protecting the tool's vital components. The gearbox is also nickel plated for corrosion resistance.

**DIRECTIONAL SWITCH**



Conveniently located near the trigger, the sliding directional switch can quickly change drive direction from tighten and loosen with a simple push of a button.



LEGEND: H = HEIGHT W = WIDTH L = LENGTH ØD = DIAMETER

CONFIGURATIONS	H	W	L	D	DRIVE	WEIGHT W/ BATTERY	SNUG		TORQUE	
IMPERIAL	in.					lbs.	ft-lbs (Min)	ft-lbs (Max)	ft-lbs (Min)	ft-lbs (Max)
LST-0250	12.9	3.5	9.9	2.5	1/2	9.5	12	24	25	250
LST-0700	12.9	3.5	11.4	2.6	3/4	11.7	35	149	150	700
LST-1200	12.9	3.5	11.7	2.6	3/4	12.0	60	199	200	1,200
LST-2000	13.2	3.5	13.9	3.2	1	16.6	100	324	325	2,000
LST-3000	13.3	3.5	14.4	3.4	1	17.7	150	499	500	3,000
LST-5000	16.6	4.0	15.4	4.0	1-1/2	22.4	200	799	800	5,000
METRIC	mm				in.	kg	Nm (Min)	Nm (Max)	Nm (Min)	Nm (Max)
LST-0250	328	89	251	64	1/2	4.3	16	33	34	339
LST-0700	328	89	290	66	3/4	5.3	47	202	203	949
LST-1200	328	89	297	66	3/4	5.5	81	270	271	1627
LST-2000	335	89	353	81	1	7.5	136	439	441	2712
LST-3000	338	89	366	86	1	8.0	203	677	678	4067
LST-5000	422	102	391	102	1-1/2	10.2	271	1083	1085	6779



## LION GUN® Electric Torque Tool

The LION GUN Electric Torque Tool with built-in data recording offers unmatched portability and convenience, making safe and accurate bolting simpler than ever. This 18-Volt battery powered tool, with capacity up to 700 ft-lbs, delivers industrial-grade power without the weight. Built-in data recording provides a permanent record of the work performed. This tool is compatible with conventional sockets, the HYTORC Washer, and the HYTORC Nut.

### INDUSTRIAL-GRADE POWER



The LION GUN Tool's industrial-strength gear box is driven by a brushless DC motor connected to a non-impacting gearbox to deliver torque faster, smoother and more reliably than manual clicker wrenches, impact wrenches and other tightening tools.

### UNMATCHED PORTABILITY

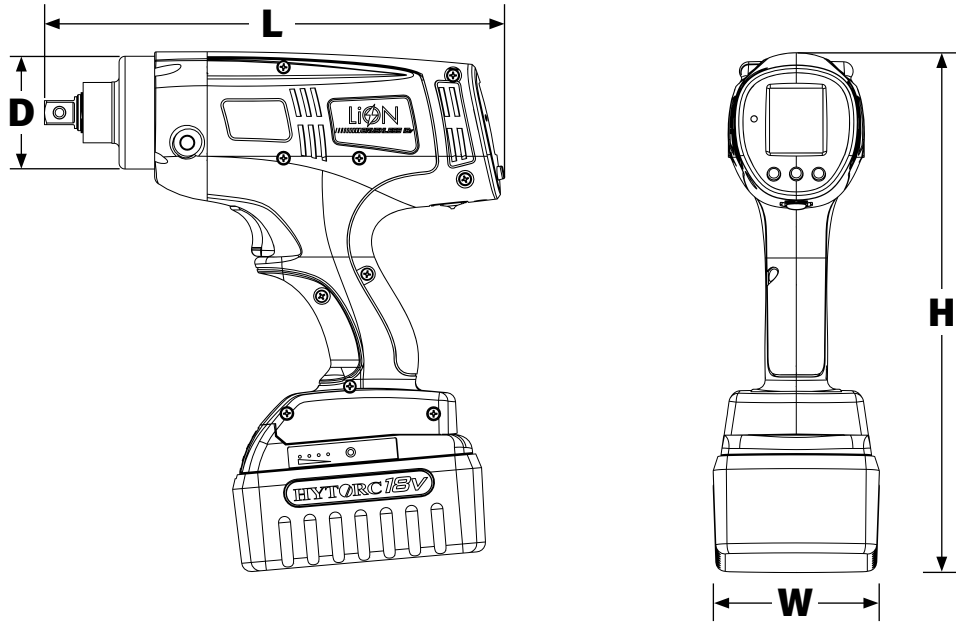


Through the use of aerospace-grade alloys, the LION GUN Tool packs tremendous power without the weight. The 18-Volt lithium-ion battery provides long lasting operation with a quick recharge time to keep the job going.

### DATA RECORDING



Built-in data recording allows the user to maintain a log of all completed bolting jobs. For improved quality control and accountability, the information can be saved to a PC or tablet to provide a permanent record of the work performed.



LEGEND: H = HEIGHT W = WIDTH L = LENGTH D = DIAMETER

CONFIGURATION	H	W	L	D	SQUARE DRIVE	WEIGHT	TORQUE		RPM
IMPERIAL	in.					lbs.	ft-lbs (Min)	ft-lbs (Max)	
LIONGUN-25	10.83	3.47	10.16	2.35	1/2	7.30	25	250	11.6
LIONGUN-7	10.83	3.47	11.13	2.45	3/4	8.22	70	700	4.1
LIONGUN-25-BSM	10.83	3.47	10.16	2.35	1/2	7.30	25	250	11.6
LIONGUN-7-BSM	10.83	3.47	11.13	2.45	3/4	8.22	70	700	4.1
METRIC	mm				in.	kg	Nm (Min)	Nm (Max)	RPM
LIONGUN-25	275	88	258	60	1/2	3.32	34	339	11.6
LIONGUN-7	275	88	283	62	3/4	3.74	95	949	4.1
LIONGUN-25-BSM	275	88	258	60	1/2	3.32	34	339	11.6
LIONGUN-7-BSM	275	88	283	62	3/4	3.74	95	949	4.1

**COMPLETE KIT CONTENTS**

- LION GUN Electric Torque Tool
- Reaction Arm
- Storage Case
- 18V Battery
- Battery Charging System
- Operations Manual
- Calibration Certificate

**CONFIGURATION**

**LIONGUN** —  —

**Model:** LIONGUN Tool      **Capacity:** Available: .25, .7      **Communication:** BSM: Bluetooth Communication  
Blank: USB Only



## HYTORC PUMP COMPARISONS

	MINI PUMPS			STANDARD PUMPS				POWER PUMPS	
	JETPRO S	JETPRO S-AIR	VECTOR MINI	VECTOR	HY-115/230	JETPRO 18.3	HY-AIR	HY-TWIN 230	HY-TWIN AIR
<b>Reservoir Capacity</b>	1 gallon	1 gallon	1 gallon	2-8 gallon	2-8 gallon	2-8 gallon	2-8 gallon	5-8 gallon	5-8 gallon
<b>Single Port</b>	✓	✓	✓	✓	0	—	0	—	—
<b>Multi Port</b>	—	—	—	✓	✓	✓	✓	✓	✓
<b>2 Button Controller</b>	✓	✓	—	—	✓	✓	✓	✓	✓
<b>LCD Controller</b>	—	—	✓	✓	—	—	—	—	—
<b>Manual Only</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Fully Automatic Available</b>	—	—	✓	✓	—	—	—	—	—
<b>Oil Cooler System</b>	—	—	✓	✓	✓	✓	✓	✓	✓
<b>Hour Meter</b>	—	—	✓	✓	0	—	—	—	—
<b>Low Voltage</b>	—	—	—	0	0	—	—	—	—
<b>ATEX Certification Available</b>	✓	—	—	—	—	—	✓	—	✓
<b>Upgradeable</b>	—	—	✓	✓	—	—	—	—	—
<b>Data Recording</b>	—	—	0	0	—	—	—	—	—
<b>Torque &amp; Angle</b>	—	—	0	0	—	—	—	—	—
<b>Bar Code Reader</b>	—	—	0	0	—	—	—	—	—
<b>Bluetooth</b>	—	—	0	0	—	—	—	—	—
<b>Open Protocol</b>	—	—	0	0	—	—	—	—	—

0 = Optional.

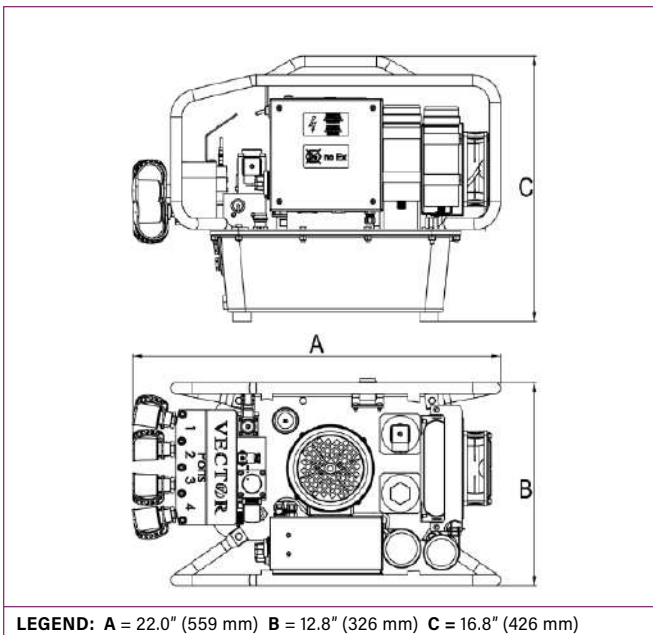


## VECTOR 4-STAGE PUMP

The HYTORC VECTOR pump stands alone as the fastest fully-automatic Hydraulic Power System thanks to its 4-stage high-flow design. Gauge-free operation allows the operator to simply enter the desired torque and HYTORC tool being used, eliminating the need for separate torque charts. The VECTOR's modular design makes it fully upgradeable - start with the manual, and upgrade to fully automatic documentation without buying a new pump. The fully automatic mode allows the operator to simply push the button and let the pump do all the work.

### COMPLETE KIT CONTENTS

- VECTOR Pump
- 2 gallons / 7.5 l of oil



### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	<b>115v:</b> 1Ph 90-125 / 60Hz; <b>230v:</b> 1Ph 200-230V / 50+60Hz <b>400v:</b> 3Ph 380-460/50+60 Hz		
<b>Data Recording</b>	Optional		
<b>Gauge</b>	Digital		
<b>Reservoir Capacity</b>	2 gals / 7.5 l		
<b>Stages</b>	4		
<b>Weight</b>	79 lbs. / 36 kg		
<b>15' Remote Control:</b> Yes	<b>Oil Cooler:</b> Yes		
<b>Ports</b>	1 or 4		
<b>Maximum Oil Flow Rate</b>	<b>HY-V115 (60 Hz)</b>	<b>HY-V230 (50Hz)</b>	<b>HY-V400 (50Hz)</b>
1,000 PSI	610 cu.in./min.	549 cu.in./min.	549 cu.in./min.
70 bar	10.0 l/min.	9.0 l/min.	9.0 l/min.
<b>Middle Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
3,900 PSI	171 cu.in./min.	147 cu.in./min.	147 cu.in./min.
270 bar	2.8 l/min.	2.4 l/min.	2.4 l/min.
<b>Middle + Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
6,300 PSI	110 cu.in./min.	85 cu.in./min.	85 cu.in./min.
440 bar	1.8 l/min.	1.4 l/min.	1.4 l/min.
<b>High Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
10,000 PSI	67 cu.in./min.	55 cu.in./min.	55 cu.in./min.
700 bar	1.1 l/min.	0.9 l/min.	0.9 l/min.

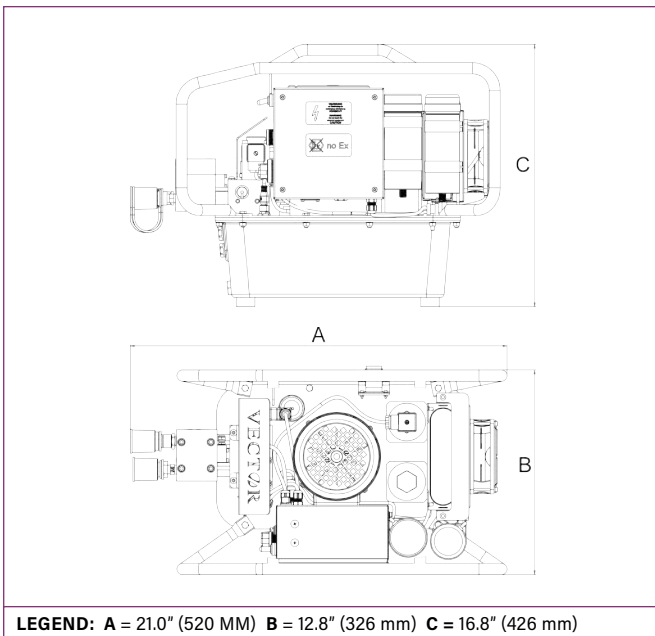


## VECTOR TORQUE & ANGLE PUMP

The HYTORC VECTOR TORQUE & ANGLE module makes the world's fastest fully-automatic hydraulic power system more versatile than ever. With its 4-stage high-flow design and gauge-free operation, simply select the HYTORC tool in use and input the desired angle; a single trigger pull will accurately and reliably execute precise Turn-of-Nut tightening. By eliminating the potential for human error, this VECTOR Pump greatly increases productivity; the available documentation feature allows complete job data capture for the entire bolting operation.

### COMPLETE KIT CONTENTS

- VECTOR Torque & Angle Pump
- 2 gallons / 7.5 l of oil



### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	<b>115V:</b> 1Ph 90-125 / 60Hz <b>230V:</b> 1Ph 200-230V / 50+60Hz <b>400V:</b> 3Ph 380-460/50+60 Hz		
<b>Data Recording</b>	Standard with T&A		
<b>Gauge</b>	Digital		
<b>Reservoir Capacity</b>	2 gals / 7.5 l		
<b>Stages</b>	4		
<b>Weight</b>	79 lbs. / 36 kg		
<b>15' Remote Control:</b> Yes	<b>Oil Cooler:</b> Yes		
<b>Ports</b>	1		
<b>Maximum Oil Flow Rate</b>	<b>HY-V-115 (60 Hz)</b>	<b>HY-V-230 (50Hz)</b>	<b>HY-V-400</b>
1,000 PSI	610 cu.in./min.	549 cu.in./min.	549 cu.in./min.
70 bar	10.0 l/min.	9.0 l/min.	9.0 l/min.
<b>Middle Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
3,900 PSI	171 cu.in./min.	147 cu.in./min.	147 cu.in./min.
270 bar	2.8 l/min.	2.4 l/min.	2.4 l/min.
<b>Middle + Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
6,300 PSI	110 cu.in./min.	85 cu.in./min.	85 cu.in./min.
440 bar	1.8 l/min.	1.4 l/min.	1.4 l/min.
<b>High Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
10,000 PSI	67 cu.in./min.	55 cu.in./min.	55 cu.in./min.
700 bar	1.1 l/min.	0.9 l/min.	0.9 l/min.

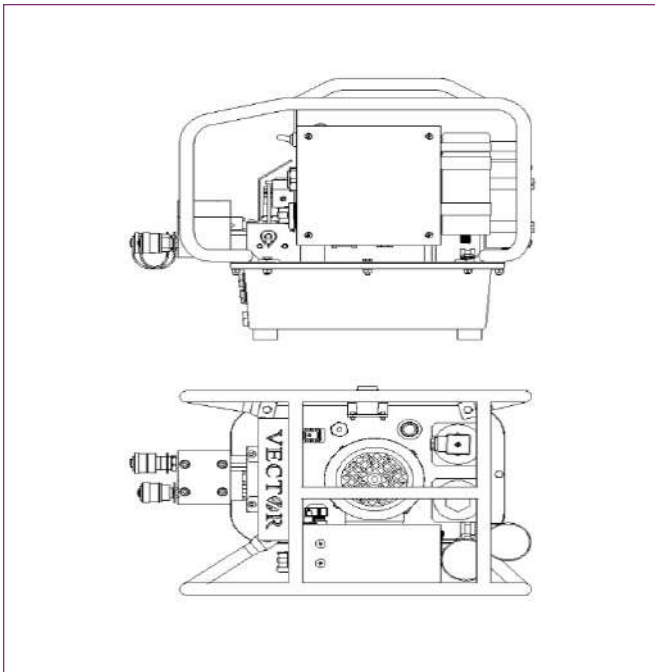


## VECTOR MINI PUMP

The VECTOR MINI Pump is the latest addition to HYTORC's line of advanced hydraulic power packs. Based on industry-leading VECTOR pump technology, this single-port high performance pump is 25% smaller and 35% lighter, for unmatched maneuverability and portability.

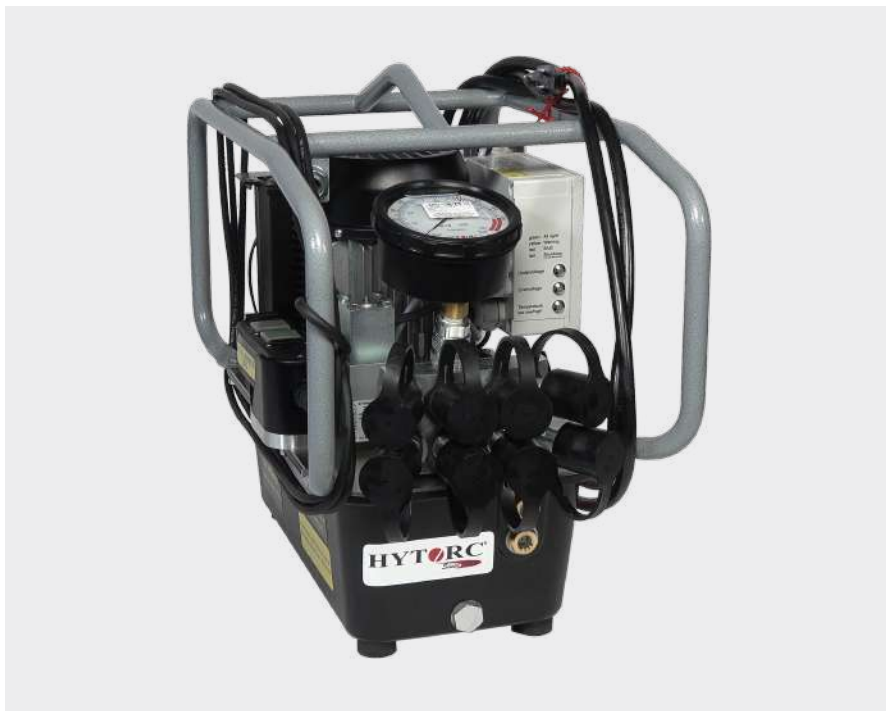
### COMPLETE KIT CONTENTS

- VECTOR MINI Pump
- 1 gallon / 3.8 l of oil



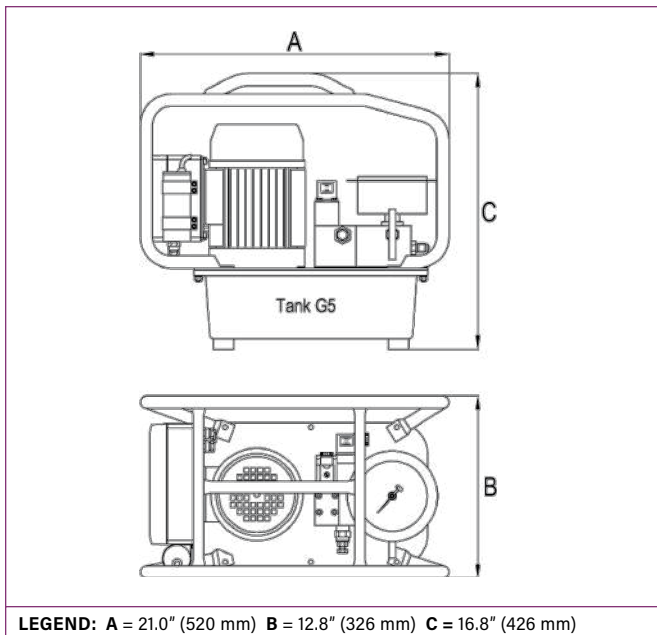
### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	115v and 230v	
<b>Data Recording</b>	Optional	
<b>Gauge</b>	(Not necessary but can be attached to the side of the valve block.)	
<b>Reservoir Capacity</b>	.7 gals. / 2.7 l	
<b>Stages</b>	3	
<b>Weight</b>	48 lbs. / 22 kg (Manual) 52 lbs. / 23 kg (Automatic)	
<b>Maximum Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
580 PSI	250 cu. in./min.	330 cu. in./min.
40 bar	4.05 l/min.	5.4 l/min.
<b>Middle Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
2,175 PSI	80 cu. in./min.	91 cu. in./min.
150 bar	1.3 l/min.	1.5 l/min.
<b>High Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
10,000 PSI	26 cu. in./min.	31 cu. in./min.
700 bar	0.4 l/min.	0.5 l/min.
<b>15' Remote control</b>	Yes	



## HY-115/HY-230/HY-400 PUMPS

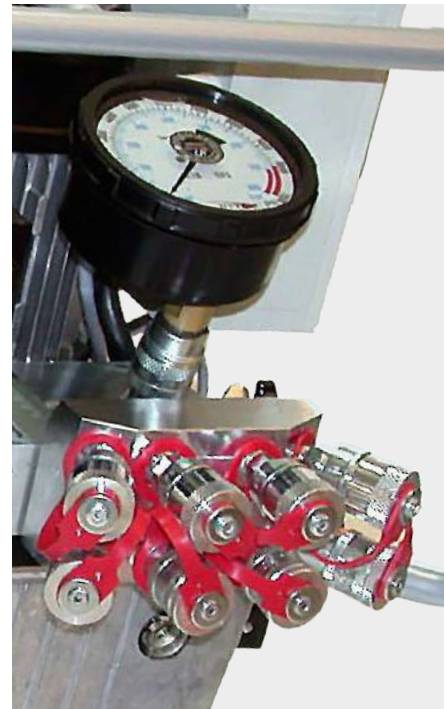
HYTORC's HY-Series of electrically operated hydraulic power packs are fast, reliable, efficient and economical. The HY-Series of 4-stage pumps will outperform any standard pump on the market. These hydraulic pumps operate at a very quiet ~80 dB. All pumps come equipped with an oil cooler, making overheating a thing of the past. Simple controls make for short set-up times. An optional Hour Meter is available to better track run times.



### PUMP SPECIFICATIONS AND FEATURES

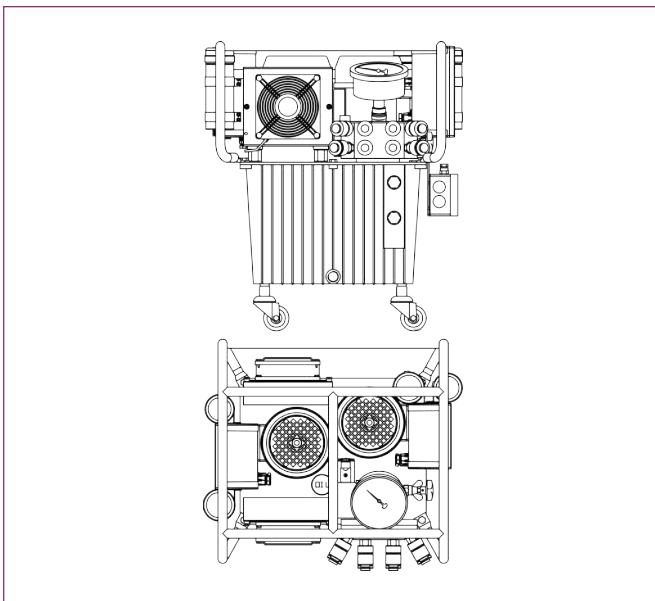
<b>Power</b>	<b>115v</b> (17 Amp); <b>230v</b> (9 Amp); <b>400v</b> (6 Amp)		
<b>Gauge</b>	0-10 k Psi		
<b>Reservoir Capacity</b>	1.35 gal. 5.1 l		
<b>Stages</b>	4		
<b>Weight</b>	57 lbs. / 26 kg 60 lbs. / 27 kg		
<b>Hour Meter</b>	Optional		
<b>15' Remote Control:</b> Yes	<b>Oil Cooler:</b> Yes		
<b>Ports</b>	1 or 4		
<b>Maximum Oil Flow Rate</b>	<b>HY-V115 (60 Hz)</b>	<b>HY-V230 (50Hz)</b>	<b>HY-V400 (50Hz)</b>
1,000 PSI	610 cu.in./min.	549 cu.in./min.	549 cu.in./min.
70 bar	10.0 l/min.	9.0 l/min.	9.0 l/min.
<b>Middle Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
3,900 PSI	171 cu.in./min.	147 cu.in./min.	147 cu.in./min.
270 bar	2.8 l/min.	2.4 l/min.	2.4 l/min.
<b>Middle + Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
6,300 PSI	110 cu.in./min.	85 cu.in./min.	85 cu.in./min.
440 bar	1.8 l/min.	1.4 l/min.	1.4 l/min.
<b>High Oil Flow Rate</b>	<b>60 Hz</b>	<b>50 Hz</b>	<b>3Ph 400-460</b>
10,000 PSI	67 cu.in./min.	55 cu.in./min.	55 cu.in./min.
700 bar	1.1 l/min.	0.9 l/min.	0.9 l/min.





## HY-TWIN 230

This high-powered, electric 4-stage pump provides twice the speed and oil flow of any other available system. The HY-TWIN 230 is ideal for larger hydraulic tools or multi-tool systems. Delivering the power you need without compromising speed. The five-gallon reservoir provides enough oil to power up to four large tools at once and the built-in casters allow for increased mobility.



### PUMP SPECIFICATIONS AND FEATURES

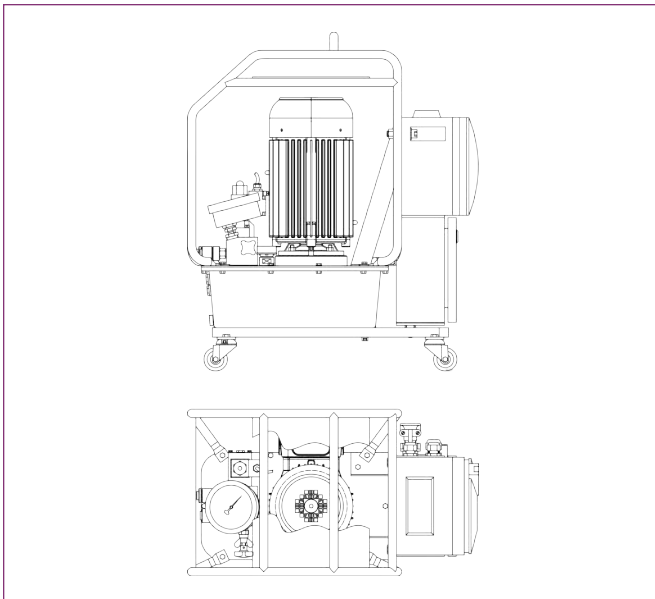
<b>Power</b>	230v (32 Amp)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity (Tank optional)</b>	5 gals. / 19 l
<b>Stages</b>	4
<b>Weight</b>	112 lbs. / 51 kg
<b>Maximum Oil Flow Rate</b>	1,480 cu. in./min. / 24 l/min.
<b>Oil Cooler</b>	Yes
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes





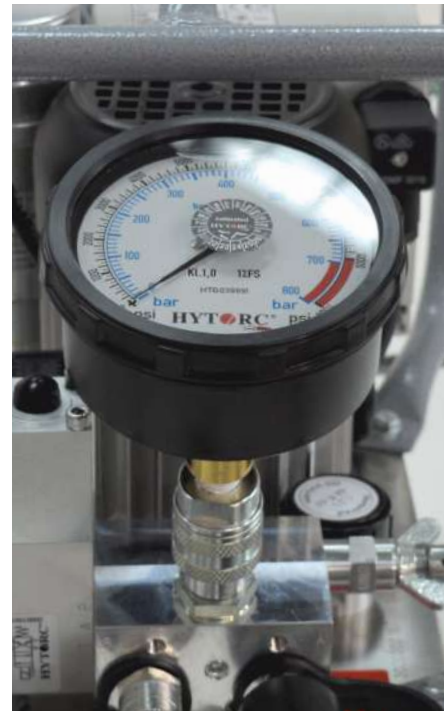
## HY-EX 3-STAGE - EXPLOSION-PROTECTED ELECTRIC PUMPS

HYTORC HY-EX 3-STAGE Electric Pumps are the backbone of an intrinsically safe bolting system. The pump is licensed to EU-Directive 2014/34/EU (Atex 100a) class: EX II 2G Ex h IIB T3 Gb. These pumps are equipped with a calibrated gauge with certificate and a 15-ft (5m) remote control. An optional 4-tool adapter is also available.



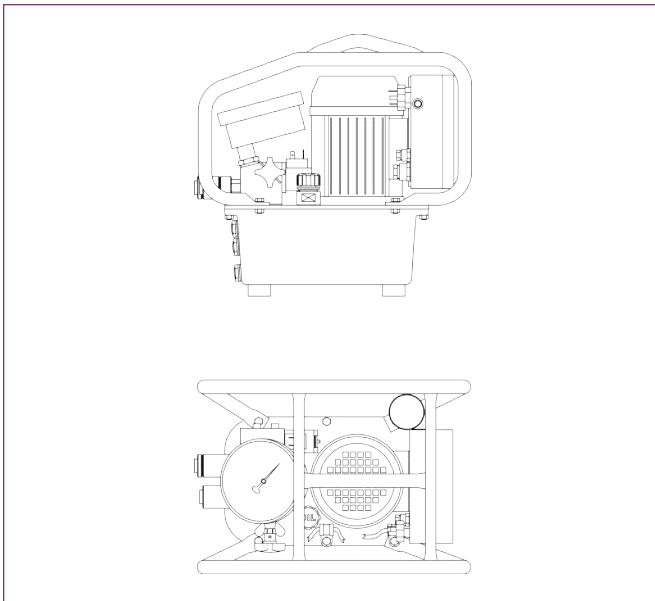
### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	115v (20 Amp), 230v (9 Amp), 400v (2,5 Amp)	
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)	
<b>Reservoir Capacity</b>	2 gals. / 7.5 l	
<b>Stages</b>	3	
<b>Weight</b>	112 lbs / 51 kg - without oil (400v) 157 lbs / 71 kg - without oil (115/230v)	
<b>Maximum Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
1,000 PSI	510 cu.in/min.	620 cu.in/min.
70 bar	8,0 l/min.	10 l/min.
<b>Middle Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
4,000 PSI	100 cu.in/min.	120 cu.in/min.
300 bar	1,6 l/min.	2,0 l/min.
<b>High Oil Flow Rate</b>	<b>50 Hz</b>	<b>60 Hz</b>
10,000 PSI	55 cu.in/min.	65 cu.in/min.
700 bar	0,9 l/min.	1,1 l/min.
<b>Oil Cooler</b>	No	
<b>ATEX Certification Available</b>	Yes	



## JETPRO S

The JETPRO S 2-stage Hydraulic Power System is the most affordable lightweight pump on the market. The JETPRO's compact design and one-gallon reservoir alleviates weight restrictions like no other hydraulic pump which offers the operator efficient mobility. Simple two-button controls ensure the operator's ease of use while also speeding up the bolting process. The JETPRO operates at a very quiet ~80 dB.



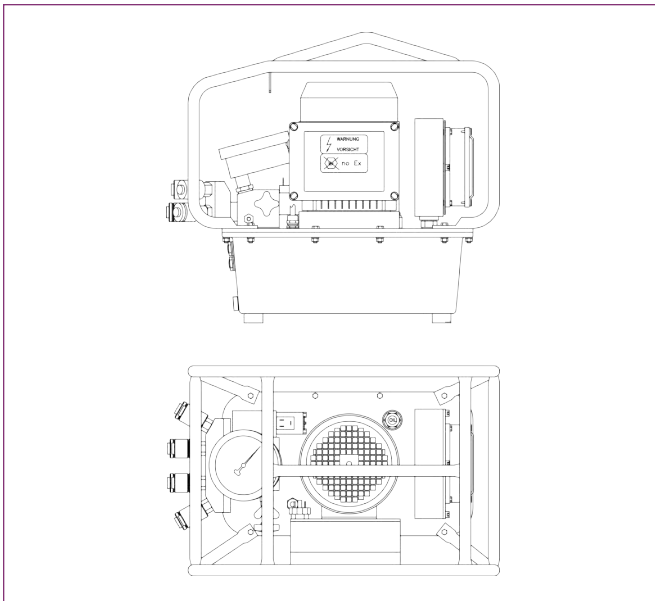
### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	115v (7,5 Amp) / 230v (4,0 Amp)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity</b>	0.8 gals. / 3.0 l
<b>Stages</b>	2
<b>Weight</b>	33 lbs. / 15 kg
<b>Maximum Oil Flow Rate</b>	310 cu. in./min. / 5 l/min.
<b>Oil Cooler</b>	No
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes



## JETPRO 18.3 SA

The JETPRO 18.3 SA is our high-performing pump, designed to work efficiently with our largest hydraulic systems. Its 4-stage motor provides 30% more oil flow without increased operating temperature through the use of an innovative built-in oil cooling system. A compact design with a two-gallon reservoir alleviates weight restrictions and offers the operator efficient mobility.



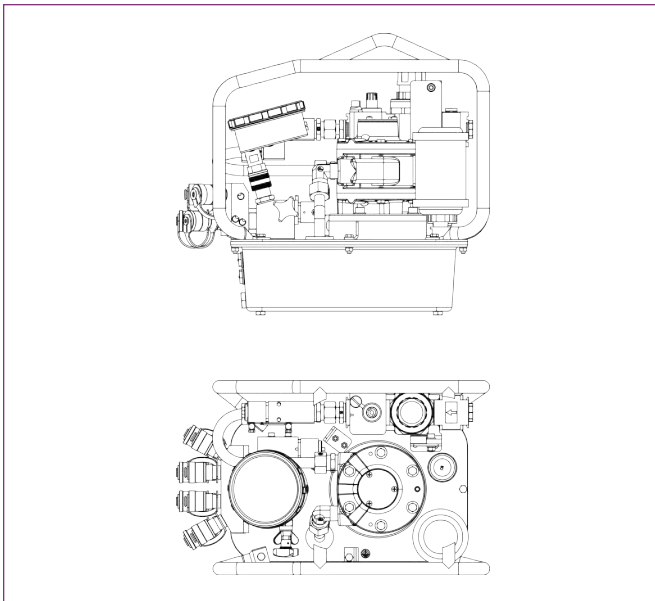
### PUMP SPECIFICATIONS AND FEATURES

<b>Power</b>	380v - 460v (6 Amp)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity</b>	2 gals. / 7.5 l
<b>Stages</b>	4
<b>Weight</b>	64 lbs. / 29 kg
<b>Maximum Oil Flow Rate</b>	1,070 cu. in./min. / 18 l/min.
<b>Oil Cooler</b>	Yes
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes



## HY-AIR

Our HY-AIR is a 4-stage pump designed to reduce cycle time and improve productivity. A compact design with an optional one or two-gallon reservoir alleviates weight restrictions and offers the operator efficient mobility. Simple controls make for short set-up times. This system is part of our ATEX-approved bolting package for explosive environments.



### PUMP SPECIFICATIONS AND FEATURES

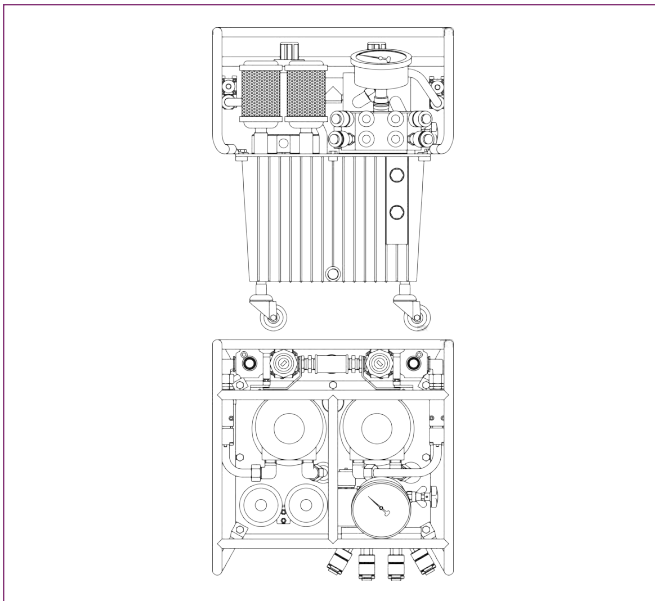
<b>Power</b>	3,800 cu.in./sec. (62 l/sec.)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity</b>	1.35 gals. / 5.1 l (2 gals. / 7.6 l tank optional for the HY-Air)
<b>Stages</b>	4
<b>Weight</b>	46.3 lbs. / 21 kg
<b>Maximum Oil Flow Rate</b>	770 cu. in./min. / 13 l/min.
<b>Oil Cooler</b>	Yes
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes
<b>ATEX Certification Available</b>	Yes





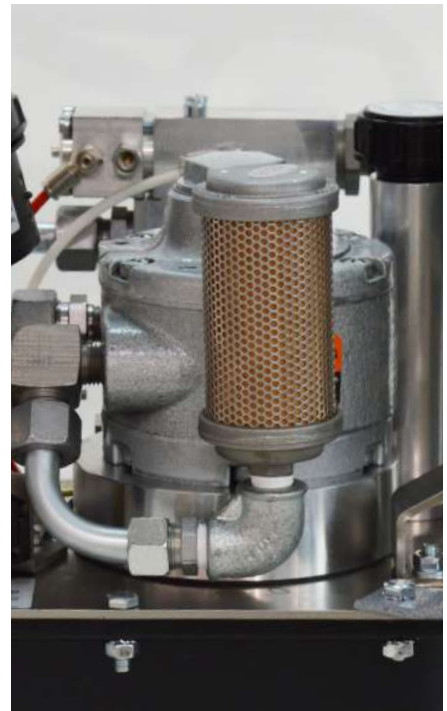
## HY-TWIN AIR

This high-powered, twin air motor, 4-stage pump provides twice the speed and oil flow of any other available system. The HY-TWIN AIR is ideal for larger hydraulic tools or multi-tool systems. Delivering the power you need without compromising speed. The five-gallon reservoir provides enough oil to power up to four large tools at once and the built-in casters allow for increased mobility. This system is part of our ATEX-approved bolting package for explosive environments.



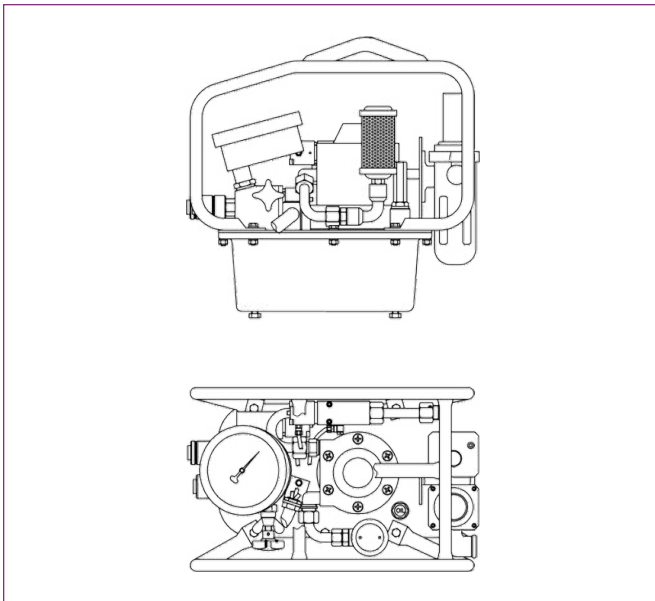
### PUMP SPECIFICATIONS AND FEATURES

<b>Air Consumption</b>	7,200 cu.in./sec. (118 l/sec.)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity (Tank optional)</b>	5 gals. / 19 l
<b>Stages</b>	4
<b>Weight</b>	98 lbs. / 44.4 kg
<b>Maximum Oil Flow Rate</b>	1,500 cu. in./min. / 25 l/min.
<b>Oil Cooler</b>	Yes
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes
<b>ATEX Certification Available</b>	Yes



## JETPRO S-AIR

Economically priced, the JETPRO S-AIR is an air-powered hydraulic power pack that combines industry-leading reliability with lightweight design. This 2-stage pump features a one-gallon reservoir for lightweight portability. The intuitive design of the one button control ensures improved speed and efficiency in the field. This system is part of our ATEX-approved bolting package for explosive environments.



### PUMP SPECIFICATIONS AND FEATURES

<b>Air Consumption</b>	1,900 cu.in./sec. (31 l/sec.)
<b>Gauge</b>	0-10 k PSI (+/-1% Accuracy)
<b>Reservoir Capacity</b>	0.8 gals. / 3.0 l
<b>Stages</b>	2
<b>Weight</b>	35 lbs. / 16 kg
<b>Maximum Oil Flow Rate</b>	370 cu. in./min. / 6 l/min.
<b>Oil Cooler</b>	No
<b>Protective Caging</b>	Yes
<b>15' Remote Control</b>	Yes
<b>ATEX Certification Available</b>	Yes





## HYTORC WASHER

The HYTORC Washer is the simplest upgrade for instant improvements in safety, speed and accuracy. This unique, patented system eliminates the need for reaction arms and other custom fixtures required to hold the tool in place. Additionally, the precision machined surface reduces variation in bolt load across the flange for improved accuracy and loosening prevention.

### SAFETY



The HYTORC Washer eliminates the need for reaction arms, which are the most common cause of injury on bolting jobs. The unique design of the washer allows the double layered safety socket to react on the washer itself, while turning the nut.

### SPEED



The HYTORC Washer removes the complicated setup associated with other bolting systems and makes the bolting process more intuitive for improved job times. Our patented knurling ensures against bolt rotation during any operation.

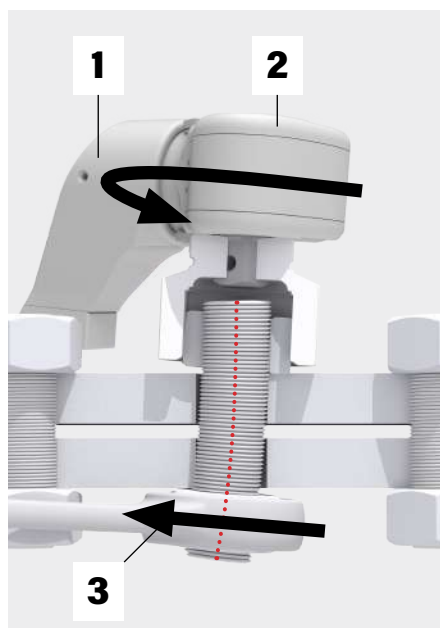
### HYTORC BACKUP WASHER



The HYTORC Washer System consists of the HYTORC Washer used in conjunction with the HYTORC Backup Washer. As an inexpensive alternative to a traditional backup wrench, the HYTORC Backup Washer provides major improvements in safety and speed to your job by preventing rotation with the bolt.

# HYTORC WASHER SYSTEM COMPARISON

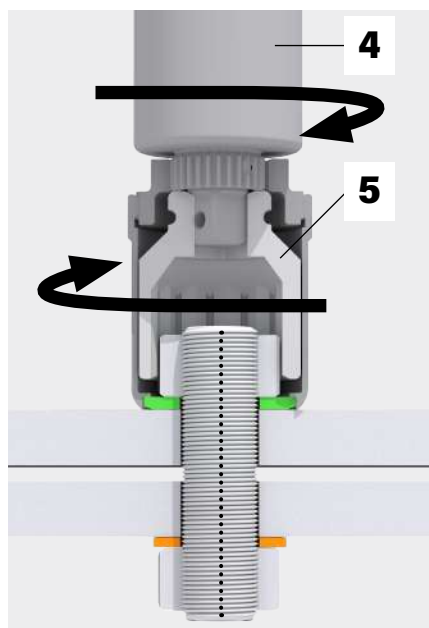
## TORQUE WRENCH USED WITH BACKUP WRENCH



Torque wrench and backup wrench rotate in same direction.

- 1) Reaction fixture
- 2) Torque wrench
- 3) Backup wrench
- ↻ Incorrect angle and direction of rotation of torque wrench
- ← Incorrect angle and direction of rotation of backup wrench
- ⋯ Yielded bolt center axis

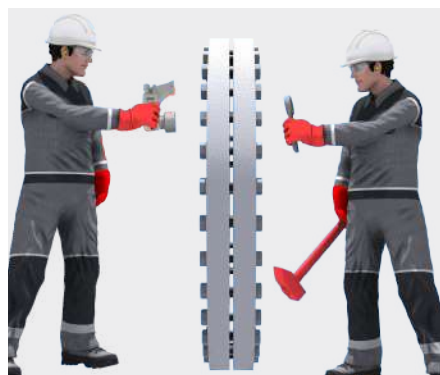
## DOUBLE SOCKET DRIVE USED WITH HYTORC WASHER



The HYTORC Washer grips surface while the backup washer keeps the bolt in place and square with the surface.

- 4) Torque wrench
- 5) Double socket drive
- HYTORC Washer
- Backup washer
- ↻ Direction of rotation of torque wrench
- ↻ Direction of rotation of double socket drive
- ⋯ Uncompromised bolt center axis

## UNNECESSARY JOB CONDITIONS



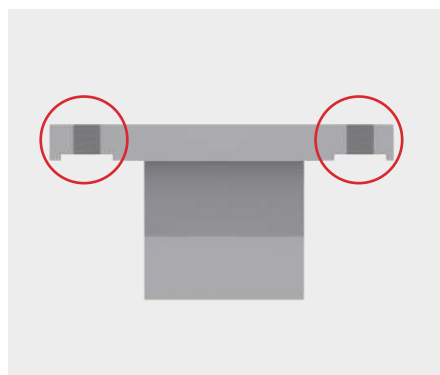
Pinch hazards and more personnel; damaging side loads; bending forces; shorter lifespan of nuts and bolts.

## OPTIMAL JOB CONDITIONS



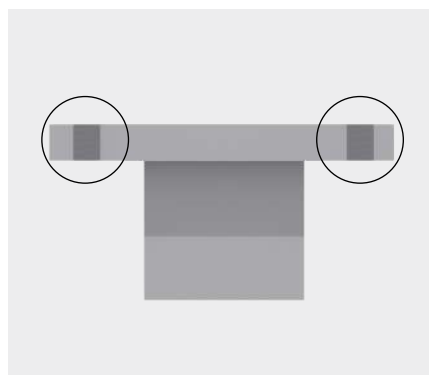
No pinch hazards; intuitive operation; less personnel; no damaging side loads or bending forces; nuts and bolts can be reused.

## RE-MACHINED/DAMAGED FLANGE SURFACE



Repeated tightening and loosening of nuts and bolts cause extended wear and damage (re-machining) to flange surfaces.

## FLANGE PROTECTION



The HYTORC Washer protects the flange surface, eliminating the need for expensive flange resurfacing processes; extended flange longevity.



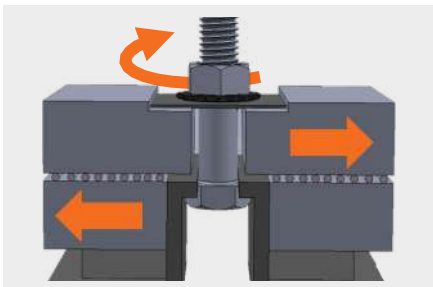
SIDE A

SIDE B

## HYTORC J-WASHER

The J-Washer has been awarded the prestigious Spotlight on New Technology Award, 2021. The HYTORC J-Washer takes the HYTORC Reaction Washer to an entirely new level by adding a locking feature that minimizes loosening to keep bolts tight under dynamic loads. With the strategic placement of a ridge band on the surface, the new reaction washer prevents loosening of pre-loaded fasteners while providing all the benefits of the traditional HYTORC Reaction Washer including safety, speed and tool longevity.

### ANTI-LOOSENING



Standard pre-loaded fasteners can loosen as a result of relative motion between surfaces due to vibration. The J-Washer's knurled surface locks the nut when torque is applied so that no loosening occurs. The locking design has been verified by the industry standard Junker test, which simulates the transverse forces that loosen the assembly.

### SAFETY

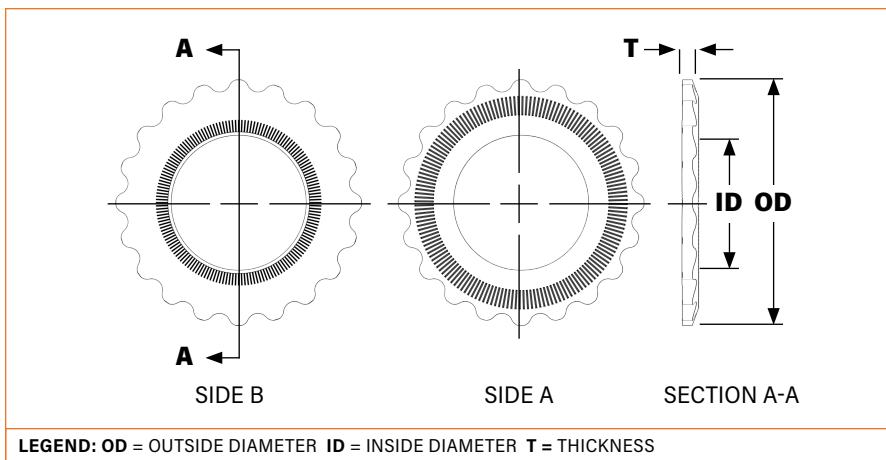


The J-Washer provides outer reaction lobes that safely engage with a socket driver or reaction plate to brace the reaction forces during torque operations. Consistent with the standard HYTORC Reaction Washer, the new J-Washer eliminates the need for a separate reaction arm, eliminating pinch points and significantly reducing the risk of hand injury.

### EFFICIENCY



The J-Washer's unique design locks the fastener assembly during tightening. When used in combination with a HYTORC Torque Tool, the J-Washer provides unmatched efficiency in bolting operations and reduced job time.



**PART DESIGNATION**

**JRW-XXX-YY-Z**

Part Number

Finish Code\*

Material Code\*

\*Are used when alternative coatings and materials are specified.

HYTORC J-Washers are manufactured from AISI 4140 low alloy steel, hardened and tempered for superior strength, and finished with black oxide for corrosion protection. HYTORC J-Washers are suitable for harsh structural and industrial applications.

For standard washers use the Part Number from the tables below. Finish Code and Material Code shall be omitted from standard washer Part Numbers.

Additional coatings and materials are available upon request. Please contact HYTORC to specify the Part Number, Finish Code and Material Code for alternative coatings and materials.

**NOMINAL LOCKING WASHER DIMENSIONS (IMPERIAL)\*\***

BOLT SIZE	PART NUMBER	INSIDE DIAMETER	OUTSIDE DIAMETER	THICKNESS
1/2"	JRW-008	0.531	1.118	0.123
9/16"	JRW-009	0.625	1.219	0.123
5/8"	JRW-010	0.688	1.432	0.130
3/4"	JRW-012	0.813	1.600	0.152
7/8"	JRW-014	0.938	1.865	0.152
1"	JRW-100	1.063	2.057	0.158
1-1/8"	JRW-102	1.241	2.307	0.190
1-1/4"	JRW-104	1.346	2.492	0.190
1-3/8"	JRW-106	1.497	2.742	0.190
1-1/2"	JRW-108	1.592	2.928	0.190
1-5/8"	JRW-110	1.703	3.179	0.245
1-3/4"	JRW-112	1.823	3.355	0.245
1-7/8"	JRW-114	1.977	3.617	0.245
2"	JRW-200	2.135	3.787	0.245
2-1/4"	JRW-204	2.341	4.280	0.298

**NOMINAL LOCKING WASHER DIMENSIONS (METRIC)\*\***

BOLT SIZE	PART NUMBER	INSIDE DIAMETER	OUTSIDE DIAMETER	THICKNESS
M14	JRW-M14	15.00	28.40	3.10
M16	JRW-M16	17.00	30.96	3.10
M18	JRW-M18	19.00	36.37	3.30
M20	JRW-M20	21.00	37.01	3.30
M22	JRW-M22	23.00	40.64	3.30
M24	JRW-M24	25.00	47.37	4.10
M27	JRW-M27	28.00	52.25	4.10
M30	JRW-M30	31.00	58.60	4.80
M33	JRW-M33	34.00	63.30	4.80
M36	JRW-M36	37.00	69.65	4.80
M39	JRW-M39	40.00	74.37	4.80
M42	JRW-M42	43.00	80.75	6.40
M45	JRW-M45	46.00	85.22	6.40
M48	JRW-M48	50.00	91.87	6.40
M52	JRW-M52	54.00	96.19	6.40
M56	JRW-M56	58.00	108.71	7.60

**J R W - 1 0 2**

J-Washer 1-1/8" Bolt Size, AISI 4140, Black Oxide

**J R W - M 3 0**

J-Washer M30 Bolt Size, AISI 4140, Black Oxide

\*\*All dimensions are for reference only.



## HYTORC NUT

For critical applications requiring the highest level of bolt load control, the patented HYTORC Nut system provides industry-leading joint integrity. This three-piece fastener applies pure tension to the bolt to prevent thread damage and ensure bolt load accuracy. The HYTORC Nut is available in a variety of materials to suit all applications, from extreme temperatures to harsh climates.

### CALIBRATED LOAD ACCURACY



No other bolting system provides the same level of repeatable accuracy, ensuring even bolt load to eliminate joint failure and unintentional nut loosening.

### BOLT THREAD PROTECTION

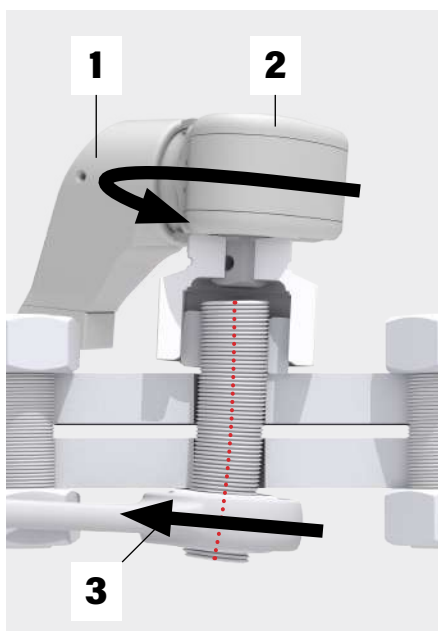


The HYTORC Nut is the only fastener that can guarantee the elimination of galled or damaged threads on installation and removal. These fasteners have been installed on various high temperature applications for ten years and longer, and were removed without damage to the bolts, providing tremendous savings by eliminating the need for bolt replacement.



# HYTORC NUT SYSTEM COMPARISON

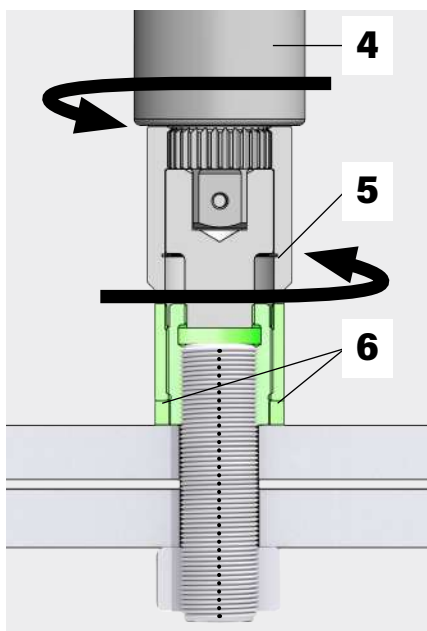
## TORQUE WRENCH USED WITH BACKUP WRENCH



Torque wrench and backup wrench rotate in same direction.

- 1) Reaction fixture
- 2) Torque wrench
- 3) Backup wrench
- ↻ Incorrect angle and direction of rotation of torque wrench
- ↻ Incorrect angle and direction of rotation of backup wrench
- ⋯ Yielded bolt center axis

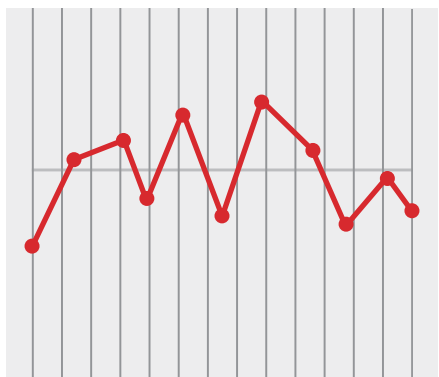
## HYTORC NUT



The HYTORC Nut ensures a level bolting operation.

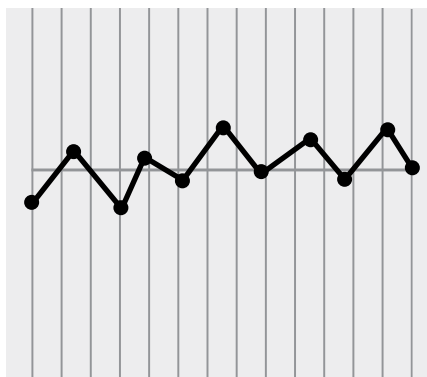
- 4) Torque wrench
- 5) HYTORC Nut driver
- 6) HYTORC Nut
- ↻ Direction of rotation of torque wrench
- ↻ Direction of rotation of nut driver
- ⋯ Uncompromised bolt center axis

## STANDARD BOLT LOAD SCATTER



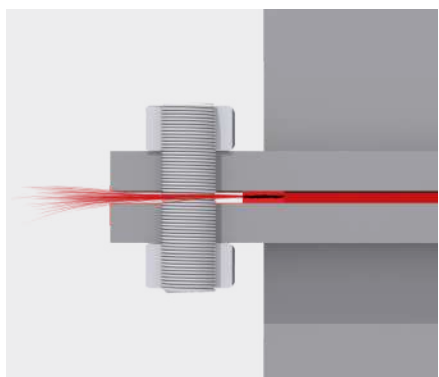
The coefficient of friction negatively affects the bolt load.

## OPTIMIZED BOLT LOAD SCATTER



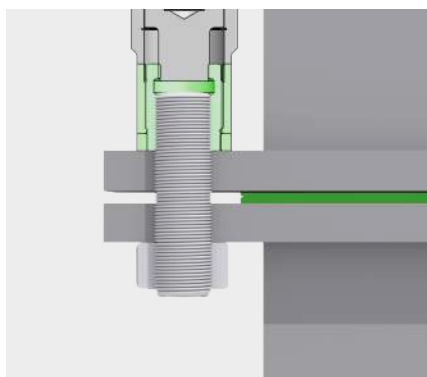
The HYTORC Nut significantly reduces the scatter of the bolt load by half.

## POTENTIAL FOR LEAKAGE

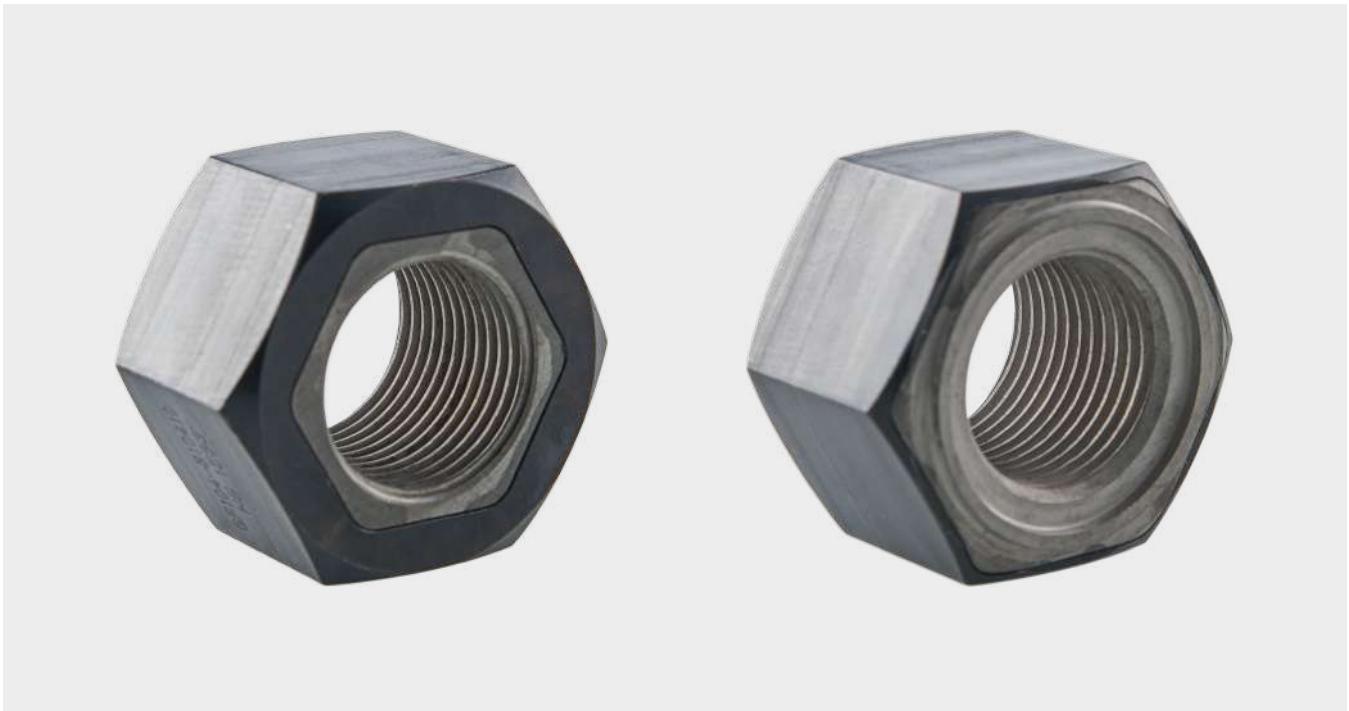


Repeated tightening and loosening of nuts and bolts causes extended wear and damage (re-machining) to flange surfaces.

## SEAL INTEGRITY



Even and accurate bolt load applies even pressure to the flange, improving joint integrity and reducing the chance of leakage; extended flange longevity.

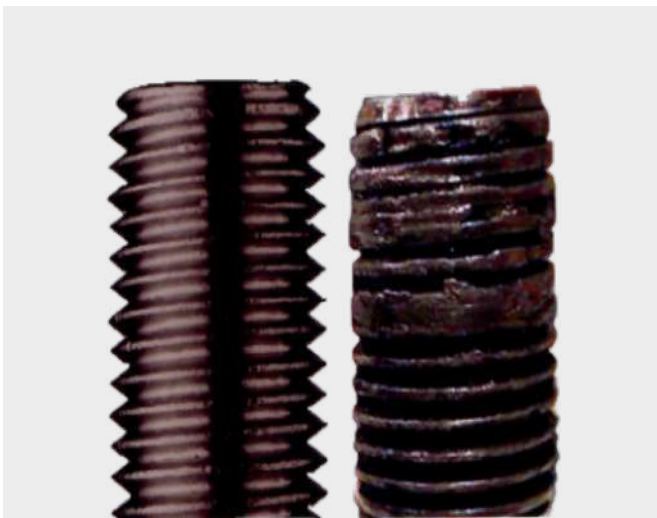


## HYTORC GALL-FREE NUT

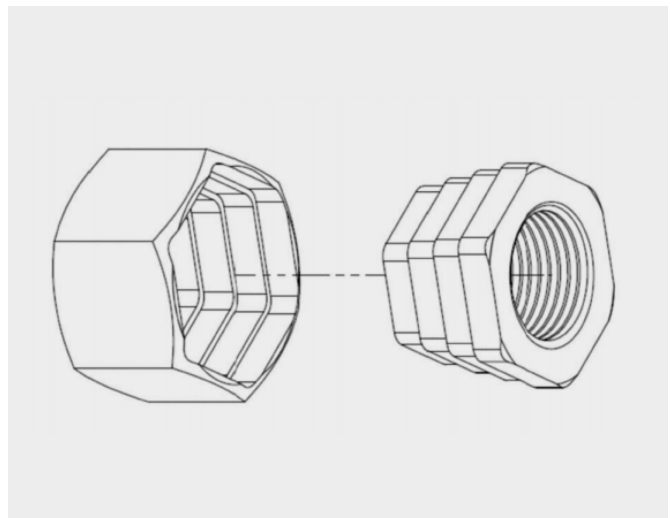
The HYTORC Gall-Free Nut eliminates thread failure and seizing, allowing bolted joints to be safely removed and reused without destroying the joint surface. Galled bolt threads are a costly by-product of high friction and temperatures that makes your fasteners non-reusable and joint disassembly a labor-intensive ordeal.

The HYTORC Gall-Free Nut offers anti-galling performance in a standard hex nut geometry in all common hex sizes, and can be customized for non-standard application constraints as well. Its patent-pending design geometry and unique material conditioning can eliminate galling even on fine high-alloy threads operating at elevated loads and temperatures without lubricant or anti-seize.

### CALIBRATED LOAD ACCURACY



### BOLT THREAD PROTECTION

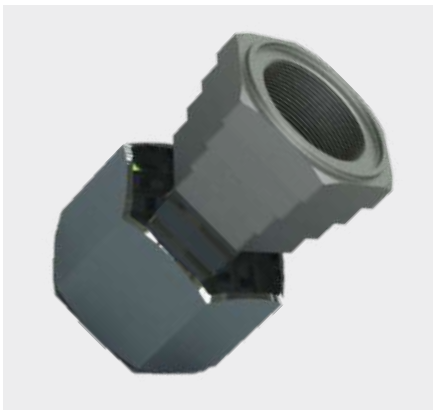


## ANTI-GALLING PROPERTIES



The HYTORC Gall-Free Nut coated thread design eliminates the microscopic material corrosion that occurs when fasteners are subjected to high temperatures and increased friction over extended time periods. This technology counters the galling effect of plastic deformation and micro-scale material transfer of thread surfaces.

## MATERIALS AND DESIGN



The two-part design consists of interlocking inner and outer sleeves with tapered threads that integrate advanced anti-galling properties. Compatible with standard bolt threads, the HYTORC Gall-Free Nut can be finished in a variety of coatings and materials to suit your specific applications.

## LOADING SURFACE

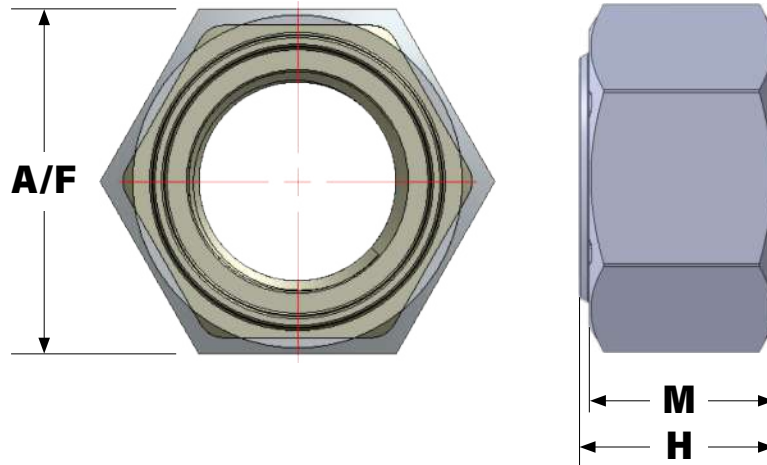


1



2

The HYTORC Gall-Free Nut is installed with the load bearing surface (1) facing the flange. The top-side indicator ring (2) helps to ensure that the nut is installed properly.



**LEGEND:** M = THICKNESS A/F = WIDTH ACROSS FLATS H = NUT HEIGHT

**GF-XXXXXX-XXX-XX-XX**

Unit Specification\*

Bolt Size Code

Thread Pitch Code

Hex Size Code

Nut Grade Code

Finish Code\*\*

\* Unit Specification:

I = IMPERIAL

M = METRIC

\*\* Finish Code is used when alternative coatings are specified.





**GF - NUT DIMENSIONS (IMPERIAL)**

STUD DIAMETER	BOLT SIZE CODE	A/F NOMINAL	HEX SIZE CODE	M	H
				Max (in.)	
7/8	<b>014</b>	1-7/16	<b>107</b>	0.859	0.906
1	<b>100</b>	1-5/8	<b>110</b>	0.984	1.031
1-1/8	<b>102</b>	1-13/16	<b>113</b>	1.109	1.156
1-1/4	<b>104</b>	2	<b>200</b>	1.219	1.282
1-3/8	<b>106</b>	2-3/16	<b>203</b>	1.344	1.407
1-1/2	<b>108</b>	2-3/8	<b>206</b>	1.469	1.532
1-5/8	<b>110</b>	2-9/16	<b>209</b>	1.594	1.672
1-3/4	<b>112</b>	2-3/4	<b>212</b>	1.719	1.797
1-7/8	<b>114</b>	2-15/16	<b>215</b>	1.844	1.922
2	<b>200</b>	3-1/8	<b>302</b>	1.969	2.062
2-1/4	<b>204</b>	3-1/2	<b>308</b>	2.203	2.296
2-1/2	<b>208</b>	3-7/8	<b>314</b>	2.453	2.546

**GF - NUT DIMENSIONS (METRIC)**

STUD DIAMETER	BOLT SIZE CODE	A/F NOMINAL	HEX SIZE CODE	M	H
				Max (mm)	
M20	<b>020</b>	30	<b>030</b>	18.00	18.80
M22	<b>022</b>	32	<b>032</b>	19.40	20.20
M24	<b>024</b>	36	<b>036</b>	21.50	22.30
M27	<b>027</b>	41	<b>041</b>	23.80	24.60
M30	<b>030</b>	46	<b>046</b>	25.60	26.40
M33	<b>033</b>	50	<b>050</b>	28.70	29.50
M36	<b>036</b>	55	<b>055</b>	31.00	31.80
M39	<b>039</b>	60	<b>060</b>	33.40	34.40
M42	<b>042</b>	65	<b>065</b>	34.00	35.00
M45	<b>045</b>	70	<b>070</b>	36.00	37.00
M48	<b>048</b>	75	<b>075</b>	38.00	39.00
M52	<b>052</b>	80	<b>080</b>	42.00	43.00
M56	<b>056</b>	85	<b>085</b>	45.00	46.00
M60	<b>060</b>	90	<b>090</b>	48.00	49.00
M64	<b>064</b>	95	<b>095</b>	51.00	52.00

**LEGEND:** M = THICKNESS A/F = WIDTH ACROSS FLATS H = NUT HEIGHT

**THREAD PITCH CODE**

IMPERIAL (IN)		METRIC (MM)	
THREADS PER INCH	PITCH CODE	MM PER THREAD	PITCH CODE
4	<b>04</b>	1	<b>01</b>
4-1/2	<b>45</b>	3	<b>03</b>
8	<b>08</b>	3.5	<b>35</b>
12	<b>12</b>	6	<b>06</b>

**NUT GRADE CODE**

IMPERIAL*		METRIC**	
NUT GRADE	GRADE CODE	NUT GRADE	GRADE CODE
2H	<b>01</b>	8.8	<b>04</b>
7	<b>02</b>	10.9	<b>05</b>
8	<b>03</b>	12.9	<b>06</b>

\* Imperial follows ASTM A194; \*\* Metric follows ISO 898-1

**IMPERIAL EXAMPLE**

**G F - I 1 0 6 0 8 - 2 0 3 - 0 1**

GALL FREE NUT IMPERIAL 1-3/8 NUT DIAMETER WITH 8 TPI, 2-3/16 HEX SIZE, 2H STEEL GRADE, BLACK OXIDE COATING

**METRIC EXAMPLE**

**G F - M 0 3 6 0 4 - 0 5 5 - 0 5**

GALL FREE NUT METRIC M36X4 NUT DIAMETER WITH 4 THREAD PITCH, 55 HEX SIZE, 10.9 STEEL GRADE, BLACK OXIDE COATING





## HYTORC GRIP-TIGHT™ NUT

### HYTORC Part Number: HGTN-M22

Protect your commercial fleet from wheel installation related incidents with the new HYTORC GRIP-TIGHT™ Nut. The GRIP-TIGHT™ Nut is an instant upgrade for all heavy-duty truck and trailer hub piloted wheels. The patent pending GRIP-TIGHT™ Nut eliminates the influence of side loads and provides a pinch point free reaction component for applied torque. The GRIP-TIGHT™ Nut allows for controlled and safe torquing with HYTORC Electric Torque tools. Call to request a demonstration of HYTORC cordless tooling system in conjunction with the GRIP-TIGHT™ Nut.

#### MATERIALS



Made-in-the-USA, the GRIP-TIGHT™ Nut is produced from through-hardened carbon steel and each free spinning washer is made from through-hardened and tempered chrome-moly steel. The GRIP-TIGHT™ Nut geometry and coatings combine to create a consistent and efficient translation from torque to clamping force.

#### SPECIFICATIONS

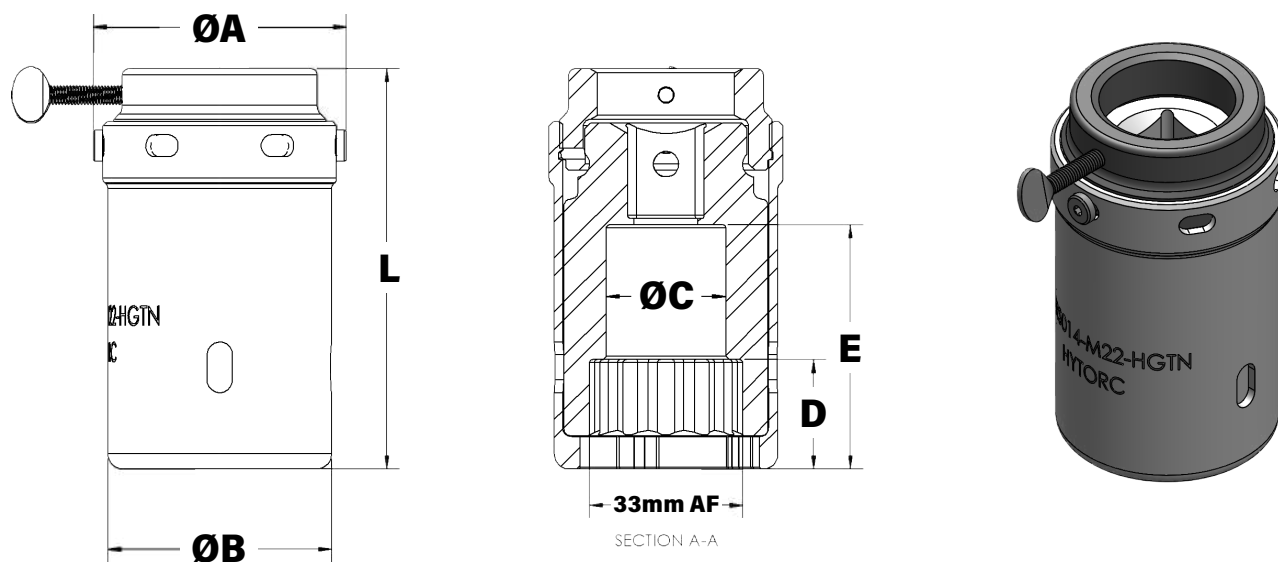


GRIP-TIGHT™ Nuts have M22X1.5 threads, 33mm hex, 27mm height and a 46mm washer diameter. The two-piece GRIP-TIGHT™ Nuts comply with technical requirements of SAE J1965. Cross Reference PN's: 39773, 39874, 39702, M3979, 39691, 39949, 201.3013, 13-3057, E-9020, W-525, R009020, 511034, KB9020, WA075037, 20857204, 1649492C1, E6HZ-1120-A, MF110343, and MF111026.

#### TOOLING



GRIP-TIGHT™ Nuts can be torqued and loosened with common impact guns and wrenches. The patent pending washer profile includes a special geometry for rotationally coupling to the HYTORC reaction socket. This washer acts as a coaxial reaction point, thereby eliminating pinch points and removing undesirable side loads. These benefits make it feasible to upgrade to cordless digital tooling systems while increasing the efficiency, quality and safety of wheel nut installations.



LEGEND : ØA = OUTER DIAMETER ØB= DIAMETER AT WRENCH END ØC = DIAMETER DEEP WELL L = LENGTH D = DEPTH OF HEX SOCKET E = BOLT CLEARANCE DEPTH

PART NUMBER	ØA	ØB	ØC	L	D	E	SQUARE DRIVE	WEIGHT	
<b>IMPERIAL</b>				in.					lbs.
DZAK-HGTM-M22	2.490	2.205	2.031	3.937	1.076	2.402	3/4	2.600	
<b>METRIC</b>				mm					kg
DZAK-HGTM-M22	63	56	30	100	27	61	19	1.17	

## FLEET MAINTENANCE BOLTING TECHNOLOGY

The HYTORC GRIP-TIGHT™ NUT can be torqued using the proprietary GRIP-TIGHT™ DRIVER part DZAK-HGTM-M22 with next-generation portable electric torque tools such as HYTORC LION GUN® or HYTORC flagship LITHIUM SERIES® II Electric Torque tool.

### LITHIUM SERIES® II



### LION GUN® USING GRIP-TIGHT NUT DRIVER





## CLICKER WRENCH

The HYTORC Clicker Wrench is a simple and convenient tool for tightening nuts to specification in a wide range of bolting applications. This micro-adjustable torque wrench is available in various drive sizes and torque capacities. Handles are lightly knurled for a tough, non-slip grip. The tool has a spring-loaded pull down Lock Ring and an easy-to-read laser-etched scale to quickly and easily set torque. The wrench also features a quick-release button for easy socket removal. The HYTORC Clicker Wrench is supplied with an ISO certified calibration certificate.

### QUICK RELEASE BUTTON



The Quick Release Button, conveniently located near the drive, easily engages and disengages the socket from the drive and provides strong socket retention.

### RATCHET REVERSING LEVER

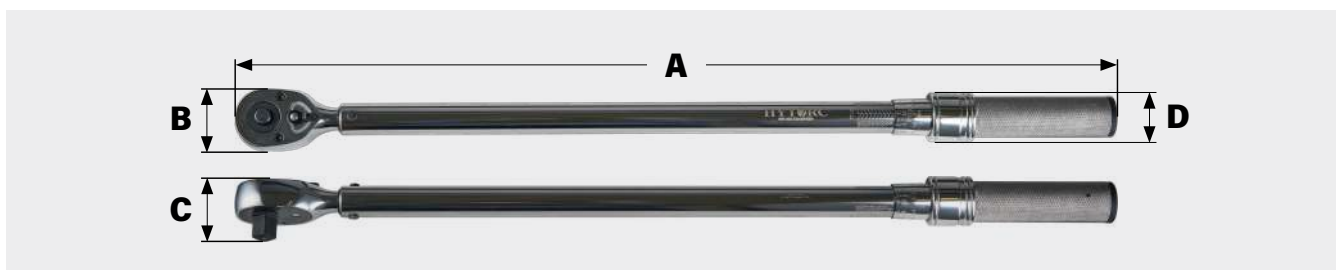


The Ratchet Reversing Lever quickly and conveniently changes the ratcheting direction. The lever has three positions: Clockwise, Counter-Clockwise, and Locked.

### LOCK RING



The spring-loaded positive Lock Ring easily and securely sets the torque value. The laser-etched torque scales are clearly legible in both imperial and metric.



**ACCURACY**

± 4% CW ± 6% CCW of indicated value, CW, from 20% to 100% of full scale.

The HYTORC Clicker Wrench is calibrated to meet accuracy specifications as per ASME B107.300-2010 and in compliance with ISO 17025:2017.

**DUAL SCALE MODELS - TORQUE SCALE IN BOTH IMPERIAL AND METRIC**

CONFIGURATIONS	DRIVE	A	B	C	D	WEIGHT	PRIMARY TORQUE RANGE	INCREMENTS
IMPERIAL		in.				lb		
MW-006-250-MRMH	3/8	11.25	1.06	0.93	1.06	0.95	30-250 in-lbs.	1
MW-006-1000-MRMH	3/8	16.00	1.43	1.20	1.40	2.50	150-1,000 in-lbs.	5
MW-006-100-MFRMH	3/8	16.00	1.43	1.20	1.40	2.55	10-100 ft-lbs.	0.5
MW-008-150-MFRMH	1/2	19.00	1.70	1.40	1.40	3.15	20-150 ft-lbs.	1
MW-008-250-MFRMH	1/2	24.40	1.70	1.40	1.40	3.15	30-250 ft-lbs.	1
MW-010-400-MFRMH	3/4	34.25	2.50	2.10	1.40	10.30	50-400 ft-lbs.	5
MW-010-600-MFRMH	3/4	42.00	2.50	2.00	1.15	11.85	100-600 ft-lbs.	5
MW-020-1000-MFRMH	1	70.00	3.00	3.00	1.50	25.10	200-1,000 ft-lbs.	5

METRIC	IN.	MM				KG	SECONDARY TORQUE RANGE	INCREMENTS
MW-006-250-MRMH	3/8	286	27	24	27	0.4	4.0-27.7 Nm	.12
MW-006-1000-MRMH	3/8	406	36	30	36	1.1	19.8-110.2 Nm	.6
MW-006-100-MFRMH	3/8	406	36	30	36	1.2	16.9-132.2 Nm	.7
MW-008-150-MFRMH	1/2	483	43	36	36	1.4	34-197 Nm	1.4
MW-008-250-MFRMH	1/2	620	43	36	36	1.4	47-332 Nm	1.4
MW-010-400-MFRMH	3/4	870	64	53	36	4.7	85-525 Nm	3.4
MW-010-600-MFRMH	3/4	1067	64	51	29	5.4	169-779 Nm	6.8
MW-020-1000-MFRMH	1	1778	76	76	38	11.4	305-1322 Nm	6.8

**METRIC SCALE MODELS - TORQUE SCALE IN METRIC ONLY**

CONFIGURATIONS	DRIVE	A	B	C	D	WEIGHT	TORQUE RANGE	INCREMENTS
METRIC	IN.	MM				KG		
MW-006-60NM-RMHSS	3/8	413	47	38	35	1.1	10-60 Nm	0.5
MW-006-100NM-RMHSS	3/8	413	47	38	35	1.1	20-100 Nm	0.5
MW-008-200NM-RMHSS	1/2	503	47	38	35	1.5	40-200 Nm	2
MW-008-340NM-RMHSS	1/2	625	47	39	35	1.5	60-340 Nm	2
MW-010-800NM-RMHSS	3/4	1051	61	58	35	5.4	150-800 Nm	5

**LIMITED WARRANTY**

The HYTORC Clicker Wrench is backed by a one year warranty. This warranty covers manufacturer defects and workmanship. The warranty excludes misuse, abuse and normal wear and tear. Exclusion is not allowed in some states and may not apply. This warranty give you specific legal rights, and you may have other rights, which vary from state to state.



## TENSIONING PUMPS

### HBT PNEUMATIC



Available in standard and high flow rate to meet your specific tooling needs, each pump comes equipped with an in-line filter, regulator, and lubricator (FRL) assembly. These pumps are simple to use and maintain and will last for years to come.

### PES



The PES pump has the ability to run multiple tools without sacrificing performance. It gives our customers consistent results, all day. The PES pump is recommended for all applications including construction and is available in a variety of configurations.

### SUBSEA



To stand up to tough offshore environments, HYTORC has taken our tried and true high flow pneumatic pump and reconstructed it with stainless steel components. Additionally, we have doubled the size of the reservoir to suit the demands of subsea fastening.

### HAND PUMPS



HYTORC hand pumps for fastening tools are lightweight and mobile by design. With different pressures and capacities available, HYTORC can provide you with the flexibility you need. Our hand pumps have built-in gauges with a unique steel handle that protects the gauge from impact.

### HOSES



HYTORC offers a full range of hydraulic and tensioning hoses for every application. Be it topside or subsea, HYTORC has you covered.



## TOPSIDE TENSIONERS

### TOPSIDE STANDARD SERIES



HYTORC standard series of topside tensioners provide our customers with a quality, cost-efficient solution to their tensioning needs. Designed to fit most standard flanges, our standard series tensioners are compact and easy to handle.

### TOPSIDE SPRING RETURN



Our Spring Return Tensioner line offers the customer the same quality as our standard series, but incorporates a spring-return function and a more robust design. These improvements increase efficiency and enhance the tools load capabilities.

## DIRECT FIT TENSIONERS



Direct fit fasteners are very useful in applications where you have limited clearance in all directions. Additionally, technicians prefer them for overhead work because of the one-piece design. Direct fit fasteners can be customized to fit a wide range of applications.

## WIND SINGLE-STAGE AND MULTI-STAGE

### WIND SINGLE-STAGE



### WIND MULTI-STAGE



HYTORC wind turbine tensioners are designed to provide our customers with uncompromising performance. Our single-stage tensioners are made to help our customers with the bolting applications that have limited overhead clearance, while our multi-stage tensioners help with bolting applications with limited radial clearance.

## WIND FOUNDATION



HYTORC has many designs available to meet your foundation tensioning needs. We can provide foundation tensioning solutions for almost every type of foundation used on wind turbines. We stock tooling for foundation studs from 1" up to 3" (25-76 mm) rock anchor studs.

## SUBSEA



HYTORC subsea tensioners are designed for continuous use in demanding environments. They are manufactured from high quality materials and are easy to use. Our subsea tensioners can be suited to fit a variety of sizes and budgets.

## SOCKET KITS



HYTORC socket kits are made of high quality materials and manufactured to meet the same standards that make our award-winning torque wrenches the best in the industry. Engineered to last, HYTORC sockets offer unmatched reliability, ensuring your job never gets delayed due to socket failure or safety concerns. Available in Standard Metric and Imperial Heavy HEX Sizes.

## CUSTOMIZABLE APPLICATION-SPECIFIC KITS



HYTORC offers a wide array of industry specific application kits that ensure your project box has everything you need to complete your bolting job. Whether you are bolting the rotor bolts on an Apache Helicopter or refurbishing a large engine, HYTORC application-specific kits have what you need to get the job done without the hassle of dealing with forgotten items on the job site. Contact your local HYTORC bolting specialist to obtain information on our various application-specific kits.

## SOCKETS



HYTORC offers a full range of high-quality, impact-grade square drive sockets engineered specifically for the rigors of heavy duty industrial bolting applications.

## REACTION ARMS AND ADAPTERS



HYTORC offers the largest inventory of custom reaction arms and adapters in the world. With over 50 years of bolting experience, HYTORC can provide you with a solution to even the most difficult-to-solve bolting problems.

## OFFSET LINKS



Designed to optimize bolting applications with limited clearance, HYTORC offset links easily fit on most applications and work great on through-bolts. Offset Links are sized from 7/8" to 3 1/8" (22-79 mm) and can be used with hydraulic, pneumatic, battery and electric tooling. Offset links are provided with a reaction arm. Using a HYTORC washer with an offset link will eliminate the need for a reaction arm and maximize safety.



**COMBUSTION CAN EXTENSION**



Save hours of maintenance time and improve safety with our 13" (330 mm) lightweight combustion can extension. When used with the jGun or LITHIUM SERIES tools, this accessory eliminates dangerous swinging reaction forces and can run down any socket head cap screw with ease.

**WHEEL GUN EXTENSION**



The Wheel Gun Extension provides a lightweight solution to tighten commercial fleet wheel lugs to specifications. The extension contains a self-indexing socket allowing for quick engagement enhancing speed and productivity.

**12-INCH STRAIGHT SPLINE EXTENSION**



HYTORC custom extensions are designed to increase your job safety and efficiency. Save time and increase accuracy with your custom design.

**WIND TOWER CABLE TRAY (WTCT)**



Control bolt load and improve safety with the Wind Tower Cable Tray dual reaction bolting fixture. This accessory lowers side load force, increases the lifespan of torque tools and eliminates scratching and gouging of the flange and nearby nuts caused by traditional reaction arms.

**DIAL INDICATOR RETAINER**



The HYTORC Dial Indicator Retainer provides a quick and simple way for an operator to meet Torque & Angle requirements. Just replace your standard tool retainer with this handy accessory.

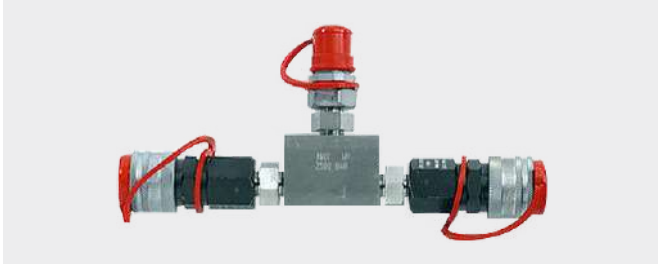
**CRAB NUT**



Control bolt load and improve safety with the Crab Nut dual reaction bolting fixture. This accessory lowers side load force, increases the lifespan of torque tools and eliminates scratching and gouging of the flange and nearby nuts caused by traditional reaction arms.



**MANIFOLDS**



HYTORC offers a large selection of manifolds for every application at any pressure.

**COUPLERS**



HYTORC carries a vast assortment of couplers to meet any requirement at any pressure.

**FORCE 8 MANIFOLDS**



The HYTORC Force 8 manifold doubles the size of the standard HYTORC manifold by allowing an operator to connect up to eight tools to a pump for use in a SIMULTORC multi-tool bolting system.

**HOSES**



HYTORC offers a full range of hydraulic and tensioning hoses for every application. Be it topside or subsea, HYTORC has you covered.

**HOSE WHIPS**



Increase the flexibility of the SIMULTORC multi-tool bolting system by using these easily bendable and smaller diameter 1/8" hose whips.



LET HYTORC BE  
YOUR GUIDE TO  
THE FUTURE OF  
SAFER, FASTER  
AND MORE  
INTELLIGENT  
INDUSTRIAL  
BOLTING.

## INDUSTRIAL BOLTING 4.0

Let HYTORC be your guide to the future of safer, faster and more intelligent industrial bolting. Here is how HYTORC integrates modern technology into our industrial bolting systems:

- Electric and Pneumatic Torque Tools
- Hydraulic Pumps
- Self-Reacting Fasteners
- SIMULTORC (PJC)
- Yield Control Bolting
- Flange Calculator
- HYTORC Connect App
- HYTORC + Cumulus
- HYTORC Engineering and Modern Solutions
- HY-CARE
- The HYTORC Standard

HYTORC makes industrial bolting safer and simpler. With over 50 years of experience, we are singularly focused on developing the highest quality industrial bolting systems. HYTORC is the most trusted name in the industry. From manufacturing and mining equipment to refineries, power plants, and wind turbines; we have developed solutions for every bolting application imaginable. For custom projects, our highly experienced engineering team is at your service to design the most efficient solution for your job with simple operation and economical pricing in mind.

## ELECTRIC

### LITHIUM SERIES® II



The LITHIUM SERIES® II Electric Torque Tool is the next revolution in bolting technology redesigned from the ground up with expanded functionality, greater durability, and intuitive usability. This lightweight 36 Volt battery powered tool, with capacity up to 5,000 ft-lbs, is the ultimate solution for strength and portability in industrial bolting jobs worldwide. This tool is compatible with conventional sockets, the HYTORC Washer, and the HYTORC Nut.

## PNEUMATIC

### jGun® DIGITAL Single Speed



Unlike other systems that require a separate filter, regulator and lubrication system, the jGun DIGITAL Single Speed is the world's first torque-adjustable pneumatic multiplier with a digital readout and FRL-free operation. Its patented design eliminates the need for this add-on for the highest level of portability and convenience.

## HYDRAULIC PUMPS

### HYTORC VECTOR



The HYTORC VECTOR is the world's most advanced hydraulic power pack. The first pump to offer LCD pendant control and automated regulation, HYTORC is taking industrial bolting to the next level. Industrial bolting has become more intuitive and smarter than ever before. Thanks to its 3-stage high speed flow motor and gauge-free operation, it allows the operator to simply select the HYTORC tool they are using and the desired torque on the remote. Push the button and allow the pump to do all the work.

## SELF-REACTING FASTENERS

### THE HYTORC J-WASHER - TORQUE



The HYTORC J-Washer's award-winning design enhances job safety and efficiency by eliminating the need for a reaction arm, while locking the nut into place to avoid loosening.

### THE HYTORC NUT - TENSION



HYTORC Nut designs eliminate galling and deliver unsurpassed precision and repeatability with guaranteed fastest assembly/dissassembly times.

## SIMULTORC



SIMULTORC provides substantial productivity enhancements using a hands-free method which increases hand safety and reduces hand injury incidents. This enhanced bolting method, recommended by ASME PCC-1, will reduce any bolting job time by at least 50%.

## YIELD CONTROL BOLTING

### ECO2TOUCH PUMP



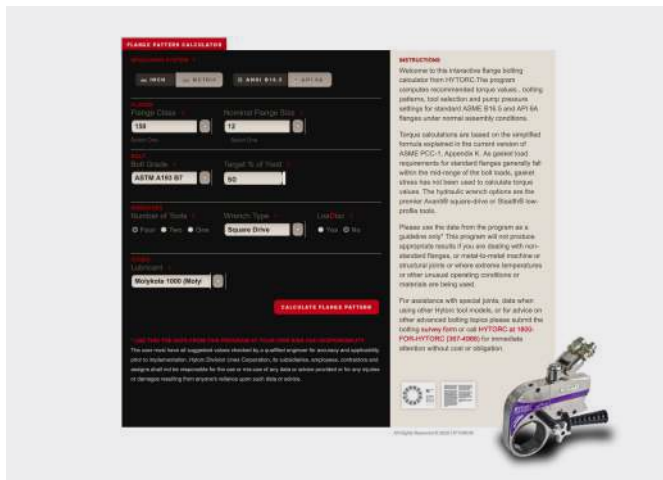
Get the most out of your bolted connections using yield-controlled tightening. Simply turn on the pump without having to enter any parameter. The pump will automatically look for the maximum bolt load and stops when the yield-point is reached.

## HYTORC CONNECT APP



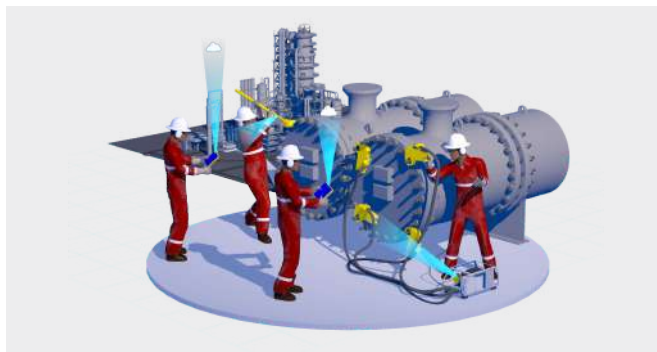
The **HYTORC Connect App** enables wireless data exchange between the **LITHIUM SERIES® II Electric Torque Tool** and a **Windows® PC**. The app provides a convenient user interface to configure bolting parameters and send them to the tool. The app also serves as a repository for bolting results, receiving data from the tool in real-time or batch operation. All initial settings and tool administration can be achieved via the app.

## FLANGE CALCULATOR



Users can carry out quick and safe calculations across thousands of combinations of flange/gasket/fasteners. The Flange Calculator can be used on any internet-capable device and offers safe and secure online storage of joint data.

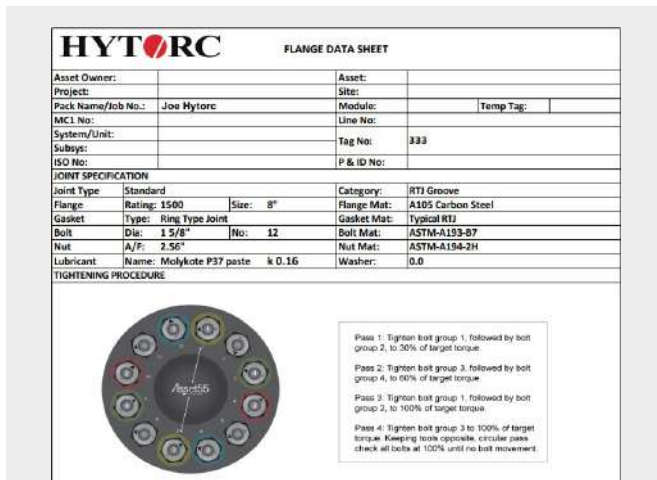
## HYTORC + CUMULUS



In 2019, HYTORC and Cambridge, Massachusetts-based Cumulus Digital Systems, Inc. joined forces on an innovative partnership to bring 21st century tech into the bolting industry in new and exciting ways. The cumulus software allows for comprehensive wireless data capturing, providing unprecedented levels of visibility and transparency translating into significant job safety and quality enhancements, while reducing job time.

“The partnership has been great for HYTORC and Cumulus, but it’s been even better for our customers,” said HYTORC’s President, Eric Junkers. “Cumulus provides the software; we provide the tooling. With both our companies focused on what we do best, that equates to gains and benefits for our customers in just about every aspect of their projects, and the proof is out there!”

## DOCUMENTATION



Produce auto-populated joint documents for tightening reports and procedures. Compatible with all open protocol networks.



## HYTORC ENGINEERING

### AUGMENTED AND VIRTUAL REALITY (AR/VR) SUPPORT



For the highest level of productivity improvement, HYTORC offers free engineering consultation to propose the most efficient solution for your bolting challenges. We have experience customizing our equipment to work with Open Protocol and Augmented Reality systems that are frequently used and required at large scale manufacturing facility to making our tools compatible with cutting edge technology. If HYTORC's "outside-the-box" modern solutions don't meet your company's requirements, contact us today for a FREE consultation.

### HY-CARE



**HY-CARE Service Plans\*** provide peace of mind protection and offer a no deductible plan to protect you from unexpected bolting equipment repair costs and downtime after your standard equipment warranty expires. On average, a tool with HY-CARE lasts up to five times longer in service.

\*May not be available in all locations. Please contact your local HYTORC representative for more information or visit us online at [hytorc.com/hy-care](http://hytorc.com/hy-care).

### ROBOTIC PROCESS AUTOMATION (RPA)



RPA in industrial bolting is using process automation technology with software to direct/guide robots or artificial intelligence workers to perform bolting functions. Companies pursuing Industry 4.0 are now using HYTORC bolting digitalization to drive productivity gains.

### THE HYTORC STANDARD



With over 50 years of experience focused entirely on developing the highest quality industrial bolting systems, HYTORC remains committed to higher performance and service and offers superior technology, quality, and customer support. That's the power of HYTORC. For more information, please visit us online at [hytorc.com/standard](http://hytorc.com/standard).





## HYTORC CONNECT APP

The **HYTORC Connect App** provides wireless data exchange between **Bluetooth®** enabled **HYTORC Electric Torque Tools** and **Windows®** PC or mobile devices. The App simplifies and speeds up the configuration of bolting operations by sending preset bolting parameters to the tool. The HYTORC Connect App guides the user during simple or multi-pass sequential bolting operations to ensure job accuracy. Detailed bolting results are captured wirelessly for complete project documentation.

### TOOL CONFIGURATION



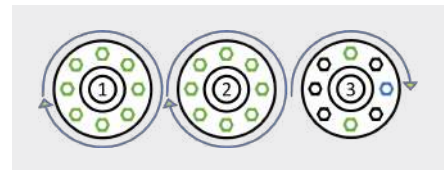
To reduce the possibility of errors, the HYTORC Connect App enables the user to easily type or scan QR codes with job parameters, and send them automatically to the tool.

### JOB DATA MANAGEMENT

#	Operation	JOB	PSD	TYPE	Torque	Angle	Release	Fastener	Units	T/L	Iterations	Result	Final Torque
1	1	SPV0000	FLAN270	500	200		100%	9.50	1	OK			
2	1	SPV0000	FLAN270	500	200		100%	9.50	1	OK			
3	2	SPV0000	FLAN270	500	200		100%	9.50	1	OK			
4	1	SPV0000	FLAN270	500	400	0	100%	9.50	1	OK			
5	2	SPV0000	FLAN270	500	400	0	100%	9.50	1	OK		400	
6	3	SPV0000	FLAN270	500	400	0	100%	9.50	1	OK		400	
7	3	SPV0000	FLAN270	500	400	0	100%	9.50	1	OK		400	

For better quality control, the app maintains precise job data documentation by receiving detailed bolting results from the tool. The operator or supervisor can monitor job progress by viewing bolting results during and after the job.

### PROJECT GUIDANCE



To ensure project integrity and collect consistent records, an advanced sequence feature guides the operator through complex bolting projects. A comprehensive project data archive is possible with supplementary user-defined data fields.



### HYTORC TOOL

Connect with Bluetooth®-enabled LION GUN (BSM) or LITHIUM SERIES® II Electric Torque Tools.

### BASIC AND ADVANCED BOLTING

Send to the tool bolting parameters including Torque, Angle, Release and Fastener type. Monitor results in real time and export data in .CSV file format. Easily configure and manage advanced tool features including Turn Angle, Torque Check and Rotations.

### JOBS

Create Job IDs on the App and send them to the tool. Wirelessly retrieve jobs' data saved on the LITHIUM SERIES® II tool's memory. View and export bolting results detailing each trigger pull for complete documentation.

### PROFILES

Create a library of bolting profiles on the App and send them to the tool. Use the App to activate a bolting profile on the tool.

### SEQUENCE

Create multi-part, multi-pass bolting project procedures. Customize the items (wheels, flanges, joints, etc.), their count, number of bolts, and passes. Specify several user-defined documentation fields. Execute projects with on-screen guidance and automatic tool configuration for each pass.

### SETTINGS AND ADMIN

Configure the tool from the Apps' easy to use interface. Adjust settings such as Torque and Angle Limits, Units, User ID, Flex Options, Shortcuts, and more.

### QR AND BARCODE SUPPORT

Generate QR codes for bolting profiles and Job IDs. Scan QR codes to configure the tool automatically. Scan your own QR and barcodes for various documentation fields.

### DOWNLOAD

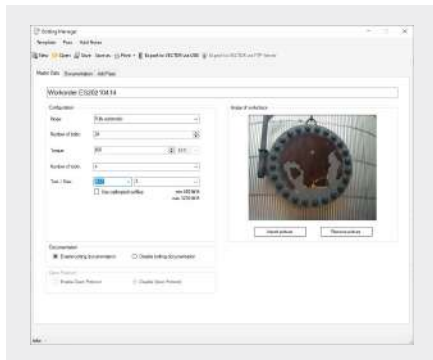




## HYTORC BOLTING MANAGER

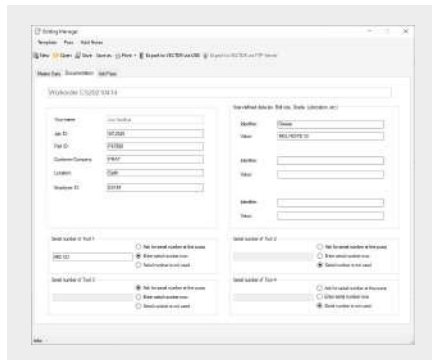
**HYTORC Bolting Manager** software makes it simpler than ever to create reusable bolting job templates and enhance workflow with the **HYTORC VECTOR Hydraulic Pump**. Create a library of templates that include bolting parameters, tool selection and a range of descriptive job fields for better quality control, documentation and reports. Easily export templates to the VECTOR Pump to enable step-by-step guided bolting instructions and manage comprehensive data capture.

### JOB TEMPLATES



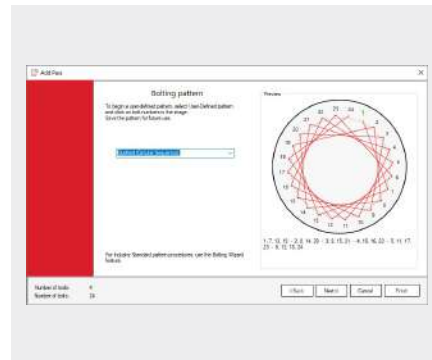
Simple user interface to define job parameters such as number of bolts, torque value, tool selection and operating mode. Templates are saved on the PC and exported to the VECTOR pump for pre-configured bolting operations.

### DATA MANAGEMENT

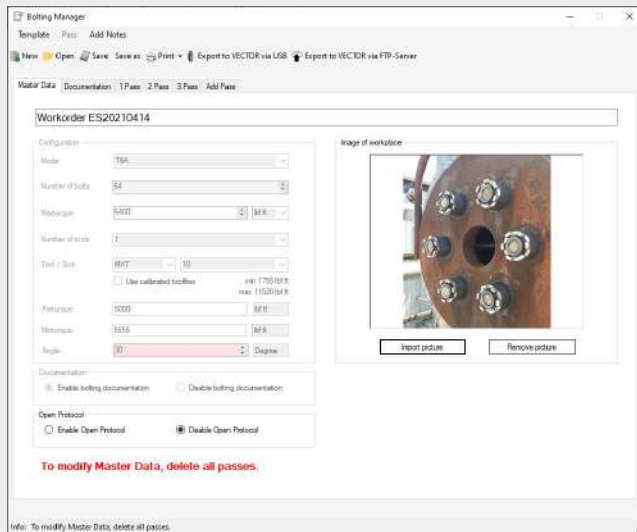


Fields to enter job information within each template to improve job documentation completeness and accuracy. Additional user-defined data fields provide flexibility for effective reporting.

### BOLTING PROCEDURE



Assistance in selecting any of HYTORC hydraulic tools, enabling up to four tools for each pass. Graphical user interface for a precise configuration of bolting patterns and multi-stage tightening procedures to improve job efficiency and quality.



**HYTORC Bolting Manager:** Supplements and enhances the use of the VECTOR- the world's most advanced hydraulic pump.

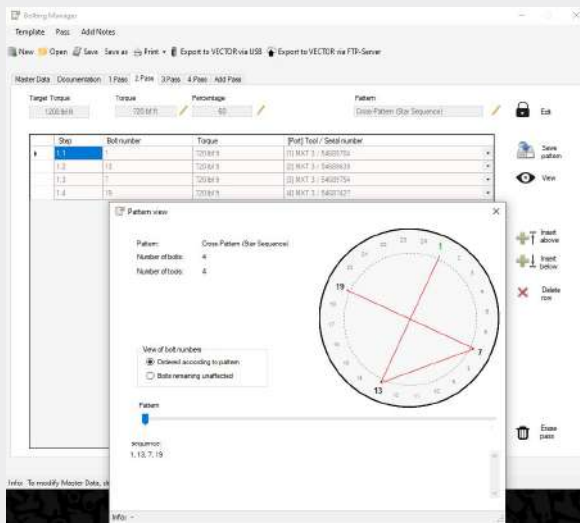
**User Friendly:** A graphical PC interface provides an easier alternative to the menu options available on the pump's LCD pendant remote control.

**Tools Selection:** Support for all HYTORC hydraulic tools (AVANTI, EDGE, ICE, MXT, MXT+, STEALTH, VERSA, XLCT, XLT) or user-defined tools. The App ensures proper tool selection for the job, allowing only suitable tools sizes.

**Multi-tool, Multi-pass:** Configure bolting parameters such as the number of bolts, torque level and operation mode. Graphically construct multi-stage bolting patterns with up to four tools.

**Documentation:** Enter job information and instructions on the PC to relay to the operator in the field; then collect detailed job data from the pump and generate fully documented reports.

**Premium Features:** A Premium version adds support for Torque & Angle operation, Open Protocol, file transfer to a server (FTP), a Wizard for automatic industry standard patterns and more.



## DOWNLOAD



**OS:** Windows® 10

**Languages:** English, German

**VECTOR Communication:** USB Flash Drive, FTP

**Software Updates:** Automatic

**Premium License:** Activation via USB dongle (included with HYTORC Torque and Angle Pump and Open Protocol VECTOR pumps)

**Availability:** Contact your HYTORC Authorized Service Dealer





## HYTORC HYDRAULIC OIL

You choose a HYTORC Hydraulic Pump because of the HYTORC Standard of superior technology, quality, and support. Protect that investment with HYTORC Hydraulic Oil and regular oil changes. HYTORC Hydraulic Oil has been tested and selected to provide you with the best performance. It meets not only the ISO Standards but the HYTORC Standard as well. Protect your pump better with clean HYTORC Hydraulic Oil to help reduce wear and prevent overheating. If you aren't able to change the oil yourself, HYTORC can do it for you.

### HYTORC HYDRAULIC OIL FEATURES AND BENEFITS

FEATURES	BENEFITS
<b>Premium Anti-Wear Additives</b>	These additives will help reduce wear and extend pump life.
<b>Minimal Viscosity Change</b>	The viscosity stays consistent across a range of temperatures.
<b>Rapid Water Separation</b>	The effects of rust and corrosion are minimized.
<b>Anti-Foaming Agents</b>	This reduces air entrainment and helps with water separation.
<b>Extended Service Life</b>	This oil has the stability and durability to last even in the harshest conditions, lasting 5,500 hours during TOST.

Please contact HYTORC for more information on available oil grades, sizes, and pricing.





## HYTORC MOBILE SERVICE

HYTORC offers mobile service, maintenance, and training to get you and your tools back on the job faster than ever before. Our on-site training and preventative maintenance ensures all of your equipment is ready when you need it and that your tool operators are trained in safe handling and operation.

### FREE LOANER TOOLS



We know that your time is valuable. If a replacement tool is needed for an urgent job while your tool is being repaired, it is available free of charge.

### DIGITAL CALIBRATION SYSTEM



Our mobile calibration lab provides on-site calibration of manual torque wrenches as well as hydraulic, pneumatic and electric tools with torque output up to 20,000 ft.-lbs (27116 Nm). For calibration of larger tools, our service technicians offer pickup and drop-off service.

### VAN FLEET FULLY EQUIPPED WITH ON-BOARD REPAIR CENTER





## HY-CARE

**HY-CARE Service Plans\*** provide peace of mind protection and offer a no deductible plan to protect you from unexpected bolting equipment repair costs and downtime after your standard equipment warranty expires.

The plan covers parts and labor to repair all key components for up to 5 years. Failure of covered components due to defects in materials, workmanship, or normal wear and tear are included. All repairs are performed on-site by factory trained technicians. **HY-CARE Extended Service Plan** coverage includes 24 hour loaner equipment benefits and mobile service assistance backed by our 24/7/365 live support throughout entire term.

### WHAT ARE THE BENEFITS?

- Access to our 24/7/365 worldwide live support
- Greater tooling reliability that leads to:
  - Safer jobsite
  - Better joint integrity
  - Faster joint assembly
- Faster repair turnarounds with mobile service and free loaner tool program
- Maximum trade-in value
- Greater visibility on tooling service history through our TORCSAFE online portal and inventory management system

HY-CARE PREMIUM

HY-CARE PLUS

HY-CARE

\*May not be available in all locations.

Please visit [hytorc.com/hy-care](http://hytorc.com/hy-care) or contact your local HYTORC representative for more information. Never settle for less.





## HYTORC EQUIPMENT RENTAL PROGRAM

From individual tools to customized bolting systems, HYTORC has the largest stock of rental equipment in the industry, available worldwide. Your HYTORC rental also entitles you to a free safety and operational training to ensure that your crew gets the most out of each rental. With over 50 years of experience in this industry, you can rest assured that we have a solution for your bolting challenge.



### TOTAL SATISFACTION GUARANTEED

- 100% rental credit\* towards purchase
- Rent only the equipment you need on a daily, weekly or monthly basis
- Complimentary safety and operational training with all rentals
- Worldwide availability of all bolting systems
- Improve safety, speed, and accuracy with custom tool kit rentals
- Tool containers for large jobs are available for monthly rentals
- All rental equipment is inspected and re-certified before its next rental

\*All rental credits are available to use within six months after the rental.



## **CUSTOM ENGINEERING**

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With over 50 years of experience dedicated to industrial bolting, we have solved almost every bolting challenge imaginable. Let our engineering team show you the possibilities. For the highest level of productivity improvement, HYTORC offers free engineering consultation to propose the most efficient solution for your bolting challenges. After an on-site survey with application measurements or shared CAD files, our engineering team will design a solution custom fit for your job. Upon completion of design, an FEA analysis and other computer-assisted stress testing will ensure durability and longevity of the solution, and a 3D printed mock-up will be created to test operation and fit. Once the design is perfected, the final product will be tested thoroughly under load to assure safe and efficient operation on the job.

# HBI TRAINING PROGRAMS



The **HYTORC Bolting Institute (HBI)** is the training arm of HYTORC. As the world leader in industrial bolting systems since 1968, HBI develops people, knowledge, methods, tools and training essential to safely achieving reliable bolted connections. HBI delivers on HYTORC's mission with training that helps our customers optimize industrial bolting safety, quality and schedule.

HBI partners with ASME and OSHA to offer certificate courses from these widely recognized organizations, maximizing the educational value of each class. All classes are delivered by certified instructors providing in-depth knowledge of bolting which results in improvements in job safety, quality and schedule. HBI manages all course logistics and provides excellent service in scheduling online and in person classes to meet your needs.



- Certificate courses.
- Certified instructors.
- Flexible scheduling.
- Custom in-person/online training available.
- Courses updated to PCC-1 2022 standard.

## HY-TRAIN – TAKE THE WORRY OUT OF WORK FORCE COMPETENCE

The HY-TRAIN™ Program allows customers to secure training at significant cost savings when combined with equipment purchase. Customers can choose from three levels to ensure workers get the training they need no matter the bolting experience level.

BASIC	PLUS	PREMIUM
<b>4 hours</b>	<b>8 hours</b>	<b>16 hours</b>
One Half Day 4-hour Class	One Full Day 8-hour Class or Two 4-hour half-day Classes	One Two Day 16-hour Class or Two Full Day 8-hour Classes or Four 4-hour half day Classes
Up to 10 Students Per Class 20% off Additional Students	Up to 10 Students Per Class 20% off Additional Students	Up to 10 Students Per Class 20% off Additional Students
ASME Certificate	ASME or OSHA Certificates	ASME or OSHA Certificates

- Available with a minimum tool purchase or rental of \$10,000.
- Classes delivered by certified Instructors within 12 months of HY-TRAIN purchase.
- Training requiring more than 1 day to complete must be held on consecutive days.
- Expenses for instructor travel are billed separately.



**TECHNICAL BOLTING CERTIFICATE COURSES**

HYTORC Bolting Institute courses are fee-based certificate classes delivered by certified HYTORC Instructors arranged to meet the scheduling needs of each customer. HYTORC can help recommend the appropriate courses for the level of training required.

LEVEL	SERIES	COURSE TITLE	ASME/OSHA CODE	HBI CODE	PDH (HOURS)	IN-PERSON	ONLINE	CERTIFICATE
B	BASIC BOLTER	Participant requires no previous experience; gains general familiarization with industrial bolting.						
		Basic Bolting Overview	HBI-ASME-GP555	HBI-BB-OVERVIEW	4	✓	✓	ASME, HBI
		Bolting Basics	HBI-ASME-GP556	HBI-BB-BASICS	1	✓	✓	ASME, HBI
		Bolting Safety Basics	HBI-ASME-GP557	HBI-BB-SAFETY	1	✓	✓	ASME, HBI
		Bolting Tool Basics	HBI-ASME-GP558	HBI-BB-TOOL	2	✓	✓	ASME, HBI
		Bolting Fastener Basics	HBI-ASME-GP559	HBI-BB-FAST	1	✓	✓	ASME, HBI
1	SAFE BOLTER	Courses introduce bolting principles and practice, bolting safety and tool operation. The participant gains an understanding sufficient to assist/support in the assembly of bolted joints under supervision.						
		Safe Bolting Introduction	HBI-ASME-GP561	HBI-SB-INTRO	4	✓	✓	ASME, HBI
		Safe Bolting:						
		Pressure Vessels and Piping	HBI-ASME-GP562	HBI-SB-PV	8	✓	✓	ASME, HBI
		Structural Connections	HBI-ASME-GP563	HBI-SB-SC	8	✓	✓	ASME, HBI
		Mechanical Connections	HBI-ASME-GP564	HBI-SB-MC	8	✓	✓	ASME, HBI
Safe Bolting Principles & Practice	HBI-OSHA-7110	HBI-SAF701	8	✓	-	TEEX, OSHA		
2	BOLTING	Courses cover bolting fundamentals and safe Operations of bolting equipment sufficient for participant to assume primary independent responsibility for assembling and inspecting bolted joints.						
		Bolted Joint Integrity (Combines GP566 & GP567)	HBI-ASME-GP582	BA-INTEGRITY	16	✓	-	ASME, HBI
		Bolting Assembly Fundamentals	HBI-ASME-GP566	HBI-BA-FUN	8	✓	✓	ASME, HBI
		Bolting Assembly - Power Equipment	HBI-ASME-GP567	HBI-BA-PWR	8	✓	-	ASME, HBI
		Bolting Assembly - Torque Equipment	HBI-ASME-GP568	HBI-BA-TQ	8	✓	-	ASME, HBI
		Bolting Assembly - Tension Equipment	HBI-ASME-GP569	HBI-HBI-BA-TN	8	✓	-	ASME, HBI
3	BOLTING TRAINER	Courses cover key elements all previous levels for supervisors or trainers who will oversee others in the safe assembly and quality assurance of bolted joints.						
		Bolting Trainer - Basics	HBI-ASME-GP570	HBI-BT-BASIC	4	✓	-	ASME, HBI
		Bolting Trainer	HBI-ASME-GP571	HBI-BT-TRAINER	8	✓	-	ASME, HBI
		Bolting Supervisor	HBI-ASME-GP572	HBI-BT-SUPER	8	✓	-	ASME, HBI
4	BOLTING EXPERT	Participant gains expert understanding of all levels sufficient to develop bolting assembly methods and procedures.						
		Bolting Expert - Piping	HBI-ASME-GP573	HBI-BE-PIPE	8	✓	-	ASME, HBI
		Bolting Expert - Heat Exchanger	HBI-ASME-GP574	HBI-BE-HE	8	✓	-	ASME, HBI
		Bolting Expert - Special Joints	HBI-ASME-GP575	HBI-BE-SJ	8	✓	-	ASME, HBI
		Bolting Expert - Engineering	HBI-ASME-GP576	HBI-BE-ENG	8	✓	✓	ASME, HBI
		Bolted Joint Assembly Principles per ASME PCC-1-2019 (equivalent to PD577) All 2 full days	HBI-ASME-GP580	-	12	✓	✓	ASME, HBI

**TOOL TRAINING OPTION 1: OUT-OF-BOX TRAINING**

Training on HYTORC Tools is included at no charge with the purchase of new equipment when delivered by the HYTORC Area Representative within 90 days of purchase. Out-of-Box Tool Training are non-certificate classes limited to products purchased.

**TOOL TRAINING OPTION 2: CERTIFICATE TOOL TRAINING**

HYTORC Tool Training may be scheduled with a HBI Instructor as a fee-based class where each participant is provided with a certificate. Certificate tool training classes may be arranged to cover any tool or combination of tools and may be customized or combined with Technical Certificate courses as required.

LEVEL	SERIES	COURSE TITLE	COURSE NUMBER	PDH (HOURS)	IN-PERSON	ONLINE	CERTIFICATE
Entry	TOOL TRAINING	General Tool Training	HBI-TT-GENERAL	1	✓	✓	HBI
		Hydraulic Wrench & Pumps	HBI-TT-HYDRAULIC	1	✓	✓	HBI
		Pneumatic Tools	HBI-TT-PNEUMATIC	1	✓	✓	HBI
		Electric Tools	HBI-TT-ELECTRIC	1	✓	✓	HBI
		Connect App	HBI-TT-CONNECT	1	✓	✓	HBI
		Manual Wrenches	HBI-TT-MANUAL	1	✓	✓	HBI
		Fastener Training	HBI-TT-FASTENER	1	✓	✓	HBI
		HYTORC Tensioners	HBI-TT-TENSIONER	1	✓	✓	HBI

## MISSION STATEMENT

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OUR MISSION IS TO OPTIMIZE SAFETY, QUALITY AND SCHEDULE IN INDUSTRIAL BOLTING THROUGH INNOVATIVE SOLUTIONS AND AN UNYIELDING COMMITMENT TO WORLD CLASS CUSTOMER SERVICE.

WITH OVER 50 YEARS OF EXPERIENCE FOCUSED ENTIRELY ON DEVELOPING THE HIGHEST QUALITY INDUSTRIAL BOLTING SYSTEMS, HYTORC IS THE MOST TRUSTED NAME IN THE INDUSTRY.












# HYTORC

## INDUSTRIAL BOLTING SYSTEMS



THE HYTORC UNIVERSE IS MADE UP OF  
OVER 1,000 TRAINED BOLTING SPECIALISTS  
TO SUPPORT YOUR BOLTING NEEDS IN  
OVER 100 COUNTRIES.



## HYTORC WORLD HEADQUARTERS

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