



VERSATILITY & DURABILITY

ARMORED TUBULAR GLASS GAUGES & VALVES FOR PROCESS
LEVEL MEASUREMENT BY KENCO



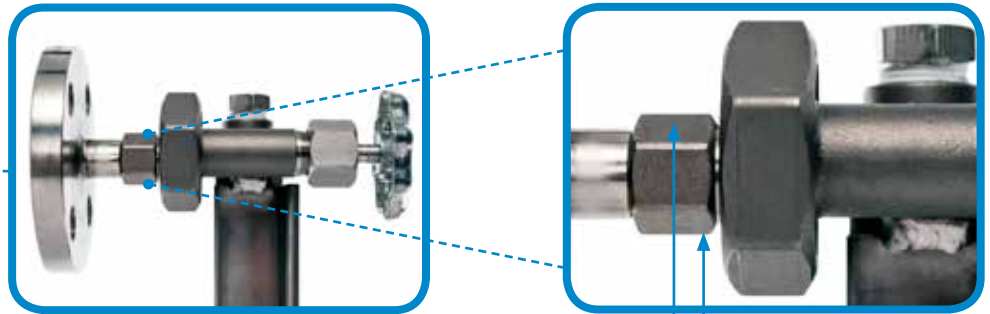
ENGINEERED LIQUID LEVEL SOLUTIONS

ISO 9001:2008 CERTIFIED

LIQUID LEVEL GAUGES

K9900 LEVEL GAUGE WITH INTEGRAL VALVES AND MISALIGNMENT UNIONS

(U.S. PATENT NUMBER 6,857,315 B1)



FLOATING MISALIGNMENT UNIONS ALLOW PROCESS CONNECTION CENTERLINES TO VARY +/- 1/4"



K9900 Bulk Tank Gauge w/ Threaded Connections

K9957 Bulk Tank Gauge w/ Integral Valve on Bottom and Threaded Connection on Top

K9957 Bulk Tank Gauge w/ Optional Flange Connection on Top

The patented K9900 Series Level Gauge features an innovative casting design which will simplify the installation process and eliminate other typical problems associated with gauge glasses. The K9900 incorporates floating misalignment unions, which will allow process connection centerlines to vary +/- 1/4". The gauge also has integral offset pattern valves with ball check shutoffs. 1/2" FNPT vent and drain connections are inline for routine sight glass maintenance. The K9900 Series Level Gauge delivers a safe, low maintenance, cost effective solution to common sight glass applications.

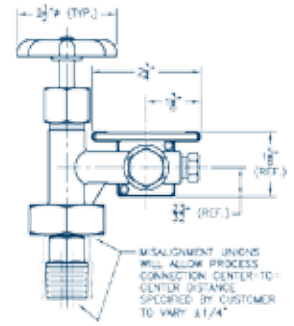
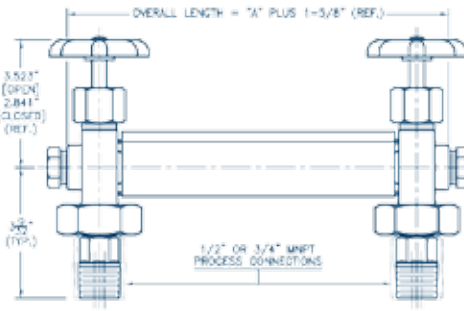
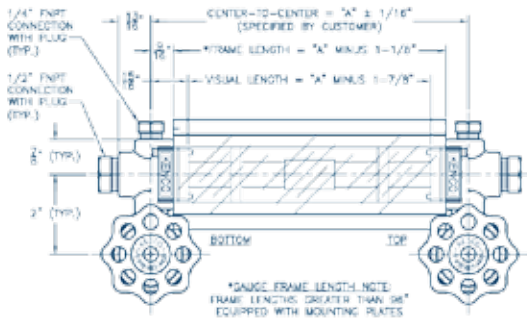
APPLICATIONS:

- Low to Medium pressure applications up to 500 psi
- Bulk storage tanks
- Marine
- Low pressure scrubbers and surge tanks
- Seal pots

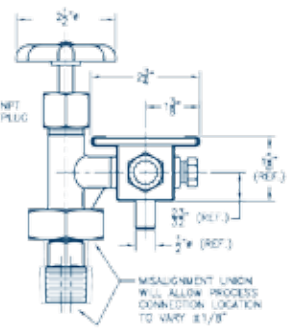
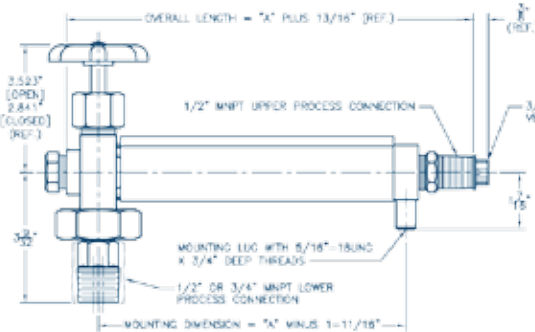
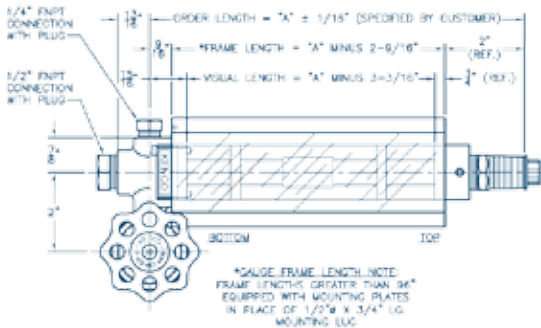
PRODUCT FEATURES:

- Floating misalignment unions allow process connection centerlines to vary +/- 1/4"
- Offset pattern valves with ball check shutoffs
- Ball check shutoff valves protect tank inventory
- Tubular sight glass allows for easy viewing of liquid level
- Innovative casting design includes all necessary mounting components up to process connection
- Rugged armored gauge construction protects sight glass from mechanical impact
- 1/2" FNPT vent and drain ports for routine gauge glass maintenance
- Additional 1/4" FNPT side ports for optional mounting of other instrumentation for level gauge monitoring
- Custom scales for tank volume or other calibrations are available upon request (Refer to Page 12)
- Armored frame and polycarbonate shield protect operator in case of accident
- K9900 is ABS certified for marine applications
- Minimum loss of visual indication

K9900 BULK TANK GAUGE



K9957 BULK TANK GAUGE



ORDERING GUIDE

K9900 Series Bulk Tank Gauge

REQUESTED BY: _____ COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ EMAIL: _____

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Gauge Style

K99 = Gauge w/ Top & Bottom Integral Valves
K9957 = Gauge w/ Integral Valve on Bottom and 1/2" MNPT x 3/8" FNPT Connection on Top

Process Connection(s)

M50=1/2" MNPT
M75=3/4" MNPT
FL50=1/2" 150# R.F. Flange
FL75=3/4" 150# R.F. Flange
FL10=1" 150# R.F. Flange
FL15=1-1/2" 150# R.F. Flange
FL20=2" 150# R.F. Flange
(Other Flange Sizes/Ratings Available upon Request)

K99: Center-to-Center Dimension (inches)

K9957: Lower Connection Centerline to Top of Gauge (inches)

Material of Construction

C=Zinc Plated Carbon Steel
A=Stainless Steel

Seal Material

V=Fluorocarbon
A=Aflas
B=Buna-N
T=FEP Encapsulated Silicone
E=Ethylene Propylene
(Other Materials Available upon Request)

— — — —

Shield Options*

L=Clear Polycarbonate
H=Height Scale
RH=Rate Height Scale
MH=Metric Height Scale
MRH=Metric Rate Height Scale
M=Expanded Metal Guard

Sight Tube Options**

GS=5/8" O.D. Glass
RL=5/8" O.D. Redline Glass
(Other Materials Available upon Request)

Maximum Working Pressure (PSIG)

Maximum Operating Temperature (°F)

Steam

S=Steam Application
NS=Non-Steam Application

• Example Order Number: K99FL10-35-AEL-RL-210-160-NS

* See page 12 for shield descriptions.

** Based on application data provided, KENCO will select the appropriate sight tube material, i.e. high pressure glass.

LIQUID LEVEL GAUGES

8800 SERIES BULK TANK GAUGE WITH 90 DEGREE CONNECTIONS



APPLICATIONS:

For low to medium pressure applications up to 500 psig, including oil or fuel storage tanks, cooling tower water tanks, and boiler feedwater tanks.

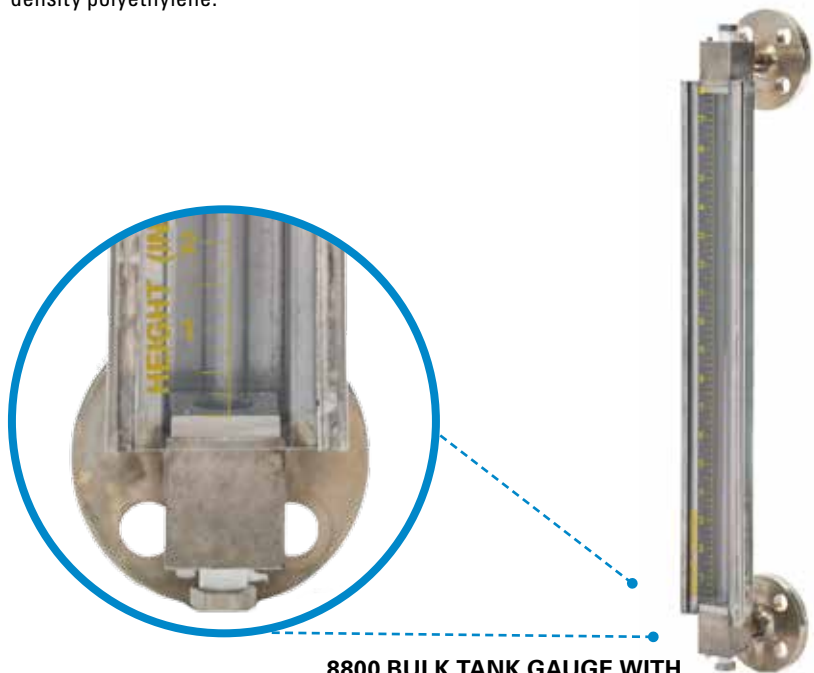
FEATURES:

The 8800 Series Level Gauge features 90 degree connections for ease of installation and minimal loss of visual indication. The Gauge is fitted with inline 1/4" FNPT vent and drain connections for routine sight glass maintenance.

The centerline dimensional tolerance is $\pm 1/16"$. This assures that the gauge will fit the mounting connections of the tank.

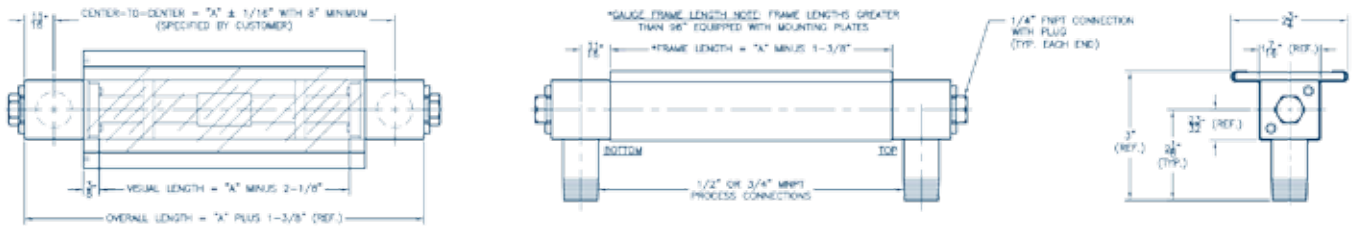
The sight tube of the 8800 Series Level Gauge is totally protected. Three sides of the gauge are enclosed with a metal frame, while the face of the gauge is protected with an expanded metal or impact resistant polycarbonate shield. The polycarbonate shield can be custom calibrated to read tank volume or any other calibration. Refer to the Shield Specifications on page 12 to see the assortment of standard shield options.

The gauge frame is available in carbon steel or 304 stainless steel. A 316 stainless steel frame available upon request. A wide variety of wetted materials are available, including carbon steel, 316 stainless steel, alloy 20, Hastelloy C-276, PVC, CPVC, Kynar, and high density polyethylene.

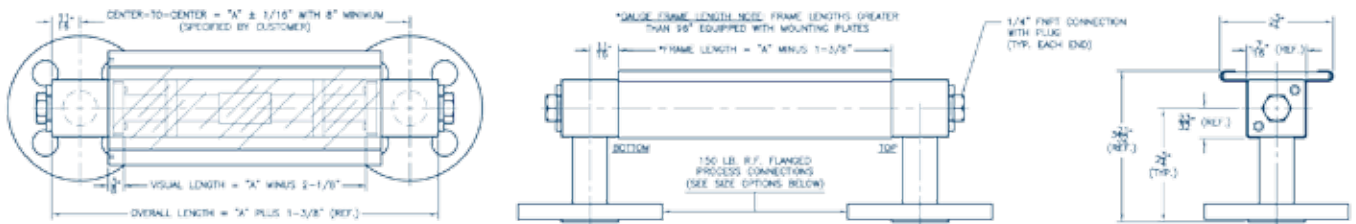


**8800 BULK TANK GAUGE WITH
OPTIONAL FLANGE CONNECTIONS**

8800 SERIES LEVEL GAUGE WITH THREADED PROCESS CONNECTIONS



8800 SERIES LEVEL GAUGE WITH FLANGED PROCESS CONNECTIONS



• Drawings above represent models with metal process connections.

ORDERING GUIDE 8800 Series Level Gauge

REQUESTED BY: _____ COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ EMAIL: _____

88

Gauge Style

88=Gauge with 90° Connections

Process Connections

M50=1/2" MNPT
M75=3/4" MNPT
FL50=1/2" 150# R.F. Flange
FL75=3/4" 150# R.F. Flange
FL10=1" 150# R.F. Flange
FL15=1-1/2" 150# R.F. Flange
FL20=2" 150# R.F. Flange
(Other Flange Sizes/Ratings Available upon Request)

Center-to-Center Dimension (inches)

Material of Construction

C=Zinc Plated Carbon Steel
A=Stainless Steel
PC=PVC Wetted Parts
w/Carbon Steel Frame
PS=PVC Wetted Parts
w/Stainless Steel Frame
Other (Please Specify)

Seal Material

V=Fluorocarbon
A=Aflas
B=Buna-N
T=FEP Encapsulated Silicone
E=Ethylene Propylene
(Other Materials Available upon Request)

Shield Options*

L=Clear Polycarbonate
H=Height Scale
RH=Rate Height Scale
MH=Metric Height Scale
MRH=Metric Rate Height Scale
M=Expanded Metal Guard

Sight Tube Options**

GS=5/8" O.D. Glass
RL=5/8" O.D. Redline Glass
(Other Materials Available upon Request)

Maximum Working Pressure (PSIG)

Maximum Operating Temperature (°F)

Steam

S=Steam Application
NS=Non-Steam Application

• Example Order Number: 88M50-68-PSTMH-GS-105-100-NS

* See page 12 for shield descriptions.

** Based on application data provided, KENCO will select the appropriate sight tube material, i.e. high pressure glass.

LIQUID LEVEL GAUGES

5700 BULK TANK GAUGE WITH 1/2" CONNECTIONS

17000 BULK TANK GAUGE WITH 1" CONNECTIONS



The 5700 and 17000 series gauges are armored liquid level gauges with NPT or flanged connections at each end. These gauges provide a visual means for checking the contents of a bulk tank. They can also be used to set and monitor the injection rate of a chemical metering pump. The gauges operate in low to medium pressure applications up to 500 psig.



**5700 BULK TANK GAUGE WITH
OPTIONAL FLANGE CONNECTION**



5700 AND 17000 SERIES GAUGE SPECIFICATIONS

The armored design of the gauge offers maximum protection for the sight tube from mechanical impact. Three sides of the gauge are protected with a metal frame, while the face of the gauge is protected with an expanded metal or impact resistant polycarbonate shield. The polycarbonate shield can be custom calibrated to read tank volume or any other desired calibration. Please see page 12 for standard shield calibration options. A wide variety of wetted materials and seals are available to ensure compatibility with whatever fluid is being used. For mounting purposes, a mounting lug is welded to the back of the gauge.

The 5700 series has 1/2" MNPT x 3/8" FNPT threaded process connections. 1/2" to 2" flanged process connections are also available. The standard sight tube is 5/8" O.D. glass. Other flange sizes/ratings and sight tube options are also available upon request.

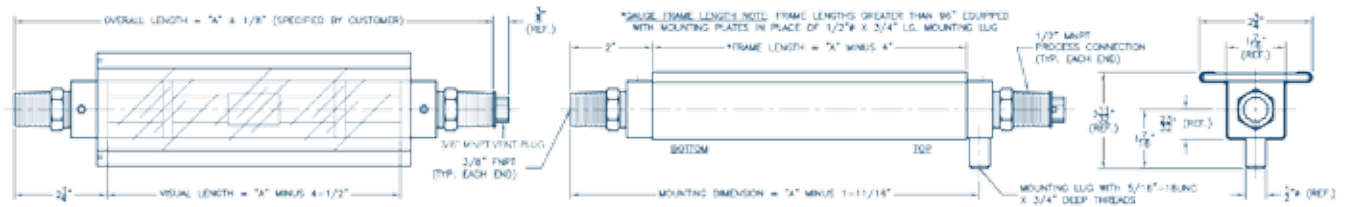
The 17000 gauge is fitted with 1" MNPT process connections (flanged process connections are also available). The standard sight tube is 1" O.D. glass, which makes it ideal for viscous liquids. Other flange sizes/ratings and sight tube options are also available upon request.

SPECIAL GAUGE APPLICATION-CHEMICAL INJECTION SYSTEMS

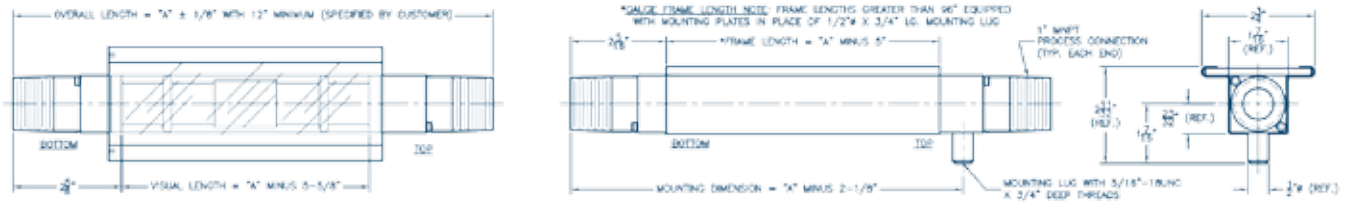
5700 and 17000 gauges are used to calibrate chemical injection systems. The injection rate of a chemical metering pump is checked by closing a valve between the gauge and the chemical storage tank and observing the change in fluid height in one minute. Using the rate scale on the front of the shield, count the number of marks the fluid level passed during the one minute test period. This will give you the actual chemical pump rate. If the rate is not the one desired, make an adjustment to the chemical pump feed rate, and conduct as many one minute tests as is necessary to set the chemical pump to the rate desired.

* See page 12 for rate scale details.

5700 BULK TANK GAUGE



17000 BULK TANK GAUGE



- Drawings above represent models with metal process connections.

ORDERING GUIDE

5700 & 17000 Series Level Gauges

REQUESTED BY: _____ COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ EMAIL: _____

Gauge Style

5700=Gauge w/ 1/2" MNPT Connections
17000=Gauge w/ 1" MNPT Connections

Flange Option

N=None (Leave Blank)
FL50=1/2" 150# R.F. Flange
FL75=3/4" 150# R.F. Flange
FL10=1" 150# R.F. Flange
FL15=1-1/2" 150# R.F. Flange
FL20=2" 150# R.F. Flange
(Other Flange Sizes/Ratings Available upon Request)

Overall Length of Gauge (Inches)

Material of Construction

C=Zinc Plated Carbon Steel
A=Stainless Steel
W=All Wetted Parts 316 Stainless Steel w/Zinc Plated Carbon Steel Frame
PC=PVC Wetted Parts w/Carbon Steel Frame
PS=PVC Wetted Parts w/Stainless Steel Frame
Other (Please Specify)

For Flanged Models, Select Options C, A, PC, or PS only

Seal Material

V=Fluorocarbon
A=Aflas
B=Buna-N
T=(5700) PTFE (17000) FEP Encapsulated Silicone
E=Ethylene Propylene
(Other Materials Available upon Request)

Shield Options*

L=Clear Polycarbonate
H=Height Scale
RH=Rate Height Scale
MH=Metric Height Scale
MRH=Metric Rate Height Scale
M=Expanded Metal Guard

Sight Tube Options**

GS=5/8" O.D. Glass (5700) 1" O.D. Glass (17000)
RL=5/8" O.D. Redline Glass (5700) 1" O.D. Redline Glass (17000)
(Other Materials Available upon Request)

Maximum Working Pressure (PSIG)

Maximum Operating Temperature (°F)

Steam

S=Steam Application
NS=Non-Steam Application

- Example Order Number: 5700-52-CVH-GS-ATM-200-NS

* See page 12 for shield descriptions.

** Based on application data provided, KENCO will select the appropriate sight tube material, i.e. high pressure glass.

LIQUID LEVEL GAUGES

SAFEGUARD SERIES LEVEL GAUGE

(SHIELDED TUBULAR LIQUID LEVEL GAUGE, U.S. PATENT NUMBER 4,693,117)



APPLICATIONS:

The Safeguard liquid level gauge replaces unprotected tubular glass that is installed between tubular gauge glass valves. The packing nut on the tubular valve tightens around the metal nozzles of the Safeguard gauge, not glass! Nozzles match the O.D. of 5/8" glass or 3/4" glass. Gauge is suitable for low to medium pressure applications to 500 psig.

SAFETY:

Sight tube is totally enclosed on three sides by a metal frame and on the front with a shield.

ONE-PIECE ASSEMBLY:

One continuous gauge provides total visibility of the liquid level of a tank. Maximum length is 20 feet. No stacking of gauges is needed.

ECONOMICAL:

One Liquid Level Gauge per tank with a set of KENCO tubular valves gives the full view of the liquid level in the tank.

EASY TO INSTALL:

Insert the 5/8" or 3/4" metal nozzles into the existing valves. The stuffing box seals around the metal nozzle, not the glass.

VOLUME AND HEIGHT SHIELDS:

The shield can be supplied with various scales indicating height, calibration rate, or tank volume. Refer to page 12 to see the assortment of standard shield options.

EPG SERIES LEVEL GAUGE

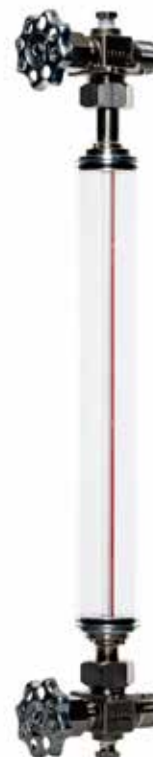
(ENVIRONMENTAL PROTECTION GAUGE, U.S. PATENT NUMBER 5,442,959)

APPLICATIONS:

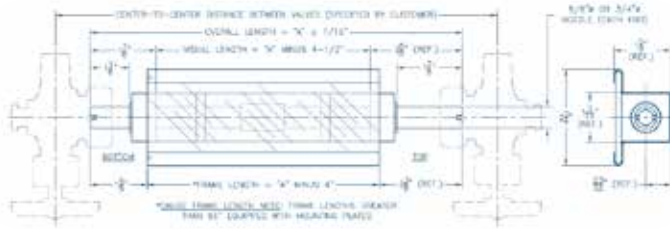
The KENCO Environmental Protection Gauge protects the glass with a 360° UV stabilized polycarbonate tube. This gauge is ideal for an outdoor environment where the gauge is exposed to the elements (i.e. hail, wind, etc.). The gauge is priced to be an economic alternative to a tubular gauge glass shrouded by expanded metal. The EPG will operate in low to medium pressure applications up to 500 psig.

FEATURES:

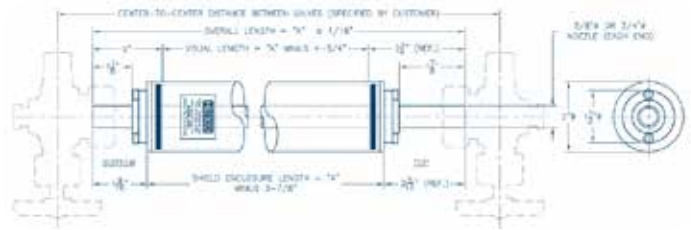
- Replaces unprotected tubular gauge glass.
- 360° visibility of fluid level.
- Redline glass is standard for easy viewing of fluid level.
- The tubular valve packing nut tightens around 316 S.S. nozzles, not glass!
- Outer tube is high impact UV stabilized polycarbonate tubing.
- 316 S.S. nozzles available in 5/8" O.D. or 3/4" O.D.
- Easy to install - Insert the 5/8" O.D. or 3/4" O.D. nozzles into the valves.
- Ideal for use with KENCO Tubular Valves (KTV).
- Maximum temperature: 250°F
- Maximum overall length is 52-3/4". For longer lengths, use Safeguard Level Gauge.



SAFEGUARD SERIES LEVEL GAUGE



EPG SERIES LEVEL GAUGE



ORDERING GUIDE

REQUESTED BY: _____ COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ EMAIL: _____

SAFEGUARD Series Level Gauge

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Gauge Style 62=5/8" O.D. Tubular Connection 75=3/4" O.D. Tubular Connection	Center-to-Center Distance Between Valves (Inches)	Material of Construction C=Zinc Plated Carbon Steel A=Stainless Steel W=316 Stainless Steel Wetted Parts w/ Carbon Steel Frame PC=PVC Wetted Parts w/Carbon Steel Frame PS=PVC Wetted Parts w/Stainless Steel Frame Other (Please Specify)	Seal Material V=Fluorocarbon A=Aflas B=Buna-N T=PTFE E=Ethylene Propylene (Other Materials Available upon Request)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Shield Options** L=Clear Polycarbonate H=Height Scale RH=Rate Height Scale MH=Metric Height Scale MRH=Metric Rate Height Scale M=Expanded Metal Guard	Sight Tube Options* GS=5/8" O.D. Glass (Standard) RL=5/8" O.D. Redline Glass (Other Materials Available upon Request)	Maximum Working Pressure (PSIG)	Maximum Operating Temperature (°F)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Steam S=Steam Application NS=Non-Steam Application	Valve Manufacturer KENCO Other (Please Specify)	Valve Manufacturer Part # KTV Other (Please Specify)	To Be Determined By KENCO

EPG Series Level Gauge

<input type="text"/>	<input type="text"/>	<input type="text"/>	RL	<input type="text"/>
Gauge Style EPG-5/8=5/8" O.D. Tubular Connection EPG-3/4=3/4" O.D. Tubular Connection	Center-to-Center Distance Between Valves (Inches)	Seal Material V=Fluorocarbon A=Aflas B=Buna-N T=FEP Encapsulated Silicone E=Ethylene Propylene (Other Materials Available upon Request)	Sight Tube Options* RL=5/8" O.D. Redline Glass (Other Materials Available upon Request)	Maximum Working Pressure (PSIG)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Maximum Operating Temperature (°F)	Steam S=Steam Application NS=Non-Steam Application	Valve Manufacturer KENCO Other (Please Specify)	Valve Manufacturer Part # KTV Other (Please Specify)	To Be Determined By KENCO

* Based on application data provided, KENCO will select the appropriate sight tube material, i.e. high pressure glass.

** For shield options see page 12 for reference.

TUBULAR GLASS GAUGE VALVES (GAUGE COCKS)

KTV TUBULAR VALVES FOR LIQUID LEVEL GAUGES



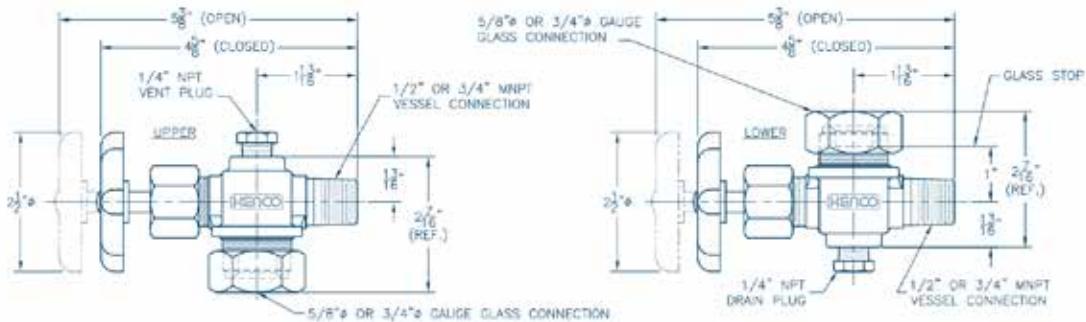
APPLICATIONS:

The KENCO Tubular Valve (KTV), when used with a KENCO "SAFEGUARD" level gauge or KENCO "EPG" level gauge, provides maximum operator safety and environmental protection from a potential gauge glass failure. The KTV is designed for service in low to medium pressure applications up to 500 psig.

KTV TUBULAR VALVES

FEATURES:

- Available in zinc plated carbon steel or 316 stainless steel (wetted)
- The 1/8" thick stuffing box O-ring provides easy installation of the glass and requires less wrenching of the packing nut to seal
- Positive O-ring seal gauge glass connection
- 1/2" or 3/4" MNPT rigid vessel connections
- 1/4" FNPT Vent/Drain port with plug
- Flanged vessel connections available
- Ball check shut off will protect tank inventory
- Straight pattern design
- Braided PTFE stem packing
- All valves are supplied with 316 S.S. valve stem, ball check and valve stem packing washer
- The bodies are precision cast investment castings with each body pressure tested to assure quality
- When ball checks are removed, KTV is suitable for steam applications



ORDERING GUIDE KTV Tubular Valves

REQUESTED BY: _____ COMPANY: _____
 ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____
 PHONE: _____ FAX: _____ EMAIL: _____

KTV				
Valve Style	Process Connections	Valve Body Material	Seal Material	Maximum Working Pressure (PSIG)
	50=1/2" MNPT w/ 5/8" O.D. Gauge Glass Connection 75=3/4" MNPT w/ 3/4" O.D. Gauge Glass Connection 50FL=1/2" 150# R.F. Flange and 3/4" O.D. Gauge Glass Connection 75FL=3/4" 150# R.F. Flange and 3/4" O.D. Gauge Glass Connection 10FL=1" 150# R.F. Flange and 3/4" O.D. Gauge Glass Connection 15FL=1-1/2" 150# R.F. Flange and 3/4" O.D. Gauge Glass Connection 20FL=2" 150# R.F. Flange and 3/4" O.D. Gauge Glass Connection 50FL300= 1/2" 300# R.F. Flange and 3/4" O.D. Gauge Glass Connection 75FL300= 3/4" 300# R.F. Flange and 3/4" O.D. Gauge Glass Connection 10FL300=1" 300# R.F. Flange and 3/4" O.D. Gauge Glass Connection 15FL300= 1-1/2" 300# R.F. Flange and 3/4" O.D. Gauge Glass Connection 20FL300=2" 300# R.F. Flange and 3/4" O.D. Gauge Glass Connection (Other Flange Sizes/Ratings Available upon Request)	SS=316 Stainless Steel CS=Zinc Plated Carbon Steel	V=Fluorocarbon A=Aflas B=Buna-N T=FEP Encapsulated Silicone E=Ethylene Propylene (Other Materials Available upon Request)	
		Maximum Operating Temperature (°F)		Steam
				S=Steam Application NS=Non-Steam Application

• Example Order Number: KTV50-SS-B-100-AMB-NS

LIQUID LEVEL GAUGES



4400 SERIES LEVEL GAUGE CLOSE-MOUNT LEVEL GAUGE

APPLICATIONS:

The KENCO close-mount level gauge is ideally suited for applications in which the level gauge must be mounted with a minimum of protrusion from the tank. Typical applications include offshore or corrosive atmospheres, packaged hydraulic equipment, steel mill pumps, panel boards, surge tanks, radiator fluid levels.

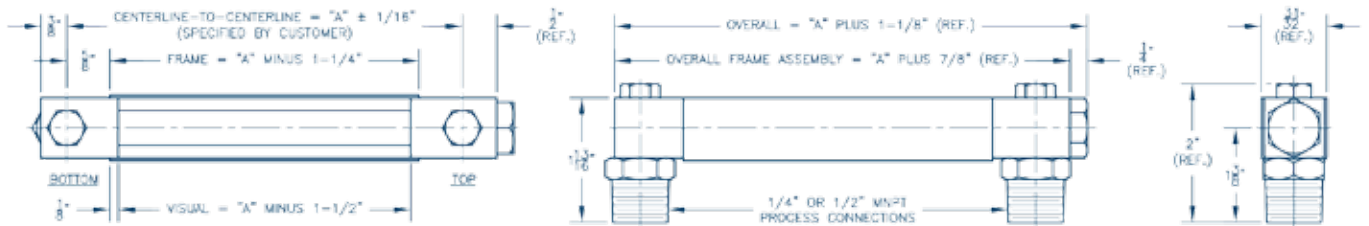
The design of these gauges affords easy installation. Simply install the male thread adapter into the tank connection and then slide the gauge frame over these adapters and bolt gauge into place. The glass is protected from breakage by the gauge housing.

FEATURES:

- Redline glass for easy observation of fluid level
- Metal frame on three sides protects glass
- Easy installation-no pipe unions and/or threaded nipples required
- 1/4" or 1/2" connections mount directly into FNPT process connection
- Maximum Pressure: 135 PSIG
- Maximum length: 60"



4400 SERIES LEVEL GAUGE



ORDERING GUIDE

4400 Series Level Gauge

REQUESTED BY: _____ COMPANY: _____

ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____ EMAIL: _____

— — —

Gauge Style
44M25=1/4" MNPT
44M50=1/2" MNPT

Center-to-Center Dimension (inches)

Material of Construction
B=Nickel Plated Brass
S=316 Stainless Steel

Seal Material
V=Fluorocarbon
A=Aflas
B=Buna-N
E=Ethylene Propylene
(Other Materials Available upon Request)

HPRL — — — NS

Sight Tube Option*
HPRL=1/2" O.D. Redline Glass
(Other materials available upon request)

Maximum Working Pressure (PSIG)

Maximum Operating Temperature (°F)

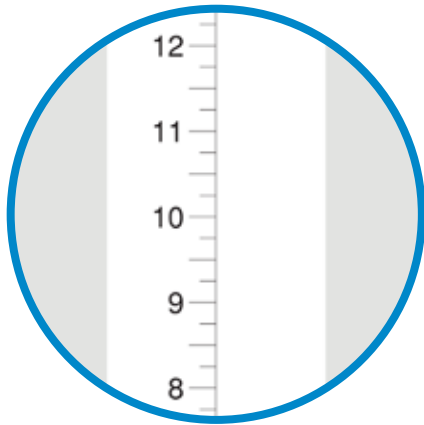
Steam
NS=Non-Steam Application

• Example Order Number: 44M50-22-S-B-HPRL-ATM-150-NS

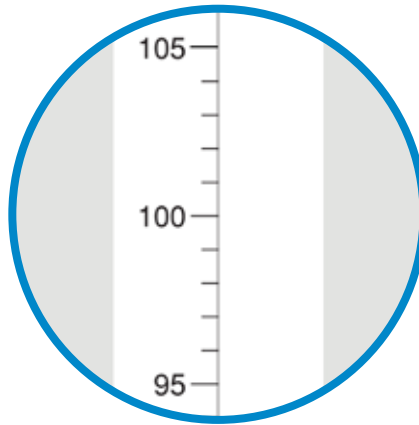
* Based on Application data provided, Kenco will select the appropriate sight tube material

LIQUID LEVEL GAUGES

SHIELD AND GUARD OPTIONS



H
The height scale is marked in 1/4" increments and labeled every inch.

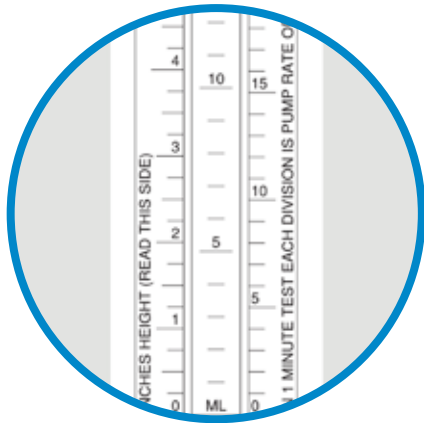


MH
The metric height scale is marked every 1 CM and labeled every 5 CM.

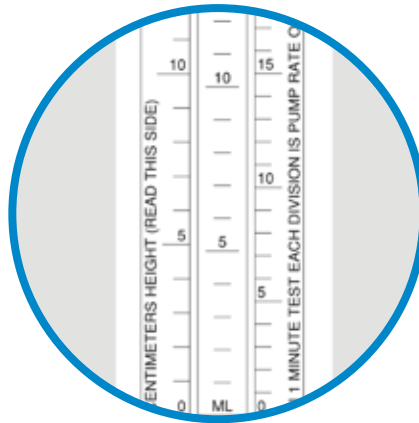


L
Clear Shield

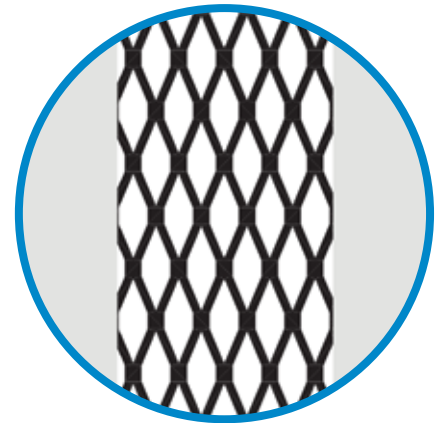
Sight tube shields are made from clear polycarbonate. H, MH, L and custom marked scales are also available in UV filtered acrylic. Add UV to the selected shield style for this option. Example: HUV is a UV filtered acrylic height scale.



RH
The rate/height shield is used for checking the pump rate of a chemical pump. It is calibrated in Quarts/24 hours, ML/min, and has a height scale marked in 1/4" increments. 17000 shield is in Gallons/day.



MRH
The metric rate/height shield is used for checking the pump rate of a chemical pump. It is calibrated in Liters/24 hours and ML/Min, and has a height scale marked in 1 CM increments.



M
The expanded metal guard is made from flattened expanded metal and is standardly available in electroplated carbon steel. Specify 304 stainless steel when required.

CUSTOM SCALES

KENCO can provide custom scales to meet your needs. The shield material is engraved and paint-filled. If you require scales indicating tank volume or other scale calibrations, please consult the factory.

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