

KANE INSTRUMENTATION

2109 - 84 Avenue
Edmonton, Alberta
T6P 1K1

Phone: (780) 416-KANE (416-5263)
Fax: (780) 416-8309

Website: kaneinstrumentation.com
Email: sales@kaneinstrumentation.com

Sales, Service, Rentals & Authorized dealer for:



6" gauges, weight indicators, tong cylinders, wireline gauges, tension cells, depthmeters, cement recorders, automatic drillers, 1502 pressure sensors, hand pumps, mud gauges (pump gauges), charge hose assemblies, torquemasters, torque alerts, wellhead gauges, elect depth systems & weight indicators, meters, SRL's, escape slides, air controls & compressors, & cable cutters.





KANE INSTRUMENTATION LTD.

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Mission & Vision Statement from the President

Kane Instrumentation Ltd. is committed to the highest level of customer service and satisfaction, excellent product reliability and endurance, and the safe operations of its staff members.

We are dedicated to achieving our customer's needs by delivering top quality products and service.

Our goal is to be innovative, cutting edge and be the number one choice for your oilfield instrumentation supplies.

Kane Instrumentation's people and their customers are the core to a successful business.

Shane Derewianka

(President)

About Us

- Established 2002.
- Canadian owned and operated.
- Canadian distributor for Schwab's Instrumentation.
- 35 plus years of instrumentation knowledge in the oil patch.
- Competitive pricing on all products.
- Products made and manufactured in North America.
- Sales and service for weight indicators (deflection, pad type, type C & G, midget) , mud gauges, cement recorders, six inch gauges, tong cylinders, torque assemblies, line pull assemblies, 1502 sensors, wireline gauges and cylinders (electronic & hydraulic), depthometers, counters, diaphragms, auto drilling systems, rotary torque assemblies (electronic & hydraulic), electronic counters, electronic analog & digital weight indicators (deflection & load link style), electronic gauges, electronic mud gauges, battery operated pump stroke counters, RPM & SPM indicating systems, electronic transducers & transmitters, well head gauges, instrument fluid, disconnects, hand pumps, recorder charts, torque alerts, torque masters (dump valve systems), anchors, bulk bin indicators, safety lines, safety valves, pop off valves, oil saver pumps, flow meters, deadweight gauges, noise meters, thickness gauges, CO2 monitors, multi-meters, Rexroth air controls, washer pumps, fall arrests (SRL's), Geronimo escape slides & much, much more.

For additional information please call:

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PRODUCT SHEET

Kane Instrumentation Ltd.

Kane Instrumentation offers over 35 years of oilfield related sales & service. Our experience combined with our precise detail make for a quality job well done.

Schwab Instrumentation:

The product line we carry is Schwab Instrumentation. They include sales for all types of instrumentation eg: 6" gauges, weight indicators, tong cylinders, wireline gauges, tension cells, depthometers, cement recorders, automatic drillers, 1502 pressure sensors, hand pumps, mud gauges (pump gauges), charge hose assemblies, torquemasters, torque alerts, and wellhead gauges.

Weight indicators:

Sales for Schwab Clipper Weight Indicators, 6" gauges, wireline weight indicators, & Kane electronic weight indicators.

Repair of all other types of weight indicators including Martin Decker Clippers, Totco Hydro Specials, Atlas Clippers, Wagner Deflection Weight Indicators, Cameron & Totco Type 'C' weight indicators, and Martin Decker & Totco 16" Type C, EB, D, & FS weight indicators and anchors.

6" Gauges:

Sales for Schwab 6" pressure, tong line pull, joint torque, weight ind. gauges, & Kane elec. gauges. Repair of all other types of 6" gauges including Martin Decker, Totco, Wagner, and Atlas.

Mud Gauges (Pump Gauges):

Sales for M & F mud gauges.

Repair of all other types of mud gauges including, Totco, Cameron, Gauges International, Oteco, and Wadeco.

Depthometers:

Sales for Kane depthometers and electronic counters.

Repair of all other types of depthometers including Totco, AIR, and Cavins.

Cement recorders:

Sales for Schwab cement recorders (identical to MD Totco). Also, sales for all accessories including disconnects, charts, and pens. We also have parts for 1502 sensors such as diaphragm cups, check valves, high pressure nipples, and retainer nuts.

Repair of Martin Decker and Wagner cement recorders.

Torque Alerts & Torque Masters (Dump Valve):

Sales for Kane torque alerts & torque masters.

Repair of all other types of torque alerts & torque masters including AIR, MD Totco & Falvo.

Air Controls & Air Compressors:

Sales and repair of Rexroth, Versa, Quincy, Champion etc. air controls, valves & compressors.

SRL's, Safety Valves & Escape Slides:

Sales and repair of DBI Sala, MSA, Miller & North SRL's.

Sales and repair of safety valves, kelly cocks & subs.

Sales and repair of Geronimo & Rig Rider escape slides.



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"Serving the oilfield with over 35 years of experience"



6" Gauges

Sales for Schwab 6" pressure, tong line pull, joint torque, and weight indicating gauges. Repair of all other types of 6" gauges including Martin Decker, Totco, Wagner, and Atlas.

Compression Cells



Line Pull Assembly



Wireline Assembly

Cement Recorders

Sales for Schwab cement recorders (identical to MD Totco). Also, sales for all accessories including disconnects, charts, and pens. We also have parts for 1502 sensors such as diaphragm cups, check valves, high pressure nipples, and retainer nuts. Repair of Martin Decker and Wagner cement recorders.



*State of the art repair facilities, as well as field location repairs**

TorqueMaster



Torque Alert



Deboosters



Pressure Sensors



KANE INSTRUMENTATION



"Our experience combined with our precise detail make for a quality job well done"

Mud Gauges

Sales for M & F mud gauges. Repair of all other types of mud gauges including, Totco, Cameron, Gauges International, Oteco, and Wadeco.



Weight Indicator

Sales for Schwab Clipper Weight Indicators, 6" gauges, and wireline weight indicators. Repair of all other types of weight indicators including Martin Decker Clippers, Totco Hydro Specials, Atlas Clippers, Wagner Deflection Weight Indicators, Cameron & Totco Type 'C' weight indicators, and Martin Decker & Totco 16" Type C, EB, D, & FS weight indicators and anchors.



AUTOMATIC DRILLERS

Sales for Schwab Satellite automatic drillers and Bell automatic drillers. Repair of both these style of drillers as well as Bear automatic drillers.



Satellite Box



Oil Products and Hand pumps



DepthMeter

Sales for Schwab depthmeters. Repair of all other types of depthmeters including Totco, AIR, and Cavins.



Sales and service for all Schwab products.

eg: 6" gauges, weight indicators, tong cylinders, wireline gauges, tension cells, depthmeters, cement recorders, automatic drillers, 1502 pressure sensors, hand pumps, mud gauges (pump gauges), charge hose assemblies, torquemasters, torque alerts, and wellhead gauges.





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NEW
PRODUCTS

System comes complete with (2) load cells, transmitter and display. Ideal for use on Swabbing trucks or units that have no dead line.



INTRODUCING

Kane's new Electronic Weight Indicator and Depth System



System comes complete with display and either (2) proximity switches or encoder.

Great for use as a depth system on coil tubing or swabbing units or as a sandline depthometer on service rigs.



KANE INSTRUMENTATION LTD.

Specializing in gauge & oilfield instrumentation repair

Kane is pleased to be the only supplier in Alberta of the NOSHOK 628 series, we have been approved to sale, services, and recertified the units.

628 SERIES

- **Intrinsically Safe Hammer Union**
- **Hazardous Location Pressure Transmitters**
 - Ranges from 0 psig to 5,000 psig through 0 psig to 20,000 psig
 - Current output
 - Inconel X-750 wetted parts
 - Canadian Standards Association approved
 - NACE MR0175/ISO 15156 compliant
 - Every sensor comes with a Certificate of Calibration
 - Certifications pending:
 - Factory Mutual
 - ATEX
 - CE



NOSHOK 628 Series transmitters are Canadian Standards Association approved for use in hazardous location applications as follows:

Intrinsically Safe Class I, DIV 1, Groups A,B,C,D, -40°C,Tamb<+85°C

T4, Class II, DIV 1, Groups E,F,G, Class III, Class I, Zone 0 AEx/Ex IIC T4. ic Non-Incendive Class I, DIV 2, Groups A,B,C,D, -40°C,Tamb<+85°C

T4, Class II, DIV 2, Groups F,G, Class III, Class I, Zone 2 AEx/Ex ic IIC T4.

Shown with optional Electrical Connector Cage

NOSHOK

Contact our office today for pricing

☎ **780.416.KANE (5263)**

✉ sales@kaneinstrumentation.com



Clipper Style Electronic Weight Indicator With Weight-On-Bit

This unit is very simple to operate. Once installed there should be no need to ship it for service unless a major problem occurs.

Installation:

Plug in the power supply (gray box) in the dog-house and route the power cord to where the unit will be mounted. Since the controls are on the bottom of the gauge, mounting in the vicinity of the brake handle makes sense. Connect the power cord to the bottom-2 pin connector on the back of the gauge. The unit should be ON and the Red LED should be lit.

Connect one end of the 25 Ft. loadcell cable to the loadcell connector and route the cable to the rear of the gauge where it should be connected to the top connector. The ZERO control should be set at this time (before installation on the deadline.)

With the string in slips, install the loadcell by clamping it to the deadline with the connector down to prevent water from getting into it. The handle is intended to be tightened handtight only till it stops. NOTE: DO NOT move the jamnuts.

Operation:

After installing the loadcell you will note that some weight is showing on the gauge. This is the weight of the cable and the block and bails or top drive. Picking up the string will make the gauge read higher yet. This is the total hookload.

Move the switch on the center bottom to WOB. The gauge needle will go high or low. If it goes negative turn the WOB ZERO clockwise till the needle rises to 0. If the needle goes positive, turn the WOB ZERO counterclockwise so the needle reads 0. Now lowering the string and touching bottom will cause the needle to rise indicating weight-on-bit on the inner scale.

After the above setup, selecting HKLD at any time will show the current hookload.

After adding another stand to the string, the WOB ZERO will have to be set again before touching bottom to read WOB properly.



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I-Gauge

Analogue Loop Powered (4 to 20ma) meter



Specifications

Temp: -40 to +85 °C

Accuracy: $\pm 1\%$ of full scale

Range: 4 to 20 Milliamp DC

Calibration: External ZERO adjust, Internal SPAN adjust

Scaleable, Can be calibrated full scale from 4 to 7.2 MA to 4 to 25MA

Calibrate your own against a known, or accurate (traceable) millimeter.

Case: Cast aluminum

Use your meter movement with the patented board.

Burden Voltage: **Without LED** 1 to 3.5V, **With LED** 2.8 to 5.3V

Backlighting 12 to 24VDC 160ma max. Option – adjustable brightness, Red or green or blue,

Intrinsically safe CSA approved per section 22.2 in aluminum case.

Reads Weight, Pressure, Flow, etc. with appropriate scale (dial)

Can be used in conjunction with digital panel meter (built in or separate)

Can be used with any analogue meter movement from 50 Microamps to 1MA

Distance from transducer - any (typically 200+ ft)

Immune to noise and electrical disturbances.

See the changes in Weight, Pressure, etc immediately. No need to interpret numbers.

Never stress an analogue movement again. Offsetting the zero mechanically because

4 MA is zero destroys the movements.

Can withstand 24VDC continuously without damage to the circuit or movement.



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Note: This circuit is patented (Canadian Patent# 2473030 USA Patent# 7141991B2). Any use of this circuit without express permission from the inventor, is deemed, as patent infringement and the user or creator will be prosecuted to the fullest extent of the law.

I-Gauge-WWI



Specifications

Temp: -40 to +85 °C
Accuracy: $\pm 1\%$ of full scale
Calibration: External ZERO adjust, Internal SPAN adjust
Case: Cast aluminum
Use your meter movement with the patented board.
Backlighting 12 to 24VDC 160ma max. Option – adjustable brightness, Red or green or blue,

Intrinsically safe

Reads Weight, Pressure, Flow, etc. with appropriate scale (dial)
Can be used in conjunction with digital panel meter (built in or separate)
Can be used with any analogue meter movement from 50 Microamps to 1MA
Distance from transducer - any (typically 200+ ft)
Immune to noise and electrical disturbances.
See the changes in Weight, Pressure, etc immediately. No need to interpret numbers.
Can be operated with 12 or 24VDC continuously without damage to the circuit or movement.

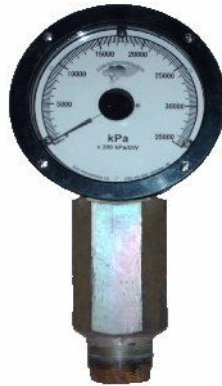


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Note: This circuit is patented (Canadian Patent# 2473030 USA Patent# 7141991B2). Any use of this circuit without express permission from the inventor, is deemed, as patent infringement and the user or creator will be prosecuted to the fullest extent of the law.

Electronic Mud Gauge



Specifications

Temp: -40 to +85 °C

Accuracy: $\pm 1\%$ of full scale

Range: 0 to 21,000 kPa. (3045 psi.), **OR** 0 to 35,000kPa. (5000 psi.)

Calibration: Internal ZERO and SPAN adjust

Case: Cast aluminum gauge on machined steel 2 in. pipe threaded base (housing for transducer). Ready to mount at standpipe.

Power source: 12VDC power supply or optional battery backup with or without solar panel for recharging internal batteries. NOTE: Battery backup provides approx 72 hrs. of operation after power failure. With solar panel it will run indefinitely.

Can be used in conjunction with digital panel meter (built in or separate)

Immune to noise and electrical disturbances.

See the changes in Pressure, immediately. No need to interpret numbers.

Replaces Type F with reliable, accurate and visible indicator.



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AIR CONTROLS



KANE INSTRUMENTATION LTD. provides and repairs Rexroth, Versa and Koomey air control valves and crown toggles. Commonly known as the industry standards, these valves are used for a variety of applications and are rugged and long lasting to withstand the rigors of the oilfield community.

COMPRESSORS



KANE INSTRUMENTATION LTD. provides sales and repairs for all types of air compressors including Quincy, Champion, Compare/Leroi and Gardner Denver.

We can rebuild your used compressor to look and run like brand new!

LINE CUTTERS



KANE INSTRUMENTATION LTD. provides and repairs line cutters. These rugged devices are built to take the abuse of slip and cut actions for many, many actions.

SAFETY SUPPLIES



KANE INSTRUMENTATION LTD. provides a wide range of SRL fall devices including DBI Sala, MSA, North and Miller with a wide array of sizes to fit all requirements.



KANE INSTRUMENTATION LTD. provides escape devices under the “Geronimo” platform. The Geronimo Emergency Escape Device provides the quickest and safest method of controlled descent from a derrick or tower in the event of an emergency.

CLIPPER SYSTEMS



The **SCHWABS TINKER SHOP, INC. CLIPPER SYSTEMS** are designed to be easily moved. They are used primarily on workover and on other small rigs. The rugged, easy-to-read gauges display total hook load by employing a primary pointer and a vernier pointer. They also feature adjustable dampers for controlling pointer sensitivity and a five-to-one vernier pointer for added accuracy. The hydraulic system is filed, calibrated and sealed at our shop for easy installation. Each CLIPPER SYSTEM includes a weight indicating gauge, a protective steel box, a deadline diaphragm and a select number of interchangeable dial faces designed for the following configurations:

<u>7/8 inch line size</u>	<u>1 inch line size</u>	<u>1 1/8 inch line size</u>	<u>1 1/4 inch line size</u>
2 lines 48,000 daN*	4 lines 90,000 daN*	4 lines 87,000 daN*	6 lines 115,000 daN*
4 lines 95,000 daN*	6 lines 130,000 daN*	6 lines 125,000 daN*	8 lines 156,000 daN*
6 lines 145,000 daN*	8 lines 175,000 daN*	8 lines 165,000 daN*	10 lines 190,000 daN*
	10 lines 214,000 daN*	10 lines 202,000 daN*	

*also available in Imperial Units.

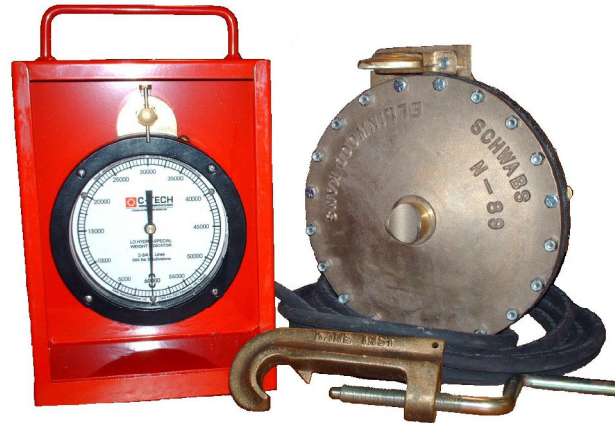
The CLIPPER SYSTEM is available in the following types:

CLIPPER WEIGHT INDICATOR: This extremely portable system is packaged in a steel, closeable cabinet that is designed to carry the mounted, twelve inch weight gauge, the diaphragm and the hydraulic hose.

SEALTITE: This system is the larger of the two. It includes a sixteen inch weight gauge and sufficient room for five additional, six inch gauges of your choice. The steel closeable cabinet provides storage for the diaphragm and the hydraulic hose.

The **DEADLINE DIAPHRAGM** installs easily on the deadline. The deflection plug depresses as the weight is increased and provides a hydraulic pressure signal to the Clipper gauge, where the pressure is indicated as weight.

LOW HYDRO SPECIAL SYSTEMS



The **KANE INSTRUMENTATION LOW HYDRO SPECIAL SYSTEMS** are designed to be easily moved. They are used primarily on workover and on other small rigs. The rugged, easy-to-read gauges display total hook load by employing a primary pointer. They also feature an adjustable damper for controlling pointer sensitivity. The hydraulic system is filled, calibrated and sealed at our shop for easy installation. Each LOW HYDRO SPECIAL SYSTEM includes a weight indicating gauge, a protective steel box, a deadline diaphragm and a select dial face.

The DEADLINE DIAPHRAGM installs easily on the deadline. The deflection plug depresses as the weight is increased and provides a hydraulic pressure signal to the Low Hydro Special gauge, where the pressure is indicated as weight.

WEIGHT INDICATORS



SCHWABS TINKER SHOP INC. knows the importance of giving you the most for your money. That is why we have developed our line of weight indicators to interchange with traditional weight indicators available on the market. It's a new line, built to the toughest standards of quality and reliability.

With this indicator you will get accurate drill-string weight readings, weight on bit readings and an incredibly high degree of sensitivity, providing optimum drilling. These weight indicators come in both panel/console mounted and as box mounted units. English, Metric or S.I. Metric dials. Schwabs Tinker Shop Inc. load cells will install in National and Hercules brand Deadline Anchors.

The systems are available in the following ranges:

Type 150	150,000 SLP* with 10, 12, 14 and 16 line dials
Type 125	125,000 SLP* with 8, 10, 12 and 14 line dials
Type 100 (Type EB)	100,000 SLP* with 8, 10, 12 and 14 line dials
Type 75 (Type E)	75,000 SLP* with 6, 8, 10 and 12 line dials
Type 50 (Type D)	50,000 SLP* with 6, 8, 10 and 12 line dials
Type 40 (Type FS)	40,000 SLP* with 4, 6, 8 and 10 line dials
Type 30 (Type G)	30,000 SLP* with 4, 6 and 8 line dials (Box Mount ONLY)

* single line pull



HA150T-SG

**Lightweight,
easy-to-move
anchors for
wheel-**



HA130T-SG



HA120T-SG



HA131T



HA129T



HA119T

Model	Line Pull Capacity (pounds)	Load Sensor	Weight Indicator Model	Wireline Sizes (inches)	Drum Diameter (inches)	Weight (pounds)
HA150T-SG	150,000	E551 Compression	150	1-5/8, 1-3/4, 2	38	3,300
HA130T-SG	130,000	E551 Compression	125	1-1/2, 1-5/8, 1-3/4	31	2,297
HA120T-SG	100,000	E551 Compression	75/100	1-1/4, 1-3/8, 1-1/2, 1-5/8	28	1,675
HA131T	100,000	E80 Tension	75/100	(E) 1-1/4, 1-3/8, 1-1/2 (EB) 1-1/2, 1-5/8	28	1,460
HA129T	60,000	E80 Tension	50	1, 1-1/8, 1-1/4	24	810
HA119T	60,000	E543 Compression	50	1, 1-1/8, 1-1/4	24	820
HA118T	45,000	E542 Compression	40	7/8, 1, 1-1/8, 1-1/4	16	300
HA117T	30,000	E190 Compression	30	5/8, 3/4, 7/8, 1	10	150



HA118T



HA117T

MUD GAUGES

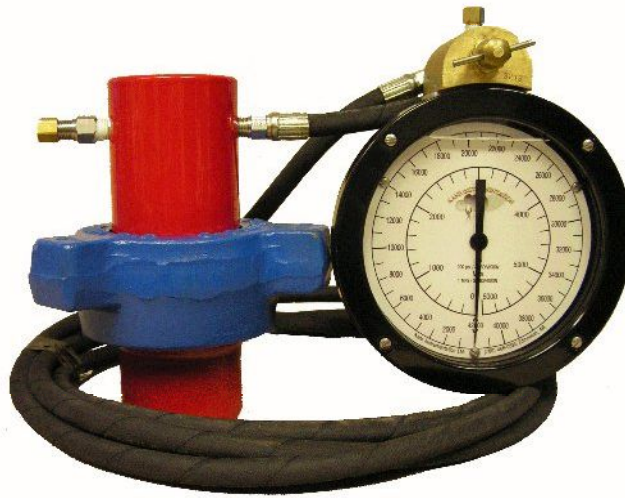


The **KANE INSTRUMENTATION LTD. MUD GAUGES** are designed for a multitude of applications; in drilling fluid systems, BOP accumulator units, flowing well heads, gathering lines, pipelines, or in high pressure pumping applications such as cementing, treating, fracturing or squeezing plus any other applications where shock, vibration and corrosion are encountered. These pressure gauges require no adjustment because their internal damping devices and movement linkages are pre-set at the factory.

They are available in the following configurations:

<u>TYPE F</u>	<u>TYPE D</u>	<u>TYPE E</u>	<u>UMG</u>
3000 psi	3000 psi	3000 psi	3000 psi
6000 psi	5000 psi	5000 psi	5000 psi
(Nuttetd or Flange Only)	6000 psi	6000 psi	6000 psi
10,000 psi	(Nuttetd or Flange Only)	(Nuttetd or Flange Only)	10,000 psi
15,000 psi	10,000 psi	10,000 psi	15,000 psi

REMOTE PRESSURE GAUGE SYSTEMS



The **SCHWABS TINKER SHOP, INC. REMOTE PRESSURE GAUGE SYSTEMS** consist of an easy-to-read six inch gauge, hydraulic hose and a heavy duty gauge protector. Each gauge (accurate to plus or minus one half of one percent full-scale reading) is fluid filled at our factory to reduce the effects of shock, vibration, corrosion and to reduce the possibility of glass frosting. These remote gauges also feature an adjustable damper so that pointer sensitivity can be controlled.

There are three mounting configurations available. Bracket mount, panel mount or a flanged case is available for panel mounting with a choice of single or dual pointer systems. The dual pointer system provides four times greater sensitivity because the secondary pointer travels four complete revolutions for each single revolution of the primary pointer. A mud diaphragm separates line fluids from the gauge mechanism and prevents contamination.

Single pointer gauge modules are available in the following pressure ranges:

0-1,000 psi* or 0-7,000 kPa
0-3,000 psi* or 0-21,000 kPa
0-5,000 psi* or 0-35,000 kPa
0-10,000 psi* or 0-70,000 kPa
0-15,000 psi* or 0-100,000 kPa

Dual pointer models are available in the following pressure ranges:

0-4,000 psi*
0-8,000 psi* or 0-40 MPa
0-12,000 psi* or 0-80 MPa
0-16,000 psi* or 0-120 MPa
0-20,000 psi*

*Also available in metric or S.I. Units.

If conditions require more than 50 feet of hose, two 2" gauge protectors may be needed. If 50 feet or less is needed, only one 2" gauge protector is required. It makes up to a two inch male pipe connection.

TONG TORQUE SYSTEMS



The **SCHWABS TINKER SHOP INC. TONG TORQUE SYSTEMS** provide a highly accurate measurement of the torque being applied by the tongs to drill collars, drill pipe, tubing or casing. The systems consist of a six inch gauge calibrated for handle length and a rugged tension type load cell that converts line pull into a hydraulic pressure signal, thereby conveying an indication of torque.

These gauges feature a separate adjustable target pointer so that the same torque can be applied to each joint. Each gauge is fluid filled to reduce the effects of shock and corrosion and to eliminate the possibility of glass frosting. In addition, an adjustable pulsation damper is provided for regulating gauge sensitivity. Our torque systems are easily installed on standard of power tongs and are available in two basic configurations:

JOINT TORQUE SYSTEMS

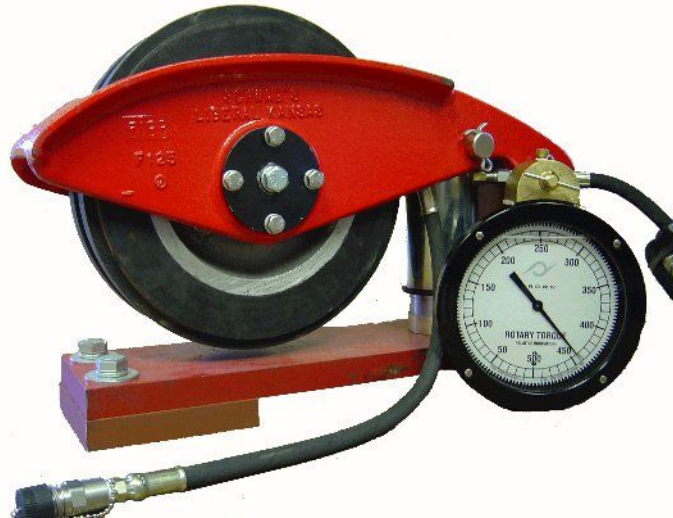
- 0-2,500 foot-pounds*
- 0-5,000 foot-pounds*
- 0-10,000 foot-pounds*
- 0-12,000 foot-pounds*
- 0-15,000 foot-pounds*
- 0-20,000 foot-pounds*
- 0-25,000 foot-pounds*
- 0-50,000 foot-pounds*
- 0-100,000 foot pounds*

TONG TORQUE SYSTEM-LINE PULL

- 0-10,000 Pounds* line pull
- 0-15,000 Pounds* line pull
- 0-20,000 Pounds* line pull
- 0-25,000 Pounds* line pull
- 0-30,000 Pounds* line pull

*Also Available in metric or S.I Units.

ROTARY TORQUE SYSTEMS



The **SCHWABS TINKER SHOP, INC. ROTARY TORQUE SYSTEMS** display relative torque measurement on chain driven rotary drilling rigs. Continuous monitoring of drill string torque is important. It is an accurate indication of key downhole conditions. Attention to the torque change pattern will indicate if the cones are locking, if there is a change in information, if the bit is dull or if there is danger in twist off. When reaming out-of-gauge hole, milling junk, cutting windows or coring, the system is essential.

The all-environment system consists of an indicating gauge and an idler arm assembly. The six inch gauge is fluid filled to reduce the effects of shock and corrosion and to eliminate the possibility of glass frosting. The adjustable pointer can be dampened to control its sensitivity. The gauge and idler arm assembly are interconnected by a hydraulic hose with a convenient filling steeple and a hand pump for remote adjustment.

The system is available in two different gauge scales (0-500 and 0-1000) and four different chain configurations:

- 1 $\frac{3}{4}$ inch single chain
- 2 inch single chain
- 1 $\frac{3}{4}$ inch double chain
- 2 inch double chain

The idler arm assembly is normally installed in the drawworks with free turning, solid rubber wheel positioned against the bottom of the secondary drive chain. When this is not practical, it may be installed under the rotary table drive chain. The lever action against the supporting hydraulic cylinder provides the pressure for the signal to the gauge.

R.P.M. METER SYSTEMS



The rugged **SCHWABS TINKER SHOP, INC R.P.M. METER SYSTEMS** are designed to monitor rotary table revolutions per minute. They consist of a rugged milliamperere indicating meter, a self-energizing tachometer generator and a two-conductor cable for transmitting the signal.

The tachometer generator can be connected to any shaft turning in direct ration to the rotary table. The meter is mounted near the driller in a driller's console or weight indicator box. The tachometer generators are available in two models: Type E, which is approved for operation in hazardous areas , is designated as NEC class 1, group D, division 1 and class 2, group F and G, division 1. Type AB is dust resistant and is designed for use in general purpose areas. Normal output from each tachometer generator is 10v AC at 150 ma.

Meters are available in the following ranges:

0-150/300 S.P.M.
0-200 S.P.M.
0-300 S.P.M.
0-500 S.P.M.

The S.P.M. Meter systems monitor pump strokes per minute. It employs the same tachometer generators and a two-conductor cable described for the R.P.M. system.

Meters for the S.P.M. Systems are available in the following ranges:

0-150/300 S.P.M.
0-200 S.P.M.
0-300 S.P.M.
0-500 S.P.M.

*both models are available in a 5 or 6 inch gauge with panel mount or box mount capabilities.