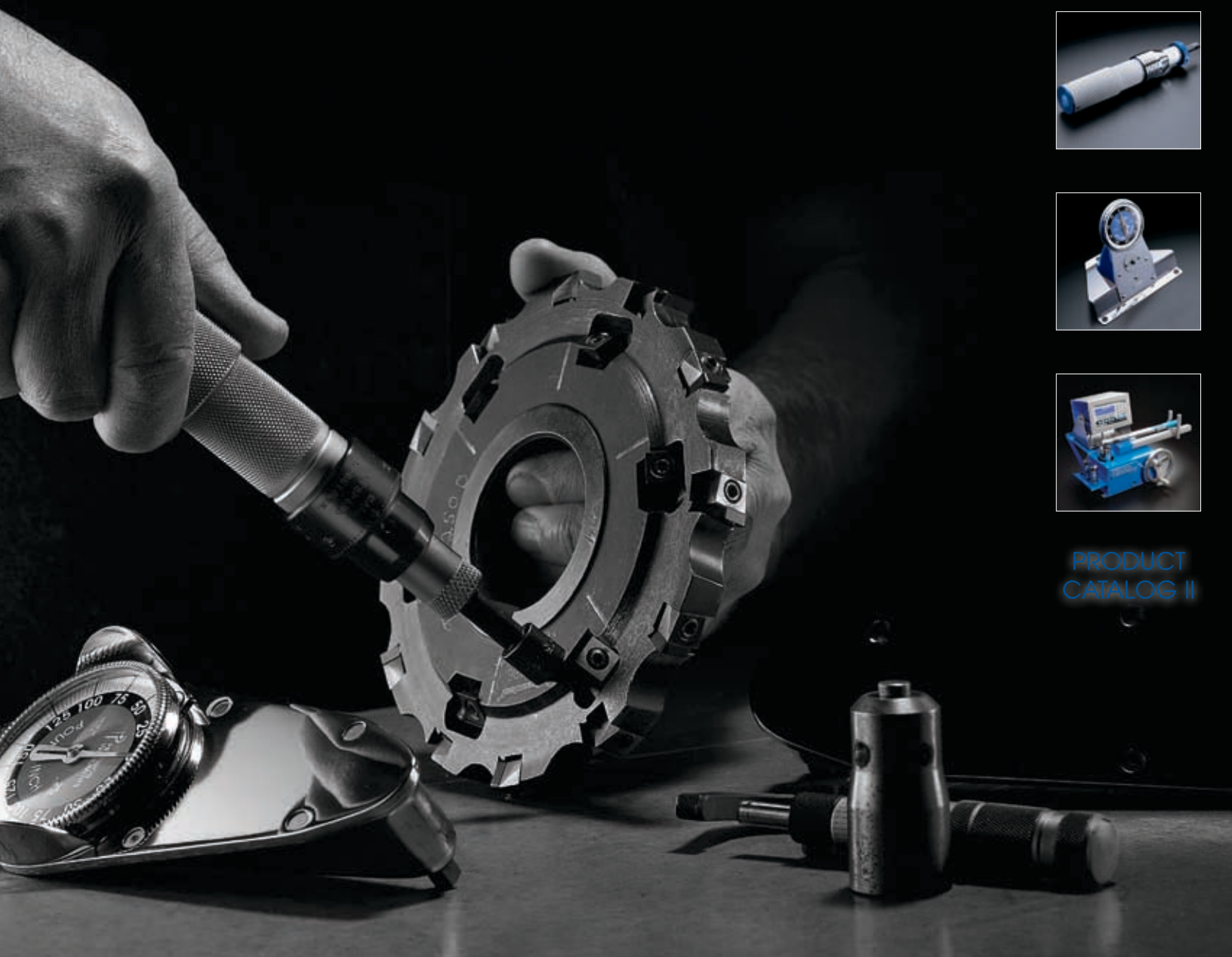




PRECISION
INSTRUMENTS



PRODUCT
CATALOG II





INTRODUCTION

While our work at Precision Instruments is complex, our mission is simple. We design, manufacture and produce the highest quality torque control equipment. Because of our exacting standards, customers turn to our equipment for high-liability, critical and demanding applications where compliance with torque specifications is absolutely necessary for safety and performance. We also provide the highest level of service possible—responding to customer’s needs today while developing new solutions to meet the needs of tomorrow.

As manufacturing technology changes and improves, we remain committed to utilizing our vast and growing supply chain to maximize the value delivered to customers like you. We employ our resources to improve existing products, and we design new products to meet the shifting demands of customer applications—even as those demands continue to change. We strive to be a responsive, capable and customer-driven company, and we are pleased that so many customers use our products and rely on our expertise.

Precision Instruments has been a family-owned and operated business since its incorporation, and our family hopes that our personal commitment to customers like you shows. I personally am thankful for the opportunity to serve you and look forward to the future.

Best Regards,



John A. Larson



INTRODUCTION

Precision Instruments implements true craftsmanship blended with the most innovative technology in every wrench.

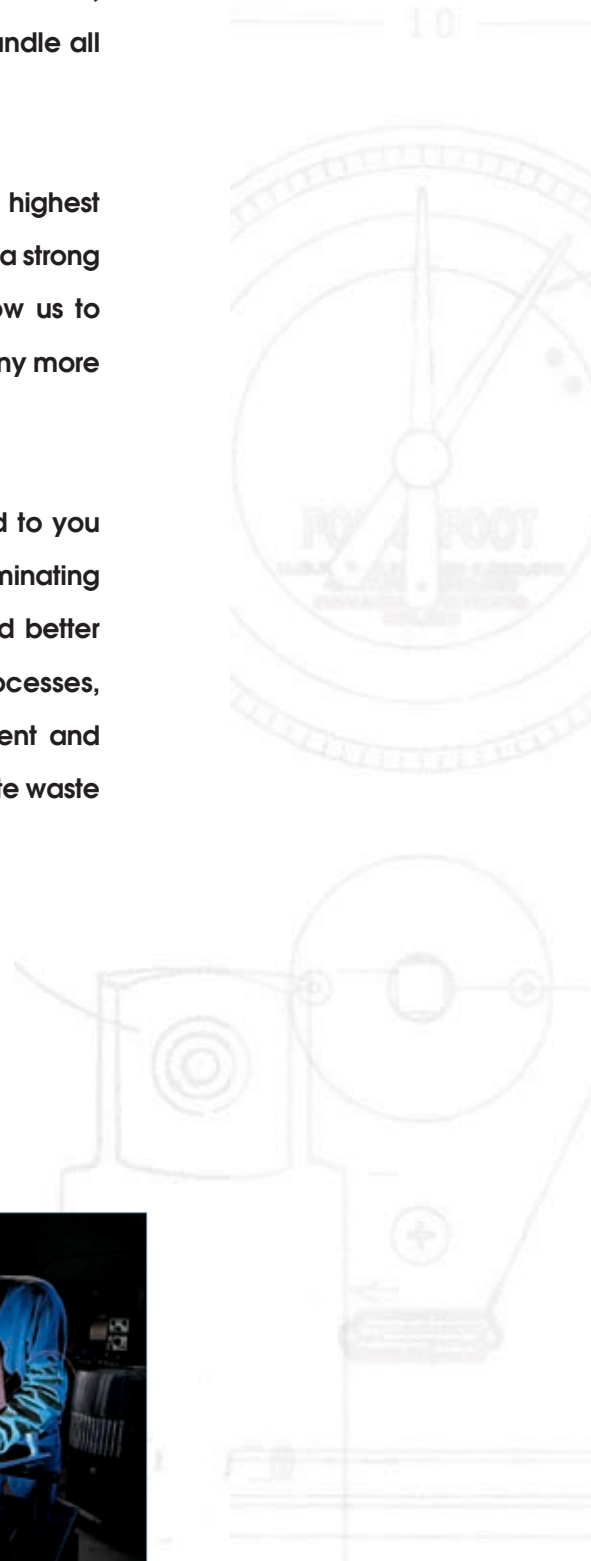


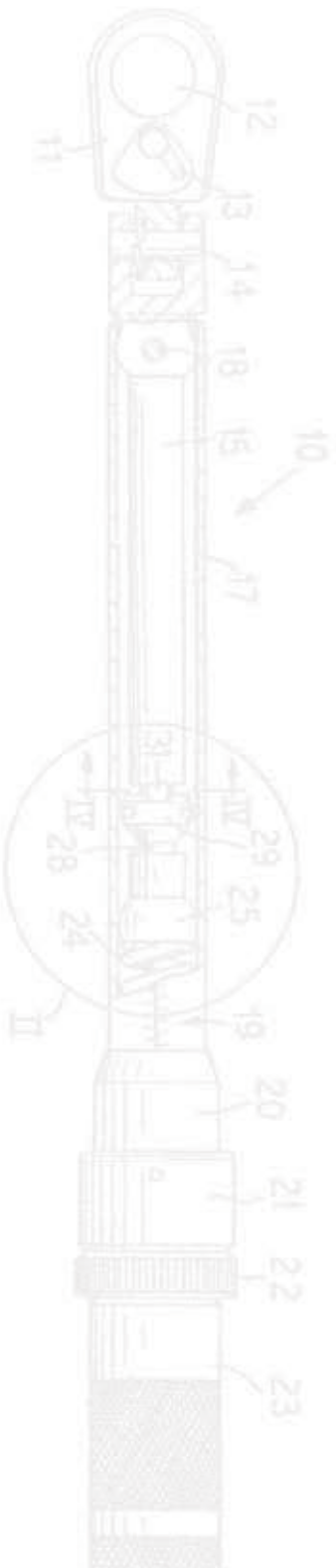
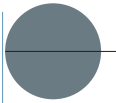
PLANT AND PROCESSES

Precision Instruments occupies two buildings with a combined 50,000 square feet of floor space in Des Plaines, Illinois. Our plant's machine shop performs press work, turning, milling, polishing, and plating. We also handle all assembly and calibrating on site.

To ensure that customers like you receive the highest quality instruments at the best value, we also utilize a strong chain of local businesses. These partnerships allow us to extend our capabilities and take advantage of many more manufacturing possibilities—all on your behalf.

At Precision Instruments, we are just as committed to you as we are to lean manufacturing. We believe that eliminating waste helps us deliver higher quality products and better customer service. Through quality control processes, inventory management, supply chain management and efficient product development, we strive to eliminate waste while maximizing value for customers like you.





Nickel Chrome Plating Department



TABLE of CONTENTS

10



DIAL TYPE WRENCHES

15 LB.IN. TO 10,000 LB.FT.
2% CW/CCW ACCURACY
1% AVAILABLE

**Dial Type
Wrenches provide
unmatched
reliability, accuracy
and durability for
applications where
torque measurement
is extremely critical.**

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MICROMETER ADJUSTABLE CLICK WRENCHES

50 LB.IN. TO 250 LB.FT.
3% CW/CCW ACCURACY

**Micrometer Click
Wrenches bring
outstanding
reliability, accuracy
and unparalleled
life to applications
where a click
wrench is more
convenient.**

20



SPLIT-BEAM CLICK WRENCHES

50 LB.FT. TO 600 LB.FT.
4% CW ACCURACY

**The Split-Beam
Click Wrench is the
perfect solution to
counter abusive
environments that
call for robust
durability, while
maintaining reliable,
accurate operation.**

DIFFERENT TORQUE NEEDS REQUIRE DIFFERENT TORQUE SOLUTIONS.

Whether the application calls for delicate fasteners at 8 ounce inch of torque, or massive bolts at 10,000 pound foot, Precision Instruments has a solution to fit your needs.

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FULLY-RELEASING AND DIAL DRIVERS

8 OZ.IN. TO 75 LB.IN.
2% CW/CCW ACCURACY FOR DIAL MODELS, 4% CW/CCW FOR FULLY-RELEASING MODELS

Drivers are recommended for applications that require the precise application of light torque.

24



TESTERS

1% ACCURACY FOR ANALOG
0.1% OF READING, PLUS ONE LEAST SIGNIFICANT DIGIT, ACCURACY FOR DIGITAL TESTERS

Analog testers are convenient, simple to use, and easily mounted to bench surfaces.

Digital testers offer unmatched accuracy and ease-of-use in one package.

30



ACCESSORIES

Deadweight test bars and weights

Adapters

Calibration tools

Repair tools

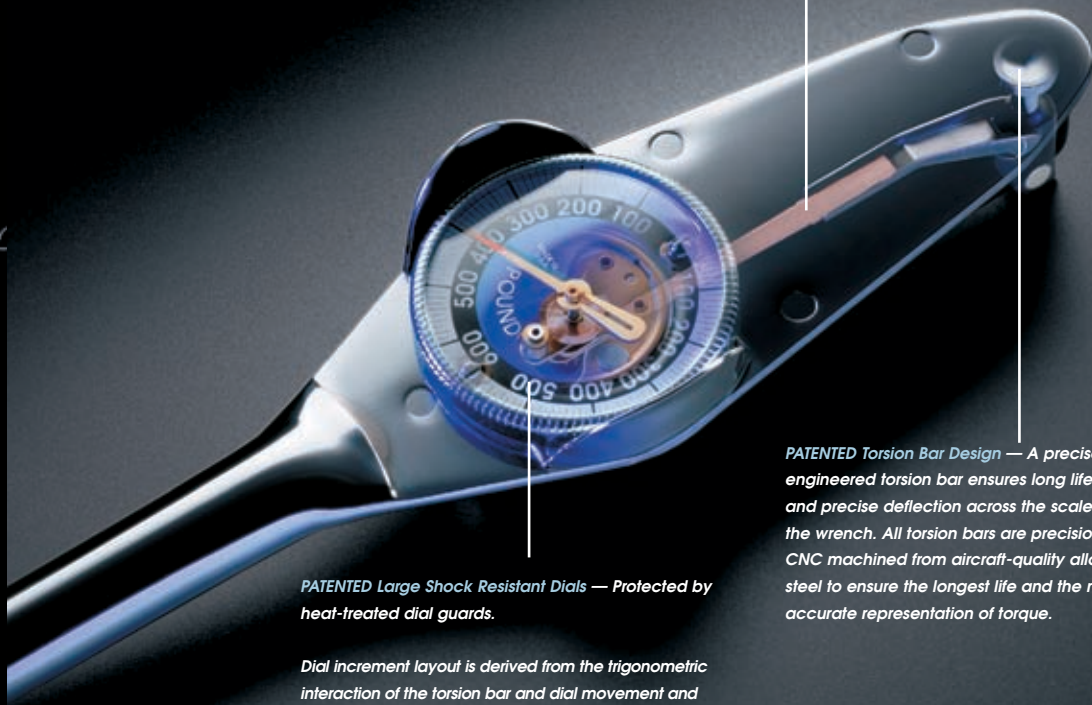
MADE IN U.S.A.





2% CLOCKWISE/COUNTERCLOCKWISE ACCURACY, 1% AVAILABLE

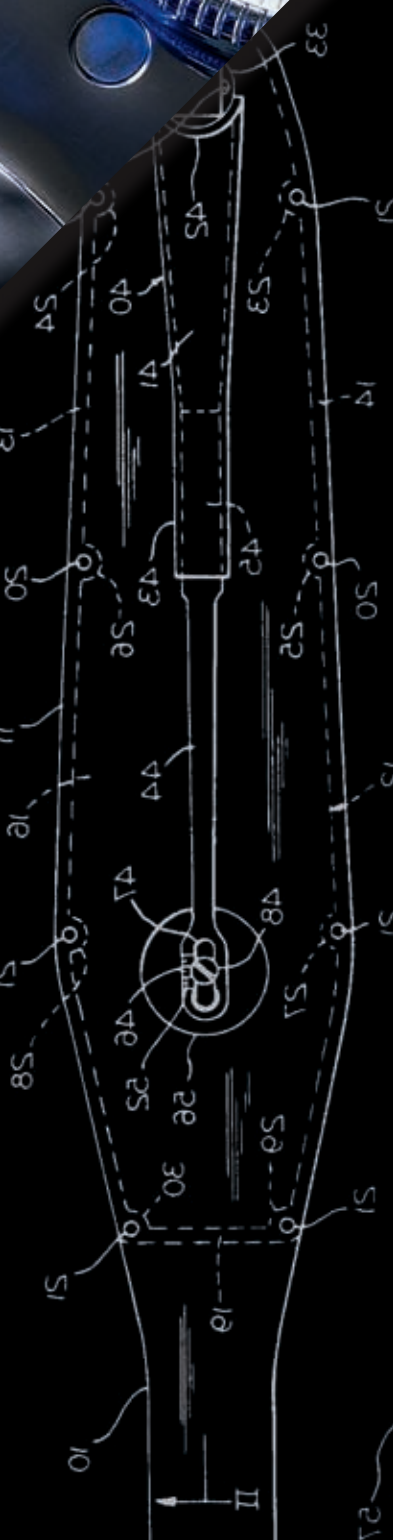
PATENTED Virtually Friction-Free Operation — A floating connecting beam between the torque measuring element and the dial mechanism has no bearing points and consequently is virtually friction-free.



PATENTED Torsion Bar Design — A precisely engineered torsion bar ensures long life and precise deflection across the scale of the wrench. All torsion bars are precision CNC machined from aircraft-quality alloy steel to ensure the longest life and the most accurate representation of torque.

PATENTED Large Shock Resistant Dials — Protected by heat-treated dial guards.

Dial increment layout is derived from the trigonometric interaction of the torsion bar and dial movement and results in the perfect synchronization of the torsion bar deflection and indicated reading.



The Dial Type Wrench family is accurate to two percent of the reading from 20 percent of full scale to full scale clockwise and counterclockwise. It is available in capacities ranging from 15 lb.in. to 3,000 lb.ft. The all steel construction and unparalleled accuracy make it an ideal solution for many different types of torque needs. Plus, since the wrench is not affected by “hand-hold position,” all wrenches may be used with an extension handle without affecting accuracy.

DIAL TYPE WRENCH



Memory Pointer Models retain the highest torque reading for easy reference. For quality control testing, a Memory Pointer Model displays the maximum reading obtained, providing an excellent tool for verifying production torque applications. They are also excellent for determining breakaway torque.



Indicator Light Models indicate once a preset torque setting has been achieved. Set the dial to the required torque, and the indicator light shines when the proper torque is reached. This indicator is particularly useful when the dial is not visible, or when a torque setting must be reached repeatedly.



Larger Dial Type Wrenches include an extension handle to help operators reach desired torque. Plus, compared to large click wrenches, dial wrenches allow operators to reach high torque settings more safely, precisely and easily.



DIAL TYPE WRENCH: HAND OPERATED

All Precision Instruments Dial Type Wrenches are comprised of all steel construction. Components are punched, drawn or machined steel. None are die-cast. Steel components combined with riveted and welded construction ensures a durable wrench with minimal FOD danger.

U.S. CUSTOMARY SYSTEM DIAL TYPE MODELS

Square Drive, inches	Basic Models	Memory Needle Models	Light Signal Models	Range	Increments	Length, inches
1/4	D1F15H	D1F15HM	-	15 lb.in.	1/4 lb.in.	9 29/32
	D1F30H	D1F30HM	-	30 lb.in.	1/2 lb.in.	9 29/32
	D1F75H	D1F75HM	-	75 lb.in.	1 lb.in.	9 29/32
3/8	D2F150H	D2F150HM	D2F150HL	150 lb.in.	2 1/2 lb.in.	9 29/32
	D2F300H	D2F300HM	D2F300HL	300 lb.in.	5 lb.in.	9 29/32
	D2F600H	D2F600HM	D2F600HL	600 lb.in.	10 lb.in.	12 1/2
	D2F12F	D2F12FM	D2F12FL	12 lb.ft.	1/2 lb.ft.	9 29/32
	D2F25F	D2F25FM	D2F25FL	25 lb.ft.	1/2 lb.ft.	9 29/32
	D2F50F	D2F50FM	D2F50FL	50 lb.ft.	1 lb.ft.	12 1/2
1/2	D3F600H	D3F600HM	D3F600HL	600 lb.in.	10 lb.in.	15
	D3F50F	D3F50FM	D3F50FL	50 lb.ft.	1 lb.ft.	15
	D3F100F	D3F100FM	D3F100FL	100 lb.ft.	1 lb.ft.	16
	D3F175F	D3F175FM	D3F175FL	175 lb.ft.	2 1/2 lb.ft.	18 3/4
	D3F250F	D3F250FM	D3F250FL	250 lb.ft.	5 lb.ft.	23 3/4
3/4	D4F350F	D4F350FM	D4F350FL	350 lb.ft.	5 lb.ft.	29 7/8
	D4F600F	D4F600FM	D4F600FL	600 lb.ft.	10 lb.ft.	40 7/8
1	D5F800F	D5F800FM	D5F800FL	800 lb.ft.	10 lb.ft.	66 13/16
	D5F1000F	D5F1000FM	D5F1000FL	1000 lb.ft.	10 lb.ft.	66 13/16
	D5F1500F	D5F1500FM	D5F1500FL	1500 lb.ft.	25 lb.ft.	80
	D5F2000F	D5F2000FM	D5F2000FL	2000 lb.ft.	25 lb.ft.	80
1 1/2	D6F2000F	D6F2000FM	D6F2000FL	2000 lb.ft.	25 lb.ft.	80
	D6F3000F	D6F3000FM	D6F3000FL	3000 lb.ft.	50 lb.ft.	140

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.



DIAL TYPE WRENCH: HAND OPERATED



COMBINATION U.S. CUSTOMARY SYSTEM AND N·m DIAL TYPE MODELS

Square Drive, Inches	Basic Models	Memory Needle Models	Light Signal Models	U.S. Range	U.S. Increments	N·m Range	N·m Increments	N·m Increments
1/4	D1F15CHN	D1F15CHNM	-	15 lb.in.	1/2 lb.in.	1.7 N·m	0.05 N·m	9 29/32
	D1F30CHN	D1F30CHNM	-	30 lb.in.	1 lb.in.	3.5 N·m	0.1 N·m	9 29/32
	D1F75CHN	D1F75CHNM	-	75 lb.in.	1 lb.in.	8.4 N·m	0.2 N·m	9 29/32
3/8	D2F150CHN	D2F150CHNM	D2F150CHNL	150 lb.in.	5 lb.in.	17 N·m	0.5 N·m	9 29/32
	D2F300CHN	D2F300CHNM	D2F300CHNL	300 lb.in.	5 lb.in.	32 N·m	0.5 N·m	9 29/32
	D2F600CHN	D2F600CHNM	D2F600CHNL	600 lb.in.	20 lb.in.	60 N·m	1 N·m	12 1/2
1/2	D3F600CHN	D3F600CHNM	D3F600CHNL	600 lb.in.	20 lb.in.	60 N·m	1 N·m	15
	D3F100CFN	D3F100CFNM	D3F100CFNL	100 lb.ft.	2 lb.ft.	140 N·m	5 N·m	16
	D3F175CFN	D3F175CFNM	D3F175CFNL	175 lb.ft.	5 lb.ft.	230 N·m	10 N·m	18 3/4
	D3F250CFN	D3F250CFNM	D3F250CFNL	250 lb.ft.	10 lb.ft.	340 N·m	10 N·m	23 3/4
3/4	D4F350CFN	D4F350CFNM	D4F350CFNL	350 lb.ft.	5 lb.ft.	480 N·m	10 N·m	29 7/8
	D4F600CFN	D4F600CFNM	D4F600CFNL	600 lb.ft.	20 lb.ft.	800 N·m	20 N·m	40 7/8
1	D5F1000CFN	D5F1000CFNM	D5F1000CFNL	1000 lb.ft.	20 lb.ft.	1360 N·m	20 N·m	66 13/16

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

COMBINATION U.S. CUSTOMARY SYSTEM AND METRIC SYSTEM DIAL TYPE MODELS

Square Drive, Inches	Basic Models	Memory Needle Models	Light Signal Models	U.S. Range	U.S. Increments	Metric Range	Metric Increments	N·m Increments
1/4	D1F15CHK	D1F15CHKM	-	15 lb.in.	1/2 lb.in.	16 Kg·cm	1 Kg·cm	9 29/32
	D1F30CHK	D1F30CHKM	-	30 lb.in.	1 lb.in.	35 Kg·cm	1 Kg·cm	9 29/32
	D1F75CHK	D1F75CHKM	-	75 lb.in.	1 lb.in.	90 Kg·cm	2.5 Kg·cm	9 29/32
3/8	D2F150CHK	D2F150CHKM	D2F150CHKL	150 lb.in.	5 lb.in.	175 Kg·cm	5 Kg·cm	9 29/32
	D2F300CHK	D2F300CHKM	D2F300CHKL	300 lb.in.	5 lb.in.	350 Kg·cm	10 Kg·cm	9 29/32
	D2F600CHK	D2F600CHKM	D2F600CHKL	600 lb.in.	20 lb.in.	700 Kg·cm	20 Kg·cm	12 1/2
1/2	D3F600CHK	D3F600CHKM	D3F600CHKL	600 lb.in.	20 lb.in.	700 Kg·cm	20 Kg·cm	15
	D3F100CFM	D3F100CFMM	D3F100CFML	100 lb.ft.	2 lb.ft.	14 Kg·m	0.5 Kg·m	16
	D3F175CFM	D3F175CFMM	D3F175CFML	175 lb.ft.	5 lb.ft.	25 Kg·m	1 Kg·m	18 3/4
	D3F250CFM	D3F250CFMM	D3F250CFML	250 lb.ft.	10 lb.ft.	35 Kg·m	1 Kg·m	23 3/4
3/4	D4F350CFM	D4F350CFMM	D4F350CFML	350 lb.ft.	10 lb.ft.	50 Kg·m	1 Kg·m	29 7/8
	D4F600CFM	D4F600CFMM	D4F600CFML	600 lb.ft.	20 lb.ft.	80 Kg·m	2 Kg·m	40 7/8
1	D5F800CFM	D5F800CFMM	D5F800CFML	800 lb.ft.	25 lb.ft.	110 Kg·m	2 Kg·m	66 13/16
	D5F1000CFM	D5F1000CFMM	D5F1000CFML	1000 lb.ft.	20 lb.ft.	136 Kg·m	2 Kg·m	66 13/16
	D5F1500CFM	D5F1500CFMM	D5F1500CFML	1500 lb.ft.	25 lb.ft.	200 Kg·m	5 Kg·m	80
	D5F2000CFM	D5F2000CFMM	D5F2000CFML	2000 lb.ft.	50 lb.ft.	280 Kg·m	5 Kg·m	80
1 1/2	D6F2000CFM	D6F2000CFMM	D6F2000CFML	2000 lb.ft.	50 lb.ft.	280 Kg·m	5 Kg·m	80
	D6F3000CFM	D6F3000CFMM	D6F3000CFML	3000 lb.ft.	50 lb.ft.	400 Kg·m	5 Kg·m	140

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

DIAL TYPE WRENCH: MULTIPLIER DRIVEN INDICATOR



The DX7F10000F 2 1/2" square drive, 10,000 lb.ft. Multiplier Driven Indicator.

Even big jobs can achieve 2% accuracy with a DX indicator.

COMBINATION U.S. CUSTOMARY SYSTEM AND METRIC SYSTEM MULTIPLIER DRIVEN INDICATORS

Input Drive Female Square, inches	Output Drive Male Square, inches	Memory Needle Models	Light Signal Models	Range lb.ft.	Increments lb.ft.	Range Kg-m	Increments Kg-m
3/4	3/4	DX4F600CFMM	DX4F600CFML	600	20	80	2
1	1	DX5F1000CFMM	DX5F1000CFML	1000	20	136	2
	1	DX5F1500CFMM	DX5F1500CFML	1500	25	200	5
	1	DX5F2000CFMM	DX5F2000CFML	2000	50	280	5
1 1/2	1 1/2	DX6F2000CFMM	DX6F2000CFML	2000	50	280	5
	1 1/2	DX6F3000CFMM	DX6F3000CFML	3000	100	400	5
	1 1/2	DX6F4000CFMM	DX6F4000CFML	4000	50	550	10
2 1/2	2 1/2	DX7F10000CFMM	DX7F10000CFML	10000	100	1400	20

See U.S. Reading Models Chart for T-Bar and Extension Options.

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

U.S. CUSTOMARY SYSTEM MULTIPLIER DRIVEN INDICATORS

Input Drive Female Square, inches	Output Drive Male Square, inches	Memory Needle Models	Light Signal Models	Range lb.ft.	Range lb.ft.	Optional "T" Bars/Length	Optional Extension Handles/Length
3/4	3/4	DX4F600FM	DX4F600FL	600	10	79TQP — 45"	-
1	1	DX5F1000FM	DX5F1000FL	1000	10	81TQP — 66"	-
	1	DX5F1500FM	DX5F1500FL	1500	25	82TQP — 45"	85TQP — 31"
	1	DX5F2000FM	DX5F2000FL	2000	25	82TQP — 18"	85TQP — 31"
1 1/2	1 1/2	DX6F2000FM	DX6F2000FL	2000	25	82TQP — 18"	85TQP — 31"
	1 1/2	DX6F3000FM	DX6F3000FL	3000	50	83TQP — 18"	87TQP — 66"
	1 1/2	DX6F4000FM	DX6F3000FL	4000	50	83TQP — 18"	87TQP — 66"
2 1/2	2 1/2	DX7F10000FM	DX7F10000FL	10000	100	-	-

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

DIAL TYPE WRENCH: MULTIPLIER DRIVEN INDICATOR

Multiplier Driven Dial Indicators are perfect for applications where accuracy is required and a torque multiplier is more convenient than a wrench. The indicator has a male square drive on the bottom that interfaces with the socket or fastener; on the top is a female square that accepts the multiplier. This configuration allows the indicator to display the true torque delivered to the fastener even when the multiplier accuracy is uncertain. T-handles are available for torque application without a multiplier.



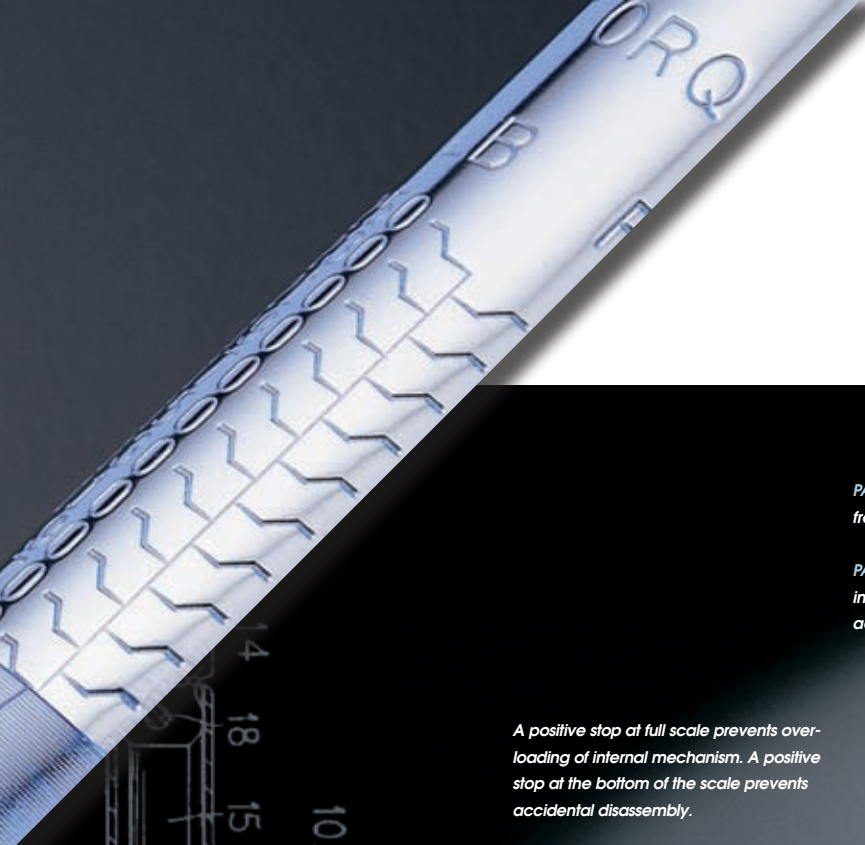
Multiplier Driven Dial Indicator



Torque Multiplier

Torque multipliers can be used with DX torque multiplier indicators. Operators can “multiply” the output of ratchet wrenches to achieve much higher torque settings. These multipliers are especially helpful in certain situations, such as when space is limited and long extension handles aren’t feasible or when hydraulics are impractical for producing high torque inputs.

3% CLOCKWISE/COUNTERCLOCKWISE ACCURACY



PATENTED — Full torque release roller allows virtual friction free click and release even at low torque settings.

PATENTED — Clockwise/Counterclockwise operation with internal balance cam allows for the same accuracy to be achieved in either direction.

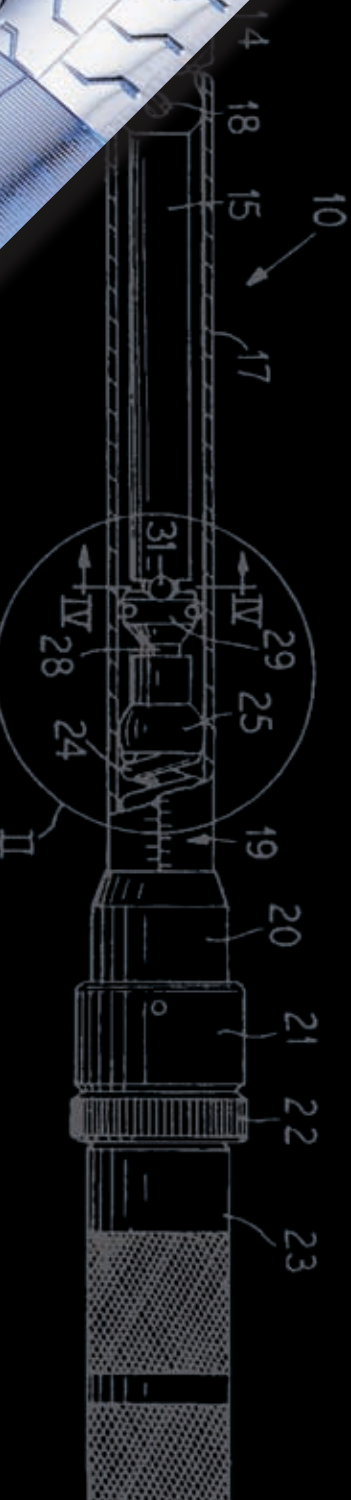
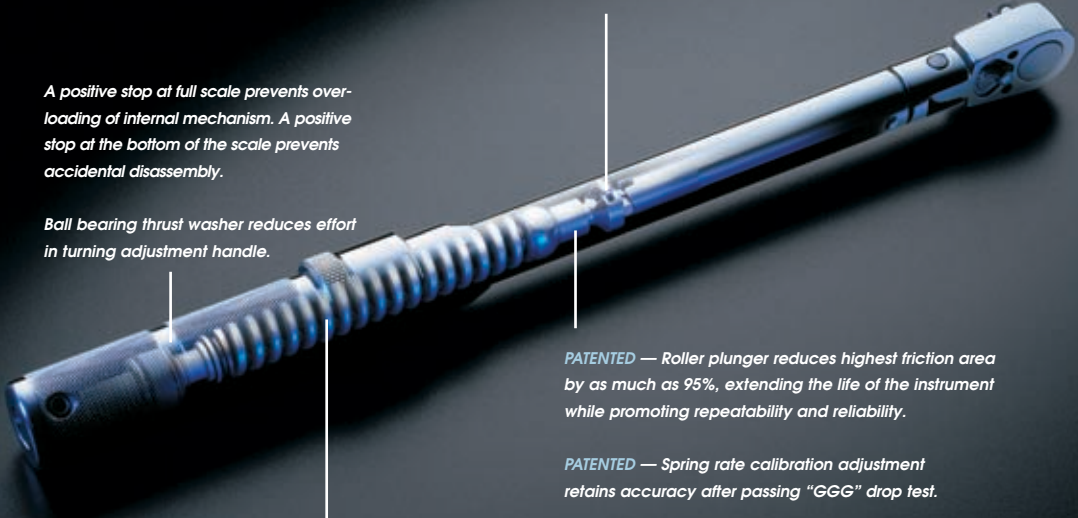
A positive stop at full scale prevents overloading of internal mechanism. A positive stop at the bottom of the scale prevents accidental disassembly.

Ball bearing thrust washer reduces effort in turning adjustment handle.

PATENTED — Roller plunger reduces highest friction area by as much as 95%, extending the life of the instrument while promoting repeatability and reliability.

PATENTED — Spring rate calibration adjustment retains accuracy after passing "GGG" drop test.

PATENT PENDING — Lock ring maintains wrench setting, is easy to operate with one hand and designed for a long life.



Engineered, precision bearing surfaces extend the calibrated life of the M line to as many as 60,000 cycles or more and ensure the most reliable performance possible. In addition to flawless operation at release, calibration is completely external, unlike traditional mechanisms that require disassembly and the replacement of blocks and shims. Meets or exceeds ANSI/ASME B107.14m, GGG-W-686C, GGG-W-2843 and ISO6789.

MICROMETER ADJUSTABLE CLICK WRENCH

The Precision Instruments M2FR100F 100 lb.ft. flex-head Micrometer Click Wrench.

The M line is the ultimate in reliable, dependable, and accurate micrometer click wrenches.



U.S. CUSTOMARY SYSTEM MICROMETER ADJUSTABLE CLICK MODELS						
Square Drive, inches	Stock Code	Head Style	Range		Increments	Length, inches
			Minimum	Maximum		
Pound Inch Models						
1/4	M1R50H	Fixed-Ratchet	10 lb.in.	50 lb.in.	0.25 lb.in.	9 29/32
	M1R200H	Fixed-Ratchet	40 lb.in.	200 lb.in.	1 lb.in.	9 29/32
3/8	M2R200H	Fixed-Ratchet	40 lb.in.	200 lb.in.	1 lb.in.	9 29/32
	M2R1000H	Fixed-Ratchet	200 lb.in.	1,000 lb.in.	5 lb.in.	15
	M2FR1000H	Flex-Ratchet	200 lb.in.	1,000 lb.in.	5 lb.in.	15
1/2	M3R2500H	Fixed-Ratchet	500 lb.in.	2,500 lb.in.	10 lb.in.	22 1/2
Pound Foot Models						
3/8	M2R100F	Fixed-Ratchet	20 lb.ft.	100 lb.ft.	0.5 lb.ft.	15
	M2FR100F	Flex-Ratchet	20 lb.ft.	100 lb.ft.	0.5 lb.ft.	15
1/2	M3R250F	Fixed-Ratchet	50 lb.ft.	250 lb.ft.	1 lb.ft.	22 1/2

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.



4% CLOCKWISE ACCURACY

The wrench length is designed to provide the leverage required for maximum torque applications and reach for hard-to-get-at places.

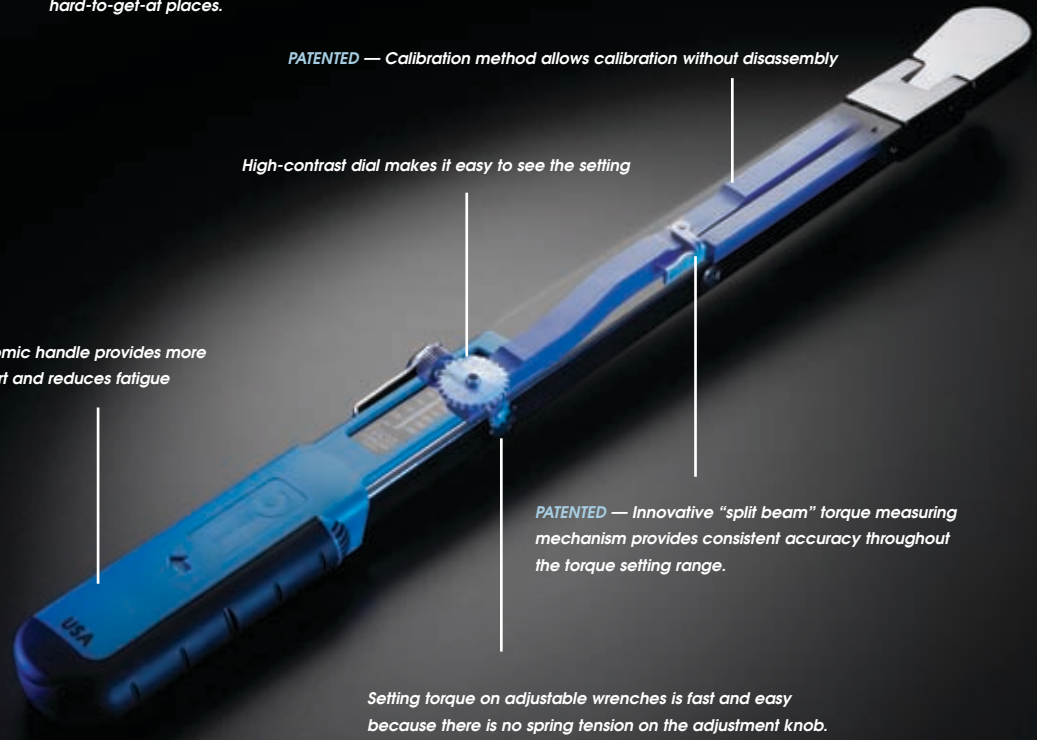
PATENTED — Calibration method allows calibration without disassembly

High-contrast dial makes it easy to see the setting

Ergonomic handle provides more comfort and reduces fatigue

PATENTED — Innovative "split beam" torque measuring mechanism provides consistent accuracy throughout the torque setting range.

Setting torque on adjustable wrenches is fast and easy because there is no spring tension on the adjustment knob.



NAME PLATE
MODEL, SERIAL # & CONVERSION CHART

The Split-Beam Click Wrench family is easy to set and does not need to be "turned down" after use—saving time when the application requires frequent changing of the torque setting. The high-contrast dial makes it easy to read the torque setting, and sturdy construction allows this wrench to perform for years, even in harsh environments.

SPLIT-BEAM CLICK WRENCH: ADJUSTABLE

The C4 family of Split-Beam Click Wrenches works in clockwise and counterclockwise directions, stores easily and includes a convenient storage case. Because they take up less space than larger micrometer click wrenches, these tools can even be stored in truck cabs or roll cabs. The tools “break down” into three components: ratchet, torque body and extension tube. To help busy operators, the extension tube includes instructions on rotating the ratchet for counter-clockwise operation.



U.S. CUSTOMARY SYSTEM SPLIT-BEAM CLICK MODELS

Square Drive, inches	Stock Code	Head Style	Range		Increments	Length, inches
			Minimum	Maximum		
3/8	C2FR600H	Flex-Ratchet	100 lb.in.	600 lb.in.	10 lb.in.	17 5/8
	C2FR100F	Flex-Ratchet	20 lb.ft.	100 lb.ft.	2 lb.ft.	17 5/8
	C2R100F	Fixed-Ratchet	20 lb.ft.	100 lb.ft.	2 lb.ft.	17 5/8
1/2	C3FR250F	Flex-Ratchet	40 lb.ft.	250 lb.ft.	5 lb.ft.	22 1/8
	C3R250F	Fixed-Ratchet	40 lb.ft.	250 lb.ft.	5 lb.ft.	22 1/8
	C3F250F	Fixed-Drive	50 lb.ft.	250 lb.ft.	5 lb.ft.	18 1/2
3/4 (shown above)	C4D400F	Detach-Ratchet	130 lb.ft.	400 lb.ft.	10 lb.ft.	33 1/2
	C4D600F	Detach-Ratchet	200 lb.ft.	600 lb.ft.	10 lb.ft.	48
1	C5D400F	Detach-Ratchet	130 lb.ft.	400 lb.ft.	10 lb.ft.	33 1/2
	C5D600F	Detach-Ratchet	200 lb.ft.	600 lb.ft.	10 lb.ft.	48

The C4R600F and C4R400F disassemble to fit easily in storage cabinets. Scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.



SPLIT-BEAM CLICK WRENCH: PRESET



The CP3F250F 250 lb.ft. Preset Split-Beam Click Wrench.

Tamper proof with extremely long shelf life, the CP presets are perfect for kit applications

PRESET WRENCHES

Square Drive, inches	Stock Code	Head Style	Range		Length, inches
			Minimum	Maximum	
1/2	CP3F250F	Fixed-Drive	50 lb.ft.	250 lb.ft.	33 13/64
	CP3FR250F	Flex-Ratchet	50 lb.ft.	250 lb.ft.	33 13/64
3/4	CP4D600F	Detach-Ratchet	200 lb.ft.	600 lb.ft.	48 29/64

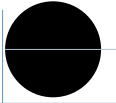
Scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com

METRIC SYSTEM SPLIT-BEAM CLICK MODELS

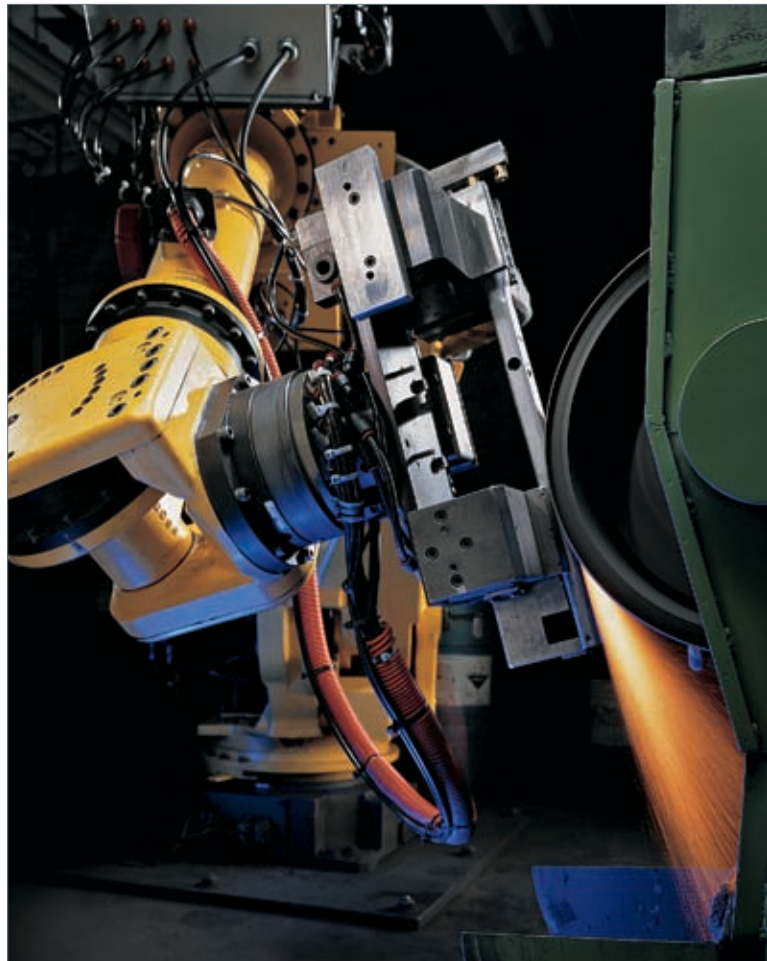
Square Drive, inches	Stock Code	Head Style	Range		Increments	Length, inches
			Minimum	Maximum		
<i>Kg·m wrenches</i>						
3/8	C2FR15M	Flex-Ratchet	2.2 Kg·m	14 Kg·m	0.2 Kg·m	17 5/8
1/2	C3FR34M	Flex-Ratchet	5.0 Kg·m	34 Kg·m	1.0 Kg·m	22 1/8
	C3F34M	Fixed-Drive	7.0 Kg·m	34 Kg·m	1.0 Kg·m	18 1/2
3/4	C4D80M	Detach-Ratchet	26.0 Kg·m	80 Kg·m	2.0 Kg·m	48
<i>N·m wrenches</i>						
3/8	C2FR68N	Flex-Ratchet	14 N·m	68 N·m	2 N·m	17 5/8
	C2FR130N	Flex-Ratchet	25 N·m	130 N·m	5 N·m	17 5/8
1/2	C3FR350N	Flex-Ratchet	60 N·m	350 N·m	5 N·m	22 1/8
3/4	C4D800N	Detach-Ratchet	140 N·m	800 N·m	20 N·m	48

Scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com

Many times during assembly and kit applications it is advantageous to prevent the operator from adjusting the torque setting. Preset Split-Beam Click Wrenches prevent unintentional adjusting of torque because they do not have an adjusting knob. Since the CP series does not employ a coil spring, it is the only click wrench available that can endure long periods of time at high preset values. Specify the preset value when ordering, or adjust the tool using a torque tester and adjusting tool available from your Precision distributor.



Robotic Polishing / Sandblasting Cell





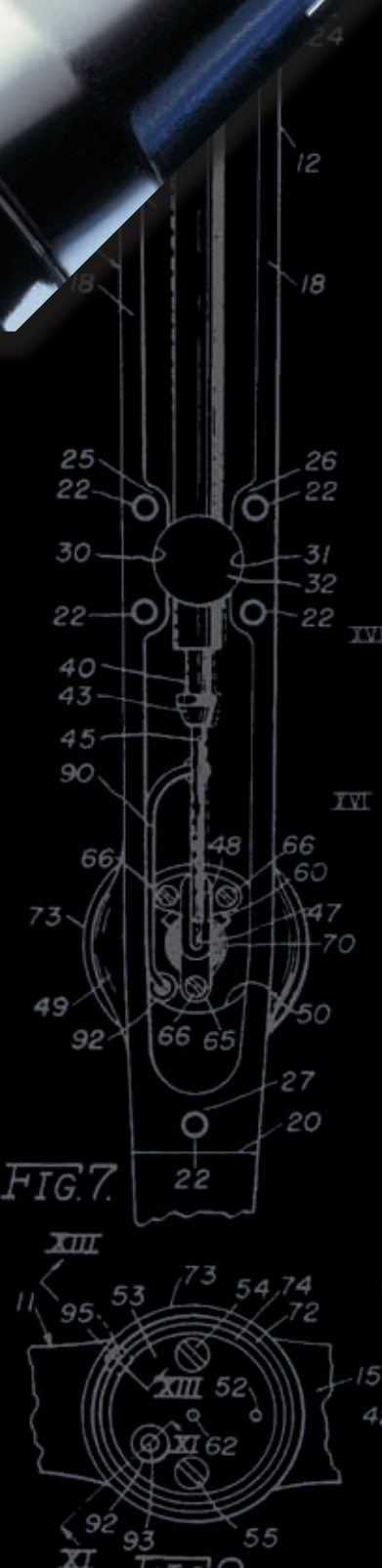
The MDP1F35H model is preset (using a torque tester) to a torque setting between 5 & 35 lb.in. and then locked to prevent adjustment in the field. The body is constructed from steel and anodized aluminum, CNC machined knurled grip handle, 1/4" male output drive and are packaged in a heavy duty plastic storage box. Accuracy is 3% for the MDP.



The MD1F35H has a range of 5 to 35 lb.in. The body is constructed from steel and anodized aluminum, CNC machined knurled grip handle, 1/4" male output drive and are packaged in a heavy duty plastic storage box. Accuracy is 4% for the MD.



With 112 standard models available from 8 oz.in. to 75 lb.in. and standard accuracy of 2% of the reading from 20% of full scale to full scale there is a dial driver model for any application. The largest models (50 & 75 lb.in. capacity) include 1/4" female input squares in the handle for attaching a T-handle or ratchet. Memory pointer models are available.





Just as screwdrivers are more convenient than ratchet wrenches for some applications, torque drivers are sometimes more convenient to use than torque wrenches. Fuel-injectors and fasteners for aircraft skin are two examples of low-torque applications where tolerance is extremely tight and a torque driver makes sense. Also, Torque drivers are not handhold sensitive which make them a better alternative than click wrenches for delicate applications.

U.S. CUSTOMARY SYSTEM DIAL MODELS				
Standard Basic Models	Memory Needle Models	Length, inches	Range	Increments
DS1F8Z	DS1F8ZM	7 3/4	8 oz.in.	1/4 oz.in.
DS1F16Z	DS1F16ZM	7 3/4	16 oz.in.	1/2 oz.in.
DS1F24CZH	DS1F24CZHM	7 3/4	24 oz.in.	1/2 oz.in.
			1 1/2 lb.in.	1/32 lb.in.
DS1F48CZH	DS1F48CZHM	7 3/4	48 oz.in.	1 oz.in.
			3 lb.in.	1/16 lb.in.
DS1F96CZH	DS1F96CZHM	7 3/4	96 oz.in.	2 oz.in.
			6 lb.in.	1/8 lb.in.
DS1F192CZH	DS1F192CZHM	7 3/4	192 oz.in.	4 oz.in.
			12 lb.in.	1/4 lb.in.
DS1F384CZH	DS1F384CZHM	7 3/4	384 oz.in.	8 oz.in.
			24 lb.in.	1/2 lb.in.
DS1F480CZH	DS1F480CZHM	7 3/4	480 oz.in.	12 oz.in.
			30 lb.in.	1 lb.in.
DS1F50H	DS1F50HM	8 11/16	50 lb.in.	1 lb.in.
DS1F75H	DS1F75HM	8 11/16	75 lb.in.	1 lb.in.

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

Stock code	Range		Length, inches
	Minimum	Maximum	
MD1F35H	5 lb.in.	35 lb.in.	7
MDP1F35H	5 lb.in.*	35 lb.in.*	7 1/2

* represents the range of valid preset values for the wrench. Wrench is not adjustable without calibration tools and a corresponding tester. Wrench is set to 20 lb.in. by default.

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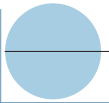


1% CLOCKWISE/COUNTERCLOCKWISE ACCURACY



Analog testers offer flexible, simple and affordable solutions for verifying calibration of torque equipment. The TU series upright torque testers are designed for use on top of workbench tables or roll cabs. The TB series horizontal bench testers are designed for mounting on workbench tables or roll cabs with rigid tops.

BENCH MOUNTED ANALOG TESTER



The TB2F200F Bench Model Tester.

Accurate torque standards need not be complicated. The TB and TU standards provide accurate, reliable operation in an easy to use package.



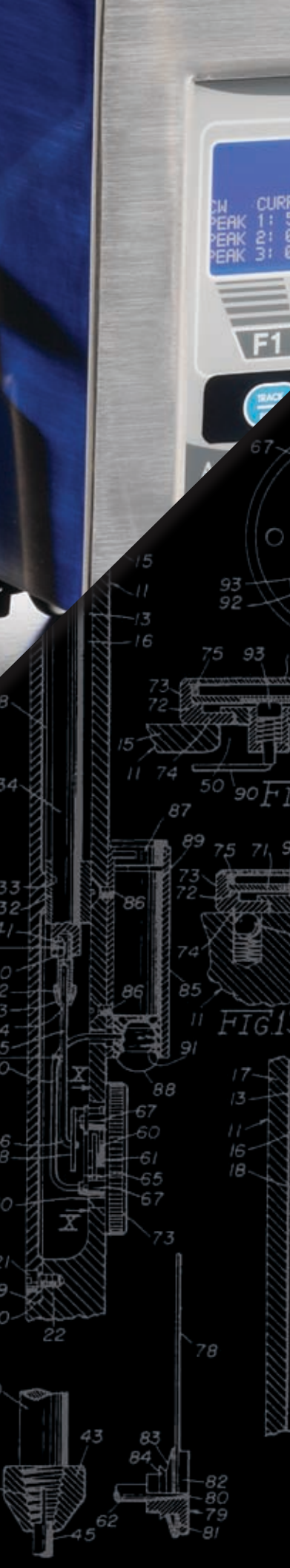
COMBINATION U.S. CUSTOMARY SYSTEM AND N·m UPRIGHT TESTERS					
Square Drive, inches	Stock No.	U.S. Range	U.S. Increments	N·m Range	N·m Increments
1/4	TU1F100CZN	100 oz.in.	1 oz.in.	0.7	0.01
	TU1F250CZN	240 oz.in.	4 oz.in.	1.7	0.025
	TU1F30CHN	30 lb.in.	1/2 lb.in.	3.4	0.05
	TU1F75CHN	75 lb.in.	1 lb.in.	3.5	0.05
3/8	TU2F150CHN	150 lb.in.	1 lb.in.	16.8	0.1
	TU2F200CHN	200 lb.in.	2 lb.in.	22	0.5
	TU2F300CHN	300 lb.in.	5 lb.in.	34	0.5
	TU2F600CFN	600 lb.in.	5 lb.in.	66	1

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

COMBINATION U.S. CUSTOMARY SYSTEM AND N·m BENCH TESTERS						
Square Drive, inches	Stock No.	U.S. Range	U.S. Increments	N·m Range	N·m Increments	Square Drive Adaptors (included), inches
1/2	TB3F200CHN	200 lb.in.	1 lb.in.	22	0.5	1/4, 3/8, 1/2
	TB3F300CHN	300 lb.in.	2 lb.in.	34	0.5	1/4, 3/8, 1/2
	TB3F600CHN	600 lb.in.	5 lb.in.	66	1	1/4, 3/8, 1/2
	TB3F1200CHN	1200 lb.in.	5 lb.in.	132	2	3/8, 1/2
	TB3F200CFN	200 lb.ft.	1 lb.ft.	270	5	1/2, 3/4
3/4	TB4F300CFN	300 lb.ft.	2 lb.ft.	400	5	1/2, 3/4
	TB4F500CFN	500 lb.ft.	5 lb.ft.	680	5	1/2, 3/4
	TB4F600CFN	600 lb.ft.	5 lb.ft.	800	10	1/2, 3/4
1	TB5F1000CFN	1000 lb.ft.	10 lb.ft.	1350	10	1/2, 3/4, 1

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.





RS-232 OUTPUT OF READINGS



Electronic testers from Precision Instruments offer superb accuracy and flexibility in an easy to use package. The vertical and horizontal testers utilize NIST electronics to ensure compliance with calibration traceability standards. Plus, RS-232 output of readings allows the unit to be integrated into applications that customers develop. The TMH600F horizontal tester includes three transducers in 200 lb.in., 100 lb.ft. and 600 lb.ft. capacities.

DIGITAL MASTER TESTER

The TMV5F1000F 1,000 lb.ft. Vertical Master Tester.

Precision Instruments' digital test equipment meets every need for the most demanding calibration requirements.



VERTICAL MASTER TESTERS					
Stock Code	Range	Female sq. dr. inches	Depth, inches	Width, inches	Height, inches
TMV3F100H	100 lb.in.	1/2	21	27	37 1/2
TMV3F50F	50 lb.ft.	1/2	21	27	37 1/2
TMV5F1000F	1000 lb.ft.	1	25	36	72
TMV6F2000F	2000 lb.ft.	1 1/2	25	48 1/2	72

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.

TRANSDUCERS FOR USE WITH THE TMH LOADER			
Stock Code	Range	Female sq. dr. inches	Length, inches
TT2F200H	200 lb.in.	3/8	5 1/2
TT3F100F	100 lb.ft.	1/2	5 1/2
TT4F600F	600 lb.ft.	3/4	5 1/2

Special scales not listed may be available upon request. Please contact your Precision Instruments' sales representative for more information. For more detailed information regarding specifications, dimensions, etc., please consult our website at: www.torqwrench.com.





Conducting your own calibration checks with our Analog Torque Comparator saves you time and money. Now you can know for certain whether or not tools need to be calibrated—before you send them off-site. Plus, the comparator helps you identify out-of-calibration tools before they lead to damage and needless repairs. Finally, rest assured that the comparator will last. The sturdy construction and internal components are based on the 35-year-old time-tested design of our PO Dial Series.

ANALOG TORQUE COMPARATOR

ANALOG TORQUE COMPARATOR			
Stock Code	Square Drive	U.S. Range	U.S. Increments
TC3F175F	1/2"	175 lb.ft.	5 lb.ft.
TC4F600F	3/4"	600 lb.ft.	10 lb.ft.



ACCESSORIES



Test bars are the length standard used when calibrating test equipment. Test Bars combined with Class F weights provide a consistent, stable and accurate torque standard for the calibration of test equipment. Each bar is Precision machined to ensure the ultimate in length standard, 0.01%. That is less than one human hair per 3 feet.



Torque wrenches apply exceptional stress and fatigue to a ratchet. To counteract this, Precision Instruments' ratchets are Precision machined from alloy steel and employ a patented pawl biasing mechanism that leaves more of the ratchet body intact, resulting in the strongest, most accurate ratchet available.



Optional Precision certificates provide all information necessary to trace results to off-site NIST standards. The certificate indicates the requisite readings, tester calibration information, and test bar and weights used to calibrate the tester. The NIST numbers for the weights are specified which takes the calibration information directly to the NIST test.

Calibration of torque wrenches requires Precision adapters that have perfectly concentric interfaces. Adapters are available for every Precision Instruments calibration system. Precision Instruments ensures that both surfaces of the adapter are true, square and concentric.



A full range of calibration and repair tools are available for all Precision Instruments' tools. Please consult with your Precision Instruments' sales representative for more information concerning calibration and repair tools for specific needs.



APPENDIX

ADDITIONAL QUESTIONS

Thank you for considering Precision Instruments for your torque equipment needs. This catalog does not contain all technical and dimensional information about the tools we offer, nor does it contain every model available. For a comprehensive list of tools and for more technical information, please visit our website at www.torqwrench.com. Also, more specific materials may be available from your Precision distributor that detail particular items of interest.

CONVERSION CHART

A simple conversion chart can be of immense assistance for even simple applications. Precision Instruments offers more technical data on both the website, and in the user manuals.

CONVERSION OF VARIOUS UNITS OF TORQUE					
From	To	Multiply	From	To	Multiply
lb.in.	oz.in	16	oz.in.	lb.in.	0.0625
lb.in.	lb.ft.	0.08333	lb.ft.	lb.in.	12
lb.in.	Kg.cm.	1.1519	Kg.cm.	lb.in.	0.8681
lb.in.	Kg.m.	0.011519	Kg.m.	lb.in.	86.81
lb.in.	N·m	0.133	N·m	lb.in.	8.85
lb.in.	DN·m	1.13	DN·m	lb.in.	0.885
lb.in.	Kg.m.	0.1382	Kg.m.	lb.ft.	7.236
lb.in.	N·m	1.356	N·m	lb.ft.	0.7376
N·m	DN·m	10	DN·m	N·m	0.10
N·m	Kg.cm.	10.2	Kg.cm.	N·m	0.09807
N·m	Kg.m.	0.102	Kg.m.	N·m	9.807

REPAIR AND CALIBRATION

Calibration and repair of Precision Instruments' tools should be directed to Precision Instruments via the telephone number and address listed in 'Contact Information' on the next page. It is recommended that wrenches be calibrated at least every 6 months, however, some applications may require more frequent calibration. Please consult the website or call Engineering Assistance for help in determining an optimum calibration schedule.



SALES INFORMATION, INCLUDING FINDING A DISTRIBUTOR NEAR YOU:

Phone: (866) 897.3624, 7 a.m. – 3:30 p.m. CT, Monday-Friday
Fax: (847) 824.7629, 24 hours a day, 7 days a week
E-mail: sales@torqwrench.com

ENGINEERING ASSISTANCE

Phone: (847) 824-4194, 7 a.m. – 3:30 p.m. CT, Monday-Friday

REPAIR AND CALIBRATION

Phone: (866) 897.3624, 7 a.m. – 3:30 p.m. CT, Monday-Friday
Mail to: Precision Instruments, Inc. 1846 Miner Street, Des Plaines, IL 60016

WARRANTY

Precision Instruments warrants that Precision Torque products are free from defects in workmanship and materials. Precision Instruments will repair or replace these tools which fail to give satisfactory service due to defective workmanship or materials. This warranty for Precision Instruments torque products is for ONE YEAR from the date of the original purchase. Repair or replacement shall be at the election and expense of Precision Instruments. Except where unreasonable, the product must be returned to Precision Instruments for warranty service. Precision Instruments does not provide any warranty for products subjected to abnormal use. Abnormal use includes, but is not limited to, misuse, modification, unreasonable use, neglect, lack of maintenance, or use after the tool is significantly worn. Specifically, damage caused to tools by use in excess of their rated capacity is NOT covered by this warranty. Always be sure to use the tool within the range specified for the tool.

For the full text of the warranty, please contact Precision Instruments, Inc.

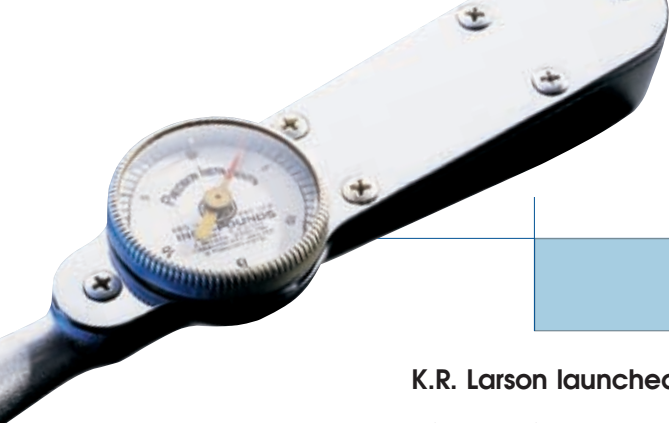
LIMITATION OF LIABILITY

Neither Precision Instruments, Inc. nor any party involved in creating, producing or delivering this catalog will be liable for any damages or injury that accompany or result from use of this catalog. Nor will any such party be liable for any direct, incidental, consequential, indirect, or punitive damages, or any other losses, costs, or expenses of any kind which may arise, directly, or indirectly from this catalog, including but not limited to, anything caused by incomplete or inaccurate information.

REVISIONS AND CONSENTS

Precision Instruments, Inc. reserves the right to revise this catalog at any time and for any reason. We also reserve the right to make changes at any time, without notice or obligation, to any of the information contained in this catalog, including but not limited to accuracy specifications, dimensions or product availability.





HISTORY

K.R. Larson launched Precision Instruments in 1938 with the goal of manufacturing the first torsion bar dial type wrenches. Accuracy, reliability and durability were central to the company's first patent, awarded five years later, and today they're synonymous with the Precision Instruments name. Over the next 24 years, the company refined its torsion bar dial type wrenches by increasing their accuracy and adding more signaling options. The company applied the same principles of torsion bar wrenches to torque drivers in 1962, and the design earned a patent. Seven years later, Precision Instruments unveiled torsion bar standards for use in torque testers. These devices paved the way for the testing of torque wrenches in many industries, and virtually all modern torque testers trace their roots to this device. In 1970, J.K. Larson joined Precision to begin the second generation of family leadership. Four years later, Precision Instruments successfully launched the split-beam click wrench market by introducing the C line. The wrench solved many of the problems of traditional micrometer adjustable click wrenches and was awarded several patents. By the early 1990s, the company released the MD series of fully releasing drivers and received a patent for the design, which detailed the mechanism for accurately applying torque with a fully-releasing driver type wrench. Precision Instruments also received a patent for the first mechanism for externally calibrating a micrometer-type torque wrench in both clockwise and counterclockwise directions and with regard to spring-rate. This patent was combined with another—which inspired the M line—that allowed for the reduction of friction by more than 95 percent in micrometer-style click wrenches. During the last decade, J.A. Larson, A.R. Larson, and M.K. Larson have all joined Precision. Together, they proudly serve as the third generation of family leadership.



A close-up, low-angle shot of a precision instrument dial. The dial is dark with embossed text and markings. The text "PRECISION INSTRUMENTS" is prominently displayed in a serif font, curving along the dial's edge. Above it, the word "POSITION" is partially visible. The lighting creates strong highlights and shadows, emphasizing the metallic texture and the precision of the instrument. A portion of a blue and silver tool or component is visible in the bottom left corner.

PRECISION
INSTRUMENTS